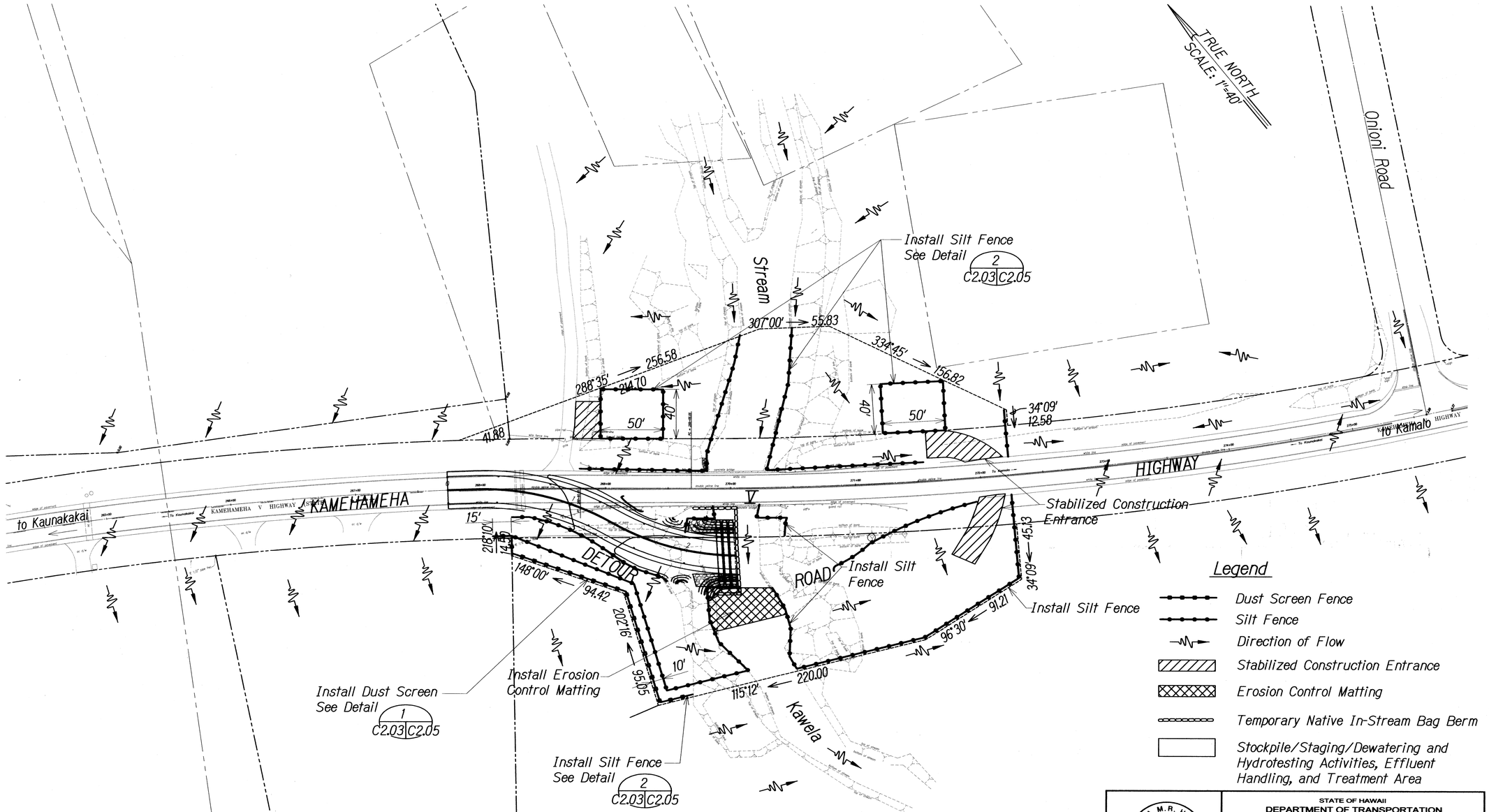
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	17	93



Legend

- Dust Screen Fence
- Silt Fence
- Direction of Flow
- Stabilized Construction Entrance
- Erosion Control Matting
- Temporary Native In-Stream Bag Berm
- Stockpile/Staging/Dewatering and Hydrotesting Activities, Effluent Handling, and Treatment Area

(DETOUR ROAD-PHASE 1)

EROSION CONTROL PLAN

SCALE: 1" = 40'

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

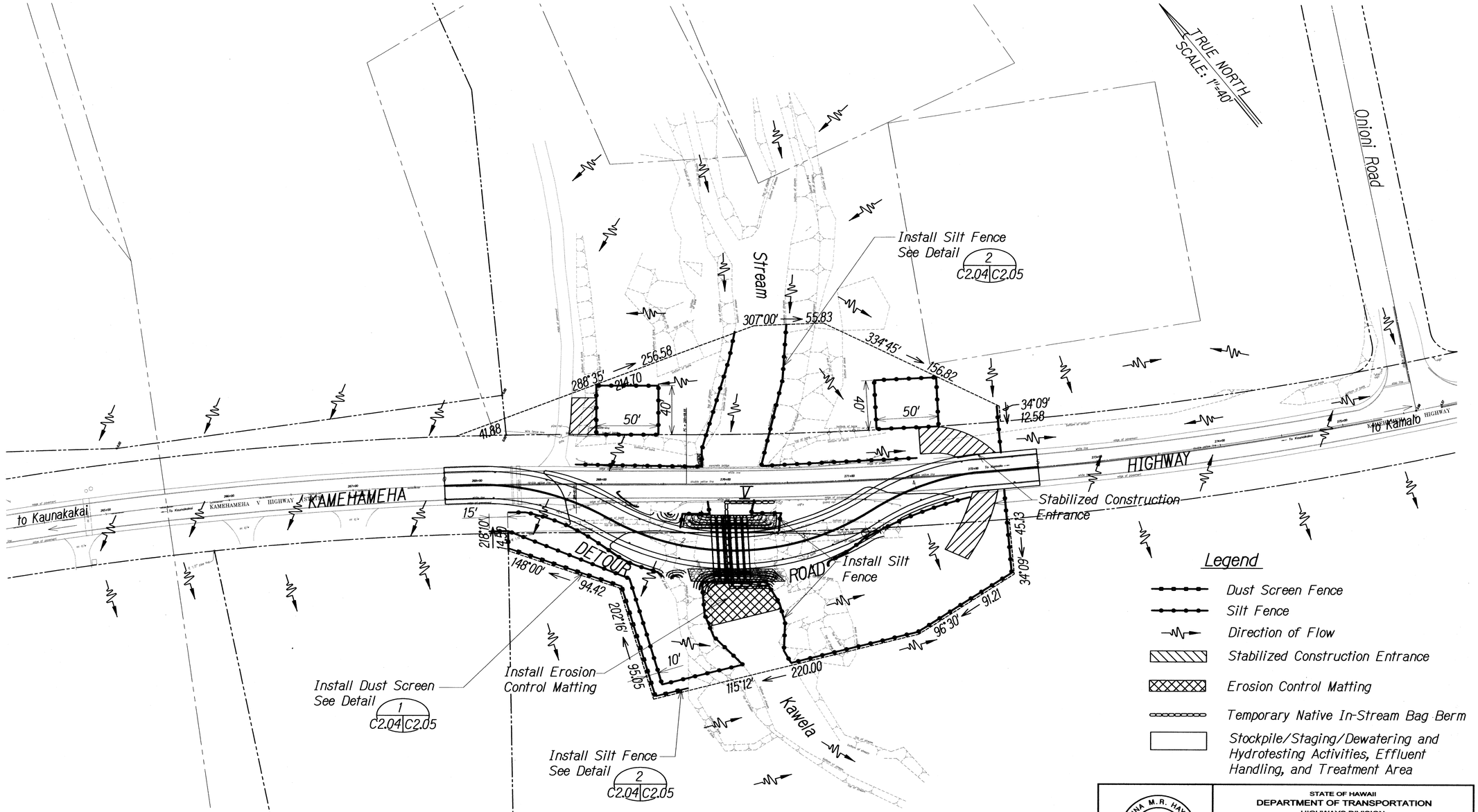
EROSION CONTROL PLAN

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C2.03 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	18	93



Legend

- Dust Screen Fence
- Silt Fence
- Direction of Flow
- Stabilized Construction Entrance
- Erosion Control Matting
- Temporary Native In-Stream Bag Berm
- Stockpile/Staging/Dewatering and Hydrotesting Activities, Effluent Handling, and Treatment Area

(DETOUR ROAD-PHASE 2)

EROSION CONTROL PLAN

SCALE: 1" = 40'

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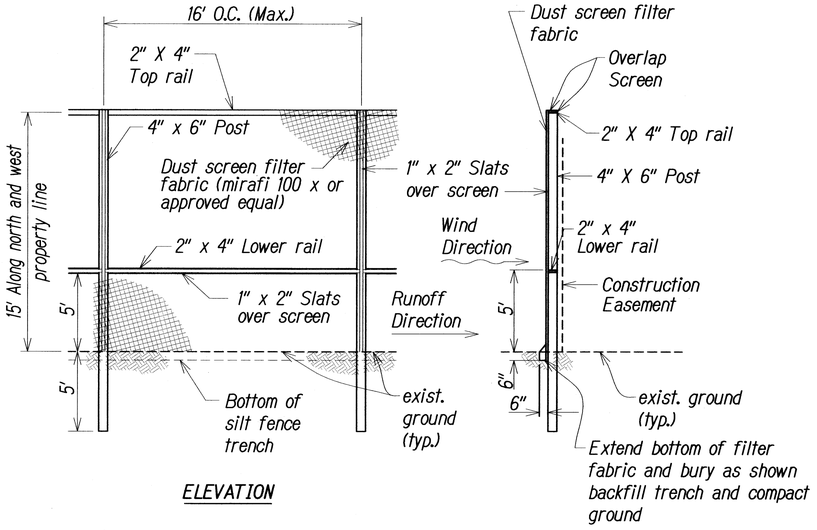
EROSION CONTROL PLAN

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

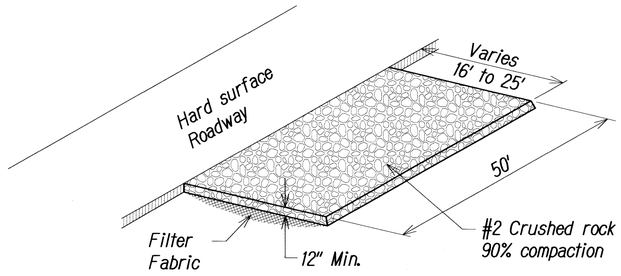
SHEET No. C2.04 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	19	93



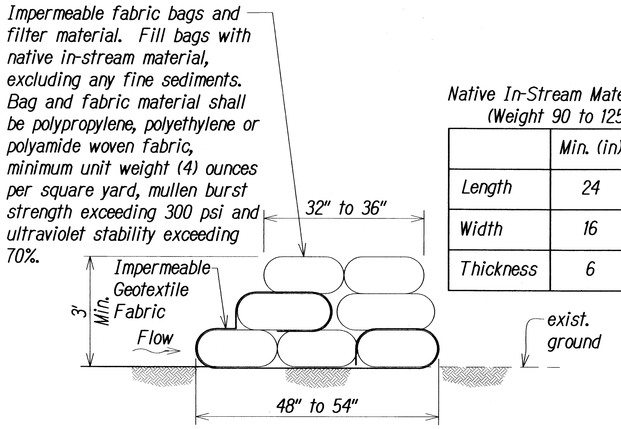
DUST SCREEN (1)

NOT TO SCALE C2.03 | C2.05



STABILIZED CONSTRUCTION ENTRANCE DETAIL (3)

NOT TO SCALE C3.01 | C2.05



Native In-Stream Material Bag Size
(Weight 90 to 125 pounds)

	Min. (in)	Max. (in)
Length	24	30
Width	16	18
Thickness	6	8

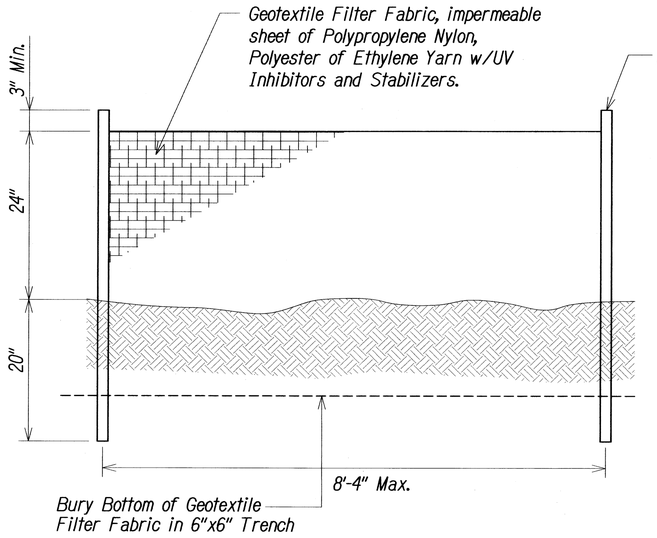
NOTES:

1. The bags shall be a minimum of 3 bags high.
2. The end of the bags shall be turned up slope.
3. The bag rows and layers shall be staggered to eliminate gaps.

TEMPORARY NATIVE IN-STREAM BAG BERM DETAIL (4)

C2.01 | C2.05

C2.02 thru C2.04, C2.06 thru C2.09

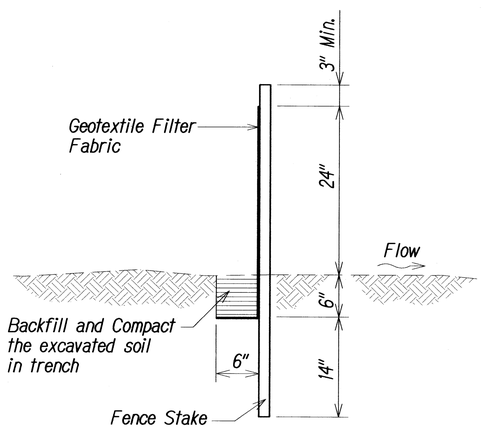


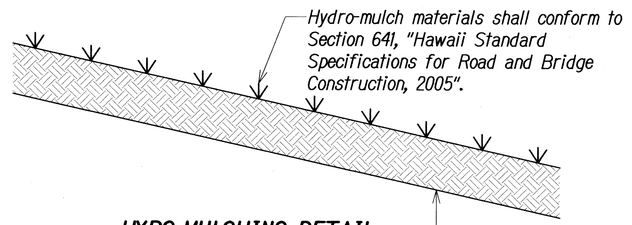
Notes:

1. The geotextile filter fabric shall be a minimum of 36 inches wide.
2. If silt fence is obtained from manufacturer as a package (I.E. fabric attached to post) the manufacturer's installation instruction shall be adhered to.
3. Fence stakes may be wood or metal, must be capable of supporting accumulated sediment

SILT FENCE DETAIL (2)

NOT TO SCALE C2.01 | C2.05 | C2.03





HYRO-MULCHING DETAIL

NOT TO SCALE

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EROSION CONTROL DETAILS

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

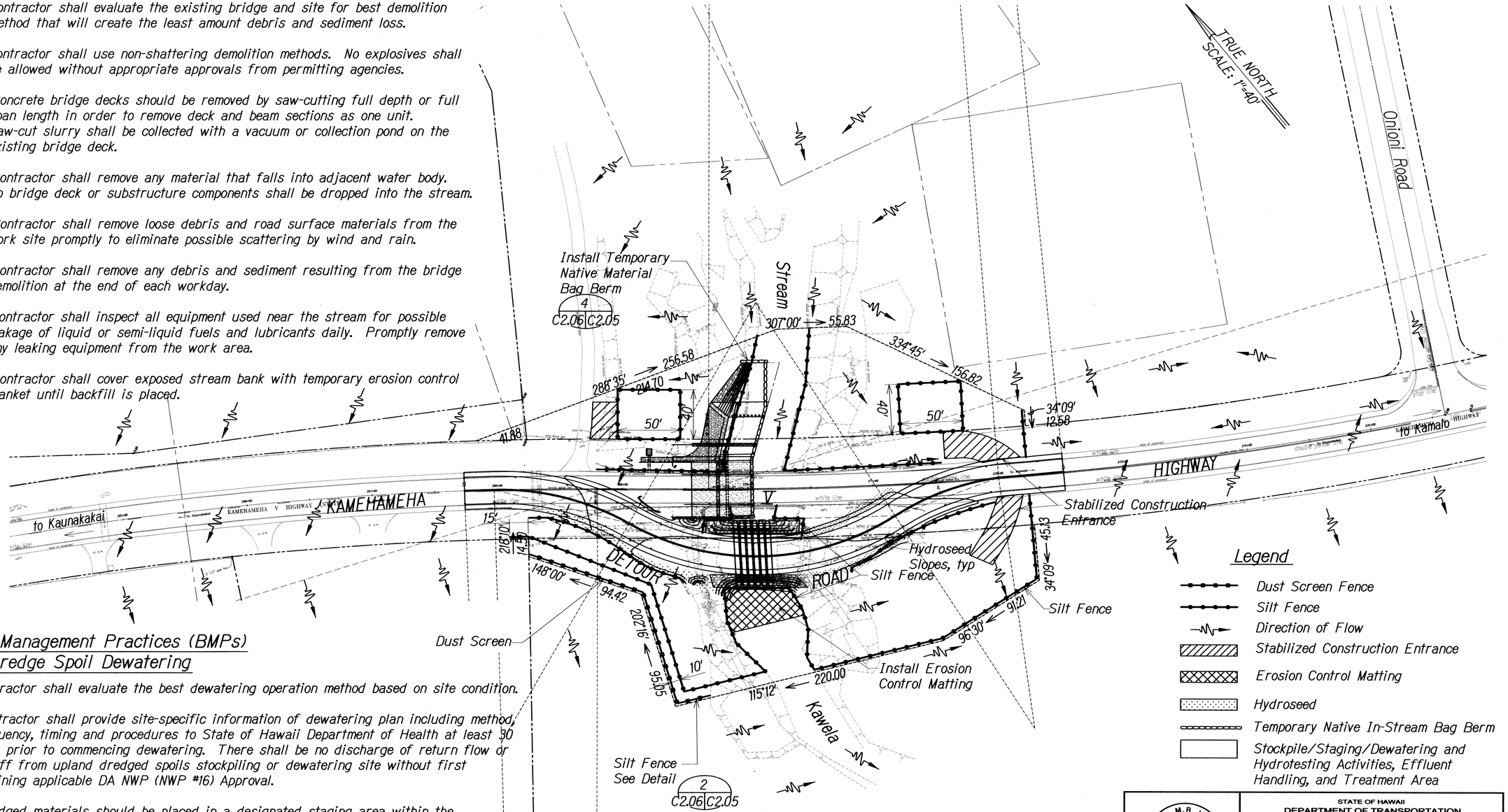
Scale: AS NOTED Date: Oct. 2010

SHEET No. C2.05 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	20	93

Best Management Practices (BMPs) for Demolition of Existing Bridge

1. Contractor shall evaluate the existing bridge and site for best demolition method that will create the least amount debris and sediment loss.
2. Contractor shall use non-shattering demolition methods. No explosives shall be allowed without appropriate approvals from permitting agencies.
3. Concrete bridge decks should be removed by saw-cutting full depth or full span length in order to remove deck and beam sections as one unit. Saw-cut slurry shall be collected with a vacuum or collection pond on the existing bridge deck.
4. Contractor shall remove any material that falls into adjacent water body. No bridge deck or substructure components shall be dropped into the stream.
5. Contractor shall remove loose debris and road surface materials from the work site promptly to eliminate possible scattering by wind and rain.
6. Contractor shall remove any debris and sediment resulting from the bridge demolition at the end of each workday.
7. Contractor shall inspect all equipment used near the stream for possible leakage of liquid or semi-liquid fuels and lubricants daily. Promptly remove any leaking equipment from the work area.
8. Contractor shall cover exposed stream bank with temporary erosion control blanket until backfill is placed.



(KAM. HWY. - PHASE 1)

EROSION CONTROL PLAN

SCALE: 1" = 40'

Legend

- Dust Screen Fence
- Silt Fence
- Direction of Flow
- Stabilized Construction Entrance
- Erosion Control Matting
- Hydroseed
- Temporary Native In-Stream Bag Berm
- Stockpile/Staging/Dewatering and Hydrotesting Activities, Effluent Handling, and Treatment Area

Best Management Practices (BMPs) for Dredge Spoil Dewatering

1. Contractor shall evaluate the best dewatering operation method based on site condition.
2. Contractor shall provide site-specific information of dewatering plan including method, frequency, timing and procedures to State of Hawaii Department of Health at least 30 days prior to commencing dewatering. There shall be no discharge of return flow or runoff from upland dredged spoils stockpiling or dewatering site without first obtaining applicable DA NWP (NWP #16) Approval.
3. Dredged materials should be placed in a designated staging area within the construction staging area for dewatering which minimizes damage to natural resources of the area to be dredged.
4. Sediment control and other appropriate BMPs (e.g. sediment trap, etc.) should be employed when water is discharged. Dewatering discharges must not cause erosion at the discharge point.
5. No dredge spoil shall be placed back into the stream.

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EROSION CONTROL PLAN

KAMEHAMEHA V HIGHWAY
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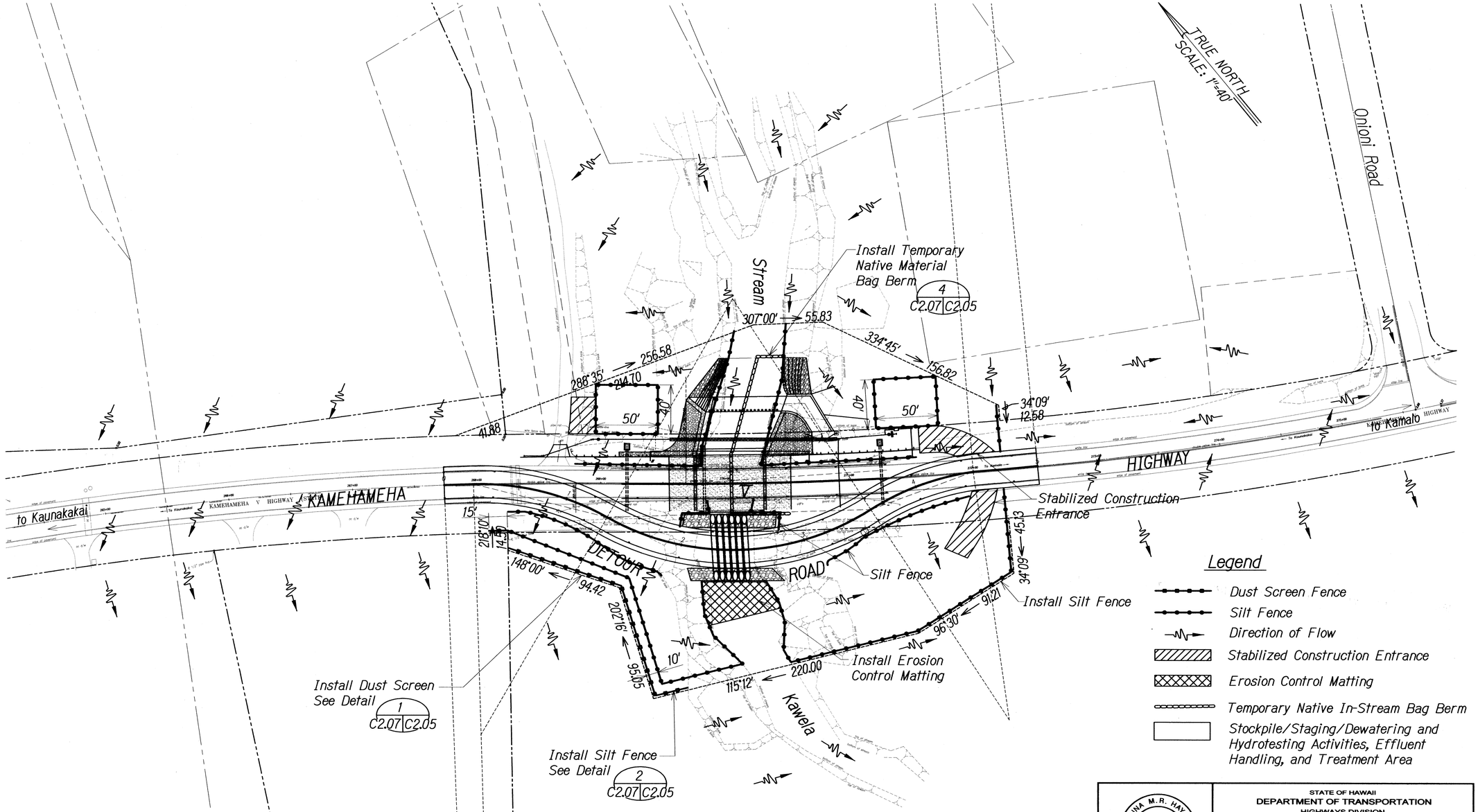
Scale: AS NOTED Date: Oct. 2010

SHEET No. C2.06 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	21	93



Legend

- Dust Screen Fence
- Silt Fence
- Direction of Flow
- Stabilized Construction Entrance
- Erosion Control Matting
- Temporary Native In-Stream Bag Berm
- Stockpile/Staging/Dewatering and Hydrotesting Activities, Effluent Handling, and Treatment Area

(KAM. HWY. - PHASE 2)

EROSION CONTROL PLAN

SCALE: 1" = 40'

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Federal Aid Project No. BR-0450(8)

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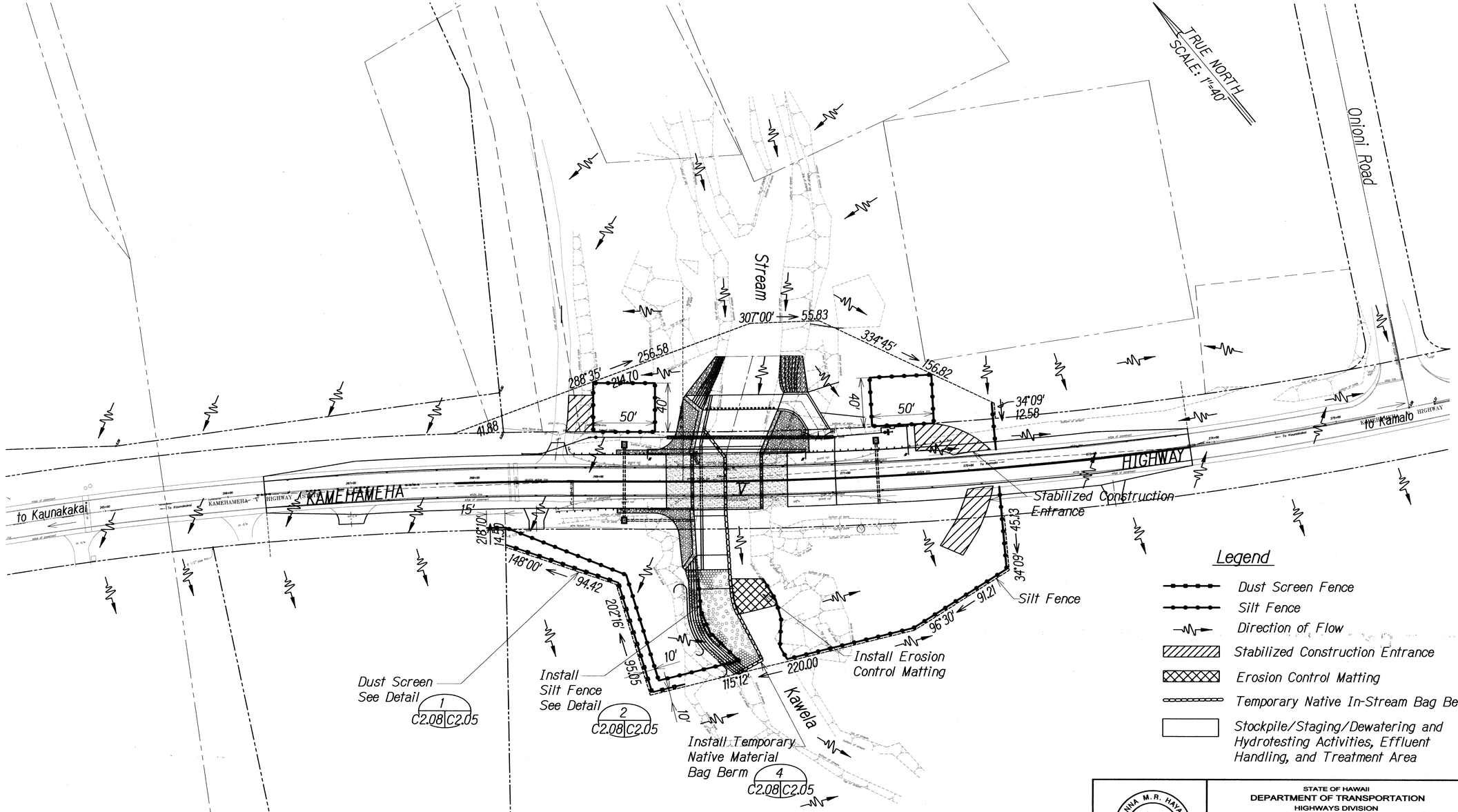
SHEET No. C2.07 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	22	93



Legend

- Dust Screen Fence
- Silt Fence
- Direction of Flow
- Stabilized Construction Entrance
- Erosion Control Matting
- Temporary Native In-Stream Bag Berm
- Stockpile/Staging/Dewatering and Hydrotesting Activities, Effluent Handling, and Treatment Area

(KAM. HWY. - PHASE 3)

EROSION CONTROL PLAN

SCALE: 1" = 40'

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EROSION CONTROL PLAN

KAMEHAMEHA V HIGHWAY
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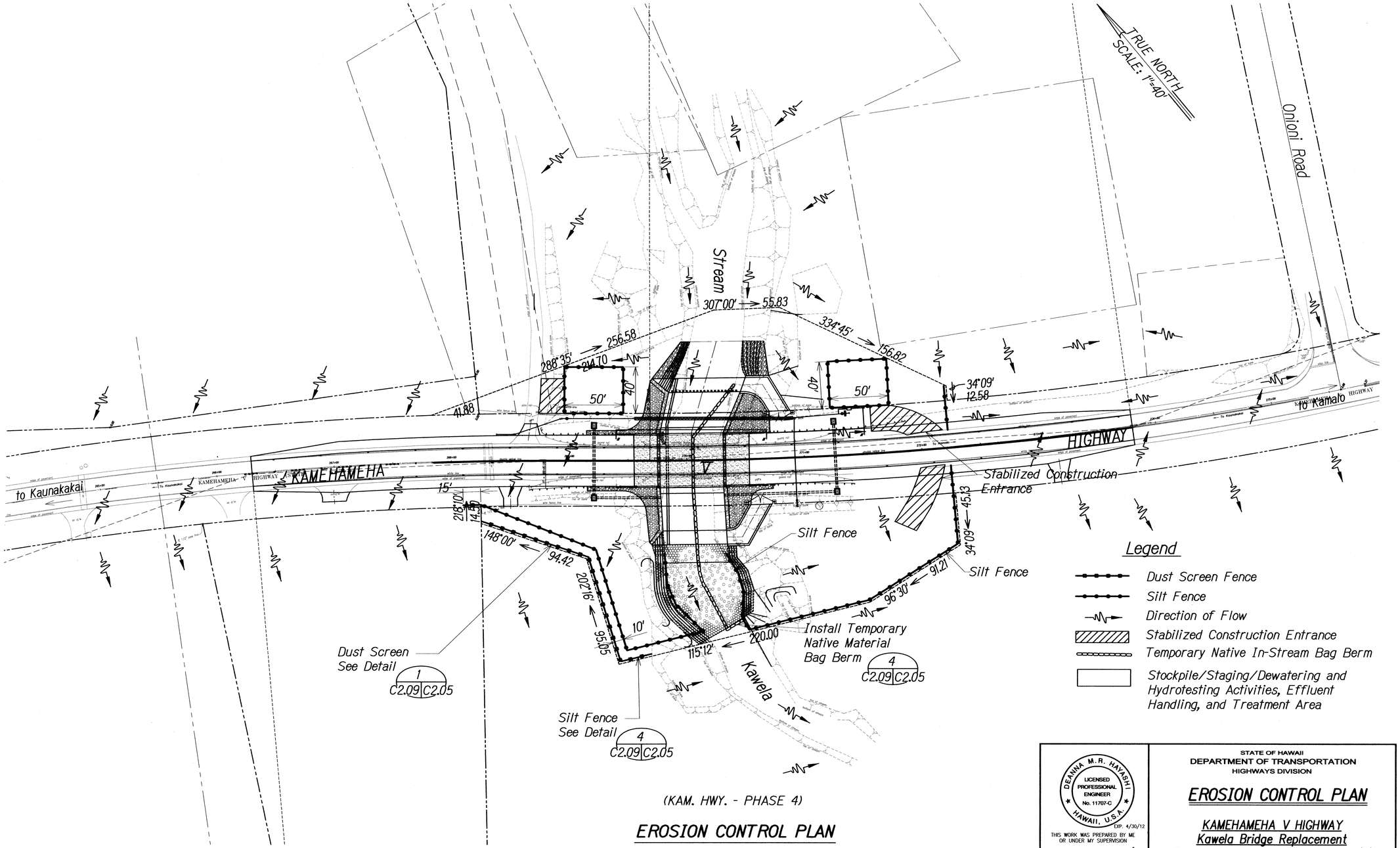
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C2.08 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	23	93



Legend

- Dust Screen Fence
- Silt Fence
- Direction of Flow
- Stabilized Construction Entrance
- Temporary Native In-Stream Bag Berm
- Stockpile/Staging/Dewatering and Hydrotesting Activities, Effluent Handling, and Treatment Area

(KAM. HWY. - PHASE 4)

EROSION CONTROL PLAN

SCALE: 1" = 40'

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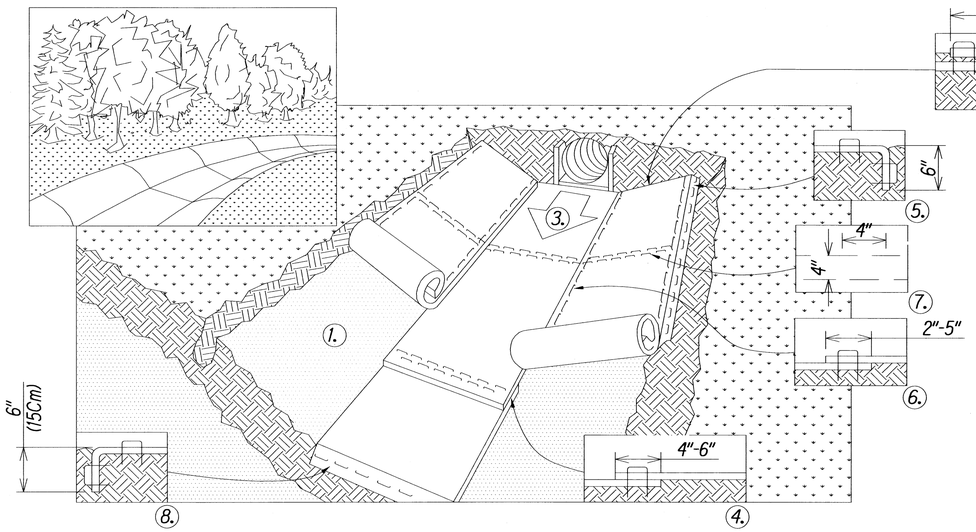
EROSION CONTROL PLAN

KAMEHAMEHA V HIGHWAY
Kawela Bridge Replacement
Federal Aid Project No. BR-0450(8)

Scale: AS NOTED Date: Oct. 2010

SHEET No. C2.09 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0450(8)	2011	24	93



1. Prepare soil before installing blankets, including any necessary application of lime, fertilizer, and seed. Note: when using cell-o-seed do not seed prepared area. Cell-o-seed must be installed with paper side down.

2. Begin at the top of the channel by anchoring the blanket in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30 cm) of blanket extended beyond the up-slope portion of the trench. Anchor the blanket with a row of staples/stakes approximately 12" (30 cm) apart in the bottom of the trench. Backfill and comapct the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of blanket back over seed and compacted soil. Secure blanket over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) across the width of the blanket.

3. Roll center blanket in direction of water flow in bottom of channel. Blankets will unroll with appropriate side against the soil surface. All blankets must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide. When using the dot system , staples/stakes should be placed through each of the colored dots corresponding to the appropriate staple pattern.

4. Place consecutive blankets end over end (shingle style) with a 4" - 6" (10 cm -15 cm) overlap. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center to secure blankets.

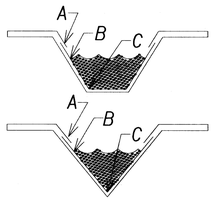
5. Full length edge of blankets at top of side slopes must be anchored with a row of staples/stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.

6. Adjacent blankets must be overlapped approximately 2" - 5" (5 cm -12.5 cm) (depending on blanket type) and stapled.

7. In high flow channel applications, a staple check slot is recommended at 30 to 40 foot (9 m - 12 m) intervals. Use a double row of staples staggered 4" (10 cm) apart and 4" (10 cm) on center over entire width of the channel.

8. The terminal end of the blankets must be anchored with a row of staples/stakes approximately 12" (30 cm) apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.

Note:
* In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the blankets.

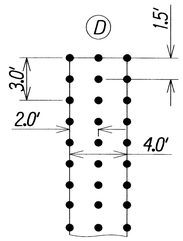


Critical points
a. Overlaps and seams
b. Projected water line
c. Channel bottom/side slope vertices

Notes:
* Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

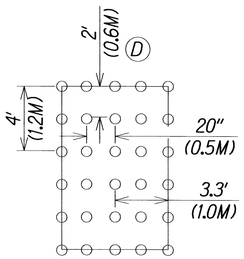
** In loose soil conditions, the use of staple or stake lengths greater than 6" (15 cm) may be necessary to properly anchor the blankets.

EROSION CONTROL BLANKET INSTALLATION FOR CHANNELS
NOT TO SCALE



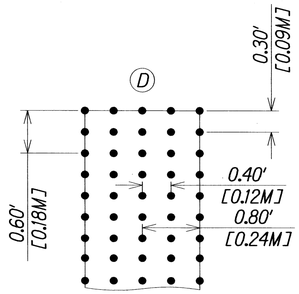
3.4 Staples Per Sq. Yd.

STAPLE PATTERN GUIDE-4' WIDE ROLLS
NOT TO SCALE



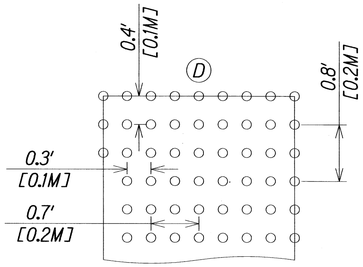
3.4 Staples Per Sq. Yd.

STAPLE PATTERN GUIDE-6.67' WIDE ROLLS
NOT TO SCALE



3.4 Staples Per Sq. Yd.

STAPLE PATTERN GUIDE-8' WIDE ROLLS
NOT TO SCALE



3.4 Staples Per Sq. Yd.

STAPLE PATTERN GUIDE-13.3' WIDE ROLLS
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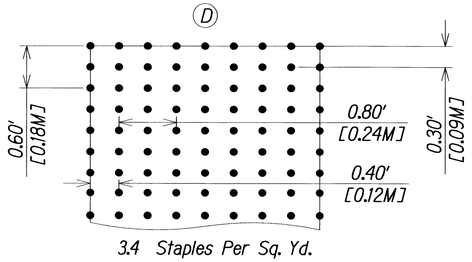

3.4 Staples Per Sq. Yd.

STAPLE PATTERN GUIDE-16' WIDE ROLLS
NOT TO SCALE

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EROSION CONTROL BLANKET DETAILS

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SHEET No. C2.10 OF 93 SHEETS