SECTION F- CONSTRUCTION DETAILS

1. BUY AMERICA REQUIREMENTS

Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a) and the regulations adopted pursuant thereto. In accordance with said law and regulations, all manufacturing processes for steel and iron materials furnished for incorporation into the work on this project shall occur in the United States; with the exception that pig iron and processed, palletized, and reduced iron ore manufactured outside the Untied States may be used in the domestic manufacturing process for such steel and iron materials. The application of coatings, such as epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of such steel or iron materials shall be considered a manufacturing process subject to the "Buy America" requirements.

A Certificate of Compliance, conforming to the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications, shall be furnished for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall also specifically certify that all manufacturing processes for the materials occurred in the United States, except for the exceptions allowed herein.

The requirements imposed by said law and regulations do not prevent a minimal use of foreign steel and iron materials if the total combined cost of such materials used does not exceed one-tenth of 1 percent (0.1%) of the total contract cost or $2,500, whichever is greater. The Contractor shall furnish the Engineer acceptable documentation of the quantity and value of any foreign steel and iron prior to incorporating such materials into the work.

2. MATERIALS

Attention is directed to Section 6, “Control of Materials,” of the Standard Specifications and these special provisions.

The Contractor shall furnish all materials required to complete the work under this contract.

A. Weighing and Measuring Devices

The Contractor and/or suppliers shall bear the expense of all service fees for testing and approving of commercial and non-commercial weighing, measuring and metering devices. The cost of the equipment, labor, and materials furnished by the Contractor to assist in the testing of the weighing, measuring or metering devices will be considered as included in the contract prices paid for the various items of work requiring said weighing, measuring or metering and no separate payment will be made therefor.

B. Aggregates

Attention is directed to 26-1.02, “Materials,” and 39-2.02, “Aggregate,” respectively, of the Standard Specifications.

2. MATERIALS (Continued)

If the results of either or both the aggregate grading and Sand Equivalent tests do not meet the requirements specified for "Contract Compliance," the material, which is represented by these tests, shall be removed. However, if requested by the Contractor and approved by the Engineer, said material may remain in place and the Contractor shall pay to the State (County) the following amounts for all such material left in place:

Item	**Adjustment**
Aggregate Base	**$1.00/Ton**
Asphalt Concrete	**$1.75/Ton**

The Department may deduct such amounts from any moneys due, or that may become due, to the Contractor under the contract.

C. Surface Mining and Reclamation Act

Attention is directed to the Surface Mining and Reclamation Act of 1975, commencing in Public Resources Code, Mining and Geology, Section 2710, which establishes regulations pertinent to surface mining operations.

Material from the mining operations furnished for this project shall only come from permitted sites in compliance with the Surface Mining Reclamation Act of 1975.

The requirements of this section shall apply to all materials furnished for the project, except for acquisition of materials in conformance with Section 4-1.05, “Use of Materials Found on the Work,” of the Standard Specifications.

D. Prequalified & Tested Signing & Delineation Materials

The California Department of Transportation maintains a list of Pre-qualified and Tested Signing and Delineation materials. The Engineer shall not be precluded from sampling and testing products on the list of Pre-qualified and Tested Signing and Delineation Materials.

The manufacturer of products on the list of Pre-qualified and Tested Signing and Delineation materials shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in Section 6-1.07, “Certificates of Compliance,” of the Standard Specifications for each type of traffic product supplied.

For those categories of materials included in the list of Pre-qualified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products not included in the list of Pre-qualified and Tested Signing and Delineation Materials may be used in the work, provided they conform to the requirements of the Standard Specifications.

2. MATERIALS (Continued)

Materials and products may be added to the list of Pre-qualified and Tested Signing and Delineation Materials if the manufacture submits a New Product Information Form to the New Product Coordinator at the Transportation Laboratory. Upon a Departmental request for samples, sufficient samples shall be submitted to permit performance of required tests. Approval of materials or products will depend upon compliance with the specifications, and tests the Department may elect to perform.

The following is a partial listing of previously approved pre-qualified and tested delineation materials and products:

MATERIALS AND PRODUCTS

Pavement markers, retroreflective
Pavement markers, Temporary Type
Retroreflective sheeting for markers and delineators
Retroreflective sheeting for traffic cone sleeves

PAVEMENT MARKERS, PERMANENT TYPE

Retroreflective With Abrasion Resistant Surface (ARS)

A. Apex, Model 921AR (100 mm x 100 mm)
B. Avery Dennison (formerly Stimsonite), Models C88 (100 mm x 100 mm), 911 (100 mm x 100 mm) and 953 (70 mm x 114 mm)
C. Ray-O-Lite, Model "AA" ARS (100 mm x 100 mm)
D. 3M Series 290 (89 mm x 100 mm)
E. 3M Series 290 PSA, with pressure sensitive adhesive pad (89 mm x 100 mm)

Retroreflective With Abrasion Resistant Surface (ARS)
(For Recessed Applications Only)

A. Avery Dennison (formerly Stimsonite), Model 948 (58 mm x 119 mm)
B. Avery Dennison (formerly Stimsonite), Model 944SB (51 mm x 100 mm)*
C. Ray-O-Lite, Model 2002 (58 mm x 117 mm)
D. Ray-O-Lite, Model 2004 ARS (51 mm x 100 mm)*
*For use only in 114 mm wide (older) recessed slots

Non-Reflective, 100 mm Round

A. Apex Universal (Ceramic)
B. Apex Universal, Models 929 (ABS) and 929PP (Polypropylene)
C. Glowlite, Inc., (Ceramic)
D. Hi-Way Safety, Inc., Models P20-2000W and 2001Y (ABS)
E. Interstate Sales, "Diamond Back" (ABS) and (Polypropylene)
F. Novabrite Models Cdot (White) Cdot-y (Yellow), Ceramic
G. Novabrite Models Pdot-w (White) Pdot-y (Yellow), Polypropylene
H. Road Creations, Model RCB4NR (Acrylic)
I. Three D Traffic Works TD10000 (ABS), TD10500 (Polypropylene)

2. <u>MATERIALS</u> (Continued)

PAVEMENT MARKERS, TEMPORARY TYPE

Temporary Markers for Long Term Day/Night Use (6 months or less)

A. Vega Molded Products "Temporary Road Marker" (75 mm x 100 mm)

Temporary Markers for Short Term Day/Night Use (14 days or less)

(For seal coat or chip seal applications, clear protective covers are required)

A. Apex Universal, Model 932
B. Bunzl Extrusion, Models T.O.M., T.R.P.M., and "HH" (High Heat)
C. Hi-Way Safety, Inc., Model 1280/1281
D. Glowlite, Inc., Model 932

STRIPING AND PAVEMENT MARKING MATERIAL

Permanent Traffic Striping and Pavement Marking Tape

A. Advanced Traffic Marking, Series 300 and 400
B. Brite-Line, Series 1000
C. Brite-Line, “DeltaLine XRP”
D. Swarco Industries, “Director 35” (For transverse application only)
E. Swarco Industries, “Director 60”
F. 3M, “Stamark” Series 380 and 5730
G. 3M, “Stamark” Series 420 (For transverse application only)

Temporary (Removable) Striping and Pavement Marking Tape (6 months or less)

A. Advanced Traffic Marking, Series 200
B. Brite-Line, Series 100
C. Garlock Rubber Technologies, Series 2000
D. P.B. Laminations, Aztec, Grade 102
E. Swarco Industries, “Director-2”
F. Trelleborg Industri, R140 Series
G. 3M, Series 620 “CR,” and Series A750
H. 3M, Series A145, Removable Black Line Mask
(Black Tape: for use only on Asphalt Concrete Surfaces)
I. Advanced Traffic marking Black “Hide-A-Line”
(Black Tape: for use only on Asphalt Concrete Surfaces)
J. Brite-Line “BTR” Black Removable Tape
(Black Tape: for use only on Asphalt Concrete Surfaces)
K. Trelleborg Industri, RB-140
(Black Tape: for use only on Asphalt Concrete Surfaces)

CLASS 1 DELINEATORS

One Piece Driveable Flexible Type, 1700mm

A. Bunzl Extrusion. “Flex-Guide Models 400 and 566”
B. Carsonite, Curve-Flex CFRM-400
C. Carsonite, Roadmarker CRM-375
D. FlexStake, Model 654 TM
E. GreenLine Models HWD1-66 and CGDI-66

2. <u>MATERIALS</u> (Continued)

Special Use Type, 1700mm

A. Bunzl Extrusion, Model FG 560 (with 450 mm U-Channel base)
B. Carsonite, “survivor” (with 450 mm U-Channel base)
C. Carsonite, Roadmarker CRM-375 (with 450 mm U-Channel base)
D. FlexStake, Model 604
E. GreenLine Models HWDU and GCD (with 450 mm U-Channel base)
F. Impact Recovery Model D36, with #105 Driveable Base
G. Safe-Hit with 200 mm pavement anchor (SH248-GP1)
H. Safe-Hit with 380 mm soil anchor (SH248-GP2) and 450 mm soil anchor (SH248-GP3)

Surface Mount Type, 1200mm

A. Bent Manufacturing Company, Masterflex Model MF-180EX-48
B. Carsonite, “Super Duck II”
C. FlexStake, Surface Mount, Models 704 and 754 TM
D. Impact Recovery Model D48, with #101 Fixed (Surface-Mount) Base
E. Three D Traffic Works “Channelflex” ID No. 522248W

CHANNELIZERS

Surface Mount Type, 900 mm

A. Bent Manufacturing Company, Masterflex Models MF-360-36 (Round) and MF-180-36 (Flat)
B. Bunzl Extrusion, Flexi-Guide Models FG300PE and FG300UR
C. Carsonite, "Super Duck" (Flat SDF-436, Round SDR-336)
D. Carsonite, "Super Duck II" Model SDCF203601MB "The Channelizer"
E. FlexStake, Surface Mount, Models 703 and 753 TM
F. GreenLine, Model SMD-36
G. Hi-Way Safety, Inc. "Channel Guide Channelizer" Model CGC36
H. Impact Recovery Model D36, with #101 Fixed (Surface-Mount) Base
I. Repo, Models 300 and 400
J. Safe-Hit, Guide Post, Model SH236SMA
K. Three D Traffic Works "Channelflex" ID No. 522053W

Lane Separation System

A. Bunzl "Flexi-Guide (FG) 300 Curb System"
B. Qwick Kurb, "Klemmfix Guide System"
C. Recycled Technology, Inc. "Safe-Lane System"

CONICAL DELINEATORS, 42”

[For 30” (700 mm) Traffic Cones, see Standard Specifications]

A. Bent Manufacturing Company "T-Top"
B. Plastic Safety Systems "Navigator-42"
C. Radiator Specialty Company "Enforcer"
D. Roadmaker Company "Stacker"
E. TrafFix Devices "Grabber"
F. Three D Traffic Works "Ringtop" TD7000, ID No. 742143

2. <u>MATERIALS</u> (Continued)

RETROREFLECTIVE SHEETING

Channelizers, Barrier Markers, and Delineators

A. Avery Dennison T-6500 Series (Formerly Stimsonite, Series 6200) (For rigid substrate devices only)
B. Avery Dennison WR-6100 Series
C. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
D. Reflexite, PC-1000 Metalized Polycarbonate
E. Reflexite, AC-1000 Acrylic
F. Reflexite, AP-1000 Metalized Polyester
G. Reflexite, Conformalight, AR-1000 Abrasion Resistant Coating
H. 3M, High Intensity

Traffic Cones, 330 mm Sleeves

A. Reflexite SB (Polyester), Vinyl or "TR" (Semi-transparent)

Traffic Cones, 100 mm and 150 mm Sleeves

A. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
B. Reflexite, Vinyl, "TR" (Semi-transparent) or "Conformalight"
C. 3M Series 3840

Barrels and Drums

A. Avery Dennison WR-6100
B. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
C. Reflexite, "Conformalight", "Super High Intensity" or "High Impact Drum Sheeting"
D. 3M Series 3810

Barricades: Type I, Medium-Intensity (Typically Enclosed Lens, Glass-Bead Element)

A. American Decal, Adcolite
B. Avery Dennison, T-1500 and T-1600 series
C. 3M Engineer Grade, Series 3170

Barricades: Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)

A. Avery Dennison, T-2500 Series
B. Kiwalite Type II
C. Nikkalite 1800 Series

Signs: Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)

A. Avery Dennison, T-2500 Series
B. Kiwalite, Type II
C. Nikkalite 1800 Series

Signs: Type III, High-Intensity (Typically Encapsulated Glass-Bead Element)

A. Avery Dennison, T-5500 and T-5500A Series
B. Nippon Carbide Industries, Nikkalite Brand Ultralite Grade II
C. 3M Series 3870

Signs: Type IV, High-Intensity (Typically Unmetallized Microprismatic Element)

A. Avery Dennison, T-6500 Series (Formerly Stimsonite Series 6200)

2. <u>MATERIALS</u> (Continued)

B. Nippon Carbide Industries, Crystal Grade, 94000 Series
C. Nippon Carbide Industries, Model No. 94847 Fluorescent Orange

D. Nippon Carbide Industries, Model No. 94844 Fluorescent Yellow Green

Signs: Type VI, Elastomeric (Roll-Up) High-Intensity, without Adhesive

A. Avery Dennison, WU-6014
B. Novabrite LLC, "Econobrite"
C. Reflexite "Vinyl"
D. Reflexite "SuperBright"
E. Reflexite "Marathon"
F. 3M Series RS34 (Orange) and RS20 (Fluorescent Orange)

Signs: Type VII, Super-High-Intensity (Typically Unmetallized Microprismatic Element)

A. 3M LDP Series 3924 (Fluorescent Orange)
B. 3M LDP Series 3970

Signs: Type VIII, Super-High-Intensity (Typically Unmetallized Microprismatic Element)

A. Avery Dennison, T-7500 Series
B. Avery Dennison, T-7511 Fluorescent Yellow
C. Avery Dennison, T-7513 Fluorescent Yellow Green
D. Avery Dennison, W-7514 Fluorescent Orange
E. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92802 White
F. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92844 Fluorescent Yellow/Green
G. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92847 Fluorescent Orange

Signs: Type IX, Very-High-Intensity (Typically Unmetallized Microprismatic Element)

A. 3M VIP Series 3981 Diamond Grade (Fluorescent Yellow)
B. 3M VIP Series 3983 Diamond Grade (Fluorescent Yellow/Green)
C. 3M VIP Series 3990 Diamond Grade

SPECIALTY SIGNS

A. Hallmark Technologies, Inc., All Sign STOP Sign (All Plastic), 750 mm
B. Reflexite "Endurance" Work Zone Sign (with Semi-Rigid Plastic Substrate)

SIGN SUBSTRATE FOR CONSTRUCTION AREA SIGNS

Fiberglass Reinforced Plastic (FRP)

A. Fiber-Brite
B. Sequentia, "Polyplate"
C. Inteplast Group "InteCel" (13 mm for Post-Mounted CZ Signs, 1200 mm or less)

Aluminum Composite

A. Alcan Composites "Dibond Material, 2 mm" (for temporary construction signs only)
B. Mitsubishi Chemical America, Alpolic 350 (for temporary construction signs only)

Note: For questions regarding this listing contact the:
<u>Division of Signs & Delineation</u>, Traffic Operations, (916) 654-5869
CALNET 8-464-5869 <u>Chemical Testing Branch</u>,
Transportation Laboratory, (916) 227-7289, 8-498-7289

3. <u>WATER POLLUTION CONTROL</u>

The Contractor shall prepare a storm water pollution prevention plan based upon the requirements outlined in Section 7-1.01G, “Water Pollution”, of the Standard Specifications.

This project lies within the boundaries of the Central Valley Regional Water Quality Control Board (RWQCB).

The State Water Resources Control Board (SWRCB) has issued to the Department a permit that governs storm water and non-storm water discharges from the Department's properties, facilities, and activities. The Department's permit is entitled "Order No. 99 - 06 - DWQ, NPDES No. CAS000003, National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation (Caltrans)." Copies of the Department's permit are available for review from the SWRCB, Storm Water Permit Unit, 1001 "I" Street, P.O. Box 1977, Sacramento, California 95812-1977, Telephone: (916) 341-5254, and may also be obtained at:

http://www.swrcb.ca.gov/stormwtr/caltrans.html

The Department's permit references and incorporates by reference the current statewide general permit issued by the SWRCB entitled "Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity" that regulates discharges of storm water and non-storm water from construction activities disturbing 0.4-hectare or more of soil in a common plan of development. Sampling and analysis requirements as specified in SWRCB Resolution No. 2001-46 are added to the statewide general permit. Copies of the statewide permit and modifications thereto are available for review from the SWRCB, Storm Water Permit Unit, 1001 "I" Street, P.O. Box 1977, Sacramento, California 95812-1977, Telephone: (916) 341-5254 and may also be obtained at:

http://www.swrcb.ca.gov/stormwtr/construction.html
http://www.swrcb.ca.gov

The Central Valley RWQCB has issued a permit which governs storm water and non-storm water discharges resulting from construction activities in the project area. The RWQCB Permit is entitled: "National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000001." Copies of the RWQCB Permit are available for review from the SWRCB, Storm Water Permit Unit, 1001 "I" Street, P.O. Box 1977, Sacramento, California 95812-1977, Telephone: (916) 341-5254 and may also be obtained from the SWRCB Internet website at: http://www.swrcb.ca.gov/stormwtr/construction.html.

The NPDES permits that regulate this project, as referenced above, are collectively referred to in this section as the "permits." This project shall conform to the permits and modifications thereto.

The Contractor shall maintain copies of the permits at the project site and shall make them available during construction. The Contractor shall know and comply with provisions of Federal, State, and local regulations and requirements that govern the Contractor's operations and storm water and non-storm water discharges from the project site and areas of disturbance outside the project limits during construction. Attention is directed to Sections 7-1.01, "Laws to be

3. <u>WATER POLLUTION CONTROL</u> (Continued)

Observed," 7-1.11, "Preservation of Property," and 7-1.12, "Indemnification and Insurance," of the Standard Specifications.

The Contractor shall be responsible for penalties assessed on the Contractor or the Department as a result of the Contractor's failure to comply with the provisions in "Water Pollution Control" of these special provisions or with the applicable provisions of the Federal, State, and local regulations and requirements. Penalties as used in this section shall include fines, penalties, and damages, whether proposed, assessed, or levied against the Department or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act, by governmental agencies or as a result of citizen suits. Penalties shall also include payments made or costs incurred in settlement for alleged violations of applicable laws, regulations, or requirements. Costs incurred could include sums spent instead of penalties, in mitigation or to remediate or correct violations.

The Contractor may obtain other National Pollutant Discharge Elimination System (NPDES) permits that apply to activities and mobile operations within or outside of the project limits including asphalt batch plants, material borrow areas, concrete plants, staging areas, storage yards, or access roads.

The Contractor shall perform water pollution control work in conformance with the requirements in the "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual" and its addenda in effect on the day the Notice to Contractors is dated. This manual is referred to as the "Preparation Manual." Copies of the Preparation Manual may be obtained from:

State of California
Department of Transportation
Publication Distribution Unit
1900 Royal Oaks Drive
Sacramento, California 95815
Telephone: (916) 445-3520

The Preparation Manual and other references for performing water pollution control work are available from the Department's Construction Storm Water and Water Pollution Control web site at:
http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm

Before the start of job site activities, the Contractor shall provide training for project managers, supervisory personnel, and employees involved with water pollution control work. The training shall include:

A. Rules and regulations
B. Implementation and maintenance for:

1. Temporary Soil Stabilization
2. Temporary Sediment Control
3. Tracking Control
4. Wind Erosion Control

3. WATER POLLUTION CONTROL (Continued)

The Contractor shall designate in writing a Water Pollution Control Manager (WPCM). The Contractor shall submit a statement of qualifications describing the training, work history, and expertise of the proposed WPCM. The qualifications shall include either:

A. A minimum of 24 hours of approved storm water management training.
B. Certification as a Certified Professional in Erosion and Sediment Control (CPESC).

The WPCM shall be:

A. Responsible for water pollution control work.
B. The primary contact for water pollution control work.
C. Have authority to mobilize crews to make immediate repairs to water pollution control practices.

The Contractor may designate one manager to prepare the SWPPP and a different manager to implement the plan. The WPCP preparer shall meet the training requirements for the WPCM.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u>

The Contractor shall submit a Storm Water Pollution Prevention Plan (SWPPP) to the Engineer for approval. The SWPPP shall conform to the requirements in the Preparation Manual, the NPDES permit, and these special provisions. The SWPPP shall be submitted in place of the water pollution control program required by the provisions in Section 7-1.01G, "Water Pollution," of the Standard Specifications.

The SWPPP shall include water pollution control practices:

A. For storm water and non-storm water from areas outside of the job site related to construction activities for this contract such as:

1. Staging areas.
2. Storage yards.
3. Access roads.

B. Appropriate for each season as described in "Implementation Requirements" of these Special Provisions.
C. For activities or mobile operations related to all NPDES permits.

The SWPPP shall include a schedule that:

A. Describes when work activities that could cause water pollution will be performed.
B. Identifies soil stabilization and sediment control practices for disturbed soil area.
C. Includes dates when these practices will be 25, 50, and 100 percent complete.
D. Shows 100 percent completion of these practices before the rainy season.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

The SWPPP shall include the following temporary water pollution control practices and their associated items of work as shown on the plans or specified in these Special Provisions and full compensation shall be considered as included in the lump sum price paid for the "Water Pollution Control," and no additional compensation will be allowed therefor:

A. Tracking Control

1. Street Sweeping

B. Wind Erosion Control

1. Construction Site Management

a. The Contractor shall provide immediate revegetation or protection of all disturbed areas from both wind and water erosion upon the completion of grading activities.
b. The Contractor shall water soils susceptible to wind erosion at least twice per day during construction or as directed by the Engineer.
c. All grading activity shall be halted when wind speeds exceed 20 miles per hour or when the existing wind creates an obvious dust cloud.

C. Non-Storm Water Management

1. Construction Site Management

D. Waste Management and Materials Pollution Control

1. Temporary Concrete Washout Facility
2. Construction Site Management

Within 20 days after contract approval, the Contractor shall submit 3 copies of the SWPPP to the Engineer. The Contractor shall allow 20 days for the Engineer's review. If revisions are required, the Engineer will provide comments and specify the date that the review stopped. The Contractor shall revise and resubmit the SWPPP within 15 days of receipt of the Engineer's comments. The Engineer's review will resume when the complete SWPPP is resubmitted. When the Engineer approves the SWPPP, the Contractor shall submit 4 copies of the approved SWPPP to the Engineer. The Contractor may proceed with construction activities if the Engineer conditionally approves the SWPPP while minor revisions are being completed. If the Engineer fails to complete the review within the time allowed and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay, the Contractor will be compensated for resulting losses, and an extension of time will be granted, as provided for in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

The SWPPP shall include a copy of the California State Reclamation Board permit.

The Contractor shall not perform work that may cause water pollution until the SWPPP has been approved by the Engineer. The Engineer's review and approval shall not waive any

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

contract requirements and shall not relieve the Contractor from complying with Federal, State and local laws, regulations, and requirements.

The Contractor shall amend the SWPPP annually and shall resubmit it to the Engineer 25 days before the defined rainy season.

If there is a change in construction schedule or activities, the Contractor shall prepare an amendment to the SWPPP to identify additional or revised water pollution control practices. The Contractor shall submit the amendment to the Engineer for review within a time agreed to by the Engineer not to exceed the number of days specified for the initial submittal of the SWPPP. The Engineer will review the amendment within the same time allotted for the review of the initial submittal of the SWPPP.

If directed by the Engineer or requested in writing by the Contractor and approved by the Engineer, changes to the water pollution control work specified in these special provisions will be allowed. Changes may include addition of new water pollution control practices. The Contractor shall incorporate these changes in the SWPPP. Additional water pollution control work will be paid for as extra work in accordance with Section 4-1.03, "Extra work," of the Standard Specifications.

The Contractor shall keep a copy of the approved SWPPP at the job site. The SWPPP shall be made available when requested by a representative of the Regional Water Quality Control Board, State Water Resources Control Board, United States Environmental Protection Agency, or the local storm water management agency. Requests from the public shall be directed to the Engineer.

SAMPLING AND ANALYSIS

The Contractor shall include a Sampling and Analysis Plan (SAP) in the SWPPP to monitor the effectiveness of the water pollution control practices. The Contractor shall prepare the SAP in conformance with the Preparation Manual.

The Contractor shall designate trained personnel to collect water quality samples. The personnel and training shall be documented in the SAP. Training shall consist of the following elements:

A. SAP review,
B. Health and safety review, and
C. Sampling simulations.

In the SAP the Contractor shall describe the following water quality sampling procedures:

A. Sampling preparation,
B. Collection,
C. Quality assurance and quality control,
D. Sample labeling,
E. Collection documentation,
F. Sample shipping,
G. Chain of custody,

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

H. Sample numbering, and

I. Precautions from the construction site health and safety plan.

The Contractor shall document sample collection during precipitation.

Samples to be analyzed in the field shall be taken by the Contractor's designated sampling personnel using collection and analysis methods, and equipment calibration specified by the manufacturer of the sampling equipment. Samples to be analyzed by a laboratory, shall be sampled, preserved, and analyzed by a State-certified laboratory in conformance with the requirements in 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants." The Contractor shall identify the State-certified laboratory, sample containers, preservation requirements, holding times, and analysis method in the SAP. A list of State-certified laboratories that are approved by the Department is available at:

http://www.dhs.ca.gov/ps/ls/ELAP/html/lablist.htm

Sediment and Turbidity

This project discharges indirectly into Butte Creek, a body of water required by the Clean Water Act, Section 303(d) to be listed as impaired due to Diazinon, mercury, and unknown toxicity from agricultural sources, historical mining operations, and other unknown sources. The Contractor shall describe in the SAP the schedule and strategy for monitoring turbidity in the listed body of water in accordance with the provisions in this section.

The Contractor shall develop the SAP schedule so that water quality samples are taken within 2 hours of discharge from precipitation during daylight hours (sunrise to sunset), regardless of the time of year, day of the week, or condition of the construction site. If precipitation occurs again after at least 72 hours of dry weather the Contractor shall take new samples, however, sampling will not be required more than 4 times in 30 days.

In the SAP the Contractor shall identify the locations where runoff sources on the construction site discharge directly into the listed body of water, and the locations where water flows onto the project with the potential to combine with runoff that discharges directly into the listed body of water. These locations shall also be shown on the SWPPP Water Pollution Control Drawings.

The Contractor shall identify locations for collecting water quality samples and the reason for their selection. Sampling locations shall also be shown on the SWPPP Water Pollution Control Drawings. The sampling locations shall include:

A. Upstream from direct discharges from the construction site,
B. Immediately downstream from the last point of direct discharge from the construction site, and
C. Immediately downhill from the locations where water flows onto the right of way.

The Contractor shall specify in the SAP that for discharges into bodies of water listed as impaired due to sedimentation/siltation, samples will be analyzed for both settleable solids in accordance with the requirements of EPA Test Method 160.5, and total suspended solids in

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

accordance with EPA Test Method 160.2; or for suspended sediment concentration in accordance with the requirements in ASTM Designation: D 3977.

For discharges to 303(d) bodies of water listed as impaired due to turbidity the Contractor shall specify in the SAP that samples will be analyzed for turbidity in accordance with the requirements in EPA Test Method 180.1.

Non-Visible Pollutants

This project has the potential to discharge non-visible pollutants in storm water from the construction site. The Contractor shall include in the SAP a description of the sampling and analysis strategy to be implemented on the project for monitoring non-visible pollutants.

In the SAP the Contractor shall identify potential non-visible pollutants that will be present on the construction site associated with the following:

A. Construction materials and wastes;
B. Existing contamination due to historical site usage; or
C. Application of soil amendments, including soil stabilization products, with the potential to alter pH or contribute toxic pollutants to storm water.

The Contractor shall show the locations planned for storage and use of the potential non-visible pollutants on the SWPPP Water Pollution Control Drawings.

The Contractor shall include in the SAP the following list of conditions that require sampling when observed during a storm water inspection:

A. Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions.

B. Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but:

1. A breach, leakage, malfunction, or spill is observed;
2. The leak or spill has not been cleaned up before precipitation; and
3. There is the potential for discharge of non-visible pollutants to surface waters or drainage system.

C. Construction activities; such as application of fertilizer, pesticide, herbicide, methyl methacrylate concrete sealant, or non-pigmented curing compound; have occurred during precipitation or within 24 hours preceding precipitation, and have the potential to discharge pollutants to surface waters or drainage system.

D. Soil amendments, including soil stabilization products, with the potential to alter pH levels or contribute toxic pollutants to storm water runoff have been applied, and have the potential to discharge pollutants to surface waters or drainage system (unless independent test data are available that demonstrate acceptable concentrations of nonvisible pollutants in the soil amendment).

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

E. Storm water runoff from an area contaminated by historical usage of the site has the potential to discharge pollutants to surface waters or drainage system.

The Contractor shall describe in the SAP the schedule for collecting a sample downhill from each non-visible pollutant source and an uncontaminated control sample, during the first 2 hours of discharge from precipitation during daylight hours that result in enough discharge for sample collection. If discharge flows to the non-visible pollutant source, a sample shall be collected immediately downhill from where the discharge enters the Department's right of way. If precipitation occurs again after at least 72 hours of dry weather the Contractor shall take new samples.

In the SAP the Contractor shall identify sampling locations for collecting downstream and control samples, and the reason for their selection. The control sampling location shall be selected so the sample does not come into contact with materials, wastes or areas associated with potential non-visible pollutants or disturbed soil areas. The Contractor shall show non-visible pollutant sampling locations on the SWPPP Water Pollution Control Drawings.

The Contractor shall identify in the SAP the analytical method to be used for downhill and control samples for potential non-visible pollutants on the project.

Analytical Results and Evaluation

The Contractor shall submit a hard copy and electronic copy of water quality analytical results, and quality assurance and quality control data to the Engineer within 5 days of sampling for field analyses, and within 30 days for laboratory analyses. The Contractor shall also provide an evaluation of whether the downhill samples show levels of the tested parameter higher than in the control sample. If downhill or downstream samples show increased levels, the Contractor will assess the water pollution control measures, site conditions, and surrounding influences to determine the probable cause for the increase. As determined by the assessment, the Contractor will repair or modify water pollution control measures to address increases and amend the SWPPP as necessary. Electronic results (in one of the following file formats: .xls, .txt, .csv, .dbs, or .mdb) shall have the following information:

A. Sample identification number.
B. Contract number.
C. Constituent.
D. Reported value.
E. Analytical method.
F. Method detection limit.
G. Reported limit.

The Contractor shall maintain the water quality sampling documentation and analytical results with the SWPPP on the project site.

If construction activities or knowledge of site conditions change such that discharges or sampling locations change, the Contractor shall amend the SAP in conformance with this section, "Water Pollution Control."

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

IMPLEMENTATION REQUIREMENTS

The Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications.

If the Contractor or the Engineer identifies a deficiency in the implementation of the approved SWPPP, the deficiency shall be corrected immediately, unless an agreed date for correction is approved in writing by the Engineer. The deficiency shall be corrected before the onset of precipitation. If the Contractor fails to correct the deficiency by the agreed date or before the onset of precipitation, the Department may correct the deficiency and deduct the cost of correcting deficiencies from payments.

If the Contractor fails to conform to the provisions of this section, "Water Pollution Control," the Engineer may order the suspension of work until the project complies with the requirements of this section.

Year-Round

The Contractor shall monitor the National Weather Service weather forecast on a daily basis during the contract. The Contractor may use an alternative weather forecasting service if approved by the Engineer. Appropriate water pollution control practices shall be in place before precipitation.

The Contractor may discontinue earthwork operations for a disturbed area for up to 21 days and the disturbed soil area will still be considered active. When earthwork operations in the disturbed area have been completed, the Contractor shall implement appropriate water pollution control practices within 15 days, or before predicted precipitation, whichever occurs first.

Rainy Season

The Contractor shall provide soil stabilization and sediment control practices during the rainy season between October 15 and April 15.

The Contractor shall implement soil stabilization and sediment control practices a minimum of 10 days before the start of the rainy season.

During the defined rainy season, the active disturbed soil area of the project site shall be not more than 2 hectares. The Engineer may approve expansions of the active disturbed soil area limit if requested in writing. The Contractor shall maintain soil stabilization and sediment control materials on site to protect disturbed soil areas.

INSPECTION AND MAINTENANCE

The WPCM shall inspect the water pollution control practices identified in the SWPPP as follows:

A. Before a forecasted storm,
B. After precipitation that causes site runoff,
C. At 24-hour intervals during extended precipitation,

D. On a predetermined schedule, a minimum of once every 2 weeks outside of the defined rainy season, and

E. On a predetermined schedule, a minimum of once a week during the defined rainy season.

The WPCM shall oversee the maintenance of the water pollution control practices.

The WPCM shall use the Storm Water Quality Construction Site Inspection Checklist provided in the Preparation Manual or an alternative inspection checklist provided by the Engineer. A copy of the completed site inspection checklist shall be submitted to the Engineer within 24 hours of finishing the inspection.

The Contractor may request approval from the Engineer to suspend inspections of water pollution control practices after work except plant establishment is complete. The Engineer's approval is contingent on approval from the Regional Water Quality Control Board. The Contractor shall not suspend inspections until written approval from the Engineer is received.

REPORTING REQUIREMENTS

If the Contractor identifies discharges into surface waters or drainage systems causing or potentially causing pollution, or if the project receives a written notice or order from a regulatory agency, the Contractor shall immediately inform the Engineer. The Contractor shall submit a written report to the Engineer within 7 days of the discharge, notice or order. The report shall include the following information:

A. The date, time, location, and nature of the operation, type of discharge and quantity, and the cause of the notice or order.
B. The water pollution control practices used before the discharge, or before receiving the notice or order.
C. The date of placement and type of additional or altered water pollution control practices placed after the discharge, or after receiving the notice or order.
D. A maintenance schedule for affected water pollution control practices.

Annual Certifications

By June 15 of each year, the Contractor shall complete and submit to the Engineer an Annual Certification of Compliance, as contained in the Preparation Manual.

PAYMENT

During each estimate period the Contractor fails to conform to the provisions in this section, "Water Pollution Control," or fails to implement the water pollution control practices shown on the plans or specified elsewhere in these Special Provisions as items of work, the Department will withhold 25 percent of the progress payment.

Withholds for failure to perform water pollution control work will be in addition to all other withholds provided for in the contract. The Department will return performance-failure withholds in the progress payment following the correction of noncompliance.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

The contract lump sum price paid for prepare storm water pollution prevention plan shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing, obtaining approval of, and amending the

SWPPP, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Payments for prepare storm water pollution prevention plan will be made as follows:

A. After the SWPPP has been approved by the Engineer, 50 percent of the contract item price for prepare storm water pollution prevention plan will be included in the monthly progress estimate.
B. Forty percent of the contract item price for prepare storm water pollution prevention plan will be paid over the life of the contract.
C. After acceptance of the contract in conformance with the provisions in Section 7-1.17, "Acceptance of Contract," of the Standard Specifications, payment for the remaining 10 percent of the contract item price for prepare storm water pollution prevention plan will be made in conformance with the provisions in Section 9-1.07A, "Payment Prior to Proposed Final Estimate."

Storm water sampling and analysis will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications. No payment will be made for the preparation, collection, analysis, and reporting of storm water samples where appropriate water pollution control practices are not implemented before precipitation or if a failure of a water pollution control practice is not corrected before precipitation.

Implementation of water pollution control practices in areas outside the highway right of way not specifically provided for in the SWPPP or in these special provisions will not be paid for.

Water pollution control practices for which there are separate contract items of work will be measured and paid for as those contract items of work.

CONSTRUCTION SITE MANAGEMENT

Construction site management shall consist of controlling potential sources of water pollution before they come in contact with storm water systems or watercourses. The Contractor shall control material pollution and manage waste and non-storm water existing at the construction site by implementing effective handling, storage, use, and disposal practices.

Attention is directed to "Water Pollution Control" of these special provisions regarding the Contractor's appointment of a water pollution control manager (WPCM) for the project.

The Contractor shall train all employees and subcontractors regarding:

A. Material pollution prevention and control;
B. Waste management;
C. Non-storm water management;
D. Identifying and handling hazardous substances; and

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

E. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances.

Training shall take place before starting work on this project. New employees shall receive the complete training before starting work on this project. The Contractor shall have regular meetings to discuss and reinforce spill prevention and control; material delivery, storage, use, and disposal; waste management; and non-storm water management procedures.

Instructions for material and waste handling, storage, and spill reporting and cleanup shall be posted at all times in an open, conspicuous, and accessible location at the construction site.

Nonhazardous construction site waste and excess material shall be recycled when practical or disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications, unless otherwise specified.

Vehicles and equipment at the construction site shall be inspected by the WPCM on a frequent, predetermined schedule and by the operator each day of use. Leaks shall be repaired immediately, or the vehicle or equipment shall be removed from the construction site.

SPILL PREVENTION AND CONTROL

The Contractor shall implement spill and leak prevention procedures when chemicals or hazardous substances are stored. Spills of petroleum products; substances listed under CFR Title 40, Parts 110, 117, and 302; and sanitary and septic waste shall be contained and cleaned up as soon as is safe.

Minor spills involve small quantities of oil, gasoline, paint, or other material that can be controlled by the first responder upon discovery of the spill. Cleanup of minor spills includes:

A. Containing the spread of the spill,
B. Recovering the spilled material using absorption,
C. Cleaning the contaminated area, and
D. Disposing of contaminated material promptly and properly.

Semi-significant spills are those that can be controlled by the first responder with the help of other personnel. Cleanup of semi-significant spills shall be immediate. Cleanup of semi-significant spills includes:

A. Containing the spread of the spill;
B. Recovering the spilled material using absorption if the spill occurs on paved or an impermeable surface;
C. Containing the spill with an earthen dike and digging up contaminated soil for disposal if the spill occurs on dirt;
D. Covering the spill with plastic or other material to prevent contaminating runoff if the spill occurs during precipitation; and
E. Disposing of contaminated material promptly and properly.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

Significant or hazardous spills are those that cannot be controlled by construction personnel. Notifications of these spills shall be immediate. The following steps shall be taken:

A. Construction personnel shall not attempt to cleanup the spill until qualified staff have arrived;
B. Notify the Engineer and follow up with a written report;
C. Obtain the services of a spills contractor or hazardous material team immediately;
D. Notify the local emergency response team by dialing 911 and county officials at the emergency phone numbers kept on the construction site;
E. Notify the Governor's Office of Emergency Services Warning Center at (805) 852-7550;
F. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities in conformance with CFR Title 40, Parts 110, 119, and 302;
G. Notify other agencies as appropriate, including:

1. Fire Department,
2. Public Works Department,
3. Coast Guard,
4. Highway Patrol,
5. City Police or County Sheriff Department,
6 Department of Toxic Substances,
7. California Division of Oil and Gas,
8. Cal OSHA, or
9. Regional Water Resources Control Board.

The WPCM shall oversee and enforce proper spill prevention and control measures. Minor, semi-significant, and significant spills shall be reported to the Contractor's WPCM who shall notify the Engineer immediately.

The Contractor shall prevent spills from entering storm water runoff before and during cleanup. Spills shall not be buried or washed with water.

The Contractor shall keep material or waste storage areas clean, well organized, and equipped with enough cleanup supplies for the material being stored. Plastic shall be placed under paving equipment when not in use to catch drips.

MATERIAL MANAGEMENT

Material shall be delivered, used, and stored for this contract in a manner that minimizes or eliminates discharge of material into the air, storm drain systems, or watercourses.

The Contractor shall implement the practices described in this section when taking delivery of, using, or storing the following materials:
A. Hazardous chemicals including:
1. Acids,
2. Lime,
3. Glues,
4. Adhesives,

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

5. Paints,
6. Solvents, and
7. Curing compounds;

B. Soil stabilizers and binders;

C. Fertilizers;
D. Detergents;
E. Plaster;
F. Petroleum products including:
    1. Fuel,
    2. Oil, and
    3. Grease;
G. Asphalt components and concrete components; and
H. Pesticides and herbicides.

The Contractor shall supply the Material Safety Data Sheet to the Engineer for material used or stored. The Contractor shall keep an accurate inventory of material delivered and stored at the construction site.

Employees trained in emergency spill cleanup procedures shall be present when hazardous materials or chemicals are unloaded.

The Contractor shall use recycled or less hazardous products when practical.

Material Storage

The Contractor shall store liquids, petroleum products, and substances listed in CFR Title 40, Parts 110, 117, and 302 in containers or drums approved by the United States Environmental Protection Agency, and place them in secondary containment facilities. Secondary containment facilities shall be impervious to the materials stored there for a minimum contact time of 72 hours.

Throughout the rainy season secondary containment facilities shall be covered during non-working days and when precipitation is predicted. Secondary containment facilities shall be adequately ventilated.

The Contractor shall keep the secondary containment facility free of accumulated rainwater or spills. After precipitation, or in the event of spills or leaks, accumulated liquid shall be collected and placed into drums within 24 hours. These liquids shall be handled as hazardous waste in accordance with the provisions in "Hazardous Waste" of these special provisions, unless testing determines them to be nonhazardous.

Incompatible materials, such as chlorine and ammonia, shall not be stored in the same secondary containment facility. Materials shall be stored in the original containers with the original product labels maintained in legible condition. Damaged or illegible labels shall be replaced immediately.

The secondary containment facility shall have the capacity to contain precipitation from a 24-hour-long, 25-year storm; and 10 percent of the aggregate volume of all containers, or all of the volume of the largest container within the facility, whichever is greater.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

The Contractor shall store bagged or boxed material on pallets. Throughout the rainy season, bagged or boxed material shall be protected from wind and rain during non-working days and when precipitation is predicted.

The Contractor shall provide sufficient separation between stored containers to allow for spill cleanup or emergency response access. Storage areas shall be kept clean, well organized, and equipped with cleanup supplies appropriate for the materials being stored.

The Contractor shall repair or replace perimeter controls, containment structures, covers, and liners as needed. Storage areas shall be inspected before and after precipitation, and at least weekly during other times.

Stockpile Management

The Contractor shall reduce or eliminate potential air and water pollution from stockpiled material including soil, paving material, or pressure treated wood. Stockpiles shall be located out of floodplains when possible, and at least 50 ft from concentrated flows of storm water, drainage courses, or inlets unless written approval is obtained from the Engineer.

The Contractor may discontinue adding or removing material for up to 21 days and a stockpile will still be considered active.

The Contractor shall protect active stockpiles with plastic or geotextile cover, soil stabilization measures, or with linear sediment barrier when precipitation is predicted. Active stockpiles of cold mix asphalt concrete shall be placed on an impervious surface and covered with plastic when precipitation is predicted.

The Contractor shall protect inactive soil stockpiles with a plastic or geotextile cover, or with soil stabilization measures at all times during the rainy season. A linear sediment barrier around the perimeter of the stockpile shall also be used.

During the non-rainy season soil stockpiles shall be covered and protected with a linear sediment barrier when precipitation is predicted. The Contractor shall control wind erosion during dry weather as provided in Section 10, "Dust Control," of the Standard Specifications.

Stockpiles of portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate subbase shall be covered with plastic or geotextile, or protected with a linear sediment barrier at all times during the rainy season, and when precipitation is predicted during the non-rainy season.

Stockpiles of cold mix asphalt concrete shall be placed on and covered with impermeable material at all times during the rainy season, and when precipitation is predicted during the non-rainy season.

Stockpiles of pressure treated wood shall be covered with impermeable material and placed on pallets at all times during the rainy season, and when precipitation is predicted during the non-rainy season.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

The Contractor shall repair or replace linear sediment barriers and covers as needed or as directed by the Engineer to keep them functioning properly. Sediment shall be removed when it accumulates to 1/3 of the linear sediment barrier height.

WASTE MANAGEMENT

Solid Waste

The Contractor shall not allow litter or debris to accumulate anywhere on the construction site, including storm draingrates, trash racks, and ditch lines. The Contractor shall pick up and remove trash and debris from the construction site at least once a week. The WPCM shall monitor solid waste storage and disposal procedures on the construction site. The Contractor shall provide enough dumpsters of sufficient size to contain the solid waste generated by the project. Dumpsters shall be emptied when refuse reaches the fill line. Dumpsters shall be watertight. The Contractor shall not wash out dumpsters on the construction site.

The Contractor shall provide additional containers and more frequent pickup during the demolition phase of construction Solid waste includes:

A. Brick,
B. Mortar,
C. Timber,
D. Metal scraps,
E. Sawdust,
F. Pipe,
G. Electrical cuttings,
H. Non-hazardous equipment parts,
I. Styrofoam and other packaging materials,
J. Vegetative material and plant containers from highway planting, and
K. Litter and smoking material, including litter generated randomly by the public.

Trash receptacles shall be provided and used in the Contractor's yard, field trailers, and locations where workers gather for lunch and breaks.

Hazardous Waste

The Contractor shall implement hazardous waste management practices when waste is generated on the construction site from the following substances:

A. Petroleum products,
B. Asphalt products,
C. Concrete curing compound,
D. Pesticides,
E. Acids,
F. Paints,
G. Stains,
H. Solvents,
I. Wood preservatives,
J. Roofing tar, and

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

K. Materials classified as hazardous by California Code of Regulations, Title 22, Division 4.5; or listed in CFR Title 40, Parts 110, 117, 261, or 302.

Nothing in these Special Provisions shall relieve the Contractor of the responsibility for compliance with Federal, State, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.

The WPCM shall oversee and enforce hazardous waste management practices. Production of hazardous materials and hazardous waste on the construction site shall be kept to a minimum. Perimeter controls, containment structures, covers, and liners shall be repaired or replaced when damaged.

The Contractor shall have a laboratory certified by the Department of Health Services (DHS) sample and test waste when hazardous material levels are unknown to determine safe methods for storage and disposal.

The Contractor shall segregate potentially hazardous waste from nonhazardous waste at the construction site. Hazardous waste shall be handled, stored, and disposed of as required in California Code of Regulations, Title 22, Division 4.5, Section 66262.34; and in CFR Title 49, Parts 261, 262, and 263.

The Contractor shall store hazardous waste in sealed containers constructed and labeled with the contents and date accumulated as required in California Code of Regulations, Title 22, Division 4.5; and in CFR Title 49, Parts 172, 173, 178, and 179. Hazardous waste containers shall be kept in temporary containment facilities conforming to the provisions in "Material Storage" of these Special Provisions.

There shall be adequate storage volume and containers shall be conveniently located for hazardous waste collection. Containers of hazardous waste shall not be overfilled and hazardous wastes shall not be mixed. Containers of dry waste that are not watertight shall be stored on pallets. The Contractor shall not allow potentially hazardous waste to accumulate on the ground. Hazardous waste shall be stored away from storm drains, watercourses, moving vehicles, and equipment.

The Contractor shall clean water based or oil based paint from brushes or equipment within a contained area and shall not contaminate soil, watercourses, or storm drain systems. Paints, thinners, solvents, residues, and sludges that cannot be recycled or reused shall be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths shall be disposed of as solid waste.

The Contractor shall dispose of hazardous waste within 90 days of being generated. Hazardous waste shall be disposed of by a licensed hazardous waste transporter using uniform hazardous waste manifest forms and taken to a Class I Disposal Site. A copy of the manifest shall be provided to the Engineer.

Contaminated Soil

The Contractor shall identify contaminated soil from spills or leaks by noticing discoloration, odors, or differences in soil properties. Soil with evidence of contamination shall

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

be sampled and tested by a laboratory certified by DHS. If levels of contamination are found to be hazardous, the soil shall be handled and disposed of as hazardous waste.

The Contractor shall prevent the flow of water, including ground water, from mixing with contaminated soil by using one or a combination of the following measures:

A. Berms,

B. Cofferdams,
C. Grout curtains,
D. Freeze walls, or
E. Concrete seal course.

If water mixes with contaminated soil and becomes contaminated, the water shall be sampled and tested by a laboratory certified by the DHS. If levels of contamination are found to be hazardous, the water shall be handled and disposed of a hazardous waste.

Concrete Waste

The Contractor shall implement practices to prevent the discharge of portland cement concrete or asphalt concrete waste into storm drain systems or watercourses. Portland cement concrete or asphalt concrete waste shall be collected at the following locations and disposed of:

A. Where concrete material, including grout, is used;
B. Where concrete dust and debris result from demolition;
C. Where sawcutting, coring, grinding, grooving, or hydro-concrete demolition of portland cement concrete or asphalt concrete creates a residue or slurry; or
D. Where concrete trucks or other concrete-coated equipment is cleaned at the construction site.

Sanitary and Septic Waste

Wastewater from sanitary or septic systems shall not be discharged or buried within the Department right of way. The WPCM shall inspect sanitary or septic waste storage and monitor disposal procedures at least weekly. Sanitary facilities that discharge to the sanitary sewer system shall be properly connected and free from leaks.

The Contractor shall obtain written approval from the local health agency, city, county, and sewer district before discharging from a sanitary or septic system directly into a sanitary sewer system, and provide a copy to the Engineer. The Contractor shall comply with local health agency requirements when using an on-site disposal system.

Liquid Waste

The Contractor shall not allow construction site liquid waste, including the following, to enter storm drain systems or watercourses:

A. Drilling slurries or fluids,
B. Grease-free or oil-free wastewater or rinse water,
C. Dredgings,
D. Liquid waste running off a surface including wash or rinse water, or
E. Other non-storm water liquids not covered by separate permits.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

The Contractor shall hold liquid waste in structurally sound, leak proof containers such as:

A. Sediment traps,
B. Roll-off bins, or
C. Portable tanks.

Liquid waste containers shall be of sufficient quantity and volume to prevent spills and leaks. The containers shall be stored at least 15 m from storm drains, watercourses, moving vehicles, and equipment.

The Contractor shall remove and dispose of deposited solids from sediment traps as provided in "Solid Waste" of these special provisions, unless determined infeasible by the Engineer. Liquid waste may require testing to determine hazardous material content before disposal. Drilling fluids and residue shall be disposed of outside the highway right of way. If the Engineer determines that an appropriate location is available, fluids and residue exempt under California Code of Regulations, Title 23, Section 2511(g) may be dried by infiltration and evaporation in a leak proof container. The remaining solid waste may be disposed of as provided in "Solid Waste" of these Special Provisions.

NON-STORM WATER MANAGEMENT

Water Control and Conservation

The Contractor shall prevent erosion or the discharge of pollutants into storm drain systems or watercourses by managing the water used for construction operations. The Contractor shall obtain the Engineer's approval before washing anything on the construction site with water that could discharge into a storm drain system or watercourse. Discharges shall be reported to the Engineer immediately.

The Contractor shall implement water conservation practices when water is used on the construction site. Irrigation areas shall be inspected and watering schedules shall be adjusted to prevent erosion, excess watering, or runoff. The Contractor shall shut off the water source to broken lines, sprinklers, or valves, and they shall be repaired as soon as possible. When possible, water from waterline flushing shall be reused for landscape irrigation. Paved areas shall be swept and vacuumed, not washed with water.

Construction water runoff, including water from water line repair, shall be directed to areas to infiltrate into the ground and shall not be allowed to enter storm drain systems or watercourses. Spilled water shall not be allowed to escape water truck filling areas. When possible, the Contractor shall direct water from off-site sources around the construction site, or shall minimize contact with the construction site.

Illegal Connection and Discharge Detection and Reporting

The Contractor shall inspect the construction site and the site perimeter before beginning work for evidence of illegal connections, discharges, or dumping. Subsequently, the construction site and perimeter shall be inspected on a frequent, predetermined schedule.

The Contractor shall immediately notify the Engineer when illegal connections, discharges, or dumping are discovered.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

The Contractor shall take no further action unless directed by the Engineer. Unlabeled or unidentifiable material shall be assumed to be hazardous.

The Contractor shall look for the following evidence of illegal connections, discharges, or dumping:

A. Debris or trash piles,

B. Staining or discoloration on pavement or soils,
C. Pungent odors coming from drainage systems,
D. Discoloration or oily sheen on water,
E. Stains or residue in ditches, channels or drain boxes,
F. Abnormal water flow during dry weather,
G. Excessive sediment deposits,
H. Nonstandard drainage junction structures, or
I. Broken concrete or other disturbances near junction structures.

Vehicle and Equipment Cleaning

The Contractor shall limit vehicle and equipment cleaning or washing on the construction site to that necessary to control vehicle tracking or hazardous waste. Vehicles and equipment shall not be cleaned on the construction site with soap, solvents, or steam until the Engineer has been notified. The resulting waste shall be contained and recycled, or disposed of as provided in "Liquid Waste" or "Hazardous Waste" of these special provisions, whichever is applicable. The Contractor shall not use diesel to clean vehicles or equipment, and shall minimize the use of solvents.

The Contractor shall clean or wash vehicles and equipment in a structure equipped with disposal facilities. If using a structure is not possible, vehicles and equipment shall be cleaned or washed in an outside area with the following characteristics:

A. Located at least 50 ft from storm drainage systems or watercourses,
B. Paved with asphalt concrete or portland cement concrete,
C. Surrounded by a containment berm, and
D. Equipped with a sump to collect and dispose of wash water.

When washing vehicles or equipment with water, the Contractor shall use as little water as possible. Hoses shall be equipped with a positive shutoff valve.

Wash racks shall discharge to a recycle system or to another system approved by the Engineer. Sumps shall be inspected regularly, and liquids and sediments shall be removed as needed.

Vehicle and Equipment Fueling and Maintenance

The Contractor shall fuel or perform maintenance on vehicles and equipment off the construction site whenever practical. When fueling or maintenance must be done at the construction site, the Contractor shall prepare a Spill Prevention, Control, and Containment Plan to establish spill prevention practice, and to prepare for spill mitigation in the event of a hazardous materials spill. The fueling or maintenance site shall be protected from storm water,

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

shall be on level ground, and shall be located at least 50 ft from drainage inlets or watercourses. The WPCM shall inspect the fueling or maintenance site regularly. Mobile fueling or maintenance shall be kept to a minimum.

The Contractor shall use containment berms or dikes around the fueling and maintenance area. Adequate amounts of absorbent spill cleanup material and spill kits shall be kept in the fueling and maintenance area and on fueling trucks. Spill cleanup material and kits shall be disposed of immediately after use. Drip pans or absorbent pads shall be used during fueling or

maintenance unless performed over an impermeable surface. Fueling or maintenance operations shall not be left unattended. Fueling nozzles shall be equipped with an automatic shutoff control. Vapor recovery fueling nozzles shall be used where required by the Air Quality Management District. Nozzles shall be secured upright when not in use. Fuel tanks shall not be topped-off.

The Contractor shall recycle or properly dispose of used batteries and tires.

Paving, Sealing, Sawcutting, and Grinding Operations

The Contractor shall prevent the following material from entering storm drain systems or water courses:

A. Cementitious material,
B. Asphaltic material,
C. Aggregate or screenings,
D. Grinding or sawcutting residue,
E. Pavement chunks, or
F. Shoulder backing.

The Contractor shall cover drainage inlets and use linear sediment barriers to protect downhill watercourses until paving, sealing, sawcutting, or grinding operations are completed and excess material has been removed. Drainage inlets and manholes shall be covered during the application of seal coat, tack coat, slurry seal, or fog seal.

During the rainy season or when precipitation is predicted, paving, sawcutting, and grinding operations shall be limited to places where runoff can be captured. Seal coat, tack coat, slurry seal, or fog seal operations shall not begin if precipitation is predicted for the application or the curing period. The Contractor shall not excavate material from existing roadways during precipitation.

The Contractor shall vacuum up slurry from sawcutting operations immediately after the slurry is produced. Slurry shall not be allowed to run onto lanes open to public traffic or off the pavement.

The Contractor shall collect residue from portland cement concrete grinding operations with a vacuum attachment on the grinding machine. The residue shall not be left on the pavement or allowed to flow across the pavement. Material excavated from existing roadways may be stockpiled as provided in "Stockpile Management" of these Special Provisions if approved by the Engineer. Asphalt concrete chunks used in embankment shall be placed above the water table and covered by at least 1.0’ of material.

4. <u>STORM WATER POLLUTION PREVENTION PLAN</u> (Continued)

Substances used to coat asphalt trucks and equipment shall not contain soap, foaming agents, or toxic chemicals.

Thermoplastic Striping and Pavement Markers

Thermoplastic striping and preheating equipment shutoff valves shall work properly at all times when on the construction site. The Contractor shall not preheat, transfer, or load thermoplastic within 50 feet of drainage inlets or watercourses. The Contractor shall not fill the preheating container to more than 6 inches from the top. Truck beds shall be cleaned daily of scraps or melted thermoplastic.

The Contractor shall not unload, transfer, or load bituminous material for pavement markers within 50 feet of drainage inlets or watercourses. All pressure shall be released from melting tanks before removing the lid to fill or service. Melting tanks shall not be filled to more than 6 inches from the top.

The Contractor shall collect bituminous material from the roadway after marker removal.

Concrete Curing

The Contractor shall not overspray chemical curing compound. Drift shall be minimized by spraying as close to the concrete as possible. Drainage inlets shall be covered before applying curing compound.

The Contractor shall minimize the use and discharge of water by using wet blankets or similar methods to maintain moisture when curing concrete.

Concrete Finishing

The Contractor shall collect and dispose of water and solid waste from high-pressure water blasting. Drainage inlets within 50.0' shall be covered before sandblasting. The nozzle shall be kept as close to the surface of the concrete as possible to minimize drift of dust and blast material. Blast residue may contain hazardous material.

Containment structures for concrete finishing operations shall be inspected for damage before each day of use and before predicted precipitation. Liquid and solid waste shall be removed from the containment structure after each work shift.

PAYMENT

The contract lump sum price paid for pollution control shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in Construction Site Management, spill prevention and control, material management, waste management, non-storm water management, and dewatering and identifying, sampling, testing, handling, and disposing of hazardous waste, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

5. ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these Special Provisions.

5. ORDER OF WORK (Continued)

At those locations exposed to public traffic where guard railings or barriers are to be constructed, reconstructed, or removed and replaced, the Contractor shall schedule operations so that at the end of each working day there shall be no post holes open nor shall there be any railing or barrier posts installed without the blocks and rail elements assembled and mounted thereon.

6. COOPERATION

Attention is directed to Sections 7-1.14, "Cooperation," and 8-1.10, "Utility and Non-Highway Facilities," of the Standard Specifications and these Special Provisions.

Work by public utility forces and/or Butte County crews may be underway within and/or adjacent to the limits of this contract at the time work under these special provisions is being performed. The Contractor, for the work herein specified, shall cooperate with all forces engaged in performing other work as above described. Such forces may conduct their operations with as little inconvenience and delay as possible. The Contractor shall permit such forces passage through the work to transport materials and equipment to the site of their operations.

In lieu of the conflicting provisions in Section 8-1.10, full compensation for conforming to the above requirements or for any delay or inconvenience to the Contractor's operations by reason of his conformance with such requirements, shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

7. 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.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

NOTIFICATION CENTER	TELEPHONE
Underground Service Alert Northern California	**1-800-227-2600**
(USA)	**1-800-642-2444**

The contract work shall be so conducted as to permit utility companies to maintain their services without interruption. Abandoned utility pipelines, telephone cables, and conduits, if encountered, shall be removed and disposed of off the job site. Attention is directed to the existence of storm drain and utility facilities, which are to remain and which are located within the area of work. The Contractor shall locate these facilities, work around them and protect them from damage during the course of his construction. Should the Contractor damage any of the existing facilities, they will be repaired and/or replaced immediately, any costs for repair and/or replacement shall be borne by the Contractor.

7. OBSTRUCTIONS (Continued)

In lieu of conflicting provisions of Section 8-1.10, full compensation for conforming to the above requirements or for delay or inconvenience to the Contractor's operations by reason of his conformance with such requirements, shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

8. MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.08, “Public Convenience,” 7-1.09, “Public Safety,” and 12, “Construction Area Traffic Control Devices,” of the Standard Specifications and these

special provisions. Nothing in these special provisions shall be construed as relieving the Contractor from his responsibility as provided in said Section 7-1.09.

The Contractor shall develop a traffic control plan and then, during the pre-construction conference, present the plan to the Engineer for approval. The Traffic Control Plan shall address specific lane closures and times, as well as contact names and phone numbers in the event of emergencies or after hour occurrences. The Engineer shall notify the Contractor within ten calendar days after receiving the plan whether the plan has been accepted or rejected. Work on the project shall not begin until the Engineer has reviewed and approved the traffic control plan.

The Traffic Control Plan shall be considered as included in the contract lump sum price paid for the item "Traffic Control" and no additional compensation will be allowed therefor.

Full compensation for preparing and submitting written weekly schedules of planned traffic control operations shall be considered as included in the Contract Lump Sum price paid for the item "Traffic Control" and no additional compensation will be allowed therefor.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic unless otherwise approved by the Engineer.

Whenever vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25 foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where determined by the Engineer.

Only one lane closure shall be allowed at a time unless otherwise permitted by the Engineer. The maximum length of any lane closure shall be limited to 1.0 mile.

The Contractor shall maintain access on the Skyway for permit loads during work shifts. Permit loads are defined as overweight or oversized vehicles that have an approved permit for traveling this route. The Contractor shall give notice 15 days in advance to the Engineer when the horizontal clearance is less than 16 feet.

Intermittent road closures will be allowed for periods not to exceed 10 minutes. After each closure, all accumulated traffic shall be allowed to pass through the work area before another

8. <u>MAINTAINING TRAFFIC</u> (Continued)

closure is made. When traffic is under one-way control, delays to public traffic shall not exceed 20 minutes.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the Contractor if, in the opinion of the Engineer, public traffic will be better served and the work expedited. The Contractor shall not implement these deviations until the Engineer has approved them in writing. All other modifications will be made by contract change order.

Illuminated traffic cones when used during the hours of darkness shall be affixed or covered with retroreflective cone sleeves as specified in Section 12-3.10, "Traffic Cones," of the Standard Specifications.

In addition to the existing warning and directional signs, the Contractor shall furnish the posts, mounting hardware and erect, within or adjacent to the limits of work, such construction supplemental warning and directional signs as ordered by the Engineer. These signs will be furnished by the County of Butte and stored in the maintenance warehouse in Oroville. The Contractor shall haul them from storage to the site of the work, frame and erect them. After erection, the Contractor shall maintain these and the existing signs and keep them in good repair until he has returned them to the storage location in Oroville at the completion of the Contract.

Except as provided above for County-furnished signs, the Contractor, at his/her own expense, shall furnish and maintain all lights, signs, barricades, Type III barricades or other devices necessary for the protection of public traffic. In lieu of payment as extra work as specified in Section 7-1.08, "Public Convenience," the cost of installing and removing signs and sign covers, the cost of accommodating public traffic prior to commencing and during construction operations, the cost of furnishing pilot cars, drivers and flagmen, the cost of furnishing, installing and maintaining signs, lights, flares, barricades, Type III barricades and other facilities for the safety, sole convenience and direction of public traffic through and around the work area, the cost of loading, hauling, unloading, erecting, maintaining and returning County-furnished signs, all as determined by the Engineer shall be considered as included in the contract lump sum price paid for the item "Traffic control," and no additional compensation will be allowed therefor.

A minimum of two Changeable Message Signs, placed to notify traffic on the Chico-bound lanes of the Skyway, are to be used during the entirety of the project. The cost of furnishing the Changeable Message Signs shall be considered as included in the contract lump sum price paid for the item "Traffic Control," and no additional compensation will be allowed therefor.

In lieu of Section 12-2.02, "Flagging Costs," the cost of furnishing all flagmen and guards to provide for passage of public traffic through the work under the provisions in Section 7-1.08, "Public Convenience," and Section 7-1.09, 'Public Safety," shall be considered as included in the contract lump sum price paid for the item "Traffic Control," and no additional compensation will be allowed therefor.

8. <u>MAINTAINING TRAFFIC</u> (Continued)

Construction operations shall be performed in such a manner that there will be at least one 11-foot-wide lane open to public traffic at times of allowable traffic flow. At the end of the day's work and when construction operations are suspended, a passageway shall be maintained through the work of sufficient width to provide for a minimum of two 11-foot-wide traffic lanes for public traffic.

Full compensation for conforming to the requirements of the article shall be considered as included in the contract lump sum price paid for the item "Traffic Control," and no additional compensation will be allowed therefor.

A. Traffic Control System for Lane Closure

A traffic control system shall consist of closing traffic lanes in accordance with the provisions of Section 12, “Construction Area Traffic Control Devices,” of the Standard Specifications and the provisions under “Maintaining Traffic,” elsewhere in these Special Provisions. If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component and shall restore the component to its original location.

The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take measures as may be necessary to comply with the provisions in Section 7-1.09, “Public Safety,” of the Standard Specifications.

STATIONARY TYPE LANE CLOSURE

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations, approved by the Engineer, within the limits of the highway right-of-way.

Utilizing a pilot car will be at the option of the Contractor. If the Contractor elects to use a pilot car, cones along the centerline need not be placed. The pilot car shall have radio contact with personnel in the work area, and the maximum speed of the pilot car through the traffic control zone shall be 25 miles per hour.

MOVING TYPE LANE CLOSURE

Flashing arrow signs used in moving lane closures shall be truck-mounted. Flashing arrow signs shall be in the caution display mode when used on two-lane highways. Changeable message signs used in moving lane closure operations shall conform to Section 12-3.12, "Portable Changeable Message Signs," of the Standard Specifications, except the signs shall be
truck-mounted and the full operation height of the bottom of the sign may be less than 7 feet above the ground, but should be as high as practicable.

Truck-mounted crash cushions (TMCC) for use in moving lane closures shall be any of the following approved models, or equal:

8. <u>MAINTAINING TRAFFIC</u> (Continued)

(1) Hexfoam TMA Series 3000 and
Alpha 1000 TMA Series 1000 and
Alpha 2001 TMA Series 2001

Manufacturer	**Distributor (Northern)**
Energy Absorption Systems, Inc. One East Wacker Drive Chicago, IL 60601-2076 Phone (312) 467-6750	Traffic Control Service, Inc. 8585 Thys Court Sacramento, CA 95828 Phone (800) 884-8274 FAX (916) 387-9734

Distributor (Southern)

Traffic Control Service, Inc.
1881 Betmor Lane
Anaheim, CA 92805
Phone (800) 222-8274

(2) Cal T-001 Model 2 or Model 3:

Manufacturer	**Distributor**
Hexcel Corporation 11711 Dublin Boulevard P.O. Box 2312 Dublin, CA 94568 Phone: (510) 828-4200	Hexcel Corporation 11711 Dublin Boulevard P.O. Box 2312 Dublin, CA 94568 Phone: (510) 828-4200

(3) Renco Rengard Model Nos. CAM 8-815 and RAM 8-815

Manufacturer	**Distributor**
Renco, Inc. 1582 Pflugerville Loop Road P.O. Box 730 Pflugerville, TX 78660-0703 Phone (800) 654-8182	Renco, Inc. 1582 Pflugerville Loop Road P.O. Box 730 Pflugerville, TX 78660-0703 Phone (800) 654-8182

Each TMCC shall be individually identified with the manufacturer's name, address, TMCC model number, and a specific serial number. The names and numbers shall each be a minimum ½ inch high, and located on the left (street) side at the lower front corner. The TMCC shall have a message next to the name and model number in ½ inch high letters that states, "The bottom of this TMCC shall be ____ inches ± __ inches above the ground at all points for proper impact performance." Any TMCC, which is damaged or appears to be in poor condition, shall not be used unless recertified by the manufacturer. The Engineer shall be the sole judge as to whether used TMCCs supplied under this contract need recertification. The manufacturer shall
determine that each unit meets the requirements for TMCCs in accordance with the standards established by the Transportation Laboratory Structures Research Section.

8. MAINTAINING TRAFFIC (Continued)

Approvals for new TMCC designs proposed as equal to the above-approved models shall be in accordance with the procedures, (including crash testing), established by the Transportation Laboratory Structures Research Section. For information regarding submittal of new designs for evaluation contact:

Transportation Laboratory
Structures Research Section
P. O. Box 19128
5900 Folsom Boulevard
Sacramento, CA 95819

New TMCCs proposed as equal to approved TMCCs or approved TMCCs determined by the Engineer that need recertification shall not be used until approved or recertified by the Transportation Laboratory Structures Research Section.

B. Temporary Laneline and Edgeline Delineation

Whenever lanelines or edgelines are obliterated, the minimum delineation to be provided at all times, shall consist of either temporary reflective raised pavement markers placed at longitudinal intervals of not more than 24 feet, or temporary traffic stripe (paint). Temporary traffic stripe (paint) shall be used on the dense grade only. The temporary pavement delineation to be provided shall be equivalent to the pattern specified for the permanent pavement delineation for the area, as determined by the Engineer.

Temporary reflective raised pavement markers shall be placed in accordance with the manufacturer's instructions and shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place pavement markers.

Temporary reflective raised pavement markers shall be one of temporary pavement markers listed for short term day/night use (14 days or less) in "Prequalified and Tested Signing and Delineation Materials," mentioned elsewhere in these Special Provisions.

Temporary removable pavement marking tape shall be used to represent pavement markings on the dense grade only, as determined by the Engineer.

Full compensation for furnishing, placing, and maintaining the temporary reflective raised pavement markers or temporary traffic stripe (paint) used for temporary laneline and/or centerline delineation, as well as placing and removing the temporary removable pavement marking tape, shall be considered as included in the contract price paid for the item "Traffic Control," and no additional compensation will be made therefor.

C. Temporary Driveway Closure

At the location of the new driveway (STA 468+56.90), as shown on the plans, public access shall be restricted during construction. Type III Barricade, found on plan sheet A73C of the Caltrans 2006 Standard Plans, shall be temporarily placed by the Contractor.

8. <u>MAINTAINING TRAFFIC</u> (Continued)

Full compensation for furnishing, placing, maintaining and removing the temporary barricade, shall be considered as included in the contract price paid for the item "Traffic Control," and no additional compensation will be made therefor.

D. Temporary Railing (Type K)

During the relocation of existing metal beam guard railing and the installation of new metal beam guard railing, the Contractor shall place temporary railing (Type K) when no metal beam guard railing is in place. Temporary Railing (Type K) can be found on plan sheet T3 of the Caltrans 2006 Standard Plans.

The temporary railing shall be placed from STA 457+86 to STA 463+39 and from STA 466+03 to STA 471+50, as shown on plans.

Full compensation for furnishing, placing, maintaining and removing the temporary railing, shall be considered as included in the contract price paid for the item “Traffic Control,” and no additional compensation will be made therefor.

9. EXISTING HIGHWAY FACILITIES

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these special provisions.

Pavement markers shall be removed from the existing pavement within the construction area. The removed markers shall be disposed of off the roadway right-of-way.

Disposal of the markers and graded shoulder debris outside the highway right-of-way shall be done in accordance with Section 7-1.13, “Disposal of Material Outside the Highway Right-of-Way,” of the Standard Specifications and as determined by the Engineer.

Full Compensation for removing and disposing of pavement markers and graded shoulder debris, as specified herein, shall be considered as included in the prices paid for the various contract items of work and no additional payment will be allowed therefor.

A. Pavement Grinding

Pavement grinding, where required, shall be done at the locations as shown on the plans and as determined by the Engineer. Pavement grinding shall be in accordance with Section 42-2, “Grinding” of the Standard Specifications and these Special Provisions.

Unless otherwise determined by the Engineer, the pavement grinding residue shall be disposed of off of the roadway right-of-way. However, upon approval by the Engineer, the residue may be used in parking area embankment construction, or for shoulder backing material.

Pavement grinding residue used as shoulder backing material shall not be larger than 1½ inches in any dimension.

9. EXISTING HIGHWAY FACILITIES (Continued)

The contract lump sum price paid for the item “Pavement Grinding,” as specified herein, shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in grinding the existing pavement as well as removing and relocating the residue, and no additional compensation will be allowed therefor.

10. CLEARING AND GRUBBING

Clearing and grubbing shall conform to the provisions in Section 16, "Clearing and Grubbing," of the Standard Specifications and these Special Provisions. Clearing limits shall be as determined by the Engineer.

Clearing and grubbing shall include the removal of all existing rock that is higher then ½” from the existing surface within the project limits and in areas designated by the Engineer.

Clearing and grubbing shall also include cleaning and regrading the roadside ditches and shoulders after reconstruction, and parking lot and pedestrian areas, as determined by the Engineer.

During the various operations of work the Contractor shall locate and protect the root systems of trees and shrubs from damage within the project limits.

Nothing herein shall be construed as relieving the Contractor of his responsibility for final cleanup of the highway as provided in Section 4-1.02, "Final Cleaning Up," of the Standard Specifications.

Full compensation for removing and disposing of vegetation, removing all existing rock that is higher then ½”, protecting tree and shrubbery roots from damage, removing objectionable material, cleaning and regrading ditches and shoulders, as specified herein and as determined by the Engineer, shall be considered as included in the contract lump sum price paid for the item “Clearing and Grubbing,” and no additional payment will be made therefor.

11. DEVELOP WATER SUPPLY

Developing water supply shall conform to the provisions in Section 10, "Dust Control," and Section 17, "Watering," of the Standard Specifications and these Special Provisions.

The Contractor shall water soils susceptible to wind erosion at least twice per day during construction or as directed by they project engineer.

Full compensation for applying water for all the various phases of work, including applying water for dust control, all as determined by the Engineer, shall be considered as included in the lump sum price paid for the item “Develop Water Supply,” and no additional compensation will be allowed therefor.

12. EARTHWORK

Roadway excavation shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Special Provisions.

12. EARTHWORK (Continued)

Subgrade shall be compacted in conformance to the provisions in Section 19-5.03, "Relative Compaction (95 percent)," of the Standard Specifications except that the provisions in the second paragraph of section 19-5.03 will not apply in areas of excavation.

The Contractor’s attention is directed to the native soil conditions throughout the project location. The native material is volcanic in nature and is partially covered with a thin layer of topsoil. Installation of posts for the metal beam guard railing, terminal sections and anchor assemblies may require “jack hammering” or drilling due to difficult excavation.

It is anticipated that there will be a deficit of approximately **34.0** cubic yards of excavated material. As an order of work, surplus excavated material shall be used for the subbase construction of the speed change lanes on Skyway, and then used for the construction of the

parking lot area. The anticipated deficit of **34.0** cubic yards of excavated material shall be replenished with Class II Aggregate Base in accordance with Section 13, "Aggregate Base," of these Special Provisions and as determined by the Engineer. All excavation quantities are calculated as in situ or "in place" and shall be paid for accordingly. No expansion due to excavation will be considered for excavation payment quantities.

The contract unit price paid per cubic yard for the item "Earthwork," shall include full compensation for furnishing all labor, material

ls, tools, equipment, incidentals, and for doing all work in removing, hauling and disposal of the excess material as well as grading and compacting the in place material, all as specified herein, and as determined by the Engineer.

In the course of construction, should any material be encountered that is deemed by the Engineer to be unsuitable material, the Contractor shall excavate and dispose of the material according to the requirements detailed in the previous paragraph. After the unsuitable material has been removed and disposed of the resulting space shall be filled with suitable material approved by the Engineer. The resultant volume shall be measured and the amount added to the amount of cubic yards of roadway excavation for payment. Payment shall include full compensation for doing all the work furnishing the equipment and personnel needed for the removal and disposal of unsuitable material as well as furnishing and placing suitable material.

13. AGGREGATE BASE

Aggregate base shall be Class II, ¾ inch maximum grading, and shall conform to the provisions in Section 26, "Aggregate Bases," of the Standard Specifications and these Special Provisions.

For landscaping purposes, the upper 6 inches of all surface material that is to be exposed within the parking lot area, shall be a dark colored 3/4" aggregate, which can be purchased from Martin Marietta Materials – Table Mt. Quarry in Oroville, California, or from a location that offers equivalent material and is approved by the Engineer.

The contract price paid per ton for the item "Aggregate Base (Class II)" shall include full compensation for doing all the work involved in furnishing, hauling, grading, compacting and

13. AGGREGATE BASE (Continued)

moisture conditioning all aggregate base areas referenced on the plans and as determined by the Engineer, and no additional compensation will be allowed therefor.

14. LIQUID ASPHALT PRIME COAT AND SAND COVER

Liquid asphalt prime coat shall be Grade SC-250, or as otherwise determined by the Engineer, and shall conform to the provisions in Section 39, "Liquid Asphalts," and in Section 39-4.02, "Prime Coat and Paint Binder (Tack Coat)," of the Standard Specifications and these special provisions.

At locations where public traffic is being routed over the roadbed to be treated, the prime coat shall not be applied to more than one-half the width of the traveled way at a time, and the

remaining width shall be kept free of obstructions and open for use by public traffic until the prime coat first applied is sanded.

Liquid asphalt shall not be applied when the atmospheric temperature is below 50 degrees Fahrenheit.

Full compensation for placing liquid asphalt prime coat shall be paid for by the ton and considered as included in the item “Liquid Asphalt, Prime Coat,” and no additional compensation will be allowed therefor.

After the application of the liquid asphalt, the surface shall be covered with sand at the time determined by the Engineer and conforming to these Special Provisions.

Sand cover shall be free from clay and organic material and shall be of such size that from 90 percent to 100 percent will pass through a No. 4 size sieve and not more than 5 percent will pass a No. 200 size sieve and shall be spread uniformly at the approximate rate of 12 to 15 pounds per square yard. The exact spread rate shall be as determined by the Engineer. All loose sand shall be removed from the treated area at a time determined by the Engineer. The treated surface shall be maintained in a smooth and satisfactory condition.

Full compensation for placing all sand shall be paid for by the ton and considered as included in the item “Sand Cover,” and no additional compensation will be allowed therefor.

No adjustment in compensation will be made for any increase or decrease in the quantity of liquid asphalt (prime coat) or sand cover, regardless of the reason for such increase or decrease. The provisions in Section 4-1.03B, “Increased or Decreased Quantities,” of the Standard Specifications shall not apply to the contract items “Paving Asphalt Binder,” and “Sand Cover,” which may be deleted in their entirety.

15. ASPHALT CONCRETE

Asphalt concrete shall be Type A, ½ inch Maximum, Medium grading and shall conform to the provisions in Section 39, "Asphalt Concrete," of the Standard Specifications and these Special Provisions.

15. ASPHALT CONCRETE (Continued)

All asphalt concrete leveling courses, should they be required, shall be considered as included with and paid for by the item “Asphalt Concrete” and no additional compensation will be allowed therefor.

The grade of paving asphalt shall be **PG 64-10** or as determined by the Engineer and shall conform to the provisions of Section 92, "Asphalts," of the Standard Specifications.

If the Contractor selects the batch mixing method, asphalt concrete shall be produced by the automatic batch mixing method as provided in Section 39-3.03A(2), “Automatic Proportioning,” of the Standard Specifications.

An asphalt paint binder shall be required on all existing pavements prior to placing asphalt concrete and shall conform to Section 39, “Asphalt Concrete,” of the Standard

Specifications. Paint binder shall be either paving asphalt grade PG 64-10 or Asphaltic Emulsion SS-1.

The amount of asphalt binder to be mixed with the aggregate shall be determined by the Engineer and shall conform to the provisions of Sections 39-3.03, "Proportioning," and Section 92, "Asphalts," of the Standard Specifications.

Full compensation for furnishing and placing the asphalt paint binder shall be included in the contract price paid per ton for the item “Asphalt Concrete (type A ½” Maximum, Medium Grading),” and no additional compensation will be allowed therefor.

Longitudinal pavement joints shall be at lanelines established by the Engineer. Driveways and intersections are to be paved as determined by the Engineer. Unless otherwise permitted by the Engineer, mainline paving shall be completed prior to placement of any other paving.

Driveway paving shall not be done until placement of the adjacent mainline paving has been completed.

Asphalt concrete used in the construction of driveways shall be Type A ½” (Maximum, Medium grading.” Payment for furnishing and placing the asphalt concrete used in the paving of driveways and intersections shall be paid for at the contract price per ton for the item “Asphalt Concrete,” and no additional compensation will be allowed therefor.

Asphalt Concrete “Miscellaneous Areas” shall conform to the provisions of Section 39-7.01, “Miscellaneous Areas,” of the Standard Specifications. Miscellaneous Areas shall include a portion of the pathway leading to the lookout platform as well as other areas outside the traveled way which may be designated on the plans or areas as determined by the Engineer.

Miscellaneous Asphalt Concrete shall be paid for at the contract price per ton for the item “Asphalt Concrete,” and also for placement at the contract price per square yard for the item “Asphalt Concrete (misc. areas),” as included in Section 39-8.02, “Payment,” of the Standard Specifications and no additional compensation will be allowed therefor.

In addition to the requirements in Section 39-5.01, “Spreading Equipment,” of the Standard Specifications, asphalt paving equipment shall be equipped with automatic screed controls and sensing devices.

15. <u>ASPHALT CONCRETE</u> (Continued)

When placing the initial mat of asphalt concrete, the end of the screed nearest the centerline, shall be controlled by a sensor activated by a ski device not less than twenty nine feet in length. The opposite end of the screed shall be controlled by an automatic transverse slope device set to produce the cross slope to match the existing slope or as otherwise determined by the Engineer.

When paving contiguously with a previously placed mat, 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 0.02 of a foot tolerance. The opposite end of the screed shall be controlled in the same manner mentioned in the paragraph above.

All paving operations shall be discontinued should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the requirements in Section 39-6.03, "Compacting," of the Standard Specifications, these special provisions and as determined by the Engineer. Upon approval by the Engineer, the Contractor may resume paving operations following modifications to the existing equipment, procedures or furnish substitute equipment.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of spreading equipment for the remainder of the day, however, the equipment shall be repaired or replaced with equipment conforming to the requirements in this section before starting another day's work.

The Contractor shall schedule his paving operations such that each layer of asphalt concrete is placed on contiguous lanes along the traveled way. At the end of each work shift, the distance between the ends of the layers of asphalt concrete on adjacent lanes shall not be greater than 10 feet nor less than 5 feet. Additional paving shall be placed along the transverse edge at the end of each lane and along the exposed longitudinal edges between adjacent lanes, hand raked and compacted to form temporary conforms. Kraft paper, or other approved bond breaker shall be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.

Full compensation for furnishing and placing the Kraft paper or other bond breaking material on the pavement joints shall be included in the contract prices paid for the various items of work and no other compensation will be allowed therefor.

During and after the rolling operations and when ordered by the Engineer, the asphalt concrete may be cooled by applying water. Applying water shall conform to the provisions in Section 17, "Watering." of the Standard Specifications. No layer shall be cooled with water unless ordered or permitted by the Engineer.

Full compensation for furnishing and applying water during rolling operations will be considered as included in the contract price paid per ton for "Asphalt Concrete," and no additional compensation will be allowed therefor.

15. <u>ASPHALT CONCRETE</u> (Continued)

Asphalt concrete shall be compacted to a relative compaction of not less than 95 percent and shall be finished to the lines and cross sections as shown on the plans and as determined by the Engineer.

Asphalt concrete pavement shall conform to the straightedge requirements in Section 39-6.03, "Compacting," of the Standard Specifications and these Special Provisions.

Areas of the top surface of the uppermost layer of asphalt concrete that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding followed with the application of a fog seal coat on the ground areas.

Deviations in excess of 0.03 of a foot which, cannot be brought to the specified tolerances by abrasive grinding shall be corrected by either (1) removal and replacement; or (2)

placement of an asphalt concrete overlay. The Contractor shall select the corrective method for each area with approval by the Engineer prior to the beginning of corrective work.

Any replacement and/or overlay pavement not meeting the specified tolerances shall be corrected by the aforementioned methods as approved by the Engineer.

The abrasive grinding used to bring the finished surface of the asphalt concrete within specified surface tolerances may be expanded in each direction so that the lateral limits of the
grinding are at a constant offset from and parallel to the nearest lane line or pavement edge, while the longitudinal grinding limits are normal to the pavement centerline. All ground areas shall be uniform in appearance and rectangular in shape.

Abrasive grinding shall conform to the requirements in the first paragraph and the last four paragraphs in Section 42-2.02, "Construction," of the Standard Specifications.

Full compensation for doing all the work in performing profile checks, supplying all required tools, equipment and materials, performing all corrective work to the pavement surface including abrasive grinding, furnishing and placing asphalt concrete for use in removal and replacement as well as the asphalt concrete overlay methods of correction shall be borne by the Contractor and no additional payment will be made therefor.

Full compensation for placing asphalt concrete shall be paid for by the ton and considered as included in the item "Asphalt Concrete," and no additional compensation will be allowed therefor.

16. <u>ASPHALT CONCRETE (OPEN GRADED)</u>

Asphalt concrete (Open Graded) shall be placed on all new overlay segments and shall be Type 3/8" maximum grading and shall conform to the provisions in Section 39 "Asphalt Concrete" and 39-6, "Spreading and Compacting", of the Standard Specifications and these special provisions.

The grade of paving asphalt shall be **PG 64-10** or as determined by the Engineer and shall conform to the provisions of Section 92 "Asphalts," of the Standard Specifications.

16. <u>ASPHALT CONCRETE (OPEN GRADED)</u> (Continued)

Open graded asphalt concrete shall be spread by depositing the mix on the roadbed in windrows, then transferring it to an asphalt paver by means of a pick-up machine attached to the asphalt paver.

The aggregate for open graded asphalt concrete shall have a Cleanness Value of a 63 minimum for "Contract compliance" and a 66 minimum for "Operating Range" as determined by California Test method 227, modified as follows; Samples will be obtained from the weight box area during or immediately after discharge from each bin of the batching plant. The bin samples will be blended together in the proportion that each leg is being used in combined mix to make the test sample.

The test specimen will be prepared by hand shaking, for 30 seconds, a single loading of the entire test sample on an 8-inch diameter No. 4 sieve nested on top of an 8-inch diameter No. 8

sieve. That material retained on the aforementioned sieves shall be recombined and shall comprise the test specimen. The test specimen weight and wash water volume specified for seal coat screenings will be used to determine the Cleanness Value.

At drier drum and continuous plants with cold feed control, Cleanness Value test samples will be obtained from the discharge of each coarse aggregate storage bin. An aggregate sampling device shall be provided by the material suppliers, which will provide a 50-pound sample of each coarse aggregate.

If the results of the Cleanness Value tests do not meet the requirements specified for "Operating Range" but meet the "Contract Compliance" requirements, placement of the material may be continued for the remainder of the day. However, another day's work may not be started until tests, or other information, indicate, to the satisfaction of the Engineer, that the next material to be used in the work will comply with the requirements specified for "operating range".

If results of the Cleanness Value tests do not meet the requirements specified for "contract compliance," the material, which is represented by these tests, shall be removed. However, if requested by the Contractor and approved by the Engineer, said material having a Cleanness Value of 48 or greater may remain in place and accepted on a basis of reduced payment for all such material left in place.

Asphalt concrete (open graded) that is accepted on the basis of reduced payment will be paid for at the contract prices for the items of asphalt concrete involved multiplied by the following factors;

Test Value	**Pay Factor**
56	**0.90**
55	**0.85**
54	**0.80**
53	**0.75**
52	**0.70**
51	**0.65**
50	**0.60**
49	**0.55**
48	**0.50**

16. <u>ASPHALT CONCRETE (OPEN GRADED)</u> (Continued)

If asphalt concrete is accepted on the basis of reduced payment due to a cleanliness value range of 48 to 56, and also accepted on the basis of aggregate Grading or Sand Equivalent tests not meeting the "Contract Compliance" requirements, the reduced payment for Cleanness Value shall not apply.

Full compensation for furnishing and applying the paint binder tack coat (**SS-1 or PG 64-10**), as specified in Section 39-4.02, "Prime Coat and Paint Binder (Tack Coat)," of the Standard Specifications, shall be included in the contract price paid per ton of "Asphalt Concrete (Open Graded" and no additional compensation will be allowed therefor.

17. <u>ASPHALTIC EMULSION (FOG SEAL COAT)</u>

Asphaltic emulsion (fog seal coat) shall be the asphaltic emulsion designation SS-1H and shall conform to Sections 37-1, "Seal Coats," and 39, "Asphalt Concrete," of the Standard Specifications and these Special Provisions.

No adjustment in compensation will be made for any increase or decrease in the quantity of fog seal required, regardless of the reason for such increase or decrease. The provisions in Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply to the item of "Asphaltic Emulsion (Fog Seal Coat)," which may be eliminated in its entirety.

18. CORRUGATED STEEL PIPE ARCH

Corrugated steel pipe shall be 0.079 inch thick and conform to the provisions in Section 66, "Corrugated Metal Pipe," of the Standard Specifications and these Special Provisions. Pipe joints shall conform to the plans or specifications for standard joints.

Structure backfill shall have a sand equivalent value of not less than 30. As an alternative backfill material the Contractor may use a slurry cement backfill that conforms to the provisions in Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications. However, additional compensation for the use of the slurry cement backfill alternative will not be allowed.

Payment for all the excavation and grading required for the inlet and outlet ditches shall be considered as included in the contract price paid per linear foot of the adjacent pipe and no additional compensation will be allowed therefor.

19. STREETPRINT-COLOR ONLY

http://www.integratedpaving.com/

DEFINITIONS

A. **Accredited StreetPrint Applicator** is a licensed StreetPrint applicator who holds a Level 1 or higher certificate of accreditation as offered by Integrated Paving Concepts, Inc. (Tel. 1-800-688-5652). StreetPrint applicators are reviewed on an annual basis and certificates are valid only for the calendar year. All StreetPrint applicators have a

19. STREETPRINT-COLOR ONLY (Continued)

foreman, supervisor or lead-hand that has successfully completed a StreetPrint Level I or Level II Training Program.

1. **Level 1** accreditation indicates that the Accredited StreetPrint Applicator has completed Level 1 training and typically completes a minimum of 20,000 sf of StreetPrint per year.
2. **Level 2** accreditation indicates that the Accredited StreetPrint Applicator has completed both Level 1 and Level 2 training and typically completes a minimum of 30,000 sf of StreetPrint per year.
3. **Level 3** accreditation indicates that the Accredited StreetPrint applicator has completed both Level 1 and Level 2 training and typically completes a minimum of 80,000 sf of StreetPrint per year.

SUBMITTALS

A. A copy of the current year Level 1, 2 or 3 accreditation certificate available from the qualified StreetPrint Applicator.
B. Confirmation of the name of the certified supervisor who will be performing the on-site work on behalf of the accredited StreetPrint Applicator.
C. Certificates of Analysis for StreetBond Sp150E coating.
D. Confirmation of coating color.

PRODUCTS

A. **SteetBond SP150E** is an epoxy modified acrylic, waterborne coating. StreetBond SP150E may be applied directly to the surface.

1. Typical physical properties of StreetBond SP150E:

Characteristic	Test Specification	SP150E
Solids by Volume	ASTM D-2697	55%
Solids by Weight	ASTM D-2369	68.9%
Density	ASTM D-1475	13.34 lbs/gal (1.599 kg/l)

19. <u>STREETPRINT-COLOR ONLY</u> (Continued)

2. Typical performance properties of StreetBond SP150E:

Characteristic	Test Specification	SP150E
Dry time (To re-coat)	ASTM D-5895 23°C; 37% RH	35 min
Taber Wear Abrasion Dry H-10/ 1000g	ASTM D-4060 g/1000 cycles 7 days cure	0.98
Taber Wear Abrasion Wet H-10/ 1000g	ASTM D-4060 g/1000 cycles 7 days cure	3.4
QUV E Accel. Weathering environment.	ASTM G-154 Delta E 1,500 hours	0.53

Hydrophobicity Water absorption	ASTM D-570	8.3% (9 days immersion)	
Shore hardness	ASTM D-2240	63 Type D	
Mandrel Bend	ASTM D522-93A	1/4" @ 21° C	
Permeance	ASTM D1653	3.45 g/m²/hr (52 mils)	
Adhesion to Asphalt	ASTM D-4541	Substrate Failure	
Friction Wet	ASTM E-303 British Pendulum Tester	WP* coated	64
		WP* uncoated	57
		AC** coated	73
		AC** uncoated	60

*WP-test conducted on asphalt in wheel path
**AC-test conducted on asphalt adjacent to curb

B. **StreetBond Colorant** is a highly concentrated, high quality, UV stable pigment blend designed to be added to StreetBond SP150E coating to provide color to the coating. The color to be applied shall be "Sierra" and shall be verified in the field by the Engineer prior to application. One pint of colorant shall be used with one pail of StreetBond SP150E.
C. **StreetBond Primer** is formulated to enhance the adhesion of StreetBond coatings.

EQUIPMENT

The following equipment is proprietary and is an integral part of the proper application of StreetBond SP150E. This equipment is available only from Integrated Paving Concepts Inc. and can only be used by Accredited StreetPrint applicators who have been properly trained to use the equipment.

A. Rapid Spayer II is a proprietary coating sprayer supplied by Integrated Paving Concepts Inc. and is capable of applying the coating material to the surface in a thin, controlled film which will optimize the drying and curing time of the coating.

B. StreetBond Coatings mixer is a motorized mixing device designed exclusively for use with StreetBond coatings.

19. <u>STREETPRINT-COLOR ONLY</u> (Continued)

SURFACE PREPARATION

The surface shall be dry and free from all foreign matter, including but not limited to dirt, dust, and chemical residue.

APPLICATION

A. The StreetPrint Accredited applicator shall use the Rapid Spayer II to apply the StreetBond SP150E. The color of the coating system shall be specified in the field by the Engineer.
B. The surface to be coated shall be completely dry and thoroughly cleaned prior to application of coatings.
C. StreetBond Primer shall be applied to the surface once completely dried and cleaned.

D. The first layer of coating shall be spray applied then broomed to work the material into the pavement surface. Subsequent applications shall be sprayed then broomed or rolled. Three (3) layers of SP150E shall be applied to both the pathway and lookout platform areas. Each application of coating material shall be allowed to dry to the touch before applying the next layer.

E. The applicator shall apply StreetBond SP150E only when the air temperature is at least 50º F and rising, and will not drop below 50º F within 8 hours of application of the coating material. There should be no precipitation expected within 2 hours after the final layer of StreetBond Sp150E id dry to touch.

COATING COVERAGE AND THICKNESS

	COVERAGE (approx.)	THICKNESS (approx.)			
SPRAY PASSES	SF/pail	WET		DRY	
		mm	mil	mm	mil
3	225	0.65	25.7	0.36	14.1
4	175	0.87	34.3	0.48	18.9

OPENING TO PEDESTRIAN TRAFFIC

Minimally, the StreetBond SP150E coating must be 100% dry before traffic is permitted.

Air Temperature	Relative Humidity	Time to dry (approx.)
60°F (15°C)	80%	8 hours
81°F (27°C)	57%	4 hours
120°F (49°C)	5%	2 hours

19. <u>STREETPRINT-COLOR ONLY</u> (Continued)

MEASUREMENT AND PAYMENT

Full compensation for furnishing and applying the StreetBond Primer, StreetBond Colorant and StreetBond SP150E shall be included in the contract price paid per square foot of "Streetprint-Color Only" and no additional compensation will be allowed therefor.

20. <u>REINFORCEMENT</u>

Bar reinforcing steel shall conform to the provisions in Section 52, "Reinforcement," of the Standard Specifications and these Special Provisions.

The first paragraph of Section 52-1.02A, "Bar Reinforcement," of the Standard Specifications is amended as follows:

"Reinforcing bars shall be low alloy steel deformed bars conforming to the specifications of ASTM Designation: A 706, except that bars conforming to the specifications of ASTM Designation: A 615, Grade 40 or 60 may be used as reinforcement in the following:

1. Slope and channel paving.
2. Minor Structures.
3. Sign and signal foundations (pile and spread footings).
4. Roadside rest facilities.
5. Concrete barrier Type 50 series and temporary railings.

Deformations specified in ASTM Designation: A 706 will not be required on bars used as spiral or hoop reinforcement in structures and concrete piles."

Bar reinforcing steel to be furnished and placed in the construction of the concrete bumpers shall conform to the specifications of ASTM Designation: A 706.

In lieu of the measurement and payment provisions outlined in Sections 52-1.10, "Measurement" and 52-1.11, "Payment," of the Standard Specifications the costs for furnishing and placing the bar reinforcing steel in the concrete bumpers shall be considered as included in the contract final pay quantity for the items "Reinforced Concrete Platform," and "Precast Concrete Bumper," respectively, and no additional payment will be allowed therefor.

21. <u>PRECAST CONCRETE BUMPER</u>

Attention is directed to "Reinforcement" found in this current Section of these Special Provisions.

Precast concrete bumpers for the Skyway Lookout Point parking lot shall conform to the specifications on Sheet 3 of the plans entitled "Plans for the Construction of Skyway Lookout Point Parking and Pedestrian Viewing Facility".

The contract unit price paid for each precast concrete bumper shall include full compensation for furnishing all labor, tools, materials, and equipment, and for doing all the work involved in precasting and placing the concrete bumper as specified on the plans, and as determined by the Engineer, and no additional compensation will be allowed therefor.

22. <u>REINFORCED CONCRETE PLATFORM</u>

Attention is directed to "Reinforcement" found in this current Section of these Special Provisions.

The reinforced concrete platform for the Skyway Lookout Point viewing facility shall conform to the specifications on Sheet 3 of the plans entitled "Plans for the Construction of Skyway Lookout Point Parking and Pedestrian Viewing Facility".

Full compensation for furnishing all labor, materials (including reinforcement), tools, equipment and incidentals, and for doing all the work involved in the construction of the reinforced concrete platform shall be included in the contract price paid per square foot for the item "Reinforced Concrete Platform" and no additional compensation will be allowed therefor.

23. <u>BENCHES</u>

Benches shall be recycled plastic benches and shall be permanently mounted onto the concrete lookout platform at locations specified on the plans. Benches with Model #T6-1501 (5 ft.) shall be purchased from the following company or an equivalent company as approved by the Engineer:

Barco Products
1-800-338-2697
www.barcoproducts.com

Full compensation for furnishing all labor, material, tools, equipment and incidentals and for doing all the work involved in assembling, mounting and installing the benches shall be considered as included in the contract unit price paid for each of the items "Benches," and no additional compensation will be allowed therefor.

24. SURFACE FINISH

Attention is directed to Section 51-1.18, "Surface Finishes" and Section 83-2.04D(4) "Finishing," of the Standard Specifications and these Special Provisions.

All exposed surfaces including the edge of the platform, involved or affected by contract work or actions of the Contractor, shall require a Class 1 Surface Finish as directed by the Engineer.

The proportion of Portland cement to sand, for surface finishing, shall not exceed 1 part cement to 2 parts of fine sand and sufficient water for a thick, creamy consistency as directed by the Engineer.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the surface finish as directed by the Engineer, shall be included in the price paid per square foot for the item "Reinforced Concrete Platform," and no additional compensation will be allowed therefor.

25. 3/8" FINES (CRUSHER DUST)

Attention is directed to Section 10, "Dust Control," and Section 17, "Watering," of the Standard Specifications and Section 11, page SPF-37, "Develop Water Supply," of these Special Provisions.

In areas designated on the Plans and by the Engineer, Crusher Dust (3/8" Fines) shall be hand-racked into place by the Contractor. Crusher Dust can be purchased from Martin Marietta Materials – Table Mt. Quarry in Oroville, California.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the placement of the 3/8" Fines (Crusher Dust) as directed by the Engineer, shall be included in the price paid per ton for the item "3/8" Fines (Crusher Dust) or ¾" Aggregate Base," and no additional compensation will be allowed therefor.

26. REMOVE METAL BEAM GUARD RAILING (WOOD POST)

Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and Section 8 on page SPF-31, "Maintaining Traffic," of these Special Provisions. The existing sections of metal beam guard railing to be removed are at locations as shown on the plans and as determined by the Engineer.

Removed metal beam guard railing and posts **that are not to be relocated,** in the event of damage, **shall** become the property of the Contractor and shall be disposed of outside the roadway right of way limits in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications and these Special Provisions.

The removed metal portions of the metal beam guard railing shall NOT be disposed of at the Neal Road Landfill without prior approval of the landfill managers. However, Chico Scrap Metal, a metal recycling facility, is located in the City of Chico on at 878 E. 20th Street, approximately 9.0 miles from the project site.

Payment for furnishing all the labor, materials, tools, and equipment needed for the removal of the metal beam guardrails, signs, delineators and posts shall be included in the contract price paid per linear foot for the item "Remove Metal Beam Guard Railing (Wood Post)" and no additional compensation will be allowed therefor.

As determined by the Engineer, existing concrete anchors, terminal anchor assembly, or steel foundation tubes shall be completely removed and disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way", of the Standard Specifications and these Special Provisions. Full compensation for removing said facilities shall be considered as included in the contract price paid per linear foot for the item "Remove Metal Beam Guard Railing (Wood Post)" and no separate payment will be made therefor.

27. RELOCATE METAL BEAM GUARD RAILING (WOOD POST)

The Contractor's attention is directed to the native soil conditions throughout the project location. The native material is volcanic in nature and is partially covered with a thin layer of topsoil. Installation of posts for the metal beam guard railing, terminal sections and anchor assemblies may require "jack hammering" or drilling due to difficult excavation.

All proposed guardrail material, hardware and posts are subject to the "Buy American Requirements" of this contract and shall be approved by the Engineer prior to relocation. Metal beam guard railing shall be constructed in conformance with the provisions in Section 83-1, "Railings," of the Standard Specifications and these Special Provisions.

Line posts and blocks shall be wood. The ninth, eleventh, and twelfth paragraphs in Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications are amended to read:

Wood posts and blocks shall be timbers no. 1 (structural) grade Douglas fir or timbers no. 1 grade Southern yellow pine. Wood posts and blocks shall be graded in accordance with the provisions in Section 57-2, "Structural Timber," except allowances for shrinkage after mill cutting shall in no case exceed 5 percent of the American Lumber Standards minimum sizes, at time of installation.

Wood posts and blocks shall be pressure treated after fabrication as provided in Section 58, "Preservative Treatment of Lumber, Timber and Piling," with creosote, creosote-coal tar solution, creosote-petroleum solution (50-50), pentachlorophenol in hydrocarbon sol.

The Contractor shall furnish and install Type "F" reflective delineators on every 12th metal beam guard railing wood post as depicted on the Standard Plan sheets A73C and A77CF.

Payment for furnishing and installing the Type "F" delineators shall be included in the contract price paid per linear foot for the item "Relocate Metal Beam Guardrail (Wood Post)" and no additional compensation will be allowed therefor.

Terminal facilities shall be placed as specified, unless otherwise approved by the Engineer.

Attention is directed to Sections 6, 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and Section SPF-6, "Maintaining Traffic," of these Special Provisions. The existing sections of metal beam guard railing and posts, including delineators and signs, to be removed or relocated are at locations as shown on the plans and as determined by the Engineer.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in the relocation of the metal beam guard rail, posts, delineators and signs shall be included in the contract price paid per linear foot for the item "Relocate Metal Beam Guard Railing (Wood Post)" and no additional compensation will be allowed therefor.

28. INSTALL METAL BEAM GUARD RAIL (WOOD POST)

Attention is directed to this section, "Relocate Metal Beam Guard Railing (Wood Post)" of these Special Provisions.

The installation of new metal beam guard rail along the radii of the new driveway, located at STA 468+56.90, shall adhere to the above-mentioned reference.

The installation of all new metal beam guard rail at all additional locations requiring new metal beam guard rail due to damage, shall also adhere to the above-mentioned reference.

Metal beam guard railing terminal sections, Type C, shall conform to Caltrans "Standard Plans for Construction of Local Streets and Roads," dated July 2002, standard plan A77B.

Full compensation for furnishing all labor, materials (including terminal sections), tools, equipment and incidentals, and for doing all the work involved in the installation, removal,

hauling and disposal of the guard rail, posts and Type "F" delineators shall be included in the contract price paid per linear foot for the item "Install Metal Beam Guard Rail" and no additional compensation will be allowed therefor.

29. BLACK POWDER-COATED CLIFF RAILING

Cliff Railing shall comply with the current ADA provisions and shall be field-fit by the Engineer and shall not exceed 240'.

The Contractor's attention is again directed to the native soil conditions throughout the project location. The native material is volcanic in nature and is partially covered with a thin layer of topsoil. Care should be taken not to damage the fence posts during installation.

All proposed fencing material, hardware and posts are subject to the "Buy America Requirements" of this contract and shall be approved by the Engineer prior to installation.

The contract price paid per linear foot for the item "Black Powder-Coated Cliff Railing" shall include full compensation for furnishing all the labor, materials, tools, and equipment needed for the placement of the cliff railing, and no additional compensation will be allowed therefor.

30. REG, WARNING AND GUIDE SIGNS

All regulatory, warning and guide signs shall comply with the 2006 "California Manual on Uniform Traffic Control Devices for Streets and Highways".

The lump sum price paid for each regulatory, warning and guide sign shall include full compensation for furnishing all labor, tools, materials, and equipment, and for doing all the work involved in installing the signs as specified on the plans, and as determined by the Engineer, and no additional compensation will be allowed therefor.

31. FENCING – TEMPORARY ORANGE CONSTRUCTION MESH

Temporary orange construction type mesh fencing shall be placed around the trees within the project area. Metal posts shall be used to secure the netting in place. All posts shall be driven

31. FENCING – TEMPORARY ORANGE CONSTRUCTION MESH (Continued)

to a depth such that the metal skags of the posts are no longer visible. Construction netting shall be at least 48-inches in height from the existing surface to the top of temporary netting.

The Contractor's attention is again directed to the native soil conditions throughout the project location. The native material is volcanic in nature and is partially covered with a thin layer of topsoil. Installation of posts for the metal beam guard railing, terminal sections and anchor assemblies may require "jack hammering" or drilling due to difficult excavation.

All proposed fencing material, hardware and posts are subject to the "Buy America Requirements" of this contract and shall be approved by the Engineer prior to installation. The contract price paid per linear foot for the item "Fencing – Temporary Orange Construction Mesh" shall include full compensation for furnishing all the labor, materials, tools, and equipment needed for the placement of the fencing, and no additional compensation will be allowed therefor.

32. CONSTRUCT BLACK VINYL-CLAD FENCING

Type CL-4 and CL-6 (chain link, black vinyl-clad) fencing shall conform to the provisions in Section 80, “Fences,” of the Standard Specifications, Plan Sheet A85 of the Standard Plans and these Special Provisions.

The Contractor’s attention is again directed to the native soil conditions throughout the project location. The native material is volcanic in nature and is partially covered with a thin layer of topsoil. Installation of posts for the metal beam guard railing, terminal sections and anchor assemblies may require “jack hammering” or drilling due to difficult excavation.

All proposed fencing material, hardware and posts are subject to the “Buy America Requirements” of this contract and shall be approved by the Engineer prior to installation.

The contract price paid per linear foot for the items “Construct Type CL-4 Black Vinyl-Clad Fencing” and “Construct Type CL-6 Black Vinyl-Clad Fencing” shall include full compensation for furnishing all the labor, materials, tools, and equipment needed for the construction of the fencing, and no additional compensation will be allowed therefor.

33. THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS

Thermoplastic traffic stripes (traffic lines) 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.

Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.080 inch.

Thermoplastic lettering stencils shall have the same dimensions as the “Hawkins Traffic Safety Supply” M8H Series. A copy of the stencil dimensions is available for review at the office of the Director of Public Works. Traffic arrows shall be of the dimensions pursuant to those shown in the State of California, Department of Transportation’s Standard Plans.

Measurement of payment for the contract price paid per square foot of “Thermoplastic Pavement Markings” shall be the square footage for the completed markings as shown in the aforementioned Standard Plans.

33. THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS (Continued)

The State Specification Number for glass beads in Section 84-2, "Materials," of the Standard Specifications is amended to read "8010-21C-22 (Type II)".

34. PAVEMENT MARKERS (RETROREFLECTIVE)

Pavement markers shall conform to the provisions in Section 85, "Pavement Markers," of the Standard Specifications and these Special Provisions. However, the second paragraph in Section 85-1.02, "Type of Markers," of the Standard Specifications shall not apply. Certificates of compliance shall be furnished for pavement markers as specified in "Pre-qualified and Tested Signing and Delineation Materials" elsewhere in these Special Provisions.

When bituminous adhesive is used for pavement marker placement, traffic control during placement operations shall conform to the requirements of "Traffic Control System For Lane Closure," of these Special Provisions.

35. PLACEMENT OF ROCK

Rock that is to be placed along the perimeter of the parking lot, will be stockpiled on-site, by County forces before placement is required. The size of the rock will be determined by the County at the time it is stockpiled. The Contactor shall coordinate with the County as to when the rock will be delivered to the project site and will provide the County with advanced notice of at least **14 working days** before the Contractor plans to place the rock.

Locations shown on the plans where the rock is to be placed, are subject to change. The Contractor shall place the rock at locations indicated by the Engineer and spacing of rock shall not exceed 4'.

The Contractor shall protect the rock to be placed from damage at all times. At the Engineer's discretion, if the rock to be placed is damaged, the Contractor shall be responsible for loading and hauling and placing replacement rock to the project site at no extra cost to the County.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing the rock as specified in these special provisions, and as determined by the Engineer shall be included in the contract lump sum price paid for the item "Placement of Rock".

36. FINAL EROSION CONTROL (TYPE D)

Erosion control (Type D) shall conform to the provisions in Section 20-3, "Erosion Control," of the Standard Specifications and these special provisions and shall consist of applying erosion control materials to embankment and excavation slopes and other areas disturbed by construction activities.

The areas to receive the erosion control (Type D), but not limited to, are shown on Sheet 9 of the plans and represent a total area of approximately 1.3 acre. Areas disturbed for contractor staging and storage shall be hydro-seeded at the contractor's expense and are not included in the 1.3 acre. The areas shown are for estimating purposes only, the exact amount and locations shall be as determined by the Engineer.

If the slope on which the erosion control is to be placed is finished during the month of October or later, the erosion control shall be applied immediately to the slope.

36. FINAL EROSION CONTROL (TYPE D) (Continued)

Prior to installing erosion control materials, soil surface preparation shall conform to the provisions in Section 19-2.05, "Slopes," of the Standard Specifications, except that rills and gullies exceeding 2 inches in depth or width shall be leveled. Vegetative growth, temporary erosion control materials, and other debris shall be removed from areas to receive erosion control.

Materials

Materials shall conform to the provisions in Section 20-2, "Materials," of the Standard Specifications and these special provisions

Seed

Seed shall conform to the provisions in Section 20-2.10, "Seed," of the Standard Specifications. Individual seed species shall be measured and mixed in the presence of the Engineer.

Seed shall be delivered to the project site in unopened separate containers with the seedtag attached. Containers without a seed tag attached will not be accepted. A sample of approximately 30 g of seed will be taken from each seed container by the Engineer.

Legume Seed

Legume seed shall be pellet-inoculated or industrial-inoculated and shall conform to the following:

A. Inoculated seed shall be inoculated in conformance with the provisions in Section 20-2.10, "Seed," of the Standard Specifications.

B. Inoculated seed shall have a calcium carbonate coating.

C. Industrial-inoculated seed shall be inoculated with Rhizobia and coated using an industrial process by a manufacturer whose principal business is seed coating and seed inoculation.

D. Industrial-inoculated seed shall be sown within 180 calendar days after inoculation.

E. Legume seeds shall consist of genetic material collected from Central Valley or Foothills of Northern California below 2000 feet. Legume seed shall consist of the following:

36. <u>FINAL EROSION CONTROL (TYPE D)</u> (Continued)

LEGUME SEED

Botanical Name (Common Name)	Percent Germination (Minimum)	Pounds Pure Live Seed Per Acre (Slope Measurement)
*Lotus purshianus (Pershings Lotus)	70	5
*Lupinus bicolor (Pygmy-Leaf Lupine)	40	9
*Trifolium wildenovii (Tomcat Clover)	40	8

Non-Legume Seed

Non-Legume seeds shall consist of genetic material collected from Central Valley or

Foothills of Northern California below 2000 feet. Non-legume seed shall consist of the following:

NON-LEGUME SEED

Botanical Name (Common Name)	Percent Germination (Minimum)	Pounds Pure Live Seed Per Acre (Slope Measurement)
*Leymus triticoides (Creeping Wildrye)	70	12
*Bromus carinatus (California Brome)	70	9
*Elymus glaucus (Blue Wildrye)	70	9
*Nassella pulchra (Purple Needlegrass)	70	9

Commercial Fertilizer

Commercial fertilizer shall conform to the provisions in Section 20-2.02, "Commercial Fertilizer," of the Standard Specifications and shall have a guaranteed chemical analysis of 20 percent nitrogen, 11 percent phosphoric acid and 12 percent water soluble potash.

Straw

Straw shall conform to the provisions in Section 20-2.06, "Straw," of the Standard Specifications and these special provisions. Straw shall be derived from rice and shall be applied at the rate of two (2) tons/acre.

Compost

Compost shall be derived from green material consisting of chipped, shredded or ground vegetation or clean processed recycled wood products or a Class A, exceptional quality biosolids

36. <u>FINAL EROSION CONTROL (TYPE D)</u> (Continued)

composts, as required by the United States Environmental Protection Agency (EPA), 40 CFR, Part 503c regulations or a combination of green material and biosolids compost. The compost shall be processed or completed to reduce weed seeds, pathogens and deleterious material, and shall not contain paint, petroleum products, herbicides, fungicides or other chemical residues that would be harmful to plant or animal life. Other deleterious material, plastic, glass, metal or rocks shall not exceed 0.1 percent by weight or volume. A minimum internal temperature of 135˚F shall be maintained for at least 15 continuous days during the composting process. The compost shall be thoroughly turned a minimum of 5 times during the composting process and shall go through a minimum 90-day curing period after the 15-day thermophilic compost process has been completed. Compost shall be screened through a maximum 3/8 inch screen. The moisture content of the compost shall not exceed 35 percent. Compost products with a higher moisture content may be used provided the weight of the compost is increased to equal the compost with a moisture content of 35 percent. Moist samples of compost on an as received basis shall be dried in an oven at a temperature between 220°F and 240°F until a constant dry weight of the sample is achieved. The percentage of moisture will be determined by dividing the dry weight of the

sample by the moist weight of the sample and then multiplying by 100. Compost may be tested for maturity and stability with a Solvita test kit. The compost shall measure a minimum of 6 on the maturity and stability scale.

Stabilizing Emulsion

Stabilizing emulsion shall conform to the provisions in Section 20-2.11, "Stabilizing Emulsion," of the Standard Specifications and these special provisions.

Stabilizing emulsion shall be in a dry powder form, may be reemulsifiable, and shall be a processed organic adhesive used as a soil tackifier.

Application

Erosion control materials shall be applied in separate applications in the following sequence:

A. The following mixture in the proportions indicated shall be applied with hydro-seeding equipment within 60 minutes after the seed has been added to the mixture:

Material	Pounds Per Acre (Slope Measurement)
Legume Seed	22
Non-Legume Seed	39
Fiber	357
Commercial Fertilizer	268

Material	Cubic Feet Per Acre (Slope Measurement)
Compost	47

B. The Contractor may dry apply compost at the total of the rates specified in the preceding table and the following table instead of including it as part of the

36. FINAL EROSION CONTROL (TYPE D) (Continued)

hydro-seeding operations. In areas where the compost is dry applied, all compost for that area shall be applied before the next operation.

C. Straw shall be applied at the rate of 2 ton per acre based on slope measurements. Incorporation of straw will not be required. Straw shall be distributed evenly without clumping or piling.

The following mixture in the proportions indicated shall be applied with hydro-seeding equipment:

Material	Pounds Per Acre (Slope Measurement)
Fiber	357
Commercial Fertilizer	268
Stabilizing Emulsion	156

(Solids)	
Material	Cubic Feet Per Acre (Slope Measurement)
Compost	47

The ratio of total water to total stabilizing emulsion in the mixture shall be as recommended by the manufacturer.

Once straw work is started in an area, stabilizing emulsion applications shall be completed in that area on the same working day.

The proportions of erosion control materials may be changed by the Engineer to meet field conditions.

Measurement and Payment

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and applying compost, stabilizing emulsion, fertilizer, seed and straw for final erosion control, complete in place, as specified in the Standard Specifications, these special provisions, and as determined by the Engineer shall be included in the contract lump sum price paid for the item "Final Erosion Control (Type D)".

37. FIBER ROLLS

Fiber rolls shall conform to these special provisions. Fiber Rolls are to be installed on all areas where erosion control (type D) is being placed and as determined by the Engineer.

Materials

Fiber rolls shall consist of one of the following:

A. Fiber rolls shall be constructed on the project site with manufactured blankets consisting of one or a combination of wood excelsior, rice, wheat or coconut fibers. The blanket shall measure approximately 12 ft. wide by 85 ft. to 100 ft. in length.

37. FIBER ROLLS (Continued)

Wood excelsior material shall have individual fibers, 80 percent of which shall be 6 inches or longer in fiber length. The blanket shall have a photodegradable plastic netting. The blanket shall be rolled on the blanket's width and secured with jute twine spaced 6 feet apart along the roll for the full length and 6 inches from each end of the individual rolls.

The blanket shall be rolled so that the netting is on the outside of the finished roll. The finished roll diameter shall be a minimum of 7 inches and a maximum of 9 inches and shall weigh not less than 2.5 pounds/yard.

B. Fiber rolls shall be pre-manufactured rice or wheat straw, wood excelsior or coconut fiber rolls encapsulated within a photodegradable plastic netting. Each roll shall be a minimum of 7 inches and a maximum of 9 inches in diameter and 23 ft. to 30 ft. in length and shall weigh not less than 2.5 pounds/yard. The netting shall be ultraviolet (UV) degradable plastic. The netting shall have a minimum durability of one year after installation. The netting shall be secured tightly at each

end of the individual rolls.

C. Stakes shall be fir or pine and shall be a minimum of 1 inch x 1 inch x 2 ft. in length. Metal stakes may be used as an alternative. The Contractor shall submit a sample of the metal stake to the Engineer prior to installation. The tops of the metal stakes shall be bent over at a 90-degree angle. No additional compensation will be allowed for the use of a metal stake.

Installation

Fiber rolls shall be joined tightly together to form a single linear roll that is installed approximately parallel to the slope contour. Fiber rolls shall be installed prior to the application of other erosion control materials.

Furrows shall be constructed at a slight angle to the slope contour, to a depth of 2 inches to 4 inches, and at a sufficient width to hold the fiber rolls.

Rolls shall be installed at contour intervals of 6 ft. of elevation in the furrows with the first row installed 5 ft. above the toe of slope. Individual rolls shall be placed with adjacent ends butted firmly to each other to create a continuous linear roll.

Stakes shall be installed 3 ft. apart along the total length of the rolls and 5 inches from the end of each individual roll. Stakes shall be driven flush or a maximum of 2 inches above the roll.

Measurement and Payment

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing fiber rolls, complete in place, including stakes, as specified in the Standard Specifications, these special provisions and as determined by the Engineer shall be included in the contract lump sum price paid for the item “Final Erosion Control (Type’D’)”.

38. FINISHING ROADWAY

Finishing roadway shall conform to the provisions in Section 22, "Finishing Roadway," of the Standard Specifications and these Special Provisions.

Full compensation for finishing roadway shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

39. REFERENCED STANDARDS

Except as otherwise indicated, the current editions of the following Specifications and Standards apply to the WORK of this Section:

SSPC Steel Structures Painting Council, 4516 Henry Street, Pittsburgh, PA 15213.

NACE NACE International, the Corrosion Society, 1440 South Creek Drive, Houston, TX 77084.

ASTM American Society for Testing Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ANSI/AWWA American Water Works Association, 6666 West Quincy Ave., Denver, CO 80235.

TT-S230 type II Federal Specifications

29 CFR Codes of Federal Regulations Title 29, Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.

1926.62.1 Safety and Health Regulations for Construction, Lead.

1926.502.1 Fall protection systems criteria and practices.

Occupational Safety and Health Standards.

40 CFR (Code of Federal Regulations) Title 40, Environmental Protection Agency.

50 National primary and secondary ambient air quality standards

60 Standards of performance for new stationary sources.

262 Standards applicable to generators of hazardous waste.

263 Standards applicable to transporters of hazardous waste.

264 Standards for owners and operators of hazardous waste treatment, storage, and disposal facilities.

265 Interim status standards for owners and operators of hazardous waste treatment, storage, and disposal facilities.

268 Land disposal restrictions.

39. <u>REFERENCED STANDARDS</u> (Continued)

300 National Oil and Hazardous Substances Pollution Contingency Plan.

302 Designation, reportable quantities, and notification.

EPA Environmental Protection Agency

Method 1311 Toxicity Characteristic Leaching Procedure (TCLP).

SW 846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods