

**STANDARD REQUIREMENTS FOR
CITY OF RANCHO CORDOVA ENCROACHMENT PROJECTS**

REQUIREMENTS AND STANDARDS

Provisions of the County of Sacramento Standard Construction Specifications (SCS) shall apply to all work covered under this encroachment permit. The following requirements shall also apply to this work. This permit is issued in accordance with Division 2, Chapter 5.5 of the Streets and Highways Code of the State of California and Chapter 12.08 of the City of Rancho Cordova Code as amended on January 6, 1998.

ACCEPTANCE OF PROVISIONS

It is understood and agreed by the Permittee that performing any work under this permit shall constitute an acceptance of all the general and specific conditions hereof.

WORK AND MATERIALS

All work and materials shall be in accordance with the current edition of the County of Sacramento "Standard Construction Specifications". All work shall be in compliance with Americans with Disabilities Act.

KEEP PERMIT ON WORK SITE

Any use of private property for storage of materials, trenching and/or placement of signage (other than traffic control devices) shall be approved by the property owner of the land parcel or acting agent thereof. This permit shall be kept at the site of the work and must be shown to any representative of the City of Rancho Cordova or any law enforcement officer upon demand. Fines for failing to provide a valid permit are defined in Chapter 12.08.

GENERAL DEPOSIT

Applicant shall post a deposit in the sum of money sufficient in the opinion of the City Director of Public Works to cover the total cost of refilling any excavation and proper restoration of the highway as required by Chapter 12.08 of the City Code. The deposit may be released 180 days after acceptance of the work. Applicant shall have the option of posting and maintaining a general deposit in an amount not to exceed \$25,000 as specified in Section 12.08.090 of the City Code.

GUARANTEE

Should any failure of the work occur within a period of one year after completion and acceptance by City of Rancho Cordova (i.e., sign off of permit and record drawings) of the permitted work, the refilled excavation settles, or if the resurfacing or restoration of the roadway disintegrates or develops ruts or holes or if found to have used materials not in compliance with Sacramento County Standard Specifications, the permittee shall be required to repair and/or resurface to the satisfaction of the City of Rancho Cordova to eliminate all such reconstruction failures. If the permittee fails or refuses to do such corrective work, the City may elect to complete the corrective work and collect the cost of the work from the permittee, or to pursue such other remedies as may be available to complete the corrective work at the permittee's expense. In addition, Chapter 12.09.090 - Repair of sunken pavement over excavation, provides an additional year beyond our 1-year warranty to for the contractor to repair a street.

PROSECUTION OF WORK

Any work authorized by this permit shall be performed in a workmanlike, diligent and expeditious manner to the satisfaction of the Public Works Director.

MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

Revised SCS Section 12-1, referencing the Caltrans Manual of Traffic Control, is superseded by the Federal Highway Administration 2003 Edition of the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways - "Temporary Traffic Control" and the California Supplement.

ROAD CLOSURE

No highway or street may be closed without first obtaining approval in writing from the City of Rancho Cordova Public Works Department, telephone (916) 851-8710. If permission to close a street is granted, it shall be the Permittee's responsibility to notify the City Police and Fire Department prior to closing the street.

TRAFFIC CONTROL REQUIREMENTS AND HOURS OF WORK

A traffic control plan (or plans) shall be submitted for review and approval for any work requiring modifications of existing traffic patterns. The traffic control plan (or plans) shall include provisions for vehicular, pedestrian and bicycle access. Additionally, the traffic control plan (or plans) shall address traffic signal operation for any work performed within 200 feet of a

signalized intersection.

Contractor shall contact schools affected by construction to determine if school is in session. If school is in session, no construction activities shall take place 30 minutes before and 30 minutes after the arrival (am) or departure (pm) bells. Contractor shall also be responsible for providing notification to any fire station that could potentially be affected by construction activities.

Transportation routes involving a river crossing over the American River have been identified as being critical for traffic circulation between areas north and south of the river. In order to maintain traffic flow across these critical corridors, no lane or road closures are permitted from 7:00 am to 9:00 pm at the following locations:

Sunrise Boulevard

Lane or road closures at these locations during the times indicated will only be allowed in emergency situations or with the written approval of the Director of the Department of Public Works or his designee.

LANE/ROAD CLOSURES DURING NOVEMBER/DECEMBER HOLIDAY SEASON

Unless specifically approved by City of Rancho Cordova Public Works, construction will be suspended and no activities that interfere with public traffic shall be conducted on designated streets during the holiday season (defined as the four-day Thanksgiving weekend and December 8 through January 1). All existing pits, excavations, trenches, and openings in the road surface shall be backfilled and paved to produce a level and smooth surface. All barricades and barriers shall be removed from all traffic lanes, unless authorized by the Agency as long-term traffic controls. SCS 7-8.06

MAINTAINING AND PROTECTING TRAFFIC CONTROL FACILITIES

Metal objects (such as manhole frames and lids, valve boxes, bore casings, etc.) shall not be installed within 72 inches of a traffic detector loop. Any traffic signal or detector operation disruption shall be repaired and the system made operational within eight hours of the damage. Should the City elect to provide repair or replacement services, the Permittee shall be required to reimburse the City for all costs involved.

DIRECTIONAL BORE REQUIREMENTS

Prior to beginning work, the contractor must submit to the City a general work plan. Verify all underground utilities in accordance with Government Code 4216 (SCS sec. 6-16). Submit a plan to the City for review which includes proposed alignment and depth of all proposed pothole locations. The Contractor must provide a detailed method of potholing and proposed potholing patching. Directional bore depths to be a minimum of 42 inches below pavement grade. Directional bore profile log of boring operation and a guidance system log shall be kept on-site with the permit. Surface incisions on project streets shall not exceed industry bore pit standards. In the event surface incision dimensions (i.e., length and width) exceed industry bore pit standards (as determined by the City inspector or Department of Public Works), additional pavement restoration will be required. Additional pavement restoration shall include a slurry seal placed over the entire width of the roadway (or to the roadway centerline if disturbances are isolated to one half of the roadway) to encompass the area of restored pavement. Surface incisions located within 50 feet shall be included in the same slurry seal area. Slurry seal shall extend 4 feet beyond the outermost surface incisions.

TUNNELING

No tunneling will be permitted except on major work as may be specifically approved and set forth on the permit thereof. Tunneling under sidewalks are also not allowed.

STORAGE OF EQUIPMENT OR MATERIALS WITHIN THE RIGHT-OF-WAY

No equipment or materials shall be parked or stored within any traffic lanes or within the public right of way at any time of day or night, including holidays and weekends without written consent from the Department of Public Works. (SCS sec. 12-1)

PROTECTION OF EXISTING SURFACES

The contractor shall use appropriate equipment, construction methods and effort/care to prevent damage to existing pavement. The contractor shall also document the pre-existing pavement conditions in a manner that will allow construction damage to be identified. The contractor shall make a post construction evaluation of the pavement surface upon completion of the work and will be responsible for repairing all damage to the pavement surface resulting from construction activities. The contractor will also be responsible for repairing any damaged pavement that cannot be identified as pre-existing. Documentation of pre-existing conditions and the post construction evaluation shall extend beyond the limits of construction and shall include all areas affected by construction activities.

Excavations within sidewalk areas, when not active, must be covered with a material suitable for pedestrian use and secured to avoid shifting. The excavation shall be covered for no more than 7 days (i.e., the excavation must be backfilled and the surface restored within 7 days of initial excavation). Sidewalk repair shall conform to Sacramento County Standard Details 4-25 and 4-43.

MAINTENANCE

The Permittee agrees by the acceptance of this permit to exercise reasonable care to maintain properly any encroachment placed by it in the City right-of-way and to exercise reasonable care in inspecting for and immediately repairing and making good any damage to any portion of the right-of-way which occurs as a result of the maintenance of the encroachment in the highway or as a result of the work done under this permit, including any and all damage to the roadway which would not have occurred had such work not been done or such encroachment not placed herein.

UNDERGROUND UTILITIES

Disregard of or destruction of underground utilities may be cause for revocation of this permit or denial of future permits at the discretion of the Public Works Director. Any utility so damaged shall be immediately reported to the owner and City of Rancho Cordova Public Works.

TRENCHING

Not more than one-half of the width of a traveled way shall be disturbed at one time and the remaining width shall be kept open to traffic by bridging or backfilling. Pedestrian and bicycle facilities shall be maintained through the work site at all times unless provisions have been shown on the approved permit.

BACKFILL AND PAVEMENT RESTORATION REQUIREMENTS

Excavation and surface restoration shall be in accordance with Sections 14, 19, and 49-2.02 (as applicable), and Standard Drawing 4-31 (dated 02/04, attached), of the SCS.

Backfilling of potholes or similar types of minor excavations shall be with native or aggregate base materials compacted to 95%. In lieu of using compacted materials, controlled density fill (CDF) conforming to section 50-15 of the SCS may be use

Final pavement surface for trenches greater than 3 feet in width and which are mostly parallel to the centerline of the street shall not vary from the edge of a 10 foot straight edge (placed parallel and perpendicular to the trench) by more than 3/8-inch, except at intersections or changes in grade.

Final pavement surface for trenches 3 feet or less in width, bore holes having an area less than 50 square feet, and trenches of any width not mostly parallel to the centerline of the street shall match the smoothness of the existing pavement, except final pavement surface grade shall not exceed 3/8-inch above a line between the existing pavement surface at each edge of the excavation. Final pavement below this line is not acceptable.

Pavement not meeting the above requirements shall be removed and replaced. Such pavement shall be removed to a minimum depth of 1-1/2 inches for the full width of the trench. The minimum length of removal along the trench shall extend for 4 feet beyond the ends of the non-conforming areas, but in no case exceed the limits of the original pavement repair.

If pavement has been resurfaced within 5 years then the contractor shall submit a potholing plan to the City for review and approval prior to performing any potholing. Where approved, potholing within pavement shall be performed by first coring the pavement. Backfill shall be with controlled density fill. The final surface plug shall be one-foot deep concrete dyed with lamp black.

Backfilling of borings for soil or ground water sampling shall be in accordance with Sacramento County Environmental Health Requirements and County Standards. Backfilling of borings within pavement areas shall utilize cementitious grout materials regardless of the depth of encountered ground water. Backfilling of the upper one foot of borings/monitoring wells located in pavement areas shall consist of either high strength non-shrink grout or fast-setting concrete (minimum compressive strength of 4000 psi). The grout/concrete shall be uniformly color stained black to match surrounding asphalt surfaces (surface staining of place concrete is prohibited). Placement of material shall utilize hand-rodding methods to facilitate consolidation. Once placed and rodded the surface shall be finished smooth using hand-trowel or other methods.

In the event that consolidation of backfill materials occurs within the first 24-hours of placement resulting in settlements within the boring/monitoring well hole greater than 1/4-inch, the hole shall be subsequently refilled with high strength non-shrink grout as required to reestablish a smooth surface. Additionally, if separation/shrinkage of the placed concrete is

greater than 1/8-inch occurs along the outer perimeter of the filled hole, a flexible sealant shall be placed such that it uniformly fills associated gaps/voids. If the above criteria are not satisfactorily met, the City Inspector may require cutting/grinding within affected areas and subsequently repave in accordance with Sacramento County Standard Drawing 4-31.

TEMPORARY PAVEMENT IDENTIFICATION

Vehicular travel over backfilled but unpaved excavations will not be allowed. The Contractor shall provide a temporary surface suitable for driving consisting of at least one- and one-half inches (1-1/2") of plant mix type "A" asphalt concrete on all roadways with two or more marked traffic lanes in each direction or 45 mph or greater posted speed. Plant mix type "A" or asphalt plant mix cutback maybe used on all other roadways.

All temporary paving shall be identified by painting the words "TEMPORARY PAVEMENT" along with the name of the contractor responsible for maintaining the temporary paving material and the date in which the material was placed. Painted text shall be in white lettering at the beginning, ending and along the length of the temporary paving at a spacing not to exceed 500 ft. The TEMPORARY PAVING and the contractor or utility's name shall be neatly stenciled 5 inches minimum in height and shall be maintained in a neat and legible condition. The date in which the material was place may be painted free hand without the use of a stencil but must be legible.

Temporary pavement and/or portions of temporary pavement totaling 1000 ft or greater in length shall also be identified with a construction sign placed along the edge of the roadway and constructed in accordance with section 34 of the SCS. Temporary pavement signs shall be 30" X 30" in a diamond configuration and shall be orange with 5-inch black lettering. Signs shall be installed at the beginning, ending and at a spacing not to exceed 1000 ft. and shall be installed within the road right of way whenever possible.

Signs shall not be installed in a location that would obstruct visibility or create an obstacle for pedestrians. Property owner's permission must be obtained if sign is placed on private property.

In no case shall temporary pavement be allowed to remain for a period greater than 30 calendar days unless specifically approved by the Department of Transportation Right-of-Way Management Section.

U.S.A. NOTIFICATION REQUIRED

The Permittee shall notify Underground Service Alert two working days in advance of performing excavation work by calling the toll-free number (800) 227-2600. U.S.A. notification to be renewed at not more than 14 calendar day intervals.

Disregard for or destruction of underground utilities may be cause for revocation of this permit and/or denial of future permits at the discretion of the City. Any utility so damaged shall be immediately reported to the owner and the City.

REMOVAL OF USA MARKINGS

Before the project is accepted as complete, all USA and other construction related markings shall be removed to the satisfaction of the Agency. Removal shall occur within two (2) months of the date the markings are no longer needed, or upon completion of the work, whichever is sooner. The Agency will accept natural weathering of markings if the markings disappear within the two-month period. If the markings are in brick paver or concrete areas and if by natural weathering or other approved removal methods the markings still remain, the contractor must replace the concrete or the brick pavers in-kind, unless the utility operator has failed to use chalk-based paint or other non-permanent marking materials. Excavators and utility operators are encouraged to avoid marking in these areas by using offset markings. Removal methods shall be non-destructive and residual shadowing shall not remain.

Removal of markings shall comply with the federal, state and local requirements of the National Pollutant Discharge Elimination System (NPDES) and the Regional Water Quality Control Board.

U.S.A. markings not removed by the required timelines may be removed and the sidewalk or street repaired/replaced by the Agency at its discretion. The Agency will charge the excavator a service fee equal to the actual costs of removal plus an administrative fee of 20% for removing the markings and making any repairs and/or replacements. This fee will include the cost to comply with NPDES.

TREES

Unless specifically approved on the face of this permit, the removal or trimming of a tree(s) requires a separate tree permit per City Ordinance, call (916) 851-8710.

DAMAGE TO EXISTING IRRIGATION SYSTEMS

Irrigation systems owned or operated by the City of Rancho Cordova or public utility are located within the right-of-way and on dedicated property outside the right-of-way. In the event the irrigation systems are damaged due the permittee’s activities, it shall be repaired under the supervision of the Department of Public Works, Maintenance Supervisor (916 851-8710). The system shall be repaired in accordance with the current City Standards. Care shall be taken to eliminate any debris from entering the system. Any damage resulting from repairs or contamination will be the responsibility of the permittee. A contractor working in the Landscape construction or maintenance field shall be required for all necessary repairs to the landscape system.

Any permittee working in the Right-of-way shall verify the location of the utilities with regards to easements. It shall be the permittee’s onus to verify they are not encroaching on dedicated properties such as Assessment District parcels along the right-of-way. In the event a utility has been installed on dedicated property outside of the right-of-way or utility easements, or is planned to be placed on dedicated property, a utility easement must be acquired.

DRIVEWAYS

Portland cement concrete is not allowed for private driveway approaches within City right-of-way unless specifically approved by the Director of the Department of Public Works.

CLEANUP

All roadside drainage ditches shall be restored to a true grade and intake and outlet ends of all culverts shall be left free from all excess material and debris.

CHURCH SIGNS

These may be installed on City right-of-way with the following conditions: 1) within one mile radius of church, 2) one sign per church, 3) maximum size, 24 inches each side; 4) location to be approved by the City of Rancho Cordova (916) 851-8710, 24 hours before start of work; 5) not to be located by traffic signals.

RECORD DRAWING

Upon completion of underground or surface work of consequence, the Permittee shall furnish record drawings to City of Rancho Cordova Public Works showing location and details of work performed.

FUTURE MOVING OF INSTALLATION

The installation authorized herein shall, upon demand of the Director, be relocated in a timely manner by, and at the sole expense of the Permittee whenever construction, reconstruction, maintenance, or traffic conditions on the highway may require such relocation. The Permittee must commence such relocation within the time specified in said demand and thereafter diligently prosecute the same to completion.

TEMPORARY BRIDGING OF EXCAVAIONS AND TRENCHES

The use of steel plates shall be approved by the City prior to installation. Steel plates used in the roadway shall have the name and 24-hour emergency telephone number of the Contractor responsible for maintained the plates stenciled on the roadway pavement adjacent to the plates. Painted text shall be in white lettering. The text shall be neatly stenciled lettering, a minimum five inches (5”) in height and shall be maintained in a neat and legible condition for the duration of plate placement. Steel plates shall conform to the following width and thickness requirements:

<u>Steel Plate Width</u>	<u>Min. Thickness</u>
18” or less	3/4”
18” to 72”	1”
Width greater than 72”	per analysis by engineer

When steel plates are used to cover excavations on roadways with two or more lanes in each direction or posted 45 mph or greater posted speed or where the related work is to take place for longer than two (2) weeks, the steel plates shall be inlaid or recessed into the existing pavement. Existing pavement surface shall be milled out to ensure that the top of plate elevation matches the existing elevations of the adjacent pavement surface. Steel plates must be large enough to allow a minimum of one foot (1’) of bearing on all sides of the trench.

When steel plates are used to cover excavations on all other roadways, they may be placed on top of the asphalt with transitional ramps of MC250 asphalt mix (cutback) against all vertical edges of the plates. All ramping must be accomplished to provide a minimum angle of approach of twelve to one (12:1), providing a smooth, gradual transition between the pavement and the plate. Steel plates shall be anchored to the roadway surface with pins or spikes on the four (4) outermost corners. Additional pins shall be placed as necessary to assure the steel plates are secured. Pins shall be installed such that they

do not protrude above the plate surface any more than is necessary to anchor the plate and shall not create a hazard for the motoring or pedestrian public. Steel plates should be welded together to prevent shifting/bouncing where necessary. Where the street surface is uneven, plates shall be bedded on MC250 asphalt mix (cutback). The steel plates shall extend beyond the edge of the trench a minimum of 18", but no more than 30" on all sides. No corner of any steel plate shall protrude into the traveled way as to create a hazard to the motoring public.

Steel plates shall have a nonskid surface static coefficient of friction of 0.35 per California Test 342 for all steel plates within traveled roadway and 0.50 per ASTM C 1028 for those steel plates in pedestrian crosswalks or accessible areas. When required by the City, the Contractor shall certify in writing to the City that steel plates to be used in the Work meet the required static coefficient of friction.

The length of a series of plates running parallel to traffic wheel paths shall not exceed 30' unless approved by the City or noted in the TCP or contract drawings. Steel plates shall not remain on the roadway for longer than seven (7) calendar days, unless otherwise approved by the City.

Trench walls and adjacent soils shall be sufficiently stabilized prior to the use of steel plates for bridging. For conditions that require a support structure (wide excavation with multiple plates), the system must be designed by a registered professional engineer and submitted to the City for approval before use.

Steel plates shall be installed to operate with minimum noise levels as indicated in RCMC Section 6.68, "Noise Control". All steel plates within the right-of-way, whether used in or out of the traveled way, shall be without deformation (e.g., chains, attachment, weldments, or irregularities that can constitute a hazard). BUMP (W8-1) warning signs shall be properly posted and maintained in advance of all roadway plates placed on the surface of the pavement. The Contractor is responsible to maintain the steel plates in a proper condition until the roadway is properly backfilled and patched to allow for the safe passage of vehicles. The Contractor shall be responsible for any damages or injuries which may occur as a result of the plates being placed in the roadway. The Contractor must reimburse to the City any cost for emergence repairs.

In sidewalk areas, one and one-eighths inch (1-1/8") plywood with a nonskid surface static coefficient of friction of 0.50 per ASTM C 1028 may be substituted for steel planting where the excavation is less than two (2) ft deep and when authorized by the City. Transitional ramps of MC250 asphalt mix (cutback) shall be installed against vertical edges in the direction of pedestrian traffic (both up and down-stream). All ramping must be accomplished to provide a minimum angle of approach of twelve to one (12:1), providing a smooth, gradual transition between the sidewalk and the plate. Plywood shall extend beyond the edge of the trench and any overlap shall be a minimum of 18". Plywood shall not be placed such that it protrudes past the sidewalk edge.

RESTORATION OF SURFACES

Streets and Parking Lots

Trench Restoration

Edges of trench restoration shall be cut/grind so that edges are parallel or perpendicular to the centerline of the roadway. All required slurry seal must be place so that edges are parallel or perpendicular to the centerline of the roadway. Edges of existing pavement that are broken or damaged shall be removed and neatly trimmed back to stable and undisturbed base and surface materials. For locations where the existing pavement is severely fractured, remove loose asphalt to the nearest crack beyond the specified restoration limits. Repaving of trenched areas shall be in accordance with Sacramento County Standard Drawing 4-31 (including Shallow Trench, Deep Trench, and Earth Saw

Cuts in pavement that have been constructed or overlaid within the last five (5) years are not generally allowed. Rancho Cordova Municipal Code Section 12.09.120 prohibits excavations in newly constructed or overlaid roadways for a period of five (5) years. In circumstances such as emergency repair work where no other feasible options exist, the City Engineer may grant a waiver to this restriction. In the event that a waiver is granted, the applicant should be prepared to meet more stringent restoration requirements than those specified in these specifications.

Cuts in pavement shall receive a minimum 1-1/2 inch deep grind from lane line to lane line or edge of pavement and overlaid with asphalt concrete in conformance with these specifications. At roadway intersections and cul-de-sac bulbs, minimum grind and overlay shall extend to include the entire ¼ quadrant of the roadway affected by the work. 1-1/2 inch grind depth shall be considered a minimum and shall be adjusted as necessary to produce a stable surface for new pavement material. For Earth Saw Trench Section, delete "is within 20" of lip of gutter otherwise 6" minimum" and replace with "edge of pavement or lane line".

For minor roadways with pavement greater than five (5) years old, trenching must comply with requirements of Sacramento County Standard Drawing 4-31. Slurry seal from edge of pavement to centerline of roadway and a minimum of two (2) feet beyond the trench paving limits. At roadway intersections and cul-de-sac bulbs, minimum slurry seal shall be placed on the entire ¼ quadrant of the roadway affected by the work.

For roadways with two or more lanes in each direction or 45 mph or greater posted speed, arterial and thoroughfares shall receive a minimum 1-1/2 inch deep grind from lane line to lane line or edge of pavement and overlay with asphalt concrete in conformance with these specifications. 1-1/2 inch grind depth shall be considered a minimum and shall be adjusted as necessary to produce a stable surface for new pavement material. A seal coat will not be required.

Repair to areas damaged by the Contractor's Operations

Areas of existing asphalt surfaces damaged during construction shall be removed and the top four inches (4") of base material shall be re-compacted to a minimum relative compaction of ninety-five percent (95%). Base or underlying material that is wet, loose, or otherwise unsuitable for supporting new paving shall be removed to a maximum depth of twelve inches (12") below the bottom surface of the new asphalt pavement section and replaced with aggregate base material per the requirements of Section 22 "Base Material" of the Sacramento County Standard Construction Specifications. Aggregate base material shall be compacted in layers not exceeding six inches (6") in depth to a minimum relative compaction of ninety-five percent (95%). If unsuitable materials exist below this depth, an approved geotextile fabric shall be installed prior to placing the aggregate base materials.

Asphalt Concrete

The asphalt concrete shall conform to requirements specified in Section 23, "Asphalt Concrete", of the Sacramento County Standard Construction Specifications. If the existing pavement surfacing is rubberized asphalt, top layer of new asphalt surfacing shall match the existing. Special attention should be noted that Section 23-3.02 "Binders" specifies that "Conventional dense graded asphalt used on on-ramps, off-ramps, arterial streets and thoroughfare streets shall use PG70-10 binder."

Contractor is responsible for developing and providing appropriate placing and compacting techniques for producing asphalt concrete in conformance with these specifications including the determination of minimum acceptable paving temperatures for the specific mix to be used. In no case however shall any layer of asphalt concrete be placed when the atmospheric temperature is below 50°F, during raining weather or when the roadway is moist or damp. For the purpose of this provision, "raining" shall mean any weather condition that causes the roadway to become moist or damp. In the case of sudden precipitation, all paving work must stop immediately, all asphalt concrete on site not yet placed and all asphalt concrete in transit from the plant shall be rejected. Asphalt concrete shall be delivered to the site in a thoroughly blended condition and spread by a self-propelled asphalt paving machine in such a manner as to avoid segregation during the placing operations and placed in such a manner as to achieve a density of not less than 92%, nor greater than 97% (CTM 309). Prior to placing each lift of asphalt concrete pavement, the vertical edges of any existing pavement, curbs, and gutters adjoining the area to be paved shall be clean and given a tack coat of asphaltic emulsion. Asphaltic emulsion shall be of the high viscosity type subject to the approval of the City, and shall conform to Sections 39 and 94 of the State Specifications. Asphalt paving machine shall be used for placing the finish lift of asphalt concrete paving on all trench restorations. Limited areas inaccessible to mechanical spreading and compaction equipment or where irregularities or unavoidable obstacles exist may be spread, raked and luted by hand tools or other methods approved by the City. Asphalt paving machines shall be mechanical spreading and finishing equipment provided with a screed or strike-off assembly capable of distributing the material to not less than the full width of the trench. Screed action shall include any cutting, crowding or other practical action which is effective on the mixture without tearing, shoving or gouging and which produces a surface texture of uniform appearance. The screed shall be adjustable to the required section and thickness. The paver shall operate independently of the vehicle being unloaded.

Final pavement surface for trenches greater than 3 feet in width and which are mostly parallel to the centerline of the street shall not vary from the edge of a 10-foot straight edge (placed parallel and perpendicular to the trench) by more than 3/8-inch, except at intersections or changes in grade.

Final pavement surface for trenches 3 feet or less in width, bore holes having an area less than 50 square feet, and trenches of any width not mostly parallel to the centerline of the street shall match the smoothness of the existing pavement, except final pavement surface grade shall not exceed 3/8-inch above a line between the existing pavement surface at each edge of the excavation. Final pavement below this line is not acceptable.

Pavement not meeting the above requirements shall be removed and replaced. Such pavement shall be removed to a minimum depth of 1-1/2 inches for the full width of the trench. The minimum length of removal along the trench shall extend for 4 feet beyond the ends of the non-conforming areas, but in no case exceed the limits of the original pavement repair.

Density Requirements

The City may require testing of the asphalt concrete used in pavement restoration to verify that the materials being placed conforms to these specifications. Density of asphalt concrete for quality control purposes may be determined by nuclear gage testing or other approved nondestructive testing method. At the City's request, the Contractor shall provide quality assurance testing based on sampling of the asphalt on a lot basis defined as each five hundred (500) linear feet of trench. Compaction results shall be from comparing the average of density of cores taken from the compacted pavement to the Maximum Theoretical Density (Rice) as determined by California Test 309 (CT 309) taken from randomly sampled material on a lot basis. A minimum of two (2) cores per lot shall be sampled with half of the cores taken at the joint between the newly placed and the existing asphalt concrete (not more than 1 foot away from existing asphalt concrete). Contractor shall meet with the inspector and mutually agree on the sampling location. The density of each core shall be determined per CTM 308. The core samples shall be four inches (4") in diameter. Samples shall be neatly cut with a saw, core drill, or other approved equipment. If the density does not fall within the specified density range, the Contractor may test at two additional locations within the same 500 linear feet of trench area and average the results of all three tests. This averaged result shall fall within the above-specified range. The Contractor shall notify the City inspector prior to paving and provide contact information for Contractor's testing personnel. The City reserves the right to conduct parallel quality assurance testing at its discretion in accordance with Caltrans test methods, 308, 309, and 375. Asphalt not meeting the above specified compaction requirements will be rejected on a lot basis.

Micro-Surfacing

Micro-Surfacing shall conform to Section 37-3 "Slurry Seal and Micro-Surfacing" of the Caltrans 2010 Standard Specifications.

Shoulders

Surface restoration of trenches located in a shoulder within six feet (6') of the traveled way shall consist of a structural section equal to the original, or as shown on the plans, but having a minimum of five inches (5") of aggregate base compacted to a relative compaction of ninety-five percent (95%).

Concrete

Repairs to concrete curbs, gutters, sidewalks, driveways, and other concrete surfaces shall be made by removing and replacing the entire portions between joints or scores, except as follows:

- Curb and gutter shall be replaced between saw cuts so that the remaining or new curb and gutter will not be less than four feet (4') in length, measured from the saw cut to the nearest score mark, expansion joint, construction joint or weaken plane joint.
- The entire width of sidewalk shall be replaced between saw cuts for a length of not less than four feet (4') in length, measured from the saw cut to the nearest score mark, expansion joint, construction joint or weaken plane joint.
- Driveways shall be replaced as directed by the City, either completely or partially by saw cutting in the middle of the driveway.
- Curb dowels and reinforcing shall be provided and shall be installed in accordance with Section 27-6 of the County Standard Construction Specifications.

Replacement shall be in accordance with the applicable requirements, including the placement of Aggregate Base Class 2 under the new concrete as specified in Section 27, "Curb, Gutter, Sidewalk, and Drainage Structures" of the County Standard Construction Specifications. Pedestrian access shall be maintained in accordance with Section 6-12.02, "Pedestrian Access" of the County Standard Construction Specifications.

Pavement Markings

Replace entire section with the following:

Except where specified otherwise in these Specifications or the Special Provisions, the Contractor shall replace all crosswalks, legends and other permanent pavement markings and raised markers that have been disturbed, destroyed or covered by the work. Damaged pavement legends shall be completely removed, and crosswalks shall be removed from edge of road to centerline in accordance with section 13-2.09 "Removal of Traffic Stripes and Pavement Markings" and a slurry seal conforming to section 14-3.03 "Seal Coat" shall be applied. Seal coat shall

cover the entire pavement surface and extend a minimum of 6 inches past the areas where the legend has been removed. All edges of seal coat shall be perpendicular or parallel to the centerline of the roadway. Pavement markings shall then be replaced in accordance with section 48-2 "Thermoplastic Traffic Stripes and Pavement Markings".

STORM DRAIN FACILITIES CLEARANCE REQUIREMENTS

Newly constructed facilities shall maintain 36 inch horizontal and 18-inch vertical separation from all storm drain facilities.

EROSION AND SEDIMENT CONTROL REQUIREMENTS

Erosion and sediment control devices shall be used in accordance with Sacramento County Standards section 11 and in compliance with the State Water Quality Program.