Removal of pavement markers from existing pavement shall be considered as included in the bid unit price paid for Roadway Excavation for payment purpose and no additional compensation will be allowed.

Relative Compaction:

Whenever relative compaction is specified to be determined by Test Method No. Calif. 216, the in-place density may be determined by Test Method No. Calif. 231. The in-place density required by Test Method No. Calif. 312 may be determined by Test Method No. 231. The wet weight or dry weight basis and English Units of Measurement may be used at the option of the Materials Engineer.

Method of Payment

The contract unit bid price paid per cubic yard for Roadway Excavation in conformance with section 9-1.015 "Final Pay Items" of Standard Specifications, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for completing all work involved in Roadway Excavation/Earthwork, including sawcutting, hauling, placement and compaction of the excavated material, removal of existing striping and markings, removal and disposal of PCC pavement and PCC slurry, and the grading to drain of all the cut and fill slopes to the nearest culverts as directed by the Engineer and no additional compensation will be allowed therefor.

10-1.31 IMPORT BORROW:

Imported borrow and fill material needed for Gilman Springs Road from Sta. 20+00 to Sta. 148+80 and Alessandro Boulevard shall be free from organics and deleterious material and shall conform to the provisions of section 19 Earthwork of the Standard Specifications and these Special Provisions and shall be material that is similar or better in quality than the existing basement soil. The material shall have minimum shear strength of 250 pounds per square foot (psf) cohesion and 25 degrees friction angle in accordance with ASTM D 3080. The material shall have a minimum of 25 percent passing the No. 200 sieve in accordance with ASTM D 1140.

A minimum of 12 inches shall be removed from the existing slope surface to clear vegetation and permeable topsoils. The slope shall be benched into competent materials to a minimum of 8 feet in width and a maximum of 4 feet in height. The fill shall be constructed at 2-feet vertical intervals. Additionally, a keyway shall be constructed across the toe of the slope. The keyway should be a minimum of 15 feet wide and a minimum of 2 feet below the toe of the slope with a 2 percent slope gradient toward the cut face. Fill slope shall be overbuild during construction and then cut back to neat line to expose fully compacted slope surface

Import Borrow shall include but not limited to:

- Shoulder fill material
- fill material for the roadway and the roadway slopes

- Fill material used to matchup the dirt driveways and side dirt approach roads.
- Fill material needed for Safety Edge at Alessandro Boulevard.

Pavement and base material removal will be considered as roadway excavation for payment purposes.

Relative Compaction:

Whenever relative compaction is specified to be determined by Test Method No. Calif. 216, the in-place density may be determined by Test Method No. Calif. 231. The in-place density required by Test Method No. Calif. 312 may be determined by Test Method No. 231. The wet weight or dry weight basis and English Units of Measurement may be used at the option of the Materials Engineer.

Method of Payment

Imported borrow will be paid for by the in-place cubic yard, and in conformance with section 9-1.015 "Final Pay Items" of Standard Specifications, and shall include full compensation for clearing and stripping the material sites if necessary; excavating, loading, hauling, depositing, spreading and compacting the material in place, within the roadway as specified. It shall also include furnishing all labor material, tools, equipment and incidentals, and for doing all the work involved in obtaining and placing import borrow, complete in place and as shown on the plans and as specified in these specification and special provisions and as directed by the Engineer and no additional compensation will be allowed therefor.

10-1.32 GRINDING ASPHALT CONCRETE IN PLACE (PULVERIZING):

The Contractor shall grind asphalt concrete in place (pulverize) to the full depth of AC pavement at locations shown on the plans and to pass a one inch screen. However up to five (5) percent of the material may be retained on the one inch screen, provided that the oversized material is not large enough to adversely affect the stability and hamper the shaping and compacting operation.

The Limit of Grinding Asphalt Concrete in Place on Gilman Springs Road is from Sta. 148+80 to Sta. 191+18, and roadway repair at Jack Rabbit Trail as shown on the plans.

The excess of the pulverized material and any material in excess of five (5) percent not passing the one inch screen shall be removed and disposed of outside of the right of way as provided in Section 7-1.13 of the Standard Specifications.

The material shall be of such sizes that the percentage composition by weight of materials shall conform to the following grading using Test Method Calif. 202.

Sieve Size	Percentage Passing Sieve
1 inch	95-100
3/4 inch	85-100

No. 4	40-65
No. 30	10-30
No. 200	2-15

Material not conforming to the above grading may be used, subject to other tests as prescribed by the Materials Engineer.

The pulverized asphalt concrete shall be stock piled if necessary, and placed as shown on the plans or as directed by the Engineer, graded to a smooth even ride and compacted (95 percent minimum) in conformance with Section 26-1.05, "Compacting" of the Standard Specifications.

Method of Payment

The contract unit bid price paid per square yard for Grinding Asphalt Concrete in place shall include full compensation for furnishing all labor, tools, material and equipment and doing all the work involved, and no additional compensation will be allowed therefor.

10-1.33 GEOGRID:

This work includes constructing a mechanically stabilized layer (MSL) with geogrid placed between the subgrade and pavement structure.

MSL geogrid must be Tensar TX7 or equal, and shall have the minimum characteristics shown in the table below:

Properties	Longitudinal	Diagonal	Transverse	General
Rib Pitch, in	1.60	1.60	-	
Mid-rib depth, in	-	0.08	0.06	
Mid-rib width, in	-	0.04	0.06	
Rib Shape				Rectangular
Aperture Shape				Triangular

If proposing an alternative MSL equal to Tensar TX7, the Contractor shall submit the following at least 30 days before use:

1. An MSL design sealed and signed by an Engineer registered in California.
2. Performance testing results documenting calibration and validation in compliance with the following:

a. Accelerated pavement testing (APT) conducted in the United States and in compliance with NCHRP Report 512 and Synthesis 325. Performance of pavement sections must be evaluated with standard highway moving wheel loads. Geogrid reinforced sections must be compared to a control section. Testing must be performed on paved structure. Test results of the geogrid section must demonstrate a minimum of 70,000 equivalent single axle loads at less than 1/2 inch rut depth. The rutting performance of the sections must be assessed by trenching. The APT must be continued beyond the rutting failure criterion.

b. In-ground performance testing conducted in California and in compliance with AASHTO R50. A minimum of 3 performance tests must be completed on subgrade conditions representative of this project. Reinforced sections must be compared to a control section for each subgrade condition. The testing and evaluation of the geogrid performance shall be conducted by an independent firm and all results of tests and reports shall be signed by an Engineer registered in California.

No proposed equal geogrid shall be accepted based on material index properties, in-air index testing of geogrid properties, or explanations of performance based on material index properties.

The listed product is intended as a guideline, and products from alternate manufacturers will be accepted provided that the product and its performance are a close approximation of the specified product. The Contractor shall submit the proposed alternate product to the Engineer for evaluation and approval prior to placing an order with the vendor.

The geogrid shall be installed in accordance with this specification and installation guidelines and recommendations by the manufacturer. Additionally, the Contractor shall not:

1. Stockpile material on MSL geogrid
2. Place more MSL geogrid than can be covered in 48 hours

The geogrid may be temporarily secured in place with ties, staples, pins, or backfill or as directed by the Engineer.

When underlying subgrade is firm and stable with minimum rutting, rubber-tired equipment may pass over the MSL geogrid at speeds less than 5 mph. Do not use sudden braking or sharp turning movements.

Damaged or defective geogrid shall be replaced by the Contractor at no additional cost to the County. Replacement of damaged area shall consist of replacing the affected area adding 3 feet of geogrid beyond the limits of the affected area.

Method of Payment

The contract bid price paid per square yard for Subgrade Enhancement Fabric (Geogrid) shall include full compensation for furnishing all labor, tools, material, equipment, and incidentals, and for doing all the work involved and complete in place for each layer of geogrid in the area of the asphalt concrete roadway, and no additional compensation will be allowed therefor.

10-1.34 PLACE GEOTEXTILE:

Geotextile shall conform to these Special Provisions and as directed by the Engineer.

Materials:

The geotextile shall have the following properties:

Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.

The geotextile shall be woven from high-tenacity long-chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages.

TABLE 1 – SUBGRADE STABILIZATION GEOTEXTILE

Property	Test Method	Units	Required Value	
Reinforcement Properties			MD[1]	CD[1]
Ultimate tensile Strength	ASTM D4595	kN/m(lbs/ft)	70(4800)	70(4800)
Tensile Strength @ 2% Strain	ASTM D4595	kN/m(lbs/ft)	14(960)	19.3(1320)
Tensile Strength @ 5% Strain	ASTM D4595	kN/m(lbs/ft)	35(2400)	35(2400)
Permittivity	ASTM D4491	sec^{-1}	0.4	
Apparent Opening Size	ASTM D4751	mm(U.S. Sieve)	0.6(30)	
Survivability Index Values			MD[1]	CD[1]
Grab Tensile Strength	ASTM D4632	N(lbs)	2120(475)	1950(440)
Tear Strength	ASTM D4533	N(lbs)	800(180)	800(180)
Puncture Strength	ASTM D4833	N(lbs)	870(195)	
Burst Strength	ASTM D3786	kPa(psi)	8259(1200)	
Ultraviolet Stability (after 500 hrs)	ASTM D4355	%	70	

MD[1] – Machine or roll direction; CD[1] – Cross machine direction

Submittals:

The Contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. The certification shall state that the furnished geotextile meets MARV requirements of this specification as evaluated under the manufacturer's quality control program. The certification shall be attested to by a person having legal authority to bind the manufacturer.

Quality Assurance:

Pre-Construction Conference – Prior to the installation of the geotextile, the Contractor shall arrange a meeting at the site with the geotextile material supplier and, where applicable, the geotextile installer. The Engineer shall be notified at least 3 days in advance of the time of the meeting. A representative of the geotextile supplier shall be available on an "as needed" basis during construction.

Delivery, Storage and Handling:

A. Geotextiles labeling, shipment, and storage shall follow ASTM D4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

B. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight and contaminants.

C. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geotextile.

Installation:

A. The geotextile shall be laid smooth without wrinkles or folds on the prepare subgrade in the direction of construction traffic. Adjacent geotextile rolls shall be overlapped a minimum of 24 inches.

B. On curves, the geotextile may be folded or cut to conform to the curves. The fold or overlap shall be in the direction of construction and held in place by pins, staples, or piles of fill or rock.

C. Prior to covering, the geotextile shall be inspected by a certified inspector of the Engineer to ensure that the geotextile has not been damaged during installation. Damages geotextiles, as identified by the Engineer, shall be repaired immediately. Cover the damaged area with a geotextile patch which extends an amount equal to the required overlap beyond the damaged area.

D. The aggregate base shall be placed by end dumping onto the geotextile from the edge of the geotextile, or over previously placed aggregate base. Construction vehicles shall not be allowed directly on the geotextile. The aggregate base shall be placed such that at least the minimum specified lift thickness of six inches shall be between the geotextile and equipment tires or tracks at all times. Turning of vehicles shall not be permitted on the first lift above the geotextile.

E. Any ruts occurring during construction shall be filled with additional aggregate base material, and compacted to the specified density.

F. If placement of the backfill material causes damage to the geotextile, the damaged area shall be repaired as previously described above. The placement procedure shall then be modified to eliminated further damage from taking place.

Protection:

Follow the manufacturer's recommendations regarding protection from exposure to sunlight.

Method of Payment

The contract unit bid price paid per square yard for Geotextile and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in placing geotextile, complete in place, as shown on the construction plans, as specified in these Special Provisions and as directed by the Engineer and no additional compensation will be allowed.

10-1.35 AGGREGATE BASE:

Aggregate base shall be Class 2 and shall conform to the provisions in Section 26, "Aggregate Bases" of the Standard Specifications and these Special Provisions and shall meet the gradation requirements for ¾ inch maximum.

The first paragraph of Section 26-1.02A, "Class 2 Aggregate Base" shall be modified to read:

Aggregate for Class 2 aggregate base shall be free from organic matter and other deleterious matter, and shall be of such nature that it can be compacted readily under watering and rolling to form a firm and stable base. Aggregate may consist of broken and crushed asphalt concrete or Portland cement concrete and may contain crushed aggregate base or other rock materials. The material may contain no more than 3 percent brick by weight as determined by California Test Method 202 as modified: Brick material retained on a No.4 sieve shall be identified visually and separated manually. Brick quantification shall be based on total weight of dry sample. Also, material retained on the 4.75 mm (No.4) sieve shall contain no more than 15 percent of particles (gravel) that have no more than one fractured face.

The Quality Requirements contained in Section 26-1.02A shall be modified to read:

QUALITY REQUIREMENTS

Test	Contract Compliance
Resistance (R-Value) Virgin Rock Crushed Miscellaneous	 78 Minimum 80 Minimum
Sand Equivalent Crushed Miscellaneous Virgin	 35 Minimum 25 Minimum
Durability Index	35 Minimum
Percentage Wear 100 Revolutions 500 Revolutions	 15 Maximum 52 Maximum

Quantities of Aggregate Base will be paid for at the contract unit price per cubic yard and in accordance with the provisions of Sections 26-1.06 and 26-1.07 of the Standard Specifications.

10-1.36 HOT MIX ASPHALT:

The asphalt concrete shall be Type "A" and Type "C" and shall conform to the requirements of Section 39 of the Standard Specifications and its amendments and the these Special Provisions.

Aggregate grading shall be half inch (1/2") for HMA Type "A" for dikes, overside drains, and potholes patchwork.

Aggregate grading shall be one inch (1") for HMA Type "C".

The grade of asphalt binder mixed with aggregate for HMA Type "A" and Type "C" must be PG 70-10.

Aggregate Gradation
(Percentage Passing)
HMA Type C

1–inch HMA Type C

Sieve Sizes	Target Value Limits	Allowable Tolerance
1"	100	—
3/4"	88 - 93	TV ±5
1/2"	72 - 85	TV ±6
3/8"	55 - 70	TV ±6
No. 4	35 - 52	TV ±7
No. 8	22 - 40	TV ±5
No. 30	8 - 24	TV ±4
No. 50	5 - 18	TV ±4
No. 200	3 - 7	TV ±2

The aggregate shall conform to the following quality requirements prior to the addition of asphalt binder.

Aggregate Quality

Quality Characteristic	Test Method	Requirement
Percent of crushed particles [a]	CT 205	
Coarse aggregate (% min.)		
Two fractured faces		95
Fine aggregate (Passing No. 4 sieve and retained on No. 8 sieve.) (% min)		
One fractured face		90
Los Angeles Rattler (% Max.) [a]	CT 211	
Loss at 100 rev.		12
Loss at 500 rev.		40
Sand equivalent [a, b] (min.)	CT 217	47
Fine aggregate angularity (% min.) [a]	AASHTO T 304 Method A	45
Flat and elongated particles (% max. by weight @ 5:1).) [a]	ASTM D 4791	10

Note:
[a] Combine aggregate in the JMF proportions.
[b] Reported value must be the average of 3 tests from a single sample.

During mix design, determine the optimum binder content (OBC) at 5 percent air voids content. Determine the proposed JMF from a mix design that complies with the following table:

Hot Mix Asphalt Mix Design Requirements

Quality Characteristic	Test Method or Lab Procedure	Requirement	
Design air voids content (%)		4.0	5.0
Air voids content [a] (%)	CT 367	4.0	5.0
Voids in mineral aggregate (% min.) [b]	LP-2		
1" grading			
with NMAS = 1"		12	13
with NMAS = 3/4"		13	14
Voids filled with asphalt (%)	LP-3		
1" grading		65.0 – 75.0	60.0 – 70.0
Dust proportion [c] (P200/Pbe)	LP-4	0.6 – 1.3	0.6 – 1.3
Stabilometer value (min.)	CT 366	37 [d]	37 [d]

Notes:

[a] Calculate the air voids content of each specimen using CT 309 and LP-1. Modify CT 367, Paragraph C5, to use the exact air voids content specified in the selection of OBC.

[b] Minimum VMA is dependent upon NMAS of JMF. NMAS is defined as one sieve size larger than the first sieve to retain more than 10 percent.

[c] Asphalt content based on dry weight of aggregate

[d] Follow CT 366: 150 tamps at 500 psi tamping pressure and 230 °F compaction temperature; cool specimens to 140 °F; apply 12,600 lb leveling load; and perform stabilometer test at 140 °F.

The asphalt lift thickness table, as shown in Section 39-6.01, "General Requirements" of the Standard Specifications, is revised as follows:

Total Thickness Shown on Plans	Minimum No. of Layers	Top Layer Thickness (foot)		Next Lower Layer Thickness (foot)		All Other Lower Layer Thickness (foot)	
		Min.	Max.	Min.	Max.	Min.	Max.
0.24-foot or less[a]	1	-	-	-	-	-	-
0.25-foot	2[b]	0.12	0.13	0.12	0.13	-	-
0.26 - 0.46 foot	2	0.12	0.21	0.14	0.25	-	-
0.47-foot or more	3 or more	0.15	0.21	0.15	0.25	0.17	0.25

Footnotes to asphalt thickness table are revised as follows:

a. No Change.

b. One layer of 0.25 foot thick may be placed as approved by the Engineer. When the Traffic Index specified is 5.5 or below, two layers shall be placed.

Asphalt:

Asphalt shall conform to the provisions in this Section, "Asphalts". Section 92, "Asphalts" of the Standard Specifications shall not apply.

Asphalt shall consist of refined petroleum or a mixture of refined liquid asphalt and refined solid asphalt, prepared from crude petroleum. Asphalt shall be:

1. Free from residues caused by the artificial distillation of coal, coal tar, or paraffin;
2. Free from water;
3. Homogeneous.

General:

The Contractor shall furnish asphalt in conformance with the State of California Department of transportation's Certification Program for Suppliers of Asphalt". The Department maintains the program requirements, procedures, and a list of approved suppliers at http://www.dot.ca.gov/hq/esc/Translab/fpmcoc.htm.

The Contractor shall ensure the safe transportation, storage, use, and disposal of asphalt.

The Contractor shall prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

Performance Grade:

Performance graded (PG) asphalt binder shall conform to the following:

Property	AASHTO Test Method	Specification Grade		
		PG 64-10	PG 64-16	PG 70-10
Original Binder				
Flash Point, Minimum °C	T48	230	230	230
Solubility, Minimum %[b]	T44	99	99	99
Viscosity at 135 °C, Maximum, Pa·s	T316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum $G^*/\sin(\delta)$, kPa	T315	64 1.00	64 1.00	70 1.00
RTFO Test[e], Mass Loss, Maximum, %	T240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum $G^*/\sin(\delta)$, kPa	T315	64 2.20	64 2.20	70 2.20
Ductility at 25 °C Minimum, cm	T51	75	75	75
PAV[f] Aging, Temperature, °C	R28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum $G^*/\sin(\delta)$, kPa	T315	31[d] 5000	28[d] 5000	34[d] 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, Mpa Minimum M-value	T313	0 300 0.300	-6 300 0.300	0 300 0.300

Notes:

a. Not used.

b. The Engineer will waive this specification if the supplier is a Quality Supplier as defined by Department's "Certification Program for Suppliers of Asphalt".

c. The Engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.

d. Test the sample at 3 °C higher if it fails at the specified test temperature. $G^*\sin(\delta)$ shall remain 5000 kPa maximum.

e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T240 or ASTM Designation: D2827.

f. "PAV" means Pressurized Aging Vessel.

Performance graded polymer modified asphalt binder (PG Polymer Modified) is:

Performance Graded Polymer Modified Asphalt Binder [a]

Property	AASHTO Test Method	Specification Grade		
		PG 58-34 PM	PG 64-28 PM	PG 76-22 PM
Original Binder				
Flash Point, Minimum °C	T 48	230	230	230
Solubility, Minimum % [b]	T 44[c]	98.5	98.5	98.5
Viscosity at 135°C, [d] Maximum, Pa·s	T 316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C	T 315	58	64	76
Minimum G*/sin(delta), kPa		1.00	1.00	1.00
RTFO Test , Mass Loss, Maximum, %	T 240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C	T 315	58	64	76
Minimum G*/sin(delta), kPa		2.20	2.20	2.20
Dynamic Shear, Test Temp. at 10 rad/s, °C	T 315	Note e	Note e	Note e
Maximum (delta), %		80	80	80
Elastic Recovery[f], Test Temp., °C	T 301	25	25	25
Minimum recovery, %		75	75	65
PAV[g] Aging, Temperature, °C	R 28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C	T 315	16	22	31
Maximum G*sin(delta), kPa		5000	5000	5000
Creep Stiffness, Test Temperature, °C	T 313	-24	-18	-12
Maximum S-value, MPa		300	300	300
Minimum M-value		0.300	0.300	0.300

Notes:

a. Do not modify PG Polymer Modifier using acid modification.
b. The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt".
c. The Department allows ASTM D5546 instead of AASHTO T44.
d. The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
e. Test temperature is the temperature at which G*/sin(delta) is 2.2 kPa. A graph of log G*/sin(delta) plotted against temperature may be used to determine the test temperature when G*/sin(delta) is 2.2 Kpa. A graph of (delta) versus temperature may be used to determine delta at the temperature when G*/sin(delta) is 2.2 kPa. The Engineer also accepts direct measurement of (delta) at the temperature when G*/sin(delta) is 2.2 kPa.
f. Test without a force ductility clamp may be performed.
g. "PAV" means Pressurized Aging Vessel.

Sampling:

The Contractor shall provide a sampling device in the asphalt feed line connecting the plant storage tanks to the asphalt weighing system or spray bar. The sampling device shall be accessible between 24 and 30 inches above the platform. The Contractor shall provide a receptacle for flushing the sampling device.

The sampling device shall include a valve:

1. With a diameter between 1/2 and 3/4 inches;

2. Manufactured in a manner that a one-quart sample may be taken slowly at any time during plant operations;

3. Maintained in good condition.

The Contractor shall replace failed valves.

In the presence of the Engineer, the Contractor shall take 2 one-quart samples per operating day. The Contractor shall provide round friction top containers with one-quart capacity for storing samples.

Applying Asphalt:

Unless otherwise specified, the Contractor shall heat and apply asphalt in conformance with the provisions in Section 93, "Liquid Asphalts" of the Standard Specifications.

Section 39-2.01, "Asphalts" is replaced in its entirety with the followings:

Asphalt binder to be mixed with aggregate shall conform to the provisions in "Asphalts" of these Special Provisions.

Liquid asphalt for prime coat shall conform to the provisions in Section 93, "Liquid Asphalts" of the Standard Specifications and shall be Grade PG 64-10 unless otherwise designated by the contract item or otherwise specified in the Special Provisions.

Asphaltic emulsion for paint binder (tack coat) shall conform to the provisions in Section 94, "Asphaltic Emulsion" of the Standard Specifications for the rapid-setting or slow-setting type and grade approved by the Engineer.

Section 39-3.01B (1) shall be amended to include:

Aggregate of the 3/4 inch or 1/2 inch maximum size and aggregate for asphalt concrete base shall be separated into 3 or more sizes and each size shall be stored in separate bins. If 3 sizes are used, one bin shall contain that portion of the material which will pass the maximum size specified and be retained on a 3/8 inch sieve; one bin shall contain that portion of the material which will pass a 3/8 inch sieve and be retained on a No. 8 sieve; and one bin shall contain that portion of the material which will pass a No. 8 sieve.

Aggregate of 1 inch maximum size shall be separated into 2 sizes and each size shall be stored in separate bins. One bin shall contain that portion of the material which will pass the maximum size specified and be retained on a No. 8 sieve and one bin shall contain that portion of the material which will pass a No. 8 sieve.

The bin containing the fine material shall not contain more than 15 percent of material retained on the No. 8 sieve. The material in any of the other bins shall not contain more than 15 percent of material passing a No. 8 sieve. Failure to comply with this requirement shall be corrected immediately, and the material in the bins not meeting these requirements shall be re-screened or wasted.

All asphalt concrete for this project shall be supplied from one source unless approved by the Engineer. Said source shall be listed on the Contractors Source of Materials List as required in Section 6 of the Standard Specifications.

Asphaltic emulsion (tack coat) shall be furnished and applied as provided in Section 39-4.02.

In addition to the provisions in Section 39-5.01, "Spreading Equipment" of the Standard Specifications, asphalt paving equipment shall be equipped with automatic screed controls and a sensing device or devices.

When placing asphalt concrete to the lines and grades established by the Engineer, the automatic controls shall control the longitudinal grade and transverse slope of the screed. Grade and slope references shall be furnished, installed, and maintained by the Contractor. Should the Contractor elect to use a ski device, the minimum length of the ski device shall be 30 feet. The ski device shall be a rigid one piece unit and the entire length shall be utilized in activating the sensor.

When placing the initial mat of asphalt concrete on existing pavement, the end of the screed nearest the centerline shall be controlled by a sensor activated by a ski device not less than 30 feet. The end of the screed farthest from centerline shall be controlled by an automatic transverse slope device set to reproduce the cross slope designated by the Engineer, by a sensor activated by a similar ski device or as directed by the Engineer.

When paving contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat shall be controlled by a sensor that responds to the grade of the previously placed mat and will reproduce the grade in the new mat within a 0.12 inch tolerance. The end of the screed farthest from the previously placed mat shall be controlled in the same way it was controlled when placing the initial mat.

Should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the provisions, including straightedge tolerance, of Section 39-6.03, "Compacting" of the Standard Specifications or elsewhere in these Special Provisions, the paving operations shall be discontinued and the Contractor shall modify the equipment or methods, or furnish substitute equipment.

Should the automatic screed controls fail to operate properly during a day's work, the Contractor may manually control the spreading equipment for the remainder of that day. However, the equipment shall be corrected or replaced with alternative automatically

controlled equipment conforming to the provisions in this section before starting another day's work.

General Criteria For Profiling:

In addition to the straightedge provisions in Section 39-6.03, "Compacting" of the Standard Specifications, asphalt concrete pavement shall conform to the surface tolerances specified herein.

The uppermost layer of asphalt concrete surfacing shall be profiled in the presence of the Engineer using a California Profilograph or equivalent in conformance with California Test 526 and as specified in these Special Provisions.

The California Profilograph or equivalent will not be required for the following areas of the pavement surface but shall conform to the straightedge requirements in Section 39-6.03, "Compacting" of the Standard Specifications:

1. Pavement with a total thickness less than 0.24 foot;

2. Pavement on horizontal curves with a centerline curve radius of less than 1,000 feet and the pavement within the superelevation transition on those curves;

3. Pavement placed in a single lift when required by the Special Provisions;

4. Pavement with extensive grade or cross slope correction which does not receive advance leveling operations in conformance with the provisions in Section 39-6.02, "Spreading" of the Standard Specifications;

5. Pavement for ramps and connectors with steep grades and high rates of superelevation, as determined by the Engineer;

6. Shoulders and miscellaneous areas.

The Contractor shall conform to California Test 526, except a zero (null) blanking band shall be used for determining the Profile Index. Prior to beginning profiles, the profilograph shall be calibrated in the presence of the Engineer. Two profiles shall be obtained within each traffic lane, 3 feet from and parallel with the edges of the lane.

Pavements profiled shall conform to the following Profile Index requirements:

1. Pavement on tangent alignment and pavement on horizontal curves having a centerline curve radius of 2,000 feet or more shall have a Profile Index of 0.16 foot or less for each 330 feet section profiled;

2. Pavement on horizontal curves having a centerline curve radius of 1,000 feet or more but less than 2,000 feet, including the pavement within the superelevation transition of these curves, shall have a Profile Index of 0.32 foot or less for each 330 feet section profile;

3. Pavement within any 330 feet section, containing high point areas with deviations in excess of 0.025 foot in a length of 25 feet or less, when tested in conformance with the requirements in California Test 526, shall be corrected by the Contractor regardless of the Profile Index.

The Contractor shall complete initial runs of the profilograph prior to opening the pavement to public traffic. If initial profiles cannot made prior to opening the pavement to public traffic, the initial runs of the profilograph shall be made the next day that traffic control is permitted for the area to be profiled.

Areas of the top surface of the uppermost layer of asphalt concrete pavement that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding.

Abrasive grinding shall be performed to reduce individual deviations in excess of 0.025 foot, and to reduce the Profile Index of the pavement to be within the specified tolerance. Areas which have been subjected to abrasive grinding shall receive a seal coat. Deviations in excess of 0.025 foot which cannot be brought into specified tolerance by abrasive grinding shall be corrected by either (1) removal and replacement or (2) placing an overlay of asphalt concrete. The corrective method for each area shall be selected by the Contractor and shall be approved by the Engineer prior to beginning the corrective work. Replacement or overlay pavement not meeting the specified tolerances shall be corrected by the methods specified above. Corrective work shall be at the Contractor's expense. The Contractor shall run profilograms on the areas that have received abrasive grinding or corrective work until the final profilograms indicate the Profile Index of the area is within the specified tolerance.

When abrasive grinding is used to bring the top surface of the uppermost layer of asphalt concrete surfacing within the specified surface tolerances, additional abrasive grinding shall be performed as necessary to extend the area ground in each lateral direction so that the lateral limits of grinding are at a constant offset from, and parallel with, the nearest lane line or pavement edge, and in each longitudinal direction so that the grinding begins and ends at lines normal to the pavement centerline, within a ground area. Ground areas shall be neat rectangular areas of uniform surface appearance.

The original of the final profilograms that indicate the pavement surface is within the Profile Index specified shall become the property of the County and shall be delivered to the Engineer prior to acceptance of the contract.

Method of Payment

HMA will be paid for at a unit price per ton as a combined item, including mineral aggregate and asphalt binder in place on the roadbed.

Full compensation for furnishing and applying asphaltic emulsion (paint binder/tack coat) shall be considered as included in the contract price paid for HMA.

At road connections and at limits of asphalt paving, existing pavement shall be header cut as shown on the plans or as directed by the Engineer. Full compensation for furnishing all labor, tools and doing all the work necessary including grinding, and sawcutting shall be considered

as included in the contract prices paid per ton for the various asphalt concrete items and no additional compensation will be allowed therefor.

The quantity of Asphalt Concrete for driveway, driveway tie-ins, asphalt concrete (miscellaneous area), AC Dike and Overside Drain and safety edge will be paid for at a unit price per ton as a combined item, including mineral aggregate and asphalt binder in place on the roadbed.

The placing of Asphalt Concrete for driveway, driveway tie-ins, asphalt concrete (miscellaneous area), AC Dike and Overside Drain shall be paid for at the separate contract unit price shown in the bid proposal.

Full compensation for furnishing all labor, materials, tools, and equipment and incidentals, and for doing all the work involve in placing pavement Safety Edge shall be considered as included in the contract bid price paid per ton for Hot Mix Asphalt and no additional compensation shall be allowed therefor.

10-1.37 COMPENSATION ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS:

The provisions of this section shall apply only to the following contract items:

ITEM CODE	ITEM
390129	Hot Mix Asphalt (Type C)
390132	Hot Mix Asphalt (Type A)

The compensation payable for asphalt concrete will be increased or decreased in conformance with the provisions of this section for paving asphalt price fluctuations exceeding 10 percent (Iu/Ib is greater than 1.10 or less than 0.90) which occur during performance of the work.

The adjustment in compensation will be determined in conformance with the following formulae when the item of asphalt concrete and asphalt rubber hot mix are included in a monthly estimate:

A. Total monthly adjustment = AQ

B. For an increase in paving asphalt price index exceeding 10 percent:

$A = 0.90 (Iu/Ib - 1.10) Ib$

C. For a decrease in paving asphalt price index exceeding 10 percent:

$A = 0.90 (Iu/Ib - 0.90) Ib$

D. Where:

A = Adjustment in dollars per ton of paving asphalt used to produce asphalt hot mix rounded to the nearest $0.01.

Iu = The California Statewide Paving Asphalt Price Index which is in effect on the first business day of the month within the pay period in which the quantity subject to adjustment was included in the estimate.

Ib = The California Statewide Paving Asphalt Price Index for the month in which the bid opening for the project occurred.

Q = Quantity in tons of paving asphalt that was used in producing the quantity of asphalt concrete shown under "This Estimate" on the monthly estimate using the amount of asphalt determined by the Engineer.

The adjustment in compensation will also be subject to the following:

A. The compensation adjustments provided herein will be shown separately on payment estimates. The Contractor shall be liable to the State for decreased compensation adjustments and the Department may deduct the amount thereof from moneys due or that may become due the Contractor.

B. Compensation adjustments made under this section will be taken into account in making adjustments in conformance with the provisions in Section 4-1.03B, "Increased or Decreased Quantities" of the Standard Specifications.

C. In the event of an overrun of contract time, adjustment in compensation for paving asphalt included in estimates during the overrun period will be determined using the California Statewide Paving Asphalt Price Index in effect on the first business day of the month within the pay period in which the overrun began.

The California Statewide Paving Asphalt Price Index is determined each month on the first business day of the month by the Department using the median of posted prices in effect as posted by Chevron, Mobil, and Unocal for the Buena Vista, Huntington Beach, Kern River, Long Beach, Midway Sunset, and Wilmington fields.

In the event that the companies discontinue posting their prices for a field, the Department will determine an index from the remaining posted prices. The Department reserves the right to include in the index determination the posted prices of additional fields.

The California Statewide Paving Asphalt Price Index is available on the Division of Engineering Services website at: http://www.dot.ca.gov/hq/esc/oe/asphalt_index/astable.html.

10-1.38 ASPHALT CONCRETE DIKE AND OVERSIDE DRAIN:

Asphalt concrete dikes and overside drains shall conform to the County Road Improvement Standards and Specifications, the plans, and as specified and as directed by the Engineer.

The asphalt concrete shall be Type "A" with ½" grading in conformance with the requirements of Section 39 of the Standard Specifications and its amendments:

Asphalt binder to be mixed with the aggregate shall match the binder specified under the HMA specification in accordance with the Special Provision for Asphalt, or as directed by the Engineer.

All AC Dikes shall be paid per linear foot and all overside drains shall be paid per each regardless of the size and shape.

Method of Payment

The contract unit prices paid per linear foot for AC dikes and per each of the overside drains shall include full compensation for furnishing all labor, tools, and equipment and for doing all the work involved in placing and compacting the dikes and overside drains, the sawcutting, removal and disposal of existing dike and overside drains and no additional compensation will be allowed therefore. The asphalt material will be paid under the quantity of Hot Mix Asphalt Type "A",

10-1.39 PLACE ASPHALT CONCRETE (MISCELLANEOUS AREA):

Place asphalt concrete miscellaneous areas shall conform to the County Road Improvement Standards and Specifications, the plans, and as directed by the Engineer.

The paid quantity for Place Asphalt Concrete (Miscellaneous Areas) shall include placement of Asphalt Concrete and other material required to perform the work. Hot Mix Asphalt Concrete shall meet the requirements provided in the special provisions for Hot Mix Asphalt.

Method of Payment

The contract unit price paid per square yard for Place Asphalt concrete (Miscellaneous Area) shall include full compensation for furnishing all labor, materials (other than the quantity of HMAC), tools, and equipment and for doing all the work involved in placing and compacting the miscellaneous areas and no additional compensation will be allowed therefore.

10-1.40 PAVEMENT SAFETY EDGE:

Pavement Safety Edge shall be installed at the locations shown on the plans or where designated by the Engineer and in conformance with these special provisions.

Safety Edge material shall match the adjoining pavement material.

The paver shall include an approved longitudinal paver wedge system to create a sloped safety edge as shown on the plans. The wedge system shall be attached to the screed and shall compact the HMA to a density at least as dense as the compaction imparted to the rest of the HMA layer by the paving screed. The system shall provide a Safety Edge per the detail shown on the plans.

The use of a single plate strike off is not permitted. The system shall be adjustable to accommodate varying paving thicknesses. The Engineer may allow the Contractor to use

handwork for short sections or to sawcut the sloped Safety Edge after paving operations are completed in areas such as transitions at driveways, intersections, interchanges.

The Contractor shall submit the proposed system for approval. The Engineer may require proof that the system has been used on previous projects with acceptable results or may require a test section constructed prior to the beginning of work to demonstrate that it creates an acceptable wedge shape and compaction. Paving shall not begin until the system is approved in writing by the Engineer. The Safety Edge may be constructed on each lift of HMA or on the full specified plan depth on the final lift. The finished shape of the Safety Edge shall extend for the full depth of the asphalt pavement or for the top 5 inches whichever is less.

Method of Payment

The contract price paid per ton for Hot Mix Asphalt shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in construction of the Pavement Safety Edge including furnishing the hot mix asphalt, excavation and backfill, as specified in the Standard Specifications and these special provisions and as directed by the Engineer. No additional compensation will be allowed therefor.

10-1.41 SHOULDER BACKING:

Shoulder backing shall provide for the grading of the shoulder as per plans, or as directed by the Engineer. Unless otherwise specified, the width of the graded shoulder/shoulder backing shall be four feet minimum, measured from the edge of pavement.

The installation of shoulder backing shall be from Sta. 148+80 to Sta. 191+18 and the roadway repair work on Gilman Springs Road at Jack Rabbit Trail and Sta. 281+25.

Onsite material may be used to fill in low areas, subject to approval by the Engineer.

Imported material, if required to fill in low areas, shall conform to the provisions of Section 25, "Aggregate Subbases" of the Standard Specifications and these Special Provisions, and the aggregate shall conform to the grading and quality requirements for Class 1 aggregate subbases except the aggregate shall have material passing 100 percent at the 2 ½ inch and 1 inch sieve sizes.

Subbase material shall be clean and free from roots, vegetable matter and other deleterious substances, and be of such character that when wet it will compact to form a firm stable base. The material shall be of such sizes that the percentage composition by weight of material shall conform to the aggregate grading requirements at the time the material is deposited on the roadbed when determined by Test Method No. Calif. 202.

Method of Payment

Payment for Shoulder Backing will be paid at the linear foot price bid and shall include full compensation for furnishing all labor, materials, tools, and equipment, including the

importing of material and/or the handling of onsite material, and no separate payment will be allowed therefor.

10-1.42 CAST-IN-PLACE REINFORCED CONCRETE (HIGH EARLY STRENGTH):

DESCRIPTION

Following structures shall be constructed with Cast-in-Place reinforced concrete (High early strength):

- Box Culvert comprises of Cutoff Wall, Parapet Walls and Wingwalls
- Headwalls for CSP culverts per Std. D89
- Headwall with warped wingwall for CSP culverts per Std. D86B

Cast-in-place reinforced concrete box culvert comprises of Cutoff Wall, Parapet Walls and Wingwalls; Headwalls per Std. D89 and Headwall with warped wingwall per Std. D86B shall consist of portland cement concrete placed in a trench or prepared subgrade at the locations shown on the plans, as specified in the standard specifications and this special provision, and as directed by the Engineer.

STRUCTURE REMOVAL (PORTION)

Removing portions of reinforced concrete box culverts, and removal of headwalls for corrugated steel pipe shall conform to the provisions in Section 15-3, "Removing Concrete," of the Standard Specifications and these special provisions.

Structure removal (portion) involves removing portions of the Drainage Systems J and K shown on the plans.

Removed material shall be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Full compensation for structure removal (portion) shall be considered as included in the contract price paid per linear foot for "Extend 4'X4' Reinforced Concrete Box Culvert" and "Extend 7'X6' Reinforced Concrete Box Culvert" and no separate payment will be made therefor.

Full compensation for removal of existing headwalls shall be considered as included in the contract price paid per each of the "Class 1 Concrete Structure(headwall)" (per Caltrans Std. D89) and no separate payment will be made therefor.

MATERIALS

Cast-in-place reinforced concrete box culvert comprises of Cutoff Wall, Parapet Walls and Wingwalls; Headwalls per Std. D89 and Headwall with warped wingwall per Std. D86B shall

be constructed using high early strength Class 1 Portland Cement Concrete with a nonchloride Type C chemical admixture, conforming to the provisions in Section 90, "Portland Cement Concrete."The concrete shall have a minimum compressive strength of 4,000 psi in 3 days.

Portland cement for use in early strength concrete using a nonchloride Type C chemical admixture shall be Type II conforming to the provisions in Section 90-2.01, "Cementitious Materials," of the Standard Specifications.

The nonchloride Type C chemical admixture, approved by the Engineer, shall conform to the requirements in ASTM Designation: C 494 and Section 90-4, "Admixtures," of the Standard Specifications.

The concrete with nonchloride Type C chemical admixture shall be prequalified prior to placement in conformance with the provisions for prequalification of concrete specified by compressive strength in Section 90-9.01, "General," of the Standard Specifications.

The combined aggregates for concrete shall conform to the grading limits for the one inch, maximum size specified in Section 90-3.04, "Combined Aggregate Gradings."

Penetration shall not exceed 1 1/2 inches when determined by California Test 533 except when Type E, Type F, or Type G chemical admixtures are added to the mix, the penetration requirement shall not apply and the slump shall not exceed 9 inches after the chemical admixtures are added.

The reinforcing steel shall conform to the provisions in Section 52, "Reinforcement" and to the requirements in ASTM Designation: A 615, Grade 60. The bars shall be as designated on the plans and on the Standard Plans D80 and D82.

Forms shall be of a type, size, shape, quality, and strength to ensure construction as designed and shall conform to the provisions in Section 51-1.05, "Forms."

DRILL AND BOND DOWELS

Drilling and bonding dowels shall conform to the details shown on the plans, the provisions in Section 83-2.02D(1), "General," of the Standard Specifications, and these special provisions. Dowels shall conform to the provisions for bar reinforcement in "Reinforcement" of these special provisions.

If reinforcement is encountered during drilling before the specified depth is attained, the Engineer shall be notified. Unless the Engineer approves coring through the reinforcement, the hole will be rejected and a new hole, in which reinforcement is not encountered, shall be drilled adjacent to the rejected hole to the depth shown on the plans.

Full compensation for drilling holes, including coring through reinforcement when approved by the Engineer, and bonding dowels shall be considered as included in the contract price paid per linear foot for Extend 4'X4' Reinforced Concrete Box Culvert" and "Extend 7'X6' Reinforced Concrete Box Culvert" and no separate payment will be made therefor.

REINFORCEMENT

Reinforcement shall conform to the provisions in Section 52, "Reinforcement," of the Standard Specifications and these special provisions.

Bar reinforcing steel will not be measured nor paid for separately. Full compensation for bar reinforcing steel shall be considered as included in the contract price paid per linear foot for "Extend 4'X4' Reinforced Concrete Box Culvert" and "Extend 7'X6' Reinforced Concrete Box Culvert" requiring the bar reinforcing steel, and no separate payment will be made therefor.

The reinforcement required for Headwalls per Std. D89 and Headwall with warped wingwall per Std. D86B shall be considered as included in the bid unit price paid for "Class 1 concrete structure (Headwall per Caltrans Std. D89) and "Class 1 concrete structure (Headwall and warped wingwall per Caltrans Std. D86B)

EARTHWORK

Excavation, backfill and prepared subgrade shall conform to the provisions in Section 19-3, "Structure Excavation and Backfill," except that no backfill material shall be deposited against the back walls and top slab of the concrete box culvert until the concrete has developed a compressive strength of not less than 3,200 psi or 85 percent of the specified minimum compressive strength, whichever is higher.

Jetting or flooding to compact backfill materials shall not be allowed. Heavy compaction equipment, such as vibratory rollers, dozers, or loaders, shall not be used adjacent to the reinforced concrete box culverts and wingwalls.

At the locations and to the limits shown on the plans, material below the bottom of reinforced concrete box culverts shall be removed and replaced with base material in conformance with the placing and compacting requirements for structure backfill. The relative compaction shall be not less than 95 percent.

Ground water or surface water is expected to be encountered at reinforced concrete box culverts shown on the plans, but seal course concrete is not shown or specified. Structure excavation at these locations not designated on the plans as structure excavation (Type D) will be measured as structure excavation.

Full compensation for structure excavation and structure backfill for Cast-in-place reinforced concrete box culvert comprises of Cutoff Wall, Parapet Walls and Wingwalls, cutoff wall shall be considered as included in the bid unit price paid for "Extend 4'X4' Reinforced Concrete Box Culvert" and "Extend 7'X6' Reinforced Concrete Box Culvert".

Full compensation for Structure excavation and structure back fill for Headwalls per Std. D89 and Headwall with warped wingwall per Std. D86B, shall be considered as included in the bid unit price paid for "Class 1 concrete structure (Headwall per Caltrans Std. D89) and "Class 1 concrete structure (Headwall and warped wingwall per Caltrans Std. D86B)

The trench shall be excavated to the lines and grades as shown on the plans or as directed by the Engineer. The trench shall have an adequate width to accommodate compaction equipment against the outside walls of the cast-in-place concrete box culvert. The subgrade for the concrete box culverts and headwalls shall be graded and prepared to provide a firm, free from standing water, and uniform bearing throughout the entire length of the concrete box culverts and headwalls. Relative compaction of the subgrade shall be not less than 95 percent and shall be obtained for a minimum depth of 1.0-foot below the grading plane.

The grade of the bottom or invert of the concrete box culvert shall not vary from the grade established by the Engineer by more than 0.10-foot, nor shall the rate of any variance from grade exceed 0.10-foot per 10 feet, in both directions. The trench shall be free of rocks, mud, sloughed material, debris and standing or running water for box culverts and headwalls.

PLACING CONCRETE

Concrete shall be placed and consolidated by methods that will not cause segregation of the aggregates and will result in a dense homogeneous concrete which is free of voids and rock pockets. Concrete shall be placed while fresh and before it has taken an initial set. Retempering any partially hardened concrete with additional water will not be permitted.

Concrete shall be placed as nearly as possible in its final position and the use of vibrators for extensive shifting of the mass of fresh concrete will not be permitted. Fresh concrete shall not be permitted to fall from a height greater than 8 feet without the use of adjustable-length pipes, tubes or double belting placed to prevent segregation of the concrete. Double belting shall not be used unless the thickness of the member is less than 16 inches.

Concrete shall be consolidated by means of high frequency internal vibrators within 15 minutes after the concrete is deposited in the forms. The vibrators shall not be attached to or held against the forms or the reinforcing steel. The vibrating shall be done with care and in such manner that displacement of reinforcement is avoided.

Surfaces against which concrete is to be placed shall be thoroughly moistened with water, if necessary, so that moisture will not be drawn from the freshly placed concrete.

Concrete shall not be placed when the temperature of the soil is at or below 32° F.

When concrete is inaccessible for adequate consolidation by other means, external vibrators shall be used and the forms shall be sufficiently rigid to resist displacement or damage.

Concrete for horizontal members or sections shall not be placed until the concrete in the supporting vertical members or sections has been consolidated and settlement due to bleeding has occurred.

Concrete shall be poured monolithically for box culverts and headwalls.

When placing operations cease for more than 30 minutes, or in any case prior to initial set of the concrete, a construction joint shall be formed. The ends of the concrete box shall be covered with suitable material to maintain a humid condition within the concrete box.

Construction joints shall consist of embedding reinforcing bars into the ends of the concrete box culvert similar in construction of a concrete box culvert extension shown on the Standard Plan D82.

Construction joints shall be cleaned immediately prior to completing the construction joint and continuing the box culvert construction. Cleaning construction joints shall consist of removing laitance, loose or defective concrete, coatings and any other deleterious materials.

The flow line grade of the finished concrete box culvert shall not vary more than 0.10-foot from the grade line shown on the plans.

CURING AND PROTECTING CONCRETE

Immediately after casting, the concrete box culverts and headwalls shall be cured either by covering with polyethylene film or by application of a waterproof membrane or pigmented curing compound. Polyethylene film shall be a minimum of 0.0015-inch (1.5 mil) thick and shall be placed to cover the exposed surface of the concrete. Waterproof membrane and curing compound shall conform to the provisions in Section 90-7, "Curing Compound." Hand spraying of the compound will be permitted.

The concrete shall be protected as provided in Section 90-8, "Protecting Concrete."

Except as otherwise provided, backfill shall not be placed or compacted until the concrete has developed a compressive strength of not less than 3,200 psi or 85 percent of the specified minimum compressive strength, whichever is greater.

REMOVAL OF FORMS

Forms shall be removed not less than 24 hours after placement of the concrete. Upon removal of forms, the concrete shall have already attained a strength of not less than 3,200 psi in compression or 85 percent of the specified minimum compressive strength.

After the removal of forms, any required repairs shall be made. Rock pockets, blisters, voids, fractures, porous concrete or similar defects not extending through the box structure (walls and top slab) and less than 2 square feet in area shall be removed and repaired with concrete or other materials, as directed by the Engineer. Holes made to facilitate removing the forms shall be repaired by filling with concrete or dry patching mortar, as directed by the Engineer.

CONCRETE TESTING

The contractor shall determine the mix proportions of concrete by its 3-day compressive strength within the minimum cement, maximum size aggregate, and admixture specified in this Special Provision.

Trial batches, reports of tests, and acceptance of concrete shall be as specified in Section 90-9, "Compressive Strength" and the following:

a) the 3-day compressive strength shall replace the 28-day compressive strength specified in Section 90-9;
b) the Contractor shall test the concrete for slump, air content, and unit weight a minimum of 2 tests per day or as directed by the Engineer; and,
c) the Contractor shall fabricate test cylinders in accordance with the provisions of Section 90-9 and tests for ages 1, 3, and 14 days.

INSPECTION AND REPAIR

After completion of backfill and compaction, inspection of the box culverts and headwalls shall be made by the Contractor and the Engineer to assess any damage incurred during the backfill and compaction operation. Cracks, as a result of the operation, shall be repaired as directed by the Engineer. Cracks in excess of 0.01-inch in width shall be repaired with pressurized epoxy grout as directed by the Engineer.

Any of the following conditions may be cause for rejection of the concrete box culvert:

A. Rock pockets, blisters, voids, fractures, porous concrete or similar defects extending through the box culvert walls and top slab.
B. The concrete box culvert is damaged during construction.
C. Failure to repair cracks and defects as directed by the Engineer.
D. The concrete box culvert is not in conformance with the plans for thickness, grade or alignment, or was not constructed in conformance with the provisions in this Section.

Rejected concrete box culverts, cutoff walls, parapet walls, wingwalls and headwalls shall be removed and replaced as directed by the Engineer.

The finished surface of the concrete box culverts and headwalls shall be the equivalent of wood float surface, substantially free of fractures, cracks and roughness.

The placement and/or removal and compaction of earthwork material under box culvert prior to construction shall be considered as included in the unit price paid for box culvert and no additional compensation will be allowed for this material and work.

Box culvert, wingwall and cutoff walls which are required for bid schedule 1 to extend 4'X4' and 7'X6' Reinforced Concrete Box Culvert shall be paid per linear foot as a combined item for box culvert structure.

Minor Concrete (Headwall) per Caltrans Std. D89 for bid schedule 1 shall be paid per each.

Headwall and Warped Wingwall per Caltrans Std. D86B which is required for bid schedule 4 shall be paid per each as combined item of work.

Method of Payment

The contract price paid per **linear foot** for "Extend 4'X4' Reinforced Concrete Box Culvert" and "Extend 7'X6' Reinforced Concrete Box Culvert" including parapet wall, cutoff wall, and wingwalls; and **per each** for "Class 1 Concrete Structure(headwall)" (per Caltrans Std. D89) and "Class 1 Concrete Structure(headwall and warped wingwall) (per Caltrans Std. D86B)", and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the box culverts and headwalls, complete in place, including earthwork, structure excavation, 2 sack slurry backfill, concrete testing, and reinforcement bars for construction joints and/or extension, as shown on the plans, as specified in the standard specifications and the special provisions, and as directed by the Engineer, and no additional compensation will be allowed.

The full compensation for sawcut, removal and disposal of existing PCC concrete on the corrugated steel pipe culverts and backfill where needed for headwalls and wingwalls shall be considered as included in the bid prices paid for various items of work where this work is required.

10-1.43 RESIDENT ENGINEERS OFFICE:

The Contractor shall furnish and maintain a Resident Engineer's Office (Field Office), suitable for the intended purpose, for the exclusive use of the Engineer and his staff in accordance with the following provisions.

The Field Office shall be maintained in a clean, neat and sanitary manner at all times. All sanitary paper products required for the restroom shall be supplied by the Contractor and shall be included in the contract unit price bid.

The Field Office shall be a 600 square feet (minimum) office facility with required utility hook up including electricity, potable water, 2 telephone lines, multi-line speaker phones and air conditioning, and wireless internet connection. The facility will have 1 restroom (with indoor plumbing) and partitions creating 3 interior rooms. Contractor will pay monthly rental fees and shall obtain all rights of entry necessary.

The Contractor shall be fully responsible to provide all utility hook-ups for the Resident Engineer's Office, including electrical power, telephone, potable water and sewage disposal. The Contractor shall obtain all necessary permits and pay all fees.

The Field Office shall be provided with a facsimile machine with a separate phone line and a copying machine capable of photocopying 11"X17" size paper for the exclusive use of the Engineer and his staff for the entire duration of the project.

Contractor shall be aware that theft and vandalism at the job site may be a problem. Contractor shall be responsible for the security of the Field Office.

If for any reason, the phone, copier, facsimile machine, any office furniture, and/or sanitary facility is vandalized, stolen, or in need of repair, the Contractor, upon receipt of written

notice by Engineer, shall have a maximum of five (5) working days to replace or repair the items to full working order. If Contractor fails to comply with the five (5) working days specified, the County may at its option withhold monthly progress payments until Field Office is returned to full and complete working order.

Contractor shall meet with the Engineer prior to construction (and at any other time circumstances warrant), and together, shall mutually agree to a location for the Field Office. Approval of the proposed Field Office by the Engineer Shall be obtained prior to implementation.

The following shall be furnished and supplied by the Contractor for the duration of the contract:

1. Furnish, service and maintain office. The following office furniture, in new or near-new condition, shall be furnished, at a minimum:

    a. 2 each 30"X60" desks with lockable drawers;
    b. 2 each task swivel chairs;
    c. 1 each conference table to accommodate 8 conference chairs;
    d. 8 conference chairs;
    e. 1 each 60"h X 40"w X 16"d book shelf;
    f. 1 each 60" X 36" drafting table and chair.

2. Supply utilities for office, including electricity, phones (2 lines), potable water, and wireless internet service or approved equal or better for the duration of the contract, including fees.
3. Supply, service and maintain sanitary facility.
4. Facsimile machine (separate phone line).
5. Furnish a 20 cf. refrigerator and water dispenser/cooler.
6. Furnish two current model personal computers for the duration of the contract, suitable and capable for office use, internet connected utilizing DSL service or approved equal or better, and complete with necessary software including Microsoft Office, latest version.
7. Two color laser printers, HP Color Laserjet Model 2605DN (also known as Q7822A) or approved alternate. One color flatbed scanner, HP Scanjet 5590 or approved alternate. All supplies and necessary maintenance for the use of the above equipment by the Engineer shall be furnished and supplied by the Contractor for the duration of the contract.
8. Copying machine (11"X17").
9. Installation of 4 designated public parking spaces.
10. Installation of appropriate number of designated parking spaces for the construction manager, inspectors, general Contractors, workers, material supplies, subcontractors and other support personnel.
11. Installation of 1 large sized unit commercial trash bin with cover and regularly scheduled pick up.
12. Field office shall have a 24"X36" sign, white color, affixed near the door. The sign text shall read "COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT" and shall have County seals affixed to it. Contractor will be supplied the seals by the County.
13. Remove office from job site at the completion of the project.
14. Security.
15. If office is located on private property, all property rental costs and right of entry.

No monthly progress payments will be due to the Contractor until all provisions and requirements of "Resident Engineers Office" are complete and in place.

Method of Payment

The contract lump sum price paid for Resident Engineer's Office shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and maintaining Resident Engineer's Office, including furnishing and maintaining the list equipment and furniture, and providing of all necessary supplies for the listed equipment for the duration of the contract work, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

The lump sum price will be paid on equal monthly increments over the duration of the project.

10-1.44 FINISHING ROADWAY:

Finishing roadway shall conform to Section 22 of the Standard Specifications and these Special Provisions.

Method of Payment

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be considered as included in bid item for De-mobilization, and no additional compensation will be allowed therefor.

10-1.45 METAL BEAM GUARD RAILING (7' WOOD POST):

Metal beam guard railing shall conform to the provisions of Section 83 of the Standard Specifications, and these Special Provisions.

In areas where the post of a metal beam guardrail needs to be omitted, the Contractor needs to place additional railing as shown on the detail for "Two Posts Omitted at Existing Guardrail Post and Mid Rail Span" included in the bid book.

Furnishing and installing delineators on metal beam guard railing shall be paid under bid item for "Delineator (Class 1) (Type F).

Method of Payment

Payment will be made at the contract price per linear foot for Metal Beam Guard Railing (7' Wood Post) and shall be considered as full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved complete in place as shown on the plans and detail for Two Posts Omitted at Existing Guardrail Post and Mid Rail Span, and as specified in these Special Provisions, including excavation and backfilling barrier post

holes, cable anchor assembly holes and no additional compensation will be allowed therefor. No additional compensation will be allowed for any additional railing needed as a result of omitting the post.

10-1.46 TERMINAL SYSTEM (TYPE SRT AND SKT):

Terminal system Type SRT and Type SKT shall be furnished and installed as shown on the plans and in conformance with Standard Specification Section 83 and these Special Provisions or as directed by the Engineer.

The Contractor shall provide the Engineer with a Certificate of Compliance from the manufacturer in conformance with the provisions in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications.

Surplus excavated material remaining after the terminal system has been installed shall be disposed of in a uniform manner along the adjacent roadway where designated by the Engineer.

Method of Payment

The contract unit price paid per each for Terminal System (Type SRT) and Terminal System (Type SKT) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing the terminal system, complete in place, including excavation, backfill and disposal of surplus material, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.47 CORRUGATED STEEL PIPE (CSP):

Corrugated steel pipes shall conform to the provisions in Section 66, "Corrugated Metal Pipe" and Section 69, "Overside Drains"of the Standard Specifications, these Special Provisions, the plans, and as directed by the Engineer.

Corrugated steel pipe shall be fabricated from zinc-coated steel sheet.

Band couplers for pipe arches shall be not less than twelve inches (12") in width.

All hardware, sawcut and removal of extension required to extend CSP where needed shall be considered as included in the contract unit bid prices paid per linear foot for Corrugated Steel Pipe of the types specified in the bid proposal.

Existing PCC where interfere with the installation of CSP shall be sawcut, remove and dispose of by the Contractor. Full compensation for sawcutting, removing and disposing of excess material shall be considered as included in the contract unit bid prices paid per linear foot for Corrugated Steel Pipe of the types specified in the bid proposal.

Removal of existing CSP where shown on the plan to remove or replace shall be removed and replaced with proposed CSP. Full compensation to remove and disposing existing CSP shall be considered as included in the per unit bid price paid for CSP as listed in the bid proposal and no additional compensation will be allowed.

Culvert:

Pipe shall be placed under existing paving in a trench 12" minimum wider than the outside diameter of the pipe being installed. Trenching shall be 6" minimum in width on each side of the pipe.

Upon reaching the surface to support the culvert or prior to placing fill, the exposed subgrade shall be:

- Scarified to a depth of 8 inches.
- Moisture-conditioned to at least two percent above optimum moisture content.
- Compacted to at least 90 percent relative compaction.

The pipe shall be placed in the bottom of the trench and the trench shall be backfilled with two sack slurry to bottom of the proposed asphalt concrete section of the roadway.

Slurry cement backfill shall conform to Section 19-3.062 of the Standard Specifications, except for full compensation therefor shall be considered as included in the prices paid for the contract unit bid paid per linear foot for Corrugated Steel Pipe of the types specified in the Engineer's estimate and no additional compensation will be allowed therefor.

Temporary road steel plates shall be installed over the trench to allow traffic movements or as directed by the Engineer.

The slurry shall be allowed to cure a minimum of two days prior to final paving.

Full compensation for providing, installing and maintaining temporary road steel plates shall be considered as included in the prices paid for the contract unit bid prices paid per linear foot for Corrugated Steel Pipe of the types specified in the Engineer's estimate no additional compensation will be allowed therefor.

Downdrain:

Corrugated steel pipe downdrain shall be installed where shown on the plan and as directed by Engineer.

All hardware shown on the standard plans and construction plans, sawcut and removal for the extension required to extend CSP downdrains including downdrain adjustment as needed, and to protect existing downdrain, shall be considered as included in the contract unit bid prices paid per linear foot for Corrugated Steel Pipe for downdrain as specified in the bid proposal.

Method of Payment

The contract unit bid price paid per linear foot for Corrugated Steel Pipe of the types specified in the construction bid items list shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved including structures excavation and 2-sack slurry backfill, sawcut, removal and disposal of the existing culvert being replaced as shown on the plans, sawcut, removal and disposal of the existing PCC where necessary to remove to install CSP, all hardware, grading of a flow line to the proposed CSP and disposing of any excess soil material resulting from the grading of flow line and the removal of the existing culvert and as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer no additional compensation will be allowed therefor.

10-1.48 ROCK SLOPE PROTECTION:

Rock slope protection shall be placed or constructed in conformance with the provisions in Section 72, "Slope Protection," of the Standard Specifications and these special provisions.

Rock Slope Protection shall be placed in conformance with Method "B".

Rock slope protection fabric shall conform to the applicable portions of Section 72, "Slope Protection", and Section 88, "Engineering Fabrics" of the Standard Specifications and these special provisions.

Rock slope protection fabric shall be nonwoven type fabric, Type A or Type B, at the option of the Contractor.

Method of Payment

Full compensation for furnishing and installing all Rock Slope Protection Fabric shall be considered as included in the contract price paid per cubic yard, for Rock Slope Protection (Facing, Method B) and no additional compensation will be allowed therefor.

The unit price paid per cubic yard for Rock Slope Protection (Facing, Method B) shall include full compensations for furnishing all labor, materials (including concrete rock, rock slope protection fabric), tools, equipment and incidentals, and for doing all work involved in constructing the rock slope protection, complete in place, including any excavation and backfill necessary for placing rock slope protection.

10-1.49 PAVEMENT MARKER (REFLECTIVE):

Pavement Marker (Reflective) shall be installed in accordance with the plans, the Caltrans Standard Plans or as directed by the Engineer.

Pavement markers shall conform to the provisions in Section 85, "Pavement Markers" of the Standard Specifications and these Special Provisions.

Pavement markers shall be placed to the line established by the Engineer. All additional work necessary to establish satisfactory lines for markers shall be performed by the Contractor.

Pavement markers shall be installed where indicated on the plans in accordance with the indicated striping detail. Refer to Standard Plans A20-A through A20-D for striping and markings details.

Markers and adhesive removal shall be performed by a method approved by the Engineer. Any pavement scarring resulting from the markers removal shall be repaired to the satisfaction of the Engineer.

Method of Payment

The contract price paid per each for Pavement Markers (reflective) and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved including the removal of existing pavement markers and no additional compensation will be allowed therefor.

10-1.50 DELINEATOR (CLASS 1)

Delineator (Class 1) shall conform to the provisions in Section 82, "Markers and Delineators," of the Standard Specifications, plans and these special provisions.

Retroreflective sheeting for metal and flexible target plates shall be the retroreflective sheeting designated for delineators conforming to the requirements in ASTM Designation: D 4956.

Furnishing and installing delineators on metal beam guard railing shall be paid under bid item for "Delineator (Class 1) (Type F).

Method of Payment

The contract price paid **per each** Delineator (Class 1) (Type F) shall include full compensation for furnishing all labor, materials, tools, equipment, incidentals for installing delineators and no additional compensation will be allowed therefor.

10-1.51 PAINT TRAFFIC STRIPE:

Painting traffic stripe shall conform to the provisions in Sections 84-1, "General" and 84-3, "Painted Traffic Stripes and Pavement Markings" of the Standard Specifications and these Special Provisions.

Traffic striping shall be applied in two coats with airless equipment and shall be performed with a roadliner truck mounted striping machine. Where the configuration or location of a traffic stripe is such that the use of a roadliner truck mounted striping machine is unsuitable, traffic striping and glass spheres may be applied by other methods and equipment approved by the Engineer.

Newly painted traffic striping shall be protected from damage by public traffic or other causes until the paint is thoroughly dry. Any newly painted traffic striping which are damaged as a result of the construction, including wheel markings by public traffic and the construction equipment, shall be repainted by the Contractor and any associated removals shall be performed as called for in these Special Provisions.

Method of Payment

The contract price paid per linear foot for Paint Traffic Stripe (2 Coats) including removal of existing painted traffic stripes shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in painting traffic stripe (regardless of the number, widths, and types of individual stripes involved in each traffic stripe) including any necessary cat tracks, dribble lines any layout work, complete in place as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.52 OBJECT MARKERS:

Markers and delineators shall conform to the provisions in Section 82, "Markers and Delineators," of the Standard Specifications and these special provisions.

Object markers shall be installed in accordance with the plans, the Caltrans Standard Plans, and as directed by the Engineer.

Flexible posts shall be made from a flexible white plastic which shall be resistant to impact, ultraviolet light, ozone, and hydrocarbons. Flexible posts shall resist stiffening with age and shall be free of burns, discoloration, contamination, and other objectionable marks or defects which affect appearance or serviceability.

Retroreflective sheeting for metal and flexible target plates shall be the retroreflective sheeting designated for channelizers, markers, and delineators conforming to the requirements in ASTM Designation: D 4956-95.

Method of Payment

The contract unit bid prices paid per each for Object Marker shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved and no additional compensation will be allowed therefor.

10-1.53 THERMOPLASTIC CROSSWALK AND PAVEMENT MARKING:

Thermoplastic crosswalk and pavement markings shall conform to the provisions in Sections 84-1, "General," and 84-2, "Thermoplastic Traffic Stripes and Pavement Markings," of the Standard Specifications and these Special Provisions.

Method of Payment

The contract unit bid price paid per square foot for Thermoplastic Crosswalk and Pavement Markings including removal of existing thermoplastic striping, crosswalk lines and pavement markings shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and doing all the work necessary to place the striping, and pavement markings complete in place and no additional compensation will be allowed therefor.

10-1.54 RUMBLE STRIP AND STRIPE:

Construction of rumble strip and stripe shall be per details shown on the plans in conformance with Standard Specification and Plans and these Special Provisions. Indentation shall be completed prior to striping.

Refer to plans for limits and location where rumble strip and stripe to be installed.

Indentations must not vary from the specified dimensions by more than 1/16 inch in depth or more than 10 percent in length and width.

Ground-in indentation equipment must be equipped with a sighting device enabling the operator to maintain the rumble strip and stripe alignment.

The grinding equipment must be equipped with a vacuum attachment to remove residue.

Dispose of removed material under Section 7-1.13 of the Standard Specifications, "Disposal of Material Outside the Highway Right of Way", and "Disposal of Excess Excavation or Materials" of these special provisions.

Method of Payment

The contract unit bid price paid per linear foot for Rumble Strip and Stripe. Bid Item shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all the work involved and no additional compensation will be allowed therefor.

10-1.55 ROADSIDE SIGNS:

Roadside signs shall conform to the provisions in Section 56-2 "Roadside Signs" of the Standard Specifications and these special provisions.

The Contractor shall furnish and install roadside signs, in accordance with Standard Plans RS-2, at the locations shown on the plans or as directed by the Engineer.

Roadside signs with steel posts shall be installed at the location shown on the construction plans or where directed by the Engineer.

Roadside signs furnished by the Contractor shall be of the standard size specified in the State of California Department of Transportation Sign Specification Sheets, unless otherwise indicated on the construction plans.

Sheeting shall be guaranteed against defects for a period of ten years from the date of fabrication.

The base metal shall be new aluminum, 0.08 gauge, of alloys 6061-T6 or 5052-H38 conforming to the requirements of ASTM Designation: B209.

Any reflective sheeting supplied, as a part of this contract, whether as a legend or background, shall be FHWA FP-85 Type IIA or AASHTO M268 Type III.

Reflective sheeting shall be applied to the sign by a method approved by the manufacturer of the sheeting and shall produce a durable bond equal to or greater than the strength of the reflective sheeting. No air pockets or bubbles shall exist between the sheeting and aluminum backing.

The reflective material and screening inks or overlay film shall be graffiti proof. The graffiti proofing method shall be supplied by and/or approved by the sheeting manufacturer. Neither the color nor the reflective intensity of the finished sign shall be significantly diminished by the use of graffiti remover when used in a manner approved by the Transportation Department in conjunction with the sheeting manufacturer. Any sign graffiti with the use of over-the-counter spray paint or marking pens, which fail to be restored, shall be replaced by the sign sheeting manufacturer.

All letters and numerals shall be in accordance with the "Standard Alphabet of Highway Signs" as used by the State of California, Department of Transportation.

All signs shall be installed using hex head bolts, washers, nuts and jam nuts in accordance with Standard Plans RS2 or as directed by the Engineer.

This project also include installation of signs with Strap and Saddle Bracket Method. The installing of roadside signs by the strap and saddle bracket method will be measured as units determined from actual count of the sign panels in place.

Method of Payment

The contract price paid **per each** for Roadside Sign-one post, Roadside Sign-two post and Install Sign (Strap and Saddle Bracket Method) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work including excavation and backfill, and installation as specified in the Standard Specification and these Special Provisions and no additional compensation will be allowed therefor.

10-1.56 RELOCATE SIGNS:

Relocation of existing roadside signs shall conform to the provisions in Section 56-2, "Roadside Signs" of the Standard Specifications and as directed by the Engineer.

Roadside Signs to be removed and relocated shall be installed per the Roadside signs special provisions above.

Roadside signs shall be relocated at the locations shown on the construction plans or where directed by the Engineer.

Method of Payment

The contract unit prices paid per each for Relocating Roadside Signs shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work including all necessary concrete, excavation and backfill as specified in the Standard Specification and these Special Provisions and no additional compensation will be allowed therefor.

10-1.57 SALVAGE ROADSIDE SIGNS:

Existing roadside signs shall be removed and salvaged as shown on the plans.

Existing roadside signs at locations shown on the plans to be removed shall not be removed until replacement signs have been installed or until the existing signs are no longer required for direction of public traffic, unless otherwise directed by the Engineer.

The Contractor shall deliver County owned signs to be salvaged to the nearest County Maintenance Yard located at following address and as directed by the Engineer.

Riverside County Transportation Department
McKenzie Highway Operations Center
2950 Washington Street
Riverside, California 92504
Telephone (951) 955-6894

Method of Payment

The contract unit price paid per each for Salvage Roadside Sign shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work including removing sign, excavation and backfill as specified in the Standard Specification and these Special Provisions and no additional compensation will be allowed therefor.

10-1.58 OBSTRUCTIONS:

Attention is directed to Sections 8-1.10, "Utility and Non-Highway Facilities", and 15, "Existing Highway Facilities" of the Standard Specifications and these Special Provisions.

Existing utility and privately owned facilities shall be protected in accordance with Section 7-1.11, "Preservation of Property" and these Special Provisions. The Contractor is also

responsible to protect those facilities that are to be relocated by others prior to or during construction, and shall protect those facilities in both their existing and their ultimate locations. The Contractor shall cooperate with owners and their Contractors of utility and privately owned facilities, for the relocation of said facilities, in accordance with Section 7-1.14, "Cooperation" of the Standard Specifications.

All water valves and covers, gas valves and covers, sewer manholes, survey monuments, survey markers and any other utility appurtenances shall be protected in place.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety and welfare of workmen and the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipe lines greater than 6 inches in diameter or pipe lines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables either directly buried or in duct or conduit which do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical conductors with potential to ground of more than 300 volts. The Contractor shall notify the Engineer at least twenty-four hours prior to performing any work in the vicinity of such facilities.

Attention is directed to the requirements of Government Code Sections 4216-4216.9 pertaining to existing utility facilities.

The Contractor shall assume that every house, building and lot within the project limits has utility service pipes and conductors (laterals), and that utility main and trunk facilities exist within the project limits. The Contractor shall determine if it is warranted to determine the exact location of these utility service laterals and existing main lines, unless directed by the Engineer to pot-hole at specific locations, or as otherwise required herein. The Contractor will not be directly reimbursed for determining the exact location of the utility main lines or services laterals but shall include any compensation for this work in the contract price paid for the various items of work. Any damage to existing main lines or service laterals for which pot-holing was not performed shall be considered damage due to not using reasonable care and the damage shall be repaired at the Contractor's expense.

The Contractor shall conduct his operations with the assumption that underground utility facilities exist within the project limits. The Contractor shall exercise caution and best construction practices for safety and for protection of underground facilities. The approximate locations of underground utility facilities, as shown on the plans, are based on information provided by the respective owners, listed below. The Contractor shall also utilize the markings of the regional notification center (Underground Service Alert), and above-ground utility appurtenances to determine the existence and approximate location of underground utilities.

No excavation shall be made within 4 feet of any underground utilities, as listed below, unless and until such utilities have been positively located as to horizontal and vertical position. This requirement applies to all underground electric, natural gas, toxic or flammable gas, chlorine, oxygen or petroleum facilities.

Forty-eight hours prior to beginning construction, the Contractor shall notify the following agencies:

Underground Service Alert	800-227-2600
Southern California Edison Company	714-796-9932
Southern California Gas Company	909-335-7529
Verizon Communications	951-925-5319
Level 3	720-888-3813
Time Warner Cable	951-634-1189
Eastern Municipal Water District	951-928-6107
Metropolitan Water District (MWD)	213-217-6961
AT&T Long Distance	714-963-7964
Box Springs Mutual Water Co.	951-653-6419
City of Moreno Valley	951-413-3100
MCI Network Services, Inc.	972-729-6016
Reche Canyon Mutual Water Company	909-884-0475
Sprint Communication Company	909-873-8022

Method of Payment

Full compensation for all costs, including labor, equipment, materials and incidentals, required to comply with the requirements of this section above, including protection of water valves and covers, gas valves and covers, sewer manholes, survey monuments, survey markers and any other utility appurtenances, shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

Adjustments to Grade for Obstructions

The Contractor shall adjust to finish grade any valve covers encountered within the project limits, as required, for those utility valves that are provided with slip cans and are adjustable without the replacement of parts or the removal of concrete collars. In cases where the owning utility company insists upon upgrades in the standards, or when additional parts or the removal of concrete collars are required for the adjustment, said adjustment will be the responsibility of the owning utility company.

Communication and coordination with the owning utility company shall be the responsibility of the contractor.

For public safety, traffic shall not be allowed on temporary or permanent pavement until all manholes are either adjusted to grade or otherwise protected, as approved by the Engineer. The Contractor shall adjust to grade manholes and valves when and as necessary for the protection of the traveling public during construction, and shall coordinate all work on said facilities with the owning utility companies. This requirement is intended for traffic that is to be allowed on temporary surfaces during the course of construction. Final adjustment to grade will be the responsibility of the owning utility company, except as provided herein.

Said work shall be performed in accordance with Section 15-2.05A, "Frames, Covers, Grates, and Manholes" of the Standard Specifications. Full compensation for adjustment of valve covers shall be considered as included in the contract price paid for asphalt concrete, or

applicable items of work in the event that there is no asphalt concrete bid item, and no additional compensation will be allowed therefor.

All existing utility facilities shall be protected from damage by the Contractor's operations.

Unless otherwise provided herein, the owning utility companies will not be obligated to lower their surface utilities (manholes and valve covers) for Contractor's grading, grinding and/or paving operations. The contractor shall lower surface facilities, including manholes and valve covers, to facilitate construction, and the following shall apply:

1. Contractor shall coordinate all work with the utility owner.

2. Contractor shall be responsible for all costs and shall be responsible for any damage caused to the owner's facilities. If the Contractor observes any pre-existing damage to the utility facilities, the Contractor shall notify the Engineer and the utility owner of that damage prior to performing additional work on the facility.

3. Contractor shall, after removing grade rings and covers, arrange for pickup by, or delivery to, the owner's yard. Any and all concrete collars removed by the Contractor shall become the property of the Contractor, and shall be disposed of as specified elsewhere in these special provisions.

4. The Contractor is advised that he is responsible for ensuring that construction materials do not enter the utility owner's facilities. The Contractor shall install traffic bearing steel plates for this purpose, and provide all coordination and transportation necessary. It is recommended that the Contractor request the utility owner to provide such steel plates. If the Contractor provides steel plates, it shall be the Contractor's responsibility to coordinate with the utility owner for the return of the steel plates to the Contractor after final adjustment to grade. If the Contractor utilizes utility owner's steel plates, and if the Contract items of work include adjustment to final grade, the Contractor shall return the steel plates to the Utility owner's yard, or as otherwise arranged with the Utility owner.

5. Prior to paving or covering the plated utility facility, the Contractor shall tie-out the facility utilizing a method acceptable to the utility owner and provide notes and data of all covered facilities to both the utility owner and the Engineer.

6. The Contractor shall notify the utility owner, upon completion of the Contractor's work, when the utility owner may move in to make the final adjustments to grade.

7. The requirements for lowering of surface facilities shall not apply to vaults. The Contractor shall notify the utility owner of the need to make adjustments to such major facilities.

8. The Contractor is reminded that the utility facilities are owned by public and private utility companies that operate their facilities within public rights of way. The utility owner's preferences with regards to the handling of its facilities shall be complied with to the greatest extent feasible.

Method of Payment

Full compensation for all costs, including labor, equipment, materials and incidentals, required to comply with the requirements of this section above, including protection of water valves and covers, gas valves and covers, sewer manholes, survey monuments, survey markers and any other utility appurtenances, shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

Full compensation for initial lowering of surface utilities facilities shall be considered as included in the contract price paid for asphalt concrete, or applicable items of work in the event that there is no asphalt concrete bid item, and no additional compensation will be allowed therefor.

10-1.59 CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS:

The Contractor shall furnish and install **two (2)** Construction Project Funding Identification Signs (4' X 8'); the signs shall be installed at locations on Gilman Springs Road. Location to be determined by the Engineer, within or near the project limits, in accordance with the relevant requirements of Section 56-2 of the Standard Specifications and the appropriate details of Standard Plans RS1 through RS4 for two post installation of signs, and as directed by the Engineer.

A reference exhibit displaying the text and colors of the sign will be provided to the Contractor prior to construction. The Contractor shall submit a copy of the final sign design for approval by the resident Engineer prior to fabrication.

The Contractor shall submit to the Engineer the final sign design in the form of an editable picture file in .eps format – Encapsulated PostScript file.

At the completion of the project, the signs will become property of the County. When directed by the Engineer, the Contractor shall remove all hardware from the signs. Posts and hardware shall become the property of the Contractor. The Contractor shall deliver and off-load the signs to the address listed below or as directed by the Engineer:

McKenzie Highway Operations Center
2950 Washington Street
Riverside, California 92504
Telephone (951) 955-6894

Method of Payment

The contract unit price paid per each for Construction Project Funding Identification Sign and shall include furnishing all labor, materials, tools, equipment, incidentals and for doing all the work including sign installation, transportation, maintenance, removal, delivery, excavation and backfill as specified in the Standard Specification and these Special Provisions and no additional compensation will be allowed therefor.

10-1.60 COUNTY FURNISHED EQUIPMENT

County furnished equipment shall conform to the provisions in Section 6-1.02, "State Furnished Materials", of the Standard Specifications and these Special Provisions.

The County of Riverside will furnish the following equipment and materials to the Contractor to install at the location determined in the field by Resident Engineer.

1. Modified Type 1-A (18') pole and Anchor Bolts

The Contractor shall pick up and install County furnished equipment and materials from the following location(s), or as directed by the Engineer, and transport them to the project site(s):

Traffic Signal Shop
Riverside County Transportation Department
McKenzie Highway Operations Center
2950 Washington Street
Riverside, California 92504
Telephone (951) 955-6894

Any County furnished equipment that is damaged after the Contractor has taken possession of the items shall be repaired to the satisfaction of the Engineer. If the damaged equipment is considered irreparable, it shall be replaced meeting the requirements stated in the Standard Specifications and these special provisions at the Contractor's cost.

Method of Payment

Full compensation for installing County furnished pole type as mentioned above shall be paid as Lump Sum under bid item "Install Modified Type 1-A (18') Pole and Foundation" and shall include furnishing of all labor, materials, tools, equipment, incidentals and for doing all the work including sign installation, transporting county furnished material to job site, excavation and construction of pole foundation, backfilling as necessary and as specified in the Standard Specification and these Special Provisions and no additional compensation will be allowed therefor.

10-1.61 FOUNDATION FOR MODIFIED TYPE 1-A (18') POLE

Foundations shall conform to the provisions in Section 51, "Concrete Structures", and Section 86-2.03, "Foundations", of the 2010 Standard Specifications and these Special Provisions.

Portland cement concrete shall conform to Section 90-10, "Minor Concrete", of the 2010 Standard Specifications and shall be Class 2.

Contractor shall install County Furnished pole and anchor bolts on this foundation in conformance with the 2010 Standard Specifications as shown on the plans.

Method of Payment

Full compensation to construct foundation and install modified type 1-A (18') pole shall be considered as included in the lump sum price paid for the bid item for "Install Modified Type 1-A (18') Foundation, anchor bolts and county furnished Pole", and no additional compensation will be allowed.

10-1.62 MOBILIZATION:

Mobilization shall conform to Section 11 of the Standard Specifications and these Special Provisions.

Method of Payment

Full compensation for Mobilization, except as otherwise provided herein, for conforming to the requirements of this article shall be paid for on a lump sum basis and no additional compensation will be allowed therefor.

10-1.63 DE-MOBILIZATION:

De-mobilization shall consist of the completion of all final construction, cleanup work, incidentals to the project site(s), and administrative work required to secure the project for termination and acceptance by the Engineer, including, but not limited to the following:

1. Satisfactory completion of Finishing Roadway in accordance with Section 22 "Finishing Roadway" of the Standard Specifications.
2. Removal of all temporary facilities, temporary utilities, plant, equipment, surplus material, construction debris and similar from project limits and adjacent property, as required and as directed by the Engineer.
3. Restoration of all temporary roads and haul routes and construction storage and office areas, etc. to original or better condition.
4. Completion of record of drawings (as-builts), to the satisfaction of the Engineer.
5. Submission of final Disadvantaged Business Enterprise (DBE) report to the Engineer.
6. Submission of final certified payroll documents to the Engineer.
7. Submission of property owner releases, as required by the Engineer.
8. Completion of the requirements of permits issued by other agencies.
9. Satisfactory completion of punch list items, all construction and administrative items of work.

De-Mobilization shall include the satisfactory completion of all items of work, but shall not be interpreted as being a separate payment for work that is paid under separate contract items. The contract item for De-Mobilization is intended for project close-out activities.

Method of Payment

Payment for De-Mobilization will be made on a lump-sum basis in the amount of the fixed bid price after satisfactory completion of the above listed items. Payment for De-

APPENDIX A

Attachment "C" for Risk Level 1 Requirements

Of Water Pollution Control

ATTACHMENT C
RISK LEVEL 1 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 1 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk Level 1 dischargers are not subject to a numeric effluent standard.

B. Good Site Management "Housekeeping"

1. Risk Level 1 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 1 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 1 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

   a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

   b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

   c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

   d. Cover waste disposal containers at the end of every business day and during a rain event.

   e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

   f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

   g. Implement procedures that effectively address hazardous and non-hazardous spills.

   h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

      i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 1 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 1 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 1 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 1 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 1 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

C. Non-Storm Water Management

1. Risk Level 1 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 1 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 1 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 1 dischargers shall implement effective wind erosion control.

2. Risk Level 1 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Risk Level 1 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 1 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 1 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

F. Run-on and Runoff Controls

Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 1 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

2. Risk Level 1 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 1 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 1 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 1 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector's name, title, and signature.

H. Rain Event Action Plan

Not required for Risk Level 1 dischargers.

I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

Risk Level	Visual Inspection					Sample Collection	
	Quarterly non-Storm Water Discharge	Pre-storm Event		Daily Storm Bmp	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		

1. Construction Site Monitoring Program Requirements

a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Programs to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. Objectives

The CSMP shall be developed and implemented to address the following objectives:

a. To demonstrate that the site is in compliance with the Discharge Prohibitions;

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and

d. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 1 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 1 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 1 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 1 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 1 dischargers shall visually observe (inspect):

i. All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

iii. Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in e.i and e.iii above, Risk Level 1 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 1 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 1 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 1 – Visual Observation Exemptions**

a. Risk Level 1 dischargers shall be prepared to conduct visual observation (inspections) until the minimum requirements of Section I.3 above are completed. Risk Level 1 dischargers are not required to conduct visual observation (inspections) under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required visual observations (inspections) are collected due to these exceptions, Risk Level 1 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

5. **Risk Level 1 – Monitoring Methods**

Risk Level 1 dischargers shall include a description of the visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures in the CSMP.

6. **Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

i. Risk Level 1 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 1 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 1 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 1 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

7. **Risk Level 1 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 1 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 1 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 1 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 1 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the

presence of pollutants identified in the pollutant source assessment required (Risk Level 1 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 1 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[2]

h. Risk Level 1 dischargers shall keep all field /or analytical data in the SWPPP document.

8. **Risk Level 1 – Particle Size Analysis for Project Risk Justification**

Risk Level 1 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

9. **Risk Level 1 – Records**

Risk Level 1 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 1 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

[2] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, and the analytical techniques or methods used.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

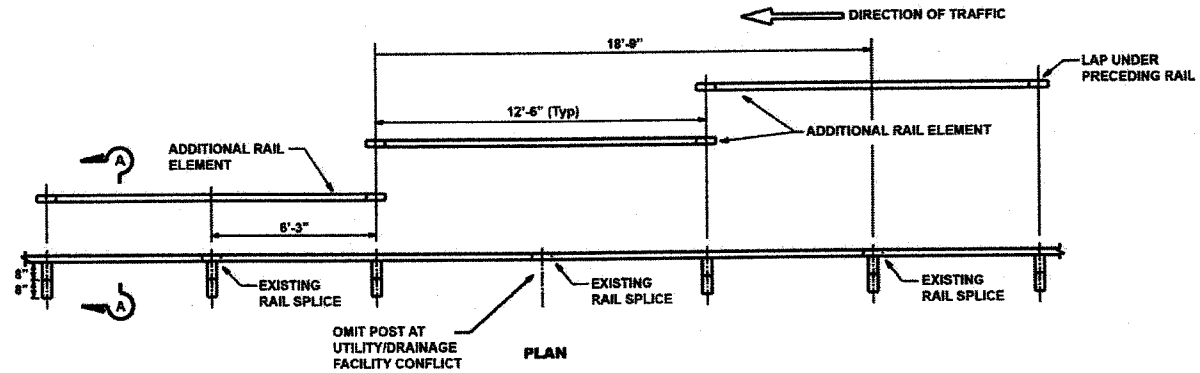
h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.6 above).

i. Visual observation and sample collection exception records (see Section I.4 above).

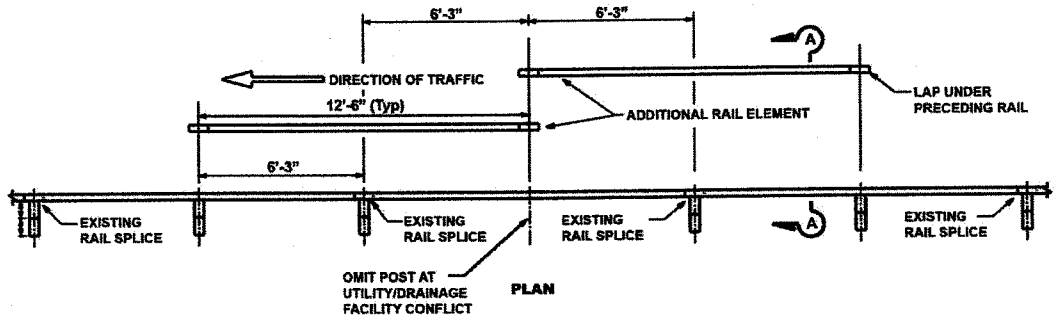
j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

REFERENCE DRAWINGS

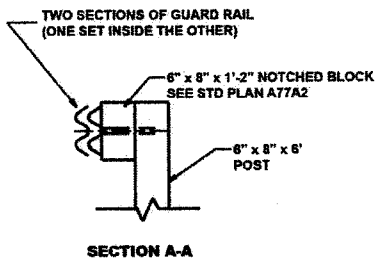
Figure 7-9: Long Span Nested Guardrail



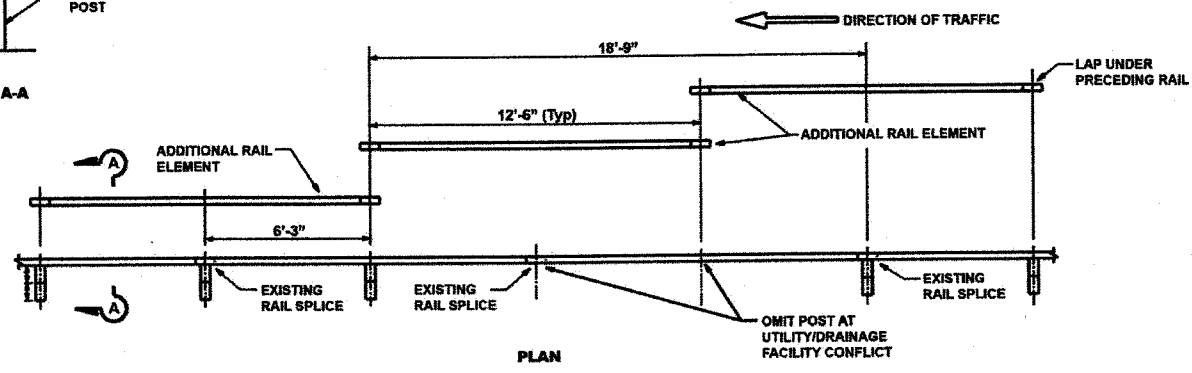
ONE POST OMITTED AT EXISTING GUARDRAIL SPLICE



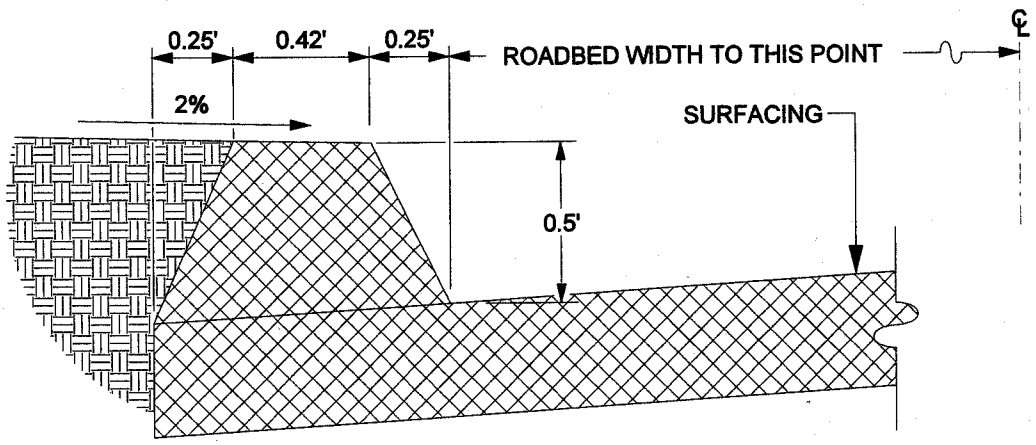
ONE POST OMITTED AT EXISTING GUARDRAIL MID-RAIL SPAN



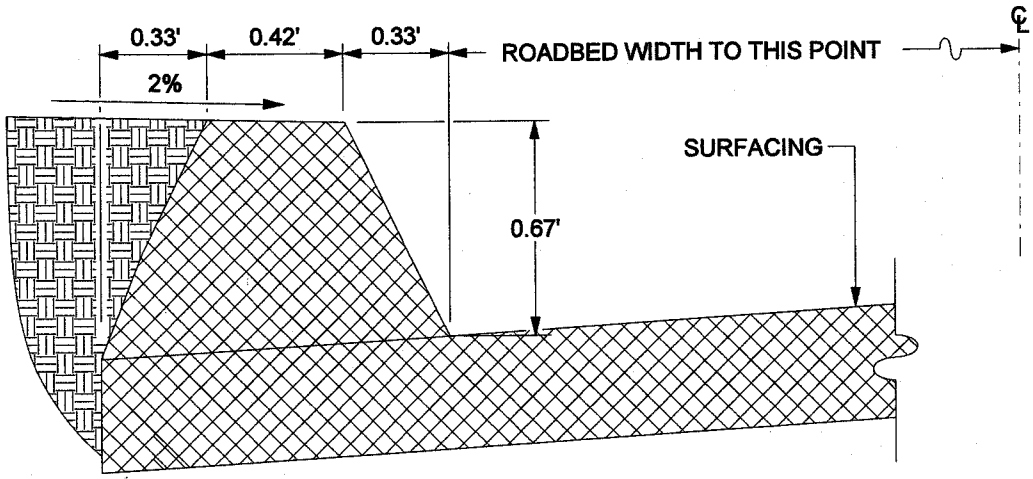
SECTION A-A



TWO POSTS OMITTED AT EXISTING GUARDRAIL POST AND MID-RAIL SPAN



6" A.C. DIKE



8" A.C. DIKE

NOT TO SCALE

NOTE: A.C. DIKE REQUIRED WHERE FILL SLOPES ARE STEEPER THAN 4:1, MATERIAL IS SUSCEPTIBLE TO EROSION, OR WHERE ROADWAY GRADIENT EXCEEDS 3%.

APPROVED BY:

DATE: 05/01/07

DIRECTOR OF TRANSPORTATION
GEORGE A. JOHNSON, RCE 42328

REGISTERED PROFESSIONAL ENGINEER
GEORGE A. JOHNSON
No. CE 42328
Exp. 3-31-08
CIVIL
STATE OF CALIFORNIA

COUNTY OF RIVERSIDE

ASPHALT CONCRETE DIKES

STANDARD NO. 212

REVISIONS		REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
		1				4			
		2				5			
		3				6			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

Greg W. Edwards C36386 Exp. 6-30-06 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

May 1, 2006
PLANS APPROVAL DATE

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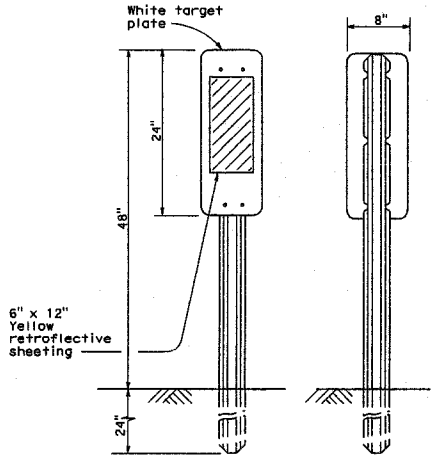
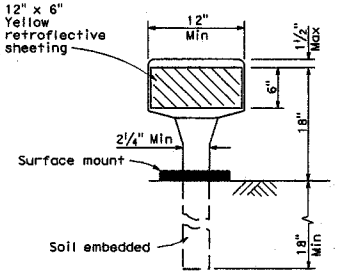
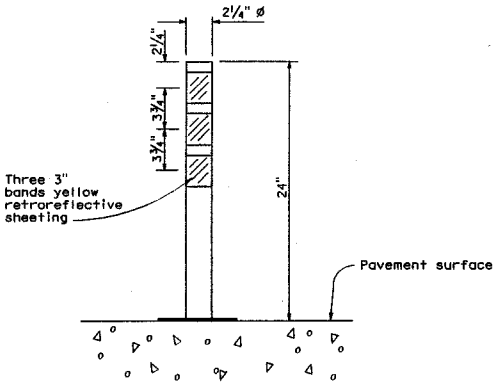


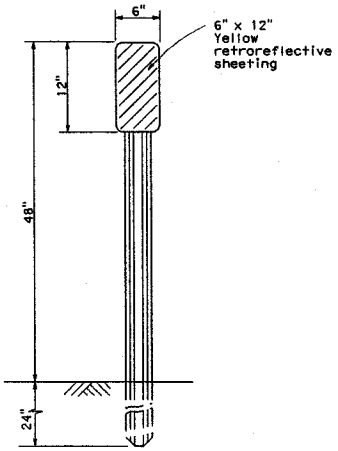
TYPE L-1 (CA)
See Note 1



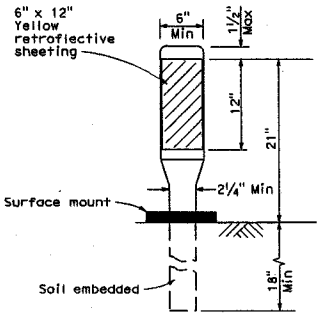
TYPE K-1 (CA)
(Flexible post with horizonal orientation of sheeting)



TYPE Q (CA)
(Tubular flexible post surface mount)



TYPE L-2 (CA)
See Note 1



TYPE K-2 (CA)
(Flexible post with vertical orientation of sheeting)

NOTE:

1. See Standard Plan A73B for metal post details and additional markers.

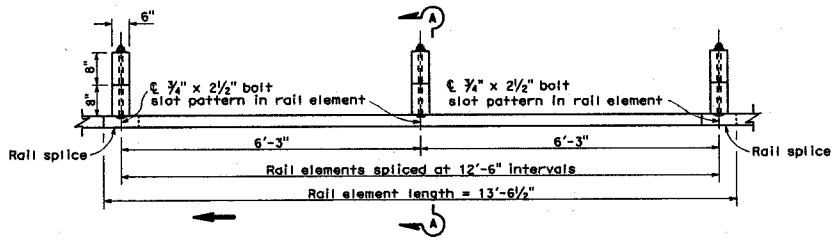
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OBJECT MARKERS

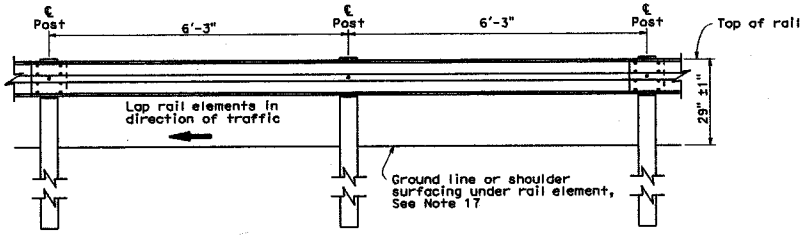
NO SCALE

A73A

9-27-05

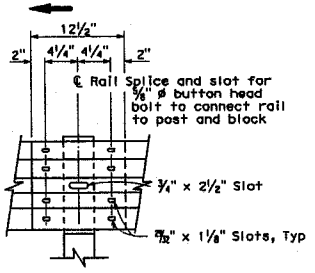


PLAN



ELEVATION

METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS



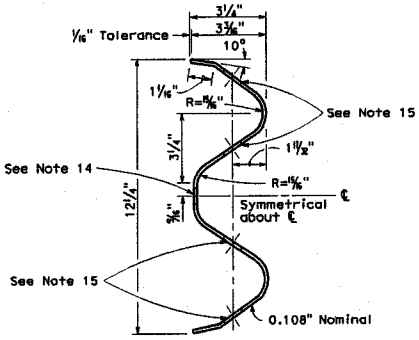
ELEVATION

RAIL ELEMENT SPLICE DETAIL

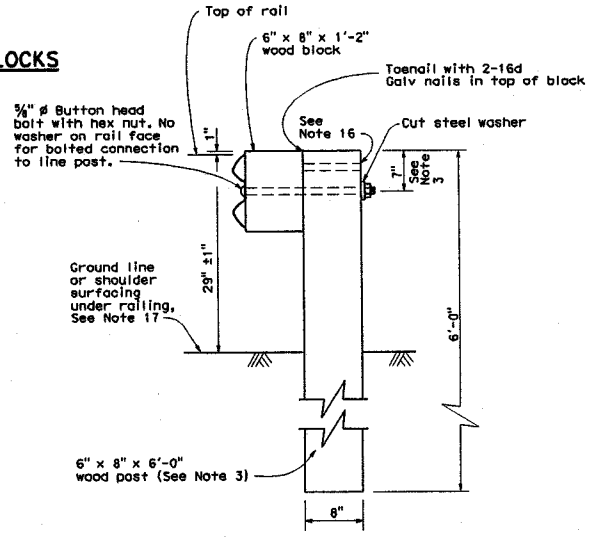
a) Connect the over lapped end of the rail elements with ⅝" ø x 1⅜" button head oval shoulder splice bolts inserted into the ⅞" x 1⅛" slots and bolted together with ⅝" ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.

b) The ends of the rail elements are to be overlapped in the direction of traffic (see details).

c) Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A

TYPICAL WOOD LINE POST INSTALLATION

See Note 4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Randall D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — Randall D. Hiatt — No. C50200 — Exp. 6-30-11 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated _____

NOTES:

1. For details of steel post installations, see Standard Plan A77A2.
2. For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
3. For details of wood posts and wood blocks used to construct guard railing, see Standard Plan A77C1.
4. For additional installation details, see Standard Plan A77C3.
5. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
6. For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
7. For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
8. For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
9. For details of guard railing transition to bridge railing, see Standard Plan A77J4.
10. For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
11. For guard railing connection details to abutments and walls, see Standard Plan A77J3.
12. Direction of adjacent traffic indicated by ➡.
13. For typical guard railing delineation and dike positioning details, see Standard Plan A77C4.
14. Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
15. Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
16. Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Standard Plan A77C1.
17. Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING STANDARD RAILING SECTION (WOOD POST WITH WOOD BLOCK)

NO SCALE

RSP A77A1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A1 DATED MAY 1, 2006 - PAGE 41 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A1

3-10-11

2006 REVISED STANDARD PLAN RSP A77A1

To accompany plans dated _____

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Randall D. Hidt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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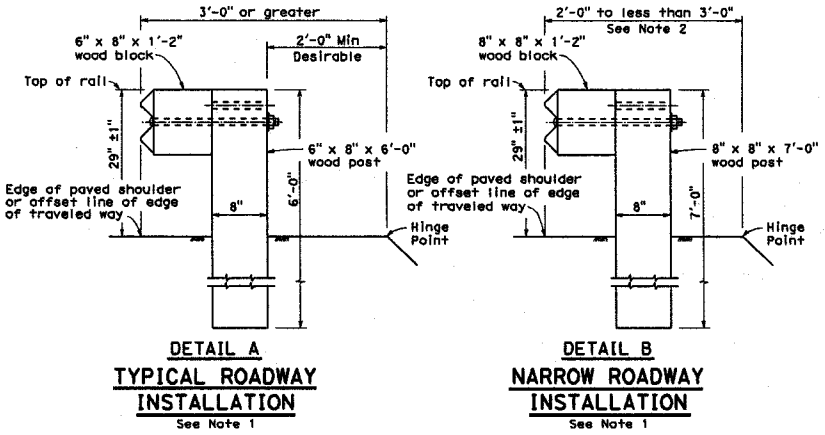
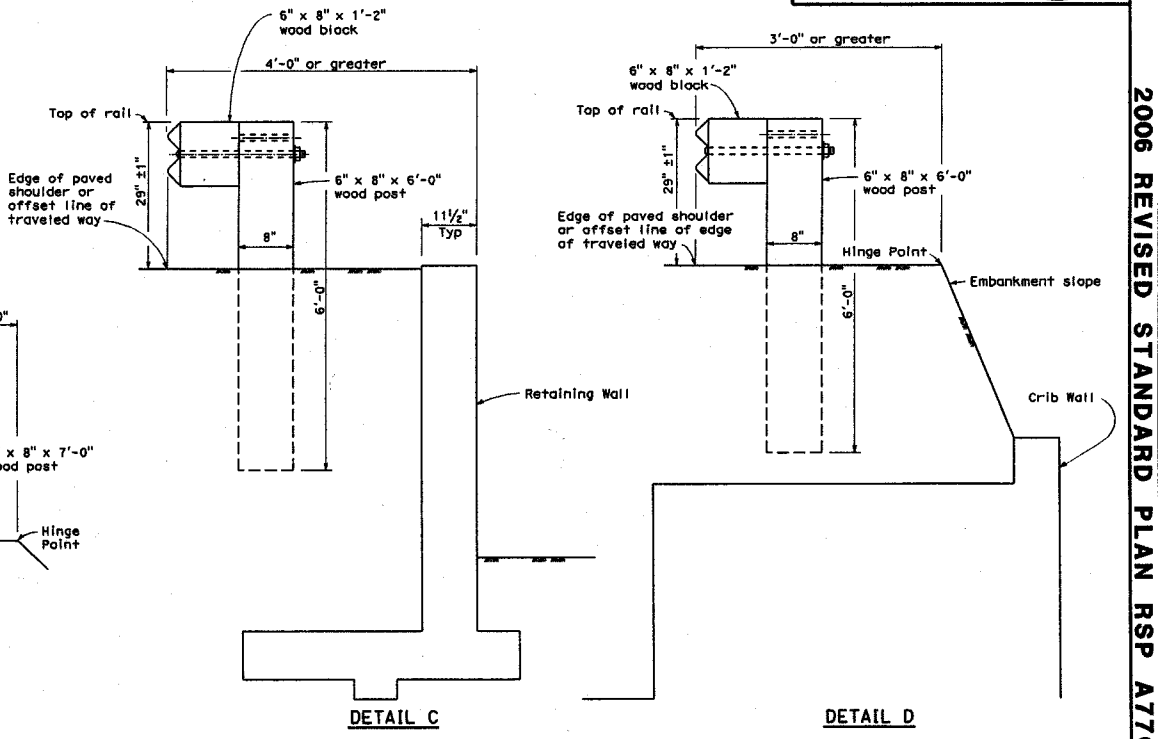
REGISTERED PROFESSIONAL ENGINEER — Randall D. Hidt — No. C50200 — Exp. 6-30-11 — CIVIL — STATE OF CALIFORNIA



DETAIL A
TYPICAL ROADWAY INSTALLATION
See Note 1

DETAIL B
NARROW ROADWAY INSTALLATION
See Note 1

POST EMBEDMENT



DETAIL C

DETAIL D

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 9 steel post, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 9 steel post, 7'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Standard Plans A77A1 and A77A2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-0", see the Project Plans for special details.
3. For dike positioning with guard railing installations, see Standard Plan A77C4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LINE POST EMBEDMENT AND HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77C3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77C3 DATED MAY 1, 2006 - PAGE 46 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C3

3-10-11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Randall D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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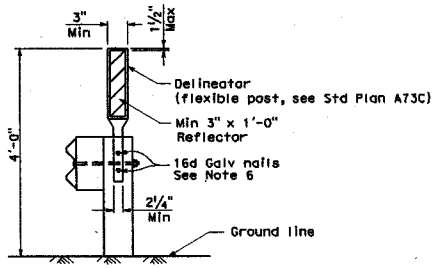
REGISTERED PROFESSIONAL ENGINEER
Randall D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

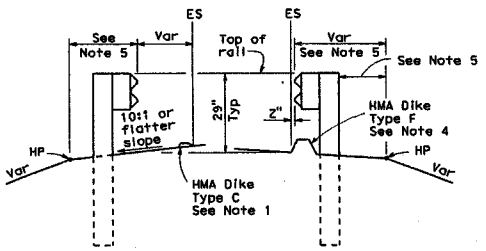
To accompany plans dated _____

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Standard Plans A87A and A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.
6. For steel line posts, use ¼ - 20 self-tapping screws in 0.22" diameter holes or ¼" bolts in ⅝" diameter holes.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS

NO SCALE

RSP A77C4 DATED MAY 20, 2011 SUPERSEDES RSP A77C4 DATED JUNE 6, 2008 AND STANDARD PLAN A77C4 DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

3-10-11

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Randall D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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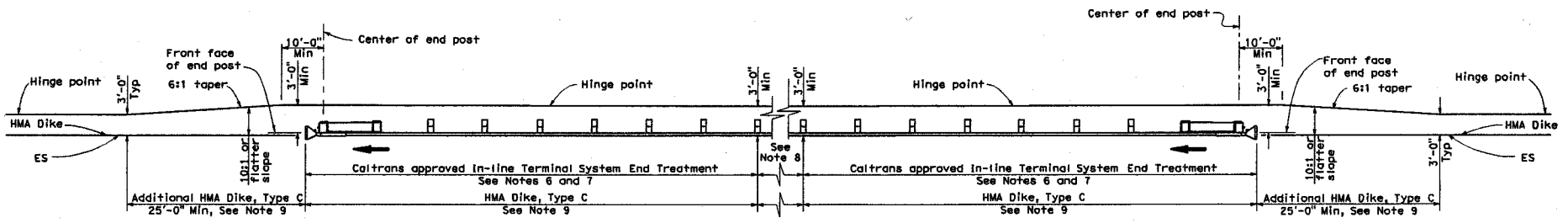
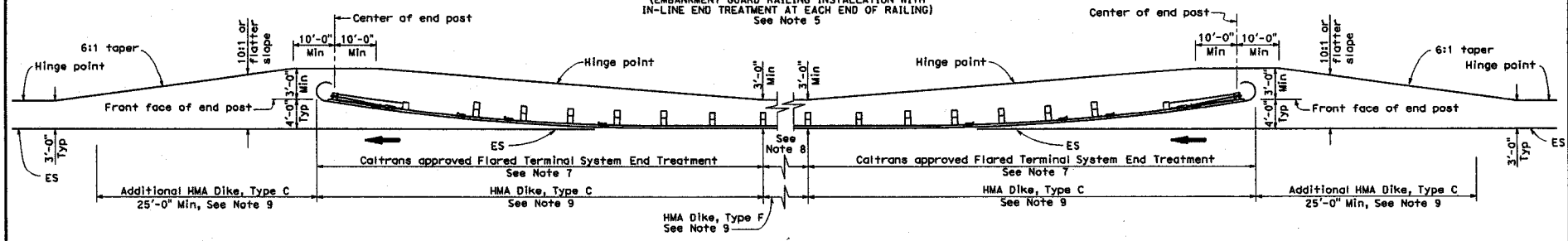
REGISTERED PROFESSIONAL ENGINEER — Randall D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated _____



TYPE 11D LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 5



TYPE 11E LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)
See Note 5

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ➡.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
6. In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
9. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E2

12-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

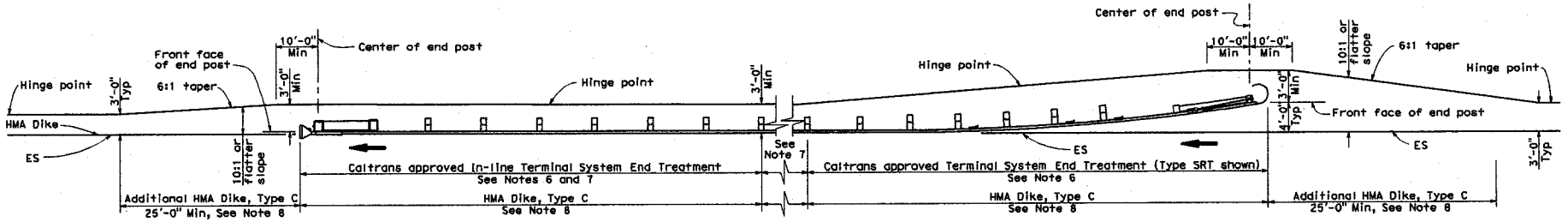
Randall D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER — Randall D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated _____



TYPE 11H LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING)
See Notes 5 and 8

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by ➡.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
6. The type of terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77E4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E4
DATED MAY 1, 2006 - PAGE 51 OF THE STANDARD PLANS BOOK DATED MAY 2006.

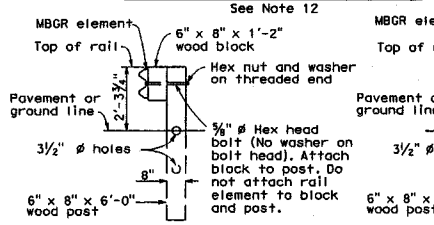
REVISED STANDARD PLAN RSP A77E4

12-10-07

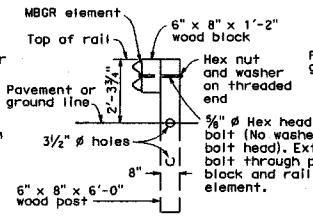
TABLE A

POST OFFSET DIMENSIONS		
Post No.	3'-0" System End Offset	3'-6" System End Offset
1	36"	42"
2	22 1/4"	27 3/4"
3	11 1/4"	16 1/4"
4	6 3/4"	10 5/8"
5	3"	6"
6	3/4"	2 3/4"
7	0"	3/4"
8	0"	0"

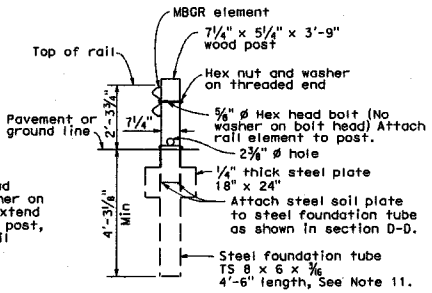
See Note 12



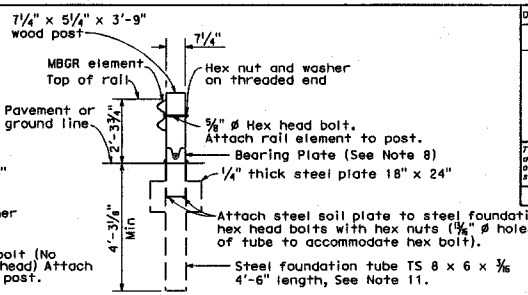
SECTION A-A



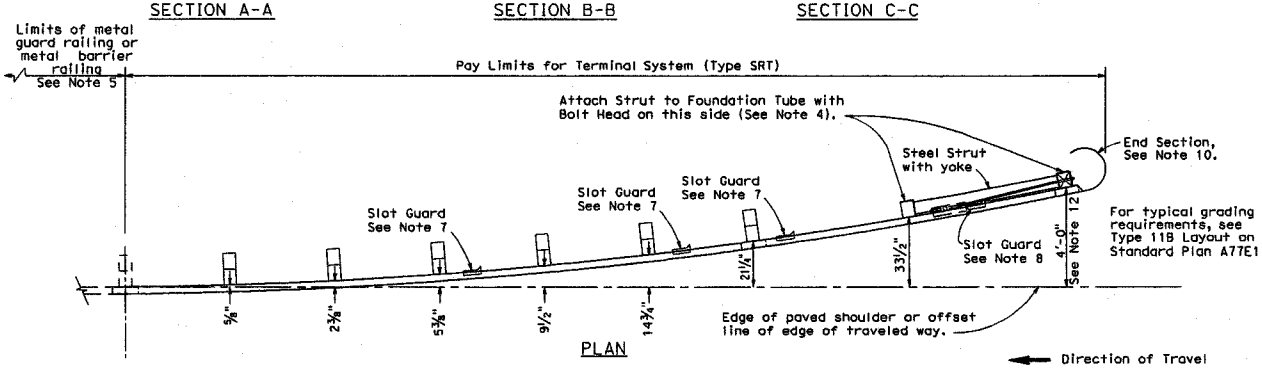
SECTION B-B



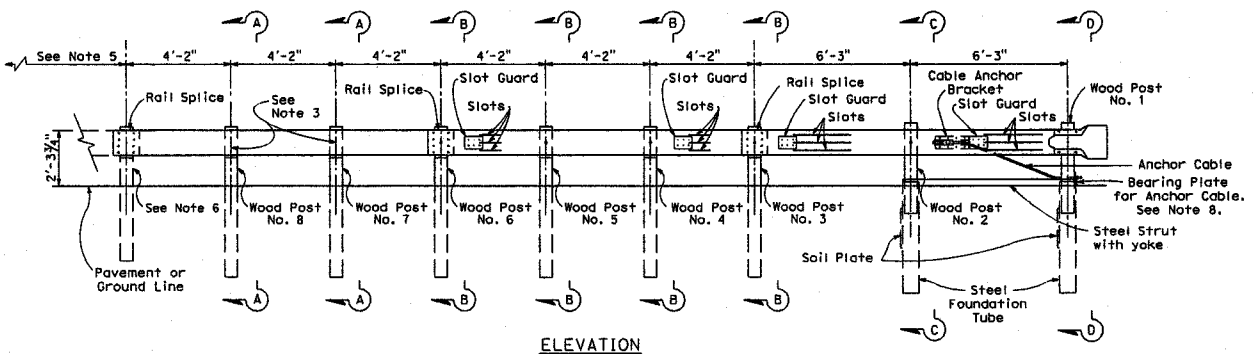
SECTION C-C



SECTION D-D
(Terminal Section not shown)



PLAN



ELEVATION

TERMINAL SYSTEM (TYPE SRT)
(8 Post System)
See Note 9

NOTES:

1. For additional details of Terminal System (Type SRT), refer to the manufacturer's installation instructions.
2. The post offset dimensions are given to the center of the traffic face of the block, except at the first two posts, where the dimension is to the center of the traffic face of the post. Offset points are to be located by chord measurements at the back of the rail equal to the nominal post spacings shown. Posts are to be set approximately radial to the railing at each post locations.
3. Do not attach rail elements to posts 7 and 8.
4. Attach strut to Post Nos. 1 and 2 foundation tubes with 5/8" ø hex head bolts, washers and hex nuts. Bolts extend through the strut, steel foundation tube, and wood posts.
5. For the length and type of metal beam guard railing or metal barrier railing the terminal system is attached to, see the Project Plans.
6. Attach rail element to this post and block. Payment for this post, block and hardware is included in payment for the type of railing or barrier the terminal system is attached to, not part of payment for Terminal System (Type SRT).
7. The deflector angle of the slot guard is to be positioned immediatley downstream of the slots.
8. For bearing plate orientation, refer to the manufacturer's installation instructions.
9. For typical use of this terminal system with guard railing, see the A77E, A77F and A77G Series of Standard Plans. See Standard Plan A78E for typical use of this terminal system with single thrie beam barrier.
10. A complete wrap around end section may continued to be used in existing installations. New installations shall be constructed with the 1/4 wrap end section shown.
11. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16 without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" ø hex head bolt and nut shall be installed in the hole in 6'-0" length tube to keep the wood post from dropping into the tube.
12. Where site conditions will not accommodate use of the standard 4'-0" system end offset, 3'-6" or 3'-0" system end offsets, as applicable, may be used. See Table A for post offset dimensions for 3'-6" and 3'-0" system end offsets.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Randell D. Hiatt
REGISTERED CIVIL ENGINEER
May 1, 2006
PLANS APPROVAL DATE
Randell D. Hiatt No. C50200 Exp. 6-30-07 CIVIL
REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM RAILING TERMINAL SYSTEM (TYPE SRT)

NO SCALE

A77L1

1-17-06

2006 STANDARD PLAN A77L1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Randell D. Hiatt No. C50200 Exp. 6-30-07 CIVIL STATE OF CALIFORNIA

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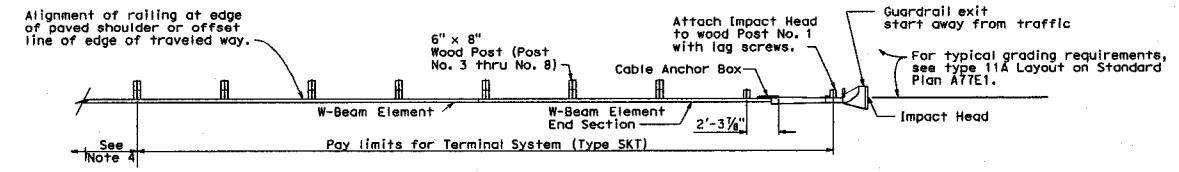
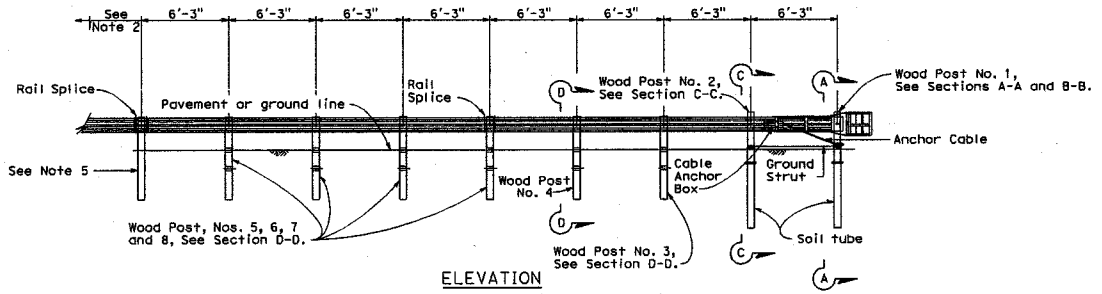


PLAN

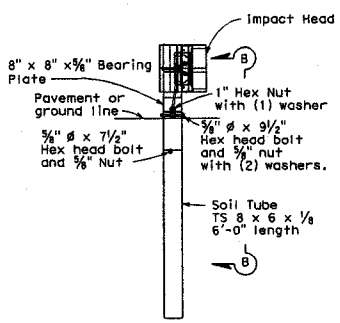


ELEVATION

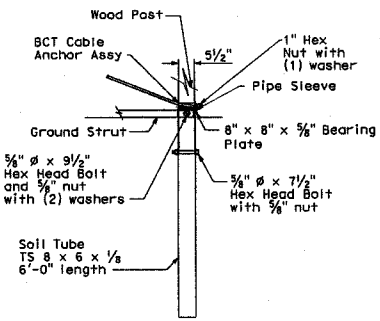
TERMINAL SYSTEM (TYPE SKT)

NOTES:

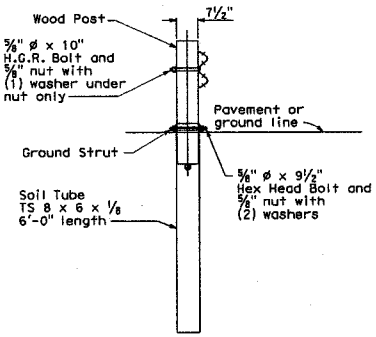
1. For additional details of Terminal System (Type SKT), refer to the manufacturer's installation instructions.
2. Terminal System (Type SKT) must be constructed so that the full length of the terminal system guard railing is in straight alignment. Terminal System (Type SKT) can be flared at a maximum rate of 25:1 to prevent the impact head from encroaching on the shoulder. The flare is not required and may be decreased or eliminated for specific installations.
3. Terminal System (Type SKT) not to be used where extrusion of the rail on the back side of the installation would be in the path of pedestrian traffic or where there is less than 25'-0" between the outlet side of the Impacted Head and any adjacent vehicle traffic.
4. For the length and type of metal beam guard railing or metal barrier railing the terminal system is attached to, see Project Plans. For typical use of this terminal system with guard railing, see the A77E, A77F and A77G Series of the Standard Plans.
5. Attach rail element to this post and block. Payment for this post, block and hardware is included in payment for the type of railing or barrier the terminal system is attached to, not part of payment for Terminal System (Type SKT).



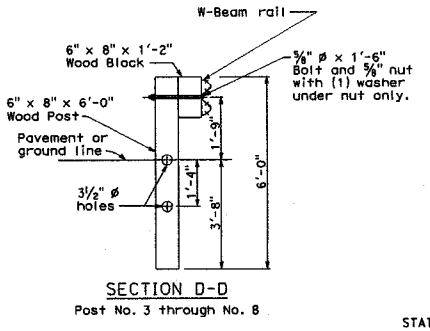
SECTION A-A
Post No. 1



SECTION B-B
Partial view Post No. 1



SECTION C-C
at Post No. 2



SECTION D-D
Post No. 3 through No. 8

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM RAILING TERMINAL SYSTEM (TYPE SKT)

NO SCALE

A77L2

1-17-06

2006 STANDARD PLAN A77L2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Michael Jenzen
No. 44788
EXP. 03-31-08
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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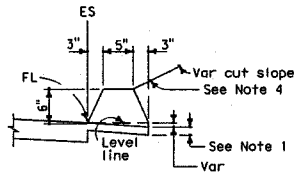
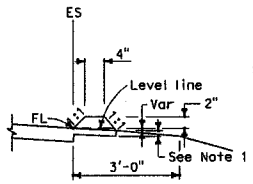
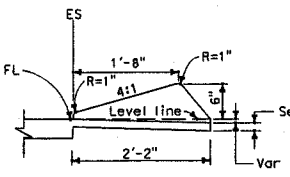


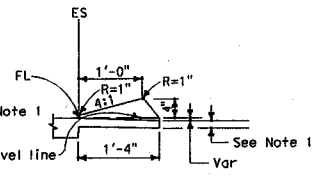
TYPE A
See Note 3



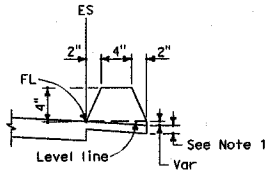
TYPE C



TYPE D

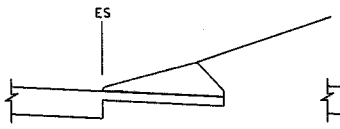


TYPE E

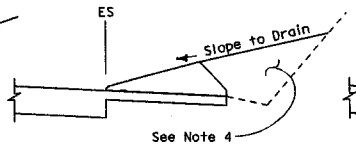


TYPE F
See Note 5

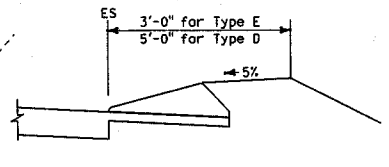
DIKES



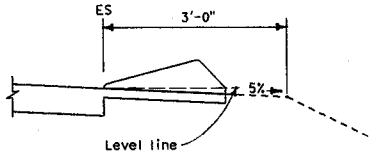
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. For AC shoulders only, extend top layer of AC placed on the shoulder under dike with no joint at the ES.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type F dike, where dike is required with guard railing installations. See Standard Plan A77C4 for dike positioning details.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ASPHALT CONCRETE DIKES

NO SCALE

A87B

3-20-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Dallas Forester
No. C37765
Exp. 12-31-06
CIVIL
REGISTERED PROFESSIONAL ENGINEER * STATE OF CALIFORNIA *

SPAN			4'						5'							
HEIGHT			2'		3'		4'		2'		3'		4'		5'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	7"	7"	7"	7"	7"	7"	7½"	7½"	7½"	7½"	7½"	7½"	7½"	7½"
Conc	Walls	T_2	6"	6"	6"	6"	6"	6½"	6"	6"	6"	6"	6"	7"	6½"	7½"
Conc	Invert	T_3	6"	6"	6"	6"	6"	6½"	6½"	7"	6½"	7"	6½"	7"	6½"	7"
Reinf	Spacing		7"	7"	7"	7"	7"	7"	8½"	6"	8½"	5½"	8½"	5½"	8½"	5½"
Reinf	"a"	Size Bar	#6	#6	#6	#6	#6	#6	#7	#6	#7	#6	#7	#6	#7	#6
Reinf	"e"	Size Bar	#4	#4	#4	#5	#5	#6	#4	#4	#4	#4	#5	#5	#6	#6
Quantities	Concrete	CF/LF	7.4	7.4	8.4	8.4	9.4	10.1	8.9	9.2	10.0	10.2	11.0	12.0	12.5	13.7
Quantities	Reinforcement	LB/LF	48	48	50	55	58	67	58	60	58	68	67	81	82	105

SPAN			6'							
HEIGHT			3'		4'		5'		6'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	8"	8"	8"	8"	8"	8"	8"	8"
Conc	Walls	T_2	6"	6"	6"	7"	6½"	7½"	7"	8½"
Conc	Invert	T_3	7"	8"	7"	8"	7"	8"	7"	8"
Reinf	Spacing		7½"	5"	7½"	5"	7½"	5"	7½"	4½"
Reinf	"a"	Size Bar	#7	#6	#7	#6	#7	#6	#7	#6
Reinf	"e"	Size Bar	#4	#4	#5	#5	#6	#6	#7	#6
Quantities	Concrete	CF/LF	11.7	12.3	12.7	14.2	14.2	15.9	15.9	18.3
Quantities	Reinforcement	LB/LF	70	81	82	96	97	120	124	148

SPAN			7'									
HEIGHT			3'		4'		5'		6'		7'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	8"	9"	8"	9"	8"	9"	8½"	9"	8½"	9"
Conc	Walls	T_2	6"	6"	6"	7"	6½"	7½"	7"	8½"	8"	9½"
Conc	Invert	T_3	8"	9"	8"	9"	8"	9"	8"	9"	8"	9"
Reinf	Spacing		6½"	5"	6½"	4½"	6½"	5½"	6½"	5½"	6½"	5½"
Reinf	"a"	Size Bar	#7	#6	#7	#6	#7	#7	#7	#7	#7	#7
Reinf	"e"	Size Bar	#4	#4	#5	#5	#6	#6	#6	#7	#7	#7
Quantities	Concrete	CF/LF	13.7	14.9	14.6	16.8	16.1	18.5	18.1	21.0	20.7	23.8
Quantities	Reinforcement	LB/LF	94	94	105	118	121	147	130	177	160	192

SPAN			8'									
HEIGHT			4'		5'		6'		7'		8'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	8½"	9½"	8½"	9½"	8½"	10"	8½"	10"	8½"	10"
Conc	Walls	T_2	6"	7"	6½"	7½"	7"	8½"	8"	9½"	8½"	10½"
Conc	Invert	T_3	8"	9½"	8"	10"	8"	10"	8"	10"	8"	10"
Reinf	Spacing		6"	5"	6"	5"	6"	4½"	6"	5"	6"	4½"
Reinf	"a"	Size Bar	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7
Reinf	"e"	Size Bar	#5	#5	#5	#6	#6	#6	#6	#7	#7	#7
Quantities	Concrete	CF/LF	16.4	19.0	17.9	21.1	19.5	24.1	22.1	26.9	24.1	30.1
Quantities	Reinforcement	LB/LF	123	151	131	171	137	198	160	215	192	252

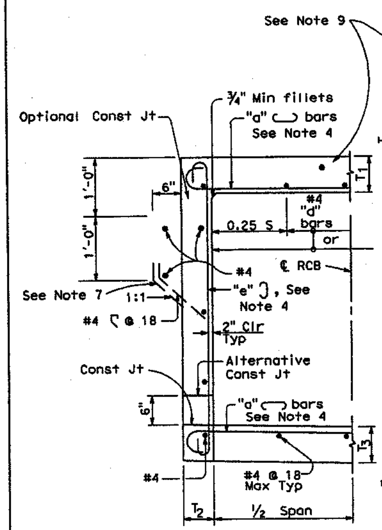
"d" bars, for earth covers up to and including 10'-0"								
Span	4'	5'	6'	7'	8'	10'	12'	14'
Number	7	8	9	10	11	12	15	20

SPAN			10'											
HEIGHT			5'		6'		7'		8'		9'		10'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	8"	10½"	8"	10½"	8"	10½"	8"	10½"	8"	10½"	8½"	11"
Conc	Walls	T_2	8"	8"	8"	9"	8"	9"	8"	10"	8½"	11½"	9½"	12½"
Conc	Invert	T_3	8"	11"	8"	11"	8"	11"	8"	11"	8"	11"	8½"	11"
Reinforcement	Spacing		13"	12"	12"	12"	11"	11"	10"	11"	11"	10"	11"	10"
Reinforcement	**"a"	Size Bar	#6	#7	#6	#7	#6	#7	#6	#7	#6	#6	#6	#6
Reinforcement	"b"	Size Bar	#6	#7	#6	#7	#6	#7	#6	#7	#6	#6	#7	#7
Reinforcement	"b"	Dimension "B" Feet-inches	2-11	2-11	2-11	3-0	2-11	3-9	2-11	3-9	2-11	3-9	2-11	3-9
Reinforcement	"b"	Dimension "Bw" Feet-inches	4-10	5-0	4-10	5-0	4-10	5-0	4-10	5-0	4-10	5-0	4-7	4-7
Reinforcement	"c"	Size Bar #	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#7	#7
Reinforcement	"c"	Dimension "C" Feet-inches	3-4	3-4	7-4	4-8	7-7	4-8	8-2	4-8	7-7	4-8	7-7	4-8
Reinforcement	*"e"	Size Bar	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#5	#5
Quantities	Concrete	CF/LF	21.6	26.8	23.0	29.5	24.3	31.0	25.6	34.1	27.8	37.7	32.1	42.3
Quantities	Reinforcement	LB/LF	191	267	233	285	260	325	300	339	314	327	360	373

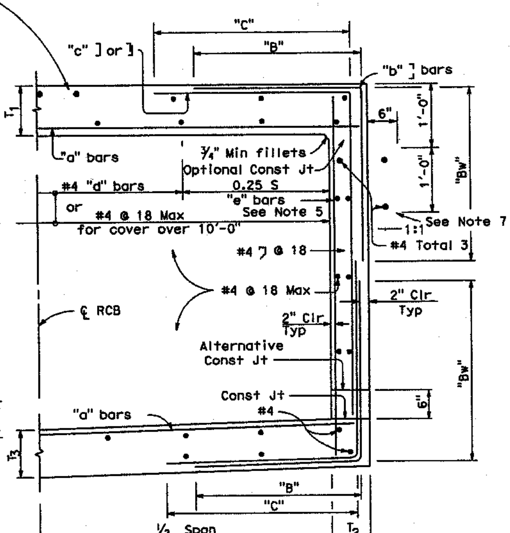
SPAN			12'													
HEIGHT			6'		7'		8'		9'		10'		11'		12'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	8½"	12"	8½"	12"	8½"	12"	8½"	12"	9"	12"	9½"	12"	9½"	12"
Conc	Walls	T_2	8"	10"	8½"	10½"	8½"	10½"	8½"	11½"	9"	12½"	10½"	13½"	11½"	15"
Conc	Invert	T_3	8½"	12½"	9"	12½"	9"	12½"	9"	12½"	9"	12½"	9½"	13"	10"	13"
Reinforcement	Spacing		9"	10"	9"	10"	9"	10"	8"	10"	8"	10"	10"	9"	9"	8"
Reinforcement	**"a"	Size Bar	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#6	#6	#6	#6
Reinforcement	"b"	Size Bar	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#6	#7
Reinforcement	"b"	Dimension "B" Feet-inches	3-1	3-2	3-9	3-9	3-9	3-9	3-7	3-9	3-7	4-4	3-7	4-4	4-4	4-4
Reinforcement	"b"	Dimension "Bw" Feet-inches	6-0	5-10	6-2	6-7	6-2	6-7	4-11	4-11	4-11	4-11	4-11	4-11	4-4	4-4
Reinforcement	"c"	Size Bar #	#6	#7	#6	#7	#6	#7	#6	#7	#6	#7	#7	#7	#7	#7
Reinforcement	"c"	Dimension "C" Feet-inches	4-4	3-7	8-1	5-7	8-1	5-7	8-1	5-7	8-1	5-7	8-1	5-7	8-1	5-7
Reinforcement	*"e"	Size Bar	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#5	#5	#5	#5
Quantities	Concrete	CF/LF	26.8	37.7	29.3	40.1	30.3	41.9	32.2	45.4	34.5	49.8	40.7	54.2	45.4	59.9
Quantities	Reinforcement	LB/LF	295	362	353	409	365	420	402	413	415	424	440	471	468	534

SPAN			14'															
HEIGHT			7'		8'		9'		10'		11'		12'		13'		14'	
Maximum Earth Cover			10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'	10'	20'
Conc	Roof	T_1	9½"	14"	9½"	14"	9½"	14"	9½"	14"	10"	14"	10"	14"	10½"	14"	11"	14"
Conc	Walls	T_2	9½"	11"	9½"	11½"	9½"	11½"	10"	12½"	10½"	14"	11½"	15"	12½"	16½"	13½"	17½"
Conc	Invert	T_3	10"	14½"	10"	14½"	10"	14½"	10"	14½"	10½"	14½"	10½"	15"	11"	15"	11½"	15"
Reinforcement	Spacing		10"	9"	10"	9"	10"	8"	10"	8"	10"	8"	8"	10"	10"	10"	10"	9"
Reinforcement	**"a"	Size Bar	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#6	#7	#6	#7	#6	#7
Reinforcement	"b"	Size Bar	#6	#7	#7	#7	#7	#7	#7	#7	#7	#7	#6	#8	#7	#8	#7	#8
Reinforcement	"b"	Dimension "B" Feet-inches	2-9	4-2	3-4	4-4	3-4	4-6	3-4	4-6	3-6	4-6	3-6	4-6	3-6	4-6	4-9	6-0
Reinforcement	"b"	Dimension "Bw" Feet-inches	6-5	7-0	7-0	8-4	7-0	8-4	6-0	6-0	6-0	6-0	6-0	6-0	5-0	6-0	4-6	6-0
Reinforcement	"c"	Size Bar #	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#7	#8	#8	#8	#8	#8
Reinforcement	"c"	Dimension "C" Feet-inches	4-0	4-2	6-9	6-9	5-10	5-10	6-0	6-4	8-11	6-4	8-11	6-4	8-11	6-4	8-11	6-4
Reinforcement	*"e"	Size Bar	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#4	#5	#6	#6	#6	#6
Quantities	Concrete	CF/LF	36.2	51.0	37.8	53.1	39.5	54.9	41.9	58.7	45.9	64.1	49.9	69.5	55.6	75.8	61.6	81.3
Quantities	Reinforcement	LB/LF	374	471	449	522	446	587	449	580	492	596	537	605	564	634	604	759

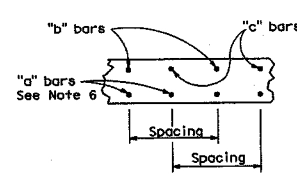
* See Note 5
** See Note 6



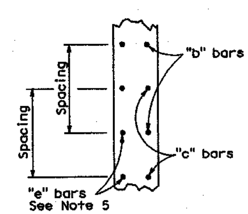
TYPICAL SECTION
SPANS 4' THRU 8'



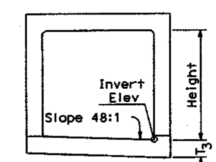
TYPICAL SECTION
SPANS 10' THRU 14'



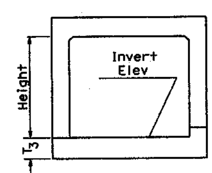
ROOF SECTION
SPANS 10' THRU 14'
INVERT SIMILAR



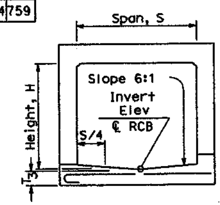
WALL SECTION
SPANS 10' THRU 14'



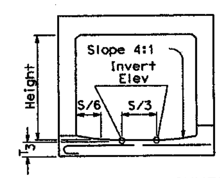
SLOPED INVERT



FLAT INVERT



V INVERT



TRAPEZOIDAL INVERT

ALTERNATIVE INVERTS

NOTES:

1. For boxes with span or height less than any of those shown in table, use next greater size box concrete dimensions and reinforcement. Make necessary changes in bar lengths and quantities.
2. Quantities are approximate and for design purposes only.
3. For boxes with span or height or cover greater than those shown in tables, a special design is required.
4. It is permissible to eliminate the 180° hooks on every other bar.
5. "e" bars are at half spacing (spans 10' - 14' only).
6. "a" bars are at half spacing (spans 10' - 14' only).
7. Provide paving notch when top is exposed and when pavement is portland cement concrete, and adjust quantities.
8. For design and details not shown, see Standard Plan D82.
9. For exposed top, provide #4 @ 1'-6" each way 2'-0" lap "c" bars or full span and adjust).

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE REINFORCED CONCRETE SINGLE BOX CULVERT

NO SCALE

D80

1-24-06

DESIGN NOTES:

Specifications:
Design:
Bridge Design Specification (1983 AASHTO Specifications with revisions by Caltrans)
Load Factors: 1.5 D + 1.5 E + 2.5 (L + 1)
Where D=Dead Load
E=Earth Load
L=Live Load
I =Impact
Capacity reduction factor is included.

Loading:
Live load:
HS20-44 truck
Apply impact only to the roof slab.

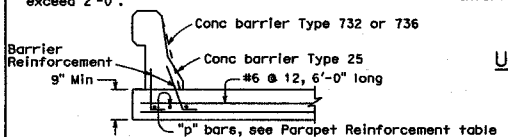
Earth Cover	Impact (%)
Up to 1'	30
1.1' to 2'	20
2.1' to 3'	10
Over 3'	0

No surcharge on walls due to live load.
Earth load:
Earth pressures for two conditions:
140 LB/CF vertical, 42 LB/CF horizontal.
140 LB/CF vertical, 140 LB/CF horizontal.
Unit stresses:
f'_c = 3600 psi
f_y = 60,000 psi
Distribution "d" bars:
Up to and including 10'-0" cover
Expressed as a percent of main positive reinforcement required: $\frac{100}{\sqrt{S}}$, Max 50%.

Over 10'-0" cover
#4 @ 18 maximum.
Shear:
Maximum allowable shear, $v_c = 3.5\sqrt{f'_c}$, psi
Exclusions:
Compressive reinforcement and negative-moment reduction (for continuity) do not apply.
Axial loading on members has not been considered.

CONSTRUCTION NOTES:

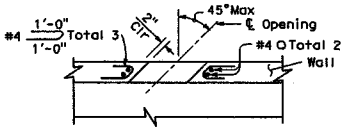
Construction loads:
Strutting required as shown on Standard Plan D88.
Strutting may be required on culvert extensions when existing parapet is removed.
Expansion joints:
Invert:
No expansion joints shall be permitted.
Roof and Walls:
When cover is less than span length-
Place ½" premolded expansion joint filler at 30'-0" ± centers outside the paved roadway lanes and place Bridge Detail 3-2, Standard Plan B0-3, at 30'-0" centers under paved roadway lanes.
When cover is more than span length-
Place ½" premolded expansion joint filler at 30'-0" ± centers and additional ½" premolded expansion joints at locations of change in foundation character, as directed by the Engineer.
Construction joints:
Temporary joints may be permitted if normal (or radial) to ℄ of RCB. Otherwise, the contractor is to submit a proposal for consideration.
Cutoff walls:
4'-0" cutoff walls are to be provided at inlet and/or outlet unless adjacent channel is lined and unless otherwise shown. These walls are to be extended if scour conditions warrant.
Earthwork:
See Standard Plan A62E.
Backfill:
See Standard Specifications, except that the difference in level of backfill (against outside walls) shall not exceed 2'-0".



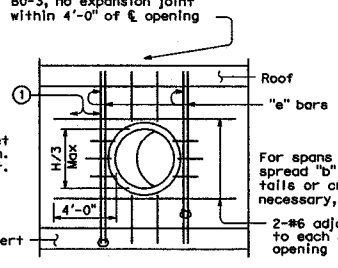
BARRIER SECTION (30'-0" MINIMUM)

GENERAL NOTES:

Designation:
Standard single or multiple box culverts are shown on plans as span times height with maximum cover over roof thus: 8' x 5' RCB with 10' or DBL 10' x 5' RCB with 20', followed by alternatives.
Alternatives:
Single cell: Invert will be sloped unless "trapezoidal invert", "flat invert" or "V invert" is included in designation.
Multiple cell: Invert will be vee unless "flat invert" is specified. Ends of culvert will be rounded unless "square ends" are designated. Parapets will be as shown unless designated in plans. Such designations may be different for inlet and outlet ends.
Quantities:
Quantities are for the sloped or vee invert and do not include "d" bars, nor splices in longitudinal bars, nor temperature reinforcement for exposed roof, nor concrete or reinforcement for parapets, cutoff walls or paving notches.
Reinforcement placement:
Main reinforcement is to be placed transverse or, for curved culverts, radial. When radial, reinforcing spacing of the "a", "f" and "g" bars is measured along the centerline. Stagger splices not shown. Hooks may be rotated or tilted, as necessary, for clearance.
Special reinforcement coverage:
Box standard plans are not to be used for culverts in a corrosive environment or where there is a severe abrasive flow condition or in freeze-thaw locations.
Special design:
Required for culverts with conditions, loads, design bearing pressures or sizes greater than those given on this plan or Standard Plans D80 & D81. Also required for multiple cell culverts with unequal spans. For culverts with railroad loading, see the current AREA design specification.
3 or more cells:
For culverts with more than two cells, use dimensions and reinforcement for the standard "double box culvert" and adjust quantities accordingly.



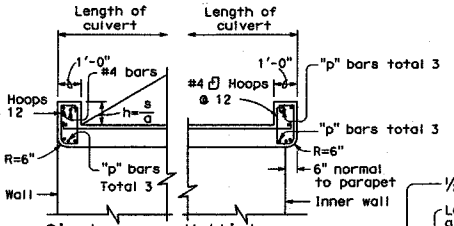
PART PLAN-SECTION



LONGITUDINAL SECTION

UTILITY OPENING-WALL
H=Height of box

① Adjacent to each side of the opening, place additional bars equivalent to half the interrupted main reinforcement.



PARAPET DETAIL

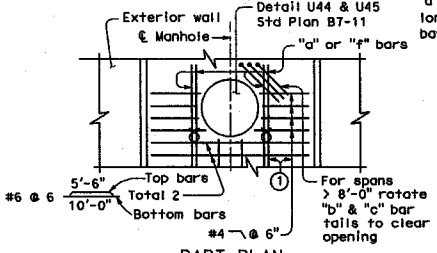
s = Clear span (ft)
a = 12 cosine skew angle

Parapet "p" bars			
Span \ Skew Angle	0° TO 15°	16° TO 30°	31° TO 45°
4'	#4	#4	#4
6'	#4	#4	#5
8'	#4	#5	#6
10'	#5	#6	#7
12'	#6	#7	#8
14'	#7	#8	#9

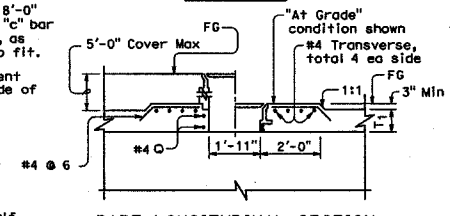
PARAPET REINFORCEMENT

Height	Cover	
	10'	20'
6'	2.0 ksf	3.2 ksf
8'	2.2 ksf	3.4 ksf
10'	2.4 ksf	3.6 ksf
12'	2.6 ksf	3.8 ksf
14'	2.8 ksf	4.0 ksf

DESIGN BEARING PRESSURE

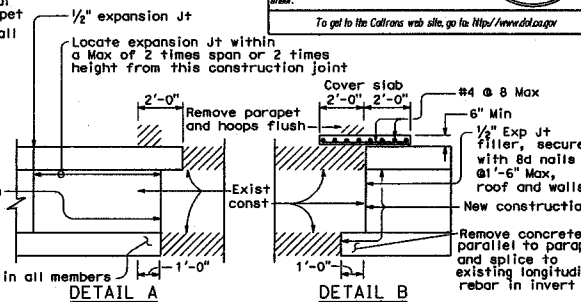


PART PLAN



PART LONGITUDINAL SECTION

MANHOLE



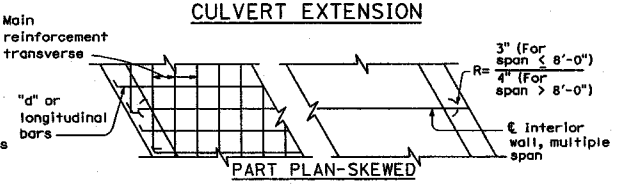
DETAIL A

(20° maximum skew as shown. If existing longitudinal and transverse reinforcing bars in top slab are lap spliced with new longitudinal and transverse reinforcing bars, the 20° skew may be exceeded. Lap splicing may require removal of top slab in excess of 2'-0" shown.

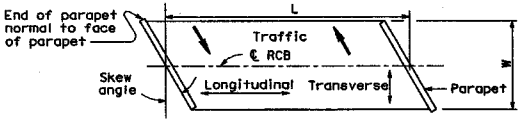
DETAIL B

(Single cell only, no skew allowed, 1'-0" minimum cover.)

CULVERT EXTENSION



PART PLAN-SKEWED



RCB TERMINOLOGY

DIST	COUNTY	ROUTE	POST MILES TOTAL	POST MILES PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER
May 1, 2006
PLANS APPROVAL DATE
Dallas Forester
No. C37765
Exp. 12-31-06
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE REINFORCED CONCRETE BOX CULVERT MISCELLANEOUS DETAILS

NO SCALE

D82

8-8-05

2006 STANDARD PLAN D82

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Dallas Forester
No. C37765
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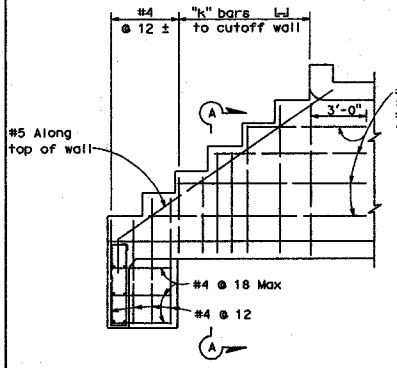
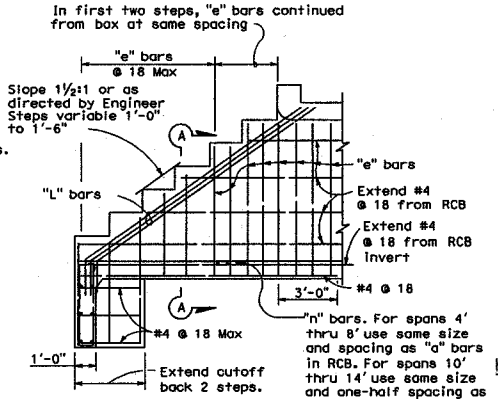
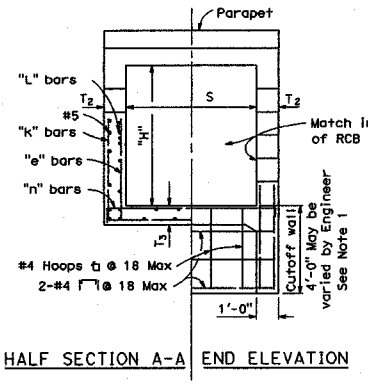


LONGITUDINAL SECTION
Showing reinforcement in outside face

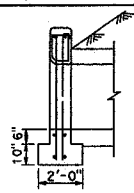


LONGITUDINAL SECTION
Showing reinforcement in inside face

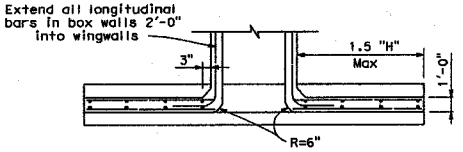


HALF SECTION A-A | END ELEVATION

Dimensions S and T_3 to be same as adjacent RCB.
T_2 = Same as adjacent RCB (8" Min).

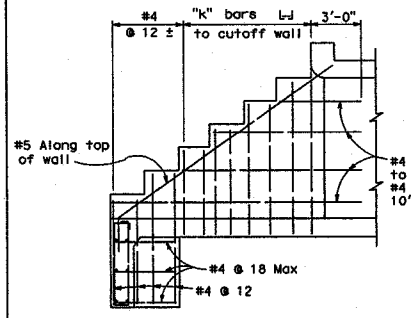


SECTION B-B

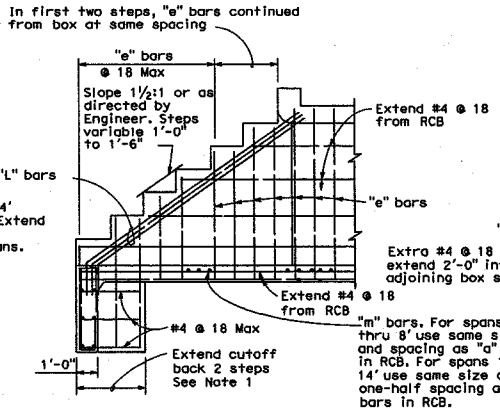


SECTION C-C

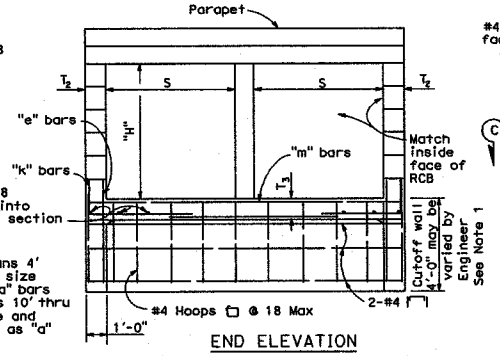
TYPE "E" STEPPED WINGWALL (SINGLE BOX CULVERT)



LONGITUDINAL SECTION
Showing reinforcement in outside face

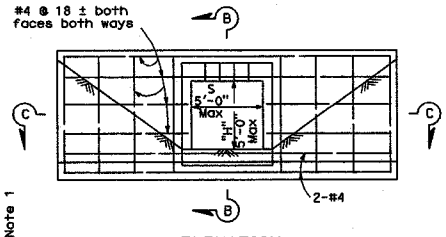


LONGITUDINAL SECTION
Showing reinforcement in inside face



END ELEVATION

Dimensions S and T_3 to be same as adjacent RCB.
T_2 = Same as adjacent RCB (8" Min).



ELEVATION

TYPE "D" STRAIGHT WINGWALL

Details similar for multiple span boxes.
For Parapet Details not shown see Standard Plan D82.

TYPE "E" STEPPED WINGWALL (MULTIPLE BOX CULVERT)

NOTES:

1. Eliminate cutoff walls if adjacent channel is paved.
2. For "H" not shown use reinforcement for next greater height.

TABLE OF REINFORCEMENT FOR TYPE "E" WINGWALLS

"H"	(See Note 2)	3'	4'	5'	6'	7'	8'	10'	12'	14'
"k" Bars	Bar No.	#4	#4	#5	#5	#5	#5	#5	#5	#5
	Spacing	@ 12	@ 12	@ 12	@ 10	@ 9	@ 8	@ 7	@ 5	@ 4
"L" Bars	Bar No.	#5	#5	#6	#6	#7	#7	#7	#7	#7
	Number each wall	2	2	3	3	3	3	3	3	3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BOX CULVERT WINGWALLS TYPES D AND E

NO SCALE

D85

8-8-05

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Dallas Forester
No. C37765
Exp. 12-31-06
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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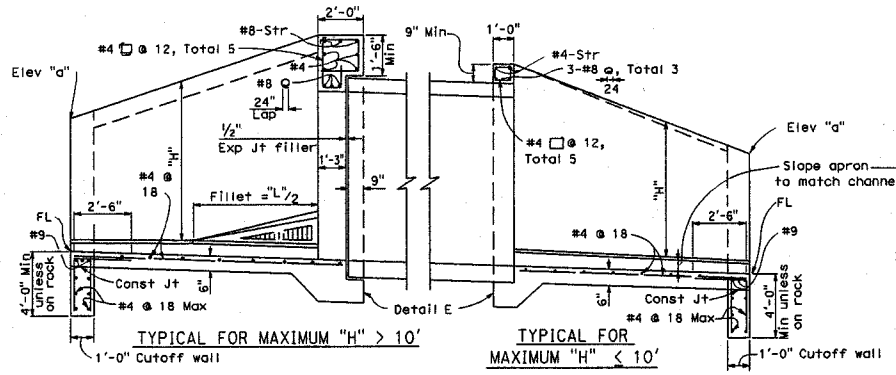
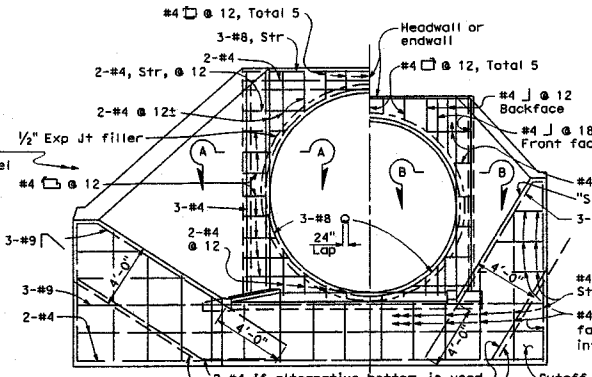


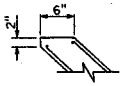
TYPICAL FOR MAXIMUM "H" > 10'

TYPICAL FOR MAXIMUM "H" ≤ 10'



TYPICAL FOR MAXIMUM "H" > 10'

TYPICAL FOR MAXIMUM "H" ≤ 10'

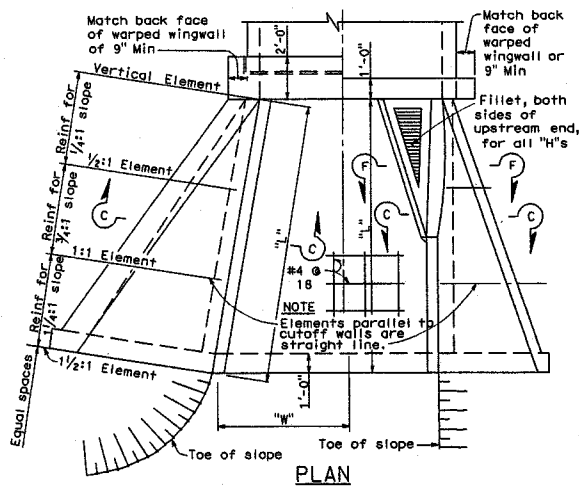


WITHOUT STIFFENING BEAM

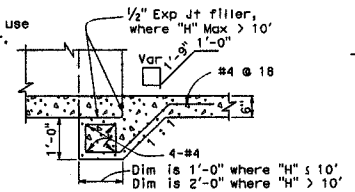
NOTE:

RCP shown. Metal pipe similar except eliminate the expansion joint and use hook bolts @ 1'-7" ± spacing. Size and length provided by manufacturer.

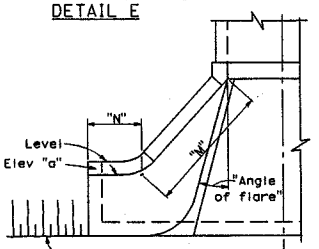
PART LONGITUDINAL SECTION



PLAN



DETAIL E

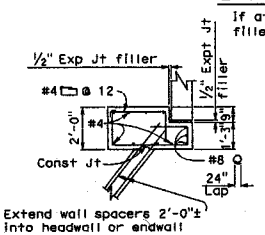


ALTERNATIVE WARPED WINGWALL

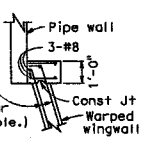
Use where additional protection to toe of embankment is required. If at upstream end, fillet is not shown.

END ELEVATION

If at upstream end, fillet is not shown.



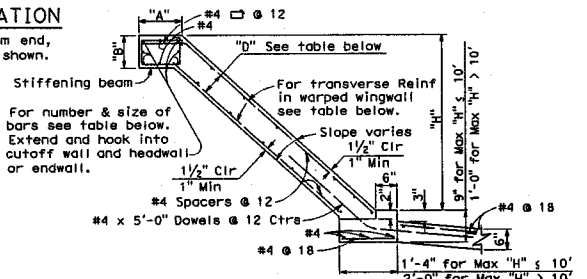
SECTION A-A



Extend wall spacers 2'-0"± into headwall or endwall. Rotate if necessary.

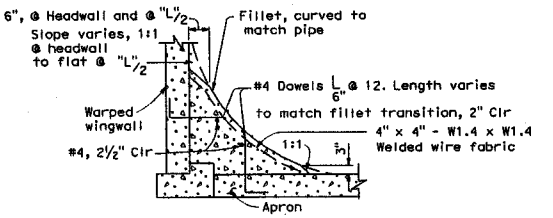
(Near spring-line, eliminate face extension and hook rear extension outward, if possible.)

SECTION B-B



SECTION C-C

Where abrasion is anticipated, increase apron thickness to 7" minimum to provide 2" minimum reinforcement coverage.



SECTION F-F

WARPED WINGWALLS

WALL DIMENSIONS AND REINFORCING									STIFFENING BEAM DIMENSIONS AND REINFORCING									
Element Slope	"H"	8' or less	10'	12'	14'	16'	18'	20'	"H" Max \ "L"	12'	14'	16'	18'	20'	25'	30'	35'	40' or more
¼:1	Front face Reinf	#4 @ 12	#4 @ 7	#5 @ 7	#5 @ 5	#6 @ 6	#7 @ 7	#7 @ 6	6'	No beam. Place 2-#6 in each face along top of wall.								
	Rear face Reinf	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	8'		"A"= 1'-0"							
¾:1	Front face Reinf	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 10	#4 @ 8	#4 @ 6	10'		"B"= 9"		"A"= 1'-6"					
	Rear face Reinf	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 10	#4 @ 7	#4 @ 6	#5 @ 8	12'	Total 6-#6		"B"= 1'-0"		"A"= 1'-10"				
1¼:1	Front face Reinf	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	14'				"B"= 1'-0"		"A"= 2'-0"			
	Rear face Reinf	#4 @ 8	#4 @ 8	#4 @ 5	#5 @ 6	#6 @ 7	#6 @ 6	#7 @ 6	16'		Total 6-#7			Total 6-#8	"B"= 1'-6"			
"D" at Cutoff Wall		6"	6"	6"	7½"	8"	9½"	11"	18'						Total 8-#9			
"D" at Culvert		6"	6"	6"	8"	9½"	11"	1'-1"	20'									

NOTES: Walls designed for 2'-0" surcharge; earth density = 120 LB/CF; equivalent fluid pressure = 36 LB/CF.
Vary "D" of warped wall uniformly from that at cutoff wall to that at headwall or endwall, for maximum "H" > 12'-0".
Dimensions "L", "W", "H", "M", "N", Elevation "a", "Angle of flare", and end "Slope" (as apply) are shown on the plans.

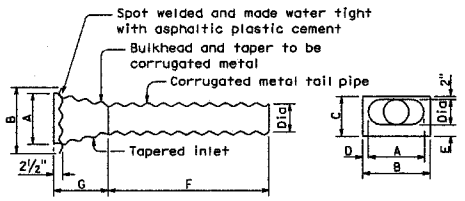
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PIPE CULVERT HEADWALLS, ENDWALLS AND WARPED WINGWALLS

NO SCALE

D86B

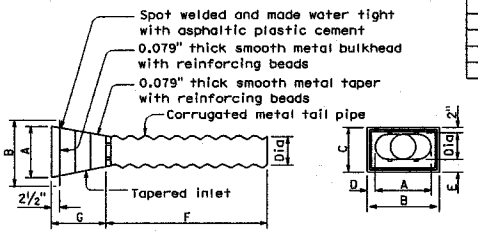
8-8-05



PLAN END VIEW

Bulkhead and taper of same thickness as tail pipe with 0079" maximum. Tail pipe of same thickness as downdrain pipe.

ENTRANCE TAPER - TYPE 1 ALTERNATIVE A



PLAN END VIEW

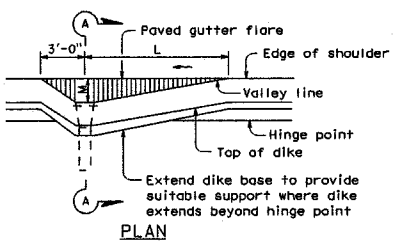
Tail pipe of same thickness as downdrain pipe.

ENTRANCE TAPER - TYPE 1 ALTERNATIVE B

CMP dimensions as tabulated below					
P	10"	15"	18"	21"	27"
Q	8"	12"	15"	18"	24"

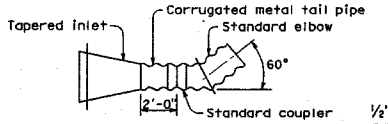
Slip joint to be same thickness as downdrain pipe.

Dia	Min L	M	N
8"	10'-0"	1'-6"	8"
12"	15'-0"	1'-8"	1'-0"
15"	25'-0"	2'-0"	1'-3"
18"	30'-0"	2'-6"	1'-4"
24"	40'-0"	3'-0"	1'-6"



PLAN

MOUNTABLE DIKE TYPE 1



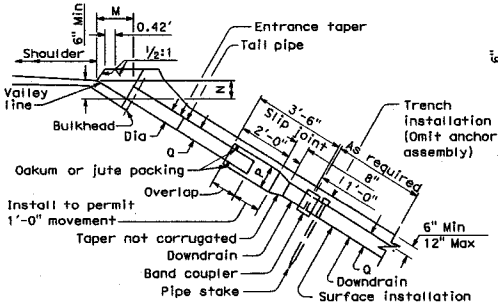
Tapered inlet of same construction and dimensions as Type 1 - Alternative A or B except tail pipe length will be 2'-0".

ENTRANCE TAPER - TYPE 2

Taper joints may be welded or riveted. Dimensions to be as tabulated below for Type 1 Alternatives A and B.

Dia	A	B	C	D	E	F	G
8"	1'-4"	2'-1½"	1'-3"	4¾"	5"	6'-0"	2'-0"
12"	1'-6"	2'-1½"	1'-7"	3¾"	5"	6'-0"	2'-0"
15"	1'-9"	2'-6"	1'-11"	4½"	6"	6'-0"	2'-0"
18"	2'-0"	2'-10"	2'-3"	5"	7"	6'-0"	2'-0"
24"	2'-10"	3'-10"	2'-11"	6"	9"	4'-0"	4'-0"

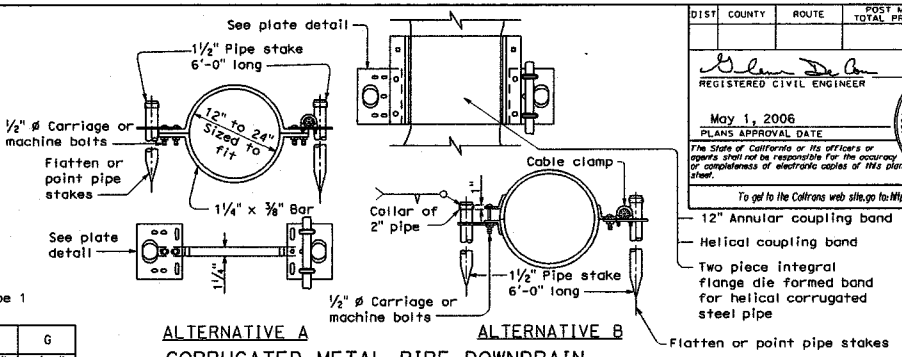
ENTRANCE TAPER - TYPE 1 ALTERNATIVE A AND B



SECTION A-A TYPE 1

NOTES:

1. Cable, slip joint or anchor assembly to be used when specified.
2. Slip joint to be omitted when completely buried.
3. Slip joint for Type 1 entrance taper shown. Type 2 similar.



ALTERNATIVE A ALTERNATIVE B

CORRUGATED METAL PIPE DOWNDRAIN ANCHOR ASSEMBLY

Cable and cable clamps to be used when required by the Special Provisions.

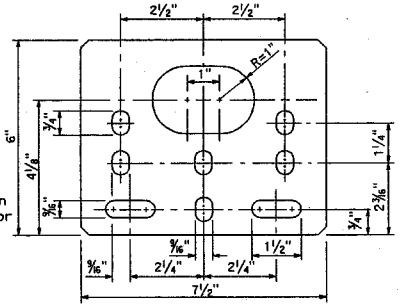
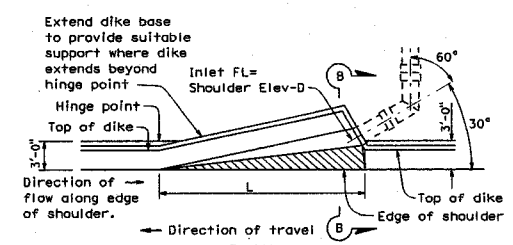


PLATE DETAIL

Material to be ¼" plate galvanized after fabrication.

NOTES:

1. All hardware to be galvanized after fabrication. All pipe stakes to be either galvanized after fabrication, or be fabricated from pre-galvanized pipe. If pre-galvanized pipe is used, weld areas shall be cleaned, and painted with zinc-rich primer.
2. Either Alternative A or Alternative B anchor assemblies and pipe stakes may be used at Contractor's option for corrugated steel pipe or corrugated aluminum pipe. Alternative A anchor assembly only to be placed in annular corrugation. Alternative A anchor assembly may be placed on annular coupling band if securely fastened on downstream side of joint. Alternative B anchor assembly to be fastened to pipe sections and not to a band coupler used to join sections.
3. For cable anchorage system details, see Standard Plan D87C.

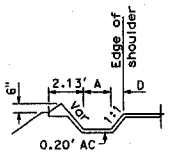


PLAN

MOUNTABLE DIKE TYPE 2

(For use on full freeway sections ONLY with grades of 2% or greater)

Dia D	Min L
8"	15'
12"	20'
15"	30'
18"	35'
24"	45'



SECTION B-B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Glenn DeCou No. C34547 Exp. 9-30-07 CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE DOWNDRAIN DETAILS

NO SCALE

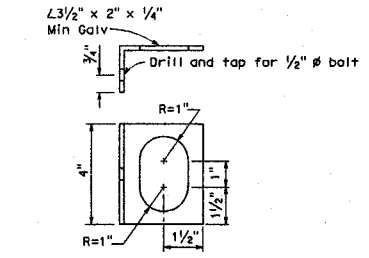
D87A

ENTRANCE TAPER AND PIPE DOWNDRAIN

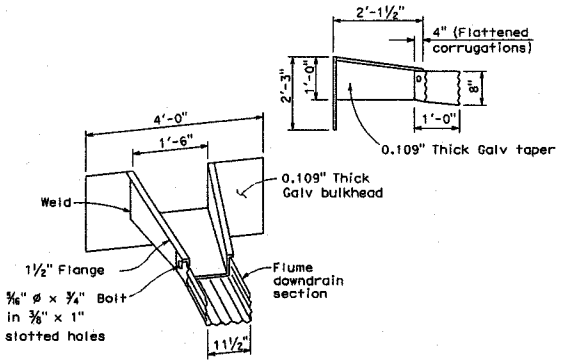
10-5-05

2006 STANDARD PLAN D87A

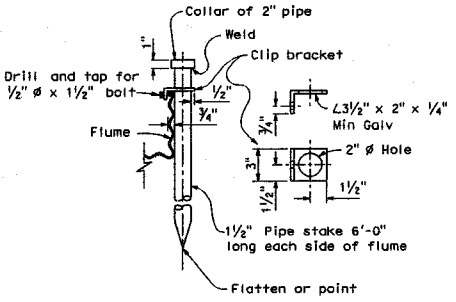
170



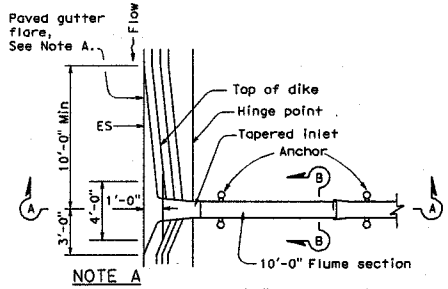
ALTERNATIVE CLIP
BRACKET DETAIL



TAPERED INLET

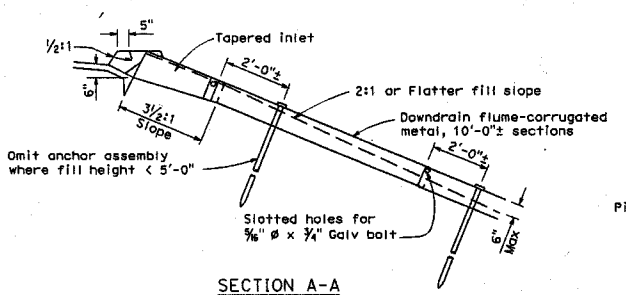


PIPE STAKE ANCHOR DETAIL

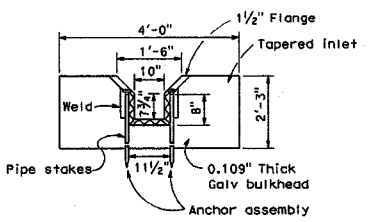


NOTE A
In sag location, use 10'-0" length of paved gutter flare on both sides of inlet.

PLAN

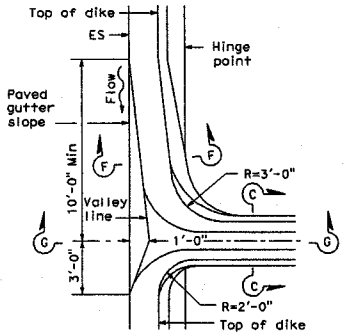


SECTION A-A



SECTION B-B

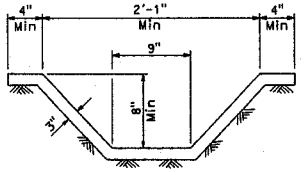
TAPERED INLET AND FLUME DOWNDRAIN



PLAN

MOUNTABLE DIKE

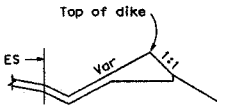
ASPHALT CONCRETE OVERSIDE DRAINS



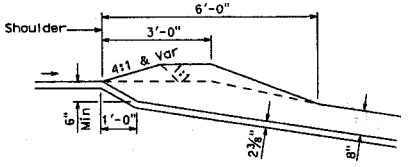
SECTION C-C
See Note 1

NOTE:

1. Cross section of slope ditch may be semicircular, vee or trapezoidal.



SECTION F-F



SECTION G-G

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER — Glenn DeCou — No. C34547 — EXP. 9-30-07 — CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

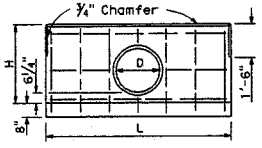
OVERSIDE DRAINS

NO SCALE

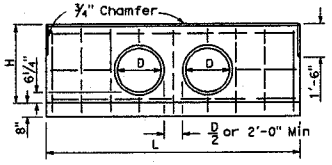
D87D

10-6-05

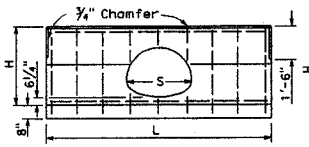
2006 STANDARD PLAN D87D



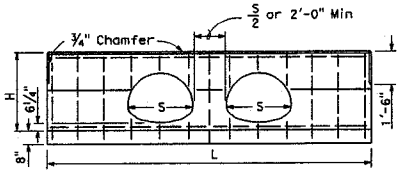
FRONT ELEVATION
SINGLE HEADWALL



FRONT ELEVATION
DOUBLE HEADWALL



FRONT ELEVATION
SINGLE HEADWALL



FRONT ELEVATION
DOUBLE HEADWALL

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 1, 2006
PLANS APPROVAL DATE

Glenn DeCou
No. C34547
Exp. 9-30-07
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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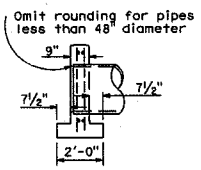
To get to the Caltrans web site, go to: http://www.dot.ca.gov

D	H	SINGLE			DOUBLE		
		L	Steel LB	Conc CY	L	Steel LB	Conc CY
12"	2'-8"	5'-0"	35	0.60	8'-0"	50	0.94
15"	2'-11"	6'-0"	40	0.75	9'-6"	60	1.17
18"	3'-2"	7'-0"	50	0.91	10'-6"	75	1.35
21"	3'-5"	7'-6"	60	1.02	11'-6"	90	1.52
24"	3'-8"	8'-6"	75	1.20	12'-6"	100	1.72
27"	3'-11"	9'-6"	85	1.39	14'-0"	115	2.00
30"	4'-2"	10'-0"	90	1.52	15'-0"	126	2.21
33"	4'-5"	11'-0"	100	1.73	16'-0"	130	2.42
36"	4'-8"	12'-0"	105	1.95	17'-0"	145	2.65
39"	4'-11"	12'-6"	130	2.09	18'-0"	170	2.88
42"	5'-2"	13'-6"	140	2.34	19'-0"	185	3.13
45"	5'-5"	14'-6"	150	2.60	20'-0"	195	3.38
48"	5'-8"	15'-0"	160	2.75	21'-0"	200	3.64
51"	5'-11"	16'-0"	180	3.03	22'-6"	225	4.02
54"	6'-2"	17'-0"	190	3.31	23'-6"	240	4.30

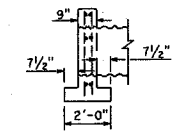
STRAIGHT HEADWALLS



SECTION, SINGLE &
DOUBLE HEADWALLS

CMP ARCH SIZE	H	SINGLE			DOUBLE		
		L	Steel LB	Conc CY	L	Steel LB	Conc CY
21" x 15"	2'-11"	6'-6"	45	0.80	10'-0"	60	1.22
24" x 18"	3'-2"	7'-6"	50	0.96	11'-6"	70	1.45
28" x 20"	3'-4"	8'-6"	60	1.12	13'-6"	90	1.76
35" x 24"	3'-8"	10'-6"	85	1.47	15'-6"	120	2.16
42" x 29"	4'-1"	12'-6"	110	1.76	18'-0"	145	2.57
49" x 33"	4'-5"	14'-6"	130	2.26	21'-0"	170	3.13
57" x 38"	4'-10"	17'-0"	155	2.81	24'-6"	210	3.86
64" x 43"	5'-3"	19'-0"	175	3.31	27'-0"	230	4.42
71" x 47"	5'-7"	21'-0"	195	3.81	30'-0"	255	5.09

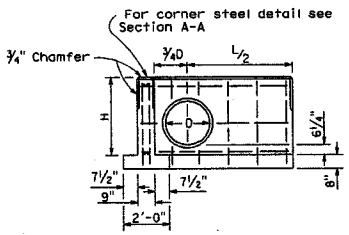
STRAIGHT HEADWALLS



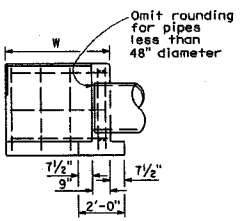
SECTION, SINGLE &
DOUBLE HEADWALLS

NOTES:

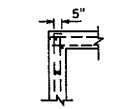
1. No deduction made in quantities for thickness of pipe walls.
2. All reinforcing steel #4 bars. All vertical and horizontal tie bars 1'-6" maximum spacing.
3. Length of wall "W" may be varied to suit conditions encountered in the field, and straight line interpolation may be used to calculate quantities.
4. Quantities are for design purposes only.
5. Cable railing to be installed on top of headwall when shown on Project Plans. See Standard Plan B11-47 for cable railing details.



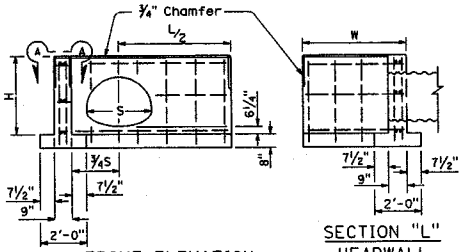
FRONT ELEVATION "L" HEADWALL



SECTION "L" HEADWALL



SECTION A-A



FRONT ELEVATION
"L" HEADWALL

SECTION "L"
HEADWALL

D	H	L/2	LENGTH OF W									
			3'-4"		4'-10"		6'-4"		7'-10"		9'-4"	
			Steel LB	Conc CY	Steel LB	Conc CY	Steel LB	Conc CY	Steel LB	Conc CY	Steel LB	Conc CY
12"	2'-8"	2'-6"	50	0.79	60	0.98	—	—	—	—	—	—
15"	2'-11"	3'-0"	55	0.91	65	1.11	—	—	—	—	—	—
18"	3'-2"	3'-6"	65	1.04	75	1.25	—	—	—	—	—	—
21"	3'-5"	3'-9"	75	1.15	90	1.36	—	—	—	—	—	—
24"	3'-8"	4'-3"	85	1.29	100	1.51	110	1.74	—	—	—	—
27"	3'-11"	4'-9"	90	1.44	105	1.67	115	1.91	—	—	—	—
30"	4'-2"	5'-0"	95	1.55	110	1.80	120	2.05	135	2.29	—	—
33"	4'-5"	5'-6"	105	1.71	120	1.97	135	2.23	150	2.48	—	—
36"	4'-8"	6'-0"	110	1.88	125	2.15	140	2.41	155	2.68	170	2.95
39"	4'-11"	6'-3"	—	—	150	2.28	170	2.56	185	2.84	200	3.12
42"	5'-2"	6'-9"	—	—	155	2.42	175	2.76	190	3.05	210	3.34
45"	5'-5"	7'-3"	—	—	—	—	180	2.97	200	3.27	215	3.57
48"	5'-8"	7'-6"	—	—	—	—	190	3.13	215	3.44	230	3.75
51"	5'-11"	8'-0"	—	—	—	—	—	—	220	3.67	235	3.99
54"	6'-2"	8'-6"	—	—	—	—	—	—	235	3.91	250	4.24

"L" HEADWALLS
CIRCULAR PIPE CULVERT HEADWALLS

CMP ARCH SIZE	H	L/2	LENGTH OF W									
			3'-4"		4'-10"		6'-4"		7'-10"		9'-4"	
			Steel LB	Conc CY	Steel LB	Conc CY	Steel LB	Conc CY	Steel LB	Conc CY	Steel LB	Conc CY
21" x 15"	2'-11"	3'-3"	60	1.00	65	1.18	75	1.38	90	1.58	100	1.77
24" x 18"	3'-2"	3'-9"	60	1.07	70	1.32	80	1.53	95	1.74	110	1.94
28" x 20"	3'-4"	4'-3"	70	1.26	80	1.47	90	1.68	100	1.90	115	2.11
35" x 24"	3'-8"	5'-3"	100	1.51	110	1.74	120	1.97	140	2.20	155	2.42
42" x 29"	4'-1"	6'-3"	115	1.82	130	2.06	140	2.31	155	2.55	170	2.83
49" x 33"	4'-5"	7'-3"	130	2.12	145	2.37	155	2.64	170	2.90	185	3.15
57" x 38"	4'-10"	8'-6"	145	2.52	160	2.79	175	3.07	190	3.35	205	3.61
64" x 43"	5'-3"	9'-6"	185	2.89	200	3.11	215	3.48	235	3.77	250	4.06
71" x 47"	5'-7"	10'-6"	200	3.25	215	3.56	235	3.86	250	4.17	270	4.48

"L" HEADWALLS
CORRUGATED METAL PIPE ARCH CULVERT HEADWALLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PIPE CULVERT HEADWALLS STRAIGHT AND "L"

NO SCALE

D89

2006 STANDARD PLAN D89

176

2-8-06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

Stanley P. Johnson, No. C37793, Exp. 3-31-12, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

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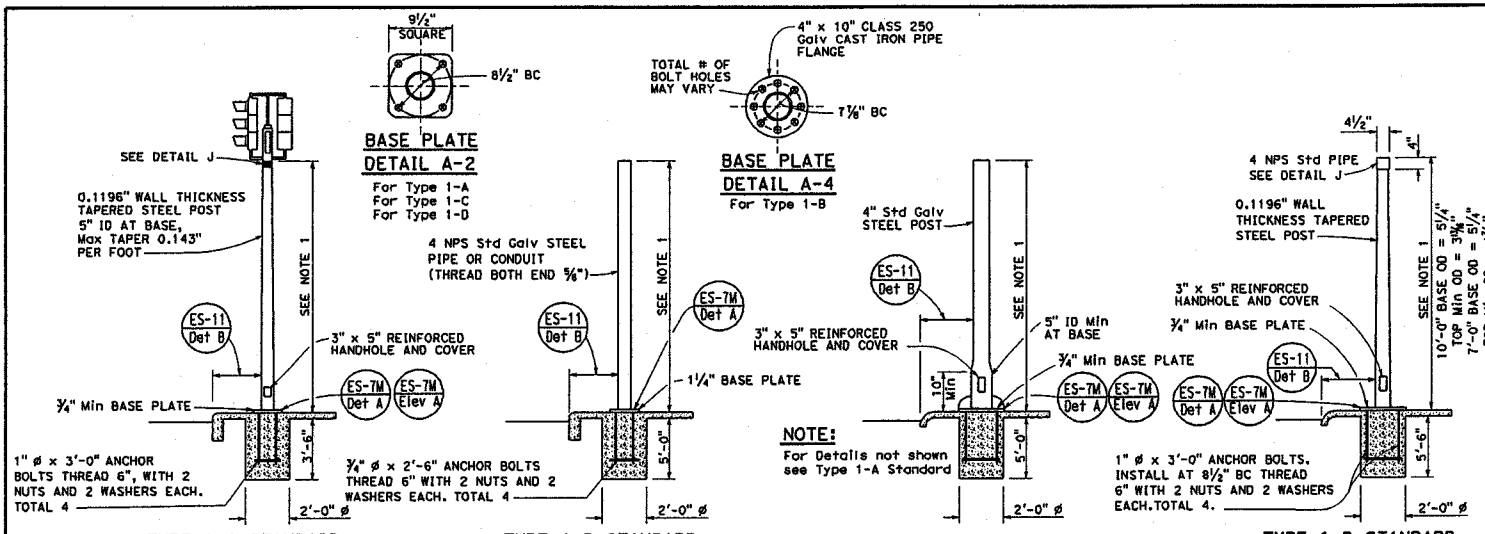
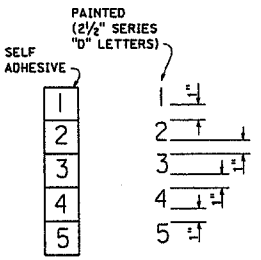


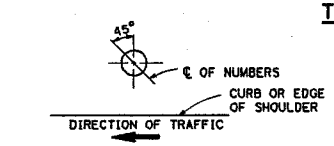
TYPE 1 SIGNAL STANDARDS
DETAIL A

NOTES:

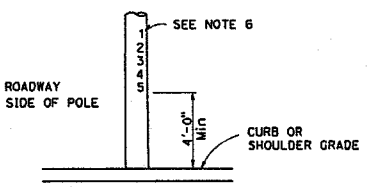
1. Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless shorter pole is noted on project plans.
2. Top of standards shall be 4½" OD.
3. Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
4. Anchor bolts shall be bonded to conduit or grounding conductor.
5. Conduit between standard and adjacent pull box shall be 2" minimum.
6. Paint numbers on roadway side facing traffic.
7. For additional notes and details, see Standard Plans ES-7M and ES-7N.
8. Pour foundation concrete against undisturbed soil.
9. For standards with handhole, locate in the downstream side of traffic.
10. Coupling nuts to be used only when shown or specified on project plans.



NUMBER DETAIL
DETAIL B-1

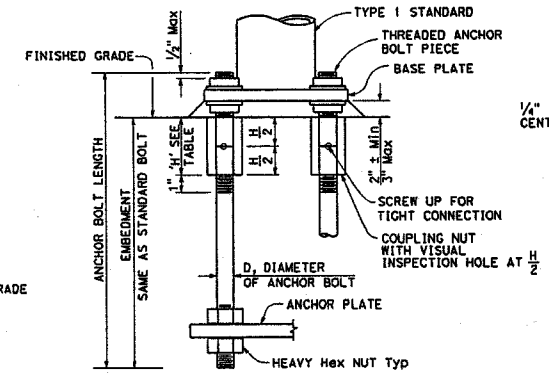


DETAIL B-3

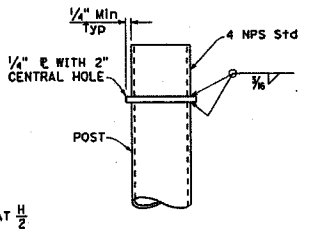


TYPICAL NUMBER FORMAT
DETAIL B-2

LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS
DETAIL B



ANCHOR BOLTS WITH SLEEVE NUTS
DETAIL C
(See Note 10)



DETAIL J

COUPLING NUT TABLE	
BOLT DIAMETER	NUT TABLE THICKNESS 'H'
¾"	2¼"
1"	3"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, TYPE 1 AND EQUIPMENT NUMBERING)

NO SCALE

ES-7B

7-13-10

Return to Table of Contents

OFFICE OF
CLERK OF THE BOARD OF SUPERVISORS
1st FLOOR, COUNTY ADMINISTRATIVE CENTER
P.O. BOX 1147, 4080 LEMON STREET
RIVERSIDE, CA 92502-1147
PHONE: (951) 955-1060
FAX: (951) 955-1071

KECIA HARPER-IHEM
Clerk of the Board of Supervisors

KIMBERLY A. RECTOR
Assistant Clerk of the Board

June 20, 2013

THE PRESS ENTERPRISE
ATTN: LEGALS
PO BOX 792
RIVERSIDE, CA 92501

FAX (951) 368-9018
E-MAIL: legals@pe.com

RE: NOTICE INVITING BIDS: GILMAN SPRINGS ROAD C2-0140 & C0-0531

To Whom It May Concern:

Attached is a copy for publication in your newspaper for **TEN (10) TIMES:**

Sunday	- June 23, 2013	Friday	- June 28, 2013
Monday	- June 24, 2013	Saturday	- June 29, 2013
Tuesday	- June 25, 2013	Sunday	- June 30, 2013
Wednesday	- June 26, 2013	Monday	- July 1, 2013
Thursday	- June 27, 2013	Tuesday	- July 2, 2013

We require your affidavit of publication immediately upon completion of the last publication.

Your invoice must be submitted to this office in duplicate, WITH TWO CLIPPINGS OF THE PUBLICATION.

NOTE: PLEASE COMPOSE THIS PUBLICATION INTO A SINGLE COLUMN FORMAT.

Thank you in advance for your assistance and expertise.

Sincerely,

Cecilia Gil

Board Assistant to:
KECIA HARPER-IHEM, CLERK OF THE BOARD

Gil, Cecilia

From: mtinajero@pe.com on behalf of Master, PEC Legals <legalsmaster@pe.com>
Sent: Thursday, June 20, 2013 9:18 AM
To: Gil, Cecilia
Subject: Re: [Legals] FOR PUBLICATION: BIDS for GILMAN SPRINGS ROAD C2-0140 & C0-0531

Received for publication from June 23 to July 2. Proof with cost to follow.

Thank You!

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Please Note: Deadline is 10:30 AM two (2) business days prior to the date you would like to publish.
Additional days required for larger ad sizes

On Thu, Jun 20, 2013 at 8:38 AM, Gil, Cecilia <CCGIL@rcbos.org> wrote:

One more Notice Inviting Bids for publication from June 23 to July 2, 2013. Please confirm. THANK YOU!

Cecilia Gil
Board Assistant to the
Clerk of the Board of Supervisors
951-955-8464

THE COUNTY ADMINISTRATIVE CENTER IS CLOSED EVERY FRIDAY UNTIL FURTHER NOTICE.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING.

County of Riverside

Notice to Contractors

Sealed Bids will be received at the Riverside County Transportation Department, 14th Street Transportation Annex, 3525 14th Street, Riverside, California 92501, telephone (951) 955-6780 until 2:00 pm on **Wednesday, July 17, 2013** at which time they will be publicly opened at said address, for construction in accordance with the specifications therefore, to which special reference is made, as follows:
County of Riverside,

Gilman Springs Roadway Improvements
Eastern Moreno Valley Area

Project No. C2-0140 and C0-0531
Federal Aid No. HSIPL-5956 (204)

The DBE Contract goal is **2.9** percent.

A pre-bid meeting is scheduled for **2:15 pm** on **Wednesday, July 3, 2013,** at the County of Riverside Transportation Department, 3525 14th Street, Riverside, California 92501. This meeting is to inform bidders of project requirements and subcontractors of subcontracting and material supply opportunities. Bidder's attendance at this meeting **will be mandatory.**

This project is subject to the "Buy America" provisions of the Surface Transportation Assistance Act of 1982 as amended by the Intermodal Surface Transportation Assistance Efficiency Act of 1991.

Bids are required for the entire work described herein. The Contractor shall possess a current and active State of California Class "A" Contractor's license at the time this contract is awarded. The successful bidder shall furnish a payment bond and a performance bond.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry, in writing, prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest. Technical questions should be directed to the office of the County of Riverside Transportation Department, 3525 14th Street, Riverside, CA 92501, telephone (951) 955-6780, electronic mail: jrjimenez@rctlma.org.

Plans and specifications may be obtained for a Nonrefundable Fee of **$45.00** per set **with 24" x 36" plans,** plus mailing costs, and are available at 3525 14th Street, Riverside, CA 92501.

Engineering Estimate	$3,560,000 - $4,150,000	(Base Bid Schedule 1)
	$ 545,000 - $ 635,000	(Base Bid Schedule 2)
	$ 450,000 - $ 520,000	(Base Bid Schedule 3)
	$ 54,000 - $ 63,000	(Alternate Bid Schedule 1)
Bid Bond	10%	
Performance Bond	100%	
Payment Bond	100%	
Working Days	60 (Calendar Days including legal holidays)	

Website: http://www.rctlma.org/trans/con_bid_advertisements.html

Dated: June 20, 2013

Kecia Harper-Ihem, Clerk of the Board
By: Cecilia Gil, Board Assistant

FOR BILLING INQUIRIES:
CALL (951) 368-9710
EMAIL billinginquiry@pe.com

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10 DATE	11 REFERENCE NUMBER	12 14 DESCRIPTION - OTHER COMMENTS/CHARGES	13 PRODUCT/ZONE	15 SIZE	16 BILLED UNITS	17 TIMES RUN	18 RATE	19 GROSS AMOUNT	20 NET AMOUNT
06/23/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.29	240.50	240.50
06/24/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
06/25/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
06/26/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
06/27/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
06/28/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
06/29/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
06/30/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
07/01/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00
07/02/2013	I01075274-06232013	County of Riverside Notice to Contractor	Press-Enterprise	2 x 93 LI	186	1	1.19	222.00	222.00

Order Placed by: Cecilia Gil

Transp.
3-59 of 06/18/13

RECEIVED RIVERSIDE COUNTY
CLERK/BOARD OF SUPERVISORS
2013 JUL 16 PM 1:38

Legal Advertising Invoice

BALANCE
$2,238.50

SALES CONTACT INFORMATION	25 ADVERTISER INFORMATION			
	1 BILLING PERIOD	6 BILLED ACCOUNT NUMBER	7 ADVERTISER/CLIENT NUMBER	2 ADVERTISER/CLIENT NAME
Maria Tinajero 951-368-9225	07/02/2013 - 07/02/2013	100141323	100141323	BOARD OF SUPERVISORS

PLEASE DETACH AND RETURN THIS PORTION WITH YOUR REMITTANCE

enterprise media

Legal Advertising Invoice

2 ADVERTISER/CLIENT NAME		
BOARD OF SUPERVISORS		
1 BILLING PERIOD	6 BILLED ACCOUNT NUMBER	7 ADVERTISER/CLIENT NUMBER
07/02/2013 - 07/02/2013	100141323	100141323
23 BALANCE	24 INVOICE NUMBER	3 TERMS OF PAYMENT
$2,238.50	I01075274-06232013	DUE UPON RECEIPT

8 BILLING ACCOUNT NAME AND ADDRESS

BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE
P.O. BOX 1147
RIVERSIDE, CA 92502

9 REMITTANCE ADDRESS

Enterprise Media
POST OFFICE BOX 12009
RIVERSIDE, CA 92502-2209

THE PRESS-ENTERPRISE

3450 Fourteenth Street
Riverside, CA 92501-3878
951-684-1200
951-368-9018 FAX

PROOF OF PUBLICATION
(2010, 2015.5 C.C.P)

Publication(s): The Press-Enterprise

PROOF OF PUBLICATION OF

Ad Desc.: /

I am a citizen of the United States. I am over the age of eighteen years and not a party to or interested in the above entitled matter. I am an authorized representative of THE PRESS-ENTERPRISE, a newspaper in general circulation, printed and published daily in the County of Riverside, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of Riverside, State of California, under date of April 25, 1952, Case Number 54446, under date of March 29, 1957, Case Number 65673, under date of August 25, 1995, Case Number 267864, and under date of February 4, 2013, Case Number RIC 1215735; that the notice, of which the annexed is a printed copy, has been published in said newspaper in accordance with the instructions of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

06/23, 06/24, 06/25, 06/26, 06/27, 06/28, 06/29, 06/30, 07/01, 07/02/2013

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: July 02, 2013
At: Riverside, California

BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE
P.O. BOX 1147
RIVERSIDE, CA 92502

Ad Number: 0001075274-01

P.O. Number:

Ad Copy:

County of Riverside

Notice to Contractors

Sealed Bids will be received at the Riverside County Transportation Department, 14th Street Transportation Annex, 3525 14th Street, Riverside, California 92501, telephone (951) 955-6780 until 2:00 pm on **Wednesday, July 17, 2013** at which time they will be publicly opened at said address, for construction in accordance with the specifications therefore, to which special reference is made, as follows:
County of Riverside,

Gilman Springs Roadway Improvements
Eastern Moreno Valley Area

Project No. C2-0140 and C0-0531
Federal Aid No. HSIPL-5956 (204)

The DBE Contract goal is **2.9** percent.

A pre-bid meeting is scheduled for **2:15 pm** on **Wednesday, July 3, 2013**, at the County of Riverside Transportation Department, 3525 14th Street, Riverside, California 92501. This meeting is to inform bidders of project requirements and subcontractors of subcontracting and material supply opportunities. Bidder's attendance at this meeting **will be mandatory.**

This project is subject to the "Buy America" provisions of the Surface Transportation Assistance Act of 1982 as amended by the Intermodal Surface Transportation Assistance Efficiency Act of 1991.

Bids are required for the entire work described herein. The Contractor shall possess a current and active State of California Class "A" Contractor's license at the time this contract is awarded. The successful bidder shall furnish a payment bond and a performance bond.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry, in writing, prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest. Technical questions should be directed to the office of the County of Riverside Transportation Department, 3525 14th Street, Riverside, CA 92501, telephone (951) 955-6780, electronic mail: jrjimenez@rctlma.org.

Plans and specifications may be obtained for a Nonrefundable Fee of **$45.00** per set with **24" x 36" plans**, plus mailing costs, and are available at 3525 14th Street, Riverside, CA 92501.

Engineering Estimate	$3,560,000 - $4,150,000 (Base Bid Schedule 1) $545,000 - $ 635,000 (Base Bid Schedule 2) $450,000 - $ 520,000 (Base Bid Schedule 3) $54,000 - $ 63,000 (Alternate Bid Schedule 1)
Bid Bond	10%
Performance Bond	100%
Payment Bond	100%
Working Days	60 (Calendar Days including legal holidays)

Website: http://www.rctlma.org/trans/con_bid_advertisements.html

Dated: June 20, 2013
Kecia Harper-Ihem, Clerk of the Board
By: Cecilia Gil, Board Assistant 6/23-7/2

ATTACHMENTS FILED
WITH THE CLERK OF THE BOARD

drawings