

APPENDIX B: EROSION CONTROL PLAN

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1E-01-11M	2012	40	49

EROSION CONTROL NOTES:

1. State of Hawaii, Department of Transportation, Highways Division, Construction Best Management Practices (BMP) Field Manual, dated January 2008, provides guidance on BMP installation and maintenance for the project site. The Construction BMP Field Manual is a reference guideline. Actual BMP placement and installation shall be determined by Contractor's evaluation of the existing conditions and requirements of the project site. Contractor is responsible for ensuring proper function, proper performance and maintenance of all temporary BMP's installed as a part of this project.

2. Prior to installation of temporary BMP's for the project, Contractor shall clean the entire length of the existing H-1 double cell box culvert of accumulated debris and trash, including its inlet and outlet structures within the Highways right-of-way. Debris and trash materials shall be hauled off site in water tight trailer beds and disposed of to an approved disposal site accepted by Engineer. Payment for this work will be considered incidental to various contract items.

3. Contractor shall check weather forecast each calendar day. Immediately notify the Engineer of a forecast of a severe storm event that may require immediate removal of all equipment and material in stream. Contractor shall prepare a contingency action plan as part of its site specific BMP plan submittal to address the possibility or occurrence of a severe storm event.

4. Provide Aiea Stream water quality monitoring and assessment as specified in Subsection 209.02 (F) - Water Quality Monitoring and Assessment.

5. Install sandbag barrier across entire width of outlet of existing H-1 double cell box culvert as indicated on Sht. No. EC-2. Install two temporary 36-inch HPDE pipes to divert Aiea Stream flow during construction. Start installation from the upstream to downstream along streambed. Remove trash and debris, move boulders and other materials as necessary to install sandbags and temporary HDPE pipes. Payment for this work will be considered incidental to various contract items.

6. Provide sufficient HDPE pipe tie-down devices to secure pipes against buoyant forces.

7. Impervious sheeting for the temporary BMP's shall be installed such that the upstream portion covers over the downstream portion with at least an 18-inch overlap.

8. Excess materials as a result of grading, excavation, clearing, grubbing and other related construction work shall be hauled off site in water tight trailer beds and disposed of to a disposal site accepted by the Engineer. Contractor shall comply with all statutes, ordinances, rules and regulations with regard to dewatering liquid wastes prior to disposal at solid waste landfills.
9. Temporary HDPE pipes shall be smooth interior pipe including fittings as accepted by Engineer.

10. Install a one-foot high sandbag barrier with impervious sheeting across the entire left-hand side (looking upstream) of the inlet structure of the existing H-1 double cell box culvert to divert low stream flow to the right cell of the box culvert. Location and installation of sandbags as accepted by Engineer. Installation of sandbag barrier will be at no additional cost to the State.

11. The Contractor has available for its use designated Staging Areas #1 (Approx. 2,500 SF) and #2 (Approx. 10,000 SF) to access the project work site and for storage of materials and equipment (See Sht. TCP-2). If the Contractor opts in its means and methods to construct a Temporary Construction Access Road across the stream as shown on the Sht. No. EC-2, Contractor shall follow the guidelines of the Construction BMP Field Manual EC-1 and EC-3, unless otherwise accepted by Engineer, in order to prevent or reduce the discharge of pollutants into the stream. Contractor shall restore and stabilize stream bank slope affected by a construction access road at completion of the project to existing or better condition to the maximum extent practicable at no additional cost to the State. Trim existing trees on the Diamond Head side of Aiea Stream as necessary to attain adequate vertical and horizontal clearances for construction vehicle and equipment via Temporary Stream Crossing. No overcutting will be allowed. Trimming of trees as accepted by Engineer will be at no additional cost to the State.

12. Contractor may make minor modifications to the Temporary Stream Crossing alignment shown on Plans due to requirements for Contractor's means and methods. Any Temporary Stream Crossing alignment modifications must be submitted to Engineer for review and acceptance. However, Contractor is advised that major modifications to the temporary BMP Plans contained in these contract documents may require a resubmittal for approval to the Hawaii Department of Health of the Project's Section 401 Water Quality Certification (WQC). Any delay resulting from a resubmittal of the 401 WQC will be considered as a Contractor caused delay.


13. Place coarse aggregate, sandbag barrier, geotextile, silt fences and other BMPs as necessary to fully contain Contractor work area from discharging pollutants to diverted portion of Aiea Stream.

14. Install and maintain Stabilized Construction Entrance/Exit according to guidelines of Construction BMP Field Manual EC-2. Depth of crushed aggregate shall be 12 inches. Coarse aggregate shall be free of fine material and between 3 to 6 inches in size. Place geotextile fabric beneath coarse aggregate layer.

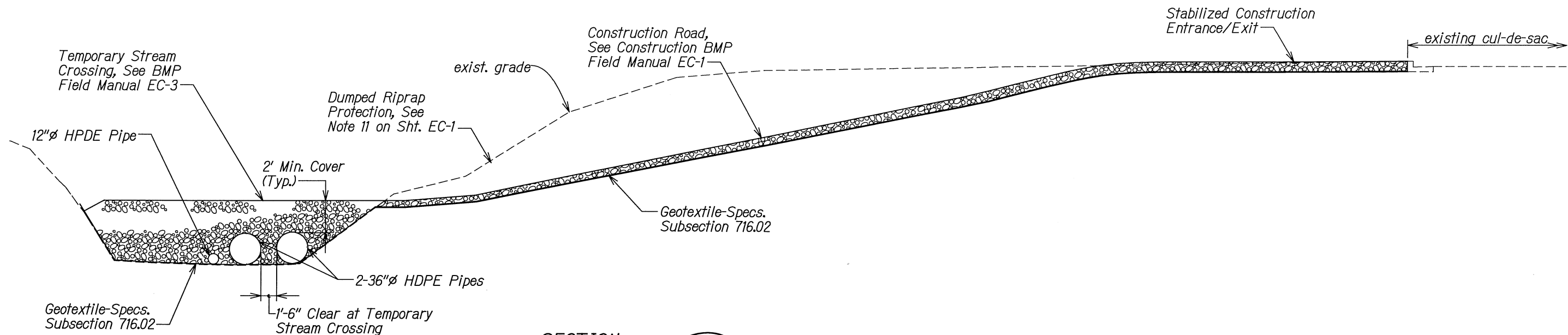
15. Approximately 80 LF of Dust screen shall be installed and maintained along the entire length of existing CMU Wall to top of stream bank, as accepted by Engineer, to minimize project impact on adjacent properties. Cost of installation and maintenance of dust screen will be considered as included in the contract lump sum price of Pay Item No. 209.0100 - Installation, Maintenance, Monitoring and Removal of BMP.

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REVIEWED BY	
APPROVED BY	

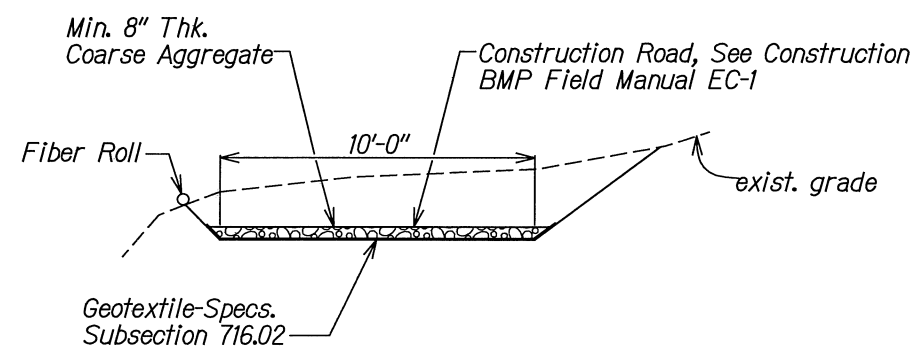
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 <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</p> <p>SIGNATURE _____</p> <p>04/30/12 EXPIRATION DATE OF THE LICENSE</p>	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EROSION CONTROL NOTES INTERSTATE ROUTE H-1 AIEA STREAM EROSION CONTROL Project No. H1E-01-11M Scale: None Date: September 2011
	SHEET No. EC-1 OF 4 SHEETS

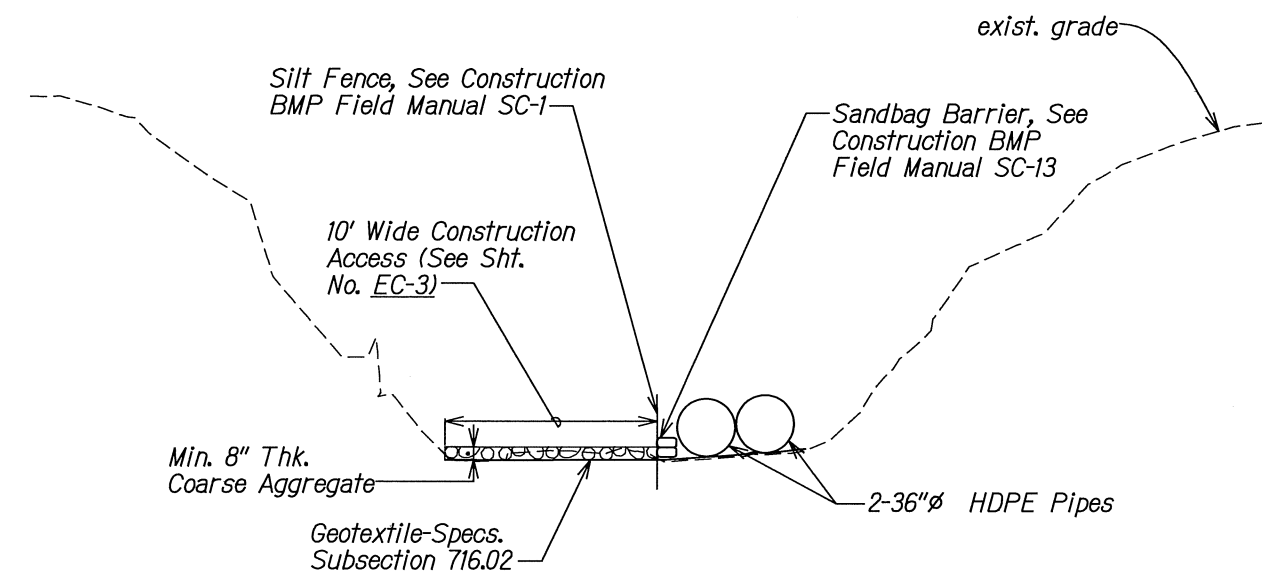
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H1E-01-11M	2012	42	49



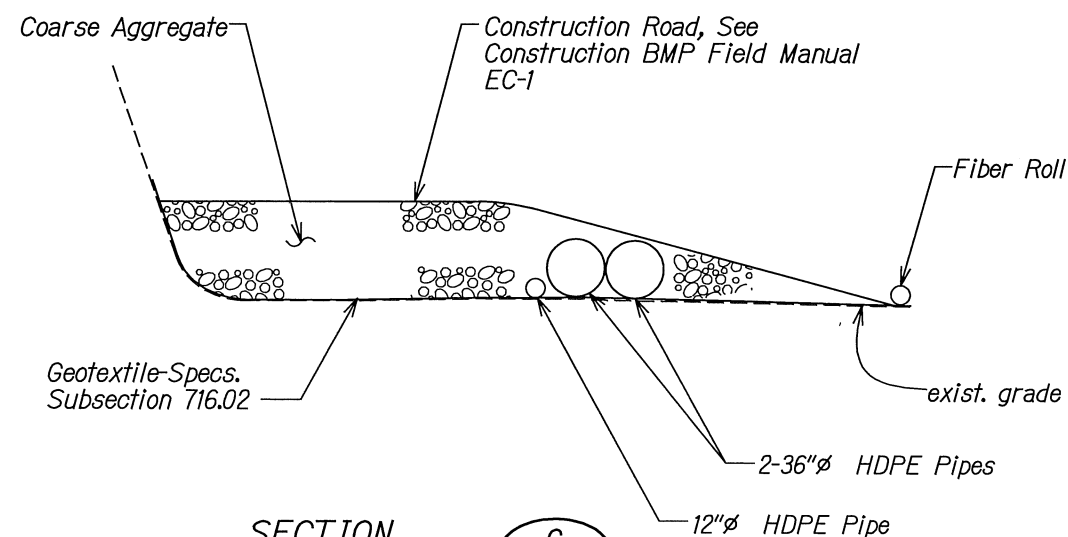
SECTION A
Scale: NTS
EC-2EC-3



SECTION B
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EC-2EC-3



SECTION D
Scale: NTS
EC-2EC-3



SECTION C
Scale: NTS
EC-2EC-3

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SURVEY PLOTTED BY	

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JAIME M. SAAVEDRA
LICENSED PROFESSIONAL ENGINEER
No. 7308-C
HAWAII, U.S.A.

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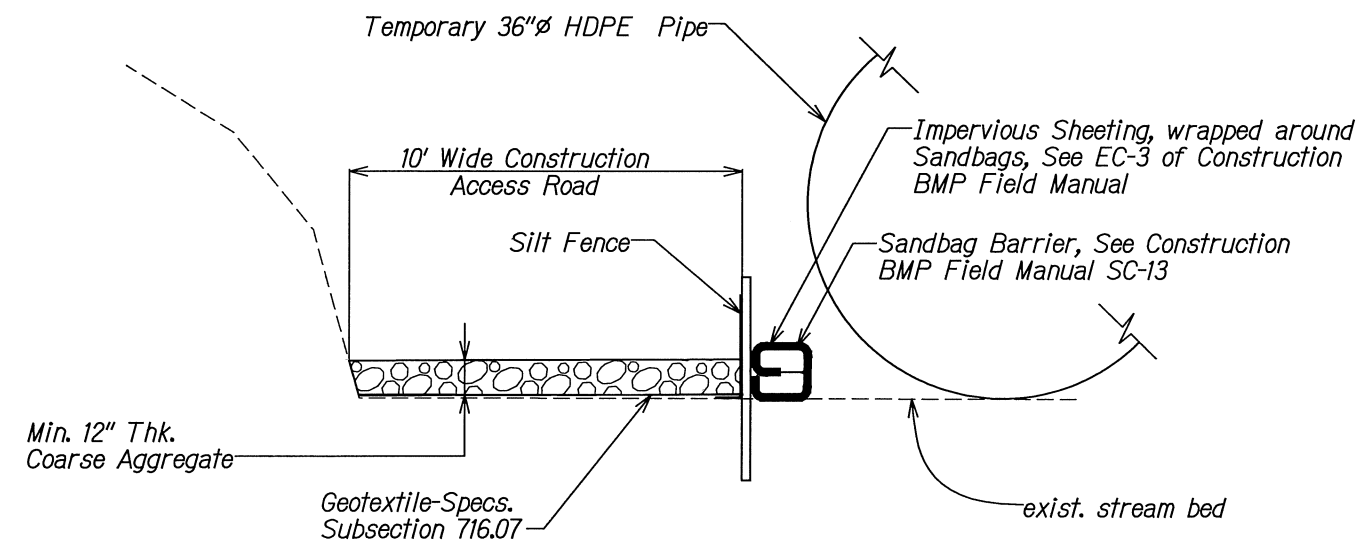
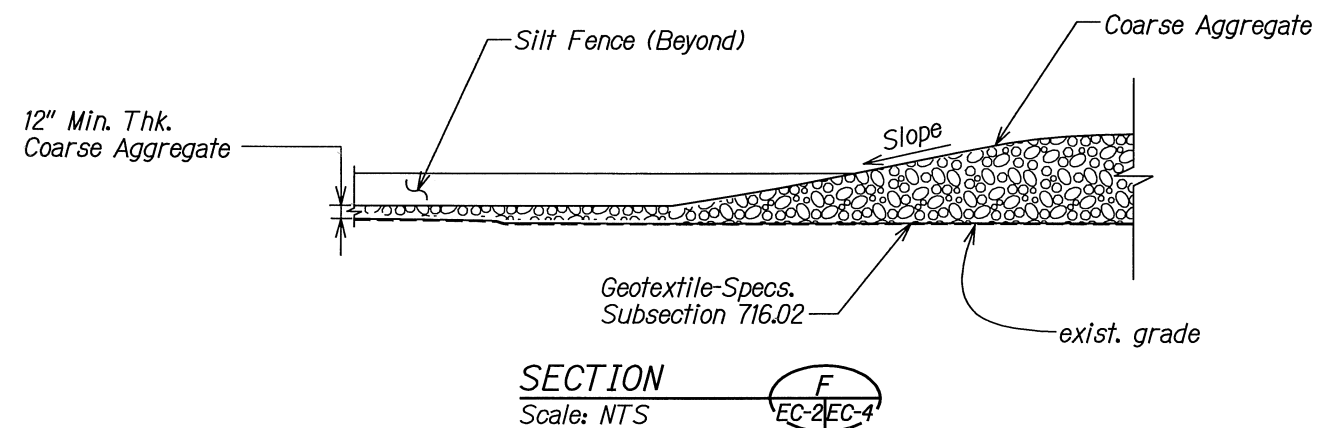
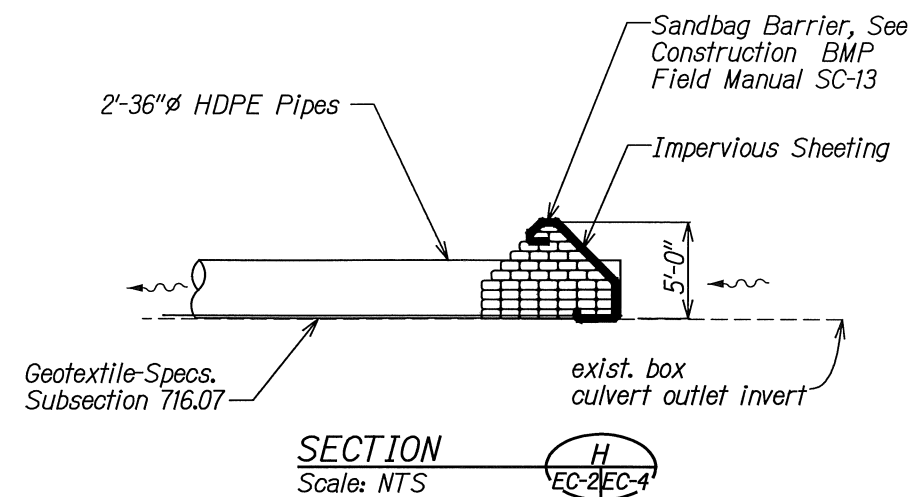
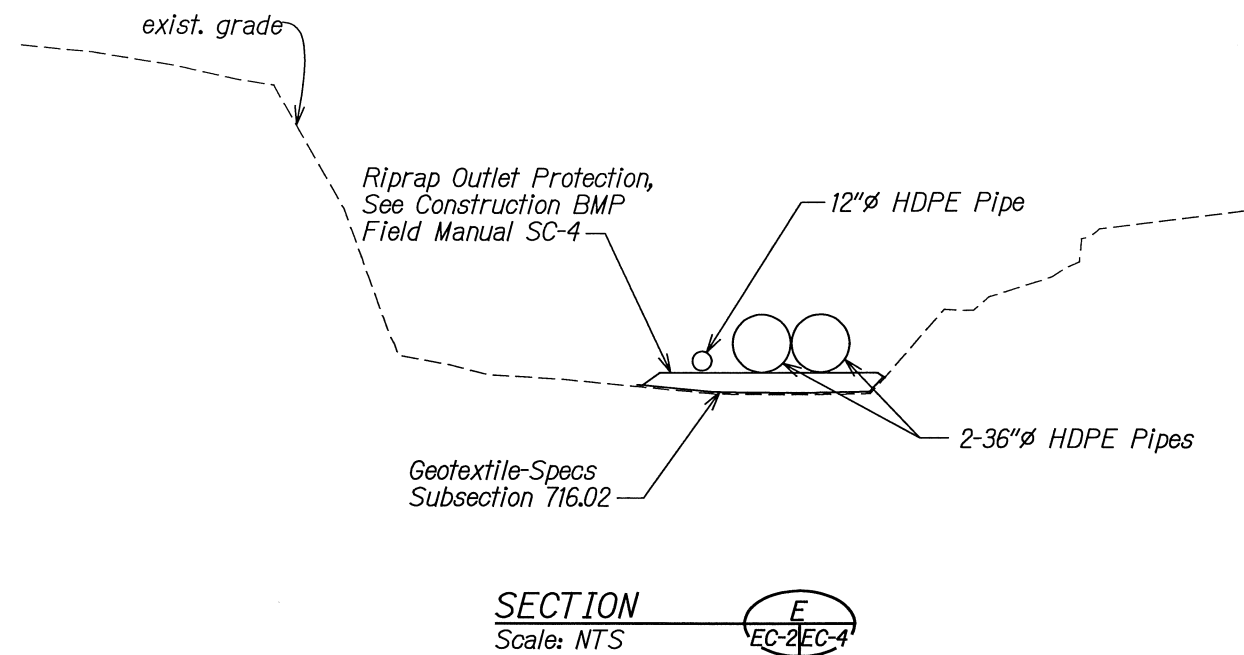
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

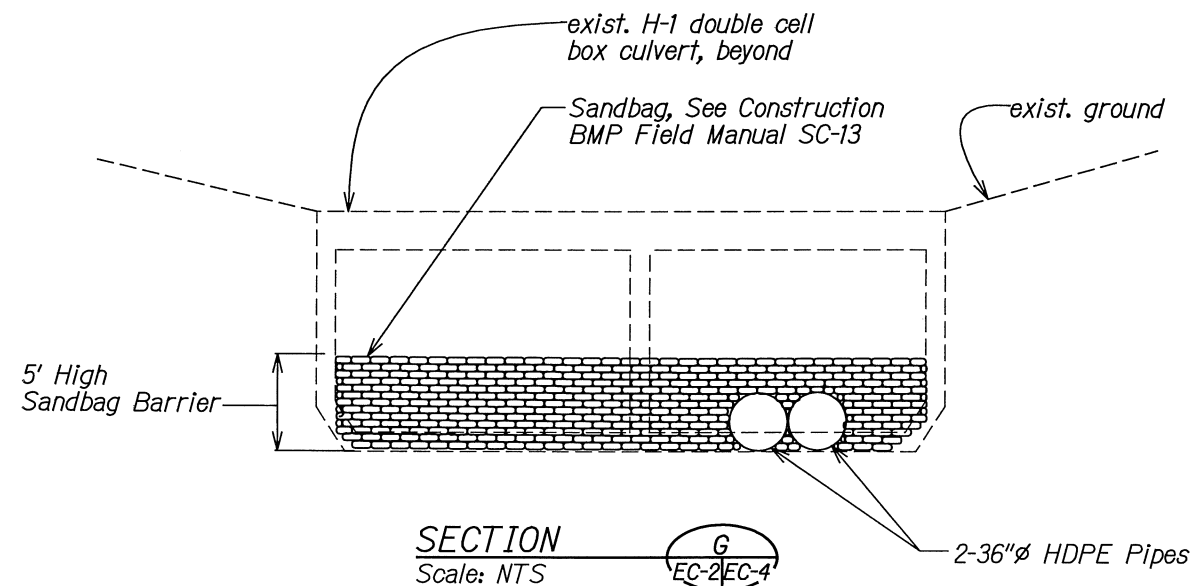
EROSION CONTROL
DETAIL - 1
INTERSTATE ROUTE H-1
AIEA STREAM EROSION CONTROL
Project No. H1E-01-11M

Scale: NTS Date: September 2011

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HAWAII	HAW.	H1E-01-11M	2012	43	49



SILT FENCE/SANDBAG BARRIER DETAIL
Scale: NTS



ORIGINAL PLAN	DATE
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IN CHARGE	DATE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EROSION CONTROL
DETAIL - 2**

**INTERSTATE ROUTE H-1
AIEA STREAM EROSION CONTROL
Project No. H1E-01-11M**

Scale: NTS Date: September 2011

SHEET No. EC-4 OF 4 SHEETS