DIVISION ONE

STANDARDS FOR STREETS

CHAPTER I. INTRODUCTION

Sec. 101-1 Purpose

These standards apply to and regulate all land development improvements and are intended to provide for adequate, coordinated, modern development with the required facilities to serve and protect the potential uses and users of the various areas of the County of Kern.

Sec. 101-2 Plan Review

Plans submitted with road improvements to be included in the County Road Maintenance System shall be reviewed and approved by the Kern County Roads and Engineering, Surveying & Permit Services Departments.

CHAPTER II. DEFINITIONS AND GENERAL POLICY

Sec. 102-1 The following definitions shall be applicable to these standards:

102-1.01 "INTERSECTION" is the area embraced within the prolongation of the lateral curb lines, or, if none, then the lateral boundary lines of the roadways of two highways which join one another at approximately right angles, or the area within which vehicles traveling upon different highways joining at any other angle may come in conflict.

102-1.02 "BRIDGES" Structures of a span of more than 20 feet, measured under the copings along the centerline of the road and multiple span structures where the individual spans are in excess of 10 feet, measured from center to center of supports along the centerline of the road.

Sec. 102-2 Other Documents Referred to in Standards

The following documents are referred to in these standards may be applicable and are on file in the Roads and/or the Engineering, Surveying & Permit Services Departments. References are to be current editions unless specified otherwise.

102-2.01 "Planning Manual of Instructions," published by the California Department of Transportation.

102-2.02 “California Manual on Uniform Traffic Control Devices (CMUTCD)” of California Department of Transportation.

"Bridge Design Manual" of the Office of Structures, California Department of Transportation.

"Highway Design Manual" of California Department of Transportation (HDM).

“General and Specific Plans” of County of Kern.

“Standard Plans and Specifications” of California Department of Transportation.

“Subdivision Map Act” of the State of California.

“Land Division Ordinance” of County of Kern.

“Hydrology Manual” of County of Kern.

“Federal and/or State Regulations pertinent to accessibility guidelines & requirements.”

“California Fire Safe Regulations, Title 14-California Code of Regulations.”

“Federal and/or State Regulations pertinent to Wildland fire protection on State Responsibility Areas.”

“California Department of Forestry and Fire Protection.”

Sec. 102-3  Plans to be Approved by Director

The developer shall cause to be prepared, in accordance with these standards, and submitted to the Director for approval, plans, profiles and specifications for the proposed improvement of all streets, and related improvements. The developer shall obtain the approval of the Director of said plans, profiles and specifications prior to commencing any construction.

Sec. 102-4  Where no Standard Specified: Requirements to be Prescribed by Director
Where the requirements for street improvements are not specified in these standards, or the documents referenced in these standards, the requirements shall be established by the Director. Such requirements shall conform to accepted engineering standards.

**Sec. 102-5 Payment for Improvement**

102-5.01 All improvements required by these standards shall be constructed and installed by the developer at his expense unless expressly agreed by the Board of Supervisors that the County will bear the expense or any portion of the expense.

102-5.02 Arterial or Collector Highway Alignment in Development:

In case of an arterial or collector highway alignment lying within the development, improvement thereof shall be subject to the following provisions:

a. If it appears to the Board that the County may within a reasonable period, not exceeding five (5) years, undertake construction of an arterial or collector highway along such alignment, it may make an order requiring the Developer to contribute to and deposit with the County an amount equal to the cost of construction as determined by the Board. Such contribution shall be filed with the County Road Fund through the Director.

b. The Director may require expanded intersections where arterial and/or collector alignments cross in urban areas, see Plates R-34 thru R-38.

**Sec. 102-6 Access**

(See Section 18.55.030 A.5 Land Division Ordinance).

**Sec. 102-7 Widening and Improvement of Existing Streets**

Where land abuts an existing substandard street is to be developed, the developer shall dedicate any necessary additional right-of-way and improve such street, including drainage improvements, modifications to traffic control devices, and all necessary improvements needed to conform to these standards in order to provide adequate traffic capacities.

**Sec. 102-8 Design of Street Systems**

The design of street systems, including right of way and improvement widths shall provide:

a. Adequate local circulation for the area being developed.

b. Consistency with adopted General Plans, Specific Plans, and other plan routes where appropriate.
c. Expanded intersections as may be required at arterial and collector highway intersections as shown on the County General Plan or Specific Plans, or as required by the Director.

d. Bike Lanes shall be designed and constructed in conformance with Caltrans Highway Design Manual, Chapter 1000, Bikeway Planning and Design.

Sec. 102-9 Utilities, Design and Installation

All utilities shall be designed, constructed, and installed by the Developer in accordance with all applicable County requirements and State laws. Underground utilities including services to be located within street right-of-way shall be installed prior to surfacing the streets. Underground utility construction shall be in accordance with the provisions of Public Utility Commission General Order 95. The director of Kern County Department of Planning & Community Development may require aboveground cabinets or facilities to be screened in an approved manner. Any aboveground cabinets or facilities located within the road right-of-way shall be permitted only upon approval by the Director. Compliance with this requirement may result in the need to create public utility easements outside of the right-of-way.

CHAPTER III. STREET IMPROVEMENT REQUIREMENTS

Sec. 103-1 Improvement Requirements

Wherever the standards mentioned in the Land Division Ordinance are related to lot area, the reference to the area shall be deemed to be either net area or gross area, depending on whether the minimum lot area for the zoning classification is determined by net area or gross area.

103-1.01 Type "A" Subdivision requirements are as follows:

a. Concrete curb and gutters, sidewalks and drive approaches are required on all streets (Residential, Commercial and Industrial) and highways within the development. For Phased Improvements by parcel or lot size, see Appendix B of the Land Division Ordinance.

b. Surfacing shall be asphalt concrete, except as provided in Section 104-4.

c. Structural section shall be designed in accordance with the current Caltrans Highway Design Manual based on the following criteria:

1. Local streets - TI = 4.75
2. Residential and commercial alley - TI = 3.0
3. Industrial streets and alleys - TI = to be designated by the Director.
4. Arterial and collector highways - TI to be designated by the Director.

d. The minimum asphalt concrete thickness shall be 0.20 foot.
e. For details, see Plate R-32 and Chapter IV.
f. Shoulder and/or median areas shall be paved or otherwise treated as necessary to comply with the Air Pollution Control District PM-10 (fugitive dust) regulations.

Sec. 103-2.02 Type "B" Subdivision requirements are as follows:

a. Surfacing shall be asphalt concrete, except as provided in Section 104-4.

b. Structural Section shall be designed in accordance with the current Caltrans Highway Design Manual based on the following criteria:

1. Local streets - TI = 4.0
2. Residential and commercial alley - TI = 3.0
3. Industrial streets and alleys - TI = to be designated by the Director.
4. Arterial and collector highways - TI to be designated by the Director.

c. For details see Plate R-32 and Chapter IV.

d. The minimum asphalt concrete thickness shall be 0.20 foot.

e. For Phase Improvements by parcel or lot size, see Appendix B of the Land Division Ordinance.

f. Shoulder and/or median areas shall be paved or otherwise treated as necessary to comply with the Air Pollution Control District PM-10 (fugitive dust) regulations.

103-2.03 Type "C" Subdivision requirements are as follows:

a. Roads shall be graded to a minimum width of twenty (20) feet.

b. Maximum grade of roads shall be fifteen percent (15%).

c. Roads shall be traversable by a standard passenger car.

d. Road surfacing is not required except as required by the Air Pollution Control District’s regulations.
e. As an alternative, roads may be designed utilizing the requirements of the California Fire Code upon approval of a limited exception by the Fire Chief.

103-2.04 Secondary and emergency access shall be constructed per plate R-29

103-2.05 Limited Exceptions

a. Where multi-family residential, commercial, or industrial development is proposed in conjunction with a subdivision which would otherwise qualify for a type other than Type "A," limited exceptions may be approved by the Director with respect to Type "A" subdivision street improvement requirements, including but not limited to industrial or commercial street cross-section (Plate R-13).

b. Where commercial or industrial development is proposed in conjunction with a Type "A" subdivision which also includes residential development, limited exceptions may be approved by the Director with respect to street improvements shown on industrial or commercial street cross-section (Plate R-13) and alleys.

Sec. 103-3 Private Streets

The use of private streets within a subdivision requires a Development Variation as specified by the Land Division Ordinance. When private streets are approved for use, an acceptable entity shall be formed for street and drainage maintenance prior to recording.

The following notes shall be placed on the street improvement plans before the Director signs them:

1. The Subdivider’s engineer shall be responsible for inspection of all improvements outside of County road right-of-ways and certify such to the County. No changes shall be made to these plans without the approval of the Director.

2. Subdivider shall obtain the necessary building, grading, and encroachment permits prior to starting any work required by these plans.

3. Private streets shall comply with all requirements of the Kern County Fire Department and Land Division Ordinance. Also, private streets located within the State Responsibility Area (SRA) shall comply with all requirements of the California Department of Forestry and Fire Protection.

Sec. 103-4 Pedestrian Accessibility Guidelines

Federal and state regulations require that each facility or part thereof shall be designed
and constructed in such a manner that the facility is readily accessible to and usable by individuals with disabilities.

Every project, including encroachment permit projects, within the R/W that proposes to construct sidewalk/pedestrian walkway must be designed in compliance with the accessibility requirements of ADA, ADAAG, and Title 24 requirements. If it is found that an accessibility design standard cannot be fully incorporated in a design, an accessibility design exception will be required, subject to the Director's approval. For an exception to be approved, it will be necessary to document that it is technically infeasible to do so because existing physical structural conditions or because other existing physical or site constraints prohibit modification or when a unique characteristic of terrain prevents the incorporation of the accessibility standard.

CHAPTER IV. DESIGN AND CONSTRUCTION STANDARDS

Sec. 104-1 Alignment Criteria for Streets

104-1.01 Minimum centerline radius of horizontal curvature shall be as follows:


b. Local or Industrial Streets – 500 feet.

c. Limited exceptions to the above minimums may be approved by the Director when topography or other conditions warrant within the following limits:

1. Arterial and collector highways not less than 300 feet.

2. In mountainous areas, minimum local streets radii may be reduced to 100 feet or as approved by the Director. Curve widening to provide adequate sight distance shall be determined by the Director.

104-1.02 Intersections

a. Streets shall intersect at right angles where practicable. When topography or other physical feature makes this requirement impracticable, a Limited Exception may be granted by the Director. In general, the maximum deviation which may be granted shall not exceed 15° skew beginning at the ultimate curb line from a right-angle intersection. A knuckle shall be considered an intersection for skew angles.

b. Curb return radii shall be:

1. Residential and commercial = 30 feet
2. Industrial = 50 feet
c. Property line cut off at intersections shall be in accordance with Plate R-41.

d. Where the angle of intersection is acute, or where a sight distance problem may be anticipated, an increased property line cutoff may be required by the Director.

e. All streets entering upon any given street shall have their center lines directly opposite each other or separated by at least 150 feet, see plate R-48 thru R-50.

f. Tangent distance between end of horizontal curve and intersection centerline shall be a minimum of 150 feet.

104-1.03 Dead-end streets in excess of 150 feet in length shall be constructed to permit vehicles to turn around at the end. The director may increase the length to 200' providing no access is provided by the road. The maximum length of a dead-end street, including all dead-end streets accessed from that dead-end street shall not exceed the following cumulative lengths, regardless of the number of parcels served:

1. Parcels zoned for less than one acre 800 feet
2. Parcels zoned for 1 acre to 4.99 acres 1320 feet
3. Parcels zoned for 5 acres to 19.99 acres 2640 feet
4. Parcels zoned for 20 acres or larger 5280 feet

Where a dead-end street serves areas in which several different length limits could apply because of several different parcel sizes, the shortest allowable length shall apply.

Sec. 104-2 Gradient

104-2.01 Minimum grade on any street or alley shall be 0.5%. Where concrete curb and gutter or gutter in the case of an alley, is constructed, minimum grade shall be 0.2%.

104-2.02 The maximum grade on any street or alley shall be as follows:

a. Arterial and Collector Highways - 6%.

b. Local streets and residential cul-de-sac streets (including street turning area) - 8%.

c. All classes of industrial and commercial streets - 8%.

d. Alleys - 8%.
Exceptions to the maximum or minimum grades may be granted by the Director as follows:

a. Arterial and Collector Highway - 8% maximum.

b. Local and cul-de-sac streets (excluding street turning area) - 15% maximum.

c. All classes of industrial or commercial streets - 8% maximum. (No exceptions allowed).

d. Alleys - 15% maximum.

104-2.03 Superelevation shall be provided for all streets where required by the Director.

104-2.04 Vertical curves shall be as follows:

a. Residential and industrial streets shall be designed to provide a minimum stopping sight-distance corresponding to a design speed of 25 MPH.

b. Arterial and Collector highways shall be designed to accommodate minimum vehicle speeds of 65 MPH. An exception may be granted by the Director to reduce the vertical curve design speed.

c. Vertical curves shall be used when change in grade exceeds 0.50% and shall have a minimum length of 50 feet.

d. Alleys shall be designed for 20 MPH stopping sight distance.

e. The sight distance to be used for all streets and highways, including vertical curves, shall be in accordance with the current edition of California Department of Transportation Highway Design Manual.

104-2.05 The maximum grade for cul-de-sac street turning area shall be 8%.

104-2.06 The maximum grade through any intersection of two streets shall be 8% within the intersection (P.I. to P.I.).

104-2.07 When any road is extended to a subdivision boundary for the purpose of providing a future connection to adjoining property, the subdivider shall submit an alignment and profile demonstrating the feasibility of such future extension. (Minimum distance beyond tract line shall be 100 feet, 200 feet in mountains).
104-2.08 The minimum grade for any cross gutter shall be 0.35% measured from BCR to ECR.

Sec. 104-3 Grading

104-3.01 Roadways shall be graded by the developer to full width as shown on the standard typical cross-sections.

104-3.02 The maximum grade tolerance in roadway sections for aggregate base, aggregate subbase and original ground shall be 0.05 of a foot high.

104-3.03 Grading beyond the right-of-way may be required by the Director to provide for safe sight-distance, stability and to control drainage.

104-3.04 All grading or excavating in an existing county road, city street, or state highway shall be first authorized by a valid encroachment permit.

104-3.05 Where improvements are required outside of the right-of-way as part of the development improvements, the subdivider shall provide satisfactory easements to allow construction and/or maintenance of the improvements. The easements shall conform to all subdivision requirements including, but not limited to, free and clear dedication, removal of obstructions and guarantee of title.

Sec. 104-4 Pavement, Structural Sections

All streets shall be surfaced by the developer in accordance with the following specifications:

104-4.01 Streets shall be designed in accordance with Chapter III "Street Improvement Requirements" of these standards and the following sections.

104-4.02 Road surfacing on all classes of streets and alleys shall be of asphalt concrete, except as hereinafter provided.

a. Road-mixed asphalt surfacing may be used, in lieu of asphalt concrete, in those areas of the County more than 50 miles along the shortest practical route from a commercial asphalt concrete plant.

   1. Road-mixed asphalt surfacing (RMAS) shall conform to design mix approved by the Director.

   2. Minimum thickness of a road-mixed asphalt surfacing shall be 0.25 of a foot.
b. Alleys: Surfacing shall be of asphalt concrete or road-mixed asphalt surfacing, whichever is used in the streets of the development.

c. The minimum thickness of aggregate base or aggregate subbase shall be 0.35 foot.

104-4.03 Aggregate Bases - In addition to the specified R-Value for aggregate bases, the R-Value at 150 psi exudation pressure shall be 90% of the R-Value at 300 psi exudation pressure.

Sec. 104-5 Utility Placement Within Streets

Underground utilities including services to be installed in streets shall be installed prior to surfacing of the streets.

The minimum cover of any underground utility within a street right-of-way shall be 30 inches.

Sec. 104-6 Street Lights

The Engineering, Surveying & Permit Services Department strives to find ways to operate as economically as possible to save energy costs and reduce carbon footprint. The Department will entertain the use of lower wattage bulbs, such as light emitting diode (LED) and solar street lights. The developers are encouraged to utilize new technology in order to reduce carbon footprint and reduce energy cost.

Unless otherwise approved by the Director, street lighting to be designed in conformance with these specifications, RP-8, “American National Standards Practice for Roadway Lighting, Illuminating Engineering Society of North America, Kern County Zoning Ordinance and/or other approved design guidelines.

All material and work shall conform to the requirements of the California Electrical Code, National Electrical Code, and other pertinent codes and regulations.

104-6.01 Residential Areas - Street lights shall be located at intersections, at midblock with blocks greater than 600 feet between intersections, at ends of cul-de-sacs greater than 150 feet in length, and on curved streets as required by the Director. Street lights on arterial and collector streets or intersections with an arterial street shall be 9,500 lumen. Street lights on local streets shall be 5,800 lumen. Lumin output and light sources may vary depending on new technology. Street lights shall have an acceptable maintenance entity formed and be energized prior to acceptance of the improvements. Street light construction shall be in accordance with Plate R-75 unless approved otherwise by the Director.

104-6.02 Commercial and Industrial Areas - Street lights shall be located at intersections and ends of cul-de-sacs greater than 150 feet in length. Luminaires shall be as provided in the above paragraph.
On all streets, the pull box shall be installed and the light wired from the pull box at the pole per plate R-76. Electrical service shall be provided to the street light from the adjacent parcel (on either side of the street) as it is developed. Electrical service easements shall be granted as required. Street lights shall be installed per plate R-75.

104-6.03 Additional Street Lights - In commercial, industrial, or residential areas, additional street lights shall be installed as required by the Director.

104-6.04 Street light shall be installed at post office approved community mail boxes.

104-6.05 Street light shall be installed at all passenger bus loading/unloading zones.

104-6.06 All County Service Area maintained street lights shall be Rate Schedule LS1 “PG&E – owned street and Highway Lighting”. Luminaire shall be full cutoff optics.

104-6.07 Street light location plan and general plan details shall be submitted for review and approval by the engineer. The plans shall show and identify all street lights to be installed, distance between poles, height of poles, wattage of lamps, lumens, type of luminaire, irrigation pedestals and all other pertinent information. Also, all existing street lights within 400 feet of the project shall be clearly identified and shown on the plans.

CHAPTER V. ACCESS

Sec. 105-1 State Highways

Access to state highways, is regulated by Caltrans. Requests for access and changes to existing access shall be coordinated with Caltrans. Encroachment permits for access to state highways shall be obtained from Caltrans.

Sec. 105-2 City Streets

Access to city streets, is regulated by the incorporated city who has jurisdiction. Requests for access and changes to existing access shall be coordinated with the respective incorporated city. Encroachment permits for access to city streets must be obtained from the respective incorporated city.

Sec. 105-3 County Roads – Access Limitations and Intersection Locations

Arterial streets are designed primarily for the movement of through traffic (80% to 90%) with minor usage as access to abutting properties (10% to 20%). Collector streets operate at approximately 40% to 60% either way. Local street’s function is to provide nearly 100% access to abutting properties and should be designed to eliminate through traffic.
Driveway access on arterials shall be kept to a minimum as determined by safety, topography, zoning and prior parcelization constraints or other special circumstances. Waivers of access on subdivisions shall be provided along major streets except where driveway access is permitted.

105-3.01 Minimum full access intersection spacing on arterials shall be limited to one-third mile. Closer spacing may be permitted if a traffic signal synchronization study is approved which demonstrates the location to be feasible for a signal. The signal, if allowed, shall be funded and installed by the developer.

105-3.02 Minimum spacing and type of local street access along arterial and collector streets shall conform to details in Plates R-49 and R-50.

Access points along arterial streets shall be restricted to right turn in and right turn out movements only. Full access median openings or openings limited to allowing left turn in with no left turn out may be permitted where an approved traffic study provides justification for said access. Analysis for and development of full access openings must also meet the signalization requirements of Section 105-3.03. The design of limited access openings shall conform to applicable details in Plates R-42 through R-50.

105-3.03 For purposed development of no more than 200 residential dwelling units, circulation may be developed with only one access available. Development beyond 200 units will be required to provide a second means of access.

Access points on collectors within 300 feet of the curb return at an arterial intersection shall be limited to right turn in and right turn out movements.

This provision in no way limits more restrictive secondary access requirements, imposed for public safety purposes.

Sec. 105-4 County Roads – Driveway Approaches

All construction to connect driveway approaches to county roads must first be authorized by a valid Encroachment Permit. The design, number and location of driveway approaches must comply with the standards and policies contained herein and must be approved by the County.

105-4.01 Driveway approaches will not be permitted for parking or loading areas which would require backing into county roads with the exception of single family (R-1) residences.

105-4.02 Driveway approaches constructed along arterial streets shall be restricted to right turn in and right turn out movements only. Full access median openings or openings limited to allowing left turn in with no left turn out may be permitted where an approved traffic study
provides justification for said access. Analysis for and development of full access openings must also meet the signalization requirements of Section 105-3.03. The design of limited access openings shall conform to applicable details in Plates R-42 through R-50.

Driveway approaches constructed along collector streets within 300 feet of the curb return at an arterial intersection shall be limited to right turn in and right turn out movements.

105-4.03 Only one driveway approach per property per street is permitted for single family R-1 lots excepted on local streets. Additional driveway approaches may be permitted where an approved traffic study is provided which demonstrates that more than one access is required to adequately handle driveway volumes, and will not adversely affect traffic flow on county roads.

a. Where a property has access to more than one street, at a double frontage location, access will be limited to the lower classification street to minimize the impact upon traffic flow, except as allowed herein. Access to only the higher classification street will be required in the case of incompatible land uses, i.e., the lower classification street serves residential development and the access is to serve commercial or industrial development.

Addition of access to the higher classification street may be allowed provided an approved traffic study provides sufficient justification. Access to the higher classification street may be denied and may also be subject to other constraints contained in these standards and by County regulations.

105-4.04 After all improvements have been accepted by the Roads/Engineering, Surveying & Permit Services Departments, the reconstruction, repairs, and maintenance of all driveways, driveway approaches and sidewalk will be the responsibility of the property owner. During construction all such activities will be the responsibility of the permittee.

105-4.05 Arrangements must be made by the developer or permittee, for the necessary removal or relocation of any public utilities, structures, trees or plants with the person or entity having ownership or control prior to commencing work. Removal or relocations must be accomplished at no cost to the County.

105-4.06 Driveway profiles shall comply with the Kern County Type A Street Improvement Details, Plates R-53 thru R-55.

Sec. 105-5 County Roads – Turn Lanes

105-5.01 Arterial Streets: Left turn storage lanes are required to all streets and
access points where left turn ingress is permitted along arterial streets. Right turn storage lanes are required at all streets and access points where one of the following criteria is met:

a. The 85th percentile speed is less than 45 MPH and the peak hour turning volume is over 200.
b. The 85th percentile speed is 45 MPH or greater, the arterial is shown ultimately having 6 lanes and the peak hour turning volume is 25.

105-5.02 Collector Streets: Left and right turn storage lanes are required on all collector streets at arterial street intersections. Striping for left turn channelization shall be provided for any access leading to a development, which, at build out, generates more than 50 peak trips.

105-5.03 Design of left and right turn storage lanes shall comply with the applicable requirements of details in these standards. Bay tapers for turn lanes shall be 90 feet in length for single turn lanes and 120 feet in length for dual turn lanes. 60’ bay tapers will be permitted on streets where the 85th percentile speed is 40 MPH or less, provided the turn lane is accessing either a driveway or a local street.

105-5.04 In the absence of turning volume data showing the need for greater storage, the following minimum lengths shall be used:

Dual left and single right turn storage lanes from arterial street into another arterial street shall be designed for a minimum length of 200 feet (measured from end of taper to limit line). Left and right turn storage into local streets or major private entrances shall be 150 feet minimum. Left and right turn storage into minor private entrances shall be 100 feet minimum on collector streets and 150 feet minimum on arterial streets.

105-5.05 Upon subdivision or other development which accesses onto an arterial or collector street, the following minimum improvements will be required to provide left turn channelization, where insufficient width would otherwise be available due to existing or proposed street improvements.

On and off site road improvements are required from any collector or arterial street to provide left turn channelization into each street (or access point) within the subdivision (or development). Said channelization shall be developed to provide necessary transitions and turn lanes to meet the current Caltrans standards for the design speed of the roadway in question.

Sec. 105-6 Bus Turnout

Bus turnouts and associated speed change lanes will be required on future and existing bus routes at locations identified by Golden Empire Transit (GET)/Kern Regional Transit
(KRT). Design shall be based upon standards contained in Plates R-66.

CHAPTER VI. SITE ACCESS DESIGN

Sec. 106-1 Introduction

This chapter is intended to serve as a standard for the placement, size and configuration of site access improvements.

Sec. 106-2 Access Widths and Spacing

Access widths and spacing shall be designed per Plate R-56.

Sec. 106-3 Alignment

Access drive or road must intersect a public street at 90 degrees or as close as possible to 90 degrees or minus a maximum deviation of 15 degrees on local streets.

Minimum sight distance shall be provided at all access points in accordance with the provisions of this Division and Chapter 5 of Division Nine.

CHAPTER VII. STREET AND HIGHWAY DRAINAGE

Sec. 107-1 Street and Highway Drainage Easements and Improvements

Any drainage easements and improvements necessary for street and highway drainage shall be provided by the Developer, in accordance with the provisions of this section.

Sec. 107-2 Requirements for Street and Highway Drainage

The following criteria shall be applied to the design and construction of drainage facilities for streets and highways:

107.2.01 Street Drainage

(See Drainage - Division Four, Chapter V.).

107.2.02 Cross Drainage

(See Drainage - Division Four, Chapter VI.).

Sec. 107-3 Design Standards for Culverts and Bridges

Structural Design

a. Bridge and culvert design standards shall conform to "Standard Specifications for Highway Bridges" of the American Association of State Highway Officials, and the Bridge Design
b. Design loading shall be H20-S16-44 with alternate.

c. Bridge width shall equal the approach roadway width plus one pedestrian walkway in accordance with the standard typical cross-sections included. Where a designated bike way exists, additional width may be required by the Director.

Sec. 107-4 Miscellaneous Provisions

Street or highway crossings below check dams and/or spillways shall require special investigation and design. Plans for such crossings shall be submitted to the Director for review and approval.

Where special design or variation from standards is necessary for any drainage facility, crossing a street or highway, said design shall be subject to the approval of the Director.

CHAPTER VIII. LANDSCAPING

Sec. 108-1 Landscaping

Landscaping shall comply with Division Five – Landscaping, of these standards. When landscaping within or adjacent to street intersections, the following sight distance and safety criteria shall be provided:

108-1.01 The standards apply only to those intersections which meet at normal skews and where the grade difference between the intersecting streets is not greater than 10 percent.

108-1.02 The clear sight triangle for roadways intersecting arterial and collector highways (55 mph design speed) and stopping sight distance is three hundred (300) feet (near lane approach) and one hundred and fifty-three (153) feet (far lane approach).

108-1.03 The maximum height of shrubs and other obstruction within the above area shall be maintained at a height of thirty (30) inches or less above the sidewalk grade.

108-1.04 For local street intersections; nothing greater than a thirty (30) inch height (above sidewalk grade) within sixty (60) feet of the curb lines extended (normal skew and grades).

108-1.05 See attached Plate T-7 for illustrations of the above standards.

108-1.06 The maximum trunk diameter for trees located in the road right-of-way of any street shall be four (4) inches or less at 10-year growth.
108-1.07 To maintain appropriate sight distances, no shrubs or trees with a height greater than 30 inches shall be located in a median area within three hundred (300) feet from the centerline of the intersecting cross street, pedestrian walkways, bikeways, or median openings.

108-1.08 All landscaping facilities shall be designed and maintained so as not to present a hazard to the traveling public.

CHAPTER IX. TEMPORARY STREET CLOSURES

Sec. 109-1

Street closures for business purposes require a Special Event Permit, which is approved and issued by the Planning & Community Development Department.

CHAPTER X

SUBDIVISION STREET IMPROVEMENT PLAN NOTES

The following general notes shall be included on Subdivision Street Improvement Plans:

1. All improvements shall be in accordance with Kern County Development Standards and other County adopted policy; street improvements shall be as required for Type ______ Subdivisions.

2. Improvements shall be in accordance with State of California Business and Transportation Agency Department of Transportation Standard Specifications, current edition, as modified and determined applicable by the Director.

3. All streets have been designed in accordance with the Traffic Index as shown on the typical cross-sections.

4. All streets have been designed using a minimum "R" value as shown on typical cross-sections. Should further testing show a lower "R" value of the actual in-place material, streets shall be redesigned according to the lower "R" value.

5. Any layer of "R" value material specified in the typical cross-section may be increased in depth provided that the material above that layer has no less than the minimum thickness shown.

6. If approved in writing by the Director, an alternate pavement design using Class III Aggregate Base and a thicker A.C. section may be used.

7. Any work which affects any existing County maintained road or the traffic thereon shall be completed within 20 working days from start of work.

8. Elevations and grades shown on the profiles are gutter flowlines (inverts).
9. Maximum plus grade tolerance for A.B., A.S.B/ and O.G. shall be 0.05 of a foot.

10. Portland Cement Concrete shall be Class 3 unless otherwise indicated. All concrete shall have all exposed surfaces treated with a white pigmented curing compound (see Section 90-7.01B of the Std. Specs.) after finishing.

11. Permanent traffic control signing and other safety devices (not shown on these plans) shall be installed per plans approved by the Engineer.

12. Street lighting shall be installed and a means provided to contract for public utility services and maintenance.

13. Prior to start of any earthwork, the Subdivider shall obtain a Grading Permit as required by Kern County Code of Building Regulations and Grading Ordinance.

14. Wheelchair ramps shall be constructed at all curb returns per plate R-60 of the Kern County Development Standards and as directed by the engineer. Curb ramps shall have a detectable warning surface that extends the full width & depth of the curb ramp, excluding flared sides.

15. All existing facilities, including but not limited to structures, poles, pipelines, conduct, canals, and appurtenances, which are considered to be obstructions by the County Engineer, shall be relocated at the expense of the Subdivider.

16. New streets shall be extended at intersections as directed by the County Engineer in order to provide a safe connection to the existing street pavement.

17. Storm drainage sump shall not be allowed to accept water until secured by permanent fencing or in the case of shallow unfenced sumps not until compliance with depth and side slope criteria as set by the Kern County Development Standards, Division Four.

18. Asphalt rejuvenating agent shall be applied to new asphalt concrete pavement, as directed by the Engineer, in accordance with the provisions in Section 37 "Bituminous Seals" of the Standard Specifications and the State Department of Transportation's Standard Special Provisions currently in effect.

19. Pavement grinding in accordance with Section 42 of the Standard Specifications shall be provided as directed by the Engineer where new pavement meets existing pavement.

20. All frames and covers within the roadway shall be raised to finish grade per Plate R-69.
21. Underground utilities including services to be located within right-of-way shall be installed prior to surfacing the streets.

22. Utility vaults installed in sidewalk area shall have non-skid surfaces/lids.

23. When bike lanes are required along a highway, the curb line shall be extended three (3) feet and the parkway area reduced three (3) feet.

24. Prior to acceptance of improvements, the developer shall submit a letter to the Kern County Roads Department requesting “No Stopping” along ________ and __________.

25. Street sweeping, walls, drainage, street lights, etc. shall be maintained by ________________.

NOTE: Any additional notes, not required by the Engineer, will be listed under a heading of “The Engineer of Record’s Notes” and will not be considered to be a part of the County approval.
### REQUIRED STREET TYPICAL SECTIONS FOR LOT SIZE AND DEVELOPMENT TYPE-LOT SIZE (ACRES)

<table>
<thead>
<tr>
<th>PLATE NO.</th>
<th>STANDARD ROAD DETAILS</th>
<th>TRACT MAP</th>
<th>PARCEL MAP</th>
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<tbody>
<tr>
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<td>R-27</td>
<td>FRONTAGE ROAD</td>
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<td>R-28</td>
<td>ALLEYS</td>
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<td>R-29</td>
<td>STANDARD SECONDARY &amp; EMERGENCY ACCESS</td>
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<td>R-30</td>
<td>PARKWAY AREAS (SHOULDER) TYPE &quot;B&quot;</td>
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<tr>
<td>R-31</td>
<td>PARKWAY AREAS TYPE &quot;A&quot;</td>
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</tbody>
</table>

### NOTES

1. When bike lanes are required along a highway, the curb line shall be extended (3) feet and the parkway area reduced three (3) feet.

2. A Special design for wheelchair ramps on arterial and collector highways to allow for the safe movement of pedestrians may be required by the Director.
COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

LOT SIZE < 5 ACRES

ARTERIAL HIGHWAY

TYPE "A"

PLATE NO.
R-1

NOT TO SCALE

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<th>TRACT MAPS</th>
<th>PARCEL MAPS</th>
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<td>NOTE: LOT SIZE (ACRES)</td>
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<tr>
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<td>DELETE SIDEWALK AND C &amp; G</td>
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<tr>
<td></td>
<td>≥ 3 &lt; 5</td>
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</table>

NOTES:
SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

MAXIMUM SLOPE TO LOW GUTTER SHALL NOT EXCEED 2.5%.

GRADE FROM HIGH GUTTER.

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.

MATERIAL | THICKNESS
----------|-----------
AC | |
AB | |
ASB | |
COMP. O.G. | |
NOT TO SCALE

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
**NOTES:**

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1 OR FLATTER

**SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.**

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

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<th>THICKNESS</th>
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<tr>
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<td>AB</td>
<td></td>
</tr>
<tr>
<td>ASB</td>
<td></td>
</tr>
<tr>
<td>COMP. O.G.</td>
<td></td>
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</table>

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOT TO SCALE

**SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.**

NOTES:

TRACT MAPS: LOTS > 5 < 20 ACRES
PARCEL MAPS: LOTS ≥ 3 < 20 ACRES

*NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER.

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

**SLOPE EASEMENT**

<table>
<thead>
<tr>
<th>Tl=</th>
<th>R-Value</th>
<th>O.G.=</th>
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<tbody>
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</tr>
</tbody>
</table>

MATERIAL | THICKNESS
---|---
AC  |   |
AB  |   |
ASB |   |
COMP. O.G. |   |

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOTE:

* SLOPE FROM HIGH GUTTER. MAXIMUM SLOPE SHALL NOT EXCEED 2.5% TO LOW GUTTER.

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

NOT TO SCALE
NOTE:
SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

NOT TO SCALE
NOT TO SCALE

**SLOPE EASEMENT

R/W 45'

11' HP 10' EP 24'

2.5'

2:1(H:V) MAX.

10'

A.C. DIKE TYPE "A" PER R-52
(OR AS DIRECTED BY THE ENGINEER)

** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

NOTES:
TRACT MAPS: LOTS ≥ 5 < 20 ACRES
PARCEL MAPS: LOTS > 3 < 20 ACRES

*NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER.

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

<table>
<thead>
<tr>
<th>T1=</th>
<th>R-Value</th>
<th>O.G. =</th>
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<td>ASB</td>
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<td></td>
</tr>
<tr>
<td>COMP. O.G.</td>
<td></td>
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</table>

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOTES:
MAXIMUM CROSS FALL TO LOW GUTTER SHALL BE 0.5'.

* SLOPE FROM HIGH GUTTER.

** DISTANCE FROM C TO F MAY BE 18' WHERE STREET WILL NOT SERVE MORE THAN 30 SINGLE-FAMILY LOTS.

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOTES:
TRACT MAPS: LOTS ≥ 5 < 20 ACRES
PARCEL MAPS: LOTS > 3 < 20 ACRES
SEE PLATE R–31 FOR PARKWAY AREA (SHOULDER)

NOT TO SCALE

Tl= | R–Value O.G.=
---|----------------
MATERIAL | THICKNESS
AC | 
AB | 
ASB | 
COMP. O.G. | 
SEE PLATE R–32 FOR LIMITS OF COMPACTION OF O.G.
NOT TO SCALE

NOTES:

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER

** DISTANCE FROM E TO F MAY BE 18' WHERE STREET WILL NOT SERVE MORE THAN 30 SINGLE-FAMILY LOTS.

*** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

<table>
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<tr>
<th>Tract Maps</th>
<th>Parcel Maps</th>
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<tr>
<td>LOT SIZE (ACRES)</td>
<td>NOTE: LOT SIZE (ACRES)</td>
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<tr>
<td>≥ 1/2 &lt; 2 1/2</td>
<td>&gt; 1/2 ≤ 3</td>
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<tr>
<td>≥ 2 1/2 &lt; 5</td>
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SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

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<th>Tl=</th>
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<td>MATERIAL</td>
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<td>COMP. O.G.</td>
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</table>

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
TRACT MAPS: LOTS $\geq 5 < 20$ ACRES
PARCEL MAPS: LOTS $> 3 < 20$ ACRES

NOT TO SCALE

NOTES:
* NO DIKE NEEDED IF SIDE SLOPE IS $4:1(H:V)$ OR FLATTER

** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)
PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

**SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
**SIDEWALK**

* SLOPE FROM HIGH GUTTER. MAXIMUM SLOPE SHALL NOT EXCEED 2.5% TO LOW GUTTER.

** SIDEWALK SHALL BE FULL WIDTH TO R/W ON COMMERCIAL DEVELOPMENTS. IT MAY BE REDUCED TO A MINIMUM OF 5' wide, IF LANDSCAPING IS CONTIGUOUS AND MAINTAINED BY OTHERS, SUBJECT TO THE DIRECTOR'S APPROVAL.

**NOTES:**

22' STREET WIDTH SATISFACTORY ONLY WHERE STREETS ARE CONTINUOUS AND ADEQUATE OFF-STREET PARKING IS PROVIDED. ALTERNATE WOULD BE TYPE "A" SECONDARY HIGHWAY.

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER).
NOTES:

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER

** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

*** SIDEWALK SHALL BE FULL WIDTH TO R/W ON COMMERCIAL DEVELOPMENTS. IT MAY BE REDUCED TO A MINIMUM OF 5' WIDE, IF LANDSCAPING IS CONTIGUOUS AND MAINTAINED BY OTHERS, SUBJECT TO THE DIRECTOR'S APPROVAL.

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER).

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

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SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOT TO SCALE

NOTES:

SEE PLATE R-31 FOR PARKWAY AREA (SHOULDER)

* GRADE FROM HIGH GUTTER.

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

MATERIAL | THICKNESS
---|---
AC | 2% - 3%
AB | 2% - 3%
ASB | COMP. O.G.

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOT TO SCALE

NOTE:
PAVE FULL SECTION IF RAISED MEDIANS NOT INSTALLED.

NOTES:
SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

TRACT MAPS AND PARCEL MAPS
LOT SIZE (ACRES)  X1  X2
≥ 2 1/2 ≤ 10  28'  10'
≥ 10 < 20  18'  20'

Tl=  R-Value O.G.=
MATERIAL   THICKNESS
AC          
AB          
ASB         
COMP. O.G.  

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOT TO SCALE

TRACT MAPS AND PARCEL MAPS

A.C. DIKE TYPE "A" PER R-52
(OR AS DIRECTED BY THE ENGINEER)

NOTES:

SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

**SLOPE EASEMENT

R/W AND C

55'

10'

38'

7'

10'

2.5'

2:1(H:V) MAX.

10'

* A.C. DIKE TYPE "A" PER R-52
(OR AS DIRECTED BY THE ENGINEER)

MATERIAL | THICKNESS
--- | ---
AC |  
AB |  
ASB |  
COMP. O.G. |  

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
TRACT MAPS AND PARCEL MAPS

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT
STANDARD

HALF WIDTH TYPE "B"
ARTERIAL HIGHWAY
LOT SIZE: ≥ 2 1/2 < 20 AC.

PLATE NO.
R–18

DATE: 6–8–1955

NOT TO SCALE
NOTES:

SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

* SLOPE FROM HIGH GUTTER. MAXIMUM SLOPE SHALL NOT EXCEED 2.5% TO LOW GUTTER.

** USE WITH BIKE LANES.

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

A.C. DIKE TYPE "E" PER R-52 (OR AS DIRECTED BY THE ENGINEER)

NOT TO SCALE
NOTES:
WHERE 4:1 (H:V) OR FLATTER FILL SLOPES ARE USED, THE MINIMUM FILL AT THE HINGE POINT SHALL AVERAGE 0.5 FEET.

SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

<table>
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NOT TO SCALE

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<td>COMP. O.G.</td>
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SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOTES:

SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER

** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

*** USE WITH BIKE LANES

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<td>COMP. O.G.</td>
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SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOT TO SCALE

NOTES:

SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER

** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W.

PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE

<table>
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<tr>
<th>Tl=</th>
<th>R-Value</th>
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<tbody>
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<td>COMP. O.G.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOTES:
SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)
MAXIMUM CROSS FALL TO LOW GUTTER SHALL BE 0.5'.
* SLOPE FROM HIGH GUTTER.
PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE.
NOTE:
SEE PLATE R-30 FOR PARKWAY
AREA (SHOULDER)

<table>
<thead>
<tr>
<th>TI=</th>
<th>R-Value O.G.=</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL</td>
<td>THICKNESS</td>
</tr>
<tr>
<td>AC</td>
<td></td>
</tr>
<tr>
<td>AB</td>
<td></td>
</tr>
<tr>
<td>ASB</td>
<td></td>
</tr>
<tr>
<td>COMP. O.G.</td>
<td></td>
</tr>
</tbody>
</table>

SEE PLATE R-32 FOR LIMITS OF COMPACTION OF O.G.
NOTES:
SEE PLATE R-30 FOR PARKWAY AREA (SHOULDER)

* NO DIKE NEEDED IF SIDE SLOPE IS 4:1(H:V) OR FLATTER

** DISTANCE FROM \( E \) TO \( E \) MAY BE 18' WHERE STREET WILL NOT SERVE MORE THAN 30 SINGLE-FAMILY LOTS.

*** SLOPE EASEMENT REQUIRED WHEN CUT OR FILL EXCEEDS ONE FOOT AT R/W. PAVING SECTION SHALL CONTINUE FULL WIDTH OF DIKE
INDUSTRIAL, COMMERCIAL, AND MULTIPLE RESIDENTIAL ZONES OR INTENDED USES

NOTE:

* USE FOR R-1 RESIDENTIAL DEVELOPMENTS.
**NOTEs:**

1. AS REQUIRED BY THE ENGINEER FOR CIRCULATION.

2. PAVEMENT SECTION MAY BE REQUIRED TO BE A FULL DEPTH DESIGNED SECTION IF IN ALIGNMENT WITH A FUTURE STREET.

3. A SECONDARY ACCESS EASEMENT OR STREET RIGHT-OF-WAY DEDICATION IS REQUIRED.

**EMERGENCY ACCESS**

**NOTEs:**

1. AS REQUIRED BY THE FIRE DEPARTMENT FOR ALL SECONDARY ACCESSES.

2. FOR EMERGENCY ACCESS, BARRICADES MAY BE REQUIRED TO RESTRICT ACCESS.

3. AN EMERGENCY ACCESS EASEMENT IS REQUIRED FOR ALL EMERGENCY ACCESSES.
NOTE:
* FOR PHASE CONSTRUCTION, THE AREA BETWEEN HP AND R/W WILL VARY IN ACCORDANCE TO IMPROVEMENTS REQUIRED.

SHOULDER AREA
CUT/FILL SLOPES
4:1(H:V) OR FLATTER

(SEE TYPICAL SECTION)

NOTE:
WHEN CUT/FILL EXCEEDS 1 FOOT
AT R/W LINE, SLOPE EASEMENT IS REQUIRED.

SHOULDER AREA
CUT/FILL SLOPES EXCEED 4:1(H:V)
NOTE:
* Slope easement may be deleted when grading permit is provided or cut/fill is less than one foot at R/W line.
For phase construction use type "3" shoulder standard.

PARKWAY AREA (TYPE "A")
NO ACCESS CONTROL

NOTES:
** May include landscape easement.
If not landscaped, sidewalk shall extend to access-control wall at 2%

PARKWAY AREA (TYPE "A")
WITH ACCESS CONTROL WALL

NOT TO SCALE
T.I.—LIMITS OF COMPACTION OF O.G.

<table>
<thead>
<tr>
<th>T.I.</th>
<th>COMPACTION DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–5</td>
<td>ONE FOOT</td>
</tr>
<tr>
<td>5.5–6.5</td>
<td>1.5 FEET</td>
</tr>
<tr>
<td>7–8</td>
<td>2.0 FEET</td>
</tr>
<tr>
<td>8.5+</td>
<td>2.5 FEET</td>
</tr>
</tbody>
</table>

COMPACT O.G. IS MEASURED FROM TOP OF AC TO BOTTOM OF COMPACT O.G. MINIMUM COMPACTION OF O.G. SHALL BE 95% FOR 0.5 FEET.

R–VALUE TESTS

THE DEVELOPER IS REQUIRED TO HAVE R–VALUE TESTS PERFORMED FOR DEVELOPMENTS IN KERN COUNTY. TESTS SHALL BE PROVIDED BY REGISTERED GEOTECHNICAL ENGINEER/CIVIL ENGINEER.

THE MINIMUM NUMBER OF TESTS IS BASED ON CENTERLINE DISTANCE OF STREETS TO BE CONSTRUCTED. SEE CHART BELOW.

<table>
<thead>
<tr>
<th>STREET C/L DISTANCE</th>
<th>NO. OF R–VALUE TESTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1500'</td>
<td>2</td>
</tr>
<tr>
<td>1501’–3000’</td>
<td>3</td>
</tr>
<tr>
<td>3001’–4500’</td>
<td>4</td>
</tr>
<tr>
<td>4501’–6000’</td>
<td>5</td>
</tr>
<tr>
<td>ETC.</td>
<td>.</td>
</tr>
</tbody>
</table>

CLASS 3 AGGREGATE BASE & AGGREGATE SUBBASES

REQUIREMENTS FOR CLASS 3 AB AND ALL ASB’S SHALL BE SET FORTH ON THE PLANS FOR THE DEVELOPMENT. SPECIFICATIONS SHALL BE APPROVED BY THE DIRECTOR.

LEGEND

AC—ASPHALT CONCRETE  
AB—AGGREGATE BASE  
ASB—AGGREGATE SUB–BASE  
OG—ORIGINAL GROUND  
Comp.—COMPACT  
T.I.—TRAFFIC INDEX  
HP—HINGE POINT  
EP—EDGE OF PAVEMENT
CURVE DATA

C1
D = 36°14'58"
R = 60.00'
L = 37.96'
T = 19.64'

C2
D = 36°14'58"
R = 2.00'
L = 1.27'
T = 0.65'

36.66'
25'

1' RADIUS

R6-1R
C2

60' RADIUS

2' RADIUS

C1

SEE R-53 THRU R-61
FOR APPLICABLE DETAILS

CENTERLINE DRIVEWAY OR STREET

TYPE OM1-3 MARKERS
ARE USED ONLY AT
STREET INTERSECTIONS

SIGN PANELS SHALL BE ALUMINUM,
.080" IN THICKNESS

LEGEND TO SIGNS

R6-1R — DENOTES "ONE WAY"
SIGN PER CMUTCD

R5-1 — DENOTES "DO NOT
ENTER" SIGN PER CMUTCD

TYPE Q (CA) MARKER SHALL BE
FLEXIBLE POST MARKER YELLOW
ON WHITE PER CALTRANS
STD PLAN A73A.

TYPE OM1-3 MARKER—ALL—YELLOW
RETRO REFLECTIVE DIAMOND PANEL

CENTER OF SIGN

OM1-3

R5-1
(36" x 36")

R6-1R
(48" x 16")

2" GALV. STEEL
PIPE, TYPE B.S.S., SCHEDULE 40
OR 2"-14 GAUGE SQUARE POST
WITH 7/16" PREPUNCHED HOLES
ON 1" CENTER (GALV.)

2.5" x 26"
PIPE SLEEVE WITH
5/16" x 4" BOLT

5/8" 1/4" DIA. ROD OR
BOLT CAST INTO CONC.
TYPICAL

6" 36"

WHEN OM1-3
IS OMITTED

36"

PLANTED: 02/24/2010

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT
STANDARD

ONE-WAY MEDIAN OPENING
WITH
14' WIDE MEDIAN

PLATE NO.
R-33
This standard is to be used for intersections with arterials or collectors.
NOTE
GUTTER FLOWLINE (GFL) OFFSET IS INCREASED
3' FOR STREETS DESIGNATED FOR BIKE LINES

NOTE
STATIONS RUN FROM 0+00
EACH WAY FOR CLARITY
12' at full access locations

FLOW LINE

1/2Δ

RIGHT OF WAY

*AT RESTRICTED ACCESSES,
WIDTH REDUCED TO
DIMENSIONS SHOWN IN
STD. T-8 OR T-9

10' OR 7' ON
BIKE LANE ROUTES

10' OR 13' ON
BIKE LANE ROUTES

90'

7'

30' PARABOLIC CURVE

30' TANGENT

30' PARABOLIC CURVE

48' with bike lane*

45' without bike lane*

*DISTANCE VARIES IN TRANSITION AREA

DETAIL TO BE USED WHERE FULL
EXPANSION OF INTERSECTION AS
SHOWN IN DETAILS R-34 THRU R-38
ARE NOT POSSIBLE DUE TO PRIOR
DEVELOPMENT OR PARCELIZATION.
ALSO AT DRIVEWAYS AND OTHER
PUBLIC ACCESSES WHERE TURN
LANES ARE REQUIRED OR PERMITTED.
NOTES:
1. THIS DETAIL MAY BE USED WHEN SLOPE CONSTRAINTS EXIST. DETAIL R-39 MAY BE USED UNDER OTHER CONDITIONS.
2. SEE COUNTY OF KERN STANDARD R-52, TYPE "B" CURB AND GUTTER, FOR ALL APPLICABLE DIMENSIONS AND NOTES.
3. CONCRETE TO HAVE 0.125" WIDE BY 2.0" DEEP WEAKENED PLANE JOINT AT 15' O.C. AND 0.5" EXPANSION JOINTS AT 90' O.C.
4. SAWCUT EXISTING EDGE OF PAVEMENT AS DIRECTED BY THE ENGINEER.
5. REMOVE, REPLACE, OR RELOCATE ANY NECESSARY SIGNS PER COUNTY REQUIREMENTS OR AS DIRECTED BY THE ENGINEER.
6. ANY DESIGN DEVIATIONS FROM THIS STANDARD MUST BE APPROVED IN WRITING BY THE ENGINEER.

<table>
<thead>
<tr>
<th>TABLE &quot;A&quot;</th>
<th>THE FOLLOWING SHALL APPLY FOR CONCRETE STRUCTURAL THICKNESSES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>T.I.</td>
<td>CONCRETE DEPTH</td>
</tr>
<tr>
<td>6.0 - 7.0</td>
<td>0.5'</td>
</tr>
<tr>
<td>7.5 - 8.0</td>
<td>0.6'</td>
</tr>
<tr>
<td>8.5 - 9.0</td>
<td>0.7'</td>
</tr>
<tr>
<td>10.0 - 12.0</td>
<td>0.8'</td>
</tr>
<tr>
<td>12.5 +</td>
<td>0.9'</td>
</tr>
</tbody>
</table>

SECTION A-A

95% RELATIVE COMPACTION
CLASS "2" CONCRETE
SUBBASE
CLASS "3" CONCRETE CURB

EXISTING A.C. & AGG. BASE

2.0" SEE TABLE "A"

VARIES

0.25% MAX.

LUNG. BASE

PIC. "4"

CASE 1

CASE 2

FLOW LINE
** UNLESS DIRECTED OR APPROVED OTHERWISE BY THE ENGINEER

FLOW LINE
** UNLESS DIRECTED OR APPROVED OTHERWISE BY THE ENGINEER

FOR COMMERCIAL DRIVEWAY, SEE PLATE R-55

FOR COMMERCIAL DRIVEWAY, SEE PLATE R-55

DRAINAGE

DRAINAGE

10' LANE ON BIKE LANE

10' LANE ON BIKE LANE

MINIMUM STORAGE PER SEC. 105.5

MINIMUM STORAGE PER SEC. 105.5

30' PARABOLIC CURVE

30' PARABOLIC CURVE

30' TANGENT LINE

30' TANGENT LINE

PARABOLIC CURVE

PARABOLIC CURVE

30' PARABOLIC CURVE

30' PARABOLIC CURVE

30' PARABOLIC CURVE

30' PARABOLIC CURVE
NOTE:
PROPERTY LINE DETAIL TO BE USED AT INTERSECTIONS OF ALL STREETS ADJACENT TO OR WITHIN NEW DEVELOPMENTS.

NOT TO SCALE
R = 100' MINIMUM

250' MINIMUM

LOCAL STREET

MAJOR HIGHWAY

SECONDARY HIGHWAY

NOT TO SCALE

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

FRONTAGE ROADS

PLATE NO.
R-42
NOTE: PARKWAY WIDTH TO BE MAINTAINED AT A UNIFORM WIDTH AROUND (PADDLE) CUL-DE-SAC.

NOT TO SCALE

TYPE B-1 CURB
(SEE K.C.D.S. PLATE R-52)

VIEW = ORIG WITH 3 & 5 RADS

<table>
<thead>
<tr>
<th>CURVE</th>
<th>RADIUS</th>
<th>LENGTH</th>
<th>TANGENT</th>
<th>DELTA</th>
</tr>
</thead>
</table>
| C1    | 25.00' | 19.38' | 10.21'  | 44°24'55"
| C2    | 52.00' | 40.31' | 21.23'  | 44°24'55"
| C3    | 52.00' | 163.36' | —— | 180°00'00" |
| C4    | 35.00' | 27.13' | 14.29'  | 44°24'55"
| C5    | 42.00' | 32.56' | 17.15'  | 44°24'55"
| C6    | 42.00' | 131.95' | —— | 180°00'00" |
| C7    | 17.50' | 49.50' | 110.80' | 162°02'56" |
OFF-SITE TURNAROUND

REQUIRED WHEN THE TRACT AND OFF-SITE HAVE THE SAME OWNER

TEMPORARY PAVING SHALL BE 2" THICK, MINIMUM OVER 6" COMPACTED SUBGRADE COMPACTED TO 95% RELATIVE DENSITY. PAVING SHALL INCLUDE TYPE "A" AC DIKE, PER K.C.D.S. PLATE R-52, AROUND THE CUL-DE-SAC OR OTHER APPROVED METHODS FOR DRAINAGE AS DIRECTED BY THE ENGINEER.
NOTES:

1. ALL DIMENSIONS SHOWN ARE FOR A 90° KNUCKLE ONLY.

2. WHEN DELTA IS GREATER THAN 120°, KNUCKLE SHALL BE SUBJECT TO SPECIAL DESIGN BY THE DIRECTOR.

3. THE MAXIMUM DEVIATION OF THE STREET CENTERLINES AT INTERSECTIONS SHALL NOT EXCEED 15° SKEW FROM A RIGHT-ANGLED INTERSECTION FOR ALL LOCAL STREETS.

4. THE MAXIMUM DEVIATION OF THE STREET CENTERLINES AT INTERSECTIONS SHALL NOT EXCEED 5° SKEW FROM A RIGHT-ANGLED INTERSECTIONS FOR ALL MAJOR STREET SYSTEMS.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
<td>36</td>
<td>12</td>
<td>37</td>
<td>11.46</td>
<td>82</td>
<td>90</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>40</td>
<td>10</td>
<td>35</td>
<td>5.54</td>
<td>84</td>
<td>92</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>44</td>
<td>8.0</td>
<td>33</td>
<td>0</td>
<td>86</td>
<td>94</td>
<td>25</td>
</tr>
</tbody>
</table>

NOT TO SCALE
LOCAL INTERSECTION OFFSETS

NOT TO SCALE

DATE: 3-30-1995

DESIGNED BY: A.A.

DRAWN BY: D.M.

CHECKED BY: G.F.

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT
STANDARD

PLATE NO.
R-48

73
* INTERSECTION OFFSET SHALL APPLY ALONG LOCAL STREETS

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

STANDARD
MINIMUM STREET ACCESS SPACING ON ARTERIALS AND COLLECTORS

PLATE NO. R-49
NOTE
NUMBER OF ACCESS POINTS SHOWN TO ARTERIAL STREETS IS FOR ILLUSTRATIVE PURPOSES ONLY TO COVER TYPICAL ACCESS CONFIGURATIONS. ARTERIALS ARE PRIMARILY DESIGNED FOR MOVEMENT OF THROUGH TRAFFIC AS INDICATED SEC. 105.3 ACCESS POINTS TO ARTERIAL STREETS SHALL BE MINIMIZED TO THE GREATEST EXTENT POSSIBLE.
TYPE A2-6 CURB AND GUTTER

TYPE B1 CURB

6" O.C. @ 95% RELATIVE COMPACTION

TYPE B6 CURB

TYPE "E"—ASPHALT CONCRETE MOUNTABLE DIKE

NOTE:
CONCRETE SHALL BE CLASS 3.
NO COLORING SHALL BE ADDED.
FOR EPOXY GLUE ON CURB, ELIMINATE THE REBAR AND SEE CALTRANS STANDARD SPECIFICATIONS FOR EPOXY INSTALLATION.

NOTE—A
EXTEND TOP LAYER OF AC PLACED ON THE SHOULDER UNDER DIKE WITH NO JOINT AT THE ES.

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

NOT TO SCALE

PLATE NO. R-52
NOTES

1. Expansion joints shall be either (A) 1/4" to 1/2" premolded expansion joint filler per the standard specifications, Sec. 51-1-12 or (B) 2" deep scored joint.

2. Weakened plane joints (WPJ) required on centerline for driveways 10’ to 20’ wide. Driveways 22’ to 35’ wide shall have two WPJ evenly spaced at 1/3 and 2/3 points.

3. All construction and materials shall be in conformance with standard specifications.

4. Thickness of aprons and sidewalk between apron & driveway shall be 6" of concrete.

5. To be constructed on all streets with A2-6 curb and gutter.

6. Planter strip as per 503-14-02

7. Concrete shall be class 3.

8. No coloring shall be added.

* Provide required pedestrian easement if outside r/w. Sidewalk may be reduced to 4"-0" wide between apron and driveway.

** If curb and gutter are poured separate of apron then dowels are required at back of curb. 3” in curb and 9” in center of apron.

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

SIDEWALK & PLANTER STRIP
DRIVEWAY DETAIL
TYPE "A"
RESIDENTIAL/COMMERCIAL

PLATE NO.
R-53
SECTION A—A WITH VERTICAL CURB

1. EXPANSION JOINTS SHALL BE EITHER (A) 1/4" TO 1/2" PREMOLDED EXPANSION JOINT FILLER PER THE STANDARD SPECIFICATIONS, SEC. 51-1-12 OR (B) 2" DEEP SCORED JOINT.

2. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10' TO 20' WIDE. DRIVEWAYS 22' TO 35' WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT 1/3 AND 2/3 POINTS.

3. ALL CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE WITH STANDARD SPECIFICATIONS.

4. THICKNESS OF APRONS AND SIDEWALK BETWEEN APRON & DRIVEWAY SHALL BE 6" OF CONCRETE.

5. TO BE CONSTRUCTED ON ALL STREETS WITH A2-6 CURB AND GUTTER.

6. PLANTER STRIP AS PER 503-14-02
7. CONCRETE SHALL BE CLASS 3.
8. NO COLORING SHALL BE ADDED.

* PROVIDE REQUIRED PEDESTRIAN EASEMENT IF OUTSIDE R/W. SIDEWALK MAY BE REDUCED TO 4'-0" WIDE BETWEEN APRON AND DRIVEWAY.
** IF CURB AND GUTTER ARE Poured SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB. 3" IN CURB AND 9" IN CENTER OF APRON.

"UNOBSERVED PEDESTRIAN WALKWAY PER A.D.A. REQUIREMENTS".
NOT TO SCALE

NOTES:
1. THE RAMP SHALL HAVE A 12-INCH WIDE BORDER WITH 1/4-INCH GROOVES APPROXIMATELY 3/4 INCH O.C. SEE GROOVING DETAIL.
2. CONCRETE SHALL BE CLASS 3.
3. TO INCREASE THE RADIUS IN COMMERCIAL DEVELOPMENTS, LIMITED EXCEPTIONS MAY BE GRANTED BY THE DIRECTOR.
4. EXPANSION JOINTS SHALL BE EITHER (A) 1/4" TO 1/2" PREMOLDED EXPANSION JOINT FILLER PER SEC. 51-1.12 OF THE STANDARD SPECIFICATIONS, OR (B) 2" DEEP SCORED JOINT (WEAKENED PLANE, EXTRUSION MACHINE ONLY)
5. ADDITIONAL EXPANSION JOINT REQUIRED AT CENTERLINE WHEN APPROACH IS GREATER THAN 20'.
6. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND DEPTH OF THE RAMPS, EXCLUDING THE FLARED SIDES. DETECTABLE WARNING PRODUCTS SHALL BE DSA-AC APPROVED.

SEE NOTE 1
8.33% MAX.
SLOPE
SEE NOTE 6

6" P.C.C. WHEEL CHAIR RAMPS PLACED MONOLITHIC WITH CURB RETURN (SEE PLATE R-59 FOR DETAILS)

PLAN

VAR.- 10' MIN. 20' MIN. TO 35' MAX.
VAR.- 10' MIN.

SECTION A-A

SECTION B-B

6" O.C. COMPACTED TO 95% RELATIVE COMPACTION

SEE NOTES

1/4" 1/4"

GROOVING DETAIL

6" 6" 6"

3:12 BATTER

* VARIES 0" TO 6"
R1, R2

NOT TO SCALE

THIS STANDARD APPLIES TO RESIDENTIAL ACCESS ON LOCAL STREETS. FOR ARTERIALS AND COLLECTORS OR WHERE THE SIDE STREET IS AN ARTERIAL OR COLLECTOR, THE DIMENSION FROM THE CORNER WILL BE 20'.

NON R1, R2

NOT TO SCALE

**THESE CLEARANCES MAY BE REDUCED WHERE TRAFFIC CONDITIONS WARRANT, SUBJECT TO THE RECOMMENDATION OF THE TRAFFIC ENGINEER.**
THIS PAGE IS INTENTIONALLY LEFT BLANK
NOTES

1. THE RAMP SHALL HAVE A 12-INCH WIDE BORDER WITH 1/4-INCH GROOVES APPROXIMATELY 3/4 INCH O.C. SEE GROoving DETAIL.

2. EXPANSION JOINTS SHALL BE EITHER (A) 1/4" TO 1/2" PREMOLDED EXPANSION JOINT FILLER PER SEC. 51-1.12 OF THE STANDARD SPECIFICATIONS OR (B) 2" DEEP SCORED JOINT (WEAKENED PLANE, EXTRUSION MACHINE ONLY)

3. CONCRETE SHALL BE CLASS 3 NO COLORING SHALL BE ADDED.

4. CONCRETE 0.5' THICK (MONOLITHIC WITH CURB RETURN)

5. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND DEPTH OF THE RAMP, EXCLUDING THE FLARED SIDES. DETECTABLE WARNING PRODUCTS SHALL BE DSA-AC APPROVED.
NOTES:

1. THE RAMP SHALL HAVE A 12-INCH WIDE BORDER WITH 1/4-INCH GROOVES APPROXIMATELY 3/4 INCH O.C. SEE GROOVING DETAIL.

2. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND DEPTH OF THE RAMP, EXCLUDING THE FLARED SIDES. DETECTABLE WARNING PRODUCTS SHALL BE DSA–AC APPROVED.

3. CONCRETE SHALL BE CLASS 3 (5 SACK/C.Y.). NO COLORING SHALL BE ADDED.

4. CONSTRUCT WHEELCHAIR RAMP AT ALL RETURNS.

5. ARTERIAL AND COLLECTOR INTERSECTIONS MAY REQUIRE DUAL WHEELCHAIR RAMPS.
NOTES

1. THE RAMP SHALL HAVE A 12-INCH WIDE BORDER WITH 1/4-INCH GROOVES APPROXIMATELY 3/4 INCH O.C. SEE GROOVING DETAIL.

2. DETECTABLE WARNING SHALL EXTEND THE FULL LENGTH AND WIDTH OF THE BOTTOM LANDING. DETECTABLE WARNING PRODUCTS SHALL BE DSA–AC APPROVED.

3. CONCRETE SHALL BE CLASS 3 NO COLORING SHALL BE ADDED.

4. CONSTRUCT WHEELCHAIR RAMP AT ALL RETURNS.

5. ONLY TO BE USED WHERE ADEQUATE R/W IS NOT AVAILABLE.

6. MAJOR AND SECONDARY HIGHWAY INTERSECTIONS MAY REQUIRE DUAL WHEELCHAIR RAMPS.
Curb return to be part of cross gutter.

Part of curb return to be constructed as part of cross gutter. Curb face to be constructed as directed by engineer.

Flow

Expansion joint

B

DSJ

DSJ

DSJ

Expansion joint

Flow

NOTE:
DEEP SCORED JOINTS (DSJ) TO BE CONSTRUCTED AT LOCATIONS APPROVED BY THE ENGINEER.

Expansion joints shall be either (A) 1/4" pre molded expansion joint filler per Sec. 51-1.12 of the standard specifications, or (B) 2" deep scored joint (weakened plane, extrusion machine only).
EXPANSION JOINTS SHALL BE EITHER (A) 1/4" PREMOLDED EXPANSION JOINT FILLER PER SEC. 51-1.12 OF THE STANDARD SPECIFICATIONS, OR (B) 2" DEEP SCORED JOINT (WEAKENED PLANE, EXTRUSION MACHINE ONLY)
NOTES

1. SLOPE IS PLUS 2% MAX FROM TOP OF CURB TO PROPERTY LINE

2. SCORE SIDEWALK IN RECTANGLES OF NOT LESS THAN 12 SQUARE FEET NOR MORE THAN 20 SQUARE FEET

3. CONCRETE FOR SIDEWALK SHALL BE CLASS "3" AS APPROVED BY THE "COUNTY OF KERN"

4. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 8 FOOT INTERVALS OR AS DIRECTED BY THE ENGINEER

5. EXPANSION JOINTS SHALL BE PLACED AT SIDES OF STRUCTURES, END OF CURB RETURNS, AND OPPOSITE EXPANSION JOINTS IN EXISTING CURB

NOTE: MAXIMUM SPACING - 60 FT.

EXPANSION JOINTS SHALL BE EITHER (A) 1/4" TO 1/2" PREMOLDED EXPANSION JOINT FILLER PER SEC. 51-1.12 OF THE STANDARD SPECIFICATIONS, OR (B) 2" DEEP SCORED JOINT (WEAKENED PLANE, EXTRUSION MACHINE ONLY)
NOTES

1. SLOPE IS PLUS 2% MAX FROM TOP OF CURB TO PROPERTY LINE

2. SCORE SIDEWALK IN RECTANGLES OF NOT LESS THAN 12 SQUARE FEET NOR MORE THAN 20 SQUARE FEET

3. CONCRETE FOR SIDEWALK SHALL BE CLASS "3" AS APPROVED BY THE "COUNTY OF KERN"

4. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 8 FOOT INTERVALS OR AS DIRECTED BY THE ENGINEER

5. EXPANSION JOINTS SHALL BE PLACED AT SIDES OF STRUCTURES, END OF CURB RETURNS, AND OPPOSITE EXPANSION JOINTS IN EXISTING CURB. NOTE: MAXIMUM SPACING - 60 FT.

EXPANSION JOINTS SHALL BE EITHER (A) 1/4" TO PREMOLDED EXPANSION JOINT FILLER PER SEC. 51-1.12 OF THE STANDARD SPECIFICATIONS, OR (B) 2" DEEP SCORED JOINT (WEAKENED PLANE, EXTRUSION MACHINE ONLY)
NOTE:
1. WITHOUT BIKE LANE, CURB LINE IS 45', WITH 10' TO PROPERTY LINE. ADDITIONAL RIGHT-OF-WAY IS REDUCED FROM 10' TO 7'.
2. FLOWLINE TO EXTEND THROUGH TURNOUT.
3. COMPACT 18 INCHES OF O.G. TO 95% UNDER CONCRETE FOR TURNOUT.
4. CONCRETE FOR TURNOUT TO BE SAME AS FOR C & G.
5. PROVIDE NECESSARY PASSENGER WAITING PAD AND/OR SHELTER AS REQUIRED BY GOLDEN EMPIRE TRANSIT (GET) OR KERN REGIONAL TRANSIT (KRT).

SECTION A-A

NOT TO SCALE
NOTES:

1. A.C. TO BE 1/2" MAX. SIZE AGGREGATE

2. BACKFILL MATERIAL TO BE PLACED IN LAYERS; 8" LAYERS OF PROPERLY MOISTENED MATERIAL

3. SURFACING TO BE TRIMMED EXTRA WIDTH AFTER TRENCH IS BACKFILLED AND CLASS 2 A.B. IS IN PLACE

4. ALL WORK TO CONFORM TO CALIF. DEPT. OF TRANS. STANDARD SPECIFICATIONS, CURRENT EDITION, AND AS SHOWN ON THIS SHEET

5. SAWCUTS SHALL BE MADE PARALLEL OR AT RIGHT ANGLES TO THE CENTERLINE OF THE ROAD.

6. PATCHES LESS THE 2' FROM EXISTING PATCHES, EDGES OF PAVEMENT, OR GUTTER SHALL BE EXTENDED TO INCLUDE THE INTERMEDIATE ISOLATED STRIP OF EXISTING PAVEMENT.

7. MINIMUM PATCH WIDTH SHALL BE 2' AT ITS SMALLEST DIMENSION UNLESS OTHERWISE ALLOWED BE THE ENGINEER.
NOTES

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FOR PLASTIC PIPE INSTALLATION, SEE PLATE No. S-1 OR W-4.
CONCRETE SHALL BE EITHER:
(A) CLASS 3 (MIN.) WHERE STREET IS NOT COUNTY MAINTAINED OR OPEN TO TRAFFIC FOR 2 WEEKS AFTER PLACING.
(B) CLASS 2 (MIN.) WHERE IN EXISTING STREET OR STREET BEING USED BY PUBLIC TRAFFIC.

CONCRETE TO BE PLACED

PLAN

EXISTING SURFACE

8" VARIABLE 8"

TOP OF CONCRETE TO BE 1/4" BELOW EXISTING SURFACE

SECTION

DIMENSIONS SHOWN TO BE SAME FOR ALL SIZES OR TYPES OF OPENINGS ON COUNTY ROADS

NOTE:
CONCRETE MAY BE DELETED ON ROAD MIX STREETS UPON APPROVAL OF INSPECTOR

NOT TO SCALE

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

DETAIL
ADJUST COVERS TO GRADE

PLATE NO.
R-69
Concrete shall be either:
(A) Class 3 (Min.) where street is not county maintained or open to traffic for 2 weeks after placing.
(B) Class 2 (Min.) where in existing street or street being used by public traffic.

Note:
Fabricate in accordance with Section 55-3 "Fabrication", of the California Department of Transportation Standard Specifications.
Cover to be 9 5/8" O.D. casing pipe weighing at least 32 lbs. per linear foot and readily weldable to 1/2" x 10 3/4" dia. structural steel plate.

Section A-A

Not to scale
ALHAMBRA FOUNDRY 22" GALVANIZED FRAME & COVER
# A-1530 WITH TWO 3/4" STAINLESS STEEL SOCKET HEAD
SET SCREWS, (SET OPPOSITE AND FINISHED FLUSH) OR EQUAL.
SEE NOTE 8

PLAN

SEE DETAIL B ON PLATE R-72

NOTE:
SEE PLATE R-72 FOR NOTES PERTAINING TO THIS PLATE.

SECTION A-A

NOT TO SCALE

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD

TYPE "A"
MINOR STRUCTURE

PLATE NO.
R-71
NOTES (FOR PLATES R-71 & R-72):

1. ALL CONCRETE TO BE CLASS 2 CONCRETE

2. WALL REINFORCING NOT REQUIRED WHEN H=8' OR LESS OR THE UNSUPPORTED WIDTH OR LENGTH = 7' OR LESS. WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH NO. 4 BARS AT 16" CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.

3. ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AFTER FABRICATION

4. SUPPORT BOLTS SHALL BE INSTALLED WHEN LENGTH OF OPENING EXCEEDS 7'-0" AND SHALL BE SPACED NOT MORE THAN 7'-0" O.C. AND NOT LESS THAN 5'-0" O.C.

5. WHEN STRUCTURE IS LOCATED WITHIN CURB RETURN, THE CURB ANGLE SHALL BE FABRICATED IN CHORD SECTIONS OF EQUAL LENGTH NOT TO EXCEED 4 FEET WITH ONE SUPPORT BOLT AT EACH ANGLE POINT. WHEN "W"=5" THE CURB ANGLE MAY BE FABRICATED STRAIGHT.

6. WALL THICKNESS, T=6" EXCEPT: H > 8', T=8"; W > 8', T=8"(FRONT & BACK WALLS ONLY); D > 8', T=8"(SIDE WALLS ONLY)

7. LOCATION OF FRAME AND COVER TO BE DETERMINED BY THE ENGINEER

8. CAST-IN-PLACE OR PRECAST ALTERNATIVE IS OPTIONAL WITH CONTRACTOR, SEE SECTION 51-1.02 OF STANDARD SPECIFICATIONS

9. THE MINIMUM OPENING SHALL BE 3.5 FEET.

10. THE DEPRESSED FLOWLINE SHALL BE TRANSITIONED IN 6 FEET ON UPSTREAM SIDE, AND 3 FEET ON DOWNSTREAM SIDE OF THE INLET.

11. WHEN CURB OPENING EXCEEDS 4 1/2", A PLAIN ROUND STEEL PROTECTION BAR 1" IN DIAMETER SHALL BE INSTALLED. BAR SHALL BE IMBEDDED 5" AT EACH END.

NOT TO SCALE
2-1/2" x 2-1/2" x 1/4" GALVANIZED STEEL ANGLE BENT TO RADIUS OF PART CIRCLE PLATE.

2 Ø 1/4" BARS 4' LONG IMBEDDED IN WINGWALLS AT EACH END OF CULVERTS.

SECTION A-A

GENERAL NOTES
CONCRETE FOR CONSTRUCTION SHALL BE CLASS "3"

PART CIRCLE CULVERT SHALL BE FABRICATED OF 8 GAGE CORRUGATED METAL.

FOR RUNS LONGER THAN 20' INSTALL AN ALHAMBRA FOUNDRY A-1530 FRAME AND COVER WITH SETSCREWS IN MIDDLE OF RUN.

PART CIRCLE CULVERT SHALL EXTEND AT LEAST TO RIGHT-OFF-WAY LINE.

NOT TO SCALE
**NOTES:** UNDERSIDEWALK DRAIN TO EXTEND TO PROPERTY LINE. IF LENGTH IS GREATER THAN 20', INSTALL ALHAMBRA FOUNDRY FRAME AND COVER #1530 WITH SET SCREWS AT 10' O.C.

CURB ANGLE TO BE GALVANIZED AFTER FABRICATION.
CAST IRON OR STEEL CAP WITH SET SCREWS

FULL CUT-OFF OPTIC LUMINAIRE

4.0" X 6.5" HANDHOLE AND COVER WITH 0.25" X 1.5" REINFORCEMENT RING WELDED TO OUTSIDE OF HOLE.

0.5" 13 NC GROUNDING NUT WELDED TO INSIDE OF POLE OPPOSITE HANDHOLE.

12" X 12" X 1.0" BASE PLATE (SEE DETAIL ABOVE).

4 ASTM A--307 ANCHOR BOLTS, 1.0" X 3.0" X 4.0" WITH HEX NUT, LEVELING NUT, AND TWO WASHERS FOR EACH BOLT.

2.0" GROUT UNDER BASE AFTER LEVELING

1.5" CONDUIT WITH 12" MIN. RADIUS BEND

CLASS "3" CONCRETE FOUNDATION

POLE DIA. + 0.0625"

11" MIN. BOLT CIRCLE

11.5" MAX. BOLT CIRCLE

NO GROUT UNDER POLE

WEEP HOLE ON STREET SIDE
NOTES:

1. REMOVE COVER BEFORE PLACING CONCRETE. KEEP INSIDE OF BOX FREE OF OVERSPILL.

2. PULL BOX SHALL BE SIZE 3 1/2 AND SHALL BE LOCATED WITHIN 5.0' OF THE STREET LIGHT AND INSTALLED FLUSH WITH THE SIDEWALK. GRAVEL (0.75" MAX.) SHALL BE PLACED UNDER THE PULL BOX FOR DRAINAGE. PULL BOX COVER SHALL BE MARKED TO IDENTIFY IT AS STREET LIGHTING. PULL BOX SHALL BE PRE CAST CONCRETE.
GROUT CAP

6"x8"x16" CONCRETE MASONRY UNITS

#4 @ 32" O.C. (HORIZONTAL)

MASONRY NON-BEARING WALL
FOR USE IN SUBDIVISIONS REQUIRING A SIX FOOT MASONRY WALL.

DESIGN CRITERIA
A. CONCRETE MASONRY UNIT GRADE N, MEDIUM WEIGHT CONFORMS TO ASTM C90, f'c=1500 PSI
B. GROUT TO BE 2,000 PSI @ 28 DAYS
C. MORTAR TO BE 1,800 PSI @ 28 DAYS
D. REINFORCING STEEL=GRADE 40. PROVIDE 24" MINIMUM LAP.
E. MAXIMUM SOIL BEARING PRESSURE=1500 PSF.
F. WIND DESIGN 85 MPH, EXPOSURE "C" AND SEISMIC DESIGN CATEGORY D OR E.

NOTES:
FOOTING TO BE CLASS "3" CONCRETE. f'c=2500 PSI
FINISHED GRADE DIFFERENCE ON EACH SIDE OF WALL NOT TO EXCEED SIX INCHES.
GROUT ALL CELLS CONTAINING REINFORCEMENT, INCLUDING HORIZONTAL BOND BEAMS.

85 MPH WIND SPEED
EXPOSURE C
(3-SECOND GUST)
FLAT TERRAIN

SECTION
NOT TO SCALE

COUNTY OF KERN
STATE OF CALIFORNIA
DEVELOPMENT STANDARD
MASONRY
NON BEARING WALL
PLATE NO. R-77

102
MASONRY NON-BEARING WALL
FOR USE IN SUBDIVISIONS REQUIRING A SIX FOOT MASONRY WALL.

DESIGN CRITERIA
A. CONCRETE MASONRY UNIT GRADE N, MEDIUM WEIGHT CONFORMS TO ASTM C90, f'c=1500 PSI
B. GROUT TO BE 2,000 PSI @ 28 DAYS
C. MORTAR TO BE 1,800 PSI @ 28 DAYS
D. REINFORCING STEEL=GRADE 40. PROVIDE 24" MINIMUM LAP.
E. MAXIMUM SOIL BEARING PRESSURE=1500 PSF.
F. WIND DESIGN 100 MPH, EXPOSURE "C" AND SEISMIC DESIGN CATEGORY D OR E.

NOTES:
FOOTING TO BE CLASS "3" CONCRETE. f'c=2500 PSI
FINISHED GRADE DIFFERENCE ON EACH SIDE OF WALL NOT TO EXCEED SIX INCHES.
GROUT ALL CELLS CONTAINING REINFORCEMENT INCLUDING HORIZONTAL BOND BEAMS.

100 MPH WIND SPEED
EXPOSURE C
(3-SECOND GUST)
FLAT TERRAIN

SECTION
NOT TO SCALE
MASONRY NON-BEARING WALL

FOR USE IN SUBDIVISIONS REQUIRING A SIX FOOT MASONRY WALL.

DESIGN CRITERIA

A. SOIL EQUIVALENT FLUID PRESSURE = 45 PCF.
   ALLOWABLE SOIL BEARING PRESSURE = 1500 PSF.

B. CONCRETE MASONRY UNIT GRADE N, MEDIUM WEIGHT, CONFORMS TO ASTM C90,
   f’m=1500 PSI.

C. GROUT TO BE 2000 PSI @ 28 DAYS.

D. MORTAR TO BE 1800 PSI @ 28 DAYS.

E. FOOTING TO BE CLASS "3" CONCRETE. f’c=2500 PSI @ 28 DAYS.

F. REINFORCING STEEL TO BE GRADE 40.

G. MAXIMUM SLOPE OF RETAINED AREA SHALL NOT EXCEED 2%.

H. IF RETAINING HEIGHT EXCEEDS 2’, PROVIDE 4” PERFORATED PVC DRAIN LINE WITH A
   MINIMUM OF 1 CUBIC FOOT PER FOOT COMPACTED 1/2” GRAVEL BETWEEN WALL.
   PROVIDE 1 1/2” WEEP HOLE AT 100’ O.C. MAXIMUM OR AT EACH PROPERTY LINE,
   WHICH EVER IS CLOSER OR OMIT HEAD JOINT IN 1ST COURSE @ 32” O.C. MAXIMUM
   FOR WEEP HOLE.

I. MINIMUM SET BACK FOR STRUCTURES FROM WALL (RETAINED SIDE) IS "H" PLUS 2’.

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100 MPH WIND SPEED EXPOSURE C
(3-SECOND GUST)
FLAT TERRAIN

SECTION
NOT TO SCALE

12"
3" CLEAR
KEY NOT REQUIRED FOR H ≤ 2'

6"x8"x16"
CONCRETE MASONRY UNITS

#4 BARS (VERT.)
@ 24" O.C.
CENTER IN WALL

#4 BARS (HORIZ.) @ 32" O.C.

EXTEND MIN. 24"
INTO RETAINING WALL

2" CLEAR
WATER PROOFING MEMBRANE PER C.B.C.

#4 BARS (CONT.) TOTAL=4

12"
12"
12"
12"

FINISHED GRADE

SCREEN WALL GROUTED AT REINFORCING CELLS ONLY

(SOLID GROUTED)

4" MIN.

12"
MASONRY NON-BEARING WALL
FOR USE IN SUBDIVISIONS REQUIRING
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