

REVISED 9/10/08
AMENDMENT A001

APPENDIX A

**CONSERVATION DISTRICT USE PERMIT HA-2969
(PLUS EXTENSION LETTER)**

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LAND
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

REF:OCCL:TM

CDUP: HA-2969

MAY 12 2008

David H. Gedeon, P.E.
US-DOT FHA
Central Federal Lands Highway Division
12300 West Dakota Avenue
Lakewood, CO 80228

Dear Mr. Gedeon,

SUBJECT: Time Extension Request for Conservation District Use Permit (CDUP) HA-2969 for Saddle Road Improvements Section II (Mileposts 28-42) Located at Saddle Road, County of Hawaii, Portions of TMKs: (3) 3-8-001:1, 7, 8 & 13; (3) 4-4-015:4 & 8; (3) 4-4-016:3, 5 & 6

This is to inform you that the Board of Land and Natural Resources (Board) approved your request for a time extension to September 28, 2010, to complete construction of Section II (Milepost 28 to 42) of the Saddle Road Improvement project, subject to the following conditions:

1. That condition 5 of CDUA HA-2969 is amended to provide that the Permittee has until September 28, 2010 to complete construction of Section II (Milepost 28 to 42) of the Saddle Road Improvement project; and
2. That all other conditions imposed by the Board under CDUP HA-2969, as amended, shall remain in effect.

Please acknowledge receipt of this approval, with the above noted conditions, in the space provided below. Please sign two copies. Retain one and return the other within thirty (30) days. Should you have any questions, please feel free to contact Tiger Mills at 587-0382.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

Receipt acknowledged:

Date 5-19-08
Applicant's Signature

c: DOT/DHHL
HDLO/DOCARE/DOFAW
County of Hawaii, Planning Department

DECISION AND ORDER

Based upon a careful review of the testimonial and documentary evidence presented at the Contested Case hearing, the arguments made by the parties to the Contested Case, and the site inspection conducted by the Hearing Officer, the Board of Land and Natural Resources approves CDUA HA-2969, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, State and county governments, and the applicable parts of Section 13-5-42, HAR;

2. The applicant, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim or demand for property damage, personal injury or death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors and agents under this permit or relating to or connected with the granting of this permit;

3. The applicant shall comply with all applicable Department of Health administrative rules;

4. Before proceeding with any work authorized by the Board, the applicant shall submit four copies of the construction plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;

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5. Any work or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been approved by the Department of Land and Natural Resources; further, all work and construction must be completed within three years of the approval;

6. The applicant shall notify the Land Division in writing prior to the initiation, and upon completion, of the project;

7. All mitigation measures set forth in the application materials and in the Final Environmental Impact Statement for this project, including but not limited to:

- implementation of the fire and other environmental commitments identified in the Record of Decision;
- Palila mitigation at the Ka'ohe lease area;
- Palila mitigation at Pu'u Mail;
- Palila mitigation at Kipuka 'Alala; and
- a continuing study of the *silene hawaiiensis*

are hereby incorporated as conditions of the permit.

8. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;

9. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;

10. The applicant acknowledges that the approved work shall not hamper, impede or otherwise limit the exercise of traditional, customary or religious practices in

the immediate area, to the extent such practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law;

11. In issuing this permit, the Department of Land and Natural Resources and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department of Land and Natural Resources may, in addition, institute appropriate legal proceedings;

12. In the event that unrecorded historic remains (i.e., artifacts, or human skeletal remains) are inadvertently uncovered during construction or operations, all work shall cease in the vicinity and the applicant shall immediately contact the State Historic Preservation Division;

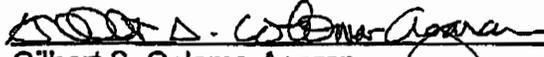
I-26

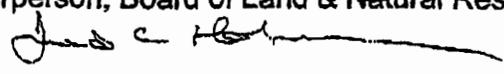
13. The applicant shall replant or cover bare areas as soon as grading or construction are completed. New plantings may require soil amendments and fertilizers to become established;

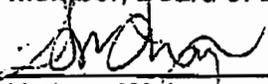
14. Other terms and conditions as may be prescribed by the Chairperson; and

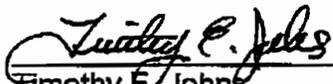
15. That failure to comply with any of these conditions may render this Conservation District Use Permit null and void.

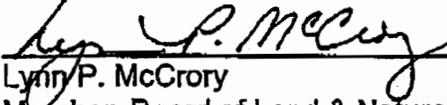
DATED: Honolulu, Hawaii _____

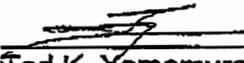

Gilbert S. Coloma-Agaran
Chairperson, Board of Land & Natural Resources


Fred C. Holschuh, M.D.
Member, Board of Land & Natural Resources


Kathryn W. Inouye
Member, Board of Land & Natural Resources


Timothy E. Johns
Member, Board of Land & Natural Resources


Lynn P. McCrory
Member, Board of Land & Natural Resources


Ted K. Yamamura
Member, Board of Land & Natural Resources

Contested Case Docket No. HA 00-9, Saddle Road Improvements CDUA HA-2969

REVISED 09/10/08
AMENDMENT A001

APPENDIX C
NPDES PERMIT

(includes NPDES Application Package)

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD/CWB

12004PILS.05

December 1, 2005

Mr. David H. Gedeon, P.E.
Project Manager
Central Federal Lands Highway Division
Federal Highway Administration
12300 West Dakota Avenue, Suite 380
Lakewood, Colorado 80228

Dear Mr. Gedeon:

**Subject: Compliance with Various Conditions
NOTICE OF GENERAL PERMIT COVERAGE (NGPC) and
National Pollutant Discharge Elimination System (NPDES)
State Route 200 - Saddle Road, North Hilo and South Hilo Districts, Hawaii
File Nos. HI R10B670 and HI R10C302 and Permit No. HI S000031**

The Department of Health, Clean Water Branch (CWB), acknowledges receipt of the Federal Highway Administration (FHWA) letter, dated November 7, 2005, requesting coverage of the quarry operations at the Department of the Army (DOA) Pohakuloa Training Area (PTA) Quarry under the following NPDES permits:

NGPC File No./ NPDES Permit No.	Issuance Date	State Route 200 - Saddle Road Segment (Type of Work)
HI R10B670	December 22, 2003	PTA-1 Section, Phase 1 MP 28 to 35 (grading only)
HI S000031	November 30, 2004	PTA-1 Section, Phase 2 & Phase 3 MP 35 to 42 (grading improvements) MP 28 to 42 (paving)
HI R10C302	August 4, 2005	East Section MP 19 to 28 (grading and paving)

Mr. David H. Gedeon, P.E.
December 1, 2005
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Storm water from the PTA Quarry may discharge into an un-named ephemeral stream (Class 2, Inland Waters) approximately 10 miles away in the northwesterly direction at coordinates: Latitude 19°50'13"N and Longitude 155°43'59"W. The "[Central Federal Lands Highway Division] CFLHD will expand the DOA's PTA quarry in a northwesterly direction along the Keamuku Lava Flow by as much as 52.5 acres" and the quarry expansion "will be done in incremental stages as aggregates are needed for construction of each phase of Saddle Road. . . 12.1 acres will be quarried to produce aggregates; the remainder 10.6 acres will be set aside as a staging area for rock crushing, hot mix plant operation, and stockpiling of aggregates."

"Quarry operations will entail striping of lava field' overburden (mostly rock), drilling, blasting, crushing, and stockpiling of aggregate for use in construction. Aggregate will be hauled to the project site on unpaved cinder PTA range roads (enclosure #6) or temporarily stockpiled after crushing. Stockpiled aggregates will also be used to produce asphalt concrete pavement; a hot mix plant will be set up in the same staging area as the crushing unit."

Submission of the above information is in accordance with Condition Nos. 6., 7., and 8. of NGPC File No. HI R10C302; Condition Nos. 5. and 6.b. of NGPC File No. HI R10B670; and Parts A.10. and B.4. of NPDES Permit No. HI S000031. The quarry operations at the PTA Quarry for each segment of the Saddle Road improvement project are covered by the applicable NGPC or NPDES Permit.

For future submittals, please continue to include the File No. HI R10B670 and/or HI R10C302 and/or Permit No. HI S000031, and the following certification statement in your cover letter:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Failure to provide the assigned file number and certification for this project on future correspondence or submittals may be a basis for delay of the processing of the document(s).

Mr. David H. Gedeon, P.E.

December 1, 2005

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If you have any questions, please contact Ms. Joanna L. Seto of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,



DENIS R. LAU, P.E., CHIEF
Clean Water Branch

JLS:np

- c: Mr. David H. Gedeon, CFLHD - FHWA [via fax (720) 963-3596 only]
- Mr. Bruce K. Meyers, Okahara and Associates, Inc. [via fax (808) 961-5529 only]
- Mr. Clifford Furukado, DHO-Hawaii, Hilo (w/copy of additional information only)
[via fax (808) 933-0400 only]
- Ms. Nancy Nakata, DHO-Hawaii, Kona (w/copy of additional information only)
[via fax (808) 322-1511 only]



U.S. Department
of Transportation
Federal Highway
Administration

Central Federal Lands Highway Division
12300 West Dakota Avenue
Lakewood, CO 80228

November 7, 2005

Refer To: HFPM-16

Mr. Alec Wong
Clean Water Branch
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Subject: Request to Include Coverage of Quarry Operations under Previously Issued NPDES Storm Water Permits HI R10B670, HI S000031, and HI R10C302

Dear Mr. Wong:

The Federal Highway Administration (FHWA) - Central Federal Lands Highway Division (CFLHD), in cooperation with the State of Hawai'i Department of Transportation (HI DOT) and the Department of the Army (DOA), is developing the Saddle Road improvement project in the County of Hawai'i. The 48-mile long Saddle Road route begins at milepost (MP) 6 near Hilo and extends to State Route 190, Mamalahoa Highway (enclosure #1). Multiple construction phases will be required to complete construction of the entire route.

The purpose of this letter is to inform you that CFLHD is planning to use a quarry located within the DOA's Pohakuloa Training Area (PTA) to produce aggregates for the construction of Saddle Road. Approval to use the quarry has been received from the DOA and the State of Hawai'i Department of Land and Natural Resources (DLNR). Agreements with both agencies are being developed and will be in place by the end of 2005.

The primary purpose of our quarry operations is to produce aggregate materials for construction of roadway base course and hot asphalt concrete pavement. Because of the proximity of the PTA quarry to the Saddle Road improvement project, we anticipate significant savings to taxpayers as well as achieving earlier completion of this highly important project to the local community. The use of this source will avoid extensive damage to the existing Saddle Road pavement that will result if these materials are hauled from more distant quarries to the project site. The use of this quarry will also greatly reduce traffic congestion and delays on the existing Saddle Road that will otherwise be caused by slow moving trucks hauling materials uphill for many miles to the project site. Most importantly, use of this quarry will significantly decrease the potential for accidents on existing Saddle Road by motorists attempting to pass slow moving haul trucks coming uphill to the project from more distant quarries on the island.

We've discussed NPDES storm water program requirements related to the use of the PTA quarry for Saddle Road construction with yourself and Mr. Gerald Yonashiro prior to his departure as an employee of your agency. Based on those discussions, we understand that our proposed quarrying activities can be covered under the previously issued NPDES authorizations to discharge for the construction of Saddle Road. To date, the following authorizations have been issued:

<u>File Number</u>	<u>Type Permit</u>	<u>Date Issued</u>	<u>Segment (Type of Work)</u>
HI R10B670	General	12-23-2003	MP 28 to 35 (grading only)
HI S000031	Individual	11-30-2004	MP 28 to 42 (grading and paving *)
HI R10C302	General	08-04-2005	MP 19 to 28 (grading and paving)

* HI S000031 covers grading improvements from MP 35 to 42, and paving from MP 28 to 42.

Applications for NPDES permits for construction of the Saddle Road segments below MP 19 and above MP 42 will be submitted as those projects are developed and as funds become available. At this time, we anticipate awarding at least one project every one to two years until construction of the entire 48-mile long Saddle Road route is completed.

We are providing the following quarry information along with our anticipated quarry operations as they relate to erosion control and water quality issues.

QUARRY INFORMATION

Location. The PTA quarry site is at a latitude of 19° 45' 05" W and longitude of 155° 36' 30" N (enclosure #2). The site is 1.6 miles south of Saddle Road MP 39.3 and is immediately adjacent to the northern edge of a massive barren a`a lava flow (Keamuku Flow); the quarry is in TMK 4-4-15:8 and 4-4-16:1. In 1998, the DOA prepared an Environmental Assessment and Finding of No Significant Impact (EA/FONSI) for rock crusher operations for the original quarry site. Prior to being developed as a quarry by the DOA, this area was used by the military for maneuvers and training. The adjacent lands continue to be used for training by the military. Enclosures #3a and 3b are photographs of the quarry in operation during DOA crushing operations (date unknown).

Soils and Topography. The U.S. Department of Agriculture, Soil Conservation Service publication, *Soil Survey of Island of Hawaii, State of Hawaii*, classifies soils at the PTA quarry as "A`a Lava Flows" and "Very Stony Land". "A`a Lava Flows" have practically no soil covering. This lava is rough and broken, and is a mass of clinkery, hard, sharp pieces piled in tumbled heaps. "Very Stony Land" is a land type consisting of very shallow soil material and a high proportion of a`a lava outcrops. Erosion potential of disturbed soils is slight due to the limited extent of soils, low rainfall at PTA (PTA records indicate 15-inches +/- per year), and high porosity of the insitu materials. [Source: EA/FONSI.]

Vegetation. "A`a Lava Flows" typically have practically no soil covering thus are usually bare of vegetation except for mosses, lichens, ferns and a few small ohia trees. The "Very Stony Land" areas adjacent to the PTA quarry are only lightly vegetated with native shrubs, grasses



and weeds, and have been disturbed by past military activities including excavation, target emplacement and large munitions impact. [Source: EA/FONSI.]

Surface Waters. There are no wetlands, streams, or surface water features in the vicinity of the PTA quarry site or surrounding area. Storm water runoff rapidly infiltrates into the porous lava soils of the quarry site. The general down gradient is to the northwest. The nearest receiving state water in the direction of runoff is an un-named ephemeral stream that is approximately 10 miles away, (enclosure #2); the coordinates at this location are latitude 19° 50' 13" N and longitude 155° 43' 59" W. Discharges do not enter a separate storm water drainage system. Receiving state waters are classified as class 2 inland waters.

Proposed Use. CFLHD will expand the DOA's PTA quarry in a northwesterly direction along the Keamuku Lava Flow by as much as 52.5 acres (enclosure #4). However we do not anticipate that our total aggregate needs will require the development of this entire site as our geotechnical investigations indicate that sufficient amounts of material can be obtained from a considerably smaller area. Expansion of the PTA quarry will be done in incremental stages as aggregates are needed for construction of each phase of Saddle Road. The first Saddle Road project for which aggregate from the PTA quarry will be obtained will be advertised in late 2005. For this project, we have limited the area of development of the quarry site to 22.7 acres, however only 12.1 acres will be quarried to produce aggregates; the remainder 10.6 acres will be set aside as a staging area for rock crushing, hot mix plant operation, and stockpiling of aggregates.

Environmental Compliance. An archeological survey inventory of the quarry expansion area was performed in January 2005. No historic properties were located within the limits of the proposed expansion. The Hawaii State Historic Preservation Office (SHPO) concurred with our determination of 'no historic properties affected' by the expansion of the quarry (enclosure #5). Botanical and faunal inventory surveys were conducted for the quarry expansion area in March 2005. No federally listed endangered or threatened species or habitat for such species were identified within the limits of the proposed expansion area. There are no wetlands or other waters of the United States in the area and compliance with Sections 401 and 404 is not required. On the basis of this and other resource information, CFLHD determined that the proposed PTA quarry expansion and operations fall within the definition of a Categorical Exclusion as defined in 40 CFR 1508.4 and are therefore categorically excluded from further National Environmental Policy Act analysis.

General. CFLHD will designate the PTA quarry as a mandatory source of aggregates for the next Saddle Road construction project. This next project will reconstruct the existing road from MP 19 to 28 and also pave the previously completed subgrade section from MP 28 to 35. The NPDES permits noted above covered this construction. We plan to continue to designate the PTA quarry as a mandatory source on all future Saddle Road projects that we determine it is advantageous to do so for economic reasons or public safety.

Description of PTA Quarry Activities. Quarry operations will entail striping of lava field' overburden (mostly rock), drilling, blasting, crushing, and stockpiling of aggregate for use in construction. Aggregate will be hauled to the project site on unpaved cinder PTA range roads

(enclosure #6) or temporarily stockpiled after crushing. Stockpiled aggregates will also be used to produce asphalt concrete pavement; a hot mix plant will be set up in the same staging area as the crushing unit.

Storm Water Discharges. The topography of the quarry site is largely flat; storm water runoff from the site flows to the west/northwest. Due to the mounded composition of the quarry lava flow, runoff from the site cannot flow to the north or southwest. Therefore the plans call for the installation of silt fence 'down-gradient' of the site to remove any sediment being transported by the runoff from the quarry area. There are no defined natural drainage paths in the area of the quarry. As noted previously, the soils in the vicinity of the quarry are extremely porous, thus runoff will rapidly infiltrate into the natural ground surface.

Non-Storm Water Discharges. Water may be used to suppress dust during rock crushing operations but not in quantities large enough to produce runoff or cause soil erosion. If runoff occurs, it will be confined to within the quarry site by the topographic constraint presented by the lava flow and silt fence called for in the construction plans. A dust suppressant will be applied to haul roads; the suppressant will be applied at a rate that will not cause runoff from the graded surface of the haul roads.

There is potential for leakage or accidental spills of petroleum products such as hydraulic fluids and oil/fuel from operational equipment at the quarry site. The construction special contract requirements require spill kits be maintained on site during quarry operations and drip pans be placed under stationary equipment. Erosion control elements at the quarry site will be installed as required in the construction plans and will be maintained until the quarry is no longer a viable source of materials for Saddle Road construction. Each construction project that utilizes the quarry will include restoration of the site.

Contractor Update of BMPP's. The contractor is required to supplement the BMPP's that were submitted as part of our applications. The contractor will include the quarry in this submission, including site-specific information regarding their operations. The construction plans call for the installation of silt fence along the down-gradient, or draining perimeter of the disturbed soils within the quarry site. Special contract requirements included in the contract documents stipulate additional BMPP requirements. The supplemental information will be submitted to the Clean Water Branch, through our Project Engineer, for approval prior to the start of ground-disturbing construction activities. Any changes to the site specific BMP plans and/or sediment and erosion control plans, or corrections to information already on file with the Department of Health will be submitted to the Clean Water Branch.

We hope that the above information is sufficient to make a determination that the use of the PTA quarry for construction of Saddle Road can be covered under previously issued NPDES permits. As we plan to advertise the next Saddle Road project in December of this year, your prompt attention to this matter would be greatly appreciated. Please contact me if you have any questions or if we can provide additional information.

attention to this matter would be greatly appreciated. Please contact me if you have any questions or if we can provide additional information.

Dave Gedeon, Project Manager
FHWA – CFLHD
12300 West Dakota Avenue
Lakewood CO 80228
Telephone: (303) 716-2131
Facsimile: (303) 969-5936
Email: dave.gedeon@fhwa.dot.gov

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Sincerely,



David H. Gedeon, P.E.
Project Manager

enclosures



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division
12300 West Dakota Avenue
Lakewood, CO 80228

Refer To: HFPM-16

July 13, 2005

Mr. Denis R. Lau, P.E.
Chief, Clean Water Branch
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Subject: NPDES Permit No. HI R10B670; Saddle Road MP 28 to 35; Phase 1
NPDES Permit No. HI S000031; Saddle Road MP 28 to 42; Phases 2 and 3
Changes to Information Contained In Original Applications

Attention: Mr. Gerald Yonashiro

Dear Mr. Lau:

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the State of Hawaii Department of Transportation and the Department of the Army's (DOA) Surface Deployment and Distribution Command, is developing the Saddle Road improvement project in the County of Hawaii. The first section to be constructed extends from milepost (MP) 28 to 42 (referred to in the EIS as Section II, or PTA-1) passes through the DOA's Pohakuloa Training Area. Funding for the design and construction of this segment is provided through the DOA's Defense Access Road (DAR) Program. Two NPDES permits have been issued for construction of the PTA-1 section in three phases:

General Permit HI R10B670:

Phase 1 – grading and drainage improvements from MP 28 to 35

Individual Permit No. HI S000031:

Phase 2 - grading and drainage improvements from MP 35 to 42;

Phase 3 - paving Phases 1 and 2.

The purpose of this letter is to inform you of changes that have been made from the information contained in our original application for the work covered by Individual Permit No. HI S000031.



1. Changes in "Phase 2" and "Phase 3" Project Limits and Construction Schedules.

Phase 2 Changes. Our original application was submitted in advance of the final passage of the FY 2004 Defense bill from which funding for construction of Phase 2 was provided. The Phase 2 and 3 project limits as defined in that application were based on anticipated future funding levels. Once the FY 2004 Defense bill was passed and the actual Saddle Road allocation was known, we 'sized' the Phase 2 project to fit within the actual budgeted funds available. The length of Phase 2 was reduced from the 5.92 miles shown in our application to 3.23 miles. The Phase 2 project limits now extend from Station 88+00 to 258+50, or roughly from MP 37 to 40. To complete all remaining grading between MP 35 and 42 (original Phase 2 limits), one or more additional construction projects will be required. If sufficient funds are appropriated for Saddle Road next year, we will advertise a project to complete the remaining grading from MP 35 to 37 and 40 to 42 in late FY 2006; this project is expected to take one year to complete. No other changes have been made to the scope of work, the sequence of construction activities, or Best Management Practices as described in our original application.

Phase 3 Changes. At the time our original application was submitted, it was anticipated that Phase 3 would pave the entire PTA-1 section from MP 28 to 42. However due to the level of DAR funds appropriated in FY 2004 and 2005, we could not adhere to this plan. Therefore we now plan to advertise a construction project to pave the segment from MP 28 to 35 in late 2005. We expect to advertise a final project in FY 2007 to pave the remaining subgrade from MP 35 to 42. This will complete the PTA-1 section.

Please be aware that the amount of DAR funds appropriated in FY 2006 and 2007 for Saddle Road may again necessitate a change in these plans.

2. Combining Phases of Work

In an effort to achieve economies of scale and resultant cost savings, avoid coordination conflicts among multiple construction contractors, and to minimize traffic disruptions and inconveniences to the traveling public, CFLHD proposes to combine several construction phases into one large project. Project HI A AD 6(3) & HI 200(1) will be advertise in late 2005 and will include:

Paving of MP 28 to 35. Placement of aggregate and asphalt base courses and asphalt surfacing on 6.515-miles of subgrade completed in June 2005 (Phase 1). Construction of this segment is covered under NPDES permits HI No. HI R10B670 and HI No. S000031.

Grading and Paving of MP 19 to 28. An NPDES application for construction of this segment has been submitted; Permit No. HI S000046 assigned to this application. Two construction phases were anticipated in the original application however the Hawaii Department of Transportation is providing additional funding making it possible to construct this entire section in one phase. A separate letter will be submitted citing changes to the information contained in that application.

Construction is expected to start in February or March of 2006 and take 2 years to complete. This schedule supercedes that described in item 11 a. of our original application.

If you have any questions regarding the above information or the Saddle Road improvement project, please contact one of the following project team members:

Dave Gedeon
CFLHD Project Manager
Telephone: (303) 716-2131
Facsimile: (303) 969-5936
Email: dave.gedeon@fhwa.dot.gov

Bruce Meyers
Okahara & Associates, Inc. Project Manager
Telephone: (808) 91-5527
Facsimile: (808) 961-5529
Email: bmeyers@okahara.com

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Sincerely,



David H. Gedeon, P.E.
Project Manager

cc:

Mr. Donald Okahara, Okahara & Associates, Inc., 200 Kohola Street, Hilo, HI 96720-4323

bcc:

Mr. Steve Hallisy, HFHD-16
Mr. Bryant Gonsalves, HFHD-16
Mr. William Jones, HFHD-16
Mr. Bill Hakala, HFCO-16
Mr. Eric Zeller, HFCO-16
Mr. Dave Gedeon, HFPM-16

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LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD/CWB

11104PGY.04

November 30, 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7001 2510 0008 2527 3744

Mr. David H. Gedeon, P.E.
Project Manager
Central Federal Lands Highway Division
Federal Highway Administration
12300 West Dakota Avenue
Lakewood, Colorado 80228

Dear Mr. Gedeon:

In accordance with the provisions of the Clean Water Act, Chapter 342D, Hawaii Revised Statutes, and Chapter 11-55, Administrative Rules, Department of Health (Department), the Department has reviewed the following application for a National Pollutant Discharge Elimination System (NPDES) permit to discharge wastewaters:

<u>Project</u>	<u>NPDES Permit No.</u>
State Route 200 - Saddle Road, PTA-1 Section (MP28-42±) Phase 2 & Phase 3	HI S000031

This agency has published a public notice of our proposed action in the **Hawaii Tribune - Herald**, and **West Hawaii Today** on **October 22, 2004**, regarding the above application.

The Department did not receive any public comment during the comment period. After consideration of the pertinent Federal and State Statutes and Rules regarding the discharge, the Department hereby issues the enclosed NPDES permit for the discharge referred to above. This action does not constitute a significant change from the tentative determination set forth in the public notice.

This permit will take effect on November 30, 2004.

Mr. David H. Gedeon, P.E.
November 30, 2004
Page 2

You may request an opportunity to appeal any of the conditions of the issued proposed permit and to appear before the Director of Health (Director). Such requests must be submitted within 20 days after receipt of this letter, and whether such requests are granted is within the Director's discretion. Appeals to court regarding the Director's decision on permit conditions or other matters are governed in Hawaii Revised Statutes, Chapter 91.

Should you have any questions on this action, please contact Mr. Gerald Yonashiro of the Engineering Section, Clean Water Branch, at (808) 586-4309.

Sincerely,



THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

GY:cu

Enclosure: Final Permit

- c: CWA Standards and Permits Office (WTR-5), Water Division, EPA, Region 9
(w/2 copies of encl.)
- Mr. Bruce K. Meyers, P.E., Okahara & Associates, Inc. (w/o encls.)
[via fax (808) 961-5529 only]
- DHO, Hawaii (w/o encls.) [via fax (808) 974-6000 only]

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq.; the "Act") and Chapter 342D, Hawaii Revised Statutes, and Chapters 11-54 and 11-55, Hawaii Administrative Rules, Department of Health (DOH), State of Hawaii,

**CENTRAL FEDERAL LANDS HIGHWAY DIVISION
FEDERAL HIGHWAY ADMINISTRATION**

(hereinafter PERMITTEE),

is authorized to discharge storm water associated with construction activities from its State Route 200 - Saddle Road, PTA-1 Section (MP28-42±), Phase 2 & Phase 3 project, located at Hamakua District, Island of Hawaii, to the un-named ephemeral (intermittent) streams, at the following coordinates:

Table 1 - Phase 2 Discharge Points			
Discharge Point No.	Latitude (N)	Longitude (W)	Class
1	19°46'49"	155°36'38"	1
2	19°46'45"	155°36'14"	1
3	19°46'42"	155°35'55"	1
4	19°46'40"	155°35'50"	1
5	19°46'20"	155°35'22"	1
6	19°46'00"	155°34'49"	2
7	19°46'53"	155°33'57"	2
8	19°46'53"	155°33'37"	2
9	19°46'51"	155°33'00"	2
10	19°46'45"	155°32'13"	2
11	19°46'37"	155°36'52"	2
12	19°46'24"	155°31'49"	2
13	19°46'12"	155°31'48"	2
14	19°46'02"	155°31'46"	2

Table 2 - Phase 3 Discharge Points			
Discharge Point No.	Latitude (N)	Longitude (W)	Class
1	19°44"	155°32'53"	2
2	19°45'40"	155°32'43"	2
3	19°45'39"	155°32'37"	2
4	19°45'40"	155°31'08"	2
5	19°44'08"	155°30'31"	2
6	19°45'06"	155°30'28"	2
7	19°43'49"	155°30'10"	2
8	19°43'47"	155°30'09"	2
9	19°43'43"	155°30'07"	2

*Phase 3 Discharge Points also includes all discharge points as noted in "Table 1 - Phase 2 Discharge Points."

in accordance with the general requirements, reporting requirements, special requirements, and other conditions set forth herein, and in the attached DOH "Standard NPDES Permit Conditions," dated December 31, 2002.

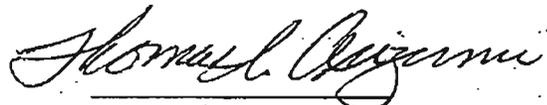
All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 2001, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

The Permittee is responsible for obtaining other Federal, State, or local authorizations as required by law.

This permit will become effective November 30, 2004.

This permit and the authorization to discharge will expire November 29, 2009.

Signed this 30th day of November, 2004.


 (For) Director of Health

FINAL PERMIT
November 30, 2004

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PART A. GENERAL REQUIREMENTS

PART B. REPORTING REQUIREMENTS

PART C. SPECIAL REQUIREMENTS

**PART D. LOCATION MAP
(See Attachments 1 and 2)**

STANDARD NPDES PERMIT CONDITIONS, DATED DECEMBER 31, 2002 (ATTACHED)

A. GENERAL REQUIREMENTS

The Permittee shall:

1. Comply with all materials submitted in and with the application, dated April 29, 2004, and additional submittals, dated September 8, and 14, 2004.
2. Retain a copy of the application, including other related materials, and this permit at the job site or at a nearby field office.
3. Ensure that anyone working under this permit complies with the terms and conditions of this permit.
4. Not cause or contribute to a violation of the basic water quality criteria as specified in Hawaii Administrative Rules (HAR), Chapter 11-54, Section 11-54-4.
5. Take all reasonable steps to minimize or prevent any discharge or disposal of sediments, oil, fuel, pesticides or any other pollutants which will cause or contribute to a violation of this permit or applicable law. Sediments or any other pollutants generated by the construction shall be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters.
6. Design, operate, implement, and maintain the construction site Best Management Practices (BMPs) Plan to ensure that storm water discharges associated with construction activities will not cause or contribute to a violation of applicable State water quality standards.
7. Implement the construction site BMPs Plan, or amendments thereof, as often as needed to improve the quality of storm water discharges or when instructed by the Director of Health (Director).
8. Immediately stop, reduce, or modify construction, or implement new or revised BMPs as needed to stop or prevent a violation of the basic water quality criteria as specified in HAR, Chapter 11-54, Section 11-54-4.
9. Inspect, at a minimum of once per week, the receiving State waters, storm water runoff and control measures and BMPs practices to detect violations of and conditions which may cause or contribute to a violation of the basic water quality criteria as specified in HAR, Chapter 11-54, Section 11-54-4. (e.g., the permittee shall look at storm water discharges and receiving state waters for turbidity, color,

floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that may be toxic or harmful to human or other life.)

10. Review the effectiveness and adequacy of the implemented site-specific BMPs Plan(s) and Sediment and Erosion Control Plan(s) at a minimum of once per week, and update the plan as often as necessary. Any changes(s) to the site-specific BMPs Plans and/or Sediment and Erosion Control Plans or correction(s) to information already on file with the DOH shall be submitted to the Clean Water Branch (CWB) as such change(s) or correction(s) arises.
11. Submit signed copies of all reports required by this permit to the Director at the following address or as otherwise specified:

Director of Health
Clean Water Branch
Environmental Management Division
Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

12. Include the following certification statement and signature on each submittal in accordance with HAR, Chapter 11-55, Section 11-55-07(b):

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations."

13. Include the NPDES permit number (HI S000031) on each submittal. Failure to provide the assigned NPDES permit number for this facility on future correspondence or submittals may be a basis for delay of the processing of the document(s).

B. REPORTING REQUIREMENTS

The Permittee shall:

1. **Submit the following site-specific information to the CWB at least 30 days before the start of construction activities:**
 - a. Any general contractor's information which was not identified in the application. The information must include the general contractor's legal name, address (location where papers can be hand-delivered), contact person and title, telephone and fax numbers;
 - b. Map(s) with drainage pattern flow arrows showing the areas used for temporary storage of soils or wastes and appropriate BMPs;
 - c. Location of the storage yard on a map with drainage pattern flow arrows which notes the equipment and materials to be stored and appropriate BMPs; and
 - d. Construction timetable which includes the dates when major construction activities will begin and end.

All related concerns and/or comments shall be properly addressed to the CWB's satisfaction.

2. Complete and submit the enclosed Solid Waste Disclosure Form for Construction Sites to the Office of Solid Waste Management as specified on the form.
3. Immediately notify the Director of the incident and identify the pollutant(s) source(s) and the proposed and implemented control or mitigative measures as required in Section 16 of DOH "Standard NPDES Permit Conditions," dated December 31, 2002.
4. Submit any changes to information on file with the CWB as soon as changes arise. The Permittee shall properly address all related concerns and/or comments to the CWB's satisfaction.
5. Notify the CWB upon termination of the discharge activities pursuant to HAR, Chapter 11-55, Section 11-55-18.

C. SPECIAL REQUIREMENTS

1. The Permittee shall:
 - a. Limit the "disturbance of land", as referenced in HAR, Appendix C, to a maximum of 20 acres per drainage area. The area of land disturbance may be reduced by the Director for water pollution control purposes. On a case-by-case situation, the Director may allow additional area to be disturbed provided that the Permittee can demonstrate to the Director's satisfaction that the additional disturbance area will not cause or contribute to a violation of the basic water quality criteria as specified in HAR, Chapter 11-54, Section 11-54-4.
 - b. Provide adequate BMP's for temporary storage of any soils, or excavated materials.
 - c. Not discharge any non-storm water associated with the construction activities into State waters unless authorized by an appropriate permit, license, or approval.
 - d. Refrain from performing any work during heavy rainstorms.
 - e. Dispose of any waste at a State and/or County approved landfill site.
2. The following special conditions apply to all land disturbance work conducted under this permit:
 - a. Construction Management Techniques
 - (1) Clearing and grubbing shall be held to the minimum necessary for grading and equipment operation.
 - (2) Construction shall be sequenced to minimize the exposure time of the cleared surface area.
 - (3) Construction shall be staged or phased for large projects. Areas of one (1) phase shall be stabilized before another phase is initiated. Stabilization shall be accomplished by temporarily or permanently protecting the disturbed soil surface from rainfall impacts and runoff.

- (4) Erosion and sediment control measures shall be in place and functional before earth moving operations begin. These measures shall be properly constructed and maintained throughout the construction period.
- (5) All control measures shall be checked and repaired as necessary, for example, weekly in dry periods and within 24 hours after any rainfall of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, daily checking is necessary. The permittee shall maintain records of checks and repairs.
- (6) The permittee shall maintain records of the duration and estimated volume of storm water discharge(s).
- (7) A specific individual shall be designated to be responsible for Erosion and Sediment Controls on each project site.

b. Vegetation Controls

- (1) Pre-construction vegetative ground cover shall not be destroyed, removed, or disturbed more than 20 calendar days prior to land disturbance.
- (2) Temporary soil stabilization with appropriate vegetation shall be applied on areas that will remain unfinished for more than 30 calendar days.
- (3) Permanent soil stabilization with perennial vegetation or pavement shall be applied as soon as practical after final grading. Irrigation and maintenance of the perennial vegetation shall be provided for 30 calendar days or until the vegetation takes root, whichever is shorter.

c. Structural Controls

- (1) Storm water flowing toward the construction area shall be diverted by using appropriate control measures, as practical.
- (2) Erosion Control Measures shall be designed according to the size of disturbed or drainage areas to detain runoff and trap sediment.

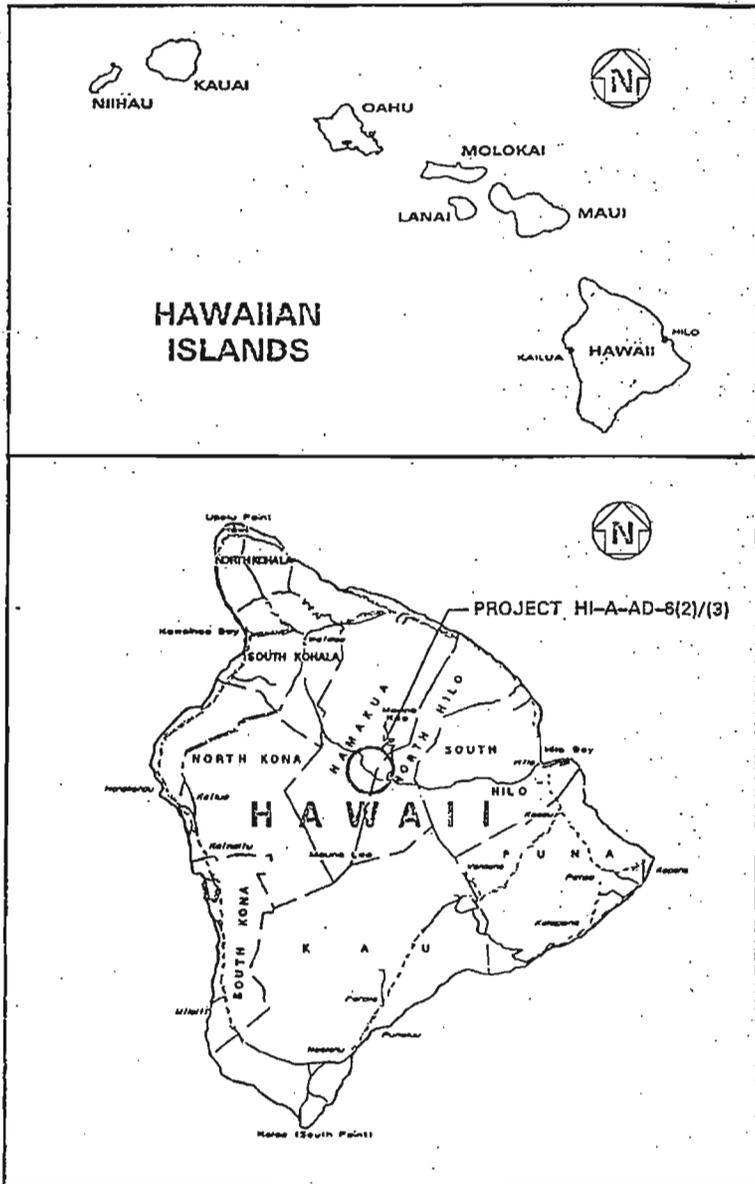
PART C
PERMIT NO. HI S000031
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- (3) Water must be discharged in a manner that the discharge shall not cause or contribute to a violation of the basic water quality criteria as specified in HAR, Chapter 11-54, Section 11-54-4.

D. LOCATION MAP

See Attachment 1 and 2.

S000031.FNL



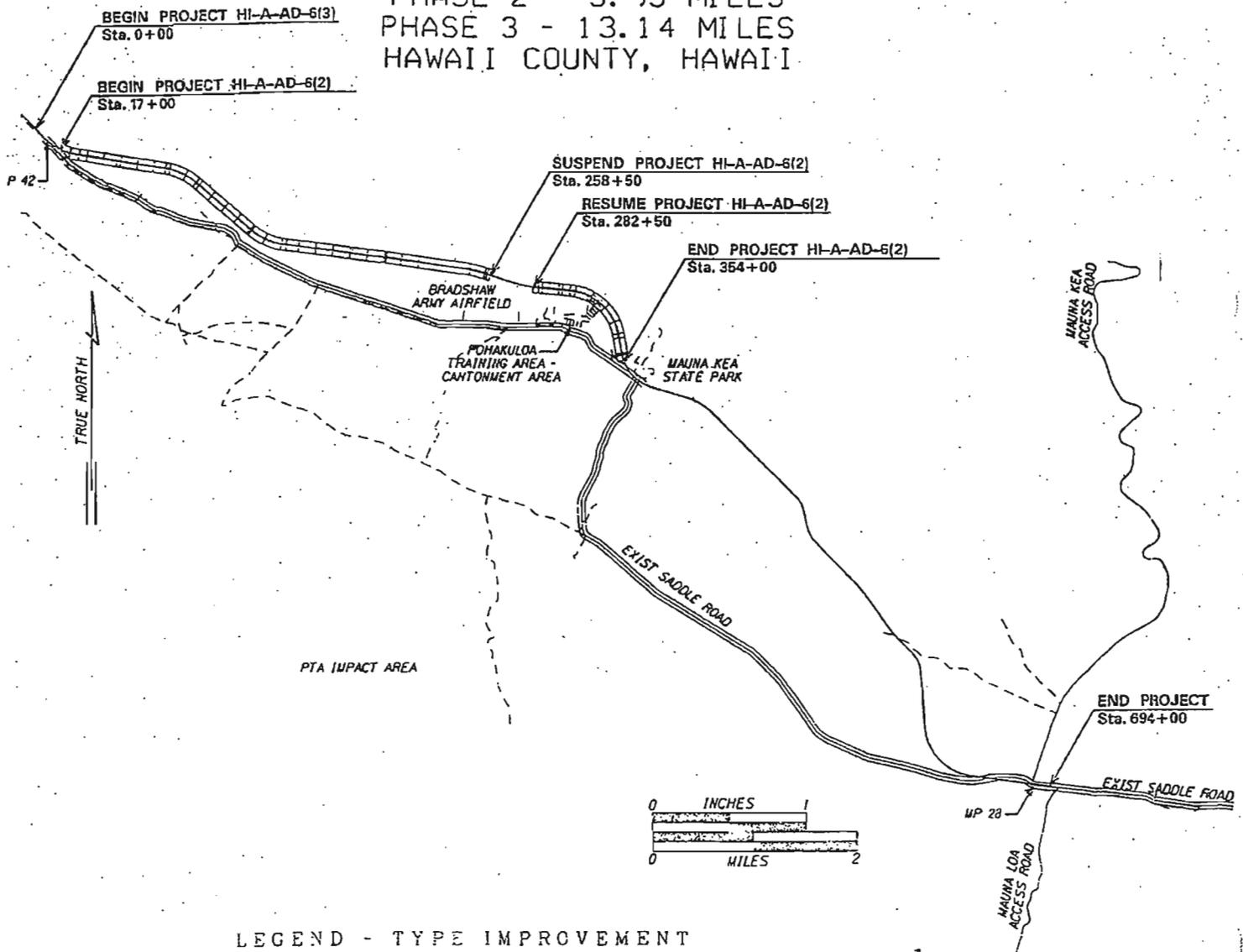
UNITED STATES DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION



PART D
PERMIT NO. HI S06
Page 12

PLANS FOR PROPOSED DEFENSE ACCESS ROAD PROJECT HI-A-AD-6(2)/(3) STATE ROUTE 200 - SADDLE ROAD

PTA-1 SECTION
PHASE 2 - 5.93 MILES
PHASE 3 - 13.14 MILES
HAWAII COUNTY, HAWAII



LEGEND - TYPE IMPROVEMENT

GRADED	REINFORCED SUBGRADE	BASE COURSE	SURFACE TREATMENT	ROAD OR PLANT BITUMINOUS MIX	PORTLAND CEMENT CONCRETE
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**DEPARTMENT OF HEALTH
STANDARD NPDES PERMIT CONDITIONS
UPDATED AS OF DECEMBER 31, 2002**

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STANDARD NPDES PERMIT CONDITIONS

Note:

All references to Title 40 of the Code of Federal Regulations (40 CFR) are to regulations that are in effect on July 1, 2001, unless otherwise specified. The Clean Water Act (Act) is also known as the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, and appears in 33 U.S.C. §§1251 to 1387.

"This permit" means the applicable individual NPDES permit to which these standard conditions apply.

1. Basic water quality criteria (comply with Hawaii Administrative Rules, Section 11-54-04)

- a. The permittee shall not cause or contribute to a violation of the narrative basic water quality criteria specified in Section 11-54-04(a) which states:
- "(a) All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including:
- (1) Materials that will settle to form objectionable sludge or bottom deposits;
 - (2) Floating debris, oil, grease, scum, or other floating materials;
 - (3) Substances in amounts sufficient to produce taste in the water or detectable off-flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity, or other conditions in the receiving waters;
 - (4) High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;
 - (5) Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life;
 - (6) Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands."
- b. The permittee shall not cause or contribute to a violation of the basic numeric water quality requirements of Hawaii Administrative Rules, Section 11-54-04(b).

STANDARD NPDES PERMIT CONDITIONS

2. Onshore or offshore construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any State waters.

3. Sampling requirements and definitions

a. Sampling Points

All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Administrator and the Director of Health. No discharge is authorized which does not totally pass through the final monitoring point.

b. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than plus or minus ten (10) per cent from the true discharge rates throughout the range of expected discharge volumes. Once-through condenser cooling water flow which is monitored by pump logs or pump hour meters as specified in this permit based on the manufacturer's pump curves shall not be subject to this requirement. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

- (1) "A Guide of Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD catalog No. C13.10:421.)

STANDARD NPDES PERMIT CONDITIONS

- (2) "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)
- (3) "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)
- (4) "NPDES Compliance Flow Measurement Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-77, September 1981, 135 pp. (Available from the General Services Administration (8BRC), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225.)

c. Calibration

The Permittee shall periodically calibrate and perform maintenance on all monitoring and analytical equipment used to monitor the pollutants discharged under this permit, at intervals which will insure the accuracy of measurements, but no less than the manufacturer's recommended intervals or six (6) month intervals (whichever comes first). Records of calibration shall be kept under section 14.

d. pH Effluent Limitations Under Continuous Monitoring

If the Permittee continuously measures the pH of the discharge under a requirement or option in this permit, excursions from the range provided in this permit are permitted, provided:

- (1) The pH limitation in this permit is based upon a requirement imposed under 40 CFR Subchapter N, Effluent Guidelines and Standards;
- (2) The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month;
- (3) No individual excursions from the range of pH values shall exceed 60 minutes; and

STANDARD NPDES PERMIT CONDITIONS

- (4) For purposes of this section, an "excursion" is an unintentional and temporary incident in which the pH value of a discharge exceeds the range set forth in this permit. The number of individual excursions exceeding 60 minutes and the total accumulated excursion time in minutes occurring in any calendar month shall be reported in accordance with this permit.

e. Average

As used in this permit, unless otherwise stated, the term average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For fecal coliform, enterococcus, or *clostridium perfringens*, the "average" shall be the geometric mean. For total coliform, the "average" shall be the median.

f. Mass/Day Measurements

- (1) The "daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. The daily discharge shall be determined by using the following equations:

$$\text{Daily Discharge (lbs/day)} = 8.34 \times Q \times C; \text{ or}$$

$$\text{Daily Discharge (kg/day)} = 3.785 \times Q \times C;$$

where "C" (in mg/l) is the measured daily concentration of the pollutant and "Q" (in million gallons per day) is the measured effluent flow rate for the same calendar day.

If only one (1) sample is taken during any calendar day, the mass (weight) of pollutant discharged that is calculated from it is the "daily discharge."

- (2) The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during the month. It is, therefore, an arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days. This limitation is identified as "Monthly Average" in this permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.

STANDARD NPDES PERMIT CONDITIONS

- (3) The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during the calendar week in which daily discharges are sampled and/or measured. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days. This limitation is identified as "Weekly Average" in this permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.
- (4) The "maximum daily discharge" is the highest daily discharge value recorded during the reporting period. This limitation is identified as "Daily Maximum" in this permit and the maximum daily discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

g. Concentration Measurements

- (1) The "daily concentration" is the concentration of a pollutant discharged during a calendar day. It is equal to the concentration of a composite sample or in the case of grab samples, it is the arithmetic mean (weighted by flow value) of all samples collected during that calendar day. If only one (1) sample is taken during any calendar day, it represents the "daily concentration."
- (2) The "average monthly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the daily concentrations sampled and/or measured divided by the number of daily discharges sampled and/or measured during the month (arithmetic mean of the daily concentration values). The average monthly count for fecal coliform, enterococcus, and *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar month. The average monthly count for total coliform is the median of the counts for samples collected (not less than five (5) discrete samples) during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" or "Other Limits" in this permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the Discharge Monitoring Report Form.
- (3) The "average weekly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the concentrations of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by

STANDARD NPDES PERMIT CONDITIONS

- the number of daily discharges sampled and/or measured during the week (arithmetic mean of the daily concentration values). The average weekly count for fecal coliform, enterococcus, or *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar week. The average weekly count for total coliform is the median of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" or "Other Limits" in this permit and the average weekly concentration value is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.
- (4) The "maximum daily concentration" is the highest daily concentration value recorded during the reporting period. This limitation identified as "Daily Maximum" or "Other Limits" in this permit and the maximum daily concentration is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.
- h. The effluent flow, expressed as cubic meters per day or million gallons per day (MGD), is the 24-hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in this permit, the flow rate values are reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.
- (1) An "instantaneous flow measurement" is a measure of flow taken at the time of sampling, when both the sample and flow will be representative of the total discharge.
- (2) Where monitoring requirements for pH; dissolved oxygen; or fecal coliform; enterococcus, or *clostridium perfringens* are specified in this permit, the values are generally reported in the "Quality or Concentration" column on the Discharge Monitoring Report Form.
- i. The "arithmetic mean" of any set of values is the summation of the individual values divided by the number of individual values.
- j. The "geometric mean" of any set of values is the N^{th} root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

STANDARD NPDES PERMIT CONDITIONS

- k. "Weighted by flow value" means the summation of each concentration multiplied by its respective flow divided by the summation of the respective flows.
- l. The "median" of any set of ordered values is the value below and above which there is an equal number of values or which is the arithmetic mean of the two (2) middle values if there is no one (1) middle number.
- m. A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for the purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.
- n. "Removal efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using the average monthly concentrations (C, in mg/l) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$\text{Removal Efficiency (per cent)} = 100 \times \left(1 - \frac{C_{\text{effluent}}}{C_{\text{influent}}} \right)$$

- 4. **Duty to reapply** (comply with 40 CFR §122.41(b) and Hawaii Administrative Rules, Section 11-55-27)

If the Permittee wishes to continue an activity regulated by this permit after the expiration of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application 180 days before the existing permit expires and as specified in the Hawaii Administrative Rules, Section 11-55-27.

- 5. **Applications** (based in part on 40 CFR §122.22)

- a. All permit applications shall be signed as follows:

- (1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

STANDARD NPDES PERMIT CONDITIONS

- (B) The manager of one (1) or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - (2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or
 - (3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (A) The chief executive officer of the agency, or
 - (B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
 - (4) For a trust. By a trustee.
 - (5) For a limited liability company (LLC). By the Manager or a Member authorized to make management decisions for the LLC who is in charge of a principal business function, or who performs similar policy or decision-making functions for the LLC.
- b. All other reports or responses to requests for information required by the Director of Health shall be signed by a person described in subsection a., or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, superintendent, or position of equivalent responsibility, or an

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individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.);

- (2) The authorization is made in writing by a person designated under subsection a.; and
 - (3) The written authorization is submitted to the Director of Health.
- c. Changes to authorization. If an authorization under subsection b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection b. must be submitted to the Director of Health prior to or together with any reports, information, or applications to be signed by a duly authorized representative.
- d. Certification. Any person signing a document under subsection a. or b. shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

6. Duty to comply (comply with 40 CFR §122.41(a))

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

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- a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.
- b. The Act provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation.

The Act provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or imprisonment of not more than two (2) years, or both.

Any person who *knowingly* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both.

Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both.

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An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of this Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

7. Need to halt or reduce activity not a defense (comply with 40 CFR §122.41(e))

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. Duty to mitigate (based in part on 40 CFR §122.41(d))

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit or applicable law.

9. Proper operation and maintenance (comply with 40 CFR §122.41(e))

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

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10. Permit actions (comply with 40 CFR §122.41(f))

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

11. Property rights (comply with 40 CFR §122.41(g))

This permit does not convey any property rights of any sort or any exclusive privilege.

12. Duty to provide information (comply with 40 CFR §122.41(h))

The Permittee shall furnish to the Director of Health, within a reasonable time, any information which the Director of Health may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Director of Health upon request, copies of records required to be kept by this permit.

13. Inspection and entry (comply with 40 CFR §122.41(i))

The Permittee shall allow the Director of Health, or a duly authorized agent (including an authorized contractor acting as a duly authorized agent of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

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14. Monitoring and records (based in part on 40 CFR §122.41(j))

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

As used in this section, a representative sample means that the content of the sample shall:

- (1) Be identical to the content of the substance sampled at the time of the sampling;
- (2) Accurately represent the monitored item (for example, sampling to monitor final effluent quality shall accurately represent that quality, even though the sampling is done upstream of the discharge point); and
- (3) Accurately represent the monitored item for the monitored time period (for example, sampling to represent monthly average effluent flows shall be taken at times and on days that cover significant flow variations). Representative sampling may mean including weekends and storm events and may mean taking more samples than the minimum number specified in this permit.

The burden of proving that sampling or monitoring is representative shall be on the Permittee.

- b. The permittee shall retain for a minimum of five (5) years any records of monitoring activities and results including all original strip chart recording for continuous monitoring instrumentation and calibration and maintenance records. This period of retention shall be extended during the course of any unresolved litigation or administrative enforcement action regarding the discharge of pollutants by the permittee or when requested by the Director of Health or Regional Administrator.

- c. Any records of monitoring activities and results shall include for all samples:

- (1) The date, exact place, and time of sampling or measurements;
- (2) The individual(s) who performed the sampling or measurements;
- (3) The date(s) analyses were performed;
- (4) The individual(s) who performed the analyses;

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- (5) The analytical techniques or methods used; and
 - (6) The results of the analyses.
- d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.
- e. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both for a first conviction. For a second and subsequent conviction, the person is subject to a fine of not more than \$20,000 per day of violation, or imprisonment for not more than four (4) years, or both. (Updated under the Water Quality Act of 1987)
- 15. Signatory requirement (comply with 40 CFR §§122.22 and 122.41(k))**
- a. All applications, reports, or information submitted to the Director of Health shall be signed and certified. (See section 5 or 40 CFR §122.22.)
 - b. The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
- 16. Reporting requirements (based in part on 40 CFR §122.41(l))**
- a. Planned changes. The Permittee shall give notice to the Director of Health as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or

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- (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1) or section 19.
 - (3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and the alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Anticipated noncompliance. The Permittee shall give advance notice to the Director of Health of any planned changes in the permitted facility or activity which may result in noncompliance with this permit's requirements.
 - c. Transfers. This permit is not transferable to any person except after notice to the Director of Health. The Director of Health may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate other requirements as may be necessary under the Act or Chapter 342D, HRS. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)
 - d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - (1) Monitoring results must be reported on a Discharge Monitoring Report Form.
 - (2) If the Permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report Form.
 - (3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director of Health in this permit.
 - e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

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- f. Other noncompliance. The Permittee shall report all instances of noncompliance not reported under subsections d. and e., at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- g. Other information. When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director of Health, the Permittee shall promptly submit the facts or information.

17. Bypass (based in part on 40 CFR §122.41(m))

a. Definitions.

- (1) "Bypass" means the intentional diversion of any waste stream from any portion of a treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass. Every bypass is prohibited and the Director of Health may take enforcement action against a Permittee for bypass, except as provided in subsection c.

c. Exceptions to bypass prohibition.

- (1) Bypass not exceeding limitations. A bypass is allowable under this paragraph only if it does not cause any effluent limitation to be exceeded, and only if the bypass is necessary for essential maintenance to assure efficient operation.
- (2) Bypass unavoidable to prevent specified harm. A bypass is allowable under this paragraph if:

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- (A) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (B) There was no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (C) The Permittee submitted notices as required under subsection d.
- (3) Approved anticipated bypass. An anticipated bypass is allowable if the Director of Health approves it. The Director of Health shall approve the anticipated bypass only if he receives information sufficient to show compliance with paragraph 2., including information on the potential adverse effects with and without the bypass, and information on the search for and the availability of alternatives, whether the Permittee ultimately considers the alternatives feasible or not.

d. Notice.

- (1) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, the Permittee shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
- (2) Unanticipated bypass. The Permittee shall submit reports of unanticipated bypasses.
 - (A) Reports required by the Reporting Requirements of this permit shall be made in accordance with that section. If the Permittee questions whether the Reporting Requirements apply, the Permittee shall follow the Reporting Requirements of this permit;
 - (B) For all other bypasses, reports shall be made orally within 24 hours from the time the Permittee becomes aware of the bypass. Written reports may be required on a case-by-case basis.

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- e. **Burden of proof.** In any enforcement proceeding, the party seeking to establish that any exception to the bypass prohibition applies has the burden of proof. Proof that effluent limitations were met requires effluent monitoring during the bypass.

18. **Upset** (based in part on 40 CFR §122.41(n))

- a. **Definition.** "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with the technology based permit effluent limitations if the requirements of subsection c. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. **Conditions necessary for a demonstration of upset.** A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The Permittee submitted notice within 24 hours of any upset which exceeded any effluent limitation in this permit; and
 - (4) The Permittee complied with any remedial measures required under 40 CFR §122.41(d).
- d. **Burden of proof.** In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

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19. Existing manufacturing, commercial, mining, and silvicultural dischargers (comply with 40 CFR §122.42(a))

In addition to the reporting requirements under 40 CFR §122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director of Health as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

- (1) One hundred micrograms per liter (100 µg/l);
- (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- (3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
- (4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

- (1) Five hundred micrograms per liter (500 µg/l);
- (2) One milligram per liter (1 mg/l) for antimony;
- (3) Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
- (4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

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20. Publicly owned treatment works (comply with 40 CFR §122.42(b))

This section applies only to publicly owned treatment works as defined in 40 CFR §122.2.

- a. All publicly owned treatment works must provide adequate notice to the Director of Health of the following:
 - (1) Any new introduction of pollutants into the publicly owned treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Act if it were directly discharging those pollutants;
 - (2) Any substantial change in the volume or character of pollutants being introduced into that publicly owned treatment works by a source introducing pollutants into the publicly owned treatment works at the time of issuance of the permit; and
 - (3) For purposes of this paragraph, adequate notice shall include information on paragraph (1), the quality and quantity of effluent introduced into the publicly owned treatment works, and paragraph (2), any anticipated impact of the change on the quantity or quality of effluent to be discharged from the publicly owned treatment works.
- b. (The following condition has been established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act.) Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR Part 270. Hazardous wastes are defined in 40 CFR Part 261 and include any mixture containing any waste listed under 40 CFR §§261.31-261.33. The Domestic Sewage Exclusion (40 CFR §261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

21. Reopener clause (comply with 40 CFR §122.44(c) and 40 CFR §125.123(d)(4))

- a. For any discharger within a primary industry category (see 40 CFR Part 122, Appendix A), requirements under Section 307(a)(2) of the Act as follows:
 - (1) On or before June 30, 1981:

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- (A) If applicable standards or limitations have not yet been promulgated, this permit shall include a condition stating that, if an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in this permit or controls a pollutant not limited in this permit, this permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.
 - (B) If applicable standards or limitations have been promulgated or approved, this permit shall include those standards or limitations. (If EPA approves existing effluent limitations or decides not to develop new effluent limitations, it will publish a notice in the Federal Register that the limitations are "approved" or the purpose of this regulation.)
- (2) On or after the statutory deadline set forth in Sections 301(b)(2)(A), (C), and (E) of the Act, any permit issued shall include effluent limitations to meet the requirements of Sections 301(b)(2)(A), (C), (D), (E), and (F), whether or not applicable effluent limitations guidelines have been promulgated or approved. These permits need not incorporate the clause required by this section.
 - (3) The Director of Health shall promptly modify or revoke and reissue any permit containing the clause required under this section to incorporate an applicable effluent standard or limitation under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) which is promulgated or approved after this permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in this permit, or controls a pollutant not limited in this permit.
 - (4) For any permit issued to a treatment works treating domestic sewage, including "sludge-only facilities," the Director of Health shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Act. The Director of Health may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.
- b. All permits which authorize the discharge of pollutants pursuant to 40 CFR §125.123(c) shall contain the following clause: In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the

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basis of any new data, the Director of Health determines that continued discharge may cause unreasonable degradation of the marine environment.

22. **Privately owned treatment works** (The following conditions were established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR §122.44(m).)

This section applies only to privately owned treatment works as defined in 40 CFR §122.2.

- a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit. The Domestic Sewage Exclusion (40 CFR §261.4) does not apply to hazardous wastes mixed with domestic sewage in a sewer leading to a privately owned treatment works.
- b. It is the Permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to insure compliance with the prohibition. The Permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze the samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA or State inspector. The Permittee must provide adequate security to prevent unauthorized discharges to the collection system.
- c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the Permittee shall submit a request for permit modification and an application, under 40 CFR §122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the Permittee, and the Permittee agrees to allow the non-domestic discharge, the user shall submit the application and the Permittee shall submit the permit modification request. The application and request for modification shall be submitted at least six (6) months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

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23. Transfers by modification (comply with 40 CFR §122.61(a) and Hawaii Administrative Rules, Section 11-55-16)

Except as provided in section 24, a permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR §122.62(b)(2)), or a minor modification made (under 40 CFR §122.63(d)), to identify the new Permittee and incorporate other requirements as may be necessary under the Act.

24. Automatic transfers (comply with 40 CFR §122.61(b) and Hawaii Administrative Rules, Section 11-55-04(d))

As an alternative to transfers under section 23, any NPDES permit may be automatically transferred to a new Permittee if:

- a. The current Permittee notifies the Director of Health at least 30 days in advance of the proposed transfer date in subsection b;
- b. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
- c. The Director of Health does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify or revoke and reissue the permit. A modification under this paragraph may also be a minor modification under 40 CFR §122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subsection b.

25. Minor modification of permits (comply with 40 CFR §122.63)

Upon the consent of the Permittee, the Director of Health may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR §122.62. Minor modifications may only:

- a. Correct typographical errors;
- b. Require more frequent monitoring or reporting by the Permittee;

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- c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;
 - d. Allow for a change in ownership or operational control of a facility where the Director of Health determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Director of Health:
 - e.
 - (1) Change the construction schedule for a discharger which is a new source. No change shall affect a discharger's obligation prior to discharge under 40 CFR §122.29.
 - (2) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.
 - f. (Reserved.)
 - g. Incorporate conditions of a publicly owned treatment works pretreatment program that has been approved in accordance with the procedures in 40 CFR §403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR §403.18) as enforceable conditions of the publicly owned treatment works permit.
26. **Termination of permits** (comply with 40 CFR §122.64 and Hawaii Administrative Rules, Section 11-55-18)
- a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:
 - (1) Noncompliance by the Permittee with any condition of the permit;
 - (2) The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts or the Permittee's misrepresentation of any relevant facts at any time;

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- (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
 - (4) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a publicly owned treatment works).
- b. An NPDES Permittee shall report within thirty (30) days after the permanent discontinuance or dismantlement of that treatment works or waste outlet for which the NPDES permit had been issued. The NPDES permit shall then be surrendered to the Director of Health within thirty (30) days of the report.
- 27. Removed substances (under Section 405 of the Act and 40 CFR §125.3(g))**
- Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner which would prevent any pollutant from the materials from entering navigable waters.
- 28. Availability of reports (under Section 308 of the Act)**
- Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Director of Health. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.
- 29. Civil and criminal liability (under Section 309 of the Act)**
- Except as provided in permit conditions on "Bypass" (section 17) and "Upset" (section 18), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

STANDARD NPDES PERMIT CONDITIONS

30. Oil and hazardous substance liability (under Section 311 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.

31. Federal facility construction (under Section 313(b) of the Act)

Construction shall not be initiated for facilities for treatment of wastewater at any Federal property or facility if alternative methods for wastewater treatment at the property utilizing innovative treatment processes and techniques, including, but not limited to, methods utilizing recycle and reuse techniques and land treatment are not utilized, unless the life cycle cost of the alternative treatment works exceed the life cycle cost of the most effective alternative treatment by more than 15 per cent.

32. State law (under Section 510 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established under any applicable State law or regulation.

33. Severability (under Section 512 of the Act)

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, if held invalid, the application of the provision to other circumstances, and remainder of this permit, shall not be affected thereby.

NPDES Permit No. HI S000031

NPDES APPLICATION PACKAGE



Okahara & Associates, Inc.
ENGINEERING CONSULTANTS

September 8, 2004
Letter No. 55067
Reference No. 203-027

Mr. Thomas E. Arizumi, P.E. CHIEF
Environmental Management Division
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Gerald Yonashiro

Subject: Saddle Road PTA-1 Section (MP 28-42±), Phase 2 & Phase 3
Responses to Clean Water Branch Comments dated August 12, 2004
regarding NPDES Permit No. HI S000031

Dear Mr. Arizumi:

This letter is in response to the August 12, 2004 CWB letter, providing comments to the subject Form C application submitted May 28, 2004. There are three comments listed and are addressed as follows:

1. **Item 1. Owner Information**

The Central Federal Lands Highway Division has moved. Mr. Dave Gedeon's new contact information is: Dave Gedeon, P.E.
12300 West Dakota Avenue
Lakewood CO 80228
Phone: 720-963-3723
Fax: 720-963-3596

2. **Item 5. State Receiving Water(s) Information**

The discharge points into receiving State waters for the easterly portion of the proposed roadway has been added to sheets A2 and A2/1 (attached). These are the same points as shown in Phase 1 application (NGPC File No. HI R10B670) and are shown as numbers 1 through 9 in hexagon borders. The coordinate information are also included.

3. Additional

- a. The reference to Phase 1 in the "Excerpts from Project Specification", Section 157.04 has been revised to read Phase 2 (see attached excerpts from the specifications).
- b. See section 157.04 of the excerpts from the specifications for the 20-acre per drainage area requirement. In addition, the specifications prohibit exposure of more than 30 acres total per project at one time. The BMP plan sheets have been revised to show the drainage areas including the expected disturbed acreages of each, all of which are less than 20 acres (see attached sheets E1 to E17). The drainage areas for the remaining portion of Phase 3 are those that are defined in the Phase 1 submittal to CWB dated March 9, 2004 from the FHWA/CFLHD Field Office in Hilo. They remain the same.
- c. The proposed control measures based on our calculations can handle a 2-year, 24-hour storm event.

In an August 27 meeting held with Mr. Gerald Yonashiro, it was brought to our attention the concern of keeping discharge from entering any lava tube or cave breeches that might occur during construction. Requirements to protect lava tube or cave openings have been added to the specification subsection 157.04 (see attached excerpts from the specifications). Stacking and arranging sandbags or other devices around the openings to keep the runoff from entering will protect these openings. These devices will be left in place until the CO has complied with SCR 107.02, which defines a contingency plan when lava tubes or caves are encountered.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Please contact me at 961-5527 if you have any further questions.

Sincerely,



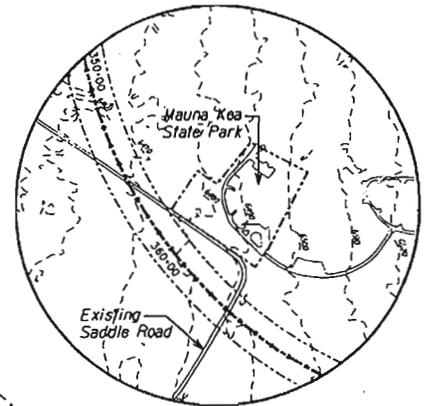
Bruce K. Meyers, P.E.

Cc: Dave Gedeon, FHWA – CFLHD – VIA U.S. Priority Mail

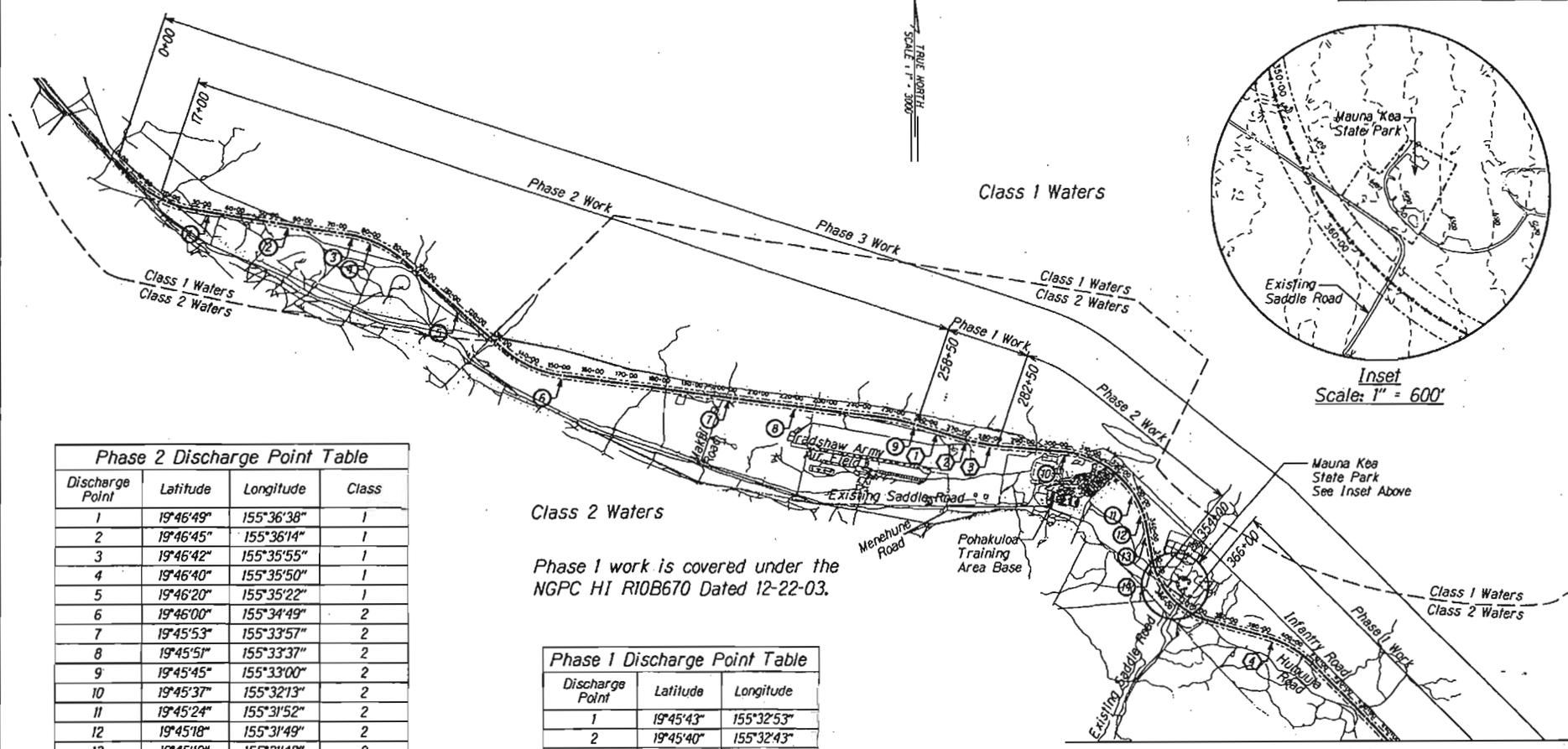
NPDES Permit No. HI S000031

BMP PLAN ATTACHMENT

RSO	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(11) Saddle Road	A2	



Inset
Scale: 1" = 600'



Phase 2 Discharge Point Table

Discharge Point	Latitude	Longitude	Class
1	19°46'49"	155°36'38"	1
2	19°46'45"	155°36'14"	1
3	19°46'42"	155°35'55"	1
4	19°46'40"	155°35'50"	1
5	19°46'20"	155°35'22"	1
6	19°46'00"	155°34'49"	2
7	19°45'53"	155°33'57"	2
8	19°45'51"	155°33'37"	2
9	19°45'45"	155°33'00"	2
10	19°45'37"	155°32'13"	2
11	19°45'24"	155°31'52"	2
12	19°45'18"	155°31'49"	2
13	19°45'12"	155°31'48"	2
14	19°45'02"	155°31'46"	2

All discharge points are into un-named ephemeral (intermittent) streams.

Class 2 Waters

Phase 1 work is covered under the NGPC HI R10B670 Dated 12-22-03.

Phase 1 Discharge Point Table

Discharge Point	Latitude	Longitude
1	19°45'43"	155°32'53"
2	19°45'40"	155°32'43"
3	19°45'39"	155°32'37"
4	19°44'40"	155°31'08"
5	19°44'08"	155°30'31"
6	19°44'06"	155°30'28"
7	19°43'49"	155°30'10"
8	19°43'47"	155°30'09"
9	19°43'43"	155°30'07"

All discharge points are into un-named ephemeral (intermittent) streams, class 2.

LEGEND:

- PTA ALIGNMENT
- PTA ALIGNMENT ROW
- DIVISION BETWEEN CLASS 1 & 2 WATERS
- EXISTING SADDLE ROAD
- ① PHASE 1 DISCHARGE POINTS
- ② PHASE 2 DISCHARGE POINTS

MATCHLINE SEE SHT 2 OF 2

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

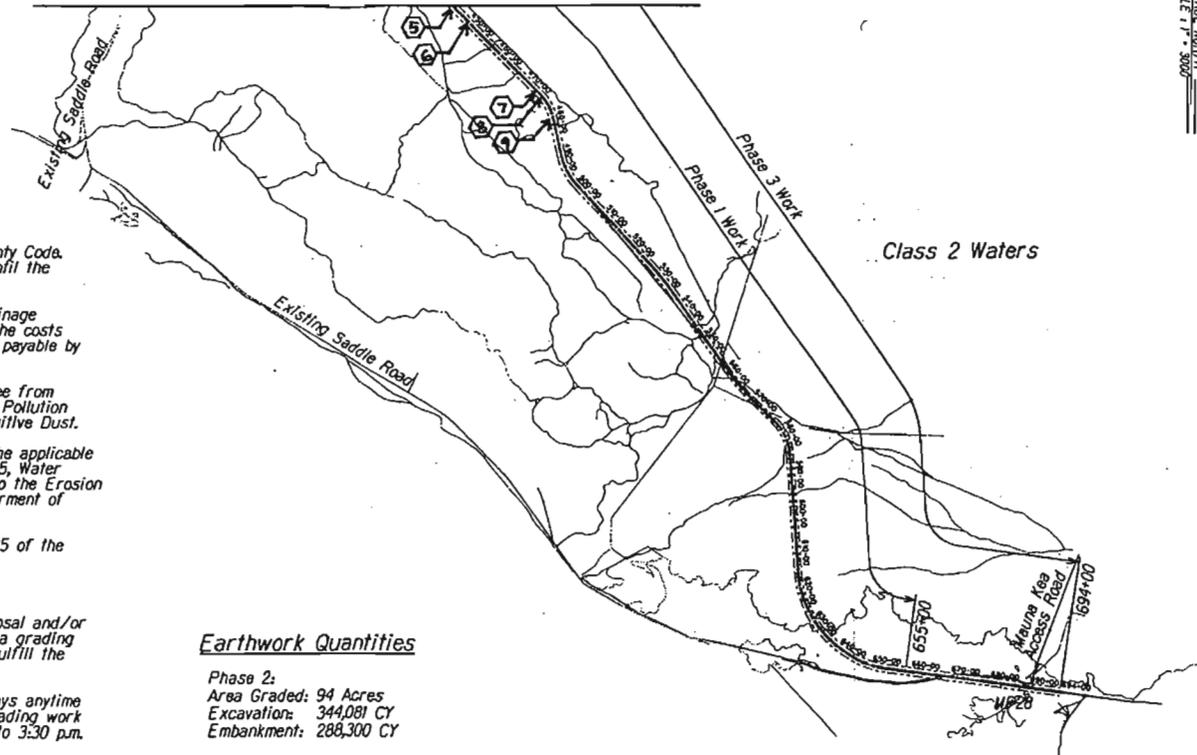
OVERALL SITE PLAN

Scale: 1"=3000' Date: August 31, 2004

SHEET No. 1 OF 2

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	A2/1	

MATCHLINE SEE SHT 1 OF 2



GRADING NOTES:

1. All grading work shall conform to Chapter 10 of the Hawaii County Code. Should a grading permit be required, no work shall commence until the Department of Public Works (DPW) approves a grading permit.
2. The Contractor shall remove all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work. The costs incurred for any necessary remedial action by the DPW shall be payable by the Contractor.
3. The Contractor shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the Air Pollution Control rules of the State Department of Health, HAR 11-601, Fugitive Dust.
4. All grading operations shall be performed in conformance with the applicable provisions of the Hawaii Administrative Rules, Title II, Chapter 55, Water Pollution Control and Chapter 54, Water Quality Standards, and to the Erosion and Sedimentation Control Standards and Guidelines of the Department of Public Works, County of Hawaii.
5. The Contractor shall hydro mulch or mat according to section 625 of the project specifications.
6. Fills on slopes steeper than 5:1 shall be keyed.
7. The Contractor shall inform the DPW of the location of the disposal and/or borrow sites) required for this project when an application for a grading permit is made. The disposal and/or borrow sites) must also fulfill the requirements of the grading ordinance.
8. No grading work shall be done on Saturdays, Sundays and holidays anytime without prior approval from the Department of Public Works. Grading work on normal working days shall be between the hours of 7:00 a.m. to 3:30 p.m.
9. Fills shall be compacted to 90 percent (90%) of maximum density per ASTM D-1557 test.
10. The Contractor shall remove all vegetation before placing fills on natural ground surface.

Earthwork Quantities

Phase 2:
 Area Graded: 94 Acres
 Excavation: 344,081 CY
 Embankment: 288,300 CY

Phase 3:
 Area Graded: 20 Acres
 Excavation: 28,000 CY
 Embankment: 14,022 CY

Becky Grooms
 for Director, DPW (For Grading Purposes Only)
 County of Hawaii

LEGEND:

- PTA ALIGNMENT
- PTA ALIGNMENT ROW
- EXISTING SADDLE ROAD

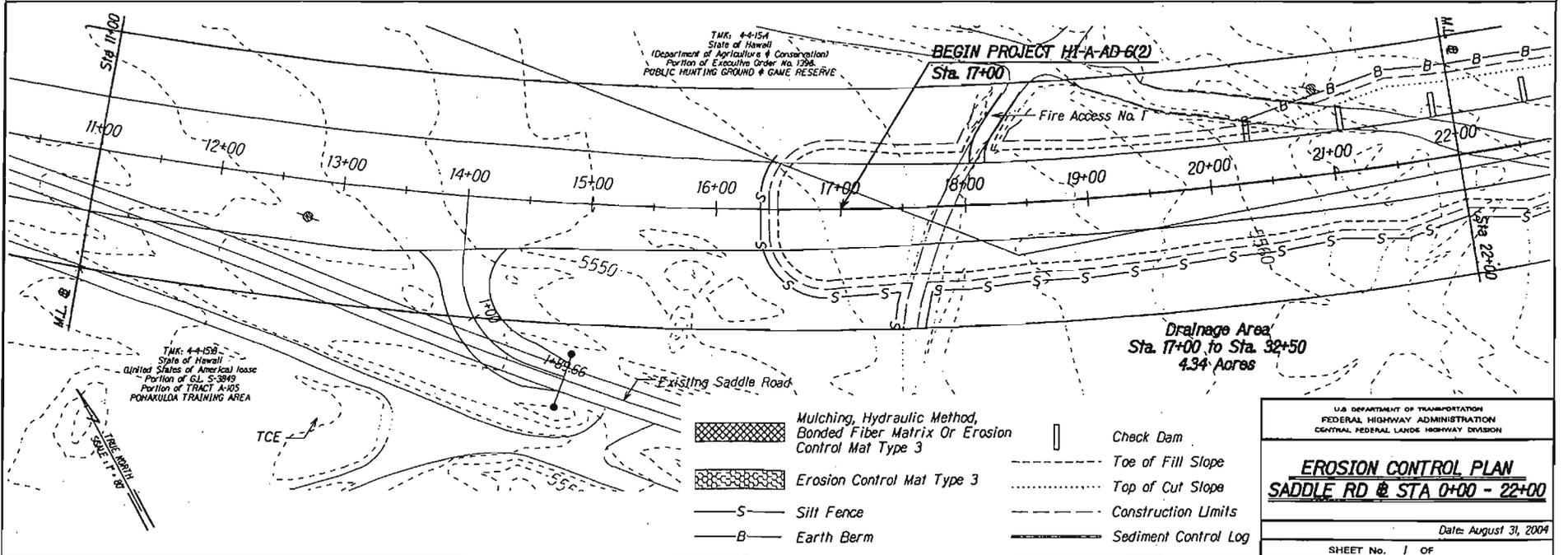
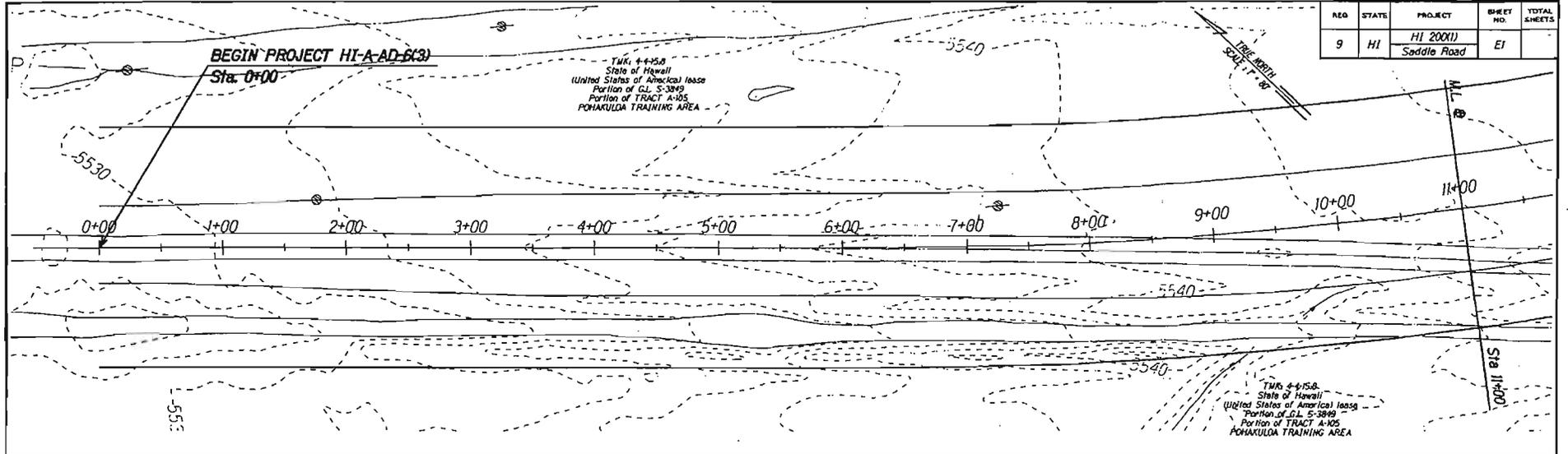
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 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

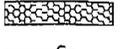
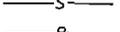
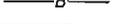
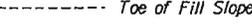
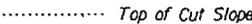
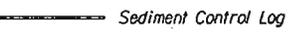
OVERALL SITE PLAN ✦
GRADING NOTES

Scale: 1"=3000' Date: March 12, 2004

SHEET No. 2 OF 2

NO.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E1	



-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  Silt Fence
-  Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

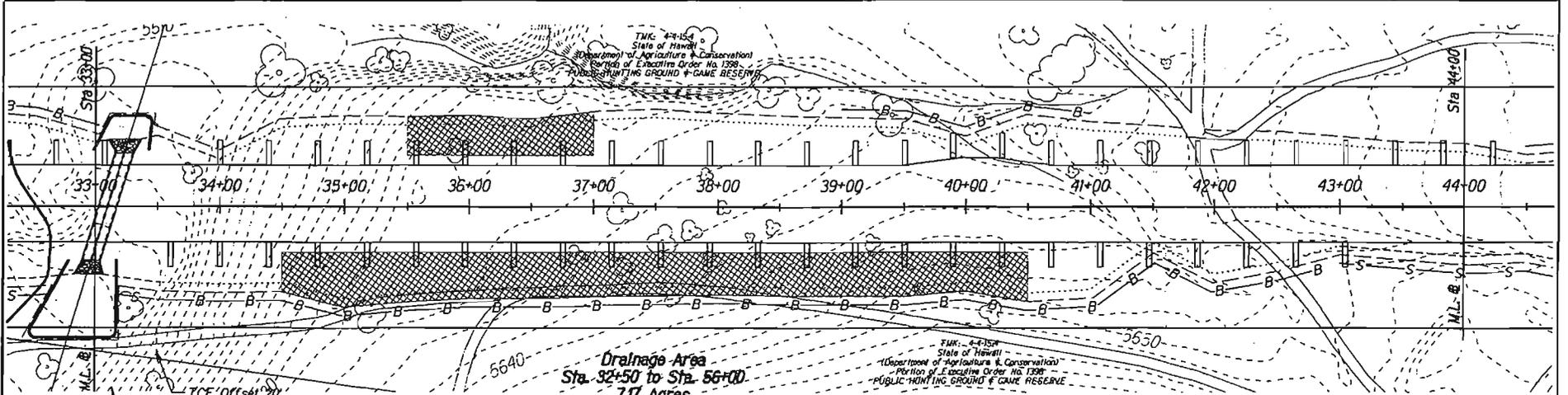
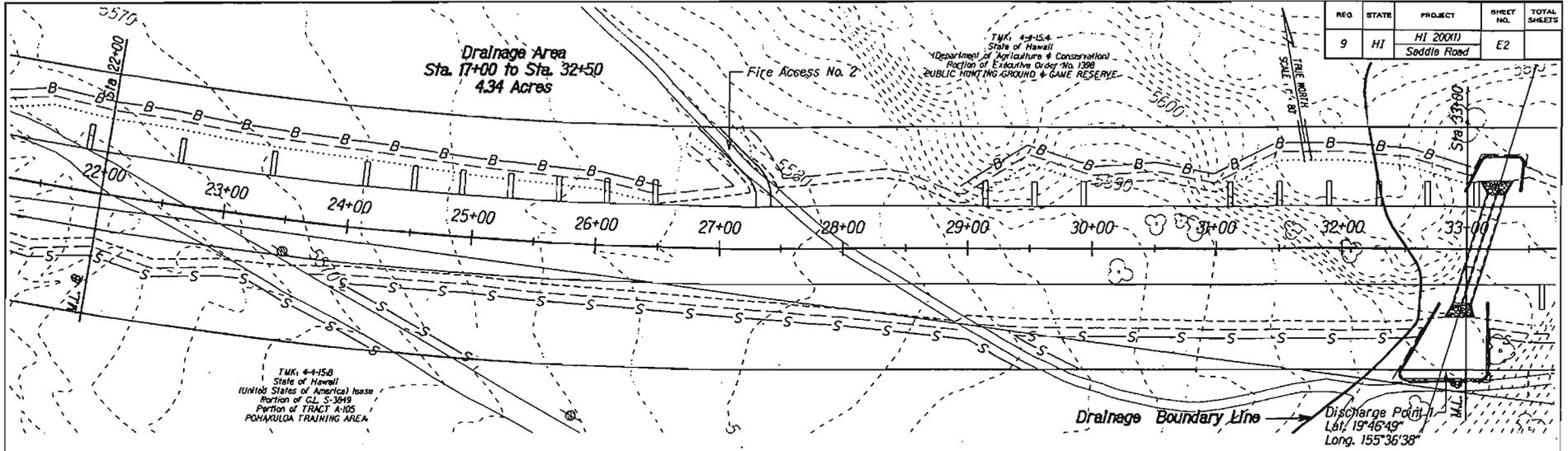
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD @ STA 0+00 - 22+00

Date: August 31, 2004

SHEET No. 1 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20001 Saddle Road	E2	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

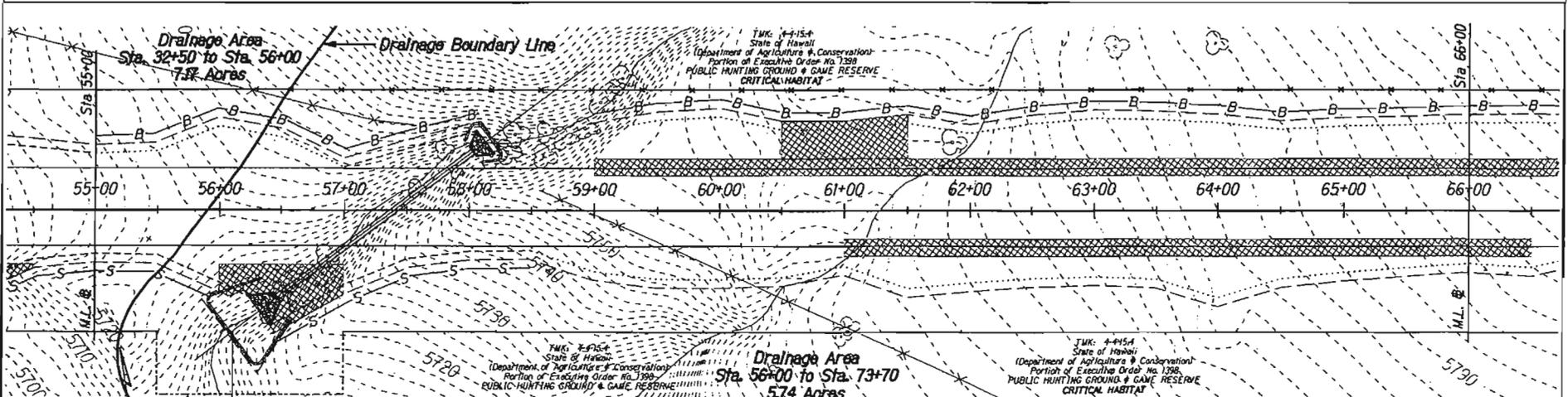
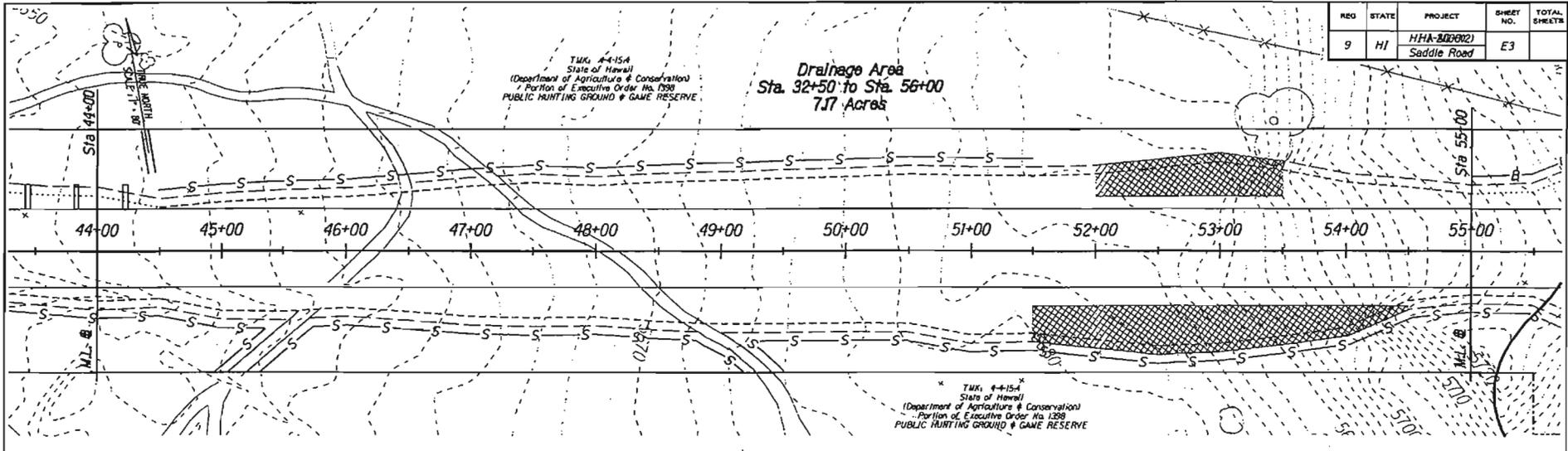
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD @ STA 22+00 - 44+00

Date: August 31, 2004

SHEET No. 2 OF

RCD	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HHA-20002 Saddle Road	E3	



Discharge Point 2
Lat. 19°46'45"
Long. 155°36'14"
R/W Offset 50'
Sta. 55+50-57+00

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Check Dam
- Erosion Control Mat Type 3
- Toe of Fill Slope
- Silt Fence
- Top of Cut Slope
- Earth Berm
- Construction Limits
- Sediment Control Log

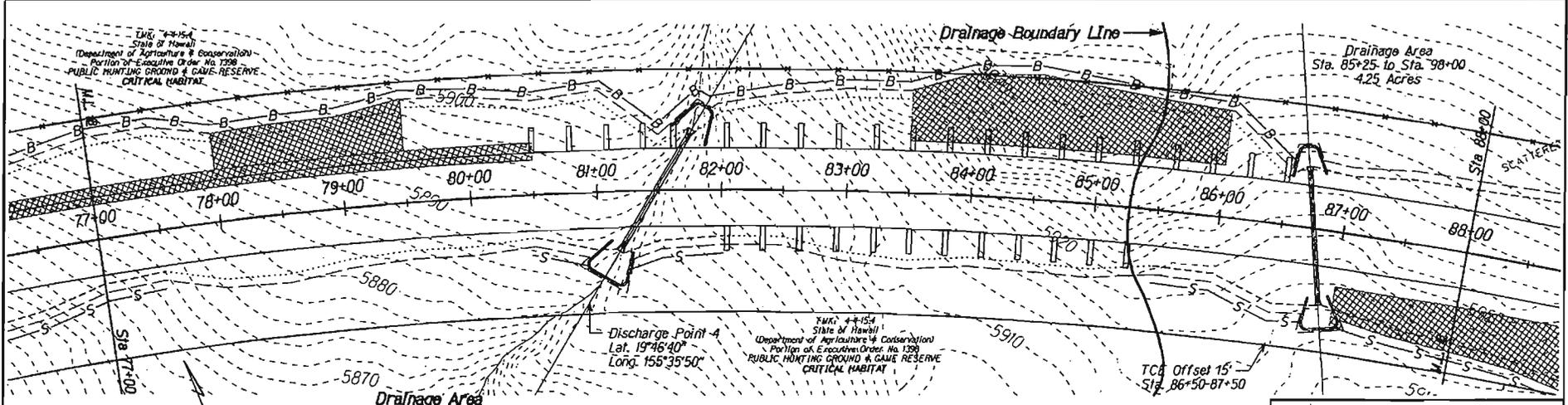
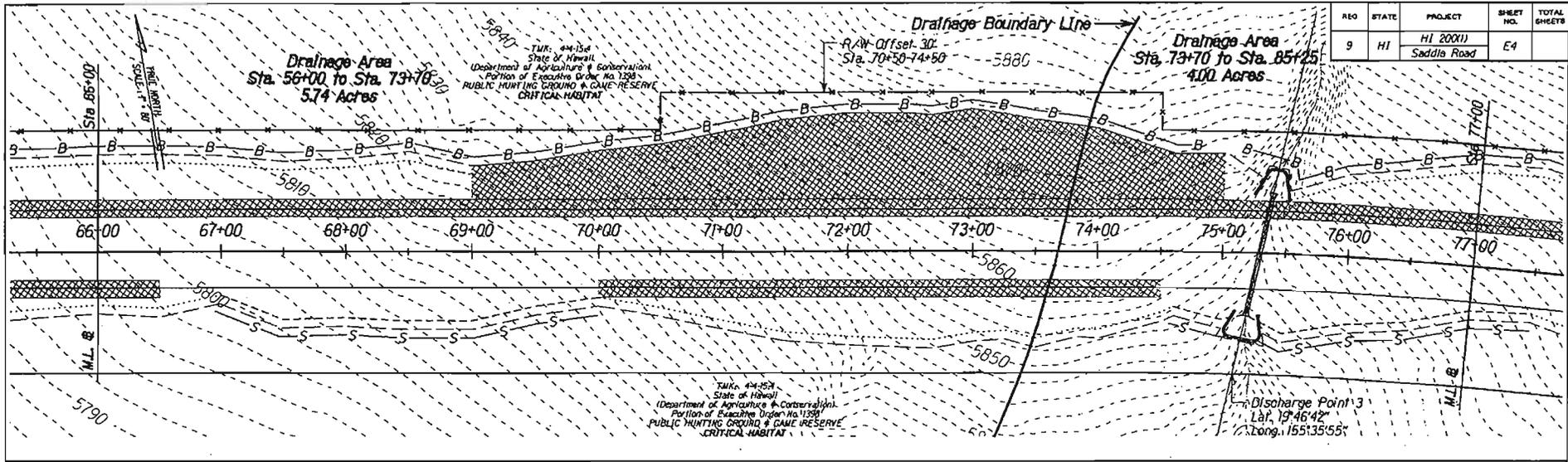
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD @ STA 44+00 - 66+00

Date: August 31, 2004

SHEET No. 3 OF

REQ	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20011 Saddle Road	E4	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Silt Fence
- Earth Berm
- Construction Limits
- Sediment Control Log

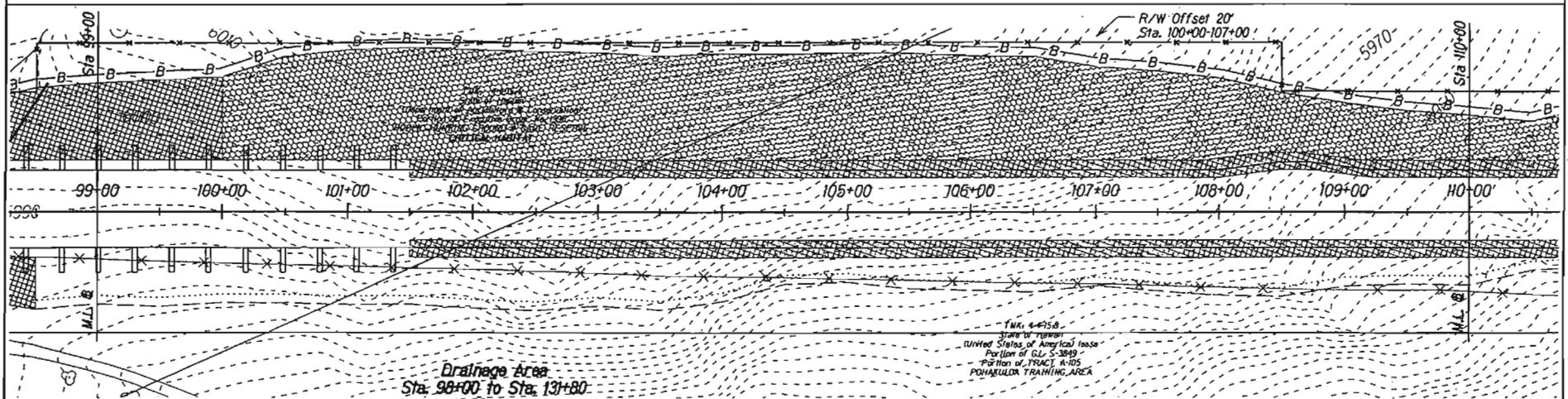
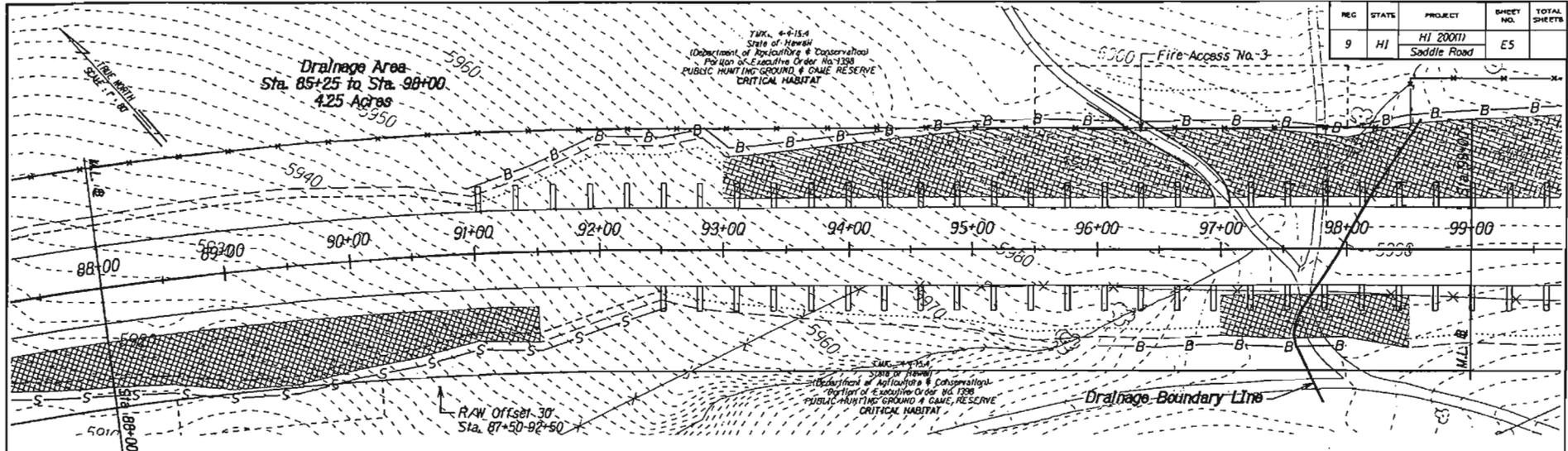
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 66+00 - 88+00

Date: August 31, 2004

SHEET No. 4 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20011 Saddle Road	E5	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

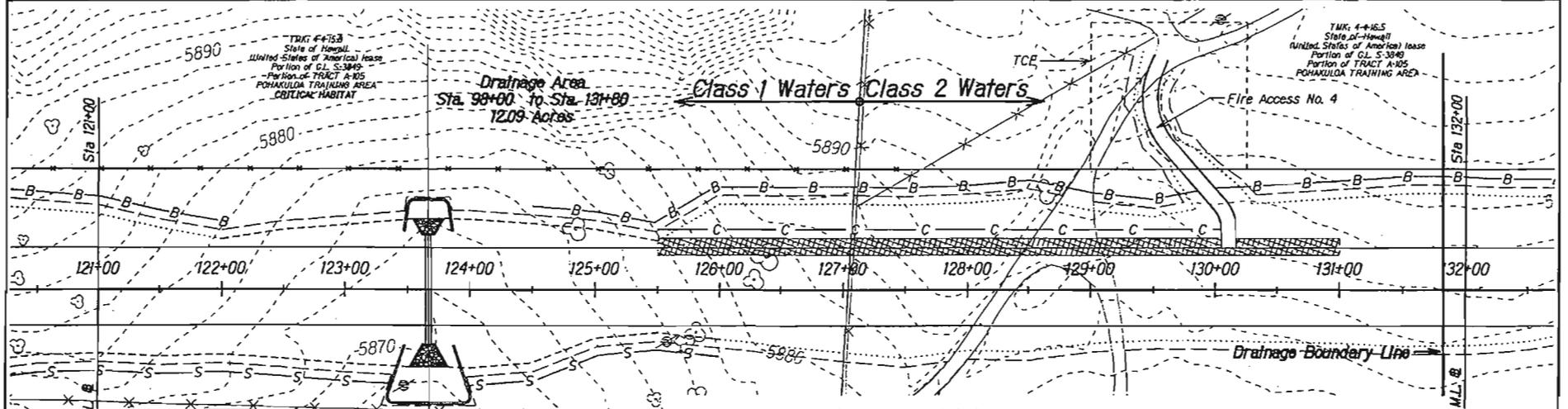
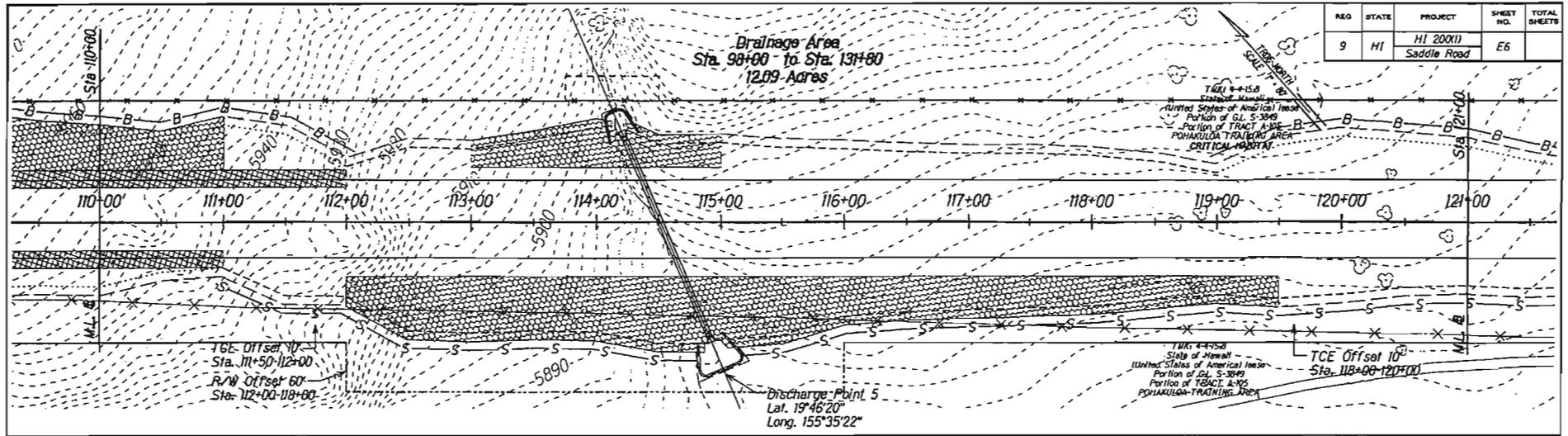
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 88+00 - 110+00

Date: August 31, 2004

SHEET No. 5 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E6	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Permanent Channel
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

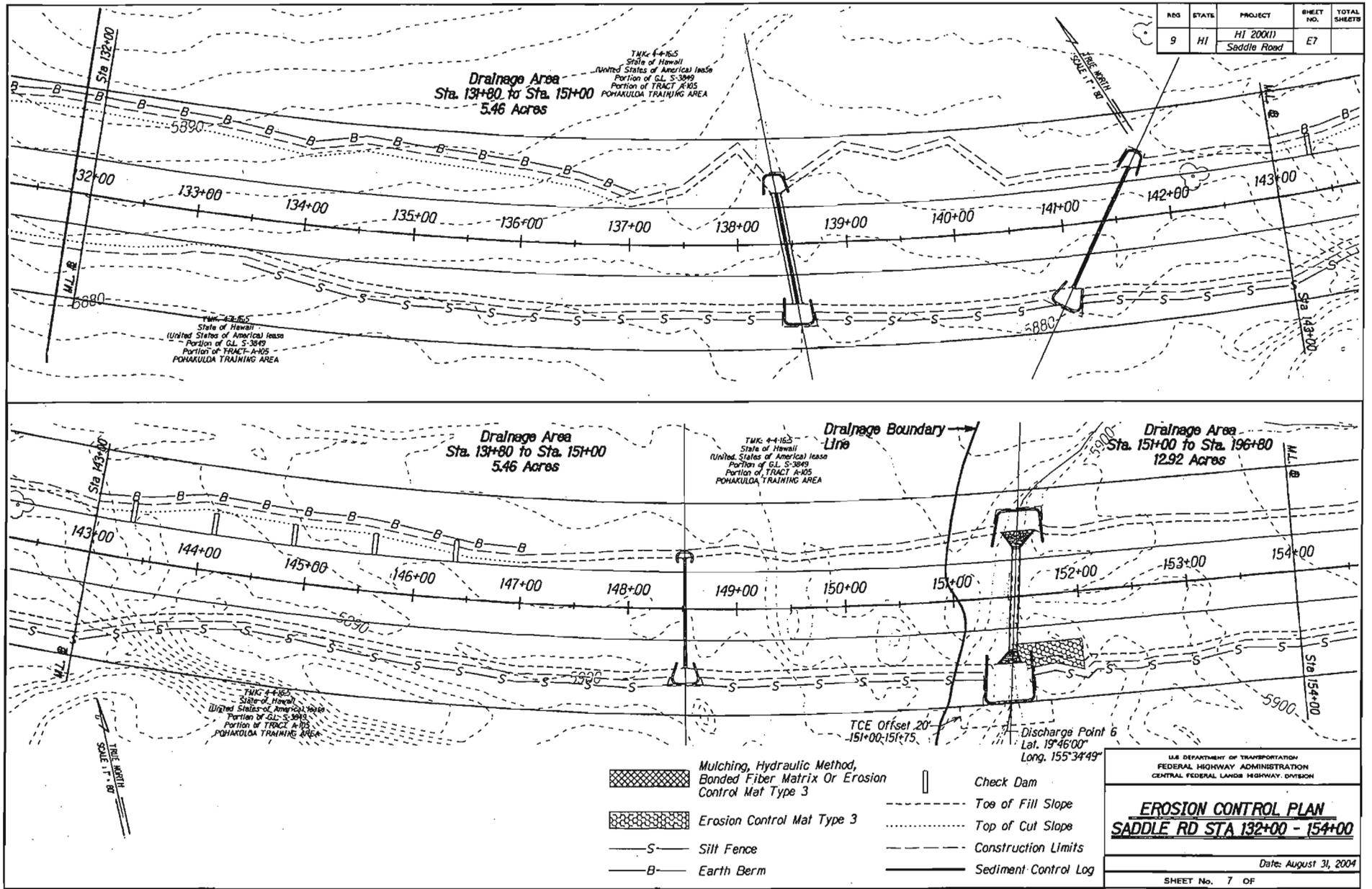
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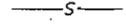
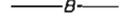
EROSION CONTROL PLAN
SADDLE RD STA 110+00 - 132+00

Date: August 31, 2004

SHEET No. 6 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E7	



-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  Silt Fence
-  Earth Berm
-  Check Dam
-  Top of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

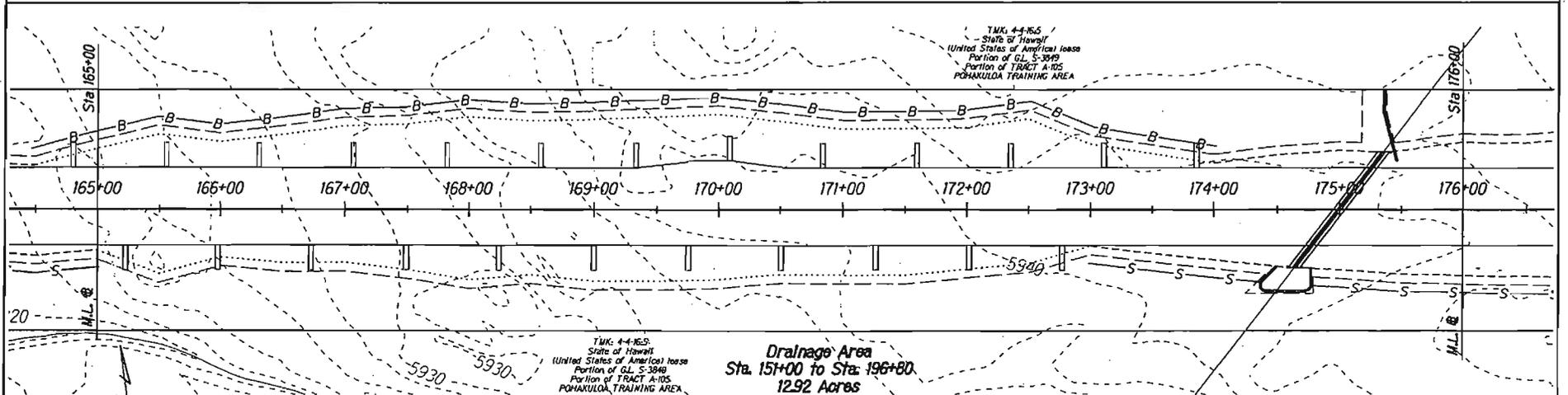
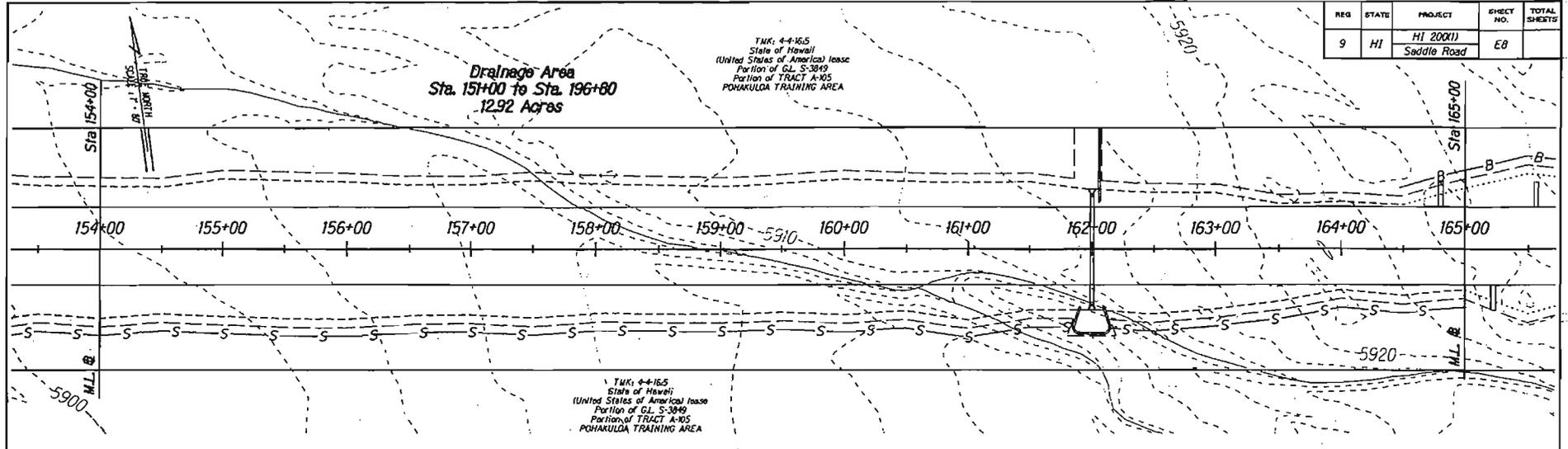
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 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 132+00 - 154+00

Date: August 31, 2004

SHEET No. 7 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20011 Saddle Road	E8	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

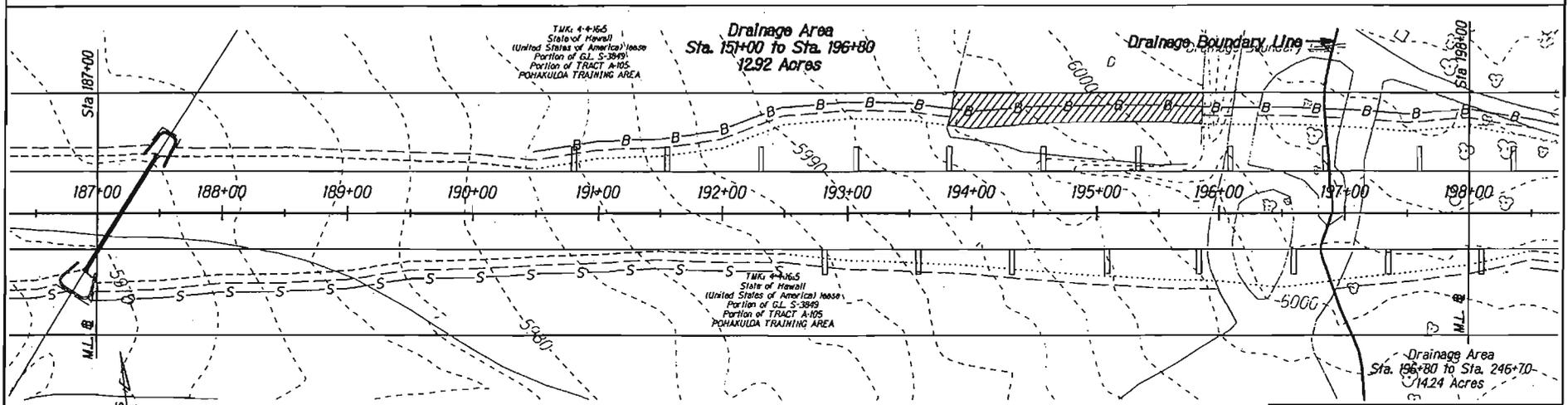
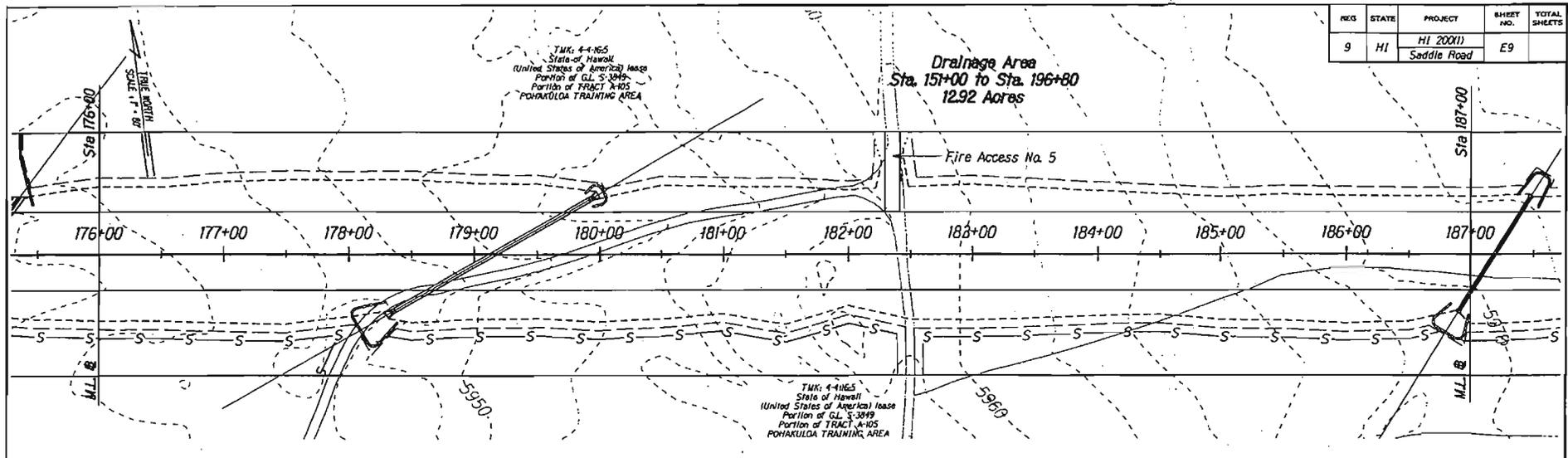
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 154+00 - 176+00

Date: August 31, 2004

SHEET No. 8 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20011 Saddle Road	E9	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

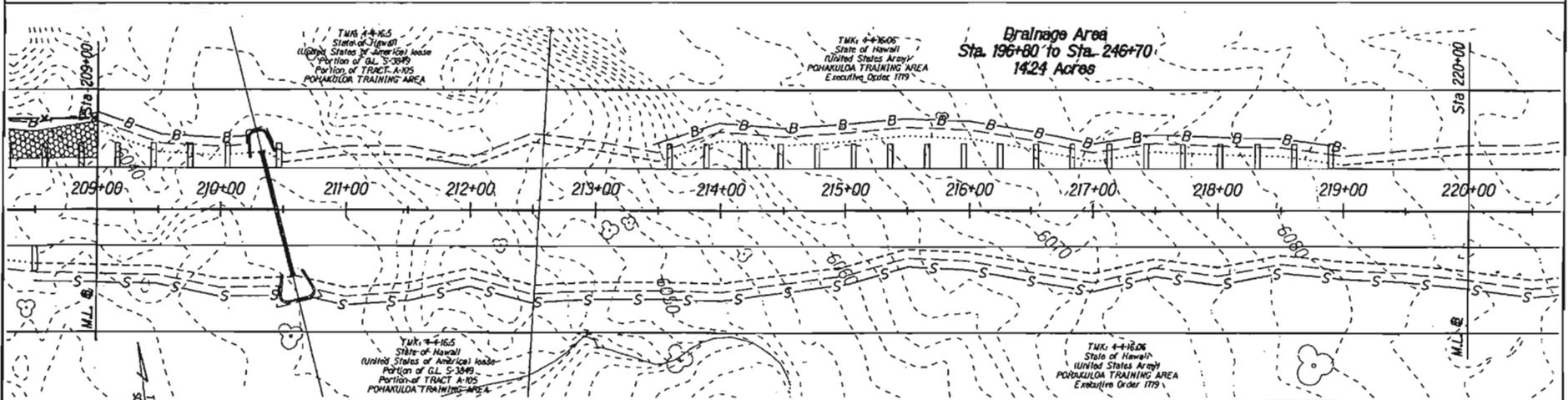
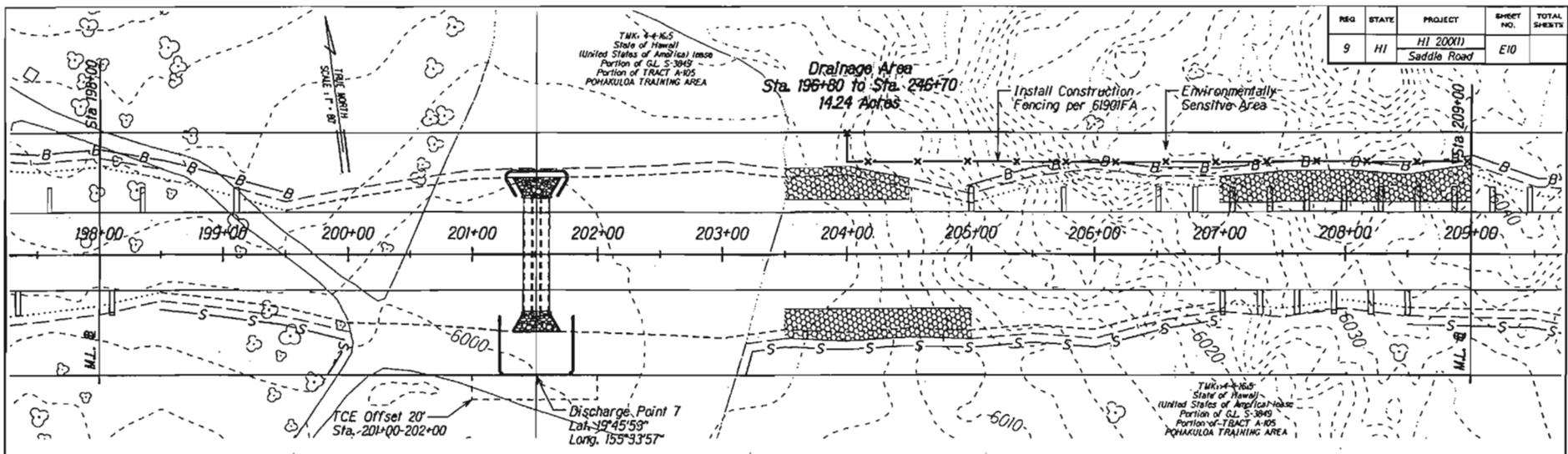
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 176+00 - 198+00

Date: August 31, 2004

SHEET No. 9 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E10	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Sill Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

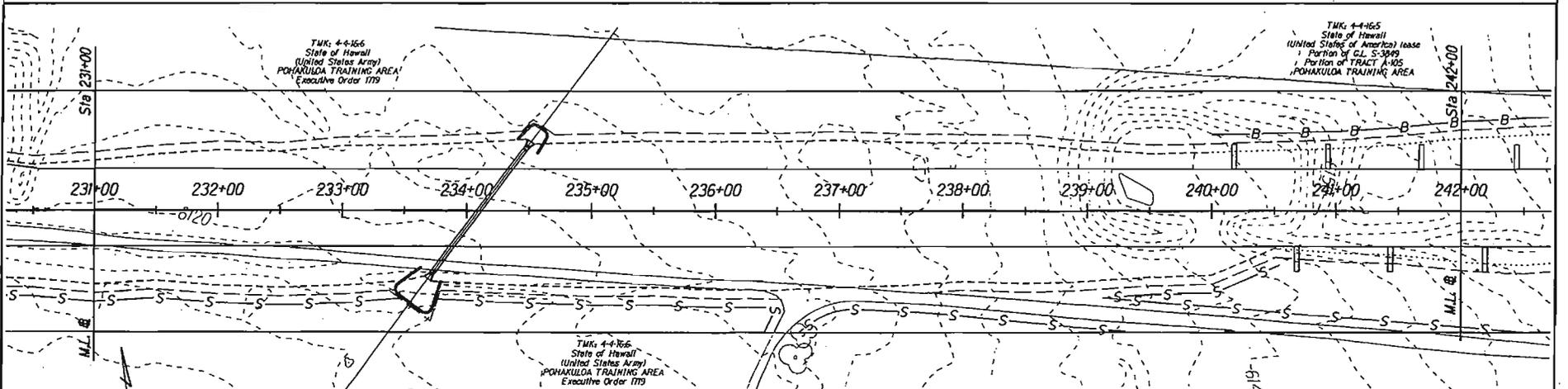
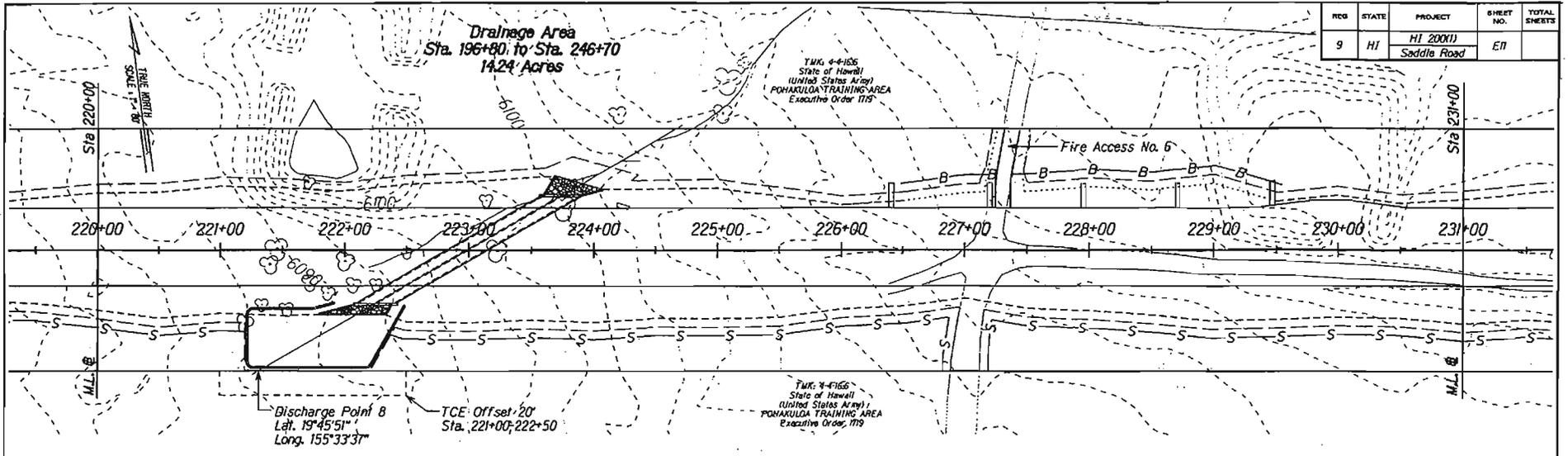
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 198+00 - 220+00

Date: August 31, 2004

SHEET No. 10 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200K1 Saddle Road	E11	



Drainage Area
Sta. 196+80 to Sta. 246+70
14.24 Acres

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

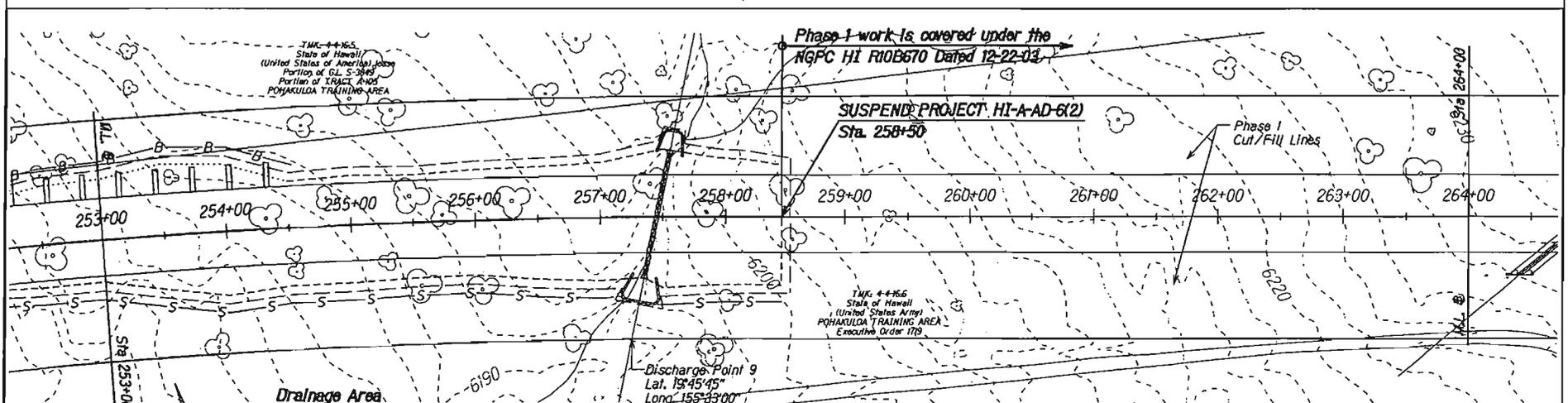
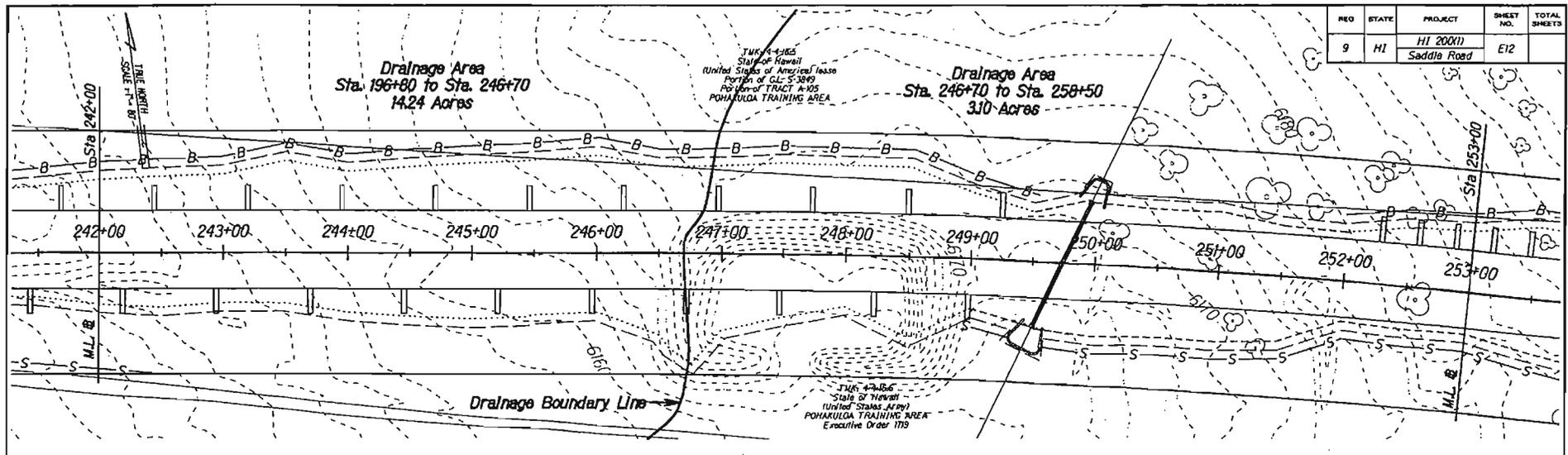
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 220+00 - 242+00

Date: August 31, 2004

SHEET No. 11 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20001 Saddle Road	E12	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

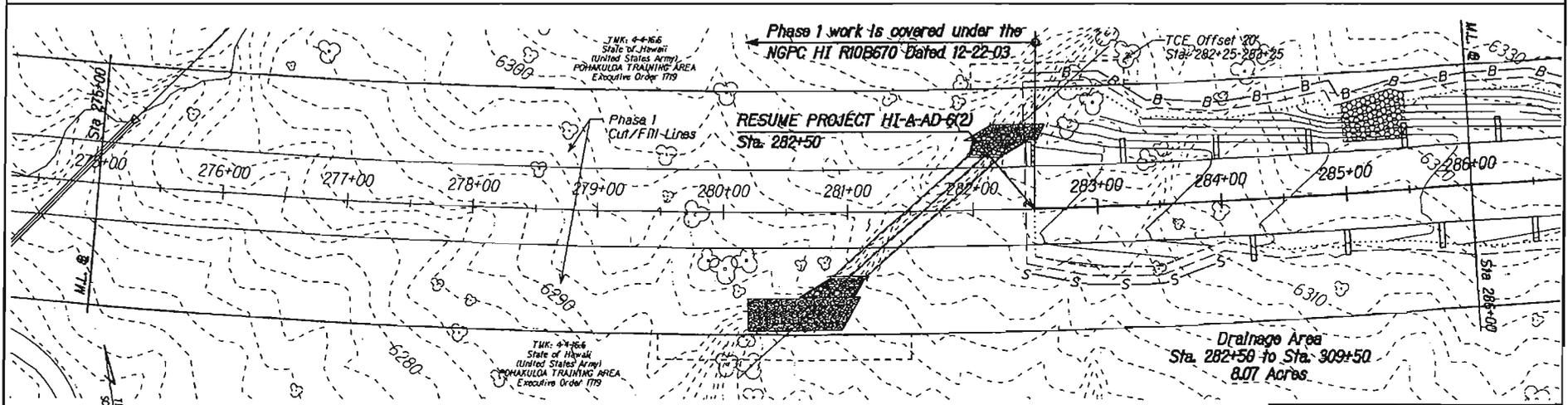
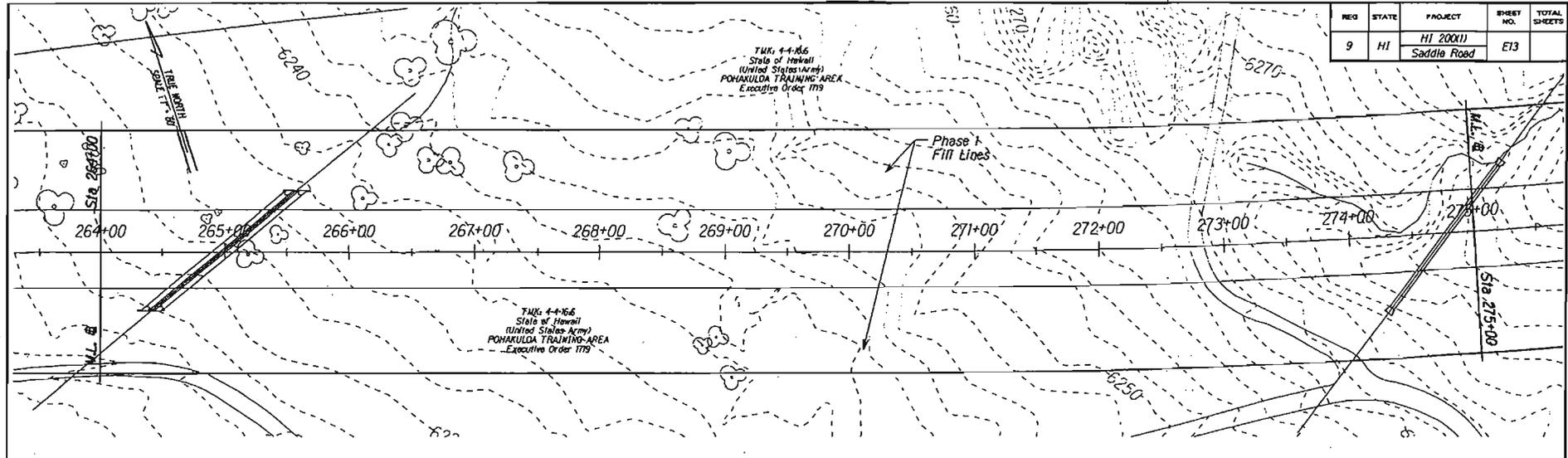
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

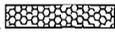
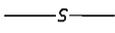
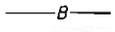
EROSTION CONTROL PLAN
SADDLE RD STA 242+00 - 264+00

Date: August 31, 2004

SHEET No. 12 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E13	



-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  Silt Fence
-  Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

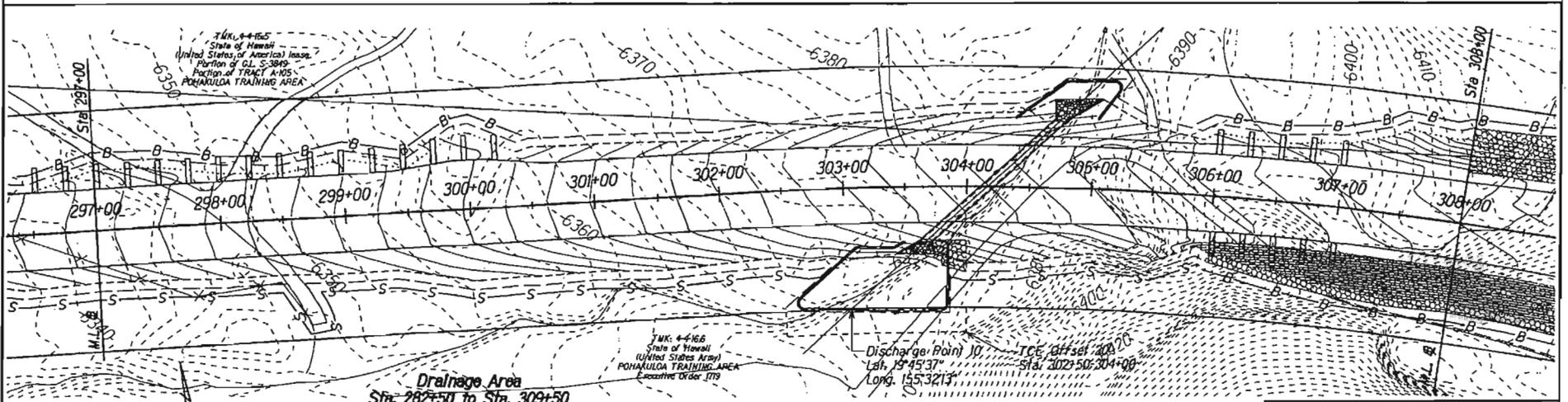
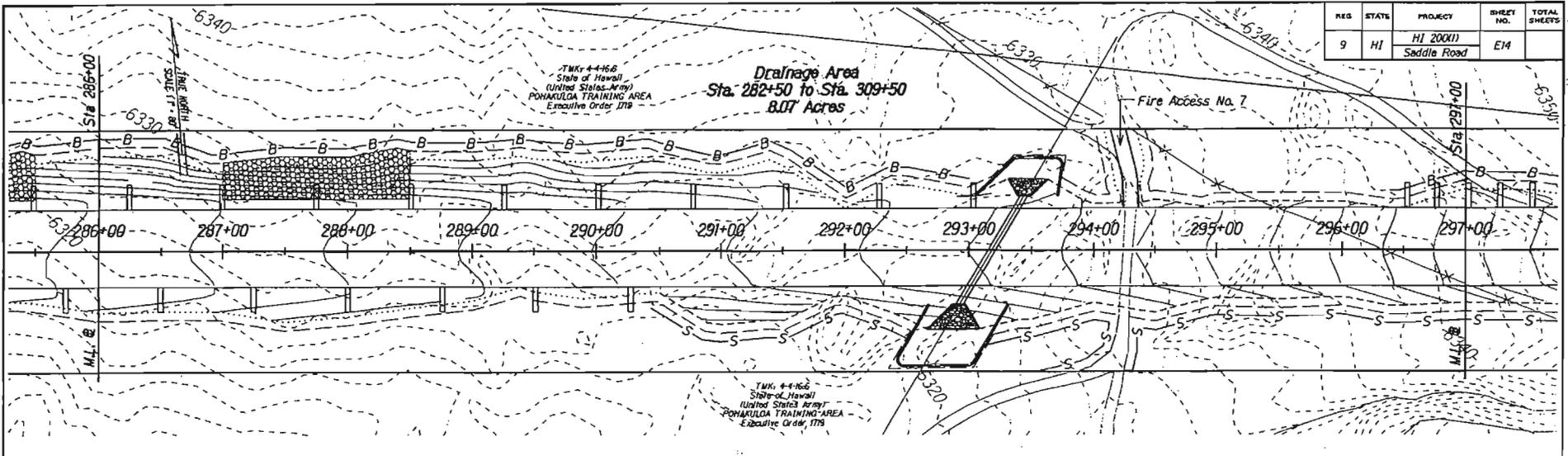
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 264+00 - 286+00

Date: August 31, 2004

SHEET No. 13 OF

REG.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E14	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Sill Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

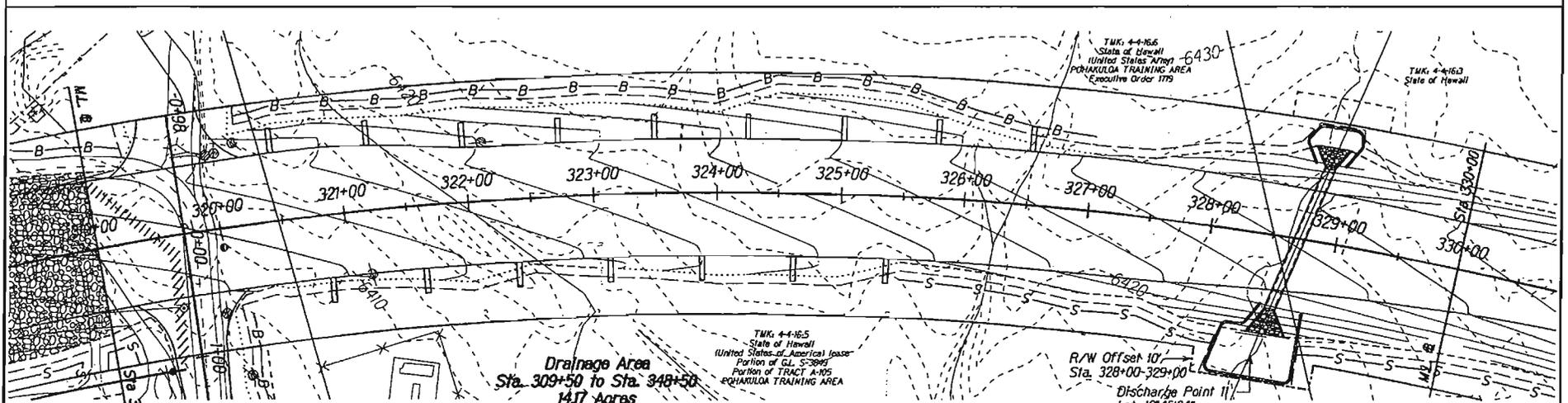
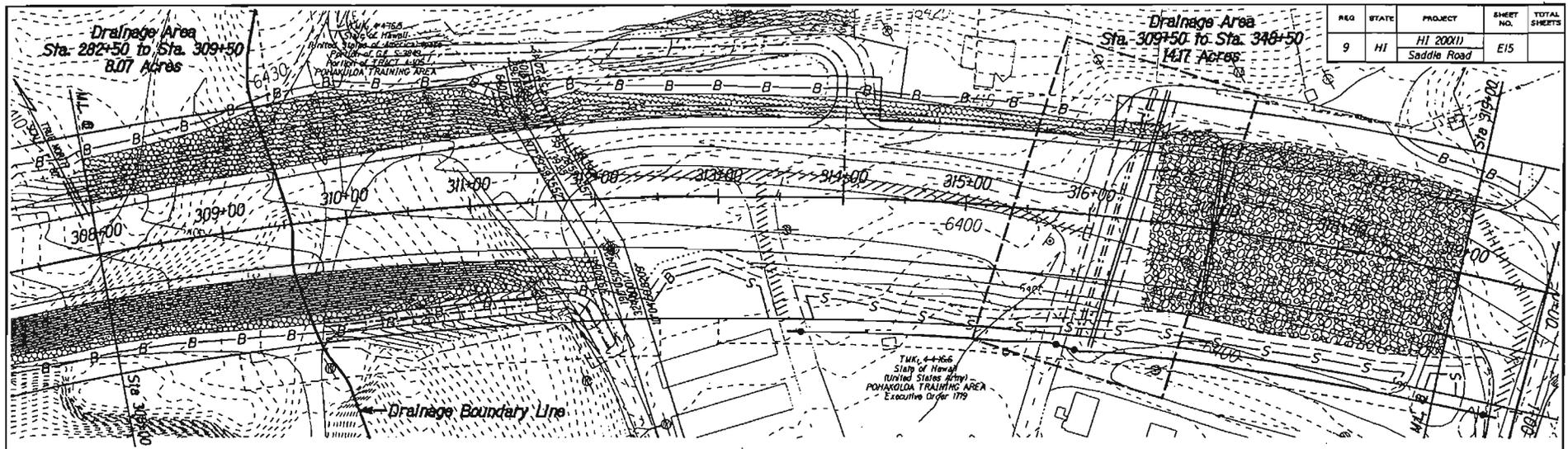
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 286+00 - 308+00

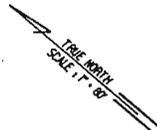
Date August 31, 2004

SHEET No. 14 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 200(1) Saddle Road	E15	



For Continuation of PTA Intersection, See Sht. E21



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

R/W Offset 10'
Sta. 328+00-329+00
Discharge Point II
Lat. 19°45'24"
Long. 155°31'52"

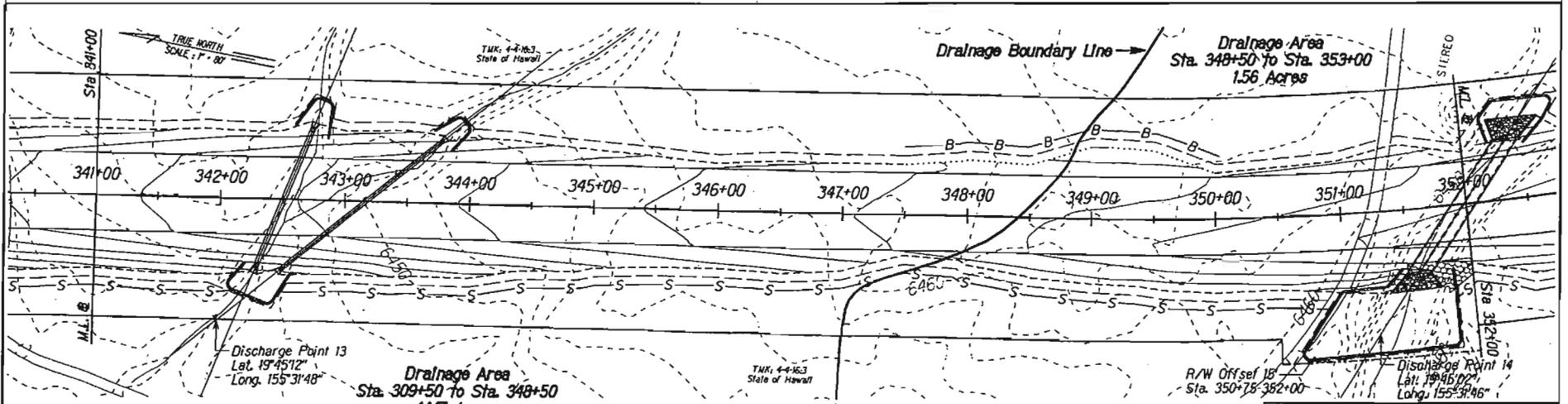
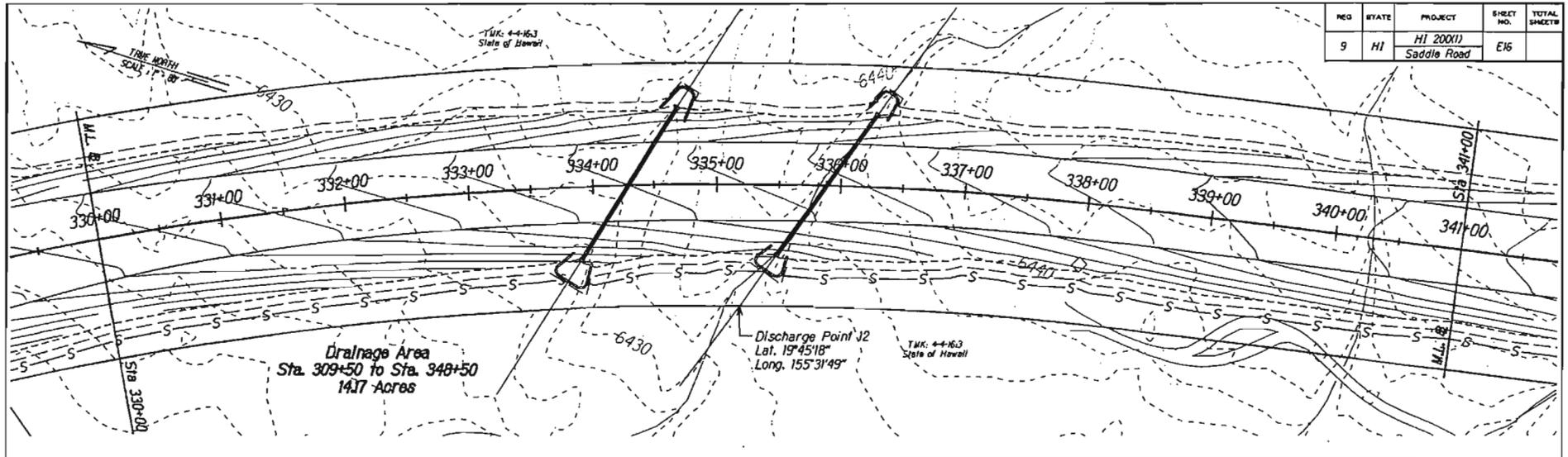
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

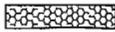
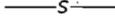
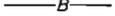
EROSION CONTROL PLAN
SADDLE RD STA 308+00 - 330+00

Date: August 31, 2004

SHEET No. 15 OF

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20011 Saddle Road	E16	



-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  Sill Fence
-  Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

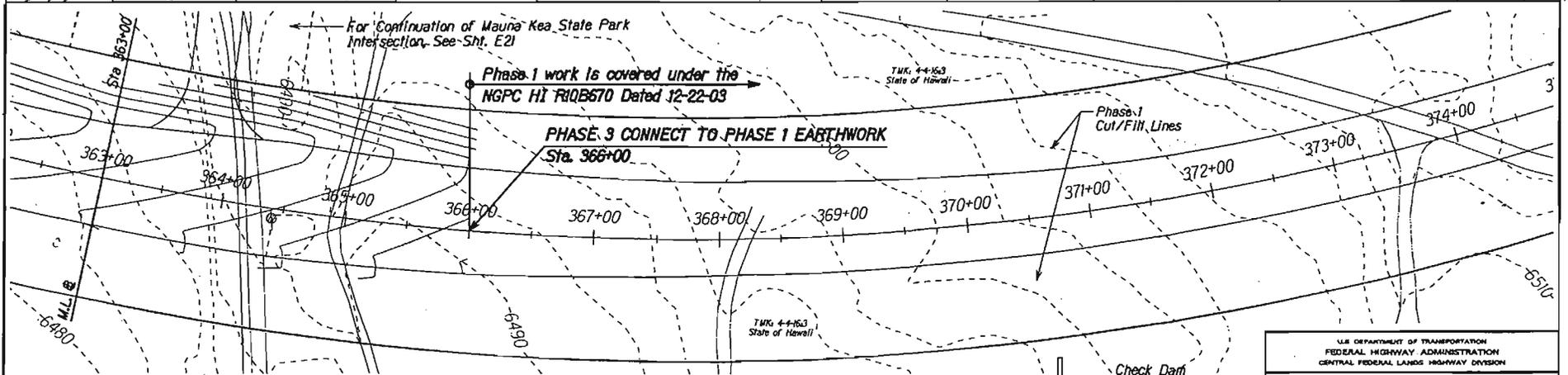
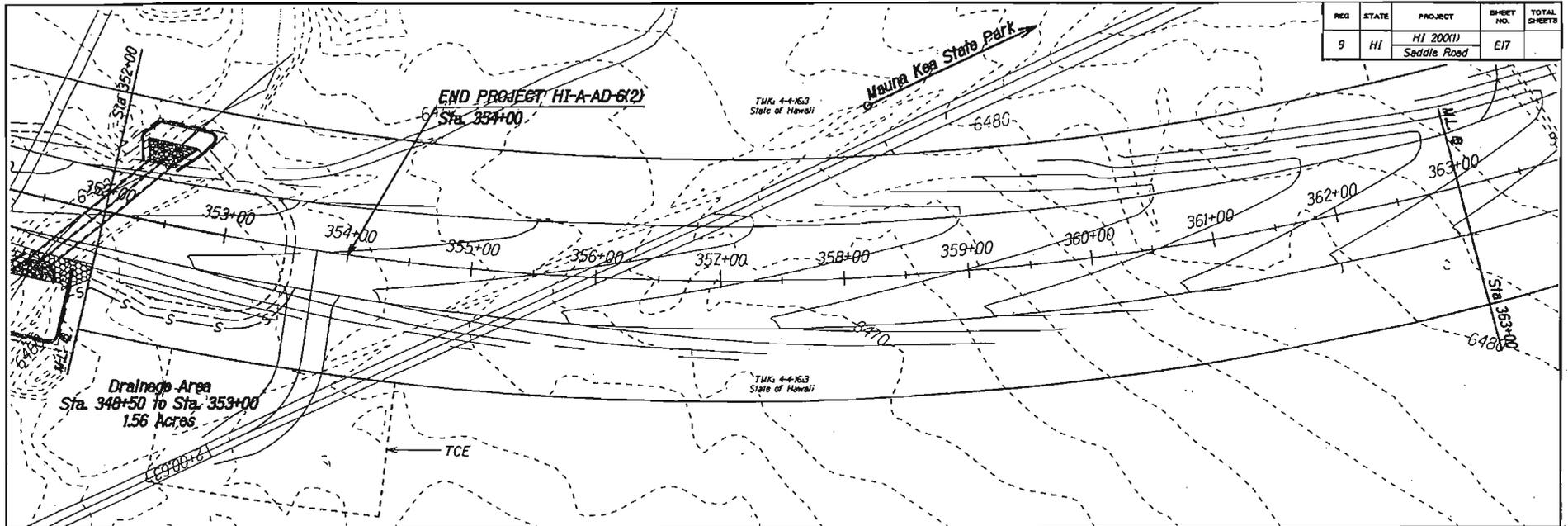
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 330+00 - 352+00

Date: August 31, 2004

SHEET No. 16 OF

PIEG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI 20001 Saddle Road	E17	



- S — Silt Fence
- B — Earth Berm
- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- - - Toe of Fill Slope
- · · Top of Cut Slope
- - - Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 363+00 - 374+00

Date: August 31, 2004

SHEET No. 17 OF

SCHEDULE FOR FULL OR PARTIAL ACCEPTANCE BY MATERIALS CERTIFICATION					
721	Electrical and Illumination Material (all)	As specified	As applicable	1 per shipment per material type	-----
722	Anchor Material	As specified	As applicable	1 per shipment per material type	-----
725	Miscellaneous materials	As specified	As applicable	1 per shipment per material type	-----

Section 107. - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01 Laws to be Observed. Add the Following:

The Government has applied for the following permits:

- (1) National Pollution Discharge Elimination System (NPDES) Individual Permit Requirements described in 107.01(b). Review and update the NOI and BMPP.
- (2) County of Hawaii Grading Permit

The Contractor is responsible for completing and obtaining the following permits:

Provide missing information for items 3 and 13 of the standard Notice of Intent (NOI) to the CO 45 days in advance of the start of construction. This information must be provided to the Hawaii Department of Health 30 days before the start of construction:

- (1) NOI Item 3. Provide Firm's legal name, mailing address, contact person and title, and telephone and facsimile numbers.
- (2) NOI Item 13.a.ii.(7). Areas used for the storage of soils or wastes.

Obtain a County of Hawaii "Permit to Work Within the County Right-of-Way" to install two project signs near mile post 7 of the Saddle Road and at the State Route 190 and Saddle Road junction; and to utilize the Saddle Road for hauling material. Use and place signs that meet AASHTO and MUTCD safety requirements. The sign details are included in the project plans.

Obtain all other permits necessary to perform the work to complete the project. These may include but are not limited to: blasting permit, crusher permit, and permits to set up any concrete batch plants.

(a) General. Implement the requirements of the National Pollutant Discharge Elimination System (NPDES) for erosion control due to storm water runoff during construction as specified under the Hawaii Department of Health Storm Water Individual Permit.

(b) General Permit and BMPP.

Designate the erosion control/water quality supervisor in accordance with Subsection 157.03 who will be responsible for implementing the construction site Best Management Practice Plan (BMPP) and compliance with the Individual Permit. The erosion control/water quality supervisor shall be familiar with the Individual Permit and BMPP procedures and practices and shall ensure that emergency procedures and the BMPP are updated as needed and available for inspection.

(c) Review and update the NOI and BMPP.

An NOI and BMPP have been developed and include project plans containing erosion control details and quantities. The NOI also includes excerpts from project specifications, which may be superseded by the final special contract requirements. At least 45 days prior to the beginning of construction, review the NOI, BMPP, and provide the following information and forms to the CO to complete the NOI and BMPP. Item (1) information must be submitted to the Department of Health 30 days prior to the start of construction:

- (1) Information required in item 3 and 15 of the NOI that is missing or inadequately covered. See special contract requirement 107.01.
- (2) Weather monitoring procedure
- (3) Descriptions and details of erosion controls, including dust control
- (4) Applicable specifications and Special Contract Requirements
- (5) Maintenance and inspection procedures and forms
- (6) Contractor and Subcontractor Certification forms
- (7) Other record keeping forms and procedures
- (8) Good housekeeping practices and requirements
- (9) Grading Plan with 20 acre maximum exposure applied

The CO and the Contractor shall then jointly review the BMPP and agree to any needed revisions. A copy of the revised BMPP shall be signed by the CO and Contractor indicating approval of the revised BMPP.

The approved BMPP shall describe and ensure the implementation of practices used to reduce the pollutants in storm water discharges to assure compliance with the terms and conditions of the General Permit.

Place a copy of the approved NOI/BMPP by the Hawaii Department of Health, Clean Water Branch and all updates in a three-ring binder so that completed inspection forms and other records may be inserted. Maintain a current copy of the NOI/BMPP and all associated records and forms at the job site throughout the duration of the project. Make the BMPP available for public inspection and for the inspection and use of the CO.

Implement the BMPP as required throughout the construction period and maintain all related erosion control elements in proper working order. Do not perform clearing and grubbing or earthwork until the NOI/BMPP has been approved by the Department of Health and appropriate erosion control measures are in-place. Clearing and grubbing of vegetation shall not take place in areas where construction will not commence within 20 days.

Prior to construction, the Contractor and all subcontractors shall sign certifications (included in the BMPP) that they understand the requirements of the General Permit. All subcontractors shall comply with the requirements of the General Permit under the supervision of the Contractor.

The NOI/BMPP, including inspection forms and all data used to complete the NOI/BMPP, shall be provided to the CO at the completion of the project. The Contractor shall retain his own records for a period of at least three years from the date the site is finally stabilized.

(d) Notice of Intent (NOI).

Post the NOI at the construction site bulletin board throughout the duration of the project.

(e) Erosion Controls.

Implement soil erosion controls in accordance with the BMPP and Section 157.

- (1) As practical, divert storm water flowing toward the construction area by using appropriate control measures, or as directed by the CO.
- (2) Design erosion control measures according to the size of disturbed or drainage areas to detain runoff and trap sediment.
- (3) Discharges shall not cause or contribute to a violation of the basic water quality criteria as specified in HRS 11-54-04.

(f) Controls for Other Pollutants.

Implement controls to eliminate the discharge of pollutants, other than erodible soil, into storm water such as pollutants from materials stored onsite. The work shall include the implementation of spill prevention and material management controls and practices to prevent the release of pollutants into storm water. These controls and practices shall be specified in the BMPP and shall include storage procedures for chemicals, construction materials and other pollution prevention measures.

Spill prevention, containment and counter-measures will be required if the volume of fuel in a single container exceeds 650 gallons, or if the total storage volume at any one site exceeds 1300 gallons.

Assist in any efforts to clean up hazardous material spills as directed by the CO or other authorities. Haul soil contaminated with spills from the project site and dispose of according to applicable State and Federal laws.

Contact the CO immediately in the event of any spill of a hazardous material.

(g) "Good Housekeeping" Practices and Requirements.

The BMPP shall specify the Contractor's "good housekeeping" practices and requirements including vehicle wash-down areas, onsite and offsite tracking control, protection of equipment storage and maintenance areas, and sweeping of highways and roadways related to hauling activities.

The Contractor shall take sufficient precautions, considering all conditions, to prevent pollution of streams, lakes, and reservoirs with fuels, oil, bitumens, calcium chloride, magnesium chloride, Portland cement, fresh Portland cement concrete, raw sewage, muddy water, chemicals or other harmful materials. None of these materials shall be discharged into any channels leading to such streams, lakes or reservoirs.

To reduce the possibility and minimize the impacts of accidental spills or discharge, machinery service and refueling areas shall be located away from streambeds or washes.

Non-waste materials such as used cans, oils, machine and equipment parts, paint, hazardous materials, plastic and rubber parts, discarded metals, and building materials, shall be removed from the construction site and disposed of at an approved landfill.

Where the Contractor's working area encroaches on a running or intermittent stream, barriers shall be constructed and maintained between the working areas and the streambed adequate to prevent the discharge of any contaminants.

Unless approved in writing by the CO, mechanical equipment shall not be operated in running streams. Fording of running streams with construction equipment will not be permitted. Temporary bridges or other structures, approved by the CO, shall be used whenever crossings are necessary.

Streams, lakes and reservoirs shall be immediately cleared of all work items, debris or other obstructions inadvertently placed thereby or resulting from construction operations.

(h) Inspections and Revisions to the BMPP.

The CO and the Contractor shall perform regular inspections of the construction site and controls, including disturbed areas that have not been finally stabilized, areas used for storage of materials, locations where vehicles enter or exit the site, and all of the erosion and sediment controls that are included in the BMPP. Repair all control measures as necessary. Check controls weekly during dry periods and within twenty-four hours after any rainfall of 0.5 inches or greater within a 24-hour period. Check controls daily during periods of prolonged rainfall. Monitor rainfall with a rain gauge accurate to the nearest 0.125 inches of rain and maintain records of the duration and estimated volume of storm water discharge(s).

Document the inspections on forms provided in the BMPP. The inspection forms shall be signed in accordance with the requirements of the BMPP and the General Permit. Retained the inspection forms onsite in the BMPP notebook throughout the construction period.

It may be necessary to revise the BMPP during construction to make necessary improvements or revisions or to respond to unforeseen conditions noted during construction or site inspections. For that purpose, the BMPP shall specify the mechanism whereby revisions may be proposed by the Contractor or the CO and incorporated into the plan, including review and approval of minor changes. The CO and the Contractor shall jointly approve and sign each revision to the BMPP before implementation. Implement approved modifications within seven calendar days following the date of the inspection when deficiencies or necessary corrections were first noted.

107.02 Protection and Restoration of Property and Landscape. Add the following:

Add the following after the third paragraph:

Stockpile, equipment parking, and turnaround areas are to be contained within the designated construction limits. Install erosion control devices, as necessary, around the perimeter of

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PHASE 2

description which may be brought against the County of Hawaii for or on account of any injuries or damages to any person by or in consequence of any act or acts of the holder of the "Permit to Work Within the County Right-Of-Way" for actions done under this permit.

(b) Comprehensive or commercial general liability insurance. Add the following:

Obtain a public liability insurance policy naming as an additional insured, the County of Hawaii, its officers, representatives, employees, and agents covering any claim or liability for damages, injuries or death resulting from any of the uses permitted under the "Permit to Work Within the County of Hawaii Right-Of-Way". The minimum amount of coverage under such policy shall be \$1,000,000 per occurrence. The policy and coverage shall be kept in force until all work under this permit is completed to the satisfaction of the Director of the Department of Public Works. Provide a certificate of insurance to the County of Hawaii.

Obtain a comprehensive public liability insurance policy or policies from an insurance company or companies licensed to do business in the State of Hawaii insuring the State of Hawaii against all claims for personal injury, death and property damage covering the right-of-entry area granted by the Department of Land and Natural Resources. The minimum amount of coverage shall be \$500,000 per incident /\$1,000,000 aggregate. The policy and coverage shall be kept in force until all work under this permit is completed to the satisfaction of the Director of the Department of Public Works. Furnish the Department of Land and Natural Resources a certificate of insurance showing the policy initially in force, and a like certificate upon each renewal of the policy. Each certificate shall be accompanied by an assurance of the insurer to notify the Department of Land and Natural Resources of any intention to cancel any policy sixty (60) days prior to actual cancellation.

107.08 Sanitation, Health, and Safety. Add the following:

Provide a sufficient number of refuse containers for collecting all construction debris. Place construction debris in refuse containers; do not place or store refuse outside of containers. Dispose of refuse prior to capacity of containers being exceeded, at public or private dumping areas. Wet down dry materials and rubbish to prevent blowing dust. Keep volatile wastes in covered containers.

107.10 Environmental Protection. Add the following:

The Government will provide a qualified biologist to assist in field identifications, field inspections, etc., during construction.

Add the following at the end of the subsection:

For existing Saddle Road, maintain two-way traffic, provide a minimum roadway width of 23 feet.

(j) Delete the text and substitute the following:

Limit construction-caused delays to public traffic to a maximum of 30 minutes per passage through the project except during the following times on Monday through Friday:

3:30 p.m. through 8:30 a.m.

During the above times, allow traffic to pass through the construction without delay. These times can be adjusted by the CO if necessary.

Section 157. - SOIL EROSION CONTROL

Material

157.02 Add the following:

Temporary Soil Tackifier 713.17

Construction Requirements

157.03 General. Delete the second paragraph and substitute the following:

Standard erosion control devices are provided in the contract. Detail site-specific measures for controlling erosion and submit to the CO for acceptance prior to implementation. Provide working drawings and associated data that do not exceed 24 by 36 inches in size. Allow 7 days for acceptance of the drawings or a return for corrections. Include the following in the detailed design:

- (a) Address contractual requirements for storm water runoff permits, environmental commitments, and other permit requirements here or in Subsection 107.01 or 107.10.
- (b) Location of each proposed erosion control measure.
- (c) Type of each erosion control measure.
- (d) Quantities and estimated unit costs of proposed temporary erosion control devices to be implemented during construction.

(e) A schedule detailing coordination of erosion control measures with the various construction operations or stages. Include the furnishing, installation, maintaining, and removing of temporary devices and the installation of permanent erosion control features.

(f) A schedule outlining the proposed schedule of clearing and grubbing, excavation, embankment, and culvert operations such that the area of disturbed or erodible material is minimized. Schedule the work such that temporary and permanent erosion measures can be incorporated at the earliest practical time.

(g) Construction methods used in various items of work to minimize erosion.

Add the following:

At least 5 days prior to the preconstruction conference, designate in writing an Erosion Control Supervisor who is responsible for implementing the requirements of this Section. Do not designate the project superintendent as the Erosion Control Supervisor.

When temporary erosion control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as part of the work in a timely manner, provide temporary measures at no cost to the Government.

157.04 Controls and Limitations on Work. Delete the second paragraph and replace with the following:

Limit the combined grubbing and grading operations area to 20 acres of exposed soil per drainage area at one time and no more than 30 acres total.

Delete paragraphs (c) and (d) and substitute the following:

(c) Apply appropriate permanent slope and soil stabilization to the finished slopes and ditches within 14 days of completion according to Sections 624 and 625.

(d) Apply appropriate temporary slope and soil stabilization on disturbed areas and stockpiled topsoil within 14 days after last disturbance, except where the area will be redisturbed within 21 days after last disturbance.

Apply temporary soil tackifier to final Phase 2 roadway grade within 14 days following completion according the manufacturer's recommendations and as shown on the plans.

Add the following:

(i) Protect lava tube or cave openings exposed during construction from surface drainage water by diverting it away with sandbags or other devices.

157.05 Filter Barriers. Add the following:

Provide sediment logs that consist of drainage filter made of curled aspen wood excelsior and rolled into a cylindrical shape with a consistent width of fibers evenly distributed throughout the cylinder, as manufactured by American Excelsior, Inc. (970) 533-7412 or equal as approved by the CO. Sediment logs shall be manufactured for the purpose of controlling erosion by slowing high flow water velocity and trapping silt sediments. Submit a sample log for approval to the CO two weeks prior to installation.

Provide sediment logs that are 20 inches ($\pm 10\%$) in diameter and 10 foot lengths ($\pm 10\%$) and contain 100% aspen excelsior curled wood fibers with interlocking barbs. Encase wood fibers in a non-degradable, open plastic weave containment mesh (1 inch x 1 inch nylon mesh). Material in log shall be certified noxious weed-free.

Install sediment log per the manufacturer's recommendations and as shown on the plans.

157.13 Maintenance and Cleanup. Add the following:

Remove temporary diversion channels and restore ground to its natural or intended condition.

157.14 Acceptance. Add the following:

Soil erosion control will be evaluated under subsection 106.02 based on the demonstrated ability of the erosion control measures to result in minimal soil erosion, sedimentation and/or siltation, and turbidity increases within or adjacent to the project limits.

157.15 Add the following:

Measure sediment control logs by the each.

Measure temporary diversion channel by the linear foot. This includes the plastic lining, culvert pipe, pipe bedding and backfill, sand bags, silt fence, and all other items necessary to properly construct the temporary diversion channels.

157.16 Add the following:

Pay Item

Pay Unit

15725 Temporary diversion channel
15735 Sediment control log

Linear Foot
Each

Section 158.-WATERING FOR DUST CONTROL

Description

158.01 Delete the text and substitute the following:

This work consists of furnishing and applying water for the control of dust caused by the work and for earthwork operations.

158.03 General. Add the following:

(c) Contact Ernie Jackson or staff of Bradshaw Flight Operations at 969-2461 daily for fixed winged flight schedules prior to the start of any earthwork activity. Assure that no airborne dust obstructs their landing and take-off operations, especially when using Makai Road and constructing near the Bradshaw Airfield.

(d) **Earthwork operations.** Provide the water necessary to perform the earthwork operations according to Subsection 204.11.

Measurement

158.05 Delete the text and substitute the following:

When applied according to Subsection 158.03, measure watering by the number of 1,000 gallons (M-gallons) in the hauling vehicle or by metering.

Payment

158.06 Add the following:

Pay Item	Pay Unit
15805 Watering	M-gallon

Section 203. - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

When removing and resetting stone masonry, use hand tools to clean the exposed faces of the stones of all mortar before resetting.

Section 622.--RENTAL EQUIPMENT

Description

622.01 Add the following:

This work includes clearing of rock and other obstructions within the project clear zone as directed by the CO. Use equipment hours for potholing between stations 497+50 to 505+00 to locate the material stratus layer for slope stake adjustments of the compound slopes.

Construction Requirements

622.02 Add the following:

Type of equipment shall be as follows:

Truck, highway, 10-wheel, 3-axle, rear dump, 10-12 cubic yard minimum capacity.

Loader with backhoe, wheel type, 48 gallon minimum rated capacity bucket (24" width).

Front-end Loader, wheel type, minimum 4 cubic yard bucket.

Bulldozer, equivalent to a Caterpillar D-8

Motor Grader, 12 foot minimum blade width, equivalent to a Caterpillar 140G.

Hydraulic Excavator, Track Type, 165 hp flywheel power, 1.3 cubic yard bucket, equivalent to a Caterpillar 225B.

Section 625.- TURF ESTABLISHMENT

Delete the entire Section and substitute the following:

Section 625.- REVEGETATION ESTABLISHMENT

Description

625.01 This work consists of mulching, matting, and watering and the control of weeds with the application of herbicides.

Material

625.02 Conform to the following Subsections:

Mulch	713.05
Erosion Control Mats	713.07(a)
Water	725.01

Herbicides. Prior to applying herbicides, obtain approval of the herbicide products for use on roadway sections passing through military lands from the U.S. Army Garrison Hawaii, Department of Public Works Installation Pest Management Coordinator (IPMC) or from the appropriate State agency for sections passing through State lands. Glyphosate products are recommended but must still be approved by the IPMC. Send product label from proposed herbicides to the IPMC.

Construction Requirements

625.03 Herbicides.

Apply herbicides in conformance with the manufacturer's recommendations. Notify the CO at least 24 hours prior to each application of herbicide and indicate the hours of application. Use a photosensitive dye that produces a contrasting color when sprayed on the ground that disappears between 2 to 3 days after application. Do not use dyes that stain any surfaces or injure plant or animal life. Do not apply when weather conditions, including wind, are unsuitable for application work. Application of herbicides must be done by a trained and certified herbicide applicator. Complete DD Form 1532-1 (pesticide use data) after application and submit to IPMC and State agency if required. Comply with all rules and regulations of agencies which govern the use of herbicides.

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625.04 Preparation. Mulch with Mulching, Hydraulic Method on roadside ditches and cut and fill slopes flatter than 2:1. Apply erosion control mats or Mulching, Bonded Fiber Matrix on roadside cut and fill slopes 2:1 or steeper as shown on the construction drawings. Apply mulching and matting within 14 days of placing conserved topsoil. Do not mulch or mat rock cut slopes as determine by the CO.

625.05 Watering. Provide moisture for 30 days after completion of placement of topsoil matting and mulching and during the local growing season, as directed by the CO. Moisturize topsoil matting and mulching areas in such a way as to not cause any erosion.

625.06 Protecting and Caring for Seeded Area. Protect and care for topsoiled areas including watering when needed until final acceptance. Repair all damage to topsoiled areas by placing new topsoil and remulching.

625.07 Acceptance. Mulch will be evaluated under Subsection 106.02 and 106.03. Revegetation establishment work will be evaluated under Subsection 106.02 and 106.04.

625.08 Measurement. Add the following:

Measure mulching by the acre on the ground.

Delete the third paragraph and substitute the following:

Measure water by the M-gallon in the hauling vehicle.

Add the following:

Measure herbicide by the gallon.

625.09 Payment. The accepted quantities, measured as provide above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See subsection 109.05.

Payment will be under:

Pay Item	Pay Unit
62504B Mulching, hydraulic method	Acre
62504BBFM Mulching, hydraulic method, bonded fiber matrix	Acre
62508 Water	M-gallon
62514 Herbicide	Gallon

709.01 Reinforcing Steel.

(b) Reinforcing bars. Delete the text of this subsection and substitute the following:

Furnish deformed, grade 60 bars conforming to AASHTO M 31, M 42, or M 53.

(c) Epoxy coated reinforcing bars. Delete the first paragraph of this subsection and substitute the following:

Furnish bars conforming to Subsection 709.01(b). Conform to AASHTO M 284.

(d) Tie bars. Delete the text of this subsection and substitute the following:

Furnish deformed, grade 60 bars conforming to AASHTO M 31 or M 42, except do not use AASHTO M 42 steel for tie bars bent and re-straightened during construction.

(e) Hook bolts. Delete the first sentence and substitute the following:

Furnish plain, grade 60 bars conforming to AASHTO M 31 or M 42 with M14 rolled threads or M16 cut threads.

Section 710. – FENCE AND GUARDRAIL

710.02 Woven Wire. Add the following:

Use 47-inch high 12.5 gage woven wire fence with 6-inch horizontal spacing of vertical wires and 8-inch on the top to 3-inch spacing on the bottom for the horizontal wires. The top and bottom wires shall be 10 gage wire.

Section 711. - CONCRETE CURING MATERIAL AND ADMIXTURES

711.03 Chemical Admixtures. Delete the text of this subsection and substitute the following:

711.03 Chemical Admixtures. Furnish water-reducing, retarding, set-accelerating, and hydration stabilizing admixtures, or combinations thereof, conforming to AASHTO M 194. For hydration stabilizing admixtures, conform to AASHTO M 194, type B or D.

Section 713. - ROADSIDE IMPROVEMENT MATERIAL

713.05 Mulch. Add the following:

(h) Bonded Fiber Matrix Hydromulch. Delete the text and substitute the following:

The Bonded Fiber Matrix (BFM) shall be comprised of a long strand, thermally produced wood fibers passing a freeness test at a 760 cc (MLS) level or below (>88% of total volume by weight) held together by organic tackifiers (10%) and mineral bonding agents (>2%) which upon drying, become insoluble and nondispersible.

The formed matrix shall meet the following material requirements:

The material, when mixed into a liquid slurry, shall pass a free liquid quality control test.

The binder shall not dissolve or disperse upon rewetting.

The matrix shall have no holes >1 mm in size.

The matrix shall have no gaps between the product and the soil.

The matrix shall have minimum water holding capacity of 1.2 gal/lb matrix.

The matrix shall have no germination or growth inhibiting factors and shall not form a water insensitive crust.

The matrix shall be comprised of materials that are 100% biodegradable and 100% beneficial to plant growth.

The Bonded Fiber Matrix shall be installed by a contractor certified by the manufacturer to be trained in the proper procedures for mixing and applying the product. The BFM shall be mixed according to manufacturer's recommendations and the contractor shall demonstrate the "free liquid" test to the CO upon request. The BFM shall be spray-applied at a rate of 3,033 – 4,014 pounds per acre, utilizing standard hydraulic seeding equipment in successive layers as to achieve 100% coverage of all exposed soil. The BFM shall not be applied immediately before, during or after rainfall, so that the matrix will have opportunity to dry for up to 24 hours after installation.

The Contractor shall provide evidence of manufacturer's certification and material samples to the CO at least seven days prior to installation.

Perform this work according to Section 625 of the specifications.

(i) Mulching, Hydraulic Method.

Furnish wood cellulose fibers derived from 100% recycled newspaper, cardboard and/or other paper sources. This Mulch shall be formulated for the specific purpose of allowing plants specific to the area to grow and shall not contain tackifiers, clays or other additives, binders or fillers except as noted below.

Add gypsum based Geobinder Airtol by Gypsum Solutions (800) 487-4431, or equal as approved by the CO two weeks prior to installation. Install per the manufacturer's recommendations and as shown on the plans. The per acre application rate is as follows:

6,000 Pounds Geobinder
2,000 Pounds Hydraulic Mulch.

713.07(a)(3) Type 3 – Coconut mat. Delete the text and substitute the following:

713.07(a)(3) Type 3 – Coconut mat. Provide composite turf reinforcement mat produced of 100% coconut fiber matrix incorporated into a permanent three-dimensional netting structure, as manufactured by North American Green (800) 722-2040 or equal as approved by the CO. Submit a sample mat for approval to the CO two weeks prior to installation. Install per the manufacturer's recommendations and as shown on the plans.

713.16 Silt Fence. Delete the text and substitute the following:

713.16 Silt Fence. Conform to AASHTO M 288.

713.17 Temporary Soil Tackifier. Add the following:

Temporary soil tackifier shall be Soil-Sement by Midwest Industrial Supply, Inc. (800 321-0699), or equal as approved by the CO two weeks prior to application.

The application rate is as follows:

2000 gallons per acre of concentrate, dilute with 7½ gallons of water per gallon of concentrate.

Section 718. - TRAFFIC SIGNING AND MARKING MATERIAL

718.04 Steel Panels. Delete the text in the first paragraph and substitute the following:

718.04 Steel Panels. Furnish 0.079 inch continuous coat galvanized sheet steel blanks conforming to ASTM A 653. Mill phosphatize the zinc coating (designation G 90) to a thickness of 0.0035 ± 0.00175 ounces per square foot of surface area.

718.08 Signposts.

(b) Steel posts. Delete the text and substitute the following:



FAX TRANSMITTAL
State of Hawaii Department of Health
Environmental Management Division
Clean Water Branch - Engineering Section
Phone No.: (808) 586-4309
Fax No.: (808) 586-4352

Fax to: Mr. Bruce Meyers, PE
Project Engineer
Company: Okahara and Associates, Inc.
Fax No.: (808) 961-5529
Phone No.: (808) 961-5527

Date: August 12, 2004
Fax from: Gerald Yonashiro
Total Pages, incl. cover: 2

Fax Copy to: Mr. David H. Gedeon, PE
Fax No.: (720) 963-3596

Subject: National Pollutant Discharge Elimination System (NPDES)
State Route 200 - Saddle Road,
PTA-1 Section (MP28-42±), Phase 2 & Phase 3
South Hilo District, Hawaii
NPDES Permit No. HI S000031

The Department of Health, Clean Water Branch (CWB) reviewed your CWB-Individual NPDES Form C application submitted for coverage of discharges of storm water associated with construction activities for the subject facility/site and offer the following comments:

1. Item 1. Owner Information

It is our understanding that Mr. Dave Gedeon has relocated offices. Please provide the new information (address, phone, fax) or inform if the information noted in Item 1 is still applicable.

2. Item 5. State Receiving Water(s) Information

There are no receiving State waters information noted for the easterly portion of the proposed roadway. Since construction activities are proposed along the easterly portion (Phase 3), receiving waters information should also be provided for that section.

3. Additional

- a. In the attachment "Excepts from Project Specifications", Section 157.04 Controls and Limitations on Work, there is reference to Phase 1. Should the reference be for Phase 2? Please verify.
- b. For your information, land disturbance for the subject project shall be limited to a maximum of 20 acres of disturbed area per drainage area. The area of land disturbance may be reduced by the Director of Health (Director) for water pollution control purposes. On a case-by-case situation, the Director may allow additional area to be disturbed provided that it is demonstrated to the Director's satisfaction that the additional disturbance area will not cause or contribute to a violation of the basic water quality criteria as specified in HAR, Chapter 11-54, Section 11-54-04. The maximum 20 acre land disturbance limit should be reflected in the construction drawings, site-specific Best Management Practices plan, etc.

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

06116GY.04

June 25, 2004

Mr. David H. Gedeon, P.E.
Project Manager
Central Federal Lands Highway Division
Federal Highways Administration
555 Zang Street, Mail Room 259
Lakewood, Colorado 80228

Dear Mr. Gedeon:

**Subject: National Pollutant Discharge Elimination System (NPDES)
State Route 200 - Saddle Road, PTA-1 Section (MP28-42±), Phase 2 & Phase 3
South Hilo, Hawaii
NPDES Permit No. HI S000031**

The Department of Health (Department); Clean Water Branch (CWB) acknowledges receipt of your application for a NPDES permit for the subject facility.

The CWB is processing your NPDES permit application as expeditiously as possible. You will be notified if additional information is necessary to complete the processing of your application.

For future submittals, please include the **NPDES Permit No. HI S000031**, and the following certification statement in your cover letter:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Mr. David H. Gedeon, P.E.
June 25, 2004
Page 2

Failure to provide the **NPDES Permit No. HI S000031** assigned to this project or inquiry may be a basis for delay in processing of your NPDES permit.

Should you have any questions regarding the processing of your application, please contact Mr. Gerald Yonashiro of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,



THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

GY:cu

- c: Water Division (WTR-5), CWA Standards and Permits Office, EPA, Region 9
- Mr. Bruce Meyers, Okahara and Associates, Inc. (w/ Receipt No. 06295 for \$1000 Filing Fee)
- Mr. Rodney K. Haraga, Director, Hawaii Department of Transportation [via fax 587-2167 only]
- Mr. Stanley Tamura, Hawaii District, Highways Division, Hawaii Department of Transportation
[via fax (808) 933-8869 only]
- DHO, Hawaii [via fax only (808) 974-6000]



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division
555 Zang Street
Mail Room 259
Lakewood, CO 80228

April 30, 2004

Refer To: HFPM-16

Ms. Holly McEldowney, Administrator
State Historic Preservation Division
State of Hawaii Department of Lands and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Submission of Individual Application for National Pollution Discharge Elimination System Permit, in compliance with HRS § 6E, 42(a).

Dear Ms. McEldowney:

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the State of Hawaii Department of Transportation and the Department of the Army's (DOA) Surface Deployment and Distribution Command, is developing the Saddle Road improvement project in the County of Hawaii. The first segment to be constructed passes through the DOA's Pohakuloa Training Area (PTA) between milepost 28 and 42. Funding for the design and construction of this segment is provided through the DOA's Defense Access Road program. Three construction projects are anticipated for the PTA segment; Phase 1 construction is currently underway (NPDES – NGPC File No. R10B670).

As part of our project development efforts for Phases 2 and 3, we have submitted an individual National Pollution Discharge Elimination System (NPDES) application for coverage authorizing discharges of storm water associated with construction activities to the Hawaii Department of Health, Clean Water Branch (DOH-CWB). In accordance with Hawaii Revised Statute (HRS) Chapter 6E, 42(a), Review of Proposed Projects, we are providing a copy of our application to your office. This statute requires that the State Historic Preservation Division (SHPD) be advised of any proposed project that may affect a historic property, aviation artifacts, or burial site, prior to DOH-CWB approving coverage under the NPDES individual permit.

To assist you in your review, the application includes copies of correspondence to document our prior consultation and coordination with your office during the environmental phase of the Saddle Road project development (see section entitled 'SHPD Letters'). Included is a copy of the April 1999 Memorandum of Agreement between the SHPD and CFLHD, a SHPD letter dated May 8, 2002 accepting the mitigation plan prepared by our consultant, Paul H. Rosendahl, Inc. (PHRI), and an internal memorandum from you to Ms. Dierdre S. Mayima, Administrator, Lands



Division, Department of Land and Natural Resources, stating that two archaeological sites within the PTA segment have been satisfactorily mitigated. Please note that the site numbers cited in your memorandum are incorrectly described as being between mileposts 19 and 27; they are actually between mileposts 28 and 42. Finally, the application also includes a CFLHD letter to you forwarding the final data recovery report for the subject project.

We hope this submission with enclosed documentation of our prior consultation with your office satisfy the requirements of HRS § 6E, 42(a). If you have any questions, please contact me at (303) 716-2131 or Mr. Steve Hallisy, Environmental Staff Specialist, at (303) 716-2140. You may also contact Mr. Bruce Meyers, Okahara & Associates Project Manager at (808) 961-5527.

Sincerely,



David H. Gedeon, P.E.
Project Manager

Enclosure





U.S. Department
of Transportation
Federal Highway
Administration

Central Federal Lands Highway Division
555 Zang Street
Mail Room 259
Lakewood, CO 80228

April 29, 2004

Refer To: HFPM-16

Mr. Denis R. Lau, P.E.
Chief, Clean Water Branch
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Subject: Submission of Individual Application for National Pollution Discharge Elimination System Permit and Signatory and Certification Statement

Dear Mr. Lau:

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the State of Hawaii Department of Transportation and the Department of the Army's (DOA) Surface Deployment and Distribution Command, is developing the Saddle Road improvement project in the County of Hawaii. The first segment to be constructed passes through the DOA's Pohakuloa Training Area (PTA) between milepost 28 and 42. Funding for the design and construction of this segment is provided through the DOA's Defense Access Road program. Three construction projects are anticipated for the PTA segment; Phase 1 construction is currently underway (NPDES - NGPC File No. R10B670).

As part of our final project development efforts for Phases 2 and 3, we are submitting a *Signatory and Certification Statement to National Pollution Discharge Elimination System (NPDES) Permit Applications*, and a *CWB Individual NPDES Form C* for individual permit coverage authorizing discharges of storm water associated with construction activities. We have submitted an identical copy of the individual application to the State Historic Preservation Division (SHPD) in accordance with Hawaii Revised Statute Chapter 6E, 42(a), Review of Proposed Projects. A copy of our submittal letter to the SHPD is included in the section of the application entitled "SHPD Letters". This section also contains the Memorandum of Agreement (MOA) between the SHPD and CFLHD, a letter from the SHPD accepting the mitigation plan prepared by Paul H. Rosendahl, Inc. (PHRI) for the Saddle Road improvement project, and a SHPD memorandum stating that the affected sites have been satisfactorily mitigated. Finally, this section includes a CFLHD letter to SHPD submitting a copy of the final data recovery report.



Item # 13.b.v, "Erosion and Sediment Control Requirements," requires the submission of a County approved Erosion and Sediment Control Plan. We have included an approved copy of this plan in the application section entitled 'BMP Plan Sheets'. Although the title of the signed sheet does not reflect such, it is in fact the County-approved Erosion and Sediment Control Plan. Should you have any questions regarding the County's approval, please contact Mr. Kelly Gomes with the County of Hawaii Department of Public Works at (808) 961-8927.

Our schedule calls for the award of the Phase 2 construction contract by late September 2004 in order to obligate the available funding by the end of the current federal fiscal year. We request your assistance in expediting the review of our application to meet this deadline. Your prompt attention to this matter would be greatly appreciated.

If you have any questions regarding this application or the Saddle Road improvement project, please contact one of the following project team members:

Dave Gedeon
CFLHD Project Manager
Telephone: (303) 716-2131
Facsimile: (303) 969-5936
Email: dave.gedeon@fhwa.dot.gov

Bruce Meyers
Okahara & Associates, Inc. Project Manager
Telephone: (808) 91-5527
Facsimile: (808) 961-5529
Email: bmeyers@okahara.com

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Sincerely,



David H. Gedeon, P.E.
Project Manager

Enclosure





State of Hawaii, Department of Health, Clean Water Branch

**Signatory and Certification Statement to
National Pollutant Discharge Elimination System
(NPDES) Permit Applications**

Alteration of the following text will result in the invalidation of this Statement. The person signing this Statement must meet one of the following descriptions.

Date of Cover Letter: April 29, 2004

Name of Facility: Project HI A-AD-6(2) and 6(3) Highway 200 - Saddle Road

Description of Document: CWB-Individual NPDES Form C

- I certify that for a municipal agency, I am a principal executive officer or ranking elected official.
- I certify that for a state agency, I am a principal executive officer or ranking elected official.
- I certify that for a non-federal public agency, I am a principal executive officer or ranking elected official.
- I certify that for a federal agency, I am the chief executive officer of the agency, or I am the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- I certify that I am a general partner for a partnership.
- I certify that I am the proprietor for a sole proprietorship.
- I certify that for a corporation, I am the President, Vice President, Secretary, or Treasurer of the corporation and in charge of a principal business function, or I perform similar policy or decision-making functions for the corporation.
- I certify that for a corporation, I am the Manager of one or more manufacturing, production, or operating facilities and am authorized to make management decisions which govern the operation of the regulated facility or facilities including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations. I can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements and authority to sign documents has been assigned or delegated to me in accordance with corporate procedures.
- I certify that for a trust, I am a trustee.
- I certify that for a limited liability company (LLC), I am the Manager or a Member authorized to make management decisions for the LLC and am in charge of a principal business function, or I perform similar policy or decision-making functions for the LLC.

Certification Statement (continued)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: *Daniel H. Gedeon* Date: *Apr 29, 2004*

Printed Name & Title: *Dave Gedeon, Project Manager*

Company/Organization Name: *FHWA - Central Federal Lands Highways Division*

Phone No.: *(303) 716-2131* Fax No.: *(303) 969-5936*



State of Hawaii, Department of Health, Clean Water Branch
CWB-Individual NPDES Form C
Application for HAR, Chapter 11-55 - NPDES Individual Permit Authorizing Discharges of Storm Water Associated With Construction Activities (as defined in 40 CFR §§122.26(b)(14)(x) and 122.26(b)(15)(i))

Before completing this form, read the Guidelines for CWB-Individual NPDES Form C. Alteration of the text in this form may delay the processing of this submittal. The \$1000 filing fee and CWB-NPDES Signatory and Certification Statement shall be submitted with this form. The EPA Form 3510-1 is not required to be submitted with this form.

1. Owner Information (see Guidelines for CWB-Individual NPDES Form C - Note 1)

Legal Name: Federal Highway Administration Central Federal Lands Highways Division

Mailing Address: 555 Zang Street, Room 259

City, State and Zip Code+4: Lakewood, Colorado, 80228

Street Address: 555 Zang Street, Room 259

City, State and Zip Code+4: Lakewood, Colorado, 80228

Contact Person & Title: Dave Gedeon, Project Manager

Phone No.: (303) 716-2131 Fax No.: (303) 969-5936

2. Owner Type (see Guidelines for CWB-Individual NPDES Form C - Note 2)

City County State Federal Private Other

If "Other" is checked, specify the type below:

3. General Contractor Information (see Guidelines for CWB-Individual NPDES Form C - Note 3)

Legal Name: The contractor will provide this information to the CFLHD Contracting Officer (C.O.) 45 days in advance of the start of each of the two construction phases described below. The C.O. will submit this information to CWB-DOH 30 days in advance of each of the two construction phases described below.

Mailing Address: _____

City, State and Zip Code+4: _____

Street Address: _____

City, State and Zip Code+4: _____

Contact Person & Title: _____

Phone No.: () _____ Fax No.: () _____



The general contractor information will be submitted 30 days before the start of construction activities.

4. Project Information (see Guidelines for CWB-Individual NPDES Form C - Note 4)

Legal Name: **State Route 200 - Saddle Road, PTA-1 Section (MP28-42±), Phase 2 & Phase 3**

Mailing Address: _____

City, State and Zip Code+4: **South Hilo District**

Street Address: _____

City, State and Zip Code+4: **South Hilo District**

Contact Person & Title: **Dave Gedeon, Project Manager, FHWA-CFLHD**

Phone No.: **(303) 716-2131** Fax No.: **(303) 969-5936**

Island: **Hawaii**

Tax Map Key No(s).			
Zone	Section	Plat	Parcel(s)
3	8	01	21
4	4	15	4, 8
4	4	16	3, 5, 6

5. Receiving State Water(s) Information (see Guidelines for CWB-Individual NPDES Form C - Note 5)

a. Receiving State Water Name: **Un-named, ephemeral streams (see BMP plan attachment, sheets A2 & A3)**

Discharge Point Coordinates into the Receiving State Water: **Discharge point No. 1**

Latitude: ° ' " N Longitude: ° ' " W

Classification: (check the appropriate space(s))

Inland: Class 1 and Estuary

Marine: Class AA and Embayment

b. Are there additional discharge points into receiving State waters?

No Yes If yes, provide the information requested in Item 5.a. on a separate sheet. **See BMP plan attachment, sheets A2 and A3.**

c. Does the storm water discharge initially enter a storm water drainage system before discharging into the receiving State waters?

No Yes If yes, provide the following information. Attach a separate sheet with the requested information if there is more than one (1) discharge point into the storm water drainage system.

i. Drainage System Owner's name: **Not Applicable**

ii. Discharge Point Coordinates into the Drainage System: **Not Applicable**

Latitude: ° ', " N Longitude: ° ', " W

iii. A copy of the permit, license, or equivalent written approval granted by the owner(s) of the drainage system(s) allowing the subject discharge to enter their drainage system(s) is attached. **Not Applicable**

Yes No , an explanation is attached.

6. Quantity of Storm Water Discharge (see Guidelines for CWB-Individual NPDES Form C - Note 6)

2.5 (cfs/gpd) **See Drainage Calculation attachment.**

7. Non-Storm Water Information (see Guidelines for CWB-Individual NPDES Form C - Note 7)

a. Source(s) of the non-storm water: **Non-storm water will include construction equipment wash down water and concrete truck drum wash water but will not be near to receiving State waters and therefore will not enter State waters. Also included is water for dust control and irrigation to re-establish vegetation.**

b. Does the non-storm water discharge into receiving State water(s)?

Yes If yes, the individual NPDES permit will also need to cover the source(s) of non-storm water discharge(s). Discharge of treated non-storm water may require additional forms. Contact the CWB for details.

No If no, complete 7.c.

c. Non-storm water handling method:

Washing of construction equipment will be permitted only in designated areas away from State waters and water from this activity will not be allowed off of the construction limits and not be allowed into State waters. See BMP plan attachment, sheet E20 for washdown basin detail. Water for dust control will be uniformly applied with a spray system to avoid concentration of flows. Unfinished surfaces will readily absorb this water rather than result in runoff from the project site.

8. Location Map (see Guidelines for CWB-Individual NPDES Form C - Note 8)

A topographic map or maps of the area which clearly show the following is/are attached:

Yes No

a. Legal boundaries of the project site, at least one mile beyond the property boundaries, and the location of the project site in relation to the island, **The right-of-way lines are shown on BMP plan attachment, sheets E1 to E21.**

- b. Location and identification number of each of the project site's existing and/or proposed outfalls or discharge points, and

See site specific BMP plan attachment, sheet A2 & A3 for location and identification number of each discharge point.

- c. Receiving State water(s) and receiving storm water drainage system(s), if applicable, identified and labeled.

The location of the discharge points also locate the receiving State waters which are all un-named, ephemeral streams (see site specific BMP plan attachment, sheet A2 & A3). There are no receiving storm water drainage systems in this area.

9. Flow Chart (see Guidelines for CWB-Individual NPDES Form C - Note 9)

A flow chart or line drawing showing the general route taken by storm water through the project site is attached.

Yes. No

(See flow chart attachment, which is typical of all the discharge point treatments).

10. Existing or Pending Permits, Licenses, or Approvals (see Guidelines for CWB-Individual NPDES Form C - Note 10)

Provide the status and corresponding file numbers on any existing or pending environmental permits.

- a. Other NPDES Permit or NGPC File No.: **HI R10B670, see State of Hawaii, Department of Health letter dated December 22, 2003 for the NGPC for Phase 1, and the subsequent March 12, 2004 letters acknowledging compliance with conditions 5 and 6 of the NGPC (see Construction Permit Letters attachment).**
- b. DA Permit: **Not Applicable (see Construction Permit Letters attachment, Army letter dated 10/22/2001 in Construction Permit Letters).**
- c. Section 401 WQC: **Not Applicable since DA Permit not required.**
- d. SHPD file number: **see SHPD letter dated May 8, 2002 for their log and doc numbers (29813 & 0205RC09), the MOA dated April 30, 1999 with SHPD, and the November 25, 2003 letter from SHPD citing the implementation and adequate mitigation of the sites within the PTA-1 Alignment.**
- e. Others (Specify): **Stream Channel Alteration Permit not applicable, see Construction Permit Letters attachment for SCAP letter dated 1/8/2002; County of Hawaii Grading Permit (pending); Permit to Work Within the County ROW (pending). The Grading permit requires construction to start within 90 days of issuance and the Permit to Work Within the County ROW will be obtained by the Contractor.**

11. Construction Site Characterization (see Guidelines for CWB-Individual NPDES Form C - Note 11)

- a. Describe the scope of the construction activity, including a proposed timetable for major activities with the date when the contractor will begin the site disturbance

The proposed Saddle Road improvement project alignment extends from milepost 6 in the Kaumana area on the east end to State Route 190 on the west end of the island (milepost 53+). Saddle Road will be a two-lane paved highway with 12-foot travel lanes and 8-foot paved shoulders. The total project is divided into four sections, I thru IV, from west to east respectively. Section II (PTA-1), a 13-mile segment running through

and around the Pohakuloa Training Area (PTA) will be the first section constructed. This section starts at milepost 42 of the Saddle Road, and extends to milepost 28. Section II is further divided into three projects. Phase 1 (MP28-35) is currently in construction under the General Permit File No. HI R10B670 dated December 22, 2003 (see Construction Permit Letters attachment) and consist of only earthwork, drainage and erosion control construction for 6 of the 13 miles. Phase 2 (MP35-42) also consists of only earthwork, drainage and erosion control construction for another 6+ miles.

Phase 2

This application is for Phase 2 which runs from stations 17+00 to 258+50, 282+50 to 354+00 and Phase 3 which is explained below (see the BMP plan attachment, sheets A2, A3 and E1 to E21). Since the Phase 2 project will only consist of earthwork and drainage construction, there will be no paving or finish surface work. Construction for Phase 2 is anticipated to begin in February 2005 and last approximately 12 months. The first month will be mainly set up work for staging, mobilization, flagging of the construction limits, and installation of the BMP measures for the initial areas. The next ten months will be the disturbance period which will include grading and culvert construction with the necessary BMP measures installed and maintained. The last month will be closing out the project, removal of any unnecessary BMP measures after surface stabilization, and demobilization. Some BMP measures will remain in place and will become the responsibility of the Phase 3 contractor to maintain and remove upon completion of this last phase.

Phase 3

This application is also for Phase 3. The Phase 3 project spans the full 13 miles of Section II. It will consist of earthwork for the remaining mile followed by constructing the full pavement structure, signing and striping, and all pertinent work necessary to open this section to the public. Phase 3 is anticipated to begin in February 2006 and last approximately 10 months. The first month will be mainly set up work for staging, mobilization, flagging of the construction limits, and installation of the BMP measures for the initial areas. The second two months will be grading work near the project termini where the connections to the existing Saddle Road will occur and also a short segment in front of Manua Kea State Park where the proposed and existing roads overlap. The next six months will consist of building the pavement structure, signing and striping, and other appurtenances necessary to complete the project. The final month will consist of addressing punch list items, removal of all BMP measures after surface stabilization, and demobilization.

In environmentally vulnerable portions of the roadway corridor within PTA, additional features will be constructed to minimize fire hazards, including paved fire breaks, fencing, extruded asphalt curbs, and solar powered emergency telephones.

- b. Describe the history of the land use

The project area has historically been used for military training (since 1943) and for cattle raising. The Mauna Kea State Park is adjacent to this project, but its boundaries are not encroached upon by this project as the proposed roadway alignment swings south to avoid impacting the park. Rainfall runoff flow from the project will not enter into the park boundaries.

- c. Describe the pollution source(s) in the history and corrective measures

The Saddle Road Final EIS states that there are no indications of hazardous waste based on the records search and site reconnaissance performed during the environmental compliance phase of project development. It does note that a 500 gallon jet fuel spill occurred along the existing Saddle Road in 1991 but was cleaned up to the satisfaction of the Department of Health. There are six underground storage

tanks located within PTA however there have been no reports of leakage. The Final EIS concludes that it is likely that some chemicals and petroleum products have been dumped on the ground resulting in minor localized soil contamination within PTA and Bradshaw Airfield. The Department of the Army has investigated 5 sites on PTA; their studies concluded there were no areas of concern within the project corridor. As PTA has been used for live fire training for over 50 years, the presence of unexploded ordnance (UXO) within the project corridor is possible.

Mitigation. If previously unidentified hazardous waste is discovered during construction, work will cease at that location and appropriate regulatory or resource personnel will be contacted. Prior to the start of construction, the U.S. Army Corps of Engineers will conduct a UXO location survey and will remove any discovered UXO. This work will be completed prior to the start of Phase 2 and Phase 3 construction.

12. Construction Site Area (see Guidelines for CWB-Individual NPDES Form C - Note 12)

- a. Total area of the site: 140 acres
- b. Total disturbance area (i.e. clearing, excavating, grading, grubbing, storage, staging, etc.):
Phase 2 - 94 acres, Phase 3 - 20 acres
- c. Impervious area of the site after construction is completed: **Phase 2 - no impervious area, Phase 3 - 85 acres of asphalt concrete pavement.**

13. Construction Best Management Practices (BMPs) Plan (see Guidelines for CWB-Individual NPDES Form C - Note 13)

a. Project Site Map (see Guidelines for CWB-NPDES Form C - Note 13.a.)

i. Will construction be done in phases?

No Yes

If yes, a phasing map identifying each phase of the multi-phase construction project and the boundaries of each phase is attached:

Yes No

See BMP plan attachment, sheets A2 & A3

ii. A facility site map(s) which shows the following information is attached:

Yes No

- (1) Approximate slopes anticipated after major grading activities; **Slopes vary from 1:1 in rock condition, and 2:1 to 6:1 in soil conditions. Slope limits are shown on the BMP plan attachment, sheets A7 and E1 to E21.**
- (2) Areas of soil disturbance; **Shown on BMP plan attachment, sheets E1 to E21.**
- (3) Drainage patterns; **Shown on BMP plan attachment, sheets E1 to E21 as flow lines marked by the surveyor and not from the USGS maps. There are no USGS blue flow lines crossing this project.**
- (4) The location(s) of impervious structures (including buildings, roads, parking lots, etc.) after construction is completed; **There are none in Phase 2. Phase 3 will include a 13-mile long paved two-lane roadway with paved shoulders and paved fire breaks in certain locations.**
- (5) Wetlands and other State water(s); **There are no wetlands and State waters are shown in the BMP plan attachment, sheets A2, A3 and E1 to E21 (each discharge point).**

- (6) The boundaries of 100-year flood plans, if determined; ***There are none according to the FEMA FIRM maps.***
- (7) Areas used for the storage of soils or wastes; ***Unknown at this time but they will be located within the construction limits and away from the State waters. The contractor will provide this information to the CFLHD Contracting Officer (C.O.) 45 days in advance of the start of construction. The C.O. will submit this information to CWB-DOH 30 days in advance of the start of construction.***
- (8) The location(s) where stabilization practices are expected to occur; ***See BMP plan attachment, sheet A7 for stabilization method for all disturbed and exposed areas.***
- (9) The location(s) and descriptions of all structural controls including those that will be used to divert the offsite storm water from flowing into the constructions site and; ***Shown in BMP plan attachment, sheets E1 to E25.***
- (10) The areas where vegetative practices are to be implemented. ***Shown on BMP plan attachment, sheets A7, and E1 to E25. The vegetative practice for both Phase 2 and 3 will involve revegetation of preserved grubbed material, stocked in windrows and then put back on the slopes upon completion of the slopes. The slopes will then be stabilized with a gypsum based hydromulch mix on the flatter slopes and bonded fiber matrix hydromulch mix or matting on the steeper slopes.***

Note: Items (1) through (6) shall be submitted with the application. If Items (7) through (10) are not available at the time of submittal, the information may be submitted at least 30 days before the start of construction activities.

- iii. Indicate which items are not applicable (use item numbers above):

4 & 6

- iv. Indicate which items will be submitted 30 days before the start of construction activities (use item numbers above):

7. The contractor will provide this information to the CFLHD Contracting Officer (C.O.) 45 days in advance of the start of each phase of construction. The C.O. will transmit this information to CWB-DOH 30 days in advance of the start of each construction.

- b. The construction BMPs plan is attached on separate sheets with reference to Item 13.b.

Yes No

The construction BMPs plan shall provide information requested in the Guidelines for CWB-Individual NPDES Form C - Note 13.b. by describing methods to minimize erosion of soil and discharge of other pollutants into State waters and, after completion of the construction activity, removal procedures for the construction site BMPs.

- i. Construction Activity - Describe the nature of the construction activity.

- (1) What is to be constructed and the construction sequence?

Phase 2: Approximately 6 miles of road earthwork and drainage will be constructed. The earthwork will include earth moving, blasting, placing and compacting earth material, to near the subgrade level. The drainage will consist of constructing all the culverts, ditches, outlet riprap stabilizations within this length of road.

The sequence is as follows:

- mobilization
- flagging of construction limits
- installation of temporary perimeter BMP devices
- clearing and grubbing
- installation of internal temporary BMP devices
- earthwork grading
- installation and application of permanent BMP measures
- removal of temporary BMP devices
- demobilization

Unnecessary site BMPs shall be removed after stabilization and done in a way to minimize the disturbance of the ground. All bare areas resulting from the removal of BMP's will be covered with permanent stabilization.

Phase 3: Earthwork for the west and east end of the 13-mile project will be completed followed by the pavement structure, signing and striping, and all other appurtenances necessary to complete the project and open the road to public use.

The sequence is as follows:

- mobilization
- flagging of construction limits
- installation of temporary perimeter BMP devices
- clearing and grubbing
- installation of internal temporary BMP devices
- earthwork grading
- construct pavement structure (aggregate base, asphalt concrete base and asphalt concrete pavement)
- installation and application of permanent BMP measures
- signing and striping
- installation of guardrails, phones, other final appurtenances
- removal of temporary BMP devices
- demobilization

Removal of site BMPs shall be after stabilization and done in a way to minimize the disturbance of the ground. All bare areas resulting from the removal of BMP's will be covered with permanent stabilization.

- (2) If the project is a multi-phase construction project, include a list of each phase.

Section II, PTA-1, Phasing

Phase 1: Eastern 6-mile section (mile post 28 to 35) currently in construction; earthwork, drainage, and BMPs only (one year duration starting February 2004, covered under NGPC file No. HI R10B670, see BMP plan attachment, sheets A2 & A3),

Phase 2: Western 6-mile section (mile post 35 to 42), earthwork, drainage, and BMPs only (one year duration starting February 2005),

Phase 3: Earthwork at the east and west end termini, and south of State Park; paving, signing and striping, and appurtenances to complete the 13+ miles (mile post 28 to 42, 10 month duration starting February 2006).

- (3) What type of materials and heavy equipment will be used for the construction activity?

The main materials used in Phase 2 are soil and rock for the road construction, reinforced concrete for some of the culverts, metal and plastic pipes for the other culverts, reinforced concrete, rubble masonry, and metal for culvert inlet and outlet structures, and mortar for grouted riprap at culvert ends and slopes. Equipment for Phase 2 will be D8 and D9 dozers, front end loaders, earth haulers, small and large pickup trucks, water trucks for dust control, and graders.

Phase 3 is similar to the Phase 2 work described above with the addition of aggregate asphalt concrete base course, and asphalt concrete pavement and surface features. Equipment for Phase 3 work is similar to Phase 2 with the addition of the pavers and rollers.

- ii. Quality of Discharge - Describe the nature of the fill material to be used and existing data describing the soil or the quality of any discharge from the project site.

Since the project is using native materials to construct the fills, changes to the quality of the discharge and are not anticipated. The earth material is primarily silty, sandy soils with areas of fractured and hard basalt rock. There are a few pockets of ash, cinder, and clinker. See Excerpt From Soils Report attachment.

- iii. Potential Pollutant(s) - Identify all the potential pollutant(s) that will be generated by the proposed construction activities and the proposed control measures or treatment, as applicable. These pollutants may include, but are not limited to:

(1) Construction debris, removed vegetation; **See 4th paragraph of item (f) on page I-13 of Excerpts From Project Specifications. Contractor will be responsible for removing construction debris and removed vegetation and will be required to furnish a signed copy of the disposal agreement before off-project disposal begins. If approved by the CO, removed vegetation may be buried in approved areas within the ROW and the backfill will be stabilized.**

(2) Discharges associated with the operation and maintenance of the equipment, such as oil, fuel and hydraulic fluid leakage; **See subsections (e) and (f) on page I-13 of Excerpts From Project Specifications.**

(3) Soil erosion from the disturbed areas and stockpile areas; **Control measures are described throughout this application and BMP. See BMP plan sheets and Section 107 on pages I-11 to I-15 and Section 157 on pages I-45 to I-47 of Excerpts From Project Specifications attachment.**

(4) Any non-storm water discharges, that are not described under Item 7; **None.**

(5) Location(s) of oil, fuel or any hazardous material storage site(s) and containment structure(s); and **Not known at this time. The contractor will provide this information to the CFLHD Contracting Officer (C.O.) 45 days in advance of the start of construction. The C.O. will submit this information to CWB-DOH 30 days in advance of the start of construction. See subsection (e) on page I-13 of Excerpts From Project Specifications.**

(6) Other. **None.**

- iv. Controls for Land Disturbances - The owner and/or general contractor shall comply with the Special Conditions for Land Disturbances (from HAR, Chapter 11-55, Appendix C). The Department suggests including the language described in Note 13.b.iv. of the Guidelines for CWB-Individual NPDES Form C in the BMPs plan. It may be amended to be site-specific (i.e., type of cover to be used).

See the Excerpts From Project Specifications attachment, which show what the contractor will be required to do (see Section 107 on pages I-11 to I-15, Section 157 on pages I-45 to I-47, Section 624 on pages I-62 and I-63, and Section 625 on page I-63). These specifications include similar language as described in Note 13.b.iv of the Guidelines for CWB-NOI Form C.

The Saddle Road Final Environmental Impact Statement and Record of Decision recommends that FHWA not revegetate the new roadway corridor in the vicinity of the Pohakuloa Training Area. This constraint is due to concerns raised by the U.S. Fish & Wildlife Service with introducing non-native invasive species to this project area which can overtake native plants and are also fire-prone.

"Annual" grasses, such as rye, are often used on roadway construction projects for temporary (1-year) slope stabilization until native vegetation is re-established naturally. However such grasses have been ruled out for this segment of Saddle Road due to biological concern that they will not die off after the first season, thus becoming a non-native invasive species.

Because of the environmental constraints contained in the FEIS and ROD to not revegetate and also concerns with the use of annual grasses, FHWA proposes to salvage the in situ topsoil which contains roots and seed of existing plants in the project area as part of the initial earthwork operations for subsequent placement on the finished slopes. The finished slopes will then be stabilized with gypsum based hydromulch, bonded fiber matrix hydromulch, or matting. The slopes will then be irrigated for 30 days or until the vegetation takes root, whichever is shorter.

The final Phase 2 roadway subgrade surface will be protected with a soil tackifier once construction is completed. Final asphalt pavement will be placed as part of the Phase 3 work.

- v. **Erosion and Sediment Control Requirements - If applicable, submit the county-approved erosion and sediment control plan and/or the county-approved grading permit as appropriate for the activity and a schedule for implementing each control with the application or 30 days before the start of construction activities.**

The BMP plan attachment was reviewed and approved by the County of Hawaii Department of Public Works Engineering Division. (See BMP plan attachment, sheets A2 and A3.)

The Contractor shall provide a schedule for implementing each control before the start of construction activities. The contractor will provide this information to the CFLHD Contracting Officer (C.O.) 45 days in advance of the start of construction. The C.O. will submit this information to CWB-DOH 30 days in advance of the start of construction.

vi. Construction Schedule - Attach the proposed construction schedule which shall include, at a minimum:

(1) The date when the general contractor will begin and end the site disturbance;

Site disturbance is expected to begin March 2005 and end January 2006 for Phase 2 and March 2006 to October 2006 for Phase 3.

(2) Dates when erosion control measures will be implemented and removed; and

Erosion control measures will be installed throughout the length of the project schedule as it progresses. The initial perimeter measures will be installed prior to any grubbing work. As the final grades are constructed, the temporary and permanent surface stabilizers will be installed. Upon determination of sufficient stabilization, the temporary erosion control devices will be removed.

(3) The dates when major construction activities begin and end.

This will be the same as (1) above since the project is primarily earthwork and drainage - March 2005 to January 2006 for Phase 2 and March 2006 to October 2006 for Phase 3.

c. The Site-Specific Construction BMPs Plan is submitted as an attachment to the CWB-Individual NPDES Form C.

The contractor will provide any additional information to the CFLHD Contracting Officer (C.O.) 45 days in advance of the start of construction. The C.O. will submit this information to DOH-CWB 30 days in advance of the start of construction.

The Site-Specific Construction BMPs Plan will be submitted 30 days before the start of construction activities.

14. Post-Construction Pollutant Control Measures (see Guidelines for CWB-Individual NPDES Form C - Note 14)

The description of measures that will minimize the discharge of pollutants via storm water discharge after construction operations have been completed are attached on a separate sheet with reference to Item 14.

Yes No

- **Upon completion of the slope grading, the slopes will be covered with 6-inch topsoil/revegetation mix (or 4-inch crushed lava in the lava field area) which will be stock piled in windrows during the grubbing stage. The topsoil/revegetation mix consists of the scraped off top six inches of existing soil and vegetation (seed and roots) less the large shrubs and trees. See BMP plan attachment, sheet A7.**
- **The topsoil/reveg layer will then be covered with either gypsum based hydromulch mix, bonded fiber matrix mulch, or a netted mat and irrigated for 30 days or until the vegetation takes root, whichever is shorter. Both methods of stabilization will allow plant growth. See BMP plan attachment, sheet A7.**
- **The flat road top area will be stabilized with a soil tackifier product that allows construction traffic use after application. See BMP plan attachment, sheet A7.**
- **Culvert inlets and outlets will be reinforced with grouted riprap or mechanically placed riprap. See BMP plan attachment, sheets D9 to D11.**
- **Cut to fill transition areas (i.e., ditches) will be reinforced with mechanically placed riprap.**
- **Check dams will be constructed in ditches to slow velocity and to trap sediment.**

15. Additional Information (see Guidelines for CWB-Individual NPDES Form C - Note 15)

It is anticipated that entire 13-mile long (PTA-1) segment will be paved as part of the Phase 3 construction project. Funds for construction of this segment are appropriated on an annual basis as part of the Department of Defense budget. If no additional federal funds are appropriated for this project, the flat surface of the roadway typical section that is to be covered with temporary soil tackifier (see BMP plan attachment, sheet A7) will be permanently stabilized with other funds already appropriated for Saddle Road.

16. Authorization of Representative (see Guidelines for CWB-Individual NPDES Form C - Note 16)

Alteration of this item will result in the invalidation of the authorization statement(s).

- a. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to process the required application for coverage under the NPDES permit to discharge to State waters from the subject facility. This authorization begins with NPDES permit application processing and ends upon the Owner's receipt of the NPDES Permit. The Owner hereby agrees to comply with and be responsible for all NPDES permit conditions.

Company/Organization Name: **Okahara and Associates, Inc.**

Mailing Address: **200 Kohola Street**

City, State and Zip Code+4: **Hilo, Hawaii 96720**

Street Address: **200 Kohola Street**

City, State and Zip Code+4: **Hilo, Hawaii 96720**

Authorized Contact Person & Title: **Bruce Meyers, PE - Project Engineer**

Phone No.: **(808) 961-5527**

Fax No.: **(808) 961-5529**

- b. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to process the required application for coverage under the NPDES permit to discharge to State waters from the subject facility. Our representative is further authorized to fulfill all conditions of the NPDES permit. This authorization begins with NPDES permit application processing and ends upon receipt of the CWB-NOC Form by the CWB. The Owner hereby agrees to comply with and be responsible for all NPDES permit conditions.

Company/Organization Name: _____

Mailing Address: _____

City, State and Zip Code+4: _____

Street Address: _____

City, State and Zip Code+4: _____

Authorized Contact Person & Title: _____

Phone No.: () _____

Fax No.: () _____

- c. This statement authorizes the named individual or any individual occupying the named position of the company/organization listed below to act as our representative to fulfill all conditions of the NPDES permit for the subject facility. This authorization begins upon the Owner's receipt of the NPDES Permit and ends upon receipt of the CWB-NOC Form by the CWB. The Owner hereby agrees to comply with and be responsible for all NPDES permit Conditions.

Company/Organization Name: **FHWA - Central Federal Lands Highway Division**

Mailing Address: **P.O. Box 4968**

City, State and Zip Code+4: **Hilo, Hawaii 96720-0968**

Street Address: **714 Kanoelehua Ave. Suite 202**

City, State and Zip Code+4: **Hilo, Hawaii 96720**

Authorized Contact Person & Title: **Eric Zeller - Contracting Officer Technical Representative**

Phone No.: **(808) 961-5708**

Fax No.: **(808) 969-9503**

- d. A separate statement is attached.

CWB-Individual NPDES Form C Checklist

If any item (except for Item 15) is listed as "no," attach a sheet with the reason for its exclusion from the CWB-Individual NPDES Form C submittal.

Item Number	Description	Is info. provided?	
		yes	no
1.	Owner Information	✓	
2.	Owner Type	✓	
3.	General Contractor Information*		✓
4.	Project Information	✓	
5.	Receiving State Water(s) Information	✓	
6.	Quantity of Storm Water Discharge	✓	
7.	Non-Storm Water Information	✓	
8.	Location Map is attached	✓	
9.	Flow Chart is attached	✓	
10.	Existing or Pending Permits, Licenses, or Approvals	✓	
	d. Submit one (1) copy of the NPDES permit application to SHPD (see Guidelines for CWB-NPDES Form C - Note 10.d.)	✓	
11.	Construction Site Characterization	✓	
12.	Construction Site Area	✓	
13.	Construction BMPs Plan	✓	
	a. Project Site Map(s)	✓	
	b. Construction Activity	✓	
	c. Quality of Discharge	✓	
	d. Potential Pollutant(s) and Control Measures	✓	
	e. Controls for Land Disturbances	✓	
	f. Erosion and Sediment Control Requirements (i.e., county-approved erosion control plan)	✓	
	g. Proposed Construction Schedule is attached	✓	
14.	Post-Construction Erosion Control Measures is attached	✓	
15.	Additional Information*		✓
16.	Authorization of Representatives	✓	

CWB-Individual NPDES Form C Checklist			
If any item (except for Item 15) is listed as "no," attach a sheet with the reason for its exclusion from the CWB-Individual NPDES Form C submittal.			
Item Number	Description	Is info. provided?	
		yes	no
17.	CWB-NPDES Signatory and Certification Statement is attached	✓	
18.	Filing Fee (\$1,000.00) is attached	✓	
19.	Number of copies with supporting documents submitted		
	a. Two (2) copies for projects on Oahu*		✓
	b. Four (4) copies for projects on the island of Hawaii	✓	
	c. Three (3) copies for projects on islands other than Oahu and Hawaii*		✓
20.	Submit a list of all supporting documents (see Guidelines for CWB-Individual NPDES Form C - Note VI.)	✓	

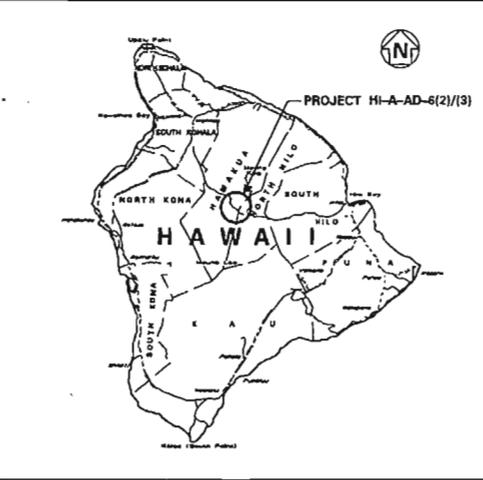
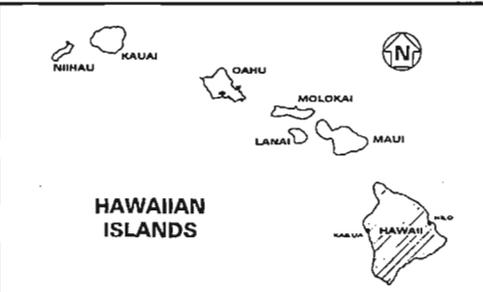
*See explanations below.

3. The contractor has not been selected. Award of Phase 2 contract will not occur until the end of 2004 or the beginning of 2005 at which time this information will be provided.

15. There is no additional information.

19a and 19c do not apply since the project is on the island of Hawaii.

NEG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	HI	HI-A-AD-6(2)/(3) Saddle Road	A1	

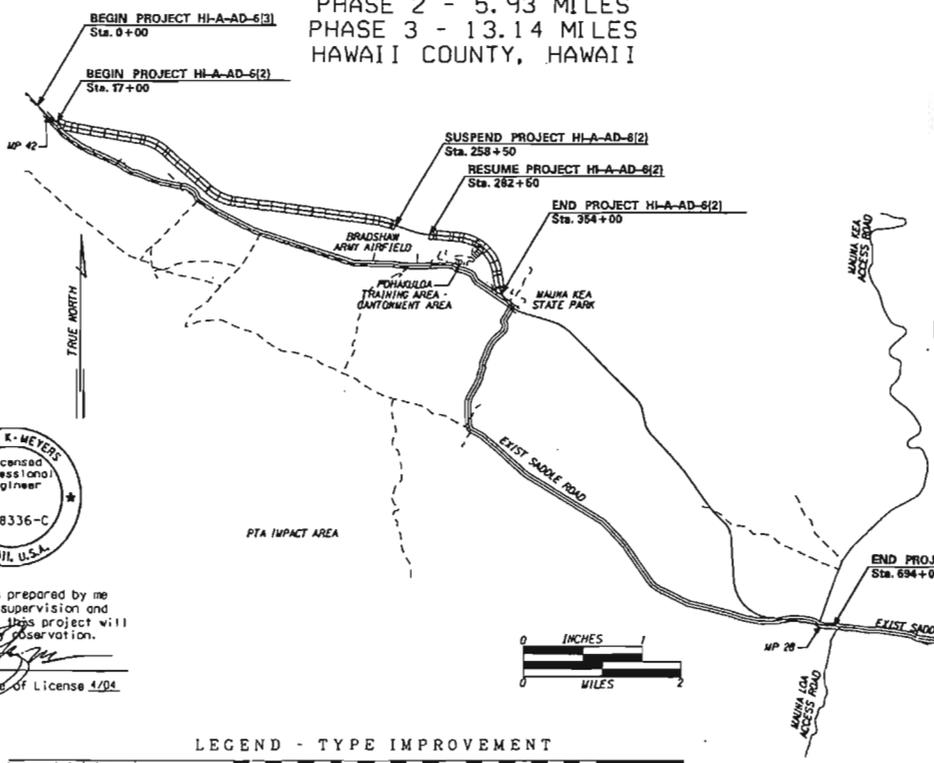


UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



PLANS FOR PROPOSED
DEFENSE ACCESS ROAD
PROJECT HI-A-AD-6(2)/(3)
STATE ROUTE 200 - SADDLE ROAD
PTA-1 SECTION
PHASE 2 - 5.93 MILES
PHASE 3 - 13.14 MILES
HAWAII COUNTY, HAWAII

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2-A2/1	HAUL PLAN
A3-A4	PLAN ABBREVIATIONS & SYMBOLS
A5	SURVEY CONTROL INFORMATION SHEET
A6-A7	TYPICAL SECTIONS & ROADWAY DETAILS
A8-A10	SUPERELEVATION DIAGRAMS
A11-A12	SUMMARY OF QUANTITIES
A13-A18	GRADING SUMMARY
A19-A20	DRAINAGE SUMMARY
A21-A22	MISCELLANEOUS SUMMARIES
B1-B29	ROADWAY PLAN & PROFILE
C1-C3	CULVERT PLAN DETAILS
C4-C12	LONGITUDINAL CULVERT SECTIONS
D1	METAL PIPE CULVERT
D2	METAL PIPE CULVERT COUPLING BAND
D3	PLASTIC PIPE CULVERT
D4	METAL END SECTIONS
D5	CONCRETE END SECTION FOR ROUND PIPE
D6	METAL AND PLASTIC PIPE CULVERT BEDDING
D7	CONCRETE PIPE CULVERT INSTALLATION
D8	PIPE CULVERT INLET TREATMENT IN CUT SLOPES
D9	RUBBLE MASONRY STRUCTURE & HALF HEADWALL
D10	MORTARED RIPRAP & BOX CULVERT RIPRAP
D11	PLACED RIPRAP
D12	CONSTRUCTION SIGNS
D13	BARRICADES
D14	ROADWAY OBLITERATION DETAIL
D15	APPROACH ROAD CONNECTIONS
E1-E21	EROSION CONTROL PLANS
E22-E25	EROSION CONTROL DETAILS
F1-F3	TEMPORARY TRAFFIC CONTROL PLANS & RESTRIPING
G1-G7	STRUCTURAL BOX CULVERT DETAILS
H1-H103	ROADWAY CROSS SECTIONS



Plans Prepared For:
U.S. Department of Transportation
Federal Highways Administration
Central Federal Lands Highways Division
Denver, Colorado

PLANS PREPARED BY
Okahara & Associates Inc.
200 KOROLA STREET
HILO, HAWAII 96720

TYPE OF CONSTRUCTION :
GRADING, DRAINAGE, AND HOT ASPHALTIC CONCRETE PAVEMENT

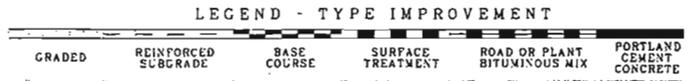
TYPE CODE: C000

DESIGN DATA:
ADT (2005) 4,490
ADT (2025) 10,530
DHV 910
D 65/35
T 5.0%
V 60 MPH
e_{max} 8%



The work was prepared by me or under my supervision and construction of this project will be under my observation.
Bruce K. Meyers
Expiration Date of License 4/04

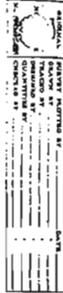
SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS, FP-96 - ENGLISH UNITS



FHWA PROJECT MANAGER: DAVE GEDEON

APPROVED: _____ DATE _____
DIRECTOR, HAWAII DEPARTMENT OF TRANSPORTATION

DIVISION ENGINEER, CENTRAL FEDERAL LANDS HIGHWAY DIVISION



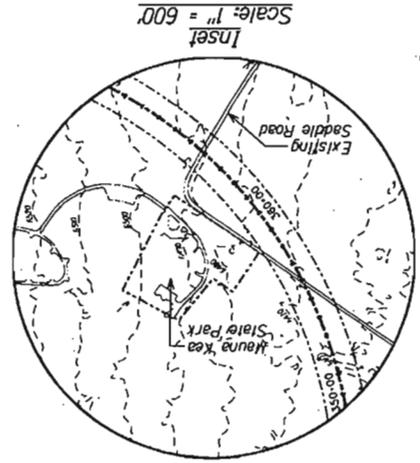
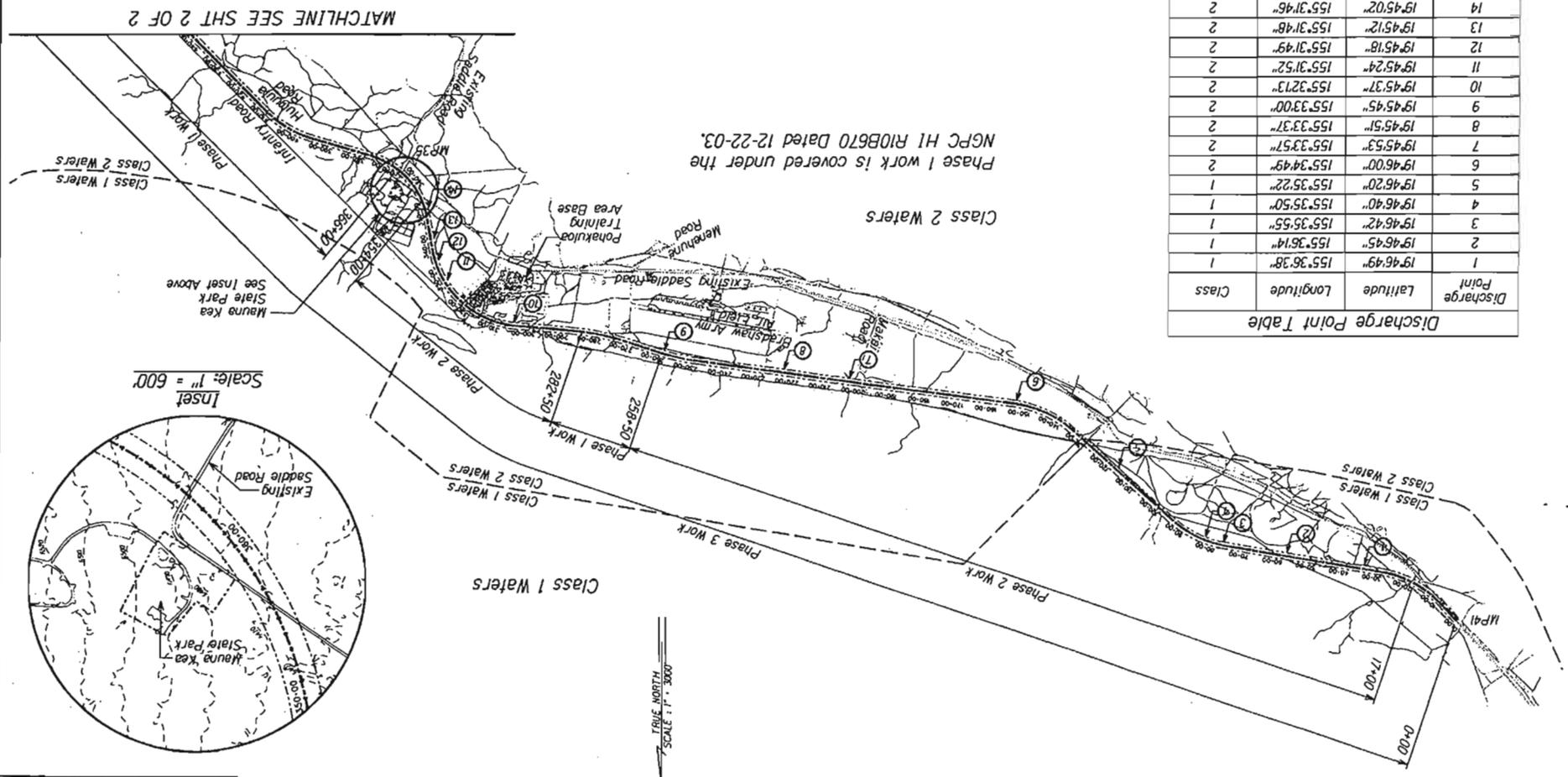
LEGEND:
 - PTA ALIGNMENT
 - PTA ALIGNMENT ROW
 - DIVISION BETWEEN CLASS 1 & 2 WATERS
 - EXISTING SADDLE ROAD

All discharge points are into unnamed ephemeral (intermittent) streams.

Discharge Point	Latitude	Longitude	Class
1	19°46'49"	155°36'38"	1
2	19°45'51"	155°36'14"	1
3	19°46'42"	155°35'55"	1
4	19°46'40"	155°35'50"	1
5	19°46'20"	155°35'22"	1
6	19°45'00"	155°34'49"	2
7	19°45'53"	155°33'57"	2
8	19°45'51"	155°33'37"	2
9	19°45'45"	155°33'00"	2
10	19°45'37"	155°32'13"	2
11	19°45'24"	155°31'52"	2
12	19°45'18"	155°31'49"	2
13	19°45'12"	155°31'48"	2
14	19°45'02"	155°31'46"	2

Discharge Point Table

Phase 1 work is covered under the NGPC HI R10B670 Dated 12-22-03.



MATCHLINE SEE SHT 2 OF 2

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
OVERALL SITE PLAN
 Scale: 1"=300'
 Date: March 12, 2004
 SHEET No. 1 OF 2

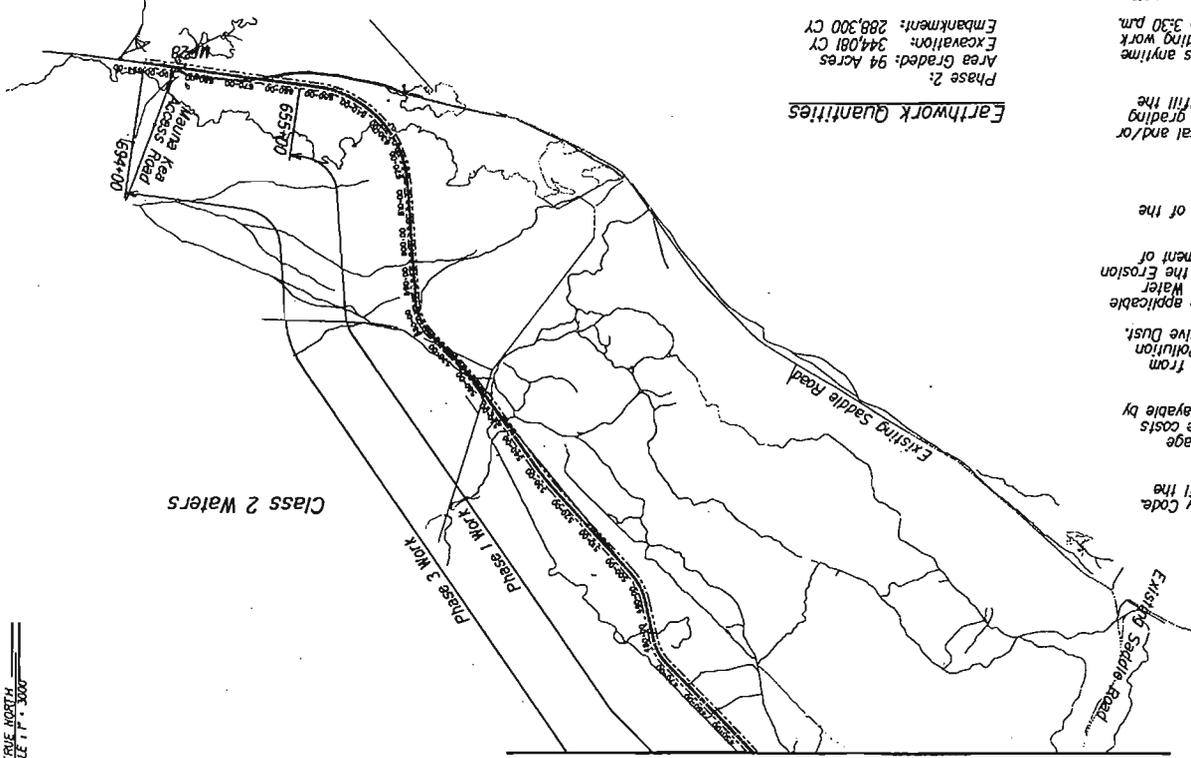
NO.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-R(2) Saddle Road	A2	

NO.	DATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-612 Saddle Road	A2/1	

DATE NORTH
SCALE 1" = 200'

MATCHLINE SEE SHT 1 OF 2

Class 2 Waters



Earthwork Quantities

Phase 2:
Area Graded: 94 Acres
Excavation: 344,081 CY
Embankment: 288,300 CY

Phase 3:
Area Graded: 20 Acres
Excavation: 28,000 CY
Embankment: 14,022 CY

See plans
for Director, DPW (For Grading Purposes Only)
County of Hawaii.

GRADING NOTES:

- All grading work shall conform to Chapter 10 of the Hawaii County Code. Should a grading permit be required, no work shall commence until the Department of Public Works (DPW) approves a grading permit.
- The Contractor shall remove all silt and debris deposited in drainage facilities, roadways and other areas resulting from his work. The costs incurred for any necessary remedial action by the DPW shall be payable by the Contractor.
- The Contractor shall keep the project and surrounding areas free from dust nuisances. The work shall be in conformance with the Air Pollution Control rules of the State Department of Health, HAR II-601, Fugitive Dust.
- All grading operations shall be performed in conformance with the applicable provisions of the Hawaii Administrative Rules, Title II, Chapter 55, Water Pollution Control and Chapter 54, Water Quality Standards, and to the Erosion and Sedimentation Control Standards and guidelines of the Department of Public Works, County of Hawaii.
- The Contractor shall hydro mulch or mat according to section 625 of the project specifications.
- Fills on slopes steeper than 5:1 shall be keyed.
- The Contractor shall inform the DPW of the location of the disposal and/or borrow sites) required for this project when an application for a grading permit is made. The disposal and/or borrow sites) must also fulfill the requirements of the grading ordinance.
- No grading work shall be done on Saturdays, Sundays and holidays anytime without prior approval from the Department of Public Works. Grading work on normal working days shall be between the hours of 7:00 am. to 3:30 pm. D-1557 test.
- Fills shall be compacted to 90 percent (90%) of maximum density per ASTM ground surface.
- The Contractor shall remove all vegetation before placing fills on natural ground surface.

LEGEND:

- PTA ALIGNMENT ROW
- EXISTING SADDLE ROAD

NO.	DESCRIPTION	SCALE
1	EXISTING SADDLE ROAD	AS SHOWN
2	PTA ALIGNMENT ROW	AS SHOWN

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

OVERALL SITE PLAN & GRADING NOTES

Scale: F-3000'
Date: March 12, 2004
SHEET No. 2 OF 2

A2/1

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	A3	

abutment
 acceleration
 aggregate
 ahead
 algebraic difference in grades
 alternals
 and
 and others
 and wife
 and so forth (et cetera)
 approach
 approximate
 asphalt
 asphalt concrete
 at
 average daily traffic

 back
 back to back
 balance point
 baseline
 batter
 beam
 bearing
 beginning
 bench mark
 bottom
 bridge

 cast iron
 cement rubble masonry
 centerline
 center to center
 centers
 channel change
 chord
 clear
 column
 concrete
 connection
 construction
 construction joint
 contingent sum
 continuous
 contracting officer
 corrugated
 corrugated metal pipe
 coulomb
 county
 countersink
 creek
 cubic meter
 culvert
 curve left
 curve right

 deceleration
 degree
 degree Celsius
 delta
 design hour volume
 detail
 Department of Hawaiian Homelands
 diagonal
 diameter
 diaphragm
 district
 donation land claim
 drawing(s)

abul.
 Accel.
 aggr.
 AH
 A
 all.
 #
 et al
 et ux
 etc.
 appr.
 approx.
 asph.
 A.C.
 @
 ADT

 BK
 a. to b.
 BP
 #
 br.
 br.
 br.
 BM
 Bot.
 br.

 C.I.
 CFM
 #
 cc or c. to c.
 cirs.
 ch. ch.
 chord
 clear
 col.
 conc.
 conn.
 constr.
 constr. jt.
 CTSM
 cont.
 co
 corr.
 CMP
 C
 ca.
 clsk.
 cr2
 m or m3
 culv.
 LT
 RT

 Decel
 °, deg.
 °C
 Δ
 DHV
 Det.
 DHHL
 dia.
 dia. or D
 diaph.
 Dist.
 DLC
 drwg(s)

east
 edge of pavement
 edge of shoulder
 edge of water
 edge of road
 elevation
 elevation with number
 embankment
 Engineer(s)
 equation
 excavation
 existing
 expansion joint

 federal
 feet
 finish
 flange
 footing
 for example

 galvanized
 gage (gauge)

 Hawaii Department of Transportation
 Hawaii Electric Light Company
 headwall
 heclare
 height
 hexagon
 high water
 highway
 house
 homestead entry survey
 horizontal
 hydraulic grade line

 identification
 inch
 inclusive
 incoming road grade
 inside diameter
 invert

 joint

 K (length of vert curve per percent change
 in algebraic difference in grades)
 kilogram
 kilometer
 kilometer per hour

 lamination
 latitude
 left
 length of curve
 linear feet
 longitudinal
 low water
 lump sum

 magnetic
 maintenance
 diag.
 maximum
 meter (measurement)
 metric ton
 millimeter

E
 EP
 ES
 EW
 ER
 elev.
 Et. 94.066
 emb.
 engr(s).
 EQ or eq.
 exc.
 Exist.
 exp. jt.

 Fed.
 ft.
 fin.
 flng.
 fig.
 c.g.

 galv.
 ga.

 HDOT
 HELCO
 hdwl.
 hc
 Ht.
 hex.
 HW
 hwy.
 hse.
 HES
 Horiz.
 H.G.R.

 iden.
 " "
 incl.
 GI
 JD
 Inv.

 jt.

 L/A

 kg
 km
 km/h

 lom.
 lat.
 lt.
 Lc
 L.F.
 long.
 LW
 LPSM

 mag.
 maint.
 matl.
 max.
 m
 t
 mm

mile post
 miles per hour
 minutes (angular)
 minimum
 miscellaneous
 modified
 monument
 mountain(s)

 negative
 not in contract
 north
 north
 not to scale
 number

 off center
 offset
 original ground
 out to out
 outgoing road grade
 outside diameter

 pascal
 pavement
 percent
 perforate
 permanent berm
 plate
 Pohakuloa Training Area
 point of beginning
 point of compound curve
 point of ending
 point of vertical curve
 point of vertical intersection
 point of vertical tangent
 Portland Cement Concrete
 point of curve
 point on curve
 point of intersection
 point of spiral to curve
 point of curve to spiral
 point on spiral
 point of spiral to tangent
 point on tangent
 point of tangent to spiral
 point of tangent
 project

 Q₁₀
 quantities

 radian
 radius
 range
 reconstruction
 reinforcement
 required
 reservoir or Reservoir
 retaining wall
 right
 right-of-way
 road
 roadway
 route

 school
 second (angular)
 second (time)

M.P.
 M.P.H.

 min.
 misc.
 mod.
 mon.
 mntsl.

 neg.
 N.I.C.
 N
 N
 N.T.S.
 no. or #

 O.C.
 O/S
 OG
 o. to o.
 OG
 OD

 Pa
 pmt.
 pct. or %
 perf.
 PB
 pl. or pl.
 PTA
 POB
 PCC
 POE
 PVC
 PVI
 PVT
 P.C.C.
 PC
 POC
 PI
 PSC or SC
 PCS or CS
 POS
 PST or ST
 POT
 PS or TS
 PT
 Proj.

 50-year water runoff
 quant.

 rad
 R
 R.
 reconstr.
 reinf.
 req'd.
 res.
 ret. wall
 rt.
 R/W or ROW
 rd.
 rdwy.
 rte.

 sch.
 " "
 s

section
 sheet
 sidewalk
 slope
 slope protection
 south
 spacing, Spaces or Spaced
 specification
 speed
 square
 square meter
 standard
 station
 stiffener
 straight
 street
 stringer
 structural
 superelevation
 superelevation rate
 symmetrical

 tangent
 tangent length
 tax map key
 temporary construction easement
 temporary bench mark
 that is
 thick
 thread
 township
 typical

 vehicles per hour
 velocity
 vertical
 vertical point of intersection

 warehouse
 weight
 west

sec.
 sht.
 sidewalk
 slp.
 sl. prot.
 S
 spa.
 spec.
 specification
 spd
 sq
 sq
 m² or m2
 std.
 sta.
 stiff.
 str.
 st.
 strg.
 struc. or struct.
 SE
 e
 sym.

 tan.
 T
 TMK
 TCE
 TBM
 i.e.
 thk.
 thd.
 T.
 typ.

 vph
 V
 vert.
 VPI

 whs.
 wt.
 W

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

PLAN ABBREVIATIONS

Scale: N/A Date: March 12, 2004
 SHEET No. 1 OF 1

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-8(2) Saddle Road	A4	

NATIONAL BOUNDARY	---
STATE BOUNDARY	- - - - -
COUNTY BOUNDARY	- · - · - · -
CITY BOUNDARY	- · - · - · -
TOWNSHIP or RANGE LINE	---
SECTION LINE	---
1/4 SECTION LINE	---
1/16 SECTION LINE	---
NATIONAL PARK or FOREST BOUNDARY	---
PROPERTY LINE	---
RIGHT-OF-WAY LINE	---
RIGHT-OF-WAY LINE with MONUMENT	EXISTING: --- PROPOSED: --- R/W
PARTIAL CONTROL OF ACCESS	EXISTING: --- PROPOSED: ---
FULL CONTROL OF ACCESS	EXISTING: --- PROPOSED: ---
EASEMENT (Permanent - Temporary)	PE ---
SLOPE STAKE	TOP OF CUT: --- TOE OF FILL: ---
JEEP TRAIL/GRAVEL ROAD	---
ROADWAY, EXISTING	---
RAILROAD	SINGLE TRACK: --- MULTIPLE TRACK: ---
TRAIL	---
INTERMITTENT DRAINAGE & SMALL CREEK	---
LARGE CREEK	---
RIVER	---
CONSTRUCTION LIMITS	---
EARTH BERM	---
EARTH LINED CHANNEL	---
ENVIRONMENTALLY SENSITIVE AREA	---
EROSION CONTROL MAT TYPE 3	---
EXISTING WATERLINE	---
HAUL ROAD	---
MULCHING, HYDRAULIC METHOD, BONDED FIBER MATRIX	---
OBLITERATE EXISTING ROADWAY	---
SEDIMENT CONTROL LOGS	---
SILT FENCE	---
TEMPORARY CONSTRUCTION EASEMENT	---
TIES	---

	EXISTING	PROPOSED
FENCE	---x---x---	---x---x---
GATE with FENCE	---X---X---	---XX---XX---
CATTLEGUARD	---	---
GUARDRAIL	No Symbol	---
MEDIAN & SIDE BARRIER	---	---
POST MOUNTED	---	---
SIGNS	PORTABLE: No Symbol COMMERCIAL: ---	---
RETAINING WALL	---	---
POWER POLE with UTILITY LINE	---	---
TELEPHONE POLE with UTILITY LINE	---	---
JOINT USE POLE with UTILITY LINES	---	---
SUPPORT POLE with ANCHOR	---	---
TELEPHONE BOOTH or PEDESTAL	---	---
STREET LIGHT	---	---
UNDERGROUND UTILITIES D-gas, O-oil, P-power, SA-sanitary sewer, SS-storm sewer, T-telephone, W-water	---	---
BRIDGE	---	---
PIPE CULVERT (arrow shows flow)	---	---
PIPE CULVERT with END SECTION	---	---
PIPE CULVERT with HEADWALL	---	---
BOX CULVERT	---	---
CULVERT with DROP INLET	---	---
UNDERDRAIN	---	---
TRAVERSE POINT (Horizontal & Vertical) Top of Triangle Points North	---	No Symbol
TRAVERSE POINT (Horizontal)	---	No Symbol
BRASS CAP	---	No Symbol
STEEL PIN	---	No Symbol
HUB & TACK	---	No Symbol
SPOT ELEVATION	---	No Symbol
COORDINATE GRID TICK	---	No Symbol
BUILDING	---	---
BORING LOCATION	---	No Symbol

LAKE, POND or RESERVOIR, MARSHLAND	---
SPRING	---
TREELINE, TREE	---
BUSH	---
MATERIAL SOURCE	---
MORTARED RIPRAP	---
RIPRAP	---
CHECK DAM	---

	FOUND	PROJECTED
SECTION CORNER	---	---
1/4 SECTION CORNER	---	---
1/16 SECTION or PROPERTY CORNER	---	---
PROPERTY CORNER	---	No Symbol
PARCEL NUMBER	No Symbol	---
NORTH ARROW	---	---

NOTE:
Other symbols used in the plans will be shown in a legend on the appropriate plan sheet.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

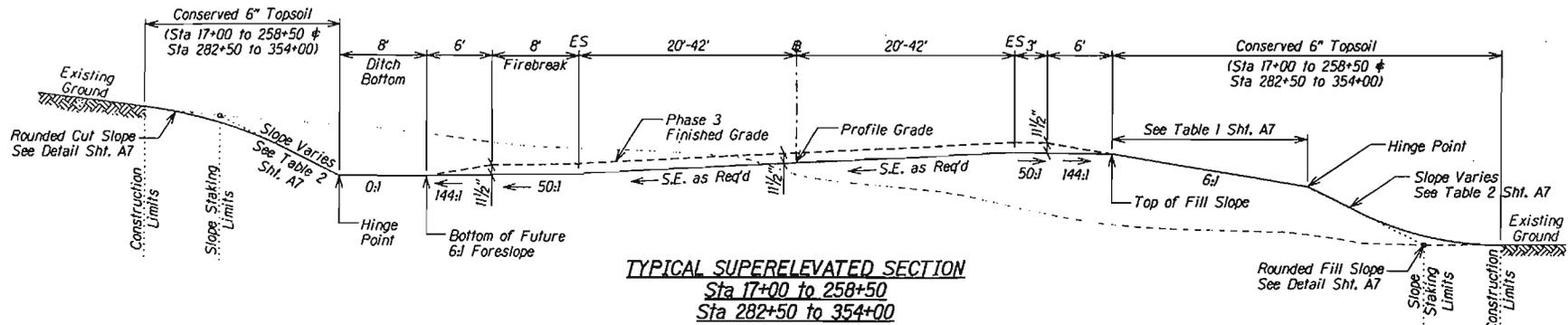
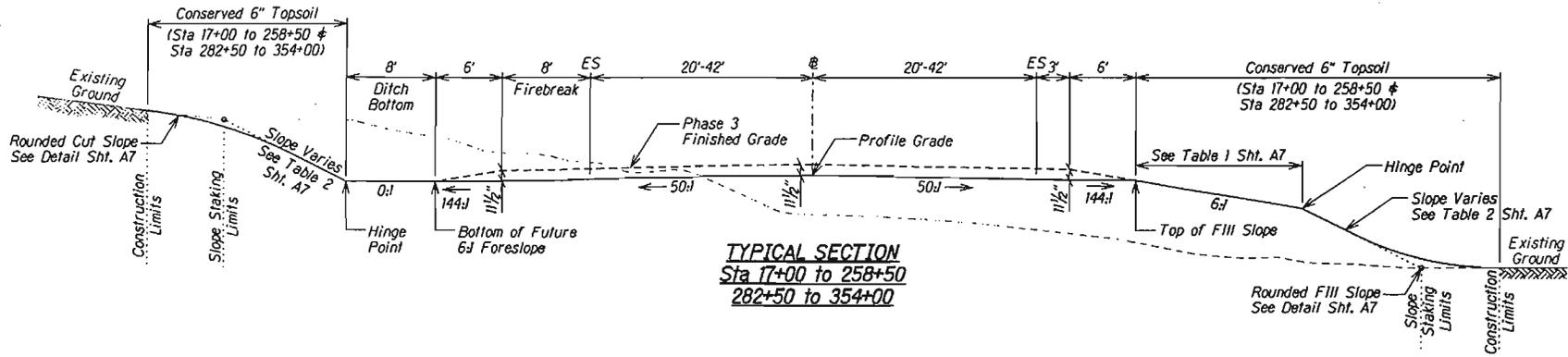
PLAN SYMBOLS

Scale: N/A Date: March 12, 2004

SHEET No. 1 OF 1

DRAWN BY: []
 CHECKED BY: []
 DATE: []

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	A6	



DESIGNED BY	
DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	

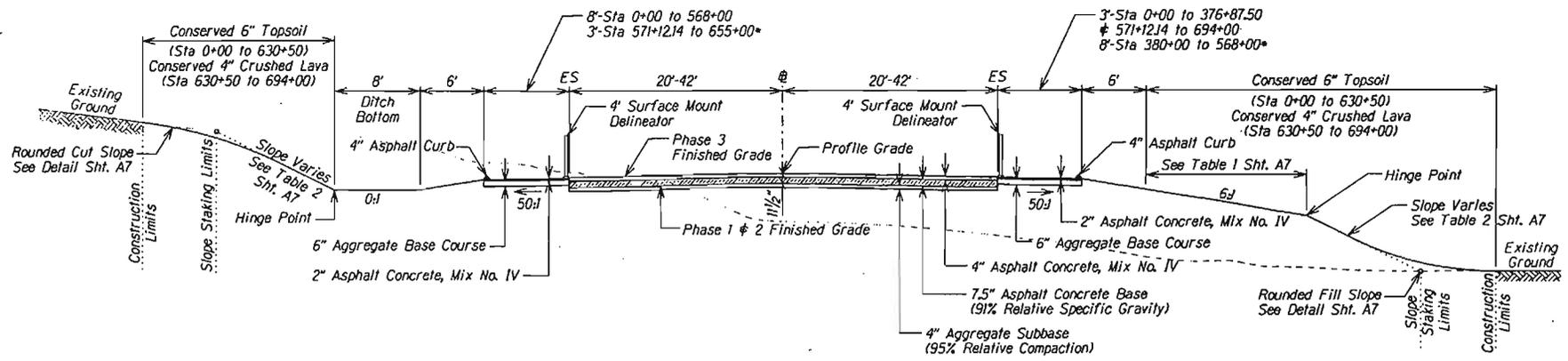
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

**SADDLE ROAD PTA
PHASE 2 TYPICAL SECTIONS**

Scale: N.T.S. Date: March 12, 2004

SHEET No. 1 OF 3

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(3) Saddle Road	A6/1	



PHASE 3 TYPICAL ROADWAY SECTION
Sta 0+00 to 694+00

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

**SADDLE ROAD PTA
PHASE 3 TYPICAL SECTION**

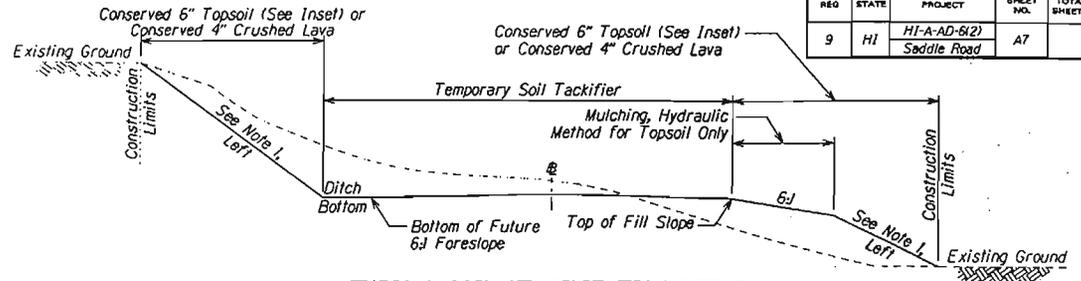
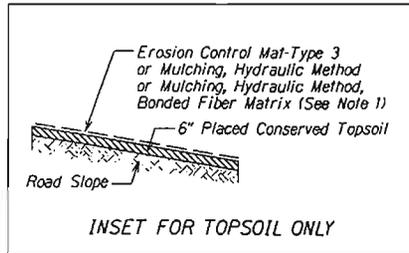
Scale: N.T.S. Date: March 12, 2004

SHEET No. 2 OF 3

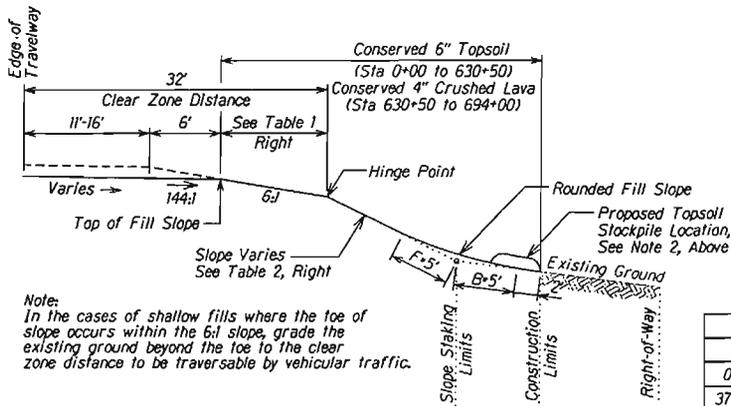
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-512	A7	
		Saddle Road		

NOTES:

- For topsoil only: 2:1 or steeper slopes, use erosion control matting type 3 (62901C) or mulching, hydraulic method, bonded fiber matrix (62504BBFM). For flatter than 2:1 slopes, use mulching, hydraulic method (62504B).
- Maximum 18" high stripped topsoil stockpiles to be located in area between slope staking and construction limits. Submit locations to CO for approval.



TYPICAL SOIL STABILIZATION DETAIL
NOTE: FOR CUT & FILL SLOPES



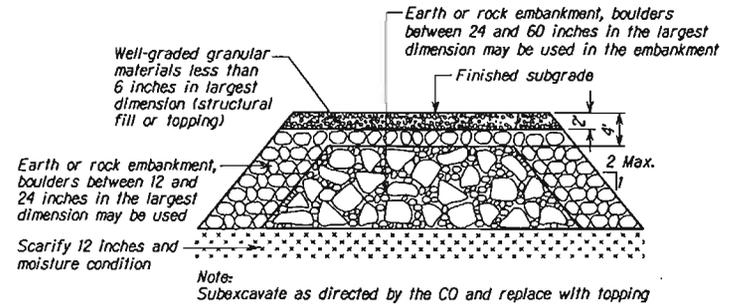
TYPICAL FILL SLOPE SECTION
"Barn Roof" Detail

Station	Left	Right
0+00 - 376+87.50	10'	15'
376+87.50 - 380+00	10'	10' - 15'
380+00 - 568+00	10'	10'
568+00 - 571+12.14	10' - 15'	10' - 15'
571+12.14 - 694+00	15'	15'

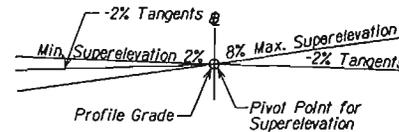
*Firebreak

Slope	Cut Slope Ht.	Fill Slope Ht.
6:1	0' - 6'	0' - 2'
4:1	6' - 9'	2' - 4'
3:1	9' - 12'	4' - 8'
2:1	12' - over	8' - over

Note:
In the "barn roof" type fill, the slope beyond the 6:1 follows table above.



TYPICAL EMBANKMENT SECTION



METHOD OF SUPERELEVATION ON CURVES

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

**SADDLE ROAD PTA
ROADWAY DETAILS**

Scale: N.T.S. Date: March 12, 2004

SHEET No. 2 OF 2

MISCELLANEOUS SUMMARIES PHASE 2

REG.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI A-AD-6(2) SADDLE ROAD	A21	

EROSION CONTROL SUMMARY

Item Number	15703	15709	15735	15702AA	62504B	**	62901C
Station	Silt Fence (linear foot)	Check Dams (each)*	Sediment Control Log (each)	Temporary Soil Tackifier (acre)	Mulching, Hydraulic Method (acre)	Mulching, Hydraulic Method, Bonded Fiber Matrix or Erosion Control Mat Type 3 (acre)	Erosion Control Mat Type 3 (square yard)
17+00 to 53+00	3096	73	24	5.75	3.92	0.81	0
53+00 to 62+00	780	0	23	1.48	0.90	0.26	623
62+00 to 69+50	313	0	0	1.31	0.99	0.03	1867
69+50 to 114+50	1938	95	44	7.72	3.54	4.45	5445
114+50 to 204+00	6241	54	181	14.12	11.35	0.49	3112
204+00 to 214+50	827	30	12	1.68	1.10	0.06	0
214+50 to 258+50	3660	48	86	6.85	5.15	0.00	0
282+50 to 354+00	5352	71	173	13.52	7.78	1.14	0
PHASE 2 TOTAL	22207	371	543	53	35	8	11047

SLOPE COVER SUMMARY

Item Number	62404N
Station	Placing Conserved Topsoil, 6-inch Depth (square yard)
17+00 to 53+00	22903
53+00 to 62+00	5605
62+00 to 69+50	4958
69+50 to 114+50	38657
114+50 to 204+00	57302
204+00 to 214+50	5578
214+50 to 258+50	24916
282+50 to 354+00	43202
PHASE 2 TOTAL	203421

*Check dams may be of rock or sediment control log types.

**62504BBFM - Mulching, Hydraulic Method Bonded Fiber Matrix

62901C - Erosion Control Mat Type 3

CLEARING & GRUBBING

Item Number	15703
Location	Clearing and Grubbing (acre)
17+00 to 53+00	10.19
53+00 to 62+00	2.63
62+00 to 69+50	2.33
69+50 to 114+50	15.73
114+50 to 204+00	25.44
204+00 to 214+50	2.84
214+50 to 258+50	12.02
282+50 to 354+00	22.19
PHASE 2 TOTAL	94

ROADWAY OBLITERATION

Item Number	21101
Location	Roadway Obliteration (square yard)
17+00 to 53+00	1780
53+00 to 62+00	0
62+00 to 69+50	0
69+50 to 114+50	42
114+50 to 204+00	3552
204+00 to 214+50	0
214+50 to 258+50	707
282+50 to 354+00	2566
PHASE 2 TOTAL	8647

EARTH BERM SUMMARY

Item Number	25101A	15706	***
Station	Placed Riprap, Class 1 (cubic yard)	Earth Berm (linear foot)	Earthwork Geotextile, Type IV-E
17+00 to 53+00	233.31	2100	1633.38
53+00 to 62+00	66.66	600	466.68
62+00 to 69+50	83.33	750	583.35
69+50 to 114+50	438.85	3950	3072.31
114+50 to 204+00	433.29	3900	3033.42
204+00 to 214+50	11.11	100	77.78
214+50 to 258+50	205.54	1850	1438.93
282+50 to 354+00	505.51	4550	3538.99
PHASE 2 TOTAL	1978	17800	13845

***For information only.

PERMANENT CHANNEL

Item Number	***
Station	Permanent Channel (linear foot)
114+50 to 204+00	600
PHASE 2 TOTAL	600

***For information only.

MISCELLANEOUS SUMMARIES PHASE 3

REG.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI A-AD-6(3) SADDLE ROAD	A22	

EROSION CONTROL SUMMARY			
Item Number	15703	15709	15735
Station	Silt Fence (linear foot)	Check Dams (each)*	Sediment Control Log (each)
0+00 to 17+00	1257	24	12
354+00 to 366+00	725	14	0
655+00 to 694+00	0	0	0
PHASE 3 TOTAL	1982	38	12

*Check dams may be of rock or sediment control log types.

SLOPE COVER SUMMARY		
Item Number	62404N	62404K
Station	Placing Conserved Topsoil, 6-inch Depth (square yard)	Placing Conserved Topsoil, 4-inch Depth (crushed lava) (square yard)
0+00 to 17+00	27676	
354+00 to 366+00	8360	
655+00 to 694+00		20518
PHASE 3 TOTAL	36036	20518

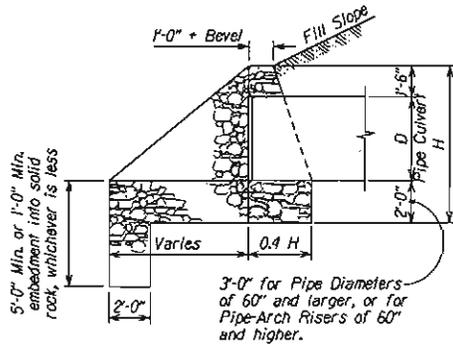
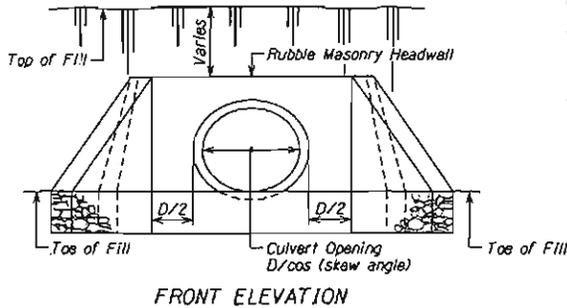
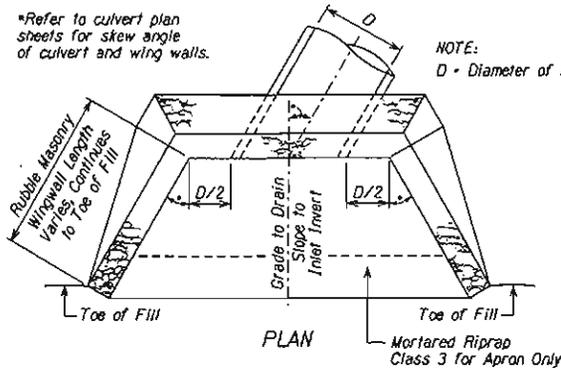
CLEARING & GRUBBING	
Item Number	15703
Location	Clearing and Grubbing (acre)
0+00 to 17+00	5.30
354+00 to 366+00	4.19
655+00 to 694+00	10.12
PHASE 3 TOTAL	20

ROADWAY OBLITERATION	
Item Number	21101
Location	Roadway Obliteration (square yard)
0+00 to 17+00	2048
354+00 to 366+00	416
655+00 to 694+00	1892
PHASE 3 TOTAL	4356

EARTH BERM SUMMARY			
Item Number	25101A	15706	***
Station	Placed Riprap, Class 1 (cubic yard)	Earth Berm (linear foot)	Earthwork Geotextile, Type IV-E
0+00 to 17+00	83.33	750	583.35
354+00 to 366+00	115.54	1040	808.91
655+00 to 694+00	0.00	0	0.00
PHASE 3 TOTAL	199	1790	1392

***For information only.

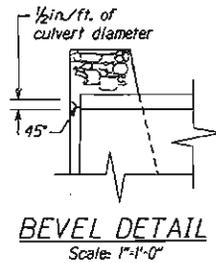
*Refer to culvert plan sheets for skew angle of culvert and wing walls.



SIDE ELEVATION
RUBBLE MASONRY,
COURSE POINTED FINISH

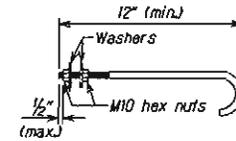
GENERAL NOTES:

1. Construct bevels $\frac{1}{2}$ in./ft. of culvert diameter or rise. Minimum bevel size shall be 2 inches.
2. The groove or bell end of the concrete culvert may be used in place of the bevel.

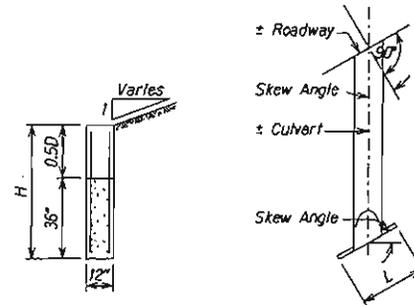


HEADWALL FOR MULTIPLE PIPE CULVERT
DIMENSIONS, REINFORCING STEEL, AND CONCRETE TABLE OF QUANTITIES

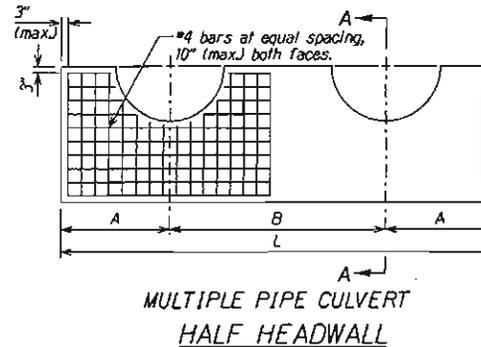
STATION	SKEW ANGLE	D (In)	H (ft)	A (ft)	B (ft)	L (ft)	CONC. (ft ³)	STEEL (lb)
175+00	37°	24 ⁽²⁾	4.00	2.50	5.00	10.00	36.86	127.75



MIO HOOK BOLT DETAILS



SECTION A-A TYPICAL HALF PLAN



MULTIPLE PIPE CULVERT
HALF HEADWALL

NOTES:

1. Concrete conforms to Section 601. Pour concrete monolithically. Chamfer all exposed edges $\frac{3}{4}$ " and finish all exposed surfaces with a Class 1 ordinary finish.
2. Clearance for reinforcing steel is 2" unless otherwise noted.
3. Headwall dimension "H" may be reduced in solid rock provided the wall is keyed into the rock at least 12". Excavate and backfill according to Section 209.
4. Set hook bolts on nominal 18" centers around pipe perimeter at center of headwall. Hook bolts conform to ASTM A307. Galvanize according to ASTM A153.
5. For installations with more than two pipe culverts, increase the dimension "L" and all quantities shown for double pipe installation by adding a length equal to dimension "B" and the incremental change in quantities for each additional pipe culvert.
6. For skews other than those shown, multiply quantities and dimensions "A", "B" & "L" for square headwalls by secant of the skew angle.
7. Final quantities will be determined by using the tables on this standard.
8. Do not order materials until the length, skew angle, and slope bevel in the field have been approved.

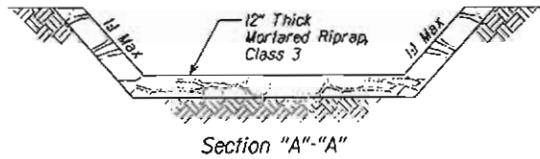
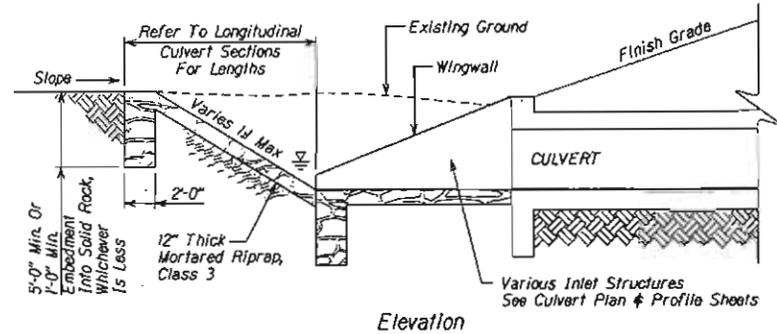
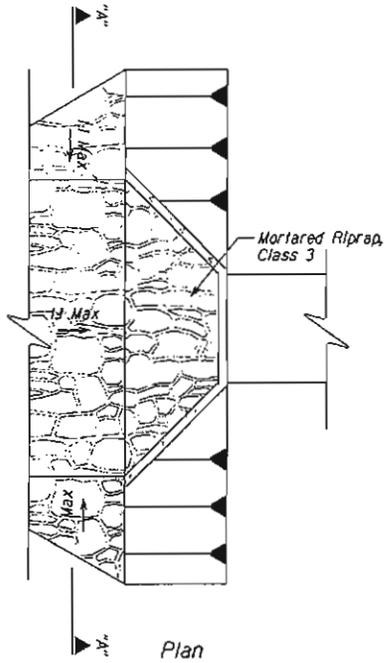
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-61(2) Saddle Road	D9	

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

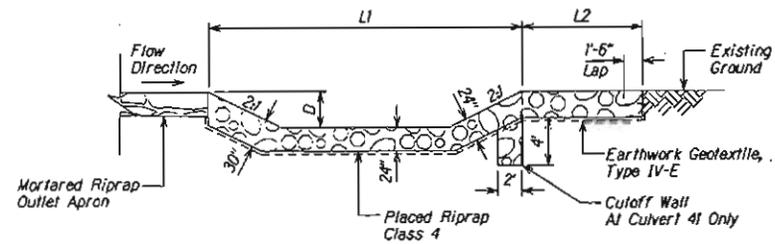
RUBBLE MASONRY STRUCTURE
HALF HEADWALL

Scale: N.T.S. Date: March 12, 2004
SHEET No. 1 OF 1

NEG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	D10	



MORTARED RIPRAP APRON AT CULVERT INLET
Scale: N.T.S.



CULVERT	L1	L2	D
33+10	39'	0'	2'
151+56	20'	10'	2'
201+51	20'	10'	2'
223+00	30'	12'	2.5'
304+16	34'	0'	2'
328+71	21'	0'	2'
351+98	42'	0'	2'

BOX CULVERT OUTLET RIPRAP
Scale: N.T.S.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

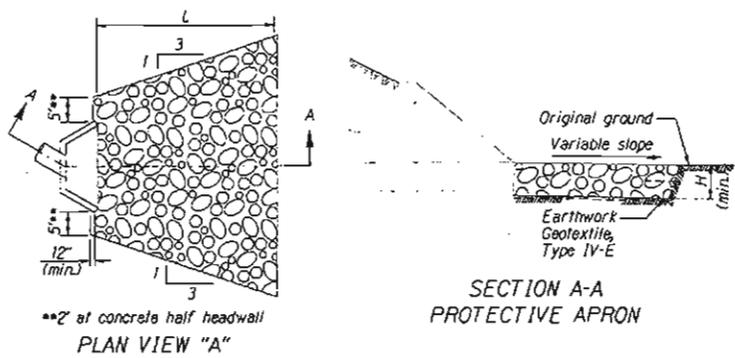
**MORTARED RIPRAP AT INLET
+ BOX CULVERT OUTLET RIPRAP**

Scale: N.T.S. Date: March 12, 2004

SHEET No. 1 OF 1

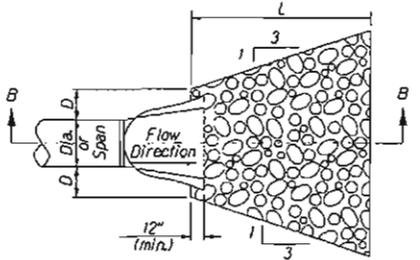
REQ	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-B(2) Saddle Road	D11	

- NOTE:**
- Dimensions not labeled are in inches.
 - Excavation for placement of riprap will not be measured for payment.
 - Furnish geotextile materials conforming to subsection 714.D1 (Earthwork Geotextile, Type IV-E).

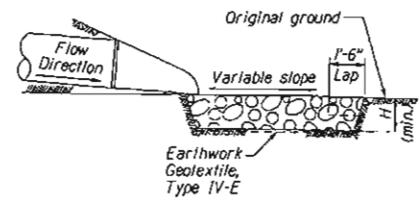


CULVERT W/ RUBBLE MASONRY OR HALF HEADWALL OUTLET STRUCTURE

CULVERT STATION	CLASS	L - LENGTH (feet)	H - DEPTH (feet)
10+94	3	10'	20"
57+40*	4	25'	24"
75+30	3	15'	20"
81+47	4	20'	24"
86+76	4	15'	24"
114+51	4	20'	24"
123+67*	4	25'	24"
138+44	3	15'	20"
141+38	3	15'	20"
148+52	3	10'	20"
162+00	3	15'	20"
175+00*	3	15'	20"
179+15	4	20'	24"
187+19	3	15'	20"
210+45	3	15'	20"
234+10*	4	20'	24"
249+74	4	15'	24"
257+45	3	15'	20"
293+18*	4	25'	24"
334+29	3	15'	20"
335+88	3	10'	20"
342+51	3	15'	20"
343+17	3	10'	20"

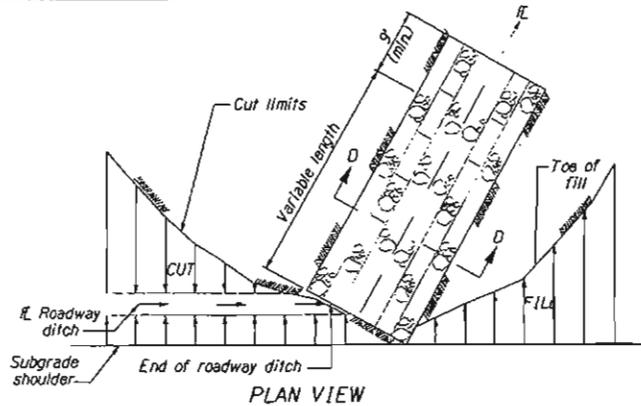


PLAN VIEW "B"

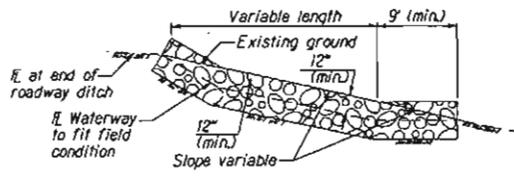


**SECTION B-B PROTECTIVE APRON
CULVERT W/ END SECTION**

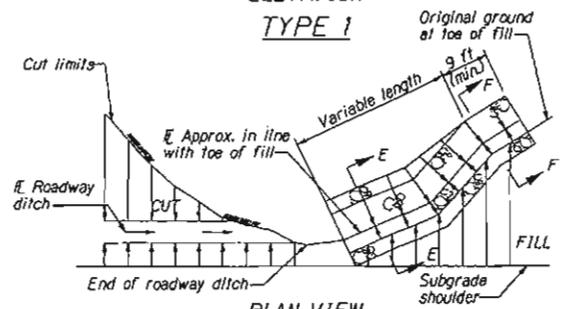
* See plan view "A"
all others see plan view "B"



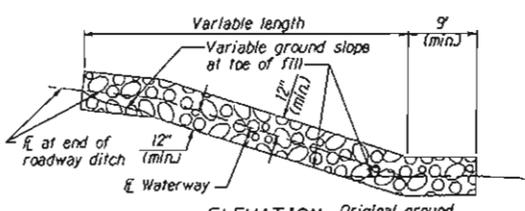
PLAN VIEW



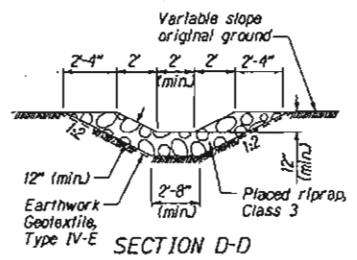
ELEVATION TYPE 1



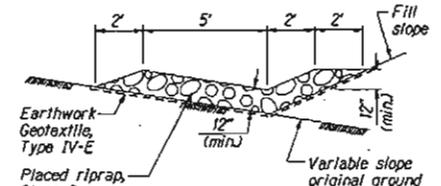
PLAN VIEW



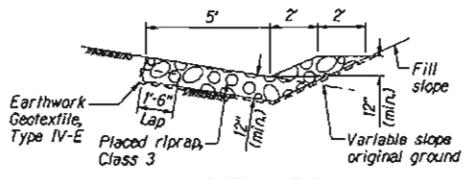
ELEVATION TYPE 2



SECTION D-D



SECTION E-E



SECTION F-F

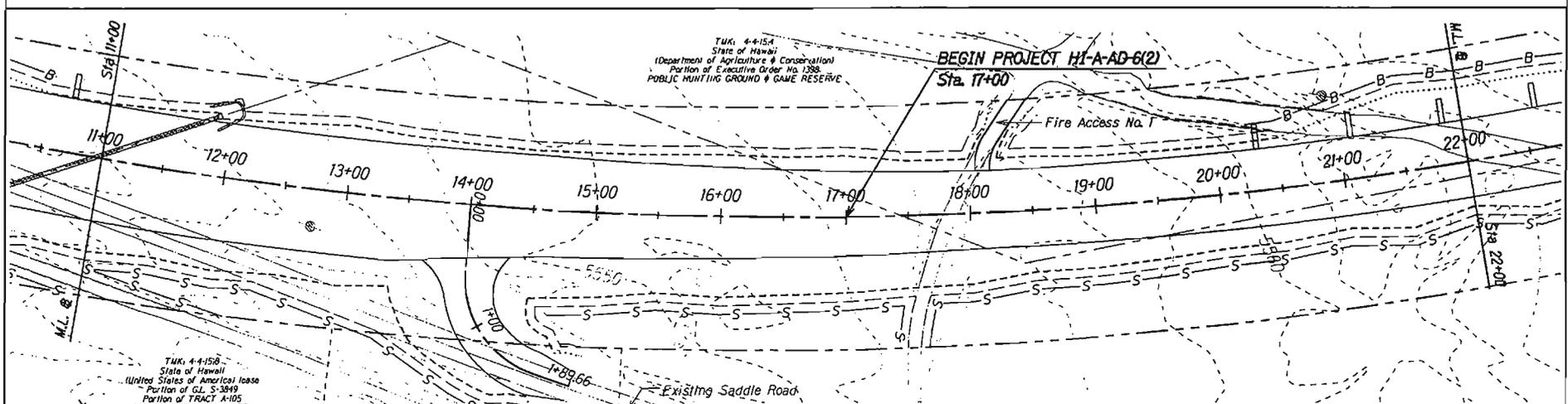
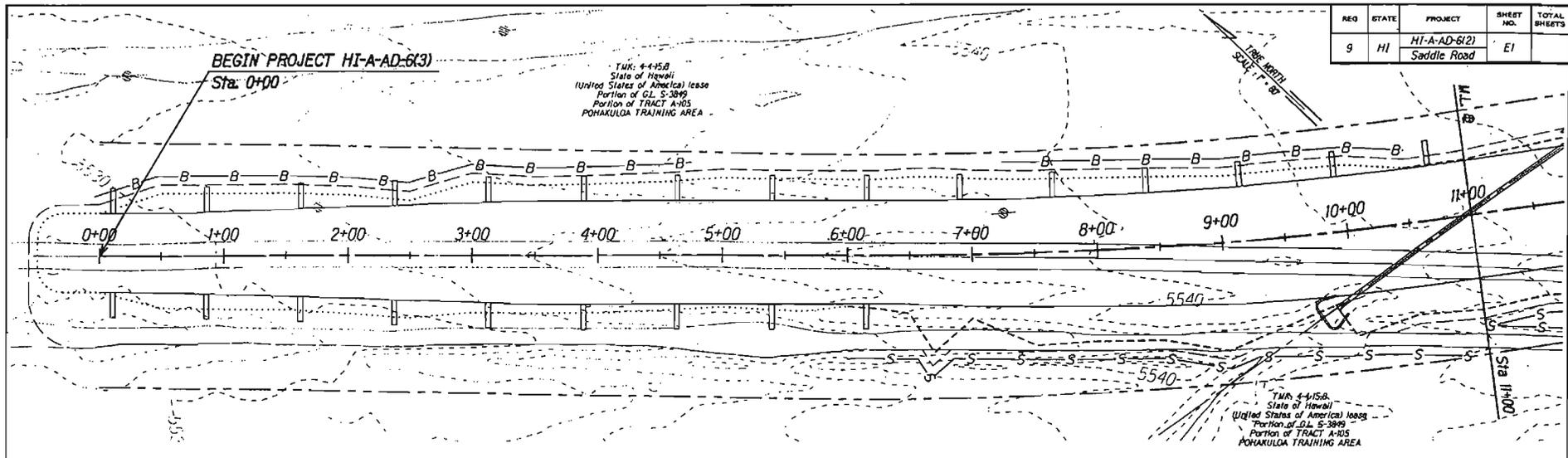
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FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

PLACED RIPRAP

Scale: N.T.S. Date: March 12, 2004

SHEET No. 1 OF 1

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E1	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

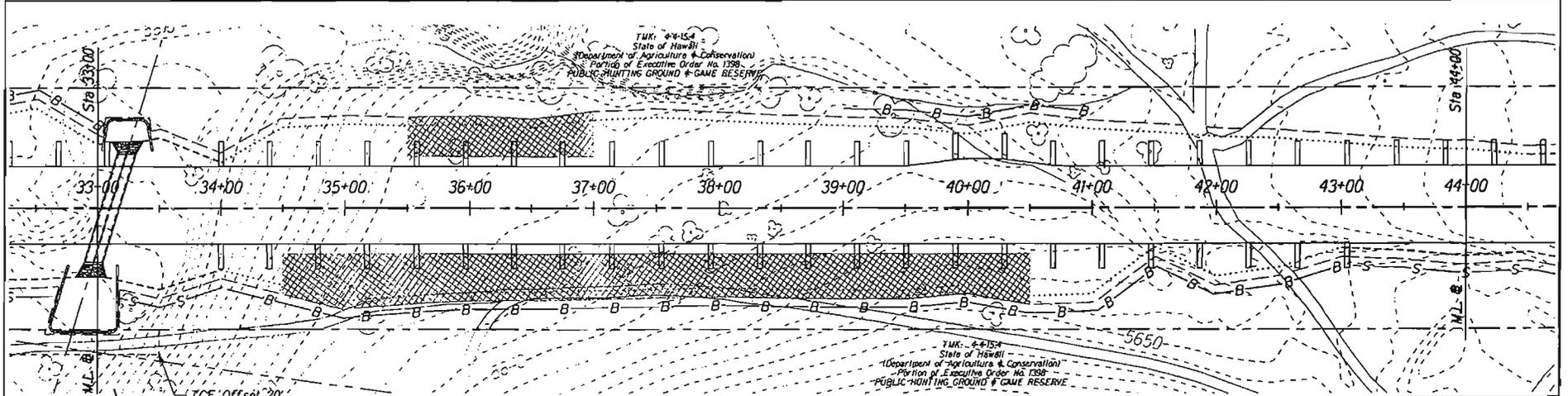
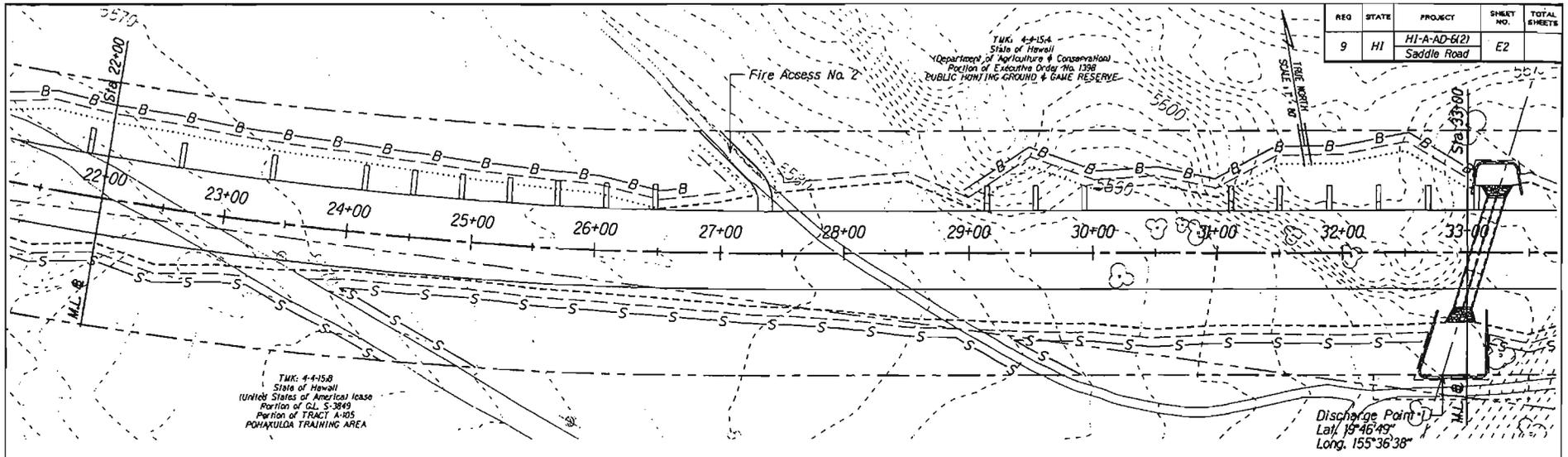
EROSION CONTROL PLAN
SADDLE RD @ STA 0+00 - 22+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 1 OF 21

DRAWING PREPARED BY: []
 CHECKED BY: []
 DATE: []

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E2	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

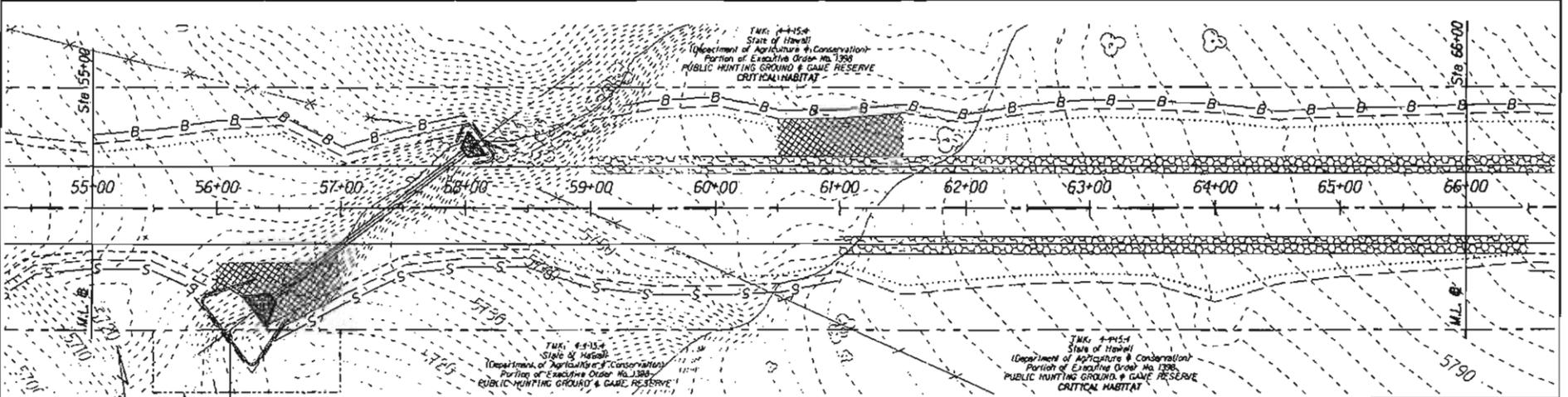
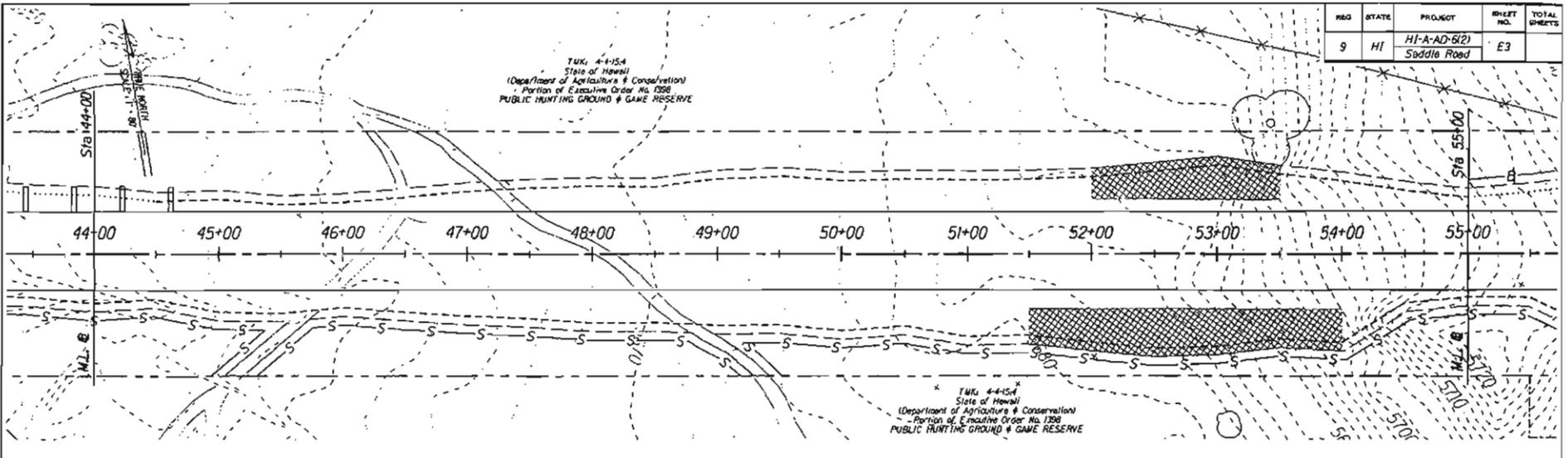
EROSION CONTROL PLAN
SADDLE RD @ STA 22+00 - 44+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 2 OF 2

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E3	



DRAWN BY: [Name]
 CHECKED BY: [Name]
 DATE: [Date]

Discharge Point 2
 Lat. 19°46'45"
 Long. 155°36'14"
 R/W Offset 50'
 Sta. 55+50-57+00

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

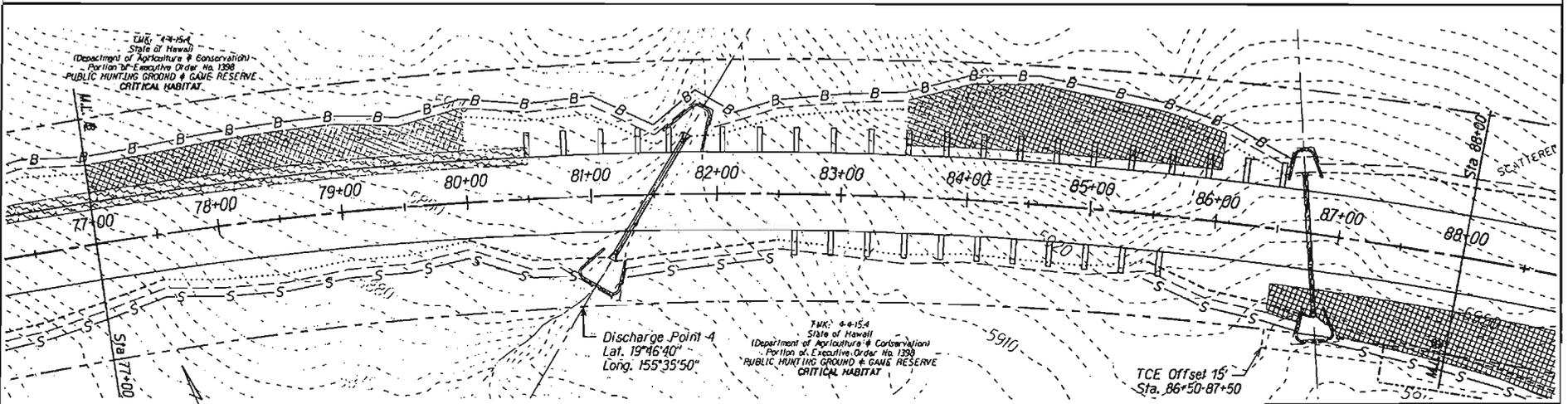
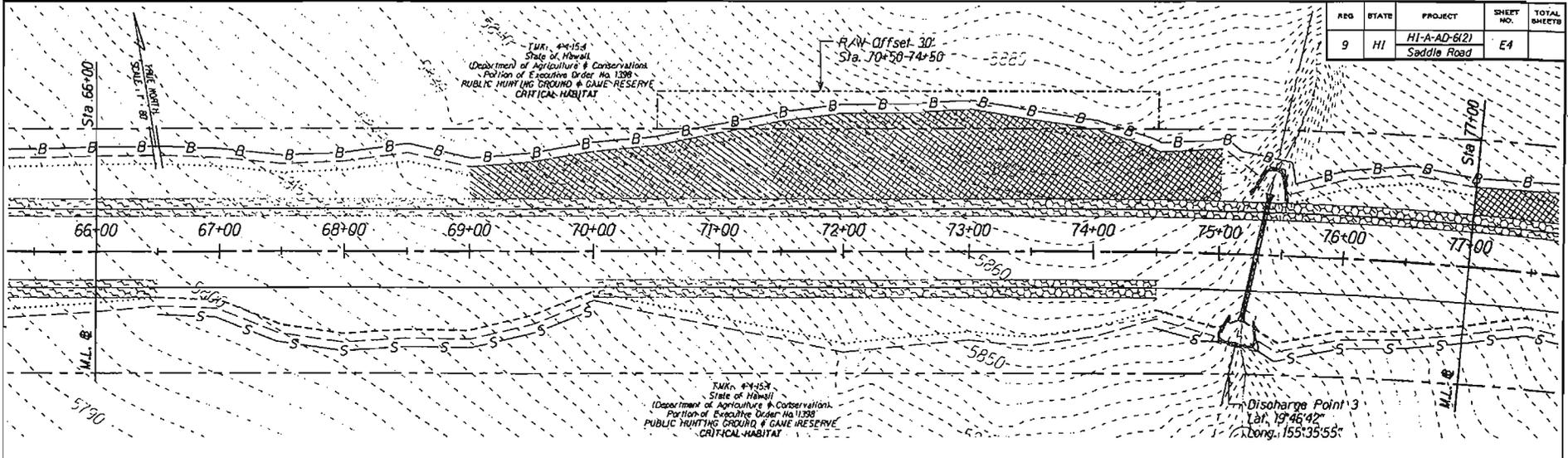
U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD @ STA 44+00 - 66+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 3 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E4	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

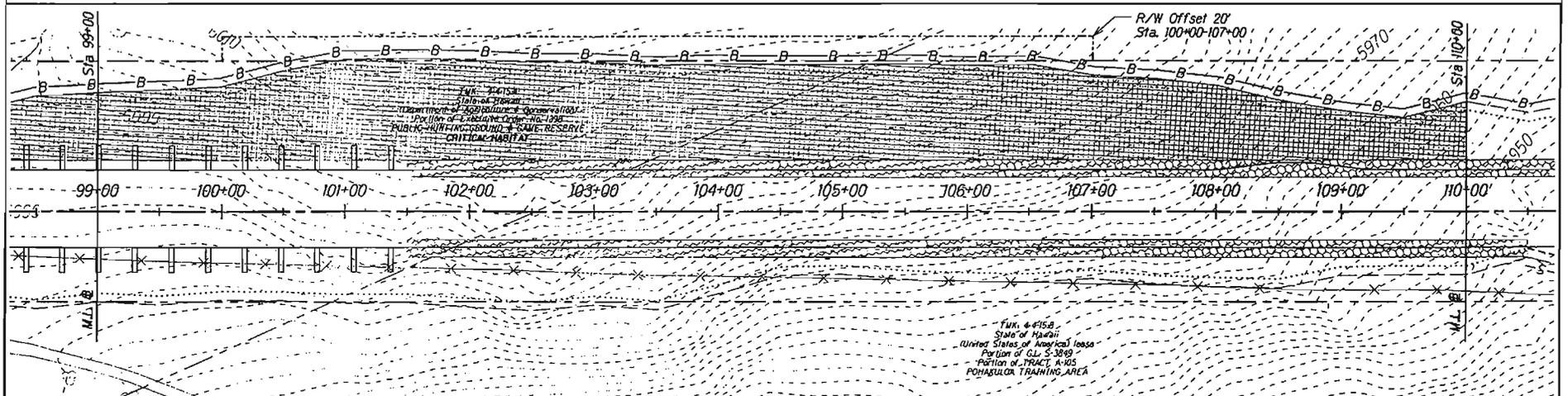
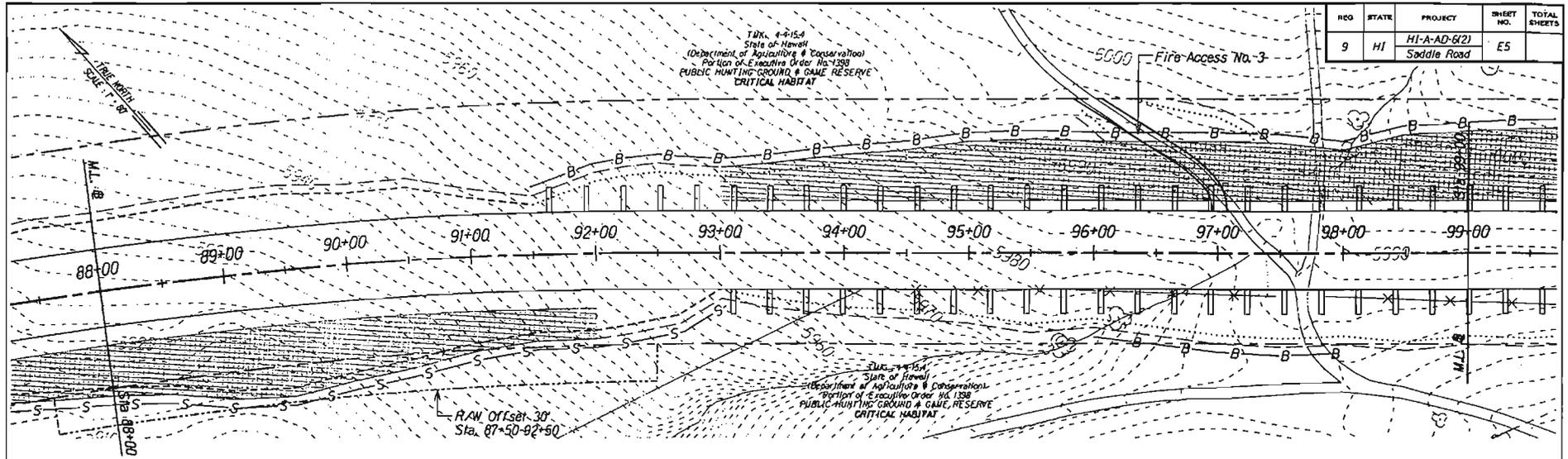
EROSION CONTROL PLAN
SADDLE RD STA 66+00 - 88+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 4 OF 21

DRAWN BY: [Name]
 CHECKED BY: [Name]
 DATE: 3/12/04

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E5	



DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 DATE: [Date]

- | | | | |
|--|---|--|----------------------|
| | Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3 | | Check Dam |
| | Erosion Control Mat Type 3 | | Toe of Fill Slope |
| | Silt Fence | | Top of Cut Slope |
| | Earth Berm | | Construction Limits |
| | | | Sediment Control Log |

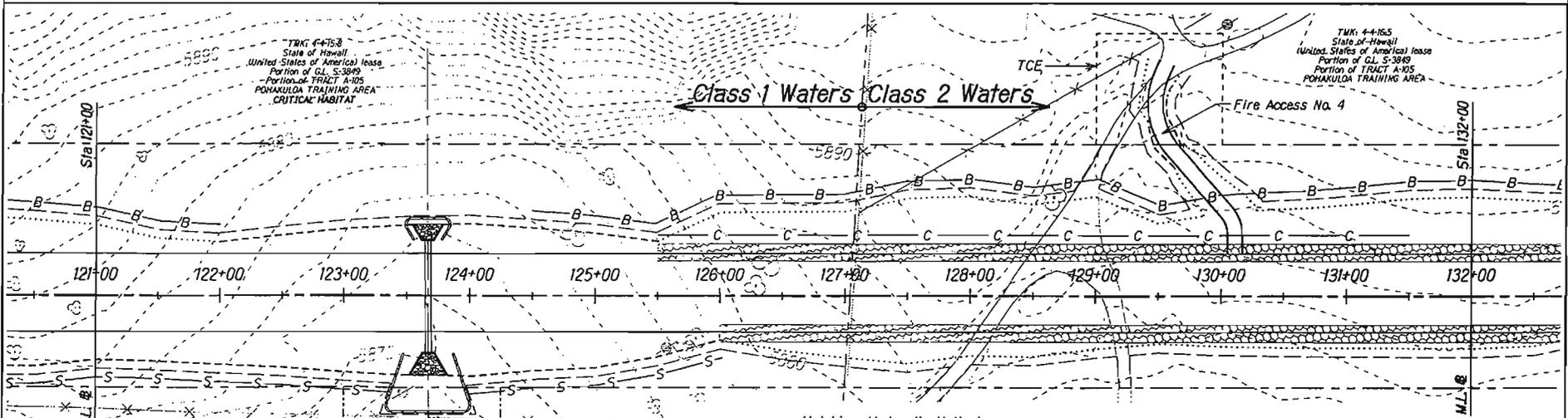
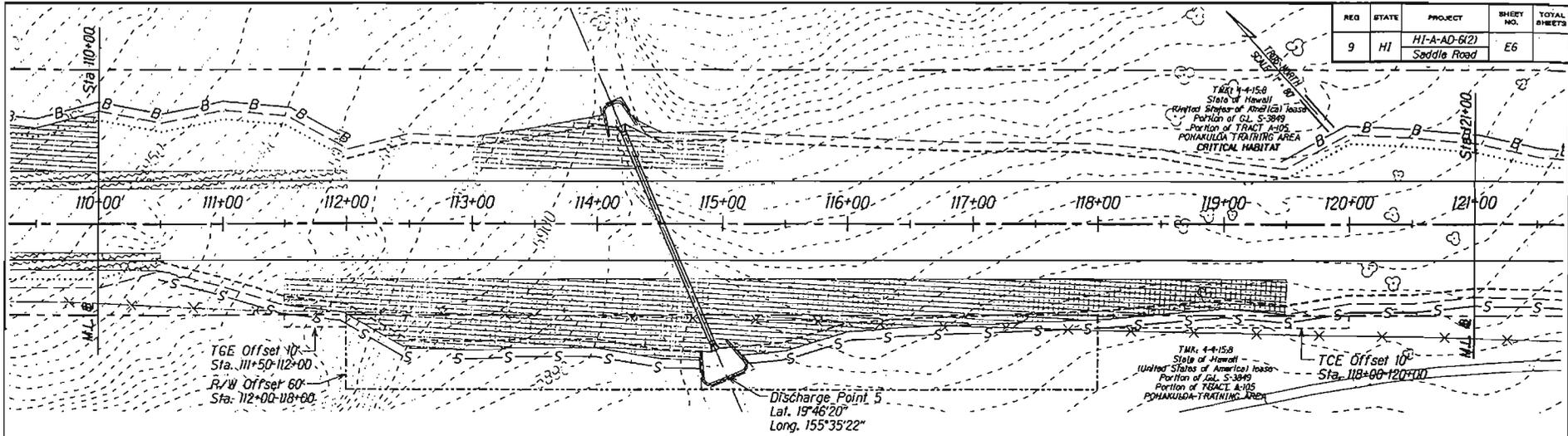
U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 88+00 - 110+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 5 OF 21

REQ	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E6	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Sill Fence
- Earth Berm
- Permanent Channel
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

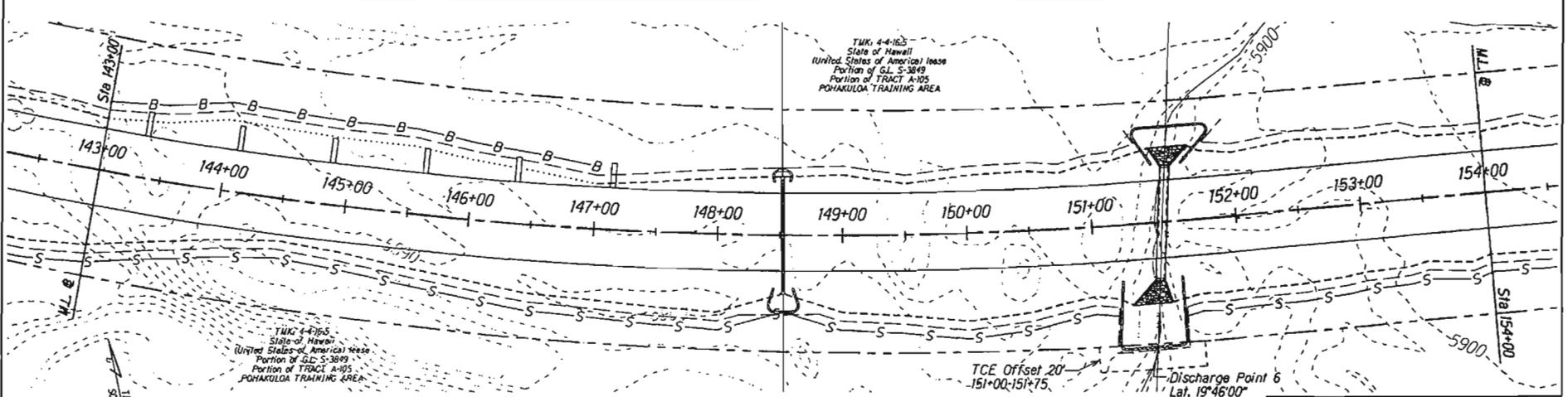
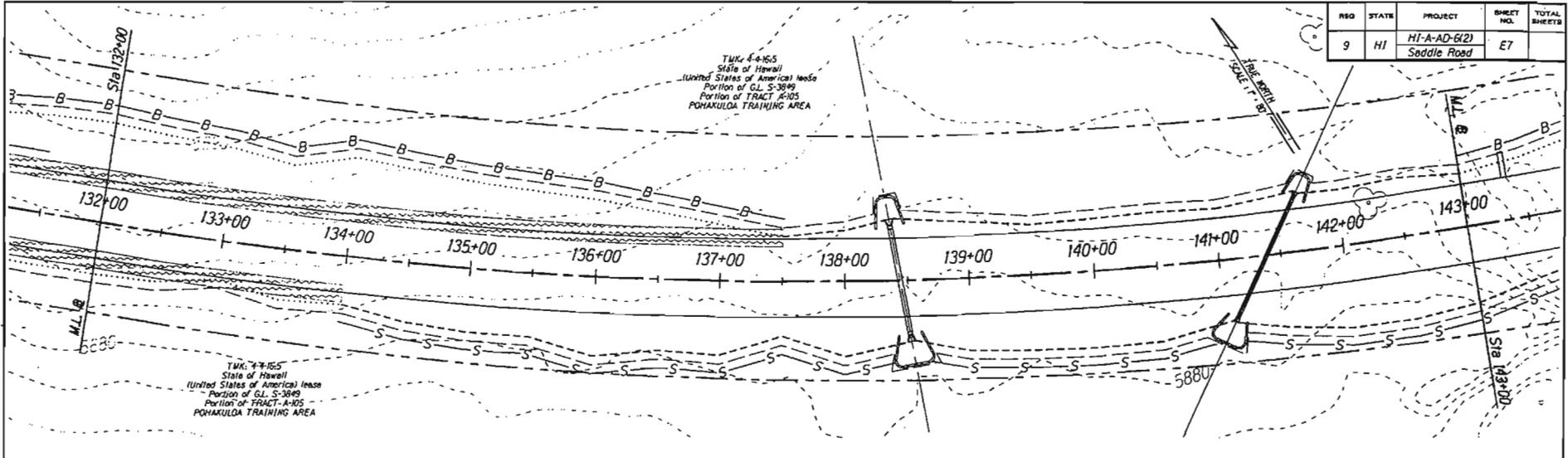
EROSION CONTROL PLAN
SADDLE RD STA 110+00 - 132+00

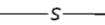
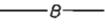
Scale: 1"=80' Date: March 12, 2004

SHEET No. 6 OF 21

DRAWN BY: [Name]
 CHECKED BY: [Name]
 DESIGNED BY: [Name]
 DATE: [Date]

REQ	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E7	



-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  Silt Fence
-  Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

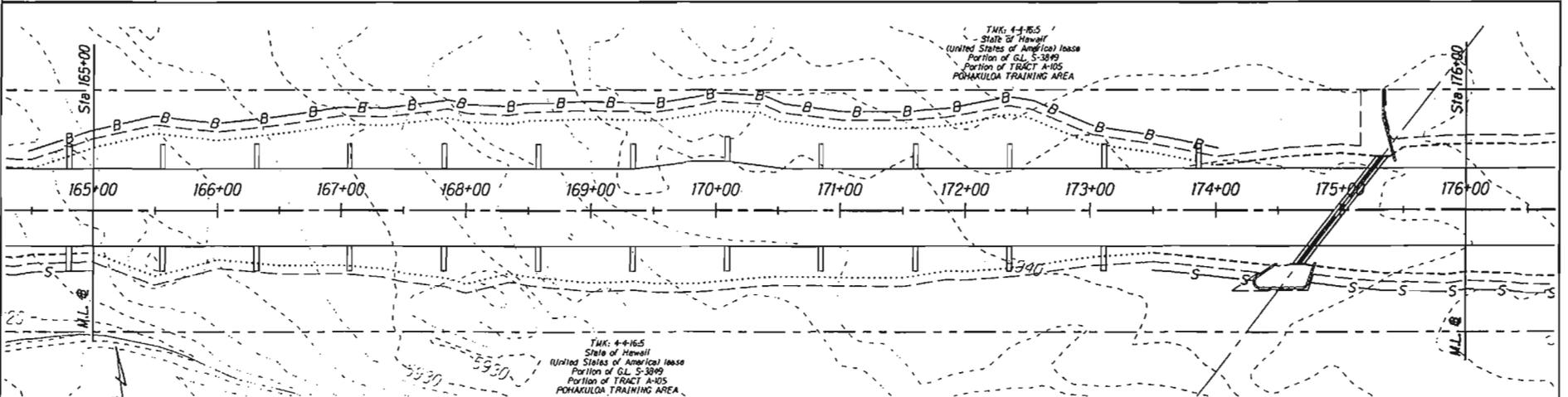
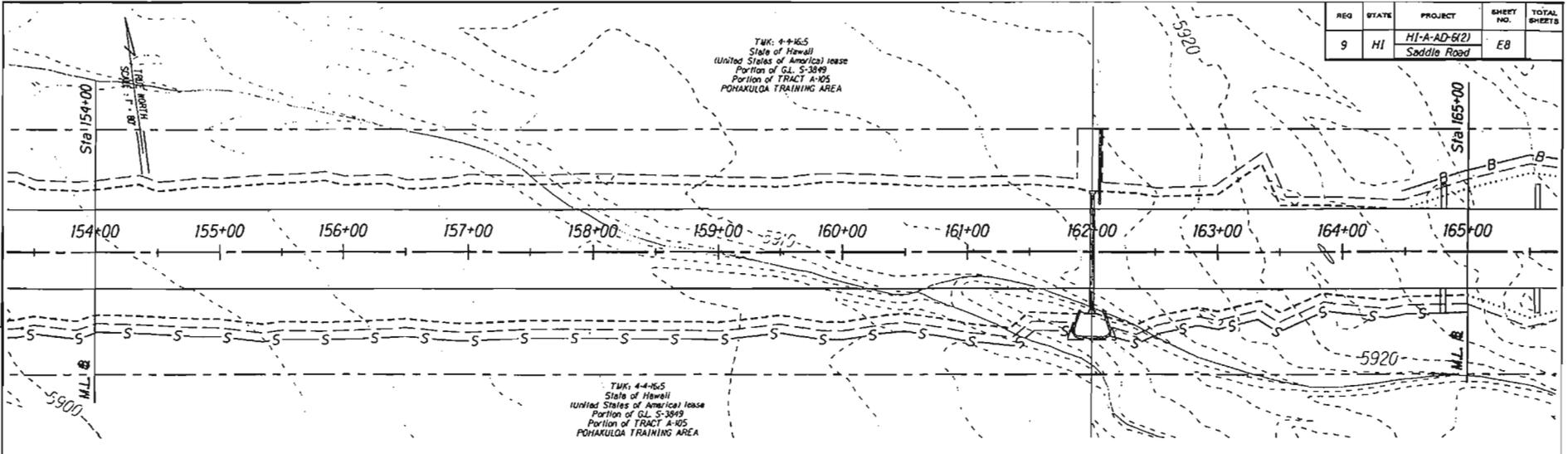
EROSION CONTROL PLAN
SADDLE RD STA 132+00 - 154+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 7 OF 21

DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 DATE: _____

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E8	



DRAWN BY: [Name]
 CHECKED BY: [Name]
 DATE: [Date]

TWR: 4-4-16.5
 State of Hawaii
 (United States of America) lease
 Portion of G.L. 5-3849
 Portion of TRACT A-105
 POHAKULOA TRAINING AREA

TWR: 4-4-16.5
 State of Hawaii
 (United States of America) lease
 Portion of G.L. 5-3849
 Portion of TRACT A-105
 POHAKULOA TRAINING AREA

TWR: 4-4-16.5
 State of Hawaii
 (United States of America) lease
 Portion of G.L. 5-3849
 Portion of TRACT A-105
 POHAKULOA TRAINING AREA

TWR: 4-4-16.5
 State of Hawaii
 (United States of America) lease
 Portion of G.L. 5-3849
 Portion of TRACT A-105
 POHAKULOA TRAINING AREA

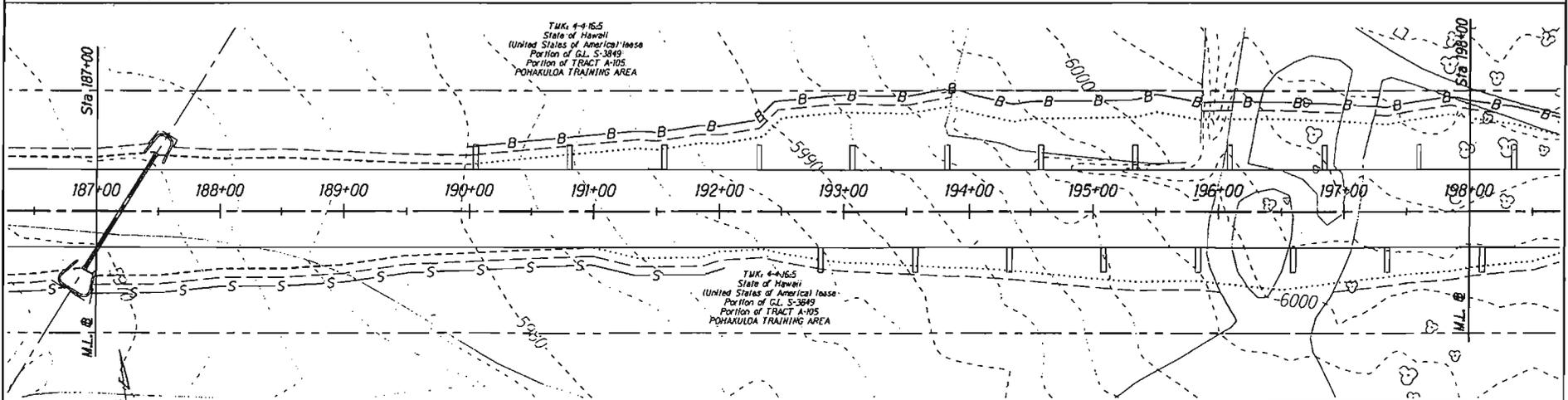
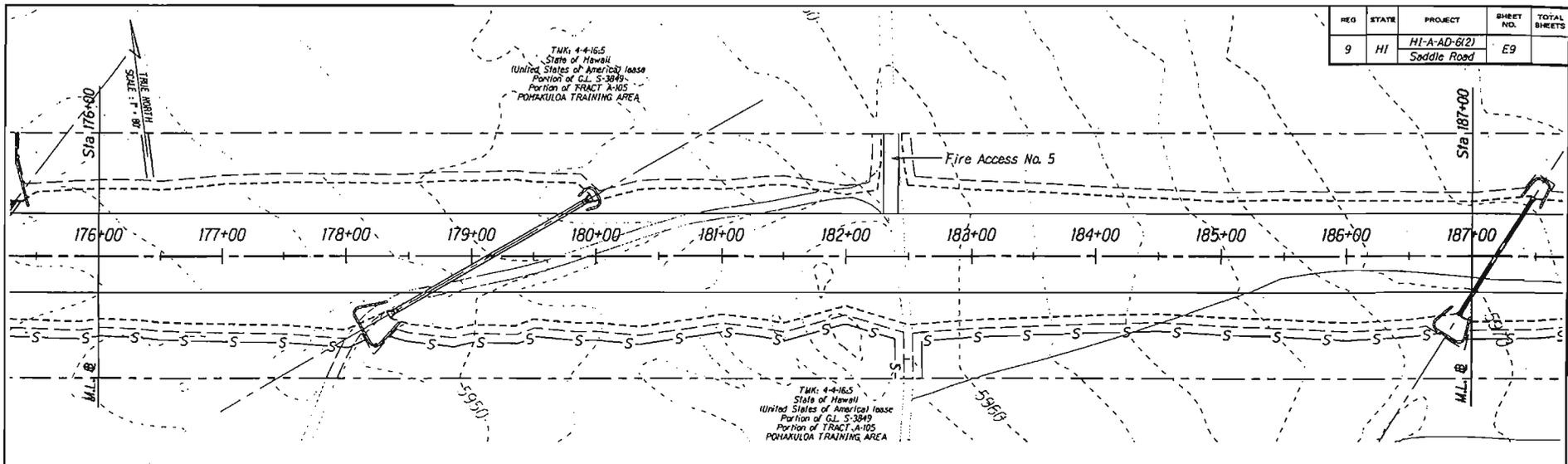
- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 154+00 - 176+00

Scale: 1"=80' Date: March 12, 2004
 SHEET No. 8 OF 2

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E9	



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

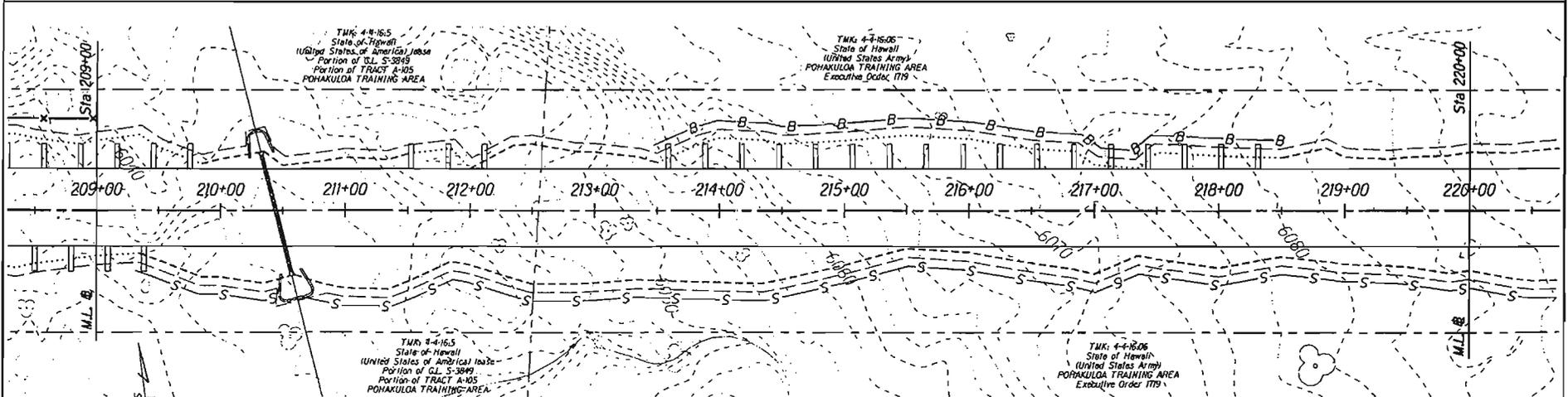
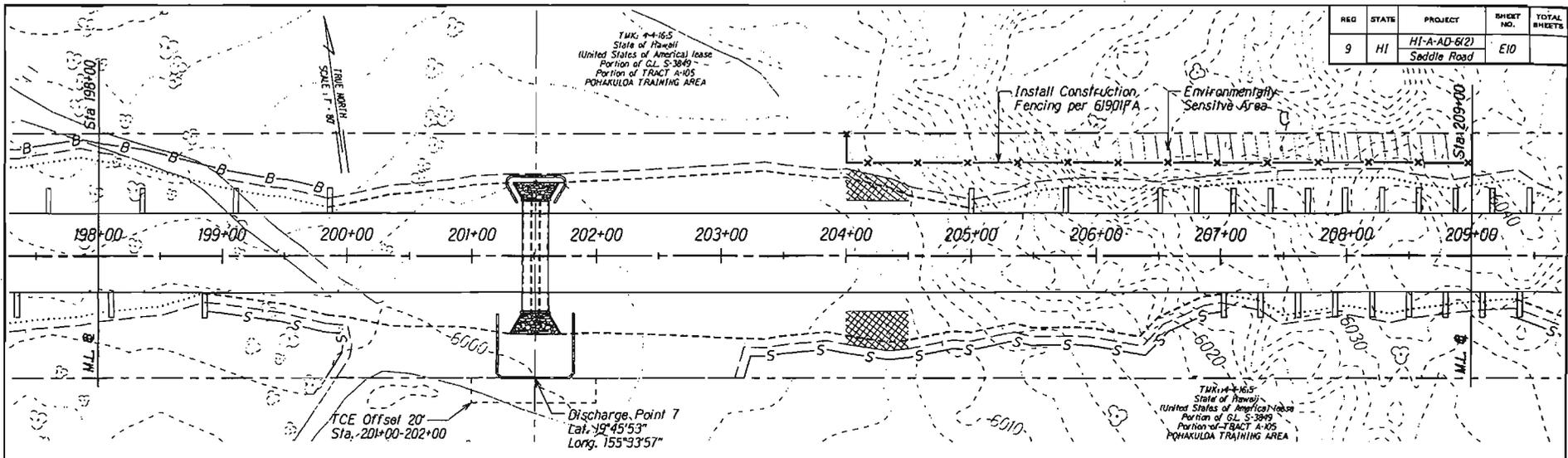
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 176+00 - 198+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 9 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E10	



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Silt Fence
- Earth Berm
- Sediment Control Log

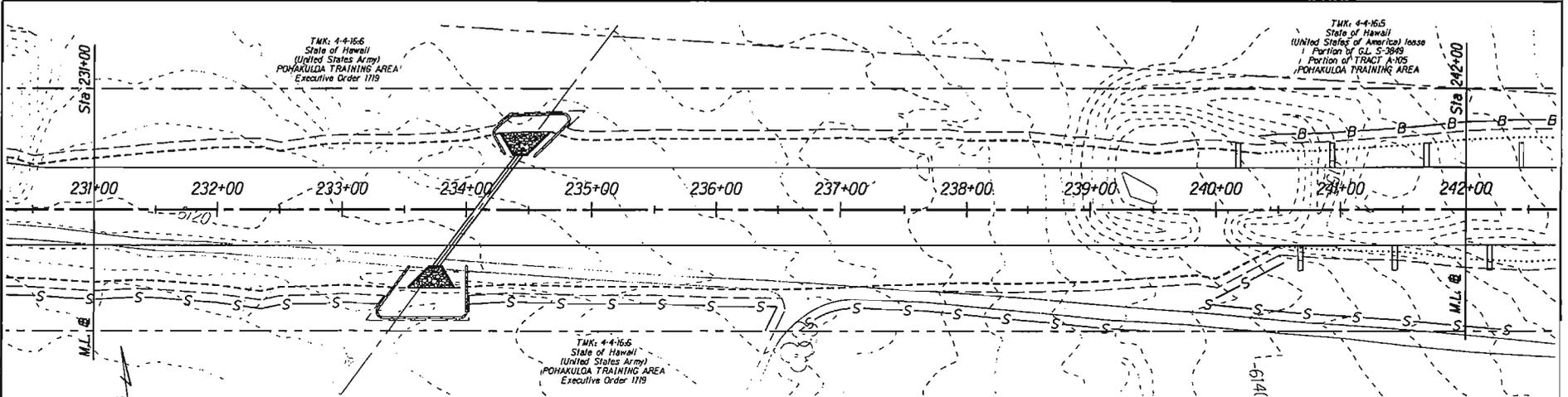
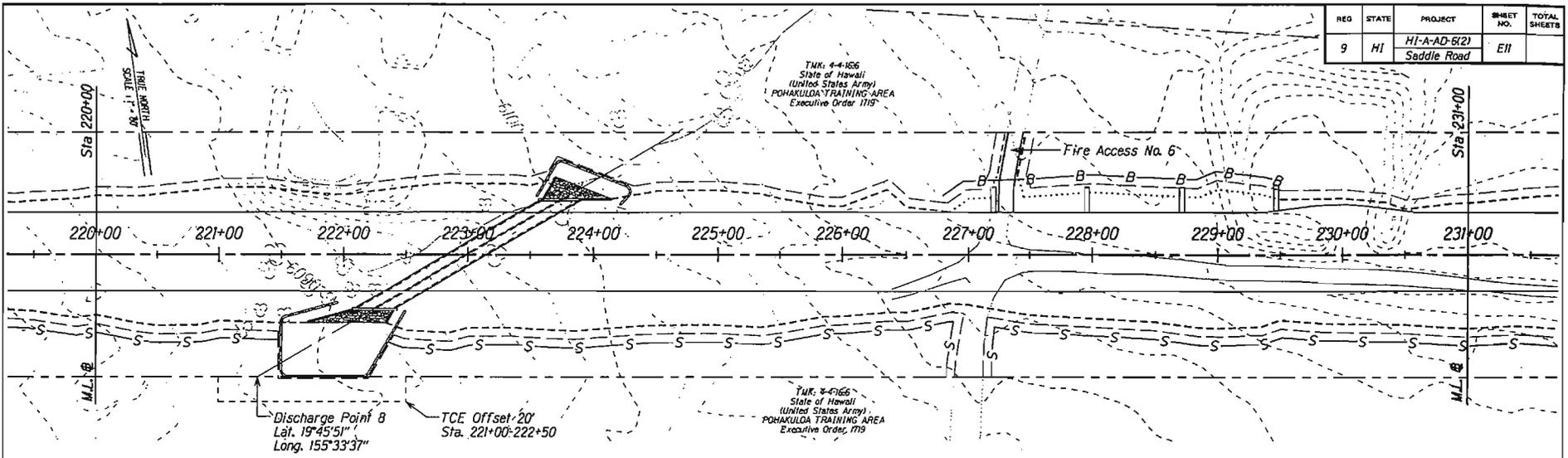
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CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 198+00 - 220+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 10 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6121 Saddle Road	E11	



ORIGINAL
 DRAWN BY
 CHECKED BY
 QUANTITIES BY
 DATE

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

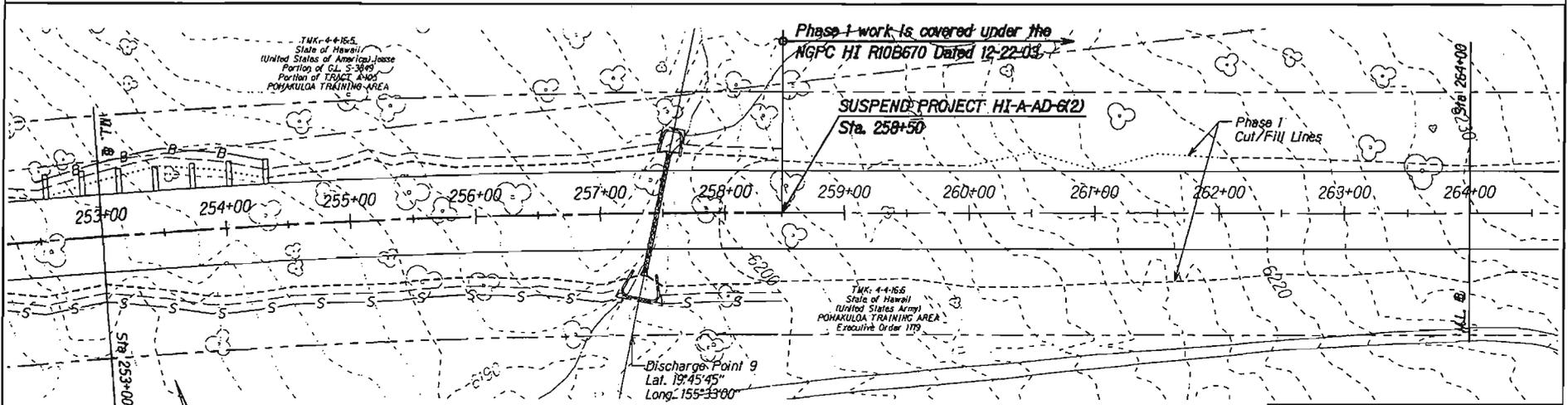
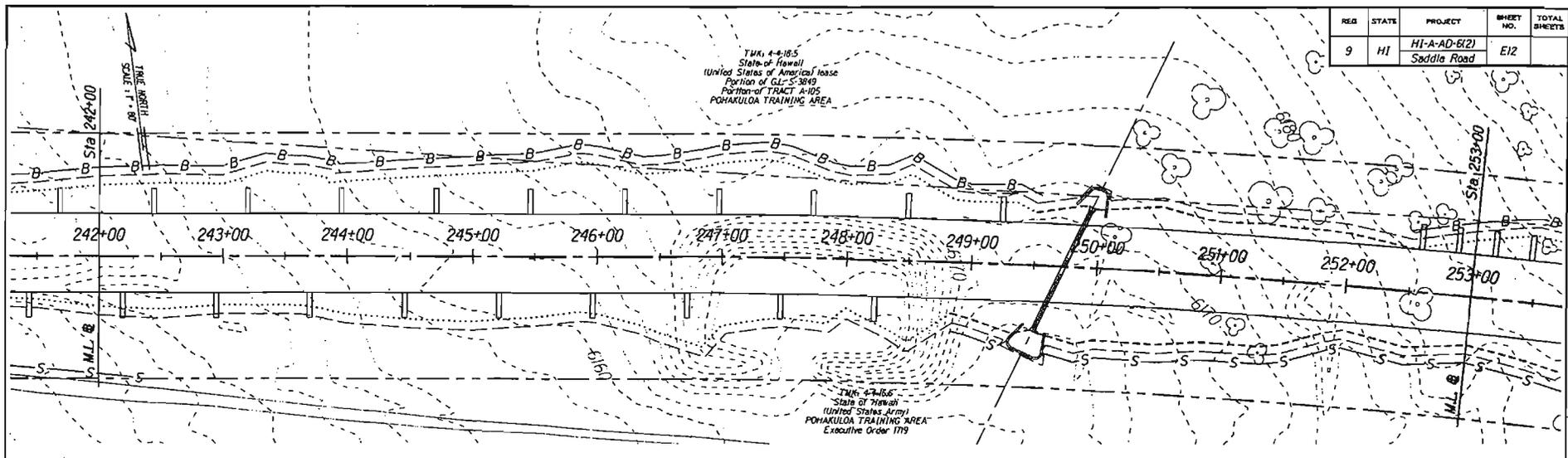
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 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 220+00 - 242+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 11 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E12	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Check Dam
- Toe of Fill Slope
- Erosion Control Mat Type 3
- Top of Cut Slope
- Construction Limits
- Silt Fence
- Earth Berm
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

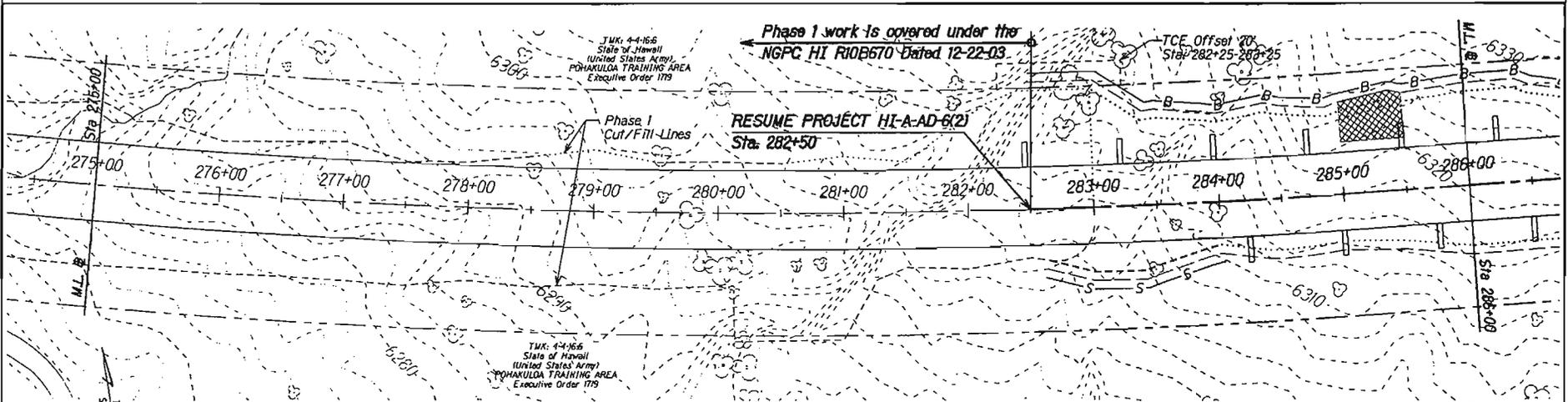
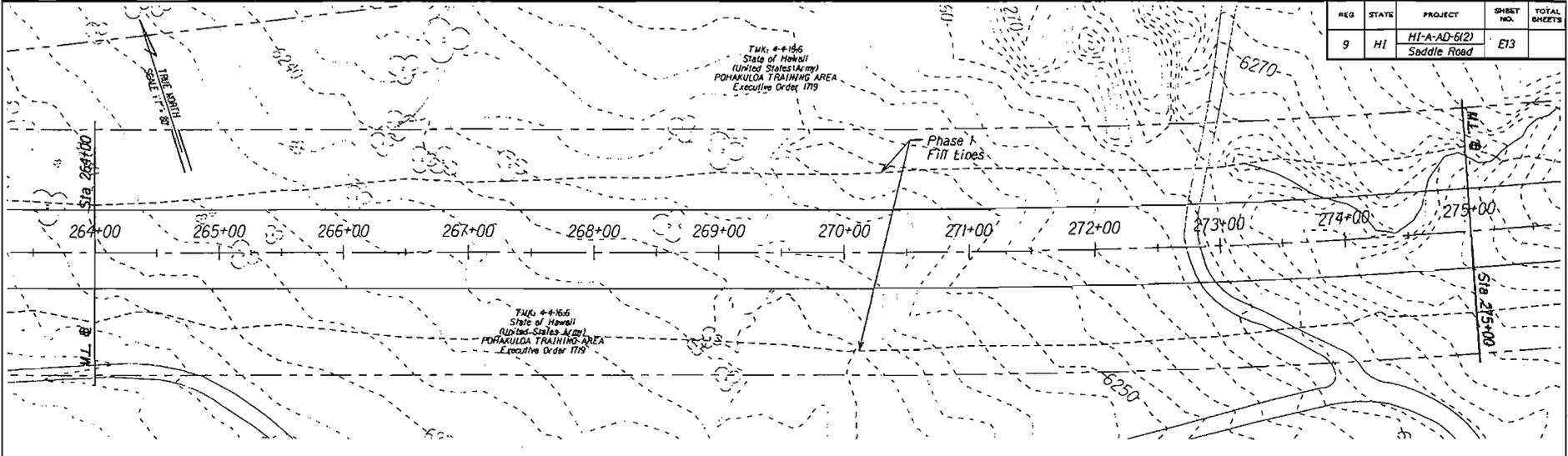
EROSION CONTROL PLAN
SADDLE RD STA 242+00 - 264+00

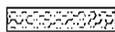
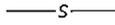
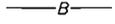
Scale: 1"=80' Date: March 12, 2004

SHEET No. 12 OF 21

DESIGNED BY	
DRAWN BY	
CHECKED BY	
APPROVED BY	

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E13	



-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  S Silt Fence
-  B Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

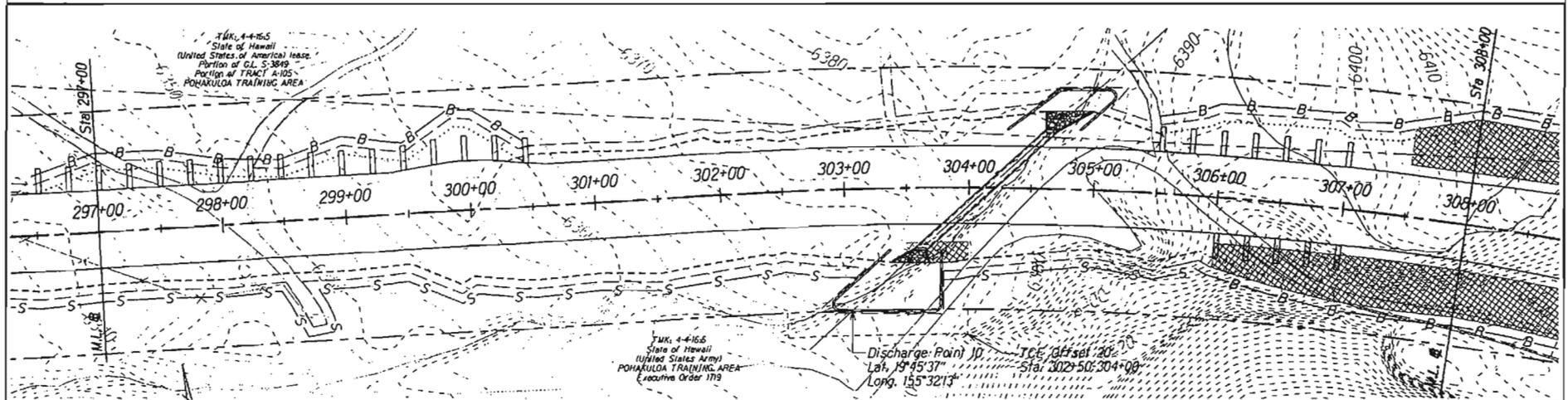
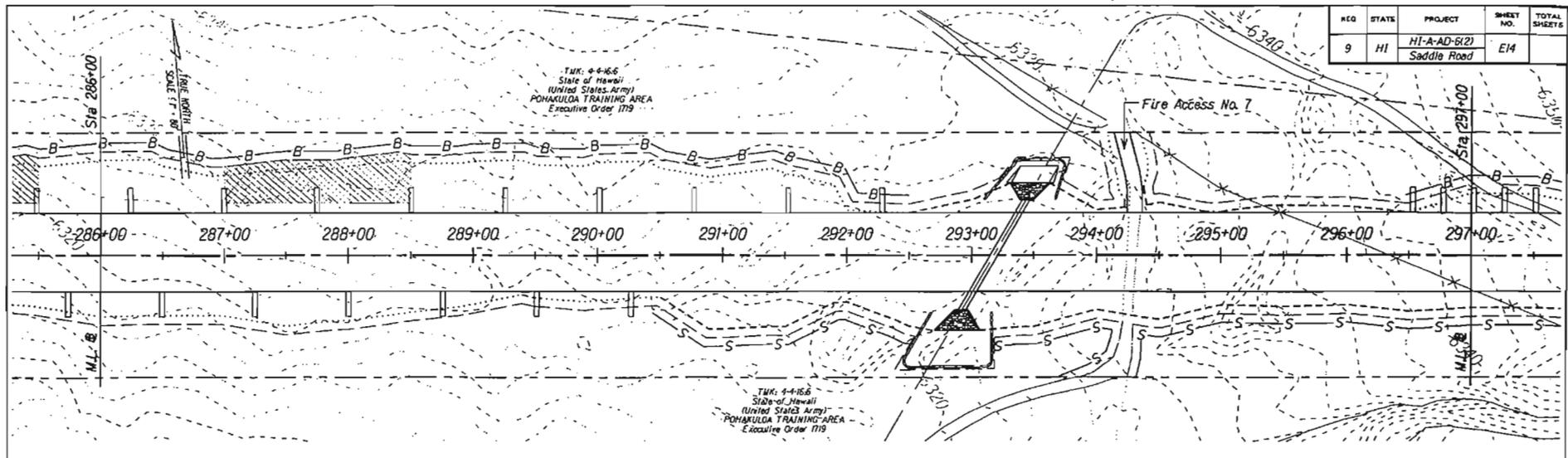
EROSION CONTROL PLAN
SADDLE RD STA 264+00 - 286+00

Scale: 1"=80' Date: March 12, 2004

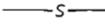
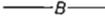
SHEET No. 13 OF 21

DATE: _____
DRAWN BY: _____
CHECKED BY: _____
APPROVED BY: _____

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E14	



DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	
PROJECT NO.	
DATE	

-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  Sill Fence
-  Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

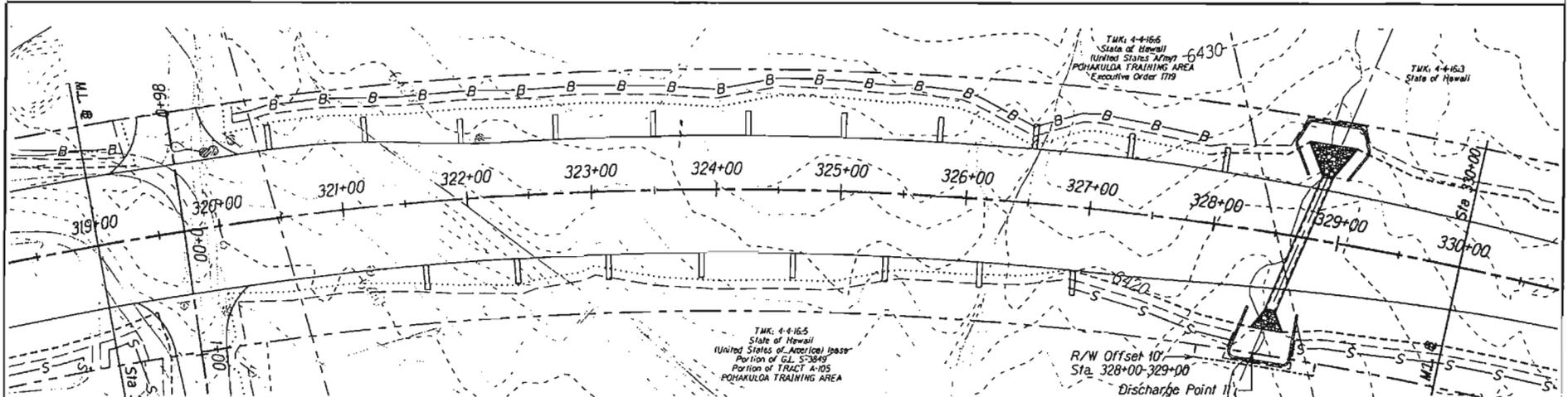
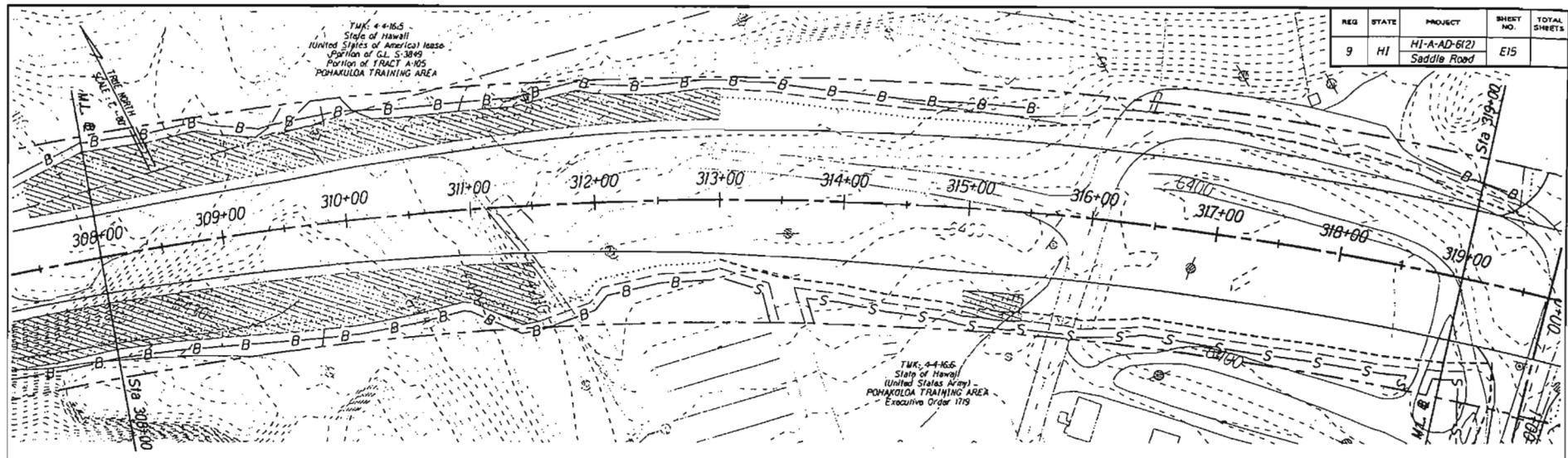
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 286+00 - 308+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 14 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-61(2) Saddle Road	E15	



For Continuation of PTA Intersection, See Sht. E21

- T.M.K. 4-4-16.5
State of Hawaii
United States of America lease
Portion of G.L. 53849
Portion of TRACT A-105
POHAKOLOA TRAINING AREA
- R/W Offset 10'
Sta. 328+00-329+00
Discharge Point 11'
Lat. 19°45'24"
Long. 155°31'52"
- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
 - Erosion Control Mat Type 3
 - Silt Fence
 - Earth Berm
 - Check Dam
 - Toe of Fill Slope
 - Top of Cut Slope
 - Construction Limits
 - Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

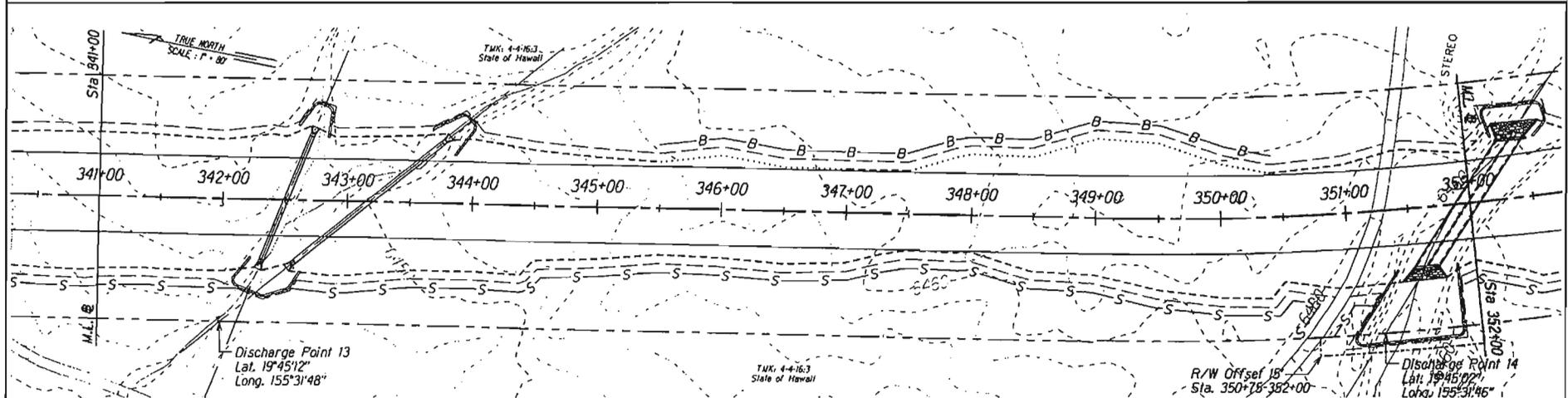
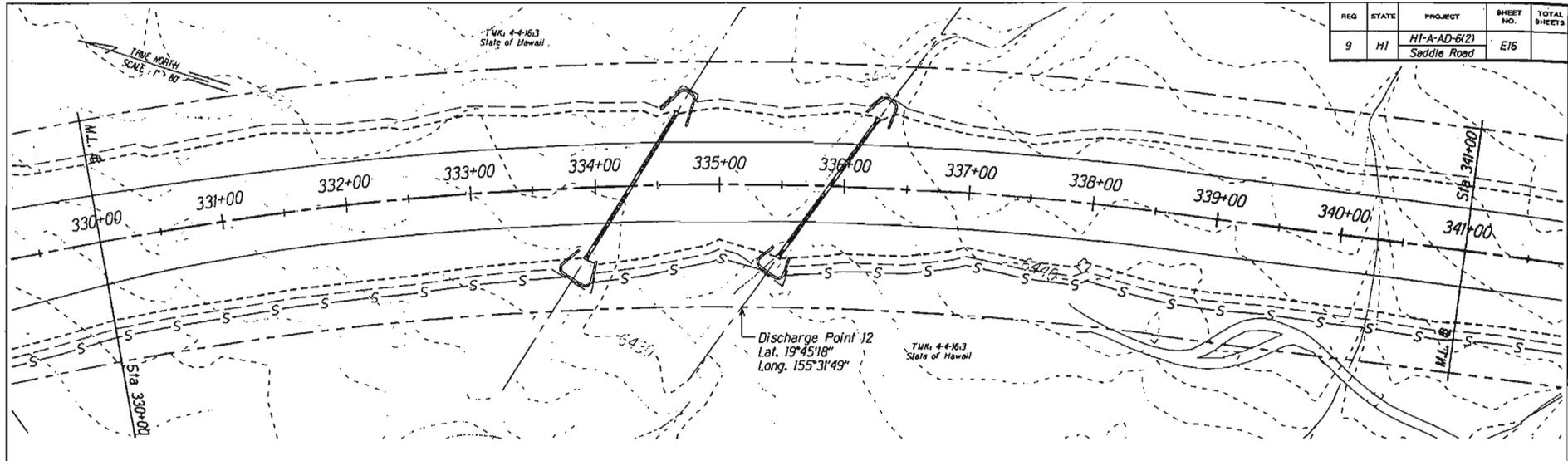
EROSION CONTROL PLAN
SADDLE RD STA 308+00 - 330+00

Scale: 1"=80' Date: March 12, 2004
SHEET No. 15 OF 21

APPROVED BY:	DATE:
DESIGNED BY:	
CHECKED BY:	
QUANTITY BY:	
DATE:	



REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E16	



- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3
- Sill Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

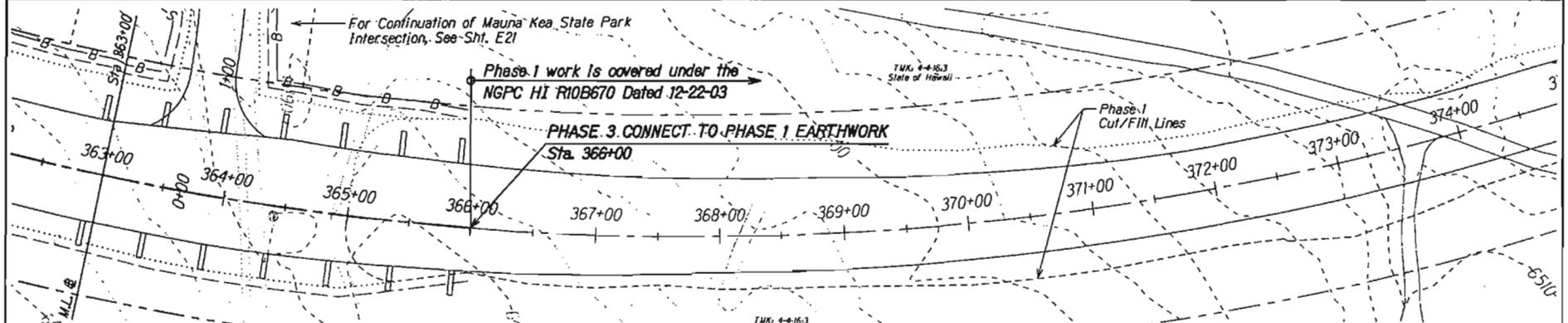
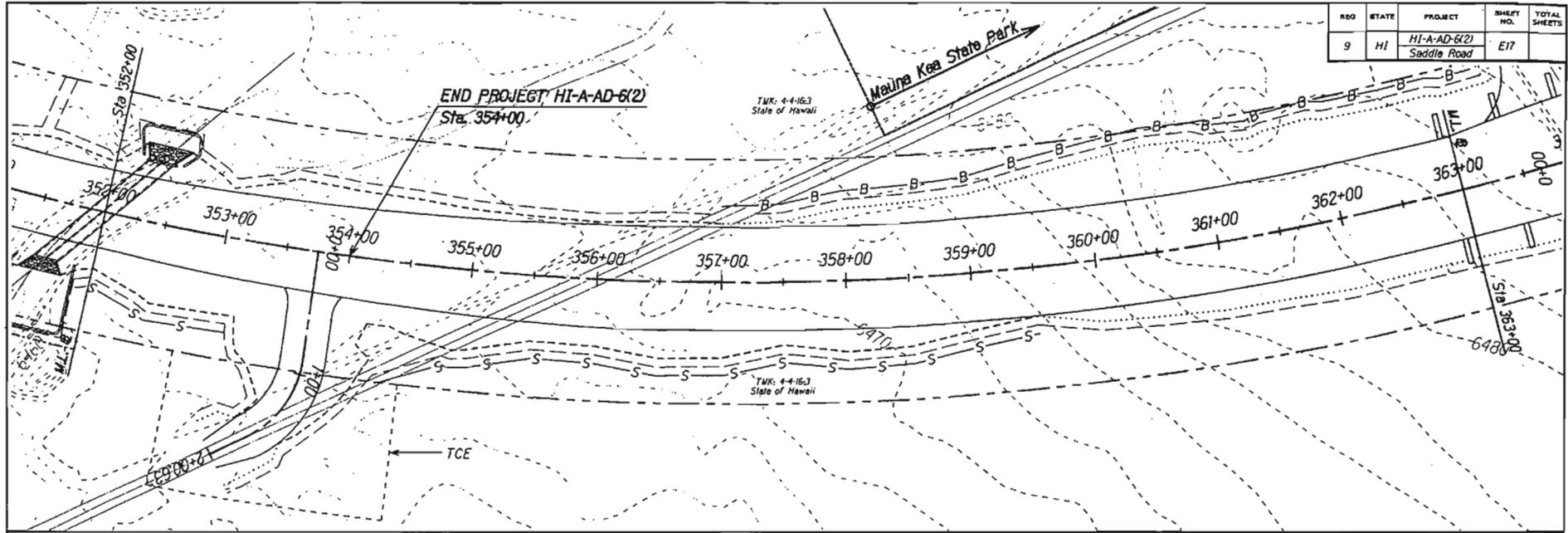
EROSION CONTROL PLAN
SADDLE RD STA 330+00 - 352+00

Scale: 1"=80' Date: March 12, 2004

SHEET No. 16 OF 21

DRAWN BY: [Name]
 CHECKED BY: [Name]
 DESIGNED BY: [Name]
 DATE: [Date]

R/O	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E17	



DATE	
DESIGNED BY	
CHECKED BY	
APPROVED BY	
SCALE	

- S — Silt Fence
- B — Earth Berm

- Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
- Erosion Control Mat Type 3

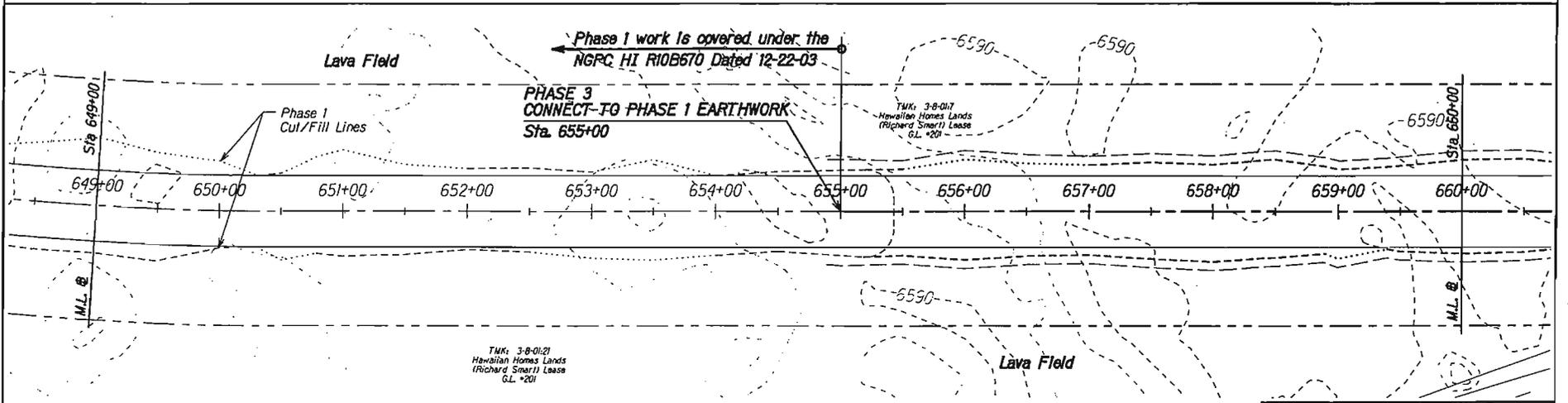
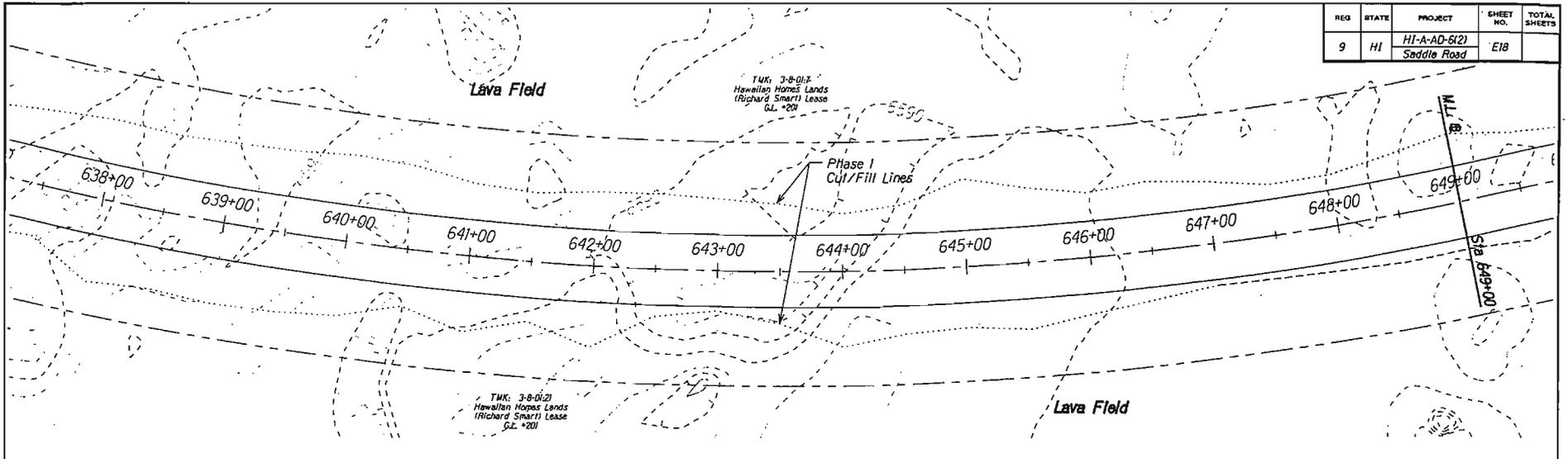
- - - - - Toe of Fill Slope
- Top of Cut Slope
- - - - - Construction Limits
- ===== Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 363+00 - 374+00

Scale: 1"=80' Date: March 12, 2004
SHEET No. 17 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-612 Saddle Road	E18	



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	

- Erosion Control Mat Type 3
- Mulching, Hydraulic Method, Bonded Fiber Matrix
- Silt Fence
- Earth Berm
- Check Dam
- Toe of Fill Slope
- Top of Cut Slope
- Construction Limits
- Sediment Control Log

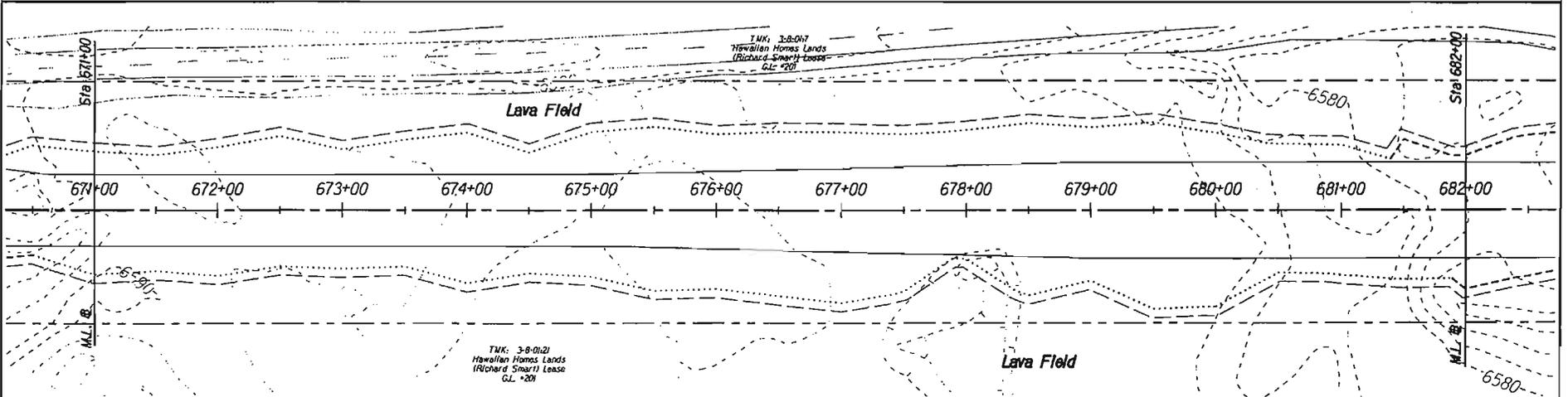
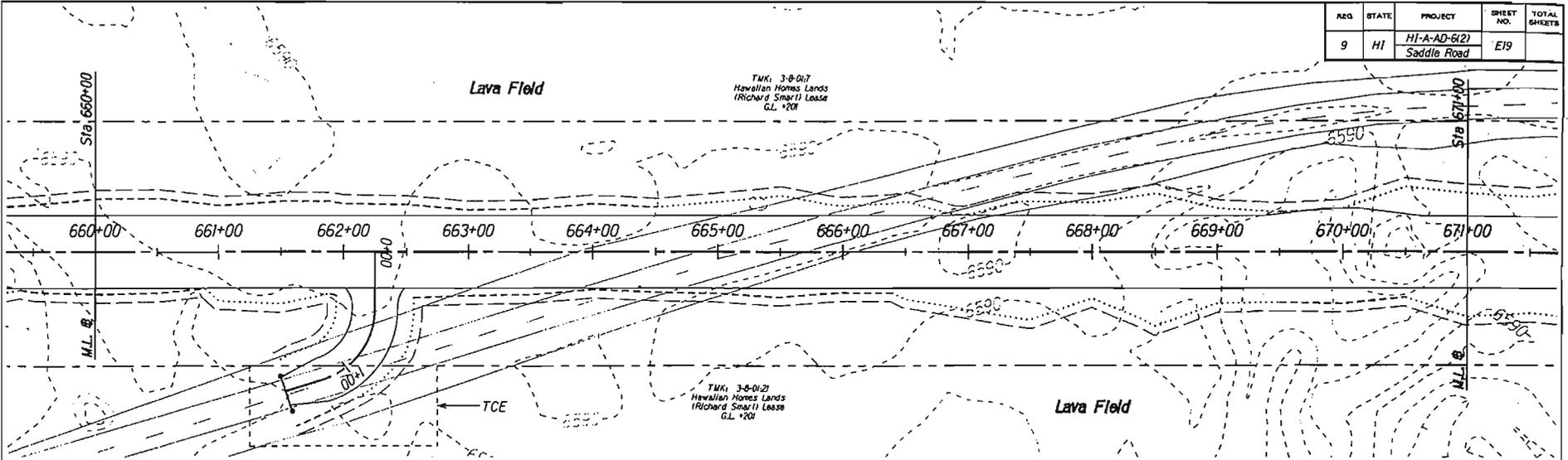
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 638+00 - 660+00

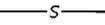
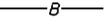
Scale: 1"=80' Date: March 12, 2004

SHEET No. 18 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E19	



NO.	REVISION
1	ISSUED FOR CONSTRUCTION
2	REVISED BY: [Signature]
3	REVISED BY: [Signature]
4	REVISED BY: [Signature]
5	REVISED BY: [Signature]
6	REVISED BY: [Signature]
7	REVISED BY: [Signature]
8	REVISED BY: [Signature]
9	REVISED BY: [Signature]
10	REVISED BY: [Signature]

-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  S Silt Fence
-  B Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

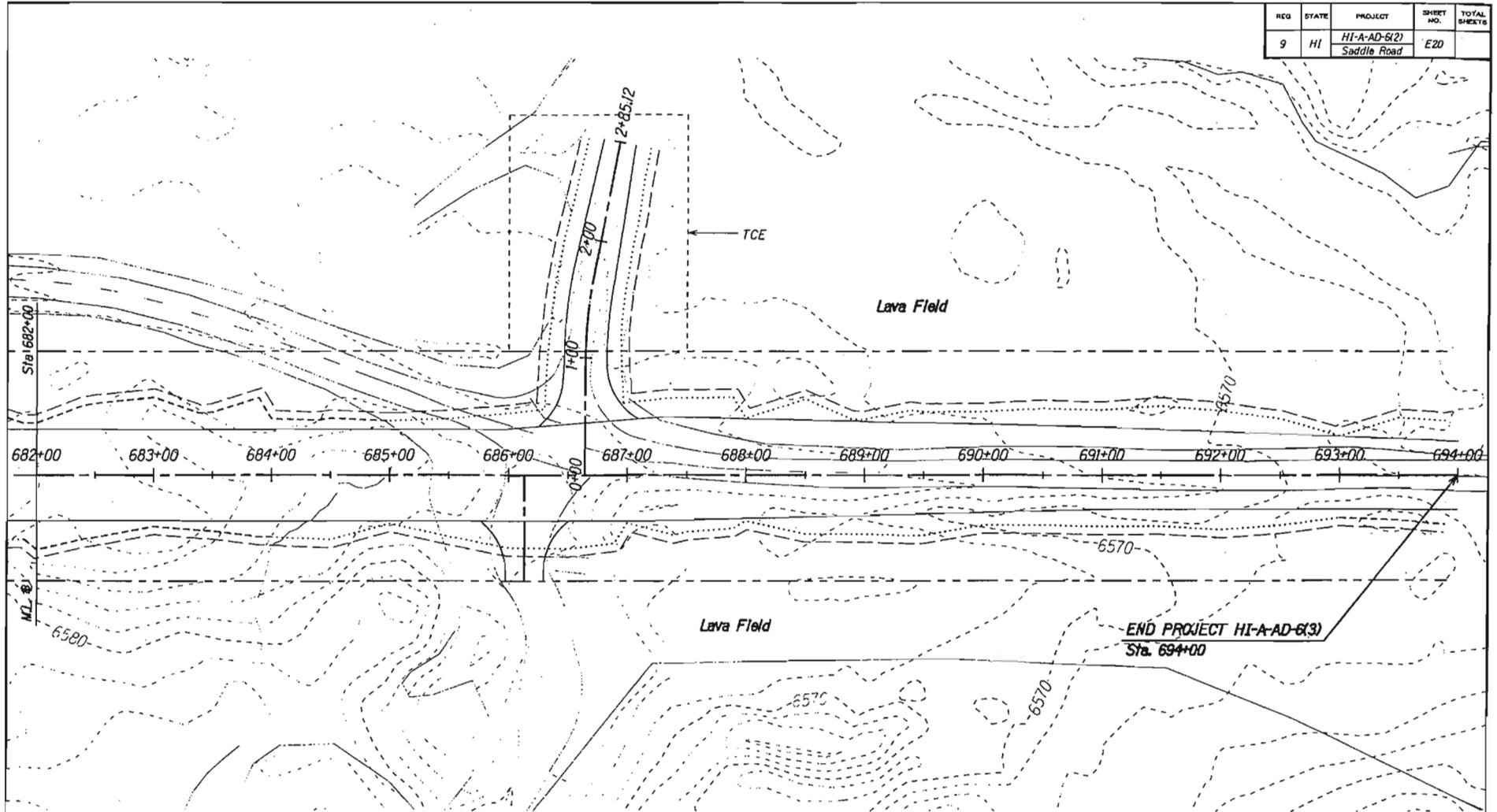
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLANS
SADDLE RD STA 660+00 - 682+00

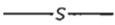
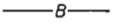
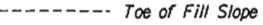
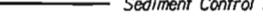
Scale: 1"=80' Date: March 12, 2004

SHEET No. 19 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E20	



DRAWN BY: []
 CHECKED BY: []
 DESIGNED BY: []
 DATE: []

-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  S Silt Fence
-  B Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

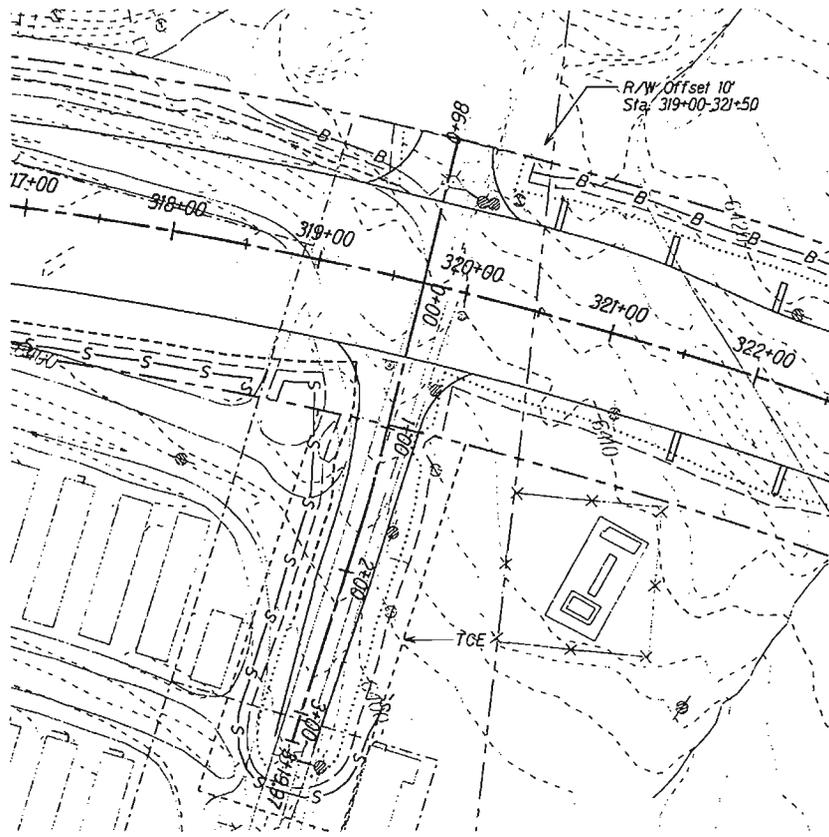
U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

EROSION CONTROL PLAN
SADDLE RD STA 682+00 - 694+00

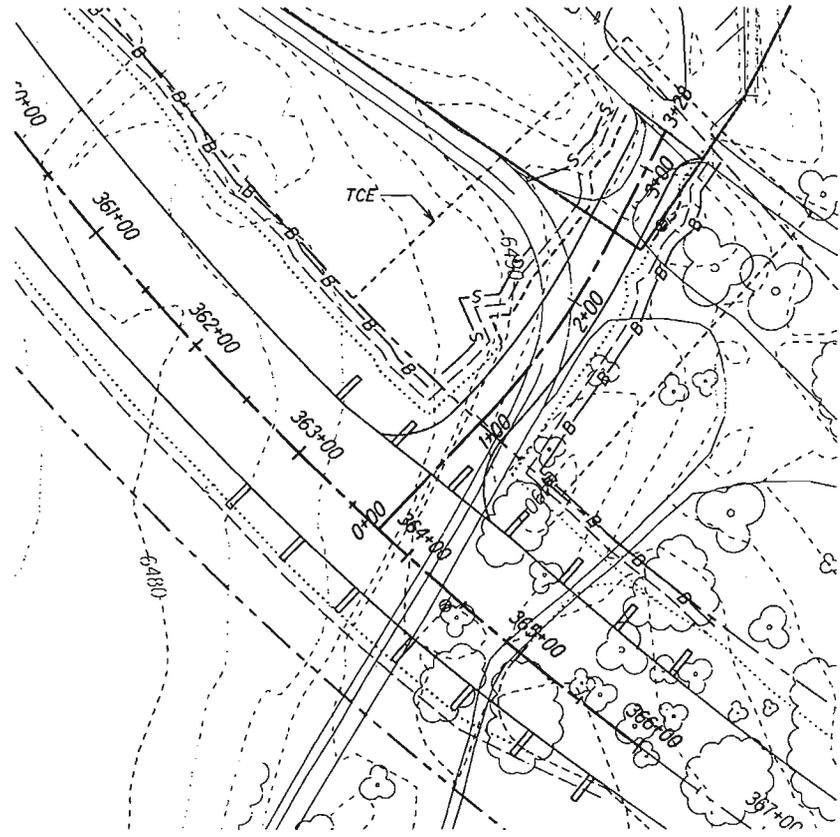
Scale: 1"=80' Date: March 12, 2004

SHEET No. 20 OF 21

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E21	

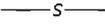
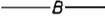


PTA Intersection & Connector Road



Mauna Kea State Park Intersection

REVISIONS
 NO. DATE BY
 1 12/12/09 [Signature]
 2 03/12/09 [Signature]
 3 03/12/09 [Signature]
 4 03/12/09 [Signature]
 5 03/12/09 [Signature]
 6 03/12/09 [Signature]
 7 03/12/09 [Signature]
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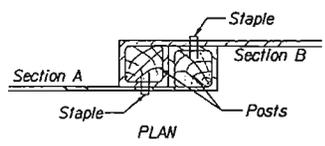
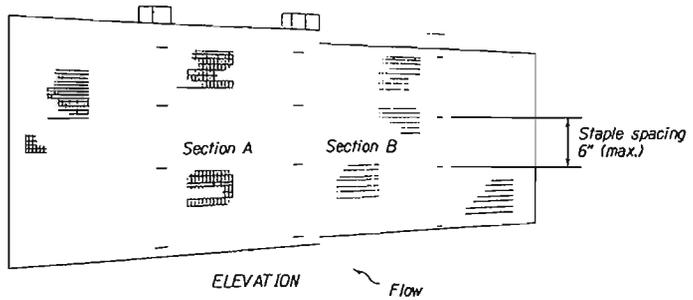
-  Mulching, Hydraulic Method, Bonded Fiber Matrix Or Erosion Control Mat Type 3
-  Erosion Control Mat Type 3
-  S Silt Fence
-  B Earth Berm
-  Check Dam
-  Toe of Fill Slope
-  Top of Cut Slope
-  Construction Limits
-  Sediment Control Log

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

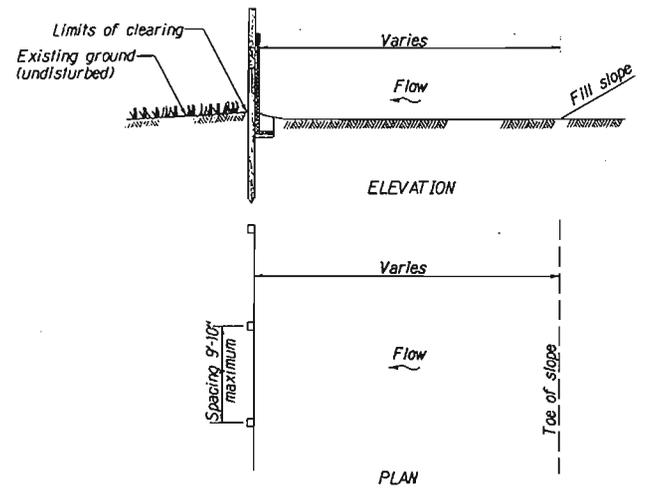
EROSION CONTROL PLAN
PTA & MAUNA KEA STATE
PARK INTERSECTIONS

Scale: 1"=80' Date: March 12, 2009
 SHEET No. 21 OF 33

REQ.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E22	



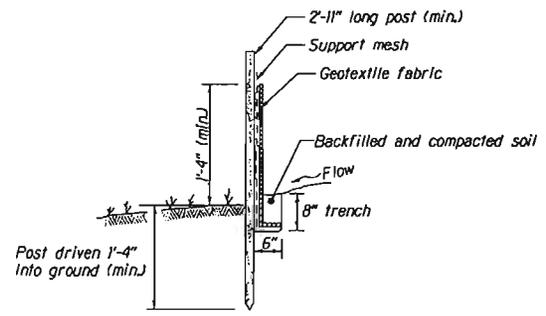
JOINING TWO ADJACENT SILT FENCE SECTIONS



SILT FENCE INSTALLATION AT TOE OF FILL

NOTE:

1. Use culvert outlet installation for low flow conditions. See Erosion Control Plan for culvert locations.
2. Alternate pre-assembled silt fence options will be allowed as long as specified dimensions are satisfied. Follow manufacturer's information for installation procedures. Inform CO for approval.



POST AND FABRIC INSTALLATION DETAIL

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

**SILT FENCE
DETAILS**

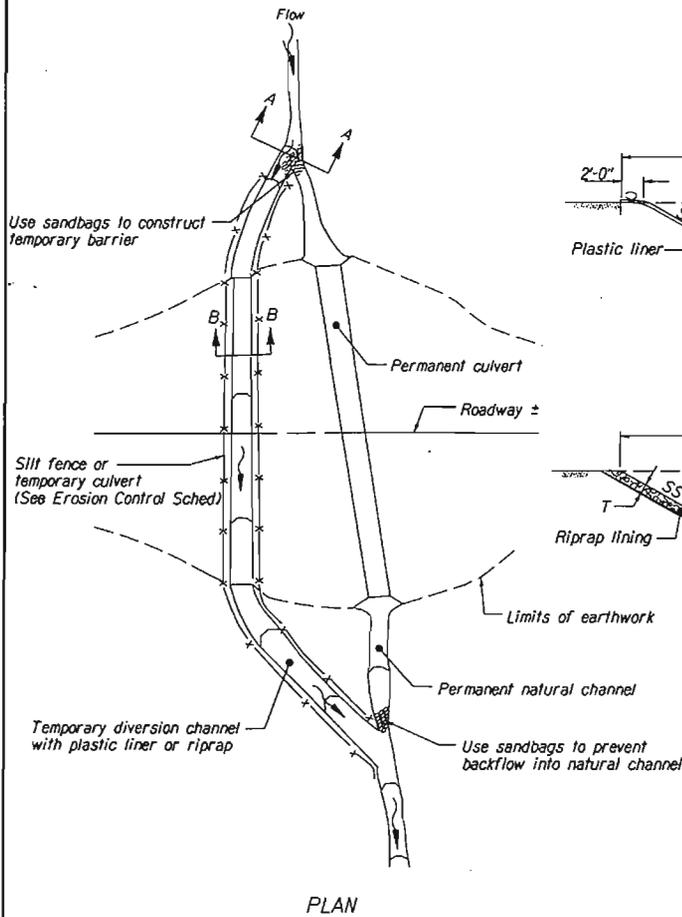
Scale: N.T.S. Date: March 12, 2004

SHEET No. 1 OF 1

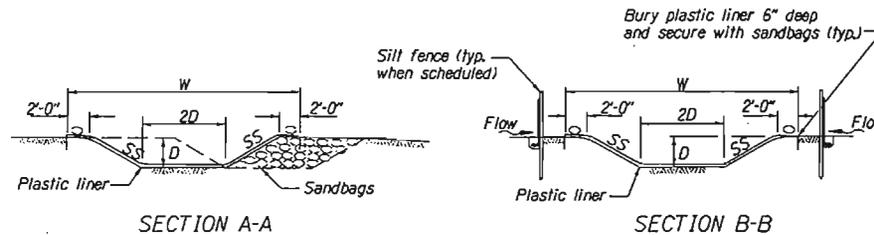
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E23	

NOTE:

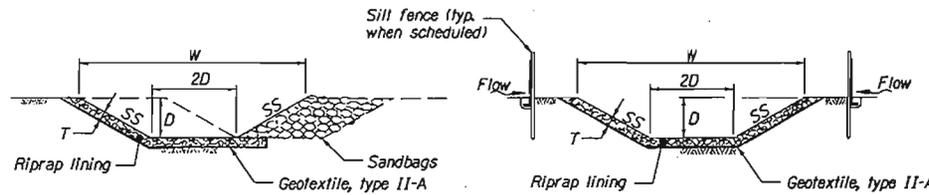
1. See Erosion Control Schedule for temporary culvert diameter, riprap class, channel dimensions and quantities.
2. Use plastic liner or riprap along the entire length and width of the temporary diversion channel.
3. Construct channel at a minimum grade of 0.5 percent.
4. Do not construct with longitudinal joints if using a plastic liner. Bury the upstream edge of the liner a minimum of 6 inches deep and secure with riprap or sandbags.
5. Compact temporary culvert backfill using one of the methods listed in specification 204J1(a).
6. Plastic liner shall conform to section 725J9 of the specifications.



DIVERSION CHANNEL

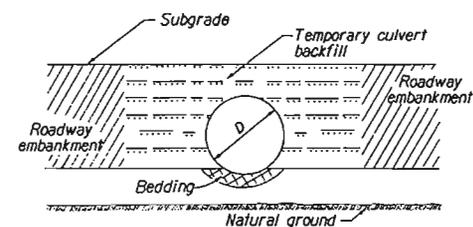


PLASTIC LINED DIVERSION CHANNEL



RIPRAP LINED DIVERSION CHANNEL

SS = 2d maximum slope
 D = size of temporary pipe
 W = width of temporary channel, varies
 T = thickness of riprap (12")



TEMPORARY CULVERT

DESIGNED BY: []
 DRAWN BY: []
 CHECKED BY: []
 DATE: []

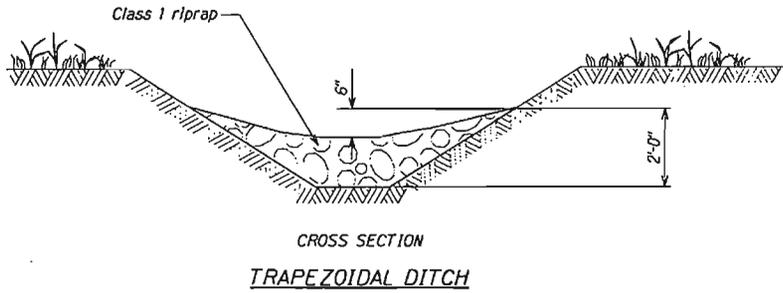
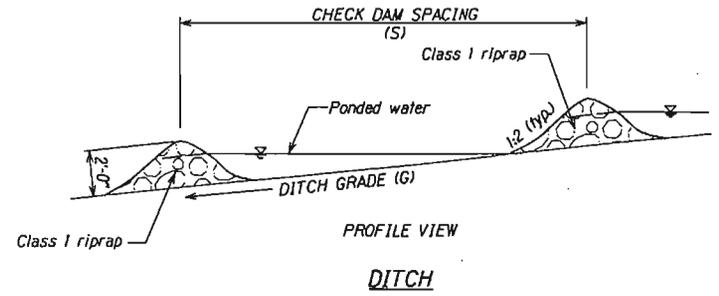
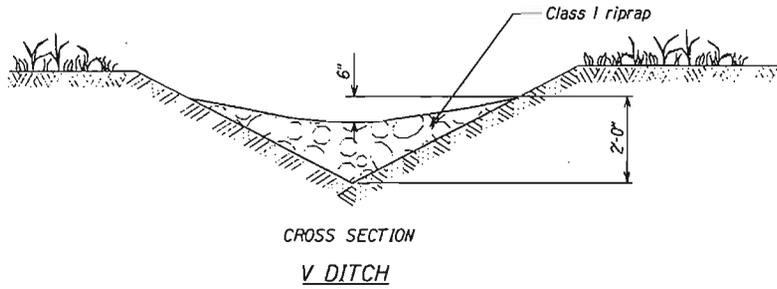
U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 CENTRAL FEDERAL LANDS HIGHWAY DIVISION

TEMPORARY DIVERSION CHANNEL DETAILS

Scale: N.T.S. Date: March 12, 2004

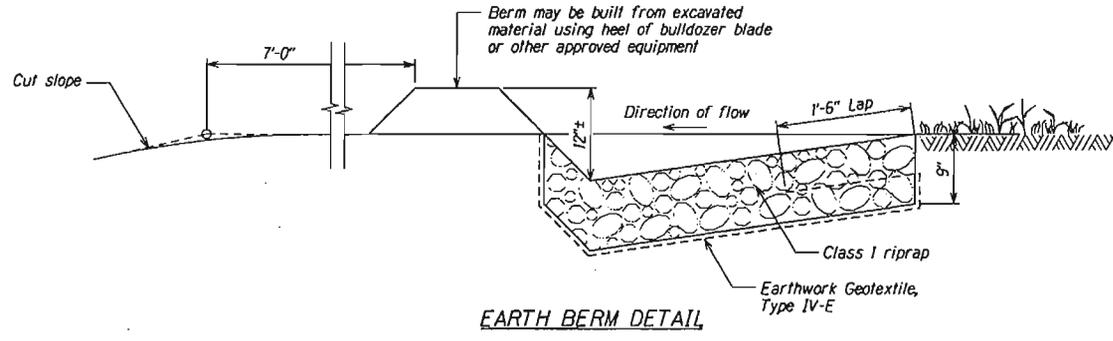
SHEET No. 1 OF 1

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E24	



DITCH GRADE (G) *	CHECK DAM SPACINGS
2%	75'-6"
3%	49'-3"
4%	39'-4"
5%	29'-6"
6%	24'-7"

* Do not use Check Dams below 2% or above 6% ditch grades



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

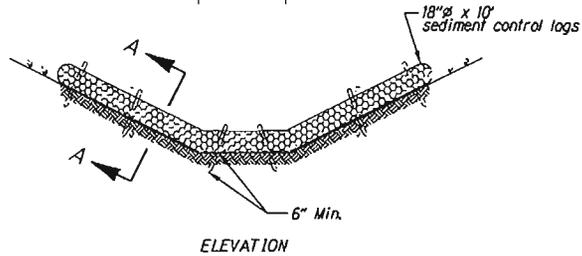
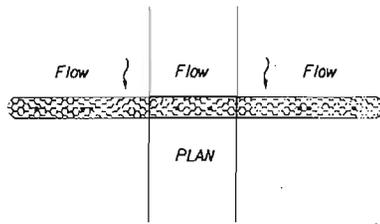
**RIPRAP CHECK DAM
EARTH BERM DETAILS**

Scale: N.T.S. Date: March 12, 2004
SHEET No. 1 OF 1

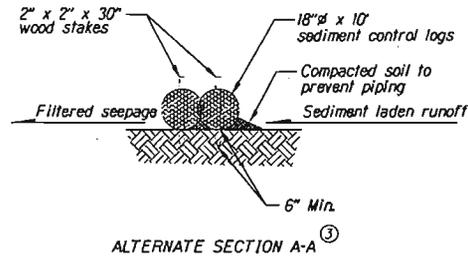
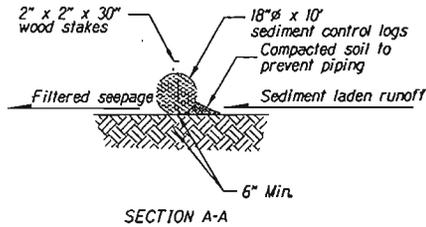
REG.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
9	HI	HI-A-AD-6(2) Saddle Road	E25	

SEDIMENT CONTROL LOG SPACING IN DITCHES

Ditch grade	Spacing (feet)
0 - 5%	100
> 5%	50 ③

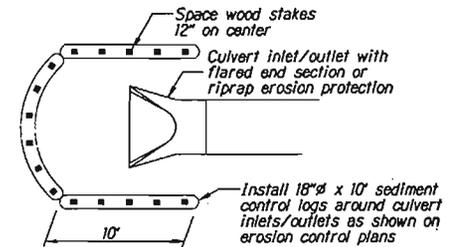


INSTALLATION OF SEDIMENT CONTROL LOG IN DITCH

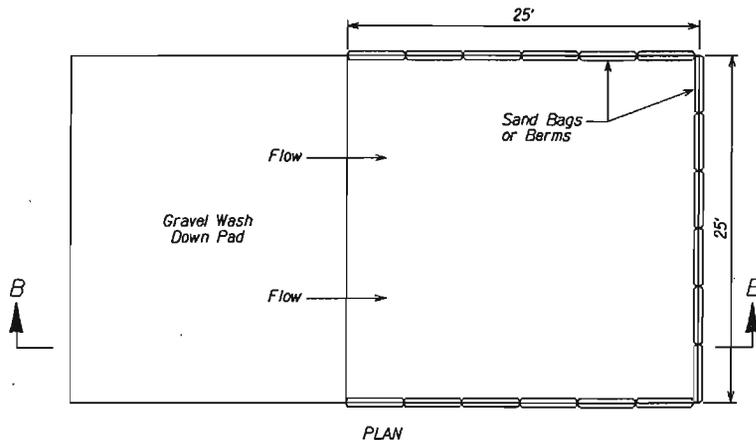


NOTE:

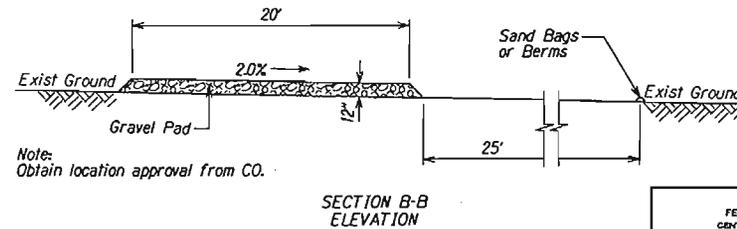
1. Stake sediment logs in place with 2"x2"x30" wood stakes space no less than 24" apart unless otherwise noted. Drive stakes into ground a minimum of 6".
2. Install sediment control logs directly on ground making sure bottom of log is in full contact with ground. Tamp soil backfill against upstream side of log to assure storm water is forced flow through log rather than under it.
- ③ Sediment control logs can be spaced every 100' in ditches with slopes > 5% when two logs are placed directly next to each other as shown Alternate Section A-A.



CULVERT INLET/OUTLET SEDIMENT BARRIER



WASH DOWN DETAIL



Note: Obtain location approval from CO.

SECTION B-B ELEVATION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

**SEDIMENT CONTROL LOGS
& WASH DOWN DETAILS**

Scale: N.T.S. Date: March 12, 2004

SHEET No. 1 OF 1

DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 APPROVED BY: _____
 DATE: _____

NPDES Permit No. HI S000031

**DRAINAGE CALCULATION
ATTACHMENT**

Onsite Drainage Calculations for CWB-Individual NPDES Form C
Flow into Receiving State Waters
by Okahara & Associates, Inc.
Bruce K. Meyers, P.E.
March 5, 2004

There are 14 points of discharge into Receiving State Waters along the alignment. The longest length is about 300' of road that is tributary to its discharge point. Beyond 300', runoff will go through silt fences of the fill sections treated. Using the Rational Method as outlined in the County of Hawaii Storm Drainage Standard, dated October 1970, $Q=CIA$ is calculated as follows:

C from Tables 1 & 2: $C = 0.14 + 0.03 + 0.07 + 0.15 = 0.39$

I from Plates 3 & 4: using 300', between bare soil and poor grass surface, and 3.5% average slope, $T_c = 12$ minutes. Also from 2 year, 24-hour rainfall map, use 4 inches for 1 hour rainfall on Plate 4.

$I = 7.6$ inches/hour

Area A: using 300' x an average disturbance width of 120',

$A = 300 \times 120 / 43560 = 0.83$ acres

Runoff Calculation:

$Q = C I A = 0.39 \times 7.6 \times 0.83 = \underline{2.5 \text{ cfs}}$ (2 year, 24 hour rainfall)

This is from onsite runoff only.

NPDES Permit No. HI S000031

FLOW CHART ATTACHMENT

FLOW CHART OF WATER FLOW

ON-SITE STORM WATER



2.5 cfs

Best Management Practices for Saddle Road - PTA-1, Phase 2 & 3

- Check dams along ditches
- Silt fence along low side of road and at culverts
- Excelsior logs at culvert inlets and outlets
- Temporary diversion culverts or plastic lined ditches for culvert construction
- Hydromulch and/or mat finished slopes
- Soil sement stabilize road top for continued stabilization during use
- Earth berms above high side cuts to divert offsite runoff



2.5 cfs

Receiving State Water

14 un-named ephemeral (intermittent) streams

NPDES Permit No. HI S000031

**CONSTRUCTION PERMIT LETTERS
ATTACHMENT**

LINDA LINGLE
GOVERNOR OF HAWAII



CHYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

03041PGY.04

March 12, 2004

Mr. Eric P. Zeller, P.E.
Project Engineer
Central Federal Lands Highway Division-Field Office
Federal Highways Administration
P.O. Box 4968
Hilo, Hawaii 96720
by fax: (808) 969-9503 and mail

Dear Mr. Zeller:

**Subject: Compliance with Condition 5 of the
NOTICE OF GENERAL PERMIT COVERAGE (NGPC)
National Pollutant Discharge Elimination System (NPDES)
State Route 20 - Saddle Road, PTA-1 Section, Phase I
South Hilo District, Hawaii
File No. HI R10B670**

The Department of Health, Clean Water Branch (CWB), acknowledges receipt of your letter, dated March 9, 2004, submitting an amendment to the site-specific Best Management Practices (BMPs) Plan for the subject project.

Submission of the above information is in accordance with Condition 5 of the NGPC issued on December 22, 2003.

For future submittals, please continue to include File No. HI R10B670 and the following certification statement in your cover letter:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Mr. Eric P. Zeller, P.E.
March 12, 2004
Page 2

If you have any questions, please contact Mr. Gerald Yonashiro of the Engineering Section, CWB, at 586-4309.

Sincerely,



DENIS R. LAU, P.E., CHIEF
Clean Water Branch

- c: Larry C. Smith, FHWA/CFLHD [via fax (303) 969-5900 only]
- David H. Gedeon, FHWA/CFLHD [via fax (303) 969-5936 only]
- Josh Domme, Kiewit Pacific Company [via fax (808) 334-0827 only]
- DHO, Hawaii (w/copy of FHWA/CFLHD letter)

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

03040PGY.04

March 12, 2004

Mr. Larry C. Smith, P.E.
Division Engineer
Central Federal Lands Highway Division
Federal Highways Administration
555 Zang Street
Mail Room 259
Lakewood, Colorado 80228

Attention: Mr. David H. Gedeon, P.E.
Project Manager

Dear Mr. Smith:

**Subject: Compliance with Condition 6 of the
NOTICE OF GENERAL PERMIT COVERAGE (NGPC)
National Pollutant Discharge Elimination System (NPDES)
State Route 20 - Saddle Road, PTA-1 Section, Phase I
South Hilo District, Hawaii
File No. HI R10B670**

The Department of Health, Clean Water Branch (CWB), acknowledges receipt of your letter, dated February 4, 2004, submitting the general contractor information, and the site-specific Best Management Practices plan for the subject project.

Submission of the above information is in accordance with Condition 6 of the NGPC issued on December 22, 2003.

For future submittals, please continue to include **File No. HI R10B670** and the following certification statement in your cover letter:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and

Mr. Larry C. Smith, P.E.
March 12, 2004
Page 2

belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If you have any questions, please contact Mr. Gerald Yonashiro of the Engineering Section, CWB, at 586-4309.

Sincerely,



THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

- c: David H. Gedeon, FHWA-CFLHD [via fax (303) 969-5936 only]
Eric P. Zeller, FHWA/CFLHD Field Office [via fax (303) 969-9503 only]
Josh Domme, Kiewit Pacific Company [via fax (808) 334-0827 only]
DHO, Hawaii (w/copy of FHWA/CFLHD letter)

cc: diko 4 202-003
BKM

LINDA LINGLE
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EMD / CWB

R10B670.FNL

December 22, 2003

Mr. Larry C. Smith
Division Engineer
Central Federal Lands Highway Division
Federal Highways Administration
555 Zang Street
Mail Room 259
Lakewood, Colorado 80228

Attention: Mr. David H. Gedeon
Project Manager

Dear Mr. Smith:

**Subject: NOTICE OF GENERAL PERMIT COVERAGE (NGPC)
National Pollutant Discharge Elimination System (NPDES)
State Route 20 - Saddle Road, PTA-1 Section, Phase I
South Hilo District, Hawaii
File No. HI R10B670**

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. § 1251 et seq.; the "Act"); Chapter 342D, Hawaii Revised Statutes; and Chapters 11-54 and 11-55, Hawaii Administrative Rules (HAR), Department of Health (DOH), State of Hawaii,

**CENTRAL FEDERAL LANDS HIGHWAYS DIVISION
FEDERAL HIGHWAYS ADMINISTRATION**

(hereinafter "PERMITTEE")

is authorized to discharge storm water associated with construction activity from the subject project located at South Hilo District, Hawaii, to the un-named ephemeral streams, Class 2, Inland Waters, at the coordinates:

Discharge Point No.	Latitude (N)	Longitude (W)
1	19°45'43"	155°32'53"

Mr. Larry C. Smith
December 22, 2003
Page 2

2	19°45'40"	155°32'43"
3	19°45'39"	155°32'37"
4	19°44'40"	155°31'08"
5	19°44'08"	155°30'31"
6	19°44'06"	155°30'28"
7	19°43'49"	155°30'10"
8	19°43'47"	155°30'09"
9	19°43'43"	155°30'07"

The Permittee shall:

1. Comply with HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activities (enclosed).
2. Comply with HAR, Chapter 11-55, Appendix A, DOH, Standard General Permit Conditions (enclosed).
3. Comply with HAR, Sections 11-55-34.04(a), 11-55-34.07, 11-55-34.11, and 11-55-34.12 (enclosed) and any other applicable Sections of HAR, Chapter 11-55.
4. Comply with all materials submitted in and with the NOI, dated September 22, 2003, and additional submittal, dated December 4, 2003.
5. Submit any changes to information on file with the Clean Water Branch (CWB) as soon as such changes arise, and properly address all related concerns and/or comments to the CWB's satisfaction.
6. Submit the following site-specific information in a format and accordance with CWB-NOI Form C (Rev. 11/20/2002) to the CWB for review and comment at least 30 days before the start of construction activities:
 - a. Section 3 - General Contractor Information;
 - b. Section 15 - Construction Best Management Practices (BMPs) Plan
 - (i) Section 15.a.ii - Project Site Map, item (7); and

Mr. Larry C. Smith
December 22, 2003
Page 3

(ii) Section 15.c - Site-Specific Construction BMPs Plan.

All related concerns and/or comments pertaining to the above listed items shall be properly addressed to the CWB's satisfaction before the start of construction activities.

7. Complete and submit the enclosed Solid Waste Disclosure Form for Construction Sites to the Office of Solid Waste Management as specified on the form.
8. Complete and submit the Notice of Cessation Form (CWB-NOC Form) to the CWB within two (2) weeks of completion of the subject project. The CWB-NOC Form can be downloaded from our website at:
<http://www.state.hi.us/health/eh/cwb/forms/pdf-files/cwb-noc.pdf>.

This NGPC does not obviate the need to obtain other Federal, State, or local authorizations required by law.

This NGPC will take effect on the date of this notice. This NGPC will expire at midnight, November 6, 2007, or when amendments to HAR, Chapter 11-55, Appendix C, are adopted, whichever occurs first. Any non-compliance with the conditions of this NGPC may be subject to penalties of up to \$25,000 per violation per day.

If you have any questions, please contact Mr. Gerald Yonashiro of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,



THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

- Enclosures:
1. HAR, Sections 11-55-01 and 11-55-34 to 11-55-34.12
 2. HAR, Chapter 11-55, Appendices A and C
 3. Title 40, Code of Federal Regulations Citations as referenced in HAR, Chapter 11-55, Water Pollution Control, Appendix A
 4. Solid Waste Disclosure Form for Construction Sites

- c: David H. Gedeon, FHWA-CFLHD (w/o encls.) [via fax (303) 969-5936 only]
Bruce K. Meyers, Okahara and Associates, Inc. (w/o encls.) [via fax (808) 961-5529 only]
Office of Solid Waste Management, DOH (w/o encls.)

201-008
XC:LO



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

October 22, 2001

RECEIVED
OCT 24 2001

OKAHARA & ASSOC., INC.
HILO HAWAII

Regulatory Branch

Ms. Lennie Okano
200 Kohola Street
Hilo, Hawaii 96720

Dear Ms. Okano:

This letter responds to your September 11, 2001 letter requesting a jurisdictional determination on whether a Department of the Army (DA) permit will be required for the realignment of Saddle Road between Milepost 28 and 42. Culverts will be installed at the road crossings of Pohakuloa and Waikahalulu Gulch.

Based on a video tape and photos provided by your office, it has been determined that the drainage ways are not waters of the U.S. as there was no indication of an ordinary high water mark. Corps regulations at 33 CFR 328.4(c) state that the limit of waters of the U.S. extends to the ordinary high water mark. "Ordinary high water mark" is defined at 33 CFR 328.3(e) as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means.

Although a DA permit is not required, this determination does not relieve you of your responsibility to obtain other federal, state or county permits or approvals. It is recommended that your agency undertake the following Best Management Practices to minimize the potential for adverse environmental impacts:

- Every effort should be made to conduct construction activities during periods of low rainfall.
- Appropriate and effective erosion control devices should be installed and maintained.
- A response plan should be prepared detailing procedures to undertake in the event that a severe flash flood occurs during construction.

File number 200200042 is assigned to this project. If you have any questions, you may contact Ms. Lolly Silva of my staff at 438-7023 or by FAX at 438-4060.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch



U.S. Department
of Transportation
Federal Highway
Administration

Central Federal Lands Highway Division

555 Zang Street, Rm. 259
Lakewood, CO 80228

JAN 07 2004

Refer to: HFHD-16

Ms. Holly McEldowney
Acting Administrator, State Historic Preservation Division
State of Hawaii Department of Land and Natural Resources
Kakuhihewa Bldg., Suite 555
601 Kamokila Blvd.
Kapolei, HI 96707

Dear Ms. McEldowney:

Subject: Federal Undertaking, Hawaii Defense Access Road A-AD-6(1), Island of Hawai'i

Enclosed is the final data recovery report for the subject project. If you have any questions, please contact Mr. Stephen Hallisy, Environmental Protection Specialist at 303 716-2140 or write to the above address, Attention: HFHD-16, Environment.

Sincerely yours,

for David H. Gedeon, P.E.
Project Manager

Enclosure

bc w/o enclosure:

S. Hallisy
D. Gedeon
G. Budd

Reading file

Central File -- Hawaii Defense Access Road A-AD-6(1), Saddle Road
SHALLISY:jm:1/6/2004:L:\ENVIRONM\WP\HI06 Saddle Road\DeCleva\SHPD_data rec report.doc *SH*



ELIJAH J. CAYetano
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
801 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

GILBERT S. COLMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

DEPUTIES
ERIC T. HIRANO
LIVNEL NISHIOKA

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

LOG NO: 29813 ✓
DOC NO: 0205RC09

May 8, 2002

Dr. Paul Rosendahl
PHRI
224 Waiianuenue Avenue
Hilo, Hawaii 96720

Dear Dr. Rosendahl:

**SUBJECT: Revised Mitigation Plan – Hawaii Defense Access Road
and Saddle Road Project (FHWA)
Multiple, Hawaii Island**

This letter reviews the revised plan which you submitted on April 9, 2002 (Carson et al. 2002). Revisions were made in response to our review letter of December 31, 2001 (Log: 28,632; Doc: 0111PM19). We find the revisions to be satisfactory. The plan is acceptable.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

c. FHWA, Honolulu

RC:amk

RECEIVED MAY 13 2002

PWR

MEMORANDUM OF AGREEMENT
Among the
ADVISORY COUNCIL ON HISTORIC PRESERVATION
and
FEDERAL HIGHWAY ADMINISTRATION
and
HAWAI'I STATE HISTORIC PRESERVATION OFFICER

Regarding the Saddle Road (SR 200) and
Hawai'i Defense Access Road (A-AD-6-1) Improvement Project on the
Island of Hawai'i, Hawai'i

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Apr 30 1 10 PM '99

WHEREAS, the Federal Highway Administration (FHWA) has determined that the proposed Saddle Road (SR 200) Improvement Project from Kaumana (at Milepost 6 on Saddle Road) to the intersection of Saddle Road with the Mamalahoa Highway will have an effect on 20 historic properties (Final Environmental Impact Statement, Section 3.19) which by consensus determination appear to meet the criteria for listing on the National Register of Historic Places (NRHP), and have consulted with the Hawai'i State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the Hawai'i SHPO has reviewed and concurred with the evaluations and recommendations provided in the report entitled *The Saddle Road Corridor: An Archaeological, Historical, and Traditional Cultural Property Inventory Survey, Evaluation and Assessment for the Hawai'i Defense Access Road A-AD-6(1) and Saddle Road (SR 200) Project* and with the *Supplemental Traditional Cultural Properties Assessment* prepared to address issues presented in the *Draft Environmental Impact Statement, Saddle Road (State Route 200), Mamalahoa Highway (State Route 190) to Milepost 6, Technical Appendix Volume V, Social Impact Assessment, Appendix B: Indigenous Hawaiian Cultural Values*, and;

WHEREAS, the Hawai'i SHPO has acknowledged that data recovery of the portions of the seven linear archaeological sites impacted by the recommended alternative (Attachment 1) is appropriate mitigation, and;

WHEREAS, Mauna Kea, as described in the Supplemental Traditional Cultural Properties Assessment to *The Saddle Road Corridor: An Archaeological, Historical, and Traditional Cultural Property Inventory Survey, Evaluation and Assessment for the Hawai'i Defense Access Road A-AD-6(1) and Saddle Road (SR 200) Project* appears to meet the criteria for placement on the NRHP as a Traditional Cultural Property (TCP) as defined by National Register Bulletin Number 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, U.S. Department of the Interior, National Park Service, and;

WHEREAS, the effects of the Saddle Road Project on Mauna Kea are indirect, and mitigation of any potential effects can best be addressed as part of the University of Hawai'i's (UH) new management plan for Mauna Kea, and;

WHEREAS, the State of Hawai'i Department of Transportation (HDOT) and the Office of Hawaiian Affairs (OHA) have been consulted in preparation of this Memorandum of Agreement (MOA), and concur with the stipulations contained herein;

NOW, THEREFORE, the Council, FHWA, and SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

FHWA shall ensure that the following measures are carried out:

1. FHWA shall develop and implement an archaeological Data Recovery Plan for those sites indicated on Attachment 1 that is consistent with the Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation* (48 CFR 44734-37) and takes into account the Council publication, *Treatment of Archaeological Properties*, and the SHPO minimal standards for archaeological data recovery and interim protection. The Data Recovery Plan will:

- Identify sites that require data recovery (see Attachment 1),
- Present research context and questions to be addressed during data recovery, with an explanation of their relevance and importance,
- Specify methods to be used, with reference to their relevance to the research questions,
- Establish how and to what agencies and interested organizations or individuals the plan will be distributed,
- Provide procedures for consideration of comments on the plan from those to whom it was distributed,
- Specify procedures for interim protection through archaeological monitoring of work during construction, as applicable to specific sites,
- Itemize contents of the Data Recovery Report (Report),
- Indicate Report review procedures to be followed,
- Provide a Report completion date,
- Establish procedures by which agencies and interested organizations or individuals will be provided with a summary of the Report findings and how they will be notified when the work is beginning.

FHWA shall submit the Data Recovery Plan to the SHPO and OHA for a 30 day review period. Unless the SHPO has specific concerns to procedures, methods, and treatments outlined in the plan within 30 days after receipt and responds in writing, the FHWA may assume SHPO concurrence. If SHPO objects to the Data Recovery Plan within 30 days of receiving the plan, it shall be revised as applicable and submitted for another 30 day review period. OHA shall provide written comments on the plan to the FHWA within the 30 day review period. FHWA will consult with OHA as necessary to address all comments. In the absence of comments received by the FHWA from OHA within the 30 day review period, the FHWA may assume concurrence by this agency.

2. FHWA shall ensure that all archaeological materials and records are curated by an institution acceptable to the SHPO in accordance with 36 CFR Part 79.

3. FHWA shall develop and implement a Treatment Plan for interpretative mitigation of designated sites (Attachment 1). Efforts will be made to design the proposed roadway footprint to minimize impact to the sites. Portions of the sites that cannot be avoided during construction will be included within the data recovery activity and incorporated into the Data Recovery Plan outlined above. The Treatment Plan shall include:

- A list of agencies and interested organizations or individuals to whom the plan will be distributed for review,
- Procedures for consideration of comments on the plan from those to whom it was distributed,
- A brief description of the project location and roadway design in the site vicinity,
- A brief summary of previous archaeological research performed in the vicinity,
- Schematic maps locating the site and depicting the roadway design and treatments, and
- Separate subsections describing the scope of the treatment methods for data recovery, interim protection by archaeological monitoring as applicable, preservation methods for remaining site features as applicable, and roadway design features and interpretive aids applicable to enhancing the site.

FHWA shall submit the Treatment Plan to the SHPO and OHA for a 30 day review period. Unless the SHPO has specific concerns to procedures, methods, and treatments outlined in the plan within 30 days after receipt and responds in writing, the FHWA may assume SHPO concurrence. If SHPO objects to the Treatment Plan within 30 days of receiving the plan, it shall be revised as applicable and submitted for another 30 day review period. OHA shall provide written comments on the plan to the FHWA within the 30 day review period. FHWA will consult with OHA as necessary to address all comments. In the absence of comments received by the FHWA from OHA within the 30 day review period, the FHWA may assume concurrence by this agency.

4. The Federal Highway Administration agrees to cooperate with the UH in planning for access restriction facilities or signage at the intersection of Mauna Kea Access Road and Saddle Road by providing design or Right-of-Way accommodations as might be reasonably considered part of the Saddle Road Project at the time the project is advanced.

5. If a previously unknown archaeological site is encountered during project construction, the FHWA shall notify the Hawaii SHPO and OHA immediately. The FHWA shall ensure that all work ceases in the area of the discovery and in any adjacent areas where associated resources are likely to be encountered. The FHWA, Hawai'i SHPO and OHA shall then consult on the potential significance of the resource and appropriate treatment measures. The Hawai'i SHPO and OHA shall participate in such consultation in an expedited manner consistent with the timely advancement of the project with the intent of minimizing construction delays. When agreement has been reached on data recovery, interim protection, preservation, or interpretive measures and such measures have been implemented, construction may proceed in the area of the discovery.

6. Should any signatory or concurring party to this agreement object to a proposed Data Recovery Plan or Treatment Plan within the 30 day review period pursuant to this agreement, the FHWA shall consult with the objecting party to resolve the objection. If the FHWA determines that the objection cannot be resolved, the FHWA shall forward all documentation relevant to the

dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will:

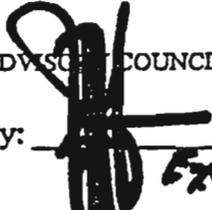
- Provide the FHWA with recommendations to be considered in reaching a final decision regarding the dispute, or
- Notify the FHWA that it will comment pursuant to 36 CFR 800.6(b), and proceed to comment.

Any Council comment provided in response to such a request will be considered by the FHWA in accordance with 36 CFR 800.6(c)(2) with reference to the subject of the response. Any recommendations or comments provided by the Council will be understood to pertain to the subject of the dispute; however, the FHWA's responsibility to carry out all actions under this agreement that are not subject to dispute will remain unchanged.

7. Any party to this MOA may request that it be amended, where upon the parties will consult in accordance with 36 CFR 800 to consider such amendment.

Execution of the MOA and the implementation of its terms evidence that the FHWA afforded the Council an opportunity to comment on the Saddle Road (SR 200) Improvement Project and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on historic properties.

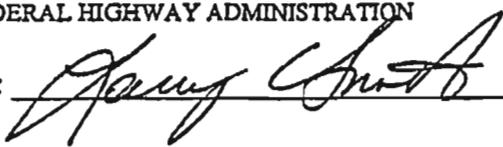
ADVISED COUNCIL ON HISTORIC PRESERVATION

By:  _____

Executive Director

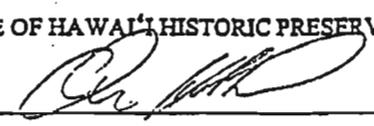
Date: 5/14/99

FEDERAL HIGHWAY ADMINISTRATION

By:  _____

Date: 5/11/99

STATE OF HAWAII HISTORIC PRESERVATION OFFICER

By:  _____

Date: 5/3/99

CONCUR:

OFFICE OF HAWAIIAN AFFAIRS

By:  _____

Date: April 29 - 99

HAWAII DEPARTMENT OF TRANSPORTATION

By: Kay Hayside Date: 4/30/99

ATTACHMENT 1

Mitigation for NRHP Eligible Archaeological Sites and Associated Significance Criteria for Site Segments within the A.P.E. of the Recommended Alternative for the Saddle Road Improvement Project

SHIP #	DESCRIPTION	CRITERIA	IMPACT	MITIGATION
20852	Burial ¹	D	no	Avoid
20854	Ranching - Habitation & Animal Enclosures	D	yes	Data Recovery Only
20855	Transportation- Old Waimea-Kona Rd.	D ³	yes	Data Recovery, Interpretation
5002	Ranching-Ka'ohe Wall ¹	D	no	Avoid
5003	Temporary Habitation ¹	D	no	Avoid
14638	Temporary Habitation ¹	D	no	Avoid
20862	Ranching- Linear Wall	D	yes	None ²
20865	Ranching- Linear Post Fence	D	yes	None ²
20877	Ranching- Linear Wall	D	yes	None ²
21150	Transportation- Humu'ula Wagon Trail	D ³	yes	Data Recovery, Interpretation
7119	Ranching-Humu'ula Sheep Station Walls	D ³	yes	Data Recovery, Interpretation
10309	Transportation- Pu'u 'O'o Volcano Trail	D ³	yes	Data Recovery, Interpretation
20856	Paving	D	yes	None ¹
20878	Transportation- Hilo Pu'u 'O'o Trail	D ³	yes	Data Recovery, Interpretation
20864	Transportation- Old Saddle Road	D ³	yes	Interpretation ²
20869	Survey Marker	D	no	None ²
20870	Agriculture- 'Ola'a Flume	D ³	yes	Interpretation ²
20872	Recreation- Hilo Country Club	D	no	None ²
20873	Habitation- Senator Kimi's House	D	no	None ²
TCP	Mauna Kea ¹	TCP	indirect	Avoid: defer to Univ. of Hawai'i Management Plan study

1. Not within the Recommended Alternative APE but identified as eligible during alternate alignment investigations.
2. Data Recovery has been completed, either as part of this project or other independent surveys.
3. Additional Significance Criteria may apply outside of road corridor crossing.

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809
JAN - 8 2002

201 008
XL: LO
GILBERT S. COLOMA-AGARAN
CHAIRPERSON
BRUCE S. ANDERSON
MEREDITH J. CHING
CLAYTON W. DELA CRUZ
BRIAN C. NISHIDA
HERBERT M. RICHARDS, JR.

LINNEL T. NISHIOKA
DEPUTY DIRECTOR

RECEIVED
JAN 10 2002

OKAHARA & ASSOC., INC.
HILO OFFICE

Reference # 201008
Letter # 51871

Ms. Lennie Okano
Okahara & Associates
Engineering Consultants
200 Kohola St.
Hilo, Hawaii 96720

Dear Ms. Okano

Stream Channel Alteration Permit Applicability
PTA Section - State Route 200 Saddle Road Realignment
Mile Post 42 to Mauna Kea Access Road
Hamakua and North Hilo, Hawaii

This is in response to your letter dated, September 11, 2001, requesting an assessment to determine if any stream channel alteration permits would be required for any watercourses that cross the proposed road realignment.

We were concerned about instream uses at Waikahalulu Gulch, therefore we contacted staff at the Pohakuloa Training Area. We understand that there are some spring sources at higher elevations of Waikahalulu Gulch. However, there is insufficient water to support instream uses at the location of the proposed Highway. Therefore this watercourse is not considered to be a 'stream' as defined in Hawaii Revised Statutes §174C-3 and a stream channel alteration permit will not be required.

We apologize for our delay in responding to you. Thank you for consulting with us on our permit requirements. If you have any questions, please call David Higa at 587-0249.

Sincerely,

A handwritten signature in black ink, appearing to read "L. Nishioka".

LINNEL T. NISHIOKA
Deputy Director

SKS:sd

c: Mr. David Gedeon, Federal Highways Administration
Ms. Christine Yamasaki, State of Hawaii, Department of Transportation

NPDES Permit No. HI S000031

**EXCERPTS FROM SOILS REPORT
ATTACHMENT**

The project site is located southerly of the summit of Mauna Kea and at elevations on the order of about +6,000 feet MSL. The southern flank of Mauna Kea, including the area of the PTA, resides in a rain shadow created by the blocking effect of the mountain on the moisture bearing northeasterly trade-wind flow. Therefore, rainfall on the southern and southwestern (leeward) flanks of Mauna Kea is generally lower. The zones of greater rainfall are generally located below about +3,000 feet MSL on the northern through eastern flank of Mauna Kea. Due to the higher elevation of the project site (cooler temperatures and lower humidity) and location on the south facing mountain slopes, annual rainfall is generally less than about 30 inches. The typical rainfall occurs in the afternoon as infrequent light misting showers as clouds and fog form and migrate up toward the Humuula Saddle from the eastern and occasionally the western slopes. Heavier rainfall may be anticipated during storm weather conditions and shifts in the prevailing wind direction.

The average daytime temperatures (in Fahrenheit) range between the low 60s and 70s with abrupt changes occurring with the formation of afternoon clouds and fog. Nighttime temperatures average in the upper 40s and 50s under generally clear sky conditions. The low cloud and fog conditions may occur periodically; however, the frequency of occurrence is generally lower than at lower elevations of Saddle Road, which are located toward the east and west of the project site. The overall climate may be characterized as dry, cool, and breezy with relatively low precipitation, low humidity, and a high evaporation rate.

2.4 Geologic Materials

Considering the significant length of the project site, the various geologic deposits encountered along the surface of the proposed roadway alignment are relatively uniform and may be grouped into six generalized types of geologic materials. The generalized types of geologic materials encountered along the proposed roadway alignment include the following:

<u>GEOLOGIC MATERIAL</u>	<u>DESCRIPTION</u>
Type No. 1	Weakly cemented, poorly graded sandy deposits, loose to medium dense relative density (Sandy Pyroclastic Cinder and Alluvium)
Type No. 2	Weakly cemented, poorly graded silt and sand mixed with some basalt clinker and scattered surface rock outcroppings, loose to medium dense relative density with some embedded hard rock (Silty/Sandy Cinder and Alluvium with some Basalt Rock)
Type No. 3	Moderately cemented, well-graded sand and gravel with cobbles and boulders, medium dense to very dense relative density (Conglomerate)
Type No. 4	Weakly cemented, poorly graded pyroclastic, scoria and pumice gravel with some cobbles, medium dense relative density (Gravelly Cinder and Tephra)
Type No. 5	Exposed basalt rock lava flow, hard rock (Exposed Basalt Rock Formation)
Type No. 6	Weakly cemented, silty volcanic ash with sand, stiff to medium dense relative density (Silty Volcanic Ash)

Based on our field exploration, the most dominant surface materials encountered along the proposed roadway alignment consist of the sandy deposits, which are classified as Geologic Material Type Nos. 1 and 2. These materials are encountered at the ground surface along most of the length of the project site, except easterly of about STA. 555+00 where more silty volcanic ash soils and barren lava rock is encountered at the ground surface. The sands consist of brown and gray colored, poorly graded, fine to medium-grained sands with some silt (characteristic of a pyroclastic origin) and varying amounts of embedded gravel and/or cobbles and boulders. Based on our field exploration, the sands

appear to be weakly to moderately cemented and are medium dense to dense with seismic refraction P-wave velocities of about 950 to 1,500 feet per second.

Some of the sandy deposits, especially those located in the vicinity of the cinder cone vents and on the sloping terrain of the Mauna Kea mountain flank, may be of pyroclastic origin and exist in their original depositional environment. The sandy deposits (Geologic Material Type No. 2) were observed to contain some basalt clinker and scattered surface outcropping of hard basalt rock material. The rocky character of the Type No. 2 deposits indicate that the potential exists for encountering hard basalt rock and clinker material at relatively shallower depths in the subsurface beneath the surface mantle of sandy soil.

Another dominant geologic deposit encountered along the proposed road alignment is Geologic Material Type No. 3, which is referred to as conglomerate. The conglomerate materials are concentrated in the vicinity of the larger gulch mouths located along the plateau at the foot of the mountain slopes. The deposits may be recognized on aerial photographs and topographic maps by their uniform fan-shaped topography spreading outward and away from the gulch mouths.

Based on our field exploration, the conglomerate material appears to be moderately cemented and consists of rounded cobbles, boulders, and gravel cemented by a silty and sandy matrix. The field exploration data indicate that the materials are generally medium dense to very dense with probable seismic P-wave velocities on the order of about 1,100 to 4,000 feet per second. The higher velocities are believed to occur where a greater percentage of rocky materials including larger boulders and stronger cementation compose the conglomerate. The conglomerate may be observed to be cropping out in the shallow gullies located on the plateau and in the side walls of the deeper gullies located on the lower Mauna Kea Volcano mountain flank northerly of the project site. In addition, ground underlain by conglomerate may be recognized in the field by the presence of smooth rounded boulders scattered on the ground surface. As mentioned previously, it is believed that the conglomerate deposits originated by the erosion and transportation of upslope materials by glacial melt water and runoff.

Geologic Material Type No. 4 consists of pyroclastic air-fall deposits associated with cinder cone vents that are composed of a variety of tephra materials ranging from fine cinder sand to coarse pumice and scoria gravel and cobbles. The deposits may be encountered on the steep slopes composing the cinder cones and on the surrounding terrain located in the vicinity of the cinder cones. The materials appear to be weakly to moderately cemented and medium dense in relative density. The exposed surfaces may be brown in color and loose in relative density due to environmental exposure to weathering processes, which act to break down the grain cementation.

Based on our field exploration, the seismic P-wave velocities of the pyroclastic sand deposits appear to average about 1,100 feet per second. Also included with the pyroclastic deposits are layers of soft to stiff volcanic ash, which generally consist of light brown colored, low plasticity, fine sandy silts and clayey silts. The volcanic ash may typically cap the thicker pyroclastic deposits or may be interbedded within the clinker surface layer of the underlying a'a lava rock.

A'a basalt rock is widespread across the project site and generally exists buried in the subsurface beneath the surface cover of pyroclastic deposits, the alluvial sands, and the conglomerate deposits. Segments of the proposed roadway alignment may encounter buried a'a basalt rock located in relatively close proximity to the ground surface. Shallower depth basalt rock may be anticipated where in-situ jagged, brown colored rock outcroppings are observed protruding among a "matrix" of fine-grained alluvial and pyroclastic sediments. As mentioned previously, the a'a basalt rock encountered at the project site typically consists of an undulating, thick, rubbly clinker surface ranging from about 3 feet to greater than 10 feet in thickness overlying very dense, massive basalt rock.

The surface sandy cinder and alluvial soils usually mantle the top of the buried a'a lava flow; therefore, the ground surface expression of the buried a'a lava flow may resemble a relatively smooth sandy surface with some scattered clinker fragments or basalt rock protruding. Because of the buried undulating rocky terrain, the top of the basalt rock may be encountered at variable depths in the subsurface corresponding to the buried topographic mounds and depressions that are typical of a'a lava flows.

Geologic Material Type No. 5 consists of exposed hard basalt rock at the ground surface that generally is devoid of soil cover. Surface exposure of pahoehoe basalt rock consisting of relatively flat to very gently undulating terrain was encountered continuously between about STA. 631+00 and about STA. 694+00. Periodic areas of hard a'a basalt rock outcropping were encountered between about STA. 550+00 and about STA. 631+00 as shown on the Site Plan, Plates 4.10 and 4.11. Other widely scattered and localized surface outcroppings of hard basalt rock were encountered along the alignment between about STA. 482+00 and about STA. 545+00. The localized hard rock outcroppings were generally encompassed by sandy cinder soils (Geologic Material Type No. 2) and were typically exposed as knoll and ridge topography.

The pahoehoe basalt rock encountered at the far-eastern end of the proposed roadway alignment forms a broad, relatively flat, black colored surface generally devoid of vegetation. The pahoehoe rock was erupted from Mauna Loa Volcano in 1935 and ponded against the pre-existing lava flows of Mauna Kea Volcano. The ground surface is typified by relatively smooth, low relief hummocks separated by open fractures that penetrate several feet into the surface of the lava flow. Some scattered pockets of loose, rocky rubble mounds are interspersed across the flow surface. Based on our field exploration, the pahoehoe lava flow ranges in thickness between about 3 and 15 feet and is underlain by reddish brown colored clinker materials representing the top of an older buried a'a lava flow. The seismic P-wave velocities in the pahoehoe rock appear to be on the order of about 4,300 feet per second. The underlying clinker appears to have a seismic P-wave velocity of about 2,000 feet per second.

Based on our field exploration, the basalt rock encountered by the field exploration ranges from medium hard and highly fractured to very hard and massive. The seismic P-wave velocities appear to range from about 2,000 to 3,000 feet per second for medium hard clinker and from about 3,000 to 10,000 feet per second for hard to very hard basalt rock. It should be noted that some open fractures, voids, and small diameter lava tubes were encountered in the borings drilled at the project site.

Geologic Material Type No. 6 consists of silty volcanic ash soils, which are encountered sporadically along the proposed roadway alignment. The silty volcanic ash soils are generally composed of stiff, light brown to brown colored, silty fine sand. In general, these soil materials are most commonly encountered in the vicinity of cinder cone vents, on the adjacent slopes of Mauna Kea, and at the far-eastern portion of the project. Secondly, some of the silty volcanic ash materials were observed mixed with the sandy soils composing the flatter plateau areas. Localized deposits of wind-blown volcanic ash also may be encountered in protected locations that are favorable for aeolian deposition. Once disturbed by vehicle traffic or excavation, the dry ash soils exhibit a very light and powdery character that is highly susceptible to erosion.

2.5 Existing Site Conditions

A site reconnaissance was conducted prior to the commencement of the field exploration program in an effort to map the surface deposits and select possible locations for the seismic refraction survey and drilling exploration. A set of preliminary topographic maps and profiles were provided by Okahara & Associates, Inc. for our use to reference the location of the proposed roadway alignment and features noted in the field. The reconnaissance was accomplished by driving along the existing jeep trails that intersect the proposed roadway alignment and by hiking in the less accessible portions of the alignment. At the time of our site reconnaissance, the centerline and boundary stakes were available for our use in referencing the location of the proposed roadway alignment. Descriptions of the surface and exposed subsurface materials encountered and other pertinent features observed during our site reconnaissance are presented in the following subsections.

2.5.1 STA. 0+00 to STA. 33+80

The proposed alignment traverses low relief topography, which is gently inclined toward the east. The ground surface appears to be composed of dry, weakly cemented, medium dense silty sands with some gravel and cobbles. The upper 1-foot depth is weathered and loose. Some low hills with basalt rock outcroppings were observed in the vicinity of STA. 29+00 to STA. 33+00 on the left side of the

Rec'd
12/5/03

LINDA LINGLE
GOVERNOR OF HAWAII



COPY



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

November 25, 2003

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

MEMORANDUM

LOG NO: 2003.2429
DOC NO: 0311PM08

TO: Dierdre S. Mamiya, Administrator
Land Division

FROM: P. Holly McEldowney, Acting Administrator *PHM*
State Historic Preservation Division

SUBJECT: Chapter 6E-8 Historic Preservation Comment on the Completion of
Archaeological Data Recovery Fieldwork on State-owned Lands ---
Realignment of Saddle Road (Mileposts 19-27)
North and South Hilo, Hawaii Island
TMK: (3) 3-8-01:7, 8, 19; 2-4-08:4, 8; 2-6-18:4, 8

This is to inform you that the archaeological data recovery plan for the subject area that was referred to in my memo of June 26, 2003 (Log No. 2003.0983; Doc No. 0306PM11) has been implemented. On October 8, 2003 we received a report from the Federal Highways Administration entitled "Saddle Road, PTA-1, Phase 1 Archaeological Data Recovery Investigations: End of Field Summary" by Dr. John Peterson (International Archaeological Research Institute, Inc.). Data recovery investigations were conducted at two sites located between Mileposts 19 and 27—Site 7119 (rock wall) and Site 21150 (an historic roadway). We believe that these two sites have been satisfactorily mitigated. Road improvements between Mileposts 19 and 27 can now proceed.

c. David Gedeon, Federal Highways Administration, 555 Zang Street, Rm. 259, Lakewood, CO 80228

PM:ak

NPDES Permit No. HI S000031

**EXCERPTS FROM PROJECT
SPECIFICATIONS ATTACHMENT**

SCHEDULE FOR FULL OR PARTIAL ACCEPTANCE BY MATERIALS CERTIFICATION					
721	Electrical and Illumination Material (all)	As specified	As applicable	1 per shipment per material type	-----
722	Anchor Material	As specified	As applicable	1 per shipment per material type	-----
725	Miscellaneous materials	As specified	As applicable	1 per shipment per material type	-----

Section 107. - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01 Laws to be Observed. Add the Following:

(a) **General.** All contractor and subcontractor personnel shall attend a mandatory presentation on all of the environmental commitments and restrictions.

In the event potential unexploded ordnance is encountered during the Contractor's construction operations, cease all work immediately in the vicinity of the site and cordon off the area from public and worker access until the ordnance is mitigated by qualified personnel. The Contractor shall immediately notify the Contracting Officer. The Contracting Officer shall notify the PTA Range Control Officer, local public safety officials and/or the US Army Explosive Ordnance Detail whenever potential ordnance is encountered.

Designate the erosion control/water quality supervisor in accordance with Subsection 157.03 who will be responsible for implementing the construction site Best Management Practice Plan (BMPP) and compliance with the General Permit. The erosion control/water quality supervisor shall be familiar with the General Permit and BMPP procedures and practices and shall ensure that emergency procedures and the BMPP is updated as needed and available for inspection.

(b) Review and update the NOI and BMPP.

A draft NOI and BMPP (item 15 of the NOI) have been developed and includes project plans containing erosion control details and quantities. At least 8 weeks prior to the beginning of construction, review the draft NOI, BMPP, and provide the following information and forms to the CO to complete the NOI and BMPP:

- (1) Information required in item 15 of the NOI that is missing or inadequately covered.

- (2) Weather monitoring procedure
- (3) Descriptions and details of erosion controls, including dust control
- (4) Applicable specifications and Special Contract Requirements
- (5) Maintenance and inspection procedures and forms
- (6) Contractor and Subcontractor Certification forms
- (7) Other record keeping forms and procedures Good housekeeping practices and requirements

The CO and the Contractor shall then jointly review the draft BMPP and agree to any needed revisions. A copy of the revised BMPP shall be signed by the CO and Contractor indicating approval of the revised BMPP.

The approved BMPP will describe and ensure the implementation of practices, which will be used to reduce the pollutants in storm water discharges to assure compliance with the terms and conditions of the General Permit.

A copy of the approved NOI/BMPP by the Hawaii Department of Health, Clean Water Branch shall be placed in a three-ring binder so that completed inspection forms and other records may be inserted. The Contractor shall maintain a current copy of the NOI/BMPP and all associated records and forms at the job site throughout the duration of the project. The BMPP shall be available for public inspection and for the inspection and use of the CO.

Implement the BMPP as required throughout the construction period and maintain all related erosion control elements in proper working order. Do not perform clearing and grubbing or earthwork until the NOI/BMPP has been approved and appropriate erosion control measures are in-place. Clearing and grubbing of vegetation shall not take place in areas where construction will not commence within 20 days.

Prior to construction, the Contractor and all subcontractors shall sign certifications (included in the BMPP) that they understand the requirements of the General Permit. All subcontractors shall comply with the requirements of the General Permit under the supervision of the Contractor.

The NOI/BMPP, including inspection forms and all data used to complete the NOI/BMPP, shall be provided to the CO at the completion of the project.

Post the NOI at the construction site bulletin board throughout the duration of the project.

(c) Notice of Intent (NOI).

Post the NOI at the construction site bulletin board throughout the duration of the project.

(d) Erosion Controls.

Implement soil erosion controls in accordance with the BMPP and Section 157.

(e) Controls for Other Pollutants.

Implement controls to eliminate the discharge of pollutants, other than erodible soil, into storm water such as pollutants from materials stored onsite. The work shall include the implementation of spill prevention and material management controls and practices to prevent the release of pollutants into storm water. These controls and practices shall be specified in the BMPP and shall include storage procedures for chemicals, construction materials and other pollution prevention measures.

Spill prevention, containment and counter-measures will be required if the volume of fuel in a single container exceeds 650 gallons, or if the total storage volume at any one site exceeds 1300 gallons.

Assist in any efforts to clean up hazardous material spills as instructed by the CO or other authorities. Haul soil contaminated with smaller spills from the project site and dispose of according to applicable State and Federal laws.

Contact the CO immediately in the event of any spill of a hazardous material.

(f) "Good Housekeeping" Practices and Requirements.

The BMPP shall specify the Contractor's "good housekeeping" practices and requirements including vehicle wash-down areas, onsite and offsite tracking control, protection of equipment storage and maintenance areas, and sweeping of highways and roadways related to hauling activities.

The Contractor shall take sufficient precautions, considering all conditions, to prevent pollution of streams, lakes, and reservoirs with fuels, oil, bitumens, calcium chloride, magnesium chloride, Portland cement, fresh Portland cement concrete, raw sewage, muddy water, chemicals or other harmful materials. None of these materials shall be discharged into any channels leading to such streams, lakes or reservoirs.

To reduce the possibility and minimize the impacts of accidental spills or discharge, machinery service and refueling areas shall be located away from streambeds or washes.

Non-waste materials such as used cans, oils, machine and equipment parts, paint, hazardous materials, plastic and rubber parts, discarded metals, and building materials, shall be removed from the construction site and disposed of at an approved landfill.

Where the Contractor's working area encroaches on a running or intermittent stream, barriers shall be constructed and maintained between the working areas and the streambed adequate to prevent the discharge of any contaminants.

Unless approved in writing by the CO, mechanical equipment shall not be operated in running streams. Forging of running streams with construction equipment will not be permitted. Temporary bridges or other structures, approved by the CO, shall be used whenever crossings are necessary.

Streams, lakes and reservoirs shall be immediately cleared of all work items, debris or other obstructions inadvertently placed thereby or resulting from construction operations.

(g) Inspections and Revisions to the BMPP.

The CO and the Contractor shall inspect disturbed areas that have not been finally stabilized, areas used for storage of materials, locations where vehicles enter or exit the site, and all of the erosion and sediment controls that are included in the BMPP. All control measures shall be checked and repaired as necessary. During dry periods, controls should be checked weekly and within twenty-four hours after any rainfall of 0.5 inches or greater within a 24-hour period. During prolonged rainfall, controls shall be checked daily. Monitor rainfall with a rain gauge accurate to the nearest 0.125 inches of rain and maintain records of the duration and estimated volume of storm water discharge(s).

Document the inspections on forms provided in the BMPP. The inspection forms shall be signed in accordance with the requirements of the BMPP and the General Permit. The inspection forms shall be retained onsite in the BMPP notebook throughout the construction period.

It may be necessary to revise the BMPP during construction to make necessary improvements or revisions or to respond to unforeseen conditions noted during construction or site inspections. For that purpose, the BMPP shall specify the mechanism whereby revisions may be proposed by the Contractor or the CO and incorporated into the plan, including review and approval of minor changes. The CO and the Contractor shall jointly approve and sign each revision to the BMPP before implementation. Approved modifications shall be implemented within seven calendar days following the date of the inspection when deficiencies or necessary corrections were first noted.

107.02 Protection and Restoration of Property and Landscape. Add the following:

Keep the project areas in neat, orderly, and safe conditions at all times as required in subsection 107.08.

Develop and implement a vehicle fluid leakage and spill plan to prevent water contamination and potential poisoning of species. Submit the plan to the CO for approval. The plan will specify immediate clean up of any hazardous substance and define how each hazardous substance will be treated in case of leaks or spills. See Subsection 107.10 for additional leakage and spill requirements.

Add the following to the third paragraph:

Stockpile, equipment parking, and turnaround areas are to be contained within the designated construction limits. Install erosion control devices, as necessary, around the perimeter of stockpile, equipment parking, and turnaround areas. Do not allow equipment outside the designated construction limits under any circumstances without specific authorization by the CO.

When directed by the CO, install temporary construction fencing to delineate and protect specific areas of vegetation and other environmental features within or adjacent to the work area. Install and maintain temporary construction fence at the following locations: all stockpile and storage areas; around trees and shrubs designated to remain which are adjacent to the construction zone; and at other locations determined by the CO. Remove fencing upon completion of the work.

107.08 Sanitation, Health, and Safety. Add the following:

Provide enough refuse containers for collecting construction debris. Place construction debris in refuse containers at least daily. Dispose of refuse prior to capacity of containers being exceeded, at public or private dumping areas. Wet down dry materials and rubbish to prevent blowing dust. Keep volatile wastes in covered containers.

107.10 Environmental Protection. Add the following:

The Federal Highway Administration will contract with a qualified biologist to assist in field identifications, field inspections, etc., during construction.

During construction, if any additional land is needed for right-of-way, construction limits, construction access, staging sites, or other purposes, be advised that the CO will have the authority to delay the construction in these areas to request further investigation as needed to confirm the absence of hazardous waste, archaeologically significant sites, caves, endangered plants or animals, or anything else declared environmentally sensitive by those FHWA has named to make such determinations.

Flag the construction limits and construction access points and install temporary construction fencing on the perimeter of the staging sites in accordance with the project plans or as selected by the contractor, prior to construction. Prior to installing the fence, the CO will approve the location and extent of the flagging. The contractor is restricted to the approved construction

For alternate one-way traffic control, provide a minimum lane width of 13 feet. For two-way traffic, provide a minimum roadway width of 23 feet.

(j) Delete the text and substitute the following:

Limit construction-caused delays to public traffic to a maximum of 30 minutes per passage through the project except during the following times on Monday through Friday:

3:30 p.m. through 8:30 a.m.

During the above times, allow traffic to pass through the construction without delay. These times can be adjusted by the CO if necessary.

Section 157. - SOIL EROSION CONTROL

Material

157.02 Add the following:

Temporary soil tackifier shall be Soil-Sement by Midwest Industrial Supply, Inc. (800 321-0699), or equal as approved by the CO two weeks prior to application.

Construction Requirements

157.03 General. Delete the second paragraph and substitute the following:

Standard erosion control devices are provided in the contract. Detail site-specific measures for controlling erosion and submit to the CO for acceptance prior to implementation. Provide working drawings and associated data that do not exceed 24 by 36 inches in size. Allow 7 days for acceptance of the drawings or a return for corrections. Include the following in the detailed design:

- (a) Address contractual requirements for storm water runoff permits, environmental commitments, and other permit requirements here or in Subsection 107.01 or 107.10.
- (b) Location of each proposed erosion control measure.
- (c) Type of each erosion control measure.

(d) Quantities and estimated unit costs of proposed temporary erosion control devices to be implemented during construction.

(e) A schedule detailing coordination of erosion control measures with the various construction operations or stages. Include the furnishing, installation, maintaining, and removing of temporary devices and the installation of permanent erosion control features.

(f) A schedule outlining the proposed schedule of clearing and grubbing, excavation, embankment, and culvert operations such that the area of disturbed or erodible material is minimized. Schedule the work such that temporary and permanent erosion measures can be incorporated at the earliest practical time.

(g) Construction methods used in various items of work to minimize erosion.

Add the following:

At least 5 days prior to the preconstruction conference, designate in writing an Erosion Control Supervisor who is responsible for implementing the requirements of this Section. Do not designate the project superintendent as the Erosion Control Supervisor.

When temporary erosion control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as part of the work in a timely manner, provide temporary measures at no cost to the Government.

157.04 Controls and Limitations on Work. Delete paragraphs (c) and (d) and substitute the following:

(c) Apply appropriate permanent slope and soil stabilization to the finished slopes and ditches within 14 days according to Sections 624 and 625.

(d) Apply appropriate temporary slope and soil stabilization on disturbed areas within 14 days after last disturbance, except where the area will be redisturbed within 21 days after last disturbance.

Apply temporary soil tackifier to final Phase 1 roadway grade within 14 days according to the manufacturer's recommendations and as shown on the plans. Apply at a rate that will allow construction equipment trafficking to continue after the tackifier is applied.

157.12 Inspection and Reporting. Add the following:

Monitor the turbidity of waters adjacent to the project. Take turbidity measurements using an HF-DRT 15 turbidimeter or equivalent upstream of the project and 500 feet downstream of the

area of the highest turbidity. If the measurements show an increase of 10 NTU or more, immediately suspend operations in the vicinity of the problem area and modify the erosion control measures to eliminate the cause of the high turbidity. Include turbidity readings, locations, and actions taken, if any, in inspection reports. Also provide documentation of meter calibration.

157.14 Acceptance. Add the following:

Soil erosion control will be evaluated under subsection 106.02 based on the demonstrated ability of the erosion control measures to result in minimal soil erosion, sedimentation and/or siltation, and turbidity increases within or adjacent to the project limits.

Section 158.-WATERING FOR DUST CONTROL

158.03 General. Add the following:

(c) Contact Earnie Jackson or staff of Bradshaw Flight Operations at 969-2461 daily, prior to the start of any earthwork activity, for the fixed winged flight schedules to assure that no airborne dust obstructs their landing and take-off operations, especially when using Makai Road and grading between 203+50 and 277+00.

Section 201. – CLEARING AND GRUBBING

201.03 General. Add the following

Soft and yielding areas encountered during clearing and grubbing below areas designated to receive fill shall be over-excavated to expose firm material, and the resulting excavation should be backfilled with well-compacted fill. The excavated soft soils should be properly disposed of off-site or in a designated area. Soft and yielding areas encountered during clearing and grubbing below areas designated to receive fill shall be over-excavated to expose firm material, and the resulting excavation shall be backfilled with well-compacted fill. The excavated soft soils should be properly disposed of off-site or in a designated area.

Section 203. - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Construction Requirements

203.05 Disposing of Material.

(a) Remove from project. Add the following:

The contractor is responsible for the proper handling, storage and/or disposal of all waste generated by this construction, including grubbing and excess excavated material. Any material brought to the County landfills will be subject to the instituted tipping fee system, with no exception or exemption. Contact the County's Solid Waste Division at (808) 961-8339 for the latest information on the use of public landfills and the associated costs.

(b) **Burn.** Delete the text and substitute the following:

Burning is not permitted in this project.

(c) **Bury.** Add the following:

Stabilize the soil over the disposal areas on Government property according to Sections 624 & 625.

Section 204. - EXCAVATION AND EMBANKMENT

Description

204.02 Definitions.

(c) **Embankment material.**

(1) **Rock.** Delete the text and substitute the following:

Rock is material containing particles that are retained on the 3 inch sieve and having less than 40 percent passing the No. 4 sieve or less than 35 percent passing the No. 10 sieve.

Add the following:

(4) Volcanic ash, if used as a source of embankment materials, shall be blended with cinder sands, alluvial sands, and/or basalt fragments to provide a relatively well-graded material prior to placement as fills.

(5) Excavated cinder sands and alluvial sands may be used as a source of embankment material or blended with volcanic ash soil and basalt rock fragments to provide a relatively well-graded fill material.

204.02 Definitions. Add the following:

Material for grout will be evaluated under Subsections 106.02 and 106.03. Grout will be evaluated under Subsections 106.02 and 106.04. Grout placement will be evaluated under Subsection 106.02. See Table 251-1 for minimum sampling and testing requirements.

Measurement

251.08 Measure riprap by the ton or by the cubic yard in place.

Payment

251.09 The accepted quantities, measured as provided above, will be paid at the contract price per unit of measurement for the pay items listed below that are shown in the bid schedule:

622.02 Add the following:

Type of equipment shall be as follows:

Truck, highway, 10-wheel, 3-axle, rear dump, 10-12 cubic yard minimum capacity.

Loader with backhoe, wheel type, 48 gallon minimum rated capacity bucket (24" width).

Front-end Loader, wheel type, minimum 4 cubic yard bucket.

Bulldozer, equivalent to a Caterpillar D-8

Motor Grader, 12 foot minimum blade width, equivalent to a Caterpillar 140G.

Hydraulic Excavator, Track Type, 165 hp flywheel power, 1.3 cubic yard bucket, equivalent to a Caterpillar 225B.

Section 624. – TOPSOIL

Material

624.02 Add the following:

For placing conserved topsoil, 4-inch depth, use a 2-inch minus rock material that matches the general color of the pahoehoe lava field located from Stations 630+50 to 655+00.

Construction Requirements**624.04 Placing Topsoil.** Add the following:

Placing conserved topsoil, 4-inch depth, is reserved for slopes in the section of road from stations 630+50 to 655+00.

Section 625.- TURF ESTABLISHMENT

Delete the entire Section and substitute the following:

Section 625.- REVEGETATION ESTABLISHMENT**Description**

625.01 This work consists of mulching, matting, and watering.

Material

625.02 Conform to the following Subsections:

Mulch	713.05
Erosion Control Mats	713.07(a)
Water	725.01

Construction Requirements

625.03 Conform to the following Subsections:

Mulch	713.05
Erosion Control Mats	713.07(a)

Conform to Section 624 for placing of conserved topsoil.

Mulch with Mulching, Hydraulic Method on roadside ditches and cut and fill slopes flatter than 2:1. Apply erosion control mats or Mulching, Bonded Fiber Matrix on roadside cut and fill slopes 2:1 or steeper as shown on the construction drawings. Apply mulching and matting

Section 713. - ROADSIDE IMPROVEMENT MATERIAL

713.05 Mulch. Delete the text and substitute the following:

713.05 Mulch. Furnish wood cellulose fibers derived from 100% recycled newspaper, cardboard and/or other paper sources. This Mulch shall be formulated for the specific purpose of allowing plants specific to the area to grow and shall not contain tackifiers, clays or other additives, binders or fillers except as noted below.

Add gypsum based Geobinder Airtol by Gypsum Solutions (800) 487-4431, or equal as approved by the CO two weeks prior to installation. Install per the manufacturer's recommendations and as shown on the plans. The per acre application rate is as follows:

6,000 Pounds Geobinder
2,000 Pounds Hydraulic Mulch.

713.07(a)(3) Type 3 – Coconut mat. Delete the text and substitute the following:

713.07(a)(3) Type 3 – Coconut mat. Provide composite turf reinforcement mat produced of 100% coconut fiber matrix incorporated into a permanent three-dimensional netting structure, as manufactured by North American Green (800) 722-2040 or equal as approved by the CO. Submit a sample mat for approval to the CO two weeks prior to installation. Install per the manufacturer's recommendations and as shown on the plans.

713.16 Silt Fence. Delete the text and substitute the following:

713.16 Silt Fence. Conform to AASHTO M 288.

Section 718. - TRAFFIC SIGNING AND MARKING MATERIAL

718.04 Steel Panels. Delete the text in the first paragraph and substitute the following:

718.04 Steel Panels. Furnish 0.079 inch continuous coat galvanized sheet steel blanks conforming to ASTM A 653. Mill phosphatize the zinc coating (designation G 90) to a thickness of 0.0035 ± 0.00175 ounces per square foot of surface area.

718.08 Signposts.

REVISED 9/10/08

AMENDMENT A001

APPENDIX D

SOLID WASTE DISCLOSURE FORM

**STATE OF HAWAII
DEPARTMENT OF HEALTH
OFFICE OF SOLID WASTE MANAGEMENT**

Solid Waste Disclosure Form for Construction Sites

The following form shall be filled out for construction projects either identified as under 40 CFR 122.26(b)(14)(x) or produces (or will produce) dredged spoils. A response must be provided for each item. If an item is not relevant to the activity, indicate by "Not Applicable" (N/A), with a short comment.

This form will help the Department of Health, Office of Solid Waste Management (OSWM) to identify sources of construction/demolition and site clearing debris. The Department is responsible for the proper disposal of such solid waste. Violators of the regulations Title 11, Chapter 58, "Solid Waste Management Control," are subject to enforcement, corrective actions, and fines.

Completed forms shall be mailed to the Department of Health, Environmental Management Division, OSWM, P.O. Box 3378, Honolulu, Hawaii 96801-3378. Questions regarding this form should be directed to OSWM at 586-4240.

I. Site Information

- A. Address of site: _____
- B. Owner of site: _____
Address of owner: _____
Phone Number: _____
- C. Tax map key: _____
Size of site: (in acres) _____
- D. Department of Public Work's grading permit no.: _____

II. Site Activity Information

- A. State the kinds of site clearing activities to be completed. State final use of site. Describe the general topography of site, i.e., whether level or sloped. _____

B. Describe structures on site (if none, indicate n/a)._____

If structures exist, are they to be demolished or removed? ___yes ___no

C. Describe vegetation on site:_____

III. Contractor Information

A. General Contractor:_____

Contact person:_____ Phone:_____

B. Site clearing contractor:_____

Contact person:_____ Phone:_____

C. Hauling contractor:_____

Contact person:_____ Phone:_____

D. State destination of:

1. Building demolition materials._____

2. Clear and grub materials._____

3. Dredged spoils._____

Name of person completing form:_____

Company:_____

Phone Number:_____

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AMENDMENT A001

APPENDIX E

**SUMMARY OF STANDARD OPERATING
PROCEDURES**

SPECIAL PROVISIONS – SUMMARY OF PTA SOP’S

Note: In the event of conflicts between the construction specifications and standard contract requirements and the PTA standard operating procedures, the more strict requirement will be enforced.

The Contractor is granted permission to use designated locations along the new Saddle Road Alignment near Makai Road to stage office and storage trailers, parking for employees, stage construction equipment, store and use fuel tanks and other uses as approved by the Federal Highway Administration and the Department of the Army. The use of this and other areas within PTA is contingent upon the Contractor abiding by the terms of the Contract, the CDUP and NPDES Permits, and the Special Provisions as outlined below. These Special Provisions are taken from Pohakuloa Training Area’s Standard Operating Procedure dated 05/16/06, which are included herein by reference.

A. Required work prior to staging:

1. Install silt and construction fence as directed by the CO.
2. Apply and maintain dust palliative on the staging area and Makai Road if used for access by class 1, 2 or 3 vehicles.
3. The cost to maintain dust control on Makai Road and the staging area will not be paid for separately but considered subsidiary to other contract items.

B. Future Contracts: The U.S. Army or FHWA may award contracts to other contractors and designate the same current locations for future staging both at Makai Road and within the quarry as well as haul operations and project access roads.

1. Cooperate with future Saddle Road and Army contractors.

C. PTA access:

1. Prior to the commencement of construction, obtain contractor installation access passes for all construction personnel. All employees must have access passes to work within PTA. It is the responsibility of the Contractor to become familiar with PTA boundaries; PTA maps are available upon request. Obtain passes from the Pohakuloa Training Area (PTA) police building T-286 inside the main gate during the hours of 1 p.m. and 3 p.m. on Tuesdays, Wednesdays, and Thursdays. Contractor installation access passes will be issued upon the submittal and approval of an application form and background check for each employee. The prime contractor may submit applications for groups of employees however all employees must have a pass in order to work on PTA. Passes must be visibly worn at all times when working on PTA.
2. Prior to the commencement of construction, obtain visitor vehicle passes for all vehicles and equipment that will enter onto PTA. Obtain passes from the PTA police building T286 inside the main gate. Vehicle registration, safety checks record, proof of insurance, and driver’s license are required to obtain a vehicle pass.
3. Military training missions will take precedence over contractor’s operations. Military convoys must be given the right-of-way. Be advised that at any time, military training and maneuvers may cause delays in, or suspension to, contractor’s operations.

D. Good Housekeeping:

1. Stay within the designated staging area and/or construction limits.
2. Maintain adequate dust control.

3. Provide an adequate number of portable toilets.
4. All construction vehicles will use drip pans when parked.
5. Police the area daily for oil or fuel spills.
6. Police the area daily to maintain a neat appearance. Provide an adequate number of refuse containers. Remove debris including pallets, packaging, large rocks, wire or any other items that may harm/injure personnel, equipment or impede traffic.
7. Be responsible for controlling the disposal of trash to prevent the delivery of hazardous materials or hazardous waste, medical/infectious wastes, batteries, or other prohibited materials to the Hawaii County Landfill. The Contractor may be responsible for any liabilities, which may occur as a result of the delivery and handling of hazardous or prohibited materials.
8. Dispose of all trash and debris prior to departing. Burying of trash is not permitted.

E. Emergency

1. Emergency Numbers:
 - a. Fire Department: 969-2441/2442
 - b. Range Control: 969-2410/2411
 - c. PTA Police 969-2425/2426
2. Accident Reporting
 - a. Report range injuries to PTA Range Control as soon as possible but no later than one hour after the incident. As a guideline, all injuries to a patient who does not return to work should be reported. Illnesses do not need to be reported.

F. Fire: Violations or deficiencies of the fire requirements shall result in immediate suspension of operations until the deficiency or violation is corrected. Repetitive violations will be grounds for default termination.

1. Follow the fire prevention plan as outlined in the Contract.
2. Smoking is strictly prohibited at PTA. **"No Smoking" is a condition for the use of the land and must be rigorously enforced.** Violations of the smoking regulations (36 CFR 261.52(a)(c)(d)) and fire requirements will result in criminal action against the violator. Advise all employees of this regulation.
3. Burning of tree stumps, slash, camps refuse, or other debris or any other open flame is not permitted.
4. Warming, burning of debris, campfires, or cooking fires are not permitted.
5. Promptly report discovered fires to the 911 Dispatch, PTA Fire Department 969-2441, the CO, and the fireguard. Take action on any and all fires within the right-of-way, access roads, and work areas. Crews will promptly attack fires to control them while they are small. Fires will not be abandoned until the proper authorities declare them to be out or relieves the Contractor and his employees.

G. Safety:

1. Stay within the designated staging area and/or construction limits.
2. Coordinate the desired daily quarry operation's start and finish times with the PTA Police and Range Control through the CO.
3. All personnel must attend Range Safety and unexploded ordinance briefings by PTA Range personnel scheduled through the CO.
4. Upon leaving Saddle Road to access the quarry and upon leaving the quarry to access Saddle Road, contact PTA range control Notify Range Control at 969-2410.
5. Confine vehicle travel to the roads specified in the Contract.

6. The Contractor has been alerted that there is a potential for the presence of unexploded ordnance within the PTA from former U.S. military training in the area. In the event unexploded ordnance is encountered during the Contractor's construction operations, cease all work immediately in the vicinity of the site and flag and cordon off the area from public and worker access until the ordnance is mitigated by qualified personnel. The Contractor shall immediately notify the Contracting Officer. The Contracting Officer shall notify the PTA Range Control Officer, PTA Police, local public safety officials and/or the US Army Explosive Ordnance Detail whenever potential ordnance is encountered.
 7. Use appropriate Personal Protective Equipment such as gloves, dust masks, eye and ear protection as appropriate.
 8. Driving on Saddle Road: Saddle Road is narrow, winding and poorly maintained with blind spots and is hazardous to drive on. Drivers traveling this road frequently become lax and use poor judgment that can result in traffic accidents. When road conditions are hazardous, speed must be reduced to ensure safe operation. Driving slowly and cautiously will ensure adequate control, and allow time for evasive maneuvers if necessary. Drive Saddle Road with your headlights on! When crossing Saddle Road with construction equipment, post flaggers along side the road for visibility and safety.
 9. Obey the speed limit. The speed limit at PTA is 15 MPH and 5 MPH when passing dismounted troops or in central Base Camp
- H. Respect the Flag: Reveille is conducted at 0630 daily and Retreat/Colors at 1700 daily. All military, government civilian and contractor personnel are required to show proper respect for the colors. Personnel in vehicles should stop the vehicle, dismount, face the flag and not talk until the flag has been raised or lowered and the music has stopped. Personnel on foot should follow the same procedures.
- I. Security:
1. Keep the Makai Road and Ahi Road gates locked at all times; **employ gatekeeper personnel, if desired, at no cost to the Government.**
 2. Confine vehicle travel to the roads specified in the Contract.
 3. **ALL VEHICLES MUST ENTER AND EXIT THE PTA CANTONMENT AREA BY THE MAIN GATE ONLY!!**
- J. Environment: PTA has some of the most unique ecosystems in the world. PTA is very high, very dry and has a temperate climate year-round. Because the Army has protected it for more than 50 years, there are many rare plants and animals that may no longer exist elsewhere. More than 30 species of endangered, threatened, or at-risk plants and animals are found at PTA. Because PTA is a federal installation, the Army is responsible for protecting these species and their habitats. Comply with the following:
1. Promote good stewardship of the land by taking precautionary measures not to cause construction damage.
 2. Confine vehicle travel to the roads specified in the Contract.
 3. No trees growing within PTA will be cut without permission from the Contracting Officer after coordination with the Department of Land and Natural Resources.

4. The contractor and subcontractors are required to participate in an environmental quality control program. This program consists of a review of the environmental requirements contained in the contract and will be subsequently held on an as needed basis. Following the pre-construction orientation meeting, hold a Pre-Construction Environmental Awareness Meeting. This meeting is to be administered by the CO and will be attended by all contractors (prime and subcontractors) who will review and explain environmental quality control requirements as contained in the contract documents. Contractors are responsible for ensuring all environmental requirements in the contract are explained to and understood by all construction personnel. An Environmental Awareness Checklist will be reviewed and signed by all construction personnel before they can work on this project. The Checklist includes, but is not limited to the following:

- Contaminated materials and equipment spills and leaks
- Cleaning of construction equipment
- Past and present hazardous spills
- Limits of construction operations
- Use of herbicides
- Archaeological or historic site findings
- Lava tube and caves
- Construction Lighting
- Erosion control and NPDES
- Grading restrictions
- Lighting for all night time work

K. Cultural Resources: Many sensitive archaeological sites are also found at PTA. PTA presently contains more than 300 cultural/archaeological sites, most dating to prehistoric time, although there are also many historical sites that are reminders of the ranching activities that began in the mid-1800s. Prehistoric Native Hawaiians traveled extensively throughout the Saddle region and Pohakuloa plain, using ancient trail networks that provided the easiest way to traverse the island. Coastal routes were much longer and even more difficult. The Pohakuloa area provided many resources for Native Hawaiians moving across the Saddle, including cave shelters, water found percolating through cave walls, food in the form of ground-nesting sea birds, feathers from many native bird species that once thrived in the area, and extensive sources for both dense basalt rock and volcanic glass used for various types of tools. Mauna Kea summit was also a destination for travelers moving through the Pohakuloa area both for purposes of obtaining fine-grained basalt from the immense quarries and as a significant religious site. Mauna Kea's religious significance remains paramount in the Hawaiian belief system.

1. These sites are protected by law; digging must cease immediately if artifacts are found.

L. Spill Response:

1. Definitions:

- a. **Minor Spills:** Releases of any oil, paints and non-hazardous substances, that are stored and used at each activity or facility, and that can readily be contained and cleaned-up by available activity personnel. Minor spills involve small quantities of petroleum, oil, or lubricants (POL) (less than 25 gallons) paints or hazardous substances (less than 1 gallon) that do not require advanced personnel protective equipment (respirators, full body suits, decontamination) released indoors, to the ground, or to paved areas. If there is any question regarding if the spill is a major or minor spill, assume the spill is a major spill.
 - b. **Major Spills:** Any release of a POL, hazardous substance, or hazardous waste that enters or has the potential to enter a water body, storm drain, drainage ditch, or sewer manhole. Any release of more than one gallon of a hazardous substance/waste to the ground. A release of petroleum in excess of 25 gallons or any amount of POL not cleaned up within 72 hours. Spills felt to be beyond the capabilities of activity personnel or equipment.
2. Construct fueling berms as detailed in the NPDES. Fill fueling trucks from fuel storage tanks within these fueling berms.
 3. Immediately report major spills which occur in Training Areas, on trails / roads within these areas and report immediately to PTA Range Control and the Oahu DPW Environmental Division Spill Response line at (808) 656-1111 for cleanup guidance. All other spills will be reported to PTA DA Police, ext. 425 (commercial 969-2425). The On-Site Spill Coordinator is responsible for coordinating spill response and mitigation of the spill area in addition to ensuring the safety of all personnel under his/her supervision. All spills will be immediately cleaned up to minimize contamination and resultant waste generation. Upon notification of a spill, PTA will determine if DPW Natural and Cultural Resources Specialists are required on-site if excavation is necessary in a sensitive area with historical artifacts or endangered species. **NO DIGGING IS ALLOWED WITHOUT PRIOR APPROVAL FROM OUR NATURAL AND CULTURAL RESOURCE SPECIALISTS.** A written report describing the basic who, what, where, and when of the spill will be provided by the Contractor to the PTA Range Control Division and faxed to the Oahu Environmental Division at (808) 656-1039 within 24 hrs.
 4. **Spill Kits:** The spill kit components listed is considered the minimal supplies constituting such a kit however bringing more supplies depending on the needs of your activities, is highly suggested. The contractor will maintain these supplies at all times and be prepared for scheduled or unscheduled inspections by the CO.
 - a. Each piece of construction equipment and foreman vehicle will carry the following spill kit:
 - (1) 1 Drip pan (16" diameter x 3 3/4", 14" x 18" x 4", or equivalent) per vehicle or
 - (2) 3 10"x10"x2" Pillows in plastic pans
 - (3) 1 10 lbs particulate absorbent
 - (4) 3 6 ml x 18"x 30" disposable Polyethylene Bags with CAUTION labels, yellow
 - b. Each Fuel or Mechanics vehicle will carry the following spill kit:
 - (1) 25 18"x18" or 16 1/2" x 20" absorbent sheets/pads
 - (2) 2 8" x 20' OR 4 - 8" x 10' booms
 - (3) 25 18"x18" absorbent pillows
 - (4) 3 Drip pans (16"diam x 3 3/4", 14" x 18" x 4" or equivalent)
 - (5) 1 Drip can or pan per nozzle

- (6) 5 6 ml x 18"x30" disposable Polyethylene Bags, with CAUTION labels, yellow
- (7) 1 Roll, 6 ml x 6' x 100' plastic
- (8) 1 Chemically resistant plugging compound, 1 lb
- (9) 1 Waterproof marker; and 1 ea self-sticking white labels
- c. All fueling areas will maintain and have at the ready the following spill kit:
 - (1) 25 18"x18" absorbent pillows
 - (2) 2 Particulate absorbent material, 50 lbs each
 - (3) 250 18"x18" or 16 1/2" x 20" absorbent pads/sheets
 - (4) 25 6 ml x 18"x30" Polyethylene bags with CAUTION labels, yellow
 - (5) 5 5" diameter x 10' absorbent dikes/booms
 - (6) 15 3" diameter x 8' dikes/socks
 - (7) 2 Non-sparking shovel
 - (8) 3 Drip pans (16"diam x 3 3/4", 14" x 18" x 4" or equivalent)
 - (9) 1 55 gal open-head drums; and 2 ea 85 gal open-head drums
 - (10) 1 "CAUTION SPILL AREA" barrier tape, 3" x 1000' roll, yellow
 - (11) 1 Chemically resistant plugging compound, 1 LB
 - (12) 1 Self-sticking white labels; and 1ea Waterproof marker
 - (13) 1 Spill prevention & response SOP
 - (14) 1 HAZMAT POC

***Items in the spill kit must be stored together in a well-marked and accessible location. The location of the kit must be posted along with the list of components. The Contractor is responsible for the re-supply of the supplies as necessary. Absorbent materials should be hydrocarbon selective. Additional specialty spill kits may be required (i.e. aggressive for acid etc.). Personnel should be trained in the use of the equipment and supplies contained in the kit and on response procedures appropriate to their training.**