

NOTES:

SILT FENCES ARE CONSTRUCTED FROM SYNTHETIC MESH MATERIAL DESIGNED TO RETAIN SILT WHILE ALLOWING WATER TO PASS THROUGH. (AMOCO CONSTRUCTION FABRIC 1380 SILT STOP OR APPROVED EQUAL).

SILT FENCES WILL BE CONSTRUCTED AT THE EDGE OF THE ROW:

- AT THE OUTFALL OF AN INTERCEPTOR DIKE IF NATURAL VEGETATION IS INSUFFICIENT TO FILTER THE SILT FROM THE RUN-OFF WATER.
- AT THE BASE OF SLOPES ADJACENT TO ROADWAYS AND STREAMS WHEN THE NATIVE VEGETATION COVER HAS BEEN DISTURBED.
- WHEN THE DISTANCE (IN AREAS OF GOOD VEGETATION COVER) OF THE ROW TO A BODY OF WATER IS EQUAL TO OR LESS THAN THE FOLLOWING SCHEDULE.

PERCENT SLOPE	DISTANCE
0 - 5%	25 FEET
5 - 15%	50 FEET
15 - 30%	75 FEET
OVER 30%	100 FEET

- WHEN THE DISTANCE (IN AREAS OF POOR VEGETATION COVER) OF THE ROW TO A BODY OF WATER IS WITHIN 150 FEET AND THE AREA SLOPES TOWARD THE WATER.



16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

PIPELINE STANDARD  
EROSION CONTROL  
SILT FENCE

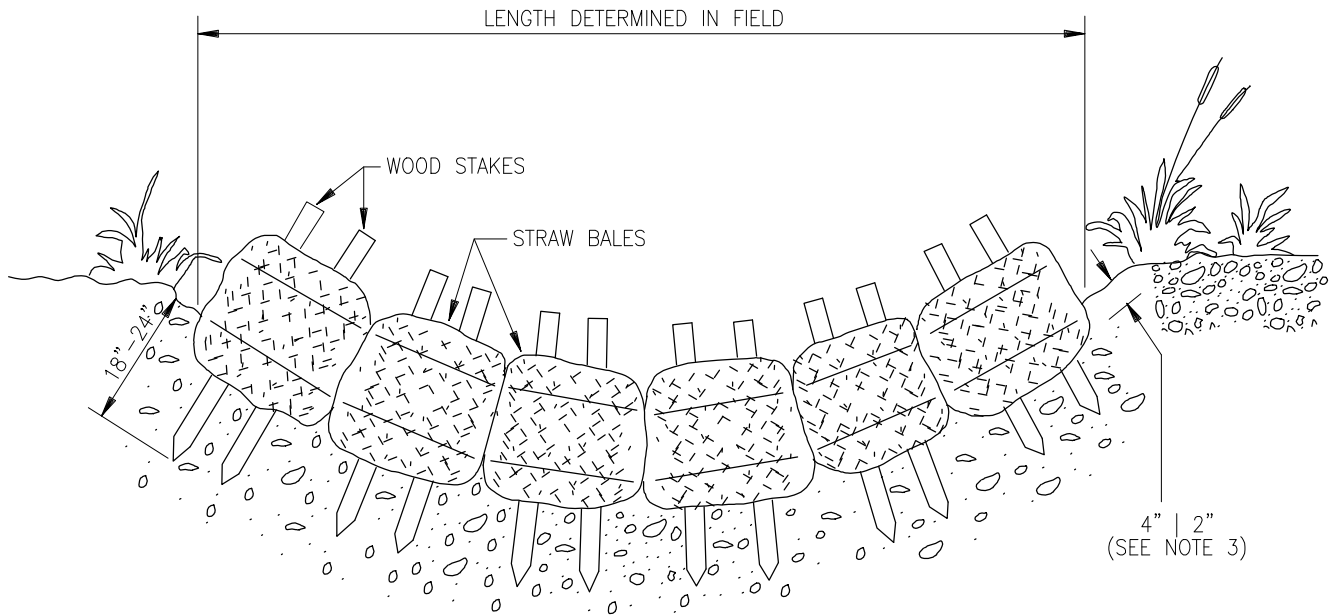
NO. REVISION DATE APPR.

SCALE DATE DRAWN CHECKED APPROVED

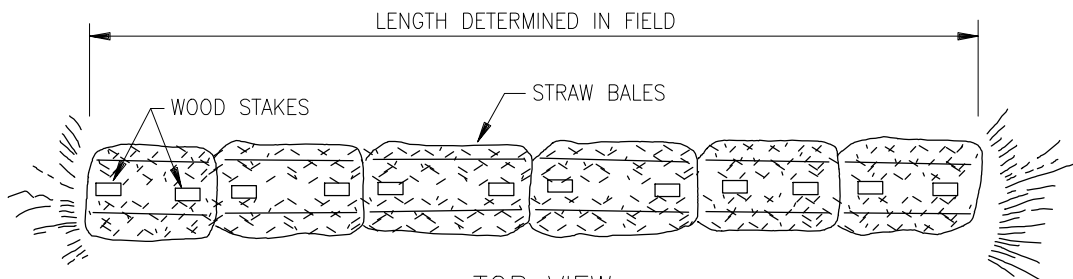
WEI PROJ. NO. DRAWING NUMBER SHEET

STD-A-042

1 OF 1



FRONT VIEW



TOP VIEW

NOTES:

1. INSTALL PRIOR TO GRADING.
2. ANGLE FIRST STAKE TOWARD PREVIOUSLY LAID BALE.
3. IMBED BALES IN EARTH APPROXIMATELY 4".
4. WHEN REMOVING BALES, SCATTER SILT AND STRAW OVER RIGHT-OF-WAY.
5. ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR.



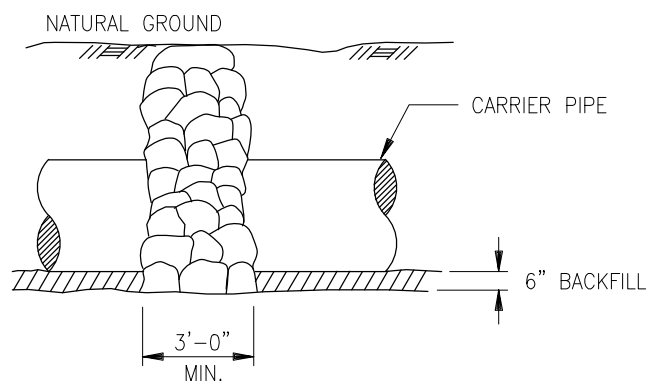
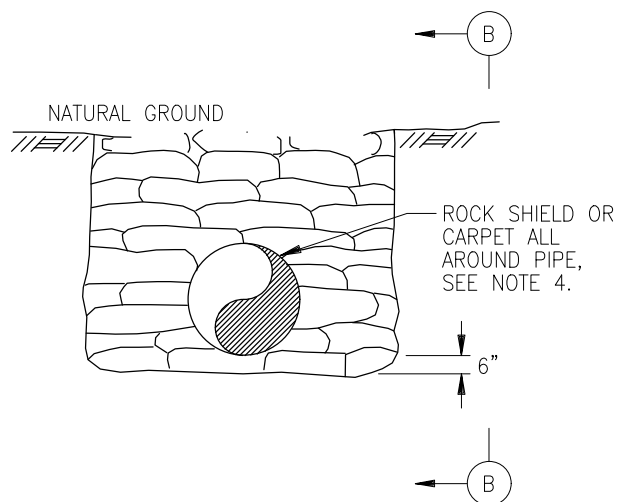
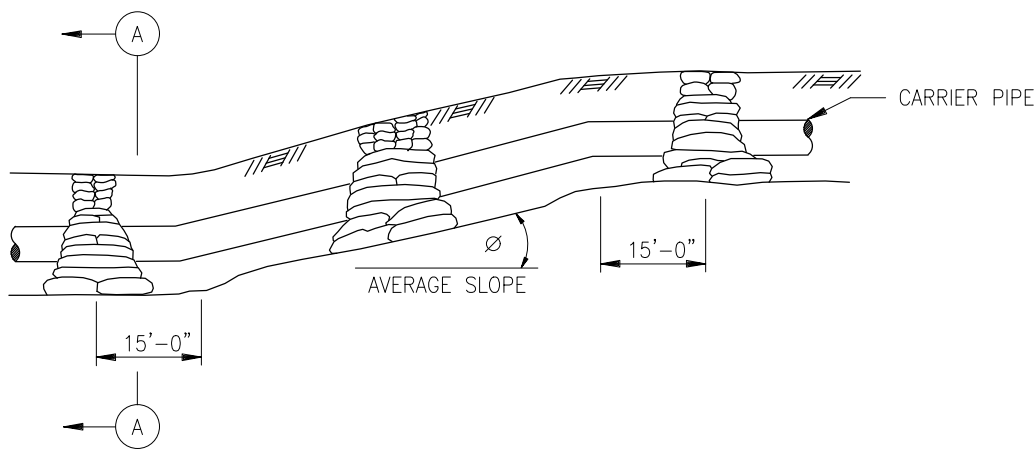
16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION				DATE	APPR.

SCALE	DATE	DRAWN	CHECKED	APPROVED
NTS				

PIPELINE STANDARD  
EROSION CONTROL  
STAKED STRAW BALES

WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-040	1 OF 1



SECTION "A-A"

SECTION "B-B"

NOTES:

1. BREAKERS SHALL BE INSTALLED ON ALL SLOPES GREATER THAN OR EQUAL TO 5% AT STREAM BANKS AND AT LOCATIONS DIRECTED BY COMPANY.
2. BREAKERS SHALL BE INSTALLED AT A SPACING SUCH THAT THE TOP OF THE LOWER BREAKER IS AT THE SAME ELEVATION AS THE BOTTOM OF THE NEXT HIGHER BREAKER.
3. DITCH PLUGS SHALL CONSIST OF EITHER SANDBAG BURLAP SACKS FILLED WITH A MINIMUM OF 0.6 FOOT OF EARTH OR SPRAYED-IN-PLACE POLYURETHANE FOAM, MINIMUM DENSITY OF 1.75 LB/CF AS DIRECTED BY COMPANY.
4. INSTALL  $\frac{1}{2}$ " TERRA SHIELD PERFORATED ROCKSHIELD, FOR SACK BREAKERS, AND FIBER-BACKED (NOT FOAM-BACKED) CARPET FOR FOAM BREAKERS.
5. REFER TO "ENVIRONMENTAL AND RIGHT-OF-WAY STIPULATIONS" FOR INSTALLATION.

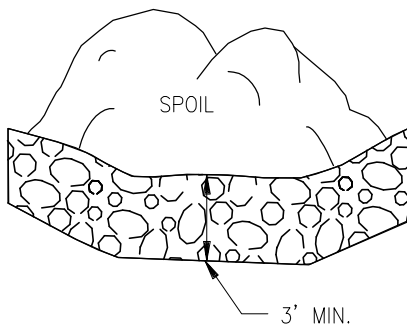


16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

PIPELINE STANDARD  
PIPELINE DITCH PLUG

NO.	REVISION	DATE	APPR.
SCALE	DATE	DRAWN	CHECKED
NTS			

WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-039	1 OF 1




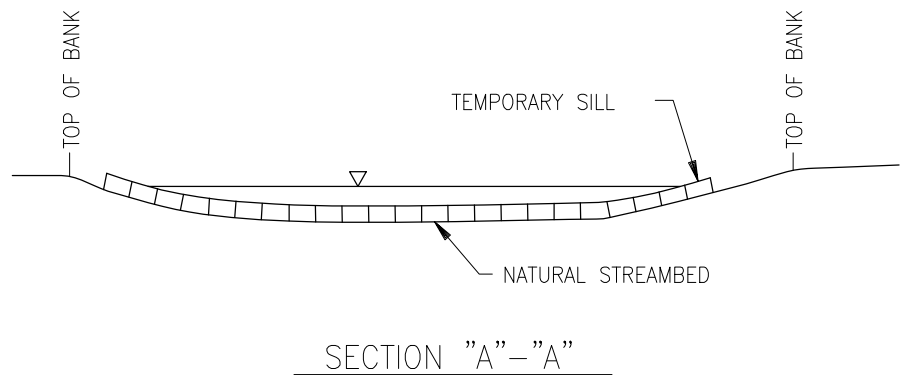
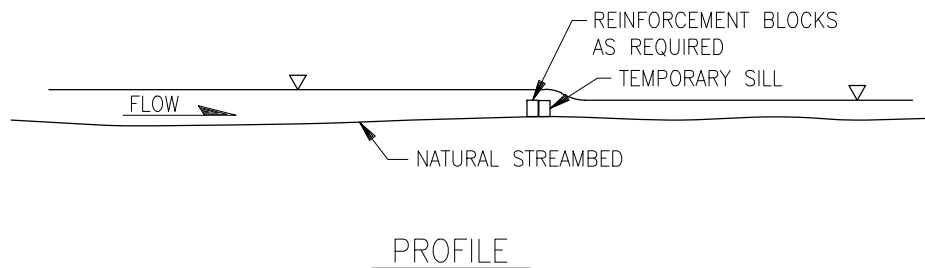
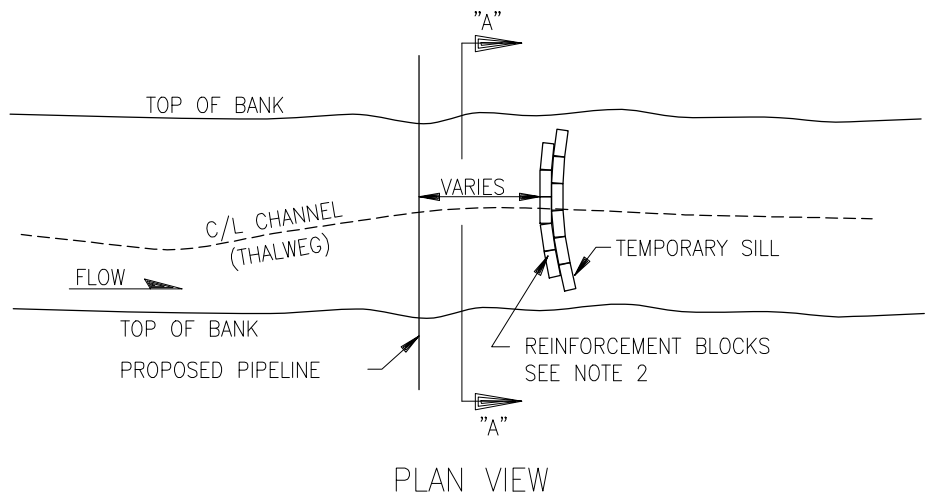
A cross-sectional diagram of a spoil bank. The bank is a mound of material with a central peak. The word "SPOIL" is written in the center of the mound. The top of the bank is marked with a series of vertical lines, indicating a level or boundary. The base of the bank is supported by a series of rectangular blocks, likely representing a foundation or retaining wall. The diagram is a simple line drawing with no shading or color.

A diagram showing a pile of material labeled "SPOIL". The pile is supported by a structure of rectangular blocks. Two stakes are shown on the right side, labeled "STAKES".

NOTES:

1. OTHER STRUCTURES MAY BE SUBSTITUTED IF APPROVED BY ENGINEER.

				16350 PARK TEN PLACE, SUITE 101 HOUSTON, TX, 77064 PH: (281) 616-0100 TRC PROJ. #53595, LIC. No. EF 4588				PIPELINE STANDARD SOIL RETAINING BERMS							
NO.		REVISION		DATE		APPR.									
SCALE		DATE		DRAWN		CHECKED		APPROVED		WEI PROJ. NO.		DRAWING NUMBER		SHEET	
NTS												STD-A-200		1 OF 1	



NOTES:

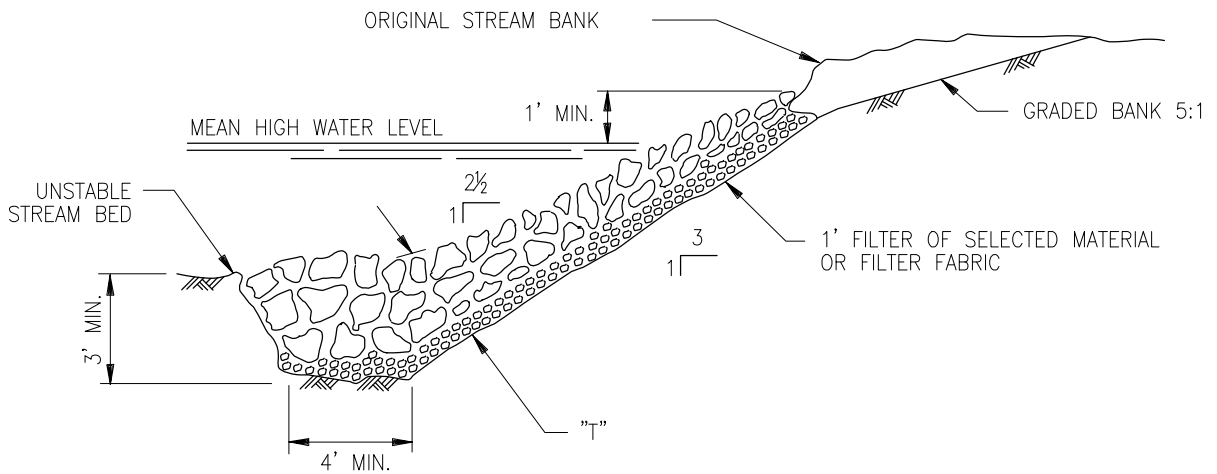
1. TEMPORARY SILL SHALL BE INSTALLED AT STREAM CROSSING LOCATIONS AS SPECIFIED BY COMPANY PRIOR TO ANY EXCAVATION WITHIN STREAMBANKS.
2. SILL SHALL BE CONSTRUCTED OF CONCRETE ECOLOGY BLOCKS (4'Lx2'Wx2'H) OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE AND PLACE ADDITIONAL REINFORCEMENT BLOCKS AS REQUIRED TO STABILIZE TEMPORARY SILL AND TO MINIMIZE WATER FLOW BETWEEN SILL BLOCKS.
3. TEMPORARY SILL SHALL BE COMPLETELY REMOVED UPON COMPLETION OF TRENCH BACKFILL. REMOVAL SHALL BE SYSTEMATIC AND GRADUAL TO MINIMIZE REENTRAINMENT OF DISTURBED SEDIMENTS. CONTRACTOR SHALL RESTORE STREAM BED AND BANKS AS NEARLY AS PRACTICAL TO PRECONSTRUCTION CONTOURS.



16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

PIPELINE STANDARD  
TEMPORARY SILL

NO.	REVISION	DATE	APPR.	WEI PROJ. NO.	DRAWING NUMBER	SHEET
SCALE	DATE	DRAWN	CHECKED	APPROVED		
NTS					STD-A-043	1 OF 1



### EXCAVATED TOE DETAIL

VELOCITY	RIP RAP			
FT./SEC. 12-15	MAX. SIZE (POUNDS) 250	AVG. SIZE (POUNDS) 50-80	20% SIZE* (POUNDS) 20	"T" DESIGN THICKNESS 15"-27"

\* INDICATES THAT NOT MORE THAN 20% OF TOTAL ROCK QUANTITIES SHALL BE LESS THAN 20 LBS. EACH.

1. ALL AREAS TO BE REVETTED SHALL BE CLEARED OF ALL TREES, BRUSH, LOGS, STUMPS AND DEBRIS.
2. RIP RAP SHALL BE PLACED IN SUCH A MANNER AS TO PRODUCE A REASONABLY WELL GRADED MASS.
3. THE FINISHED RIP RAP SHALL BE FREE OF OBJECTIONABLE POCKETS OF SMALL STONES.
4. PLACING OF RIP RAP WHICH MAY CAUSE SEGREGATION OF VARIOUS SIZES, WILL NOT BE PERMITTED.
5. RIP RAP SHALL BE NATURAL OR BROKEN STONE OR OTHER MATERIAL ACCEPTABLE TO THE COMPANY AND GOVERNING AGENCY.
6. THE FINISHED RIP RAP TO BE ACCEPTED BY THE GOVERNING AGENCY PRIOR TO LEAVING THE AREA.



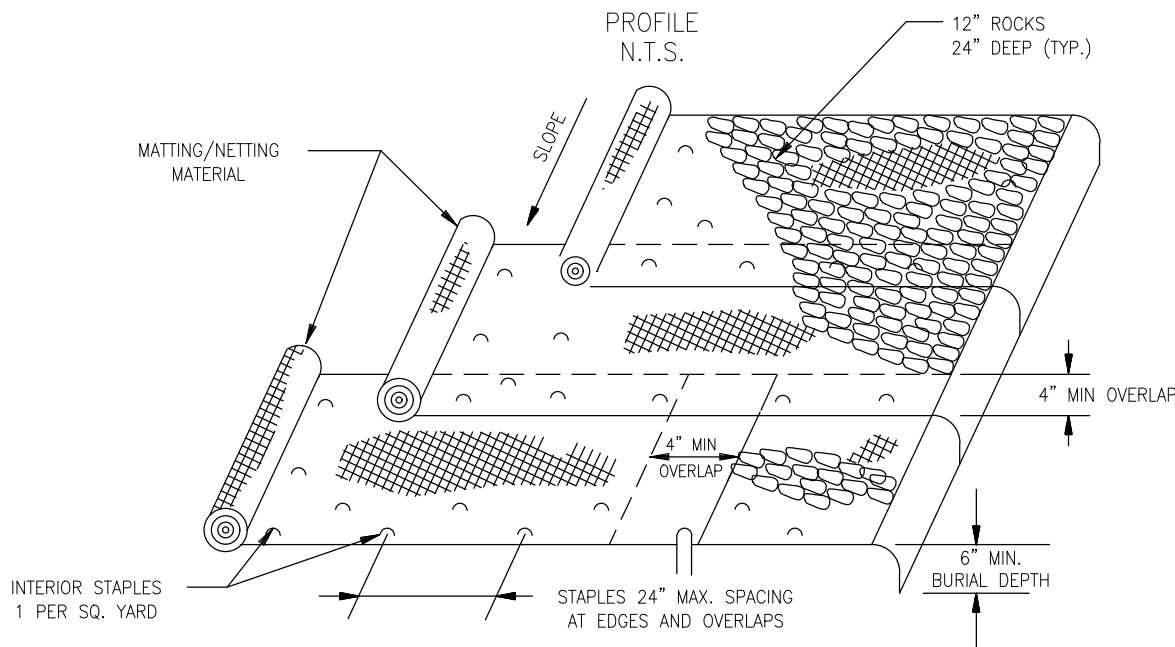
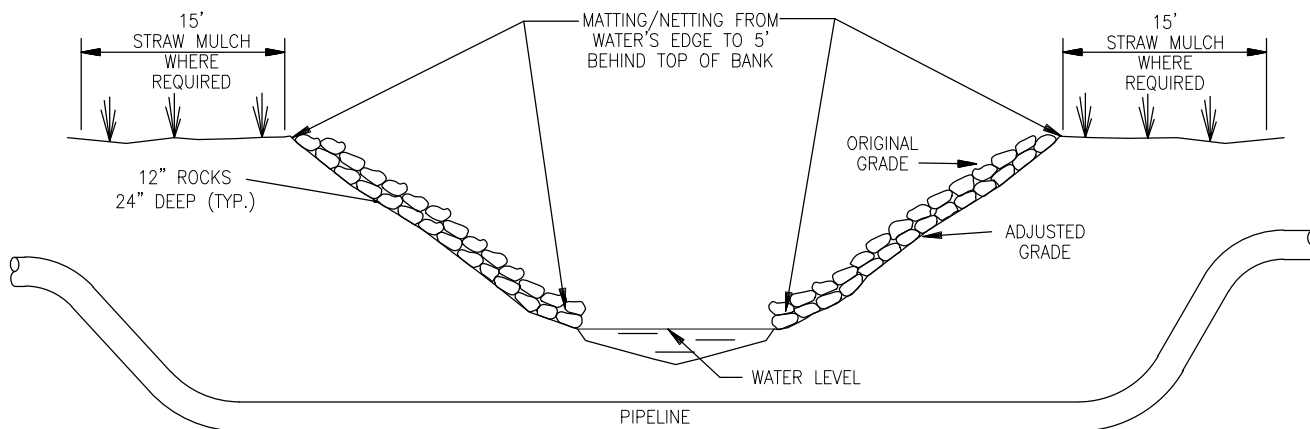
16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION			DATE	APPR.
SCALE	DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.
NTS					

PIPELINE STANDARD  
DESIGN FOR ROCK RIP RAP  
INSTALLATION (EXCAVATED TOE)

STD-A-044

1 OF 1



1. MATTING/NETTING SHALL BE RUN HORIZONTAL AND PARALLEL TO THE GROUND CONTOUR FOR THE FULL WIDTH OF THE PERMANENT ROW. RIPRAP MAY NOT BE PLACED HIGHER THAN TOP OF BANK VERTICALLY.
2. ONLY THE FOLLOWING MATERIALS MAY BE USED AS RIPRAP: CLEAN STONE, BROKEN CONCRETE, CONCRETE BLOCKS, FABRIC FORMED CONCRETE, ROCK & WIRE MATTRESSES, AND SAND/CEMENT FILLED BAGS OVER GEOTECH FABRIC MATERIALS.
3. IF BROKEN CONCRETE IS USED, PROTRUDING MATERIALS SUCH AS STEEL REBAR SHALL BE CUT FLUSH WITH THE SURFACE OF THE CONCRETE AND REMOVED FROM CONSTRUCTION AREA.
4. STAPLES SHALL BE 10" LONG, STANDARD MATTING/NETTING STAPLES.
5. THIS METHOD RECOMMENDED FOR SLOPES GREATER THAN 1.5 TO 1 OVER (34°)
6. DUMPED STONE MAY BE PLACED AT A SLOPE OF 2 TO 1 OR FLATTER. (27°)
7. HAND PLACED STONE SHOULD BE PLACED AT A SLOPE OF 1.5 TO 1 OR FLATTER. (34°)
8. RIPRAP CANNOT CHANGE THE CROSS SECTIONAL PROFILE OF THE STREAM AFTER CONSTRUCTION. THE BANK MAY BE GRADED TO ALLOW PLACEMENT OF RIPRAP TO BE EVEN WITH ADJACENT ELEVATIONS.
9. IN ILLINOIS THE INSTALLATION OF RIPRAP SHALL FOLLOW THE GUIDELINES AS LISTED IN THE STATE WIDE PERMIT No. 9 FOR MINOR STREAM BANK STABILIZATION.

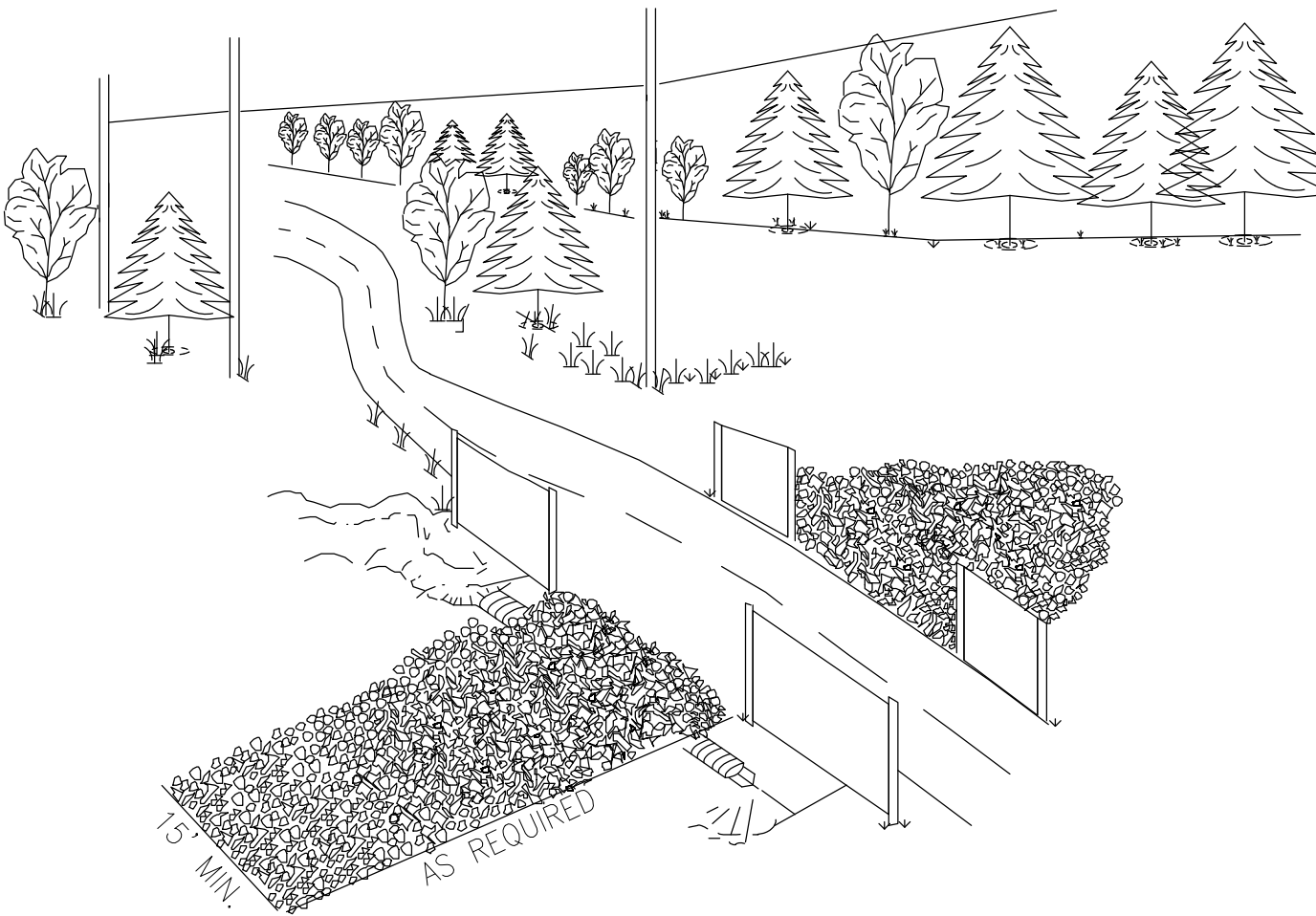


16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77064  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION			DATE	APPR.
SCALE	DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.
NTS	02-JAN-03				

## RIP RAP BANK STABILIZATION FOR HIGH FLOW VELOCITY CROSSINGS

WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-118	1 OF 1



NOTES:

1. ROCK PADS WILL BE INSTALLED AT ROAD CROSSINGS WITH HIGH TRAFFIC VOLUME.  
TO MINIMIZE TRACKING MUD ONTO THE ROAD, CRUSHED STONE SHALL BE 6 INCHES.
2. MINIMUM ROCK PAD DIMENSIONS SHALL BE 20 FEET LONG AND 15 FEET WIDE.  
ADDITIONAL LENGTH WILL BE REQUIRED UNDER ADVERSE CONDITIONS.
3. HAY BALES MAY BE USED IN LIEU OF SILT FENCES.
4. IN AGRICULTURAL LAND, A 4 TO 6 INCH LAYER OF SAND OR A SYNTHETIC FIBER  
MAT WILL BE PLACED BENEATH THE ROCK PAD TO FACILITATE ROCK REMOVAL UPON  
COMPLETION.



16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

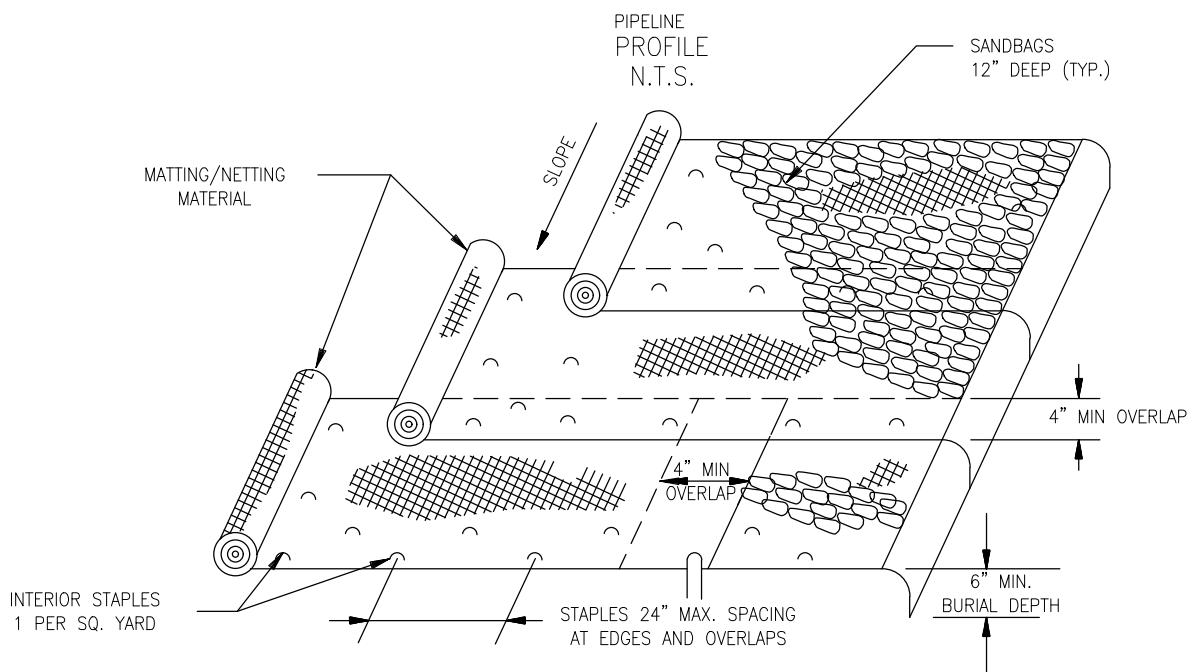
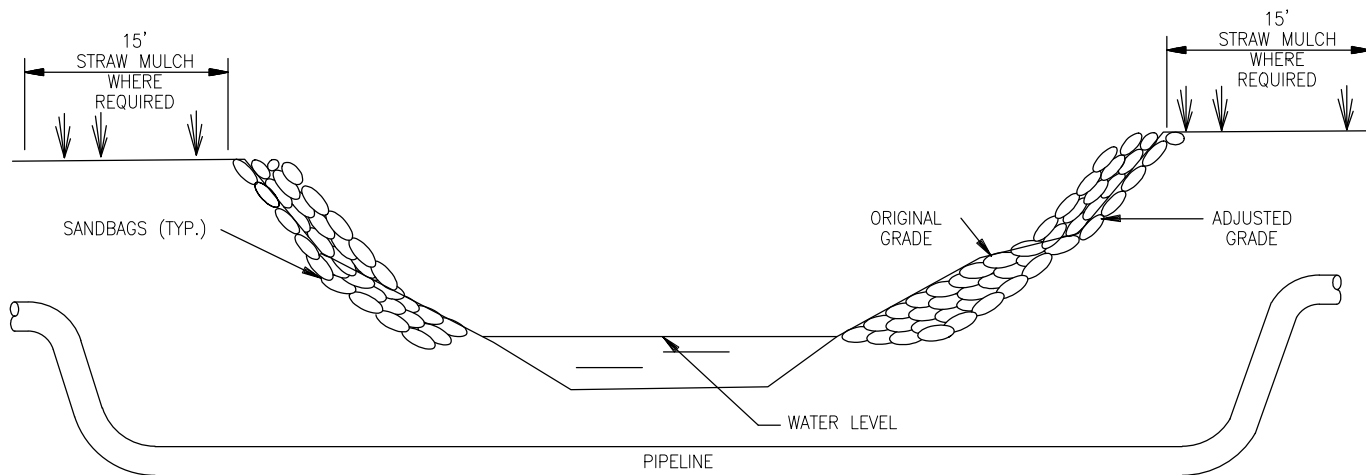
NO.	REVISION				DATE	APPR.
SCALE	DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.	DRAWING NUMBER
NTS						

ROCK PADS WITH SILT FENCES  
AT PAVED ROAD CROSSING

STD-A-199

1 OF 1





#### NOTES:

- MATTING/NETTING SHALL BE RUN HORIZONTAL AND PARALLEL TO THE GROUND CONTOUR FOR THE FULL WIDTH OF THE PERMANENT ROW.
- SANDBAGS MAY NOT BE PLACED HIGHER THAN TOP OF BANK VERTICALLY.
- STAPLES SHALL BE 10" LONG, STANDARD MATTING/NETTING STAPLES.
- ROLL ANY EXCESS BAG UNDER SANDBAG.
- SANDBAGS CANNOT CHANGE THE CROSS SECTIONAL PROFILE OF THE STREAM AFTER CONSTRUCTION. THE BANK MAY BE GRADED TO ALLOW PLACEMENT OF SANDBAGS TO BE EVEN WITH ADJACENT ELEVATIONS.
- IN ILLINOIS THE INSTALLATION OF SANDBAGS SHALL FOLLOW THE GUIDELINES AS LISTED IN THE STATE WIDE PERMIT No. 9 FOR MINOR STREAM BANK STABILIZATION.



16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION	DATE	APPR.
SCALE	DATE	DRAWN	CHECKED
NTS	02-JAN-03		

## SANDBAG BANK STABILIZATION FOR LOW FLOW VELOCITY CROSSINGS

WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-119	1 OF 1


NONE

THE ENTIRE RIGHT-OF-WAY SHALL BE SEEDED. SEEDING METHOD, MIX AND APPLICATION RATE SHALL BE AS SPECIFIED IN THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR. SEED SHALL BE EVENLY DISTRIBUTED.

1. HAND OR MECHANICAL BROADCAST SEEDING SHALL BE USED AS SPECIFIED IN THE CONSTRUCTION AND ENVIRONMENTAL SPECIFICATIONS, UNLESS OTHERWISE DETERMINED BY THE ENVIRONMENTAL INSPECTOR.
2. BROADCAST SEEDING BY HAND SHALL BE WITH A CYCLONE SHOULDER STRAP BROADCAST SPREADER OR AN APPROVED EQUIVALENT. DISTRIBUTING SEED BY HAND WITHOUT A MECHANICAL BROADCASTER WILL NOT BE ALLOWED.

1. HYDRAULIC SEEDING EQUIPMENT (HYDRO-SEEDER) MAY BE USED, PROVIDING 1 POUND OF WOOD FIBER PER THREE (3) GALLONS OF WATER IS ADDED IN THE HYDRAULIC SEEDER TO CUSHION SEED DURING APPLICATION.
2. AFTER BLENDING SEED AND MULCH, THE SLURRY SHALL BE APPLIED TO THE SEEDBED WITHIN ONE HOUR AFTER THE SEED HAS BEEN ADDED TO THE MIXTURE. IF SLURRY CAN NOT BE APPLIED WITHIN THE SPECIFIED ONE HOUR, IT SHALL BE RECHARGED AT NO COST TO THE COMPANY, WITH THE CORRECT RATIO OF SEED TO THE REMAINING SLURRY AND A NEW ONE HOUR TIME FRAME ESTABLISHED FOR APPLYING THE FORTIFIED MIXTURE.
3. HYDROSEEDING SHALL BE CONDUCTED TO ENSURE SEED/SOIL CONTACT BY DIRECTING THE SPRAY AT THE GROUND AND AS MUCH AS POSSIBLE, MIXING SOIL, SEED AND MULCH TOGETHER.
4. THE CONTRACTOR SHALL BE REQUIRED TO USE EXTENSION HOSES TO REACH INACCESSIBLE AREAS.
5. THE MULCH USED AS A CUSHION MAY BE PART OF TOTAL REQUIRED MULCH, WITH THE REMAINDER APPLIED IN A SEPARATE APPLICATION AFTER SEED IS IN PLACE.

1. DRILL SEEDING EQUIPMENT MUST BE OF RANGE OR RECLAMATION TYPE FOR APPLYING GRASS AND/OR FLUFFY SEED. THE DRILL SEEDER MUST REGULATE THE SEED APPLICATION RATE AND PLANTING DEPTH AND SHALL BE EQUIPPED WITH PRESS WHEELS. PLANTING DEPTH SHALL BE REGULATED BY DEPTH BANDS OR COULTERS. THE ROWS OF PLANTING SEED SHALL BE A MAXIMUM OF ELEVEN (11) INCHES APART. A DRILL SHALL BE NO WIDER THAN THE WIDTH OF THE AREA OVER WHICH IT IS TO OPERATE. THE DRILL BOX SHALL BE PARTITIONED BY DIVIDERS NO MORE THAN 24 INCHES APART, IN ORDER TO PROVIDE FOR MORE EVEN DISTRIBUTION ON SLOPING AREAS.
2. SEED MUST BE UNIFORMLY DISTRIBUTED IN THE DRILL HOPPER DURING OPERATION.
3. SEEDING DEPTH SHALL BE AT LEAST  $\frac{1}{4}$  INCH AND A MAXIMUM OF  $\frac{1}{2}$  INCH OR AS SPECIFIED BY THE ENVIRONMENTAL INSPECTOR.

		16350 PARK TEN PLACE, SUITE 101 HOUSTON, TX. 77084 PH: (281) 616-0100 TRC PROJ. #53595, UC. No. EF 4588				SEEDING			
NO.		REVISION		DATE		APPR.			
SCALE	DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.	DRAWING NUMBER		SHEET	
NTS						STD-A-126		1 OF 1	

TYPICAL DRAWING:  
NONE

NOTES:

1. STRAW MULCH SHALL BE USED AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION DRAWINGS AND/OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR TO PROTECT SOIL FROM EROSION. AREAS TARGETED FOR STRAW MULCH INCLUDE SLOPES BETWEEN 8% AND 40%.
2. STRAW MULCH SHALL BE APPLIED AT A RATE OF 2 TONS/ACRE. IN AREAS WHERE RESPREAD TOPSOIL EXHIBITS AN ADEQUATE COVER FROM RESPREAD PLANT DEBRIS AND COARSE FRAGMENTS, MULCH RATES MAY BE REDUCED OR ELIMINATED BY THE ENVIRONMENTAL INSPECTOR.
3. ONLY CERTIFIED NOXIOUS WEED-FREE STRAW SHALL BE USED. WRITTEN CONFIRMATION FROM A CERTIFIED SUPPLIER SHALL BE REQUIRED.
4. STRAW FIBER LENGTH SHALL BE AT LEAST EIGHT (8) INCHES LONG AND CRIMPED IN PLACE AFTER APPLICATION.
5. EQUIPMENT SPECIFICALLY DESIGNED TO CRIMP STRAW (SUCH AS STRAW MULCH CRIMPER MANUFACTURED BY FINN CORPORATION OR AN APPROVED EQUIVALENT) SHALL BE USED TO CRIMP STRAW FIBERS TO A DEPTH OF TWO (2) TO THREE (3) INCHES. STEEP SLOPES INACCESSIBLE WITH A CRIMPER SHALL BE CRIMPED BY TRACKING WITH A CRAWLER RUNNING PERPENDICULAR TO THE SLOPE. DISCS SHALL NOT BE ALLOWED FOR CRIMPING.

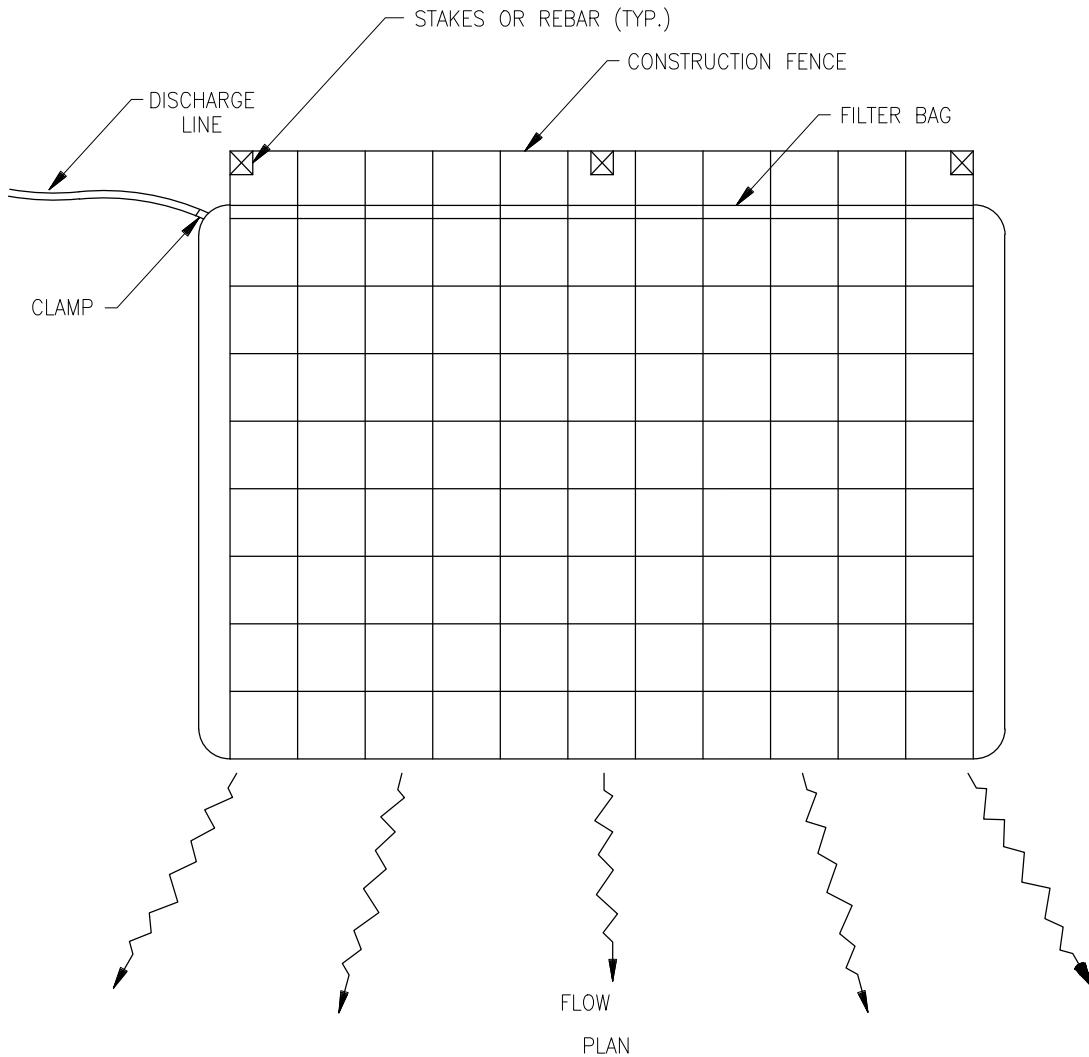
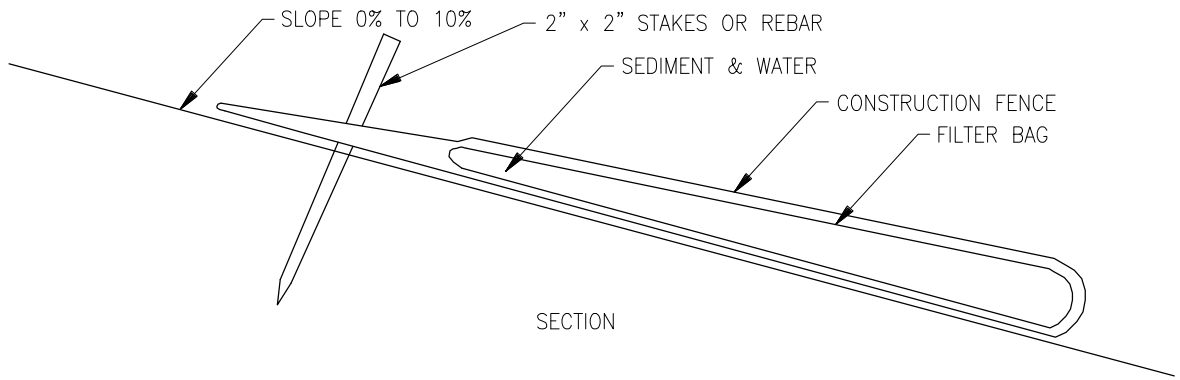


16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX, 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION			DATE	APPR.
SCALE	DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.
NTS					

STRAW MULCH

	DRAWING NUMBER	SHEET
	STD-A-127	1 OF 1



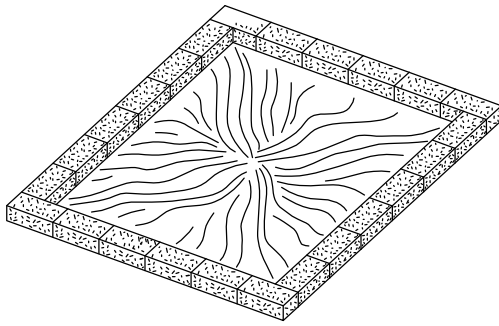
16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77084  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION				DATE	APPR.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

SCALE	DATE	DRAWN	CHECKED	APPROVED
NTS				

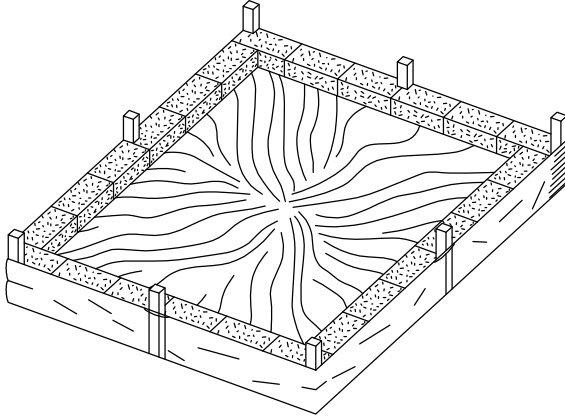
## TRENCH DEWATERING MEASURE 1

WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-114	1 OF 1



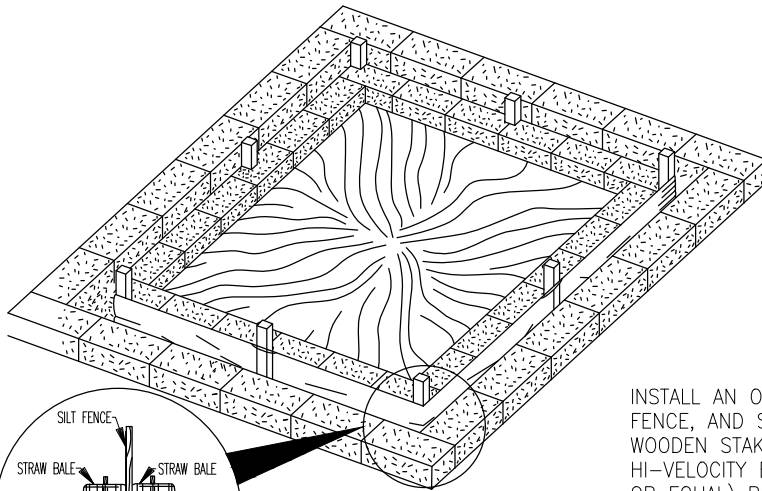
### STEP 1

ON LEVEL LAND, DIG A SUMP DEPENDING ON ACTUAL FLOW RATES APPROXIMATELY 200 SQ. FT., WHICH IS 2" DEEP AT THE CENTER. PLACE A LAYER OF STRAW BALES AS SHOWN, TO COMPLETELY SURROUND THE SUMP.



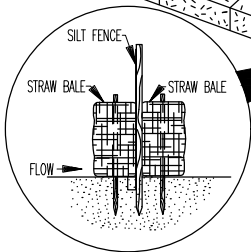
### STEP 2

INSTALL SILT FENCE ALL AROUND THE STRAW BALES, (IF LAND IS LEVEL) DIG IN SILT FENCE 6".



### STEP 3

INSTALL AN OUTER LAYER OF BALES AROUND THE SILT FENCE, AND SECURE EACH BALE USING WOODEN STAKE. COVER THE ENTIRE SUMP WITH HI-VELOCITY EROSION CONTROL FABRIC (CURLEX OR EQUAL) BEFORE PUMPING THE WATER INTO THE FACILITY.



NOTE: PUMP INTAKE HOSE MUST NOT BE ALLOWED TO REST ON THE TRENCH BOTTOM THROUGHOUT DEWATERING. PROVISIONS MUST BE MADE TO ELEVATE THE INLET HOSE TO AT LEAST ONE FOOT ABOVE THE TRENCH BOTTOM UNTIL BOTTOM DEWATERING IS NECESSARY.

EROSION CONTROL DURING PIPELINE DITCH,  
AND HYDROSTATIC TEST DEWATERING  
FOR LEVEL AREAS WITH SPARSE VEGETATION



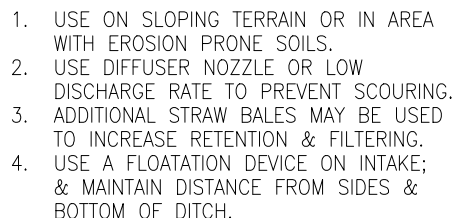
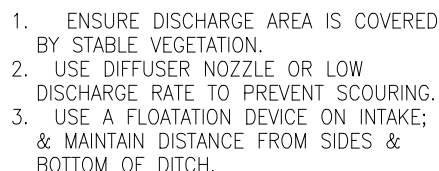
16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77064  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

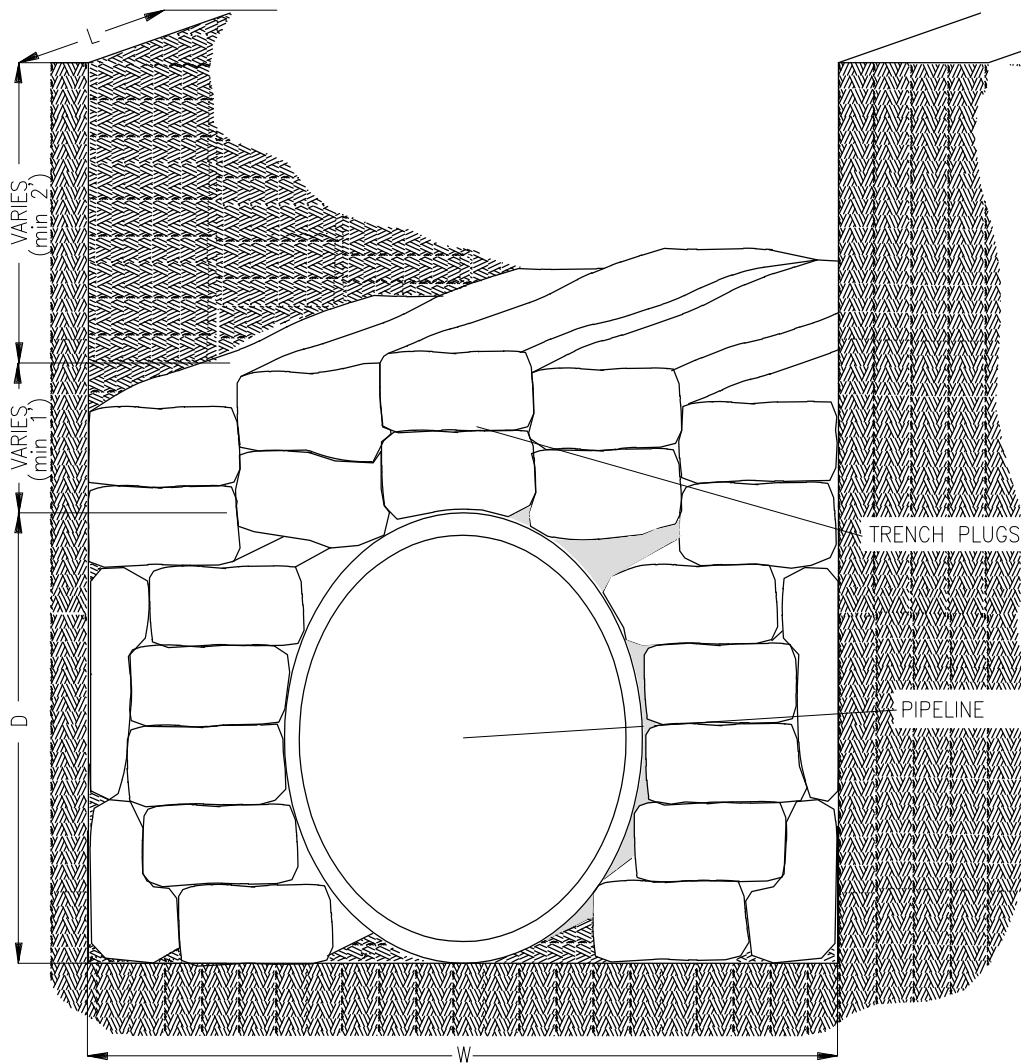
TRENCH DEWATERING  
MEASURE 2

NO.	REVISION	DATE	APPR.

SCALE	DATE	DRAWN	CHECKED	APPROVED
NTS				

WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-115	1 OF 1





D = 3 FEET

W = 5 TO 9 FEET

L = APPROXIMATELY 18 - 24 INCHES




16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77064  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION	DATE	APPR.

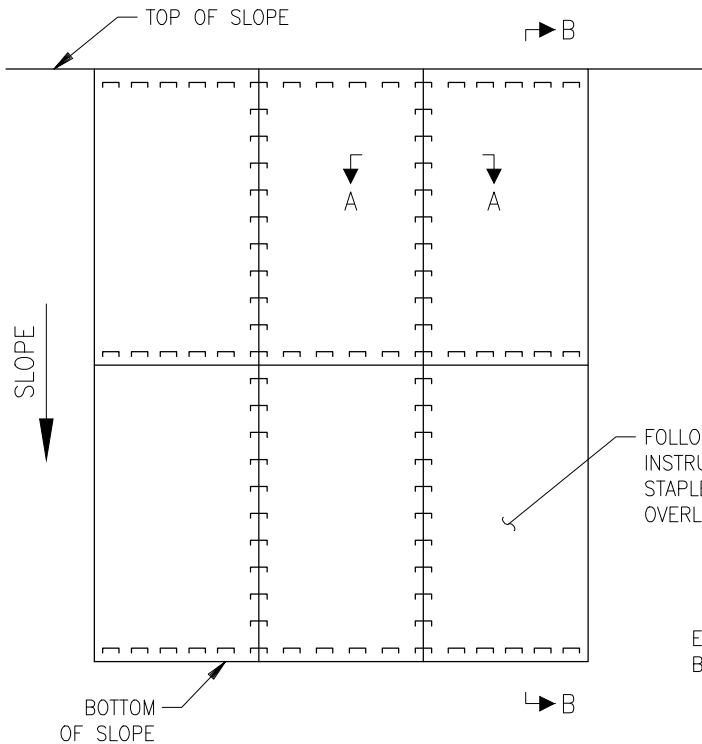
TRENCH PLUGS  
MEASURE 1

SCALE	DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.	DRAWING NUMBER	SHEET
NTS						STD-A-121	1 OF 1

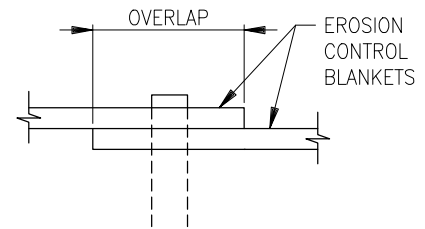


 <div style="text-align: right;">             16350 PARK TEN PLACE, SUITE 101              HOUSTON, TX. 77084              PH: (281) 616-0100              TRC PROJ. #53595, LIC. No. EF 4588         </div>					<h1 style="margin: 0;">TRENCH PLUGS MEASURE 2</h1>			
NO.		REVISION		DATE	APPR.			
SCALE		DATE	DRAWN	CHECKED	APPROVED	WEI PROJ. NO.	DRAWING NUMBER	SHEET
NTS							STD-A-122	1 OF 1

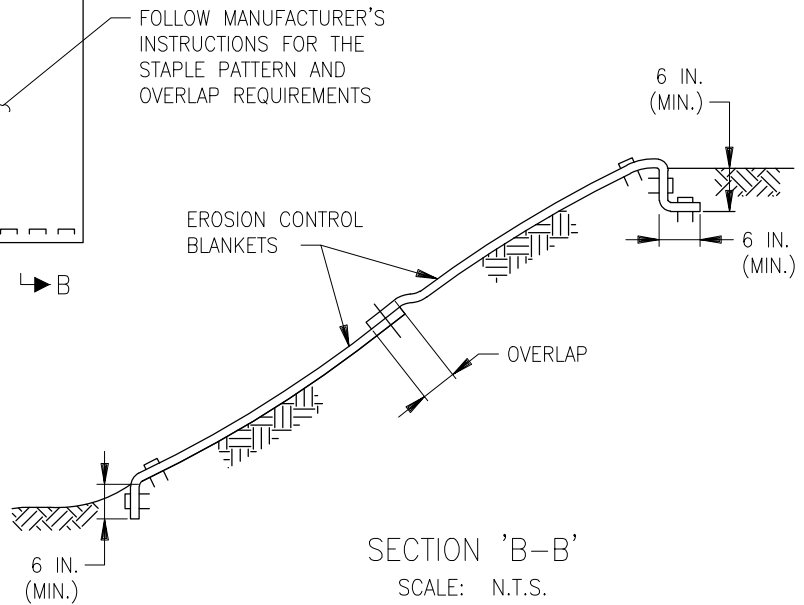




PLAN  
SCALE: N.T.S.



SECTION 'A-A'  
SCALE: N.T.S.



SECTION 'B-B'  
SCALE: N.T.S.

#### NOTES:

1. EROSION CONTROL BLANKETS SHALL BE NORTH AMERICAN GREEN S 150 FOR SLOPES 3 TO 1 AND SC 150 FOR SLOPES 2 TO 1 OR APPROVED EQUALS.
2. INSTALL BLANKETS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING GRADING, REMOVAL OF LARGE ROCKS AND DEBRIS, AND THE APPLICATION OF SEED AND FERTILIZER.
4. EROSION CONTROL BLANKETS SHALL EXTEND COMPLETELY ACROSS DISTURBED AREAS TO PROTECT ERODIBLE SURFACES.
5. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A MINIMUM SIX (6) INCHES WIDE AND SIX (6) INCHES DEEP TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ROLL THE BLANKETS DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
7. AS AN ALTERNATIVE TO STAPLES, WOODEN STAKES CAN BE USED.
8. ENSURE COMPLETE CONTACT BETWEEN THE BLANKETS AND THE SLOPE FACE. ADDITIONAL STAPLES CAN BE USE TO ELIMINATE GAPS.



16350 PARK TEN PLACE, SUITE 101  
HOUSTON, TX. 77064  
PH: (281) 616-0100  
TRC PROJ. #53595, LIC. No. EF 4588

NO.	REVISION	DATE	APPR.

SCALE	DATE	DRAWN	CHECKED	APPROVED
NTS				

TYPICAL EROSION CONTROL BLANKET INSTALLATION		
WEI PROJ. NO.	DRAWING NUMBER	SHEET
	STD-A-195	1 OF 1

## **APPENDIX B**

### **SPILL PREVENTION AND RESPONSE PLAN**

**Bayou Bridge Pipeline, LLC**

**BAYOU BRIDGE PIPELINE PROJECT**

**SPILL PREVENTION AND RESPONSE (SPAR) PLAN**

**January 2017**

## 1.0 GENERAL DESCRIPTION OF SPILL PREVENTION AND RESPONSE PLAN

Bayou Bridge Pipeline, LLC (BBP) has prepared a Spill Prevention and Response (SPAR) Plan which is designed to minimize hazards to human health and/or the environment from any unplanned sudden or non sudden releases of oils, toxic, hazardous, or other polluting materials to the air, soil, surface water or groundwater. BBP through its Contractors and Inspectors shall be responsible for the administration and implementation of this plan. This plan is intended to provide minimum requirements for spill prevention and response during construction activities. The Contractor may develop their own spill prevention and response plan or use an existing plan provided that the plan used contains, at a minimum, all of the provisions of BBP's SPAR Plan.

This plan identifies the:

- Measures taken for spill preparedness and prevention;
- Emergency response procedures describing the actions that BBP and Contractor personnel will take in response to leaks, spills, or discharges of oil and hazardous substances/materials;
- Designated emergency coordinator(s) and his/her responsibilities;
- Spill incident reporting procedures; and
- Contact numbers for the local police and fire departments, hospitals, and state and local emergency planning committees.

Prior to the start of construction in an area, the Contractor shall designate storage, refueling, loading, and unloading locations which minimize the environmental and safety impacts associated with releases of fuel, lubricants, or hazardous substances. These areas will be designated using the following guidelines.

- Refueling shall not occur within 100 feet of a waterbody or in an upland area at least 100 feet from a wetland boundary without BBP Environmental Inspector coordination and approval.
- Hazardous materials, including chemicals, fuels, and lubricating oils, shall not be stored within 100 feet of a wetland, waterbody, or designated municipal watershed area without BBP Environmental Inspector coordination and approval.
- Refueling and storage of hazardous materials, including chemicals, fuels, and lubricating oils is prohibited within 200 feet of private wells and 500 feet of community and municipal wells.
- No potentially hazardous materials, other than essential equipment fuels (gasoline, diesel, etc.) or standard lubricants (engine oils, grease, etc.) shall be transported into the right-of-way or construction area without BBP Environmental Inspector coordination and approval.

<p><b>CONTRACTOR will be required to comply with all applicable requirements of the 40 CFR 112, Oil Pollution Prevention, for any facility set up for the storage of fuel, oil, or other hydrocarbons, or refueling of vehicles and equipment, if the facility triggers compliance with the rule. This would include the development and implementation by CONTRACTOR of a Spill Prevention, Control, and Countermeasures (SPCC) Plan if necessary.</b></p>
---

## **2.0 SPILL AND LEAK PREVENTION AND PREPAREDNESS**

### **2.1. PREVENTION AND PREPAREDNESS**

The Contractor will take the following precautions to prevent a spill from occurring and to be prepared in the event that a spill does occur.

#### **2.1.1. Containers**

- All containers shall be stored on pallets and surrounded with temporary containment. Small cans of gasoline, diesel, solvents, etc., should be stored within the temporary containment when not in use.
- No incompatible materials shall be stored in the same containment area.
- Containment areas shall be capable of containing 110% of the volume of the largest container in the storage area plus sufficient freeboard for rainfall.
- All container storage areas shall be inspected daily for leaks and deterioration.
- Leaking and/or deteriorated containers shall be replaced as soon as the condition is first detected.
- No storage area shall be unattended for periods longer than (1) day.

#### **2.1.2. Tanks**

- The contractor shall operate only those tanks for fuel and material storage which meet the approval of BBP. Single wall tanks shall be provided with temporary containment as described in Section 2.1.1 for containers.
- Self-supporting tanks shall be constructed of carbon steel or other materials compatible with the contents of each tank.
- All tanks and storage areas shall be inspected daily for leaks and deterioration.
- Vehicle mounted tanks shall be equipped with flame/spark arrestors on all vents to ensure that self ignition does not occur.
- Tanks will not be used to store incompatible materials in sequence unless first thoroughly decontaminated.

#### **2.1.3. Loading/Unloading Areas**

- Transferring of liquids and refueling shall only occur in pre-designated locations at least 100 feet from all waterbodies and wetlands, 200 feet from any water well, and 500 feet from municipal or community water supply wells unless prior approval is obtained from the BBP Environmental Inspector.
- All loading/unloading areas will be inspected for spills prior to and immediately after each use and closely monitored during use to prevent leaks and spills, and ensure immediate response in the event of a spill.
- All hose connections shall be inspected for leaks. If leaks should occur, the operation shall cease until the leak is repaired or a containment pan is placed under the leaking connection.

#### **2.1.4. Spill Response Kits**

- Any service vehicle used to transport lubricants and fuel must be equipped with an oil spill response kit adequately stocked to respond to a minor oil/fuel spill event.
- Chemical spill response kits, adequately stocked to respond to a minor chemical spill event, shall be available in areas where appropriate.
- Additionally, spill response kits shall be available on the right-of-way and on or near operating equipment as deemed appropriate by the BBP Environmental Inspector.
- Equipment such as hydraulic track hoes and hydraulic pumps that could fail and cause a reportable spill must be equipped with an oil spill response kit adequately stocked to respond to a minor oil/fuel spill event.

### **2.2. EMPLOYEE TRAINING**

All personnel involved in the construction of the proposed facilities will be trained on the contents of the SPAR Plan. Training briefings will be conducted by the Contractor Superintendent or his designee and the BBP Environmental Inspector on the job site.

### **2.3. SPILL RESPONSE EQUIPMENT**

The construction project will have adequate manpower and equipment necessary to divert any spill from reaching waterbodies and wetland areas. Emergency equipment may include, but is not limited to, shovels, backhoes, dozers, front-end loaders, oil absorbent booms, pillows, socks and/or mats and chemical absorbent pulp, pillows, socks and/or mats.

### **3.0 INITIAL SPILL RESPONSE PROCEDURES**

This section provides a description of spill response procedures to be performed to address spills that occur during this construction project.

#### **3.1. COMPANY AND CONTRACTOR RESPONSIBILITIES**

The Contractor and BBP on-site personnel have responsibilities for spill prevention and response. **In addition to the oversight of initial spill response activities, BBP's Environmental Inspector and Environmental Project Manager will determine if state and/or federal notifications are required and make notification accordingly.**

The Contractor will have a designated Environmental Coordinator for the site. The Contractor's Environmental Coordinator will be responsible for the Contractor's initial spill response activities. The responsibilities of the Contractor and BBP will be as follows:

##### **3.1.1. Contractor Responsibilities**

- The Contractor will be responsible for taking immediate action to safely control and contain any spills or releases of oil, petroleum products, and hazardous substances/materials.
- All spills or releases (including any sheen created on water or releases to the atmosphere) must be reported immediately to the BBP Environmental Inspector. The

Contractor shall supply necessary manpower and equipment to control, contain, and clean up all spills and releases resulting from their operations.

### **3.1.2. BBP Environmental Inspector Responsibilities**

- BBP's Environmental Inspector or his designee will be responsible for making appropriate agency notifications of spills and releases.
- BBP will be responsible for the oversight of the initial spill response activities.
- BBP will provide supporting personnel and equipment to address releases as required.
- In the event of a spill the Environmental Inspector shall obtain as much information as possible regarding the cause of the event, the type and amount of material spilled or released, and corrective measures or response activities being taken.
- Consult the BBP Environmental Project Manager immediately and determine if the spill or release is a reportable event. The Environmental Inspector will also notify the BBP Field Construction Office for releases of:
  - One pound or more of a solid material;
  - Five gallons or more of a liquid material;
  - Any spill to water, including any sheen on water.
- Obtain a copy of the Contractor's written spill report as soon as it is available and forward a copy to the Environmental Project Manager.

### **3.1.3. BBP Environmental Project Manager Responsibilities**

- Upon receiving spill information from the Environmental Inspector, determine if the release requires reporting to any federal, state, or local regulatory agencies.
- If reporting is required, direct the Environmental Inspector to notify the appropriate regulatory agencies. This includes both verbal and any follow-up written reports.
- Contact outside remediation services if necessary, in coordination with the BBP Environmental Inspector, to assist with incidents which require additional resources.

## **3.2. UNPLANNED AND PLANNED CRUDE OIL RELEASES**

### **3.2.1. Unplanned Crude Oil Releases**

Unplanned crude oil releases are reportable events in some of the states that BBP operates in. In the event that an unplanned release of crude oil occurs during activities related to the project the Contractor shall immediately notify the BBP Environmental Inspector of the event.

### **3.2.2. Planned Crude Oil Releases**

Some of the states that BBP operates in require prior notification and/or approval for planned releases of crude oil to the atmosphere such as blowdowns. In the event that a planned release of crude oil is scheduled to occur during activities related to the project the Contractor shall contact

the BBP Environmental Inspector a minimum of two weeks prior to the event and confirm that notifications have been made and/or approvals obtained if required.

### **3.3. SPILL CLEAN-UP AND WASTE DISPOSAL**

Spill clean-up and subsequent waste disposal of contaminated media will be the responsibility of the Contractor subject to the approval of the BBP Environmental Project Manager.

### **4.0 KEY EMERGENCY CONTACTS**

The key personnel who will be contacted in the event of an emergency or spill incident include the following: **(Information to be supplied prior to construction.)**

#### **I. BBP Emergency Contacts**

1. BBP Emergency Coordinator
2. Field Construction Office
3. Environmental Project Manager: C. Gus Borkland, O: 610-859-5419; C: 215-620-5934
4. Area Office (in case of pipeline liquid spills)

#### **II. Contractor Emergency Contact**

1. Contractor Emergency Coordinator

#### **III. Federal Authorities**

1. EPA – National Response Center: 1-800-424-8802

#### **IV. State Authorities**

1. Louisiana Oil Spill Coordinator's Office: 877-925-6595

#### **V. Local Authorities**

<b>Louisiana</b>		
<b>Parish</b>	<b>Department</b>	<b>Phone</b>
Calcasieu	Parish Police (Calcasieu Parish Sheriff)	337-431-1331
	Local Fire Department	337-439-5501
	Hospital (Lake Area Medical Center)	337-474-6370
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-721-3800
Jefferson Davis	Parish Police (Jefferson Davis Sheriff)	337-821-2102
	Local Fire Department	337-821-5507
	Hospital (Jennings American Legion Hospital)	337-616-7000
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-824-3850



Louisiana		
Parish	Department	Phone
Acadia	Parish Police (Acadia Parish Sheriff)	337-788-8700
	Local Fire Department	337-778-4106
	Hospital (Acadia General Hospital)	337-783-3222
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-783-4357
Vermilion	Parish Police (Vermilion Parish Sheriff)	337-893-0871
	Local Fire Department	337-898-4258
	Hospital (Abbeville General Hospital)	337-893-5466
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-898-4308
Lafayette	Parish Police (Lafayette Parish Sheriff)	337-232-9211
	Local Fire Department	337-291-8700
	Hospital (Lafayette General Medical Hospital)	337-289-7991
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-291-5075
New Iberia	Parish Police (New Iberia Parish Sheriff)	337-369-3711
	Local Fire Department	337-369-2370
	Hospital (Iberia Medical Center)	337-364-0441
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-369-4427
St. Martin	Parish Police (St. Martin Parish Sheriff)	337-332-0011
	Local Fire Department	337-394-6416
	Hospital (St. Martin Hospital)	337-332-2178
	Ambulance	9-1-1
	Parish Office Of Emergency Management	337-394-2812

<b>Louisiana</b>		
<b>Parish</b>	<b>Department</b>	<b>Phone</b>
Iberville	Parish Police (Iberville Parish Sheriff)	225-687-5100
	Local Fire Department	225-687-7335
	Hospital (Ochsner Medical Center-Iberville Complex)	225-761-5200
	Ambulance	9-1-1
	Parish Office Of Emergency Management	225-687-5140
Ascension	Parish Police (Ascension Parish Sheriff)	225-621-8300
	Local Fire Department	225-647-7342
	Hospital (Prevost Memorial Hospital)	225-473-7931
	Ambulance	9-1-1
	Parish Office Of Emergency Management	225-621-8360
Assumption	Parish Police (Assumption Parish Sheriff)	985-369-7281
	Local Fire Department	985-369-2558
	Hospital (Assumption Community Hospital)	985-369-3600
	Ambulance	9-1-1
	Parish Office Of Emergency Management	985-369-7386
St. James	Parish Police (St. James Parish Sheriff)	225-562-2200
	Local Fire Department	225-869-8067
	Hospital (St. James Parish Hospital)	225-869-5512
	Ambulance	9-1-1
	Parish Office Of Emergency Management	225-562-2364

**APPENDIX C**  
**INSPECTION FORMS AND INSTRUCTIONS**

**PROJECT**  
**STORM WATER POLLUTION PREVENTION PLAN**  
**INSPECTION AND MAINTENANCE REPORT**

Signature of Inspector: \_\_\_\_\_

Printed Name of Inspector: \_\_\_\_\_

Title of Inspector: \_\_\_\_\_

Qualifications of Inspector: \_\_\_\_\_

Date: \_\_\_\_\_

Current Weather Information: \_\_\_\_\_

Weather Information Since Last Inspection:

Beginning Date/Time of Last

Storm Event: \_\_\_\_\_

Duration of Last Storm Event: \_\_\_\_\_

Amount of Rainfall: \_\_\_\_\_ Inches

Discharges Since Last

Inspection/Storm Event: \_\_\_\_\_

NOTE: Inspection documents are to be maintained for a minimum of 3 years.

**PROJECT**  
**STORM WATER POLLUTION PREVENTION PLAN**  
**INSPECTION AND MAINTENANCE REPORT**

**Earth Dikes/Berms**

Is the dike stabilized? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Is there evidence of washout or over-topping? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If water is present in the drainage ports, does it:  
- Have a sheen on it? \_\_\_\_\_  
- Have an acceptable TDS? \_\_\_\_\_  
- Show excessive turbidity? \_\_\_\_\_

Maintenance required for Earthen Dike: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To be performed by: \_\_\_\_\_ On or before: \_\_\_\_\_

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

**PROJECT**  
**STORM WATER POLLUTION PREVENTION PLAN**  
**INSPECTION AND MAINTENANCE REPORT**

**Roads and Locations Where Vehicles Enter or Exit the Construction Site**

Are sediment traps or barriers along road construction zones preventing runoff into adjacent wetlands, lakes, etc.? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

At locations where construction equipment exits onto paved roads, are the existing best management practices successfully minimizing off site tracking of sediments? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Maintenance Required: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

To be performed by: \_\_\_\_\_ On or before: \_\_\_\_\_

\_\_\_\_\_

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

**PROJECT**  
**STORM WATER POLLUTION PREVENTION PLAN**  
**INSPECTION AND MAINTENANCE REPORT**

**Straw Bale and Filter Fence Barriers**

Do the barriers have tears or holes in them? \_\_\_\_\_

Are there any missing barriers? \_\_\_\_\_

Are the barriers properly aligned? \_\_\_\_\_

Where sediment has reached one-third the height of the barrier, has it been removed? \_\_\_\_\_

Have straw bales with excessive sediment saturation been replaced? \_\_\_\_\_

Maintenance required for barriers: \_\_\_\_\_

\_\_\_\_\_

To be performed by: \_\_\_\_\_ On or before: \_\_\_\_\_

**SWPPP Upgrades:**

If any deficiencies in pollution control structures or procedures were identified above, have those deficiencies been corrected and the Storm Water Management Plan modified, if appropriate? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

**PROJECT**  
**STORM WATER POLLUTION PREVENTION PLAN**  
**INSPECTION AND MAINTENANCE REPORT**

**General**

Have there been any uncontrolled releases of mud or muddy water or measurable quantities of sediment found off site? \_\_\_\_\_ Yes \_\_\_\_\_ No

If Yes, describe measures taken to clean up fugitive sediment: \_\_\_\_\_

---

---

---

---

---

---

---

If Yes, describe measures taken to prevent a future occurrence: \_\_\_\_\_

---

---

---

---

---

---

---



**PROJECT  
STORM WATER POLLUTION PREVENTION PLAN**

**INSPECTION AND MAINTENANCE REPORT**

<b>Location</b>	<b>Diversion Structure</b>	<b>Sediment Trap</b>	<b>Date Excavated</b>	<b>Date Filled</b>	<b>Date Dressed</b>	<b>Signs of Erosion</b>	<b>Stabilized ?</b>	<b>Ground Covered?</b>	<b>Date of Inspection</b>

**NOTE: If signs of erosion become apparent, stabilize by backfilling and leveling and use of mulch, sod, seeding, or other means of preventing further erosion.**

Date: \_\_\_\_\_

Inspector's Name (Print and Initial) \_\_\_\_\_

**PROJECT  
STORM WATER POLLUTION PREVENTION PLAN  
INSPECTION AND MAINTENANCE REPORT**

**Maintenance required for:**

---

---

---

To be performed by: \_\_\_\_\_ On or before: \_\_\_\_\_

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

NOTE: Inspection documents are to be retained for a minimum of 3 years.

NOTE: Check flowline trenches for the following:

Settlement below natural grade

Washouts of spoil along excavated trenches

Muddy/contaminated rainwater

Placement of spoil upslope of trench

**Unanticipated Discoveries Plan Cultural Resources, Human Remains, and  
Contaminated Media**

# **UNANTICIPATED DISCOVERIES PLAN CULTURAL RESOURCES, HUMAN REMAINS AND CONTAMINATED MEDIA**

## **Bayou Bridge Pipeline Project**

### **A. INTRODUCTION**

Bayou Bridge Pipeline, LLC (BBP) proposes to construct an approximately 162.68-miles of new 24-inch diameter crude oil pipeline that will commence south of Lake Charles, Louisiana in Calcasieu Parish, Louisiana and will terminate near St. James, Louisiana in St. James Parish, Louisiana. The proposed Project also involves the construction of two pump stations in Jefferson Davis and St. Martin parishes, Louisiana and other ancillary facilities along the proposed pipeline. This document describes the procedures for dealing with unanticipated discoveries during the course of project construction. It is intended to:

- Maintain compliance with applicable Federal and State laws and regulations during construction of the Project;
- Describe to regulatory and review agencies the procedure the Project or its representative will follow to prepare for and deal with unanticipated discoveries; and,
- Provide direction and guidance to project personnel as to the proper procedure to be followed should an unanticipated discovery occur.

### **B. PROCEDURES FOR THE UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES**

In the event that a tribal monitor or any member of the construction work force believes that a cultural resource discovery is encountered the following plan will be implemented:

1. All work within 100 feet of the discovery will immediately stop and the Environmental Inspector and the tribal Section 106 Compliance Coordinator will be notified. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the materials. A cultural resource can be prehistoric or historic and could consist of, but not be limited to, for example:
  - An accumulation of shell, burned rocks, ceramics or other subsistence related materials
  - An area of charcoal or very dark soil with artifacts
  - Stone tools, arrowheads, or dense concentrations of stone artifacts
  - A cluster of bones in association with shell, charcoal, burned rocks, stone artifacts, ceramics, or other culturally-modified items. A historic structure or assemblage of historic materials older than 50 years
2. If the project archaeologist, tribal monitor, and tribal Section 106 Compliance Coordinator

all concur that the discovery is a cultural resource, then the Environmental Inspector will take appropriate steps to protect the discovery site. This will include flagging the immediate area of discovery and stop work or exclusion zone, as well as notifying the Environmental Project Manager and/or Company Representative and the Coushatta THPO. Work in the immediate area will not resume until treatment of the discovery has been completed.

3. BBP or its representative will arrange for the discovery to be evaluated by a qualified archaeologist and the Coushatta Heritage Department. The Coushatta Heritage Department and the archaeologist will evaluate the cultural material and provide recommendations for management of the resource under the appropriate State and Federal Historic Preservation Plan.
4. The Coushatta Tribe and the project archaeologist will seek consultation with the SHPO and the United States Army Corps of Engineers (USACE) New Orleans District regarding the National Register eligibility status of the discovery. If the discovery is determined to have the potential for eligibility, the archaeologist and Coushatta Heritage Department will consult with the SHPO and USACE regarding development of the mitigation plan to be implemented. Treatment measures may include mapping, photography, sample collection, or excavation activity.
5. The project archaeologist will implement the appropriate treatment measure(s) and provide a report on its methods and results. The investigation and technical report will be performed in compliance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 CFR 44734--44737); the Advisory Council on Historic Preservation (ACHP) publication "Treatment of Archaeological Properties" (ACHP 1980); and follow the guidelines set forth by the applicable State(s) Historic Preservation Office.

### **C. PROCEDURES FOR THE UNANTICIPATED DISCOVERY OF HUMAN REMAINS**

In the event that human remains are encountered during either construction or maintenance activities, the following plan outlines the specific procedures to be followed. These procedures meet or exceed the Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects adopted by the ACHP, "Protection of Historic and Cultural Properties" (36 CFR Part 800); Procedures for the Protection of Historic Properties (33 CFR 325 Appendix C); the Archaeological and Historic Preservation Act, and Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671-683).

All activity that might disturb the remains shall cease and may not resume until authorized by appropriate law enforcement officials or the State Archaeologist. Any human remains, burial sites, or burial related materials that are discovered during construction will at all times be treated with dignity and respect.

1. The Site Manager or project archaeologist, if present, will notify BBP's Project Manager, the law enforcement agency, and the coroner of the jurisdiction where the site or remains are located within two days of the discovery. The State Archaeologist will also be contacted to assist with identifying the remains.

2. Any activity that may disturb the unmarked burial site, human skeletal remains, or burial artifacts associated with the site will immediately cease on discovery. The site will be carefully covered and secured for protection from degradation by weather or unauthorized individuals.
3. The Environmental Inspector will be responsible for taking appropriate steps to protect the discovery. This will include fencing off the immediate area of discovery and flagging the area as an exclusion zone. No activity may resume until authorized by the agency authority governing the disposition of the human remains.
4. If the unmarked burial site, human skeletal remains, or funerary objects can be shown to have ethnic affinity with a living Native American tribe, a Company Representative will notify the SHPO and USACE to assist in determining the tribe(s), if any, who may have historic ties to the region and represent descendants of any Native American remains. If direct relations to a Native American tribe are verified, the tribe will have control of the disposition of the human skeletal remains
5. If the District Coroner finds that the unmarked burial site is over 50 years old and that there is no need for a legal inquiry by their office or for a criminal investigation, and if no direct relations to any Native American tribe are found, then the SHPO will have jurisdiction of the site, human skeletal remains, and the burial artifacts.
6. In the event of Unanticipated Discovery and subsequent identification of American Indian remains, tribal members and cultural practitioners will be given the opportunity to perform ceremony for these individuals who have had their final journey interrupted.

#### **D. PROCEDURES FOR THE DISCOVERY OF CONTAMINATED MEDIA**

Indicators of possible contamination include, but are not limited to:

- Buried drums or containers, rusted or in otherwise poor condition
- Stained or otherwise discolored soil (in contrast to adjoining materials)
- Spoil material containing debris other than obvious construction material
- Chemical or hydrocarbon odors emanating from excavations
- Oily residues
- Visible sheen or other discoloration on groundwater
- Structures such as pipelines (concrete, PVC or steel) or underground storage tanks.

The EI and appropriate contractor personnel will be trained in hazard identification and worker protection and these topics will be discussed regularly in safety meetings. A contamination assessment including strategic sampling of soil and groundwater along the Project route indicated that no contamination will be encountered during construction. However pre-construction inspections shall be conducted prior to beginning work in each area of the project. In the event that contamination is encountered the following activities should take place:

1. Immediately cease construction activities within that area and notify the Environmental Inspector and Project Environmental Manager. Work in the immediate area will not resume until an assessment of the discovery has been completed and the Company has released the site. If safe to do so, the Environmental Inspector will take appropriate steps to mark (flag) off the area to identify the exclusion zone. Work in the immediate area will not resume

until an assessment discovery has been completed.

2. If potentially contaminated groundwater or soil reaches (or has the potential to reach) surface waters, booms and/or absorbent materials shall be immediately deployed to contain and reduce downstream migration of the spilled material.
3. Upon notification, the Project Environmental Manager will perform or direct a hazard assessment to determine appropriate control measures to be implemented at the specific site. Activities may include sampling vapors, soil, sediments, groundwater, and/or wipe samples of materials.
4. If warranted by the assessment, the Project Environmental Manager will notify appropriate Federal, State and Local agencies.
5. Upon evaluation of the sampling results, additional notifications may be made to coordinate a work plan for measures to be implemented in the contaminated area to resume activities in a safe, environmentally compliant, and effective manner. Measures may include additional personal protective equipment, segregation of contaminated media, treatment or off-site disposal of contaminated media.
6. All identification /characterization, handling, labeling, storage, manifesting, transportation, record keeping, and disposal of potentially contaminated materials shall be conducted in accordance with all applicable federal, state, and local regulations and guidance.

#### **E. PROJECT CONTACTS**

##### **Environmental Inspector**

Attn: TBD

Phone:

##### **Chief Inspector**

Attn: TBD

Phone:

##### **Bayou Bridge Environmental Project Manager**

Attn: C. Gus Borkland

Phone: (o) 610-859-5419 (c) 215-620-5934

##### **Bayou Bridge Project Manager**

Attn: Cary Farber

Phone: (o) 337-309-0525 (c) 337-475-4218

##### **USACE New Orleans District**

Attn: Trent Stockton, Archaeologist and Tribal Liaison

Phone: (o) 504-862-2550

##### **Louisiana Office of Cultural Development**

Attn: Chip McGimsey, State Archaeologist

1051 N. 3<sup>rd</sup> St., Room 319, Baton Rouge, LA 70802

Phone: 225-342-8170

Sherriff Contacts			
Parish	Sherriff	Address	Phone
Acadia	Wayne Melancon	1037 Capitol Ave. Crowley, LA 70526	337-788-8700
Assumption	Bruce Prejean	P.O. Box 69 Napoleonville, LA 70390	985-369-7281
Calcasieu	Tony Mancuso	5400 E. Broad St. Lake Charles, LA 70615	337-491-3715
Iberia	Louis Ackal	300 Iberia St. Suite 120 New Iberia, LA 70560	337-369-3714
Iberville	Brett Stassi	58050 Meriam St. Plaquemine, LA 70764	225-687-5100
Jefferson Davis	Ivy J. Woods	P.O. Box 863 321 E. Plaquemine St. Room 102 Jennings, LA 70546	337-824-3850
Lafayette	Michael W. Neustrom	316 West Main St. Lafayette, LA 70501	337-232-9211
St. Martin	Ronny Theriot	400 Saint Martin St. St. Martinville, LA 70582	337-394-3071
St. James	Willy J. Martin, Jr.	5800 Louisiana Hwy 44 Convent, LA 70723	225-562-2200
Vermillion	Michael. A. Couvillon	101 South State St. Abbeville, LA 70510	337-898-4409



Tribal Contacts								
Tribe	Title	Name	Address	City	State	Zip	Phone	Email
Alabama-Coushatta Tribe of Texas	Tribal Historic Preservation Officer/Tribal Historian	Bryant Celestine	571 State Park Rd. 56	Livingston	TX	77351	936-563-1100	celestine.bryant@actribe.org
Chitimacha Tribe of Louisiana	Cultural Director and Tribal Historic Preservation Officer	Kimberly Walden	P.O. Box 661	Charenton	LA	70523	337-923-9923	kswalden@chitimacha.gov
Caddo Nation of Oklahoma	Chairman/Tribal Historic Preservation Officer	Tamara Francis-Fourkiller	P.O. Box 487	Binger	OK	73009	405-656-2344	tffourkiller.cn@gmail.com
The Choctaw Nation of Oklahoma	Tribal Historic Preservation Officer	Ian Thompson	P.O. Box 1210	Durant	OK	74702	800-522-6170 ext. 2216	ithompson@choctawnation.com
Coushatta Tribe of Louisiana	Tribal Historic Preservation Officer	Linda Langley	P.O. Box 10	Elton	LA	70532	337-584-1567	llangley@mcneese.edu
Jena Band of Choctaw Indians	Tribal Historic Preservation Officer	Alina Shively	P.O. Box 14	Jena	LA	71342	318-992-1205	ashively@jenachoctaw.org
Mississippi Band of Choctaw Indians	Tribal Archaeologist and Tribal Historic Preservation Officer	Kenneth Carleton	P.O. Box 6257	Philadelphia,	MS	39350	601-650-7316	kcarleton@choctaw.org
Muscogee Creek Nation	Tribal Historic Preservation Officer	Corain Lowe-Zepeda	P.O. Box 580	Okmulgee	OK	74447	918-732-7678	clowe@mcn-nsn.gov
Seminole Tribe of Florida	Tribal Historic Preservation Officer	Paul Backhouse	30290 Josie Billie Hwy	Clewiston	FL	33440	863-983-6549 ext. 12244	paulbackhouse@semtribe.com
The Seminole Nation of Oklahoma	Tribal Historic Preservation Officer	Theodore Isham	P.O. Box 1498	Wewoka	OK	74884	405-257-7200	isham.t@sno-nsn.gov
Tunica Biloxi Tribe of Louisiana	Tribal Historic Preservation Officer	Earl Barbry Jr.	P.O. Box 1589	Marksville	LA	71351	318-253-8174	earlii@tunica.org