These Standard Special Provisions (SSP) cover those construction and bid items not addressed by the currently adopted version of the Idaho Standards for Public Works Construction (ISPWC). These provisions are to be used whenever any of these individual items are listed in any ACHD bid proposal document, unless otherwise approved in writing by authorized ACHD staff.
Table of Contents

1. SSP 02020 Gravel Repair.................................................................6
2. SSP 06007 Abandon Existing Domestic Well.................................6
3. SSP 06012 Fuel Escalation Clause..................................................7
4. SSP 06013 Stormwater Management Plan Preparation & Approval ......8
5. SSP 06017 Conflict Manhole............................................................10
6. SSP 06018 Install New Domestic Water Well..................................10
7. SSP 06020 Underground Stormwater Chamber...............................11
8. SSP 06050 Sand Window................................................................11
9. SSP 07005 Extruded Cement Concrete Curb........................................12
10. SSP 07009 Extruded Median Curb..................................................12
11. SSP-07010 Jersey Barrier..............................................................12
12. SSP 07013 Patterned Concrete.......................................................12
13. SSP 07014 Detectable Warning Devices.........................................13
14. SSP 07016 Sidewalk Trip Hazard Removal Via Cutting......................14
15. SSP 08105 Temporary Paving..........................................................15
16. SSP 08115 Rotomill......................................................................16
17. SSP 08120 Asphalt Repair – Arterial & Collector...............................17
18. SSP 08125 Asphalt Repair - Other..................................................17
19. SSP 08133 Scrub Coat..................................................................18
20. SSP 09011 Orchard Valve..............................................................18
21. SSP 11001 Temporary Traffic Signal...............................................19
22. SSP 11002 Portable Changeable Message Sign...............................20
23. SSP 11008 Portable Flood Lights....................................................22
24. SSP 11101 2” Diameter Schedule 40 PVC Signal Conduit...............22
25. SSP 11230 Information Sign............................................................22
26. SSP 11235 Video Detection Camera................................................23
27. SSP 11450 Temporary Pavement Markings......................................23
28. SSP 20003 Temporary Construction Fencing....................................24
29. SSP 20006 Raised Channelization..................................................25
30. SSP 20020 Install Removable Bollards............................................25
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.</td>
<td>SSP 20105.01A Metal Guardrail Terminal Type 1A</td>
<td>26</td>
</tr>
<tr>
<td>32.</td>
<td>SSP 20105.03 Metal Guardrail Terminal Type 3</td>
<td>26</td>
</tr>
<tr>
<td>33.</td>
<td>SSP 20105.07 Metal Guardrail Terminal Type 7</td>
<td>26</td>
</tr>
<tr>
<td>34.</td>
<td>SSP 20105.08 Metal Guardrail Terminal Type 8</td>
<td>27</td>
</tr>
<tr>
<td>35.</td>
<td>SSP 20105.010 Metal Guardrail Terminal Type 10</td>
<td>27</td>
</tr>
<tr>
<td>36.</td>
<td>SSP 20105.011 Metal Guardrail Terminal Type 11</td>
<td>27</td>
</tr>
<tr>
<td>37.</td>
<td>SSP 20105.A W Beam Guardrail for Minor Structures (One Post Missing Option)</td>
<td>28</td>
</tr>
<tr>
<td>38.</td>
<td>SSP 20105.B W Beam Guardrail for Minor Structures (Two Posts Missing Option)</td>
<td>28</td>
</tr>
<tr>
<td>39.</td>
<td>SSP 20105.C W Beam Guardrail for Minor Structures (Three Posts Missing Option)</td>
<td>28</td>
</tr>
<tr>
<td>40.</td>
<td>SSP 20109 Pedestrian Bridge Railing</td>
<td>29</td>
</tr>
<tr>
<td>41.</td>
<td>SSP 20113 Block Retaining Wall</td>
<td>30</td>
</tr>
<tr>
<td>42.</td>
<td>SSP 20114 Mechanically Stabilized Earth (MSE) Retaining Wall</td>
<td>31</td>
</tr>
<tr>
<td>43.</td>
<td>SSP 20200 - SALVAGE TOPSOIL</td>
<td>35</td>
</tr>
<tr>
<td>44.</td>
<td>SSP 20201- Bioretention Soil Mix (BSM)</td>
<td>36</td>
</tr>
<tr>
<td>45.</td>
<td>SSP-20202 SOIL AMENDMENTS</td>
<td>40</td>
</tr>
<tr>
<td>46.</td>
<td>SSP-2020X – PLANT MATERIAL</td>
<td>40</td>
</tr>
<tr>
<td>47.</td>
<td>SSP-202XX SEEDING</td>
<td>44</td>
</tr>
<tr>
<td>48.</td>
<td>SSP-20220 – FERTILIZER (Commercial)</td>
<td>48</td>
</tr>
<tr>
<td>49.</td>
<td>SSP-20219 WATERING</td>
<td>48</td>
</tr>
<tr>
<td>50.</td>
<td>SSP-20221 Plant Establishment Plan</td>
<td>49</td>
</tr>
<tr>
<td>51.</td>
<td>SSP 20225 Stormwater Tree Cell</td>
<td>50</td>
</tr>
<tr>
<td>52.</td>
<td>SSP 25020 Erosion Control Mat</td>
<td>51</td>
</tr>
<tr>
<td>53.</td>
<td>SSP 25030 Demolish &amp; Remove Existing Building</td>
<td>52</td>
</tr>
<tr>
<td>54.</td>
<td>SSP 25049 Manufactured Topsoil</td>
<td>52</td>
</tr>
<tr>
<td>55.</td>
<td>SSP 25050 4” Topsoil</td>
<td>53</td>
</tr>
<tr>
<td>56.</td>
<td>SSP 25060 Property Owner Meeting</td>
<td>54</td>
</tr>
<tr>
<td>57.</td>
<td>SSP 25062 Remove Underground Septic Tank</td>
<td>54</td>
</tr>
<tr>
<td>58.</td>
<td>SSP 25080 Remove &amp; Reset Mailbox</td>
<td>55</td>
</tr>
<tr>
<td>59.</td>
<td>SSP 25115 Temporary Coffer Dam</td>
<td>55</td>
</tr>
<tr>
<td>60.</td>
<td>SSP 29050 Temporary Soil Stabilization</td>
<td>56</td>
</tr>
<tr>
<td>61.</td>
<td>SSP 29060 Hydroseeding</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>62.</td>
<td>SSP 29090 Trim Tree</td>
<td>59</td>
</tr>
<tr>
<td>63.</td>
<td>SSP 29093 Remove Tree 6”+</td>
<td>60</td>
</tr>
<tr>
<td>64.</td>
<td>SSP 29101 Remove &amp; Reset Sprinkler System</td>
<td>60</td>
</tr>
<tr>
<td>65.</td>
<td>SSP 29110 Groundwater Observation Well</td>
<td>61</td>
</tr>
<tr>
<td>66.</td>
<td>SSP 29800 Abandon Existing Septic System</td>
<td>62</td>
</tr>
<tr>
<td>67.</td>
<td>SSP-29901 Towing</td>
<td>62</td>
</tr>
<tr>
<td>68.</td>
<td>SSP 70015 Concrete Canal Lining</td>
<td>63</td>
</tr>
</tbody>
</table>
1. **SSP 02020  Gravel Repair**

*Description:* This item shall include all costs associated with the repair of existing gravel driveway accesses abutting the project to match the grades of new back of sidewalk and existing gravel. Locations for repairs are shown on the plans or as directed in the field by the Engineer.

*Materials & Workmanship:* This item shall include excavation and/or borrow, construction of necessary embankment, labor, equipment, and materials necessary to complete placement of a 6-inch thickness of ¾” aggregate base course, on a compacted subgrade. Materials shall meet the requirements of Section 802.

*Measurement and Payment:*

Payment for this item will be made under:

SSP 02020  Gravel Repair ................................................................. Per Square Yard

2. **SSP 06007  Abandon Existing Domestic Well**

*Description:* This item shall include all costs required to abandon an existing potable water well in accordance with the requirements of the Idaho Department of Water Resources.

*Materials & Workmanship:* All existing wells designated to be abandoned shall be permanently abandoned in accordance with IDAPA 37.03.09.025.12 Well Construction Standards Rules of Idaho Administrative Code. At a minimum all existing pumping equipment shall be removed, the well casing filled with bentonite granules as required to stop the upward or downward movement of water. The well casing shall be cut off 2 feet below subgrade or at a level that does not interfere with the new roadway improvements. The contractor shall prepare a written plan of the method he proposes to use to abandon the well and shall submit the plan to ACHD and the Idaho Department of Water Resources for approval prior to construction. The Contractor shall submit any forms and pay for any fees as required by the Idaho Department of Water Resources to abandon the well.

*Measurement and Payment:* Abandon Existing Well will be measured per each and shall include all labor, equipment and material necessary for the completion of the bid item. The accepted quantity of Abandon Existing Well will be paid at the contract unit price for the item listed below.

Payment for this item will be made under:

SSP 06007  Abandon Existing Domestic Well ............................................ Per Each
3. **SSP 06012 Fuel Escalation Clause**

A. **Description.** This item consists of adjustment to compensation due the Contractor based on certain market fuel price changes during the life of the project. Fuel Price Adjustments will be applied to partial and final payments for contract items categorized in Section B, as a payment to the Contractor or a credit to the Owner. Work performed by the Contractor at its own expense will not be eligible for fuel price adjustments.

B. **Categories of Bid Items.** The following fuel usage rates for the applicable items will be used to determine fuel price adjustments:

<table>
<thead>
<tr>
<th>Item Description Categories</th>
<th>Fuel Usage Rate English Gal/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation including topsoil</td>
<td>0.29 CY</td>
</tr>
<tr>
<td>Excavation – Rock (must be specifically identified as such in contract)</td>
<td>0.39 CY</td>
</tr>
<tr>
<td>Borrow</td>
<td>0.29 CY</td>
</tr>
<tr>
<td>Base</td>
<td>0.63 Ton</td>
</tr>
<tr>
<td>Surface treatments including sealcoats</td>
<td>0.02 SY; 1.47 Ton</td>
</tr>
<tr>
<td>Concrete Pavements</td>
<td>0.03 SY per inch of depth</td>
</tr>
<tr>
<td>Concrete (all concrete paid by the CY)</td>
<td>0.98 CY</td>
</tr>
<tr>
<td>Concrete – Sidewalk</td>
<td>0.12 SY</td>
</tr>
<tr>
<td>Concrete – Curb &amp; Gutter</td>
<td>0.05 LF</td>
</tr>
<tr>
<td>Plantmix pavements</td>
<td>2.6 Ton</td>
</tr>
<tr>
<td>Piledriving</td>
<td>0.12 gal per ft</td>
</tr>
<tr>
<td>Rotomilling / Pulverizing / Mixing</td>
<td>0.02 SY per inch of depth</td>
</tr>
<tr>
<td>Pipe, guardrail</td>
<td>19.0 / $1000</td>
</tr>
<tr>
<td>MSE Retaining Wall</td>
<td>19.0 / $1000</td>
</tr>
</tbody>
</table>

C. **Fuel Index.** A current fuel index (CFI) will be established by the Owner for each month. The following web page will be used to determine the index values:

http://itd.idaho.gov/highways/Construction/construction.htm

As found at this website, the CFI will be the price of number two (No. 2) diesel fuel, low sulfur clear, as reported in the Idaho Transportation Department (ITD) Fuel Index for Boise. The ITD Fuel Index posting dates are the first Monday of the month. The base fuel index (BFI) will be the CFI for the month the contract was awarded.

D. **Computing the Fuel Price Adjustment.** If the ratio of CFI/BFI falls between 0.80 and 1.20 inclusive, no fuel adjustment will be made for that pay estimate. If the ratio is less than 0.80 a credit to the Owner will be computed. If the ratio is greater than 1.20, additional payment to the Contractor will be computed. Credits and payments are computed as follows:
i. The quantity of work done for each pay estimate for the contract items identified in Section B is identified from the pay estimate.

ii. The gallons of fuel used for that pay estimate are computed for each of the contract items identified in Section B by applying the unit fuel usage factors categorized in Section B to the quantity of work performed.

iii. The total gallons (Q) of fuel used for that pay estimate will be summed for the applicable contract items, as determined, in Section B.

iv. The Fuel Price Adjustment credit or payment is computed from the following formulas:

   - Contractor Payment: \( FA = \left( \frac{CFI}{BFI} - 1.20 \right) \times Q \times BFI \)
   - District Credit: \( FA = \left( \frac{CFI}{BFI} - 0.80 \right) \times Q \times BFI \)

   Where:
   - \( FA \) = Fuel Price Adjustment
   - \( CFI \) = Current Fuel Index
   - \( BFI \) = Base Fuel Index
   - \( Q \) = Total gallons of fuel used for the pay estimate

E. **Basis of Payment.** A Fuel Price Adjustment payment to the Contractor will be made as a dollar amount for each pay estimate. A Fuel Price Adjustment credit to the Owner will be deducted as a dollar amount for each pay estimate from any sums due to the Contractor.

F. **Final Fuel Price Adjustment.** Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated from the CFI for all the pay estimates that the fuel price adjustment was applied, is used in accordance with the procedure set forth in Section D. A final fuel price adjustment will be made on the final estimate.

Payment for this item will be made under:

   - **SSP 06012** Fuel Escalation Clause ................................................................. Per Lump Sum

4. **SSP 06013** Stormwater Management Plan Preparation & Approval

*Description:* This item shall consist of all work associated with contractor plan preparation and approvals to meet the requirements of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) and/or the Construction Site Discharge Control (CSDC) Program as required. The contractor is considered an operator having day-to-day control as defined in the EPA CGP; therefore, the contractor is a co-permittee with ACHD in the implementation of the CGP requirements. A Stormwater Pollution Prevention Plan (SWPPP) will be accepted by ACHD in lieu of the CSDC Plan provided that the SWPPP meets the CSDC Program requirements listed in 8305 and 8306 of the ACHD Policy Manual.
**Workmanship:** The contractor is responsible for the completion, submittal, and implementation of the ACHD provided SWPPP drawing and narrative, filing of the Notice of Intent (NOI), and filing of the Notice of Termination (NOT). The CGP and instructions for completing the NOI and NOT forms can be found on the EPA website: [http://www.epa.gov/npdes/stormwater/cgp](http://www.epa.gov/npdes/stormwater/cgp). The SWPPP shall have been prepared and submitted to ACHD for acceptance prior to the filing of the NOI. Prior to filing the NOT, the conditions listed in Part 5 of the CGP shall be met.

Once a SWPPP has been prepared, the Contractor and ACHD shall both submit an electronic NOI on the website listed above. There is a fourteen calendar day wait after the acknowledgement of receipt has been posted on the EPA website for the SWPPP to be considered approved and construction allowed to commence.

Prior to starting construction, the ACHD accepted SWPPP/CSDC Plan must be implemented. No Construction Activity or Land Disturbing Activity will be allowed to commence until the Contractor has fully implemented the accepted SWPPP/CSDC Plan as required by the District and set forth in the ACHD Policy Manual.

Additionally the contractor is responsible for installing, maintaining, and removing all Best Management Practices (BMPs) and for all documentation required to keep the SWPPP current. For compliance with the District’s CSDC Program, the SWPPP/CSDC Plan should address all potential pollutants outlined in the ACHD Policy Manual.

A Rainfall Erosivity Waiver is available and defined in Appendix D, Part A of the CGP. If the waiver is utilized, and the conditions on which the waiver is based change, the contractor is responsible for updating the waiver and/or development and implementation of a SWPPP.

BMPs for controlling pollutant transport from the construction site can be found in a number of publications including, but not limited to:


b) United States Environmental Protection Agency – Region 10: (800) 424-4372 or on the internet at: [www.epa.gov/r10earth/stormwater.htm](http://www.epa.gov/r10earth/stormwater.htm)

c) Boise City Planning and Development Services: phone: (208) 395-7818

d) Idaho Transportation Department, *Erosion and Sediment Control Manual*, phone: (208) 334-8476

**Measurement and Payment:** Payment for work items to implement the SWPPP or CSDC shall be per other specific bid items noted in this contract.

Payment for this plan preparation and approval item will be made under:

**SSP 06013 Stormwater Management Plan Preparation & Approval ............... Per Lump Sum**
5. **SSP 06017 Conflict Manhole**

*Description*: This item shall consist of constructing either a pre-cast or cast-in-place conflict manhole at the location and grades detailed in the plans and detail sheets.

*Materials*: Materials for the Conflict Manhole shall conform to the requirements of the Idaho Standards for Public Works Construction (ISPWC) and all approved ACHD Supplemental Specifications.

*Workmanship*: Conflict Manhole construction shall conform to the requirements of the Idaho Standards for Public Works Construction (ISPWC) and all approved ACHD Supplemental Specifications, Division 602 - Storm Drain Inlets, Catch Basins, Manholes and Gravity Irrigation Structures. The contractor shall adjust, raise or lower, the manhole frame, rings, and covers as necessary to match the finished surface. Work shall include making necessary pipe connections, and support the existing irrigation pipe during construction.

*Measurement and Payment*: Conflict Manhole shall be measured per each manhole, complete in place, which includes all labor and materials necessary for a complete installation, including furnishing the manhole frame, cover and adjustment rings.

Excavation, Structure Excavation, existing pipe support, bedding and backfill materials, and compacting backfill will not be measured or paid for separately, and is included in the unit bid price for the Conflict Manhole.

Payment for this item will be made under:

SSP 06017  Conflict Manhole.......................................................... Per Each

6. **SSP 06018 Install New Domestic Water Well**

*Description*: This item shall include all work and costs associated with installation of a new domestic water well as shown on the plans.

*Materials & Workmanship*: The new domestic water well shall be completed within the first 45 days of the construction schedule, unless otherwise approved by the Engineer. This work shall be coordinated so that Bid Item 504.4.1.D.1 Sewer Service Connection to Main – Size 4 Inch is completed at the same time.

Contractor will be required to reconnect the residence to the new well reusing the existing well pump and appurtenances.

Contractor is required to contact property owner 14 days in advance to coordinate the timing for the installation of the new domestic water well.
Contractor is to obtain any permits necessary for the installation of a New Domestic Water Well.

Also included in this item is the removal of all drilling waste and restoration of the existing area.

*Measurement and Payment:* Install New Domestic Water Well will be measured per each and shall include all labor, equipment and material necessary for the completion of the bid item. The accepted quantity of Install New Domestic Water Well will be paid at the contract unit price for the item listed below.

Payment for this item will be made under:

SSP 06018 Install New Domestic Water Well......................................................... Per Each

7. **SSP 06020 Underground Stormwater Chamber**

*Description:* This item shall consist of constructing an underground stormwater chamber at the location and grades detailed in the plans and detail sheets.

*Materials:* Underground stormwater chambers shall be Storm Tech SC-740 or approved equal.

*Workmanship:* Drainage beds shall be constructed per ISPWC Standard Drawing ACHD-646 and per Manufacturer’s recommendations. Construction of drainage beds must include specification approved materials for bedding, geotextile fabrics, and backfill.

*Measurement and Payment:* Per linear foot as measured per individual row of chambers, including all costs associated with providing and installing Underground Stormwater Chamber as shown on the project plans including, but limited to excavation, drain rock and geotextile fabric.

Payment for this item will be made under:

SP 06020 Underground Stormwater Chamber...............................................Per Linear Foot

8. **SSP 06050 Sand Window**

*Description:* This item shall consist of constructing a sand window at the location and grades detailed in the plans and detail sheets.

*Materials & Workmanship:* Sand shall consist of ISPWC 801 or ASTM C33 filter sand as shown on the plan sheets. The sand window shall be over excavated to free draining material not to exceed 10-feet and backfilled with pitrun.

*Measurement and Payment:*

Payment for this item will be made under:

SSP 06050 Sand Window.................................................................Per Lineal Foot
9. **SSP 07005 Extruded Cement Concrete Curb**

*Description:* This item shall consist of constructing an extruded cement concrete curb at the location detailed in the plans and detail sheets.

*Materials & Workmanship:* The curb shall conform to the details shown on the plans and in conformance with Division 700 of the ISPWC. Concrete shall be Class 3000.

Extruded cement concrete curb shall be placed, shaped, and compacted true to line and grade. The pavement shall be dry and cleaned of loose and deleterious material prior to curb placement. Joints in the curb shall be cut vertically and spaced at 5-foot intervals.

*Measurement and Payment:*

Payment for this item will be made under:

SSP 07005 Extruded Cement Concrete Curb .......................................................... Per Linear Foot

10. **SSP 07009 Extruded Median Curb**

*Description:* This item shall include all costs associated with constructing a new concrete median curb, as shown on the plans or as directed by the engineer.

*Materials & Workmanship:* Raised channelization shall be constructed per Division 700 - Concrete of the ISPWC Specifications and in accordance with ITD Standard Drawing H-1. Concrete shall be Class 3000.

*Measurement and Payment:*

Payment for this item will be made under:

SSP 07009 Extruded Median Curb .......................................................... Per Linear Foot

11. **SSP-07010 Jersey Barrier**

*Description:* This item shall include all costs associated with installing concrete jersey rail in the location shown on the plans or as directed by the Engineer.

*Measurement and Payment:*

Payment for this item will be made under:

SSP 07010 Jersey Barrier .......................................................... Per Linear Foot

12. **SSP 07013 Patterned Concrete**

*Description:* This item shall consist of constructing patterned concrete at the location and grades detailed in the plans and detail sheets.
Materials: Concrete shall be Class 3000 and shall meet all applicable requirements of Division 700 of the ISPWC. The Contractor shall submit pattern samples for approval prior to construction.

Workmanship: The pattern shall be Brick Basket Weave or approved equal or approved equal. When the concrete is still in the plastic stage of set, imprinting tools shall be applied to make the approved patterned surface. The pattern shall be formed with 3/8-inch maximum depth grooves and be placed simultaneously with the adjacent concrete sidewalk. No cold joints are allowed for the placement of the patterned concrete between the patterned concrete and the smooth section of sidewalk.

Measurement and Payment: All costs associated with construction of the patterned sidewalk, including concrete, imprinting tools, curing, and sealing, shall be included in the unit price bid for this item.

Payment for this item will be made under:

SSP 07013 Patterned Concrete ........................................................................................................................................ Per Square Yard

13. SSP 07014 Detectable Warning Devices

Description: This item consists of furnishing and installing composite wet set tactile warning surface (TWS) units, in an in-line truncated dome pattern, embedded in all curb ramps at the locations shown in the Plans and according to ISPWC Standard Drawing SD-712.

Materials: TWS units shall be manufactured using a matte finish exterior grade homogenous glass and carbon reinforced polyester based SMC composite material. Color shall contrast visually with adjacent walking surfaces, either light-on-dark, or dark-on-light. Methods for construction and coloration must be approved by ACHD prior to construction.

Color shall contrast visually with adjacent walking surfaces, either light-on-dark, or dark-on-light. Methods for construction and coloration must be approved by ACHD prior to construction.

Workmanship: TWS product shall be installed per manufacturer’s instruction. To the maximum extent possible, the TWS units shall be oriented such that the rows of in-line truncated domes are parallel with the direction of the ramp. The TWS unit shall be located so that the edge nearest the curb line is 6" minimum and 8" maximum from the curb line. The TWS units shall be tamped or vibrated into the fresh concrete to ensure that there are no voids or air pockets, and the field level of the TWS unit is flush to the adjacent concrete surface. Upon curing (allow 24 to 48 hours) remove protective plastic covering. Protect TWS unit against damage during the construction period.

Measurement and Payment: Detectable Warning Devices shall be measured per each and shall include all labor, materials and equipment necessary for installation. Payment for furnishing and
placement of crushed aggregate and concrete shall be paid for separately as indicated on the plan drawings and in these special provisions.

Payment for this item will be made under:

**SSP 07014**  
Detectable Warning Devices – New Ramps ............................................ Per Each

14. **SSP 07016**  
Sidewalk Trip Hazard Removal Via Cutting

*Description:* This item shall include all costs associated with the cutting existing concrete sidewalk to remove trip hazards.

*Materials & Workmanship:* This item shall include labor, material, and equipment necessary to complete cutting to meet ADA compliance meeting the following criteria:

a) All trip hazards will be saw cut in accordance with the requirements of the Americans with Disabilities Act. Each offset between ¼” and ½” will be tapered at a 1:1 slope or flatter and each offset greater than ½” will be tapered at a 1:12 slope or flatter and shall have smooth uniform appearance and texture. The method of trip hazard mitigation shall entail precise saw cutting/trimming of the concrete only. Grinding, grooving or pulverization of the concrete is NOT acceptable or allowed.

b) All saw work shall be done with equipment capable of cutting at any angle and able to remove the concrete completely to all edges of the trip hazard and around obstacles that may be encountered.

c) All saw cutting shall be taken to an absolute zero point of the adjacent opposing panel, and to both edges of the sidewalk panel to mitigate the trip hazard in its entirety over the full width of the sidewalk panel as needed. Some panels may not require the full width of the sidewalk panel to be mitigated.

d) The adjacent sidewalk panel, along with any wall and/or obstacles butting up to the sidewalk panel, shall not be cut into or marked in any way. Cutting into any landscaping (i.e. grass, rocks, walls, etc) is not permitted.

e) Final mitigated surface shall be smooth and free of any grooves greater than that of a fine broom finish.

f) Dust shall be collected using a high powered vacuum dust control system, eliminating the dust from entering into the atmosphere. The suction device shall be attached to the cutting equipment or positioned to assure a maximum amount of dust will be collected before it can be released into the atmosphere.

g) All debris and concrete dust that remain on the sidewalk shall be completely cleaned from the surface as well as the surrounding area (i.e. landscaping, walls, etc.) and be hauled off and
dumped at an approved site. All costs incurred for disposal of waste material shall be included in unit cost and will not be paid for separately.

h) The maximum height of a trip hazard allowed for repair is 2”. This will be cut at a slope of 1:12 or flatter.

*Measurement and Payment:* Per Inch-Feet. Inch-feet shall be calculated by multiplying the average depth of the cut by the length of the cut measured perpendicular to the trip hazard. Example: If a joint is cut 1” on one side and tapered to 0” on the other a full 4-foot width of the sidewalk, it shall be calculated as follows:

\[
\frac{1'' + 0''}{2} \times 4' = 2 \text{ inch} - \text{feet}
\]

Payment for this item will be under:

SSP 07016 Sidewalk Cutting .................................................................Per Inch Foot Cut

15. **SSP 08105 Temporary Paving**

*Description:* This item shall consists of furnishing all labor, equipment and material necessary to construct temporary asphalt plant mix pavement at locations required to accommodate construction traffic control or as directed by ACHD. This item includes the removal and disposal of the temporary pavement when it is no longer needed.

*Materials:* Plant mix pavement for temporary pavement shall be Class III, ½” aggregate mix, with PG 58-28 asphalt and additive.

*Workmanship:* Saw cut existing pavement adjacent to temporary pavement areas. Place and compact a minimum of 2-inch thickness of plant mix pavement on a minimum of 6-inch thickness of compacted Crushed Aggregate for Base Type 1 on compacted subgrade. Compact the area to Class A compaction requirements. After temporary pavement is no longer needed, remove and dispose of the temporary pavement and base.

An asphalt tack coat shall be applied on the edges of existing plant mix pavement

*Measurement and Payment:* Temporary Paving will be measured by the square yard and shall include all labor, equipment and material necessary for the completion of the bid item.

Payment for this item will be made under:

SSP 08105 Temporary Paving .................................................................Per Square Yard
16. **SSP 08115 Rotomill**

*Description:* This item consists of furnishing all labor, materials and equipment necessary to mill and remove the existing asphalt pavement as shown on the plans or as directed by ACHD.

*Materials:* The equipment for rotomilling the pavement surface shall be a power operated self-propelled planing machine or grinder capable of removing, in one pass, a thickness of asphalt pavement necessary to provide the desired profile and cross slope. The planed surface shall provide a smooth surface, free from gouges greater than 3/8-inch in depth. The equipment shall be self-propelled with sufficient power, traction and stability (rigid suspension, non-pneumatic tired) to maintain accurate depth of cut and slope. The equipment shall be capable of accurately and automatically establishing profile grades along each edge of the machine (within +/- 1/8-inch) by referencing from existing pavement by means of a ski or matching shoe unless otherwise directed by the Engineer. The rotomill shall be equipped with a floating mold board cutting device behind the cutting mandrel. The mold board shall have an infinitely variable down pressure from 0-2000 psi and shall be equipped with means to control dust and other particulate matter created by the cutting action.

*Workmanship:* The Engineer may direct the Contractor to modify the rotomilling operation or equipment to protect the existing roadway from damage caused by rotomilling activity. The modifications shall include, but shall not be limited to, equipment track velocity, cutting drum revolutions per minute and total depth of cut by the rotomilling equipment. The modifications directed by the Engineer shall be considered incidental to the bid, and no additional payment shall be made therefore.

If the Contractor is unable to remove all of the existing pavement adjacent to curbs, water valves, gas valves, traffic control boxes, manholes, intersections or any other item not specifically identified herein, with the rotomilling equipment, he shall remove the remaining pavement by another mechanical process approved by the Engineer.

After completion of the rotomilling operation, and prior to allowing traffic to pass through the project site, the surface shall be broomed and any excess material removed from the project site.

*Measurement and Payment:* Rotomill areas will be measured per square yard of surface area rotomilled and shall include all labor, equipment and material necessary for the completion of the bid item. Brooming, loading, hauling, and disposal shall be considered as incidental and no separate payment will be made. Areas to be removed under another process (Along valves, manholes, etc.) shall be paid at the unit price for Rotomill.

Payment for this item will be made under:

**SSP 08115 Rotomill** ........................................................................................................... *Per Square Yard*
17. **SSP 08120  Asphalt Repair – Arterial & Collector**

*Description:* This item shall include all work and costs associated with the repair of the existing asphalt roadway to match the grade of curbs, sidewalks, driveway approaches and existing asphalt.

*Materials:* This item shall include placement of a 6” (inch) thickness of 3/4” (inch) aggregate base course in accordance with Section 802 – Crushed Aggregates of the ISPWC, on a compacted sub-grade, and a 5” (inch) thickness of 1/2” Plant Mix Asphalt in accordance with Section 814 of the ISPWC. The asphalt cement performance grade shall be SP 3 PG 64-28 (Collector Roadways) or SP-5 PG 64-28 (Arterial Roadways) and shall contain ½% of heat-stable anti-stripping agent per ton of asphalt cement added immediately prior to use at the location of the asphalt batch plant. Asphalt tack material shall be a SS-1 emulsified asphalt diluted as specified in accordance with ISPWC Division 800 – Aggregate and Asphalt.

*Workmanship:* This item shall also include excavation, labor, equipment necessary to complete the repair of the existing asphalt roadway to match the grade of curbs, sidewalks, driveway approaches and existing asphalt.

*Measurement and Payment:*

Material costs associated with the furnishing and placement of an asphalt tack coat on the lip of the gutter and on the edges of previously placed asphalt are considered incidental to this item.

Payment for this item will be made under:

**SSP 08120  Asphalt Repair-Arterial & Collector.......................... Per Square Yard**

18. **SSP 08125  Asphalt Repair - Other**

*Description:* This item shall include all work and costs associated with the repair of existing local roads, asphalt driveways, parking lots, and sidewalks abutting the project to match the grade of curbs, sidewalks, driveway approaches, and existing asphalt.

*Materials:* This item shall include excavation, labor, equipment, and materials necessary to complete placement of a 4” (inch) thickness of 3/4” (inch) aggregate base course, on a compacted sub-grade, and a 3” (inch) thickness of ½” SP-3 Plant Mix Asphalt in accordance with Section 814 of the ISPWC. The asphalt cement performance grade shall be PG 58-28 and shall contain ½% of heat-stable anti-stripping agent per ton of asphalt cement added immediately prior to use at the location of the asphalt batch plant. Asphalt tack material shall be a SS-1 emulsified asphalt diluted as specified in accordance with ISPWC Division 800 – “Aggregate and Asphalt.”

*Workmanship:* This item shall also include all costs associated with the furnishing and placement of an asphalt tack coat on the lip of the gutter and on the edges of previously placed asphalt.
Measurement and Payment:

Payment for this item will be made under:

SSP 08125  Asphalt Repair - Other.......................................................... Per Square Yard

19. SSP 08133  Scrub Coat

Description: This item shall include all costs associated with repair of any areas where the pavement has been totally removed as a result of the rotomilling operation.

Materials: All gravel shall conform to Section 802 – Aggregates and all asphalt shall conform to Section 805 – Asphalt of the ISPWC.

Workmanship: Required work shall include, but not necessarily be limited to, excavation of the exposed rotomilled area to a depth of 2-inches below the rotomilled surface; providing any necessary 3/4-inch minus gravel; compaction of the gravel; tack coat; 2-inch thick asphalt repair; cleaning of the work area; labor, tools and any other incidentals, including traffic control, necessary to complete the work.

As part of this effort the contractor is required to have all scrub coating completed within 24 hours after rotomilling operations have exposed the area of repair.

This item shall only be used as directed by the Engineer.

Item 29 “Variations in Quantities,” page GC-16 of the General Conditions, second paragraph, shall not apply to this item.

Measurement and Payment:

Payment for this item shall be made under:

SSP 08133  Scrub Coat.......................................................... Per Square Yard

20. SSP 09011  Orchard Valve

Description: This item shall include all work and costs associated with furnishing and installing new orchard (lawn) valves at locations shown on the plans.

Materials: The tee shall be an ASTM D3034 PVC tee matching the main line size with a branch line size. The riser pipe between the tee and orchard valve shall be ASTM D3034, SDR 35 PVC pipe. The orchard valve shall be a Fresno Series 2000 Clover valve designed for use with SDR 35 PVC pipe, or an approved equal.

Workmanship: The orchard valve shall be installed so that the valve opening is flush with the adjoining natural ground surface following completion of construction and regrading of the area.
Measurement and Payment: Orchard Valve will be measured per each and shall include all labor, equipment and material necessary for the installation as shown on the project plans including all excavation, backfill, the tee for connection to the irrigation supply line, the riser pipe and the lawn valve.

Payment for this item will be made under:

SSP 09011A  6” Diameter Orchard Valve.........................................................Per Each
SSP 09011B  8” Diameter Orchard Valve.........................................................Per Each

21. SSP 11001  Temporary Traffic Signal

Description: This item consists of furnishing all labor, materials and equipment necessary to install a temporary traffic signal or make modifications to the existing traffic signal at the designated intersection(s) shown on the plans to accommodate the approved construction traffic control phasing for the project duration. This item includes the removal and disposal or salvage to ACHD as required of the temporary traffic signal equipment when it is no longer needed.

Materials: Materials and workmanship shall meet the requirements of the ACHD Supplemental Provisions to ISPWC Division 1100.

Workmanship: The Contractor shall modify the existing traffic signal systems or the proposed traffic signal systems shown on the plans to accommodate traffic operations required for the construction phasing. The contractor shall install the video detection cabling. The Contractor shall coordinate with ACHD for the proposed camera locations, and shall coil 10 feet of cabling at the proposed camera locations and in the signal cabinet. ACHD will furnish the signal equipment for a permanent traffic signal installation, including the video detection processing unit, cameras, mounting brackets, cabling and other equipment required for operation. ACHD will install the cameras, terminate cabling, orient the camera, establish detection zones and calibrate the system for operation. The contractor is required to provide ACHD a minimum of 48 hours advanced notice prior to temporary traffic signal installation.

Measurement and Payment: Temporary Traffic Signal will be measured by the lump sum and shall include all labor, equipment and material necessary for the completion of the bid item regardless of the number of times the signal items have to be adjusted during construction.

Payment for this item will be made under:

SSP 11001  Temporary Traffic Signal.................................................................Per Lump Sum
22. **SSP 11002Portable Changeable Message Sign**

*Description:* This item consists of furnishing all labor, materials and equipment necessary to provide and operate a Portable Changeable Message Sign (PCMS) at the location shown on the plans or as directed by the Engineer.

*Materials:* PCMS shall be of modular design for ease of maintenance and cost effective repairs. The sign cabinet shall be constructed of seamless aluminum extrusion with continuous welded corners and shall be an all-weather cabinet appropriately sealed to withstand all types of weather conditions. The sign and all of its elements and systems shall be manufactured to operate in an ambient air temperature range of -20ºF to +160ºF. The PCMS shall consist of message sign panel, control system, power source, and mounting and transportation trailer as follows:

Message Sign Panel - Message sign panel shall be capable of displaying a minimum of three message lines each consisting of a minimum of eight characters per line. Each character module shall have an 18 inch minimum height and shall use, as a minimum, a five wide-pixel by seven high-pixel matrix with a minimum of 3 inches between characters. Each character module shall be completely interchangeable with all other character modules. The message sign panel background shall be black. The front face of the message sign panel shall be covered with a UV stable, impact resistant, non-glare protective material. Each sign message shall be legible from a distance of zero to 900 feet. The viewing angle left and right of center shall be a minimum of 17 degrees. Light emitting diodes (LEDs) used for the character module pixel matrix, shall operate at a dominant wavelength between 590 nm and 650 nm as defined in the 1931 CIE Chromaticity Diagram. Under low light level conditions, the sign shall automatically adjust its light source so as to meet the legibility requirements and not impair the drivers' vision. If a Flip Disc system is used, either as a supplement to (LEDs) in a Hybrid PCMS or as the sole display element of the PCMS, colors shall be retroreflective fluorescent yellow. All other minimum requirements for character and message display stated above shall be met. The sign panel shall have the capability to rotate about its vertical axis 360 degrees plus or minus one degree.

Power Source - The PCMS shall be equipped with a primary power source (Battery or Internal Combustion) and a Solar or battery backup to provide continuing operation when failure of the primary power source occurs. All batteries shall be Marine/RV deep cycle. The unit shall be equipped with a weatherproof 120 VAC standard receptacle to allow for connection to an external power source and must have a built-in temperature stable battery charger to allow for the maintenance of a full charge in the Marine/RV battery source.

Control System - The control system shall include keyboard, display screen, software, backup battery and any other hardware necessary for complete programming and operation of the sign. The software shall have in memory a minimum of fifty (50) standard MUTCD messages and symbols and must provide for at least fifty (50) custom messages and symbols created by the user. The software system must also allow for download by the user of system software and the MUTCD message and symbol library upgrades. The software must be a multiple site license to
allow for installation of sign panel programming by more than one laptop computer or by an off-site computer via modem. The control system shall incorporate a modem that is compatible with the Department’s existing equipment to allow for remote operation by computer and cellular phone and emergency notification via computer, cellular phone and pager. Software shall also allow for checking battery charge level. The software system shall be capable of showing the message on the display screen before displaying the message on the sign panel. The software system shall be capable of providing an automatic programmed default message for low battery conditions and emergency notification if an operational failure occurs. Emergency notification shall be available by both cellular phone and pager. The system shall be capable of maintaining continuous memory via a backup battery when power is unavailable.

Mounting and Transportation Trailer - The entire PCMS system shall be mounted on a transportation trailer with standard ball type hitch, safety chains and an easily removable or collapsible tongue. The solar panel should be angled to prevent the accumulation of rain or snow. An internal combustion engine, if part of the system, shall be securely mounted to prevent vibration of the rest of the assembly and a fuel gauge shall be included. The trailer shall be equipped with a battery charge level indicator, as a minimum and additional ammeter gauges if powered by an internal combustion power source. The message sign panel mounting apparatus shall be extendible so that the panel can operate at a minimum height of 7 feet from the roadway surface to bottom of the panel. The PCMS and the solar panel shall be capable of withstanding wind gusts up to 80 mph when in operating position with outriggers in place. The trailer wire harness shall extend a minimum of 24 inches beyond the hitch ball and shall be equipped with an automotive style trailer plug to match the Department’s specifications.

*Workmanship*: The Contractor shall be responsible for furnishing, erecting, programming, and maintaining the PCMS. The Contractor shall also be responsible for changing display messages and relocating the PCMS as shown on the approved traffic control plans or as otherwise directed by ACHD, for the duration of the project. The PCMS shall be capable of being operated 24 hours per day during construction operations in accordance with American Traffic Safety Service Association (ATSSA) Guidelines for the Use of Portable Changeable Message Signs and in accordance with Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the State of Idaho.

*Measurement and Payment*: Portable Changeable Message Sign will be measured by the hour of sign operation for each sign and shall include all labor, equipment and material as necessary for completion of the bid item. Contractor shall weekly submit a detailed usage report including location, date and hours used.

ITEM 29, “VARIATIONS IN QUANTITIES”, ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

The accepted quantity for Portable Changeable Message Sign will be paid at the contract unit price for the item listed below.
Payment for this item will be made under:

SSP 11002  Portable Changeable Message Sign...........................................Per Hour

23. SSP 11008  Portable Flood Lights

Description: This item shall include all costs associated with the installation, operation, movement and maintenance of portable flood lights at the locations shown on the plans or as directed by the Engineer. Contractor shall weekly submit a detailed usage report including location, date and hours used.

Measurement and Payment:

Payment for this item will be made under:

SSP 11008  Portable Flood Lights .................................................................Per Hour

24. SSP 11101  2” Diameter Schedule 40 PVC Signal Conduit

Description: This item shall consist of all work and costs associated with installing 2” Diameter Schedule 40 PVC conduit material including excavation, backfill, adhesive and any other material and equipment needed to install conduit as shown on the plans. The PVC conduit shall be installed and tested so all connections are watertight.

Materials: All conduits shall conform to ASTM D 1784, NEMA TC-2 (EPC-40) and U.L. Std. 651.

Workmanship: All work shall be done in accordance with the ISPWC and adopted supplements, including the Ada County Highway District Division 1100 supplement to the ISPWC.

Measurement and Payment:

Payment for this item will be made under:

SSP 11101  2” Dia. Schedule 40 PVC Signal Conduit.................................Per Linear Foot

25. SSP 11230  Information Sign

Description: This item shall include all work and costs associated with the installation of the information signs at the locations shown on the plans or as directed by the Engineer.

Materials & Workmanship: The information signs shall be installed at locations as shown on the plans. Information Signs shall be constructed per Division 2000 – Miscellaneous of the ISPWC Specifications and in accordance with Standard Drawing SD-2010A and SD-2010B.

Measurement and Payment:

Payment for this item will be made under:
26. **SSP 11235  Video Detection Camera**

*Description:* This item shall include all costs associated with the installation of video detection cameras and associated wiring onto existing signal systems as shown on the plans or as directed by the engineer.

*Materials:* ACHD shall provide the cameras, associated hardware and special cable

*Workmanship:* All work shall be in accordance with Section 1131.03 of the ACHD Supplemental Traffic Provisions. The contractor shall install the cameras and pull the cables from the cameras into the controller cabinet.

ACHD Traffic personnel will be responsible to make all required connections at the controller cabinet and at the camera once the cables have been installed. ACHD Traffic personnel will require a minimum of 24-hours advance notice so that they can be onsite to monitor layout and provide inspections when the cameras and cables are installed.

One camera will be installed for each direction as shown on the project drawings.

Contact Mr. Tony Kinch at 387-6190 to coordinate with the ACHD Traffic Operations.

For tax purposes use the use tax table that can be obtained from the Traffic Engineering Department.”

On June 16, 2010, Ada County Highway District (ACHD) received guidance from the Idaho Division of Building Safety concerning the installation of Video Detection Cameras. The guidance requires camera installations to be completed by a journeyman electrician licensed in the State of Idaho. The guidance also requires that subcontractor to be in possession of a 16700 Communications Specialty Public Works License. ACHD requires all Bidders to list the information required to comply with Idaho Code 67-2310 in the matrix provided under Paragraph 13 of the Proposal Form contained within the Contract Documents. Failure to name subcontractors as required by this section and Idaho Code shall render any bid submitted by the Bidder as unresponsive and void.

*Measurement and Payment:*  
Payment shall be on a per each camera installed basis.

27. **SSP 11450  Temporary Pavement Markings**

*Description:* This item consists of furnishing all labor, materials and equipment necessary to survey and to establish temporary pavement markings.
**Materials**: The Contractor shall record the location of existing pavement markings on plans or sketches and produce a report explaining the recording procedure for submittal to ACHD. The Contractor shall also place field reference stakes that show offsets to those existing pavement markings to facilitate their replacement. Temporary pavement markings shall consist of reflective adhesive traffic tape accepted by the Engineer.

**Workmanship**: All plans or sketches, and report shall be the responsibility of the Contractor. These plans or sketches shall be produced to scale. All reports shall be comprehensible and complete with details sufficient to replace all existing pavement markings that are within the project limits. Two copies of the plans, sketches and report shall be delivered to ACHD prior to the start of any construction activity that would affect the existing pavement markings. The re-establishment of pavement markings shall be the placement of reference spots using paint and temporary tape. The paint or tape used to reestablish pavement markings should match the color of the corresponding pavement markings.

It shall be the contractor’s responsibility for accomplishing the re-establishment of the temporary pavement markings on each course of each day prior to allowing the traffic to travel on the roadway.

On each lane line, a reference spot shall be placed a distance no greater than 50 foot intervals. On tapers, the interval shall be 25 feet. The beginning and end of no passing zones shall be marked by placing 2 spots to the right of the lane line spot to signify the beginning of a no passing zone, and placing 1 spot to the right of the lane line spot at the end of the no passing zone. All arrows and miscellaneous message markings shall be marked to indicate the center line location of each item.

**Measurement and Payment**: Temporary Pavement Markings will be paid for by the lump sum and shall include all labor, equipment and material necessary for the completion of the bid item.

Payment for this item will be made under:

- **SSP 11450**  
  *Temporary Pavement Markings* ........................................... Per Lump Sum

28. **SSP 20003**  
**Temporary Construction Fencing**

**Description**: This item consists of furnishing all labor, equipment and material necessary to construct and maintain temporary construction fencing at the locations shown on the plans or as directed by ACHD. This item also includes removing and disposing of the fence at the completion of construction or when directed by ACHD.

**Materials**: Temporary construction fencing shall be safety orange plastic construction fencing four (4) feet in height, such as DG Industries PSF Series Plastic Fence or approved equal.
Workmanship: Temporary construction fencing shall be attached to steel posts at a maximum spacing of eight (8) feet on center and plumb. The fencing shall be installed in a manner to contain children and pets on the properties adjacent to the construction area.

Measurement and Payment: Temporary Construction Fencing will be measured per linear foot of fence constructed and shall include all labor, equipment and material necessary for the completion of the bid item. Routine maintenance of the temporary construction fencing shall be necessary and is considered incidental to this item. The costs for fence maintenance and removal and disposal of the fence are incidental to this bid item.

Payment for this item will be made under:

SSP 20003 Temporary Construction Fencing..............................Per Linear Foot

29. SSP 20006 Raised Channelization

Description: This item shall include all work and costs associated with the construction of the raised channelization as shown on the plans.

Materials & Workmanship: Raised channelization shall be constructed per Division 700 - Concrete of the ISPWC Specifications and in accordance with ITD Standard Drawing H-1.

Measurement and Payment:

Payment for this item will be made under:

SSP 20006 Raised Channelization.........................................................Per Linear Foot

30. SSP 20020 Install Removable Bollards

Description: This item consists of furnishing all labor, equipment and material necessary for providing and installing removable bollards where indicated on the plans or as directed by the Engineer.

Materials: Bollards are to be constructed of (material to be determined)

Workmanship: Bollards shall be placed at the locations shown on the plans. Bollards at entrances to driveways or roadways shall be spaced 6 feet center to center. Refer to the plan details for additional information.

Measurement and Payment:

Payment for this item will be made under:

SSP 20020 Install Removable Bollards.........................................................Per Each
31. **SSP 20105.01A  Metal Guardrail Terminal Type 1A**

*Description:* This item shall include all costs associated with furnishing and installing a Type 1A terminus in reasonably close conformity to where shown on the plans or as directed by the Engineer.

*Materials & Workmanship:* Terminal section shall be installed per *ITD Specifications and Standard Drawing G-1-E and G-1-B.*

*Measurement and Payment:* This item shall include guardrail, guardrail posts, guardrail transition sections, and related hardware required for the installation as shown on the plans.

Payment for this item will be made under:

SSP 20105.01A  *Metal Guardrail Terminal Type 1A* ................................................. *Per Each*

32. **SSP 20105.03  Metal Guardrail Terminal Type 3**

*Description:* This item shall include all costs associated with furnishing and installing a Type 3 terminus in reasonably close conformity to where shown on the plans or as directed by the Engineer.

*Materials & Workmanship:* Terminal section shall be installed per *ITD Specifications and Standard Drawing G-1-E and G-1-B.*

*Measurement and Payment:* This item shall include guardrail, guardrail posts, guardrail transition sections, and related hardware required for the installation as shown on the plans.

Payment for this item will be made under:

SSP 20105.03  *Metal Guardrail Terminal Type 3* ................................................. *Per Each*

33. **SSP 20105.07  Metal Guardrail Terminal Type 7**

*Description:* This item shall include all costs associated with furnishing and installing a Type 7 terminus in reasonably close conformity to where shown on the plans or as directed by the Engineer.

*Materials & Workmanship:* Terminal section shall be installed per *ITD Specifications and Standard Drawing G-1-E and G-1-B.*

*Measurement and Payment:* This item shall include guardrail, guardrail posts, guardrail transition sections, and related hardware required for the installation as shown on the plans.

Payment for this item will be made under:

SSP 20105.07  *Metal Guardrail Terminal Type 7* ................................................. *Per Each*
34. **SSP 20105.08  Metal Guardrail Terminal Type 8**

*Description:* This item shall include all costs associated with furnishing and installing a Type 8 terminus in reasonably close conformity to where shown on the plans or as directed by the Engineer.

*Materials & Workmanship:* Terminal section shall be installed per *ITD Specifications and Standard Drawing G-1-E and G-1-B.*

*Measurement and Payment:* This item shall include guardrail, guardrail posts, guardrail transition sections, and related hardware required for the installation as shown on the plans.

Payment for this item will be made under:

*SSP 20105.08  Metal Guardrail Terminal Type 8 ......................................................... Per Each*

35. **SSP 20105.010  Metal Guardrail Terminal Type 10**

*Description:* This item shall include all costs associated with furnishing and installing a Type 10 terminus in reasonably close conformity to where shown on the plans or as directed by the Engineer.

*Materials & Workmanship:* Terminal section shall be installed per *ITD Specifications and Standard Drawing G-1-E and G-1-B.*

*Measurement and Payment:* This item shall include guardrail, guardrail posts, guardrail transition sections, and related hardware required for the installation as shown on the plans.

Payment for this item will be made under:

*SSP 20105.010  Metal Guardrail Terminal Type 10 ......................................................... Per Each*

36. **SSP 20105.011  Metal Guardrail Terminal Type 11**

*Description:* This item shall include all costs associated with furnishing and installing a Type 11 terminus in reasonably close conformity to where shown on the plans or as directed by the Engineer.

*Materials & Workmanship:* Terminal section shall be installed per *ITD Specifications and Standard Drawing G-1-E and G-1-B.*

*Measurement and Payment:* This item shall include guardrail, guardrail posts, guardrail transition sections, and related hardware required for the installation as shown on the plans.

Payment for this item will be made under:

*SSP 20105.011  Metal Guardrail Terminal Type 11 ......................................................... Per Each*
37. **SSP 20105.A W Beam Guardrail for Minor Structures (One Post Missing Option)**

*Description:* This item shall include all costs associated with furnishing and installing one W Beam Guardrail Installation for Minor Structures (One Post Missing Option) in reasonably close conformity to where shown on the plans or as directed by the engineer.

*Materials & Workmanship:* W Beam Guardrail for Minor Structures (One Post Missing Option) shall be installed per the plans, ITD specifications Section 612, and ITD Standard Drawing G-1-L. Guardrail slope treatment Type B shall apply for post installation.

*Measurement and Payment:* W Beam Guardrail for Minor Structures (One Post Missing Option) will be measured per each and shall include all labor, equipment and material necessary for the completion of the bid item.

Payment for this item will be made under:

SSP 20105.A W Beam Guardrail for Minor Structures (One Post Missing Option) Per Each

38. **SSP 20105.B W Beam Guardrail for Minor Structures (Two Posts Missing Option)**

*Description:* This item shall include all costs associated with furnishing and installing one W Beam Guardrail Installation for Minor Structures (Two Post Missing Option) in reasonably close conformity to where shown on the plans or as directed by the engineer.

*Materials & Workmanship:* W Beam Guardrail for Minor Structures (Two Posts Missing Option) shall be installed per the plans, ITD specifications Section 612, and ITD Standard Drawing G-1-L. Guardrail slope treatment Type B shall apply for post installation.

*Measurement and Payment:* W Beam Guardrail for Minor Structures (Two Posts Missing Option) will be measured per each and shall include all labor, equipment and material necessary for the completion of the bid item.

Payment for this item will be made under:

SSP20105.B W Beam Guardrail for Minor Structures (Two Posts Missing Option) Per Each


*Description:* This item shall include all costs associated with furnishing and installing one W Beam Guardrail Installation for Minor Structures (Three Post Missing Option) in reasonably close conformity to where shown on the plans or as directed by the engineer.
Materials & Workmanship: W Beam Guardrail for Minor Structures (Three Posts Missing Option) shall be installed per the plans, ITD specifications Section 612, and ITD Standard Drawing G-1-L. Guardrail slope treatment Type B shall apply for post installation.

Measurement and Payment: W Beam Guardrail for Minor Structures (Three Posts Missing Option) will be measured per each and shall include all labor, equipment and material necessary for the completion of the bid item.

Payment for this item will be made under:

SSP20105.C W Beam Guardrail for Minor Structures (Three Posts Missing Option) Per Each

40. SSP 20109 Pedestrian Bridge Railing

Description: This item consists of furnishing and installing the pedestrian rail on the bridge at locations shown on the drawings.

Materials & Workmanship: All joints shall be welded unless the Engineer specifically approves other fastening methods. Finish exposed welds flush and smooth. Accurately set and securely attach work plumb and level.

This item shall include furnishing and applying paint in accordance with the manufacturer’s recommendations and ITD Standard Specification, Section 627.03, Part C. The railing shall be painted with No. D Paint System, Powder Coating for New Steel Bridge Rails.

Primer – Generic Type, Zinc-rich epoxy powder coating

Topcoat – Generic Type, TGIC – Polyester powder coating. Color – Black

Special Requirements for Paint System D.

Coating shall have the following minimum thicknesses:

<table>
<thead>
<tr>
<th>Coat</th>
<th>Formula</th>
<th>Minimum Dry Film Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime</td>
<td>Zinc-rich epoxy powder coating</td>
<td>3 mils</td>
</tr>
<tr>
<td>Topcoat</td>
<td>TGIC-Polyester powder coating</td>
<td>2 mils</td>
</tr>
</tbody>
</table>

Coating shall conform to the following performance criteria:

<table>
<thead>
<tr>
<th>Property</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion</td>
<td>ASTM Designation: D 3359B</td>
</tr>
<tr>
<td>Pencil hardness</td>
<td>ASTM Designation: D 3363</td>
</tr>
<tr>
<td>Flexibility</td>
<td>ASTM Designation: D 522</td>
</tr>
</tbody>
</table>
Impact resistance  | ASTM Designation:  
| D 2794, Modified  

Abrasion resistance  | ASTM Designation:  
| D 4060, Modified  

Salt spray resistance  | ASTM Designation:  
| B 117  

Humidity resistance  | ASTM Designation:  
| D 2247  

Measurement and Payment:

Payment for this item will be made under:

**SSP 20109 Pedestrian Bridge Railing**

41. **SSP 20113 Block Retaining Wall**

**Description:** This item shall include all work and costs associated with the design and construction of block retaining wall in accordance with the lines, grades, details and dimensions shown on the plans. Preliminary dimensions are given for estimating purposes only. The Contractor is responsible for producing a design, in accordance with AASHTO Standards, which will provide for a complete installation including leveling pad requirements, backfill material quality and density requirements.

**Materials:** The Genesis Wall System composed of the Keystone Retaining Wall System or approved equal is approved for this project.

**Workmanship:** The wall surface shall be constructed within a tolerance of 3/4” per 10 feet of wall length. The exposed surface of the wall units shall be sound, free of cracks, chips and other imperfections when viewed from a distance of 20 feet. Acceptable color for the wall units is as shown on the plans, standard gray or as directed by the Engineer.

At least three weeks prior to the beginning of construction of the wall the Contractor shall provide six sets of design drawings and details and complete design calculations stamped by a professional engineer licensed in the State of Idaho for the mechanically stabilized earth retaining wall system to be constructed. The wall shall be designed in accordance with the 17th Edition (2002) AASHTO Standard Specifications for Highway Bridges, Division 1-Design, Section 5 – Retaining Walls, Parts A & B and any current revisions to the AASHTO Specifications. The drawings shall include all details, dimensions, quantities and cross sections necessary to construct the wall. Construction cannot begin without the review and approval of the drawings by the owner. The plans shall include, but not be limited to, plan, elevation and detail sheets containing the following:
• An elevation view indicating the elevations at all the break points in the top of the wall and the leveling pad, distances along the face of the wall to each break point and panel designation.

• A plan view of the wall with dimensions, stations and offsets tying it to the centerline of the road and with station and offsets to the excavation limits. The excavation limits will be based upon the cross sections in the plans or on field data developed by the Contractor.

• A materials takeoff shall be submitted with the calculations that include quantities for the excavation and backfill within the reinforced zone.

• All details for the leveling pad, dimensions of the blocks and reinforcement placement plans. Reinforcement placement plans need to reflect angled straps at locations required due to the skew of the abutment walls.

• Details of the cast-in-place concrete cap (sidewalk and ramp).

**Measurement and Payment:** The unit of measurement for furnishing all materials, fabricating, constructing and erecting the concrete block units, attachment devices, fasteners, bearing blocks and shims, excavation, leveling pad and backfill and concrete cap including all labor, materials, equipment and incidentals for a complete installation, shall be the square foot of wall surface area constructed, measured from the top of the leveling pad to the top of the wall units, over the length of the wall. Measurement shall be along the exterior face of the wall.

ITEM 29, “VARIATIONS IN QUANTITIES,” ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

Payment for this item will be made under:

**SSP 20113** Block Retaining Wall...........................................................Per Square Foot

**SSP 20114** Mechanically Stabilized Earth (MSE) Retaining Wall

*Description:* This item shall include all work and costs associated with the design and the construction of mechanically stabilized earth (MSE) retaining walls in accordance with the lines, grades, details and dimensions shown on the plans. Preliminary dimensions are given for estimating purposes only.

*Materials:* The Contractor, based upon his chosen proprietary system, is responsible for producing a design which will establish soil reinforcing configuration and length and connection to precast concrete wall facing units, leveling pad requirements and reinforcing zone backfill material quality and density requirements. The wall system shall also be designed for all loads from the cap/sidewalk, cap/ramp, and railing. The cast-in-place concrete cap/sidewalk and the metal railing at the top of the wall are not included in this item.

This item includes excavation for the MSE wall at the toe of the wall. The excavation pay limits are shown on the plans.
This item includes providing the required exposed aggregate texture to the exposed faces of the wall as called out on the plans. It also includes applying a urethane anti-graffiti finish to the exposed faces of the concrete cap.

*Workmanship:* The Contractor shall be responsible to conduct soils investigations and tests to determine the properties of the material source and to provide suitable material for the reinforced backfill zone as required by the design of the MSE wall and these specifications. Two copies of all test results shall be submitted to the Engineer at least three weeks prior to the beginning of the construction of the wall.

At least three weeks prior to the beginning of construction of the wall the Contractor shall provide six sets of design drawings and complete design calculations stamped by a professional engineer licensed in the State of Idaho for the mechanically stabilized earth retaining wall system to be constructed. The drawings shall include all details, dimensions, quantities and cross sections necessary to construct the wall. Construction cannot begin without the review and approval of the drawings by the owner. The plans shall include, but not be limited to, plan, elevation and detail sheets containing the following:

- An elevation view indicating the elevations at all the break points in the top of the wall and the leveling pad, distances along the face of the wall to each break point and panel designation.
- A plan view of the wall with dimensions, stations and offsets tying it to the centerline of the road and with station and offsets to the excavation limits. The excavation limits will be based upon the cross sections in the plans or on field data developed by the Contractor.
- A materials takeoff shall be submitted with the calculations that include quantities for the excavation and backfill within the reinforced zone.
- All details for the leveling pad, dimensions of the panels or modules and reinforcement placement plans. Reinforcement placement plans need to reflect angled straps at locations required due to the skew of the abutment walls.
- Details of the cast-in-place concrete cap (sidewalk and ramp).

The Contractor shall furnish the Engineer a Certificate of Compliance certifying that the materials installed comply with these specifications and the requirements of the designer and supplier of the wall components.

*APPROVED WALL SYSTEMS*

The following mechanically stabilized earth retaining wall systems are approved for this project:

a) A reinforced earth wall as designed by THE REINFORCED EARTH COMPANY.

b) A retained earth wall as designed by VSL CORPORATION.

*DESIGN PARAMETERS*
**Design Life:** The MSE retaining wall shall be designed and constructed to provide a minimum SERVICE LIFE of 75 years and an ULTIMATE LIFE in excess of 100 years in conformance with FHWA GEOTECHNICAL ENGINEERING NOTEBOOK Chapter 5, Section 3, and Subsection 4 “SERVICE LIFE OF MECHANICALLY STABILIZED EMBANKMENTS.”

**Design Loads:** The MSE retaining wall shall be designed in accordance with the latest edition and interim of the AASHTO Standard Specifications for Highway Bridges.

The MSE retaining wall shall be designed for an HS-25 traffic load at the top of the wall, which may be represented by a 2.5-ft. thick layer of soil surcharging the top of the wall.

Where the MSE wall is placed against the bridge abutments with angles less than 90 degrees, the walls shall be designed using skewed straps.

The MSE retaining wall shall be designed for loads from the cap/sidewalk, cap/ramp and railing.

**Geotechnical Parameters:** The leveling pads and the wall toe pressure shall be designed for a maximum allowable bearing pressure of 10,000 pounds per square foot. The leveling pads shall have a minimum width of 12 inches, or a width determined by the designer of the wall, whichever is larger.

**Backfill:** The backfill material, gradation, compaction requirements and methods of compaction within the reinforced soil zone shall be in accordance with the requirements of the manufacturer of the wall components and these minimum specifications. The backfill material in the reinforced soil zone shall have a maximum aggregate size of 3 inches. The backfill material in the reinforced soil zone shall be compacted to at least 95% of maximum dry density determined according to AASHTO T-99 or 60% relative density based on ASTM D4253 and D4254.

The backfill within the reinforced soil zone shall meet the following additional requirements:

- a) The fraction finer than 15 microns, as determined by AASHTO T-88, shall not exceed 15%
- b) Plasticity Index (P.I.) as determined in AASHTO T-90 shall not exceed 6
- c) Organic Content shall not exceed 0.2% per AASHTO T 267-86
- d) pH shall be between 5 and 10 per ASTM G51-77
- e) Resistivity shall be equal to or greater than 3000 ohm-centimeters per ASTM G57-78
- f) Chlorides shall be less than 100 parts per million per ASTM D512-88 or D4327
- g) Sulfates shall be less than 200 parts per million per ASTM D516 (B) or D4327.
- h) Soundness: Magnesium sulfate loss shall be less than 30% after 4 cycles per AASHTO T104
- i) No shale or soft, poor durability materials shall be included.
- j) The backfill at the toe of the wall and behind the reinforced soil zone except bridge abutments shall be 8 inch minus uncrushed aggregate. The material and construction of this backfill shall conform to Section 800 of the ISPWC.

**CONSTRUCTION REQUIREMENTS**
**Field Representative:** The Contractor shall have a field representative from the supplier of the wall components and a field representative from the supplier of the soil reinforcing, if different from the supplier of the wall components, on site at the beginning of the erection of the wall. The representatives shall be fully knowledgeable in the specific design and construction requirements of the MSE wall to be constructed. As a minimum, the representatives shall stay on site assisting the fabricator, Contractor and Engineer during the initial three days of wall construction. The MSE wall erection shall begin only if the representatives are on site. In addition, the field representatives shall be available for consultation as required during the entire erection process. The costs of the services of the field representatives shall be incidental to the cost of the wall.

**Stepped Footings:** The elevations of the bottom of the footings to provide a minimum cover are shown on the plans. The footings shall be stepped to meet the configuration of the wall system selected and shall maintain the minimum cover as shown on the plans.

**Wall Configuration:** The top of the wall shall be constructed and finished to the elevations shown on the plans. The top of the wall shall be capped with a cast-in-place concrete cap. The pattern of the wall joints shall be set vertical and horizontal. This may require the tops of wall panels to be fabricated on a slope. The wall face shall be vertical. The wall surface shall be constructed within a tolerance of 3/4 of an inch per 10 feet of wall height or length. Soil reinforcement straps will need to be attached at the appropriate skew angle shown on the plans for panels adjacent to the abutment walls. The wall edges next to the abutments shall be beveled to match the joining angle.

**Joint Materials:** Bearing pads, joint filler and joint cover shall be as required on the approved plans. All joints between wall panels shall be covered with a minimum 18 inch wide strip of geotextile filter fabric material. The geotextile filter fabric material shall be attached to the back of the wall panels with an adhesive approved by the wall supplier. Overlaps between strips of geotextile shall be at least 4 inches.

**Wall Finish:** The exposed surface of the wall units shall be sound, free of cracks, chips or other imperfections when viewed from a distance of 10 ft.

The exposed surface of the wall shall be textured as shown on the plans.

**Urethane Coating:** The exposed surfaces of the wall, concrete cap, and parapet shall be coated with a urethane clear finish.

The urethane clear finish shall be: Benjamin Moore & Co. M74-00/M75 aliphatic acrylic urethane gloss clear finish available through Boise Paint & Glass; or Kemiko "Wipe-out" urethane clear finish available through Pioneer Coatings; or an approved equal.

The urethane clear finish shall be applied in accordance with the manufacturer's recommendations to achieve a minimum wet film thickness of 4 mils. Textured surfaces such as fractured fin or exposed aggregate will require two full finish coats or a total of 5 to 6 mils wet film thickness.
Measurement and Payment:

MSE Wall: The unit of measurement for designing, furnishing all materials, fabricating, constructing and erecting the MSE wall, including footings, concrete wall units, soil reinforcements, attachment devices, fasteners, bearing blocks and shims, joint materials, leveling pad and backfill within the reinforced soil zone, including all labor, materials, equipment and incidentals for a complete installation, shall be by the square foot of wall surface area constructed, measured from the top of the leveling pad to the top of the wall units including any wall cap, over the length of the wall. Measurement shall be along the exterior face of the wall.

MSE Wall Excavation and Backfill: All excavation and backfill required for construction of the MSE wall is included in the MSE wall quantity and shall be considered incidental to Item SSP 20114, MSE Retaining Wall. Any excavation and over excavation beyond the limits shown on the plans or for the Contractor’s convenience shall be at the Contractor’s expense.

Urethane Coating: All costs incurred for the urethane coating shall include all materials equipment, labor, and incidentals complete and shall be considered incidental to the MSE wall and no additional payment made therefore.

ITEM 29, “VARIATIONS IN QUANTITIES,” ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

Payment for this item will be made under:

SSP 20114   Mechanically Stabilized Earth (MSE) Retaining Wall............Per Square Foot

43. **SSP 20200 – Salvage Topsoil**

**Description:** This item shall include all costs associated with salvaging suitable on site topsoil from within the project limits, if available, and storing in stockpiles for later use in the project.

**Materials:** Topsoil shall consist of fertile, friable soil of loamy character that contains an amount of organic matter normal to the region. Obtain topsoil from well-drained arable land, reasonably free from subsoil, refuse, roots, heavy or stiff clay, large stones, coarse sand, sticks, brush, litter, and other deleterious substances. Incorporate vegetative matter into topsoil, except brush, trees, and noxious weeds.

As determined by the Engineer, provide microorganism inoculants that contain a diverse mix of regional specific mycorrhizal species for specific condition, provide macronutrients and micronutrients to plants that are tolerant of chemical imbalances in the soil, produce humic compounds and binding compounds, and improve soil structure.

**Workmanship:** Excavate to a depth of at least 6 in, unless otherwise Engineer directed. Place topsoil excavated from the roadway directly on cut and fill slopes or other specified areas without
use of stockpiles whenever conditions and the progress of construction permit. Where this procedure is not possible, excavate topsoil, and stockpile along the project.

Stockpile topsoil so as not to interfere with natural drainage or cause off-site sediment damage. Surround topsoil stockpile with sediment controls. Treat topsoil stockpile with temporary soil stabilization measures immediately upon stockpile completion.

Ensure topsoil stockpiles do not exceed 4 ft in height unless otherwise Engineer approved. If the stockpile is undisturbed for longer than 3 months, mix the top 1 ft with the remainder of the stockpile to ensure that living organisms are distributed throughout at the time of final placement, or add microorganism inoculants, after final placement, in accordance with manufacturer recommendations. Apply microorganism inoculants as dry granular mixes, tablets, or injectable soluble.

Topsoil shall not be placed in its final position until the areas to be covered have been properly prepared. Place topsoil at locations shown on the plans to a depth of 6 inches and key into the underlying material by the use of harrows, rollers, or other equipment suitable for the purpose.

**Measurement and Payment:** Payment shall be on a cubic yard basis.

*SSP-20200*  
**Salvage Topsoil**  
Per Cubic Yard  

44. **SSP 20201- Bioretention Soil Mix (BSM)**

**Description:** This item shall include all costs associated with providing and installing the BSM at locations shown on the plans

**Materials:** The BSM shall be a mixture of A. 60% Fine Aggregate Sand (ASTM C33 Spec); B. 20% Loamy Sand (USDA Soil Classification); C. 20% Compost.

1. All required analytical lab tests, data, lab interpretive reports and lab contact information for 1) Fine Aggregate Sand: chemical analysis and particle size analysis  2) Loamy Sand: comprehensive soil analysis including: TEC; pH; ECe as dS/m; Major & Minor Nutrients; Half Saturation; Sodium SAR; % Organic Matter  3) Compost: lab analysis.

2. A description of the equipment and methods used to completely mix the three components of the BSM and the delivery to the project site.

3. Tests should be conducted no more than 120 days prior to the delivery date of the BSM to the project site. Batch-specific test results and certification will be required for projects installing more than 100 cubic yards of BSM.

4. The Contractor shall submit the following to the Engineer for approval if requested:

   A. A one gallon sample of mixed BSM.
B. Grain size analysis results of the sand component performed in accordance with American Society for Testing and Materials (ASTM) D422, Standard Test Method for Particle Size Analysis of Soils.

C. Grain size analysis results of loamy sand soil component performed in accordance with ASTM D422, Standard Test Method for Particle Size Analysis of Soils.

D. Grain size analysis results of compost component performed in accordance with ASTM D422, Standard Test Method for Particle Size Analysis of Soils.


F. A description of the equipment and methods used to mix the sand, sandy loam, and compost to produce BSM.

G. Constant head permeability results of the mixed BSM. Constant head permeability testing in accordance with ASTM D2434, Standard Test Method for Permeability of Granular Soils (Constant Head) should be conducted on a minimum of two samples with a 6-inch mold and vacuum saturation.

H. Provide the following information about the testing laboratory(ies) including:
   1) Name of laboratory(ies)
   2) Contact person(s)
   3) Address(es)
   4) Phone contact(s)
   5) Email address(es)
   6) Qualifications of laboratory(ies), including use of ASTM and U.S. Department of Agriculture (USDA) method of standards

A - Fine Aggregate Sand (60% of BSM)

   General: Sand shall be washed and free of wood, waste, coating such as clay, stone dust, carbonate or any other foreign deleterious material.

   Lab Analysis for chemistry: A soil analysis to test for excess salinity (above 3.0 ECe-dS/m), excess boron (above .80 ppm by Saturated Extract) and excess sodium –SAR(above 2.0) is required.

   Lab Analysis for Particle Size: The Fine Aggregate Sand for the BSM shall be analyzed using #100, #50, #30, #16, #8, #4, and 3/8 inch sieves Particle Size Analysis in accordance with ASTM D422(standard test method) or as approved by ACHD, and meet the following gradation limits for ASTM C33 Fine Aggregate Specification as follows:

<table>
<thead>
<tr>
<th>Sieve/mm</th>
<th>Cumulative % Passing</th>
<th>Cumulative % Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8” / 9.5</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>#4 / 4.75</td>
<td>90-100</td>
<td>0-10</td>
</tr>
<tr>
<td>#8 / 2.36</td>
<td>70-100</td>
<td>0-30</td>
</tr>
</tbody>
</table>
B – Loamy Sand (20% of BSM)

- General: The Loamy Sand component of the BSM shall be free of: weeds (roots, stems, and seeds); construction materials; industrial contaminants including heavy metals; and all other foreign materials.
  A one quart sample of the Loamy Sand shall be submitted to ACHD for independent testing within 14 business days of installation date, this is in addition to the laboratory work described below required by the contractor.
- Lab Analysis for chemistry: A soil analysis to test for phosphorus content (15-60 mg/kg P by Mehlich3) is required.
- Lab Analysis for physical properties: A lab analysis shall be required including: moisture capacity; total porosity; free porosity; dry Bulk Density; and particle size analysis from Gravel; Sand (course/medium/fine % ); Silt and Clay percentages. ( USDA Classification “Loamy Sand” requires the following range of percentages of the following Sand, Silt, and Clay components :

  - USDA Classification “Loamy Sand”
    - Component / mm Min % Max %
    - Sand / 2.0 - .05 70% 90%
    - Silt / .05 - .002 0% 30%
    - Clay / less than .002 10% 20%

- ACHD reserves the right to request additional samples of loamy sand from the contractor based on the lab analysis and reports.

C - Compost (20% of BSM)

- General: The Compost shall be a mature, well decomposed, weed free, herbicide free, pesticide free, and absent of inert garbage. Organic matter source shall be derived from waste (feedstock) including yard debris, wood waste, crop by-products. This product shall not include straight manure or bio-solids. The product shall be stable with regard to oxygen consumption and carbon dioxide generation as can be determined by a Solvita™ test.
- Organic Amendment Analysis: A one gallon sample of the Compost shall be submitted to ACHD for independent review within 10 business days of the contract date. This is in addition to the testing required by the contractor to include a minimum of the following chemical and physical properties and parameters (i.e. specifications) required for the Organic Amendment:
  - a) 100 percent of the material must pass through a half-inch screen
b) The pH of the material shall be between 6 and 8

c) Manufactured inert material (plastic, concrete, ceramics, metal, all and any trash) shall be less than 1.0% by dry weight of the product.

d) The Organic Matter content shall be between 35 percent and 65 percent

e) Soluble Salt as expressed as dS/m (mmhos/cm) shall be no higher than 6.0

f) The moisture content shall be between 35 percent and 65 percent

g) Stability shall be 7 mg C02-C/g OM/day or less; or > 5 Solvita™ Index Value

h) Carbon / Nitrogen (C/N) ratio shall be no less than 15:1 C/N and no more than 35:1 C/N

i) Dry Bulk Density of the material shall be between 1080 lbs./Cubic Yard – 1400 lbs./Cubic Yard

j) Material shall be free of human pathogens (Salmonella < 3 MPN/4 grams or TS; Coliform < 1000 MPN/gram

k) A range of 4-6% by volume of product must pass a #200 (.075mm) screen (this equals 1.0 -1.5 C.F./C.Y of product)*

Workmanship: After excavation to subgrade, the BSM shall be placed over the surface of the specified area to the limits as shown on the plans.

A. Erosion and sediment control practices during construction should be employed to protect the long-term functionality of the bioretention. The following practices shall be followed for this reason:

1) Provide erosion control in the contributing drainage areas to the facility and stabilize upslope areas.

2) Facilities should not be used as sediment control facilities, unless installation of all bioretention-related materials are withheld towards the end of construction, allowing the temporary use of the location as a sediment control facility, and appropriate excavation of sediment is provided prior to installation of bioretention materials.

B. Do not excavate, place soils, or amend soils during wet or saturated conditions.

C. Operate equipment adjacent to the facility. Equipment operation within the facility should be avoided to prevent soil compaction. If machinery must operate in the facility, use lightweight, low ground-contact pressure equipment.

D. If constructing an infiltrating facility, the subgrade should be ripped or scarified to a minimum depth of 9 inches to promote greater infiltration.

E. The BSM should be mixed prior to being delivered to the site.

F. Place soil in 6- to 12-inch lifts with machinery adjacent to the facility (to ensure equipment is not driven across soil). If working within the facility, to avoid over-compacting, place first lifts at far end from entrance and place backwards towards entrance.
G. Allow BSM lifts to settle naturally, lightly water to provide settlement and natural compaction between lifts. After lightly watering, allow soil to dry between lifts. Soil cannot be worked when saturated, so this method should be used with caution to ensure dry conditions. After all lifts are placed, wait two days to check for settlement, and add additional media as needed. No mechanical compaction is allowed.

H. The long-term hydraulic conductivity rate should not be less than 5 inches per hour when tested with a double ring infiltrometer (in accordance with ASTM D3385, Standard Test Method for Infiltration Rate of Soils in Field Using Double Ring Infiltrometer), a single ring infiltrometer, a Modified Philip-Dunne Infiltrometer, or other approved methods.

I. Vehicular traffic and construction equipment shall not drive on, move onto, or disturb the BSM once placed and water-compacted.

J. Rake bioretention soil as needed to level out. Verify BSM elevations before applying mulch or installing plants.

**Measurement and Payment:** Payment shall be on a cubic yard quantity basis. No final measurement will be made.

SSP 20201 - The Bioretention Soil Mix.............................................................Per Cubic Yard

45. **SSP-20202** Soil Amendments

**Description:** This item shall include all costs associated with providing and incorporating soil amendments in areas shown on the plans

**Materials:** Soil amendments are organic soil- applied compost or manufactured organic soil amendments. Compost shall be weed-free, aerobically composted organic compost derived from a variety of feed stocks including forestry, food, leaf and yard trimmings, manure and tree wood with no substances toxic to plants.

Soil Amendments shall be in compliance with the standards set by the **US Composting Council**, 5400 Grosvenor Lane, Bethesda, MD 20814.

**Measurement and Payment:** Payment for these items will be made under the following:

**SSP-20202** Soil Amendments...........................................................................Per Cubic Yard

46. **SSP-2020X** – Plant Material

**Description:** This item shall include all costs associated with providing and planting trees, shrubs, vines and ground cover.

**Materials:** Provide plants that meet the applicable requirements of the American Standard for Nursery Stock. Ensure plants are true to type and name in accordance with Standardized Plant
Names prepared by the American Joint Committee on Horticultural Nomenclature. Provide plants that are sound, healthy, vigorous, well branched, and densely foliated when leaves are present, and without disease or insects including adult eggs, pupae, or larvae. Provide plants without disfiguring limbs, knots, limb scars, sun scald, abrasions of the bark, wind or freezing damage, or other disfigurements. Do not cut back plants from larger sizes to meet specified sizes. The Engineer will reject plants with the presence of noxious weeds in the containers or at the source.

Provide nursery grown plants unless collected plants are specified. Grow or condition plants to an environment similar to the project site including elevation, site and soil conditions, and climate.

The term “nursery grown” consists of natural seedling trees and shrubs, provided such trees and shrubs have been growing continuously in one nursery for the minimum periods of time specified in table below.

<table>
<thead>
<tr>
<th>Plant Material</th>
<th>Time in Nursery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees</td>
<td>2 growing seasons</td>
</tr>
<tr>
<td>Shrubs, Evergreens</td>
<td>2 growing seasons</td>
</tr>
<tr>
<td>Shrubs, Deciduous</td>
<td>1 growing season</td>
</tr>
<tr>
<td>Wetland Plants</td>
<td>2 growing seasons</td>
</tr>
<tr>
<td>Vines</td>
<td>1 growing season</td>
</tr>
</tbody>
</table>

Provide trees with straight trunks, well branched with symmetrical tops and no unhealed scars more than ¾ in diameter.

Provide well established containerized plants with a root system sufficiently developed to retain its shape and hold together when removed from the container. The Engineer may reject plants that are pot bound, or have kinked, circling, or bent roots.

Provide plants in pots or containers of a size shown on the plans.

Deciduous plants may be supplied bareroot (B.R.) unless specified otherwise.

Provide B.R. plants that are one size group larger than the sizes specified before pruning and are packed in moisture retaining material.

Provide broadleaf evergreen plants and conifers Balled and Burlapped (B&B) or in suitable containers. Pack B&B plants, except seedlings, with a firm ball of earth surrounded with burlap firmly held in place by a cord or wire wrapping. Provide B&B plants with firm, natural earth balls
of standard size in accordance with the American Standard for Nursery Stock and the root collar located within the top two inches of the soil ball. Handle B&B plants by the earth ball only and protect against drying and freezing. The Engineer will reject broken or loose balls or plants without an adequate root system.

Pack and ship the plants in accordance with the American Standard for Nursery Stock.

File required state and federal inspection certificates for plant shipments with the Engineer.

Do not substitute plant materials unless previously authorized and approved by the Engineer.

Label plants according to size and scientific plant name with durable and legible tags. Deliver plants with labels securely attached to plants, bundles, and containers of plant materials. Provide actual certificate of inspection, or a copy, for injurious insects, plant diseases, and other plant pests for each shipment or delivery of plant materials. Indicate the name, address and the source of the stock on the certificate.

Leave the labels on at least one plant of a group of the same species and on each plant for individual planting during and after planting operations within the same area.

**Workmanship**: Ensure adequate and proper care of plant material. Adequate and proper care includes keeping plant materials in a healthy, growing condition by appropriate handling, storing, watering, cultivating, pruning and spraying.

Unless otherwise approved by the Engineer, perform planting operations between May 15 and September 15, and take advantage of favorable planting conditions. Plant bare root plants before the leaves open or new needles have started forming.

Grade and/or level both the irrigated and sodded area(s) to be planted before staking or marking planting locations. Disk natural or unmaintained area(s) or leave in a roughened condition before staking planting locations. Mark out and stake tree locations and the general layouts of planting areas for shrubs, vines, and ground cover. Do not begin planting until the area(s), tree locations and general layouts of the planting site(s) are approved by the Engineer.

Cultivate planting areas for shrubs and vines to at least 4 inches deep. Remove and dispose of weeds and other vegetative growth, large clods, rocks, and other debris encountered in the cultivating work.

When excavating holes for planting, keep topsoil separate from subsoil and make loose and friable. Remove and dispose of soils containing a pH greater than 8, a pH less than 4, gravel, stones, or other detrimental material encountered during excavation. A soil auger may be used if approved by the Engineer. Sufficiently roughen glazed surfaces inside planting holes before backfilling.

Remove plants from plastic, metal, or biodegradable containers before planting.
Take care to prevent disturbance of the root systems or earth. For bare-root plants, spread out their roots in a natural position, without bunching, kinking or circling.

Mulch planted areas immediately after planting work in each area is complete and the ground is smooth and clean. Place mulch 3 to 4 inches thick using wood chips or small bark. Cover the entire area of shrub and vine root systems as well as around trees as shown on the plans.

Remove mulch from plants, structures, roadway areas and grassed areas not to be covered.

Thoroughly water trees, shrubs, vines and ground cover during and immediately after planting. Repeat watering as often as necessary during the established period until the work is accepted by the Engineer. Exercise care to prevent puddled soil conditions and avoid compaction around the plants after watering.

Prune trees and shrubs when planting and remove broken or damaged twigs, branches, or roots in a manner that retains or encourages plants natural growth characteristics. Paint cut surfaces with a diameter of 1 inch or greater immediately with approved tree wound dressing.

Ensure the establishment of plantings by watering, cultivating, replacing plants or mulch, and other work necessary to maintain the plants in a healthy condition, throughout the plant establishment period.

If herbicides are used to control weeds, replace and maintain plants and lawn damaged by its use at no additional cost to ACHD.

At completion of the original planting, the Engineer will perform an inspection with the Contractor of plant material to note and correct discrepancies. The Contractor shall remove and replace dead plants at no additional cost. Plants that do not show expected growth, but retain green leaves, stems, or buds and the Engineer will inspect again during the plant establishment period.

After the original planting the Engineer will periodically inspect the condition of plants and planting areas. The Engineer will notify the Contractor of apparent defects, faults and conditions, and dead plants discovered by the inspection. All replacement plants shall be of the same species and quality as the plants they replace. Plants may vary in size reflecting one season of growth should the Contractor elect to hold plant material under nursery conditions for an additional year to serve as replacement plants. Correct apparent defects, faults and conditions, and remove, dispose and replace dead plants within 10 days after notification or as directed by the Engineer.

If immediate replacement of dead or rejected plants is impossible due to seasonal conditions or the lack of specified plants, place a marker at the spot of replacement and replace plants next planting season. ACHD will require a plant establishment period of six months for replacement plants. Ensure the establishment of the new plantings as specified.
If infestation by insects or disease occurs, treat plants using effective remedial measures that are good horticultural practices and in accordance with best management practices.

ACHD will make progress payments for plants at 80 percent of the contract unit price at the completion of the original planting. ACHD will pay the remaining 20 percent at the completion of the plant establishment period when defective plants have been replaced.

**Measurement and Payment:** Payment for these items will be made under the following:

- **SSP-20203 Planting Trees (Seedlings or Container) ............................................................. Per Each**
- **SSP-20204 Planting Shrubs (Bare-root or Container).......................................... Per Each**
- **SSP-20205 Planting Vines (Bare-root or Container) ............................................................. Per Each**
- **SSP-20206 Planting Ground Cover..........................................................................Per Each**

47. **SSP-202XX Seeding**

**Description:** This item shall include all costs associated with applying seed including: seed bed preparation, seeding, soil amendments, mulch mixtures, mulching, mulch anchoring (mechanical or tackifiers), hydraulically applied erosion control products, erosion blankets, and watering.

**Materials:** Provide materials as specified in:

<table>
<thead>
<tr>
<th>USE TAX TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item No.</strong></td>
</tr>
<tr>
<td>SSP-202XX</td>
</tr>
</tbody>
</table>

**Workmanship:**

**A. General.** Perform seeding operations as specified.

Perform seeding between Oct 15 and Nov 15, except for seeding used as a temporary erosion and sediment control measure.

Do not perform seeding when soil is too wet or dry, frozen or otherwise untillable.

**B. Seedbed Preparation.** Maintain areas to be seeded reasonably free of weeds throughout the growing season using mechanical methods, or by applying appropriate chemicals, or both until seeding time. Keep weeds from going to seed. Apply chemicals for treating weeds in accordance with manufacturer recommendations.
Cultivate areas to be broadcast seeded immediately before seeding at least 3 inches deep and leave in a rough condition, similar to that obtained by walking a cleated-crawler tractor up and down the slopes. Where slopes are benched or serrated, ACHD will not require additional preparation.

Roughen and serrate or cross-rip slopes in a horizontal direction for slopes 3:1 or flatter that includes topsoil application before placement of the topsoil. After topsoil has been spread, prepare the surface for seeding.

On areas subject to severe erosion, ensure the extent of seedbed preparation does not exceed the area on which the entire seeding and mulching can be applied within a one-day operation. If conditions occur that prevent seeding at specified furrow depths, or if the roughened condition is destroyed, prepare the seedbed again at no cost to the District.

**C. Seeding.** Unless otherwise specified, ACHD will provide seed at no cost to the Contractor. Use the mix and rate of seeding specified. Apply native shrub and forb species separately from grass species. Rake the soil or mechanically roughen the soil before applying seed, mulch mixture, or both.

Apply seed uniformly over the seeded area by the most appropriate method (as determined by slope, soil or site conditions) using one of the following methods:

1. Broadcast seeding:
   a. Hydro-seeder.
   b. Dry (whirlwind) - for embankment slopes or cut slopes as approved by the Engineer.

Broadcast the seed using a hydro-seeder or dry broadcast equipment as specified. Apply seed, fertilizer, mulch or combined fertilizer and mulch in separate applications. Do not mix fertilizer with the seed in the hydro-seeder. Apply seed to the seeded area first followed by the mulch, or fertilizer mulch combined application second. Ensure agitation of seed in hydro-seeder does not exceed 12 minutes. Do not apply hydroseeding mixture if rainy conditions are anticipated outside manufacturer’s application recommendations. In the event of unanticipated rainy conditions, re-apply the hydroseeding mixture to uncured areas at no additional cost to the District.

Perform hydro-applications involving combinations of seeding, fertilizing, soil amendments, mulch mixtures, mulching, mulch anchoring (tackifier), and hydraulically applied mulch, with hydro-application equipment, equipped with appropriate pump (preferably centrifugal) and engine size, mechanical agitation (preferably paddle-type) and independent liquid bypass circulation capable of handling and applying a thick homogenous slurry.

Do not allow trucks or equipment to drive on the area after seed is in place.
Inspection of seeded areas will be made upon completion of seeding. The work in any area will not be measured for payment until a uniform distribution of the materials is accomplished at the specified rate. Areas that have not received a uniform application of seed, fertilizer, or mulch at the specified rate, as determined by the Engineer, shall be re-seeded, re-fertilized, or re-mulched at the Contractor’s expense prior to payment.

D. Mulch, Mulch Anchoring, and Hydraulically Applied Erosion Control Products.

1. Mulch

Do not use hydro-mulch applications on slopes flatter than 3:1 or in conjunction with drill seeding applications. Do not perform mulching when wind interferes with mulch placement. Apply straw, grass hay, wood fiber, soil amendments, mulch mixture, or any combination of these materials as Engineer directed. Ensure material applied to the ground allows for the absorption and percolation of moisture. Apply at the following rates:

   a. Straw or grass hay (air dry) ............................................. 2 Ton/Acre
   b. Wood fiber. ............................................................. 1 Ton/Acre
   c. Soil Amendments........................................................ As specified

2. Mulch Anchoring

   a. Mechanical. Use mechanical mulch anchoring on slopes 3:1 or flatter as Engineer directed. Anchor mulch into the soil by use of a heavy disc with flat scalloped discs approximately ¼ inch thick, having dull edges and spaced at least 9 in apart. Ensure anchoring to a depth of at least 2 inches with no more than one pass of the equipment on the same surface.

      Install mechanical anchoring in a horizontal to the slope face.

   b. Tackifier. Use mulch tackifiers on slopes 2:1 or steeper. Anchor mulch using a tackifier applied in accordance with the manufacturer’s written instructions and at a rate for the material, soil types, conditions, and degree of slope.

      If applied separately, incorporate a method to differentiate between the tackifier and mulch material, by color or tracer material, during tacking operations. Do not apply tacking when wind interferes with tackifier placement.

3. Hydraulically Applied Erosion Control Product

   Provide a mixture that is nontoxic to animals, soil microorganisms, aquatic and plant life. Ensure the hydraulically applied erosion control product does not interfere with or impede seed germination or vegetative growth and establishment.
a. Hydraulic Mulch. Mix and apply the mixture, in accordance with the manufacturer’s written instructions and at a rate for the soil type, roughness of surface, conditions and degree of slope.

b. Stabilized Mulch Matrix. Mix and apply the mixture, in accordance with the manufacturer’s written instructions and at a rate for the soil type, roughness of surface, conditions and degree of slope.

c. Bonded Fiber Matrix. Mix and apply in accordance with the manufacturer’s written instructions and at a rate for the soil type, roughness of surface, conditions and degree of slope.

d. Fiber Reinforced Matrix. Mix and apply the mixture, in accordance with the manufacturer’s written instructions and at a rate for the soil type, roughness of surface, conditions and degree of slope.

E. Erosion Blankets. Install erosion blankets on slopes in a vertical direction and in accordance with the manufacturer’s recommendations or as Engineer directed.

F. Watering. Provide a temporary water delivery system by use of either sprinklers or trucks.

Provide an approved source for irrigation water that is without oil, acid, salt, or other substances harmful to plants. Reclaimed water shall not be used for irrigation.

Apply water when directed by the Engineer. Keep pipe connections tight to avoid leakage and washing. Maintain sprinklers in proper working order. Should runoff begin, stop watering and apply the balance after initial watering has penetrated the soil. ACHD considers the standard application rate to be 16,000 gal/acre. This constitutes the quantity of water that saturates the soil to a depth of 4 inches under average conditions.

The Engineer will inspect for the 4 inch depth of saturation by excavating to a depth of 4 inches and observing wetness. ACHD intends that the locations of inspection for wetness be reasonable and not on “slick spots” or in unrepresentative areas.

G. Weeding. ACHD considers weed control the responsibility of the Contractor during the establishment period, and to be provided at no additional cost to ACHD. Obtain the Engineer’s approval for the method of weed control.

Measurement and Payment: Payment for these items will be made under the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSP 20207</td>
<td>Seedbed Preparation</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20208</td>
<td>Seed</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20209</td>
<td>Seeding</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20210</td>
<td>Mulch</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20211</td>
<td>Mulch Anchoring (Mechanical)</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP Number</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>SSP 20212</td>
<td>Mulch Anchoring (Tackifier)</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20213</td>
<td>Soil Amendments</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20214</td>
<td>Mulch Mixture</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20215</td>
<td>Mulch plus Tackifier</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20216</td>
<td>Hydraulically Applied Erosion Control Products</td>
<td>Per Acre</td>
</tr>
<tr>
<td>SSP 20217</td>
<td>Erosion Blanket</td>
<td>Per Square Yard</td>
</tr>
<tr>
<td>SSP 20218</td>
<td>Fertilizing</td>
<td>Per Acre</td>
</tr>
</tbody>
</table>

48. **SSP-20220 – Fertilizer (Commercial)**

**Description:** This item shall include all costs associated with providing and applying commercial fertilizer to areas specified.

**Materials:** Fertilizer shall be slow-release or controlled-release fertilizer in a pelleted or granular form, with a nutrient release over an 8 to 12 month period. Provide fertilizer in containers marked with the weight, volume or both along with the manufacturer’s guaranteed analysis of the contents. Ensure dry fertilizers are free from lumps or cakes.

Provide the type and application rate of fertilizer as specified by soil analysis results.

**Workmanship:** Dry fertilizers may be applied directly to the soil and lightly incorporated into the soil surface (not for slopes greater than 3:1) followed by the seed application. Apply fertilizer when average noontime temperatures are 60 °F or lower on established stands.

**Measurement and Payment:** Payment for these items will be made under the following:

SSP-20220 Fertilizer (Commercial) Per Pound

49. **SSP-20219 Watering**

**Description:** The work under this section shall consist of furnishing all water required for establishing vegetation within the project limits, during the establishment period. This work shall include securing and transporting water to the project site. All costs, and all labor, equipment, and materials required to secure, transport, and furnish water to the project limits, shall be considered as included in the work.

The Contractor shall be responsible for maintaining the desired level of moisture necessary to maintain vigorous and healthy growth.

**Materials:** Water used for the irrigation of revegetated areas shall be free of pollutants that will have a detrimental effect on the plants.

**Workmanship:**
Revegetated areas shall require irrigation coverage of 100%. The Contractor shall water the planted areas as necessary, using a suitable fine spray which shall not disturb the vegetation and which will not cause any erosion.

The Contractor shall ensure that the planted area receives the minimum amount of water per the table below. The total monthly amount from the table shall be equally dispersed per week of the entire month and shall be applied uniformly over the whole area.

<table>
<thead>
<tr>
<th>Inches/month</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>Sept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long season range</td>
<td>2.48</td>
<td>4.20</td>
<td>4.96</td>
<td>3.10</td>
<td>0.90</td>
</tr>
<tr>
<td>grasses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurement and Payment:** Payment for these items will be made under the following:

SSP-20219 Watering................................................................. Per Lump Sum

50. **SSP-20221 Plant Establishment Plan**

**Description:** This item includes all costs to prepare and implement a plant establishment plan.

**Workmanship:** From the time of installation, during construction, and throughout the establishment period the Contractor shall maintain all plant material and seeded areas in a healthy and vigorous growing condition, and ensure the successful establishment of vegetation. This includes performing establishment, replacement work, and landscape maintenance work as described below.

The Contractor shall submit a first-year plant establishment plan, for approval by the Engineer. The first year of plant establishment shall begin immediately upon written notification from the Engineer of the completion of initial planting for the project. The first year plant establishment period shall be a minimum of 1 calendar year. During the first-year plant establishment period, the Contractor shall perform all Work necessary to ensure the growth of the planted material. This care shall include, but not be limited to, labor and materials necessary for removal of foreign, dead, or rejected plant material, maintaining a weed-free condition, the replacement of all unsatisfactory plant material planted under the Contract, and periodic watering as required for proper plant establishment. If plants are stolen or damaged by the acts of others, ACHD will pay invoice cost only for the replacement plants with no mark-up and the Contractor will be responsible for the labor to install the replacement plants.

During the plant establishment period, the Contractor shall meet with the Engineer between April and October for the purpose of joint inspection of the planting material on a mutually
agreed upon schedule. The Contractor shall correct all conditions unsatisfactory to the Engineer within a 10-day period immediately following the inspection.

1. **Live Plants**

   If plant replacement is required, the Contractor shall, within the 10-day period, submit a plan and schedule for the plant replacement to occur immediately at the beginning of the planting period. At the end of the plant establishment period, plants that do not show normal growth shall be replaced.

   The Contractor shall water, cultivate, and prune the plants as required or directed by the Engineer. The Contractor shall reshape plant saucers, repair washouts and gullies, replace lost wood chip mulch, keep all planting sites free from weeds and do other work necessary to maintain the plants in a healthy and vigorous growing condition. This includes seasonal spraying or deep root watering with approved insecticides or fungicides as required.

2. **Seeded Areas**

   The Contractor shall restore and reseed eroded areas and areas of poor establishment. Payment for water used to water in plants, or hand watering of plant material or lawn areas unless otherwise specified, is the responsibility of the Contractor during the first-year plant establishment period. Subsequent year plant establishment periods, when included in the Contract, shall begin immediately at the completion of the preceding year’s plant establishment period. Each subsequent year plant establishment period shall be one (1) full calendar year in duration.

   **Measurement and Payment:** Payment for these items will be made under the following:

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSP-20221</td>
<td>Plant Establishment Plan</td>
</tr>
</tbody>
</table>

51. **SSP 20225 Stormwater Tree Cell**

   **Description:** This item shall include all materials, work and costs associated with installation of a structural tree trench in the areas as shown on the plans.

   **Materials & Workmanship:** Structural Tree Trenches shall be constructed per the ISPWC and ACHD BMP 33 Tree Stormwater Tree Cells

   **Measurement and Payment:**

   Stormwater Tree Cell will be measured by the square foot complete in place. Backfill is considered incidental to this item.

   Payment for this item will be made under:

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSP 20225</td>
<td>Stormwater Tree Cell</td>
</tr>
</tbody>
</table>
52. SSP 25020  Erosion Control Mat

Description: This work consists of furnishing and installing Erosion Control Mat (ECM) on the bottoms and side slopes of embankments, channels or as shown on the plans or as directed by the Engineer.

Materials: The ECM shall conform to the following properties:

<table>
<thead>
<tr>
<th>Geotextile Property</th>
<th>Test Method</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness:</td>
<td>ASTM D-6525</td>
<td>0.4 in</td>
</tr>
<tr>
<td>Resiliency:</td>
<td>ASTM D-6524</td>
<td>80%</td>
</tr>
<tr>
<td>Mass per Unit Area:</td>
<td>ASTM D-6566</td>
<td>13.5 oz/yd²</td>
</tr>
<tr>
<td>Tensile Strength:</td>
<td>ASTM D-6818</td>
<td>4000x3000 lbs/ft</td>
</tr>
<tr>
<td>Tensile Elongation:</td>
<td>ASTM D-6818</td>
<td>65%</td>
</tr>
<tr>
<td>Light Penetration</td>
<td>ASTM D-6567</td>
<td>10%</td>
</tr>
<tr>
<td>Flexibility/Stiffness:</td>
<td>ASTM D-6575</td>
<td>0.534 in-lbs</td>
</tr>
<tr>
<td>UV Resistance:</td>
<td>ASTM D-4355</td>
<td>90% at 6000 hrs</td>
</tr>
</tbody>
</table>

The ECM shall be constructed of a three-dimensional matrix of polypropylene yarns designed in a uniform, dimensionally stable and homogenous configuration of pyramid-like structures.

Workmanship: In areas where ECM is to be installed, the Contractor shall prepare the topsoil by removing all rocks, clods, vegetation or other obstructions so that the installed ECM will have direct contact with the soil surface. Lay the ECM loose to maintain direct contact with the soil and anchor as specified by manufacturer for the specific application (banks or channel bottom). Apply seed and fertilizer as specified in SSP 29060 Hydoseeding. After seeding, spread and rake ½ inch of fine topsoil into the ECM and completely fill the voids. Use the backside of a rake or other flat tools to ensure a smooth soil-filled surface. Use shovels, rakes or brooms for fine grading and finishing. Smooth soil fill in order to just expose the top of the ECM matrix.

After completion of the work, the Contractor shall request an inspection by the engineer. The Contractor shall correct all conditions unsatisfactory to the Engineer within a 5-day period immediately following the inspection.

Measurement and Payment: ECM will be measured by the square yard complete in place, including but not limited to preparation of the topsoil base and topsoil filling. Placement of ECM shall be limited to the areas defined on the plans, or as directed by the Engineer.

Payment for this item will be made under:
53. **SSP 25030 Demolish & Remove Existing Building**

*Description:* This item shall include all work and costs associated with building demolition and removal in the areas as shown on the plans.

*Materials & Workmanship:* These removals shall be completed within the first 30 days of the construction schedule, unless otherwise approved by the Engineer. Contact the ACHD Utility Coordinator at 387-6258 prior to building demolition to coordinate the capping of existing utilities. The cost to cap the utilities to the individual properties is included in this item. Contractor is required to schedule an inspection with city inspector to verify that the utilities have been capped. Contractor is required to provide a copy of the city certification that the utilities have been capped to ACHD Property Manager.

Contractor is to obtain any permits necessary to demolish the structure, including but not limited to asbestos/hazard materials.

The Contractor shall entirely remove all structures, foundations, slabs, underground tanks, or other appurtenances both above and below ground.

Also included in this item are the following: Removal of all asphalt and gravel, placement of backfill to fill cavities left by removal of items to the level of the surrounding ground, and scarification of the entire work area to a depth of 12 inches to loosen existing material. The parcel shall be finished graded to present a pleasing appearance with slopes rounded and flattened to blend naturally with the adjacent topography.

Backfill shall be 8" Minus Uncrushed Aggregate conforming to ISPWC Division 800 compacted to 95 % maximum density as determined by T-99.

Four (4) inches of topsoil conforming to SSP 25050, hydro-seed with wood mulch and tackifier shall be placed on graded areas outside the roadway section adjacent to the building removal.

*Measurement and Payment:*

Backfill is considered incidental to this item. Topsoil, hydro-seed, wood fiber, and tackifier shall be paid for under those respective items outlined in the contract.

Payment for this item will be made under:

```text
SSP 25030 Demolish & Remove Existing Building .......................................................... Per Each
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54. **SSP 25049 Manufactured Topsoil**

*Description:* This item shall include all costs associated with lining the inside surface of the storm water detention pond with one-foot of manufactured topsoil material.
*Materials:* The manufactured topsoil shall meet the following specifications:

- 50% coarse sand by volume
- 20% sandy loam
- 30% compost
- Less than 10% fines passing #200 sieve
- No clay

*Workmanship:* After the pond is excavated to subgrade, the manufactured topsoil shall be placed over the surface of the pond to the limits as shown on the plans.

*Measurement and Payment:* Payment shall be on a cubic yard, plan unit quantity basis. No final measurement will be made. The quantity shown in the bid schedule is based upon the design calculations and is an estimate for bidding purposes only. The Contractor shall perform an independent estimate of the quantity to be encountered during construction prior to bidding and shall base his total bid amount upon his independent analysis.

Payment for this item will be made under:

SSP25049  
**Manufactured Topsoil** ................................................................. Per Cubic Yard

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55. **SSP 25050  4” Topsoil**

*Description:* This item shall include all work and costs associated with installing 4” of compacted topsoil in the areas as shown on the construction plans or as directed by the Engineer.

*Materials:* Topsoil shall be friable, fertile, agricultural soil, containing normal amounts of macro and micro nutrients capable of sustaining vigorous plant growth. It shall be of uniform composition throughout, without admixture of subsoil. It shall be free of stones 1” (one inch) or larger, lumps, sticks, live plants and their root, and other extraneous matter. It shall not be infested with nematodes or other pest or disease organisms. It shall be free of seed of noxious weeds and other material detrimental to vegetative growth. ACHD reserves the right to request soil samples be tested at the Contractor’s expense to verify the topsoil is capable of sustaining vigorous plant growth

*Workmanship:* Topsoil shall not be placed in its final position until the areas to be covered have been properly prepared and grading operations in the area have been substantially complete. Topsoil shall be placed and spread at locations shown on the plans and thickness of topsoil placement shall be 4” (four inches) when compacted.

*Measurement and Payment:*  ITEM 29, “VARIATIONS IN QUANTITIES,” ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

Payment for this item will be made under:

SSP 25050  
**4” Topsoil** ................................................................. Per Square Yard
56. **SSP 25060 Property Owner Meeting**

*Description:* This item shall include all work and costs associated with conducting property owner meetings as directed by the Engineer.

*Workmanship:* The contractor shall arrange to have a meeting with all interested property owners at least once a month during the contract period to inform them of work that has been completed and what work is expected to be completed before the next scheduled meeting.

At each meeting, the contractor shall answer all questions and complaints by concerned property owners. The contractor shall provide a flyer that is to be delivered to properties along the project corridor. This flyer, at a minimum, shall designate the location and time of the property owner meetings, construction phases or milestones, detour routes, and a contact person for the contractor. The flyer must be approved by the Engineer and distributed to the affected property owners and/or residents and ACHD’s Business Relations contact person before the start of any construction activities on site. These meetings shall be held at the same location and time as established on the contractor’s initial flyer to the property owners. The contractor shall provide a representative (and phone number) for the duration of the project that the property owners along the project corridor may contact if they have questions.

*Measurement and Payment:*

Payment for this item will be made under

SSP 25060 Property Owner Meeting ............................................................ Per Each

57. **SSP 25062 Remove Underground Septic Tank**

*Description:* This item shall include all work and costs associated with removing an underground septic tank as identified on the construction plans, or as may be encountered during construction.

*Workmanship:* The Contractor shall remove the septic tank and backfill the hole with pit run gravel material and compacted to 95%. The septic drain field shall be abandoned in accordance with Central District Health Department requirements. The Contractor shall field verify the location of the tank and drain field. Any permits required to complete this work shall be the requirement of the contractor and shall be included in the unit bid price for this item.

*Measurement and Payment:*

Payment for this item will be made under

SSP 25062 Remove Underground Septic Tank ............................................ Per Each
58. **SSP 25080  Remove & Reset Mailbox**

*Description:* This item consists of furnishing all labor, equipment and material necessary to remove existing mailboxes and supports, make temporary arrangements to assure uninterrupted mail service during construction, and install new mailboxes and supports as shown on the plans or as directed by the ACHD.

*Materials:* All materials shall conform to the ISPWC and the ACHD ADOPTED REVISIONS AND SUPPLEMENTS except as noted herein. Mailbox post support and foundation shall conform to Section 1105 for a D-1 (4-inch by 4-inch) wood post. Mailboxes shall be Postmaster General approved.

*Workmanship:* The existing mailbox and support shall be removed and returned to the owner. A new mailbox, the same size and shape as existing, shall be furnished and installed on a wood post support and foundation. The name and address as shown on the existing mailbox shall be placed on the new mailbox. Should the owner be satisfied with the condition of the existing mailbox, the Contractor may reinstall the existing mailbox at the end of construction. The final location shall be marked in the field by the Engineer.

Mail service shall not be disrupted. Access to mailbox shall be provided at all times. An acceptable temporary mailbox stand may be installed by the Contractor during construction operations prior to installation of the new mailbox and support.

*Measurement and Payment:* Remove and Reset Mailbox will be measured per each new and final post installation and shall include all labor, equipment and material necessary for the completion of the bid item, including all work necessary to assure uninterrupted mail service during construction. The accepted quantity for Remove and Reset Mailbox will be paid at the contract unit price for the item listed below. The cost of the temporary mailbox and support is considered incidental to this bid item and no additional payment will be made.

Payment for this item will be made under:

**SSP 25080  Remove & Reset Mailbox........................................... Per Each**

59. **SSP 25115  Temporary Coffer Dam**

*Description:* This item includes all material, labor, and equipment necessary to provide and a temporary coffer dam at the locations specified and detailed on project plans.

*Materials & Workmanship:* Any other variation of the specified coffer dam must be approved by ACHD prior to utilization and may require the 404 permit to be revised. No additional time shall be granted for any delay to a revision of the 404 permit. All items to construct the Coffer dam and a stilling basin, including any pipe or pumping shall be covered under this item and no additional compensation shall be granted.
Measurement and Payment: All material, labor and equipment necessary to construct, install and maintain the coffer dam, including any piping or pumps, will be considered incidental to this bid item and no additional compensation will be considered.

Payment for this item will be made under:

SSP 25115  Temporary Coffer Dam ........................................................................................................... Per Lump Sum

60. SSP 29050  Temporary Soil Stabilization

Description: This item shall include all work and costs associated with the application of Temporary Soil Stabilization as shown on the plans or as directed by the Engineer.

Materials: Temporary soil stabilization shall consist of applying the following:

- Wood fiber mulch and tackifier (hydro-applied)
- Soilbinders or tackifiers in combination or alone (hydro-applied)

The hydro-application should be mixed and hydro-applied as follows:
1. Plant-derived soil binder or tackifier containing psyllium or guar gum in accordance with the manufacturer’s written instruction for the soil types, conditions and degree of slope.
2. Bonding fibers at 20 lb/ac.
3. Wood fiber mulch at 500 lb/ac. to 1000 lb/ac.

Workmanship: The Contractor is responsible for erosion and sediment control until permanent measures are applied. Prior to application, the contractor shall provide documentation describing the soil binder or tackifier, bonding fibers and wood fiber mulch for review and approval. The contractor shall also provide certification from the manufacturer that the materials are noxious weed free, nontoxic to animals, soil microorganisms, aquatic and plant life. The soil binder or tackifier, bonding fibers and wood fiber mulch will not interfere with or impede seed germination or vegetative growth/establishment.

All materials should be thoroughly mixed in water slurry using mechanical and liquid bypass agitation and applied uniformly to avoid runoff of the applied product. Temporary surface/soil stabilization, unless otherwise specified, shall take place within five (5) calendar days following the last construction activity within the designated area, or in accordance with the SWPPP. The time limit may be extended to 14 calendar days during the seasonal dry period (June 15 to October 15).

The Contractor shall make field adjustments as necessary to ensure proper performance. Conduct reapplications in the same manner as the original application. If permanent seeding is to be performed on areas where temporary surface/soil stabilization materials have been applied, the Contractor shall reapply mulch to permanent levels.

Measurement and Payment: ITEM 29, “VARIATIONS IN QUANTITIES,” ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

Payment for this item will be made under:
61. **SSP 29060 Hydroseeding**

*Description:* This item shall include all work and costs associated with hydroseeding in the areas designated on the plans or as directed by ACHD.

*Materials:* Hydroseeding shall consist of furnishing and installing, seed, fertilizer, mulch, and water using the hydroseeding method. Seed shall be a dry land grass mixture prepared by a local nursery appropriate for the Treasure Valley. Application rate of the seed mixture shall be 30 lbs/acre.

Each variety of seed shall be tested seed from the latest crop available, and shall be delivered in standard sealed containers labeled in accordance with State and Federal Laws. The label shall show the variety of seed, the percentage of germination, purity and weed content. All varieties of seed shall have a minimum tested germination of 85% and contain a minimum of 80% pure seed by weight. Seed shall not be agitated in the hydro-seeder over 30 minutes.

Fertilizer shall be of any standard brand suitable for use with the hydroseeding method, furnished in moisture proof bags. Each bag shall be marked with the weight and manufacturer’s analysis of the ingredients. Fertilizer shall contain a minimum of 22% available nitrogen. Fertilizer shall be applied uniformly at 440 pounds per acre. Fertilizer shall not be mixed with the seed in the hydro-seeder.

Mulch shall be a wood fiber mulch commonly used in the hydroseeding process. Mulch shall be applied at a rate of 2,000 lbs/acre.

Contractor shall provide certification for hydraulically applied erosion control products from the manufacturer that the materials are nontoxic to animals, soil microorganisms, aquatic and plant life, and will not interfere with or impede seed germination or vegetative growth and establishment.

*Workmanship:* Seeding shall be performed only at times when local weather conditions are favorable for growth, which normally will occur between September 15 and November 30, or between February 15 and May 15. The Contractor shall be responsible to protect and maintain the seeded areas until germination, including watering if necessary.

*Measurement and Payment:* Construction limits for this item shall be as shown on the plans. Any hydroseeding restoration required beyond the specified construction limits shall be made by the Contractor at his expense and no separate payment will be made, unless additional areas are as directed by the Engineer.

Hydroseeding will be measured per square yard and shall include all labor, equipment and material necessary for the completion of the bid item. The accepted quantity of Hydroseeding will be paid at the contract unit price for the item listed below. **ITEM 29, “VARIATIONS IN**
QUANTITIES,” ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

Payment for this item will be made under:

SSP 29060 Hydroseeding ................................................................. Per Square Yard

SSP 29065 Sod Repair

Description: This item consists of furnishing all labor, equipment and material necessary to repair lawn areas with sod as shown on the plans or as directed by ACHD.

Materials: Topsoil shall be per SSP 25050.

Fertilizers shall comply with the following chemical analysis:

- 15% to 20% Nitrogen (N)
- 20% to 25% Phosphorous (P₂O₅)
- 2% to 10% Potassium (K₂O)

Sod shall consist of Merrion, Parks, Delta or Windsor Kentucky Bluegrass or combinations of approved fine textured grasses suitable for the area to be sodded and closely matching adjacent grass.

Sod repair shall take place only on those disturbed areas which currently have established lawns, or as shown on the project plans or directed by the Engineer.

Workmanship: The lawn areas shall be tilled to a minimum depth of 6 inches by such means as will loosen the soil and bring it to condition suitable for fine grading. Prior to and during the operation, the surface shall be made free of vegetative growth. All stones, hard clods, roots, sticks, debris and other matter encountered during tilling which are detrimental to the preparation of a good seed bed, or which are toxic to the growth of grass, shall be removed. Four inches of topsoil shall then be placed under the areas to receive sod.

The area shall be floated and rolled to bring it to the finished grade. All irregularities in the surface that form pockets where water will stand shall be smoothed out to provide good drainage. The finished grade of lawn area adjacent to walks, curbs, driveways and pavements shall be approximately 1 inch below adjacent grades.

Fertilizers shall be spread evenly over the cultivated areas at a rate of 4 pounds per 1,000 square feet and shall be uniformly incorporated into the upper 3 inches of the soil, after which the areas shall be worked as necessary to provide a smooth, firm but friable lawn bed at the established grades.
Sod shall be placed in straight strips. The joints between strips shall be butted together, tight and without gaps. Sod shall be placed in a manner to stagger the end joints of the rolls. The sod shall be rolled with a 100-pound roller after placement. The surface of the finished sod shall be smooth, uniform and mowable.

The Contractor shall supply a letter to the property owner once the sod is installed notifying them the sod is installed and giving them a suggested watering schedule. Contractor shall notify property owner in writing if property owner is not following the suggested watering schedule. A copy of the letter will be forwarded to the Engineer.

**Measurement and Payment:** Lawn areas outside the construction limits that are damaged by the Contractor shall be repaired in accordance with this special provision at the Contractor's expense.

Sod Repair will be measured per square yard of ground surface on which sod is installed and shall include all labor, equipment and material necessary for the completion of the bid item. Topsoil shall be measured and paid as a separate bid item.

**ITEM 29, “VARIATIONS IN QUANTITIES”, ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.**

Payment for this item will be made under:

**SSP 29065**  
Sod Repair ................................................................. Per Square Yard

### 62. **SSP 29090  Trim Tree**

**Description:** This item consists of furnishing all labor, equipment and material necessary to trim existing tree branches and prune roots at the location shown on the plans, as directed in these specifications, or as directed by the Engineer. In general, tree trimming shall be kept to a minimum to establish clearance for sidewalks, bike lanes, and travel lanes, and to provide a balanced looking tree when completed.

**Materials & Workmanship:** The Contractor shall coordinate the work with the Engineer prior to commencing trimming. Tree trimming and root pruning shall be performed under the direct on-site supervision of a licensed arborist.

Trim existing tree branches that hang over the sidewalk areas that are less than eight-feet above the finished elevation. Prune tree roots within 3 inches of the back of curb to a depth of 18 inches. Trees to be trimmed and pruned will be identified on the plans or identified by the Engineer.

**Measurement and Payment:** Trim Tree will be measured per each tree trimmed and shall include all labor, equipment and material necessary for the completion of the bid item.

**ITEM 29, “VARIATIONS IN QUANTITIES,” ON PAGE GC-16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.**
Payment for this item will be made under:

SSP 29090  Trim Tree  .................................................................Per Each

63.  SSP 29093  Remove Tree 6”+

*Description:* This item shall include all work and costs associated with the removal of trees measuring 6 inches or more in diameter, measured 2 feet above the ground.

*Workmanship:* The entire tree shall be removed, including the stump and roots, or if removal of the roots could damage nearby structures or utilities, the Contractor shall grind up the stump and shallow roots. Grinding operations shall be included in the unit contract price for this item.

*Measurement and Payment:* The removal of trees less than 6 inches in diameter and all stumps will not be paid for separately, but shall be considered as incidental to the work of removal of obstructions. Trees for removal shall be marked in the field by the Engineer prior to removal.

Payment for this item will be made under:

SSP 29093  Remove Tree 6”+.................................................................Per Each

64.  SSP 29101  Remove & Reset Sprinkler System

*Description:* This item consists of furnishing all labor, equipment and material necessary to remove existing sprinkler systems, install and maintain temporary sprinkler systems during construction, adjust/relocate existing sprinkler systems, or install new sprinkler systems at the locations shown on the plans or as directed by the Engineer.

*Materials:* All materials shall conform to the ISPWC and all ACHD ADOPTED SUPPLEMENTS and shall be equal to, or of better quality than, existing materials.

*Workmanship:* Prior to commencement of construction, the Contractor shall document the locations of existing sprinkler systems within the construction zone. Documentation shall include, but is not limited to, type and location of existing sprinkler heads, pipe, controllers, valves and control wires. Documentation shall be provided to the Engineer prior to demolition of existing sprinkler systems. Costs associated with providing documentation of existing sprinkler systems shall be considered incidental to this item.

Adjusted/relocated sprinklers shall be installed to restore adequate coverage to remaining landscape areas and new sod areas. Over-spray onto the roadway and sidewalks will not be allowed. Unimpacted existing sprinklers in the project area shall be adjusted to prevent overspray onto the roadway and sidewalks as directed by the Engineer.

The Contractor shall maintain all sprinkler systems outside of the construction zone that are impacted by the Contractor’s activities. This may require the Contractor to install temporary
sprinkler main lines around the construction zone. All costs associated with installing and maintaining temporary sprinkler systems and providing temporary water during construction shall be considered incidental to this item. Contractor shall cut and cap existing lines and supplement existing systems with additional materials as necessary.

Measurement and Payment: Remove and Reset Sprinkler System shall be measured by the linear foot of mainline pipe that is adjusted/relocated or newly installed, and shall include all labor, equipment and material as necessary for completion of the bid item. Providing and adjusting of individual sprinkler heads shall be measured as ten linear feet each. Adjusting of individual sprinkler heads not impacted by the project shall be measured as two linear feet each.

ITEM 29, “VARIATIONS IN QUANTITIES”, ON PAGE GC16 OF THE ACHD GENERAL CONDITIONS, SECOND PARAGRAPH, shall not apply to this bid item.

Payment for this item will be made under:

SSP 29101  Remove & Reset Sprinkler System ................................................................. Per Linear Foot

65.   **SSP 29110   Groundwater Observation Well**

*Description:* This item shall consist of furnishing all labor; material, and equipment necessary to construct a groundwater observation well at the location shown on the plans or as directed by the Engineer in accordance with ISPWC Standard Drawing SD-627.

*Materials:* Groundwater observation wells shall consist of 4” diameter non-perforated PVC from finished surface to the top of the drain trench, and 4” diameter perforated PVC pipe from the top of the drain trench to the bottom of the sand bed as detailed on the plans.

*Workmanship:* A PVC cap shall be placed on the bottom of the perforated PVC pipe and a 8”x12” watertight manhole with 12” galvanized skirt, Item number 318101201 as manufactured by Morris Industries, 777 Route 23, Pompton Plains, NH 07044, (800) 835-0777, or approved equal, shall be set flush with the finished surface on the top of the non-perforated PVC pipe. The pipe shall be set straight and plumb. The cast iron cover shall be set flush with the finish surface in a concrete collar.

*Measurement and Payment:* Groundwater observation wells shall be placed in the locations indicated on the plans.

Payment for this item will be made under:

*SSP 29110   Groundwater Observation Well................................................................. Per Each*
66. **SSP 29800 Abandon Existing Septic System**

*Description:* This item shall include all work and costs associated with abandoning of an existing septic tank in the location shown on the plans.

*Materials & Workmanship:* These removals shall be completed within the first 45 days of the construction schedule, unless otherwise approved by the Engineer. This work shall be coordinated so that Bid Item 504.4.1.D.1 Sewer Service Connection to Main – Size 4 Inch is completed at the same time.

Contractor is required to contact property owner 14 days in advance to coordinate the timing for the abandonment of the septic tank.

Contractor is to obtain any permits necessary to abandon existing septic tank.

Contractor shall punch holes in the bottom of the tank to facilitate drainage and then backfill the tank with sand conforming to ISPWC Division 800.

The area shall be finished graded to present a pleasing appearance with slopes rounded and flattened to blend naturally with the adjacent topography.

Four (4) inches of topsoil conforming to SSP 25050 and hydro-seed shall be placed on graded areas.

Backfill, topsoil and hydro-seed are considered incidental to this item.

*Measurement and Payment:* Abandon Existing Septic System will be measured per each and shall include all labor, equipment and material necessary for the completion of the bid item. The accepted quantity of Abandon Existing Septic System will be paid at the contract unit price for the item listed below.

Payment for this item will be made under:

SSP29800 ........................................... Abandon Existing Septic System Per Each

67. **SSP-29901 Towing**

*Description:* This item shall include all costs associated with the towing of a vehicle out of the area of construction.

*Measurement and Payment:*

Payment for this item will be made under:

SSP 29901 ........................................... Towing Per Each
68. **SSP 70015  Concrete Canal Lining**

*Description:* This item shall consist of furnishing new concrete canal lining on the canal banks at the location and grades shown on the plans or as directed by the Engineer.

*Materials:* Concrete for concrete canal lining shall be Class 4000B meeting the requirements of Division 700 of the ISPWC. Welded wire fabric for reinforcing shall conform to the requirements of Section 708.02 - Reinforcing Steel of the ITD Standard Specifications for Highway Construction.

Pre-formed expansion joint fillers shall conform to AASHTO M 213.

*Workmanship:* Existing concrete canal lining shall be saw cut and removed to the lines shown on the plans. The canal bank and aggregate base on which the concrete canal lining is to be placed shall be graded to the lines shown on the plans and compacted in accordance with ISPWC Division 800 Aggregates and Division 700 Concrete.

Construction joints shall be constructed at 8-foot maximum spacing in any direction. Joints shall be formed by edging a \(\frac{1}{2}\)" radius at each edge of poured concrete at the joint, or by scoring to a depth of 1". Scored joints shall be formed by a tool which will leave rounded corners and destroy aggregate interlock to a depth of 1-inch.

All joints where canal lining matches existing lining shall be sealed by scoring a \(\frac{1}{2}\)" wide by 1" deep groove into the new concrete canal lining, installing 5/8" backer rod, and sealing the joint with a silicone sealant. Silicone sealant shall be Dow Corning 902, Watson Bowman silicone sealant, or approved equal.

Adjacent abutment piling and abutment and wingwall concrete shall be in place prior to placement of the canal lining in order to protect the integrity of the new canal lining.

*Measurement and Payment:* This item shall consist of furnishing all labor, material, and equipment necessary to construct new concrete canal lining on the canal banks at the location and grades shown on the plans or as directed by ACHD

Payment for this item will be made under:

**SSP 70015  Concrete Canal Lining** ................................................................. *Per Square Yard*