JEFFERSON COUNTY DRAINAGE DISTRICT NO.6

PLANS FOR Concrete Channel Repair - Phase II IFB21-022\CM



BOARD OF DIRECTORS

PRESIDENT: JOUSHUA W. ALLEN, SR.

VICE PRESIDENT: BERNIE DALEO

SECRETARY: CHARLES GUILLORY

DIRECTOR: ANTHONY MALLEY, III

DIRECTOR: CHARLES KIKER, III PROJECT: Concrete Channel Repair - Phase II

PROJECT LOCATION: Beaumont, Texas COUNTY: Jefferson County

DESCRIPTION: For the repair of concrete lined channel 114 west of I10 within the right of way

and/or easement of Jefferson County Drainage District NO.6.

GENERAL MANAGER

DR. JOSEPH G. MAJDALANI, P.E., C.F.M.

DISTRICT ENGINEER

DOUG CANANT, P.E., R.P.L.S., C.F.M.

PROJECT MANAGER

CHACE MANN



LOCATION MAP SCALE: NTS JUNE 2021

PROJECT BEGAN (ACTUAL WORK BEGAN):	DATE
PROJECT COMPLETED:	DATE
PROJECT CONSTRUCTED & FINAL PLANS:	★ CONSTRUCTION AS-BUILT
FINAL CONSTRUCTION COST:	\$
TCEQ PERMIT No.:	DD6 is MS4 Operator
GRADING PERMIT No.:	NA
STREET-CUT & BARRICADE No.:	X To Be Obtained by Contractor (TXDOT)
DRIVEWAY PERMIT No.:	NA
BUILDING PERMIT No.:	NA
ELECTRICAL PERMIT No.:	NA
OTHER PERMIT No.:	NA
TDLR PROJECT No.:	NA
TDLR INSPECTION REQUIRED:	YES NO X

6/30/21

APPROVED BY:

WALLACE R. WILSON, P.E. No.84857 SENIOR ENGINEER



THE CONTRACTOR SHALL PROVIDE AND ERECT BARRICADES AND CONSTRUCTION SIGNS IN ACCORDANCE WITH BC (1-12)-14 AND THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AT POINTS AS SHOWN ON THE TITLE SHEET AND PLAN SHEETS AND AS DIRECTED BY THE ENGINEER. REQUIRED SIGNS SHALL BE IN ACCORDANCE WITH BC(1)-04 THRU BC(12)-14 AND THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MAY, 2012).

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TITLE SHEET

G-2

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G5 ESTIMATE & QUANTITIES

CONCRETE CHANNEL DETAILS

SHEET NO. DESCRIPTION

01 DITCH 114 PLAN & CROSS SECTION 02 DITCH 114 PLAN & CROSS SECTION

DS-1 to DS-5 GENERAL REPAIR DETAILS

ENVIRONMENTAL

SHEET NO. DESCRIPTION

EC(1)-16 *TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES - FENCE AND VERTICAL TRACKING

*TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES - ROCK FILTER DAMS

EC(3)-16 *TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES - CONSTRUCTION EXITS

EC(9)-16-1 to 3 *TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES - EROSION CONTROL LOGS

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General Notes and Specifications

- 1. The Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, Adopted 17. Verify material quantities and dimensions prior to ordering materials. November 2014, will govern all specifications not directly addressed in this document.
- 2. Direct attention to comply with all ordinances and regulations of local municipal and county governments and the TCEQ (Texas Commission on Environmental Quality), which may be applicable on this project. General Construction Permit may be obtained online at https://www.tceq.texas.gov/permitting/stormwater through TCEQ. This will not be paid for directly and will be considered subsidiary to various
- Any storm water permit and associated fees required for construction of this project shall be at the contractor's expense. Also, any temporary erosion, sediment and water control measures required shall be in accordance with the details shown in the plans, and all work and materials required will not be paid for directly but considered subsidiary to various bid items. Erosion control logs are to be utilized at every inlet within the affected area of construction and should remain in place throughout the duration of construction. Contractor shall submit SW3P plan prior to the start of construction. This will not be paid for directly and will be considered subsidiary to various bid items.
- 4. Procure all the necessary city and/or county permits and licenses before the start of this project. Grading Permit may be obtained through DD6 Engineering Department. Operation hours are Monday to Friday 7:00AM to 4:00PM. This will not be paid for directly and will be considered subsidiary to various bid items.
- Before excavating near existing utilities, contact the utility companies or the utility coordinating committee for exact locations to prevent damage or interference with present facilities. Notify the utility coordinating committee and the Texas One Call System at the following numbers:

Texas One Call, toll-free 1-800-245-4545

AT&T Communications Entergy Distribution CenterPoint Energy Entex North 11th Street 6090 College 555 Main - Room 20760 Beaumont, Texas 77701 Beaumont, Texas 77701 Beaumont, Texas 77707 (409) 839-1666 (409) 785-2136 (409) 860-7111 Ray Hillin Brian Cross Robert Young

City of Beaumont City of Beaumont Spectrum Public Works-Engineering 602 N. Hwy 69 City Utilities Nederland, Texas 77627 (409) 785-4720 (409) 880-3725 (409) 720-5565 Edward Brown Molly Villarreal, P.E.

Adam LaRive

This action does not relieve the Contractor of the responsibilities under the terms of the contract or the plans and specifications. Damage caused by the Contractor's operations shall be repaired and restored to service in a timely manner at no expense to DD6.

- 6. The approximate location of the known underground utility installations is as shown on the plans. Confirm the location of these utility lines and the exact location of any others which may exist. Assume full responsibility for notifying the utility involved in case of conflict or damage and he/she shall be responsible for damage that occurs due to his/her negligence. Remove and dispose of abandoned lines encountered that interfere with the construction of this project. Consider this work to be subsidiary to the various bid items of the contract.
- 7. Allow DD6 & City forces to enter this project to accomplish work needed.
- 8. Maintain for the duration of this project, those sections of existing and proposed travel ways and appurtenances which are to be constructed, reconstructed, or modified under this project. TxDOT & City forces will maintain the existing sections of roadway and its appurtenances not a part of this project. Any portion of roadway and its appurtenances damaged by the contractor's forces shall be repaired by the contractor at their expense.
- 9. All existing paved surfaces must be kept clean throughout the course of construction. All mud/dirt accumulated on the private parking lot, driveway and adjacent roadway should be promptly removed by any means necessary. This will not be paid for directly and will be considered subsidiary to
- 10. DD6 will assume financial responsibility for damages to the existing private parking lot and driveway resulting from normal wear and tear during the course of construction. Damages outside of these areas and/or damages resulting from negligence, operator error or any other avoidable act will be the responsibility of the Contractor.
- 11. Assume ownership for all designated waste material and dispose of it at a place off of the right of way,
- 12. Take reasonable measures to avoid the death of any migratory birds, their young or their eggs.
- 13. The contractor is to have an independent lab to sample all concrete and ACP and make and test all beams and cylinders in accordance with the test methods provided for under the appropriate standard specifications for the various items. It is the responsibility of the Contractor to schedule testing with the independent lab at least 48 hours in advance. If the Contractor schedules an independent lab for testing and cancels services, the contractor will be responsible for any charges that occur for cancellation.
- 14. Material on hand will not be paid for.
- 15. Prior to final acceptance, all new and existing structures and extensions shall be cleaned and free of debris and dirt and all outfall channels unobstructed. This work will not be paid for directly but will be considered subsidiary to the various bid items.

- 16. Maintain adequate drainage throughout the limits of the project during all construction phases.

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General Notes & Specifications (Continued)

ITEM 5: CONTROL OF WORK

 Station the project prior to commencing work. Mark the stations every 100 feet. Maintain stationing throughout the duration of the project. Remove the station markings at the completion of the project. Consider this work to be subsidiary to the various bid items of the contract.

ITEM 7: LEGAL RELATIONS AND RESPONSIBILITIES

- Furnish all materials, labor and incidentals required to provide for traffic across the street and
 for temporary ingress and egress to private property in accordance with article 7.7 of the
 standard specifications at no additional cost to DD6. Consider this work to be subsidiary to
 the various bid items of the contract.
- Maintain the roadway slope stability. Temporary retaining structures or shoring may be needed. Submit design calculations, working drawings and a plan of operations including sequencing by a Licensed Professional Engineer. Maintaining slope stability is subsidiary to the various bid items.

ITEM 8: PROSECUTION AND PROGRESS

1. Compute and charge working days in accordance with Article 8.3.1.4, "Standard Workweek" & Article 8.3.1.6, "Other".

ITEM 9: MEASUREMENT AND PAYMENT

- 1. The Contractor shall submit all tickets.
- 2. DD6 will withhold a 5% retainage from each pay request.

ITEM 104: REMOVING CONCRETE

All concrete (sidewalks, driveways, slabs, riprap, pavement, etc.) will be saw cut full depth at
the break back line. Saw cuts will not be paid for directly but considered subsidiary to
various bid items.

ITEM 162: SODDING FOR EROSION CONTROL

- St. Augustine block sod will be placed along the edge of concrete repairs and disturbed right-of-way bordering private property at a width of 48". All other disturbed areas within the right-of-way will be seeded with 20 lbs. per acre Bermuda and 40 lbs. per acre Millet seed and 600lbs. per acre of 13-13-13 granulated or perlated fertilizer.
- 2. The contractor shall maintain all sodded areas as shown on the plans by watering which will be paid for according to Item 168, "Vegetative Watering".

ITEM 400: EXCAVATION AND BACKFILL FOR STRUCTURES

- The removal of abandoned and unknown structures within project limits is not paid for directly, but is considered subsidiary to Item 400.
- 2. Cement Stabilized Backfill shall consist of sand and cement only and shall consist of 3 sacks of cement per Cubic Yard of sand.

ITEM 432: Riprap

1. Use Class-A mix for concrete channels. Concrete finish will consist of a broom finish.

ITEM 500: MOBILIZATION

1. Mobilization shall not exceed ten (10) percent of the total construction items amount.

ITEM 502: BARRICADES, SIGNS AND TRAFFIC HANDLING

 Develop, implement and maintain appropriate traffic control measures in conformance with Texas Manual Of Uniform Traffic Control Devices (TMUTCD) standards to include at a minimum advanced warning signage of construction activities and flaggers to direct traffic should the need arise.

 Traffic cones should be placed within the private parking lot to clearly define a construction traffic travel route between the entrance driveway and right-of-way. Ingress and egress for adjacent business traffic should be maintained at all times.

3.

ITEM 506: Construction Exit (Install)

- 1. Ty-1 (Rocked) will not be less than 100-L.F.
- The Contractor shall also be responsible for regrading the North side of the ditch top to allow access for Contractors operations. It will be the Contractors responsibility to store the cut material on or off-site at no additional cost to the District.
- 3. All work, equipment and labor required for this item will be Lump Sum.

ITEM 506: Construction Exit (Remove)

- Once all construction activities are completed, the Contractor shall be responsible for regrading the North Side of Ditch 114 to its original condition or better.
- 2. The Contractor is responsible for preparing the site to receive sod and seed.
- A Ty-1 (Rocked) Exit installed, will be removed and site prepared to receive sod and seed.
 The Contractor shall be responsible for disposing of the rock material at no additional cost.
- 4. Payment will be Lump Sum.

ITEM 999: DEWATERING

1. Dewatering paid in-place to install and remove.

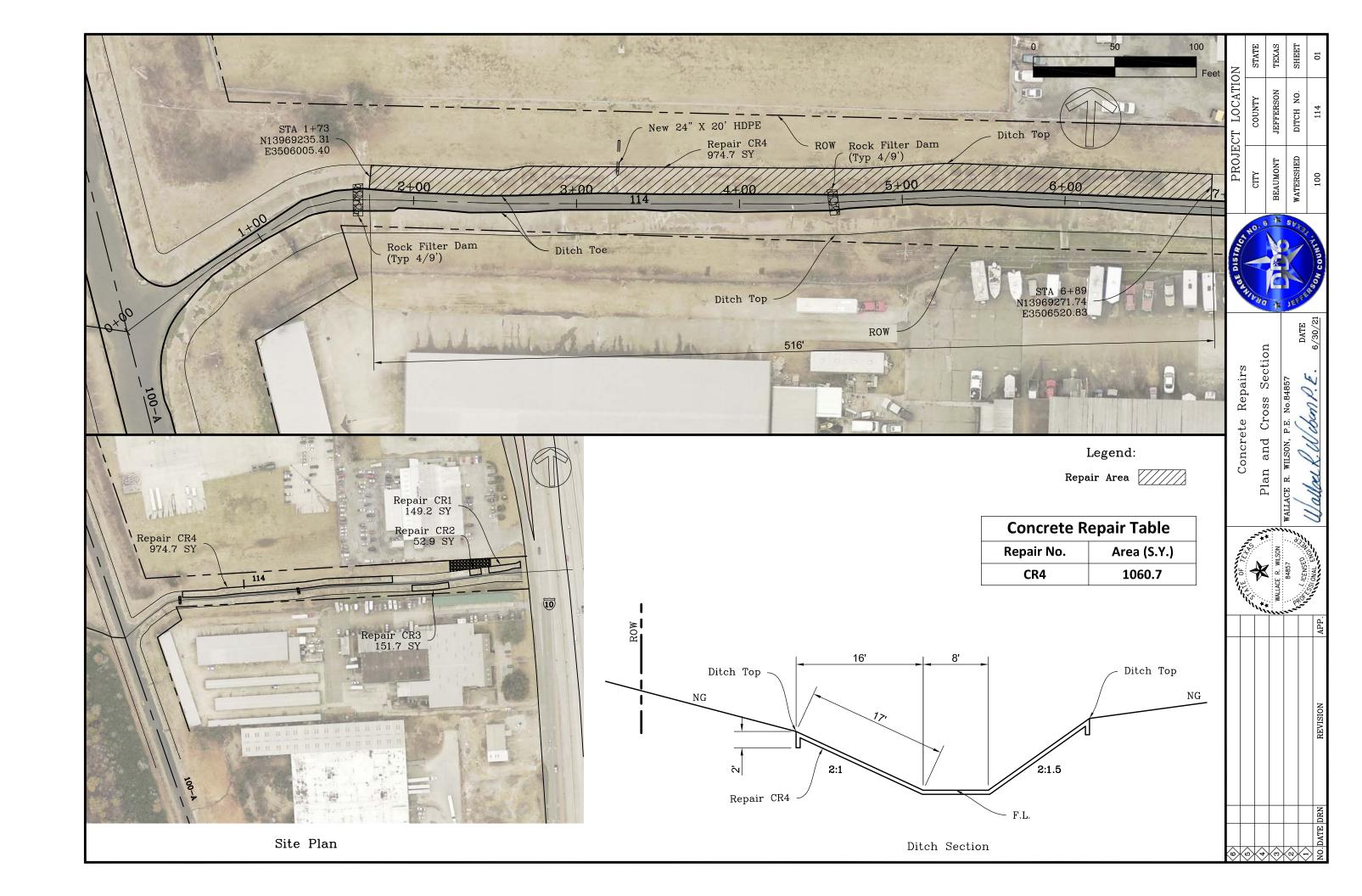
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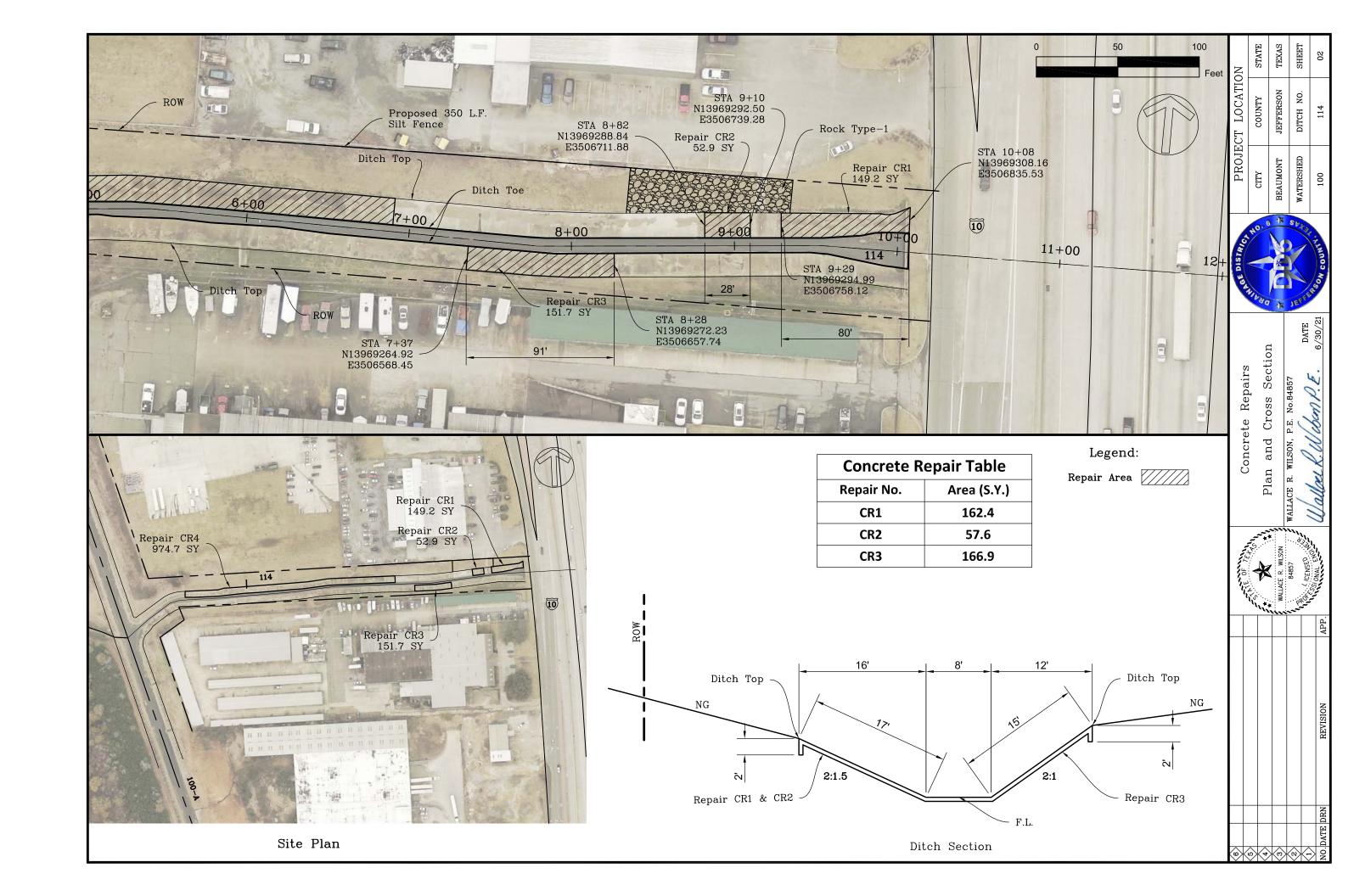
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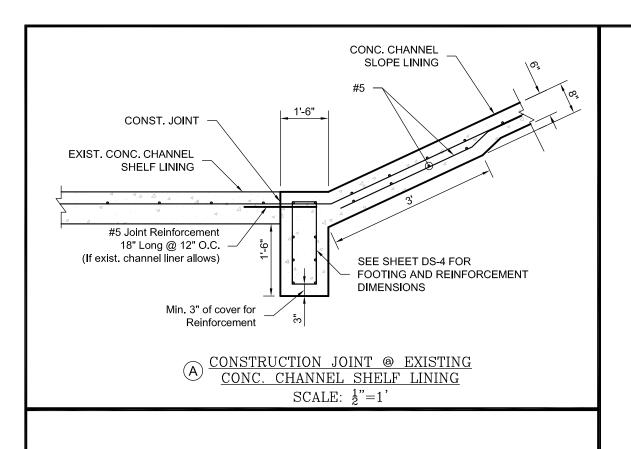
		JEFFERSON COUNTY DRAINAGE D	DISTRICT NO.6		
		Estimate & Quantities			
PRO	JECT:	IFB21-022/CM Concrete Channel Repair - Phase II (Ditch 114 - 100-	A to IH10/Hwy96/69)		
Item No.	Item Code	Description	Unit	Estimated Quantity	Final Quantity
104	001	Remove Concrete (Riprap)	S.Y.	1,450	
162	001	Sodding for Erosion Control (Ditch Top to Right of Way Line)	S.Y.	555	
164	001	Seeding for Erosion Control (Ditch Top to Right of Way Line)	S.Y.	2,500	
168	001	Vegetative Watering for Summer (12,000 Gallons/Acre per Working Day) (15 Consecutive Days) (Estimate for 1 Acres)	M.G.	180	
400	001	Excavation & Backfill for Pipe (Cement Stabilized Sand 3-Sack)	C.Y.	12	
401	001	Flowable Backfill (As Needed)	C.Y.	20	
420	001	Concrete Collar (HDPE Pipe to Various Pipe Materials)	EA.	1	
432	001	Riprap (8"-Class A) (Channels more than 8-ft deep)	S.Y.	1,450	
432	002	Riprap (8"-Class A) (Reconstruct Spillway)	S.Y.	9	
464	001	Remove Existing Pipe	L.F.	20	
464	002	Install 24" HDPE Pipe	L.F.	20	
500	001	Mobilizaton (Not to Exceed 10%)	L.S.	1	
502	001	Barricades, Signs & Traffic Handling	MO.	3	
506	001	Construction Exit (Install & Grading North Side of Ditch-114)	L.S.	1	
506	002	Construction Entrance (Remove & Grading North Side of Ditch-114)	L.S.	1	
506	003	Erosion Control-Silt Fence (Install & Remove)	L.F.	350	
506	004	Erosion Control-Rock Filter (Install & Remove)	EA.	2	
999	6001	Dewatering	EA.	4	

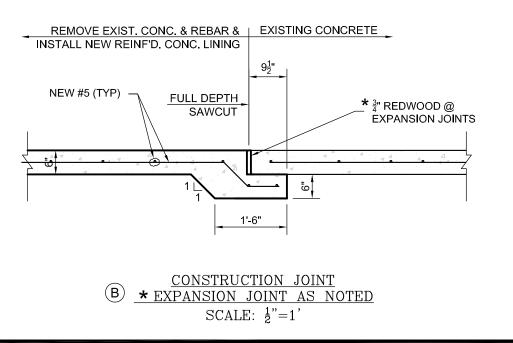
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PROJECT LOCATION	COUNTY	JEFFERSON	DITCH NO.	114
PROJE	CITY	BEAUMONT	WATERSHED	100
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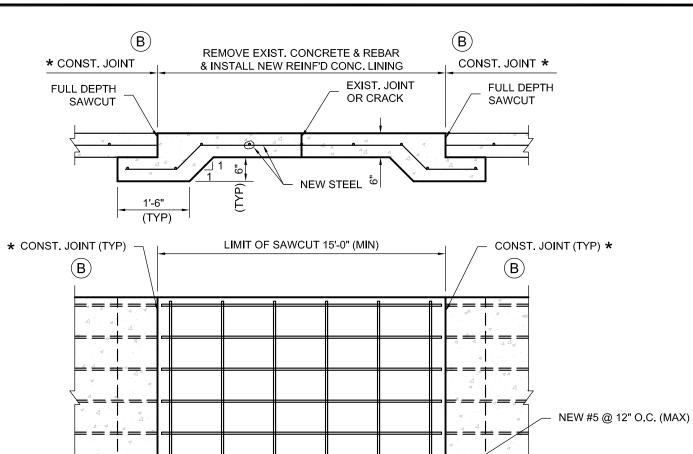
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PROJECT

Details

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Sections

General

No.84857

Concrete Repairs

NEW #5 @ 8" O.C. (MAX)

EXISTING TOE OF SLOPE

EXPANSION JOINT

 $\begin{array}{c} \hline \text{C} & \frac{\text{TYP. CONC. CHANNEL}}{\text{SLOPE LINING REPAIR}} \\ & \text{SCALE: } \frac{1}{2}\text{"}=1 \end{array}$

NOTE

* USE OF EXPANSION JOINTS IN LIEU OF CONSTRUCTION JOINTS MAY BE USED.

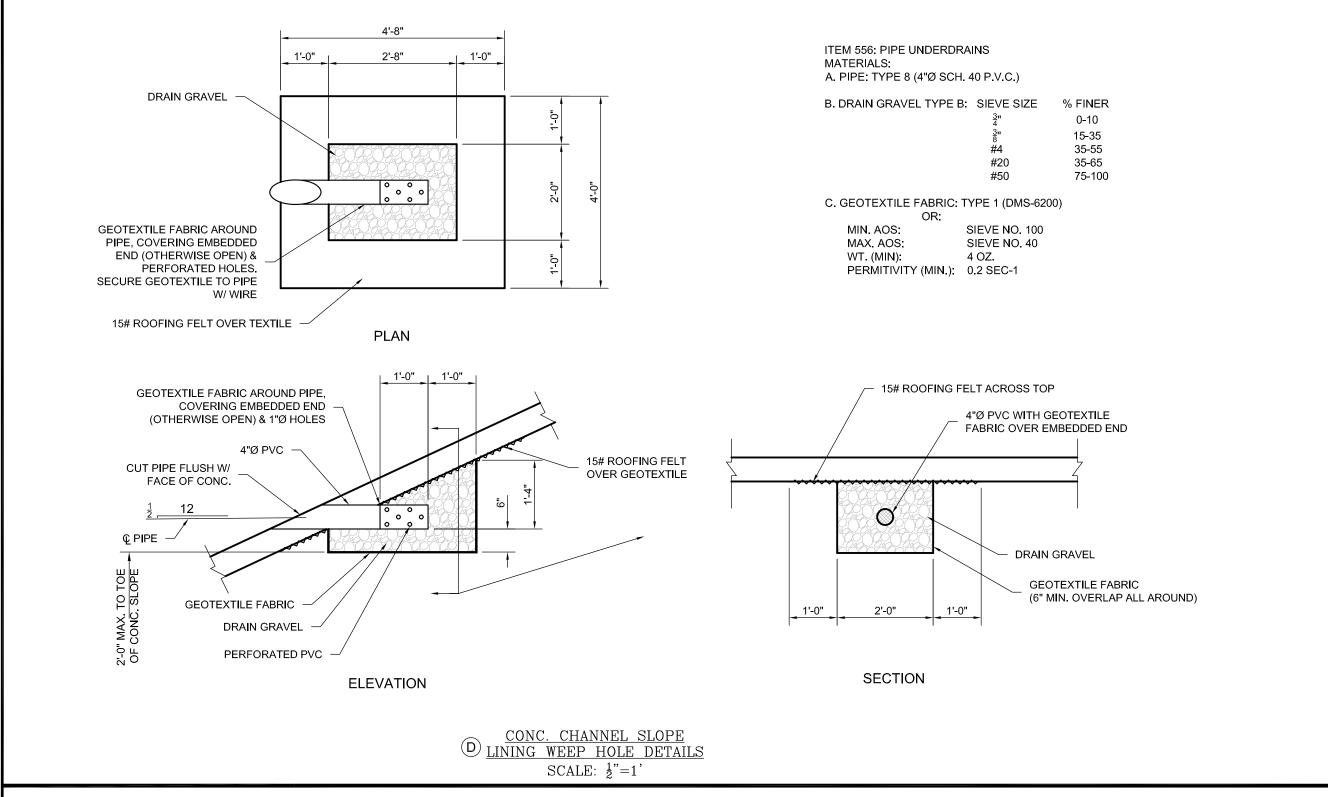
EPOXY NOTE

TENSILE STRENGTH, 7 DAYS, > 7,000 PSI (ASTM D 639) COMPRESSIVE STRENGTH, > 10,000 PSI (ASTM D 695) BOND STRENGTH, 2 DAYS, > 2015 PSI (ASTM C 882)

CONCRETE PLACEMENT NOTE

CONTRACTOR SHALL PREVENT ANY SEEPAGE OF WATER INTO REPAIR AREA BEFORE PLACING STRUCTURAL CONCRETE. NO SEPARATE PAYMENT.

*EXPAN. JOINTS WILL NOT BE SPACED MORE THAN 45'. CONTROL JOINTS WILL BE 15'.



NOTE

* USE OF EXPANSION JOINTS IN LIEU OF CONSTRUCTION JOINTS MAY BE USED.

EPOXY NOTE

TENSILE STRENGTH, 7 DAYS, > 7,000 PSI (ASTM D 639) COMPRESSIVE STRENGTH, > 10,000 PSI (ASTM D 695) BOND STRENGTH, 2 DAYS, > 2015 PSI (ASTM C 882)

CONCRETE PLACEMENT NOTE

CONTRACTOR SHALL PREVENT ANY SEEPAGE OF WATER INTO REPAIR AREA BEFORE PLACING STRUCTURAL CONCRETE. NO SEPARATE PAYMENT.

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	100	114	DSS

& Details

Concrete Repairs neral Sections & Detail

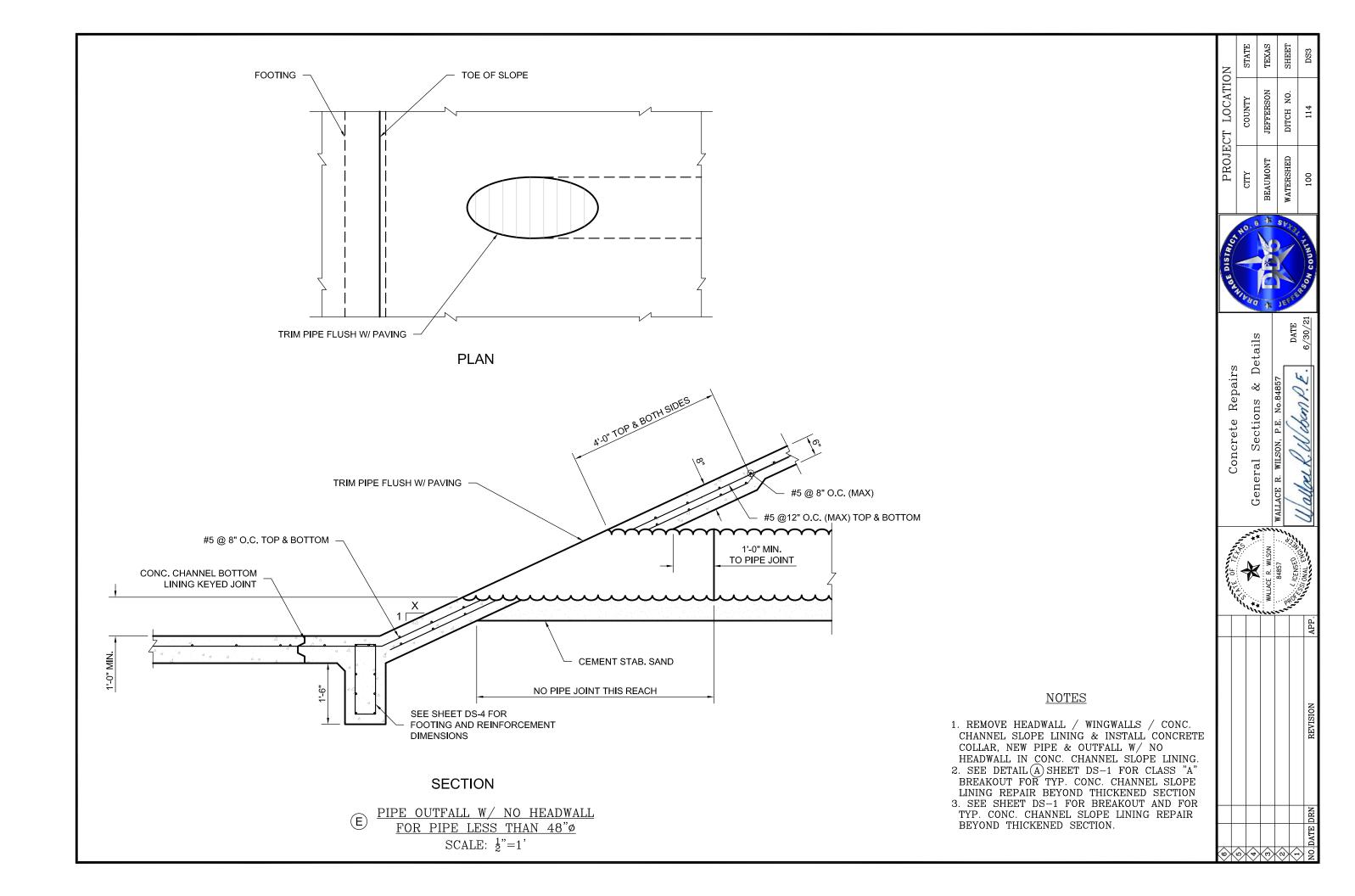
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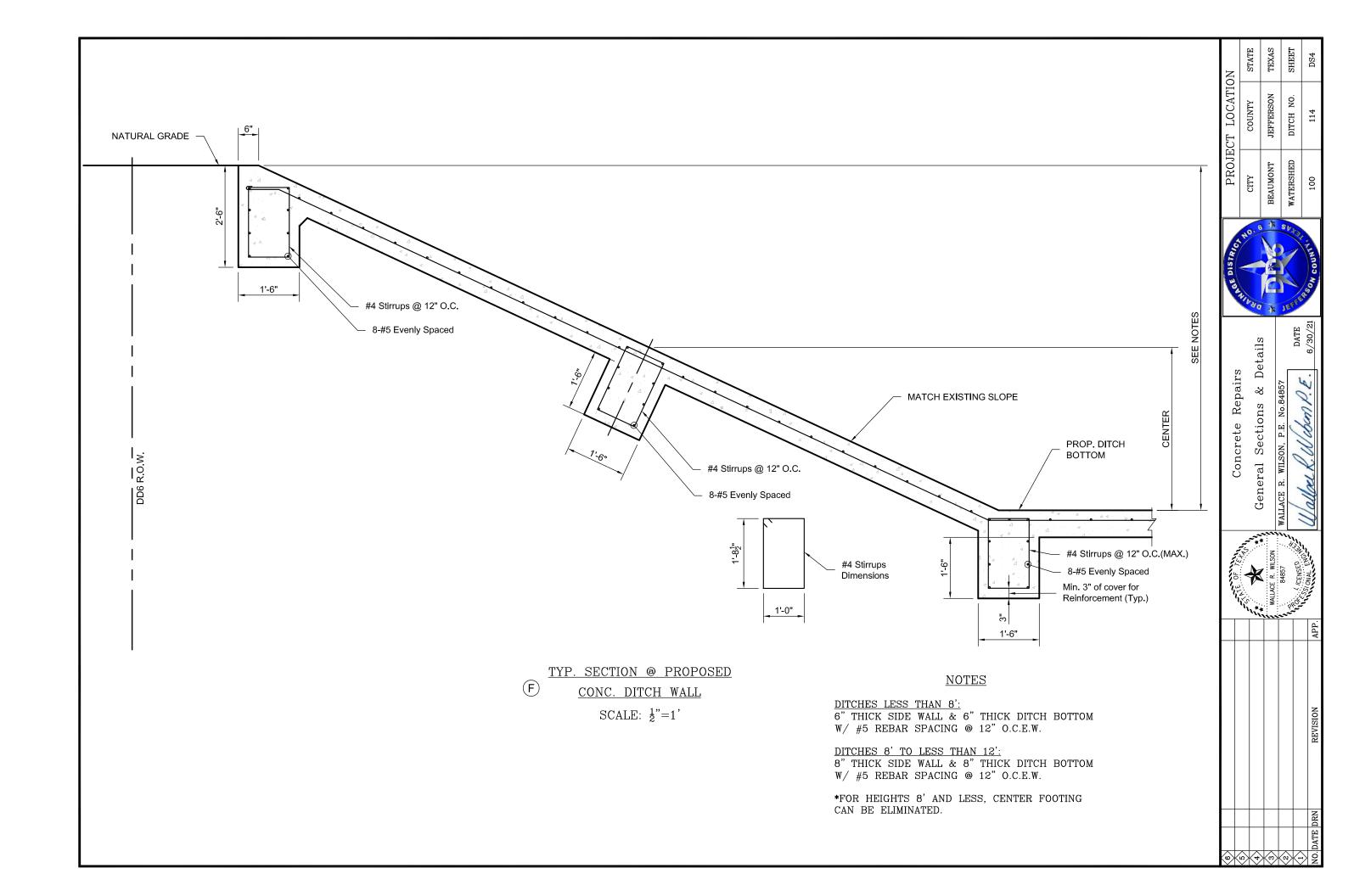
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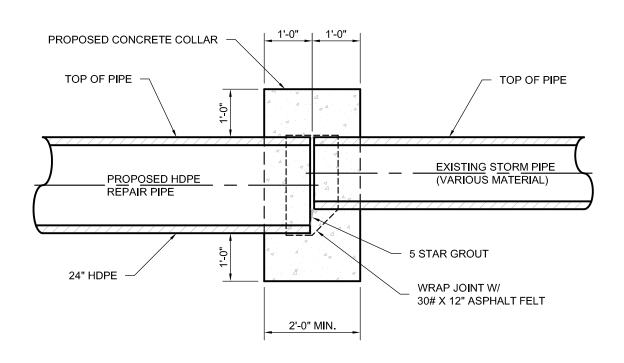
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84857

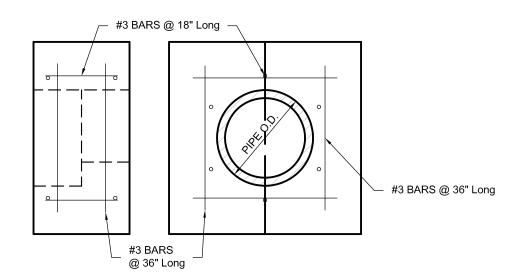
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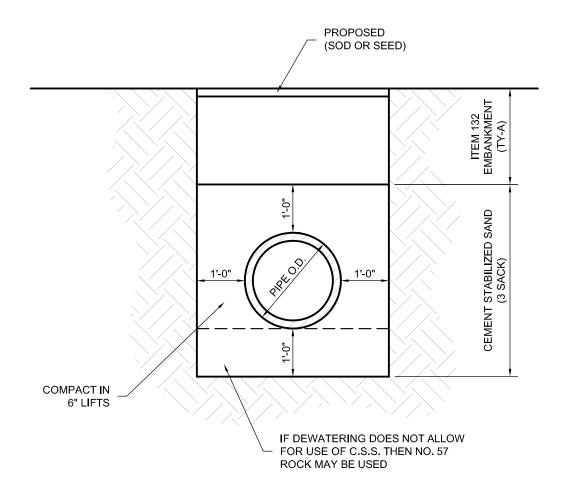




G PIPE REPAIR DETAIL SCALE: ½"=1'



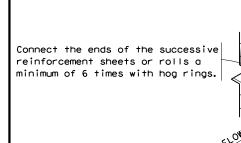
G-1) REINFORCEMENT DETAIL SCALE: NTS



H (OUTSIDE PAVEMENT)

SCALE: 1"=1"

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 4^\prime minimum steel or wood posts spaced at 6 $^\prime$ to 8 $^\prime$. Softwood posts shall be 3" minimum in diameter or nominal 2" x 4". Hardwood posts shall have a minimum cross section of 1.5" x 1.5"

Fasten fabric to the top strand of the wire using hog rings or cord at a maximum spacing of 15".

Attach the wire mesh and fabric on end posts using 4 evenly spaced staples for wooden posts (or 4 T-Clips or sewn vertical pockets for steel posts).

Galvanized welded wire mesh (W.W.M.) (12.5 GA. SWG Min.) with a maximum opening size of 2"x 4"or Woven Mesh (W.M.) (See woven mesh option detail)

fabric

Place 4" to 6" of fabric against the trench

bottom in the upstream direction.

Minimum trench size shall be 6" square.

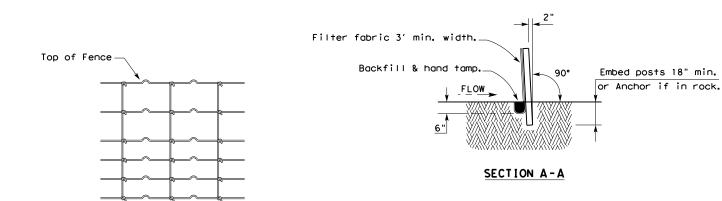
Backfill and hand tamp.

side and approximently 2" across the trench

TEMPORARY SEDIMENT CONTROL FENCE



Woven filter



HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

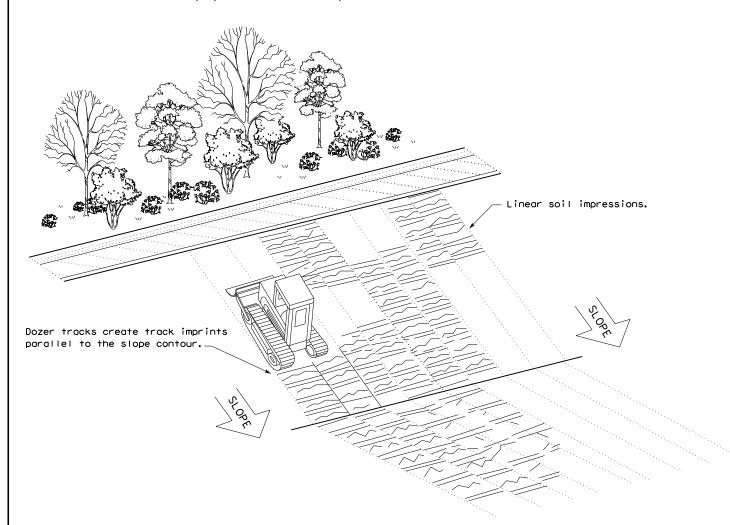
Sediment control fence should be sized to filter a maximum flow through rate of 100 ${\sf GPM/FT}^2$. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

LEGEND

Sediment Control Fence

GENERAL NOTES

- Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
- 2. Perform vertical tracking on slopes to temporarily stabilize soil.
- 3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
- 4. Do not exceed 12" between track impressions.
- 5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



VERTICAL TRACKING

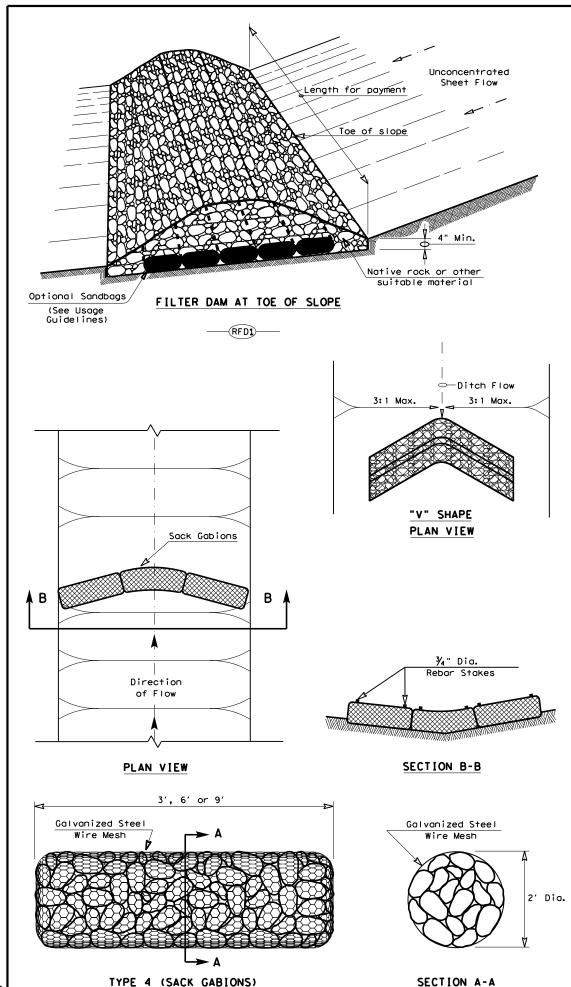


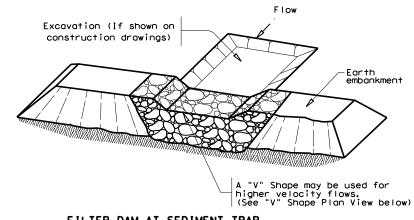
Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES FENCE & VERTICAL TRACKING

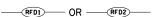
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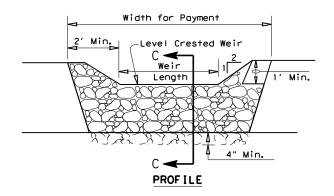
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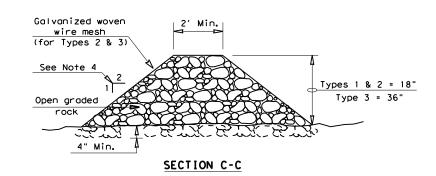




FILTER DAM AT SEDIMENT TRAP







ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 ${\sf GPM/FT^2}$ of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

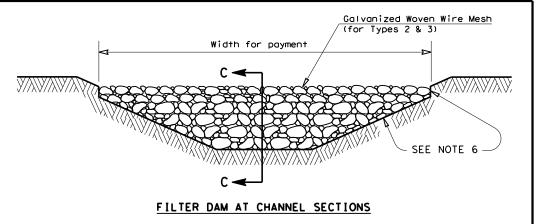
Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximently 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh) (4" to 8" aggregate): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions) (3" to 6" aggregate): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.



GENERAL NOTES

- 1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
- Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation
- 3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
- Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
- 5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
- 6. Filter dams should be embedded a minimum of 4" into existing ground.
- 7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
- 8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
- 9. Sack Gabions should be staked down with $\frac{1}{2}$ " dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 $\frac{1}{2}$ " x 3 $\frac{1}{4}$ "
- 10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
- 11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

PLAN SHEET LEGEND

Type 1 Rock Filter Dam Type 2 Rock Filter Dam Type 3 Rock Filter Dam



Type 4 Rock Filter Dam (RFD4)

TEMPORARY EROSION. SEDIMENT AND WATER POLLUTION CONTROL MEASURES

ROCK FILTER DAMS

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——(RFD4)—

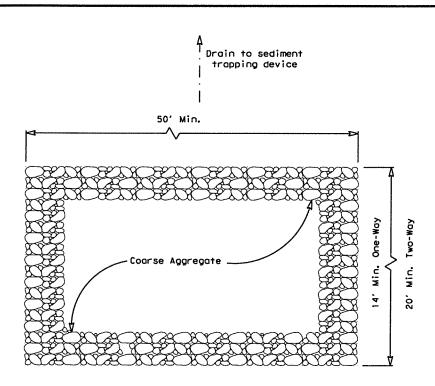
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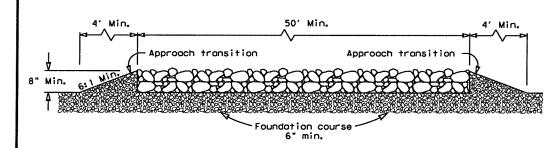
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PLAN VIEW

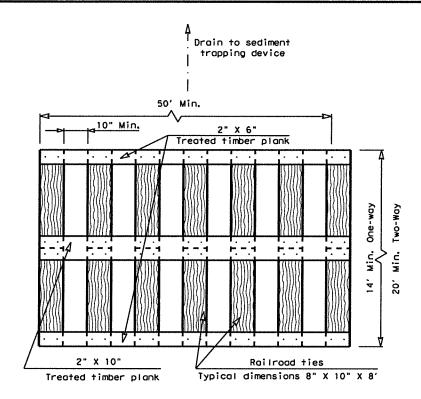


ELEVATION VIEW

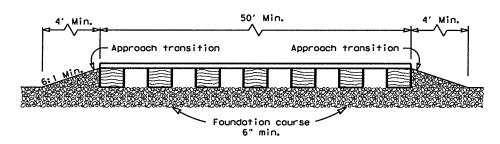
CONSTRUCTION EXIT (TYPE 1) ROCK CONSTRUCTION (LONG TERM)

GENERAL NOTES (TYPE 1)

- The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
- 2. The coarse aggregate should be open graded with a size of 4" to 8".
- The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
- The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other materials approved by the Engineer.
- The construction exit shall be graded to allow drainage to a sediment trapping device.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



PLAN VIEW

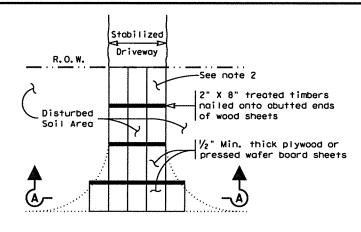


ELEVATION VIEW

CONSTRUCTION EXIT (TYPE 2) TIMBER CONSTRUCTION (LONG TERM)

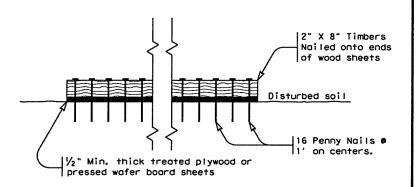
GENERAL NOTES (TYPE 2)

- The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
- The treated timber planks shall be attached to the railroad ties with ½ "x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
- The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
- The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
- The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
- The construction exit should be graded to allow drainage to a sediment trapping device.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



Paved Roadway

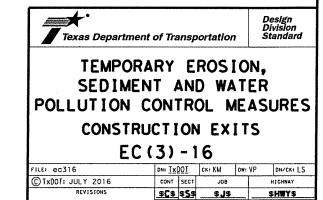
PLAN VIEW



SECTION A-A CONSTRUCTION EXIT (TYPE 3) SHORT TERM

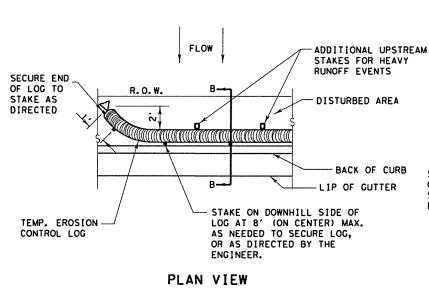
GENERAL NOTES (TYPE 3)

- The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
- The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
- The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.



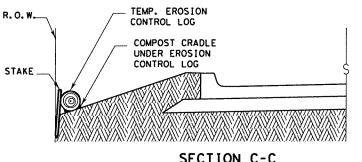
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FLOW ADDITIONAL UPSTREAM STAKES FOR HEAVY RUNOFF EVENTS SECURE END OF LOG TO STAKE LOG ON DOWNHILL STAKE AS SIDE AT THE CENTER, DIRECTED AT EACH END, AND AT ADDITIONAL POINTS AS NEEDED TO SECURE LOG (4' MAX. SPACING). OR AS DIRECTED BY THE ENGINEER. PLAN VIEW TEMP. EROSION CONTROL LOG 1' (TYP.) COMPOST CRADLE UNDER EROSION CONTROL LOG



STAKE ON DOWNHILL SIDE OF LOG AT 8' (ON CENTER) MAX. AS NEEDED TO SECURE LOG, (TYP.) OR AS DIRECTED BY THE ENGINEER. R. O. W. TEMPORARY EROSION CONTROL 1.06 FLOW DISTURBED AREA SECURE END BACK OF CURB OF LOG TO STAKE AS DIRECTED LIP OF GUTTER ADDITIONAL UPSTREAM STAKES FOR HEAVY RUNOFF EVENTS

PLAN VIEW



RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER. 2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.

3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.

GENERAL NOTES: 1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S

FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.

STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.

COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.

SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.

TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE

10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

ADDITIONAL UPSTREAM STAKES FOR HEAVY RUNOFF EVENTS SECTION A-A

TEMP. EROSION

CONTROL LOG

STAKE LOG ON DOWNHILL

SIDE AT THE CENTER,

AT EACH END, AND AT

ADDITIONAL POINTS AS

NEEDED TO SECURE LOG

AS DIRECTED BY THE

ENGINEER.

(4' MAX. SPACING), OR

EROSION CONTROL LOG DAM CL-D

LEGEND

CL-D -EROSION CONTROL LOG DAM

(cl-boc)— EROSION CONTROL LOG AT BACK OF CURB

(CL-ROW) -EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

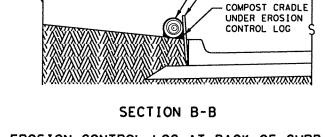
EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING (CL-SST)

EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING (CL-SSL)

 EROSION CONTROL LOG AT DROP INLET CL-DI

(CL-CI) -EROSION CONTROL LOG AT CURB INLET

(cl-gi)— EROSION CONTROL LOG AT CURB & GRATE INLET



EROSION CONTROL LOG AT BACK OF CURB (CL-BOC

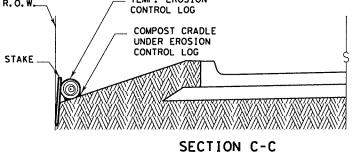
½" ±

REBAR STAKE DETAIL

TEMP. EROSION

CONTROL LOG

STAKE



EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW

MINIMUM COMPACTED DIAMETER COMPACTED DIAMETER

DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS

SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over Log Traps: the drainage area).

Control logs should be placed in the following locations:

- 1. Within drainage ditches spaced as needed or min. 500' on center
- 2. Immediately preceding ditch inlets or drain inlets
- 3. Just before the drainage enters a water course 4. Just before the drainage leaves the right of way
- 5. Just before the drainage leaves the construction

limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.

SHEET 1 OF 3

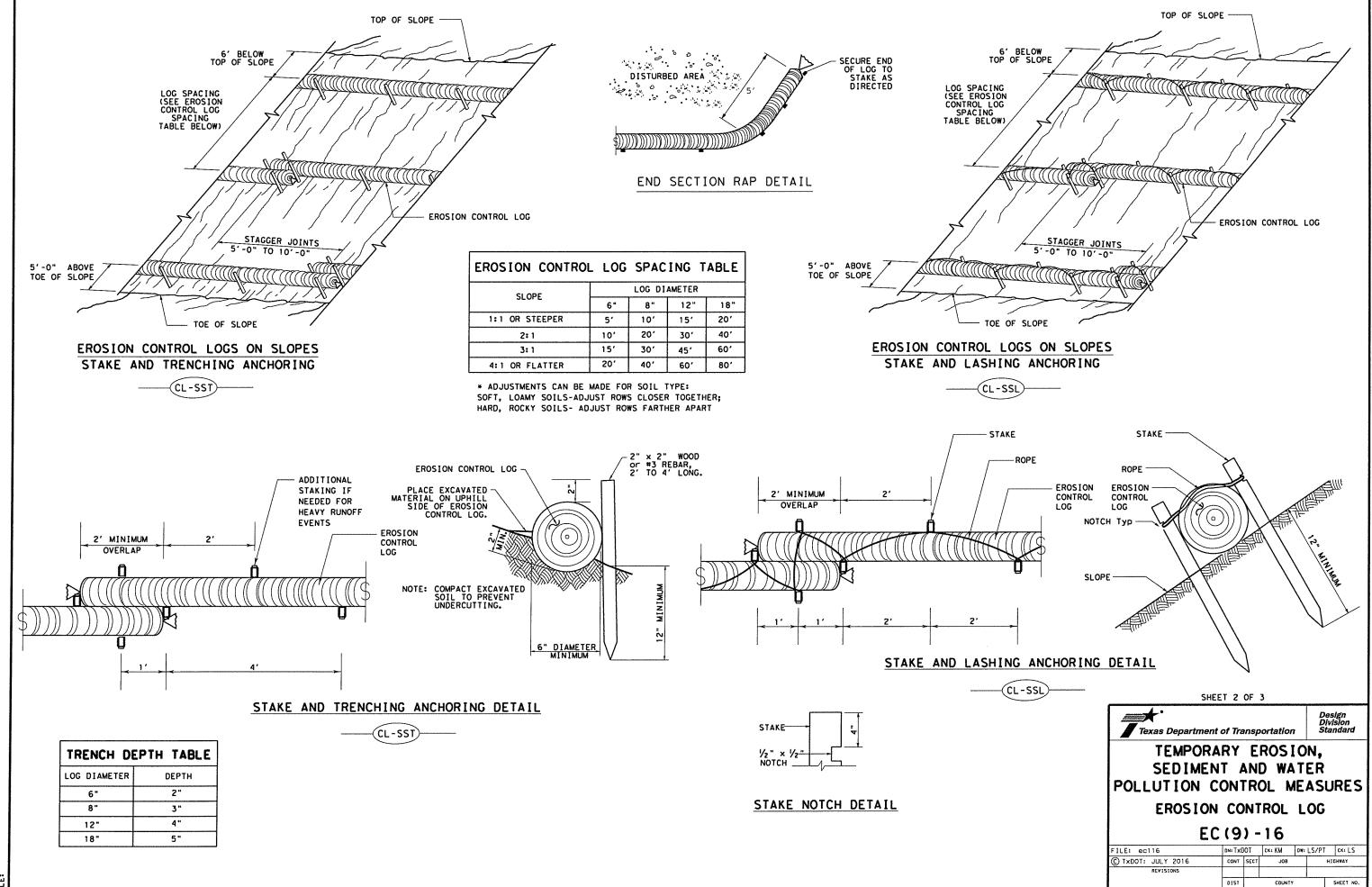


TEMPORARY EROSION. SEDIMENT AND WATER POLLUTION CONTROL MEASURES **EROSION CONTROL LOG**

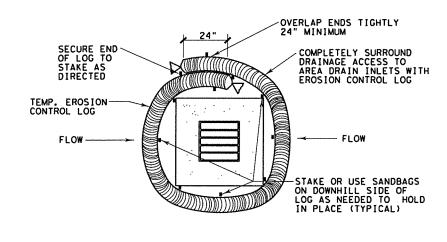
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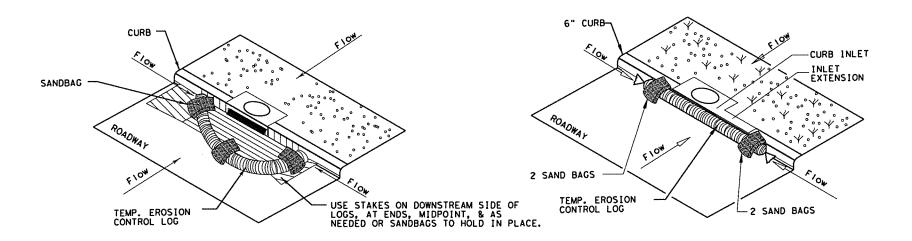
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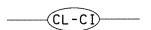


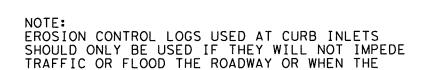
EROSION CONTROL LOG AT DROP INLET

——(CL-DI)——

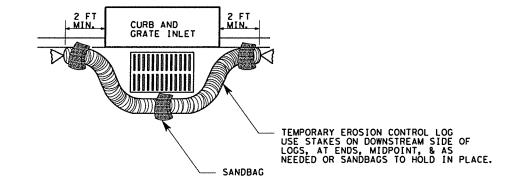
EROSION CONTROL LOG AT CURB INLET

EROSION CONTROL LOG AT CURB INLET

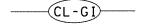


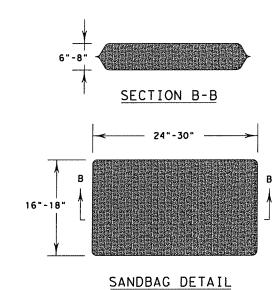


STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



EROSION CONTROL LOG AT CURB & GRADE INLET





SHEET 3 OF 3



TEMPORARY EROSION,
SEDIMENT AND WATER
POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

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