

Landscape Architecture PS & E Guide

SECTION 9

Standard Plans

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(Temporary Erosion Control Blanket)
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Standard Plans

Use of Standard Plans

Caltrans Standard Plans are approved standardized details that are applicable to the construction of highway facilities. The Standard Plans are divided into sections designated by an alpha prefix:

- “A” - Pavement delineation, excavation and backfill details, barriers, guard railing, crash cushions, fencing, curbs, dikes and curb ramps
- “P” - Pavements
- “C” - Crib walls
- “D” - Drainage items
- “H” - Planting and Irrigation
- “T” - Temporary facilities
- “B” - Bridge related work, retaining walls, and sound walls
- “RS” - Roadside signs
- “S” - Overhead signs and sign panels
- “E” - Electrical systems

All engineers and detailers should have a copy of the current Standard Plans book and be familiar with its contents.

The Standard Plans book is updated and issued at regular intervals, usually at 3-5 year intervals by the Division of Engineering Services-Office Engineer (DES-OE). The DES-OE issues new or revised standard plan sheets when the need arises. Revised Standard Plans (RSPs) replace the comparable sheets in the current edition of the book. New Standard Plans (NSPs) supplement the current edition of the book.

The standard plans applicable to a specific project are indicated by the use of the “Standard Plans List” standard special provision which is included in the project special provisions. This list is updated in conjunction with the issuance of new or revised standard plans. Where revised or new standard plans are applicable to a project, they should be indicated on the “Standard Plans List” standard special provision. DES-OE will insert the indicated applicable revised or new standard plans as plan sheets into the project plan set. For AADD projects, the district submitting the project will be responsible for the insertion of applicable revised or new standard plan sheets as part of the project plan set.

The design section responsible for the project is to verify that the applicable standard plans, revised standard plans and new standard plans are identified on the current “Standard Plans List” standard special provision sent to the DES-OE as part of the PS&E submittal.

Caltrans standard plans are available via the Caltrans DES-OE Internet web site in several electronic formats.

The MicroStation design files are provided on the web site to assist project designers where a standard plan detail does not fit a given situation and must be modified. Only the individual modified detail or details from the standard plan, not the entire standard plan detail sheet, are to be included in the applicable detail sheet of the project plan (construction details, drainage details, etc.) and labeled modified. If minimal changes are made, show only the modifications with a reference to the applicable standard plan.

For AADD projects, Caltrans personnel may access signed tiff file formats of revised and new standard plans via the Caltrans internal network for submittal of complete electronic files of the plan set.

Revised Standard Plans (RSPs) and New Standard Plans (NSPs) must be indicated in the SSP StdPln “Standard Plans List”, and included in the project plans. Headquarters Office Engineer will list these RSPs and NSPs on the “Index of Sheets” of the Title Sheet of the project plans.

Use of Standard Plans continued

The Standard Plans generally used for landscape projects are as follows:

A10A	ABBREVIATIONS (Sheet 1 of 2) (Use for ALL Highway Planting projects)	H7	PLANTING and IRRIGATION DETAILS (Use when Valve, Valve Box, Valve Box Identification, Wye Strainer, Flush Valve, Backflow Preventer Assembly, and/or Galvanized & Plastic Pipe Connection are specified in special provisions)
A10B	ABBREVIATIONS (Sheet 2 of 2) (Use for ALL Highway Planting projects)	H8	PLANTING and IRRIGATION DETAILS (Use when Backflow Preventer Assembly, or Backflow Preventer Assembly with Enclosure or Backflow Preventer Assembly Enclosure is specified)
A10C	SYMBOLS (Sheet 1 of 2) (Use for ALL Highway Planting projects)	H9	PLANTING and IRRIGATION DETAILS (Use for ALL projects, includes Points of Measurement, Maintenance Vehicle Pullout, Pipe Anchor Type I & II, Irrigation Crossover and Extend Irrigation Crossover details)
A10D	SYMBOLS (Sheet 2 of 2) (Use for ALL Highway Planting projects)	H10	IRRIGATION CONTROLLER ENCLOSURE CABINET (Use when the Irrigation Controller Enclosure Cabinets are proposed and are shown on the plans)
A20A	PAVEMENT MARKERS and TRAFFIC LINES TYPICAL DETAILS (Use when Irrigation Crossover, Extend Irrigation Crossover or Welded Steel Pipe Conduit detail is required.)	H51	EROSION CONTROL DETAILS (FIBER ROLL) (Use when Fiber Rolls are specified)
A85	CHAIN LINK FENCE (Use when Chain Link Fence or Gate[s] is required)	T3	TEMPORARY RAILING (TYPE K) (Use for all District 11 Highway Planting projects)
HI	PLANTING and IRRIGATION ABBREVIATIONS (Use on ALL projects)	T7	CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS
H2	PLANTING and IRRIGATION SYMBOLS (Use for projects with irrigation work) See Section 8 Irrigation Plans page 8 - 2 "Irrigation Legend options."	T10	TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS (Use for projects requiring lane or shoulder closures) or submit DISTRICT MODIFIED TRAFFIC CONTROL SYSTEM sheet (to be used as an alternate to T 10 above)
H3	PLANTING and IRRIGATION DETAILS (Use when Basin Type I, II and/or III are shown on PLANT LIST)	RS1	ROADSIDE SIGNS, TYPICAL INSTALLATION DETAILS NO. 1 (Use when Construction Area Signs are used)
H4	PLANTING and IRRIGATION DETAILS (Use when Tree Staking, Vine Staking, Root Protector and/or Foliage Protector, Core Hole (Plant) are shown on PLANT LIST and/or specified in special provisions)	RS2	ROADSIDE SIGNS - WOOD POST, TYPICAL INSTALLATION DETAILS NO. 2 (Use when Construction Area Signs are used)
H5	PLANTING and IRRIGATION DETAILS (Use when Riser Type I, II, III, IV, V and/or VI are shown in SPRINKLER SCHEDULE or specified in special provisions)		
H6	PLANTING and IRRIGATION DETAILS (Use when Sprinkler Protector Type I and/or II, Swing Joint Type I, II and/or III, and/or Riser Support are shown in SPRINKLER SCHEDULE)		

Use of Standard Plans continued

ES-1A	ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS) (Use on ALL projects which have proposed 110v or 220 v electrical work)
ES-1B	ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS) (Use on ALL projects which have proposed 110v or 220 v electrical work)
ES-1C	ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS) (Use on ALL projects which have proposed 110v or 220 v electrical work)
ES-8	ELECTRICAL SYSTEMS (PULL BOX DETAILS) (Use on ALL projects which have proposed 110v or 220 v electrical work)
ES-XX	(Consult District Traffic/Electrical, HQ Structure Design or appropriate discipline for applicable Standard Plans that supplement plans for Electrical Service (Irrigation) and Booster Pump)
ES-3H	SIGNAL, LIGHTING AND ELECTRICAL SYSTEMS IRRIGATION CONTROLLER ENCLOSURE CABINET (Use when specifying irrigation controllers installed in a cabinet)
ES-13A	ELECTRICAL SYSTEMS (SPLICING DETAILS) (Use on ALL projects which have proposed low voltage, 110 v or 220 v electrical work)

Other Detail Sheets

Structures:

xs4-210	SLOPE PAVING – FULL SLOPE (Use on Highway Planting projects separate from road construction when a slope under a bridge needs to be paved. This detail is currently only in metric and has not been converted to US Customary Units.
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TEMPORARY WATER POLLUTION CONTROL DETAILS
(These details are used on an as need basis depending on project needs)

T51	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY SILT FENCE) (Use when specifying temporary silt fence)
T52	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY STRAW BALE BARRIER) (Use when specifying temporary silt straw bale barrier)
T53	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY COVER) (Use when specifying temporary cover on slopes or stockpiles)
T54	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY EROSION CONTROL BLANKET) (Use when specifying temporary erosion control blanket on slopes)
T55	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY EROSION CONTROL BLANKET) (Use when specifying temporary erosion control blanket in v-ditches, trapazoidal ditch or swales)
T56	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL) (Use when specifying temporary fiber rolls Type 1 or 2 on slopes)
T57	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY CHECK DAM) (Use when specifying temporary check dams Type 1 or 2 on slopes)
T58	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY CONSTRUCTION ENTRANCE) (Use when specifying temporary construction entrance)
T59	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY CONCRETE WASHOUT FACILITY) (Use when specifying temporary concrete washout facility)

USE WITH 2006 STANDARDS.

Do not include the Standard Plans List in the project plans. Division of Engineering Services, Office Engineer will add RSP and NSP sheets in the project plans, except for an AADD project, the District will add RSP and NSP sheets in the project plans. Sheet numbers are included on the Title Sheet Index under the heading, "Revised and New Standard Plans."

Instructions for editing: Click in the left margin to select Standard Plan sheets to be included (the entire row must be selected). Use "StrikeHide no initials" key to select or undo a previous selection.

Standard Plans List

The Standard Plan sheets applicable to this contract include, but are not limited to those indicated below. Applicable Revised Standard Plans (RSP) and New Standard Plans (NSP) indicated below are included in the project plans as individual Standard Plan sheets.

ACRONYMS, ABBREVIATIONS AND SYMBOLS

A10A	Acronyms and Abbreviations (Sheet 1 of 2)
A10B	Acronyms and Abbreviations (Sheet 2 of 2)
A10C	Symbols (Sheet 1 of 2)
A10D	Symbols (Sheet 2 of 2)

~~PAVEMENT MARKERS, TRAFFIC LINES, AND PAVEMENT MARKINGS~~

A20A	Pavement Markers and Traffic Lines, Typical Details
A20B	Pavement Markers and Traffic Lines, Typical Details
A20C	Pavement Markers and Traffic Lines, Typical Details
A20D	Pavement Markers and Traffic Lines, Typical Details
A24A	Pavement Markings—Arrows
A24B	Pavement Markings—Arrows
A24C	Pavement Markings—Symbols and Numerals
A24D	Pavement Markings—Words
A24E	Pavement Markings—Words and Crosswalks

~~RUMBLE STRIP~~

A40A	Shoulder Rumble Strip Details—Rolled-In Indentations
A40B	Shoulder Rumble Strip Details—Ground-In Indentations

~~EXCAVATION AND BACKFILL~~

A62A	Excavation and Backfill—Miscellaneous Details
A62B	Limits of Payment for Excavation and Backfill—Bridge Surcharge and Wall
A62C	Limits of Payment for Excavation and Backfill—Bridge

A62D	Excavation and Backfill—Concrete Pipe Culverts
RSP A62DA	Excavation and Backfill—Concrete Pipe Culverts
A62E	Excavation and Backfill—Cast-In-Place Reinforced Concrete Box and Arch Culverts
A62F	Excavation and Backfill—Metal and Plastic Culverts
	PORTABLE CONCRETE BARRIER
A63A	Portable Concrete Barrier (Type 60K)
A63B	Portable Concrete Barrier (Type 60K)
	OBJECT MARKERS, DELINEATORS, CHANNELIZERS AND BARRICADES
A73A	Object Markers
A73B	Markers
A73C	Delineators, Channelizers and Barricades
	SURVEY MONUMENTS
RSP A74	Survey Monuments
	CONCRETE BARRIER TYPE 60 SERIES
A76A	Concrete Barrier Type 60
A76B	Concrete Barrier Type 60
A76C	Concrete Barrier Type 60E
A76D	Concrete Barrier Type 60G
A76E	Concrete Barrier Type 60G
A76F	Concrete Barrier Type 60GE
A76G	Concrete Barrier Type 60S
A76H	Concrete Barrier Type 60S
A76I	Concrete Barrier Type 60SE
	CONCRETE BARRIER WILDLIFE PASSAGEWAY
A76J	Concrete Barrier—Wildlife Passageway (Type S)
A76K	Concrete Barrier—Wildlife Passageway (Type M)
A76L	Concrete Barrier—Wildlife Passageway (Type L)
	METAL BEAM GUARD RAILING—STANDARD RAILING SECTIONS
A77A1	Metal Beam Guard Railing—Standard Railing Section (Wood Post with Wood Block)
A77A2	Metal Beam Guard Railing—Standard Railing Section (Steel Post with Notched Wood or Notched Recycled Plastic Block)
A77B1	Metal Beam Guard Railing—Standard Hardware
A77C1	Metal Beam Guard Railing—Wood Post and Wood Block Details
A77C2	Metal Beam Guard Railing Steel Post, Notched Wood Block and Notched Recycled Plastic Block Details
A77C3	Metal Beam Guard Railing—Typical Line Post Embedment and Hinge Point Offset Details

- ~~A77C4 Metal Beam Guard Railing—Typical Railing Delineation and Dike Positioning Details~~
- ~~NSP A77C5 Metal Beam Guard Railing—Typical Vegetation Control Standard Railing Section~~
- ~~NSP A77C6 Metal Beam Guard Railing—Typical Vegetation Control for Terminal System End Treatments~~
- ~~NSP A77C7 Metal Beam Guard Railing—Typical Vegetation Control at Structure Approach and Departure~~
- ~~NSP A77C8 Metal Beam Guard Railing—Typical Vegetation Control at Fixed Object~~
- ~~NSP A77C9 Metal Beam Guard Railing—Typical Vegetation Control at Fixed Object~~
- ~~NSP A77C10 Metal Beam Guard Railing—Typical Vegetation Control at Fixed Object~~
- ~~METAL BEAM GUARD RAILING—TYPICAL LAYOUTS FOR EMBANKMENTS~~
- ~~A77E1 Metal Beam Guard Railing—Typical Layouts for Embankments~~
- ~~A77E2 Metal Beam Guard Railing—Typical Layouts for Embankments~~
- ~~A77E3 Metal Beam Guard Railing—Typical Layouts for Embankments~~
- ~~A77E4 Metal Beam Guard Railing—Typical Layouts for Embankments~~
- ~~A77E5 Metal Beam Guard Railing—Typical Layouts for Embankments~~
- ~~A77E6 Metal Beam Guard Railing—Typical Layouts for Embankments~~
- ~~METAL BEAM GUARD RAILING—TYPICAL LAYOUTS FOR STRUCTURES~~
- ~~A77F1 Metal Beam Guard Railing—Typical Layouts for Structure Approach~~
- ~~A77F2 Metal Beam Guard Railing—Typical Layouts for Structure Approach and Between Structures~~
- ~~A77F3 Metal Beam Guard Railing—Typical Layouts for Structure Approach~~
- ~~A77F4 Metal Beam Guard Railing—Typical Layouts for Structure Departure~~
- ~~A77F5 Metal Beam Guard Railing—Typical Layouts for Structure Departure~~
- ~~METAL BEAM GUARD RAILING—TYPICAL LAYOUTS FOR FIXED OBJECTS~~
- ~~A77G1 Metal Beam Guard Railing—Typical Layouts for Fixed Objects between Separate Roadbeds (Two-Way Traffic)~~
- ~~A77G2 Metal Beam Guard Railing—Typical Layouts for Fixed Objects between Separate Roadbeds (One-Way Traffic)~~
- ~~A77G3 Metal Beam Guard Railing—Typical Layouts for Roadside Fixed Objects~~
- ~~A77G4 Metal Beam Guard Railing—Typical Layouts for Roadside Fixed Objects~~
- ~~A77G5 Metal Beam Guard Railing—Typical Layouts for Roadside Fixed Objects~~
- ~~A77G6 Metal Beam Guard Railing—Typical Layouts for Roadside Fixed Objects~~
- ~~A77G7 Metal Beam Guard Railing—Typical Layouts for Roadside Fixed Objects~~
- ~~A77G8 Metal Beam Guard Railing—Typical Layouts for Roadside Fixed Objects~~
- ~~METAL BEAM GUARD RAILING—END ANCHORAGE AND RAIL TENSIONING ASSEMBLY~~
- ~~A77H1 Metal Railing—End Anchor Assembly (Type SFT)~~

A77H2	Metal Railing—Rail Tensioning Assembly
A77H3	Metal Railing—Anchor Cable and Anchor Plate Details
A77H1	Metal Railing—End Anchor Assembly (Type CA)
A77I2	Metal Beam Guard Railing—Buried Post End Anchor
	METAL BEAM GUARD RAILING—CONNECTIONS DETAILS AND
	TRANSITION RAILING TO BRIDGE RAILINGS, ABUTMENTS AND
	WALLS
A77J1	Metal Beam Guard Railing—Connections to Bridge Railings without
	Sidewalks Details No. 1
A77J2	Metal Beam Guard Railing—Connections to Bridge Railings without
	Sidewalks Details No. 2
A77J3	Metal Beam Guard Railing—Connections to Abutments and Walls
A77J4	Metal Beam Guard Railing—Transition Railing (Type WB)
A77K1	Metal Beam Guard Railing—Connections to Bridge Railings with
	Sidewalks Details No. 1
A77K2	Metal Beam Guard Railing—Connections to Bridge Railings with
	Sidewalks Details No. 2
	METAL BEAM GUARD RAILING—TERMINAL SYSTEM END
	TREATMENT
A77L1	Metal Beam Railing—Terminal System (Type SRT)
A77L2	Metal Beam Railing—Terminal System (Type SKT)
A77L3	Metal Beam Railing—Terminal System (Type ET)
A77L4	Metal Beam Railing—Terminal System (Type CAT)
A77L5	Metal Beam Railing—Terminal System (Type FLEAT)
	THREE BEAM BARRIER—STANDARD BARRIER SECTIONS
A78A	Thrie Beam Barrier—Standard Barrier Railing Section (Wood Post with
	Wood Block)
A78B	Thrie Beam Barrier—Standard Barrier Railing Section (Steel Post with
	Notched Wood Block or Notched Recycled Plastic Block)
A78C1	Thrie Beam Barrier—Standard Hardware Details
A78C2	Thrie Beam Barrier—Post and Block Details
NSP A78C3	Single Thrie Beam Barrier—Typical Vegetation Control Standard
	Barrier Railing Section
NSP A78C4	Double Thrie Beam Barrier—Typical Vegetation Control Standard
	Barrier Railing Section
NSP A78C5	Thrie Beam Barrier—Typical Vegetation Control at Fixed Objects in
	Median
NSP A78C6	Thrie Beam Barrier—Typical Vegetation Control at Structure Approach
	THREE BEAM BARRIER AT FIXED OBJECTS AND ON BRIDGE
A78D1	Thrie Beam Barrier—at Fixed Objects in Median
A78D2	Double Thrie Beam Barrier—on Bridge

~~THREE BEAM BARRIER—END ANCHORAGE END TREATMENT
AND EMERGENCY PASSEAGEWAY~~

~~A78E1 Single Thrie Beam Barrier—End Anchor Assembly and Terminal System
End Treatment~~

~~A78E2 Double Thrie Beam Barrier—Emergency Passageway and End Anchor
Assembly Details~~

~~A78E3 Double Thrie Beam Barrier—Crash Cushion End Treatment~~

~~THREE BEAM BARRIER—CONNECTIONS TO BRIDGE RAILINGS,
ABUTMENTS, WALLS AND BARRIER~~

~~A78F1 Double Thrie Beam Barrier—Connection to Bridge Railings without
Sidewalks~~

~~A78F2 Single Thrie Beam Barrier—Connections to Bridge Railings without
Sidewalks~~

~~A78G Single Thrie Beam Barrier—Connections to Abutments and Walls~~

~~A78H Thrie Beam Barrier—Typical Layout for Connection to Bridge Railing~~

~~A78I Double Thrie Beam Barrier—Connection to Concrete Barrier~~

~~THREE BEAM BARRIER—TRANSITION RAILING~~

~~A78J Single Thrie Beam Barrier—Transition Railing (Type STB)~~

~~A78K Double Thrie Beam Barrier—Transition Railing (Type DTB)~~

~~CRASH CUSHIONS~~

~~A81A Crash Cushion, Sand Filled (Unidirectional)~~

~~A81B Crash Cushion, Sand Filled (Unidirectional)~~

~~A81C Crash Cushion, Sand Filled (Bidirectional)~~

~~A82A1 Crash Cushion (Type CAT)~~

~~A82B1 Crash Cushion (Type ADIEM)~~

~~A82C1 Crash Cushion (Type React 9CBB)~~

~~A82C2 Crash Cushion (Type React 9CBB)—Backup Block Details~~

~~A82C3 Crash Cushion (Type React 9CBB)—Concrete Barrier Transition Details~~

~~A82D1 Crash Cushion (Type React 9SCBS)~~

~~RSP A82D2 Crash Cushion (Type React 9SCBS)—Connection to Concrete Barrier~~

~~A82D3 Crash Cushion (Type React 9SCBS)—Alignment Offset Details~~

~~A82D4 Crash Cushion (Type React 62B060)~~

~~FENCES~~

~~A85 Chain Link Fence~~

~~A86 Barbed Wire and Wire Mesh Fences~~

~~CURBS, DRIVEWAYS, DIKES, CURB RAMPS AND ACCESSIBLE
PARKING~~

~~RSP A87A Curbs and Driveways~~

~~A87B Asphalt Concrete Dikes~~

~~RSP A88A Curb Ramp Details~~

~~A88B Curb Ramp and Island Passageway Details~~

A90A	Accessible Parking—Off-Street
A90B	Accessible Parking—On-Street
PAVEMENTS	
P1	Jointed Plain Concrete Pavement
P2	Jointed Plain Concrete Pavement—Widened Slab Details
RSP-P3	Jointed—Plain—Concrete—Pavement——Nondoweled—Shoulder Addition/Reconstruction
P7	Dowel Bar Retrofit (Existing Concrete Jointed Plain Pavement)
RSP-P8	Jointed Plain Concrete Pavement—Individual Slab Replacement
P10	Concrete Pavement—Dowel Bar Details
RSP-P12	Concrete Pavement—Dowel Bar Basket Details
RSP-P17	Concrete Pavement—Tie Bar Basket Details
RSP-P18	Concrete Pavement—Lane Schematics and Isolation Joint Detail
P20	Concrete Pavement—Joint Details
P30	Concrete Pavement—End Panel Pavement Transitions
P33	Concrete Pavement—Lane Drop Paving Details
P35	Concrete Pavement—Ramp Gore Area Paving Details
P45	Concrete Pavement—Drainage Inlet Details No. 1
P46	Concrete Pavement—Drainage Inlet Details No. 2
P70	Asphalt Concrete Paving (Longitudinal Tapered Notched Wedge Joint)
CRIB WALLS	
C7A	Reinforced Concrete Crib Wall—Battered Wall—Types A, B and C
C7B	Reinforced Concrete Crib Wall—Battered Wall—Types D, E and F
C7C	Reinforced Concrete Crib Wall—Vertical Wall—Types A, B and C
C7D	Reinforced Concrete Crib Wall—Vertical Wall—Types D, E and F
C7E	Reinforced Concrete Crib Wall—Types A, B, C, D, E and F—Header and Stretcher Details
C7F	Design Data for Reinforced Concrete Crib Wall—Foundation Pressure—Battered Wall
C7G	Reinforced Concrete Crib Wall—Foundation Pressure—Vertical Wall
C8A	Steel Crib Wall Construction Details
C8B	Steel Crib Wall—Design Data
C8C	Steel Crib Wall—Design Data
C9A	Timber Crib Wall—Types A, B, C and D
C9B	Timber Crib Wall—Types A, B, C and D—Design Data
DRAINAGE INLETS, PIPE INLETS AND GRATES	
D72	Drainage Inlets
D73	Drainage Inlets
D74A	Drainage Inlets
RSP-D74B	Drainage Inlets

D74C	Drainage Inlets Details
D75A	Steel Pipe Inlets
D75B	Concrete Pipe Inlets
D75C	Pipe Inlets—Ladder and Trash Rack Details
D77A	Grate Details
D77B	Bicycle-Proof Grate Details
D77C	Alternative Hinged Cover for Type OL and OS Inlets and Trash Rack for Type OCP Inlet

~~GUTTER AND INLET DEPRESSIONS~~

D78A	Gutter Depressions
D78B	Inlet Depressions—Concrete Shoulders
D78C	Inlet Depressions—Asphalt Concrete Shoulders

~~CONCRETE PIPE—DIRECT DESIGN METHOD~~

D79	Precast Reinforced Concrete Pipe—Direct Design Method
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~~BOX CULVERTS~~

D80	Cast-In-Place Reinforced Concrete—Single Box Culvert
D81	Cast-In-Place Reinforced Concrete—Double Box Culvert
D82	Cast-In-Place Reinforced Concrete Box Culvert—Miscellaneous Details
D84	Box Culvert Wingwalls—Types A, B and C
D85	Box Culvert Wingwalls—Types D and E
D86A	Box Culvert Warped Wingwalls

~~PIPE AND ARCH CULVERT—ENDWALLS AND WARPED WINGWALLS~~

D86B	Pipe Culvert Headwalls, Endwalls and Warped Wingwalls
D86C	Arch Culvert Headwalls, Endwalls and Warped Wingwalls

~~PIPE DOWNDRAINS, ANCHORAGE SYSTEMS AND OVERSIDE DRAINS~~

D87A	Corrugated Metal Pipe Downdrain Details
D87B	Plastic Pipe Downdrain Details
D87C	Cable Anchorage System
D87D	Overside Drains

~~CONSTRUCTION LOADS ON CULVERTS AND STRUT DETAILS~~

D88	Construction Loads on Culverts
D88A	Strut Details for Structural Steel Pipes, Arches and Vehicular Undercrossing

~~PIPE HEADWALLS, ENDWALLS AND WINGWALLS~~

D89	Pipe Culvert Headwalls—Straight and "L"
D90	Pipe Culvert Headwalls, Endwalls and Wingwalls—Types A, B and C

~~PIPE RISER AND DRAINAGE INLET RISER CONNECTIONS~~

D93A	Pipe Riser Connections
D93B	Drainage Inlet Riser Connections

D93C	Pipe Riser with Debris Rack Cage
	FLARED END SECTIONS
D94A	Metal and Plastic Flared End Sections
D94B	Concrete Flared End Sections
	PIPE COUPLING AND JOINT DETAILS
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BOX GIRDER DETAILS

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CAST-IN-PLACE PRESTRESSED GIRDER

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- ~~B11-62 Concrete Barrier Type 80SW (Sheet 1 of 3)~~
- ~~B11-63 Concrete Barrier Type 80SW (Sheet 2 of 3)~~
- ~~RSP B11-64 Concrete Barrier Type 80SW (Sheet 3 of 3)~~

~~BRIDGE METAL RAIL BARRIERS~~

- ~~B11-65 California ST-30 Bridge Rail~~
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~~STRUCTURAL STEEL PLATE VEHICULAR UNDERCROSSING~~
~~Structural Steel Plate Vehicular Undercrossing~~

- ~~B14-1~~

~~COMMUNICATION AND SPRINKLER CONTROL CONDUITS (BRIDGE)~~

- ~~B14-3 Communication and Sprinkler Control Conduits (Conduit Less Than 4")~~

~~WATER SUPPLY LINE (BRIDGE)~~

- ~~B14-4 Water Supply Line (Bridge) (Pipe Sizes Less Than 4")~~
- ~~B14-5 Water Supply Line (Details) (Pipe Sizes Less Than 4")~~

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- ~~RSP B15-4 Sound Wall Masonry Block on Pile Cap Detail (2)~~
- ~~RSP B15-5 Sound Wall Masonry Block on Pile Cap Detail (3)~~
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- ~~B15-7 Sound Wall Masonry Block on Type 736S/SV Barrier Details (2)~~

RSP B15-8	Sound Wall Masonry Block on Type 736S/SV Barrier Details (3)
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B15-10	Sound Wall Masonry Block on Footing or Pile Cap 5'-0" Access Gate Detail (1)
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S6	Overhead Signs—Truss, Gusset Plate Details
S7	Overhead Signs—Truss, Single Post Type—Square Pedestal Pile Foundation
S8	Overhead Signs—Truss, Single Post Type—Round Pedestal Pile Foundation
S9	Overhead Signs—Truss, Two Post Type—Post Types I-S thru VII-S
S10	Overhead Signs—Truss, Two Post Type—Base Plate and Anchorage Details
S11	Overhead Signs—Truss, Two Post Type—Structural Frame Members
S12	Overhead Signs—Truss, Structural Frame Details
S13	Overhead Signs—Truss, Frame Juncture Details
S14	Overhead Signs—Truss, Two Post Type—Square Pedestal Foundation
S15	Overhead Signs—Truss, Two Post Type—Round Pedestal Foundation
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- S17A Overhead Signs—Walkway Details No. 3
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- S20 Overhead Signs—Steel Frames—Removable Sign Panel Frames
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- S85 Seam Closure, "H" Section Extrusion and Post Spacing Tables, Multi-Horizontal Laminated Panel Aluminum Signs

- ~~S86 Laminated Panel Details—Extrusions for Type A, B and H Panels~~
- ~~S87 Type A-1 Mounting Hardware—Overhead Laminated Type A Panel, Truss and Lightweight Sign Structures~~
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- ~~S89 Roadside Sign—Formed Single Sheet Aluminum Panel~~
- ~~S90 Channel and Bolt Hole Location, Overhead Formed Sign Panel~~
- ~~S91 Overhead Sign—Formed Sign Panel, Type A-3 Mounting Hardware~~
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- ~~S93 Framing Details for Framed Single Sheet Aluminum Signs, Rectangular Shape~~
- ~~S94 Roadside Framed Single Sheet Aluminum Signs, Rectangular Shape~~
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- ~~S101 OVERHEAD SIGN—CHANGEABLE MESSAGE SIGN (MODEL 500)
Overhead Sign—Truss, Single Post Type, Layout, Unbalanced Butterfly Changeable Message Signs, Model 500~~
- ~~S102 Overhead Sign—Truss, Single Post Type, Structural Frame Details, Unbalanced Butterfly Changeable Message Signs, Model 500~~
- ~~S103 Overhead Sign—Truss, Single Post Type, Plan and Upper Bolt Details, Unbalanced Butterfly Changeable Message Signs, Model 500~~
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- ~~S105 Overhead Sign—Truss, Single Post Type, Layout, Balanced Butterfly Changeable Message Signs, Model 500~~
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- ~~S107 Overhead Sign—Truss, Single Post Type, Plan and Upper Bolt Details, Balanced Butterfly Changeable Message Signs, Model 500~~
- ~~S108 Overhead Sign—Truss, Single Post Type, Frame Juncture Details, Balanced Butterfly Changeable Message Signs, Model 500~~
- ~~S109 Overhead Sign—Truss, Single Post Type, Layout, Full Cantilever Changeable Message Signs, Model 500~~
- ~~S110 Overhead Sign—Truss, Single Post Type, Structural Frame Details, Full Cantilever Changeable Message Signs, Model 500~~
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- ~~S113 Overhead Sign—Truss, Single Post Type, Mounting Details, Changeable Message Signs, Model 500~~
- ~~S114 Overhead Sign—Truss, Single Post Type, Walkway Details, Changeable Message Signs, Model 500~~

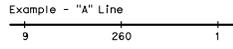
- ~~S115 Overhead Sign—Truss, Single Post Type, Anchorage and Base Plate Details, Changeable Message Signs, Model 500~~
- ~~S116 Overhead Sign—Truss, Single Post Type, Foundation And Miscellaneous Details, Changeable Message Signs, Model 500~~
- ~~S120 OVERHEAD SIGN—CHANGEABLE MESSAGE SIGN (MODEL 510)
Overhead Sign—Truss, Single Post Type, Layout, Unbalanced Butterfly Changeable Message Signs, Model 510~~
- ~~S121 Overhead Sign—Truss, Single Post Type, Structural Frame Details, Unbalanced Butterfly Changeable Message Signs, Model 510~~
- ~~S122 Overhead Sign—Truss, Single Post Type, Plan and Upper Bolt Details, Unbalanced Butterfly Changeable Message Signs, Model 510~~
- ~~S123 Overhead Sign—Truss, Single Post Type, Frame Juncture Details, Unbalanced Butterfly Changeable Message Signs, Model 510~~
- ~~S124 Overhead Sign—Truss, Single Post Type, Layout, Balanced Butterfly Changeable Message Signs, Model 510~~
- ~~S125 Overhead Sign—Truss, Single Post Type, Structural Frame Details, Balanced Butterfly Changeable Message Signs, Model 510~~
- ~~S126 Overhead Sign—Truss, Single Post Type, Plan and Upper Bolt Details, Balanced Butterfly Changeable Message Signs, Model 510~~
- ~~S127 Overhead Sign—Truss, Single Post Type, Frame Juncture Details, Balanced Butterfly Changeable Message Signs, Model 510~~
- ~~S128 Overhead Sign—Truss, Single Post Type, Layout, Full Cantilever Changeable Message Signs, Model 510~~
- ~~S129 Overhead Sign—Truss, Single Post Type, Structural Frame Details, Full Cantilever Changeable Message Signs, Model 510~~
- ~~S130 Overhead Sign—Truss, Single Post Type, Plan and Upper Bolt Details, Full Cantilever Changeable Message Signs, Model 510~~
- ~~S131 Overhead Sign—Truss, Single Post Type, Frame Juncture Details, Full Cantilever Changeable Message Signs, Model 510~~
- ~~S132 Overhead Sign—Truss, Single Post Type, Mounting Details, Changeable Message Signs, Model 510~~
- ~~S133 Overhead Sign—Truss, Single Post Type, Walkway Details, Changeable Message Signs, Model 510~~
- ~~S134 Overhead Sign—Truss, Single Post Type, Anchorage and Base Plate Details, Changeable Message Signs, Model 510~~
- ~~S135 Overhead Sign—Truss, Single Post Type, Foundation and Miscellaneous Details, Changeable Message Signs, Model 510~~
- ~~OVERHEAD SIGN—CHANGEABLE MESSAGE SIGN (MODEL 500 AND 510) WALKWAY SAFETY RAILING AND GUSSET PLATE DETAILS~~
- ~~S140 Overhead Sign—Truss, Single Post Type, Walkway Safety Railing Details, Changeable Message Signs, Model 500 and 510~~
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S142	Overhead Sign — Truss, Single Post Type, Gusset Plate Details, Changeable Message Signs, Model 500 and 510
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ES-2A	Electrical Systems (Service Equipment)
RSP-ES-2B	Electrical Systems (Service Equipment, Type II Series)
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RSP-ES-2D	Electrical Systems (Service Equipment and Typical Wiring Diagram, Type III—A Series)
RSP-ES-2E	Electrical Systems (Service Equipment and Typical Wiring Diagram, Type III—B Series)
RSP-ES-2F	Electrical Systems (Service Equipment and Typical Wiring Diagram Type III—C Series)
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ES-3D	Electrical Systems (Telephone Demarcation Cabinet, Type A)
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ES-4A	Electrical Systems (Signal Heads and Mountings)
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ES-6B	Electrical Systems (Lighting Standard, Types 15 and 21, Barrier Rail Mounted Details)
ES-6D	Electrical Systems (Lighting Standard, Types 15D and 21D, Double Arm)
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ES-6J	Electrical Systems (Lighting Standard—80' to 160', High Mast Light Pole Foundation Details)
ES-6K	Electrical Systems (Lighting Standard, Types 5 and 10 Overhead Sign Mounted)
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RSP-ES-7D	Electrical Systems (Signal and Lighting Standard—Case 2 Arm Loading, Wind Velocity = 100 mph, Arm Lengths 15' to 30')
RSP-ES-7E	Electrical Systems (Signal and Lighting Standard—Case 3 Arm Loading, Wind Velocity = 100 mph, Arm Lengths 15' to 45')
RSP-ES-7F	Electrical Systems (Signal and Lighting Standard—Case 4 Arm Loading, Wind Velocity = 100 mph, Arm Lengths 25' to 45')
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ES-7I	Electrical Systems (Signal and Sign Standard—Type 33, Left Turn)
ELECTRICAL SYSTEMS—FLASHING BEACONS	
ES-7J	Electrical Systems (Signal and Lighting Standard—Advance Flashing

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RSP-ES-7K	Electrical Systems (Signal and Lighting Standard – Cantilever Flashing Beacon, Types 9, 9A and 9B)
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	ELECTRICAL SYSTEMS – SIGNAL AND LIGHTING STANDARD DETAILS
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ES-7N	Electrical Systems (Signal and Lighting Standards – Details No. 2)
	ELECTRICAL SYSTEMS – INTERNALLY ILLUMINATION STREET NAME SIGN
ES-7O	Electrical Systems (Sign Illumination – Internally Illumination Street Name Sign)
	ELECTRICAL SYSTEMS – PEDESTRIAN BARRICADES
ES-7P	Electrical Systems (Pedestrian Barricades)
	ELECTRICAL SYSTEMS – PULL BOX DETAILS
ES-8	Electrical Systems (Pull Box Details)
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RSP-ES-9A	Electrical Systems (Electrical Details, Structure Installations)
ES-9B	Electrical Systems (Electrical Details, Structure Installations)
RSP-ES-9C	Electrical Systems (Electrical Details, Structure Installations)
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ES-9E	Electrical Systems (Electrical Details, Structure Installations)
ES-9F	Electrical Systems (Flush Soffit Luminaire Modification Details, Structure Installations)
	ELECTRICAL SYSTEMS – ISOFOOTCANDLE DIAGRAMS AND FOUNDATION DETAILS
ES-10	Electrical Systems (Isofooteandle Diagrams)
ES-11	Electrical Systems (Foundation Installations)
	ELECTRICAL SYSTEMS – PEDESTRIAN OVERHEAD LIGHTING
ES-12A	Electrical Systems (Pedestrian Overcrossing Fluorescent Lighting Fixture)
ES-12B	Electrical Systems (Pedestrian Undercrossing Fluorescent Lighting Fixture)
	ELECTRICAL SYSTEMS – SPLICING, WIRING DETAILS AND FUSE RATINGS
ES-13A	Electrical Systems (Splicing Details)
ES-13B	Electrical Systems (Wiring Details and Fuse Ratings)
	ELECTRICAL SYSTEMS – EXTINGUISHABLE MESSAGE SIGN
RSP-ES-14A	Electrical Systems (LED Extinguishable Message Sign, 10" Letters)
RSP-ES-14B	Electrical Systems (LED Extinguishable Message Sign Wiring Diagram)

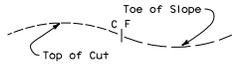
SYMBOLOLOGY FOR CONSTRUCTION FEATURES



Station Line
(Centerline)



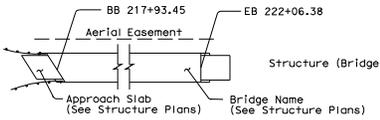
Right of Way Line



Slope Line



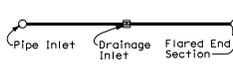
Original Ground Line



Structure (Bridge)



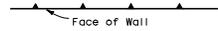
Dike, Downrain and Oversize Drain



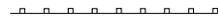
Pipe Culvert - single line
(36" or less in diameter)
(plus - other drainage features)



Pipe Culvert - two lines
(36" to 6' in diameter)
(plus - other drainage features)
(Over 6' in diameter, draw to scale)



Wall



Existing Guard Railing
(work to be performed)



New Guard Railing



Concrete (Median) Barrier



Wall on Barrier



Temporary Railing (Type K)



Double Thrie Beam Barrier



Curb without Gutter



Curb with Gutter
(curb-lip, flow line, back-top of curb)



Fence



Ditch Flow Line

Existing Walls or Barriers should be shown as hollow filled
(See example of Wall below)



Existing Wall

AERIAL UTILITIES



New Electrical



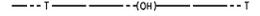
Exist Electrical



New Telemeter Cable



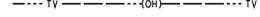
Exist Telemeter Cable



New Telephone



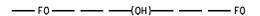
Exist Telephone



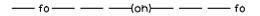
New Television



Exist Television



New Fiber Optic



Exist Fiber Optic

UNDERGROUND UTILITIES



New Water



Exist Water



New Natural Gas



Exist Natural Gas



New Sewer



Exist Sewer



New Electrical



Exist Electrical



New Telephone



Exist Telephone



New Gasoline



Exist Gasoline



New Oil



Exist Oil



New Television



Exist Television



New Steam



Exist Steam



New Telemeter Cable



Exist Telemeter Cable



New Storm Drain



Exist Storm Drain



New Fiber Optic



Exist Fiber Optic

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**SYMBOLS
(SHEET 1 OF 2)**

NO SCALE

A10C

PHOTOGRAMMETRIC MAPPING LINES AND SYMBOLS
 PHOTOGRAMMETRIC MAPPING IS DROPPED OUT ON FINAL CONTRACT PLANS

	Curb
	Lane Stripe
	Edge of Traveled Way (State Highway)
	Edge of Traveled Way (Other)
	Edge of Asphalt (Shoulder)
	Concrete
	Guard Railing
	Median Barrier
	Fence
	Masonry Wall
	Masonry Wall and Fence
	Retaining Wall
	Retaining Wall and Fence
	Retaining Wall and Masonry Wall
	Flowline (Natural and Manmade)
	Edge of Body of Water, Surface Hatched and Spot Elevation on Surface
	Deck Building Covered Porch or Parking
	Dirt Pile, Rock
	Pool, Spa
	Trees, Brush, or Vegetation over 1/2 contour interval in height
	Vineyard Row
	Cattle Guard
	Overhead Sign - Single Post
	Overhead Sign - Two Post
	Trail
	Dirt Road

**SYMBOLS
ENLARGED FOR CLARITY**

	Left Turn Lane Arrow
	HOV Lane (High Occupancy Vehicle)
	Drop Inlet, Round Drop Inlet
	Manhole
	Fire Hydrant
	Valve Cover, Stand Pipe, Well, Utility Box, Railroad Crossing Standard
	Utility Pole, Pole and Wires, Pole with Wires and Anchor
	Transmission Tower
	Electroliner, Electroliner on Pole
	Traffic Signal, Railroad Signal
	Call Box
	Signs - Single Post, Two Posts
	Single Tree, Palm
	Marsh or Swamp
	Crash Cushion
	Tank

TOPOGRAPHY

	Index Contour
	Intermediate Contours
	Index Contour (Scale 1"=50')
	GNV Contour (Ground Not Visible)
	Depression Contour
	GNV Depression Contour
	Spot Elevation (at decimal point)

RAILROAD

	Scale 1"=100'
	Scale 1"=50', 1"=20'

CONTROL POINTS

	Horizontal and Vertical Control Point
	Horizontal Control Point
	Vertical Control Point

BOUNDARY LINE

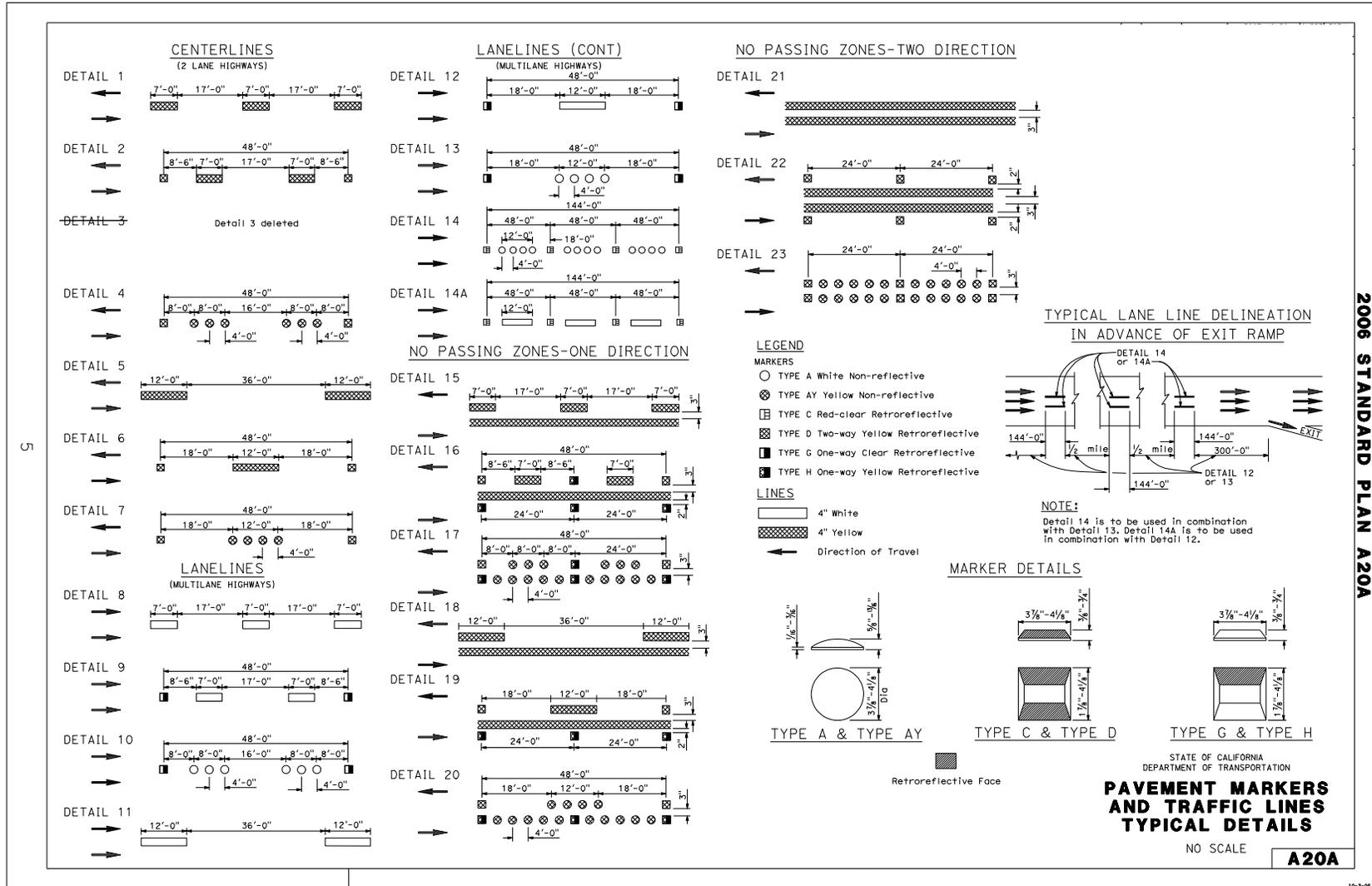
	State
	County
	City
	Forest
	Subdivision, Section, Grant
	Rancho

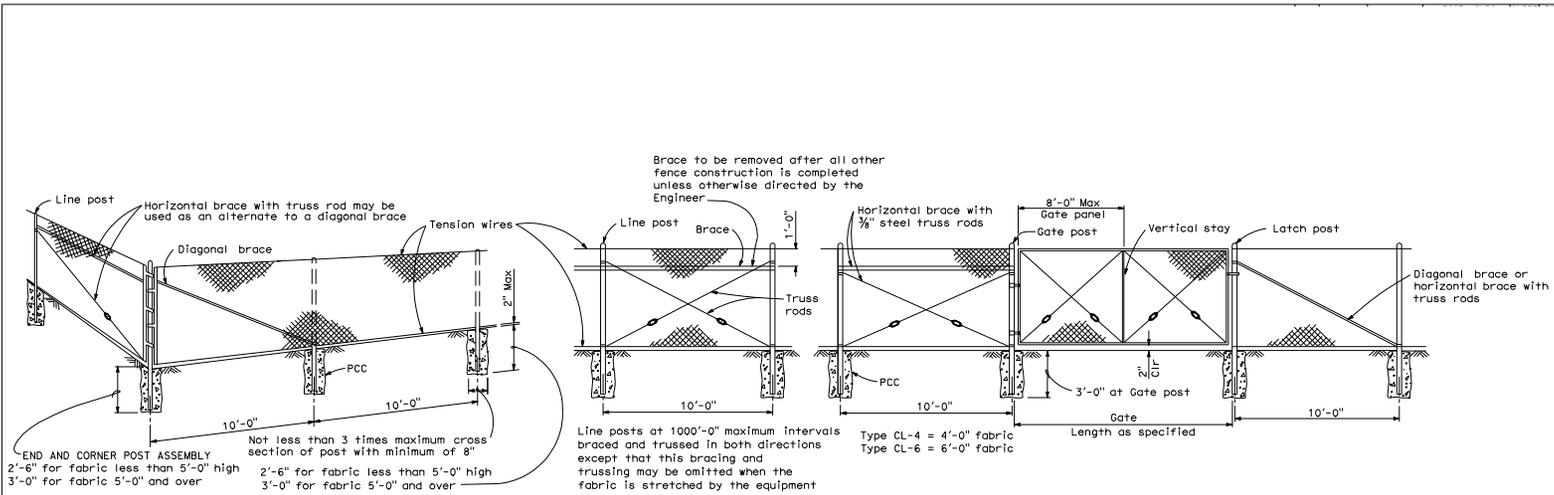
WATER WAYS

	Rivers, Streams and Creeks - small (One Line)
	Rivers, Streams and Creeks - large (Two Lines) (which defines the water edge)
	Ocean - (Graduated Line Weights)
	Water Edge, Lake, Pond, Swamp

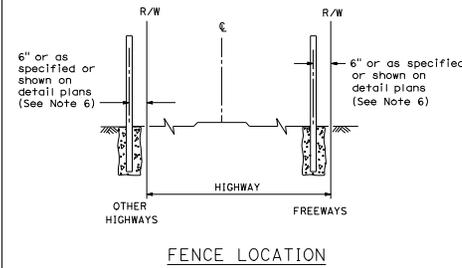
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**SYMBOLS
 (SHEET 2 OF 2)**
 NO SCALE

A10D





111



TYPICAL MEMBER DIMENSIONS (See Notes)										
FENCE HEIGHT	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
6' & less	1 1/2"	1 3/8" x 1 3/8"	1 3/8" x 1 5/8"	2"	3 1/2" x 3 1/2"	2" x 1 3/4"	1 1/4"	1 1/2" x 1 3/8"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"
Over 6'	2"	2 1/4" x 2"	2" x 1 3/4"	2 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"	1 1/4"	1 1/2" x 1 3/8"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"

- NOTES:**
- The above table shows examples of post and brace sections which may comply with the Specifications.
 - Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
 - Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
 - Options exercised shall be uniform on any one project.
 - Dimensions shown are nominal.
 - Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2 1/2"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
Over 6'-0"	Over 18'-0" to 24'-0" Max	6"	18.97 LB
	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
Over 6'-0"	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
NO SCALE

A85

<p>A</p> <p>AB aggregate base ABS acrylonitrile-butadiene-styrene AC asphalt concrete Adj adjacent/adjustable AIC auxiliary irrigation controller Alt alternative AMEND amendment ARV air release valve AUTO automatic AUX auxiliary AVB atmospheric vacuum breaker</p> <p>B</p> <p>B&B balled and burlapped B/B brass/bronze B/B/PL brass/bronze/plastic B/PL brass/plastic Bit Ctd bituminous coated BP booster pump BPA backflow preventer assembly BPAA backflow preventer assembly in enclosure BPE backflow preventer enclosure BV ball valve</p> <p>C</p> <p>CAP corrugated aluminum pipe CARV combination air release valve CCA cam coupler assembly CEC controller enclosure cabinet CHDPE corrugated high density polyethylene CL chain link CNC control and neutral conductors Cnc concrete Cnd conduit CSP corrugated steel pipe CST center strip CV check valve</p> <p>D</p> <p>Dia diameter DIP ductile iron pipe DN diameter nominal</p> <p>E</p> <p>EA each Elect electric/electrical Elev elevation ENCL enclosure EP edge of pavement ES edge of shoulder EST end strip ESTB establishment ETW edge of traveled way</p>	<p>F</p> <p>F full circle F/P full/part circle FAU filter assembly unit FCV flow control valve FERT fertilizer FG finished grade FIPT female iron pipe thread FIS fertilizer injector system FL flow line FM flow monitor FS flow sensor Ft foot/feet FV flush valve</p> <p>G</p> <p>GAL Gallon(s) Galv galvanized GARV garden valve GPH gallons per hour GPM gallons per minute GSP galvanized steel pipe GV gate valve</p> <p>H</p> <p>H half circle HB hose bib HDPE high density polyethylene HP horsepower/hinge point HPL high pressure line Hwy highway</p> <p>I</p> <p>IC irrigation controller ICC irrigation controller(s) in controller enclosure cabinet ID inside diameter In inches IFS irrigation filtration system IPS iron pipe size IPT iron pipe thread Irr irrigation</p> <p>L</p> <p>L length LF linear feet</p>	<p>M</p> <p>Max maximum MBGR metal beam guard railing MCV manual control valve MIC master irrigation controller Min minimum MJPT male iron pipe thread Misc miscellaneous Mtl material MVP maintenance vehicle pullout</p> <p>N</p> <p>NCN no common name NL nozzle line No. number NPT national pipe thread</p> <p>O</p> <p>O/C on center OD outside diameter Oz ounce</p> <p>P</p> <p>P part circle PB pull box PCC portland cement concrete PE polyethylene Pkt packet PL plastic PLT plant/planting PLT ESTB plant establishment PM post mile PR pressure rated PRLV pressure relief valve PSI pounds per square inch PRV pressure reducing valve PVC polyvinyl chloride Pvmt pavement</p> <p>Q</p> <p>Q quarter circle QCV quick coupler valve</p>	<p>R</p> <p>R radius RCP reinforced concrete pipe RCV remote control valve RCVM remote control valve (master) RCW recycled/reclaimed water REQ required R/W right of way</p> <p>S</p> <p>S slip SCC sprinkler control conduit SCH schedule SF state-furnished Shld shoulder SOFT square foot/feet SOYD square yard(s) SST side strip Sta station Std standard SW sidewalk/sound wall</p> <p>T</p> <p>T third circle/thread TLS truck loading standpipe TQ three quarter circle TRVD traveled TT two third circle Typ typical</p> <p>U</p> <p>UG underground</p> <p>V</p> <p>VAU valve assembly unit</p> <p>W</p> <p>W width W/ with WM water meter WS wye strainer WSP welded steel pipe WWM welded wire mesh</p>
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NOTE:
FOR ADDITIONAL ABBREVIATIONS,
SEE STANDARD PLANS A10A AND A10B.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
ABBREVIATIONS**

NO SCALE

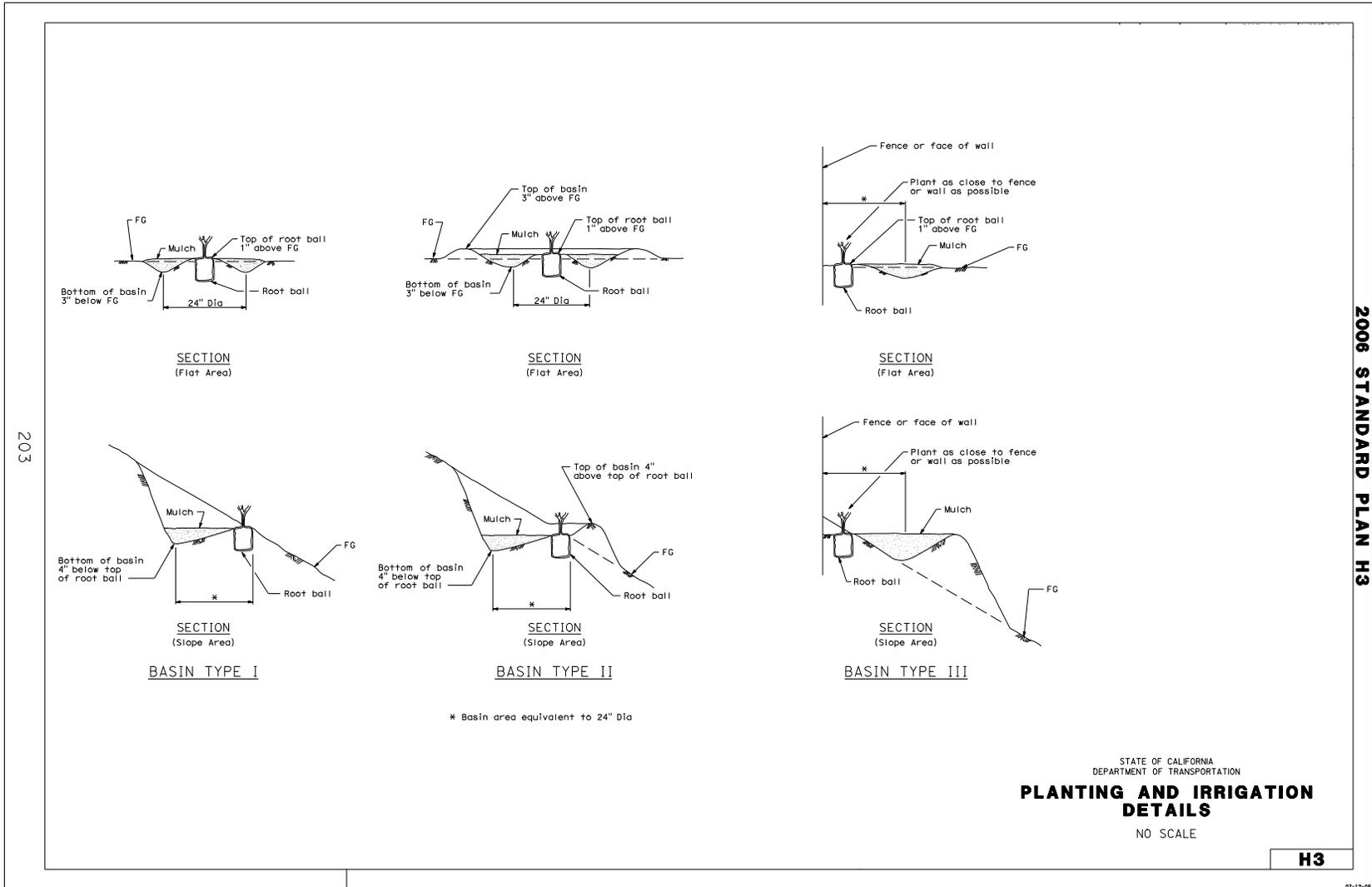
EXISTING	PROPOSED	ITEM DESCRIPTION	EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)			QUICK COUPLER VALVE (QCV)
		BACKFLOW PREVENTER ASSEMBLY (BPA)			CAM COUPLING ASSEMBLY (CCA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)			PRESSURE REDUCING VALVE (PRV)
		BACKFLOW PREVENTER ENCLOSURE (BPE)			PRESSURE RELIEF VALVE (PRLV)
		BOOSTER PUMP (BP)			FLOW CONTROL VALVE (FCV)
		TRUCK LOADING STANDPIPE (TLS)			COMBINATION AIR RELEASE VALVE (CARV)
		FLOW SENSOR (FS)			CHECK VALVE (CV)
		MASTER IRRIGATION CONTROLLER (MIC)			FLUSH VALVE (FV)
		AUXILIARY IRRIGATION CONTROLLER (AIC)			NOZZLE LINE W/TURNING UNION
		IRRIGATION CONTROLLER (IC) / IRRIGATION CONTROLLER (IC) (BATTERY)			IRRIGATION SYSTEM
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)			IRRIGATION SYSTEM TO BE REMOVED
		CONTROL AND NEUTRAL CONDUCTORS (CNC)			CHAIN LINK GATE
		SPRINKLER CONTROL CONDUIT (SCC)			QUICK COUPLER VALVE W/SPRINKLER PROTECTOR
		CONDUIT (COND)			SPRINKLER W/SPRINKLER PROTECTOR
		IRRIGATION SLEEVE			CONNECT TO EXISTING SYSTEM
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)			CAP
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)			CAP EXISTING
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)			
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)			
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)			
		PLASTIC PIPE (IRRIGATION LINE)			
		REMOTE CONTROL VALVE (RCV)			
		REMOTE CONTROL VALVE (MASTER) (RCVM)			
		MANUAL CONTROL VALVE (MCV)			
		VALVE ASSEMBLY UNIT (VAU)			
		WYE STRAINER (WS)			
		FILTER ASSEMBLY UNIT (FAU)			
		GATE VALVE (GV)			
		BALL VALVE (BV)			

VALVE CODE	
	* 2 1/2"-A-2b-40-60
	* 2"-3-30-50

* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
SYMBOLS**
NO SCALE

H2

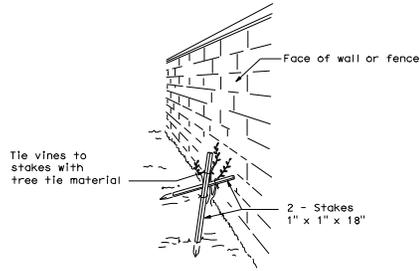


STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
 DETAILS**
 NO SCALE

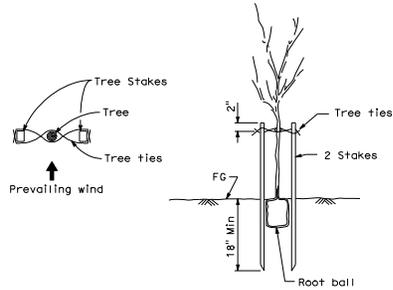
H3

07-12-05

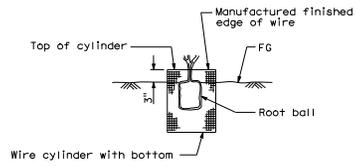
NOTE:
Top of stakes to have minimum 4" clearance from bottom of tree crown where applicable



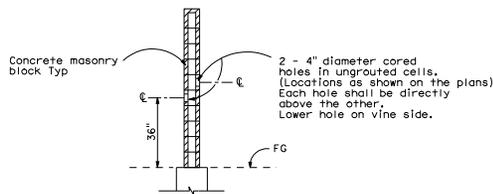
PERSPECTIVE VINE STAKING



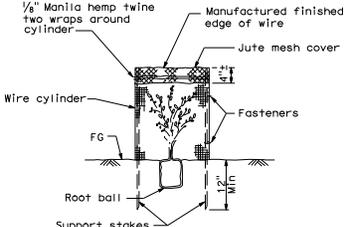
TREE STAKING



SECTION ROOT PROTECTOR



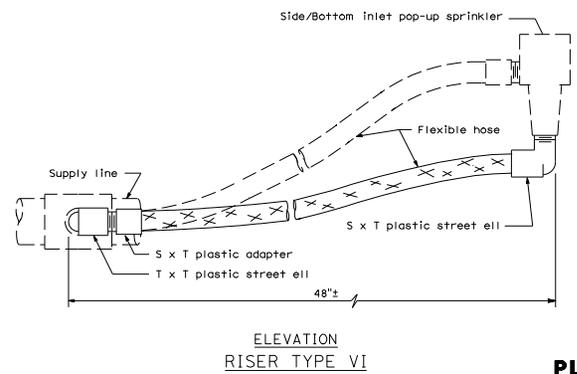
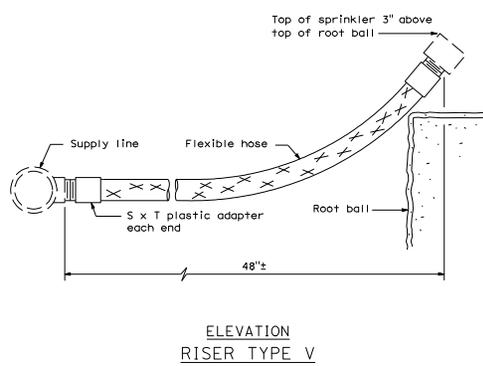
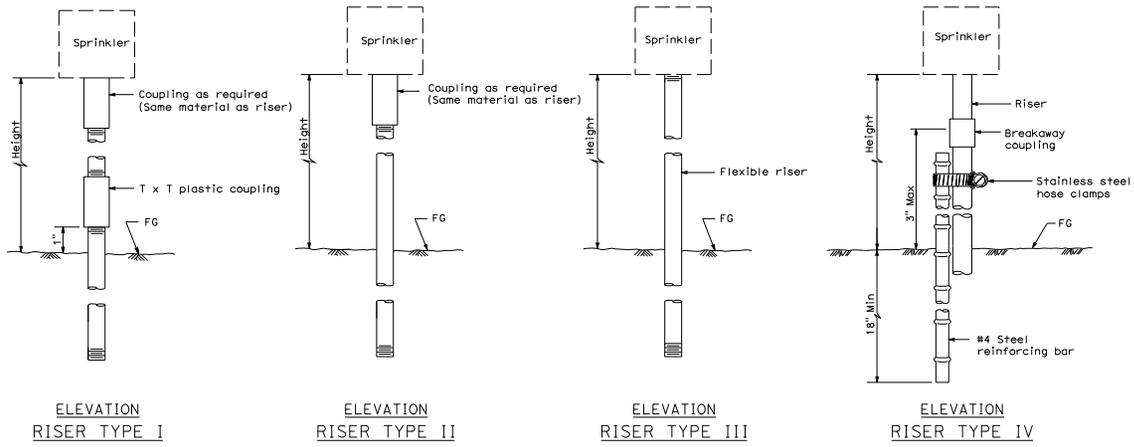
SECTION CORE HOLE (PLANT)



SECTION FOLIAGE PROTECTOR

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PLANTING AND IRRIGATION DETAILS
NO SCALE

H4

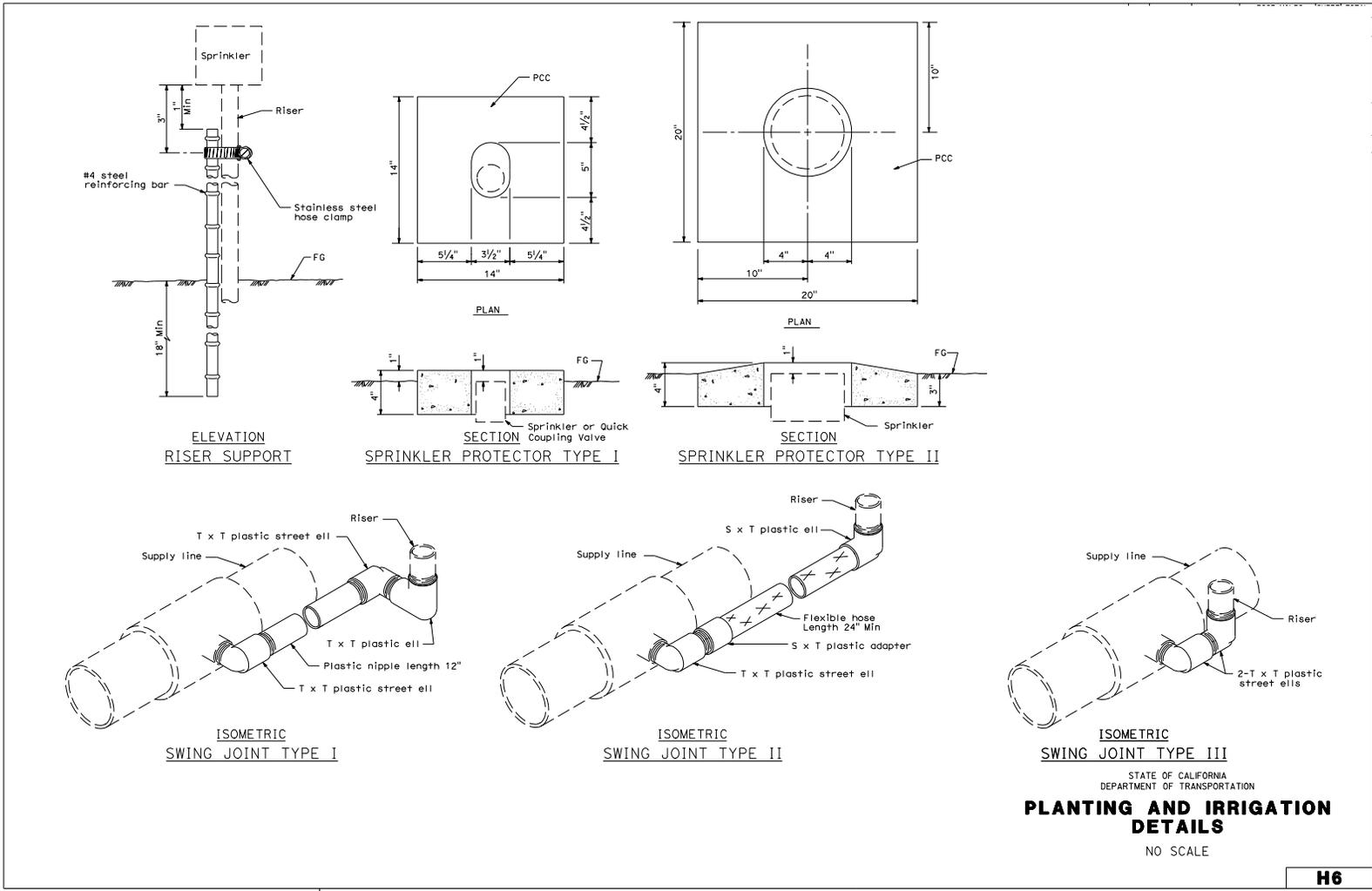


STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

H5

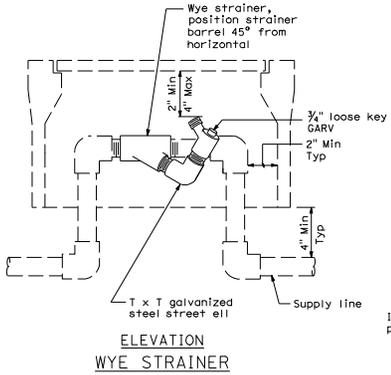
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206

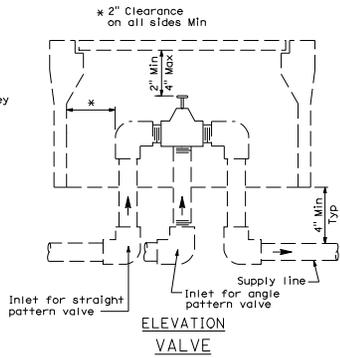


PLANTING AND IRRIGATION DETAILS
NO SCALE

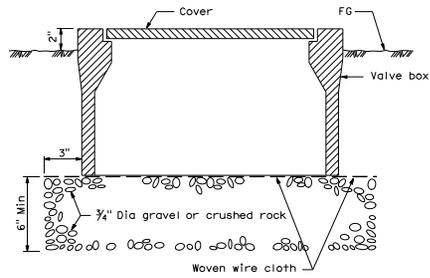
H6



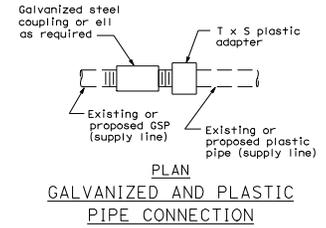
ELEVATION
WYE STRAINER



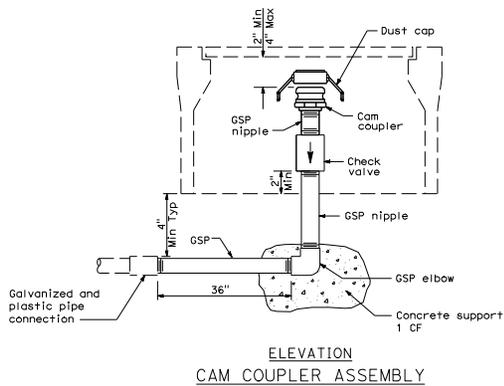
ELEVATION
VALVE



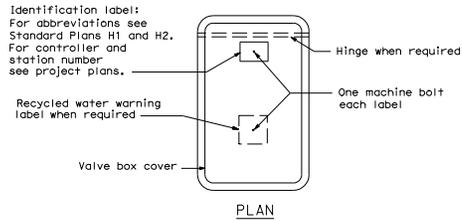
SECTION
VALVE BOX



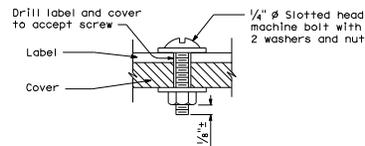
PLAN
GALVANIZED AND PLASTIC
PIPE CONNECTION



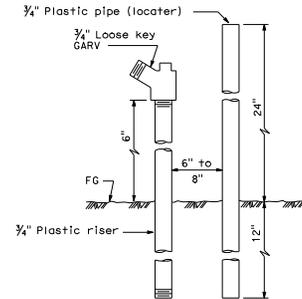
ELEVATION
CAM COUPLER ASSEMBLY



PLAN



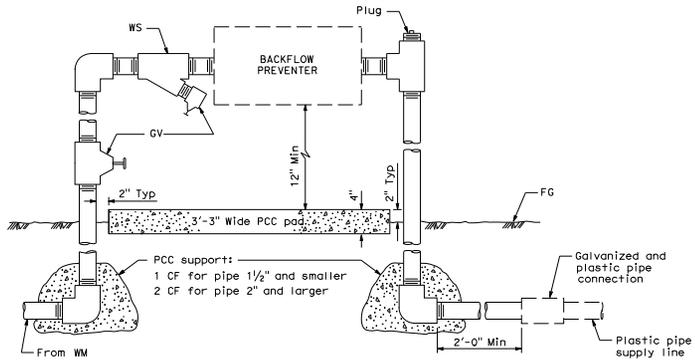
SECTION
VALVE BOX IDENTIFICATION



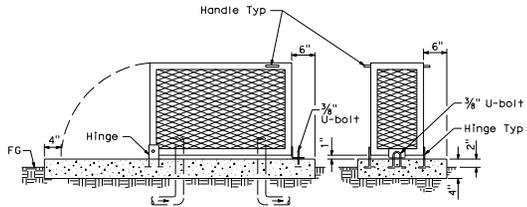
ELEVATION
FLUSH VALVE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

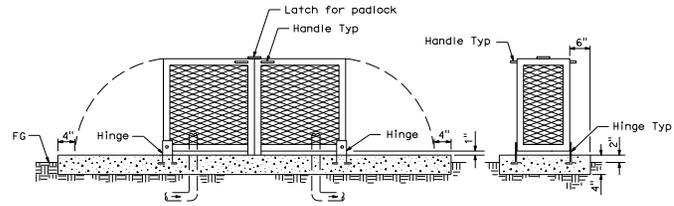
H7



ELEVATION
BACKFLOW PREVENTER ASSEMBLY



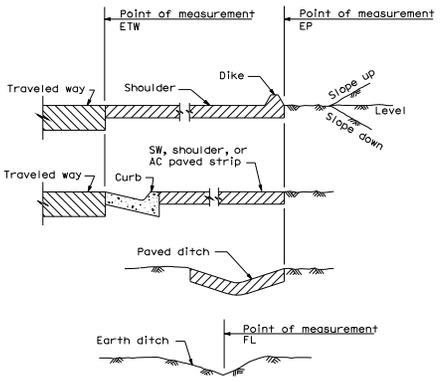
SIDE ELEVATION FRONT ELEVATION
BACKFLOW PREVENTER ASSEMBLY ENCLOSURE



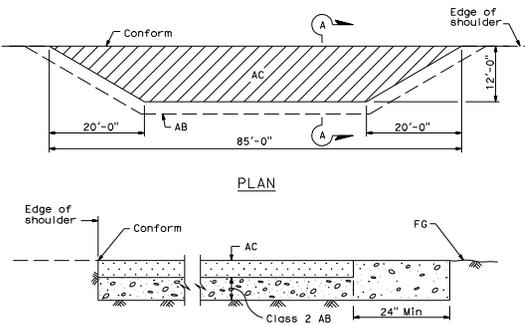
SIDE ELEVATION FRONT ELEVATION
BACKFLOW PREVENTER ASSEMBLY ENCLOSURE
Two Piece

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

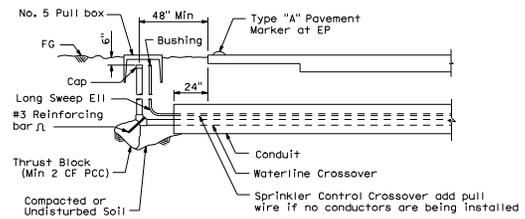
H8



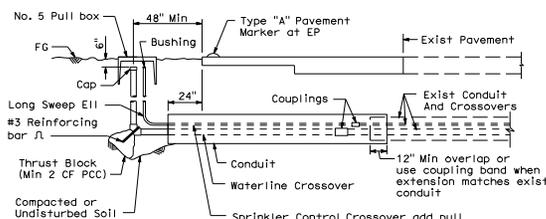
SECTION
POINTS OF MEASUREMENT



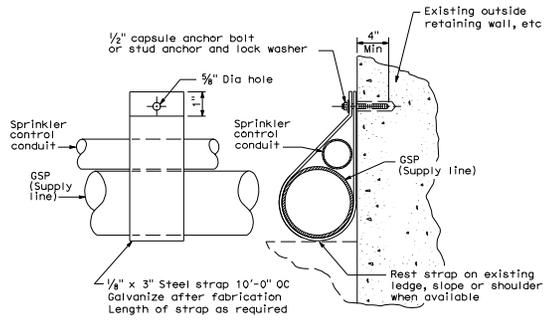
SECTION A-A
MAINTENANCE VEHICLE PULLOUT



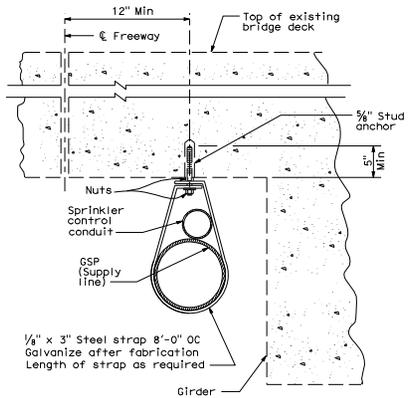
SECTION
IRRIGATION CROSSOVER



SECTION
EXTEND IRRIGATION CROSSOVER



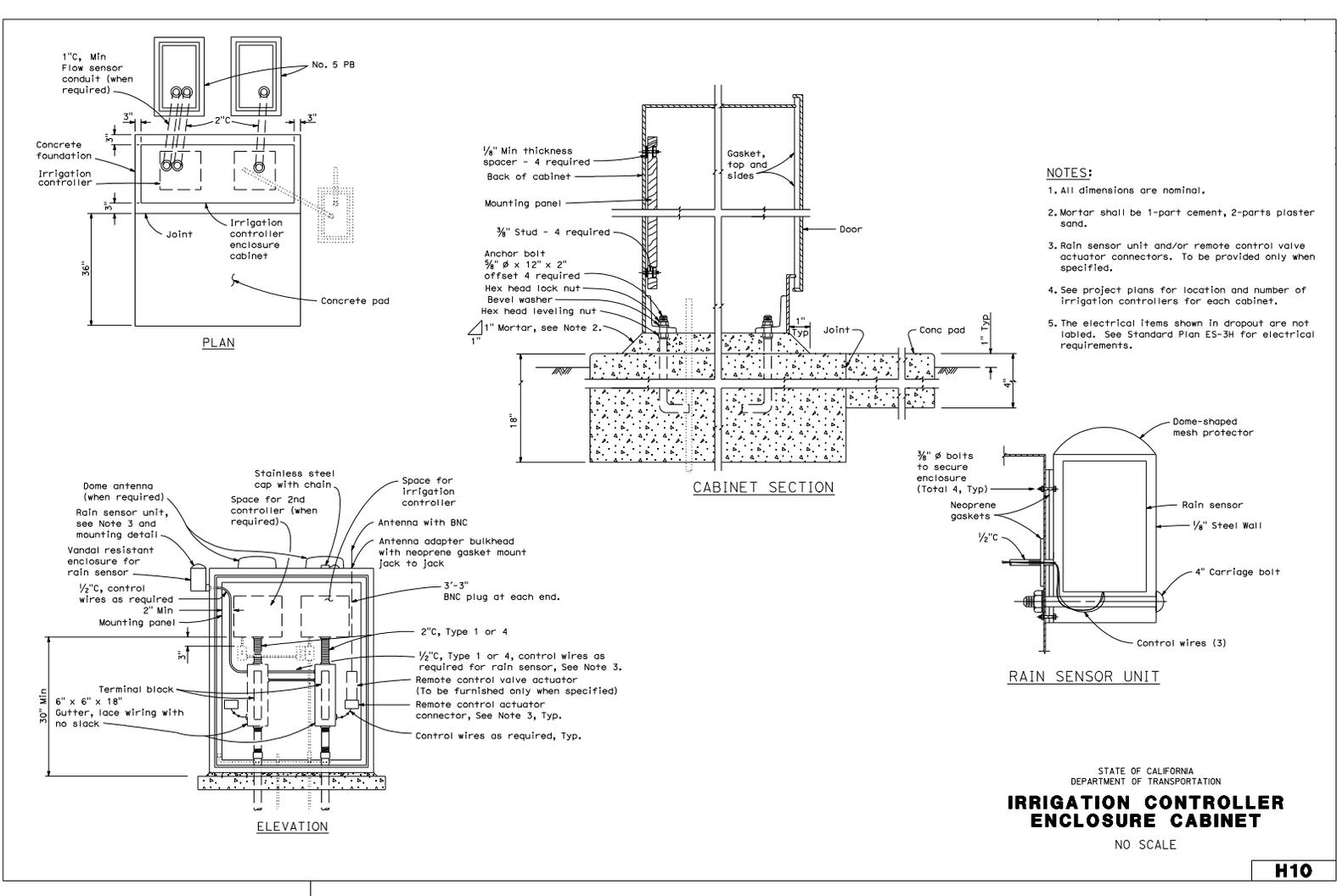
ELEVATION SECTION
PIPE ANCHOR TYPE I



SECTION
PIPE ANCHOR TYPE II

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

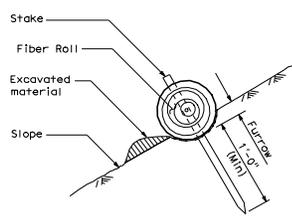
H9



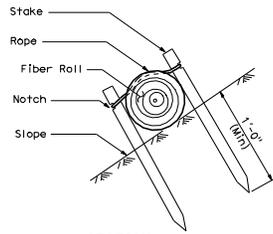
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
IRRIGATION CONTROLLER ENCLOSURE CABINET
NO SCALE

H10

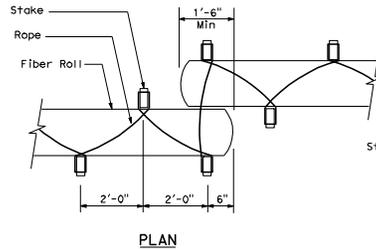
210



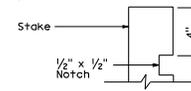
SECTION
FIBER ROLL
(TYPE 1)



SECTION
FIBER ROLL
(TYPE 2)



PLAN

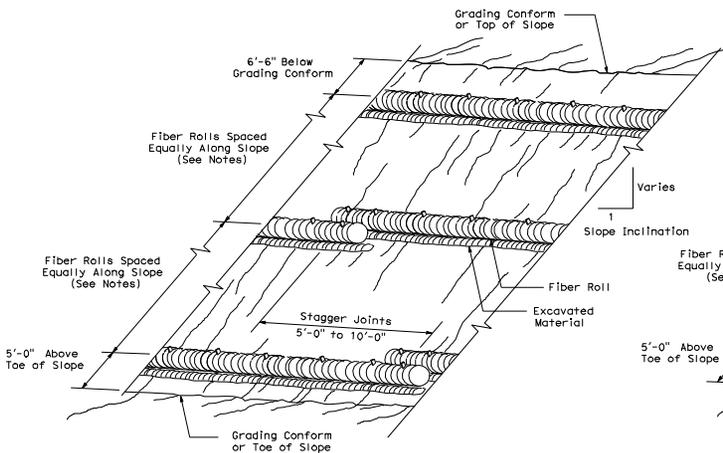


ELEVATION

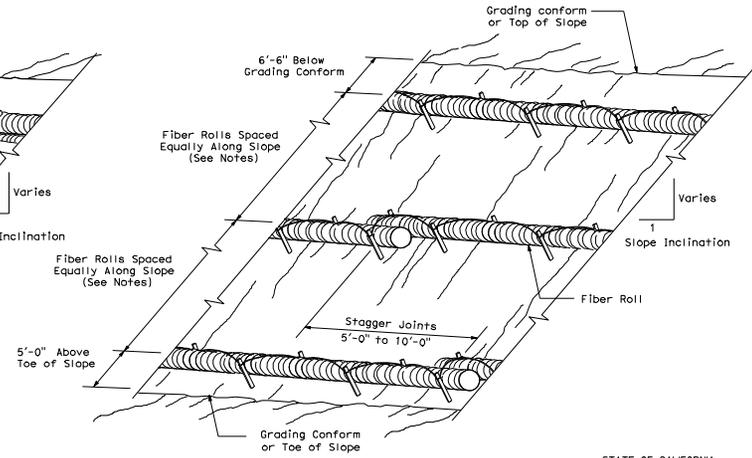
STAKE NOTCH DETAIL

NOTES:

1. Fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
FIBER ROLL (TYPE 1)



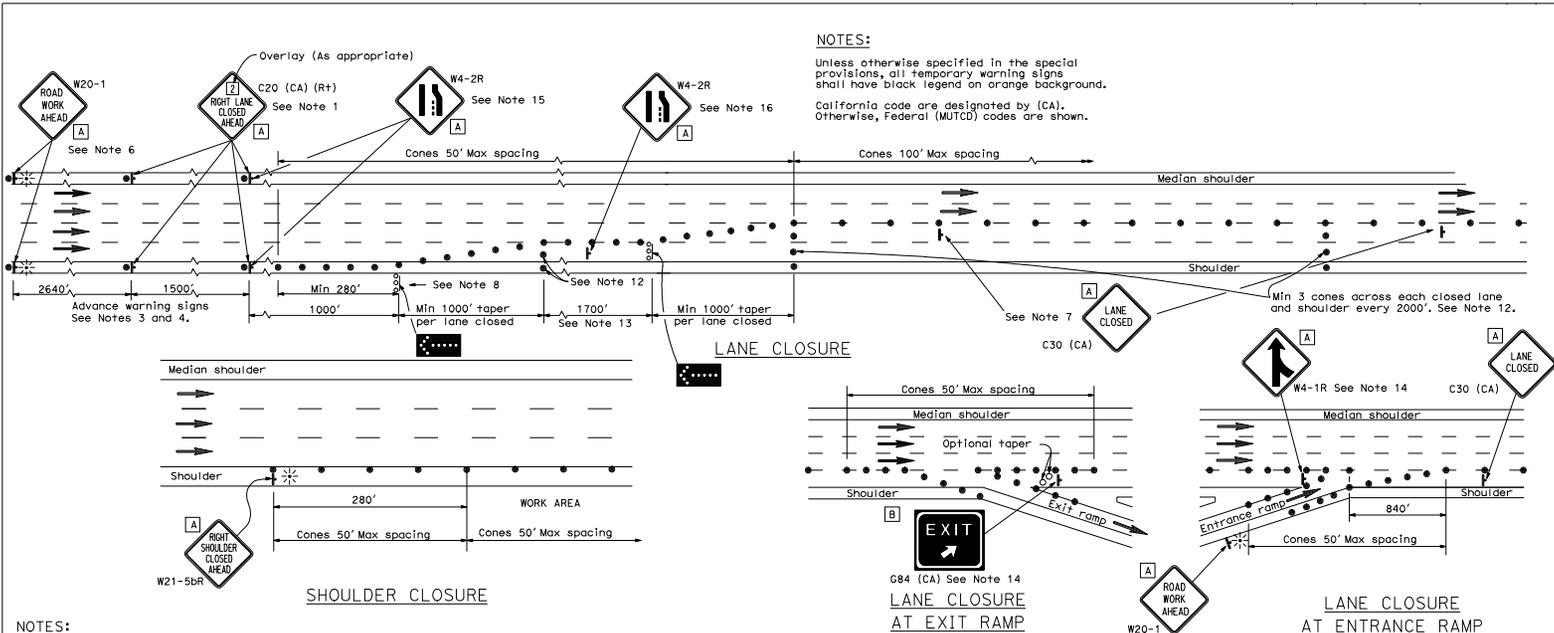
PERSPECTIVE
FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
EROSION CONTROL DETAILS
(FIBER ROLL)

NO SCALE
NSP H51 DATED DECEMBER 1, 2006 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006

NEW STANDARD PLAN NSP H51

210A



NOTES:
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background. California code are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

- NOTES:**
- Median lane closures shall conform to the details for outside lane closures except that C20 (CA) (L+T) signs shall be used.
 - At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 - Duplicate sign installations are not required:
 - On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 - Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 - A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
 - If the W20-1 sign would follow within 2000' of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT MILES", use a C20 (CA) sign for the first advance warning sign.
 - Place a C30 (CA) sign every 2000' throughout length of lane closure.
 - One flashing arrow sign for each lane closed. The first flashing arrow sign shall be Type I. All others may be either Type I or Type II.
 - A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 - All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 - Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
 - Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
 - Unless otherwise specified in the special provisions, the 1700' tangent shown along lane lines shall be used between the 1000' tapers required for each closed traffic lane.
 - Unless otherwise specified in the special provisions, the G84 (CA) and W4-1 signs shall be used as shown.
 - When specified in the special provisions, a W4-2 "LANE ENDS" symbol sign is to be used in place of the C20 (CA) "RIGHT LANE CLOSED AHEAD" sign.
 - The W4-2 "LANE ENDS" symbol sign shown at this location is to be used where the W4-2 sign is used as advance warning as described in Note 15.

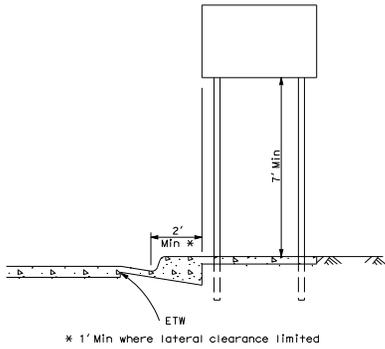
SIGN PANEL SIZE (Min)

A	48" x 48"
B	54" x 48"

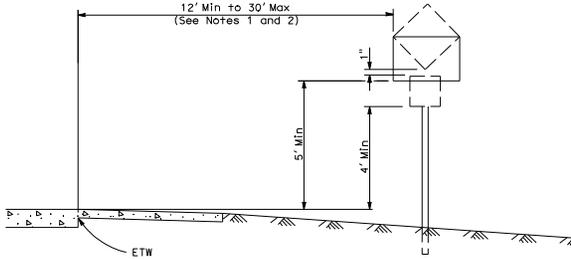
- LEGEND**
- Traffic Cone
 - Traffic Cone (optional taper)
 - ⬇ Temporary Sign
 - ⬆ Flashing Arrow Sign (FAS)
 - ⋯ FAS Support or Trailer
 - ➔ Direction of Travel
 - ⚡ Portable Flashing Beacon

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 FREEWAYS AND EXPRESSWAYS**
 NO SCALE

T10



URBAN LOCATIONS



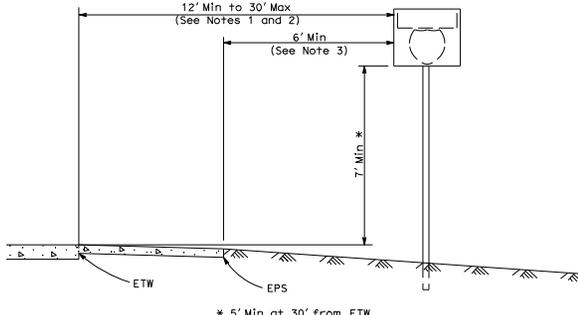
RURAL LOCATIONS

CONVENTIONAL HIGHWAYS AND INTERCHANGE AREAS

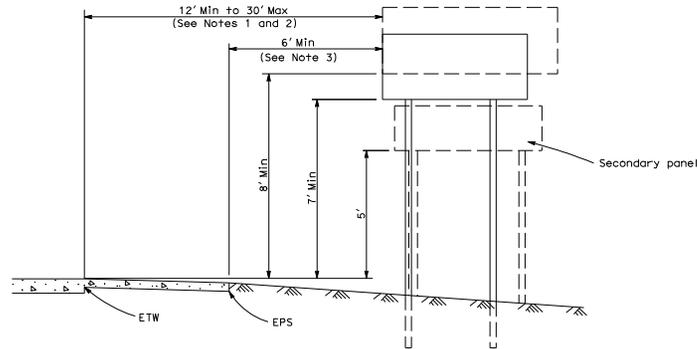
NOTES:

1. When clear roadside recovery areas are provided, signs shall be placed as far from the edge of traveled way as possible, up to a maximum of 30'. When possible, they shall be placed in protected locations.
2. Signs in medians shall be placed at midpoint of median up to a maximum distance of 30' from edge of traveled way. When appropriate, signs for opposing directions shall be placed back to back.
3. Does not apply at locations where minimum horizontal distance is not reasonable due to terrain characteristics, steep slopes, roadway features, or when signs are installed on structures or signal or lighting standards.

EPS = Edge of Paved Shoulder



REGULATORY AND WARNING SIGNS AND ROUTE SHIELDS



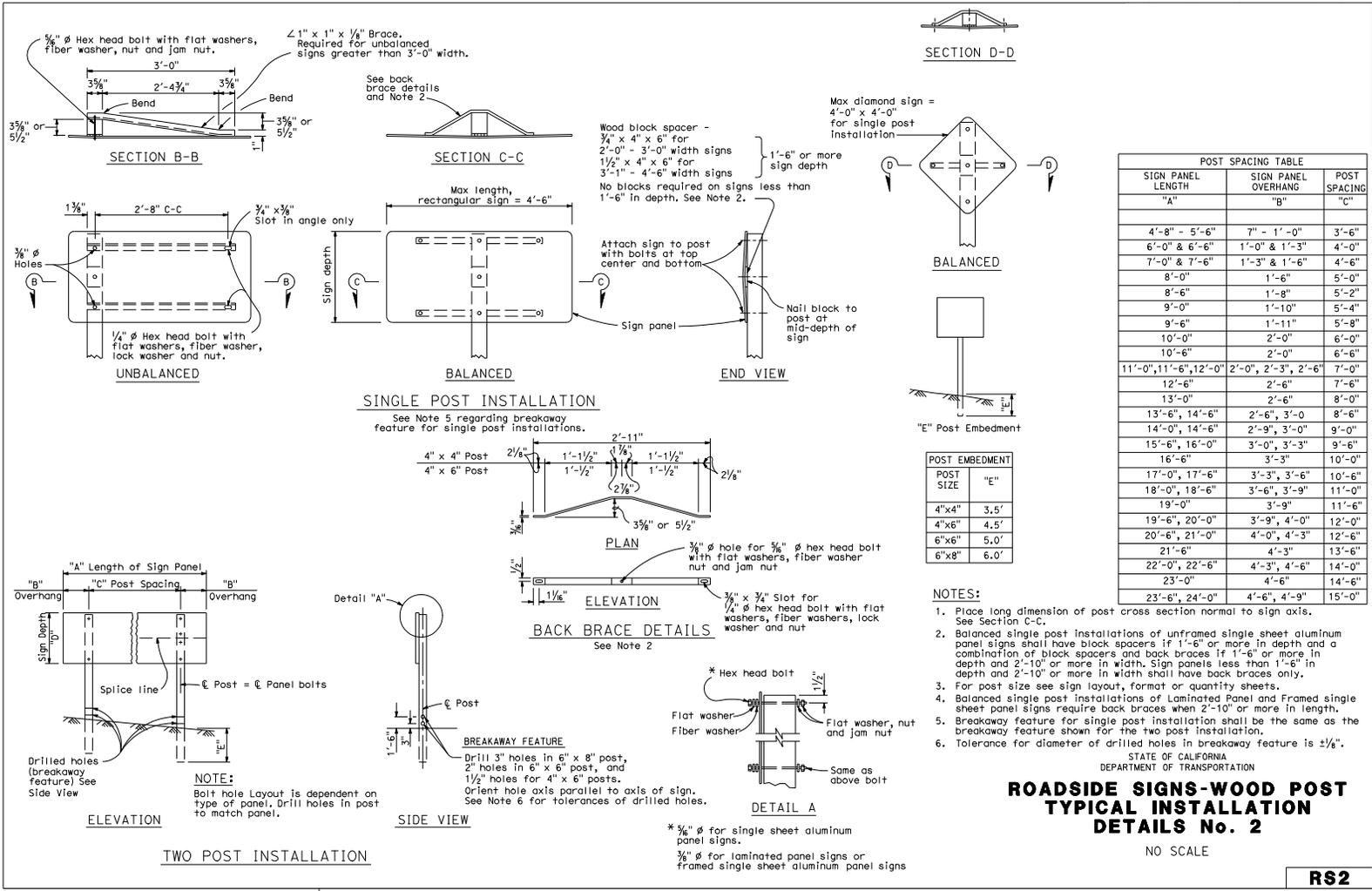
GUIDE SIGNS

FREEWAY AND EXPRESSWAY LOCATIONS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ROADSIDE SIGNS
TYPICAL INSTALLATION
DETAILS No. 1**

NO SCALE

RS1



307

RS2

ELECTROLIERS

STANDARD TYPES	SYMBOL	DESCRIPTION
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		<p>NOTES:</p> <p>1. Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.</p> <p>2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.</p> <p>3. Variations noted adjacent to symbol on project plans.</p>
32		
35		
36-20A		

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbz	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	gfc	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISMS	iiism	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
MV	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or X as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL	rl	Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

NOTE:

Arrow indicates "street side" of luminaire.

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

CONDUIT		SIGNAL EQUIPMENT	
PROPOSED	EXISTING	PROPOSED	EXISTING
SERVICE EQUIPMENT		SIGNAL EQUIPMENT Cont	
		NOTES:	
		1. All signal sections shall be 12" unless shown otherwise.	
		2. Signal heads shall be provided with backplates unless shown otherwise.	
		3. Signal indication shall be LED.	
POLE-MOUNTED SERVICE DESIGNATION		ILLUMINATED OVERHEAD SIGN	
ILLUMINATED OVERHEAD SIGN			

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)**

NO SCALE

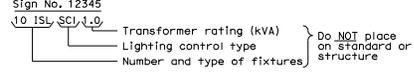
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

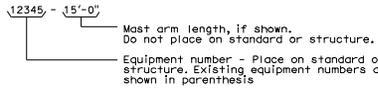
EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION NUMBER:

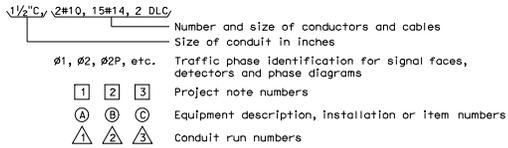
Sign number - Place on post or structure



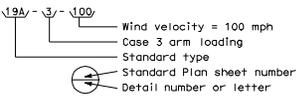
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	Description
		Changeable message sign
		Closed circuit television camera
		Highway advisory radio pole and antenna
		Extinguishable message sign
		Detection device
		M = Microwave sensor
		V = Video image sensor

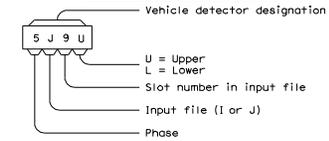
WIRING DIAGRAM LEGEND

P	Pole
CB	Circuit breaker
A	Ampere
V	Volt
M	Metered
UM	Unmetered
NB	Neutral bus
GB	Ground bus
G	Equipment grounding conductor
N	Grounded conductor (Neutral)
	External conductor
	Conductor or bus
	Tie point
	Contactor coil
	Contactor, Contact NO
	Terminal blocks
	Contactor, Contact NC
	Enclosure bond
	Grounding electrode
	Circuit breaker
	Receptacle

PULL BOXES

PROPOSED	EXISTING	Description
		Pull box-No. 5 unless otherwise indicated or noted.
		Pull box-Additional designations or descriptions
3		(C) = Communications pull box
5		(E) = Pull box with extension
6		(S) = Sprinkler control pull box
7		(21) = Anchor bolts and conduit for future installation of Type 21 Standard
8		(T) = Traffic pull box
9		
9A		

VEHICLE DETECTORS

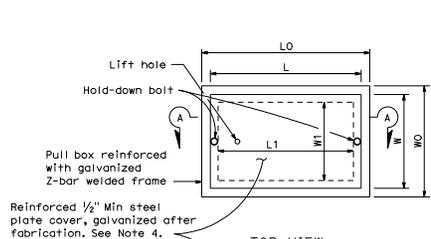


PROPOSED	EXISTING	Description
		Type A detector loop. Outline of sawcut shown.
		Type B detector loop. Outline of sawcut shown.
		Type C detector loop. Outline of sawcut shown.
		Type D detector loop. Outline of sawcut shown.
		Type E detector loop. Outline of sawcut shown.
		Type Q detector loop. Outline of sawcut shown.
		Magnetic detector
		Detector handhole
		Microwave or video detection zone

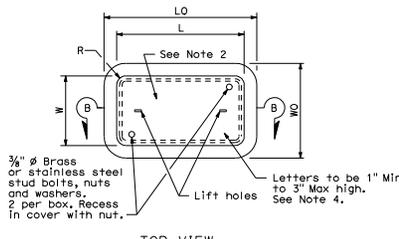
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)**
NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

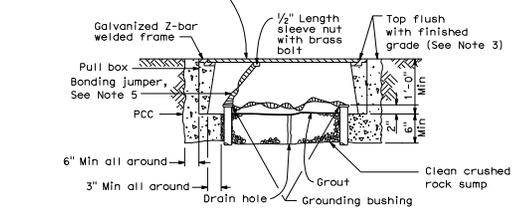
REVISED STANDARD PLAN RSP ES-1C



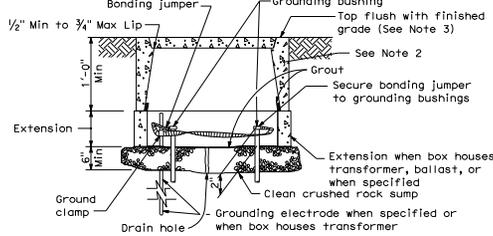
TOP VIEW



TOP VIEW



SECTION A-A
No. 3 1/2(T), No. 5(T) AND
No. 6(T) TRAFFIC PULL BOX



SECTION B-B
INSTALLATION DETAILS

NOTES ON PULL BOXES:

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Top of pull boxes shall be flush with surrounding grade or top of adjacent curb, except that in unpaved areas where pull box is not immediately adjacent to and protected by a concrete foundation, pole or other protective construction, the box shall be placed with its top 1/4" above surrounding grade. Where practicable, pull boxes shown in the vicinity of curbs shall be placed adjacent to the back of curb, and pull boxes shown adjacent to standards shall be placed on side of foundation facing away from traffic, unless otherwise noted. When pull box is installed in sidewalk area, the depth of the pull box shall be adjusted so that the top of the pull box is flush with the sidewalk.
- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
 - No. 3 1/2 pull box.
 - "SIGNAL" Traffic signal circuits with or without street or sign lighting circuits.
 - "ST LIGHTING" Street or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" Traffic signal circuits with or without street or sign lighting circuits.
 - "STREET LIGHTING" Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" Street or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" Circuits to irrigation controller 120 V or more.
 - "RAMP METER" Ramp meter circuits.
 - "COUNT STATION" Count or speed monitor circuits.
 - "COMMUNICATION" Communication circuits.
 - "TOS COMMUNICATIONS" TOS communications line
 - "TOS POWER" TOS power.
 - "TDC POWER" Telephone demarcation cabinet power.
 - "CCTV" Closed circuit television circuits.
 - "TMS" Traffic monitoring station circuits.
 - "CMS" changeable message sign circuits.
 - "HAR" Highway advisory radio circuits.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/4". Top outside edge of concrete covers and pull boxes shall have a 1/4" minimum radius.
- Pull boxes shall not be installed within the boundaries of new or existing curb ramps.
- Pull boxes for electroliners, post and signal standards shall be located ± 5'-0" from the station of the adjacent electroliner, post or signal standard. Pull boxes shall be placed adjacent to back of curb or edge of shoulder except where this is impractical, a box may be placed in another suitable protected and accessible location.

PULL BOX	CONCRETE BOX				NON-PCC BOX		CONCRETE OR NON-PCC COVERS				
	Minimum * Thickness	Minimum Depth Box and Extension	W0	L0	Minimum ** Thickness	Minimum Depth Box and Extension	L **	W **	R	Edge Thickness	Edge Taper
No. 3 1/2	1"	No Extension	1'-1"	1'-6"	5/8"	No Extension	1'-3 3/8"	10 1/8"	1 1/8"	1 3/4"	1/8"
No. 5	1"	1'-10"	1'-4 3/4"	2'-2 1/4"	5/8"	1'-8"	1'-11 1/4"	1'-1 3/4"	1 1/4"	2"	1/8"
No. 6	1 1/2"	2'-0"	1'-8 3/4"	2'-9 3/4"	3/8"	1'-8"	2'-6 1/2"	1'-5 1/2"	1 1/4"	2"	1/8"

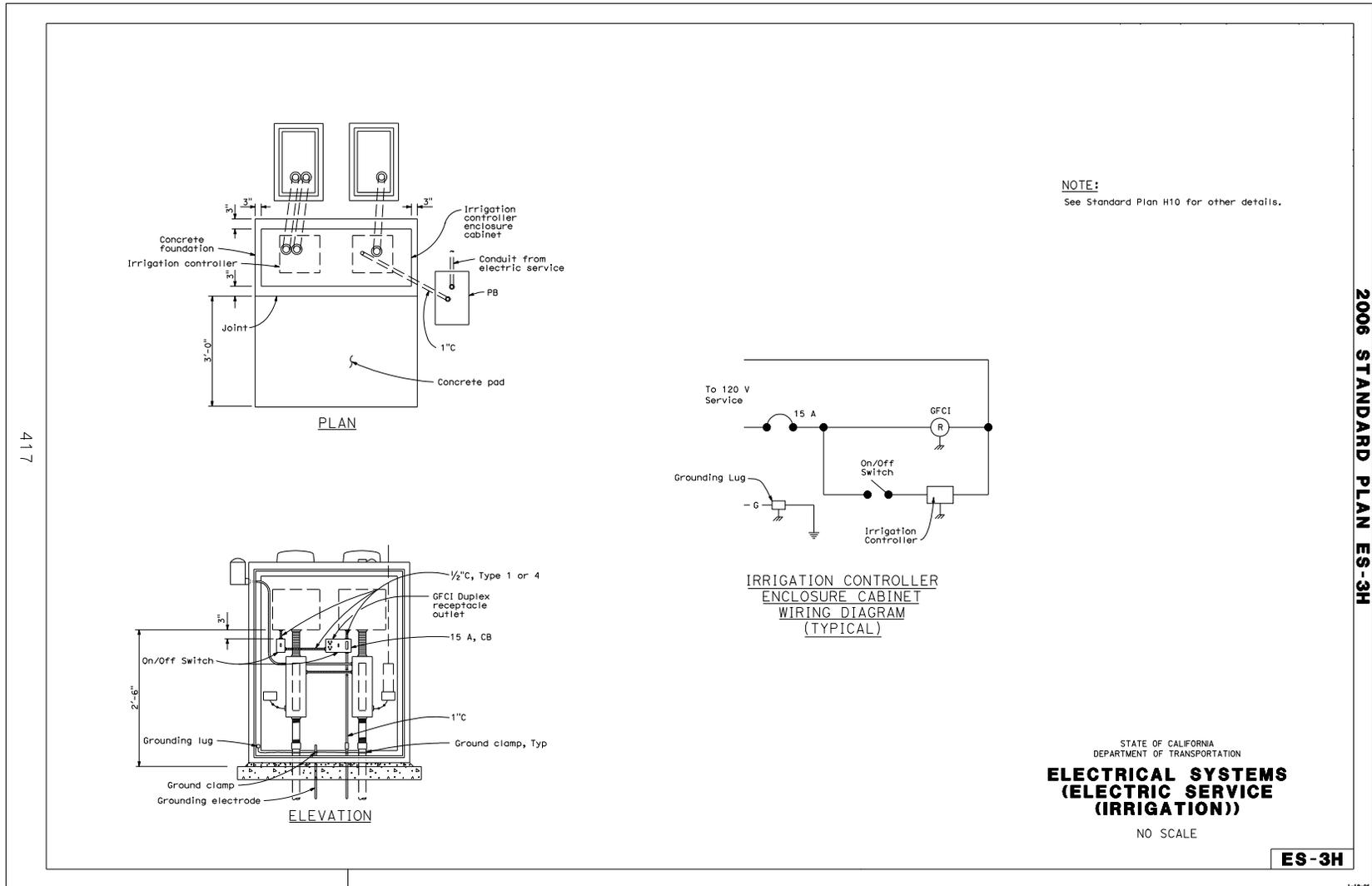
* Excluding conduit web ** Top dimension

PULL BOX	CONCRETE BOX				NON-PCC BOX		CONCRETE OR NON-PCC COVERS					
	Minimum * Thickness	Minimum Depth Box and Extension	W0	L0	L1	W1	Minimum ** Thickness	Minimum Depth Box and Extension	L **	W **	R	Edge Thickness
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 1/4"±	1'-2 1/2"±	10 5/8"± 1"	Does Not Apply	1'-8"±	1'-1 3/4"±	0"	1/2"	None
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	Does Not Apply	2'-3"±	1'-4"±	0"	1/2"	None
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	Does Not Apply	2'-9"±	1'-8"±	0"	1/2"	None

* Excluding conduit web ** Top dimension

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(PULL BOX DETAILS)**

NO SCALE ES-8

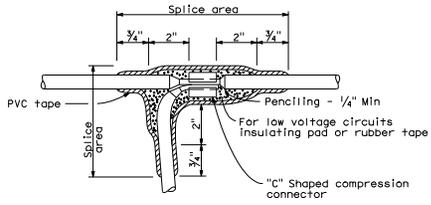


NOTE:
See Standard Plan H10 for other details.

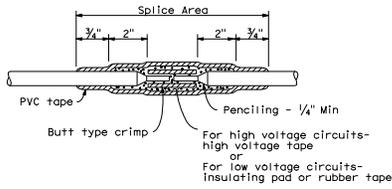
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(ELECTRIC SERVICE
(IRRIGATION))**
NO SCALE

ES-3H

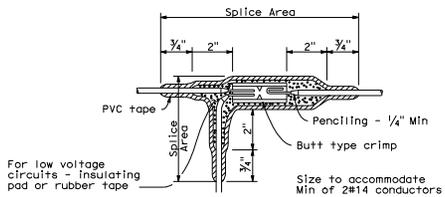
417



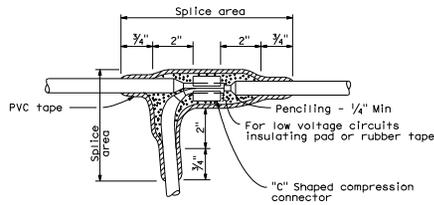
TYPE "C" SPLICE
Between 1 free-end and 1 through conductor



TYPE "S" SPLICE
Between 2 free-ends



TYPE "ST" SPLICE



TYPE "T" SPLICE
For 3 free-ends

NOTES:

1. Dimensions are minimum.
2. Rubber tapes shall be rolled after application.

INSULATION METHODS

Low Voltage Circuits (0-600 V)

METHOD "B"

1. Completely cover the splice area with electrical insulating coating and allow to dry.
2. Apply 2 layers of electrical insulating pad with minimum thickness of 1/4" each layer or 2 layers, half lapped, synthetic oil resistant, self fusing rubber tape.
3. Apply 3 layers half lapped polyvinyl chloride tape.
4. Cover entire splice with electrical insulating coating and allow to dry.

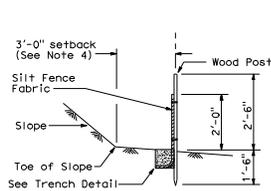
High Voltage Circuits (Over 600 V)

1. Completely cover the splice area with electrical insulating coating and allow to dry.
2. Apply high voltage tape to a minimum thickness equal to original insulation.
3. Apply 3 layers half lapped polyvinyl chloride tape.
4. Cover entire splice with electrical insulating coating and allow to dry.

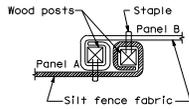
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SPLICING DETAILS)**

NO SCALE

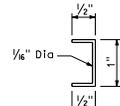
ES-13A



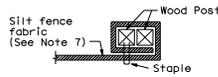
SECTION A-A
TEMPORARY SILT FENCE



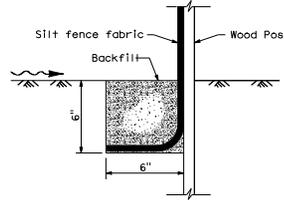
PLAN
POST AT JOINTS



STAPLE DETAIL
(See Note 8)



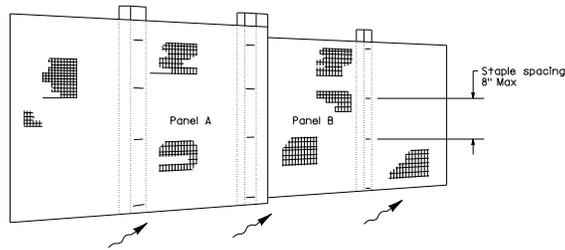
PLAN
END POST DETAIL



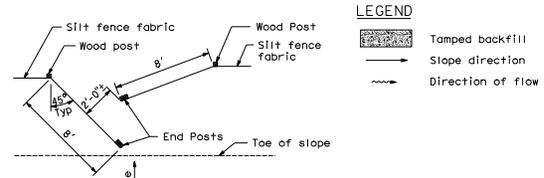
SECTION
TRENCH DETAIL

NOTES:

1. Install Temporary Silt Fence by first digging trench, driving posts, placing and securing fabric, then backfill and tamp.
2. Reach length not to exceed 500 feet.
3. The down stream end of the Temporary Silt Fence shall have the last 8' angled up slope.
4. Setback dimensions may vary to fit field conditions.
5. Posts to overlap and fence fabric to fold around each post one full turn. Secure fabric with 4 staples for each post.
6. Posts shall be driven tightly together to prevent potential flow-through of sediment at the joint. The tops of the posts shall be secured to each other with wire.
7. For each end post, fence fabric shall be folded around two posts one full turn and secured with 4 staples.
8. Minimum of 4 staples shall be installed per post. Dimensions shown are typical.
9. Maintenance openings shall be constructed in a manner to ensure that sediment is retained by the temporary silt fence.
10. Joint sections shall not be placed at sump locations.



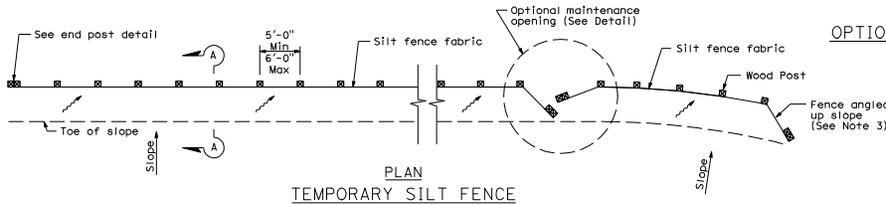
PERSPECTIVE
SILT FENCE PANELS AT JOINTS



OPTIONAL MAINTENANCE OPENING DETAIL

LEGEND

- Tamped backfill
- Slope direction
- Direction of flow



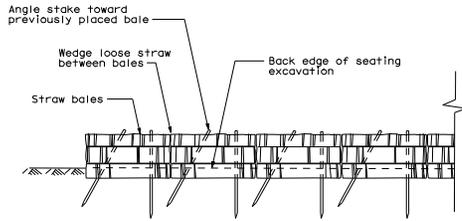
PLAN
TEMPORARY SILT FENCE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY SILT FENCE)**

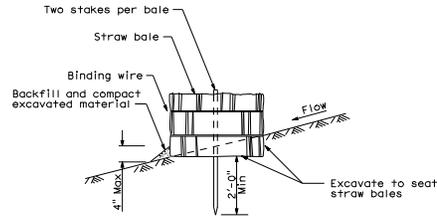
NO SCALE

T51

227



FRONT ELEVATION

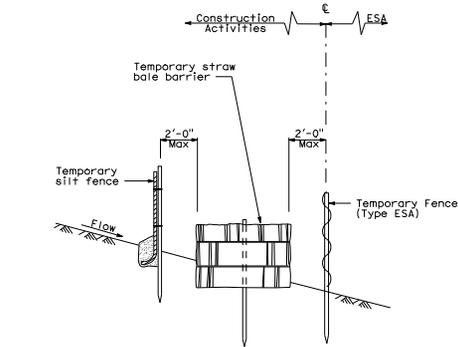


SECTION

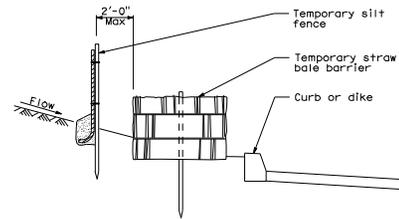
NOTE:
1. Temporary silt fence and temporary fence (Type ESA) shown for reference purposes only.

TEMPORARY STRAW BALE BARRIER

228



SECTION
PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
AND TEMPORARY FENCE (TYPE ESA)
USED WITH TEMPORARY STRAW BALE BARRIER
(See Note 1)

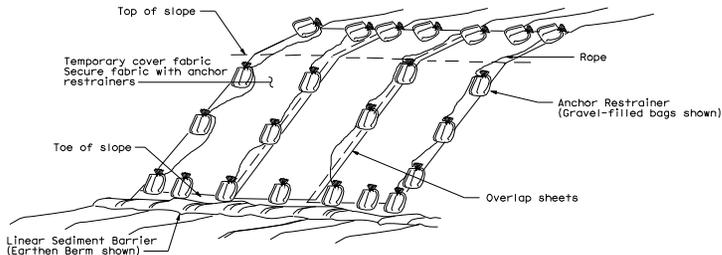


SECTION
PLACEMENT DETAIL
FOR TEMPORARY SILT FENCE
USED WITH TEMPORARY
STRAW BALE BARRIER
(See Note 1)

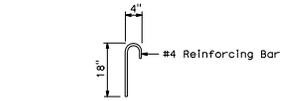
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY STRAW BALE BARRIER)**
NO SCALE

T52

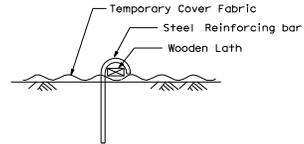
10-20-06



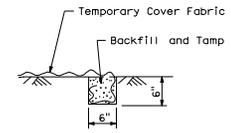
PERSPECTIVE
TEMPORARY COVER ON SLOPE



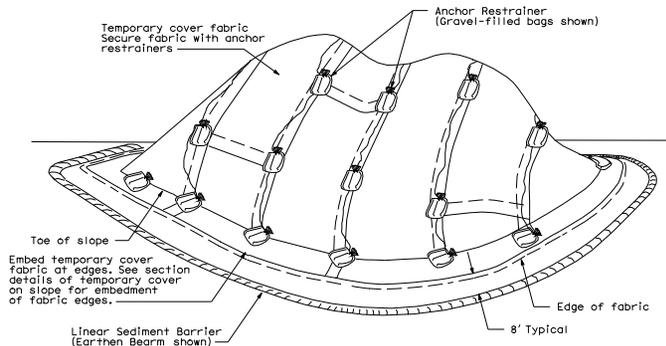
STEEL REINFORCING BAR DETAIL



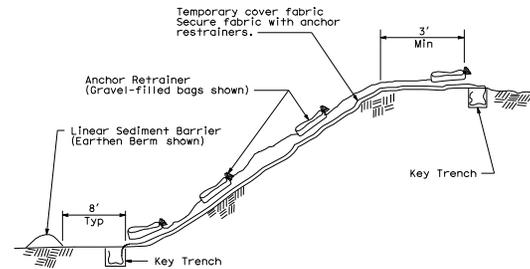
SECTION
ANCHOR RESTRAINER
(Steel bar and wooden lath)



SECTION
KEY TRENCH DETAIL



PERSPECTIVE
TEMPORARY COVER ON STOCKPILE

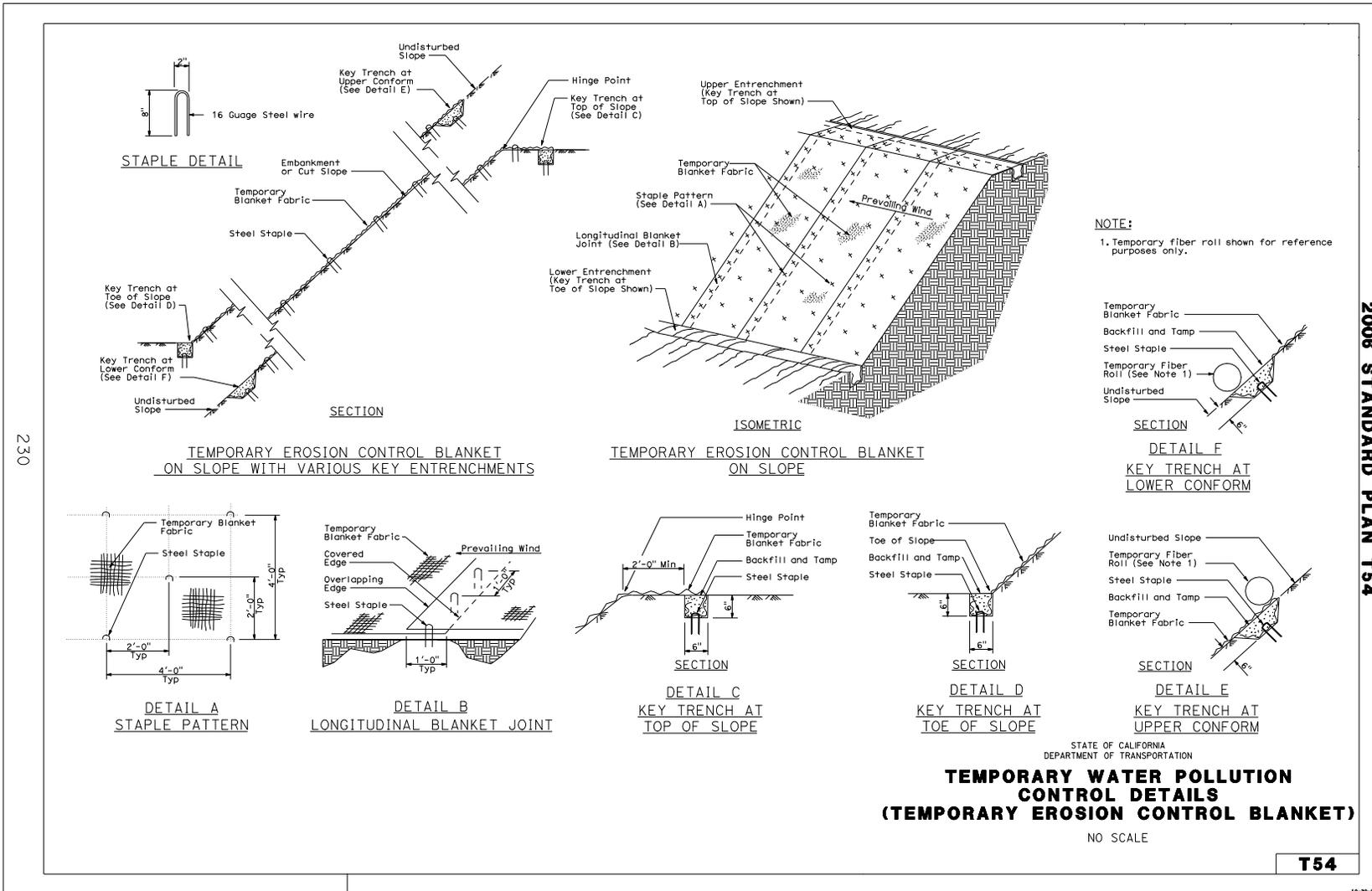


SECTION
TEMPORARY COVER ON SLOPE

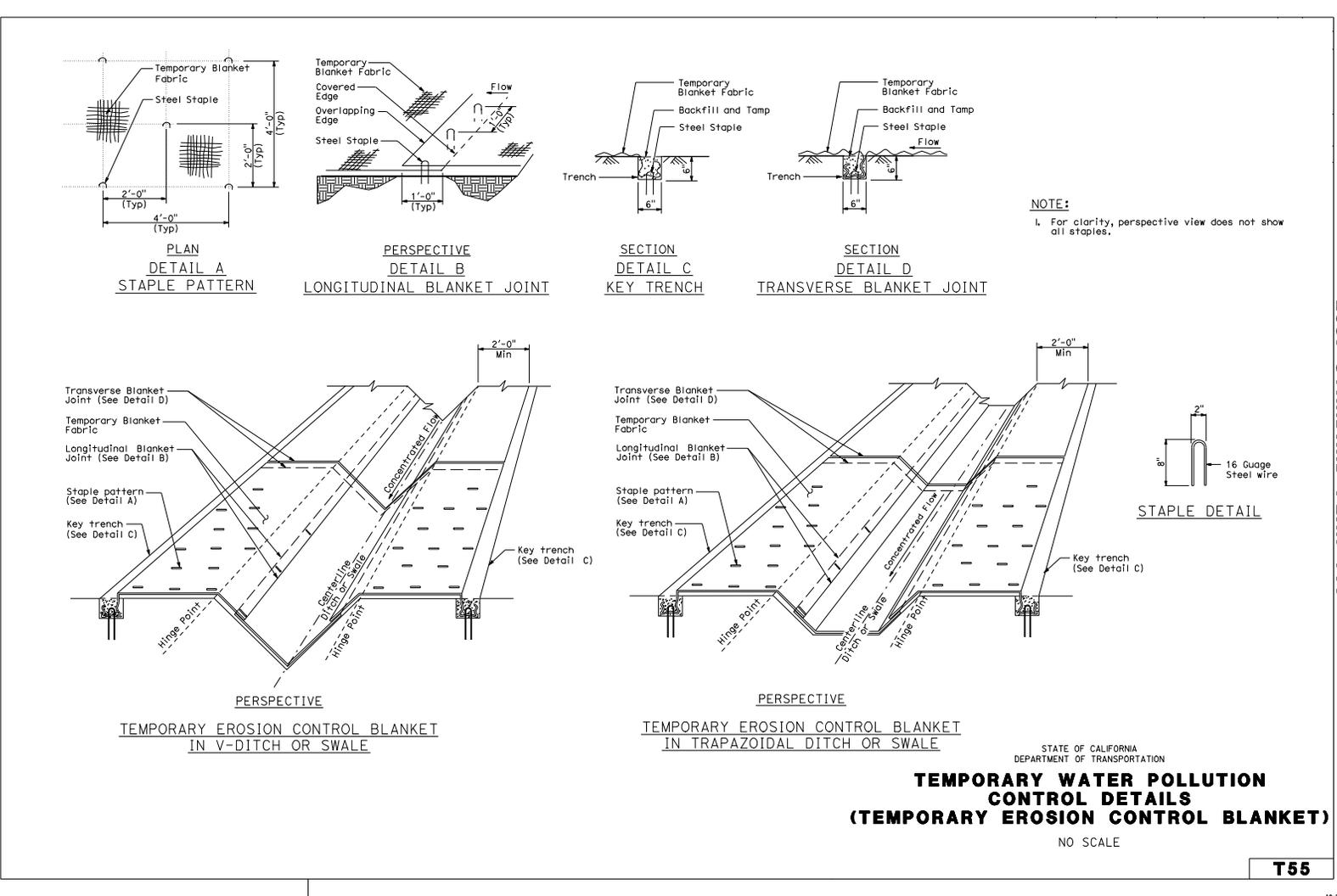
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY COVER)**

NO SCALE

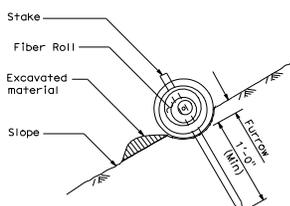
T53



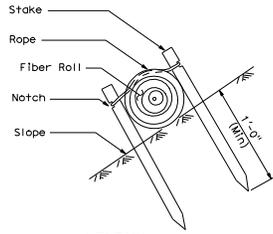
230



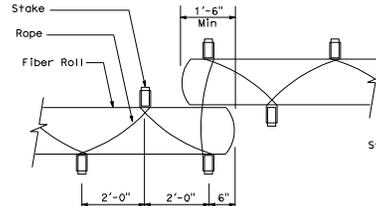
231



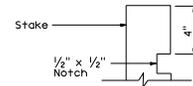
SECTION
TEMPORARY FIBER ROLL
(TYPE 1)



SECTION
TEMPORARY FIBER ROLL
(TYPE 2)



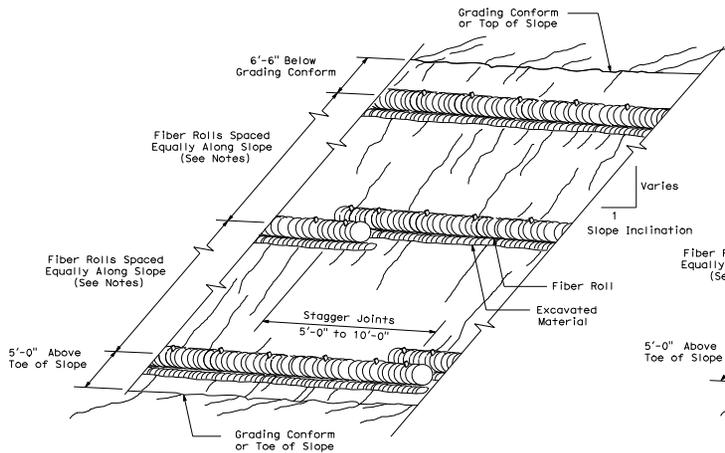
PLAN
TEMPORARY FIBER ROLL
(TYPE 2)



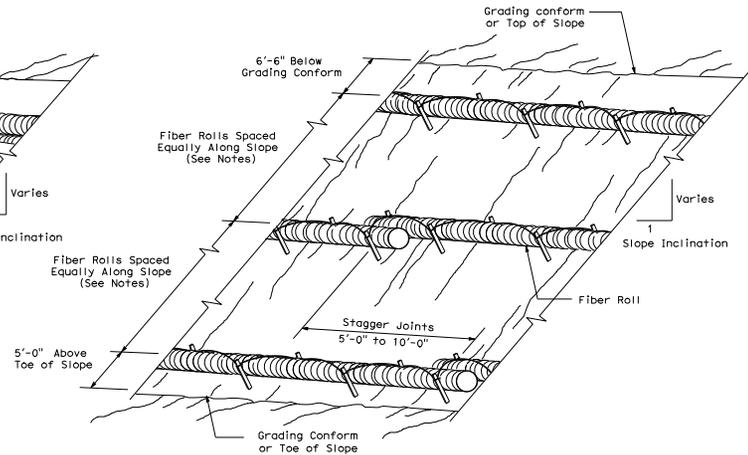
ELEVATION
STAKE NOTCH DETAIL

NOTES:

1. Temporary fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



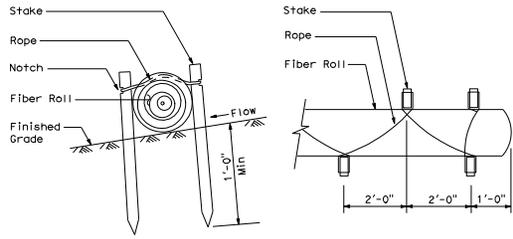
PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY FIBER ROLL)**

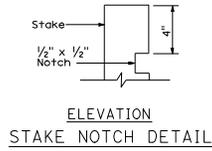
NO SCALE

T56

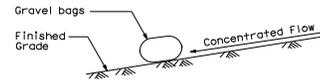
232



SECTION
STAKING AND LASHING DETAIL

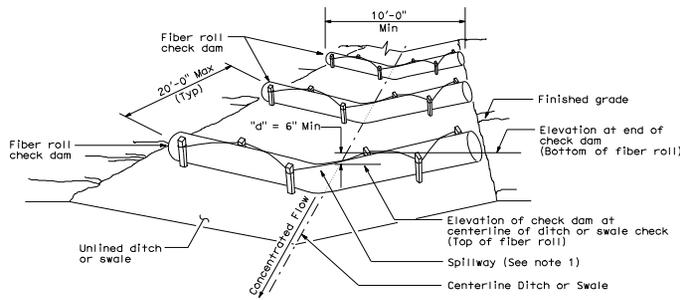


ELEVATION
STAKE NOTCH DETAIL

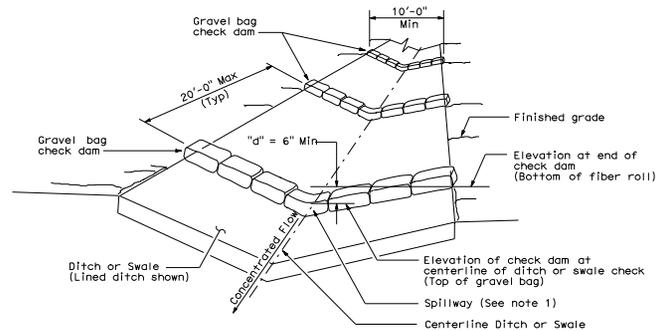


SECTION
TEMPORARY CHECK DAM (TYPE 2)

NOTE:
1. Spillway depth "d" shall be maintained to prevent flanking of concentrated flow around the ends of each check dam.



PERSPECTIVE
TEMPORARY CHECK DAM (TYPE 1)
(Total of 3 check dams shown)



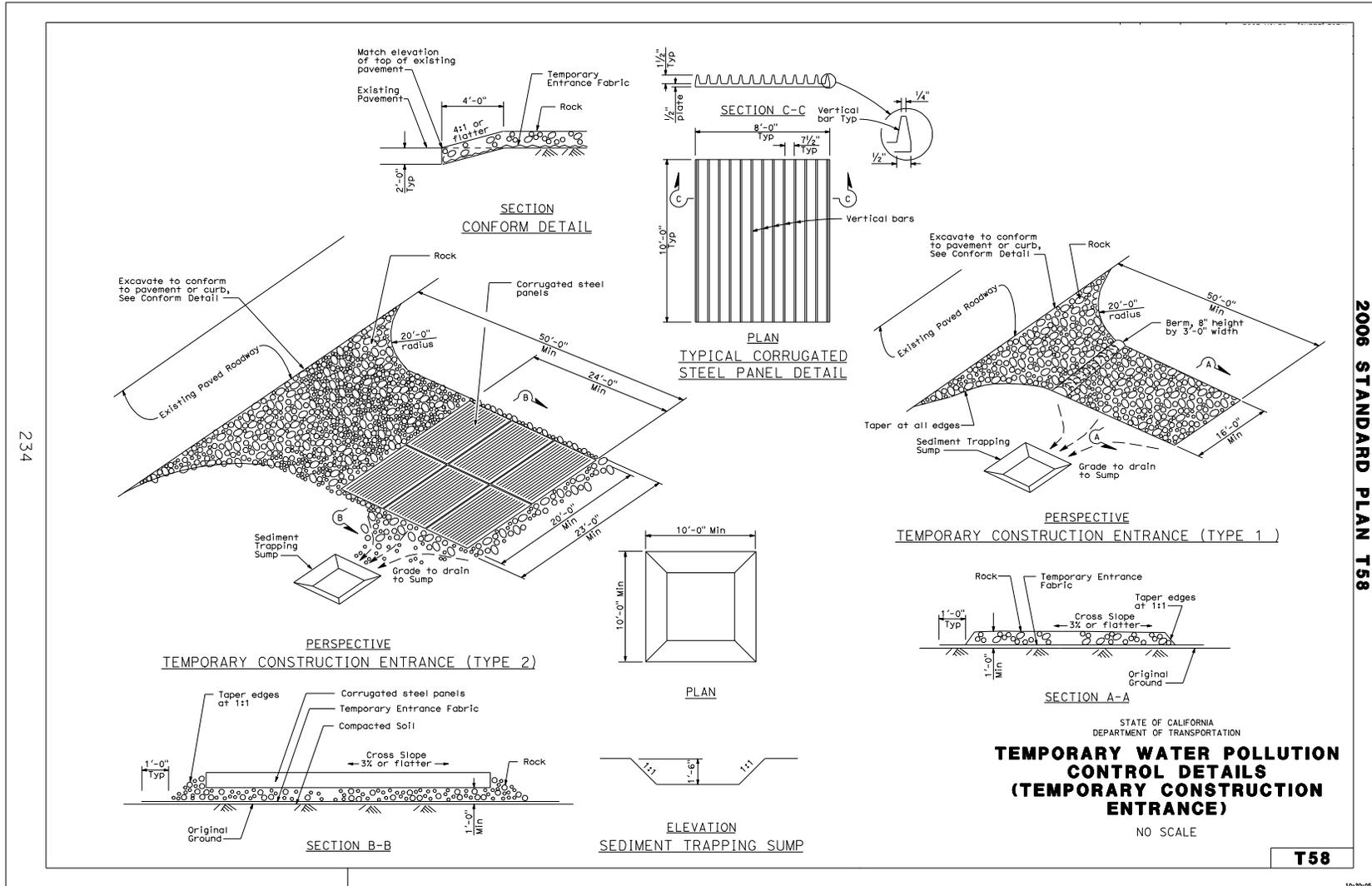
PERSPECTIVE
TEMPORARY CHECK DAM (TYPE 2)
(Total of 3 check dams shown)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY CHECK DAM)**

NO SCALE

T57

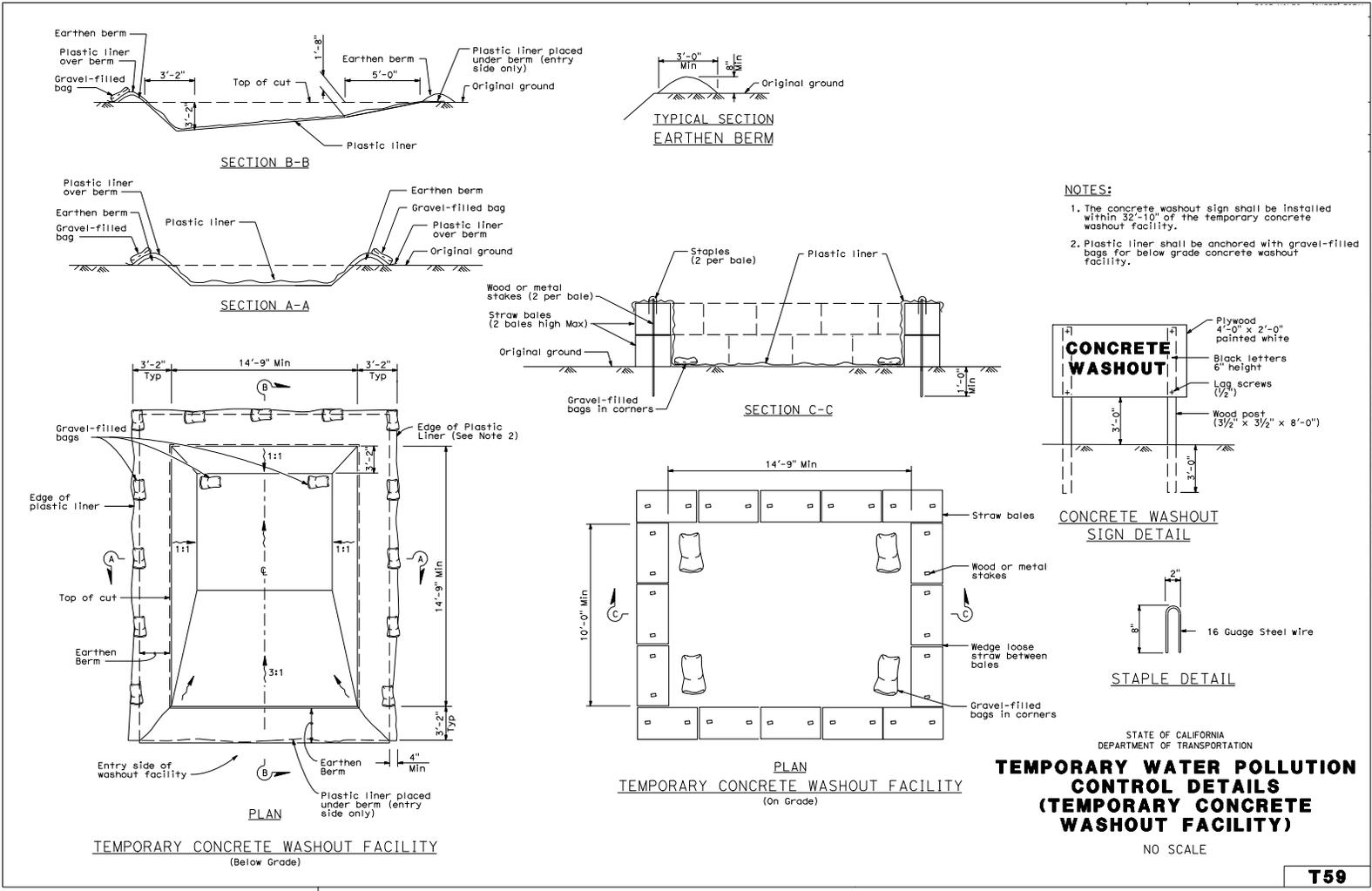
233



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY CONSTRUCTION ENTRANCE)
 NO SCALE

T58

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