

DIVISION SIX

STANDARDS FOR TRAFFIC ENGINEERING

CHAPTER 6.1 INTRODUCTION

Section 6.1.1 Purpose and Scope

This division establishes the minimum acceptable standards for the application of traffic engineering and traffic planning principals in the design of the transportation system to promote the safe, efficient and orderly movement of goods and people.

CHAPTER 6.2 TRAFFIC STUDIES

Section 6.2.1 Responsibility for Traffic Studies

Traffic studies may be required by the City in order to adequately assess the impacts of a development proposal on the existing and/or planned major street system. These impacts would typically be addressed in the "Traffic Circulation" section of an Environmental Impact Report (EIR). If a full EIR is not required, a focused EIR, or an expanded initial study addressing traffic impacts, may be required. The decision to require an EIR is made by the Planning Director. The primary responsibility for assessing the traffic impacts associated with a proposed development shall be the developer's, with the City serving in a review capacity.

The following development proposals will require regional traffic studies prepared, in a format acceptable to the Traffic Engineering Division of the Public Works Department, unless the study is waived by the Traffic Authority or his designee:

6.2.1.1 Any major retail or industrial project as defined by City ordinance (see [Chapter 6.3](#)).

6.2.1.2 Any General Plan Amendment application which is expected to intensify land use over that previously allowed in the General Plan whereby the increase in trip generation during any peak hour is expected to exceed 100 vehicles. Facilities to be studied shall be any City, State or County facility (mainline, interchange, structure, intersection or any project on the Transportation Impact Fee (TIF) list) when the peak hour trip generation onto said facility exceeds 100 trips. For those facilities currently experiencing level-of-service (LOS) "C" or less, the following "sliding scale" of "added peak project trips" shall be applied as the procedure to determine whether the facility should be included.

EXISTING LOS	ADDED PEAK PROJECT TRIPS
"C"	50
"D"	50
"E"	20
"F"	10

Where proposed General Plan Amendments are not expected to result in an increase in trip generation it is exempt from a regional traffic impact study. These are allowed to be subject to the fixed rate impact fee assessment. To be eligible, a traffic analysis shall be submitted and approved which computes trip generation with existing and proposed land uses. Said analysis shall show that increase in peak hour trip generation does not exceed 50 trips. Exemption will be allowed if analysis is approved and accompanied by a request that the TIF fixed rate fee schedule be used.

Special traffic studies may be required where special circumstances dictate the need for a traffic study (such as issues of safe access concerns, significant public opposition, request for deviation from standards, etc.).

Where access points are not defined at the time the traffic study is prepared additional traffic work may be required when the access points are determined.

Transportation consultants are required to discuss projects with the Traffic Engineering Division prior to starting the study.

The traffic study shall be prepared, stamped and signed by a licensed Traffic Engineer or Civil Engineer experienced in preparing traffic studies.

Section 6.2.2 Traffic Study Format

In order to provide consistency and to facilitate staff review of traffic studies, the following format shall be followed in the preparation of traffic studies.

6.2.2.1 Introduction

The introduction portion of the report shall contain the following:

- a. Land Use, Site and Study Area Boundaries (Provide Map)
 1. A brief discussion of the parcel, the surrounding area (with acreage and building square footage) and identification of streets in the study area and streets providing access to the site.
 2. The exact limits of the study area shall be shown, including roadways, and shall be based upon engineering judgment and must be mutually agreed to by the Traffic Engineer. (1 mile minimum from project unless otherwise directed)
- b. Existing and Proposed Site Uses and Site Access
 1. The existing and proposed uses of the site shall be described. Specific uses, where known, shall be identified. The study shall address the worst case traffic impacts based upon possible uses allowed with the project

proposal.

2. A site plan must be provided in the report showing proposed points of access.

c. Existing and Proposed Uses in Vicinity of Site

1. A complete description of all unbuilt but approved projects, projects in process and proposed projects in the study area with approved uses shall be provided.

2. If approved uses are not available or undeveloped land has not been proposed for development assumptions of type of land use used for trip generation calculations shall be made based upon present zoning subject to the approval of the City.

d. Existing and Proposed Streets and Intersections

1. Within the study area, the applicant must describe and provide volumes for existing streets and intersections including geometric and traffic signal control. The same information shall be provided for all such proposed facilities.

6.2.2.2 Project Trip Generation And Design Hour Volumes

A summary table listing each type of land use, the size involved, the average trip generation rates used (total daily traffic and A.M./P.M. peak hours of the street), and the resultant total trips generated must be provided for the project site and all un-built but approved projects, Projects in Process and Proposed Projects within the study area.

Trip generation must be calculated for the maximum uses allowed under the existing and proposed zoning based on the latest data contained within the latest edition of the Institute of Transportation Engineer's (ITE) Trip Generation Manual or more appropriate local data as approved by the Traffic Engineer.

In the event the data is not available for the proposed land use the Traffic Engineer must approve estimated rates prior to acceptance of the draft traffic study report.

The calculation of design hour volumes used to determine study area impacts must be based upon:

- a. Peak hour trip generation rates as published in the ITE Trip Generation Manual, latest edition.
- b. Recent traffic volume counts for an acceptable number of similar existing uses if no published rates are available. Counts of this nature shall be approved by the Traffic Engineer before using.
- c. Additional sources from other jurisdictions or CalTrans if acceptable to the Traffic Engineer.
- d. For mixed use developments, ITE rates must be used to estimate average daily traffic. The P.M. peak hour of the street may be estimated by using 10 percent of average daily traffic.

Internal trip reductions and modal split assumptions will require analytical

support to demonstrate their validity and will require approval by the Traffic Engineer.

See Technical Requirements for the study in [Section 6.2.2.12](#).

6.2.2.3 Trip Distribution

The estimates of percentage distribution of trips from the proposed development to destinations both within and outside the City must be clearly stated in the report using north, south, east, west compass designations.

Market studies, driveway counts at adjacent uses, or other information concerning origin of trip attractions to the proposed development may be used to support these assumptions when available.

A map showing the percentage of site traffic on each street based on average daily volumes must be provided as part of the study graphic material. Where micro computer modeling is used, such a map need not be provided, but the model's distribution methodology must be discussed. Projections for build out scenarios shall be based upon the latest accepted Kern COG build out model horizon year utilizing Kern COG data. Equivalent model data may be used upon approval by the Traffic Engineer.

6.2.2.4 Trip Assignments

The direction of approach of site generated traffic via the area's street system will be presented in this section. The technical analysis steps, basic methods, and assumptions used must be clearly stated and agreed to by the Traffic Engineer.

The assumed trip distribution and assignment must represent the most logically traveled route for drivers accessing the proposed development. These routes can be determined by observation of travel patterns to existing land uses in the study area.

Trip distribution shall be applied regionally onto the major street system. The extent of distribution shall be until peak project traffic has reduced to the thresholds in [Section 6.2.1](#) on any facility on the TIF list. Since the TIF is based on mitigation to LOS "C" or better that level shall generally be taken as 50 peak hour trips or less for LOS analysis. Since the TIF is intended to assess fees for all trips, distribution shall be taken out to 5 peak hour trips or less for the TIF calculations described in [6.2.2.12.f](#).

6.2.2.5 Existing And Projected Traffic Volumes

Graphics must be provided which show the following traffic impacts for private access points, intersections and streets required in the traffic study.

- a. P.M. (and A.M. on State routes) peak hour site traffic (in and out)

including turning movements.

- b. P.M. (and A.M. on State routes) peak hour total traffic including site generated traffic (in and out). These volumes must include through and turning movements for current conditions and separate figures that include the current figures plus all projects to be included in the cumulative analysis.
- c. Any other peak hour determined by the Traffic Engineer to be critical to site traffic and the street system in the study area shall be included in the graphics showing the same information as provided for P.M. peak hour.
- d. Actual counts of existing total daily traffic for the street system in the study area at the time the study is being prepared.
- e. Projected total daily traffic for the street system in the study area based on traffic from the proposed development and counts of existing total daily traffic from item d. above. Components of the existing daily traffic attributable to the existing uses must be identified and those increases due to the proposed uses must be identified.
- f. Projected total daily traffic for the street system in the study area based on traffic from the proposed development, counts of existing total daily traffic from item d. above, and traffic projections based on all projects to be included in the cumulative analysis.

Peak hours referred to in this section are for the street system and not the generator of the traffic.

All total daily traffic counts must be actual machine counts and not based upon factored peak hour counts. Latest available machine counts obtained from the City, CalTrans or other agencies may be used if not more than a year old.

A book with current year ADT count information may be purchased from the City Public Works Department.

6.2.2.6 Capacity Analysis

A capacity analysis shall be conducted for all public street intersections impacted by the proposed development and for all private property access points to streets adjacent to the proposed project as specified in the requirements for the traffic study and within the study area.

The P.M. (and A.M. for State routes) peak period and any other peak period specified by the Traffic Engineer shall be tested to determine which peak hours need to be analyzed. Capacity calculations should also include an analysis for cumulative impacts.

At four-way stop sign intersections, estimates of the delay per vehicle and queue lengths on critical approaches shall be provided.

At two-way stop intersections, the unsignalized intersection analysis contained in the

Highway Capacity Manual (HCM), latest edition shall be used.

6.2.2.7 Level Of Service

Level of Service "C" will be the Peak Hour design objective for all movements, and under no circumstances will less than Level of Service "D" be accepted for site and non-site traffic including existing traffic at build out of the study area.

The traffic study must recommend feasible mitigation measures to bring the intersection Level of Service within acceptable standards.

Level-of-service definitions-In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- a. Level-of-service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
- b. Level-of-service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.
- c. Level-of-service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
- d. Level-of-service D represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
- e. Level-of-service E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.
- f. Level-of-service F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.

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Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level-of-service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level-of-service F is an appropriate designation for such points.

These definitions are general and conceptual in nature, and they apply primarily to uninterrupted flow. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them.

Detailed definitions for levels of Service "A" through "F" are provided in the latest Highway Capacity Manual (Special Report 209 of the Transportation Research Board [TRB]).

For existing and future conditions, levels of service shall be calculated using the methods set forth in the Highway Capacity Manual (HCM). Levels of Service for segment analysis may be evaluated by using Table 6.2.1

Table 6.2.1
CAPACITY BY ROAD FACILITY BY LEVEL OF SERVICE

ROADWAY TYPE	DAILY TRAFFIC VOLUMES @				
	LOS A	LOS B	LOS C	LOS D	LOS E
8 Lane Freeway	120,000	140,000	160,000	180,000	200,000
6 Lane Freeway	90,000	105,000	120,000	135,000	150,000
4 Lane Freeway	60,000	70,000	80,000	90,000	100,000
6 Lane Arterial	36,000	42,000	48,000	54,000	60,000
4 Lane Arterial	24,000	28,000	32,000	36,000	40,000
4 Lane Collector	18,000	21,000	24,000	27,000	30,000
2 Lane Collector	9,000	10,500	12,000	13,500	15,000

Note: Capacity represents the maximum volume of traffic for each specified level of service.

All levels of service using HCM methods must be provided with the applicable Measure of Effectiveness (MOE) data using HCM methods. Drawings of lane configurations assumed in levels of service calculations shall be included in the report.

6.2.2.8 Traffic Signals

The need for traffic signals shall be based upon warrants contained in the CalTrans Traffic Manual, latest edition and the Manual on Uniform Traffic Control Devices, latest edition.

In determining the location of a new traffic signal, progression is of paramount importance. Wherever there is a conflict, State standards will take precedence.

Pedestrian movements shall be considered in the evaluation, and adequate pedestrian clearance provided in the signal cycle split assumptions. The green time allocated to the cross street will be considered no less than the time which is required for a pedestrian to clear the main street using the Manual on Uniform Traffic Control Devices standards. Median shall not be considered as a refuge area for pedestrians.

To provide flexibility for existing conditions and ensure optimum two-way signal progression, an approved traffic engineering analysis shall be made to properly locate all proposed access that may require signalization.

The section of street to be analyzed for signal progression will be determined by the Traffic Engineer and will include all existing and possible future signalized intersections.

The progression pattern calculation must use a cycle consistent with present City signal timing policies. A desirable bandwidth of 50% of the signal cycle shall be used where existing conditions allow.

Where intersections have no signals presently, but are expected to have signals, typically a 60% mainline, 40% cross street cycle split should be assumed.

Cycle split assumptions must relate to volume assumptions in the capacity analysis of individual intersections, and where computerized progression analysis techniques are used, they must be of the type which utilizes turning movement volume data and pedestrian clearance times in the development of time/space diagrams. Left turn phases from arterials shall be considered in all cases.

Those intersections which would reduce the optimum bandwidth if a traffic signal were installed or significantly affect the design speed may be required to remain unsignalized and have turning movements restricted.

Time-space analysis shall include the "no new signal" alternative for comparison.

6.2.2.9 Traffic Accidents

Traffic accident data for affected street corridors may be required for the study. The study period will normally be three years. Such locations will be specified by the Traffic Engineer and data obtained from the City.

Where this is necessary, estimates of increased or decreased accident potential must be evaluated for the development, particularly if the proposed development might impact existing traffic safety problems in the study area, and safety improvements

recommended were necessary.

6.2.2.10 Recommendations

In the event that analysis indicates unsatisfactory levels of service ("D" or below) will result from the development on study area streets, a description of proposed improvements to return intersections to Level of Service "C" must be included.

These proposals would indicate projects by the City, County or CalTrans for which funding has been provided.

The assumptions regarding all future streets and lane configurations in the analysis will require approval from the Traffic Engineer.

The current TIF funded improvements have been approved by the City Council and County Board of Supervisors as being a minimum level of mitigation for the implementation of the 2010 General Plan. The regional traffic impact study shall assess the adequacy of the TIF improvements to mitigate traffic impacts with addition of the project traffic.

Recommended improvements shall include any needed opening day mitigation and/or any mitigation needed at each phase of development, if phasing is planned.

On major retail projects or other projects where detailed site plans are being considered, assessment and recommendations for site specific access needs shall be provided (Sec. 6.2.2.12.g).

In general the recommendations shall include the following:

a. Proposed Recommended Improvements

This section must describe the location, nature, and extent of proposed improvements to assure sufficient street and intersection capacity.

A sketch of each improvement should be provided showing the length, width, and other pertinent geometric features of the improvement. Sketches are only necessary for major improvements that would result in significant changes in circulation patterns.

b. Traffic Analysis at Critical Points (Scenario/Horizon Years)

A table must be provided clearly showing Levels of Service at critical intersections for the following conditions:

1. General Plan Amendments:
 - (1) Existing Conditions (Current Year) -- Traffic counts and LOS analysis
 - (2) Project Only -- Trip generation and distribution/assignment only

- (3) Build out of the General Plan based upon latest accepted Kern COG build out model horizon year (with and without project) -- Trip generation, distribution/assignment and LOS analysis
- (4) Traffic (without project) shall include traffic from other approved GPAs (not already accounted for in model data).

Any mitigation required beyond that provided by the TIF list of improvements shall be identified.

2. Other Projects:

- (1) Existing Conditions (Current Year) -- Traffic counts and LOS analysis
- (2) Project Only -- Trip generation and distribution/assignment only
- (3) Cumulative Conditions (Existing at year of project build out with expected growth and known approved projects) -- Trip generation, distribution/assignment and LOS analysis
- (4) Cumulative Conditions plus project (at year of project build out) or at each stage or phase(s). If staged or phased, date and extent of each phase shall be clearly defined.
- (5) Build out of the General Plan based upon latest accepted Kern COG build out model horizon year (with and without project) -- trip distribution/assignment for determination of share of TIF improvements.

Known projects shall include traffic from other approved GPAs (not already accounted for in model data).

Time of development for these computations shall be determined through consultation with the Traffic Engineer.

c. Traffic Volume Proportions

Percentages based upon the traffic impact analysis will be required for all regional traffic studies to determine the proportion of traffic using various public improvements (both existing and proposed) from several developments within the study area. A table shall be provided computing the project share of the TIF facilities ([Section 6.2.2.12.f](#)).

6.2.2.11 Summary

Within this section a clear concise summary of the report shall be provided. It shall include a general discussion of the data, project scope, findings, conclusions and recommendations. Technical data and calculations should not be provided.

6.2.2.12 Technical Requirements Of The Final Report

The Final Report must meet the following technical requirements:

- a. All computerized analysis output sheets and supporting raw count data, both ADT, turning movement, intersection delay data should be submitted with the draft reports for review.

All assumptions used in the calculations must be referenced to the appropriate table, chart or page of the publication used. Calculations must be comprehensive and presented in a clear manner.

- b. All maps and graphics involving improvements must be drawn to scale with roadway geometrics appropriately dimensioned (e.g. road widths, lane widths, etc.).
- c. After the daily trip adjustment factors have been applied to produce daily trips, the peak hour trips are to be calculated.

Peak hours are 7:30 to 8:30 A.M. and 4:30 to 5:30 P.M. or as directed by the Traffic Engineer.

- d. All raw traffic count data (including average daily volume and peak hour turning movement) and analysis work sheets must be provided in the appendices of the report. Computer printouts may be used as part of the report.
- e. Pass-by factors, if used, are to be used to reduce the estimated additional total daily traffic to street(s) serving a proposed development. They are not to be applied directly to reduce trip generation and turning movement volumes at driveways serving the proposed development.

Allowable pass-by factors for specific land uses shall be taken from Table 6.2.2. Other pass-by factors shall be taken from the ITE Trip Generation Manual latest edition and shall be verified through consultation with the Traffic Engineer. Use of pass-by factors may be reduced or disallowed entirely by the Traffic Engineer in specific instances where experience has shown them to be invalid due to special circumstances.

Table 6.2.2
Pass-by Factors

Land Use	Pass-by Factor
Regional Shopping Center	15.0%
Grocery Store/Community Shopping	20.0%
Retail Commercial	30.0%
Neighborhood Convenience Center	40.0%
Fast Food Restaurant	40.0%
Gas/Service Station	40.0%

- f. Tables shall be included show project share of all mitigation needed at full build out. The TIF calculation shall compute the project share for each of the affected TIF facilities. The computed share will be the project traffic divided by total traffic at the build out year. The build out year is the Kern COG model year used in the current TIF program (presently 2020). Total traffic

will be the sum of: traffic derived from accepted model data plus project traffic plus traffic from other approved GPAs (not already accounted for in model data). A table shall be provided showing project traffic, total traffic, percent share and cost share. The spreadsheet containing the current TIF list is available for use.

A separate table shall be included for any other facilities requiring mitigation. Any mitigation necessary at time of project shall also be provided.

g. Site access. Site access needs shall be addressed in the study with analysis and recommendations to include: types of entrances, location, size, need for and storage length of left or right turn lanes. Such analysis shall also comply with the minimum standards in **Chapters 6.8 and 6.9.**

6.2.2.13 Submittals

A minimum of two signed and stamped copies of the draft traffic study shall be submitted, for the Traffic Engineer to review. Additional final or review copies needed for other reviewing agencies will be as required by the Planning Director. Upon completion of any revisions, two signed and stamped copies of the final report shall be submitted for approval.

Reports must be bound on the left hand side and be 8-1/2 x 11 in format, maps shall be no larger than 11 x 17.

CHAPTER 6.3 IMPROVEMENT FEES

Section 6.3.1 Major Retail Fees

6.3.1.1 Introduction

In August of 1983 the City Council adopted Resolution No. 111-83 approving the Site Plan Review Policy for major retail projects adopted by the Planning Commission in its Resolution No. 55-83. The major provisions of this resolution are outlined in the following sections.

This policy sets forth the criteria for a major retail project, determining its impact on public improvements, the required mitigation for those impacts and determining the apportionment of responsibilities and costs relative thereto.

6.3.1.2 Definitions

a. Major Retail Project: A major retail project is defined to include each of the following:

1. Any single retail store or business with a total gross floor area of 75,000 square feet or more.
2. Any retail shopping center with a gross floor area of more than

100,000 square feet.

3. An addition to any existing retail shopping center with a gross floor area of more than 100,000 square feet which increases the total gross floor area twenty percent (20%) or by more than 75,000 square feet, or an addition to any shopping center which increases the shopping center to 150,000 square feet or more.

b. Shopping Center: A shopping center means any group of at least two businesses on a single parcel or on separate parcels of property which group utilize common off-street parking facilities and access.

c. Public Facilities: Public facilities means streets, street and bridge (including overpass) widenings, paving/ street lights, traffic signs and signals, curbs, gutters, sidewalks, medians, median irrigation systems and landscaping, intersection and access constructions and reconstructions; water mains, wells, pumping and storage facilities, including construction and upgrading to increase fire flows; sewer mains, pumping and lift stations; drainage lines, culverts, sumps, and pumping facilities; utility system extension or upgrading; fencing and landscape screening (including irrigation) for any of the foregoing; transit stops; and any equipment or facility made necessary by the project and to be used primarily in relation to the project, including the fees and costs for plans and specifications for such public facilities.

6.3.1.3 Method of Cost Assessment

Mitigation and cost assessment shall be based upon methods established in [Section 6.2.12](#).

Section 6.3.2 "Convenience" Traffic Signals

In accordance with City Council Resolution 161-94, a maintenance district shall be established for payment of maintenance and operation costs for any such signal constructed which is deemed to be a "convenience" signal.

CHAPTER 6.4 TENTATIVE SUBDIVISION REVIEW

Section 6.4.1 Introduction

Standards in this section are to be used for the design and review of the traffic aspects of tentative subdivision maps submitted to the Planning Commission for approval.

Section 6.4.2 Street Name Signs

Street name signs shall be paid for and installed by the developer and placed in accordance with the requirements of City [Standard T-1](#). These shall also be placed at the corner of knuckled streets. Signs placed at T-intersections shall be placed at the lot line location.

Section 6.4.3 Regulatory/Warning Signs

Developer will be required to pay for and install regulatory and warning signs in accordance with these standards. Traffic signs shall be installed in conformance with the standards in the MUTCD and California Supplement and with the policies in **Chapter 6.11**, "Standard Signing, Striping and Marking Requirements". In the event of a conflict the MUTCD and Supplement shall take precedence. A policy for installation of the most common signs and their use in subdivisions and other developments is listed as follows. See **Fig. T-2** for size and material requirements.

- 6.4.3.1 R1 (Stop Sign). To be used at all approaches meeting standards for stop access control. These include but are not limited to, local street approaches to collectors or arterials, all approaches of collector-collector 4-way intersections, collector approaches to collector-arterial intersections, terminating collector approach to a collector-collector T-intersection.
- 6.4.3.2 R7 (Median Keep Right). To be used at the beginning of medians.
- 6.4.3.3 R10 (One Way) with Type N-1 (Yellow) Object Marker. To be used in medians opposite side street approaches where only right turn out access is allowed (no left turn out allowed).
- 6.4.3.4 R11 (Do Not Enter). To be used on left restricted turn median pockets where no left turn out is permitted. See **Figs. T-15 and T-16** for placement details.
- 6.4.3.5 Type K-4 Object Marker. To be used on the ends of the narrow median noses in restricted left turn pockets. See **Figs. T-15 and T-16** for placement details.
- 6.4.3.6 R26 (No Parking). To be used on all arterial streets in accordance with Planning Commission Policy and where parking restrictions are necessary to provide adequate sight line. (Size: 18"x24", maximum spacing: 200 feet)
- 6.4.3.7 R41 (Right Turn Only). To be used approaching an intersection where the turning movement is restricted to right turn out (no left turn out).
- 6.4.3.8 W3 (Lt or Rt Arrow) & W6(10 mph speed advisory). To be used in advance of 90° major intersections and also at 90° local intersections where turn not readily apparent, typically approaching an undeveloped parcel.
- 6.4.3.9 W17 (Stop Ahead Symbol). To be used in advance of a stop controlled approach on a collector or arterial street.
- 6.4.3.10 W31 (End) and Type N-2 Red Object Marker. To be used at ends of dead end streets. Not to be used on ends of cul-de-sacs having lots around the cul-de-sac.
- 6.4.3.11 W31A (Road Ends 500 FT). To be used in advance of end of dead end collector or arterial streets.
- 6.4.3.12 W53 (Not A Through Street). To be used at entrance to dead end streets where end not visible due to geometry or entrance to cul-de-sacs longer than 400'.
- 6.4.3.13 W53A (No Outlet). To be used at the entrance to a street which leads to a network of two or more streets from which there is no public outlet.
- 6.4.3.14 W56 (Double Arrows) with Type N-1 Yellow Object Marker. To be used at the far side of a "T" intersection at right angles to approach traffic. Only used on approaches to undeveloped parcels.
- 6.4.3.15 W57 (Lt or Rt Arrow) with Type N-1 Yellow Object Marker. To be used in conjunction with W3 & W6 at the 90° intersection facing at right angles to approach traffic.

Other regulatory and warning signs as necessary for traffic control to meet the standards of the CalTrans Traffic Manual or due to phasing of the subdivision will be required.

Section 6.4.4 Street Widths

Street widths shall conform to the General Plan, to the requirements of **City Standard ST-15 through ST-18** and to those requirements in the conditions of approval.

Expanded intersections shall be provided on major streets in accordance with the standards (**Figs. T-4 through T-10**).

Section 6.4.5 Waiver of Access

Double frontage lots will require access waived to the major street. Access to arterials and collectors shall be as detailed in **Chapters 6.8 & 6.9** of this manual. Waiver of access will be required as necessary to comply with this policy.

Waivers of access shall conform to **Sec. 16.40.020 of the Municipal Code**.

Section 6.4.6 Temporary Turn-Arounds

Temporary turn-arounds shall be provided on all local dead end streets which extend more than three lots beyond the previous intersection. The turn-around shall be designed with a minimum 38 foot radius. (**Fig. T-24**)

Section 6.4.7 Circulation

The subdivision shall be designed with logical and comprehensible circulation on local streets for all lots to permit economical and practical patterns, shapes, and sizes of development parcels. Local streets shall be designed to minimize through traffic movements which include the use of T-intersections and short block lengths to discourage excessive speeds.

The street system shall conform to the General Plan, any pre-approved master circulation plan or other previous conditions pertaining to development in the area.

Section 6.4.8 Geometrics

Street geometrics shall conform to the provisions of **Section 5.4.1** of this manual.

CHAPTER 6.5 SITE PLAN REVIEW

Section 6.5.1 Introduction

This section is intended to serve as a standard for the design and review of the traffic aspects

of site plans submitted to the Planning Department for approval by the Site Plan Review Committee and Planned Commercial Developments (PCD) and Planned Unit Developments (PUD) submitted to the Planning Department for approval by the Planning Commission.

Section 6.5.2 Plan Requirements

6.5.2.1 Depending upon type of site entrance required either top to top width of drive approaches or return radius and throat width dimensions shall be shown.

Location, dimensions and type of site entrance shall conform to the requirements of **Chapter 4.9, "Site Access Design"**, of this manual.

6.5.2.2 Typical parking layout shall show space sizes, aisle widths, standard and compact space locations. Layout shall conform generally to the standard drawing contained at the end of the Traffic Division of this manual. **(Figs. T-13 and T-14)**

6.5.2.3 Two way drive aisles shall have a minimum width of 24 feet. Minimum drive aisle width of 25 feet is required for proper backup space on layouts with right angle parking.

6.5.2.4 Typical stall dimensions shall be shown **(see Figs. T-13 and T-14)** and compact spaces denoted (if any).

6.5.2.5 Parking spaces shall be designed to prevent cars from backing onto a street. **Section 17.58.030 of the Municipal Code** expressly prohibits backing out of a parking space onto a street except from a single family (R-1) residence.

6.5.2.6 Off street handicap spaces shall be denoted and designed in conformance with the standards and policies of the City Building Department.

6.5.2.7 Walls, landscaping, signs and other facilities shall not obstruct the vehicular line of sight as detailed in **Chapter 6.7** of this manual.

6.5.2.8 Major projects, as defined in **Section 6.3.1** of this manual, shall conform to the provisions of that section.

CHAPTER 6.6 TRAFFIC SIGNAL IMPROVEMENTS

Section 6.6.1 Introduction

This chapter is intended to be used as a standard for design and installation of traffic signal improvements.

Section 6.6.2 Traffic Signal & Lighting System Design

Traffic signals and lighting systems shall be designed to meet all City and State standards. These standards are defined in detail in the City of Bakersfield, Public Works Department, Traffic Engineering Divisions, "Traffic Signal Design Guide", current edition.

Section 6.6.3 Traffic Signal Interconnect

Traffic signal interconnect conduit shall be installed along all collector and arterial streets or as directed by the Traffic Engineer as part of the standard street improvements. Omission of interconnect conduit is permitted where acceptable alternate means of communication is provided for in the City Communication Master Plan. Placement of conduit shall be on the

side of the street first developed unless otherwise directed due to prior development or conduit placement.

Interconnect conduit shall be 2" minimum with pull rope or pull wire and shall conform to CalTrans Standard Specifications, current edition. Interconnect conductor shall be installed where a complete segment of conduit is being placed between signalized or future signalized intersections. The standard location for conduit shall be under sidewalk and shall be constructed with No. 5 pull boxes per **detail T-34** spaced at a maximum of 400 feet. Alternate design locations may be allowed as approved by the Traffic Engineer.

Section 6.6.4 Future Signal Conduit

Future signal conduit shall be installed at all major intersections or intersections planned for future signals per **detail T-33**. Additional right of way shall be provided for location of controller as shown in the detail.

Section 6.6.5 Convenience Signals

In accordance with City Council Resolution 161-94, a maintenance district shall be established for maintenance and operation of any signal constructed which is deemed to be a "convenience" signal.

CHAPTER 6.7 LINE OF SIGHT REVIEW

Section 6.7.1 Introduction

This section is intended as a standard for the construction and restriction of improvements in the line of sight for vehicles entering and exiting city streets as required in **Section 17.08.175 of the Municipal Code**.

A standard drawing is contained at the end of the Traffic Division of this manual illustrating the requirements of this chapter (**Figs. T-11 and T-12**).

Section 6.7.2 Uncontrolled Intersections

At all corners located on uncontrolled intersections no obstruction to the driver's view in excess of three feet above the adjacent gutter flowline shall be placed in a triangular area formed by the intersecting street curblines and a line connecting them at points 60 feet from the intersection point.

Section 6.7.3 Alleys and Minor Driveways

No obstruction to sight view will be allowed within a triangular area formed by the alley or driveway edge and the interior sidewalk edge (the street right-of-way line if no sidewalk exists) and a line connecting them at points 10 feet from the intersection point.

Section 6.7.4 Controlled Intersections

6.7.4.1 Sight distance at controlled intersections shall be based upon a sight distance equal to design speed (S) in miles per hour multiplied by a factor of 10 (1.89 for speed in kilometers per hour). Design speeds for various street classifications are as follows:

<u>Classification</u>	<u>Speed (S)</u>
Local Street	25 MPH (40 km/h)
Collector	65 MPH (105 km/h)
Arterial	65 MPH (105 km/h)

6.7.4.2 Corner sight distance is measured from a point on the minor road fifteen feet from the curb line of the major road, and three feet right of the left edge of the viewing lane under consideration. Said point is viewed from a height of 3.5 feet on the minor road to an oncoming vehicle height of 4.25 feet on the major road.

6.7.4.3 When viewing left, the location of the oncoming vehicle is considered to be twelve feet from the nearest curb line of the major street (six feet with parking prohibited). Parking is assumed to be prohibited on arterial and collector streets.

6.7.4.4 When viewing right, the location of the oncoming vehicle is considered to be three feet right of the left edge of the left most lane for the oncoming vehicle on the major street.

Section 6.7.5 T-Intersections

At uncontrolled T-intersections the requirements of both [Sections 6.7.2 and 6.7.4](#) shall be met.

Section 6.7.6 Landscaping

6.7.6.1 Landscaping over three feet in height above top of curb shall not be placed within the lines of sight defined in the preceding sections. All landscaping must be maintained at a height of three feet or less with the exception of trees as provided for in [Section 6.7.6.2 \(See Fig. T-12\)](#)

6.7.6.2 Trees are permitted in the line of sight for controlled intersections provided that the skirt height (bottom of foliage) is maintained seven feet above the adjacent top of curb height. In the event more than one tree is placed in the sight line area they must be placed on a radial from the view point. [\(See Fig. T-12\)](#)

CHAPTER 6.8 ACCESS

Section 6.8.1 State Highways

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

Section 6.8.2 County Roads

Access to county roads is regulated by the County Road Department. Requests for new

access and changes to existing access shall be coordinated with the County Road Department. Encroachment permits for access to county roads must be obtained from the County Road Department.

Section 6.8.3 City Streets - Access Limitations and Intersection Locations (Planning Commission Policy)

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 as approximately 40% to 60% either way. Local streets function as 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 driveways access is permitted.

6.8.3.1 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. In accordance with City Council Resolution 161-94, a maintenance district shall be established for maintenance and operation of any such signal deemed to be a "convenience" signal.

6.8.3.2 Minimum spacing and type of local street access along arterial and collector streets shall conform to details in [Fig. T-21 and T-22](#).

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 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 6.8.3.3](#). The design of limited access openings shall conform to applicable details in [Fig. T-15 through T-18](#).

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 requirement may be waived if 2020 model traffic volumes are projected to be less than 5,000 ADT on the collector or an approved traffic study provides justification for full access.

6.8.3.3 For circulation purposes no more than 200 residential dwelling units shall be developed with only one access available. Development beyond 200 units will be required to provide a second means of access.

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

Section 6.8.4 City Streets - Drive Approaches

All construction to connect driveways to City streets must first be authorized by a valid Street Permit for a drive approach and shall conform to **Chapter 17.58 of the Municipal Code**.

A drive approach is connection of a driveway, as defined in **BMC 17.58.020D**, to a city street, constructed to City standards (**Figs. ST-3, ST-4 and ST-5**). Driveways must lead to a loading zone or legal off street parking space (**MC 17.58.020D**).

The design, number and location of drive approaches must comply with the standards and policies contained herein and must be approved by the City.

6.8.4.1 Drive approaches will not be permitted for parking or loading areas which would require backing into city streets with the exception of single family (R-1) residences (**MC 17.58.050K**).

6.8.4.2 Drive 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 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 6.8.3.3**. The design of limited access openings shall conform to applicable details in **Fig. T-15 through T-18**.

Drive 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. This requirement may be waived if 2020 model traffic volumes are projected to be less than 5,000 ADT on the collector or an approved traffic study provides justification for full access.

6.8.4.3 Only one drive approach per property per street is permitted, single family R-1 lots excepted on local streets. Additional drive 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 city streets.

- 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 this manual and by City regulations.

b. Waivers of access on subdivisions shall be provided along major streets except where driveway access is permitted. Other waivers of access on subdivisions may be required per zoning restrictions.

c. Emergency access will be required for use by emergency vehicles as dictated by Fire Department policies and standards.

6.8.4.4 Circular Driveways. Each drive shall lead to a standard (9' x 18' MC17.58.030A) parking space behind the building setback line. Adjacent drives on the same property shall be a minimum of 20 feet apart. All other standards shall also apply. (See Figure T-23)

6.8.4.5 After all improvements have been accepted by the City Engineer, the reconstruction, repairs, and maintenance of all driveways, drive approaches and sidewalk will be the responsibility of the property owner. During construction all such activities will be the responsibility of the permittee.

6.8.4.6 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 City.

6.8.4.7 Driveway profiles shall comply with the details in Figure T-25.

Section 6.8.5 City Streets - Turn Lanes

6.8.5.1 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 4 lanes on the Regional Traffic Impact Fee (RTIF) system and the peak hour turning volume is over 50.
- c. The 85th percentile speed is 45 MPH or greater, the arterial is shown ultimately having 6 lanes on the RTIF system and the peak hour turning volume is over 25.

6.8.5.2 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. Striping for left turn channelization shall be provided for all accesses on collectors where the traffic volume presently exceeds 5,000 ADT.

6.8.5.3 Design of left and right turn storage lanes shall comply with the applicable requirements of details in Figures T-4 through T-10, T-21, T-22, T-27 and T-28. 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.

6.8.5.4 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 major street into another major 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.

6.8.5.5 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.

Section 6.8.6 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). Design shall be based upon standards contained in **Figures T-30 and T-31**.

CHAPTER 6.9 SITE ACCESS DESIGN

Section 6.9.1 Introduction

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

Section 6.9.2 Access Widths and Spacing

Accesses shall be located in accordance with the following provisions (See **Figure T-20**).

6.9.2.1 No portion of an access is allowed within a curb return. The top edge of the access must be not less than 7 feet from the end of the curb return for single family residential developments. The minimum distance from center of driveway to end of curb return shall be as indicated in **Fig. T-20** for all other development.

6.9.2.2 The nearest top edge of any drive approach must be at least 3 feet from the centerline of any utility pole, drop inlet and/or appurtenance, or traffic signal or light standard, and must also be at least 2 feet from the nearest projection of such facility.

6.9.2.3 Where two or more accesses serve adjacent single family residential

property, the minimum distance between the nearest top edges of the drive approaches shall be either 7 feet', or shall be greater than or equal to 22 feet.

Where two or more accesses serve adjacent non-single family residential property, the minimum distance between the center of the drive approaches shall be 150 feet on arterials and 100 feet on collectors.

6.9.2.4 Access widths on single family residential property shall conform to **Standard ST-5** and the following:

The throat access width (bottom to bottom width on the drive approach) must equal the width of the garage opening if the garage is within 25 feet of the right-of-way line. In all other cases, the drive approach must have a minimum throat width of 10 feet and a maximum throat width of 32 feet.

6.9.2.5 Minimum access widths and entrance type on other than single family residential property shall conform to the following **Table 6.9.1** for various street classifications and be constructed in accordance with standard **ST-3 and ST-4**. The largest size of truck to use the driveway shall be determined. This information will be used to enter the second column of **Table 6.9.1**. In the absence of known truck size information the following standards shall be used.

- a. Residential land uses other than single family must be able to accommodate SU30 trucks.
- b. Commercial/industrial land uses with a gross floor area of equal to or less than 10,000 square feet must be able to accommodate SU30 trucks.
- c. Commercial/industrial land uses with more than 10,000 square feet of gross floor area but no loading dock must be able to accommodate WB40 trucks.
- d. Commercial/industrial land uses with loading docks must be able to accommodate WB50 trucks.

Table 6.9.1
Access Design Criteria

LAND USE	Truck Size	Adjacent Road Classification	Throat ¹ Width (Ft)	Corner ² Radius (Ft)
Multi-Family	SU30	Local	36	Pan Type
		Collector/Arterial	25	20
	SU30	Local	36	Pan Type
		Collector/Arterial	36	Pan Type
Industrial/	WB40	Local	30	20
Commercial		Collector/Arterial	36	20

	WB50	Local	36	20
		Collector/Arterial	40	30

¹ Width represents minimum requirement for a single lane each for ingress and egress. Where additional lanes are designed, minimum lane width shall be 12' (14' at curb side). For signalized accesses to commercial and office developments the access must comply with local street design standards and as a minimum provide for separate through left and right turn lanes.

² Pan Type- indicates driveway does not require a radius return street type entrance **per Standard ST-3** but a standard "pan type" drive approach **per Standards ST-4 or ST-5**.

Section 6.9.3 Vehicle Stacking Requirements

When a development is located adjacent to a public street, the parking facility must have full internal vehicular circulation and storage. Vehicular circulation must be located within the property and vehicles within one portion of the development must have access to all other portions without using the adjacent street system.

Where a proposed development includes a truck loading operation, and has access to a public street, adequate space must be provided such that all truck maneuvering is performed off street. Combined truck loading and through vehicle access is discouraged.

Adequate queuing capacity must be provided for both inbound and outbound vehicles to facilitate the safe and efficient movement between the street and the development.

Inbound vehicle storage areas must be of sufficient size to ensure that vehicles will not obstruct the adjacent street, sidewalk, or circulation within the facility.

Outbound vehicle storage areas must be provided to eliminate backup and delay of vehicles within the development.

The following requirements in **Table 6.9.2** for vehicle storage in parking lots and at drive-up type facilities are based on a typical length of 20 feet per vehicle for queuing.

6.9.3.1 Standard distances from the flowline of the street to the first parking stall or aisle for parking lot design are presented in **Table 6.9.2** and are required to provide storage area for outbound vehicles to prevent hindrance to inbound vehicles which could cause them to back onto and obstruct the public street.

The required storage area needed for the entire site may be spread over several accesses if more than one access serves the site but in no case shall it be less than 40

feet on arterial and collector streets, 20 feet on local streets. The recommended distance may be further adjusted for accesses with two approach lanes. All adjustments will be subject to review and approval of analysis of driveway volumes and site layout.

Table 6.9.2
On Site Vehicle Stacking for Parking Lot Design¹

LAND USE	SIZE	LOCAL (FT)	COLLECTOR (FT)	ARTERIAL (FT)
Single Family ²	0-50 Units	50	60	80
	51-100	60	100	140
	101-200	100	160	220
	201-300	160	220	320
Apartments	0-50 Units	20	40	40
	51-100	40	60	80
	101-200	60	100	140
	201-400	100	140	200
RV Park	0-75 Units	20	20	40
	76-200	40	60	80
	201-400	60	80	160
Condominiums	0-50 Units	20	40	40
	51-100	40	60	80
	101-200	60	100	140
	201-300	100	140	200
Mobile Homes	0-50 Units	20	40	40
	51-100	20	40	60
	101-200	40	60	120
	201-300	60	100	160
Quality Restaurant	0-7,000 SF	20	20	40
	7,001-13,000	20	40	60
	13,001-20,000	20	40	60
	20,001-35,000	40	60	80
High Turnover Sit Down Restaurant	0-3,000 SF	20	40	40
	3,001-8,000	20	40	60
	8,001-14,000	40	60	60
	14,001-20,000	40	60	80

¹Distance is measured from the flow line of the street to the first parking stall, aisle or gate. These distances are based on a queuing length of 20 feet per vehicle.

²To be used for gated single family communities.

Table 6.9.2 (Continued)
On Site Vehicle Stacking for Parking Lot Design¹

LAND USE	SIZE	LOCAL (FT)	COLLECTOR (FT)	ARTERIAL (FT)
Motel/Hotel	0-50 Rooms	20	40	40
	51-100	20	40	60
	101-200	40	60	100
	201-400	60	80	140
	401-800	80	120	200
Drive-in Restaurant	0-2,000 SF	20	20	40
	2,001-3,000	20	40	80
	3,001-5,000	40	60	120
	5,001-7,000	60	80	160
General Office	0-20,000 SF	20	40	40
	20,001-50,000	20	40	80
	50,001-100,000	40	60	140
	100,001-150,000	40	100	200
	150,001-200,000	60	120	250
	200,001-300,000	80	160	300
	300,001-400,000	100	200	400
	400,001-500,000	120	240	500
Manufacturing	0-50,000 SF	20	40	40
	50,001-100,000	20	40	40
	100,001-200,000	20	40	60
	200,001-300,000	40	60	140
	300,001-400,000	40	60	160
	400,001-500,000	60	80	200
Warehouse	0-100,000 SF	20	40	60
	100,001-200,000	40	80	140
	200,001-300,000	60	100	200
	300,001-400,000	80	140	280
	400,001-500,000	100	180	340
Mini-Warehouse Storage	0-50,000 SF	20	40	40
	50,001-100,000	20	40	40
	100,001-200,000	20	40	60
Industrial Park	0-200,000 SF	40	60	100
	200,001-400,000	60	100	200
	400,001-600,000	80	160	300
	600,001-800,000	100	200	400
Neighborhood Shopping	0-3,000 SF	20	20	40
	3,001-6,000	20	20	40
	6,001-10,000	20	40	60

¹Distance is measured from the flow line of the street to the first parking stall, aisle or gate. These distances are based on a queuing length of 20 feet per vehicle.

Table 6.9.2 (Continued)
On Site Vehicle Stacking for Parking Lot Design¹

LAND USE	SIZE	LOCAL (FT)	COLLECTOR (FT)	ARTERIAL (FT)
Community Shopping	10,001-20,000 SF	20	40	60
	20,001-30,000	40	60	100
	30,001-50,000	60	80	160
Sub-regional Shopping/ Commercial	50,001-100,000 SF	60	120	200
	100,001-150,000	80	160	300
	150,001-200,000	100	200	400
Regional Shopping	200,001-300,000	120	240	480
	SF	160	300	600
	300,001-400,000	180	360	700
	400,001-500,000	200	400	800
	500,001-600,000	240	460	900
	600,001-700,000	260	500	1,000
	700,001-800,000	280	560	1,100
	800,001-900,000	300	600	1,200
	900,001-1,000,000	340	660	1,300
	1,000,001-1,200,000	380	760	1,500
	1,200,001-1,500,000			

Manufacturing	0-50,000 SF	20	40	40
	50,001-100,000	20	40	40
	100,001-200,000	20	40	60
	200,001-300,000	40	60	140
	300,001-400,000	40	60	160
	400,001-500,000	60	80	200
Drive-In Bank	0-5,000 SF	20	40	60
	5,001-10,000	40	60	120
	10,001-20,000	60	120	240
	20,001-30,000	100	180	360
	30,001-40,000	120	240	480
	40,001-50,000	140	280	560
Walk-In Bank	0-5,000 SF	20	40	40
	5,001-10,000	20	40	60
	10,001-20,000	40	60	100
	20,001-30,000	40	80	160
	30,001-40,000	60	100	220
	40,001-50,000	80	140	280
Medical Office	0-10,000 SF	20	40	60
	10,001-20,000	20	40	80
	20,001-40,000	40	60	100

¹Distance is measured from the flow line of the street to the first parking stall, aisle or gate. These distances are based on a queuing length of 20 feet per vehicle.

6.9.3.2 Vehicle Queuing Requirements for Drive-In Facilities

Table 6.9.3 provides the minimum standard storage area required for the drive-up portion of drive-in type facilities. These storage areas must be based upon the following:

- a. Queuing area size per vehicle of 12 feet (width) by 20 feet (length).
- b. Separated from normal parking circulation aisle.
- c. Exclude the window space.

Table 6.9.3

<u>Type of Facility</u>	<u>Vehicle Queue</u>
Drive-In Bank	5 spaces per window ¹
Drive-In Restaurant	6 spaces per window ²
Drive-up, single use (e.g. – coffee kiosk)	4 spaces per window ²
Full-Service Car Wash	5 spaces per wash line
Self-Service Car Wash	3 spaces per wash line
Drive-In Theaters	15% of the total parking capacity
Hospitals	1% of the total parking capacity ³
Service Stations	2 spaces per service positions
Drive-In Lube Service	3 spaces per bay
Drive-In Pharmacy	3 spaces per window ²

¹This requirement will be reduced to 3 spaces per window for savings and loan institutions and credit unions. A maximum of 20 spaces will be required for banks with 5 or more drive-up windows.

² Measured from the pick-up window.

³ Patient drop off and pick up at the main entrance to the hospital.

Section 6.9.4 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 and maximum deviation of 5 degrees for accesses to major streets.

Minimum sight distance shall be provided at all access points in accordance with the provisions of **Chapter 6.7**.

CHAPTER 6.10 TEMPORARY STREET CLOSURES

Section 6.10.1 Street closures for business purposes require a Special Event Permit which is issued and approved by the Police Department.

CHAPTER 6.11 SIGNING, STRIPING AND MARKING

Section 6.11.1 Introduction

The developer shall be responsible for providing all new and revised signing, striping, marking and other channelization necessary to provide for and comply with the standards established in the State of California and detailed in the Federal Manual on Uniform Traffic Control Devices (MUTCD) and the California Supplement to the MUTCD.

These requirements are intended to supplement and clarify the requirements contained in the MUTCD, the California Supplement and the standards and specifications in the CalTrans Standard Plans and Specifications, current edition. City Standard Special Provisions shall also apply.

The associated details, special provisions and these requirements are to be used as a general standard for developing signing & striping plans. Specific situations may require special consideration.

Section 6.11.2 Design Requirements

6.11.2.1 Signing & striping plans shall show the existing signing, striping and marking within the limits of the project. It shall also extend beyond the project limits an adequate distance needed to determine proper transition.

6.11.2.2 Depending upon the location involved various methods for dividing traffic may be available or appropriate. These include: a yellow skip stripe, double yellow stripe, double-double yellow stripe (painted median) and two-way turn lane stripe. The Traffic Engineer shall have final determination as to which method is used.

6.11.2.3 Paint shall be thermoplastic conforming to the City Standard Specifications, unless other treatment is allowed. Details for striping from the CalTrans Standard Plans shall be the types which include raised pavement markers.

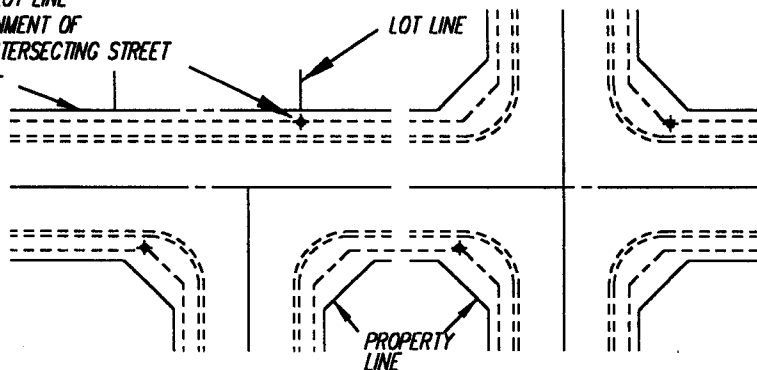
6.11.2.4 Existing stripes shall be removed, where necessary, and shall conform to the provisions in the City Standard Specifications.

6.11.2.5 Provisions shall be included to have the Inspector review the "Rabbit Tracked" layout in the field prior to final striping. Field adjustments may be needed.

6.11.2.6 It is the responsibility of the project's Engineer to review the road work to be done with relationship to maintaining existing traffic. If the project's Engineer determines a detour is needed then a detour plan shall also be included. If no detour plan is provided but the Inspector finds that one is necessary during construction then the project's Engineer shall provide such a plan at that time and no work shall progress until such plan is approved.

6.11.2.7 **Figures T-27 and T-28** detail typical striping plans which cover most of the common striping situations encountered. Striping plans shall be designed to provide the total number of lanes for ultimate full width improvements whenever possible. Specific projects may require special treatment to match existing conditions (e.g. - dropping a lane or forcing the outside lane to turn at an intersection, providing only 2-lanes each way on a 6-lane arterial, moving lanes over due to 1/2 width improvements, etc.).

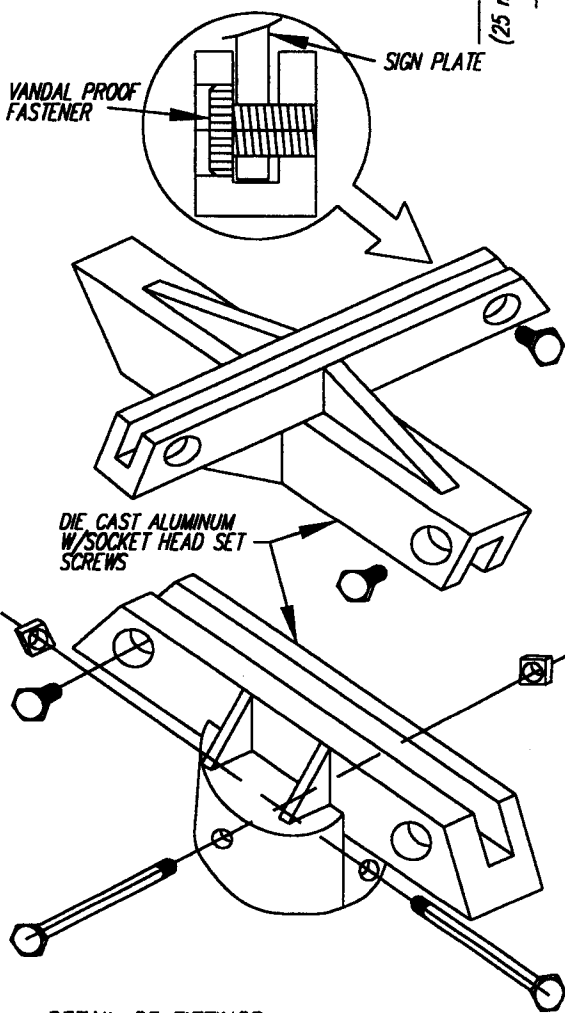
OFFSET SIGN TO LOT LINE
CLOSEST TO ALIGNMENT OF
CENTERLINE OF INTERSECTING STREET
PROPERTY LINE



TYPICAL LOCATION PLAN FOR INSTALLATION
OF STREET SIGN POSTS



DETAIL OF SIGN PLATE



DETAIL OF FITTINGS
FOR PIPE MOUNTINGS

NOTES:

SIGNS PROVIDED SHALL BE ACCOMPANIED BY A CERTIFICATE TO SHOW COMPLIANCE TO CITY STANDARD.

SIGN PLATES TO BE MADE OF 0.125" (3.18mm) ALUMINUM PLATE, CUT TO DIMENSIONS SPECIFIED.

PLATES SHALL HAVE ENGINEERING GRADE FULLY REFLECTORIZED FINISH, GREEN BACKGROUND WITH SILVER COPY ON BOTH SIDES or as approved by the City Engineer.

FORMAT SHALL BE HAWKINS-HAWKINS CO., INC. SM-C12 OR PRIOR APPROVED EQUAL IN WRITING.

SIGNS FACING TRAFFIC ON LOCAL AND LOCAL COLLECTOR STREETS SHALL BE STANDARD SIZE AS SHOWN. SIGNS FACING TRAFFIC ON ARTERIALS AND COLLECTORS SHALL BE METRO SIZE (30" (76.2cm) x 8" (20.3cm)) WITH 5" (12.7cm) CAPS.

MOUNTS FOR PLATES SHALL BE HAWKINS-HAWKINS CO., INC. VANDAL-PROOF (HD) VP 90° CROSSPIECE V14F-(HD) VP-105 (90) AND PIPE CAP V14F-(HD)VP-107(2C) TO FIT A 2" (5.1cm) ID PIPE OR APPROVED EQUAL.

INSTALL TWO 5/16"x3 1/2" (7.9mmx88.9mm) BOLTS THROUGH PIPE CAP AND PIPE. PEEN END OF BOLT SO NUT IS TAMPER-PROOF

SPECIAL DESIGN VANDAL-PROOF FASTENER V14F-(HD)VP-12PT KNURLED HEAD, 1/2" (12.7mm), NOMINAL OR PRIOR APPROVED EQUAL SHALL BE USED.

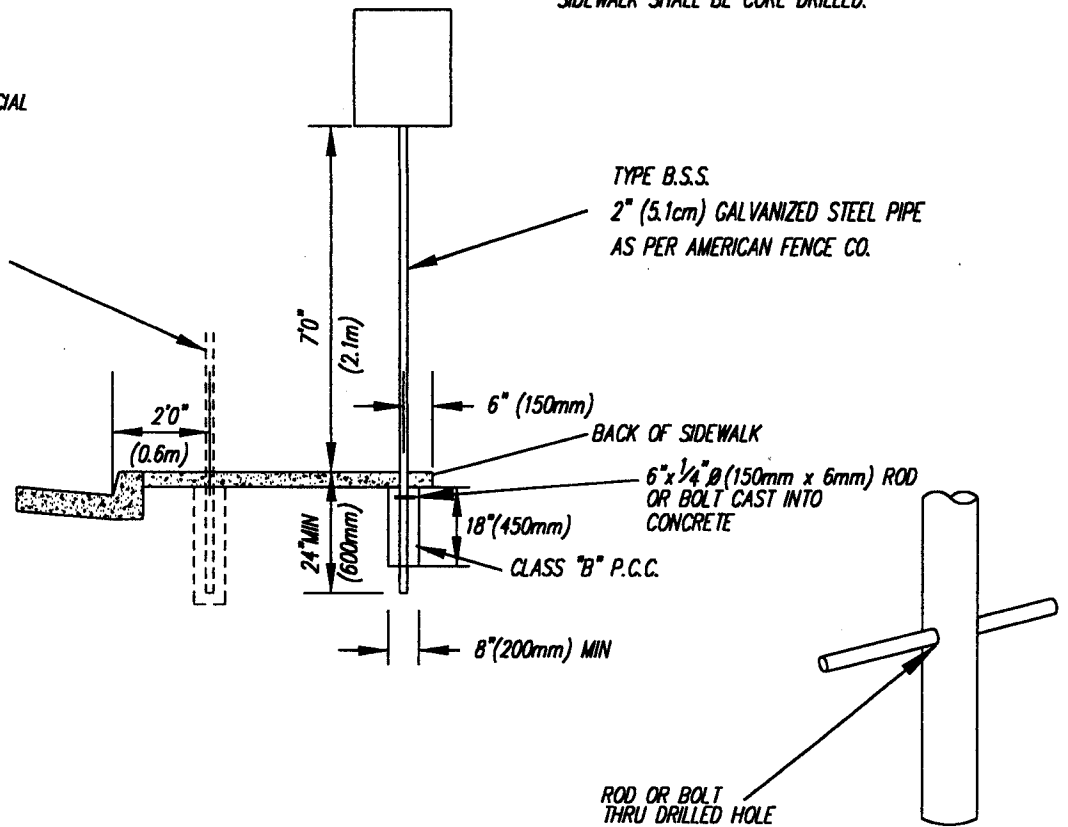
FOR DETAILS OF SIGN POST MOUNTING, SEE CITY STANDARD T-2.

T-01.DWG

APPROVED	STANDARD STREET SIGN POST TYPE	DATE 07/97
		DRAWN GEG
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
PUBLIC WORKS	DEPARTMENT	SHEET NO. T-1

ALTERNATE LOCATION TO BE USED WHEN THE SIDEWALK EXTENDS FROM THE CURB TO THE PROPERTY LINE, PARTICULARLY IN COMMERCIAL AREAS. A MINIMUM OF 4' (1.2m) CLEARANCE IS REQUIRED FROM BACK OF SIDEWALK TO EDGE OF SIGN POST.

WHEN PLACED IN EXISTING SIDEWALK, SIDEWALK SHALL BE CORE DRILLED.



SIZE OF SIGN PANELS SHALL BE ASSUMED AS STANDARD DENOTED IN THE CALTRANS TRAFFIC MANUALS UNLESS OTHER SIZE IS SPECIFIED ELSEWHERE.

THRU BOLT DETAIL

SIGN PANEL REFLECTIVITY GRADES

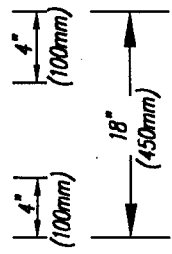
STOP SIGNS & ALL OTHER ROADSIDE SIGNS -- HIGH INTENSITY GRADE

MOUNTING REQUIREMENTS

SIGN PANELS SHALL BE MOUNTED WITH HAWKINS M2G SERIES BOLT AND VANDAL PROOF NUT ASSEMBLY OR APPROVED EQUAL. SIGNS MOUNTED ON SIGNAL OR OTHER POLES SHALL BE ATTACHED WITH STAINLESS STEEL STRAPS AND HAWKINS M2G SERIES BOLT AND VANDAL PROOF NUT ASSEMBLY OR APPROVED EQUAL. DRILLED HOLES SHALL NOT EXCEED DIAMETER OF BOLT MORE THAN 1/16" (1.5mm). TOP OF POST IS TO BE BELOW TOP OF SIGN PANEL BY NO MORE THAN 1.5" (3.8 cm).

T-02.DWG

APPROVED	STANDARD MISCELLANEOUS SIGN DETAIL	DATE	07/97
		DRAWN	GEG
		CHECKED	BJD
		SCALE	NTS
		SHEET NO.	T-2
CITY ENGINEER	PUBLIC WORKS	DEPARTMENT	



SPECIFICATIONS:

The sign plate shall be aluminum, 0.125" (3mm) thick.

The background shall be reflective sheeting, high intensity grade, green.

The lettering shall be 10 inch (250mm) reflective sheeting, diamond grade, white.

Background and lettering shall be installed on both sides.

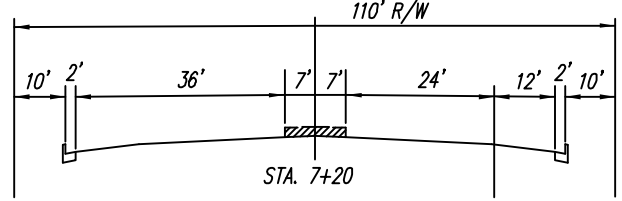
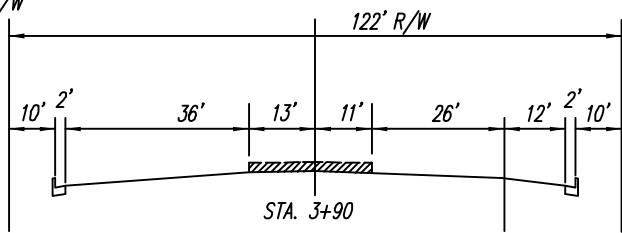
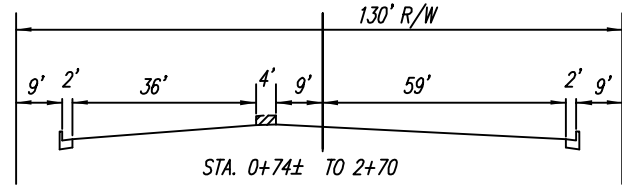
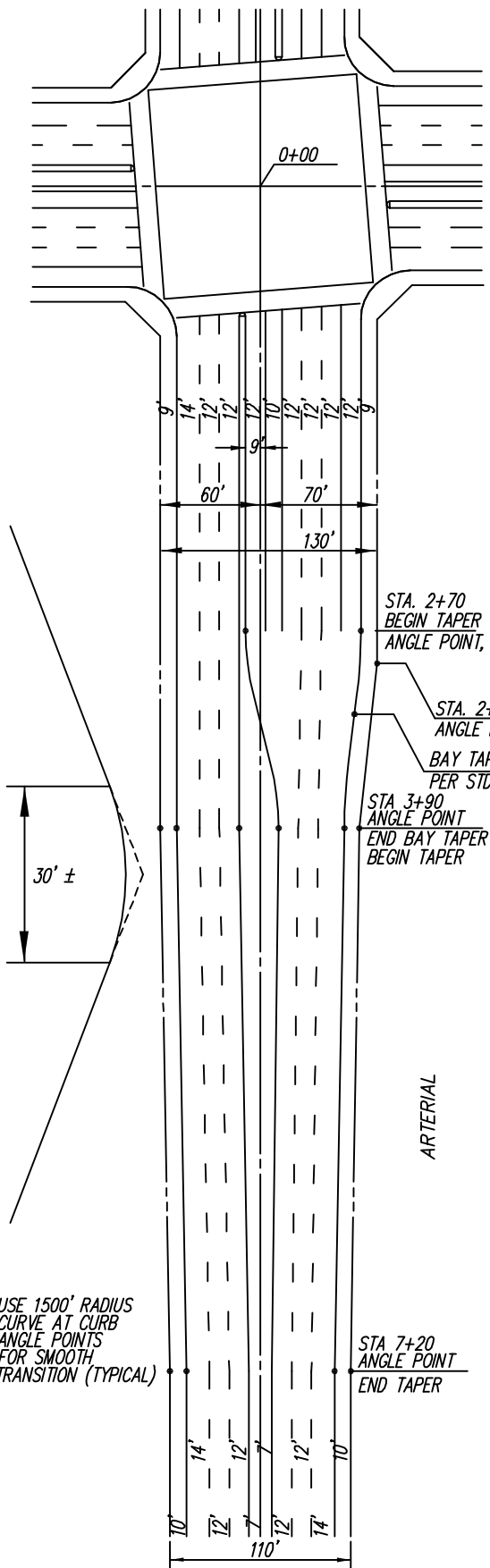
Install using mast-arm hanger methods such as Hawkins M10J Series swinging sign bracket, with return spring removed, or acceptable equal.

Other details shall be per the Standard Specifications, State of California, Department of Transportation, Section 56, "SIGNS."

T-03.DWG

	STANDARD STREET SIGN PLATE MAST ARM MOUNT	DATE	07/97
		DRAWN	C. Iguain
		CHECKED	B. Underwood
		SCALE	NONE
		SHEET NO.	T-3
APPROVED	CITY OF BAKERSFIELD CALIFORNIA		
QTY ENGINEER	PUBLIC WORKS	DEPARTMENT	

TRANSITION TAPER DATA		
STA.	OFFSET FROM \bar{C} CONSTRUCTION	
	MEDIAN CURB \bar{F}_L	CURB & GUTTER \bar{F}_L
2+70	9.00' RT.	61.00' LT.
2+80	8.69' RT.	60.84' LT.
2+90	7.75' RT.	60.37' LT.
3+00	6.19' RT.	59.59' LT.
3+10	4.00' RT.	58.50' LT.
3+20	1.50' RT.	57.25' LT.
3+30	1.00' LT.	56.00' LT.
3+40	3.50' LT.	54.75' LT.
3+50	6.00' LT.	53.50' LT.
3+60	8.19' LT.	52.41' LT.
3+70	9.75' LT.	51.62' LT.
3+80	10.69' LT.	51.16' LT.
3+90	11.00' LT.	51.00' LT.



SELECTED CROSS SECTIONS

FOR DETAILS OF MEDIAN NOSE AND CROSS WALK LOCATION, SEE DETAIL T-6.
 FL IS WIDENED 3.0' FOR ARTERIAL DESIGNATED AS CLASS II BIKEWAYS.
 SEE STD T-27/T-28 FOR STRIPING DETAILS.

USE 1500' RADIUS CURVE AT CURB ANGLE POINTS FOR SMOOTH TRANSITION (TYPICAL)

REVISED: 01/08/2008

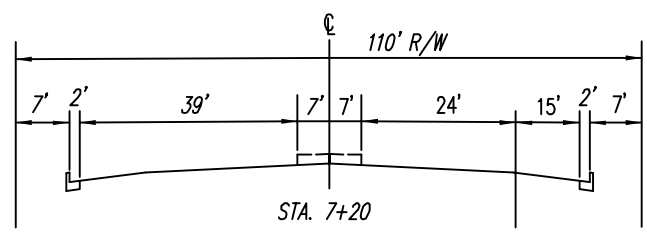
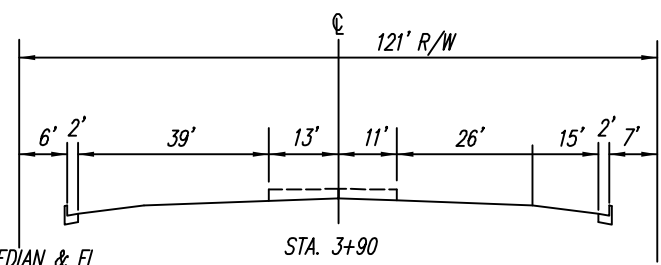
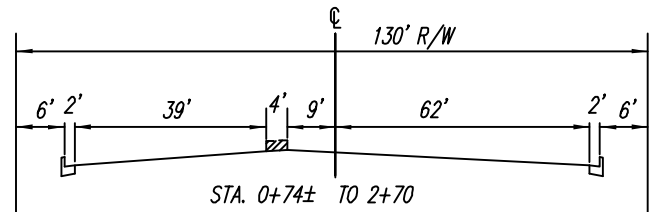
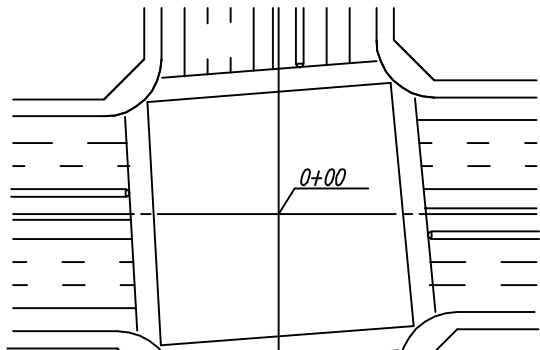
T-04.DWG

APPROVED	STANDARD ARTERIAL TRANSITION AT INTERSECTION WITH ARTERIAL OR COLLECTOR	DATE 07/97
		DRAWN G.E.G.
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED B.J.D.
		SCALE NTS
		SHEET NO. T-4
CITY ENGINEER	PUBLIC WORKS	DEPARTMENT

THIS STANDARD IS TO BE USED FOR INTERSECTIONS WITH ARTERIALS OR COLLECTORS. FOR LOCAL STREETS USE STD T-10.

TRANSITION
TAPER DATA

STA.	OFFSET FROM CL CONSTRUCTION	
	MEDIAN CURB FL	CURB & GUTTER FL
2+70	9.00' RT.	64.00' LT.
2+80	8.69' RT.	62.93' LT.
2+90	7.75' RT.	62.54' LT.
3+00	6.19' RT.	61.85' LT.
3+10	4.00' RT.	60.85' LT.
3+20	1.50' RT.	59.69' LT.
3+30	1.00' LT.	58.52' LT.
3+40	3.50' LT.	57.36' LT.
3+50	6.00' LT.	56.19' LT.
3+60	8.19' LT.	55.18' LT.
3+70	9.75' LT.	54.47' LT.
3+80	10.69' LT.	54.08' LT.
3+90	11.00' LT.	54.00' LT.



SELECTED CROSS SECTIONS

FOR DETAILS OF MEDIAN NOSE AND CROSS WALK LOCATION, SEE DETAIL T-6. FL IS WIDENED 3.0' FOR ARTERIAL DESIGNATED AS CLASS II BIKEWAYS. SEE STD T-27/T-28 FOR STRIPING DETAILS

T-05.DWG

USE 1500' RADIUS CURVE AT CURB ANGLE POINTS FOR SMOOTH TRANSITION (TYPICAL)

STA 7+20
ANGLE POINT, R/W
END TAPER, MEDIAN & FL

ARTERIAL

120' BAY TAPER
PER STD T-6

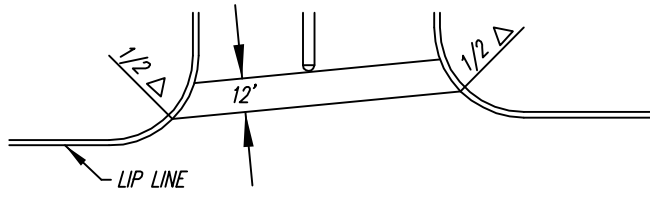
STA. 2+70
BEGIN TAPER
ANGLE POINT, CURB, RW

APPROVED	CITY ENGINEER	<p>STANDARD ARTERIAL TRANSITION WITH BIKELANES AT INTERSECTION WITH ARTERIAL OR COLLECTOR</p> <p>CITY OF BAKERSFIELD CALIFORNIA</p>	DATE 12/06
			DRAWN G.E.G.
			CHECKED B.J.D.
			SCALE NTS
			SHEET NO. T-5

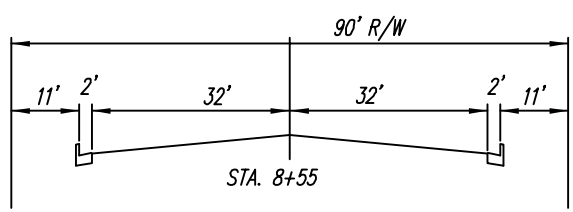
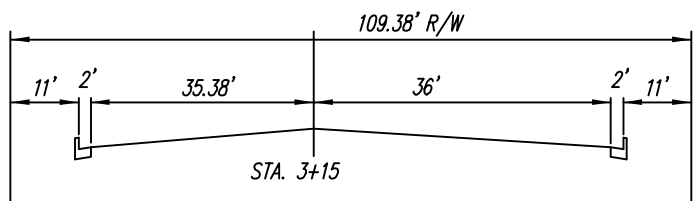
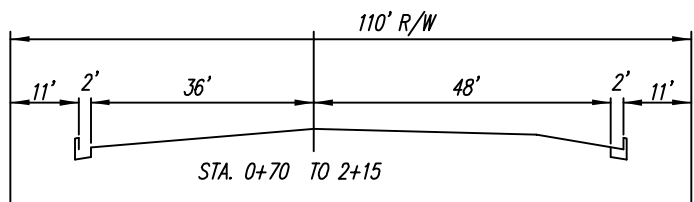
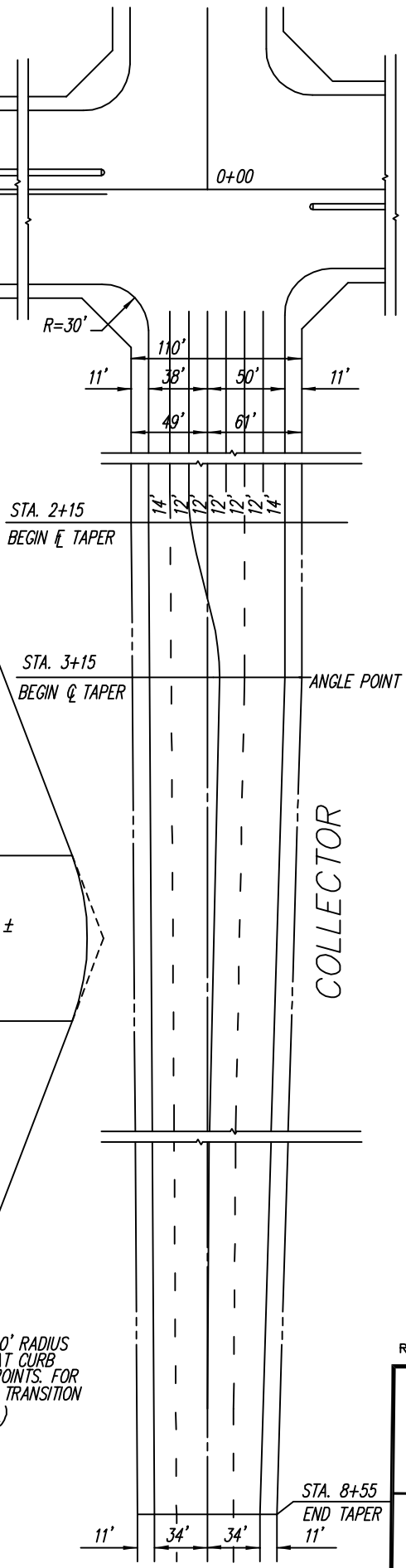
REVISED: 01/08/2008

PUBLIC WORKS DEPARTMENT

ARTERIAL

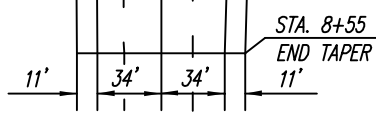


LOCATION DETAIL
MEDIAN NOSE &
CROSS WALK



FOR STRIPING ON COLLECTOR WITH
TWO-WAY LEFT TURN LANE, SEE C.O.B.
STD. T-28

USE 1500' RADIUS
CURVE AT CURB
ANGLE POINTS. FOR
SMOOTH TRANSITION
(TYPICAL)

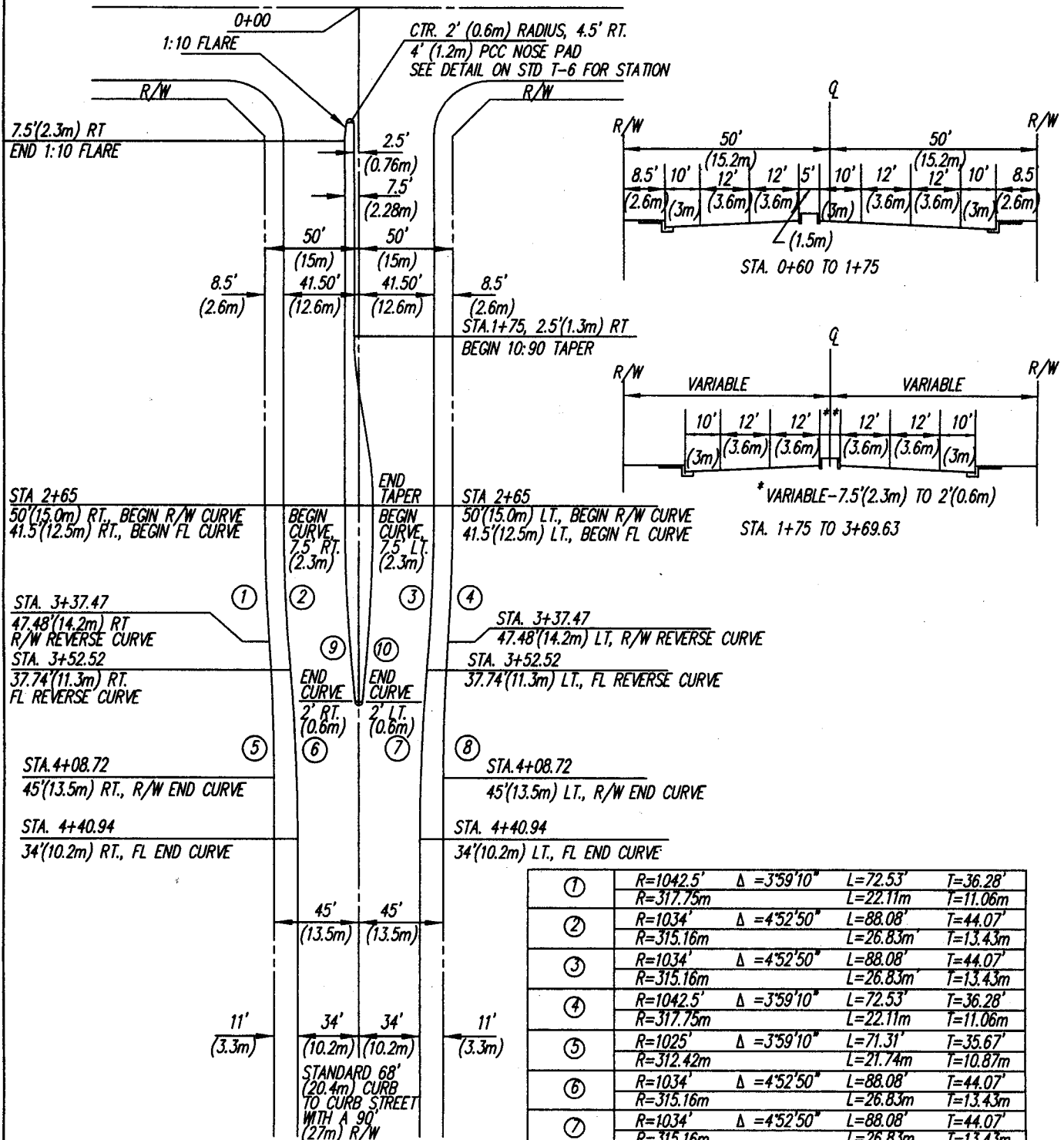


REVISED: 01/08/2008

T-06.DWG

APPROVED	<p>STANDARD COLLECTOR AT INTERSECTION WITH ARTERIAL</p> <p>CITY OF BAKERSFIELD CALIFORNIA</p>	DATE 05/99
		DRAWN GEG
CITY ENGINEER	PUBLIC WORKS	CHECKED BJD
		SCALE NTS
	DEPARTMENT	SHEET NO. T-6

INTERSECTION OF COLLECTOR



①	R=1042.5'	$\Delta = 3^{\circ}59'10''$	L=72.53'	T=36.28'
	R=317.75m		L=22.11m	T=11.06m
②	R=1034'	$\Delta = 4^{\circ}52'50''$	L=88.08'	T=44.07'
	R=315.16m		L=26.83m	T=13.43m
③	R=1034'	$\Delta = 4^{\circ}52'50''$	L=88.08'	T=44.07'
	R=315.16m		L=26.83m	T=13.43m
④	R=1042.5'	$\Delta = 3^{\circ}59'10''$	L=72.53'	T=36.28'
	R=317.75m		L=22.11m	T=11.06m
⑤	R=1025'	$\Delta = 3^{\circ}59'10''$	L=71.31'	T=35.67'
	R=312.42m		L=21.74m	T=10.87m
⑥	R=1034'	$\Delta = 4^{\circ}52'50''$	L=88.08'	T=44.07'
	R=315.16m		L=26.83m	T=13.43m
⑦	R=1034'	$\Delta = 4^{\circ}52'50''$	L=88.08'	T=44.07'
	R=315.16m		L=26.83m	T=13.43m
⑧	R=1025'	$\Delta = 3^{\circ}59'10''$	L=71.31'	T=35.67'
	R=312.42m		L=21.74m	T=10.87m
⑨	R=1000'	$\Delta = 6^{\circ}01'05''$	L=105.03'	T=52.57'
	R=304.80m		L=32.01m	T=16.02m
⑩	R=1000'	$\Delta = 6^{\circ}01'05''$	L=105.03'	T=52.57'
	R=304.80m		L=32.01m	T=16.02m

NOTE:
 MEDIAN IS REQUIRED WHERE NEEDED ONLY TO RESTRICT ACCESS AS REQUIRED IN SEC. 6.8.4.2
 THIS STANDARD IS TO BE USED AT LOCATIONS WHERE ON-STREET PARKING MUST REMAIN DUE TO LOTS FRONTING ONTO COLLECTOR.

APPROVED	CITY OF BAKERSFIELD CALIFORNIA	DATE 07/97
		DRAWN G.E.G.
CITY ENGINEER	PUBLIC WORKS	CHECKED B.J.D.
		SCALE NTS
DEPARTMENT		SHEET NO. T-7

STA.7+12, 7' (2.1m) LT
& 45' (13.5m) LT
END MEDIAN & GFL TAPER

STA.7+12, 7' (2.1m) RT & 45' (13.5m) RT
END MEDIAN & GFL TAPER

STA.3+82, 11' (3.3m) LT
& 51' (15.3m) LT
END MEDIAN &
BEGIN GFL TAPER

STA.3+82, 13' (4.2m) RT & 51' (15.3m) RT
BEGIN MEDIAN & GFL TAPER

STA.2+62, 9' (2.7m) RT
BEGIN 20' (6m)x
120' (36m) BAY TAPER

STA.0+78, 6' (1.8m) RT
CTR 1' (0.3m) RAD

STA.2+72, 5' (1.5m) RT
BEGIN 20' (6m)x120' (36m) BAY TAPER

STA.3+92, 15.00' (4.5m) LT
END BAY TAPER

STA.8+02, 7.00' (2.1m) LT
END TAPER

STA.0+68, 11' (3.3m) RT
CTR 2' (0.6m) RAD

14' (4.2m)
12' (3.6m)
12' (3.6m)
12' (3.6m)

STA.0+74
4.50' (1.35m) LT
CTR 8.5' (2.55m) RAD

12' (3.6m)
12' (3.6m)
14' (4.2m)

STA.0+74, 4' (1.2m) RT
BEGIN 9' (2.7m) x
45' (13.5m) FLARE

14' (4.2m)
12' (3.6m)
12' (3.6m)

12' (3.6m)
12' (3.6m)
12' (3.6m)

14' (4.2m)

STA.1+19, 51' (15.3m) RT
BEGIN TAPER

STA.1+19, 13' (4.2m) LT & RT
BEGIN MEDIAN TAPER

NOTE: GUTTER FLOWLINE OFFSET IS INCREASED
3'(0.9m) FOR STREETS DESIGNATED FOR BIKE LANES

STA.3+29, 61' (18.3m) LT
BEGIN 16' (4.8m)x120' (36m) BAY TAPER

STATIONS RUN FROM 0+00
EACH WAY FOR CLARITY

STA.4+49,
7' (2.1m) RT & LT
END MEDIAN TAPER
45' (13.5m) RT
END GFL TAPER

STA.4+49, 45' (13.5m) LT
END BAY TAPER

<p>APPROVED</p>		<p>STANDARD 'T' INTERSECTION EXPANDED ARTERIAL/ ARTERIAL STD CONFIGURATION</p>	DATE 05/99
			DRAWN BJD
<p>CITY ENGINEER</p>		<p>CITY OF BAKERSFIELD CALIFORNIA</p>	CHECKED BJD
			SCALE NTS
<p>PUBLIC WORKS</p>		<p>DEPARTMENT</p>	SHEET NO. T-8

T-08.DWG

STA.7+05, 7' (2.1m) LT
45' (13.5m) LT
END MEDIAN TAPER
END GFL TAPER

STA.7+05, 7' (2.1m) RT & 45' (13.5m) RT
END MEDIAN & GFL TAPER

STA.3+75, 11' (3.3m) LT
51' (15.3m) LT
BEGIN MEDIAN TAPER
BEGIN GFL TAPER

STA.3+75, 13' (3.9m) RT & 51' (15.3m) RT
BEGIN MEDIAN & GFL TAPER

STA.2+55, 9' (2.7m) RT
BEGIN 20' (6.0m) x
120' (36m) BAY TAPER

STA.2+81.00, 38' (11.4m) LT
BEGIN TAPER

STA.0+61, 11' (3.3m) RT
CTR 2' (0.6m) RAD

14' (4.2m)
12' (3.6m)
12' (3.6m)
12' (3.6m)
12' (3.6m)
14' (4.2m)

STA.5+81.00, 34' (10.2m) LT
END TAPER

STA.0+67, 4.50' (1.35m) LT
CTR 8.5' (2.55m) RAD

STA.0+67, 4' (1.2m) RT
BEGIN 9' (2.7m) x
45' (13.5m) FLARE

STA.1+12, 51' (15.3m) RT
BEGIN TAPER

STA.1+12, 13' (3.9m) LT & RT
BEGIN MEDIAN TAPER

STA.2+81.00, 38' (11.6m) RT
BEGIN TAPER

STA.3+22, 61' (18.3m) LT
BEGIN 16' (4.8m) x 120' (36.0m) BAY TAPER

STA.5+81.00, 34' (10.2m) RT
END TAPER

NOTE: GUTTER FLOWLINE (GFL) OFFSET IS INCREASED
3' (0.9m) FOR STREETS DESIGNATED FOR BIKE LANES

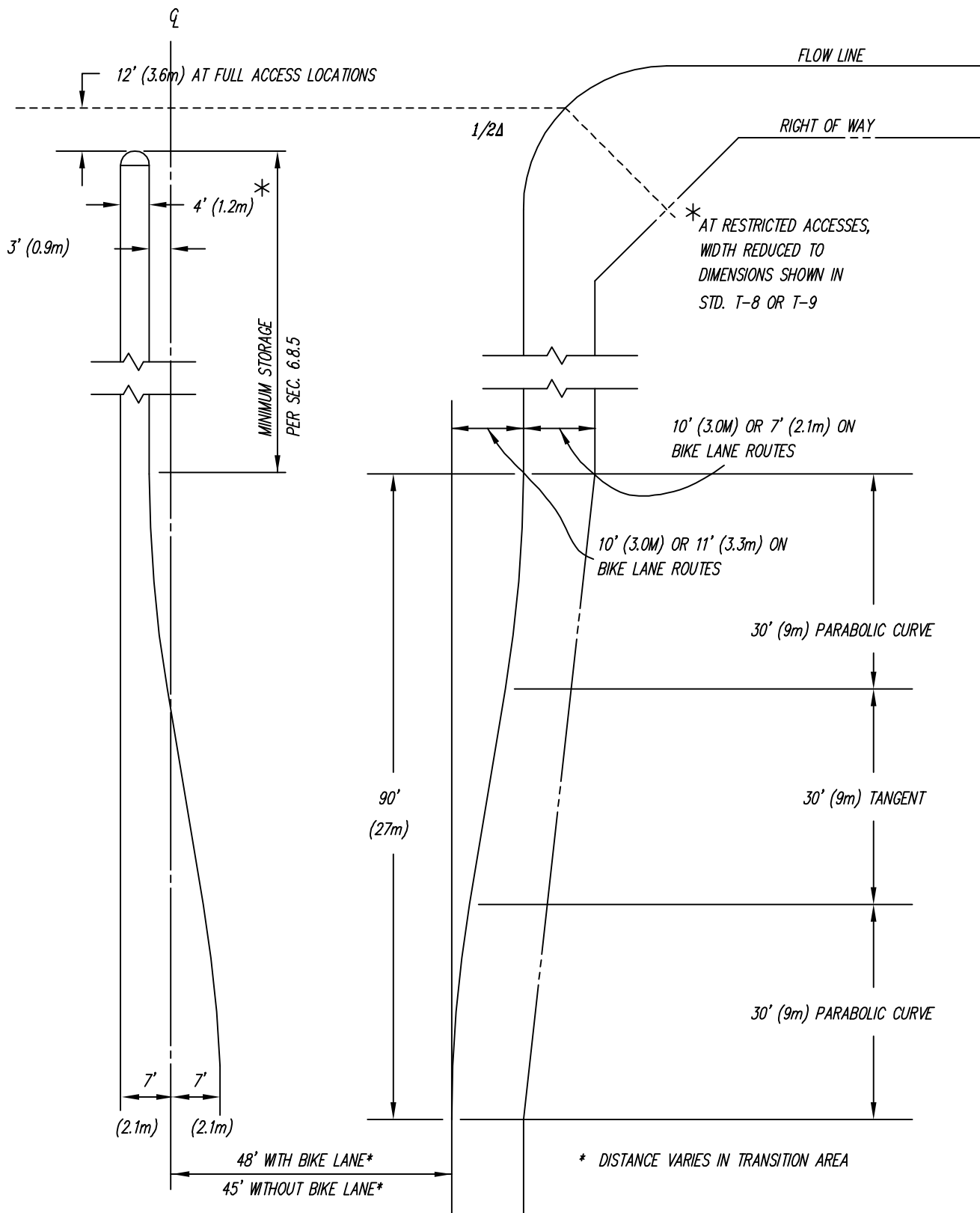
STATIONS RUN FROM 0+00
EACH WAY FOR CLARITY

STA.4+42, 7' (2.1m) RT & LT
END MEDIAN TAPER

STA.4+42, 45' (13.5m) LT
END BAY TAPER

T-09.DWG

APPROVED	<p>STANDARD 'T' INTERSECTION EXPANDED ARTERIAL/ COLLECTOR STD CONFIGURATION</p>		DATE 07/97
			DRAWN BJD
CITY ENGINEER	PUBLIC WORKS	DEPARTMENT	CHECKED BJD
			SCALE NTS
			SHEET NO. T-9



DETAIL TO BE USED WHERE FULL EXPANSION OF INTERSECTION AS SHOWN IN DETAILS T-4 THRU T-9 ARE NOT POSSIBLE DUE TO PRIOR DEVELOPMENT OR PARCELIZATION. ALSO AT DRIVEWAYS AND OTHER PUBLIC ACCESSSES WHERE TURN LANES ARE REQUIRED OR PERMITTED.

<p>APPROVED</p> <p>CITY ENGINEER</p>		<p>STANDARD</p> <p>LEFT AND RIGHT TURN LANES</p> <p>CITY OF BAKERSFIELD CALIFORNIA</p> <p>PUBLIC WORKS DEPARTMENT</p>		<p>DATE</p> <p>01/04</p>
				<p>DRAWN</p> <p>BJD/GEG</p>
		<p>CITY OF BAKERSFIELD CALIFORNIA</p> <p>PUBLIC WORKS DEPARTMENT</p>		<p>CHECKED</p>
				<p>SCALE</p> <p>NTS</p>
				<p>SHEET NO.</p> <p>T-10</p>

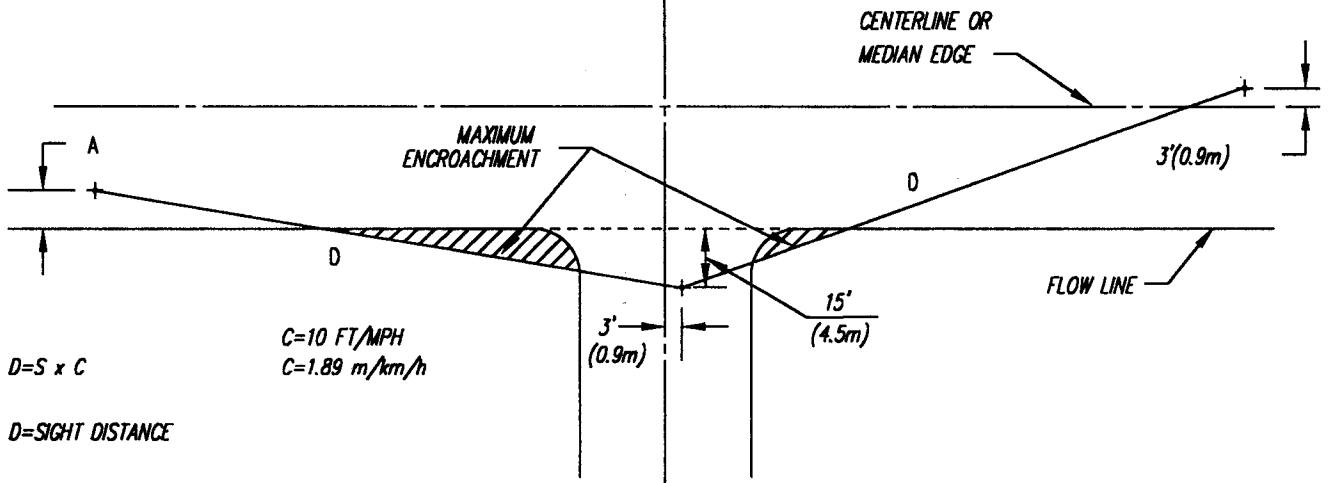
T-10.DWG

A=6'(1.8m) WITHOUT PARKING
(ALWAYS USED ON ARTERIALS
AND COLLECTORS)

A=12'(3.6m) WITH PARKING

DESIGN SPEEDS

60'(18m) R/W	25 MPH (40 km/h)
76'(23m) R/W	55 MPH (90 km/h)
90'(27m) R/W	65 MPH (105 km/h)
110'(33m) R/W	65 MPH (105 km/h)



$D = S \times C$

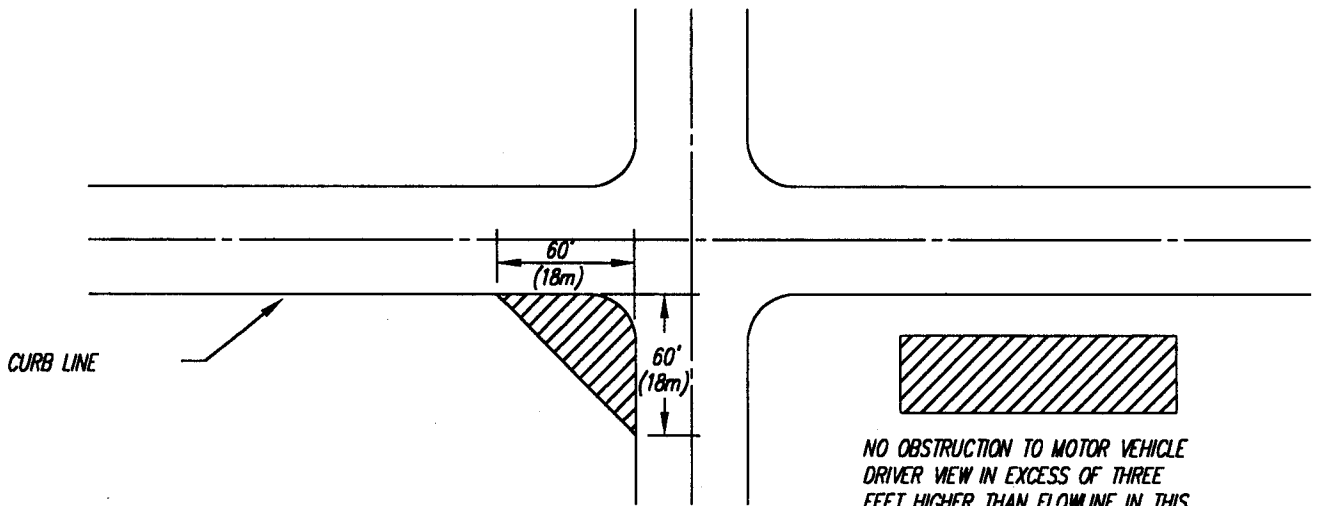
C=10 FT/MPH
C=1.89 m/km/h

D=SIGHT DISTANCE

S=CRITICAL SPEED (85th PERCENTILE) OR, IF NOT KNOWN,
DESIGN SPEED ON THRU STREET.

(SIGHT LINE ASSUMES AN EYE AT 3.5'(1.05m) HEIGHT
LOOKING AT AN OBJECT AT 4.25'(1.28m) HEIGHT)

CONTROLLED INTERSECTION



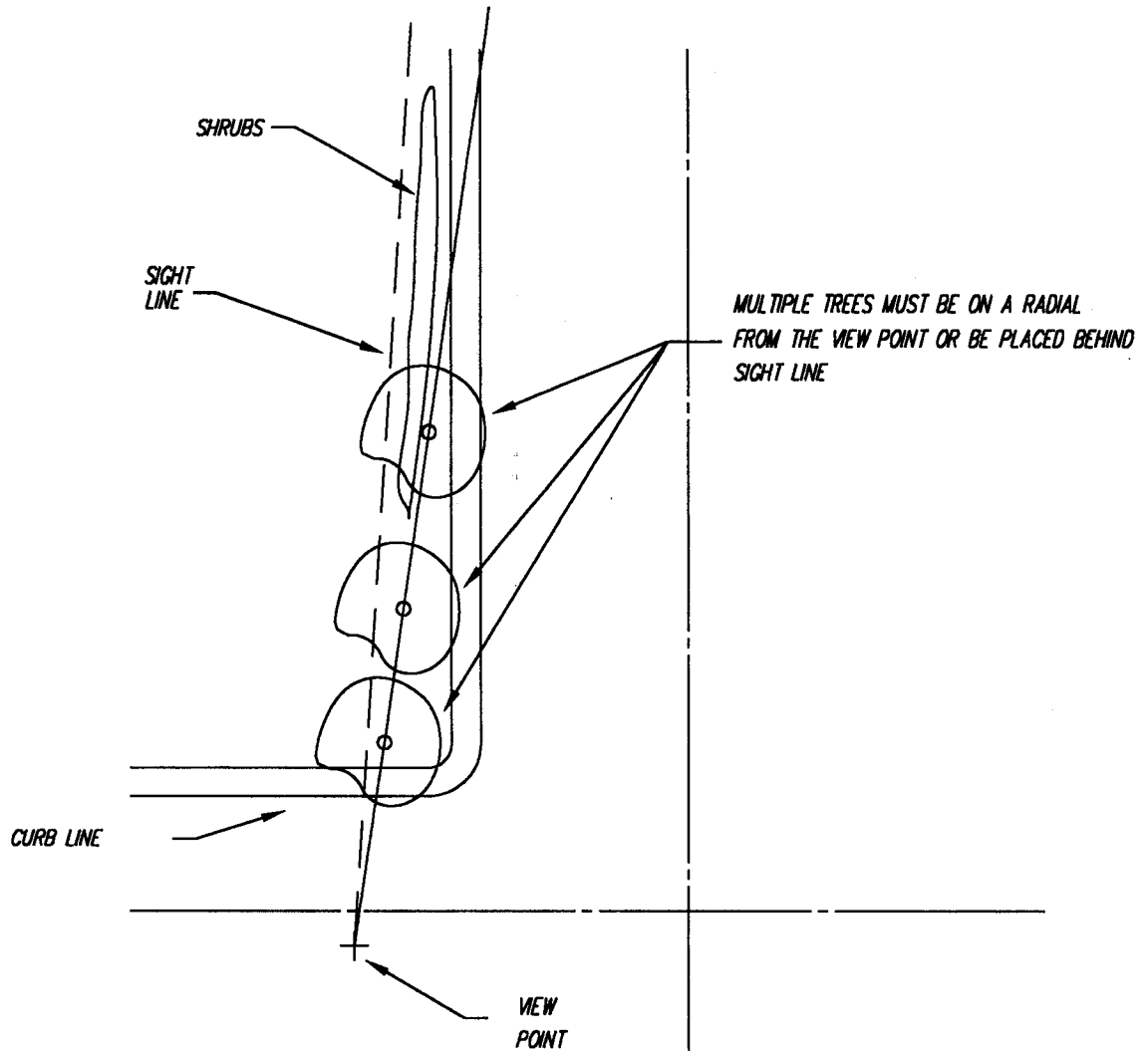
UNCONTROLLED INTERSECTION

NOTES

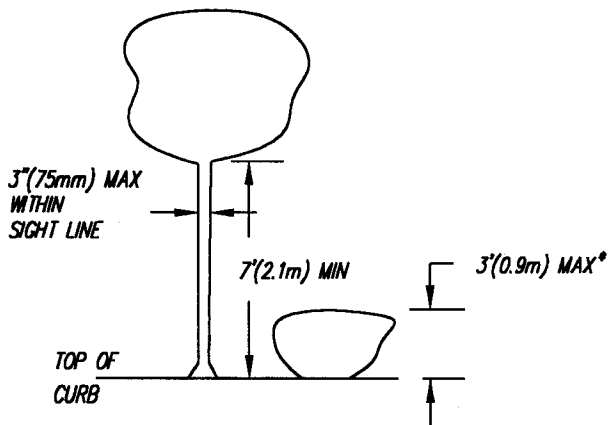
- BOTH CRITERIA GOVERN AT AN UNCONTROLLED T-INTERSECTION.
- SIGHT LINE REQUIREMENTS PER SEC. 17.08.175 OF THE MUNICIPAL CODE.

T-11.DWG

APPROVED	STANDARD SIGHT DISTANCE REQUIREMENTS FOR INTERSECTIONS	DATE 07/97
		DRAWN BJD/GEG
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
		SHEET NO. T-11
PUBLIC WORKS	DEPARTMENT	



TREES IN MEDIANS WITHIN SIGHT LINE VIEWING AREA SHALL BE SPACED AT OR GREATER THAN 50'(15m). OTHER PLANT MATERIALS SHALL BE RESTRICTED TO LOW GROWTH SHRUBS, GROUND COVER OR TURF.

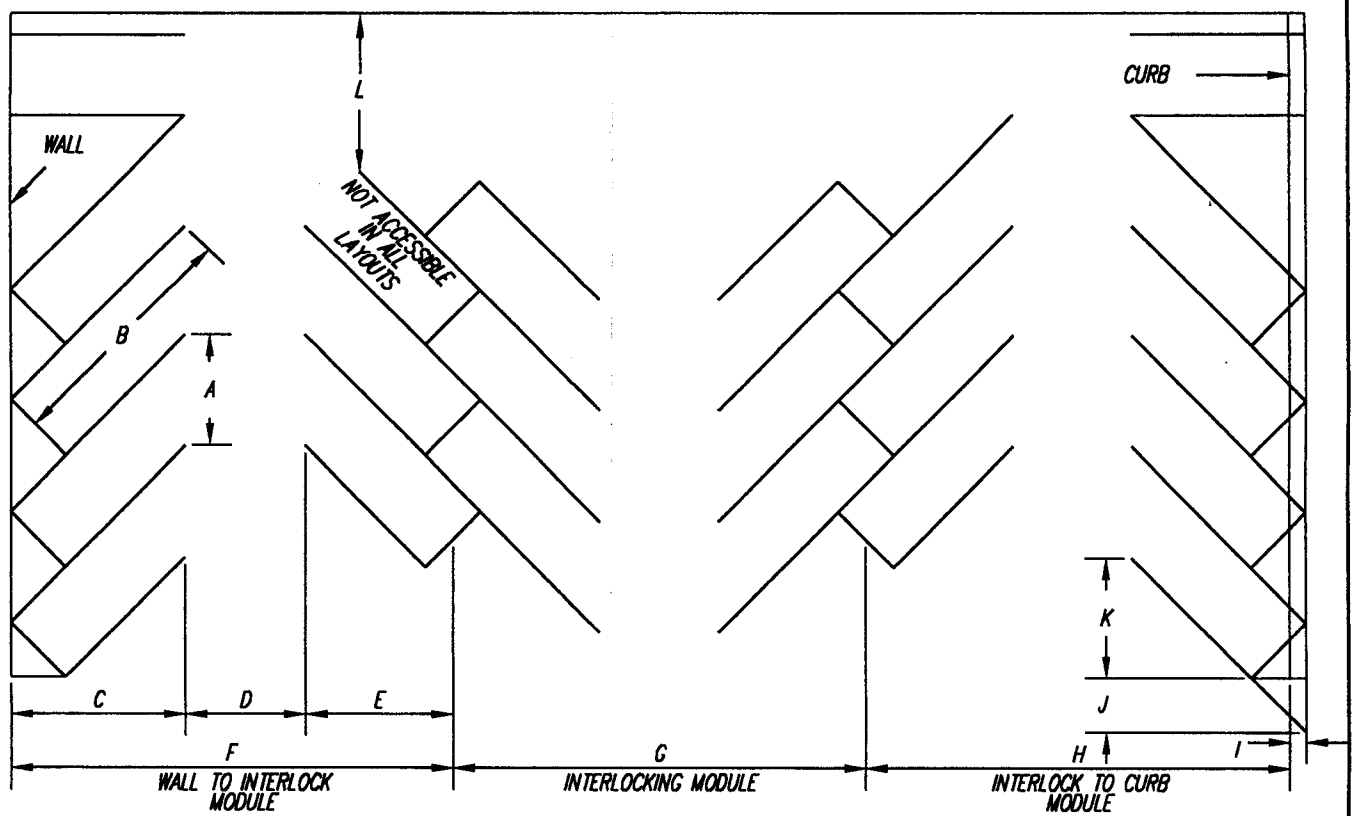


TREES AND SHRUBS WITHIN SIGHT LINE AND TREES OVER SIDEWALKS SHALL CONFORM TO THE DETAIL BELOW. SIGHT LINE AND VIEW POINT LOCATION SHALL CONFORM TO SECTION 17.08.175 OF THE MUNICIPAL CODE.

* MEASURE FROM CUTTER FLOWLINE FOR SOLID OBJECTS, I.E. FENCES, WALLS, ETC.

T-12.DWG

APPROVED	STANDARD TYPICAL SIGHT LINE REQUIREMENTS FOR LANDSCAPING	DATE 07/97
		DRAWN B.J.D
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED B.J.D
		SCALE NTS
		SHEET NO. T-12
PUBLIC WORKS	DEPARTMENT	



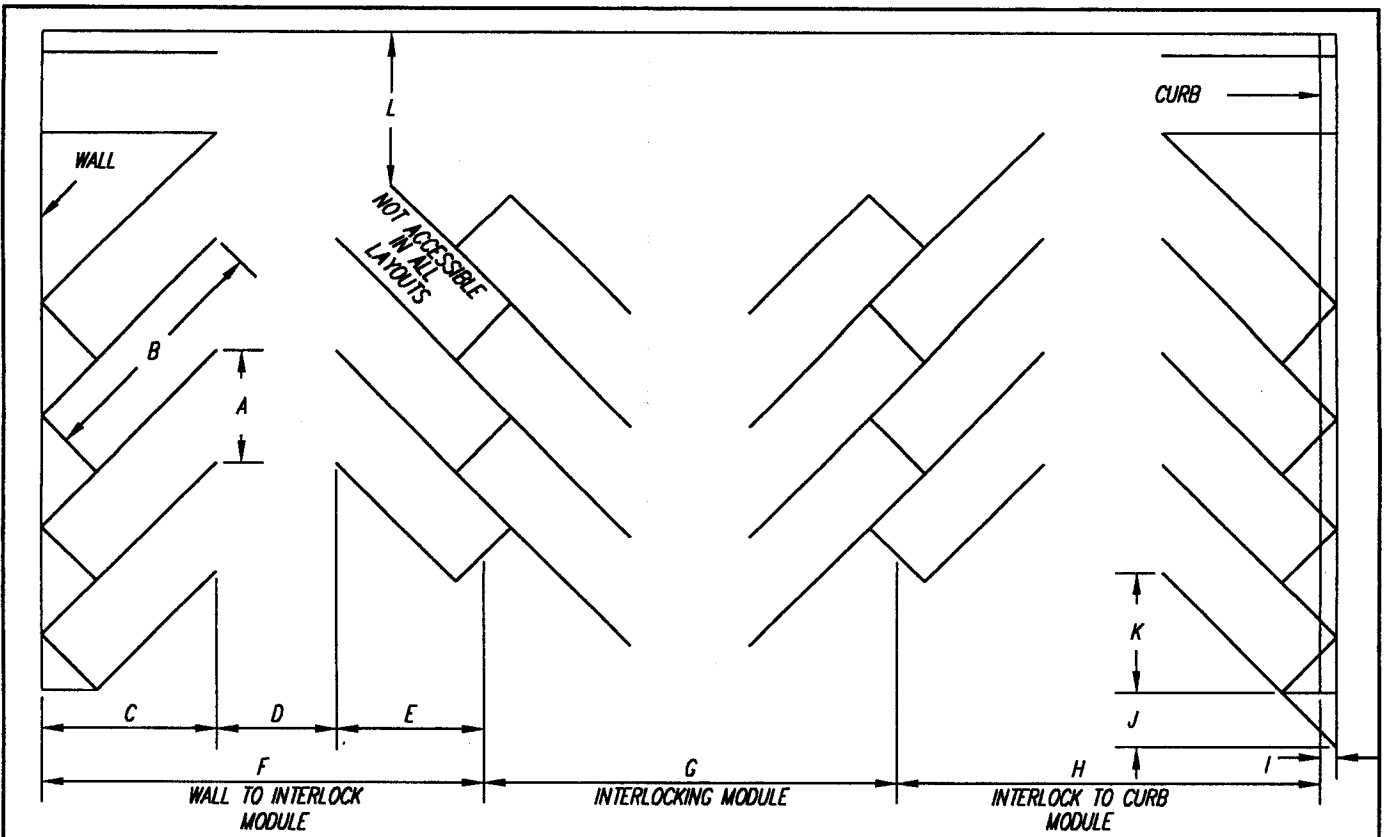
PARKING ANGLE & STALL WIDTH	STALL WIDTH PARALLEL TO AISLE (A)	STALL LENGTH OF LINE (B)	STALL DEPTH PERPENDICULAR TO WALL (C)	AISLE WIDTH (D)	STALL DEPTH TO INTERLOCK (E)	MODULES				BUMPER OVERHANG (I)	OFFSET (J)	SETBACK (K)	CROSS-AISLE ONE-WAY (L)	CROSS-AISLE TWO-WAY (L)
						WALL TO INTERLOCK (F)	INTERLOCK TO INTERLOCK (G)	INTERLOCK TO CURB FACE (H)	WALL TO WALL (2C+D)					
45°														
9.0'	12.7'	27.0'	19.1'	12.7'	15.9'	47.7'	44.5'	45.9'	50.9'	1.8'	6.4'	12.7'	14.0'	24.0'
9.5'	13.5'	27.5'	19.4'	11.7'	16.1'	47.2'	43.9'	45.5'	50.5'	1.8'	6.7'	12.7'	14.0'	24.0'
10.0'	14.1'	28.0'	19.8'	11.7'	16.3'	47.8'	44.2'	46.0'	51.3'	1.8'	7.1'	12.7'	14.0'	24.0'
60°														
9.0'	10.4'	23.2'	20.1'	16.9'	17.8'	54.8'	52.5'	52.6'	57.1'	2.2'	2.6'	9.0'	14.0'	24.0'
9.5'	11.0'	23.5'	20.3'	15.9'	18.0'	54.2'	51.8'	52.0'	56.5'	2.2'	2.7'	9.0'	14.0'	24.0'
10.0'	11.5'	23.8'	20.6'	15.9'	18.1'	54.5'	52.0'	52.4'	57.1'	2.2'	2.9'	9.0'	14.0'	24.0'
75°														
9.0'	9.3'	20.4'	19.7'	24.0'	18.5'	62.2'	61.1'	59.9'	63.4'	2.4'	0.6'	4.7'	14.0'	24.0'
9.5'	9.8'	20.6'	19.8'	23.0'	18.6'	61.4'	60.2'	59.0'	62.6'	2.4'	0.6'	4.7'	14.0'	24.0'
10.0'	10.4'	20.7'	20.0'	23.0'	18.7'	61.6'	60.3'	59.2'	63.0'	2.4'	0.6'	4.7'	14.0'	24.0'
90°														
9.0'	9.0'	18.0'	18.0'	25.0'	18.0'	61.0'	61.0'	58.5'	61.0'	2.5'	0.0'	0.0'	14.0'	24.0'
9.5'	9.5'	18.0'	18.0'	25.0'	18.0'	61.0'	61.0'	58.5'	61.0'	2.5'	0.0'	0.0'	14.0'	24.0'
10.0'	10.0'	18.0'	18.0'	25.0'	18.0'	61.0'	61.0'	58.5'	61.0'	2.5'	0.0'	0.0'	14.0'	24.0'

NOTES

- 1 MARKINGS IN PARKING LOTS SHALL BE PAINTED WITH WHITE TRAFFIC LINE PAINT (RAPID DRY WATER BORNE) THAT MEETS CURRENT CALTRANS STANDARDS FOR HIGHWAY MARKINGS, EXCEPT FOR MARKINGS DENOTING HANDICAP PARKING SPACES WHICH SHALL BE BLUE IN COLOR. SEE BUILDING DEPARTMENT REQUIREMENTS FOR HANDICAP PARKING.
- 2 MINIMUM 2-WAY DRIVE AISLE WIDTHS SHALL BE 24' UNLESS BACKING WIDTH GOVERNS (SEE NOTE 3).
- 3 AISLE WIDTH (D) IS MINIMUM 1-WAY AISLE WIDTH REQUIRED FOR BACKING PURPOSES.
- 4 PARALLEL STALL LENGTH = 18'+4' = 22'

T-13.DWC

Approved by Planning Commission: 9-20-90	STANDARD OFFSTREET PARKING SPACE DIMENSIONS	DATE 07/97
		DRAWN BJD/GEG
APPROVED CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
		SHEET NO. T-13
	PUBLIC WORKS	DEPARTMENT



PARKING ANGLE & STALL WIDTH	STALL WIDTH PARALLEL TO AISLE (A)	STALL LENGTH OF LINE (B)	STALL DEPTH PERPENDICULAR TO WALL (C)	AISLE WIDTH (D)	STALL DEPTH TO INTERLOCK (E)	MODULES				BUMPER OVERHANG (I)	OFFSET (J)	SETBACK (K)	CROSS-AISLE ONE-WAY (L)	CROSS-AISLE TWO-WAY (L)
						WALL TO INTERLOCK (F)	INTERLOCK TO INTERLOCK (G)	INTERLOCK TO CURB FACE (H)	WALL TO WALL (2C+D)					
45°														
2.74m	3.87m	8.22m	5.82m	3.87m	4.84m	14.53m	13.55m	13.98m	15.50m	0.55m	1.95m	3.87m	4.26m	7.31m
2.89m	4.11m	8.38m	5.91m	3.56m	4.90m	14.38m	13.37m	13.86m	15.38m	0.55m	2.04m	3.87m	4.26m	7.31m
3.05m	4.29m	8.53m	6.03m	3.56m	4.96m	14.56m	13.46m	14.01m	15.62m	0.55m	2.16m	3.87m	4.26m	7.31m
60°														
2.74m	3.17m	7.07m	6.12m	5.15m	5.42m	16.69m	15.99m	16.02m	17.39m	0.67m	0.79m	2.74m	4.26m	7.31m
2.89m	3.35m	7.16m	6.18m	4.84m	5.48m	16.51m	15.78m	15.84m	17.21m	0.67m	0.82m	2.74m	4.26m	7.31m
3.05m	3.50m	7.25m	6.27m	4.84m	5.51m	16.60m	15.84m	15.96m	17.39m	0.67m	0.88m	2.74m	4.26m	7.31m
75°														
2.74m	2.83m	6.21m	6.00m	7.31m	5.63m	18.94m	18.61m	18.24m	19.31m	0.73m	0.18m	1.43m	4.26m	7.31m
2.89m	2.98m	6.27m	6.03m	7.01m	5.67m	18.70m	18.34m	17.97m	19.07m	0.73m	0.18m	1.43m	4.26m	7.31m
3.05m	3.17m	6.30m	6.09m	7.01m	5.70m	18.76m	18.37m	18.03m	19.19m	0.73m	0.18m	1.43m	4.26m	7.31m
90°														
2.74m	2.74m	5.48m	5.48m	7.61m	5.48m	18.58m	18.58m	17.82m	18.58m	0.76m	0.0m	0.0m	4.26m	7.31m
2.89m	2.89m	5.48m	5.48m	7.61m	5.48m	18.58m	18.58m	17.82m	18.58m	0.76m	0.0m	0.0m	4.26m	7.31m
3.05m	3.05m	5.48m	5.48m	7.61m	5.48m	18.58m	18.58m	17.82m	18.58m	0.76m	0.0m	0.0m	4.26m	7.31m

NOTES

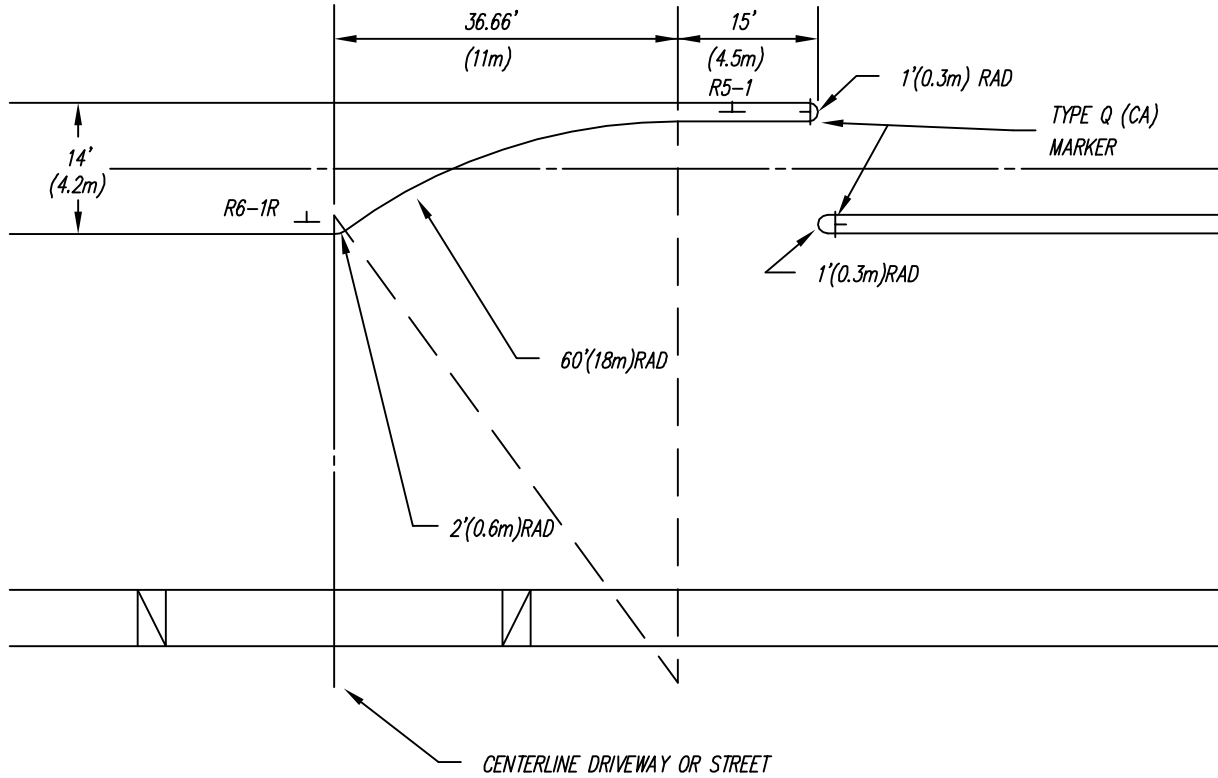
- 1 MARKINGS IN PARKING LOTS SHALL BE PAINTED WITH WHITE TRAFFIC LINE PAINT (RAPID DRY WATER BORNE) THAT MEETS CURRENT CALTRANS STANDARDS FOR HIGHWAY MARKINGS, EXCEPT FOR MARKINGS DENOTING HANDICAP PARKING SPACES WHICH SHALL BE BLUE IN COLOR. SEE BUILDING DEPARTMENT REQUIREMENTS FOR HANDICAP PARKING
- 2 MINIMUM 2-WAY DRIVE AISLE WIDTHS SHALL BE 7.31m UNLESS BACKING WIDTH GOVERNS (SEE NOTE 3).
- 3 AISLE WIDTH (D) IS MINIMUM 1-WAY AISLE WIDTH REQUIRED FOR BACKING PURPOSES.
- 4 PARALLEL STALL LENGTH = 5.48m+1.22m = 6.70m

Approved by Planning Commission:	STANDARD OFFSTREET PARKING SPACE DIMENSIONS (METRIC)	DATE 07/97 DRAWN BJD/GEG CHECKED BJD SCALE NTS SHEET NO. T-14	T-14.DWG
APPROVED CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA PUBLIC WORKS DEPARTMENT		

CURVE DATA

$\Delta = 36^{\circ}14'58''$
 $R = 60.00'(18.00m)$
 $L = 37.96'(11.39m)$
 $T = 19.64'(5.89m)$

$\Delta = 36^{\circ}14'58''$
 $R = 2.00'(0.60m)$
 $L = 1.27'(0.38m)$
 $T = 0.65'(0.20m)$



TYPE OM1-3 MARKERS
 ARE USED ONLY AT
 STREET INTERSECTIONS

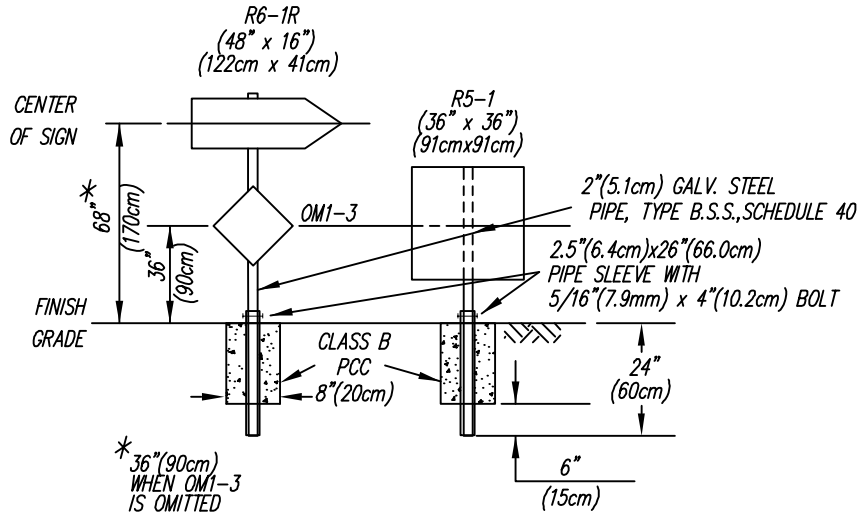
SIGN PANELS SHALL BE ALUMINUM,
 .080"(2mm) IN THICKNESS

LEGEND TO SIGNS

R6-1R - DENOTES "ONE WAY"
 SIGN PER MUTCD

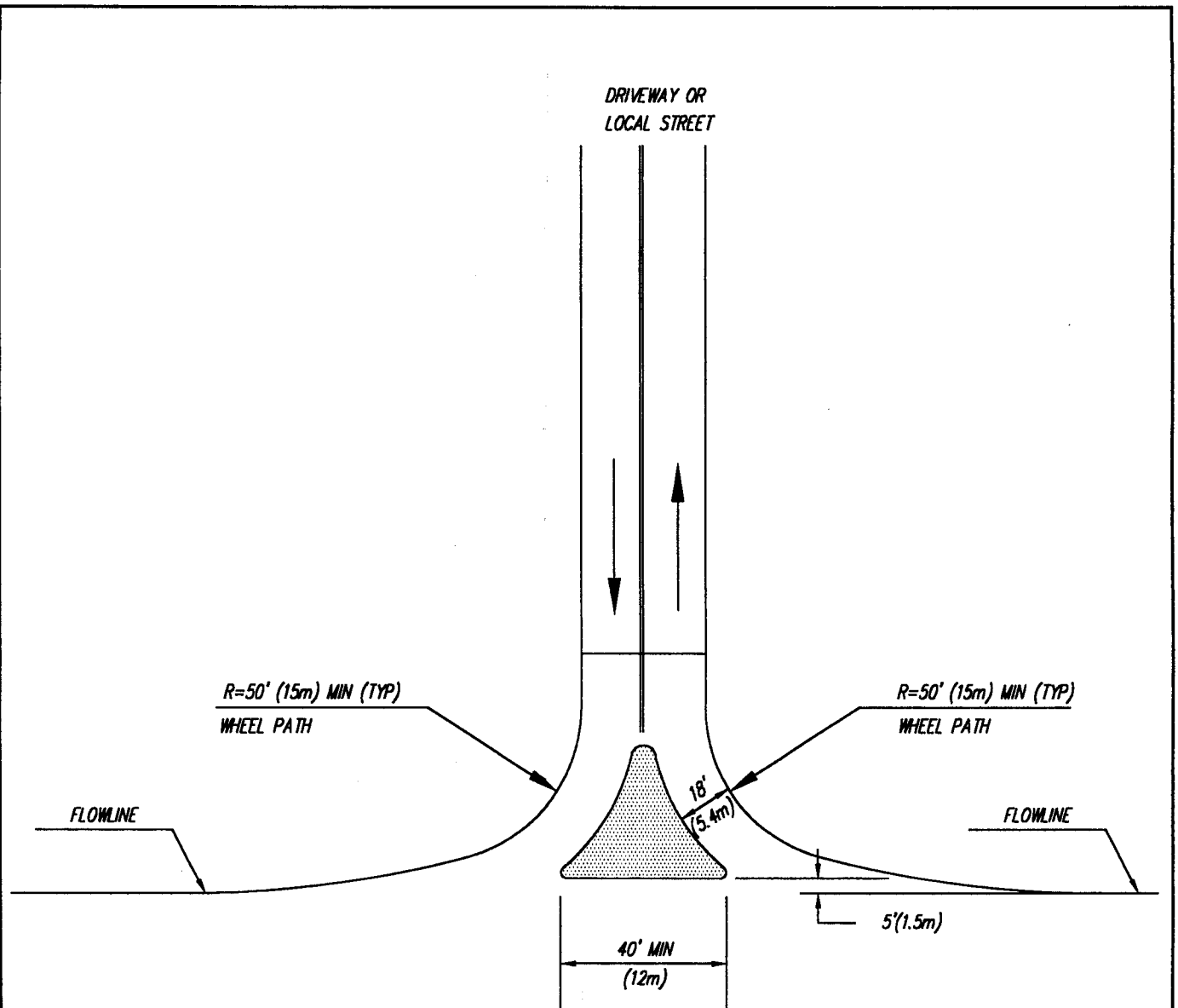
R5-1 - DENOTES "DO NOT
 ENTER" SIGN PER MUTCD

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



T-15.DWG

APPROVED	STANDARD	DATE 07/97
	ONE-WAY MEDIAN OPENING WITH 14' WIDE MEDIAN	DRAWN BJD/GEG
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
	PUBLIC WORKS DEPARTMENT	SCALE NTS
		SHEET NO. T-15



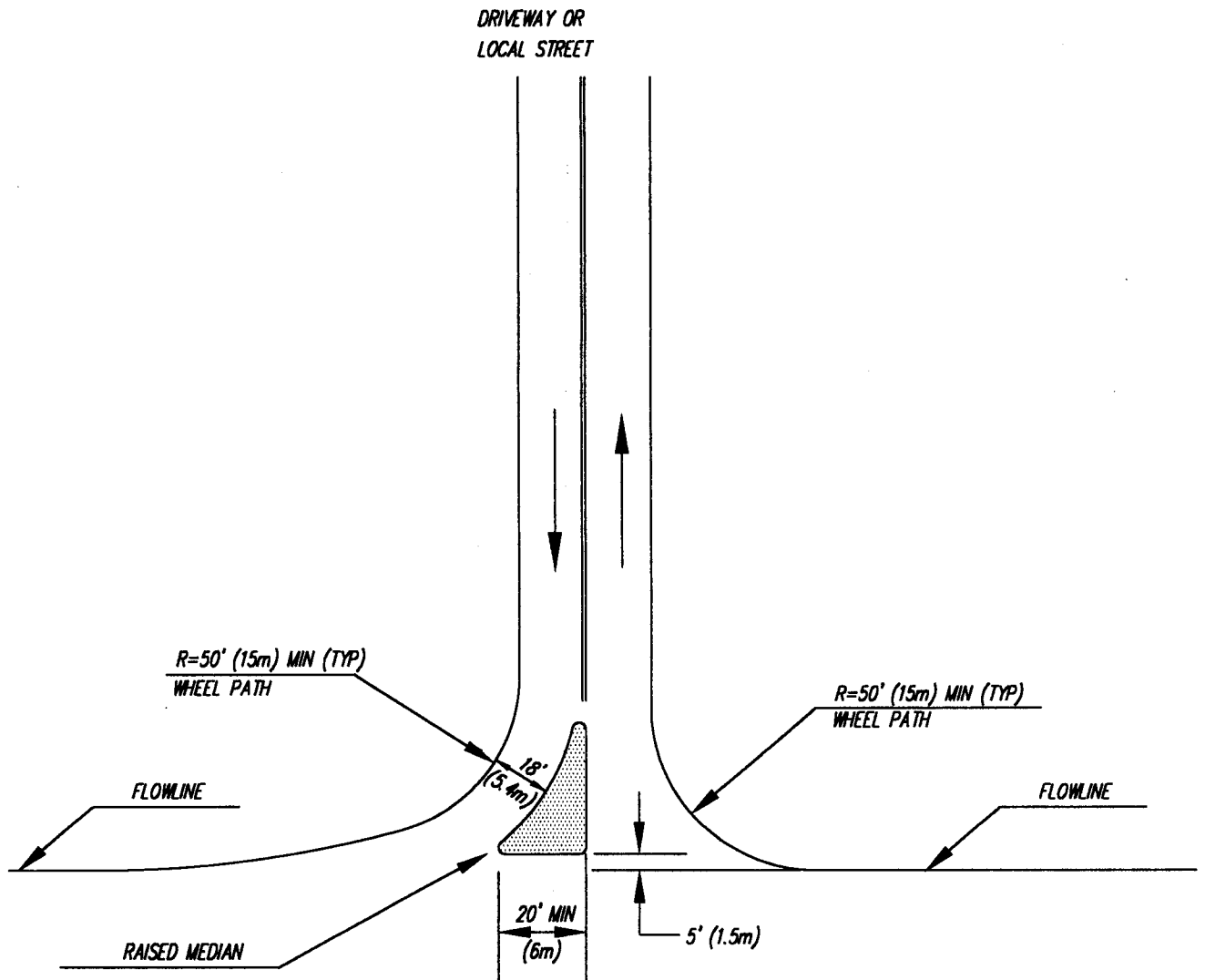
TO BE USED WHERE RESTRICTED TURNING MOVEMENTS ARE REQUIRED AND MEDIAN NOT BEING CONSTRUCTED ON MAIN STREET AT TIME OF DRIVEWAY OR LOCAL STREET CONSTRUCTION.

ALTERNATIVE DESIGN DIMENSIONS MAY BE ACCEPTED, PROVIDING MOVEMENTS ARE SATISFACTORILY RESTRICTED, PEDESTRIAN AND HANDICAP ACCESS IS PROVIDED FOR, AND DESIGN TURNING RADIUS IS ACCOMMODATED.

NOTE:
THIS PLAN IS CONCEPTUAL ONLY AND IS NOT TO BE CONSIDERED A CONSTRUCTION DRAWING.

		STANDARD		DATE 07/97
		RESTRICTED ACCESS STANDARD		DRAWN BJD/GEG
		RIGHT-IN & RIGHT-OUT ONLY		CHECKED BJD
		CITY OF BAKERSFIELD CALIFORNIA		SCALE NTS
APPROVED	CITY ENGINEER PUBLIC WORKS DEPARTMENT			SHEET NO.
			T-17	

T-17.DWG

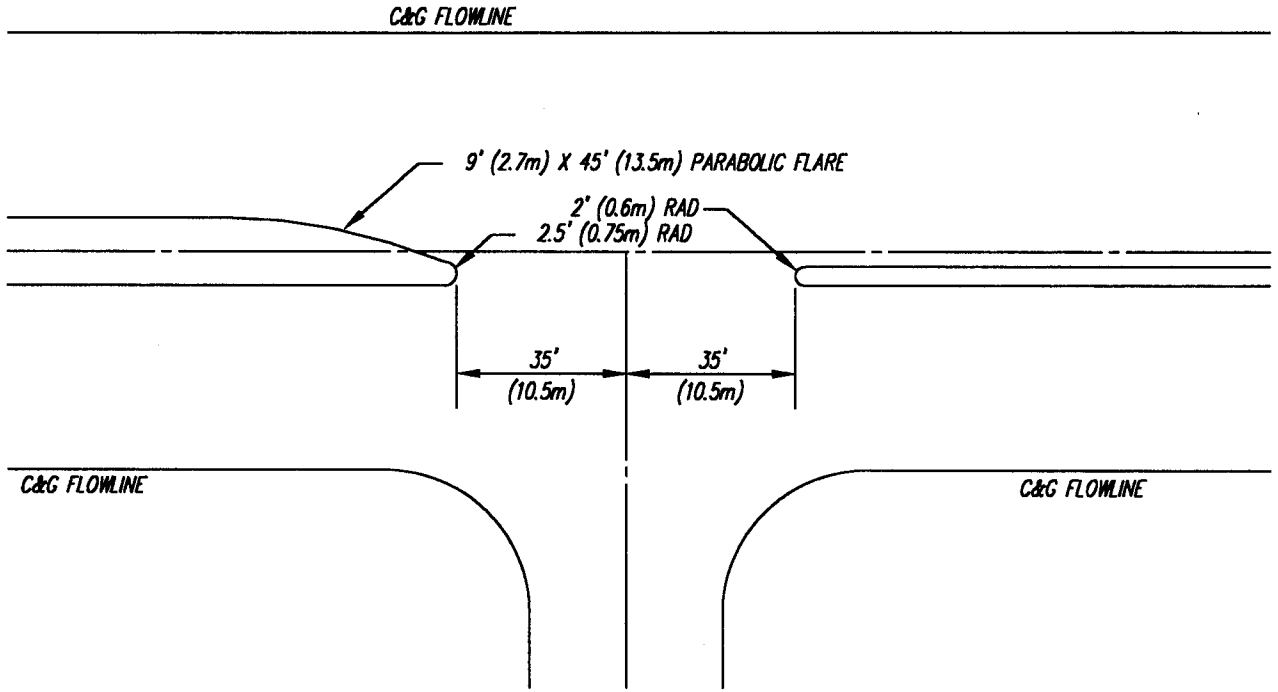


TO BE USED WHERE RESTRICTED TURNING MOVEMENTS ARE REQUIRED AND MEDIAN NOT BEING CONSTRUCTED ON MAIN STREET AT TIME OF DRIVEWAY OR LOCAL STREET CONSTRUCTION.

NOTE:
THIS PLAN IS CONCEPTUAL ONLY AND IS NOT TO BE CONSIDERED A CONSTRUCTION DRAWING.

T-18.DWG

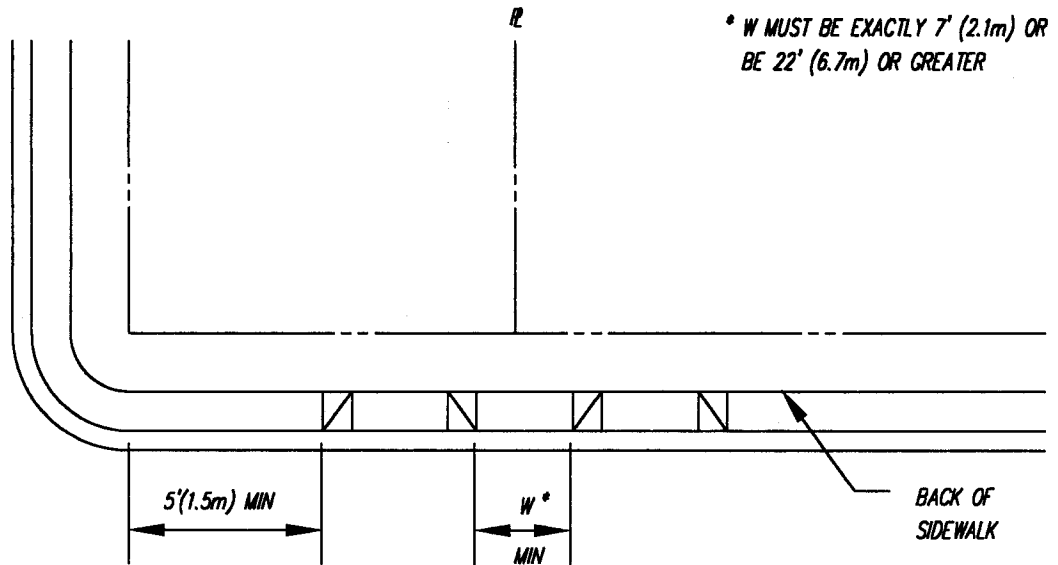
APPROVED	STANDARD RESTRICTED ACCESS STANDARD RIGHT-IN, RIGHT-OUT LEFT-IN ONLY	DATE 07/97
		DRAWN BJD/GEG
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
		SHEET NO. T-18
PUBLIC WORKS	DEPARTMENT	



TYPICAL MEDIAN END DETAIL FOR
 INTERSECTION OF LOCAL STREET WITH ARTERIAL STREET
 HAVING FULL ACCESS IN ALL DIRECTIONS
 (SEE SECTION 6.8.3.2)

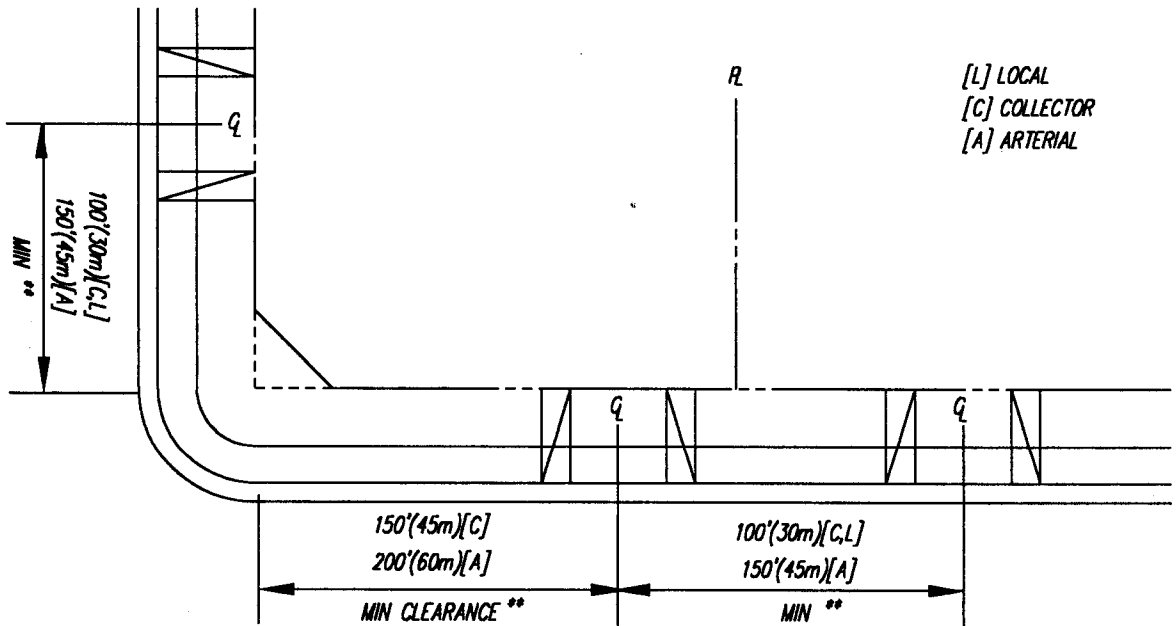
T-19.DWG

	STANDARD	DATE	07/97
	TYPICAL MEDIAN END DETAILS AT INTERSECTIONS WITH LOCAL STREETS	DRAWN	BJD
		CHECKED	BJD
		SCALE	NTS
APPROVED	CITY OF BAKERSFIELD CALIFORNIA	SHEET NO.	
_____ CITY ENGINEER		T-19	
PUBLIC WORKS		DEPARTMENT	



R1, R2

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'.



[L] LOCAL
[C] COLLECTOR
[A] ARTERIAL

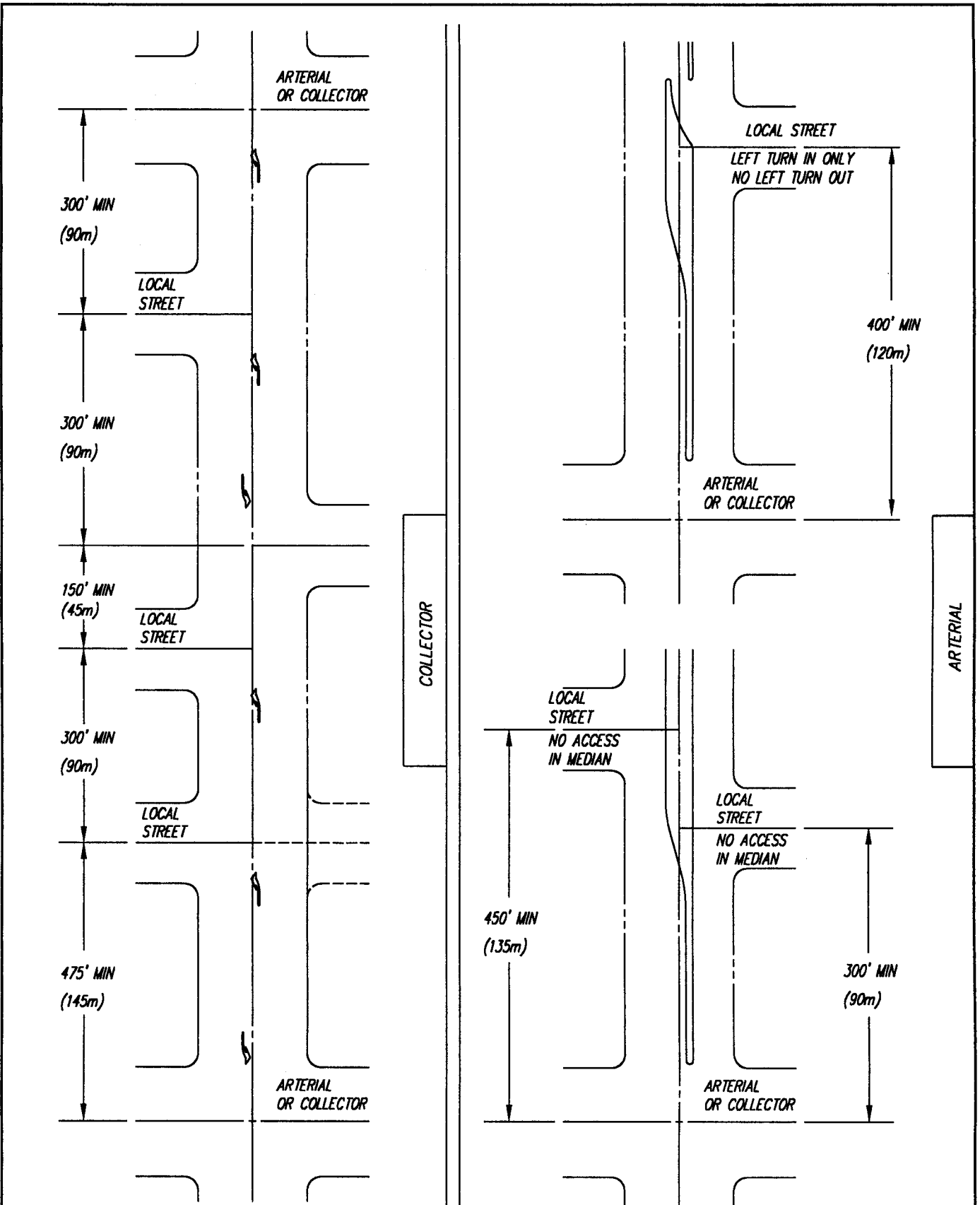
NON R1, R2

THIS STANDARD APPLIES TO ALL TYPES OF ACCESSES, EXCEPT R1,R2 FOR ALL STREETS. THE 200' & 150' DIMENSION FROM THE CORNER MAY REQUIRE ADDITIONAL CLEARANCE FOR LEFT & RIGHT TURN STORAGE. ACCESSES WILL NOT BE ALLOWED WITHIN TURN LANE TRANSITIONS.

** THESE CLEARANCES MAY BE REDUCED WHERE TRAFFIC CONDITIONS WARRANT, SUBJECT TO THE RECOMMENDATION OF THE TRAFFIC ENGINEER.

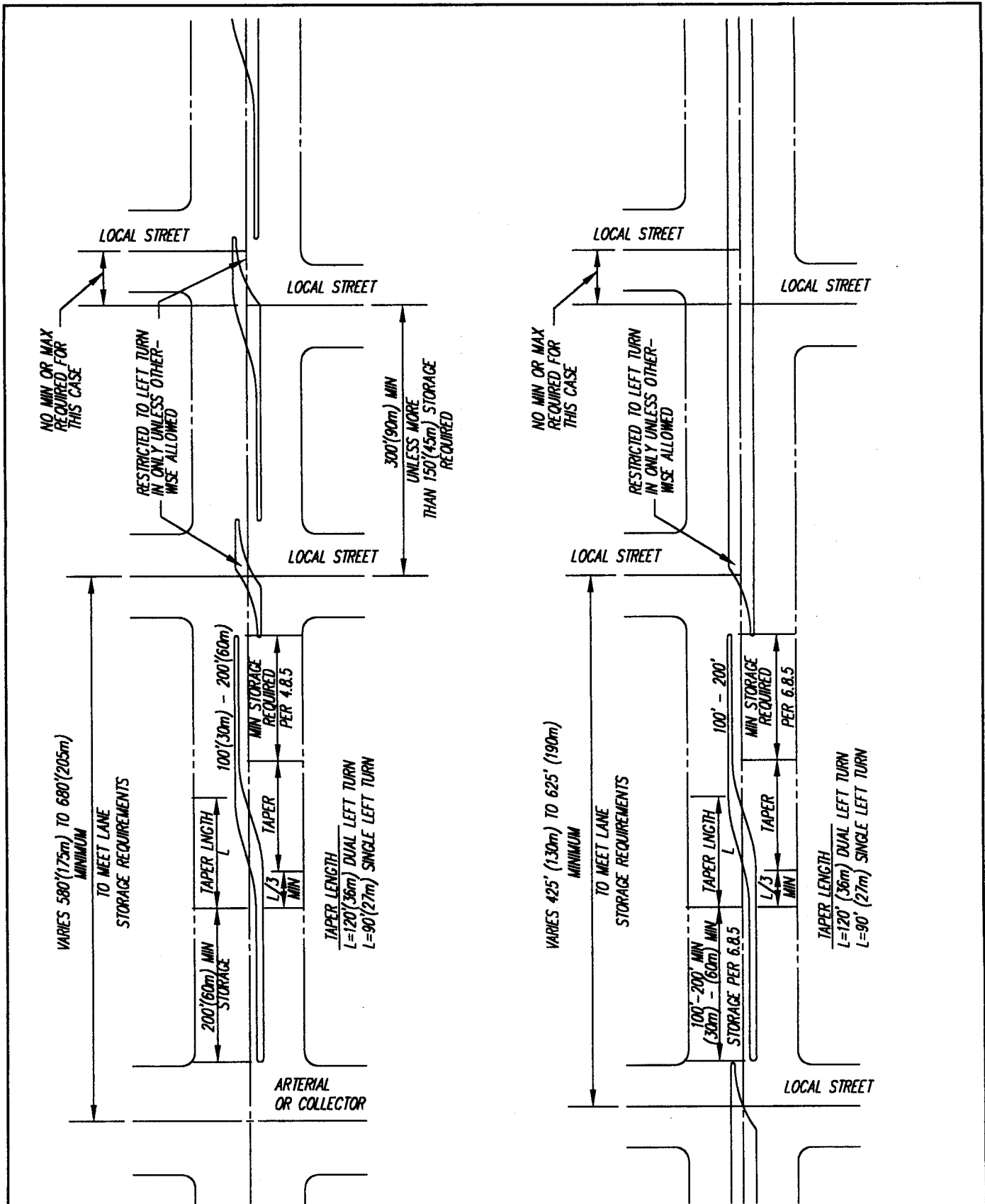
T-20.DWG

APPROVED	STANDARD MINIMUM ACCESS DESIGN	DATE 07/97
		DRAWN BJD
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
PUBLIC WORKS	DEPARTMENT	SHEET NO. T-20



T-21.DWG

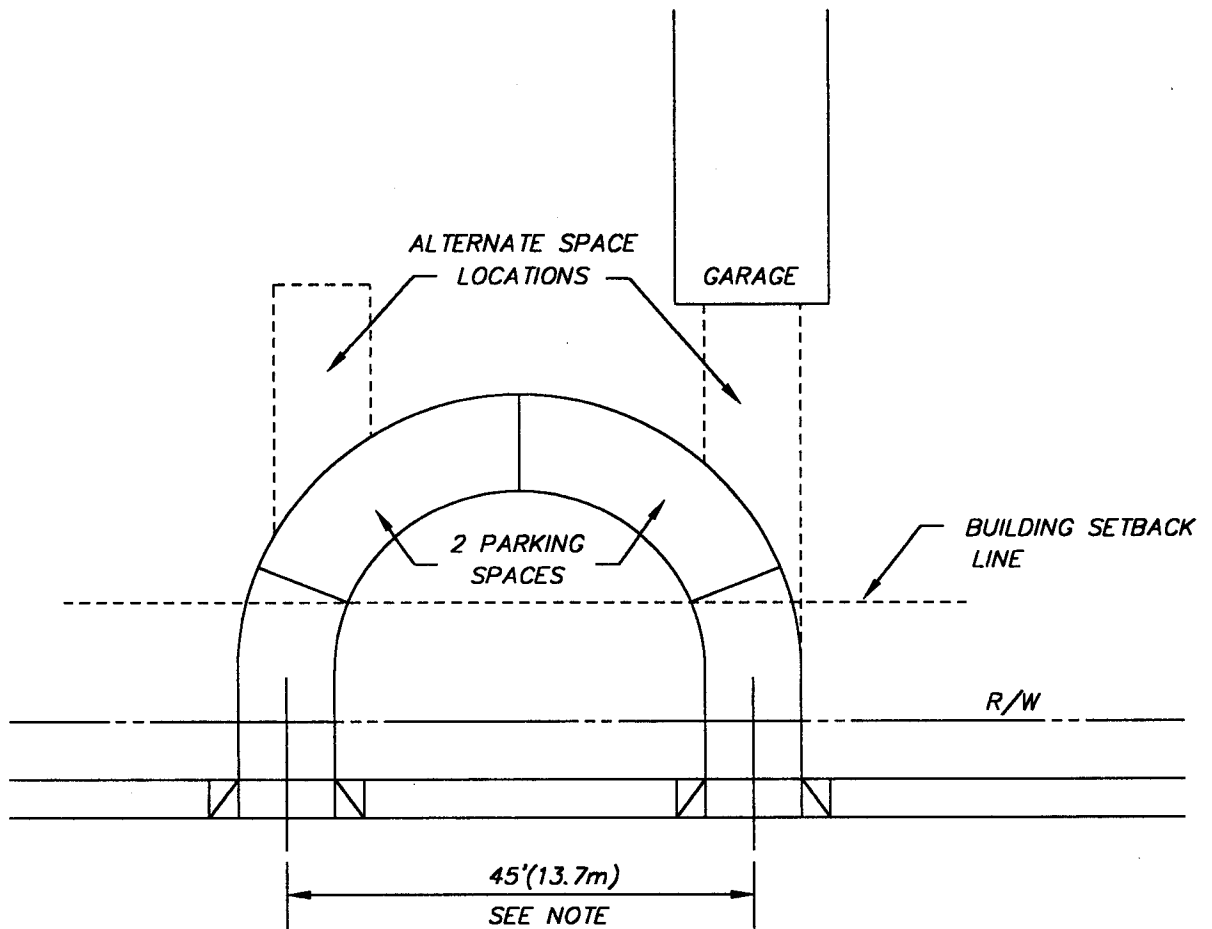
	STANDARD		DATE 07/97
	MINIMUM STREET ACCESS SPACING ON ARTERIALS AND COLLECTORS		DRAWN B.J.D
	CITY OF BAKERSFIELD CALIFORNIA		CHECKED
	CITY ENGINEER		SCALE NTS
	PUBLIC WORKS		SHEET NO.
DEPARTMENT		T-21	



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. 6.8.3. ACCESS POINTS TO ARTERIAL STREETS SHALL BE MINIMIZED TO THE GREATEST EXTENT POSSIBLE.

T-22.0WG

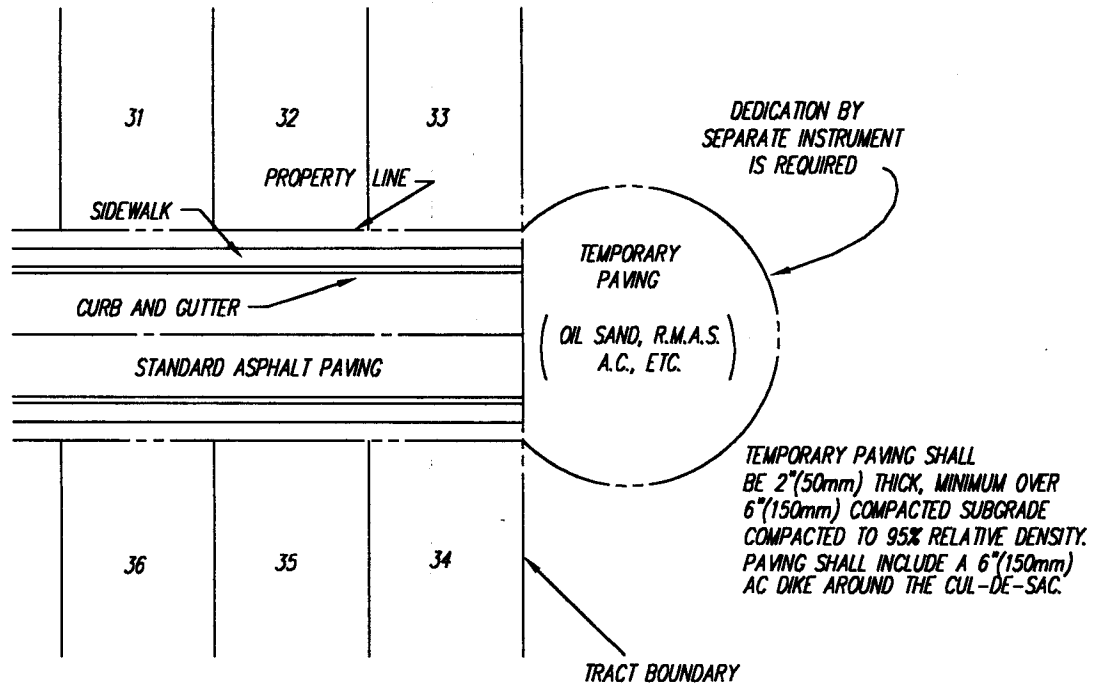
APPROVED		STANDARD MINIMUM STREET ACCESS SPACING ON ARTERIALS AND COLLECTORS		DATE	07/97
				DRAWN	B-JD
CITY ENGINEER		CITY OF BAKERSFIELD CALIFORNIA		CHECKED	B-JD
				SCALE	NTS
PUBLIC WORKS		DEPARTMENT		SHEET NO.	T-22



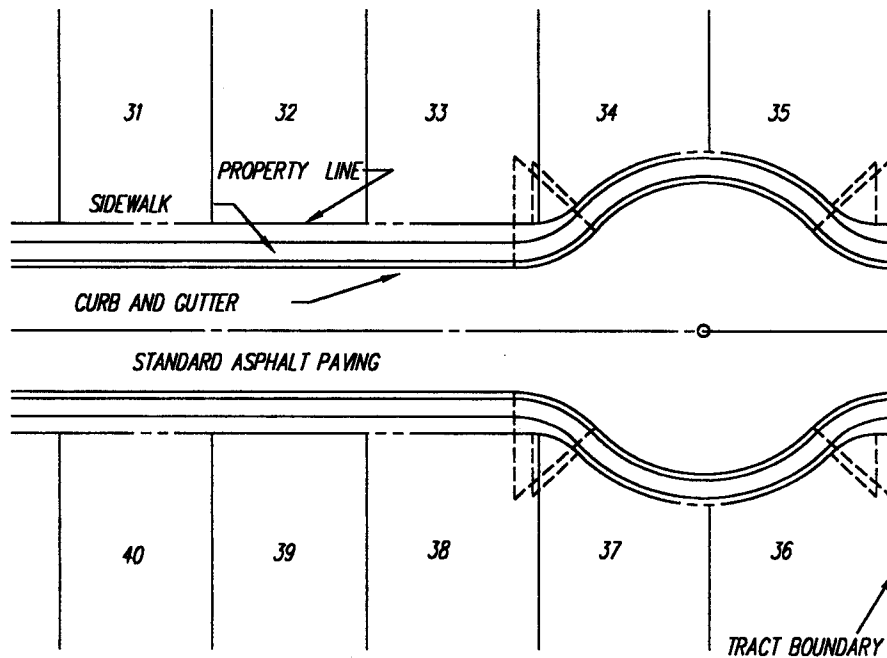
EACH DRIVE SHALL LEAD TO A STANDARD (9'(2.7m) x 18'(5.4m)MIN) PARKING SPACE BEHIND THE BUILDING SETBACK LINE. CIRCULAR DRIVEWAYS WILL ONLY BE ALLOWED WHERE LOT WIDTH IS SUFFICIENT TO PROVIDE MINIMUM SPACING OF 45'(13.5m) BETWEEN CENTER OF CONNECTING DRIVES. WHEN BOTH SPACES ARE TO BE ON THE CIRCULAR DRIVEWAY. IF ALTERNATE SPACE LOCATIONS ARE PROVIDED, SPACING MAY BE REDUCED AND IS SUBJECT TO STANDARD T-17. ALL OTHER STANDARDS ALSO APPLY.

T-23.DWG

	STANDARD		DATE 07/97
	STANDARD REQUIREMENTS		DRAWN BJD
	FOR		CHECKED BJD
	CIRCULAR DRIVEWAYS		SCALE NTS
	CITY OF BAKERSFIELD		SHEET NO.
APPROVED	CALIFORNIA		T-23
CITY ENGINEER	PUBLIC WORKS	DEPARTMENT	



OFF-SITE TURNAROUND
(REQUIRED WHEN THE TRACT AND
OFF-SITE HAVE THE SAME OWNER)



ON-SITE TURNAROUND
(REQUIRED WHEN THE DEVELOPER IS UNABLE
TO OBTAIN OFFSITE DEDICATION OF RIGHT OF WAY.)

RADII ON CUL-DE-SACS SHALL
CONFORM TO CITY STANDARD ST-19.

T-24.DWG

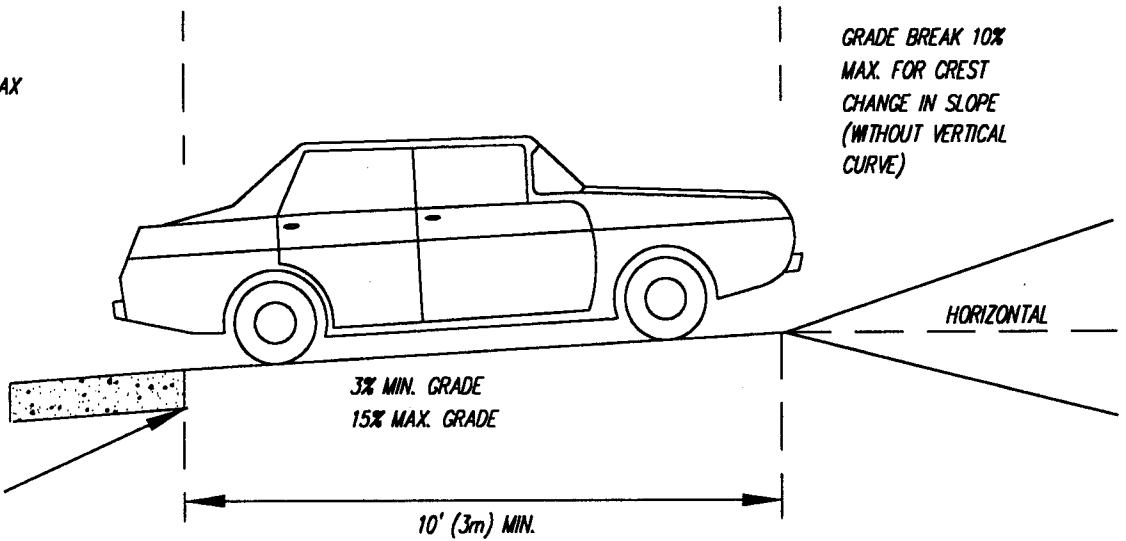
APPROVED	CITY OF BAKERSFIELD CALIFORNIA	DATE 07/97
		DRAWN B.J.D.
CITY ENGINEER	PUBLIC WORKS	CHECKED B.J.D.
		SCALE NTS
DEPARTMENT		SHEET NO. T-24

LOW DENSITY RESIDENTIAL DRIVEWAYS

GRADE BREAK 15% MAX
FOR SAG CHANGE
IN SLOPE
(WITHOUT VERTICAL
CURVE)

GRADE BREAK 10%
MAX. FOR CREST
CHANGE IN SLOPE
(WITHOUT VERTICAL
CURVE)

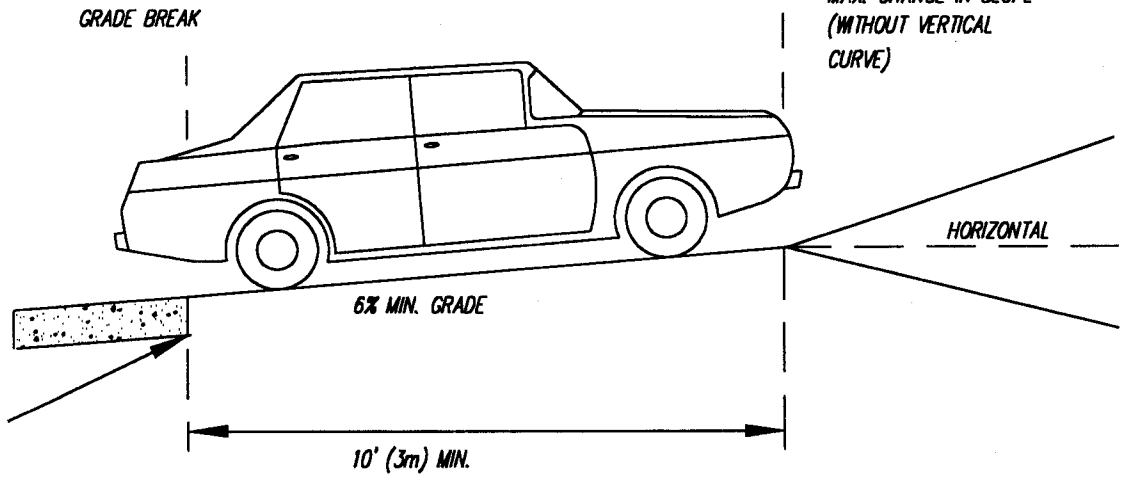
BACK OF
DRIVE APPROACH



HIGH DENSITY RESIDENTIAL & COMMERCIAL DRIVEWAYS

GRADE BREAK 8% *
MAX. CHANGE IN SLOPE
(WITHOUT VERTICAL
CURVE)

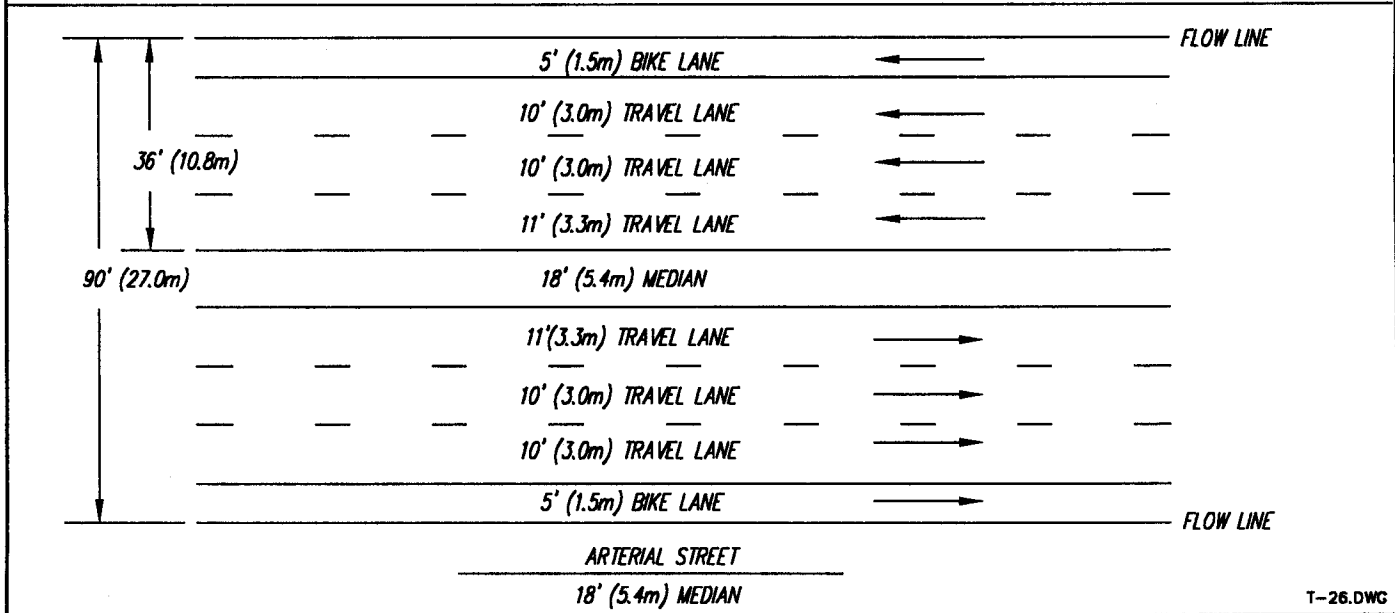
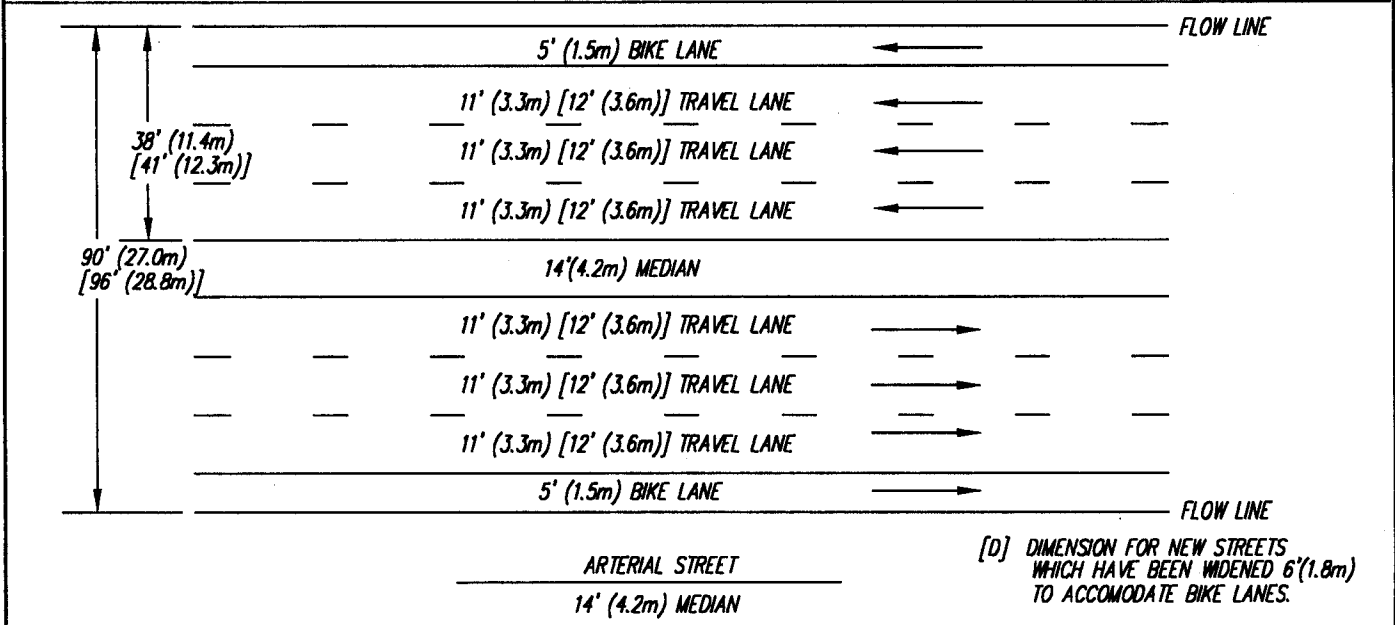
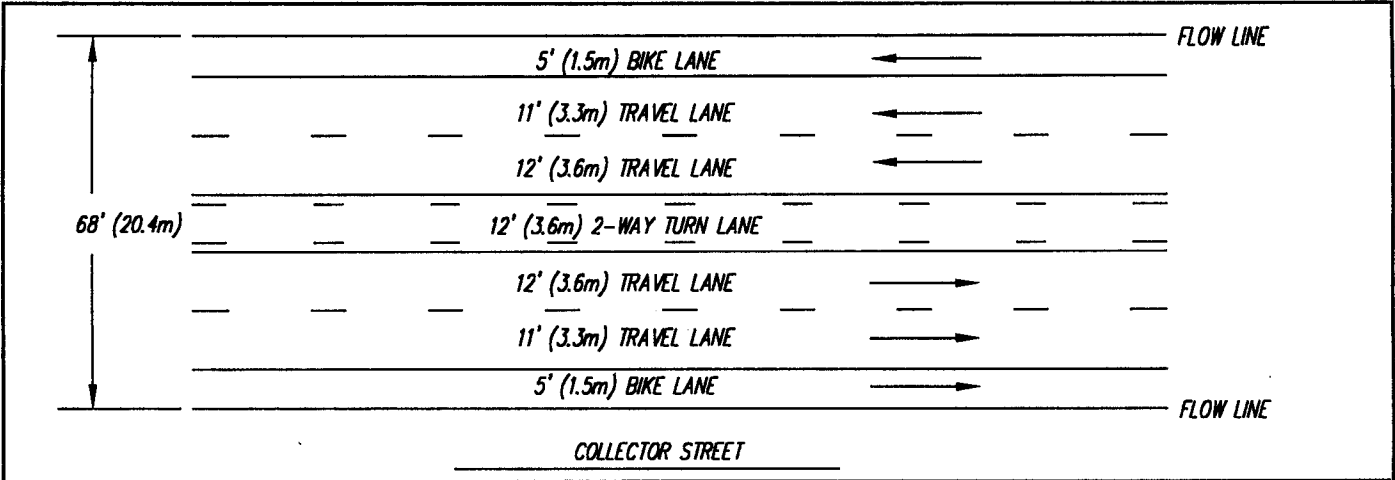
BACK OF
DRIVE APPROACH



* DRIVEWAY GRADES NOT
TO EXCEED 8%

T-25.DWG

	STANDARD DRIVEWAY GRADES	DATE 07/97
		DRAWN GEG
		CHECKED BJD
		SCALE NTS
APPROVED	CITY OF BAKERSFIELD CALIFORNIA	SHEET NO.
CITY ENGINEER	PUBLIC WORKS DEPARTMENT	T-25



11' (Min) (3.3m) ↑
 5'(1.5m) Min BIKE LANE
 PARKING LANE
 CURB
 BIKE LANES ADJACENT TO PARKING LANES
 USED WHERE OUTSIDE TRAVEL LANE IS NOT NEEDED OR STREET WIDTH ALLOWS FOR PARKING TO REMAIN. IF OPTIONAL 4" (100mm) STRIPE USED, MINIMUM BECOMES 13' (3.9m)
 6" (150mm) STRIPE
 4" (100mm) STRIPE (OPTIONAL)

Note: All Bike Lane Signing, Striping & Marking to be in accordance with Chapter 1000 of Caltrans Hwy Design Manual.

APPROVED

CITY ENGINEER

STANDARD
 TYPICAL BIKE LANES
 ON
 EXISTING STREETS

CITY OF BAKERSFIELD
 CALIFORNIA

PUBLIC WORKS DEPARTMENT

T-26.DWG

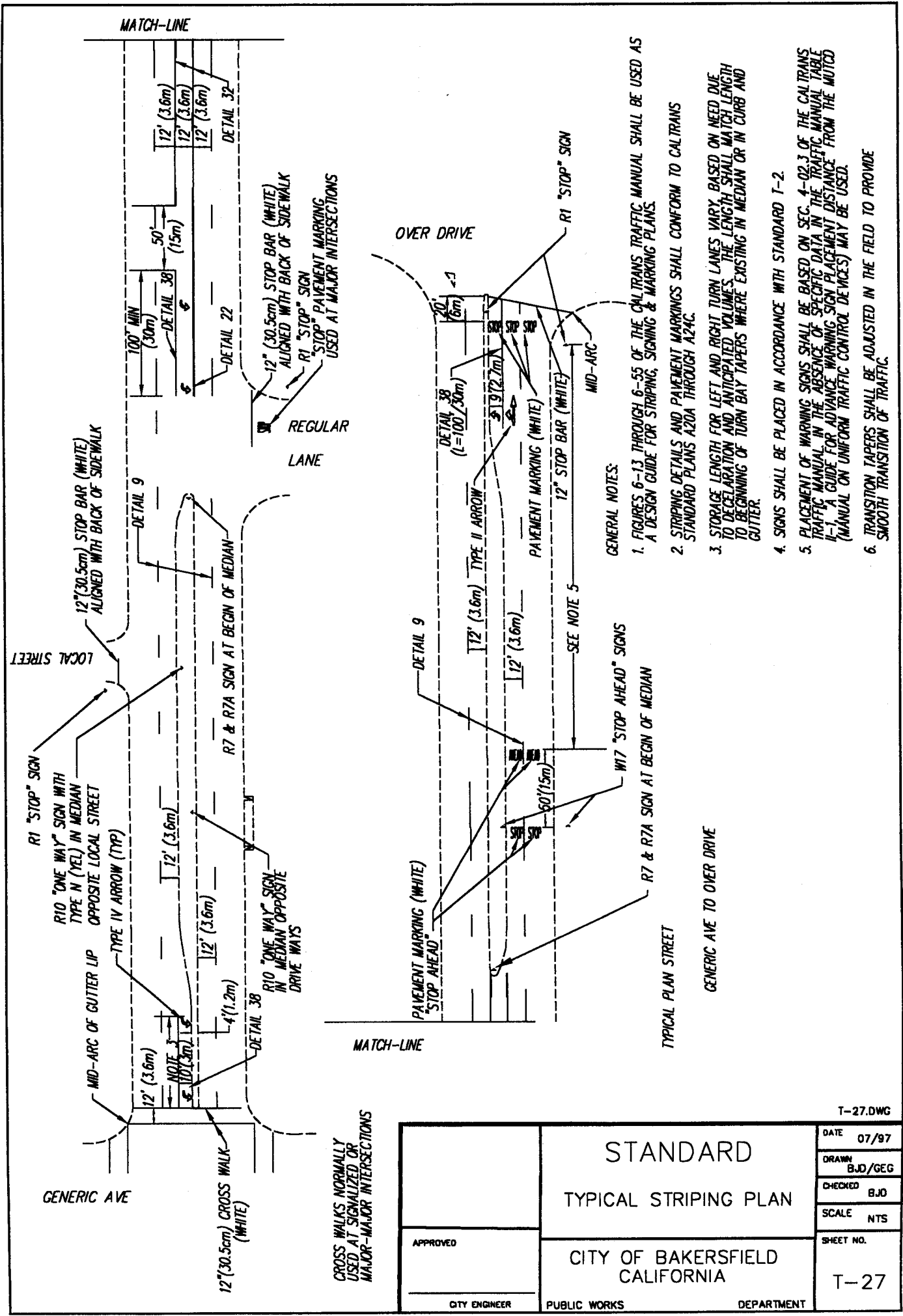
DATE 07/97

DRAWN BJD/GEG

CHECKED BJD

SCALE NONE

SHEET NO. T-26

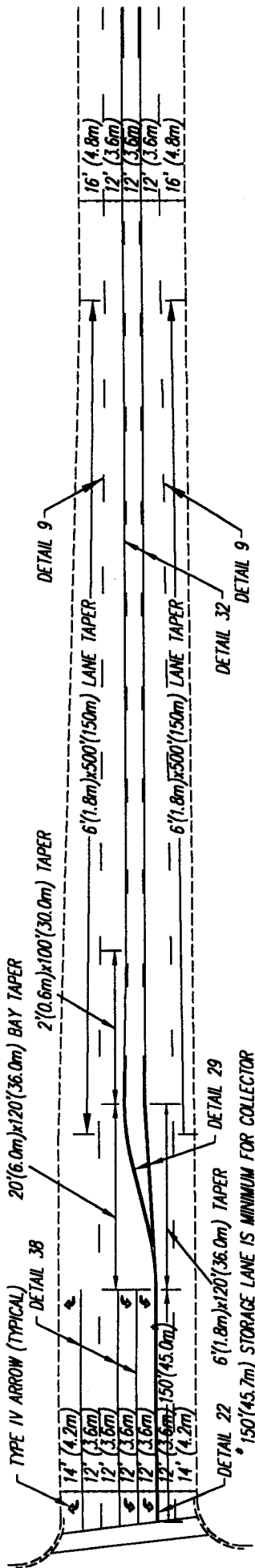


GENERAL NOTES:

1. FIGURES 6-13 THROUGH 6-55 OF THE CALTRANS TRAFFIC MANUAL SHALL BE USED AS A DESIGN GUIDE FOR STRIPING, SIGNING & MARKING PLANS.
2. STRIPING DETAILS AND PAVEMENT MARKINGS SHALL CONFORM TO CALTRANS STANDARD PLANS A20A THROUGH A24C.
3. STORAGE LENGTH FOR LEFT AND RIGHT TURN LANES VARY, BASED ON NEED DUE TO DECELERATION AND ANTICIPATED VOLUMES. THE LENGTH SHALL MATCH LENGTH TO BEGINNING OF TURN BAY TAPERS WHERE EXISTING IN MEDIAN OR IN CURB AND GUTTER.
4. SIGNS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 1-2.
5. PLACEMENT OF WARNING SIGNS SHALL BE BASED ON SEC. 4-02.3 OF THE CALTRANS TRAFFIC MANUAL. IN THE ABSENCE OF SPECIFIC DATA IN THE TRAFFIC MANUAL TABLE II-1, A GUIDE FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE FROM THE MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) MAY BE USED.
6. TRANSITION TAPERS SHALL BE ADJUSTED IN THE FIELD TO PROVIDE SMOOTH TRANSITION OF TRAFFIC.

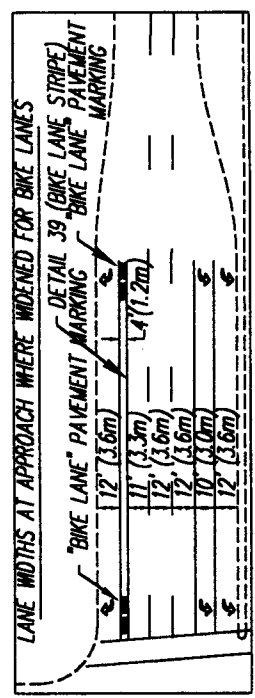
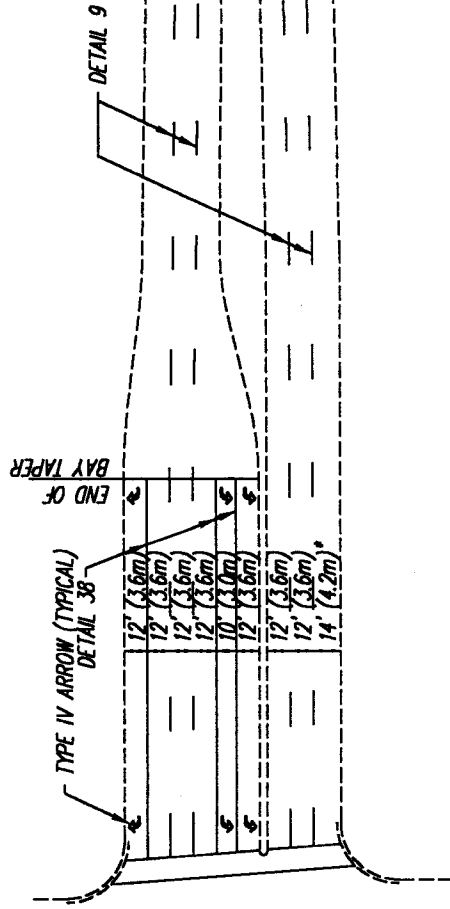
T-27.DWG

APPROVED	STANDARD		DATE 07/97
	TYPICAL STRIPING PLAN		DRAWN BJD/GEG
QTY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA		CHECKED BJD
			SCALE NTS
			SHEET NO. T-27
PUBLIC WORKS		DEPARTMENT	



* WHEN STREET FL IS WIDENED 3'(0.9m) FOR BIKE LANES THE BIKE LANE IS 5'(1.5m) FROM FL AND THE #3 OUTSIDE LANE IS 12'(3.6m). THE BIKE LANE STRIPE IS DETAIL 39 APPROACHING THE INTERSECTION THE BIKE LANE STRIPE TERMINATES AT THE BEGIN OF BAY TAPER AND THEN CONTINUES AS SHOWN IN THE DETAIL. R-81, BIKE LANE SIGNS SHALL ALSO BE INSTALLED AT 600'(183m) MAXIMUM SPACING.

TYPICAL EXPANDED COLLECTOR APPROACH



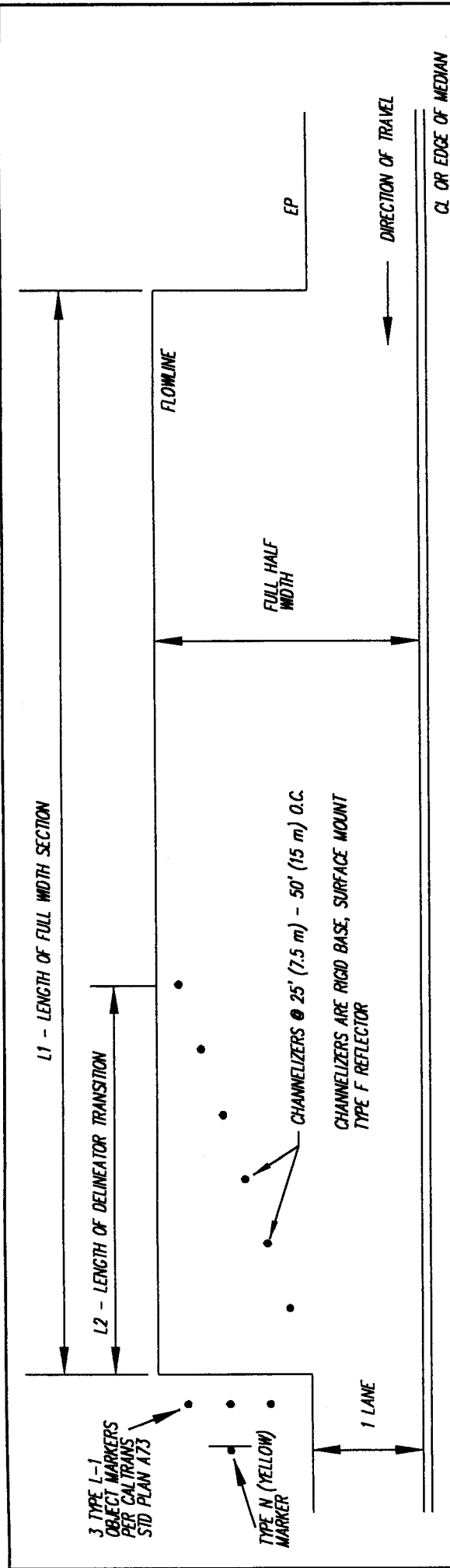
GENERAL NOTES:

1. FIGURES 6-13 THROUGH 6-55 OF THE CALTRANS TRAFFIC MANUAL SHALL BE USED AS A DESIGN GUIDE FOR STRIPING, SIGNING & MARKING PLANS.
2. STRIPING DETAILS AND PAVEMENT MARKINGS SHALL CONFORM TO CALTRANS STANDARD PLANS A20A THROUGH A24C.
3. STORAGE LENGTH FOR LEFT AND RIGHT TURN LANES VARY BASED ON NEED DUE TO DECELERATION AND ANTICIPATED VOLUMES. THE LENGTH SHALL MATCH LENGTH TO BEGINNING OF TURN BAY TAPERS WHERE EXISTING IN MEDIAN OR IN CURB AND GUTTER.
4. SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD T-2.
5. PLACEMENT OF WARNING SIGNS SHALL BE BASED ON SEC. 4-02.3 OF THE CALTRANS TRAFFIC MANUAL IN THE ABSENCE OF SPECIFIC DATA IN THE TRAFFIC MANUAL TABLE I-1. A GUIDE FOR ADVANCE WARNING SIGN PLACEMENT DISTANCE FROM THE MUTED (MANUAL OR UNIFORM TRAFFIC CONTROL DEVICES) MAY BE USED.
6. TRANSITION TAPERS SHALL BE ADJUSTED IN THE FIELD TO PROVIDE SMOOTH TRANSITION OF TRAFFIC.

TYPICAL EXPANDED ARTERIAL APPROACH

APPROVED		STANDARD TYPICAL STRIPING PLAN FOR ARTERIAL AND COLLECTOR APPROACHES		DATE	07/97
				DRAWN	GEC
CITY ENGINEER		CITY OF BAKERSFIELD CALIFORNIA		CHECKED	BJD
				SCALE	NTS
PUBLIC WORKS		DEPARTMENT		SHEET NO.	T-28

T-28.DWG



L1

$< \frac{1}{4}$ MILE (0.40 km)

$\frac{1}{4}$ MILE (0.40 km) TO $\frac{1}{2}$ MILE (0.80 km)

L2

NO TRANSITION NECESSARY
L-1 OBJECT MARKERS ONLY
WITH TYPE N MARKER

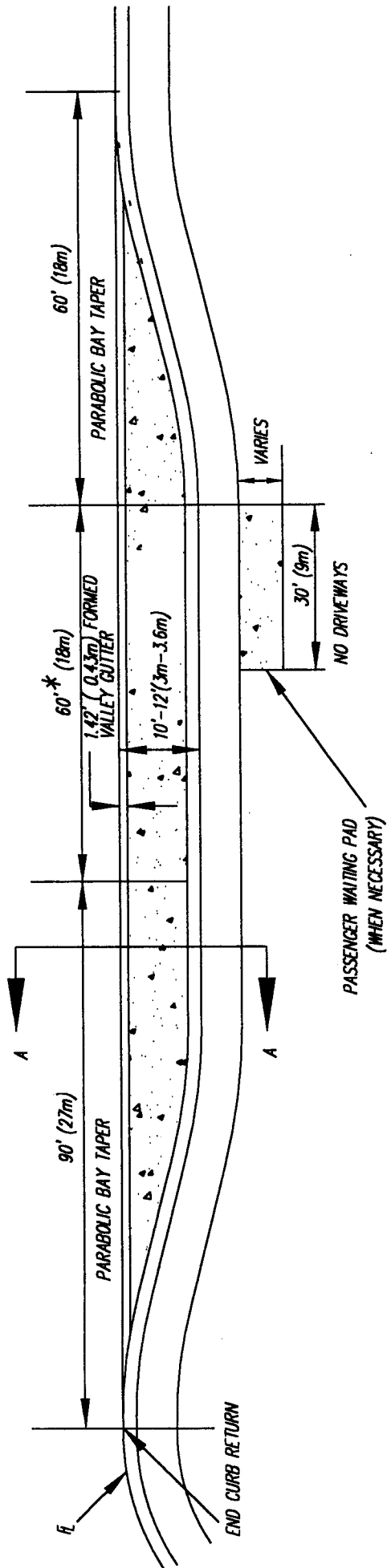
200' (60 m)

500' (150 m) MIN OR MORE.
FOR ACTUAL MOVE OVER
USE DESIGN SPEED

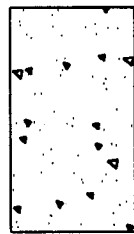
REFERENCE: 1. SEC. 6-06 OF THE CALTRANS TRAFFIC MANUAL FOR USE OF CHANNELIZERS
2. CALTRANS STD PLAN A73C FOR DETAILS

T-29.DWG

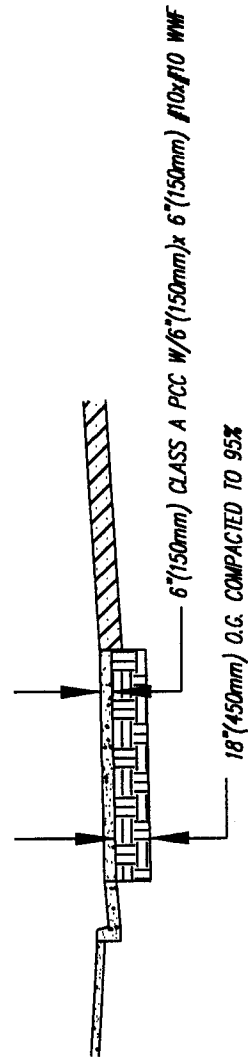
APPROVED	STANDARD TRANSITIONS AT ROAD NARROWINGS		DATE	07/97
			DRAWN	GEG
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA		CHECKED	BJD
			SCALE	NTS
			SHEET NO.	T-29
PUBLIC WORKS		DEPARTMENT		



* THIS DIMENSION IS FOR ONE BUS POSITION ONLY. IF MORE POSITIONS ARE REQUIRED AT A STOP, ADD 60 FEET (18m) FOR EACH ADDITIONAL PASSTHROUGH BUS AND 80 FEET (24m) FOR EACH ADDITIONAL LAYOVER BUS.



CONCRETE PAD
4" (100mm) PCC, CLASS B

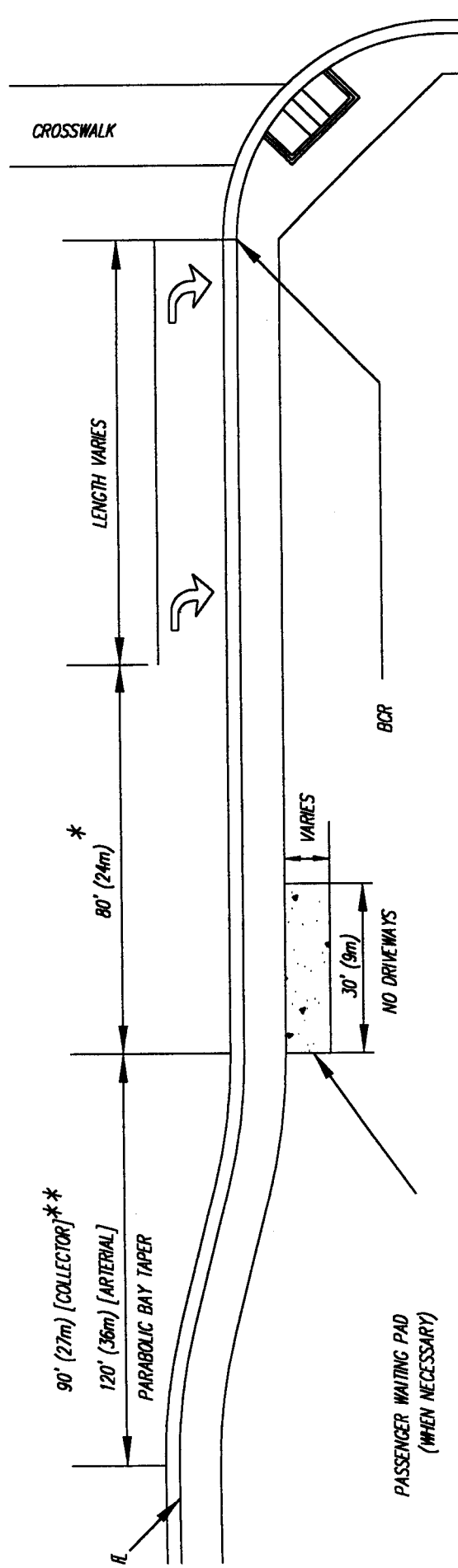


SECTION A-A

NOTE: DRIVEWAYS SHOULD BE AVOIDED WITHIN THE BUS BAY.
A DRIVEWAY SHOULD NOT BE PLACED WITHIN THE WAITING PAD AREA.

T-30.DWG

APPROVED	CITY ENGINEER	STANDARD BUS TURNOUT MID-BLOCK TURNOUT DESIGN	DATE	05/99
			DRAWN	GEG
CITY ENGINEER	PUBLIC WORKS	CITY OF BAKERSFIELD CALIFORNIA	CHECKED	BJD
			SCALE	NTS
DEPARTMENT			SHEET NO.	T-30



* THIS DIMENSION IS FOR ONE BUS POSITION ONLY. IF MORE POSITIONS ARE REQUIRED AT A STOP, ADD 60 FEET (18m) FOR EACH ADDITIONAL PASSTHROUGH BUS AND 80 FEET (24m) FOR EACH ADDITIONAL LAYOVER BUS.

PAVEMENT DESIGN FOR RIGHT TURN LANES WITH BUS TURNOUTS SHALL BE BASED UPON A T1 OF 10.

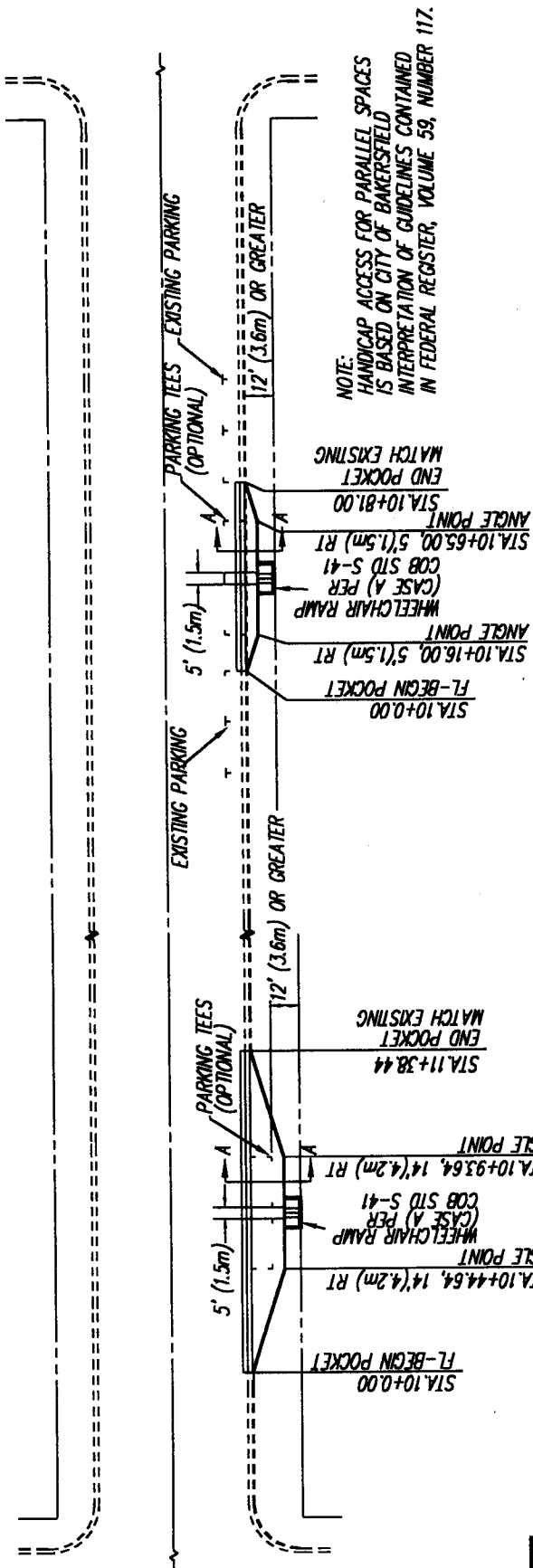


CONCRETE PAD
4" (100mm) PCC, CLASS B

NOTE: DRIVEWAYS SHOULD BE AVOIDED WITHIN THE BUS BAY.
A DRIVEWAY SHOULD NOT BE PLACED WITHIN THE WAITING PAD AREA.

<p>APPROVED</p> <p>CITY ENGINEER</p>		<p>STANDARD BUS TURNOUT NEARSIDE TURNOUT DESIGN</p> <p>CITY OF BAKERSFIELD CALIFORNIA</p> <p>PUBLIC WORKS DEPARTMENT</p>		DATE 07/97
				DRAWN G.E.G.
		<p>CITY OF BAKERSFIELD CALIFORNIA</p> <p>PUBLIC WORKS DEPARTMENT</p>		CHECKED B.J.D.
				SCALE NTS
				SHEET NO. T-31

T-31.DWG



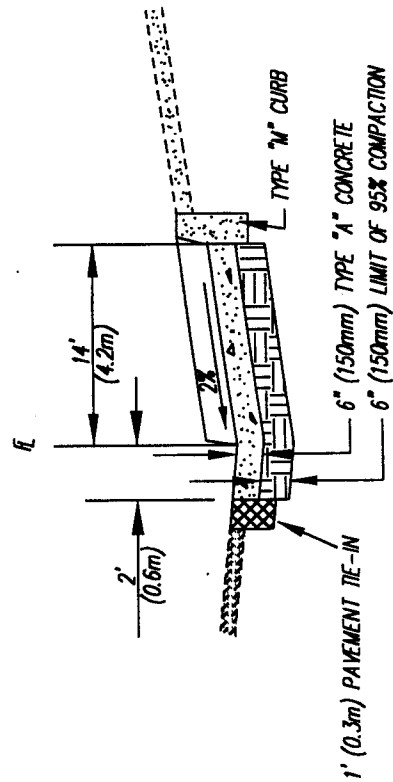
NOTE: HANDICAP ACCESS FOR PARALLEL SPACES IS BASED ON CITY OF BAKERSFIELD INTERPRETATION OF GUIDELINES CONTAINED IN FEDERAL REGISTER, VOLUME 59, NUMBER 117.

NOTE: INSTALL ALL PERTINENT SIGNS AND PAVEMENT MARKINGS FOR HANDICAP PARKING SPACES.

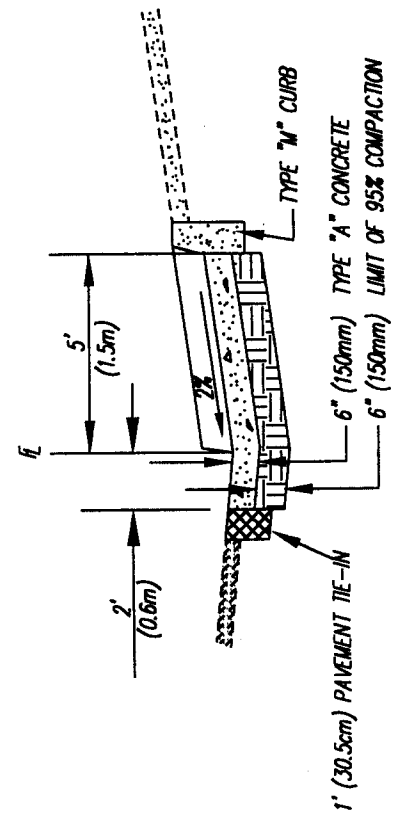
EXAMPLE A
HANDICAP PARKING POCKET
WITH NO ADJACENT ON-STREET PARKING

NOTE: INSTALL ALL PERTINENT SIGNS AND PAVEMENT MARKINGS FOR HANDICAP PARKING SPACES.

EXAMPLE B
HANDICAP PARKING POCKET
WITH ADJACENT ON-STREET PARKING



SECTION A-A
NOT TO SCALE
CASE A

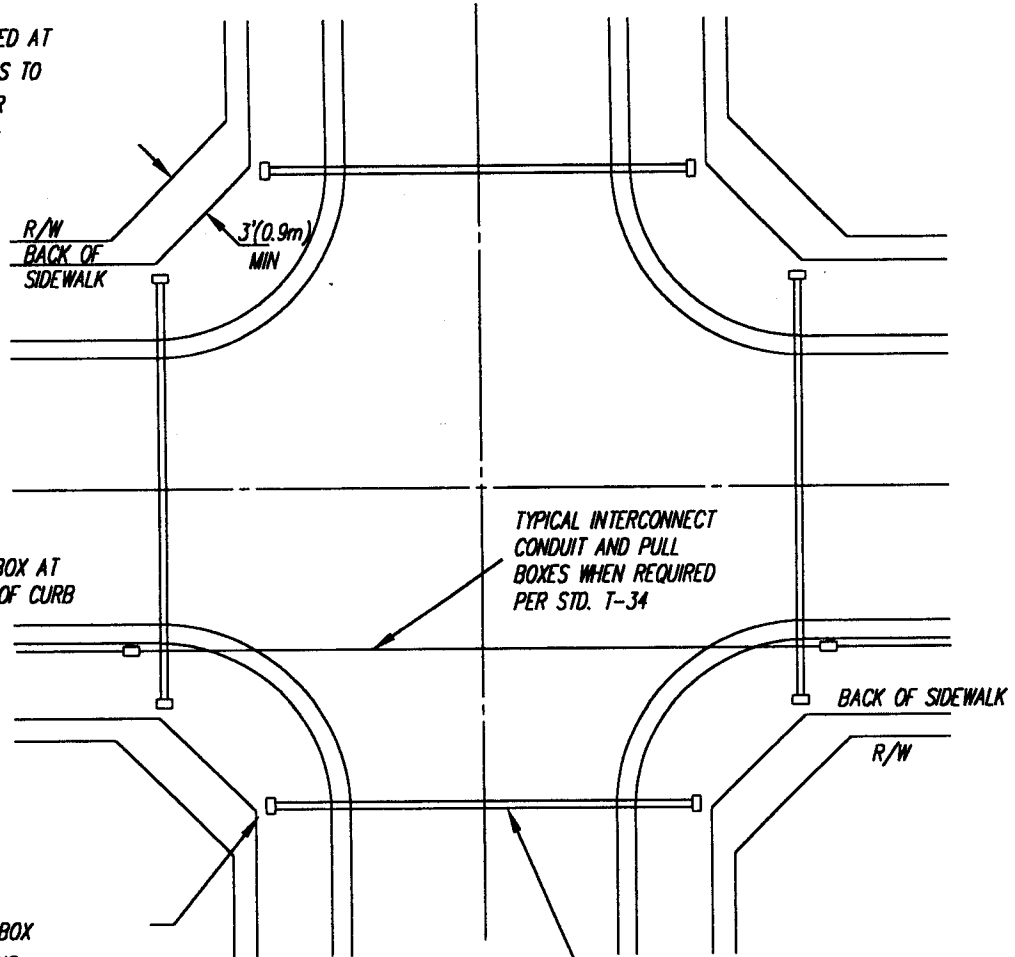


SECTION A-A
NOT TO SCALE
CASE B

APPROVED	STANDARD HANDICAP PARKING POCKETS	DATE 07/97
		DRAWN BJD/GEG
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
PUBLIC WORKS	DEPARTMENT	SHEET NO. T-32

T-32.DWC

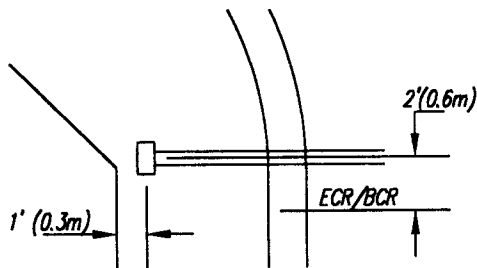
R/W REQUIRED AT ALL CORNERS TO PROVIDE FOR CONTROLLER



NO. 5 PULL BOX PER CALTRANS STANDARD PLAN ES-8, CURRENT EDITION, WITH LID MARKED "TRAFFIC SIGNAL" (SEE DIMENSIONS BELOW)

2 - 3" (75mm) SCHEDULE 40 CONDUITS INSTALLED IN CONFORMANCE TO SEC. 86-2.05 OF THE CALTRANS STANDARD SPECIFICATIONS, CURRENT EDITION.

PULL BOXES ARE REQUIRED AT BOTH ENDS OF CONDUIT. WHERE PAVING IS EXISTING, CONDUIT SHALL EXTEND ACROSS ENTIRE PAVED WIDTH AND SHALL BE INSTALLED BY BORING EXISTING PAVEMENT, UNLESS OTHER METHOD IS ALLOWED.



THIS STANDARD APPLIES AT ALL INTERSECTIONS OF 2 MAJOR STREETS OR ANY INTERSECTION DESIGNATED FOR FUTURE SIGNAL INSTALLATION

SEPARATE CONDUIT AND PULL BOXES MAY BE REQUIRED ON CERTAIN CROSSINGS WHERE INTERCONNECT IS REQUIRED ALONG SAID STREET. (SEE STD. T-34)

T-33.DWG

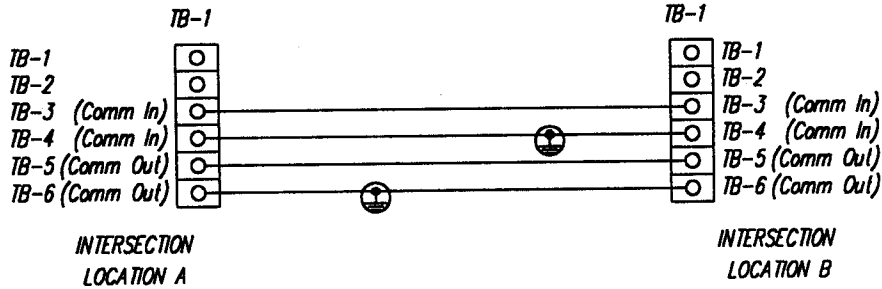
APPROVED	STANDARD CONDUIT & R/W REQUIREMENTS FOR FUTURE SIGNAL LOCATIONS	DATE 07/97
		DRAWN BJD
CITY ENGINEER	CITY OF BAKERSFIELD CALIFORNIA	CHECKED BJD
		SCALE NTS
PUBLIC WORKS	DEPARTMENT	SHEET NO. T-33

C2P MODEM INTERCONNECT/TERMINAL BLOCK TB-1

INPUT PANEL #4

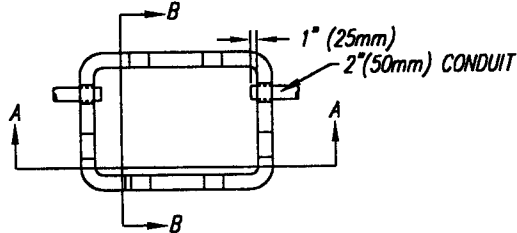
WIRE COLOR ASSIGNMENTS

PIN	FUNCTION	WIRE COLOR MODEM HARNESS	TB-1	WIRE COLOR INTERCONNECT CABLE
A	AUDIO IN	WHITE	TB1-3	WHITE
B	AUDIO IN	BLACK	TB1-4	BLACK
C	AUDIO OUT	RED	TB1-5	BLACK
E	AUDIO OUT	GREEN	TB1-6	GREEN



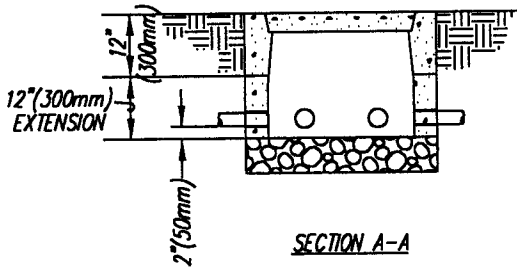
INTERCONNECT DETAIL

NTS



TOP VIEW

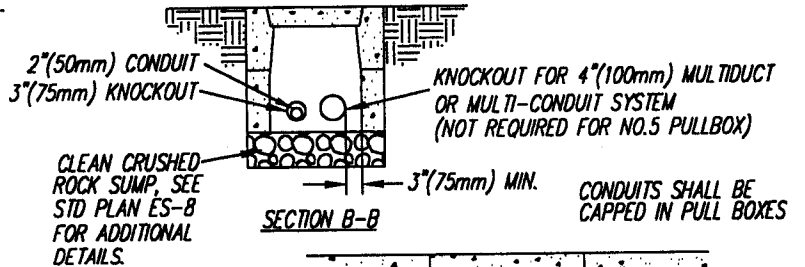
LIDS SHALL READ "TRAFFIC SIGNAL"



SECTION A-A

NO.5 PULLBOX WITH EXTENSION
(NO.6 PULLBOX WITH EXTENSION SIMILAR)

NTS



SECTION B-B

CONDUITS SHALL BE CAPPED IN PULL BOXES

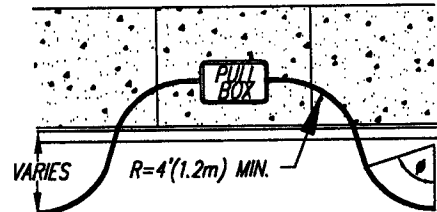
MULTI-DUCT

TRAFFIC SIGNAL INTERCONNECT SHALL BE INSTALLED ALONG ALL ARTERIAL AND COLLECTOR STREETS OR AS DIRECTED AS PART OF THE STANDARD STREET IMPROVEMENT. OMISSION OF INTERCONNECT CONDUIT ALONG ARTERIAL OR COLLECTOR STREETS MAY BE ALLOWED WHERE ACCEPTABLE ALTERNATE MEANS OF COMMUNICATION IS PROVIDED FOR IN THE CITY TRAFFIC COMMUNICATION MASTER PLAN.

MULTI-DUCT CONDUIT IS REQUIRED ON ALL SIGNAL COMMUNICATION BACKBONE ROUTES SHOWN ON THE CITY TRAFFIC COMMUNICATION MASTER PLAN, PULL BOXES ARE TO BE NO. 6.

ALL OTHER ROUTES

INSTALL 2"(50mm) SCHEDULE 40 CONDUIT UNDER SIDEWALK WITH PULL BOXES AT 400'(120m) MAXIMUM INTERVAL. PULL BOXES SHALL BE NO. 5 WITH EXTENSIONS AND KNOCKOUTS. CONDUIT SHALL BE BROUGHT INTO PULL BOXES PARALLEL TO THE EXISTING SURFACE (HORIZONTAL). THE TOTAL ANGULAR BEND OF CONDUIT BETWEEN PULL BOXES SHALL NOT EXCEED 180 DEGREES. A PULL ROPE CONFORMING TO SECTION 86-2.05C "INSTALLATION" OF THE STANDARD SPECIFICATION SHALL BE INCLUDED IN ALL INTERCONNECT CONDUIT FOR INSTALLATION OF FUTURE CONDUCTORS.



SWEEP TO PULLBOX

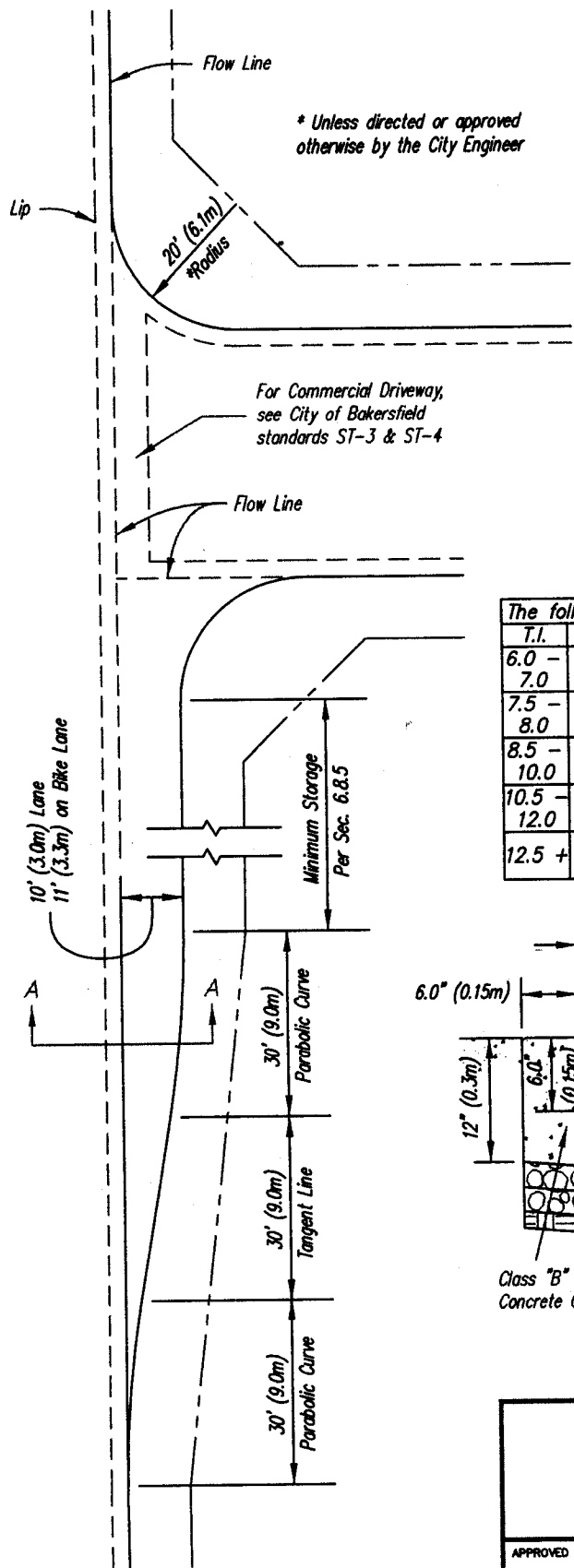
NTS

NOTE: TO BE USED ONLY WHEN CONDUIT IS ALLOWED TO BE PLACED AT GUTTER LIP LINE. IN ALL OTHER CASES, CONDUIT IS TO BE LOCATED UNDER SIDEWALK AREA.

VARIES
R=4' MIN.
(1.2m)

T-34,DWG

APPROVED	CITY ENGINEER	<p>STANDARD TRAFFIC SIGNAL INTERCONNECT- WIRING AND PULL BOXES</p>		DATE 09/99
				DRAWN R. Storbuck
		CITY OF BAKERSFIELD CALIFORNIA		CHECKED Bruce Deeter
		PUBLIC WORKS DEPARTMENT		SCALE None
				T-34



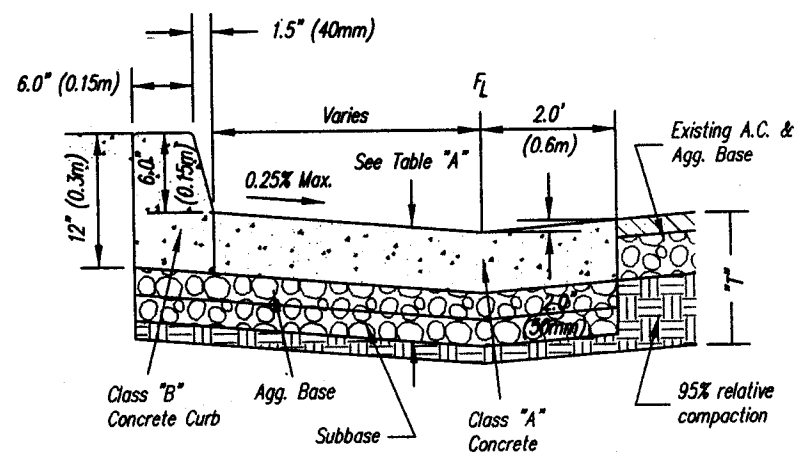
NOTES:

1. This detail may be used when slope constraints exist. Detail T-6 may be used under other conditions.
2. See City of Bakersfield standard ST-1, Type "B" curb and gutter, for all applicable dimensions and notes.
3. See City of Bakersfield standard ST-14 for structural pavement section information.
4. Concrete to have 0.125" (5mm) wide by 2.0" (50mm) deep weakened plane joint at 15' (4.6m) O.C. and 0.5" (0.13m) expansion joints at 90' (27.4m) O.C.
5. Sawcut existing edge of pavement as directed by the City Engineer.
6. Remove, replace, or relocate any necessary signs per city requirements or as directed by the City Engineer.
7. Any design deviations from this standard must be approved in writing by the City Engineer.

TABLE "A"

The following shall apply for Concrete Structural Thicknesses:

T.I.	Concrete Depth	AB Depth	Subbase (AS) Depth
6.0 - 7.0	0.5' (150mm)	0.34' (105mm)	0.34' (105mm)
7.5 - 8.0	0.6' (185mm)	0.34' (105mm)	0.34' (105mm)
8.5 - 10.0	0.7' (215mm)	0.34' (105mm)	0.34' (105mm)
10.5 - 12.0	0.8' (230mm)	0.34' (105mm)	0.50' (150mm)
12.5 +	0.9' (260mm)	0.34' (105mm)	0.80' (245mm)



SECTION A-A

FILENAME: T-10REV

APPROVED	CITY OF BAKERSFIELD CALIFORNIA	DATE 9/22/99
		DRAWN JCU
CITY ENGINEER	PUBLIC WORKS	CHECKED M. SHAW
		SCALE N.T.S.
	DEPARTMENT	SHEET NO. T-XX