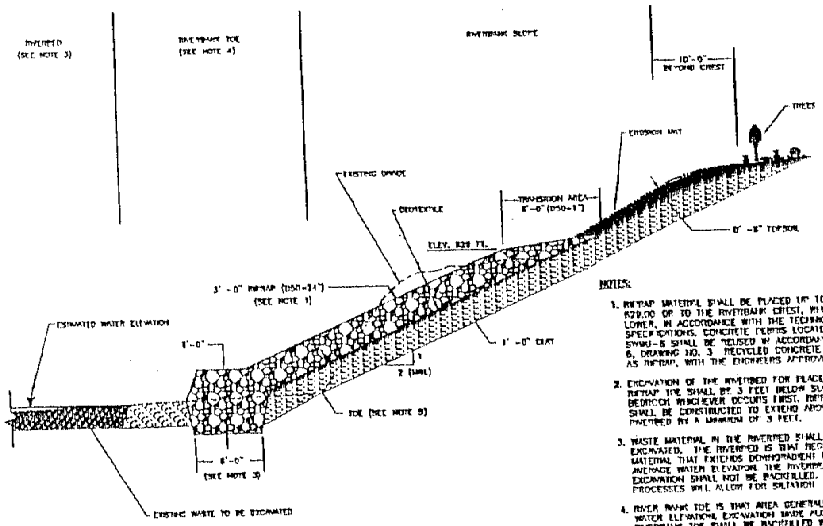
OKR2013820
SUNOCO, INC. - TULSA REFINERY
ARKANSAS RIVER
BANK STABILIZATION/CLOSURE OF SWMU 6
ENCLOSURE 5 OF 5

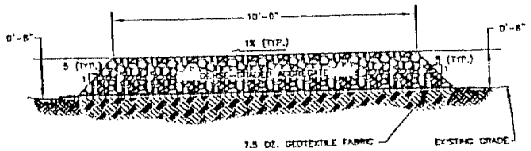


NOTES:

1. RIPRAP MATERIAL SHALL BE PLACED UP TO ELEVATION 829.00 OR TO THE RIVERBANK CREST, WHICHEVER IS LOWER, IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. CONCRETE DEBRIS LOCATED IN SWMU-6 SHALL BE REUSED IN ACCORDANCE WITH NOTE 6, DRAWING NO. 3. RECYCLED CONCRETE MAY BE USED AS RIPRAP, WITH THE ENGINEERS APPROVAL.
2. EXCAVATION OF THE RIVERBED FOR PLACEMENT OF THE RIPRAP TOE SHALL BE 3 FEET BELOW SURFACE OR TO BEDROCK WHICHEVER OCCURS FIRST. RIPRAP TOE SHALL BE CONSTRUCTED TO EXTEND ABOVE EXISTING RIVERBED BY A MINIMUM OF 3 FEET.
3. WASTE MATERIAL IN THE RIVERBED IS THAT REGION OF MATERIAL THAT EXTENDS DOWNGRADIENT FROM THE AVERAGE WATER ELEVATION THE RIVERBED EXCAVATION SHALL NOT BE BACKFILLED. AS NATURAL PROCESSES WILL ALLOW FOR SILTATION.
4. RIVER BANK TOE IS THAT AREA GENERALLY ABOVE WATER ELEVATION. EXCAVATION MADE ALONG THE RIVERBANK TOE SHALL BE BACKFILLED WITH CLAY TO EXISTING GRADE.
5. "TOES" WILL BE FIELD VERIFIED BY ENGINEER. IN GENERAL LOCATION OF TOE WILL BE THAT POINT WHERE STEEP SLOPE TRANSITIONS TO FLAT SLOPE (<2:1).

TYPICAL RIVERBANK COVER SYSTEM DETAIL (E 4/7)

N.T.S.



NOTES:

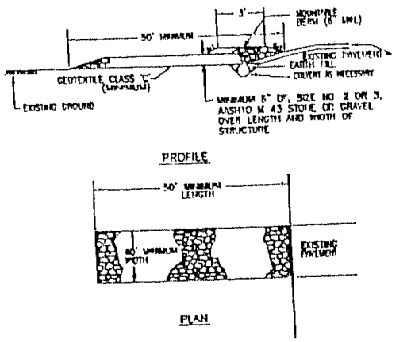
1. WITHIN DISTURBED AREAS, AS DEPICTED ON THESE DRAWINGS, THE CONTRACTOR SHALL RECONSTRUCT THE ACCESS ROAD IN ACCORDANCE WITH THIS DETAIL.
2. IN ALL OTHER AREAS, THE CONTRACTOR SHALL AT A MINIMUM, RESTORE THE EXISTING ACCESS ROAD TO THE ORIGINAL CONDITION.

RECONSTRUCTED ACCESS ROAD DETAIL (F 4/7 5)

N.T.S.

CONSTRUCTION SPECIFICATIONS:

1. LENGTH - MINIMUM OF 50'.
2. WIDTH - 40' MINIMUM, FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE/GRAVEL.
4. STONE/GRAVEL - SIZE NO. 2 OR 3, AASHTO M 43 CRUSHED STONE, GRAVEL, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A VEGETATIVE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE/GRAVEL OVER THE PIPE. PIPE TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SITE IS LOCATED AT A CREEK, DITCH AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHALL BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES THE SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.
7. CONTRACTOR SHALL WASH ALL EQUIPMENT AND TRUCKS IN ACCORDANCE WITH SECTION 01500 OF THE TECHNICAL SPECIFICATIONS.
8. CONTRACTOR TO PROVIDE PRESSURIZED WASH WATER.

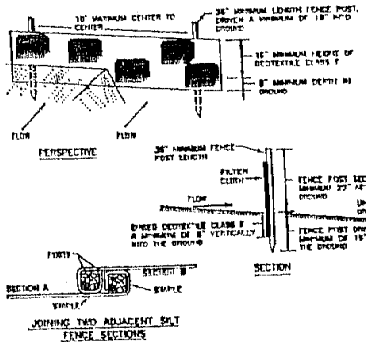


MAINTENANCE REQUIREMENTS:

1. INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE.
2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE/GRAVEL AS NEEDED.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHALL ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
5. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE AND TRUCK WASH DETAIL (G 5/7)

N.T.S.



CONSTRUCTION SPECIFICATIONS:

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE (MINIMUM) CUT, OR 13/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
2. GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR AASHTO M288-96.

TENSILE STRENGTH	90 LBS (400 N) MIN	TEST ASTM D-4632
APPARENT OPENING SIZE	0.84 mm (MAX)	TEST ASTM D-4751
PERMITTIVITY	0.001 SEC (MIN.)	TEST ASTM D-4491

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 50% OF THE FABRIC HEIGHT.

GEOTEXTILE FABRICS

CLASS	APPARENT OPENING SIZE MM MAX	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30	250	500
B	0.80	200	320
C	0.30	200	320
D	0.80	80	145
E	0.30	90	145
F (SILT FENCE)	0.40--0.80*	80	190

* US STD. SIEVE CW-02215

SILT FENCE DESIGN CRITERIA

SLOPE STEEPNESS	(MAXIMUM) SLOPE LENGTH	(MAXIMUM) SILT FENCE LENGTH
FLATTER THAN 50:1	UNLIMITED	UNLIMITED
50:1 TO 10:1	125 FEET	1,000 FEET
10:1 TO 5:1	100 FEET	700 FEET
5:1 TO 3:1	70 FEET	500 FEET
3:1 TO 2:1	40 FEET	250 FEET
2:1 AND STEEPER	20 FEET	125 FEET

NOTES:

1. IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.

TYPICAL SILT FENCE DETAIL (H 5/7)

N.T.S.

NO.	DATE	REVISION DESCRIPTION	BY	CKD

CLOSURE OF SWMU-6
SUNOCO REFINERY
TULSA, OKLAHOMA

DETAILS

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LEAD DESIGN PROF. RK	CHECKED SL
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