



**CITY OF TACOMA**  
**Environmental Services Department**

**ADDENDUM NO. 2**

**DATE:** August 11, 2023

**REVISIONS TO:**

**Request for Bids Specification No. ES23-0117F**  
**Solid Waste Landfill Cap Repair – Flare Station**

**NOTICE TO ALL BIDDERS:**

This addendum is issued to clarify, revise, add to or delete from, the original specification documents for the above project. This addendum, as integrated with the original specification documents, shall form the specification documents. The noted revisions shall take precedence over previously issued specification documents and shall become part of this contract.

**REVISIONS TO THE SUBMITTAL DEADLINE:**

The submittal deadline is revised to read: **11:00 a.m., Pacific Time, Tuesday, August 22, 2023.**

**REVISIONS TO THE TECHNICAL PROVISION:**

Revision No. 1: Modifications have been made to Specification Section 01 41 43 *Measurement and Payment* to incorporate the changes shown on the attached revised plan sheet C1.0. The revised specification section is attached with the noted revisions.

Revision No. 2: Modifications have been made to Specification Section 31 05 19.13 *Geotextiles* and Section 31 05 19.16 *Geomembranes* to account for the fact the geotextile (filter fabric) and geomembrane will be supplied by the City. The Contractor will be required to transport the City supplied materials from the on-site storage location just south of the project site for use on the project. The revised specification sections are attached with the noted revisions.

Revision No. 3: Modifications have been made to Specification Section 31 05 13 *Earthwork for Landfill Cap Repair* to account for the fact the excavated 12" sand layer will be stockpiled and reused as backfill. Contractor shall provide additional sand material to complete the 12-inch layer shown on the detail if stockpiled material is not sufficient. Payment for any additional material is incidental to the bid item. The revised specification section is attached with the noted revisions.

**REVISIONS TO APPENDIX A PLAN SET:**

- Revision No. 1: The attached revised plan sheet C1.0 *Site Plan* shall be replaced in its entirety and incorporated into the project.

**REVISION TO THE APPENDICES:**

Revision No. 1: Add Appendix C the attached 1992 Tacoma Landfill Flare Station Upgrade original construction drawings. Landfill gas line supports shall be restored according to Detail 7 on sheet M-4. All reinforcing steel shall be deformed steel bars conforming to ASTM A 615 – Grade 60. All reinforcing steel to be welded shall be ASTM A 706 – Grade 60. All cast-in-place

concrete shall have a minimum compressive strength of 4,500 PSI at 28 days. All concrete mixtures shall conform with the most restrictive requirements of ACI 318-14 for exposure classes F2, S0, W0, and C1.

NOTE: Acknowledge receipt of this addendum by initialing the corresponding space as indicated on the Signature Page. Vendors who have already submitted their bid/proposal may contact the Purchasing Division at 253-502-8468 and request return of their bid/proposal for acknowledgment and re-submittal. Or, a letter acknowledging receipt of this addendum may be submitted in an envelope marked Request for Bids Specification No. ES23-0117F Addendum No. 2. The City reserves the right to reject any and all bids, including, in certain circumstances, for failure to appropriately acknowledge this addendum.

cc: Jody Bratton, P.E., Environmental Services Department

**DIVISION 01 – GENERAL REQUIREMENTS**  
**SECTION 01 41 43 – SUMMARY OF PAY ITEMS AND QUANTITIES**

**SECTION 01 41 43 – SUMMARY OF PAY ITEMS AND QUANTITIES**  
**BID FORM - SCHEDULE OF VALUES**

(Not including Washington State Sales Tax)

<b>Item No.</b>	<b>Item of Work</b>	<b>Unit</b>	<b>Estimated Quantity</b>	<b>Total Price (numbers, in U.S. dollars)</b>
<b>A</b>	Mobilization/Demobilization and General Requirements	LS	1	\$
<b>B</b>	Demolition, Excavation and Stockpiling	LS	1	\$
<b>C</b>	Placement of Geosynthetic Materials	LS	1	\$
<b>D</b>	Placement of Cover Soil Materials	LS	1	\$
<b>E</b>	Site Restoration	LS	1	\$
Total Base Bid				\$

**PART 1 – GENERAL**

**1.01 Description of Measurement of Work**

- A. This Section includes a description of the requirements and procedures for measurement of Work performed, the documentation required to verify the amount of Work, and procedures for obtaining payment for the Work performed.
- B. The Work, as described in the Contract Documents, for which payment will be made is to be completed on a lump sum basis, as described in this specifications section.
- C. The payment made for each item listed as lump sum will constitute full compensation for furnishing all labor, materials, and equipment, and performing any associated Contractor quality control and all associated Work required for that lump sum item for which separate payment is not otherwise provided.
- D. Applicable Technical Specifications
  - Section 01 11 00 Summary of Work
  - Section 01 14 00 Work Restrictions

**DIVISION 01 – GENERAL REQUIREMENTS**  
**SECTION 01 41 43 – SUMMARY OF PAY ITEMS AND QUANTITIES**

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- Section 01 29 40 Applications for Payment
- Section 01 31 00 Project Management and Coordination
- Section 01 32 20 Web Based Construction Document Management
- Section 01 33 00 Submittal Procedures
- Section 01 35 00 Health and Safety Requirements
- Section 01 41 00 Regulatory Requirements
- Section 01 45 00 Construction Quality Control
- Section 01 77 00 Closeout Procedures
- Section 01 78 39 Project Record Documents
- Section 02 41 00 Demolition
- Section 31 05 13 Earthwork for Landfill Cap Repair
- Section 31 05 19.13 Geotextiles
- Section 35 05 19.16 Geomembranes
- Section 35 05 19.29 Geonets
- E. Applicable Drawings
  - Sheet 1 Cover Sheet
  - Sheet 2 General Notes
  - Sheet 3 Site Plan
  - Sheet 4 Flare Station Pad Liner Repair Details

**1.02 Bid Descriptions**

A. MOBILIZATION/DEMOBILIZATION AND GENERAL REQUIREMENTS

1. Work Description:

This Bid Item includes, but is not limited to, mobilization/demobilization of personnel, equipment, supplies and incidentals to/from the project site; obtaining project-specific bonds and insurances; project administration and management;

## DIVISION 01 – GENERAL REQUIREMENTS

### SECTION 01 41 43 – SUMMARY OF PAY ITEMS AND QUANTITIES

coordination and supervision of contractor's subcontractors and suppliers work; coordination and meetings with the City, City's representatives and regulatory agencies; preparation of all required submittals; obtaining construction-related permits that have not been obtained already by the City (if a need is determined); maintaining construction quality control; implementing health and safety requirements; ~~and~~ completing construction closeout procedures, temporary construction entrance, erosion controls, and all other associated items necessary to complete the work as shown on the plans and as specified in the Contract Documents that are not identified as a separate pay item in the project's Schedule of Values.

1

Contractor shall provide all labor, tools, equipment, materials, and incidentals necessary to complete the Work as specified.

No additional payment will be made for supervision, safety, quality control, environmental protection measures, dust control, noise control, transportation, or other incidental activities associated with this lump sum item.

#### 2. Measurement and Payment

- a. Mobilization/Demobilization and General Requirements in the project's Schedule of Values shall not exceed 10% of the amount of the Total Base Bid.
- b. Mobilization/Demobilization and General Requirements will be paid as a percentage of this item's lump sum value provided in the project's Schedule of Values based upon the percentage of actual construction completed at the time of the payment estimate.
- c. Mobilization/Demobilization and General Requirements payment in first progress payment shall not exceed 50% for this item.

#### B. DEMOLITION, EXCAVATION AND STOCKPILING

##### 1. Work Description:

This bid item includes, but is not limited to, completing excavation along both the Flare Station Pad and the West Concrete Pad to the lines and grades shown on the Contract Drawings, ~~and~~ stockpiling material suitable for reuse, abandonment of landfill gas lines and electrical systems shown on the plans, and all other associated items necessary to complete the work as shown on the plans and

1

## DIVISION 01 – GENERAL REQUIREMENTS

### SECTION 01 41 43 – SUMMARY OF PAY ITEMS AND QUANTITIES

as specified in the Contract Documents that are not identified as a separate pay item in the project's Schedule of Values. The Contractor shall dispose of any excavated material that is deemed not suitable for reuse by the City at an approved location.

No additional payment will be made for supervision, safety, quality control, environmental protection measures, dust control, noise control, transportation, or other incidental activities associated with this item.

2. Measurement and Payment:

*Bid Item (B), Demolition, Excavation and Stockpiling* will be paid as a lump sum value.

C. PLACEMENT OF GEOSYNTHETIC MATERIALS

1. Work Description:

This Bid Item includes, but is not limited to, procuring the geonet, and placing geosynthetic material (geomembrane, geonet, and geotextile) in accordance with the requirements of Contract Documents and all other associated items necessary to complete the work as shown on the plans that are not identified as a separate pay item in the project's Schedule of Values.

Contractor shall provide all labor, tools, equipment, materials, and incidentals necessary to complete the Work as specified.

No additional payment will be made for supervision, safety, quality control, environmental protection measures, dust control, noise control, transportation, or other incidental activities associated with this item.

2. Measurement and Payment:

*Bid Item (C), Placement of Geosynthetic Materials* will be paid as a lump sum value.

D. PLACEMENT OF COVER SOIL MATERIAL

1. Work Description:

This Bid Item includes, but is not limited to, procuring and placing imported and stockpiled backfill cover soil materials (topsoil, cover material, and sand) ~~to lines and grades shown in the Contract Drawings and~~ in accordance with the requirements of Contract

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Documents and all other associated items necessary to complete the work as shown on the plans that are not identified as a separate pay item in the project's Schedule of Values.

Contractor shall provide all labor, tools, equipment, materials, and incidentals necessary to complete the Work as specified.

No additional payment will be made for supervision, safety, quality control, environmental protection measures, dust control, noise control, transportation, or other incidental activities associated with this item.

2. Measurement and Payment:

*Bid Item (D), Placement of Cover Soil Material* will be paid as a lump sum value.

E. SITE RESTORATION

1. Work Description:

This Bid Item includes, but is not limited to, completing site restoration including restoration of construction access areas ~~project site~~ and site cleanup in accordance with the requirements of Contract Documents, hydroseeding, restoration of the temporarily removed landfill gas support and concrete pad, and all other associated items necessary to complete the work as shown on the plans that are not identified as a separate pay item in the project's Schedule of Values.

1

Contractor shall provide all labor, tools, equipment, materials, and incidentals necessary to complete the Work as specified.

No additional payment will be made for supervision, safety, quality control, environmental protection measures, dust control, noise control, transportation, or other incidental activities associated with this item.

2. Measurement and Payment:

*Bid Item (E), Site Restoration* will be paid as a percentage of this item's lump sum value provided in the project's Schedule of Values based upon the percentage of work completed under this item at the time of the payment estimate.

### PART 2 – PRODUCTS (NOT USED)

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**SECTION 01 41 43 – SUMMARY OF PAY ITEMS AND QUANTITIES**

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**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**



or reuse. The sand layer will be reused as backfill above the bottom geomembrane. Contractor shall provide additional sand material to complete the 12-inch sand layer shown on the detail if stockpiled material is not sufficient.

## SECTION 31 05 13 EARTHWORK FOR LANDFILL CAP REPAIR

### PART 1 - GENERAL

#### 1.01 SUMMARY

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A. This Section specifies general earthwork requirements for the project, including material handling, excavation backfilling and fill compacting, and other work incidental to the earthwork shown on the Drawings or required to accomplish the work under this Contract. Earthwork covered under this section includes, but is not limited to, the following elements:

1. Excavating the existing cover soils (topsoil, cover material, sand layer) from above the geosynthetic landfill cap materials, and stockpiling soils for disposal
2. Cutting out and disposing geosynthetics and rolling back undamaged geosynthetics to expose the underlying soil bedding.
3. Placing and grading imported sand layer to match the existing bottom geomembrane elevation.
4. Placing imported cover soils over the repaired geosynthetics.
5. Hydroseeding restored landfill cap.
6. Handling and disposal of waste material, including excavated cover soils and sand layers and other solid waste debris such as geosynthetic materials and batten strips.

and/or stockpiled

#### 1.02 RELATED DOCUMENTS

- A. General Provisions of the Contract, including Part II General Conditions for Washington State Facility Construction and Part III Supplemental Conditions as Modified by the City of Tacoma, and other Division 01 Specification Sections apply to this Section.
- B. Section 02 41 00 – Demolition
- C. Section 31 05 19.13 – Geotextiles
- D. Section 31 05 19.16 – Geomembrane
- E. Section 31 05 19.29 – Geonets

#### 1.03 CODES AND REFERENCES

- A. Applicable provisions of the following standards shall apply to the work of this Section, except as modified herein, and are hereby made part of these Contract Specifications to the extent required:

1. 29 CFR 1910 - Occupational Safety and Health Regulations.
  2. WAC 296-155, Safety Standards for Construction Work, including Part N, Excavations, Trenches, and Shoring.
  3. 29 CFR 1926 - Safety and Health Regulations for Construction.
- B. The following standards and test methods are included as a part of this section insofar as specified and modified herein. In case of conflict between the requirements of this Section and the listed standards and test methods, the requirements of this section shall prevail.

Reference	Title or Description
ASTM D422	Test Method for Particle-Size Analysis of Soils
ASTM D1557	Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft <sup>3</sup> (2,700 kN-m/m <sup>3</sup> ))

#### 1.04 SUBMITTALS

- A. As part of Contractor's construction plan, prepare and submit a detailed description of the planned sequencing, methods, and equipment to accomplish the work under this section.
- B. Submit a list of proposed material suppliers, referencing the materials or supplies to be provided and used in the work, and the address from where the material is originating.
- C. Submit a minimum of 7 days prior to importing any granular fill material to the site:
  1. Certification of gradation and material compliance with the Specifications, along with copies of associated laboratory test results.
  2. Material gradation and moisture-density compaction curve reports as appropriate for each type and source of imported fill material, including:
    - a. Sieve/grain size analyses per ASTM D 422
    - b. Laboratory-determined maximum dry density and optimum moisture content per ASTM D 1557.
  3. Samples of imported materials of sufficient volume for any laboratory tests requested by the City. Contractor shall assure the samples are representative of materials to be imported to the site.
  4. Certification that the imported fill materials were obtained from a commercial quarry or pit permitted by the State of Washington.

5. Whenever the source from which the imported fill materials are obtained is changed, certificates of compliance and the required laboratory test results from these new sources will also be required at no additional cost to the City.
- D. Upon completion of the work under this section, submit as-built documentation that includes a detailed summary of Contractor's earthwork activities, as-built drawings, materials certifications and QC measurements, and other documentation required by the Drawings and Specifications or otherwise requested by the City.

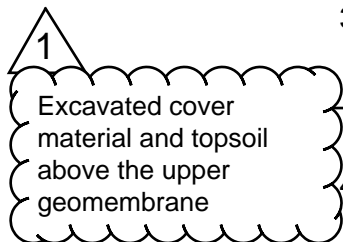
## 1.05 QUALITY ASSURANCE

- A. The Construction Quality Assurance (CQA) program for landfill cap repairs is detailed in the document entitled *Construction Quality Assurance Manual, Landfill Gas Flare Station Pad Cap Repairs, City of Tacoma Landfill, Tacoma, Washington*, which is attached to these Specifications.

## 1.06 DISPOSAL OF SOLID WASTE

### A. General

1. The Contractor is advised that the construction of this project is being performed within, over and adjacent to buried wastes and refuse. As these buried materials decompose anaerobically, they will generate landfill gas (LFG), which normally consists of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and occasionally hydrogen sulfide (H<sub>2</sub>S) and other gases, depending on the composition of the buried materials. These gases usually vent to the atmosphere through the cover soil when the geomembrane liner is removed or from broken or cut LFG piping, but may migrate laterally over 1,000 feet to adjacent areas depending on site and weather conditions.
2. The 240-acre landfill has been receiving municipal solid waste since the 1960s, and in 2012, received the final waste loads. The work will occur in areas where the landfill was capped in the 1990's.
3. All material encountered below the lowest geomembrane will be considered solid waste and potentially contaminated soil, including the 12-inch thick bedding soil layer above the solid waste. This material is not included in the scope of excavation and should remain in place.
4. The excavated material above the lowest geomembrane is not considered contaminated. This material should be disposed of in accordance with Section 01 74 00.



### B. Notification

1. The Contractor shall notify the City, in writing, at least ten (10) working days prior to the date that excavation operations are to begin and identify the limits of that excavation. Excavation shall not take place without a designated representative from the City on site.

### C. Transportation

1. The Contractor shall provide all equipment, personnel, and materials necessary to load, transport, and dispose waste materials.

D. Control of Waste Material

1. Vehicles used by the Contractor to transport waste materials shall be properly designed, equipped, and maintained to prevent the loss of materials during transport. The following requirements shall be met for all vehicles transporting waste materials from the site:
  - a. No soil or waste from the site shall adhere to the outside of the surface of the vehicle (including tires and undercarriage).
  - b. No liquids shall be leaking or dripping from the vehicles.
  - c. Any and all waste materials shall be covered with tarpaulin or otherwise completely enclosed to prevent loss of materials from the vehicle during transport.
2. If leaking or dripping from transport vehicles occurs, the City may direct the Contractor to use liners or other means to prevent dripping and leaking. The Contractor shall implement such measures, as directed by the City, at the Contractor's sole expense.

E. Street Sweeping

1. The Contractor shall sweep those streets using a Vacuum Sweeper within the project when truck traffic carries soil and waste from the site onto the site roadways.
2. Street sweeping shall be conducted in such a way as to not generate visible dust.
3. Material collected from street sweeping shall be disposed of in a legal manner at an off-site location.

**1.07 WATER MANAGEMENT**

A. General

1. The Contractor is responsible for keeping excavations free from water during construction and disposing of the water in a manner that will not cause injury to public or private property, or to cause a nuisance to the public.
2. Water in contact with waste shall be considered leachate. .
3. The Contractor shall maintain dry working conditions at all times and under all conditions. Water flowing toward or into excavations shall be controlled to prevent sloughing of excavation walls, boils, uplift, and heave in the excavation, and to eliminate interference with orderly progress of construction.
4. Street washing with water shall not be permitted.

## **PART 2 - PRODUCTS**

### **2.01 SOIL BEDDING**

- A. The soil bedding layer to be installed to fill the excavation to grade and under the bottom geomembrane shall consist of granular material, free from wood, bark, or other extraneous material and shall meet the following requirements for grading:

Sieve Size	Percent Passing by Weight
2½ "	90-100
No. 4	24-100
No. 10	14-100
No. 50	0-30
No. 100	0-7.0
No. 200	0-3.0

### **2.02 SAND**

- A. Sand for landfill cap repair shall consist of granular material, free from wood, bark, or other extraneous material and shall meet the following requirements for grading:

Sieve Size	Percent Passing by Weight
2½ "	90-100
No. 4	24-100
No. 10	14-100
No. 50	0-30
No. 100	0-7.0
No. 200	0-3.0

### **2.03 COVER MATERIAL**

- A. Cover material shall consist of granular material, free from wood, bark, or other extraneous material and shall meet the following requirements for grading:

Sieve Size	Percent Passing by Weight
2½ "	90-100
No. 4	24-100
No. 10	14-100
No. 50	0-30
No. 100	0-7.0
No. 200	0-3.0

- B. Aggregate for Imported Liner Cover Layer soil shall consist of rounded (as defined by ASTM D 2488 paragraph 10.1) material, either naturally occurring or processed. It shall be free of deleterious material. Deleterious material includes wood, organic waste, coal, charcoal, and any other extraneous or objectionable material.

### **2.04 TOPSOIL**

- A. Imported topsoil shall consist of a 50%/50% mixture of pure compost and sand, sandy loam or silty sand. The soil shall be high in organic content and

compromised of fully composted and mature organic materials. Compost used on this project shall be Cascade Compost or approved equal. No fresh sawdust or other fresh wood by-products shall be added to extend the volume after the composting process. Chemical/physical characteristics shall comply with the following:

Screen Size (approx. Particle size)	7/16" maximum
Total Nitrogen	0.25% minimum
Organic Matter	10% minimum
pH Range	5.5-7.5
Conductivity	5 mmhos/cm maximum

Submit 1 cubic foot sample with supplier's certification of material.

## 2.05 HYDROSEEDING

A. The following seed mix shall be used for hydroseeding in landfill cap repair areas:

<b>Grass Mix</b>	
<b>Seed Kind</b>	<b>lbs/acre</b>
Perennial Rye (Choose 1)	56
Manhattan	
Pinnfine	
Derby	
Blazer	
Citation	
Chewings Fescue (Choose 1)	49
Highlight	
Koret	
Annual Rye	14
White Dutch Clover	21

B. All water to be used during seeding shall be free from oil, acid, alkali, salt, and other substances harmful to growth of seed and shall be from a source approved prior to use. The Contractor shall provide their own source of water.

## 2.06 FERTILIZER

A. Fertilizers must be delivered to job sites, mixed as specified, in standard size unopened containers, showing weight, analysis and name of manufacturer. Material shall be uniform in composition, free-flowing and suitable for application by mechanical equipment. All elements shall be protected from the weather, particularly moisture, both on and off the job site. If seed supplier does not provide a recommendation for fertilizer, fertilizer shall be SoundGRO Fertilizer 6-7-0 applied at 900 lbs/acre or equal.

## **2.07 EQUIPMENT**

- A. Provide all necessary equipment to accomplish the work in this section, including the excavation, transport, placement, moisture conditioning, backfilling, grading, and compaction of soil, and disposal of waste materials.
- B. Compaction equipment shall be properly sized and suitable to the type and location of material being compacted and shall be used in the manner needed to achieve the degree of compaction required.

## **PART 3 - EXECUTION**

### **3.01 PREPARATION**

- A. The Contractor shall mark out the excavation line and designate areas for soil stockpiling as shown on the Plans. Stockpile locations shall be approved by the City. At a minimum, the Contractor should be prepared to provide temporary plastic sheeting over the soil stockpiles and excavation areas for temporary erosion and sediment control (TESC).

### **3.02 COVER SOIL EXCAVATION**

- A. The Contractor shall use an excavator with a smooth-edge (no teeth) bucket or hand shovels to excavate the cover soil (average 18-inch thickness).
- B. Then, using hand tools, a vac-truck and air knife or hydro-excavation technique, remove the remaining soil to expose the underlying geosynthetic.
- C. Stockpiles and the excavation shall be covered with plastic sheeting as shown on the Plans if the soil is to remain undisturbed for more than 48 hours.
- D. Excavated cover soils shall be disposed of by the Contractor.

### **3.03 PRIMARY GEOSYNTHETIC LINER DEMOLITION**

- A. Once the underlying geosynthetic is exposed, cut out each geosynthetic layer to the limits shown on the Plans and fold back each layer to expose the underlying layer. Secure the folded back geosynthetics with sandbags (or Engineer approved equivalent) to keep these out of the way during construction. The waste geosynthetics shall be disposed of by the Contractor.

### **3.04 SAND EXCAVATION**

- A. Carefully excavate the sand layer (average 12-inch thickness) using a smooth-edge (no teeth) bucket excavator to within two inches of the underlying secondary geomembrane, and then manually remove the remainder of the sand using hand tools, a vac-truck and air knife or hydro-excavation technique to expose the underlying geomembrane to the minimum width necessary for construction access.
- B. Stockpile the sand layer adjacent to the work for backfilling.

~~C. Excavated sand materials shall be disposed of by the Contractor.~~



### **3.05 SECONDARY GEOMEMBRANE DEMOLITION**

- A. Cut through the 60-mil thickness secondary geomembrane.
- B. Fold back the geomembrane to expose the underlying soil bedding layer.
- C. Secure the folded back geomembrane with sandbags (or Engineer approved equivalent) to keep the liner out of the way during construction.
- D. The waste geosynthetics shall be disposed by the Contractor.

### **3.06 REPLACING AND REPAIRING THE GEOSYNTHETICS**

- A. The sand and soil bedding beneath the bottom geomembrane shall be graded to match the surrounding layer elevation.
- B. Once the subgrade has been accepted by the CQA Monitor, the geosynthetic layer around the excavation edges shall be laid down flat and new geosynthetics shall be installed over the excavation area. The geosynthetic installation shall be performed by an experienced installer in accordance with Sections 31 05 19.13, 31 05 19.16, 31 05 19.29, and the Plans.

### **3.07 PLACING COVER MATERIAL ON THE GEOSYNTHETICS**

- A. Prior to placing any fill on the landfill cap, the Contractor shall prepare the areas to receive fill by completing the underlying geosynthetic repairs and all quality control testing for the geosynthetics (per Sections 31 05 19.13, 31 05 19.16, and 31 05 19.29).
- B. Tracked or rubber-tired equipment shall not be allowed directly on the exposed geosynthetics.
- C. Cover material and topsoil shall be replaced using imported material. The Contractor shall place the fill in loose lifts parallel to the prepared subgrade, and between 12 inches and 18 inches in thickness. The Contractor shall compact each layer by routing loaded haul equipment over its entire width. A minimum 12-inch thickness of soil must be maintained between all equipment tracks and the underlying geomembrane liner.

### **3.08 TOPSOIL PLACEMENT**

- A. Once the cover material placement has been approved by the Engineer, the Contractor shall place a 6-inch thickness of topsoil from off-site sources approved by the Engineer. The Contractor shall track-walk the top surface to topsoil with track directions running up and down the slope.

### **3.09 SEEDING**

- A. Once the topsoil placement has been approved by the Engineer, the Contractor shall seed the topsoil.



- B. All areas to be seeded shall meet the specified finish grades and shall be free of undesirable weed or plant growth and all clods, rocks, and debris 3 inches or larger in any dimension.
- C. Equipment in good condition shall be provided for the proper preparation of the ground and for handling and placing all materials.
- D. The areas shall be graded and all surfaces shall be left in an even and properly compacted condition to prevent formation of depressions. Finished grade shall be such that after seeding, the planted grade will join flush with adjoining surface grades.
- E. Should any portion of the sloped surfaces become gullied or otherwise damaged or treatment is destroyed, the affected portion shall be repaired to original condition and grade prior to injury. Repair work required because of faulty operations or negligence on the part of the Contractor shall be performed without cost to the City.
- F. All seeding operations shall occur as soon as grading operations are complete and it is an acceptable time of year for seeding.
- G. The Contractor shall notify the City not less than 24 hours in advance of any seeding operation, and he shall not begin the work until areas prepared or designated for seeding have been approved. Following the Engineer's approval, seeding of the approved slopes shall begin immediately.
- H. Seed shall be distributed uniformly over the designated area. Half of the seed shall be sown with the sower moving in one direction, and the remainder with the sower moving at right angles to the first sowing. When area to be seeded adjoins undisturbed vegetation, seeding shall overlap that vegetation by a minimum of 1 foot.
- I. The Contractor shall seed, fertilize, and mulch all grassy landfill cap areas disturbed by the Contractor's activities to restore the grassy cover.
- J. The Contractor shall be responsible for having thoroughly flushed out the hydroseeding tank to ensure that no undesirable seed types are mixed in with the specified mix given in these specifications. Should any undesired seed become established in the lawn, the Contractor shall be responsible for eradicating the unwanted plants prior to acceptance.
- K. The Contractor shall guarantee the hydroseeding for a period of 90 (ninety) days or until a healthy stand of vegetation is established, whichever comes first. The establishment period shall commence on the date of acceptance of the seeding, in place. All seeding which, in the opinion of the Engineer, is not in a healthy growing condition at the end of the establishment period shall be replaced or covered with plastic sheeting by the Contractor at his own expense. Seeding shall be replaced with the same mixture and grade as was originally placed.
- L. Seeding fertilizer shall be applied per seed supplier recommendation or BMP C120 per the July 2021 edition of the City of Tacoma Surface Water Management Manual., Volume 3, Section 1.7.

### **3.10 REPORTS AND RECORDS**

A. Prepare and have on file the following records and reports:

1. Daily progress reports.
2. Results of all construction monitoring, inspection, and quality control testing done to meet the requirements of this section.
3. Records, reports, and backup documentation as required by this section.
4. A record of unusual conditions of materials and construction problems encountered and disposition made, as well as a construction log indicating delays encountered during earthwork activities and stating the cause, location, and extent of the delay.

**END OF SECTION**