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# CHAPTER I

## SUBMITTAL REQUIREMENTS TO ENGINEERING DEPARTMENT FOR NEW DEVELOPMENT

### A. GENERAL

The purpose of this chapter is to define the requirements for submittal to the City of Calexico Engineering Department prior to obtaining a building permit or approval to begin off-site infrastructure improvements.

All of the types of improvements of this chapter require a deposit fee (Appendix A) to be placed with the Calexico Building Department prior to review all site plans, improvement plans, parcel maps and final parcel maps. The Building Department will establish a project number for the development and make appropriate hourly charges to the project for review, inspection, and administrative time. A refund will be made at the acceptance of the project, to the builder, developer, or applicant of funds not used by the City Departments to administer the site development and off-site improvements.

### B. SITE PLANS

For all non-residential projects and multi-family projects, the developer will submit a site plan to the Building Department for review of improvements outside of existing building lines. Said submittal must be made prior to, or concurrent to, building plan submittal. Generally, single-family residential projects will not require site plan review by the Engineering Department. The purpose will not require site plan review by the Engineering Department. The purpose of the site plan is to provide review and inspection of improvements not covered by the building permit or by single-family subdivision plans.

#### 1. SUBMITTALS

In Appendix B is a checklist for site plans and the information required on site plans. The site plan may be included in the project plan set or may be submitted separately. A site plan, or project plans, may be submitted for review prior to clearance for building permit by the Planning Department if the applicant provides the necessary deposit and holds the City harmless from any loss as a result of not obtaining Planning Department/Planning Commission approval. Site plan review will be conducted upon submittal to the Building Department of three prints of a site plan for review with a cover letter stating the reason for review and the necessary deposit fee. After satisfactory review of the site plan by the Engineering Department, Planning, Fire Department, and Public Works Department, the Building Department will notify the applicant when the site plan requirements have been satisfied for building permit purposes.

The reviewing departments will record their review time and charges. The Building Department will be advised when an additional deposit is necessary for the inspection of improvements.

#### 2. INSPECTION OF SITE PLAN IMPROVEMENTS

Inspection of site plan improvement by the Engineering Department will be limited to improvements within the City-right-of-way and/or easements. Said inspections will also be limited to items that will be maintained by the City: public curbs, gutter, sidewalks, driveway approaches, streets, water mains, sewer mains, storm drain mains, and other items identified by the City Engineer for future acceptance and maintenance by the City.

At the conclusion of the project the developer will submit as-built plans of the site

improvements. After receipt of the as-built plans and after acceptance of the improvements, the Engineering Department will process refunds of any remaining funds in the developers account.

**C. TENTATIVE MAPS AND TENTATIVE PARCEL MAPS**

Tentative Maps and Tentative Parcel Maps are as required by the Subdivision Map Act and other applicable state laws. Requirements for tentative map information is stated in the Subdivision Map Act and the City of Calexico Code Sections 16.20.01 through 16.20.09 inclusive. (Appendix D)

Tentative Map submittal must be made by the applicant to the Planning Department in accordance with fee schedule in Appendix A.

**D. FINAL MAPS AND PARCEL MAPS**

A content of final maps and parcel maps are as stated in the Subdivision Map Act, the City of Calexico Code 16.24.01 through 16.24.14 and this administrative policy by the City of Calexico Engineering Department. In the appendix to this section is a checklist for final map approval and submittal. (Appendix E)

**E. IMPROVEMENT PLANS**

Improvement plans shall be submitted with, or prior to, the submittal of the final map. The format of improvement plans shall be as stated in the Chapter II, Drafting and Presentation Requirements.

**F. FINAL SUBMITTAL**

This section applies to all final submittal of Site Plans, Tentative Maps, Final Maps, Improvement Plans (i.e. Master Plans, Grading, Drainage, Storm Drain, Sewer & Water, Street and/or Street Lights and other applicable utilities). An original vellum and electronic file compatible shall be submitted together for final approval. For specification and other word documents, a compatible Microsoft Word version shall be submitted with the applicable accompanying plans.

**G. TRAFFIC STUDY REQUIREMENT**

A traffic study is required if your project meets the following criteria:

- For residential projects, if 10 or more units are proposed.
- For non-residential, if the project generates 500 ADT or 50 peak hour trips.

If your project meets the above criteria, please provide the appropriate traffic analysis. Applicants must submit five copies of the study to the Planning Department Front Counter. (For further details, see Appendix K)

## **CHAPTER II**

### **PRESENTATION REQUIREMENTS – TENTATIVE, PARCEL, AND FINAL MAPS**

#### **A. GENERAL**

The preparation of site plans and improvement plans shall conform to the book “Survey Drafting” by Gurden H. Wahhles, (Parker & Son 1977) unless deviations from standards therein are accepted by the City Engineer. The preparation of tentative maps and final maps shall be in accordance with the Subdivision Map Act as amended. In addition to the above requirements, the following sections are adopted herein:

#### **B. IMPROVEMENT PLANS**

1. Basic plan size will be 22” x 34” and in no case larger than 24” x 36”.
2. Improvement plans shall be of professional quality using reproduction techniques that are standard to the engineering industry. City streets, border lines, sewers, shall be referenced to stationing that runs along the center line of street or center line of right-of-way whichever is appropriate. Call outs for such improvement items as manholes, fire hydrants, curb returns, etc. should reference the centerline station of its particular street and should also show either by dimension or note what the off-set distance would be from the centerline. If not off-set distance is shown, it will be assumed that the facilities are to be located at the centerline of street.
3. Station all curb returns all intersections of street centerline, street lights, and all significant surface features.
4. Show spot elevations for the mid points of curb returns and cross gutters.
5. Call out all water line fittings, including tee’s, crosses, adapter, valves, etc. In lieu of showing these on the plans, a fitting list by station or note can be shown on the drawings.
6. For all subdivision projects, attach to the drawings a master plan of all utilities showing water, sewer, and drainage facilities for the entire development.
7. For site plans, see Chapter 1 of Site Plan Submittal
8. For civil drawing sets of three sheets or more, prepare and attach an index to drawings.
9. State the project bench marks and the adjustment to Mean Sea Level (MSL)

# **CHAPTER III**

## **DESIGN AND IMPROVEMENT STANDARDS**

### **A. GENERAL**

1. In site design, the following areas shall be preserved as undeveloped open space to the extent consistent with the reasonable utilization of land: unique and/or fragile areas, including wetlands species that are rare to the area or of particular horticultural or landscape value; lands in the flood plan; steep slopes excess of 5 percent as measured over a 10-foot interval habitats of endangered wildlife as identified on federal or state lists.
2. Residential lots shall front on residential access or sub-collector streets.
3. Every lot and building shall have access to it that is sufficient to afford a reasonable means of ingress or egress for emergency vehicles as well as for all those likely to need or desire access to the property in its intended use.
4. The road system for residential subdivisions shall be designed to serve the needs of the neighborhood and to discourage use by through traffic.

### **B. STREETS**

1. General
  - a. The arrangement of streets shall conform to the circulation plan of the current thoroughfare map.
  - b. For streets not shown on the master plan or official map, the arrangement shall provide for the appropriate extension of existing streets.
  - c. Streets shall be arranged so as to discourage through traffic and provide for maximum privacy.
  - d. Intersecting streets shall be no further than 600 feet apart.
2. Street Hierarchy
  - a. Streets shall be classified in a street hierarchy system with design tailored to function. See Appendix J.
  - b. The street hierarchy system shall be defined by road function and average daily traffic (ADT), calculated by trip generation rates prepared by the Institute of Transportation Engineers as indicated in Attachment - Section "ADT's by Use". Trip generation rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.
  - c. Each residential street shall be classified and designed for its entire length to meet the standards for one of the street types defined in Appendix J of this chapter.
3. Street Width
  - a. Street width for each street classification shall be determined by parking and curbing requirements which are based on intensity of development, and as

shown on Appendix J.

- b. Half-width Streets: Shall generally be avoided unless necessary for continuation of existing streets, and as approved by the Planning Commission. A half-width street shall be the widest of the following:
  - 1. As necessary for anticipated development traffic.
  - 2. One-half the width of the ultimate required street width.
  - 3. For industrial and commercial uses: 35 feet for all other uses: 27 feet.

Half-width street pavement sections will be as approved by the City Engineer.

4. Curb and Gutters

- a. Concrete curbs and gutters shall be required for drainage purposes, safety, and delineation and protection of pavement edge.
- b. Where curbs are not required, edge definition and stabilization shall be furnished for safety reasons and to prevent unraveling.
- c. Curb and gutter shall conform to City Standards.
- d. Curb radius at intersections shall be fifteen feet minimum.

5. Sidewalks

Concrete sidewalks shall be required on sides of all residential and non-residential streets, except where sidewalk or bicycle path is installed in an open space at the rear of lots; a sidewalk will not be required at the front of said lots.

Sidewalks may abut the curb or may be placed one foot off the property line at the option of the developer.

A pedestrian easement 10 feet wide may be required by the planning board through the center of blocks more than 600 feet long to provide circulation or access to schools, playgrounds, shopping, or other community facilities.

Sidewalk width shall be as shown in the Zoning Ordinance.

6. Bikeways

- a. Separate bicycle paths shall be required only if such paths have been specified as part of the City's adopted master plan.
- b. Bicycle lanes, where required, shall be placed in 1) The outside lane of a roadway, adjacent to the curb or shoulder, or 2) At the rear of lots. When on-street parking is permitted, the bicycle lane shall be between the parking lane and the outer lane of moving vehicles. Lanes shall be delineated with markings, preferably striping. Raised reflectors or curbs shall not be used.
- c. Bicycle paths shall have a minimum width of eight feet, and a wider street width may be required to accommodate bicycle paths.

7. Right-of-way and Easements

- a. The right-of-way shall be measured from lot lines to lot line and shall be sufficiently wide to contain the cart way, curbs, shoulders, sidewalks, graded areas, utilities, and shade trees. Right-of-way requirements are shown in Appendix J-1.
- b. Easements shall be provided as requested by the City of Calexico or a franchised utility. All property abutting a State Highway shall dedicate a ten-foot wide utility easement adjacent to the right-of-way. The minimum width of easements for water and sewer lines shall be ten foot per line. The minimum width of a drainage easement shall be fifteen or ten feet plus the width of floodway during a 100-year flood.

8. Pavement

- a. The soils engineer for a subdivision or major site plan shall make recommendations of required pavement section based on truck use, estimated ADT, and pavement subgrade tests. However, all asphalt concrete pavement shall have a 3 inch minimum thickness. The City reserves the right to retain its own soils engineer to confirm minimum pavement.

9. Lighting

Street lights shall be installed by the Developer in accordance with City standards. Street light locations shall be shown on improvement plans.

10. Underground Wiring

- a. All electric, telephone, television, and other communication facilities, both main and service lines servicing new developments shall be provided by underground wiring within easements or dedicated public right-of-way, installed in accordance with the prevailing standards and practices of the utility or other companies providing such services. See Appendix for a list of utility companies.

11. Signs

- a. Design and placement of traffic signs shall follow the requirements specified in Manual on Uniform Traffic Control Devices for Street and Highways, published by the U.S. Department of Transportation and adopted by the California Department of Transportation.
- b. At least two street name signs shall be placed at each four-way street intersection and one at each "T" intersection. Signs shall be installed under light standards and free of visual obstruction. The design of street name signs should be consistent, of a style appropriate to the community, of a uniform size and color, and erected in accordance with local standards. Sign locations shall be shown on the plans.
- c. Purchase, construction, and installation of street and traffic signs shall be the responsibility of the developer. The developer shall install signs in accordance with the design standards in Appendix J-8.

12. Street Names

Names for new streets will be provided by the City of Calexico. The developer shall submit the Tentative Map to the City's Street Naming Committee for approval of all new street names.

**C. OFF-STREET PARKING**

- a. Parking areas shall be suitably landscaped to minimize noise, glare and other nuisance characteristics as well as to enhance the environment and ecology of the site and surrounding area. Lighting of parking areas is required. See City of Calexico Zoning Ordinance for parking requirements.

**D. WATER SUPPLY**

1. Water Supply System

- a. All subdivisions and developments shall be connected to the existing public water supply system.
- b. All design and installation shall be in accordance with City's adopted standard and the State Health and Safety Code Requirement.

2. Capacity

- a. The water supply system shall be adequate to handle the necessary flow based on complete development.
- b. The demand rates for all uses shall be considered in computing the total system demand. Where fire protection is provided, the system should be capable of providing the required fire demand plus the required domestic demand.
- c. Minimum fire flows shall be based on Uniform Fire Code for buildings and family dwellings. Refer to the latest addition code for details. The maximum system capacity is 3500 gpm.
- d. The water system shall be designed to carry peak-hour flows and be capable of delivering the peak hourly demands with a minimum residual pressure of 20 psi at every connection. The water system shall also deliver the required fire flow during maximum day conditions.
- e. Calculation methods. Calculation of water flows shall be based on the City of Calexico Master Water Plan and Model which is available from the Engineering Department.
- f. Minimum line size shall be 6" if no more than 10 services are on a dead-end line, and 8" if more than 10 services are required, but in no case shall be less than that required to meet residual pressure demands and fire flows.
- g. Water mains shall be extended across all property frontages to the development property line or existing right-of-way. Large mains shall be installed where designated by the City Engineering Department.

3. Fire Hydrants

- a. Hydrants shall be placed to provide necessary fire flow, and the spacing per

hydrant typically should not exceed 300 feet. In addition, hydrants shall be within 300 feet of a building.

- b. A hydrant shall be located at all low points and at all high points in lines 12" or larger, with adequate means of drainage provided.
- c. Hydrants shall be located at the ends of lines, and valves of full line size shall be provided after hydrant tees at the ends of all dead-end lines and lines which may be extended in the future.

## **E. SANITARY SEWERS**

### **1. Sanitary Sewer System**

- a. All installations shall be properly connected with an approved and functioning sanitary sewer system prior to the issuance of a certificate of occupancy.
- b. Subdivision shall be connected to the existing public sanitary sewer system.

### **2. System Planning, Design, and Placement**

- a. All sanitary sewers, including outfalls, shall be designed to carry at least twice the estimated average design flow when flowing half full. In the case of large interceptor sewer systems, consideration may be given to modified designs.
- b. Average daily residential sewer flow shall be calculated based on an average daily use of 100 gpd per person.
- c. For non-residential uses, a rational analysis using 85 gpd per person may be used. A peaking factor shall be applied to the analysis based on Appendix H.
- d. The minimum velocity in any sewer at average daily flow shall be 2 fps. Maximum velocity shall be 20 fps. Use  $n=.012$  in Manning equation for PVC pipe.
- e. Sewer mains shall be extended across property frontages of the development to the development property line right-of-way. Mains shall be sized to accommodate future development upstream of the site.

### **3. Sewage Lift Stations**

- a. Sewage lift station, locations, sizes, and depths must be approved by the City Engineering Department.
- b. Where other properties can tie onto lift stations, provide minimum 8' diameter wet well. Size force mains for all properties that can possibly use lift station.
- c. Design pumps for the completed development and any foreseeable development within 3 years of date of construction.
- d. Pumps should be sized to cycle on at least 3 minutes apart, during peak flow.
- e. Provide screened enclosure, concrete top slab, and communications line to City Public Works Department.
- f. Provide duplex pumps with automatic on-off controls.

- g. Additional details shall be as approved by City of Calexico Public Works Department.

## F. DRAINAGE

### 1. Retention Basins

Because of the extremely flat topography of the land within the City of Calexico, storm drainage for most of the City has to be handled in a unique fashion. The topography and the low annual rainfall have resulted in a situation where there is not any pattern of natural drainage ditches. This fact is true for almost the entire City with the exception of the land within the vicinity of the New River.

For retention basins, it has been established that the critical 50-year frequency, 24 hour storm has a total rainfall of 3.0 inches. The distribution of the 3.0 inches of rainfall will have to be determined from a plot of rainfall events of this order of magnitude.

For the purpose of retention basin in Calexico, a runoff co-efficient should be developed utilizing the actual surface area 0.85. It will be necessary to size the retention basin for the above total rainfall. It will also be necessary to provide for drainage of the basin with 72 hours after completion of the storm.

### 2. Retention Basin Construction

Retention basins should be designed with a minimum 4:1 slopes and aesthetic design features. As a minimum, retention basins must be graded, planted with lawn, trees, and/or shrubs, and automatic sprinkler system installed. Nuisance water should be collected by the low flow storm drain system (see City Retention Basin Design Standard Drawing) and discharged directly to IID outfalls.

### 3. Storm Drain Design

For practically all other drainage considerations, the rationale formula  $Q=CIA$ , may be used. For  $i$ , rainfall intensity, use Caltrans District 11 Zone VI Frequency-Duration charts as shown in Appendix J-3. Ten minutes may be used as a minimum of time of construction for 25-year frequency storm duration.

A twenty-five year storm will be adequate for private development projects. For time of concentration, refer to Appendix J-3.

Inlets on streets shall be provided at all low points and where the design flow would exceed 6" in depth or extend to within 5 feet of the street centerline. The minimum culvert size for publicly maintained storm drains shall be 15 inches for inlet branches and 18 inches for mains.

Remaining hydrology design factors should be determined using Caltrans, "Highway Design Manual", Section 800. (See Appendix J for Storm Drain Design Guideline & Example)

## **CHAPTER IV**

### **IMPACT FEES, CREDITS, AND REIMBURSEMENT**

#### **A. GENERAL POLICY AND OBJECTIVES**

The City Council of the City of Calexico at its June 19, 1990 meeting; enacted a new impact fee schedule for implementation in the City of Calexico regarding new construction. The objective of this fee schedule is to have new development pay its fair share of impacts on the City's infrastructure. The general guideline that the impact fee policy follows is based on the following:

City policy regarding administration of impact fees are as stated in this procedures manual. Impact fees will be applicable to new construction and new impacts on the infrastructure as stated in the applicable fee ordinances.

Generally, the minor structural alteration or rebuilding of a facility does not impact the system and an impact fee would not be applicable. Any new construction on property where a structure was not in place, or a change of use or an increase of working floor area in non-residential areas which generates impacts would be charged an impact fee.

City Staff, namely the Engineering and Building Departments are responsible for calculations of impact fees. The amount of these fees as well as the method of calculation can be appealed to the City Manager and to the City Council.

Any such appeals should be in writing with a justification or reasons for their request for fee adjustment.

#### **B. CURRENT FEE SCHEDULE**

The City Council of Calexico has adopted the following fees at its June 19, 1990 meeting:

- |    |                   |                        |
|----|-------------------|------------------------|
| 1. | Fire Facilities   | (Resolution No. 90-35) |
| 2. | Sewer Facilities  | (Resolution No. 90-38) |
| 3. | Streets           | (Resolution No. 90-39) |
| 4. | Police Facilities | (Resolution No. 90-36) |
| 5. | Water Facilities  | (Resolution No. 90-40) |
| 6. | Public Facilities | (Resolution No. 90-37) |
| 7. | Park Facilities   | (Not Adopted)          |

Perspective new builders and developers are encouraged to consult with the City of Calexico Building Department in the event they wish to make an estimate of fees for a particular project.

#### **C. OFFSITE AND OVERSIZE POLICY**

##### **1. Developers Responsibility for Infrastructure Improvements**

In order to develop a piece of property, the developer will be responsible for basic minimum requirements as stated herein. In general, a property owner must extend facilities across the frontage of their property and across side frontage as applicable. They must also provide facilities as shown on the City of Calexico General Plan including the following:

1. Streets and Thoroughfare Element
2. Recreation and Open Space Element
3. Water Master Plan

4. Raw Water Master Plan
5. Sewer Master Plan

2. Oversize and Offsite Credits

a. Oversize and offsite credits will be a credit against impact fees required for a particular development. The credits will be assigned to a project as follows:

- 1) When improvements eligible for oversize and offsite credits are installed.
- 2) Prior to receiving building permits for a project.
- 3) The credits shall be used and applied in their entirety against the impact fees and no impact fee shall be charged until the credits are exhausted.

All situations will be handled on a case by case basis as approved by the City Council. In no event will the City of Calexico reimburse a developer for credits that exceed the impact fees for a project unless additional funds are available.

Oversize and offsite credits shall consist of, but not be limited to, the following:

- 1) Construction of public facilities listed in the capital improvements plan for fire, police and public facilities, regardless of whether or not they are actually on the property to be developed.
- 2) Water sewer mains that are oversize in order to allow other properties to use the same main. In such cases, the developer could receive a credit for the difference in cost between the size of line request by the City and the cost of a 12-inch water and/or sewer main.
- 3) Construction of bridges, traffic signals, and other major projects listed in the capital improvements program for streets.
- 4) Offsite extension of a water main as requested by the city in order to form a looped system or as requested by the City. Off-site extension of a raw water irrigation line beyond the development's boundaries.
- 5) Additional park and open space or equipment for any city park, including playground equipment, drinking fountains, picnic shelters and as approved by the City Council and Recreation Commission.
- 6) Any projects not listed on the Capital Improvements Plan, but as agreed by the City Council to be eligible for credits.

In order to receive credits, it will be necessary for the developer to fully substantiate their cost and submit a report showing a proper breakdown of this cost to the City. City Staff may return a request for credits to a developer for more information prior to recommending approval of the credits by City Council. In general, oversize credits shall be determined by taking the difference in cost between the facilities needed by the development and the size of facilities request by the City. The developer shall include in their bid schedule and their proposals alternates so that the cost of the minimum required facility and the actual requested facility can be determined. Developer shall submit copies of the bids to the City.

In the case of sewage lift stations, the developer shall prepare alternative bid schedule showing a cost of a lift station necessary for just the development and a cost for facilities requested by the City Engineering Department.

3. Offsite Reimbursement

a. Definition

A developer at their own convenience may wish to install water lines, sewer lines and streets as necessary to enable development to take place. In such a case, the developer shall be eligible to receive reimbursement as other properties develop and tie on to the water, sewer, and streets that were put in by another developer. The City of Calexico also reserves the right to be reimbursed by developers that tie on to lines put in place by the City of Calexico since January 1, 1984. The lines eligible for reimbursement to the City of Calexico shall include those lines not shown on the capital improvement programs for which an impact fee has been collected and only for those lines constructed using city, rather than grant funds.

A graphic example of improvements that would be eligible for reimbursement policy with the City is shown in Appendix J-3. A future developer will only have to pay reimbursement charges for the frontage of their property and will not have to pay for extensions up to their property line that do not cross their frontage. For the purpose of calculating reimbursement, frontage shall be taken to the centerline of any adjoining streets. Where the developer abuts both sides for a reimbursable line, the developer shall pay 100% of the cost of that line.

A list of water lines, sewer lines, and streets that will have reimbursement cost due will be maintained by the City of Calexico.

**D. BASIC PROCEDURES FOR REQUESTING CREDITS AND REIMBURSEMENTS**

1. Request

The request for credit and reimbursement should become as a result of city staff review of the tentative map or parcel map for the project or as shown on the General Plan and Water and Sewer Master Plans for the City. The City Staff comments will include requests for oversize and/or offsite facilities that could result in a credit to the developer. City Staff may request that the line sizes needed to serve the development shall be calculated and substantiated by the developer or the developer's engineer shall make a written request for oversize and/or offsite credits or a request for offsite reimbursement from future development. The request shall show a breakdown of estimated cost based on unit prices for similar construction. The unit prices and the unit price breakdown should correspond to any request for proposals from contractors so that City Staff can validate the cost request. The Engineering Department, at the time of map approval, will recommend to the Council that credits be established for a facility or that a line be included in the reimbursement schedule. After approval by City Council and after construction of the oversize facilities, the developer must submit a breakdown of bids used in the construction as well as copies of other bids used in gathering the project costs. Prior to receiving credit for impact fees, the developer must submit a copy of the breakdown as well as evidence of payment to the contractor or the facilities. The cost of engineering, surveying, and material testing will also be eligible for credits and reimbursement. The developer may sue apportion of the share of engineering cost to total construction cost in order to develop engineering cost credits. In addition, credits may be increased by 5% of construction cost to compensate the developer for overhead and administration. An

example of calculations of credits and reimbursements is shown on the Appendix I.

2. Reimbursements

A developer that installed a line eligible for future reimbursement may receive reimbursements for up to twenty year from the date of final map approval. Twenty year after final map approval will be cut-off receiving any reimbursement for such a line.

A developer has the option of installing lines and making separate agreements with future developers, without using this City procedure.

All reimbursement agreements involving the City of Calexico will be established by a Resolution of City Council.

## **CHAPTER V**

### **ON-SITE/SITE PLAN REQUIREMENTS**

#### **A. DEFINITION**

The following represents City of Calexico requirements for site improvements. Site improvement/requirements are defined as the paving, grading, lighting, drainage and utility improvements outside of building lines and within the curb areas of adjoining streets. When adjoining an alley, site improvement requirements shall apply to the entire alley width adjoining property frontage:

Examples:

For standards not covered herein, "Architectural Graphic Standards", current edition, shall be the standard reference for miscellaneous improvements.

#### **B. GRADING AND SOILS REPORTS**

Site Plans shall show necessary grading using spot elevations or contours, of sufficient detail to provide positive drainage from the building. Grading plans shall be of sufficient detail to prevent ponding of storm-off.

#### **C. SIDEWALKS**

Shall be concrete, conforming to City construction standards and of the minimum widths per Section 15 of the Calexico City Code. Existing sidewalks shall be replaced where, in the opinion of City Staff, they present a maintenance problem.

#### **D. ALLEYS, TRASH PICKUP ACCESS, AND FIRE LANES**

Alleys shall be improved or constructed when:

1. The subject property adjoins an existing alley, and 2 or 3;
2. A new use, expand use, occupancy, or conditional use permit is requested or;
3. The project meets the definition of re-building an existing structure.

Fire lanes shall be constructed where required by the Uniform Fire Code. If needed for trash pickup, a separate services drive-away shall be constructed to the trash pickup area. All alleys, fire lanes, or services driveways shall be twenty feet wide (minimum) and designated on the plans. Fire lanes shall be stripped and marked "Fire Lane", per the Uniform Fire Code.

Pavement sections of alleys, service driveways, and fire lanes shall be in accordance with the project soils report with a minimum of 1-1/2" AC pavement on 6" of aggregate base.

#### **E. HANDICAPPED RAMPS**

Handicapped ramps shall be required per California State Access Ability Standards.

Handicapped ramps at curb returns and/or alleys shall be built under the following conditions:

1. The project's property lines are within 100' of a needed handicapped ramp, and

2. The project consists of a new use, expanded use, conditional use permit, or major remodeling/renovation of an existing structure.

**F. PARKING LOT LIGHTING**

Shall be installed for all projects with a parking requirement of 10 spaces or more.

**G. SEWER SERVICE**

Each building, except accessory uses in R-1 zones, shall have a separate sewer service.

The developer/property owner shall be responsible for installation and maintenance of a sewer service from the building to one of the following, whichever occurs first:

1. The property line.
2. A manhole constructed in accordance with City standards and approved by the City. For new street construction, the developer will be responsible for new sewer mains.

Manhole construction will be required within the site and at the sewer main connection under the following conditions:

3. When the slope of the services would be less than the minimum slope required by Uniform Plumbing Code (UPC)
4. When the total number of fixture units per UPC on a service exceeds 120.
5. For all restaurants, food establishments, and manufacturing uses.

Sewer services shall not cross an adjacent lot line unless approved by the City and a service easement between property owner is filed with the County.

Construction of services shall conform to the Uniform Plumbing code, current edition. Construction of a sewer service to an existing sewer main shall be done by the City forces and compensated by the developer on a force account basis. Contact the Calexico Public Works Department at (760) 768-2180 for details.

**H. WATER SERVICES AND FIRE PROTECTION**

1. Water Services

Each building, except accessory uses in R-1 zones, shall have a separate water service and meter. The developer/property owner shall be responsible for installation and maintenance of a water service from the adjoining street fronting the development to the building. A water meter and box conforming to City standards shall be placed one foot within City right-of-way. For new street construction, the developer shall be responsible for the complete installation. For service on existing mains, the developer will reimburse the City for construction of service lines from the main to the new meter box. Reimbursement shall be on a force-account basis. Contact the City of Calexico Public Works Department for details.

The developer shall provided backflow prevention devices in accordance with Uniform Plumbing Code. This requirement includes irrigation sprinkler systems on residential units.

Larger projects, such as shopping centers that require fire lanes may apply for revision to the above standards on a case-by-case basis.

2. Fire Protection

Fire protection systems and fire hydrant access shall conform to the Uniform Fire Code.

**I. ON-SITE DRAINAGE**

On site drainage shall conform to the standards listed in Section III-F and the following:

Storm water shall not be diverted across adjoining property unless it conforms to historical drainage patterns, in both quantity and quality. Each site plan shall show how storm water is drained from the site. For site developments larger than two acres the developer shall submit calculation of drainage run-off for its entire drainage basin. Where deemed necessary by the City Engineer, the developer shall make improvements to existing drains and outfalls. For overland flow, ground slopes shall be minimum 0.3% for discharge to City curbs and gutters. The accumulated storm run-off shall not top the curb nor extend to roadway centerline during a 25 year storm. Storm drain culverts shall be provided in such cases.

**J. TRASH ENCLOSURES**

Trash enclosures shall be provided for all developments except single-family residential. Development drawings shall show dumpster sizes, enclosure areas, and construction details of the enclosure. Trash enclosure areas shall be constructed of masonry and or chain link fence with visual screening.

Trash enclosures shall be situated with a minimum of 20 feet overhead clearance. They shall be arranged to allow pick-up of dumpsters without normally moving dumpsters. In existing alleys, they should be oriented 30' from the centerline of the alley.

**K. PARKING METERS**

In the Central Business District and where designated by the City, parking meters poles and heads shall be installed by the developer. Meter heads shall be furnished by the City.

Example Calculation of Oversize Credits and Off-site Reimbursements:

Using the Water line example as per Appendix I-3.

# Appendix A

## CHAPTER 3.32 DEVELOPMENT IMPACT FEES

Sections:

3.32.010	Purpose
3.32.020	Establishment of Development Impact Fees
3.32.030	Limited Use of Fees
3.32.040	Developer Construction of Facilities
3.32.050	Fee Adjustments

### 3.32.010 Purpose

In order to implement the goals and objectives of the city's general plan, and to mitigate excessive traffic, match the capacity of city facilities with development demands for sewer, water, police, fire, library, civic, cultural impacts caused by development in the city, certain public facilities (i.e. improvements, acquisitions or equipment) must be provided. The City Council has determined that a development impact fee is needed in order to finance these public facilities and to pay for the development's fair share of the cost of providing said facilities. (Ord. 908 §, 1990).

### 3.32.020 Establishment of Development Impact Fees

A development impact fee is established prior to the issuance of all building permits, or subdivision maps for development in the city to pay for certain public facilities. The city council shall, in a council resolution, set forth the specific amount of the fee (s), describe the benefit and impact area on which the development fee (s) is imposed, list the specific public facility to be financed, described the estimate costs of these facilities, describe the reasonable relationship between this fee and the various types of development (s) and set forth time for payment. As described in the specific fee resolution (s), the development fee (s) shall be paid by each developer, either prior to issuance of a building permit or prior to the final map if immediate development is not contemplated. On an annual basis, the city council shall review each fee to determine whether the fee amounts are reasonably related to the impacts of developments and whether the public facilities needs have changed. (Ord. 908 §2, 1990).

### 3.32.030 Limited Use of Fees

The revenues raised by payment of each development impact fee shall be placed in a separate and special account and such revenues, along with any interest earnings on that account, shall be used solely to:

- A. Pay for the city's future facilities described in the specific fee resolution enacted pursuant to Section 3.32.020, to reimburse the city for those described or listed facilities in which city funds were advanced; or
- B. Reimburse developers who have been required or permitted by Section 3.32.040 to install such listed facilities which are oversized with supplemental size, length, or capacity. (Ord. 908 §3, 1990).

### 3.32.040 Developer Construction of Facilities

Whenever a developer is required, as a condition of approval of a development permit, to construct a public facility, described in a resolution adopted pursuant to Section 3.32.20, which facility is determined by the city to have supplemental size, length or capacity over that needed for the impacts of the development, and when such construction of the facilities network, a reimbursement agreement with the developer and a credit against the fee, which would otherwise be charged pursuant to this chapter on the development project, shall be

offered. The reimbursement amount shall not include the portion of the improvement needed to provide services to mitigate the need for the facility or the burdens created by the development. (Ord. 908 §4, 1990).

### 3.32.050 Fee Adjustment

- A. A developer of any project subject to the fee described in Section 3.32.020 and detailed in the specific fee resolution, may apply to the city council for a reduction, adjustment, or a waiver of that fee, based upon the absence of any reasonable relationship or nexus between the facility impacts of that development and either the amount of the fee charged or the type of facilities to be financed. The application shall be made in writing and filed with the city clerk not later than:
  - 1. Ten days prior to the public hearing on the development permit for the project; or
  - 2. If no development permit is required at the time of the filing of the request for a building permit.
  
- B. The application shall state in detail the factual basis for the claim of waiver, reduction, or adjustment. The approving authority shall consider the application at the hearing on the permit application or at a separate hearing held within sixty (60) days after the filing of the fee adjustment application, whichever is later. The decision of the approving authority shall be final unless appealed to the city council within ten calendar days of the action. The decision of the city council shall be final. If a reduction, adjustment, or waiver is granted, any change in use within the project shall invalidate the waiver, adjustment or reduction of the fee. (Ord. 908 §5, 1990).

## Appendix B-1

### CHAPTER 16.20 TENTATIVE MAP \*

#### Sections:

16.20.010	Filing and referral
16.20.020	Report or recommendation
16.20.030	Decision-Time limit
16.20.040	Decision-Disapproval
16.20.050	Decision-Appeal
16.20.060	Approval by failure to act
16.20.070	Extension of time
16.20.080	Preparation
16.20.090	Information

#### 16.20.010 Filing and referral

The subdivider shall file with the city manager twenty copies of the tentative map and pay the necessary fees. Thereafter, the city clerk shall furnish copies of the tentative map to the advisory agency, the city engineer, the chief of the fire department, the county health department, and other departments and agencies which the advisory agency has determined may have an interest in the proposed subdivision. Said departments and agencies shall make an examination of the map and property and report such findings and recommendations to the advisory agency. Such reports shall be made within twenty-three calendar days after the filing of the map or within such additional time as the advisory agency may approve. Failure to submit a report within the time limits specified in the section may be construed as the indication that no recommendation concerning the tentative map is to be made. (Ord. 575 §8421).

#### 16.20.020 Report or recommendation

- A. Procedures Prior to Action. Any report or recommendation on a tentative map by the staff of the local agency to the advisory agency or legislative body shall be in writing and a copy thereof served on the subdivider at least three days prior to any hearing or action on such map by such advisory agency or legislative body.
- B. Notification of Action. When the advisory agency takes action on the tentative map, the subdivider shall be notified in writing and a marked copy of the tentative map shall be returned to him. The city engineer and the departments shall be notified of the action of the advisory agency. (Ord. 734 §5, 1978: Ord. 575 §2(part), 1964: prior code §8424).

#### 16.20.030 Decision Time Limit

The advisory agency shall approve, conditionally approve, or disapprove the tentative map within fifty calendar days after filing of the map with city or within such additional time as mutually agreed upon by the advisory agency and the subdivider. (Ord. 734 §4, 1978: Ord. 575 §2(part), 1964: prior code §8422).

#### 16.20.040 Decision Disapproval

The advisory agency may disapprove a tentative map because of flood hazard, inundation, lack of adequate access, lack of adequate water supply or fire protection, insufficient sewerage facilities, potentially hazardous geological conditions or noncompliance with the requirements of this title, the Subdivision Map Act, or adopted standards, rules or regulations. When the advisory agency has disapproved a tentative map of a proposed subdivision, it may subsequently approve a new tentative map layout for the same property if, in its

opinion, arrangements have been made to correct the conditions which were the cause of the original disapproval. (Ord. 575 §8423).

#### 16.20.050 Decision Appeal

An appeal from the decision of the advisory agency may be made to the city council within fifteen calendar days after the date of said decision. The appeal shall be filed with the city clerk. The city council shall hold a public hearing on such appeal within ten calendar days from the date of such appeal, and shall declare its findings within seven calendar days thereafter. The decision of the city council shall be final. It shall require a majority vote of the entire city council to overrule the decision of the advisory agency. (Ord. 575 §2(part), 1964: prior code §8425).

#### 16.20.060 Approval by Failure to Act

- A. If no action is taken upon a tentative map by an advisory agency which is authorized by local ordinance to approve, conditionally approve or disapprove the tentative map or by the legislative body within the time limits specified in this chapter, or any authorized extension thereof, the tentative map as filed shall be deemed to be approved, insofar as it complies with other applicable requirement of this title and local ordinance, and it shall be the duty of the clerk of the legislative body to certify such approval.
- B. If the legislative body fails to act upon an appeal within the time limit specified in this chapter, the tentative map, insofar as it complies with applicable requirements of this title and local ordinance, shall be deemed to be approved or conditionally approved as last approved or conditionally approved, and it shall be the duty of the clerk of the legislative body to certify such approval. (Ord. 734 §9, 1978: prior code §8429).

#### 16.20.070 Extension of Time

Any of the time limits specified in this chapter may be extended by mutual consent of the subdivider and the advisory agency or city council, as the case may be. (Ord. 575 §2 (part), 1964: prior code §8426).

#### 16.20.080 Preparation

Tentative maps which are to be filed with the city shall be prepared by or under the direction of a licensed surveyor or registered civil engineer. (Ord. 575 §2 (part), 1964: prior code §8427).

#### 16.20.090 Information

- A. Such maps as designated in Section 16.20.080 shall clearly show all necessary information and shall be drawn to a scale of one inch equals one hundred feet.
- B. The tentative map shall show all the following:
  - 1. The tract number or name;
  - 2. Sufficient legal description to define the boundaries;
  - 3. Names, addresses, and telephone number of the record owner or owners, subdivider, and person preparing the map, and date;
  - 4. North point, engineering scale, and area being subdivided;
  - 5. Widths and approximate locations of all existing and proposed easements or rights-of-way within and adjacent to the property involved;

6. Locations, widths, and approximate grades of existing and proposed highways, streets, alleys, or ways whether public or private, within and adjacent to the property involved;
7. Existing street names and names or designations for all proposed streets and highways;
8. Approximate radii of all centerline curves for streets, highways, alleys or ways;
9. Lot layout and approximate dimensions of each lot;
10. The locations of all potentially dangerous area, including geologically hazardous areas and those subject to inundation of flood hazard, and the location, width, and directions of flow of all watercourses and flood-control channels, within and adjacent to the property involved, and the proposed method of providing flood and erosion control;
11. The existing contour of the land at intervals of not more than two feet and of not more than one-foot interval if the slope of the land is less than one percent;
12. The approximate location of all buildings on the property involved which are to be retained and notations concerning all buildings which are to be removed; also approximate location of any existing well;
13. If any streets shown on the tentative map are proposed to be private streets, they shall be clearly indicated, and there shall be submitted supplemental information to show why such private streets should be approved by the city;
14. The proposed method of providing water supply, sewage disposal and drainage for the property;
15. A statement regarding existing and proposed zoning;
16. A vicinity map adequate to locate the property;
17. Such other reasonable and necessary data as may be required on the checklist prepared by the subdivision committee. (Ord. 575 §2 (part), 1964: prior code §8428).

## Appendix B-2

### CHAPTER 16.24 FINAL MAP \*

#### Sections:

16.24.010	Time Limit for Filing and Recording
16.24.020	Decision
16.24.030	Conformance to Tentative Map
16.24.040	Identification Information
16.24.050	Compliance with State Map Act
16.24.060	Soil Report and Investigation
16.24.070	Separate Map
16.24.080	Boundary Evidence
16.24.090	Monuments
16.24.100	Surveys
16.24.110	Bearings
16.24.120	Lot Numbers
16.24.130	Curve Data
16.24.140	Easements
16.24.150	City Boundary Lines
16.24.160	Natural Watercourse Designations
16.24.170	Title Sheet Contents
16.24.180	Recording

#### 16.24.010 Time Limit for Filing and Recording

After the approval or conditional approval of the tentative map, the subdivider shall cause the proposed subdivision to be accurately surveyed and a final map thereof prepared and filed with the city engineer. The failure of a subdivider to so file such map with the City Engineer and to have said map recorded in the office of the county recorder within one year after the date of approval of the tentative map shall automatically terminate and recording may be extended by the City Council for a period not exceeding one year. (Ord. 575 §2 (part), 1964; prior code §8431).

#### 16.24.020 Decision

- A. Approval or Disapproval. The legislative body shall, within a period of ten days after the filing of the final map for approval or at this next regular meeting after the meeting at which it receives the map, which requirements of this title and any local subdivision ordinance applicable at the time of approval or conditional approval of the tentative map and any rulings made there under or, if it does not so conform, disapprove the map.
- B. Approval by Failure to Act. If the legislative body does not approve or disapprove the map within the prescribed time, or any authorized extension thereof, and the map conforms to all said requirements and rulings, it shall be deemed approved, and the clerk of the legislative body shall certify its approval thereon.
- C. Acceptance Conditions. The final map shall be accepted by the City Council provided:
  1. The necessary improvements as set forth in the approval of the tentative map have been installed and factory improvement plans together with the necessary guarantee that the improvements will be installed;
  2. The required map checking fees have been paid by the subdivider;

3. Checking has been completed by the various departments and agencies;
4. Taxes, liens, and special assessments have been paid, or such payment guaranteed. (Ord. 734 §2(part), 1964: prior code §8432).

#### 16.24.030 Conformance to Tentative Map

Final maps shall conform substantially to the approved tentative maps. When final map covers only a portion of the property shown on the tentative map, it shall first be submitted to the advisory agency for approval prior to submission to the City Engineer for checking. The advisory agency may refuse to approve the recording of any such map that does not provide a satisfactory design nor provide adequate improvements. The city Engineer may refuse to approve for recording a final map covering only a portion of a tentative map when, in the process of checking the final map, he or she determined that it will not be feasible from an engineering standpoint to construct satisfactory improvements in the reduced area. (Ord. 575 §2(part), 1964: prior code §8433).

#### 16.24.040 Identification Information

The following information shall be submitted with the final map: names, address, and telephone numbers of the record owners, subdividers, and person preparing the final map. (Ord. 575 §2(part), 1964: prior code §8434).

#### 16.24.050 Compliance with State Map Act

The final map shall conform to the provisions of Section 66456 et seq. of the Subdivision Map Act. (Ord. 734 §8(part), 1964: prior code §8435).

#### 16.24.060 Soil Report and Investigation

- A. Preliminary Report. Prior to the submission of the final map, pursuant to this chapter, the subdivider shall file with the City Engineer a preliminary soil report, prepared by a state-registered civil engineer, based upon adequate test borings or excavations of every subdivision as defined in this title. The City Engineer may waive such soil report if he determines that, due to his or her knowledge or the knowledge of his or her department of the soil qualities of said subdivision, no preliminary analysis is required.
- B. Investigation. If the preliminary soil report indicates the presence of critically expansive soils or other soil problems which, if not corrected, would lead to defects in structures erected thereon, a soil investigation of each lot in the subdivision shall be prepared by a state-registered Civil Engineer. Said investigation shall recommend corrective action which is likely to prevent structural damage to each dwelling proposed to be constructed on the expansive soil. The report shall be filed with the City Engineer.
- C. Approval Investigation. The City Engineer shall approve the soil investigation if in his judgment he or she determines that the recommended corrective action is likely to prevent structural damage to each dwelling to be constructed on each lot in the subdivision. Any subdivider aggrieved by the City Engineer's determination may appeal therefrom to the City Council, and the decision of the City Council shall be final. Any building permit issued for any dwelling proposed to be built in said subdivision shall be conditioned upon the incorporation of the approved recommended corrective action in the construction of each such dwelling. (Ord. 636 §2, 1968: prior code §8438).

#### 16.24.070 Separate Map

No land shall be subdivided on any single map when such land is separated or divided into two or more portions by any other parcel of land other than a street, highway, public way, railroad, or public utility or flood-control right-of-way.

#### 16.24.080 Boundary Evident

Evidence determining boundaries, such stakes, monuments or other evidence determining the boundaries of the subdivision as were found on the ground, together with sufficient designations of adjoining subdivision by lot and tract number and page or record, or by section, township and range or other proper legal description as may be necessary, to locate precisely the limits of the subdivision, shall be clearly and fully shown on the final map. (Ord. 575 §2, 1968: prior code §8437).

#### 16.24.090 Monuments

- A. **Boundary.** Each final map shall show durable monuments of not less than two-inch steel pipe at least twenty-four inches long found or set at or near each boundary corner and at intermediate points not more than one thousand feet apart, or at such lesser distance as in reestablishment of any point or line without unreasonable difficulty. The precise position and character of each monument shall be shown on the final map. Where the elevation of the top of each such monument is not approximately level with the surface of the ground, its relative position shall be indicated.
- B. **Centerline.** Complete centerline data, including lengths of tangents and semi tangents shall be shown on the map for all streets within or adjoining the tract where no locations where the point of intersection falls on private property, chords shall be shown instead of semi tangents
- C. **Deferment.** In the event any or all of the monuments required to be set are to be sequent to the recordation of the final map, the map shall indicate which monuments are to be so set. All such monuments so deferred shall be agreed to be set and furnished by the subdivider. Such agreement and guarantee shall be filed with the City Manager.
- D. **Geodetic Controls.** Ties to the geodetic triangulation system shall be provided where stations thereof have been established within reasonable distance from the subdivision boundary, and where such ties are deemed necessary by the City Engineer. (Ord. 575 §2 (part), 1964: prior code §8437.1).

#### 16.24.100 Surveys

The procedure and practice of all survey work done on any subdivision shall conform to the accepted standards of the engineering and surveying professions. The final map shall close in all its parts. In the event the City Engineer has established the centerline of any street or alley in or adjoining a subdivision, the final map shall show such centerline together with the reference to a field book or map showing such centerline and the monuments which determines its position. If determined by ties, that fact shall be stated upon the final map. Where the map does not show centerline monuments or other monuments necessary to resurvey the streets or lots within a or where reference monuments not shown are needed to establish centerline or corners, the civil engineer or surveyor under whose supervision the survey has been made shall furnish the city engineer with field notes showing these monuments in a form satisfactory to the City Engineer. (Ord. 575 §2 (part), 1964: prior code §8437.2).

#### 16.24.110 Bearings

- A. **Basis.** The final map shall indicate thereon the basis of bearings, making reference to some recorded subdivision map or other record acceptable to the City Engineer. The final map shall have as the basis of bearings a line based on the geodetic triangulation system where ties to said system are deemed feasible by the City Engineer.
- B. **Distance.** The bearings and lengths of each lot line, block line, and boundary line shall be shown on the final map. Each required bearing and distance shall be shown in full, and not ditto mark or other designation for repetition shall be used. (Ord. 575 §2 (part), 1964: prior code §8437.3)

#### 16.24.120 Lot Numbers

The lot shall be numbered consecutively commencing with the number “1”, except as otherwise provided in this title, with no omissions or duplications. Each numbered lot shall be shown entirely on one sheet. (Ord. 575 §2 (part), 1964: prior code §8437.4)

#### 16.24.130 Curve Data

The length, radius, total central angle, and bearings of terminal radii of each curve, the bearings of each radial line to each lot corner on curve, and lot shall be shown on the final map. (Ord. 575 §2 (part), 1964: prior code §8437.5)

#### 16.24.140 Easements

- A. Lines. The final map shall show all the necessary data, including width and side lines, of all easements to which the lots in the subdivision are subject. If the easement is not definitely located on record, a statement as to the identity of the easement shall appear on the title sheet.
- B. Designation. Easements, both public and private, shall be denoted by broken lines.
- C. Identification. Each easement shall be clearly labeled and identified and, if already of record, proper reference to the records given. Easement being dedicated shall be so indicated in the certificate of dedication.
- D. Obstructions. Before final approval of any subdivision map, the city may require any or all easements to be cleared of all obstructions. (Ord. 575 §2 (part), 1964; prior code §8437.6)

#### 16.24.150 City Boundary Lines

City boundary lines crossing or abutting the subdivision shall be clearly designated and tied in. (Ord. 575 §2 (part), 1964: prior code §8437.7)

#### 16.24.160 Natural Watercourse Designations

In the event that a dedication of right-of-way for flood control or storm drainage is not required, the location of any natural watercourse shall be shown on the final map, unless such natural watercourse, channel, stream or creek is shown on the grading plans approved by the city engineer to be filed or otherwise eliminated by the grading of the tract. (Ord. 575 §2 (part), 1964: prior code §8437.8)

#### 16.24.170 Title Sheet Contents

- A. Certificates. The title sheet for each final map shall contain all the certificates and acknowledgments required by the Subdivision Map Act. The wording of such certificates and acknowledgements may be obtained from the City Engineer.
- B. Additional Information. In addition to the certificates required by the Subdivision Map Act, the following shall be on the title sheet:
  - 1. Title Company Certificate. A title company shall certify that the persons specified in the certificate are the owners and the only ones whose consent is necessary to pass a clear title.
  - 2. Treasure’s Certificate. The City Treasurer shall certify that there are no liens for unpaid taxes or unpaid bonds against the property except taxes not yet payable.
  - 3. City Engineer’s Certificate. The City Engineer will certify that the final map

substantially conforms to the tentative map, that the required public improvements have been installed or agreed to be installed, and that he recommends the map be accepted by the City Council.

4. City Attorney's Certificate. The city attorney shall state he or she has examined the map that he or she has approved it as to form. (Ord. 575 §2 (part), 1964: prior code §8437.9)

#### 16.24.180 Recording

After the approval of the final map by the city council and payment of applicable recording fees, the city clerk shall cause the map to be recorded in the office of the county recorder. (Ord. 575 §2 (part), 1964: prior code §8437.10)

## Appendix C

### SITE PLAN REVIEW-Grading and Drainage Plan

NOTICE TO APPLICANT OF REQUIRED DATA OR INFORMATION WHICH MUST BE SUBMITTED PRIOR TO PERMIT PROCESSING AND/OR ISSUANCE: (CHECKED BOXES)

\* Four Copies of a plot plan containing the following information\*

- 1. Name and address of the owner of the property
- 2. Address of the property (if different from the owner's address)
- 3. The location and dimensions of all parking areas and driveways (existing and proposed)
- 4. Identification of adjacent streets (by name), alleys or other adjacent public property.
- 5. Legal description of the property
- 6. Any easement that cross the property or other pertinent legal features.
- 7. A north arrow
- 8. Identification of the drawing's scale (ex: 1/8)
- 9. The property lines and property dimensions
- 10. Location size and shape of any structure presently on the site and proposed construction
- 11. Dimension showing: front side and rear yard setbacks, size of structures, paving, porches, and decks.
- 12. Identification of exactly what work is to be done, including changes that are proposed to the physical features of the site or existing structures.
- 13. Ground elevations and contour lines for sloping sites or where earth grading is proposed. Drainage from site sufficient information to see how site drains.
- 14. Paving materials
- 15. Driveway locations
- 16. Water and sewer service locations and size
- 17. Existing and proposed curb, gutter, and sidewalk. Include details of curb, gutter, sidewalks, and driveways.
- 18. Other

“OFF-SITE AND ON-SITE IMPROVEMENT PLANS” (CIVIL PLANS)  
FOR NEW CONSTRUCTION AND/OR REHABILITATION FOR RESIDENTIAL, COMMERCIAL  
AND/OR INDUSTRIAL ZONED PROJECTS

1. GENERAL INFORMATION

- Legal Description
- Vicinity map and address of project
- Property line location and dimension
- North orientation arrow and drawing scale
- Utility Company’s name, address, and telephone number
- Property owner and/or developer’s name, address and telephone number
- Engineering firm (preparing site improvement plans) name, address, and telephone number.
- Legend of existing features and proposed improvements on site.
- General Notes:
  - Underground Alert Number
  - 24 Hour notification prior to inspection
  - Standard specifications – Green Book then Caltrans if Caltrans Encroachment permit is required
  - See subdivision project’s general notes
  - Caltrans encroachment permit
  - Building setback chart requirements
  - Traffic safety
- Other

NOTE: Some of this information will already have been shown on the “Preliminary Site Plan” submitted to Planning)

2. GRADING

- Existing contour lines
- Existing curb and gutter, alley and street elevations at 25’ intervals
- New building pad and finish floor elevations
- New on-site parking elevations and water runoff swale elevations
- New curb and gutter, alley and street elevations
- Site cross section (s) and an estimate of earth movement (c.y.)
- Soils Study

3. UTILITIES AND SERVICES

- Gas
- Electric Power
- Water
- Sewer
- Drainage
- Street Signs and Striping
- Trash Collection
- Other

4. CONCRETE AND MINOR STRUCTURES

Location, dimensions, cross section, and details for new and existing:

- Sidewalks
- Driveways
- Wheelchair ramps
- Cross gutters
- Curb and gutter
- Walkways
- Concrete parking slabs
- Stop bumps

5. PAVEMENT

Location, dimensions, cross section and details for new and existing:

- Alley ways
- Streets (full section)
- Street sections
- On site pavement
- Structural pavement section calculations  
(may be specified in the soils report)
- Grinding areas
- overlay areas

6. LANDSCAPE

Location, dimensions, cross sections and details, lines, fixtures and devices for landscape planting and sprinkler system.

7. Complete set of specifications for all work to be done and materials:

- Grading
- Utility lines and services (water, sewer, electrical, etc...)
- Concrete
- Pavement
- Landscape
- Engineering

## Appendix D-1

### Tentative Map Requirements

#### 16.20.090 Information.

- A. Such maps as designated in Section 16.20.080 shall clearly show all necessary information and shall be drawn to a scale of one inch equals one hundred feet.
- B. The tentative map shall show all the following:
1. The tract number or name;
  2. Sufficient legal description to define the boundaries;
  3. Names, addresses, and telephone number of the record owner or owners, subdividers, and persons preparing the map, and date;
  4. North point, engineering scale, and area being subdivided;
  5. Widths and approximate locations of all existing and proposed easements or right-of-way within and adjacent to the property involved;
  6. Locations, widths, and approximate grades of existing and proposed highways, streets, alleys, or ways, whether public or private, within and adjacent to the property involved;
  7. Existing street names and names or designations for all proposed streets and highways;
  8. Approximate radii of all centerline curves for streets, highways, alleys or ways;
  9. Lot layout and approximate dimensions of each lot;
  10. The location of all potentially dangerous areas, including geologically hazardous areas and those subject to inundation of flood hazard, and the location, width and directions of flow of all watercourses and flood control channels, within and adjacent to the property involved, and the proposed method of providing flood and erosion control;
  11. The existing contour of the land at intervals of not more than two feet and of not more than one-foot intervals if the slope of the land is less than one percent;
  12. The approximate location of all buildings on the property involved which are to be retained and notations concerning all buildings which are to be removed; also approximate location of any existing well;
  13. If any streets shown on the tentative map are proposed to be private streets, they shall be clearly indicated, and there shall be submitted supplemental information to show why such private streets should be approved by the city;
  14. The proposed method of providing water supply, sewage disposal and drainage for the property;
  15. A statement regarding existing and proposed zoning;
  16. A vicinity map adequate to locate the property;
  17. Such other reasonable and necessary data as may be required on the checklist prepared by the subdivision committee. (Ord. 575 S2(part), 1964: prior code S8428).

## **Appendix D-2**

### **SB 610 Requirement Summary for Land Development Projects**

A Water Supply Assessment Report (WSA) is required to accompany the EIR, and/or MND during the 30 day Public Review Comment Period if the development project is in one of the following category:

1. A residential subdivision of 500 dwelling units or more;
2. A shopping center or business establishment employing more than 1,000 persons or have more than 500,000 square feet (sq. ft.) of floor space;
3. A commercial office building employing more than 1,0090 persons or having more than 250,000 sq. ft. of floor space;
4. A hotel or motel having more than 500 rooms;
5. An industrial, manufacturing, or processing plant or industrial park planned to house more then 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sq. ft. of floor space;
6. A mixed use project including one or more of the aforementioned projects or any other project demanding an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.
7. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

### **SB 221**

SB 221 requires large subdivision (greater than 500 dwelling units) to submit a water supply verification issued by the water supplier, stating that sufficient water supplies will be available to serve the development during normal, single-dry, and multiple-dry years within a 20-year projection. The verification is a mandatory condition placed on the subdivision's tentative map.

### **WSA Report Preparation Timeline**

The Advisory Lead Agency must make a written request to the Public Water Supplier (PWS) that furnished the water supply to prepare the Water Supply Assessment Report (WSA). The PWS has 90 days to prepare the report with a 30 days extension.

For more details, please check the full text of the SB 610 Bill, and/or other available literatures.

## Appendix E

### Checklist for Final Map Submittals

**City of Calexico**  
**Public Works/Engineering Department**  
**Check List for Plan Check Submittal Requirement**

11-26-01(Revised 9-23-05)

I. Items Required for Submittal of Subdivision Plan Checks

- a. Tract/Parcel Map (3 sets fold 8 ½ x 11)
  - b. Calculation Data and Point Sheet and Traverses/Closures
  - c. Improvement Plans (3 sets fold 8 ½ x 11)
- d. Engineer's Cost Estimate (Both On-site and Off-site). Use attached City Unit Price for Estimate.
  - e. Soils Report
  - f. Title Report (Current should be within 3 months of targeted approval date/map recordation)
  - g. Conditions of approval for the project
  - h. Approved Tentative Map (Including any Amendments)
  - i. Other Reference Materials (Plans, Lot Line Adjustment, Record of Survey and any other deeds related to any other modifications)
  - j. Pay a Plan Check Deposit Fee Based on City Standards –3% of Engineering Construction Cost Estimate. Also see attach Exhibit B, Items No. 11, and 12, (3% of off-site construction cost each for Plan Check and Inspection). Use attached City Unit Price for Estimate on bonding and fee calculation.

Note: Apply to all Plan Check Submittals.

II. Items Required Prior to Approval of Tract/Parcel Map and Improvement Plans

- k. All Applicable Fees
  - 1. Based on Conditions of Approval and any other Special Assessments
  - 2. Plan Check Fee
  - 3. Improvement Inspection Fee
- l. Bonds/Security (Double Bond 100% each)
  - 1. Performance Bond
  - 2. Labor and Materials Bond
  - 3. Monument Bond
- m. Tax Clearance (See Imperial Tax Collector Letter to City Clerk dated August 19, 2005).

## Appendix F

### Checklist for Tract/Parcel Map and Improvement Plans

**STANDARD  
TRACT/ PARCEL MAP  
GRADING PLAN AND IMPROVEMENT PLAN CHECKLIST  
CITY OF CALEXICO**

The following are minimum GUIDELINE items for subdivision map and improvement plan preparation and check list. Some modifications or exceptions may be adjusted as conditions warranted. State reasons and/or adjustments as necessary. Check off all items that had been performed (okay or need corrections) and identify the items that are not being done.

#### A. General Format

- 1. Show North arrow and bar scale on all sheets.
- 2. Vicinity map.
- 3. Civil Engineer's name, address, telephone number, signature, wet stamp and expiration date.
- 4. Short legal description.
- 5. Site address of Assessors Parcel Number.
- 6. Bench Mark: True benchmark, no assumed benchmark. Show location on plan and describe in space provided.
- 7. Show special use permit, Parcel Map or Tract Map number.
- 8. Key map for projects covering several sheets.
- 9. General notes.

#### B. TECHNICAL INSTRUCTION

- 1. Identify property and easement lines.
- 2. Show existing contours or grades.
- 3. Show final grades by contours, and/or spot elevations.
- 4. Show typical lot drainage.
- 5. Show typical of berm and swale at top of fill slope.
- 6. Show percent of grade of streets and driveways, length of vertical curve B.B.V.C. and E.V.C.
- 7. Horizontal and vertical sight distance; crosscheck improvement plans.
- 8. Conditions of approval of tentative map, CUP, Parcel map, Tract Map.
- 9. Grading plan compared with grading shown on Tentative Map.
- 10. Grading plan compared with improvement plans. (if applicable).
- 11. If grading encroaches on adjacent property, submit notarized letter of permission and place appropriate note at location of encroachment including date of letter.
- 12. Infiltration calculations or assurance that drainage will not remain 72 hours, else mosquito abatement may need to be addressed.
- 13. Rights of Way needed? Check road classification.
- 14. Show daylight and limit lines.
- 15. Conform grading at property lines. See Item 11 above.
- 16. Show appropriate construction notes on each appropriate sheet.

#### C. DRAINAGE

- 1. Drainage easement required or needed?
- 2. Map of all drainage areas affecting site.
- 3. Hydrology and hydraulic calculations required.
- 4. Check for non-erosive velocities at point of discharge, or adequate energy dissipater.

- 5. Check for point of adequate discharge downstream.
- 6. Show direction of street drainage and percent of slope on plans. Give elevations at intersections and where required for clarity.
- 7. Show size, length, and profile of pipes, where drainage is to be installed with the grading plan. Show elevations and grades. Include details of all structures.
- 8. Show width of all drainage easements. Show recording documentation and date of all off-site drainage easements.
- 9. Retention basin – size adequate, side slope, infiltration calculations
- 10. Septic leach lines near basin?
- 11. Finish floor elevations, pad elevations.
- 12. FIRM map flood zone information.
- 13. Soils Report for subdivision required; may also be required for Parcel Maps. May also need update letter.
- 14. Need letter from IID that they will accept drainage from subdivision and the responsible Agency has no problem supplying water for residential use.
- 15. Check and provide the 12 foot dry lane requirement.
- 16. Erosion Control Plans, SUSUMP, NPDES, BMP Reports in conformance RWQCB.

#### D. TRACT/ PARCEL MAP

- 1. Title Sheet conformance to standard.
- 2. Signature of ownership and beneficiary.
- 3. Required public utility easements.
- 4. Boundary Traverse closures and reference monuments.
- 5. Calculation Data and Point Sheet/ Lot Traversers/ Closures.
- 6. Review Title Report (current within three months of map recordation) that is to be in conformance with Title Sheet on all existing easements, dedications, ownerships, and signature requirements.
- 7. Do we have? /or secure all required documents per Title Report, all adjacent and underlying tract reference documents, approved tentative map and conditions of approval.
- 8. List or mark out all items of conditions of approval/resolutions prior to Map recordation.
- 9. Mark up Exhibits A & B items per attached sheets.
- 10. Bonds/Security
  - (a) Performance
  - (b) Labor & Materials
  - (c) Monument Bonds and/or Letter from Engineer of Record
- 11. Subdivision Guaranty (within 90 days of map recordation)
- 12. Subdivision Surety Agreement
- 13. Tax Clearance (Estimated Tax and/or Bonds)

#### E. MISCELLANEOUS

- 1. Pavement structure calculations for road improvements.
- 2. Declaration of responsible charge certification, City approval limitation.
- 3. Encroachment Permit requirement note.
- 4. Underground Service Alert Number and advisory note to call 48 hours (two working days) before excavation.
- 5. Plane Check Fees Paid?
- 6. Inspection Fee?
- 7. Traffic Impact Fee?
- 8. Sewer and Water Impact Fees?
- 9. Other Impact Fees \_\_\_\_\_?

- 10. Seismic Zone

F. FINAL SUBMISSION

- 1. All original mylars, or vellums signed
- 2. Drawings in CD in AutoCAD format (Compatible to City Standard)
- 3. Text, specification, and documents in WORD format (Compatible to City Standard)

G. OTHER COMMENTS AND ITEMS

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EXHIBIT "A"  
DOCUMENT SUBMITTAL FOR FINAL MAP REVIEW

Name of Subdivision: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

Date of Submittal: \_\_\_\_\_

	Submitted	Not Submitted	Subsequent Submittal Date	Approval by Date
1. Final Tract Map (Two copies fold 8 ½ x 11)	( )	( )	_____	_____
2. Improvement drawings (Two sets fold 8 ½ x 11)	( )	( )	_____	_____
3. Soils Report (One copy)	( )	( )	_____	_____
4. Tract Map computer printouts (One set)	( )	( )	_____	_____
5. General Plan & Engineering Calculations for water, Sewer, storm drain use, traffic & improvement	( )	( )	_____	_____
6. Engineer's estimate of total earth movement (include Cross section drawings)	( )	( )	_____	_____
7. Drawing of landscape and sprinkler system for park and green areas	( )	( )	_____	_____
8. Engineer's estimate of project off-site improvements	( )	( )	_____	_____
9. Engineer's estimate for monuments	( )	( )	_____	_____
10. Title Report	( )	( )	_____	_____
11. Letter of Service with requirements form utility companies (gas, electric power, drain & etc...)	( )	( )	_____	_____
12. Copy of approved Tentative Map (For reference)	( )	( )	_____	_____
13. Copy of approved Tentative Map conditions of Approval (For reference)	( )	( )	_____	_____
14. Copies of the surrounding record map (For reference)	( )	( )	_____	_____

Give reasons for non-submittal:

No. \_\_\_\_\_

No. \_\_\_\_\_

Exhibit A and B Document Submittal for Final Map Review

EXHIBIT "B"  
FINAL MAP DOCUMENTS REQUIRED FOR RECORDATION APPROVAL

Name of Subdivision: \_\_\_\_\_

Owner: \_\_\_\_\_

Engineer: \_\_\_\_\_

Date of Submittal: \_\_\_\_\_

	Submitted	Not Submitted	Subsequent Submittal Date	Approval by Date
1. Revised final map with signatures from Owner Engineer Title Co.	( )	( )	_____	_____
2. Approved Off-Site Improvement Drawings	( )	( )	_____	_____
3. Subdivision guarantee & separate easement and/or Owner's Certification Documents	( )	( )	_____	_____
4. Subdivision Surety Agreement	( )	( )	_____	_____
5. Development Agreement and/or letter stating Development phases and conditions	( )	( )	_____	_____
6. Engineer's cost estimate for the Off-Site improvements With copies of contractor's proposal	( )	( )	_____	_____
7. 100% "Off-Site" Improvements Performance Bond	( )	( )	_____	_____
8. 100% "Off-Site" Improvement Labor and Material Bond	( )	( )	_____	_____
9. 100% Monument Bond based on Engineer's Estimate for Monument installation	( )	( )	_____	_____
10. Recording Fees of \$ 25.00 plus \$ 3.00/lot	( )	( )	_____	_____
11. Plan Check Fee for 3% if the total "Off-Site Improvements Cost (based on City Estimates)	( )	( )	_____	_____
12. Inspection fee for 3% if the total "Off-Site" Improvements cost	( )	( )	_____	_____
13. Year on date paid Tax Certificate showing year and date	( )	( )	_____	_____
14. Security for tax not yet payable (accompanied with tax Collector's certificate for estimated taxes)	( )	( )	_____	_____
15. Calculations/payment of impact fees and applicable fair Share assessment fee as per conditions of approval	( )	( )	_____	_____

- Note:
1. Upon completion of above items City Council approval will be requested.
  2. Upon approval from City Council and the completion of the above items, resolution(s) will be prepared and thence signatures from City officials will be collected on all documents.

3. Complete package will be submitted to the Imperial County Recorder's Office

Give reason for non-submittal:

No. \_\_\_\_\_

No. \_\_\_\_\_

Exhibit A and B Document Submittal for Final Map Review

# DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF THE WORK OF THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT CHECK OF THE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CALEXICO IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITY FOR PROJECT DESIGN.

## RESPONSIBLE PROJECT ENGINEER

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

TEL. NO.: \_\_\_\_\_ FAX NO.: \_\_\_\_\_

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
NAME

R.C.E. NO.: \_\_\_\_\_

## Appendix G

**Recording Requested By:**

City of Calexico

**And When Recorded Mail To:**

Lourdes Cordova, City Clerk  
City of Calexico  
608 Heber Avenue  
Calexico, CA 92231

### SUBDIVISION SURETY AGREEMENT CITY OF CALEXICO

It is hereby acknowledged that \_\_\_\_\_ hereby know as “Subdivider”, desires to record a final map, being a portion of the approved \_\_\_\_\_ Subdivision Amended Tentative Map, for that certain subdivision known as \_\_\_\_\_, hereinafter called “Subdivision”, that has been filed with the CITY OF CALEXICO, hereinafter called the “City”, and which has been approved by the Planning Commission of the City as being in accordance with all State laws and local ordinances and regulations, as well as any rulings applicable thereunder at the time of filing.

Subdivider now desires that the City Council of City give final approval of the final map of said subdivision, subject to improvements being made in said subdivision as may be required.

#### AGREEMENT

IT IS HEREBY AGREED THIS \_\_\_\_\_ day of \_\_\_\_\_ 2006 as follows:

1. In consideration of the City Council’s approval of the filing for recordation of the final map of \_\_\_\_\_ which is submitted herewith, prior to the performance of all work of improvement shown to be done on the tentative and final maps and plans for improvements titled “Plans for Improvement”, prepared by \_\_\_\_\_, which documents are herein referred to and incorporated and made a part thereof, Subdivider does hereby agree to provide a good and sufficient improvement security to insure that the performance of all works of improvement to be done on said tentative parcel map and final maps and said plans for improvement are in accordance with the standards established by the laws of the State of California, local ordinances and regulations, and any rulings made thereunder which are applicable at the time of approval of the amended tentative map.
2. All of said works of improvement shall be completed within one (1) years from the date hereof, unless the time is extended in writing by the Council of City, and shall be performed to the satisfaction of the Director of Public Works of City.
3. Subdivider warrants and guarantees said work for a period of one (1) year following the completion and acceptance thereof by City against any defective work or labor done, or defective materials furnished and Subdivider further agrees to maintain the improvements for said one (1) year period commencing with City’s acceptance of same. As security for the promise warranty, and guaranty of this Paragraph 3 for said one (1) year period, Subdivider shall deposit a sum of money with the City equivalent to not less than ten (10%) percent of the estimated cost of said improvements as established herein. As an alternative, Subdivider may provide City with an equivalent security such as satisfactory bond, or instrument of credit as described in Government Code Section 66499.
4. The improvement security required hereunder shall be of that kind and type specified in all parts and subsections of Section 66599 of the Government Code of the State of California and shall be in the following amounts and for the following purposes:
  - (a) An amount not less than 100% of the total estimated cost of the improvement for the faithful performance of this agreement; and,
  - (b) An amount not less than 100% of the total estimated costs of the improvement security payment to the contractor, his subcontractors, and to persons rendering equipment or furnishing labor or materials to them for the improvement.

5. The improvement security required herein for faithful performance of this agreement may be reduced in amount, but not more often than once per month, as the work or improvement is completed. In no event shall this security be reduced in amount until progress reports are submitted to the City and the City determines that the work in fact, has been completed and the amount by which the security shall be reduced. The determination by the City as to the completion of work or improvement and the amount by which the security shall be reduced shall be conclusive. In no event, however, shall the amount of this improvement security be reduced to an amount less than ten percent (10%) until that liability established by all parts and subsections of this Agreement (with the exception of Paragraph 3 hereof) is terminated.

The improvement security securing the payment of the contractor, his subcontractor, and to persons renting equipment or furnishing labor or materials shall be released only in compliance with all parts and subsection of Section 66499 et. seq. including Section 66499 of the Government Code of the State of California.

6. A monument bond or security to be furnished as required in any amount specified by Director of Public Works pursuant to Section 66496 and 66499 of the Government Code of the State of California.

7. Subdivider to pay a deposit fee of 3% of the estimated construction cost for Engineering Plan Check fees, and a deposit fee of 3% the estimated construction cost for Engineering Inspection fees, with a minimum fee of \$20.00 as set out in Resolution No. 2924 of the City of Calexico.

8. The completion of improvements required hereunder and the date of completion shall be determined and certified by the Director of Public Works.

9. Subdivider hereby acknowledges that the statements set forth in the foregoing acknowledgement are true and correct; that he has read this agreement and understands the same; that the release of security as set forth herein shall be at the discretion of the City and shall be so released only in accordance with the terms of the applicable laws of the State of California, local ordinances and regulation.

EXECUTED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_ At Calexico, California.

CITY OF CALEXICO:

DEVELOPER:

\_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_  
City Mayor

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

APPROVED AS TO FORM:

By: : \_\_\_\_\_  
Authorized Representative

Address: \_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_  
Jennifer M. Lyon, City Attorney

**TO BE APPROVED BY DIRECTOR OF PUBLIC WORKS OR CITY ENGINEER**

- |   |                         |
|---|-------------------------|
| 1. Amount of faithful performance guarantee | _____ \$ xxxxxxxxxxxxxx |
| 2. Amount of labor and materials guarantee  | _____ \$ xxxxxxxxxxxxxx |
| 3. Amount of monument Bond                  | _____ \$ xxxxxxxxxxxxxx |
| 4. Engineering Inspection fees Deposit (3%) | _____ \$ xxxxxxxxxxxxxx |

\_\_\_\_\_  
City of Calexico  
Director of Public Works or City Engineer

Acknowledgement  
(By Individual, Partnership or Corporation)

STATE OF CALIFORNIA            )  
COUNTY OF IMPERIAL         )

On \_\_\_\_\_ before me, \_\_\_\_\_,  
a Notary Public in and for said County and State, personally appeared \_\_\_\_\_ personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature \_\_\_\_\_

Name: \_\_\_\_\_

My Commission Expires \_\_\_\_\_

Seal

## Appendix H

### Water and Wastewater System Design Criteria and Guideline

CITY OF CALEXICO  
PUBLIC WORKS AND ENGINEERING DEPARTMENT  
WATER AND WASTEWATER SYSTEM DESIGN  
CRETERIA/GUIDELINE

#### A. WATER

The Imperial Irrigation District delivers untreated water from the All American Canal to the City of Calexico Water Reservoir and then is pumped to the City's Water Treatment Plant.

City's Water is available to Development via mast trunk lines throughout the City; however the Developer may have to construct or participate in a fair share of City's CIP program in the outer City limits of area development.

#### B. POPULATION

The estimated populations densities used for study areas are as follows:

Single Family Homes	4 people/lot
Multifamily (Apartments)	65 people/acre
Mobile Homes	24 people/acre
Planned Development (P.D.)	3 people/lot
Commercial	40 people/acre
Industrial	20 people/acre

#### C. WATER DEMAND

The estimated water demands are as follows:

Single Family Homes	250 gal. /person
Multifamily (Apartments)	250 gal. /person
Mobile Homes	250 gal. /person
Commercial	50 gal. /person
Industrial	50 gal. /person

#### D. SEWAGE DISCHARGE

For commercial and industrial flow, it is assumed that 80 percent of the water supplied is sent back to the sewer systems. The resulting average flow rates for the residential, commercial and industrial areas are:

Single Family Homes	100 gal./person
(4p/lot x 100 gal./per)/(24 hrs. x 60 min./hr.)=0.2778	gpm/lot

Multifamily (Apartments)	100 gal. /person
(65 p/ac. X 100 gal. /per)/(24 hrs. x 60 min./hr.) = 4.51	gpm/ac.

Mobile Homes	100 gal./person
24 p/ac. X 100 gal. /per)/(24 hrs. x 60 min./hr.) = 1.67	pgm/ac.

Planned Development (P.D.)	100 gal./person
----------------------------	-----------------

$$(3 \text{ p/lot} \times 100 \text{ gal./per}) / (24 \text{ hrs.} \times 60 \text{ min./hr.}) = 0.2083 \text{ gpm/lot}$$

$$\begin{array}{l} \text{Commercial} \qquad \qquad \qquad 40 \text{ gal./person} \\ (40 \text{ p./ac.} \times 40 \text{ gal./per}) / (24 \text{ hrs.} \times 60 \text{ min./hr.}) = 1.11 \text{ gpm/ac.} \end{array}$$

E. PEAK FACTOR

A peak factor is 2.00 is applied to the average flows.

F. HYDRAULIC FACTOR

1. Hydraulic calculations utilizing the Manning formula with a roughness coefficient of 0.009 for a PVC pipe and minimum slope of 0.002 ft./ft. may be used.
2. Pipe size considering flowing ½ full at peak flow for 8” to 12” inclusive diameter is used.
3. Pipe size considering flowing ¾ full at peak flow for 18” diameter and above is used.

## **Appendix I**

### Useful Information List:

1. Unit Price Cost Estimate Guide
2. Impact Fee Schedule
3. Reimbursement Policy Example
4. Imperial County Tax Collector Guideline & Process – Tax Certificate for Parcel & Tract Maps

**Subdivision Bonding Estimates**

Quantities by: \_\_\_\_\_

Checked by: \_\_\_\_\_ Unit Price Guideline for Cost Estimate  
 Pricing Ref. R. S. Mean/current bids

Reviewed by: \_\_\_\_\_  
 Pricing by: City Unit Prices

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED COST
1	<b>01000 General Conditions</b>				
2	Mobilization (Guide only adj as appropriate)		LS	\$8,000.00	\$0.00
3					\$0.00
4	<b>02050 Demolition</b>				\$0.00
5	Removal and Disposal of A. C.		SF	\$1.00	\$0.00
6	Removal and Disposal of PCC 4" thick min.		SF	\$2.00	\$0.00
7	Saw Cutting		LF	\$3.50	\$0.00
8	Remove and Dispose Base Course		SF	\$0.50	\$0.00
9	<b>02220 Site Grading and Preparation</b>				\$0.00
10	Class II AB Base 12" thick		SF	\$3.00	\$0.00
11	Class II Agg Base 9" thick		SF	\$2.00	\$0.00
12	Class II AB Base 6" thick		SF	\$1.50	\$0.00
13	Inport/Export Soils		CY	\$8.00	\$0.00
14	Earthwork		CY	\$2.50	\$0.00
15	Unclassified Excavation		CY	\$22.00	\$0.00
16	Compact Subgrade		SF	\$0.50	\$0.00
17	<b>02500 Paving and Surfacing</b>				\$0.00
18	Portland Cement Concrete (SW) 4" thick		SF	\$4.00	\$0.00
19	Stamped Concrete		SF	\$10.00	\$0.00
20	Concrete Curb & Gutter A2-6		LF	\$20.00	\$0.00
21	Concrete Curb & Gutter (6" x 18")		LF	\$21.00	\$0.00
22	Concrete Curb Type A1-6		LF	\$16.00	\$0.00
23	Wheel Chair Ramp		SF	\$6.50	\$0.00
24	Driveway		SF	\$8.00	\$0.00
25	Asphalt Concrete		Ton	\$65.00	\$0.00
26	Asphalt Concrete Paving - Street		SF	\$1.30	\$0.00
27	Seal Coat		SF	\$0.25	\$0.00
28					\$0.00
29	Traffic Striping - Street		LF	\$1.00	\$0.00
30	Wheel Chair Marking		EA	\$200.00	\$0.00
31	Signs		EA	\$125.00	\$0.00
32	Traffic Control		LS	\$2,500.00	\$0.00
33	<b>02600 Sewer System</b>				\$0.00
34	8" Diameter PVC SDR-35		LF	\$35.00	\$0.00
35	Sewer Manhole		EA	\$2,800.00	\$0.00
36	Sewer Services-Lateral		EA	\$250.00	\$0.00
37					\$0.00
38	<b>02650 Water System</b>				\$0.00
39	8" Diameter PVC C-900 Waterline		LF	\$40.00	\$0.00
40	12" Diameter PVC C-900 Waterline		LF	\$55.00	\$0.00
41	Fire Hydrant Assembly		EA	\$3,500.00	\$0.00
42	Water Service		EA	\$40.00	\$0.00

**SUB-TOTAL SHEET 1 \$0.00**

**ENGINEER'S QUANTITY AND COST ESTIMATING SHEET**

100% Submittal

DATE: \_\_\_\_\_

[INSERT Subdivision NAME]

Checked by: \_\_\_\_\_ Unit Price Guideline for Cost Estimate  
 Pricing Ref. R. S. Mean/current bids

Quantities by: \_\_\_\_\_  
 Reviewed by: \_\_\_\_\_  
 Pricing by: City Unit Prices

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED COST
43	<b>02700 Drainage</b>				
44	PCC Cross Gutter/Aprons		SF	\$8.00	\$0.00
45					\$0.00
46					\$0.00
47	48" HDPE Storm Drain		LF	\$105.00	\$0.00
48	24" HDPE Storm Drain		LF	\$85.00	\$0.00
49	12" HDPE Storm Drain		LF	\$65.00	\$0.00
50	6" HDPE Storm Drain		LF	\$45.00	\$0.00
51	Catch Basin Type G-1		EA	\$4,500.00	\$0.00
52	Catch Basin Type G-0		EA	\$4,450.00	\$0.00
53	Catch Basin Type G-2		EA	\$4,300.00	\$0.00
54	Storm Drain Manhole		EA	\$5,500.00	\$0.00
55	Drain Outlet Transition		EA	\$1,000.00	\$0.00
56	<b>02950 Irrigation and Landscaping</b>				\$0.00
57	Mulch		SF	\$0.30	\$0.00
58	Irrigation		SF	\$0.75	\$0.00
59	Planter Well (existing)		EA	\$1,000.00	\$0.00
60	Import Soil		CY	\$30.00	\$0.00
61	Soil Preparation		SF	\$0.25	\$0.00
62	Trees - 24" box		EA	\$250.00	\$0.00
63	Vines - 5 gallon		EA	\$30.00	\$0.00
64	Hydroseeded Turf		SF	\$0.25	\$0.00
65	2x6 Redwood Header		LF	\$5.00	\$0.00
66	Tree Wells 10'x10'		EA	\$200.00	\$0.00
67	Tree Wells 6'x6'		EA	\$120.00	\$0.00
68	Planter Well (new)		EA	\$250.00	\$0.00
69					\$0.00
70	<b>15000 Electrical/Utility</b>				\$0.00
71	PVC Conducts 4"		LF	\$20.00	\$0.00
72	Street Light		EA	\$3,500.00	\$0.00
73					\$0.00
74	<b>Miscellaneous</b>				\$0.00
75	Finishing and Cleanup		LS	\$2,500.00	\$0.00
76	Soil Tests		LS	\$5,000.00	\$0.00
77					\$0.00
78					\$0.00
79					\$0.00
<b>SUB-TOTAL SHEET 1</b>					<b>\$0.00</b>
<b>SUB-TOTAL SHEET 2</b>					<b>\$0.00</b>
<b>GRAND TOTAL</b>					<b>\$0.00</b>

**ENGINEER'S QUANTITY AND  
 COST ESTIMATING SHEET**

100% Submittal

DATE: \_\_\_\_\_

[INSERT Subdivision NAME]

**CITY OF CALEXICO**  
**PUBLIC WORKS / ENGINEERING DEPARTMENT**  
608 HEBER AVENUE \* CALEXICO, CA 92231  
(760) 768-2100 \* (760) 768-0854 FAX

**SCHEDULE OF IMPACT FEES - RESIDENTIAL PROJECTS**

<b>SINGLE FAMILY UNIT IMPACT FEES</b>			
	<b>DUE AT BUILDING PERMIT ISSUANCE</b>	<b>DUE AT CERT. OF OCCUPANCY</b>	<b>TOTAL</b>
<b>FIRE IMPACT</b>	\$ 133.00	\$ 289.00	\$ 422.00
<b>PUBLIC IMPACT</b>	\$ 231.00	\$ 303.00	\$ 534.00
<b>POLICE IMPACT</b>	\$ 63.00	\$ 147.00	\$ 210.00
<b>SEWER IMPACT</b>	\$ 600.00	\$ 900.00	\$ 1,500.00
<b>TRAFFIC IMPACT</b>	\$ 210.00	\$ 210.00	\$ 420.00
<b>WATER IMPACT</b>	\$ 672.00	\$ 1,080.00	\$ 1,752.00
<b>TOTAL IMPACT FEES</b>	\$ 1,909.00	\$ 2,929.00	\$ 4,838.00

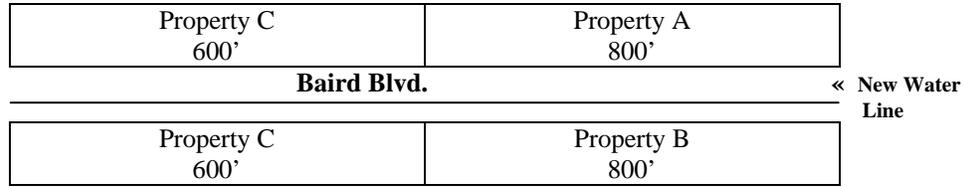
<b>MULTIPLE UNITS IMPACT FEES</b>			
	<b>DUE AT BUILDING PERMIT ISSUANCE</b>	<b>DUE AT CERT. OF OCCUPANCY</b>	<b>TOTAL</b>
<b>FIRE IMPACT</b>	\$ 133.00	\$ 289.00	\$ 422.00
<b>PUBLIC IMPACT</b>	\$ 231.00	\$ 303.00	\$ 534.00
<b>POLICE IMPACT</b>	\$ 63.00	\$ 147.00	\$ 210.00
<b>SEWER IMPACT</b>	\$ 600.00	\$ 600.00	\$ 1,200.00
<b>TRAFFIC IMPACT</b>	\$ 168.00	\$ 168.00	\$ 336.00
<b>WATER IMPACT</b>	\$ 672.00	\$ 672.00	\$ 1,344.00
<b>TOTAL IMPACT FEES</b>	\$ 1,867.00	\$ 2,179.00	\$ 4,046.00

<b>MOBILE HOME IMPACT FEES</b>			
	<b>DUE AT BUILDING PERMIT ISSUANCE</b>	<b>DUE AT CERT. OF OCCUPANCY</b>	<b>TOTAL</b>
<b>FIRE IMPACT</b>	\$ 133.00	\$ 289.00	\$ 422.00
<b>PUBLIC IMPACT</b>	\$ 231.00	\$ 303.00	\$ 534.00
<b>POLICE IMPACT</b>	\$ 63.00	\$ 147.00	\$ 210.00
<b>SEWER IMPACT</b>	\$ 600.00	\$ 600.00	\$ 1,200.00
<b>TRAFFIC IMPACT</b>	\$ 105.00	\$ 105.00	\$ 210.00
<b>WATER IMPACT</b>	\$ 672.00	\$ 672.00	\$ 1,344.00
<b>TOTAL IMPACT FEES</b>	\$ 1,804.00	\$ 2,116.00	\$ 3,920.00

\* ALL FEES ARE PER UNIT

### Appendix I-3

#### Reimbursement Policy Example



#### Reimbursement Procedure Example

1. Developer of Property A installs a water line in Baird Blvd. Developer request agreement for this line. The request includes an average cost per foot for installing the main.
2. City of Calexico approve the reimbursement agreement
3. Developer of property B reimburses City based on lot frontage adjacent to line (800) times one-half the average cost per foot. City reimburses Developer A. This should be done at final map state.
4. Developer of Property C would reimburse based on the full cost per foot across her frontage (600').

#### Example Calculation of Oversize Credits and Off-Site Reimbursements:

Using the Water line in Example S:

An 18" water line is installed for 1400' in Baird Blvd. The average cost per foot is \$ 40.00. Only a 12" water main was necessary to serve the development at an average cost per foot of \$30.00.

A. Credit to Property A developer for installing an 18" water line =

Difference in cost x total length =

$$(\$ 40.00 - \$ 30.00)/\text{foot} \times 1400' = \$ 14,000.00$$

B. Reimbursement by developer of Property B =

Frontage x Net cost of line x 1/2 =

$$800' \times \$ 30.00/\text{foot} \times \frac{1}{2} = \$ 12,000.00$$

C. Reimbursement by developer of Property C =

$$1200' \times \$ 30.00/\text{ft.} \times \frac{1}{2} = \$ 18,000.00$$

Net cost of Property A after receiving credits and reimbursement =

Installation 1400' x 40	= \$ 56,000.00
Oversize Credit	= \$ 14,000.00
Reimbursement from B	= \$ 12,000.00
Reimbursement from C	= \$ 18,000.00
<b>NET COST</b>	<b>= \$ 12,000.00</b>

TAX COLLECTOR

KAREN VOGEL  
TREASURER/ TAX COLLECTOR  
RETIREMENT ADMINISTRATOR

TELEPHONE: (760) 482-4301  
FAX: (760) 352-7883



IMPERIAL COUNTY ADMINISTRATION CENTER  
940 WEST MAIN STREET, SUITE 106  
EL CENTRO, CALIFORNIA 92243-2864

August 19, 2005

~~City Clerk~~ *Miliana*

City of Calexico  
608 Heber Ave.  
Calexico, CA 92231

Re: Tax Certificate Process for Parcel Maps

To Whom It May Concern:

As you know, the Government Code requires that anyone wishing to record a subdivision map or parcel map with the County Clerk-Recorder is required to obtain a Tax Certificate from the office of the Treasurer-Tax Collector indicating that all current and delinquent taxes have been paid on the parcel(s) involved. This process may require that estimated taxes be paid for a lien not yet due and payable.

We are writing to notify you of a couple of changes that are being made to the Tax Certificate process. Effective immediately, tax remittance, including estimated taxes being placed on deposit, will have to be paid with some form of certified funds (cash, cashier's check or money order). We will no longer accept personal or business checks at the time a Tax Certificate is being issued.

Additionally, we will no longer prepare a Tax Certificate in advance of the date in which the map will be delivered to the Clerk-Recorder for recording. We have developed a worksheet that can be provided to assist you in securing the necessary funds to obtain a Tax Certificate. We hope this will be helpful to you for internal processing. Please keep in mind that this estimate is only valid on the date in which it is prepared and the amount is subject to change.

The estimation worksheet should be brought to our office, along with the required funds or securities on the day in which you wish to record your map. You will be asked to complete a "Request for Tax Certificate" form, a "Letter of Authorization" form, and pay

the required taxes. We will issue you a receipt for payment, prepare the Tax Certificate and accompany you or your representative to the Clerk-Recorder's office to deliver the document. Samples of the documents mentioned above are enclosed for your reference.

We sincerely hope that this information clearly explains the revised Tax Certificate process, however if you have any questions, please feel free to contact our office.

Sincerely,

KAREN VOGEL  
Treasurer-Tax Collector

By:   
Susan J. Cox  
Tax Division Manager

SC:cj  
Enc 3

IMPERIAL COUNTY TREASURER-TAX COLLECTOR  
940 WEST MAIN STREET- SUITE 106  
EL CENTRO, CA 92243  
(760) 482-4301

**TAX CERTIFICATE – ESTIMATED TAX DUE**

The following information has been provided to assist in obtaining a TAX CERTIFICATE as required by Government Code Section 66492-66494.1. The total amount of tax due and any estimated tax due must be paid to the Imperial County Tax Collector before a Tax Certificate will be issued. The total estimated tax amount due was calculated using the most current information available to the Tax Collector. Roll corrections or Supplemental bills issued to this assessment number after the date of this estimate will result in a change to the total estimated tax amount due.

Date: 08/05/05

Assessment Number: 000-000-000-00

Map Number: XXXXXXXX

Property Description: XXXXXXXXX XXXXX XXX XXXXXXXXX

Property Owner: XXXXX XXXXXXXXX

**TAX COMPUTATION:**

\_\_\_ No taxes due or payable at this time.

\_\_\_ Prior Year Delinquent taxes due. \$

\_\_\_ Current Secured Tax due \$

\_\_\_ Current Supplemental Tax due. \$

**XXX** Estimated Tax due for the fiscal year 2005-06 \$ 450.00

**TOTAL ESTIMATED TAX DUE:** ▶ \$ 450.00  
=====

Prepared by: XXX XXXX XXXXXXX  
Deputy

**LETTER OF AUTHORIZATION  
TO TRANSFER DEPOSIT OF ESTIMATED TAXES**

**TO:** Karen Vogel  
Imperial County Treasurer-Tax Collector  
940 West Main Street, Suite 106  
El Centro, CA 92243

This date, \_\_\_\_\_, I deposited \$ \_\_\_\_\_ with the  
Tax Collector as guarantee for payment on Parcel No. \_\_\_\_\_

I hereby authorize the Tax Collector to transfer funds from this deposit for  
payment of Parcel No. \_\_\_\_\_  
\_\_\_\_\_ when taxes are due.

If sufficient funds are not available, I will be responsible for any additional amount  
due. Any overage will be refunded to me.

I understand that the money deposited will be applied to the whole parcel as  
recorded. No funds can be applied to a portion of the property.

Signature of Depositor

Name of Property Owner if Different  
(Please Print)

Name of Depositor (Please Print)

Mailing Address (Please Print)

City/State/Zip Code (Please Print)

IMPERIAL COUNTY TAX COLLECTOR  
940 WEST MAIN STREET  
EL CENTRO, CA 92243

REQUEST FOR TAX CERTIFICATE

REQUESTING AGENCY:

PROPERTY OWNER:

MAP/DOCUMENT NUMBER:

ASSESSOR'S PARCEL NUMBER(S) AFFECTED:

Authorized Signature

## **Appendix J**

City Design Standards and Standard Plans (Use in order of preference for Reference Standard Documents listed.)

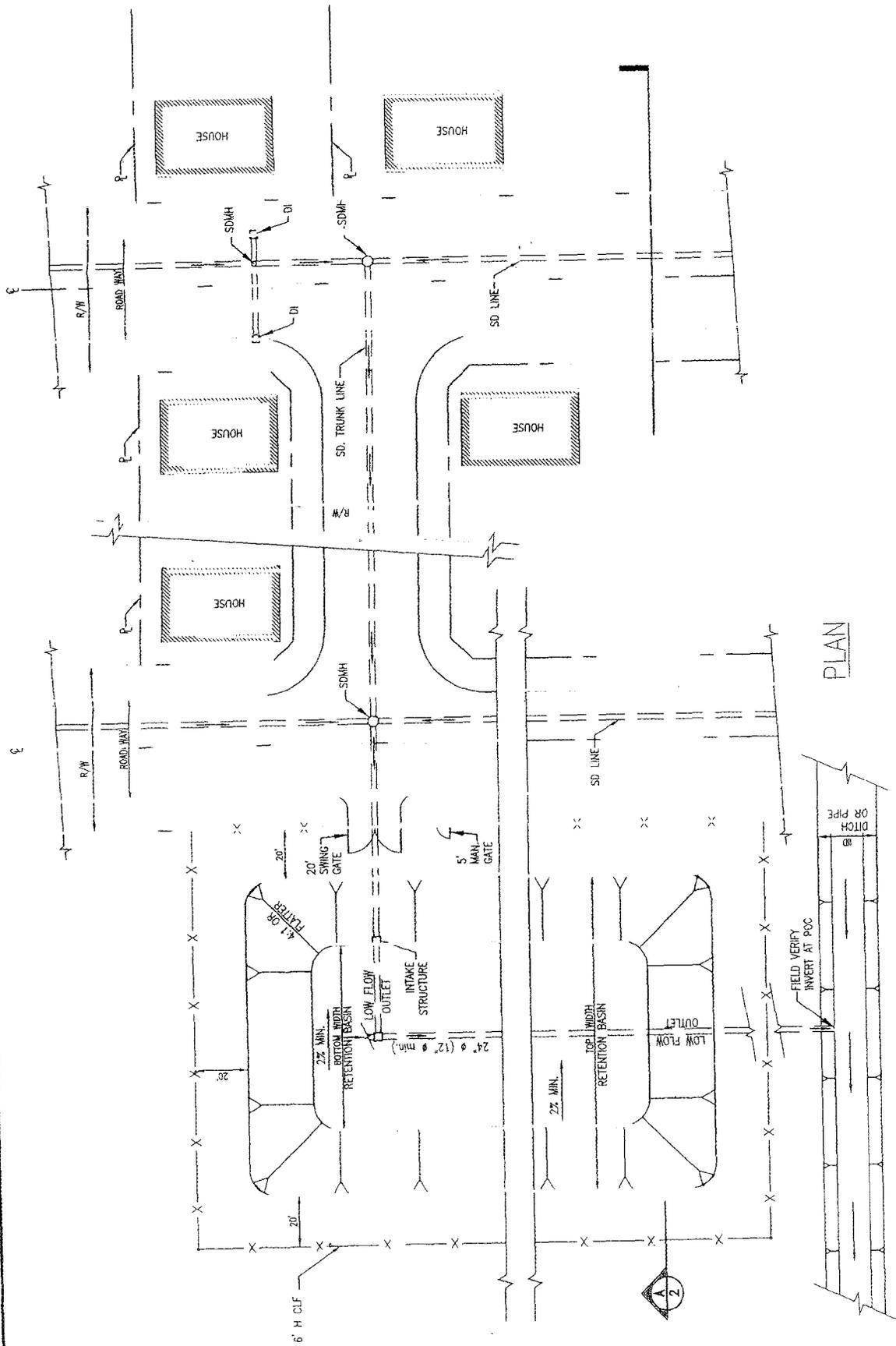
1. Residential Street Hierarchy: Definition
2. Retention Basin Design Standard Plan & Guideline
3. Hydrology – Caltrans Design Guideline & Charts
4. Imperial Irrigation District (IID) – Draft Manual Guideline Reference
5. Storm Drain Design Guideline & Example
6. Soils Report Requirement & Guideline
7. Reference Standards use in the City of Calexico
  - A. American Public Works Association Standard Plans & Specifications
  - B. Caltrans Standard Plans & Specification
8. Installation of Stop Signs & Street Name Signs Requirements
9. City of Calexico CAD Submittal Standards

## Appendix J-1

### RESIDENTIAL STREET HIERARCHY: DEFINITION

Residential Street Type Width	Function	Guideline Max. ADT	Min. Street Width	Right-of-Way Street
1. Residential	Lowest order or residential streets. Provide frontage for access to lots, and carries traffic having destination or origin on the street itself.	250 (each loop) 500 (total)	40'	60'
2. Residential Sub-collector	Middle order of residential street. Provide frontage for access to lots, and carries traffic of adjoining residential access streets.	500 (each loop) 1,000 (total)	40'	60'
3. Residential Collector	Highest order of residential streets-article and expressway. Carries the largest volume of traffic at higher speeds. Collectors should be designed so that they cannot be used as shortcuts by non-neighborhood traffic.	3,000 (total)	60'	80'
4. Arterial	A higher order, interregional road in the street hierarchy; conveys Traffic between centers; should be excluded from residential areas.	3,000 +	80'	100'
5. Alleys	A service road that provides secondary means of access to lots. On same level as residential access street, but different Standards access to lots apply. Used in case of narrow.		18'	20'
6. Cul-de-Sac	A street with a single means of ingress and egress and having a turnaround. A residential access cul-de-sac will have a max. ADT level of 250, and a sub-collector cul-de-sac will have a Minimum ADT level of 500.	250 (residential access)	40' (Radius)	50' (Radius)

\* WIDTH SHALL BE FROM FACE OF CURB TO FACE OF CURB



PLAN

SCALE  
NTS

Standard Plan For Retention Basin  
and Storm Drain Arrangement  
CITY OF CALEXICO  
DEPARTMENT OF ENGINEERING

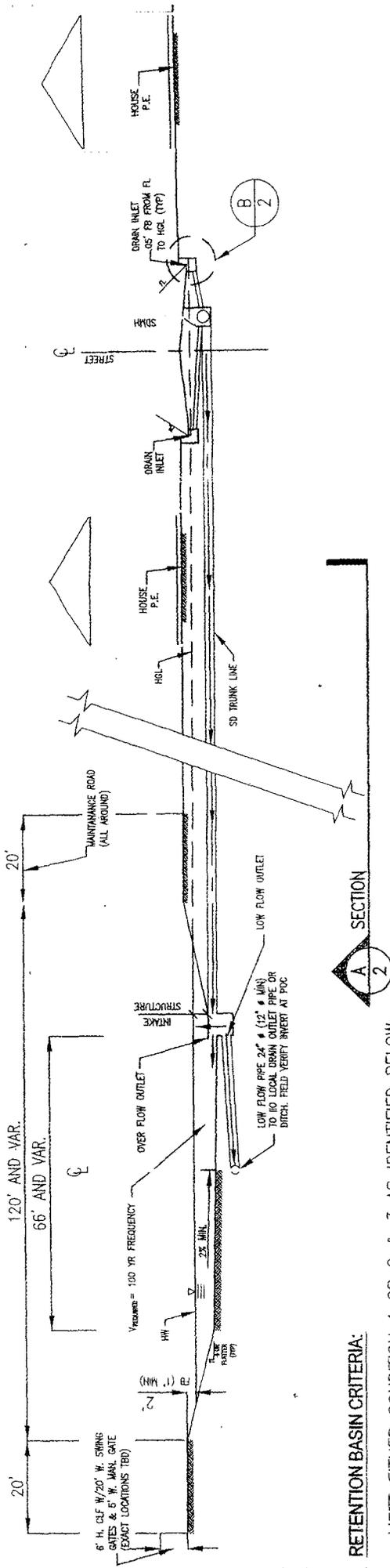
DATE: 08-15-14  
DRAWN BY: JAW  
CHECKED BY: JAW  
DESIGNED BY: JAW  
8/24/14

PREPARED UNDER THE SUPERVISION OF:  
*John W. Joy*  
CITY ENGINEER  
CITY OF CALEXICO



REFERENCES

NO.	DATE	REVISIONS



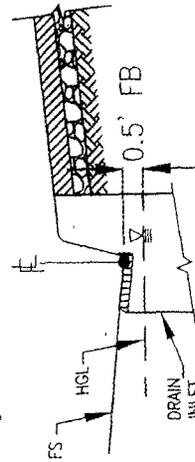
**RETENTION BASIN CRITERIA:**

MEET EITHER CONDITION 1 OR 2 & 3 AS IDENTIFIED BELOW:

1. TW ELEVATION OF VOLUME STORAGE AT 100 YR FREQUENCY FLOOD (TW<sub>100</sub>) WITH DESIGN Q<sub>25</sub> SYSTEM AT UPSTREAM @B WITH 0.5' FB.
2. TW ELEVATION OF VOLUME STORAGE AT 25 YR FREQUENCY FLOOD (TW<sub>25</sub>) WITH DESIGN Q<sub>25</sub> SYSTEM AT UPSTREAM @B WITH 0.5' FB.
3. TW ELEVATION OF VOLUME STORAGE AT 100 YR FREQUENCY FLOOD (TW<sub>100</sub>) WITH DESIGN Q<sub>100</sub> SYSTEM AT HOUSE PAD ELEVATIONS WITH 1.0' FB.

**LEGEND:**

6' HCLF	HIGH CHAIN LINK FENCE	TBD	TO BE DETERMINED BY CITY ENGINEER
CL	PROPERTY LINE	HW	HIGH WATER
FB	FREE BOARD	DI	DRAIN INLET
FL	FLOW LINE	HGL	HYDRAULIC GRADE LINE
TYP	TYPICAL	CL	CENTER LINE
V	VOLUME REQUIRED FOR 100 YR. FREQUENCY	TW	TAIL WATER ELEVATION
IID	IMPERIAL IRRIGATION DISTRICT	CB	CATCH BASIN
P.E.	BUILDING PAD ELEVATION	Q	25 YR. STORM FREQUENCY RUNOFF
SDMH	STORM DRAIN MANHOLE	Q	100 YR. STORM-FREQUENCY RUNOFF



**B** DETAIL  
**2** ESCALE: NTS

SCALE  
NTS

NO.	DATE	REVISIONS	REFERENCES

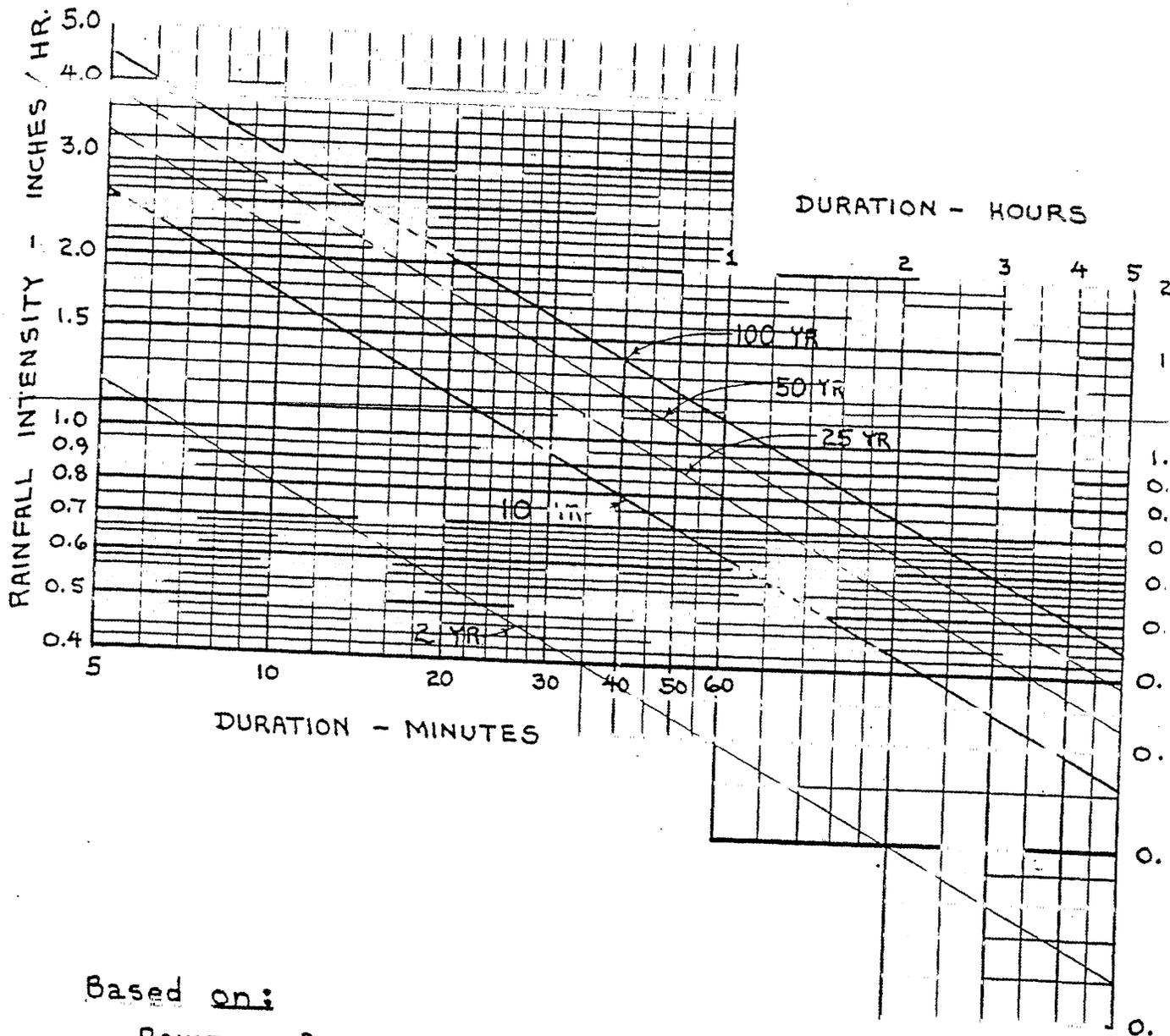
DESIGNED BY: *J. J. ...*  
 CHECKED BY: *J. J. ...*  
 DATE: 08-15-04  
 PROJECT NO.: 04-15-04  
 SHEET NO. 2 OF 2

Standard Typical Section For Retention Basin and Storm Drain Arrangement  
 CITY OF CALEXICO  
 DEPARTMENT OF ENGINEERING

# INTENSITY-DURATION-FREQUENCY CHAR

DISTRICT 11

## ZONE VI



Based on:

RAINFALL ANALYSIS FOR DRAINAGE DESIGN

VOLUMES I - II - III

STATE OF CALIFORNIA

DEPT. OF WATER RESOURCES

BULLETIN 195 - OCTOBER 1976

DRS 4-77

PORTION OF CHART

(Plan. Man. - Fig. 7-811.2)

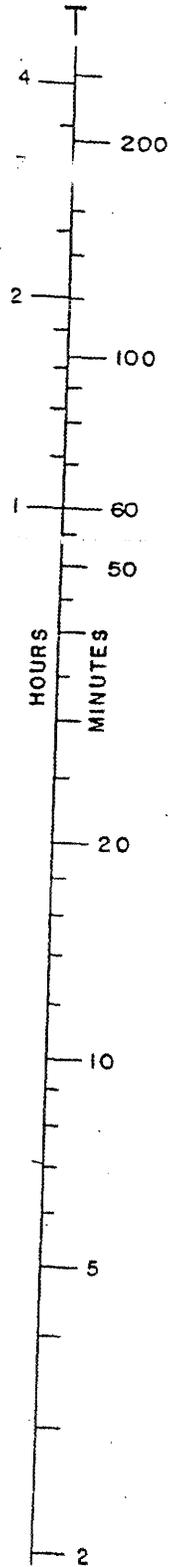
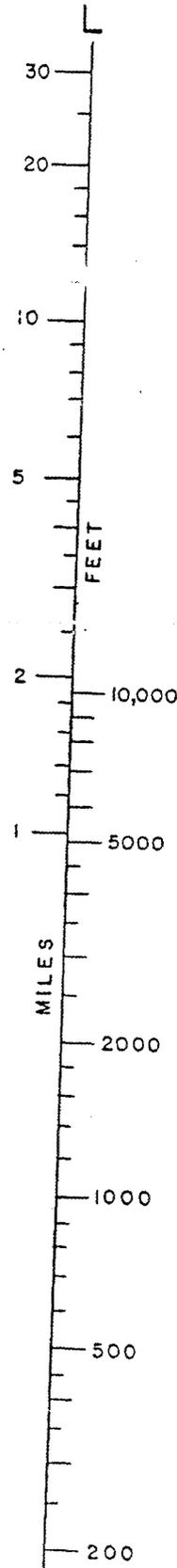
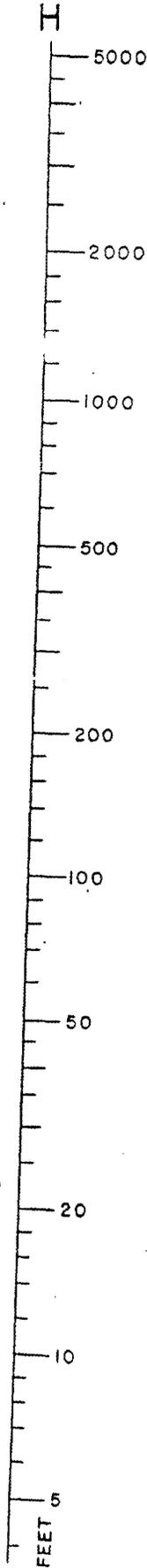
5.148

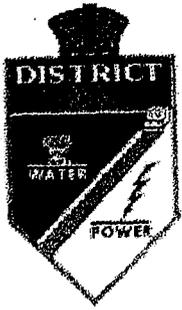
$$T_c = 60 \left( \frac{11.9 L^3}{H} \right)^{0.25}$$

BASED ON KIRPICH FORMULA

(WHERE  $T_c$  = MINUTES &  $L$  = MILES)

$H$  = FEET



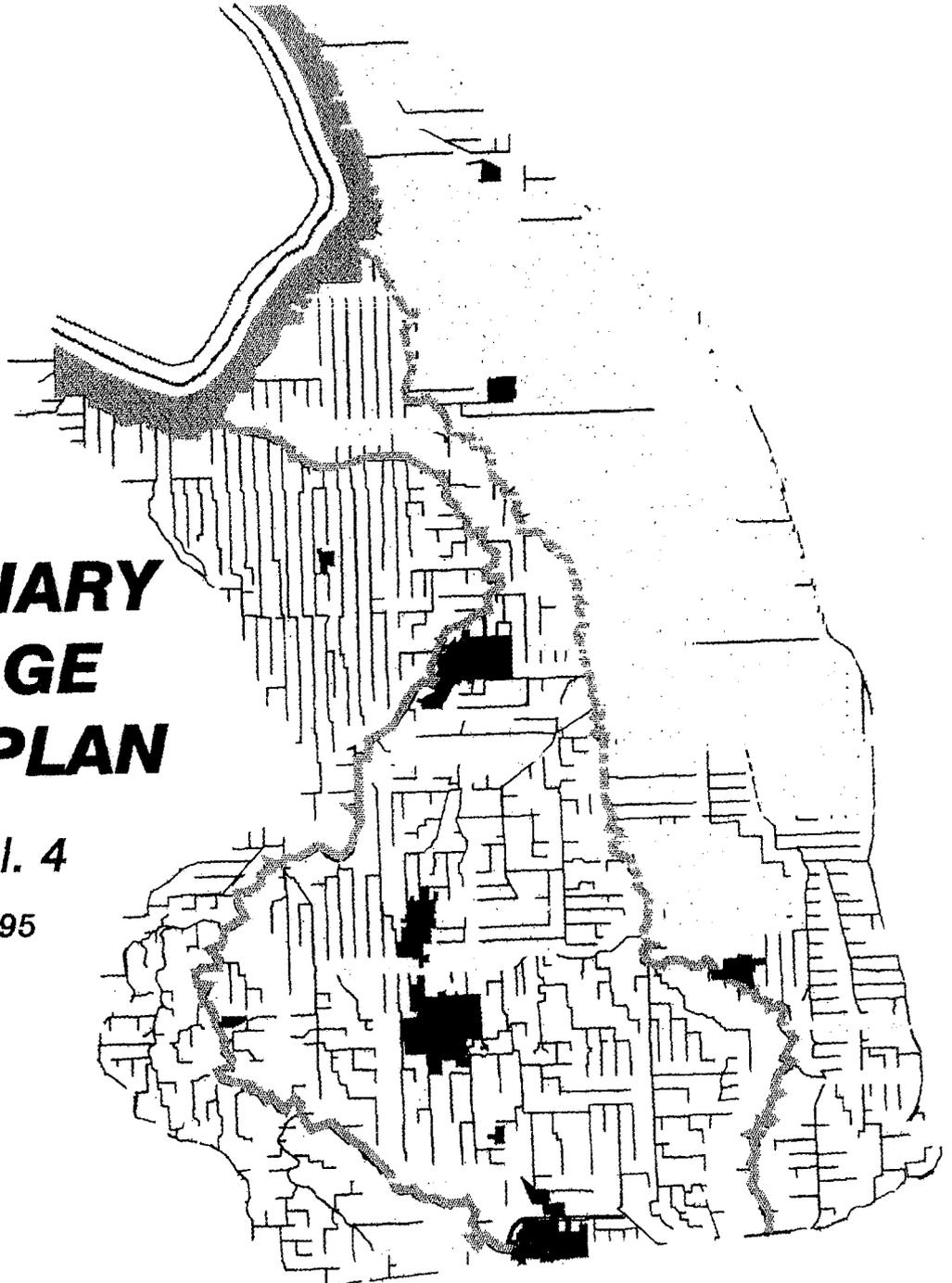


# IMPERIAL IRRIGATION DISTRICT

## **PRELIMINARY DRAINAGE MASTER PLAN**

*Vol. 2 of Vol. 4*

*November 1995*



**BLACK & VEATCH**

In Association with

**Boyle Engineering  
Jones & Stokes**

Appendix J-4  
Page 1 of 1

## Appendix J-5

# STORM DRAIN DESIGN GUIDELINE & EXAMPLE

## II-C-STORM DRAIN DESIGN

A storm drain system is a network of culverts and channels which intercept and dispose of water from conventional highways or city streets. It is distinguished from a freeway on-site system in that there are no inlet structures directly on the mainline. Instead, water intercepted by inlets is transported by means of lateral connector pipes and joined to the mainline by junction structures and/or manholes.

### II-C-1 HYDROLOGY REPORT

One of the basic tools necessary for design of a storm drain system is the Hydrology Report. This report is furnished by the District Hydraulics Section upon request of the Project Engineer. (Refer to Section I-A-3.) The request should include a map showing the alignment of the proposed highway or street and the preliminary alignment of any storm drain system showing the areas of concern.

### II-C-2 SYSTEM LAYOUT

Storm drain design, like most hydraulic designs, involves a trial and error process. It begins with the hydrology calculations furnished by the Hydraulic Section, which include approximate drain sizes for the preliminary design. These approximate drain sizes are normally design for full flow with the hydraulic grade line (HGL) approximately paralleling the overlying ground slope. However, if it is anticipated that the runoff will transport a large amount of silt, it may be necessary to design the drains for flow that will insure self-flushing action.

To approximate the drain size where it is permissible to set the HGL parallel to the overlying ground, set  $S_f = S_g$  and compute the conveyance factor ( $K = Q/S_f^{1/2}$ ). Referring to the table of conveyance factors (Section II-A-2) select a drain that corresponds to the nearest larger factor listed on the table. Since the conveyance factor varies with the “n” value, there will be differences in drain sizes for different type of drain material.

In general, the choice of type of conduit should be based on overall economy. Many agencies have developed policies on the type of conduit based on their experience with maintenance and total costs including first cost, service life, maintenance requirements, etc. After determining the design flows and the streets where drains should be placed and their approximate sizes, the following steps are taken:

Location of System – Prepare a plan-profile sheet showing all geometric features, curbs, sidewalks, driveways, trees, fireplugs, utility poles, etc. All known utilities should be plotted in plain and profile – sewers, including house connections, waterlines, other

pipelines, electrical and telephone conduits. It is important to show all utilities because they are a major constraint in the design.

Although it is not always possible to avoid all utilities, it is desirable to locate the storm drains in an unoccupied portion of the street to avoid expensive relocation work. When there is a conflict between utilities and the proposed drain, every effort should be made to cross over or under the existing utilities.

Determination of sizes – When the alignment of the drain is resolved, a preliminary design is drawn, using the approximate sizes which were previously determined.

Transition structures are constructed where the drain dimensions change. The length of the transition may be determined by limiting the maximum angle of the wall to 10:1 or approximately 6 degrees.

Where one or more lateral drains enter a mainline, junction structures are used. However, if the lateral is near a transition structure, it is usually more economical to join the mainline at the transition. The lateral should join the mainline at an angle between 30° and 45°. Refer to Section II-E-2. “Junction Structures.”

Manholes are required for inspection and maintenance. The spacing and location of manholes are usually dependent on policies of the agency involved. Good judgment should be made in the location of manholes; for example, a manhole should not be located in the middle of an intersection since it could cause a problem to traffic during construction and may be hazardous during maintenance operations.

In certain situations, manholes may be combined with transitions and/or junction structures.

Calculation of Approximate Hydraulic Grade Line (HGL) – The control HGL is usually the HGL in the existing storm drain or water surface at the point where the new drain will join. In computing the backwater or HGL, only the major losses such as friction are considered. Where the laterals join the mainline, the Q in the mainline will increase by the amount picked up at the intersections. If there is no change in dimensions in the mainline, the friction slope may be assumed to change in the middle of the intersection. If there is a change in size, the friction slope through the transition or junction can be calculated.

Generally, the system should be designed with the HGL 2' to 3' below the groundline. If the HGL is too high, the dimensions for the drain must be increased in one or more of the reaches, or conversely, if the HGL is too low, the dimensions should be decreased.

Design of Inlets – The calculated HGL is now used to design the inlets and the connector pipes from the inlets to the mainline.

The inlets are usually sized on a basis of total interception to keep the flow out of the intersection. However, designs allowing some bypass flow are more economical and

should be considered unless local agency policies govern.

The side-opening type inlet is usually used on city streets to minimize the hazard with bicycle tires.

However, on grades steeper than 3% the side-opening type inlet becomes very inefficient and the grate type inlet or combination grate and side-opening inlet should be considered. See Section II-B-3, Selection of Inlets.

There are two types of gutter depressions which improve inlet capacities. The apron type has a depressed area which extends beyond the gutter into the pavement and has a depression of 1 to 3 ½ inches. The gutter depression type uses the gutter exclusively for a 1- to 2-inch depression. The apron type should not be used where heavy traffic is expected near the curb.

Inlet size may be restricted by physical constraints. For example, there may not be enough space for one large inlet between a driveway and a fireplug or between two driveways. In these situations, two or more smaller inlets may be used.

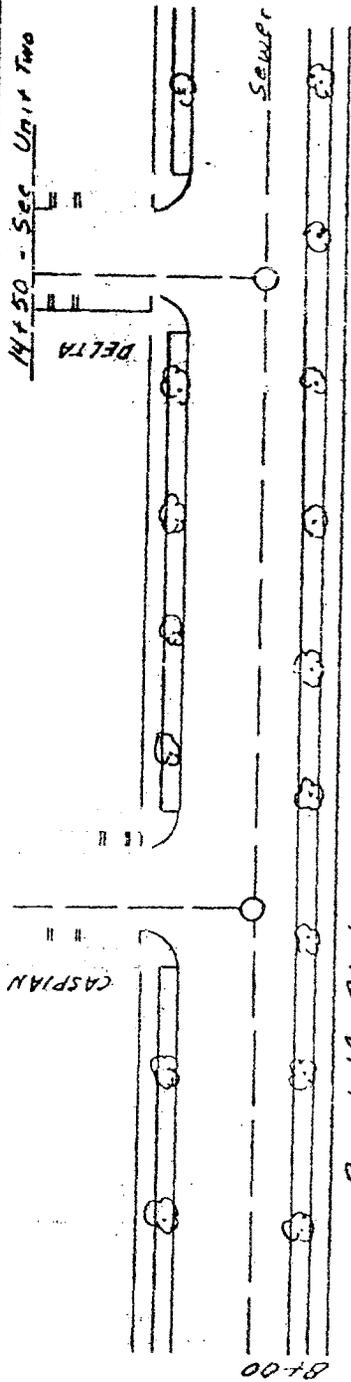
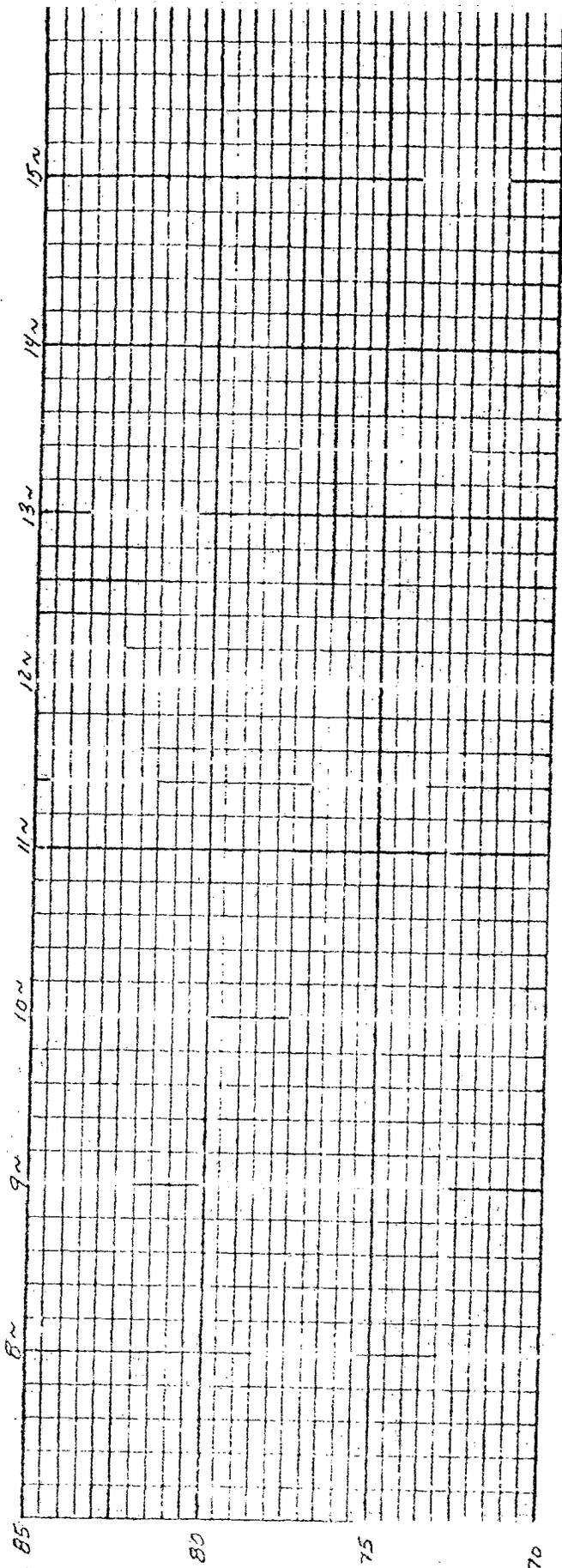
Design of Pipe Connectors – Once the inlets are design, the pipes connecting them to the storm drain can be sized. The pipes are usually sized for pressure flow using the HGL in the storm drain as the control. The ponded water in the inlets should not be higher than 9” below the lip. Charts are available to determine connector pipe sizes – see Section VI-C-31, Circular Pipe Design Charts.

Connector sizes should be checked for orifice flow which may sometimes control. For example, orifice flow would result if the storm drain was flowing open when the peak flow reached the inlet.

The lengths of connector pipes are dependent on the size of location of the inlets. They will usually enter the storm drain at right angles, but if analysis indicates high energy losses, flatter angles should be used. Some public agencies have policies regarding connector systems. For example, the City of Los Angeles does not allow connections in series – they require separate connections to the mainline.

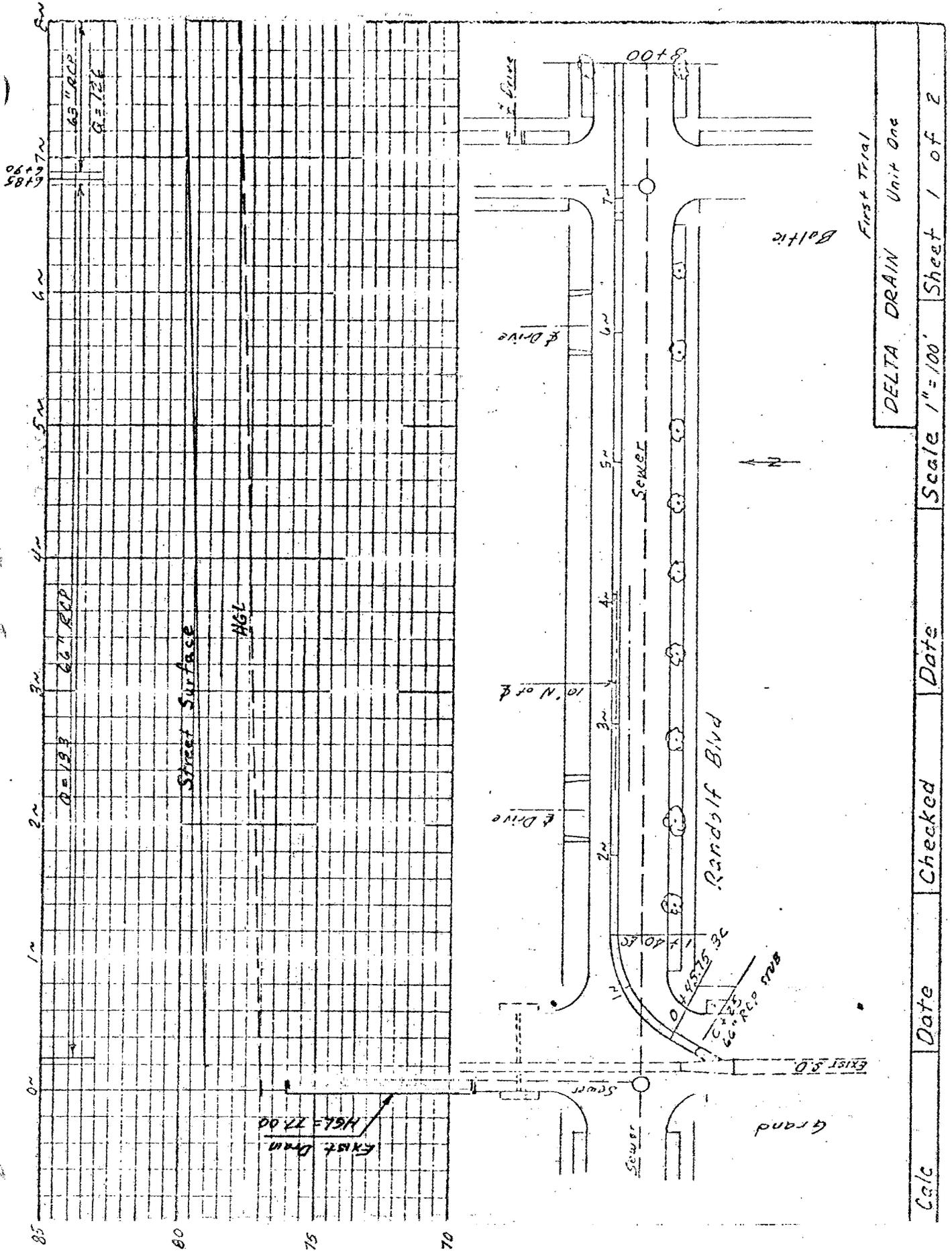
Final Design Calculations – The HGL should be recalculated to insure that connector design have not significantly changed the flow in the mainline. When the final HGL is established the inlet and connector designs should be checked for hydraulic adequacy.





Randolf Blvd

Calc	Date	Checked	Date	Scale 1"=100'	Sheet 2 of 2
				Delta Drain Unit One	



DELTA DRAIN Unit One

First Trial

Sheet 1 of 2

Scale 1" = 100'

Date

Checked

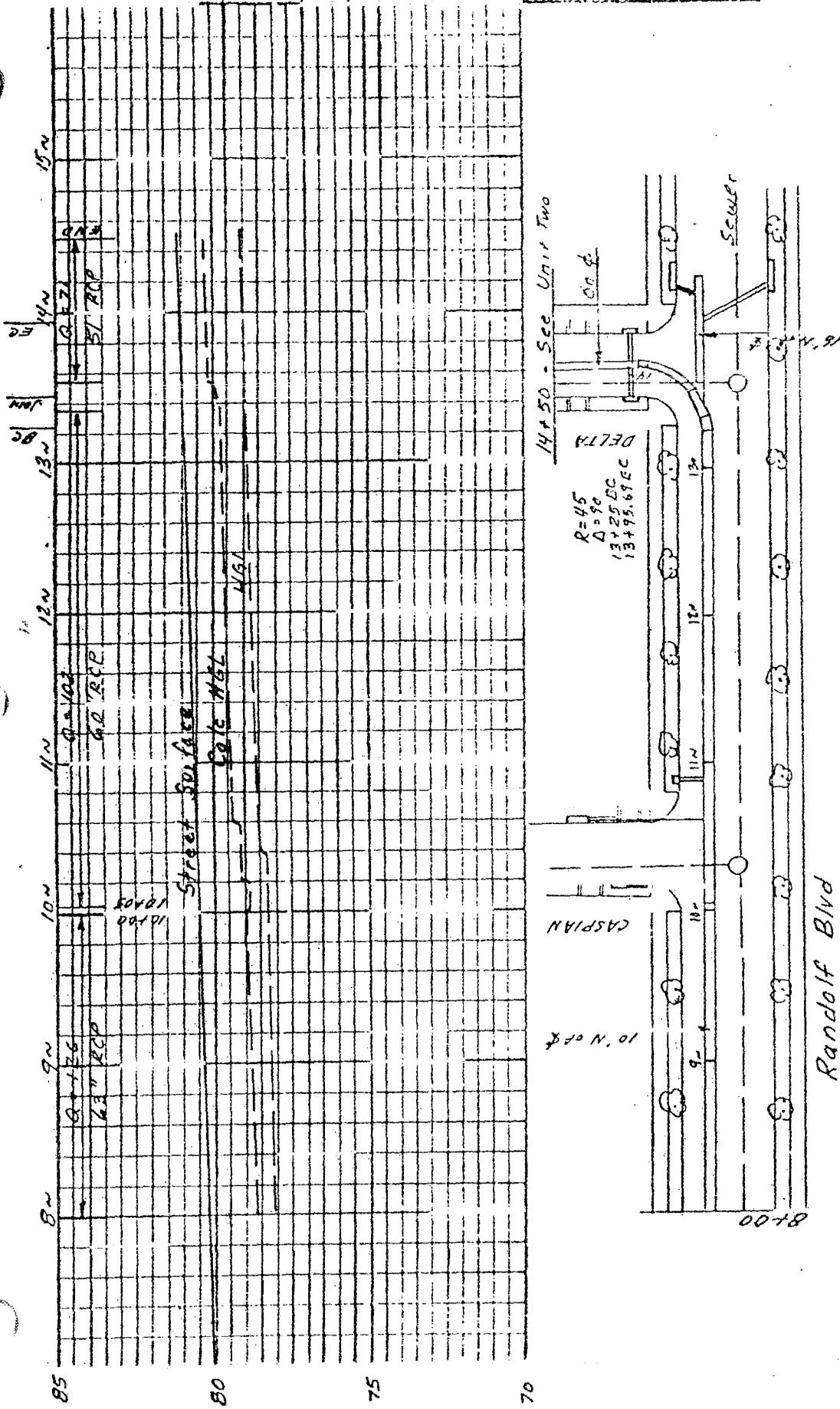
Date

Calc









Randolf Blvd

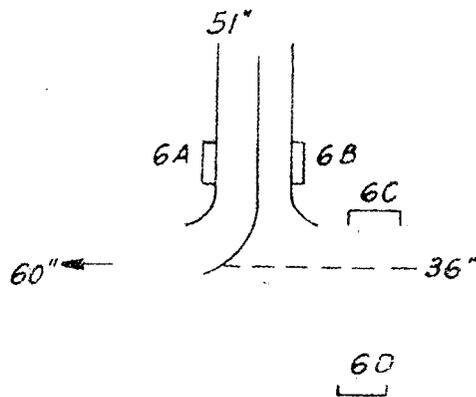
Catch Basin for First Trial

Delta Drain Unit One

Calc	Date	Checked	Date	Scale 1"=100'	Sheet 2 of 2
------	------	---------	------	---------------	--------------

Inlet Design

Randolf and Delta



Flow in Storm Drain  
Approaching Randolf = 71.5 cfs

Flow contributed by Area 6  
= 30.9 cfs

Area Contributing along Randolf  
= 20.2 Acres

Total Area = 27.0 Acres

Q along Delta

Find peak for catch basins  
Full = 82.5 - 81.0 = 1.5'

Length = 900

Area = 6.8 Acres

$T_c = 20.7$  min (Single Family)

$I = 1.90$

$C = .725$  (B - SF)

$Q = .725(1.90)(6.8 \text{ Ac})$   
= 9.4 cfs  
= 4.7 cfs each side

$S = .0015$

$D = 0.50$

$W = 7'$  (Cap. 5 cfs) each side

Q along Randolf

= Q Total  $\frac{20.2}{27.0} = 23.1$  cfs

This flow will be handled by  
Randolf Lateral as shown  
as

80/56 ST  $x=0.0$

$S = .0015$

$K = Q/S^{\frac{1}{2}} = \frac{23.1}{0.038} = 610$

$D = 0.70$  Entire Street Flooded

$\therefore Q = 11.6$  cfs on each side

$W = 21'$  Each side

Approx Gutter Elevation = 81.0 Usually from survey  
0.5 Freeboard

Water Surface in Catch Basin 80.5  
HGL in Lateral 79.1

Available Head 1.4

Inlet #6A  $Q = 4.7$   $W = 7$   $L = 20$

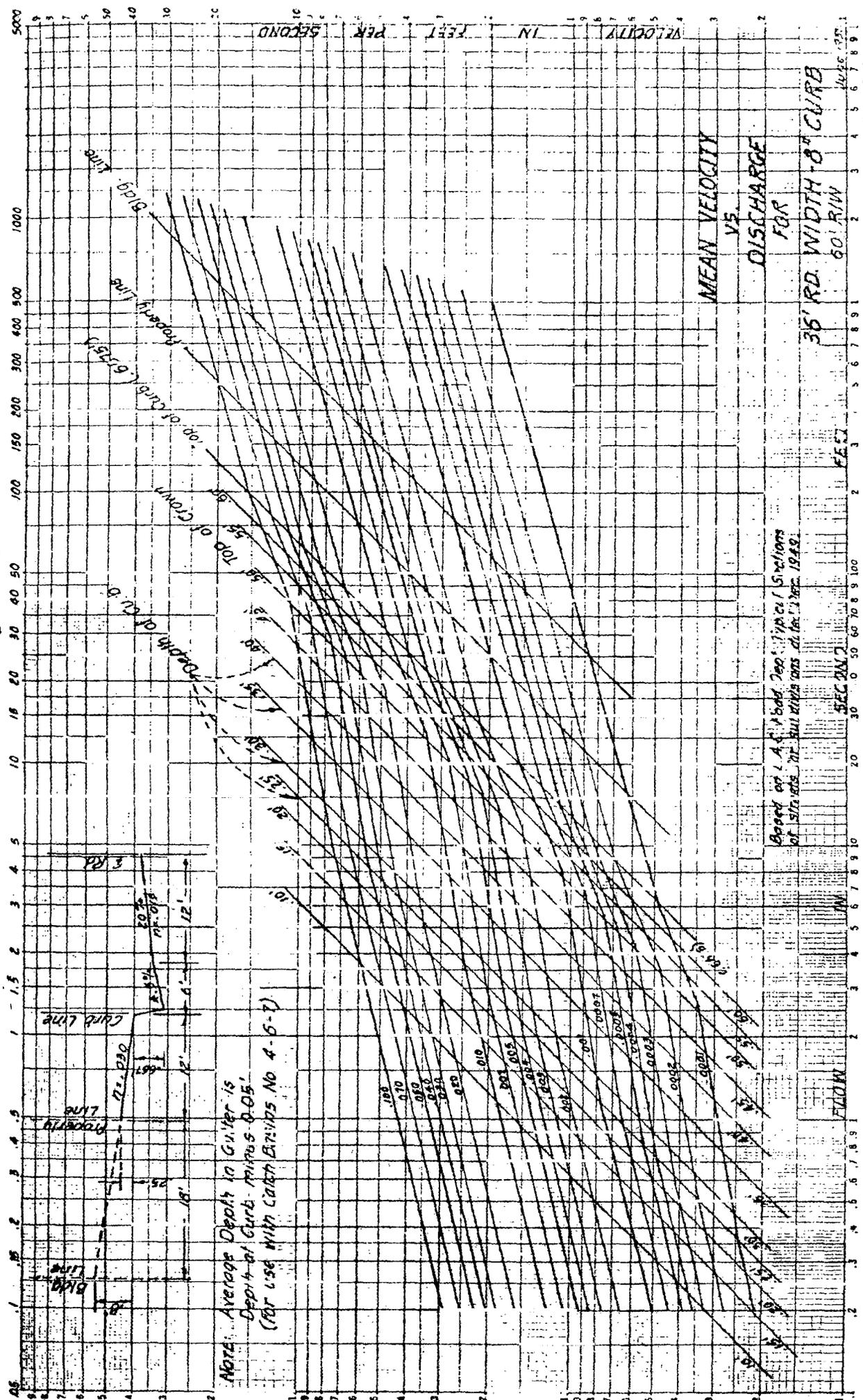
From Figure use 18" Pipe

Inlet #6B  $Q = 4.7$   $W = 7$   $L = 20$

From Figure use 18" Pipe

1000

# TOTAL FLOW IN 1/2 STREET



10  
9  
8  
7  
6  
5  
4  
3  
2  
1

1000  
900  
800  
700  
600  
500  
400  
300  
200  
100  
50  
0

0 10 20 30 40 50 100 150 200 300 400 500 1000

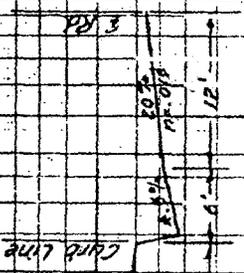
VELOCITY IN FEET PER SECOND

MEAN VELOCITY  
VS.  
DISCHARGE  
FOR  
36' RD. WIDTH 8" CURB  
60' R/W

10  
9  
8  
7  
6  
5  
4  
3  
2  
1

0 10 20 30 40 50 100 150 200 300 400 500 1000

TOTAL FLOW IN STREET



NOTE: Average Depth to Curb is  
Depth of Curb minus 0.05'  
(For Use With Catch Basins No 4-5-7)

Based on L.A. Flood Dept. Typical Sections  
of Streets for All Areas as of Dec. 1943.

TOTAL FLOW IN STREET

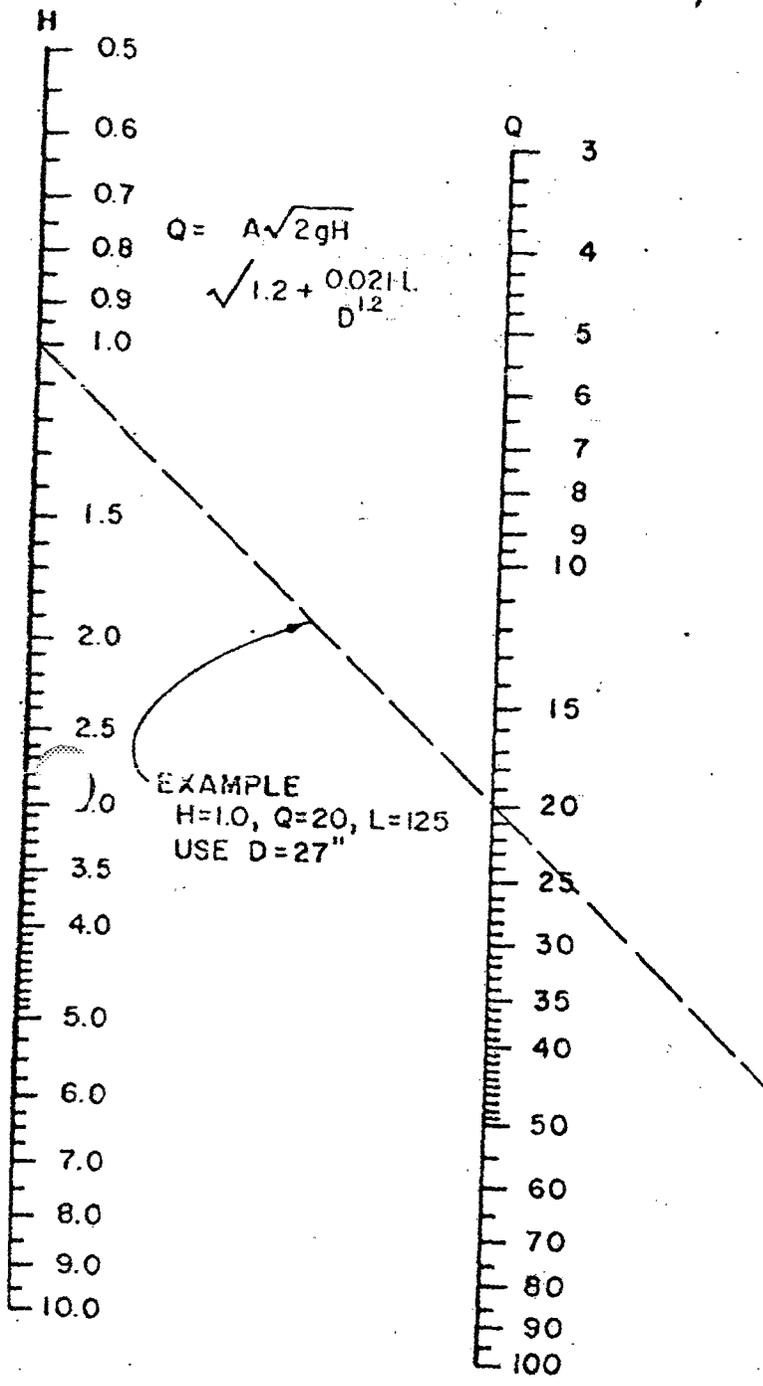
DA 6.3



DESIGN OF SPUN CONCRETE  
CONNECTOR PIPES FLOWING FULL

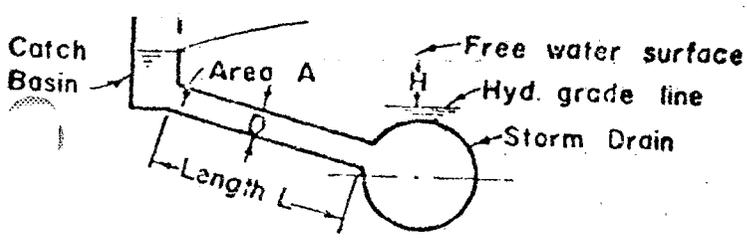
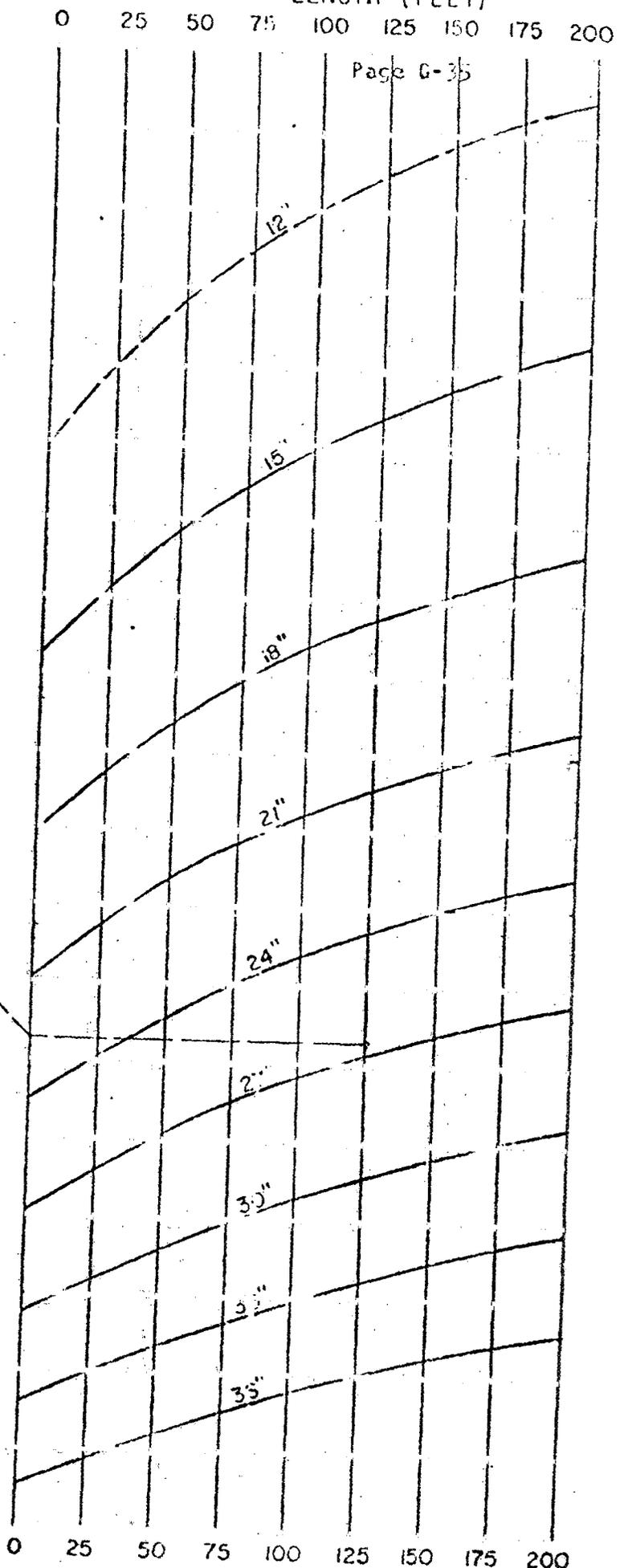
LENGTH (FEET)

Page G-35



$$Q = A \sqrt{2gH} \sqrt{1.2 + \frac{0.021L}{D^2}}$$

EXAMPLE  
H=1.0, Q=20, L=125  
USE D=27"



OFFICE STANDARD NO. 108

800	700	600	500	400	300	200
100	80	70	60	50	40	30
20	10	8	6	5	4	3
2	1	1	1	1	1	1

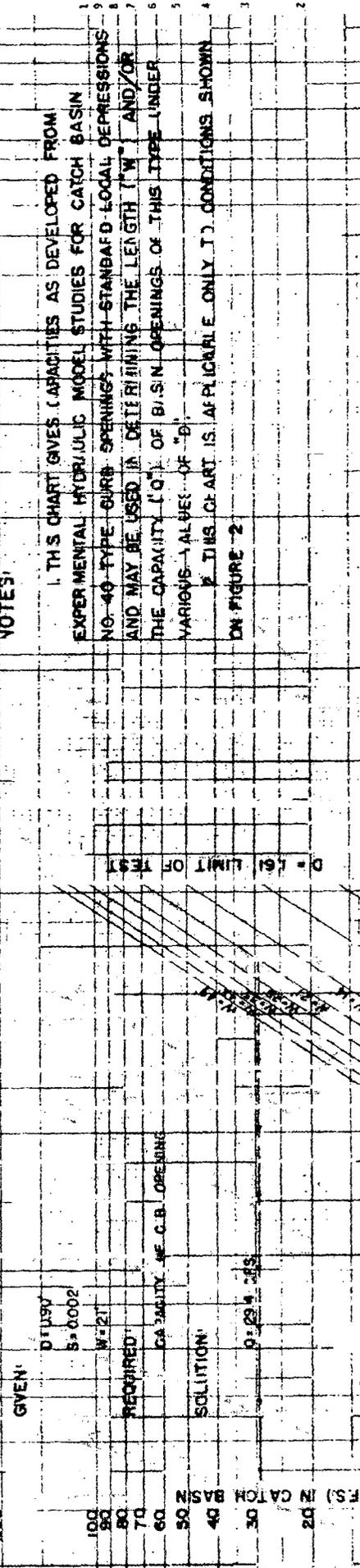
**CATCH BASIN FORMULA**  
 STREET SLOPE =  $D/100$   
 $Q = CM^2 \cdot D^3$   
 $C = 3.02$   
 $W = \text{LENGTH OF C.B. OPENING}$   
 $D = \text{DEPTH OF FLOW}$

**EXAMPLE**

**GIVEN:**  
 DISCH.  $Q = 294 \text{ CFS}$   
 $S = 0.002$   
 $W = 21$

**REQUIRED:**  
 CAPACITY OF C.B. OPENING

**SOLUTION:**  
 $Q = 294 \text{ CFS}$



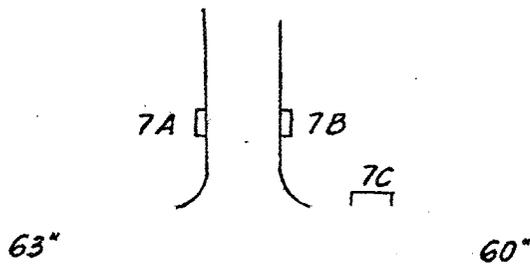
Inlet #6C      Q = 11.6    W = 21    L = 10

From Figure Use 18" Pipe

Inlet #6D      Q = 11.6    W = 21    L = 50

From Figure Use 18" Pipe

Randolf and Caspian



Flow in Randolf  
 - nuisance flow  
 Use W = 3.5'

Flow along Caspian  
 - Flow contributed by Area 7  
 = 24 cfs

Since the area is 3 blocks long and the area is very flat we will assume that  $T_c$  is about equal to the system  $T_c$  - but we should actually calculate it

$nS = .0015$

1/2 flow on each side = 12 cfs

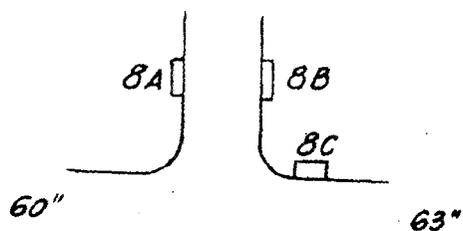
D = .67

W = 14' each Basin

Approx $\bar{E}$ Gutter	80.5
Freeboard	- .5
W. S.	<u>80.0</u>
HGL	- 78.6
Available Head	<u>1.4</u>

Inlet #7A	Q = 12	W = 14	L = 40	18" pipe
Inlet #7B	Q = 12	W = 14	L = 65	21" pipe
Inlet #7C	Q = 0	W = 3.5	L = 15	18" pipe

Randolf and Baltic



$Q = 5.1$   
 $S = .0016$   
 $D = .50$   
 $W = 7'$  Each Side

Flow in Randolf  
 - nuisance flow  
 $W = 3.5'$

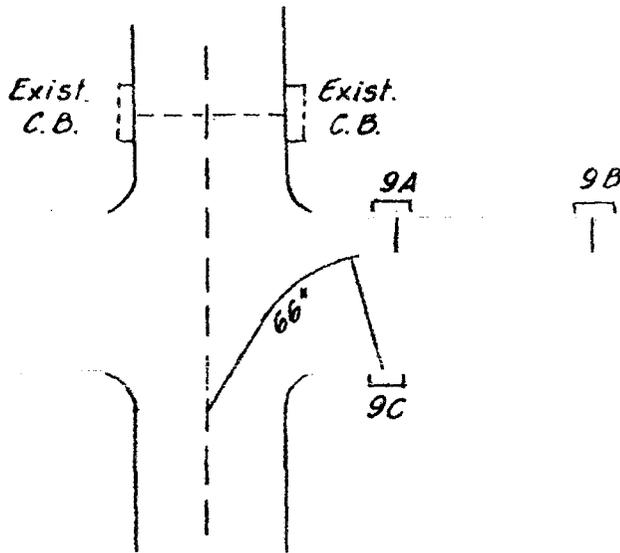
Flow along Baltic

$A = 6.8$  Ac  
 Fall =  $83 - 79.9 = 3.1$   
 $L = 900$   
 $T_c = 18$   
 $I = 2.02$   
 $C = .74$   
 $Q = 10.2$  cfs (5.1 cfs each side)

Gutter Elev =	80.0
Freeboard	<u>0.5</u>
W. S.	79.5
HGL - Main Line	<u>78.0</u>
Available Head	1.5'

Inlet #8A	$Q = 5.1$	$W = 7$	$L = 45$	18" Pipe
Inlet #8B	$Q = 5.1$	$W = 7$	$L = 45$	18" Pipe
Inlet #8C	$Q = 0$	$W = 3.5$	$L = 15$	18" Pipe

Randolf at Grand



A = 15 Ac  
 B Soil - Commercial  
 Fall = 83 - 79 = 4'  
 L = 1000  
 T<sub>c</sub> = 14.2  
 l = 2.30  
 c = .76

$$Q = .76(2.30)(15) = 26.2 \text{ cfs}$$

Flow in Randolf

$$Q = 26.2 \text{ cfs}$$

$$S = .0015$$

$$K = \frac{Q}{S^{\frac{1}{2}}} = \frac{26.2}{.039} = 670$$

D = .71 (Both Sides Flooded)

Try a mid block inlet

$$Q = 13.1$$

$$S = .0015$$

$$K = \frac{13.1}{.039} = 335$$

D = .70 but Max K (on side) = 260 (Q = 8.7 cfs)

Allow overflow to south side at both locations

- (9B) W = 7' Q = 8.2 cfs Bypass = 13.1 - 8.2 = 4.9 cfs  
 (9A) W = 10 Q = 11.0 cfs Cap. but only 8.7 cfs is available  
 Bypass 13.1 - 8.7 = 4.4 cfs  
 (9C) Total Q = 4.9 + 4.4 = 9.3 cfs

$Q > 8.7$  cfs  $\therefore$  South Side is full

$D = .7$

$W = 10$  ft

Inlet #9A	$Q = 8.7$	$W = 10$	$L = 20$	18" Pipe
#9B	$Q = 8.2$	$W = 7$	$L = 15$	18" Pipe
#9C	$Q = 9.1$	$W = 10$	$L = 40$	18" Pipe

Gutter Grade	=	79.2
Freeboard		0.5
W.S in basin		<u>78.7</u>
HGL		<u>77.0</u>
Available head		1.7

Recheck Hydraulics

Discussion

When this HGL is plotted it is obvious that it is too high. This will then require larger Basin Connector pipes

For example Inlet #7B took a 21" Connector

Now the	Gutter =	80.5	$\left. \begin{matrix} Q = 12 \text{ cfs} \\ L = 65 \\ W = 14 \end{matrix} \right\}$ Previous
Freeboard	-	.5	
W.S in Basin		<u>80.0</u>	
HGL		<u>79.4</u>	
Available Head		<u>0.6'</u>	

Revised diameter 24"

As an alternative the mainline pipe size may be changed

Since the 66" stub exists - not much can be done between Grand and Baltic

However the size may be increased between Baltic and Delta.

**ENGINEERING SERVICES - HYDRAULICS SECTION**  
**HYDRAULIC CALCULATION SUMMARY SHEET**

Co., Rte., P.M.

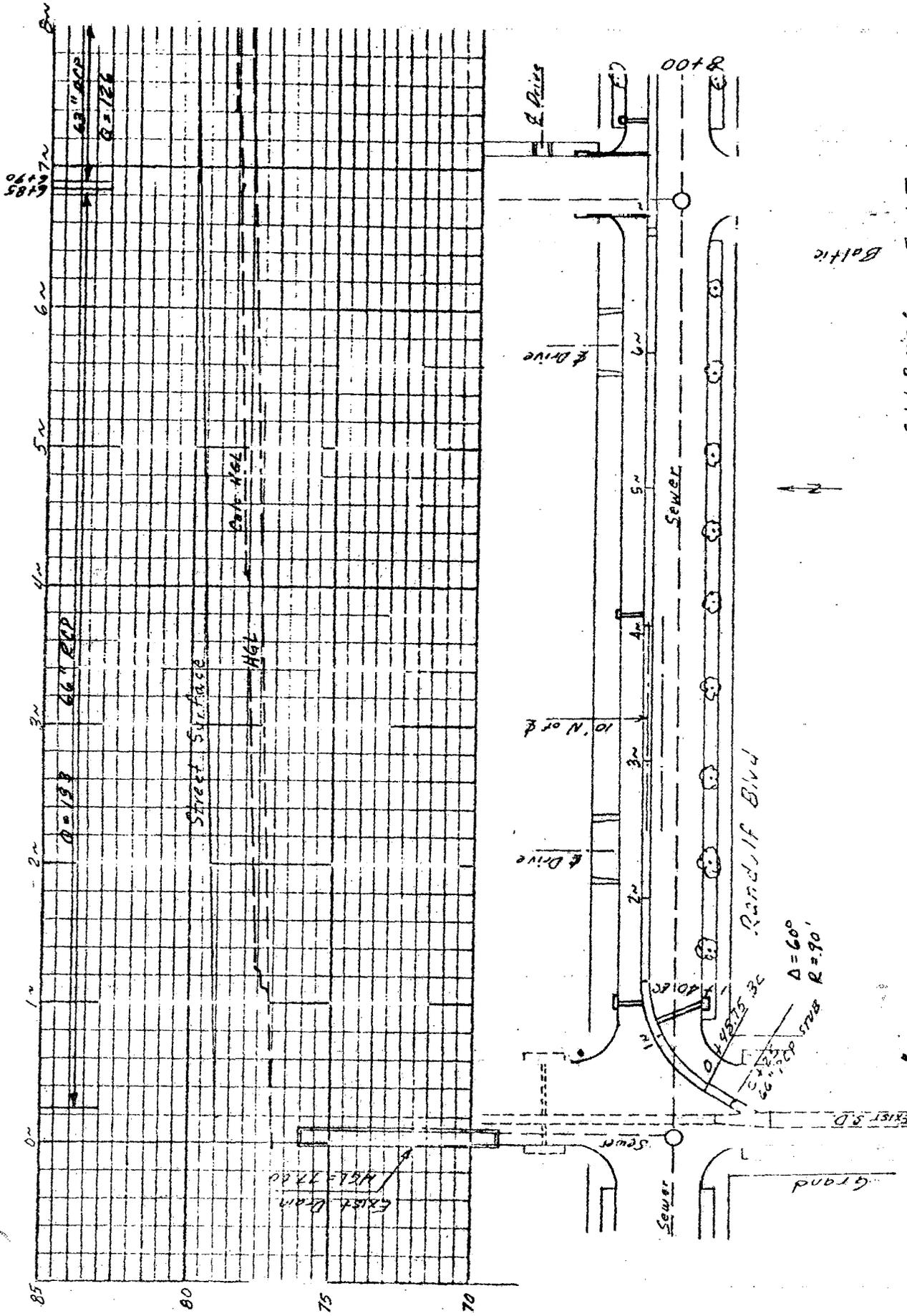
E.A.

Sheet

of

Station	Inv. Elev.	D	H.G.	Sect.	A	K	Q	V	h <sub>v</sub>	E.G.	S <sub>f</sub>	Ave. S <sub>f</sub>	L	h <sub>f</sub>	Date		E.G.
															h <sub>a</sub>	h <sub>b</sub>	
Manning's n																	
Calc. Chk																	
Location																	
Sta																	
0+05	69.50	7.50	77.00	66" Ø	23.76	36.37	151	6.35	0.63	77.63	.00172	.00172	40	.07			77.63
0+15			77.07	"	"	"	"	"	"	77.70	.00172	.00172	65	.11			77.70
1+10			77.18	"	"	"	"	"	"	77.91	.00172	.00172					77.91
1+10			77.38	"	"	"	145	6.10	0.58	77.96	.00159	.00159	15	.02	.05		77.96
1+25			77.45	"	"	"	"	"	"	78.03	.00159	.00159					78.03
1+25			77.55	"	"	"	139	5.85	0.53	78.08	.00146	.00146	15	.02	.05		78.08
1+40			77.61	"	"	"	"	"	"	78.14	.00146	.00146	265	.39			78.14
4+05			78.00	"	"	"	"	"	"	78.53	.00146	.00146					78.53
4+05			78.09	"	"	"	133	5.60	0.49	78.58	.00134	.00134	280	.38			78.58
6+85			78.45	"	"	"	"	"	"	78.96	.00134	.00134	5	.09	.02		78.96
6+90			78.39	63" Ø	21.65	32.13	"	6.15	0.59	78.98	.00172	.00172	10	.00			78.98
7+00			78.39	"	"	"	"	"	"	78.98	.00172	.00172					78.98
7+00			78.44	"	"	"	130	6.01	0.56	79.00	.00164	.00164	40	.07			79.00
7+40			78.51	"	"	"	"	"	"	79.07	.00164	.00164					79.07
7+40			78.58	"	"	"	126	5.82	0.52	79.10	.00154	.00154	20	.03			79.10
7+60			78.61	"	"	"	"	"	"	79.13	.00154	.00154					79.13
7+60			78.61	"	"	"	"	"	"	79.13	.00154	.00154					79.13
10+00			78.98	"	"	"	"	"	"	79.50	.00154	.00154	240	.37			79.50
10+05			78.88	60" Ø	19.63	28.21	"	6.43	0.64	79.52	.00200	.00200	5	.01	.02		79.52
10+20			78.91	"	"	"	"	"	"	79.55	.00200	.00200	15	.03			79.55
10+20			79.14	"	"	"	114	5.82	0.52	79.66	.00166	.00166	20	.03			79.66
10+60			79.17	"	"	"	"	"	"	79.69	.00166	.00166					79.69
10+60			79.38	"	"	"	102	5.20	0.42	79.80	.00132	.00132	30	.04			79.80
10+90			79.42	"	"	"	"	"	"	79.84	.00132	.00132	0	0			79.84
10+90			79.42	"	"	"	"	"	"	79.84	.00132	.00132					79.84
13+40			79.75	"	"	"	"	"	"	80.17	.00132	.00132	250	.33			80.17
13+40			80.11	51" Ø	14.19	18.29	71	5.01	0.39	80.50	.00152	.00152					80.50

7-EH-537 AUG 70

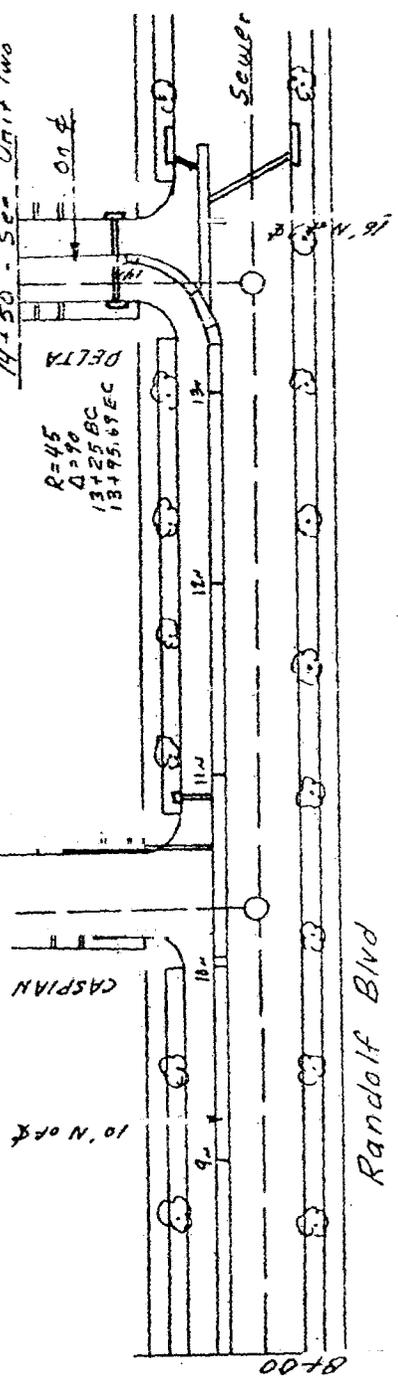
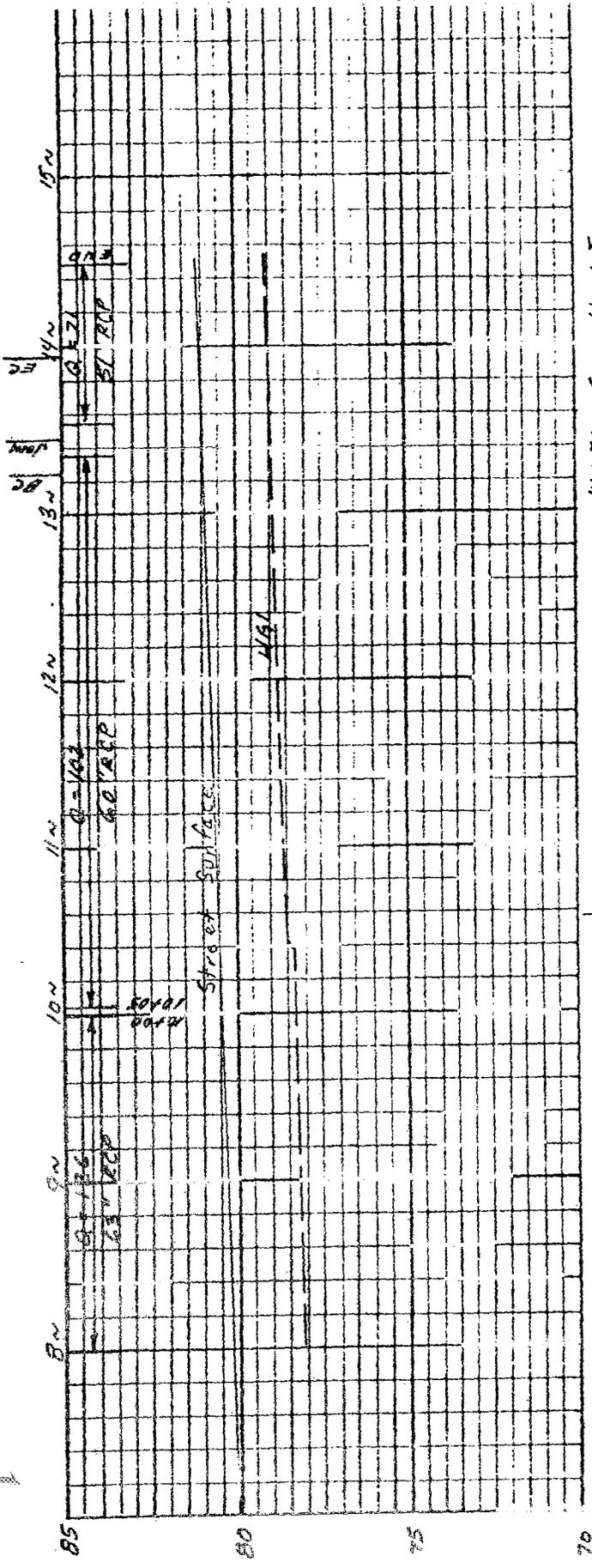


Baltic

Catch Basins for First Trial

DELTA DRAIN Unit One

Calc	Date	Checked	Date	Scale 1"=100'	Sheet 1 of 2
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Catch Basin for First Trial

Delta Drain Unit One

Calc	Date	Checked	Date	Scale 1"=100'	Sheet 2 of 2
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**Appendix J-6**

**SOILS REPORT REQUIREMENT & GUIDELINE  
NOTICE TO BUILDERS, DEVELOPERS & CONTRACTORS**

**ENGINEER'S SOIL REPORT AND TESTING DATA IN RELATION TO CITY CODE  
REQUIREMENTS**

Soils Report requirement for building in Calexico are required as follows:

1. For Single Family Residential:

For single story, single family residential projects a soils report is not required as long as foundations conform to Calexico City Code and U.B.C. section 29. A soils report is required for all two-story residential projects.

A soils report prepared by qualified geotechnical engineer may be accepted if it addresses all of the following:

- A. Bearing value
- B. Liquefaction
- C. Expansive soils conditions
- D. Footing confinement
- E. Settlement – Report must have soils borings, with one boring  
minimum 15' deep, test results, test procedures and boring location.

Report must be site specific.

2. For all other uses:

All soils report described in item (1) is required or all buildings over 1,000 sq. ft. if one-story and for all multi-story.

If soils report is not required, foundation work must conform to city code.

# STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

1997 Edition

*Promulgated By:*

**AMERICAN PUBLIC WORKS ASSOCIATION**  
Southern California Chapter

**ASSOCIATED GENERAL CONTRACTORS OF CALIFORNIA**  
Southern California Districts

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Appendix J-7A

Page 2 of 2

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

# STANDARD PLANS



**JULY 1992**

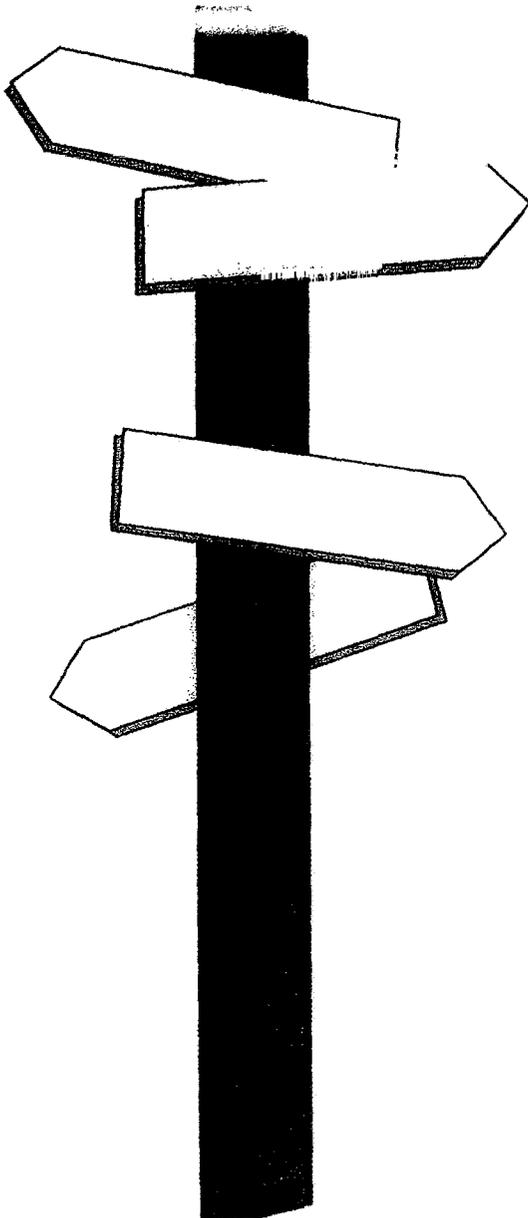
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STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**STANDARD  
SPECIFICATIONS**  
JULY 1999



*Ref. Use Latest Edition*



# **CITY OF CALEXICO**

## **INSTALLATION OF STOP SIGNS AND STREET NAME SIGNS REQUIREMENTS**

**Document Prepared  
By the  
Public Works/Engineering Department**

## SPECIAL PROVISIONS

### INSTALLATION OF STOP SIGNS AND STREET NAME SIGNS

The work to be done hereunder consists of furnishing and installing new stop signs, street name signs and posts and do all necessary work to achieve the intent of work as shown on these Special Provisions. All work shall conform to the provisions in Section 56, "Signs" of the State Standard Specifications, State Standard Plans and these Special Provisions:

Sign panels shall be heat-treated, high tensile aluminum alloy 5052H38 with 0.125 inch thickness and 9 inches in height. No re-cycle material shall be used. Depending on the street name sign messages, the length of signs shall range from a minimum of 30 inches to 42 inches in 6" increments. Sign legend shall include the name of the street with proper suffix, ordinal, block number and City Logo. Reflective sheeting material for sign face shall be blue color with 3M Company Diamond Grade VIP, Type B sheeting. Reflective sheeting shall be covered with 3M Company 1160 protective film. Contractor shall furnish the City with a written guarantee of sign reflective sheeting workmanship and an effective reflective life of 10 years. Each sign panel shall be wrapped in individual plastic bag.

Sign fastening hardware shall be vandal-proof type. The bottom of the lower pair of signs shall be at a minimum clearance of 8 feet from sidewalk or unpaved area. When stop sign is mounted below the lower pairs of street name signs, the bottom of the stop sign shall be at a minimum clearance of 7 feet from sidewalk or unpaved area. A sample of street name sign is available for viewing at Public Works Department in City Hall.

Contractor shall remove existing to be replaced stop signs, street name signs and posts and deliver them to the City Yard. Removed items shall be neatly stacked in a location identified by the Field Services Supervisor. Prior to removing existing sign posts, existing concrete sidewalk surrounding the posts shall be cut with an abrasive type saw. Saw cuts shall be neat and true along the Engineer's approved score lines. The vacated sidewalk area shall be backfilled with concrete. Contractor shall furnish and install new stop signs, street name signs and posts as listed on the Sign Location List.

#### **B. BREAKAWAY SIGN SUPPORT POSTS**

Breakaway sign support posts, shall be Caltrans approved type. Posts shall be 2" x 2" square tube formed of 12 gauge (0.105 U.S.S. gauge) steel corner welded. Each post shall have a minimum length of 12 feet for mounting both street name and stop signs or 10 feet in length for mounting street name signs only. Both the interior and exterior of posts shall be hot-dipped galvanized steel. The top of each sign support post shall be closed with a rain cap.

Driveable one-piece sign support sleeves and anchors for concrete sidewalk areas shall be one-piece 2½" x 2½" x 1.5 feet long and 2¼" x 2¼" x 2.5 feet long respectively. For areas without concrete surface, both the anchors and sleeves shall also be encased in 12" x 36" concrete foundation. Each sleeve and anchor shall have mounting holes on four sides ¾" down from the top. Both sign support sleeves and anchors shall be fabricated in the same a manner as described for the sign support posts. Both interior and exterior of posts shall be hot-dipped galvanized steel. Sign post mounting hardware shall be vandal-proof type. Existing traffic signs, if any, shall be re-installed on the new posts.

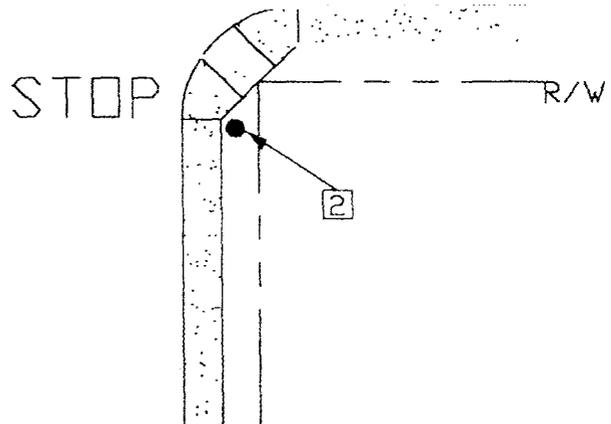
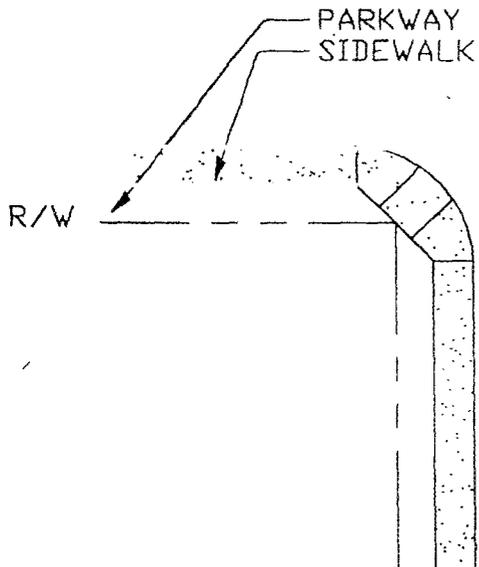
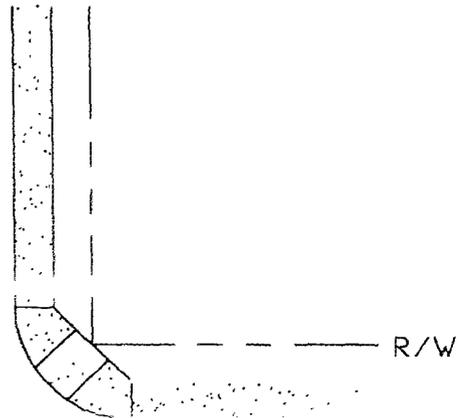
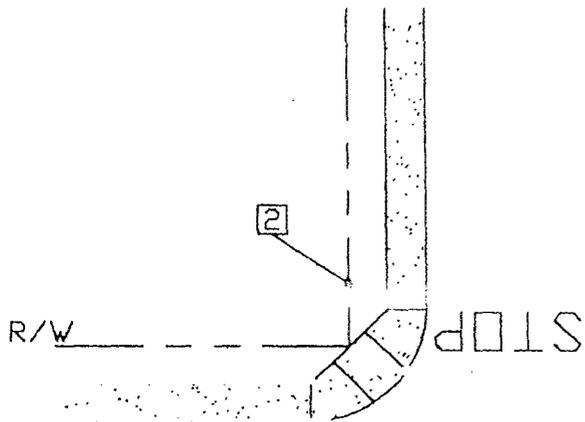
For concrete sidewalk surface, a 6" x 30" round hole shall be neatly cored where post support anchor and sleeve are to be installed. Install and center in the anchor a 4" long #4 reinforcing bar in one of the holes a minimum of 1 foot below furnished surface. Following the installation of the anchor, backfill the hole with 520-C-2500 portland cement concrete. Slightly overfill the hole to minimize water intrusion and finish the concrete to match the surrounding surface.

For soil installation, a 12" x 30" hole shall be excavated where the post support anchor and sleeve are to be installed. Install and center in the anchor a 6" long #4 reinforcing bar in one of the holes a minimum of 1 foot below finished surface. Following installation of the anchor, backfill the hole with 520-C-2500 portland cement concrete. Slightly overfill the hole to minimize water intrusion and float the surface smooth.

All new poles shall be installed exactly vertical. Any installation not performed to the satisfaction of the City shall be removed and replaced at no additional expense to the City of Calexico.

### **C. STOP SIGNS**

"STOP" signs shall be 30" type with 3M Company Diamond Grade VIP Type A reflective sheeting. Reflective sheeting shall be covered with 3M Company 1160 protective film. Sign panels shall be heat-treated high tensile aluminum alloy 5052H38 or 6061-T with 0.08 inch thickness.



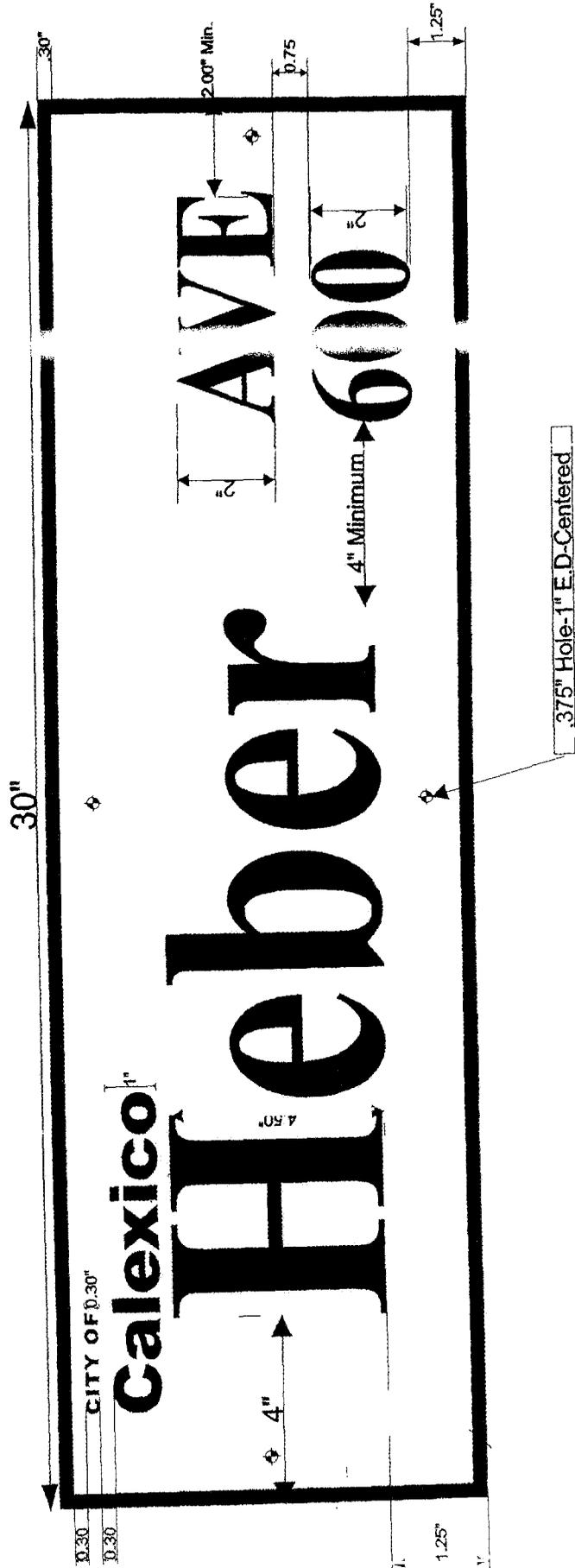
CITY OF CALEXICO

STREET NAME AND STOP SIGN LOCATIONS.

NOTES:

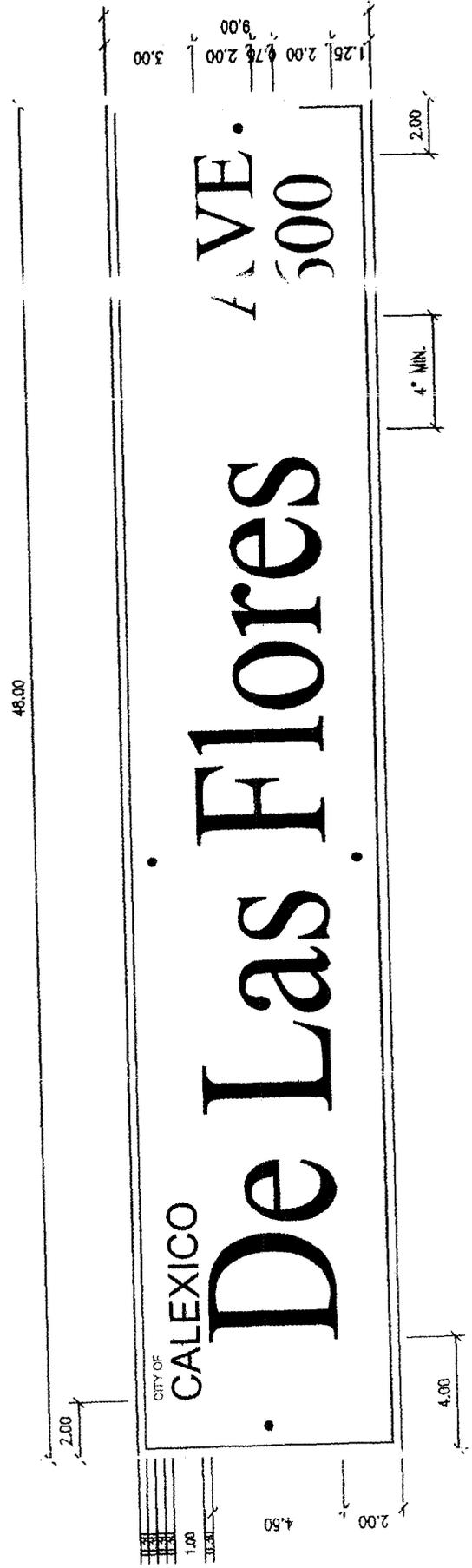
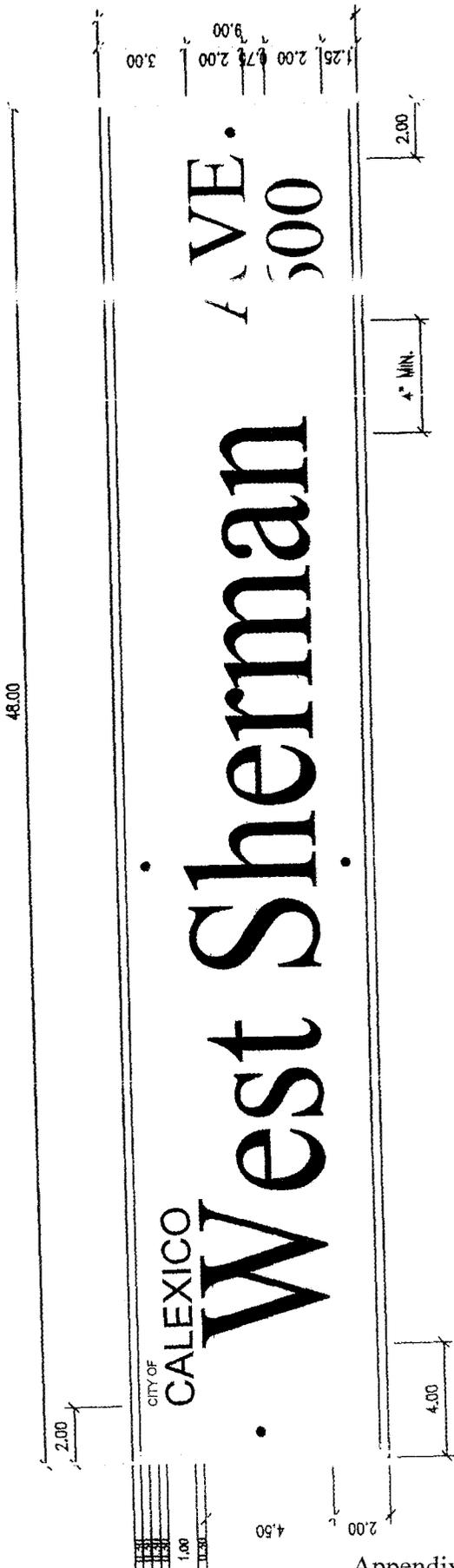
- 1 STOP SIGN LOCATIONS SHALL BE DETERMINED AND APPROVED BY THE CITY TRAFFIC ENGINEER
- 2 INSTALL POLE NEXT TO SIDEWALK

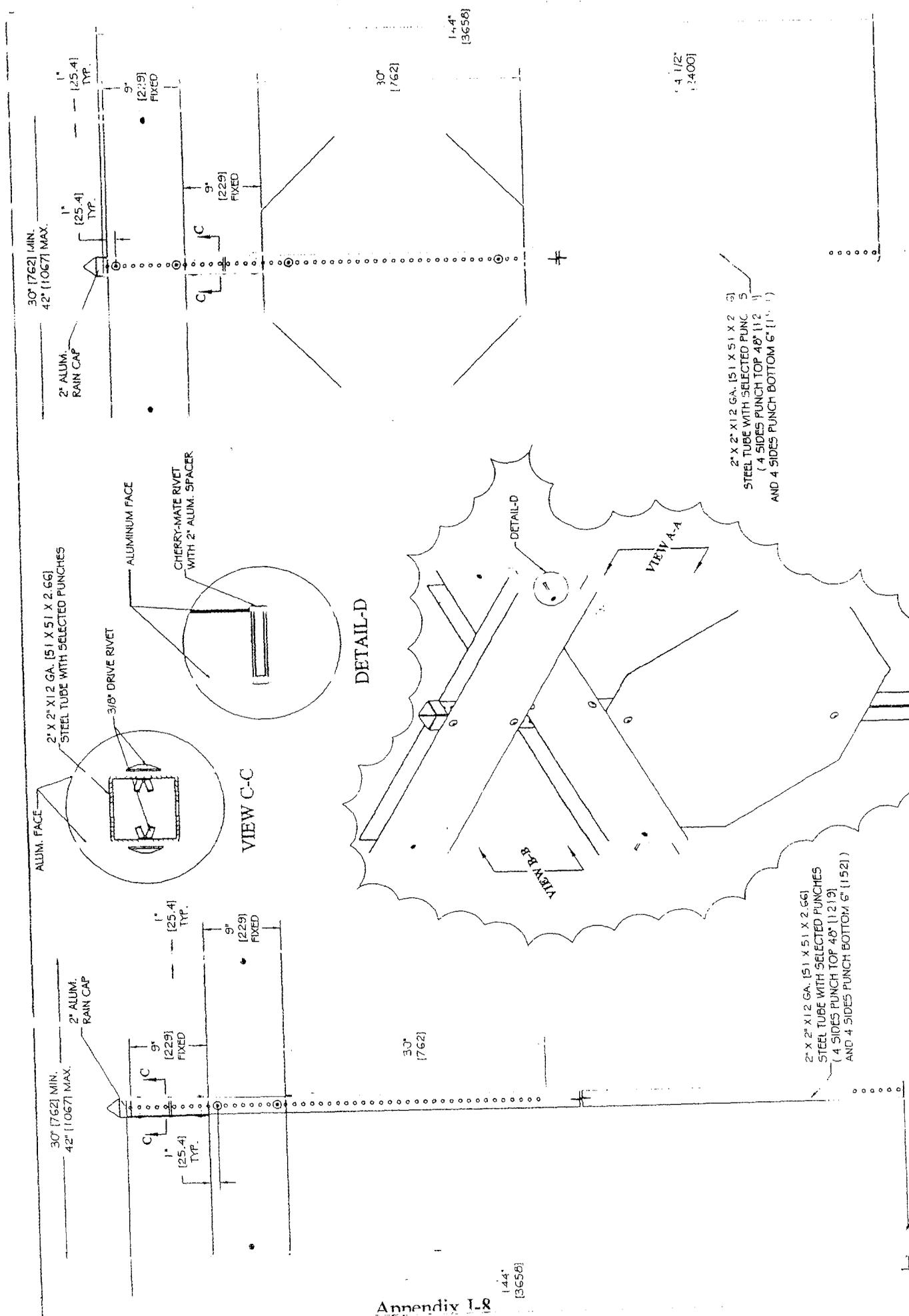
.125 5052 H38  
 3M 3990 VIP White Sheeting-Border and Text  
 3M 883 Blue Ink-Background  
 3M1160 Premium Overlay Film

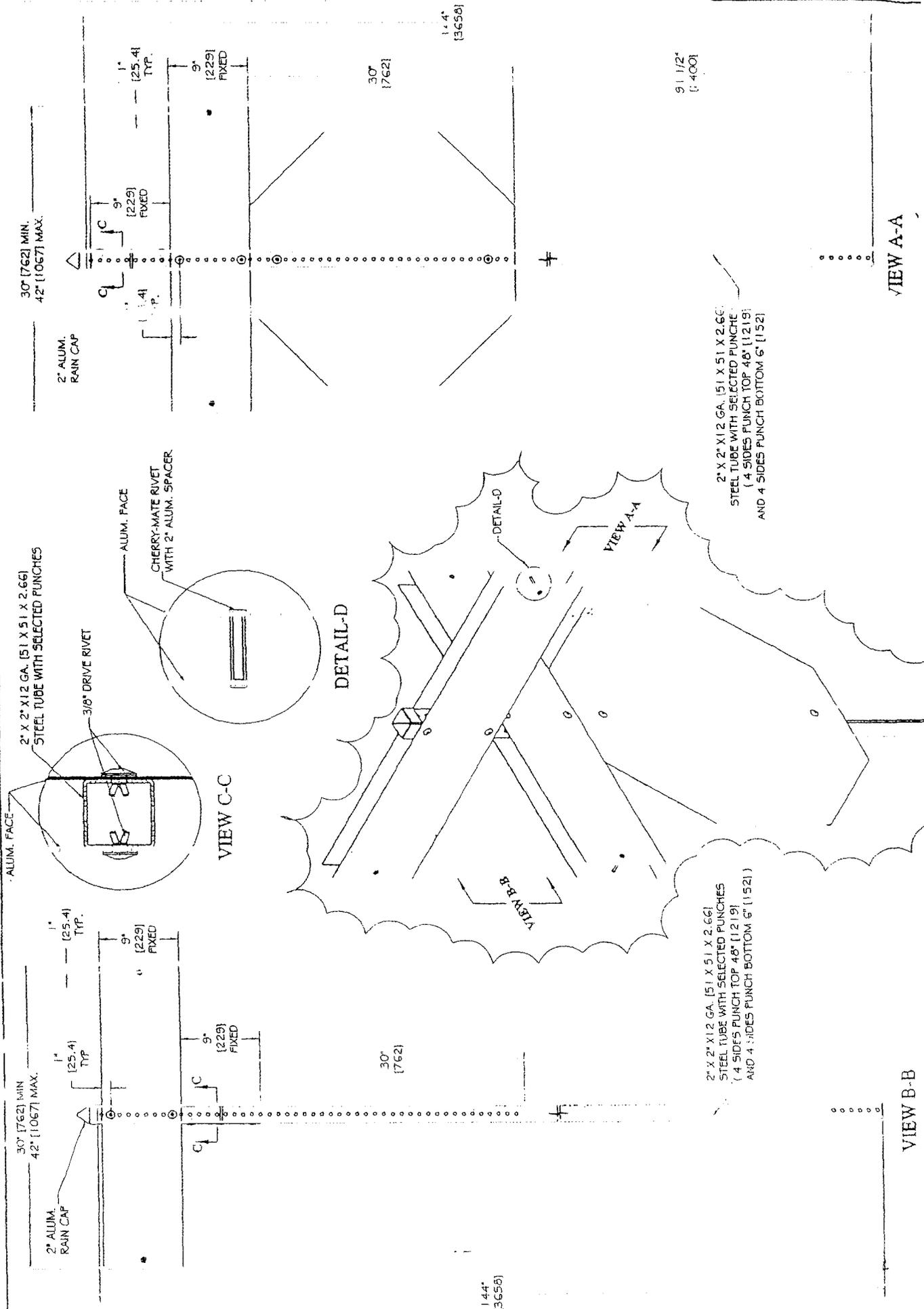


Logo-Arial  
 Legend/Suffix/Blk #-Times New Roman-Bold-85%









30" (762) MIN.  
42" (1067) MAX.

2" ALUM.  
RAIN CAP

2" X 2" X 12 GA. (51 X 51 X 2.66)  
STEEL TUBE WITH SELECTED PUNCHES

3/8" DRIVE RIVET

ALUM. FACE  
CHERRY-MATE RIVET  
WITH 2" ALUM. SPACER

ALUM. FACE

30" (762) MIN.  
42" (1067) MAX.

2" ALUM.  
RAIN CAP

2" X 2" X 12 GA. (51 X 51 X 2.66)  
STEEL TUBE WITH SELECTED PUNCHES  
( 4 SIDES PUNCH TOP 48" (1219)  
AND 4 SIDES PUNCH BOTTOM 6" (152) )

3/8" DRIVE RIVET

ALUM. FACE  
CHERRY-MATE RIVET  
WITH 2" ALUM. SPACER

30" (762)

30" (762)

30" (762)

1.4" (3658)

1.4" (3658)

9 1/2" (2400)

2" X 2" X 12 GA. (51 X 51 X 2.66)  
STEEL TUBE WITH SELECTED PUNCHES  
( 4 SIDES PUNCH TOP 48" (1219)  
AND 4 SIDES PUNCH BOTTOM 6" (152) )

2" X 2" X 12 GA. (51 X 51 X 2.66)  
STEEL TUBE WITH SELECTED PUNCHES  
( 4 SIDES PUNCH TOP 48" (1219)  
AND 4 SIDES PUNCH BOTTOM 6" (152) )

VIEW A-A

VIEW B-B

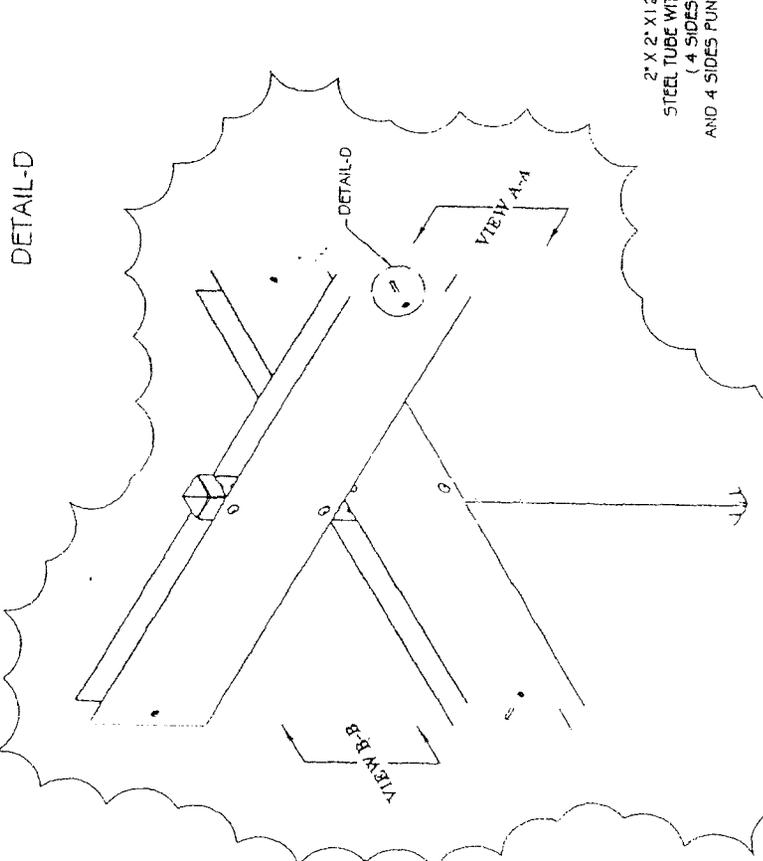
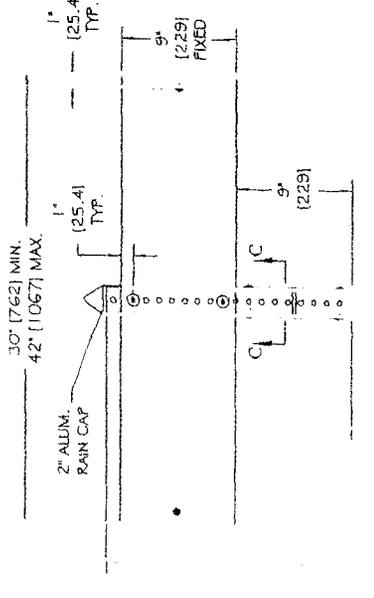
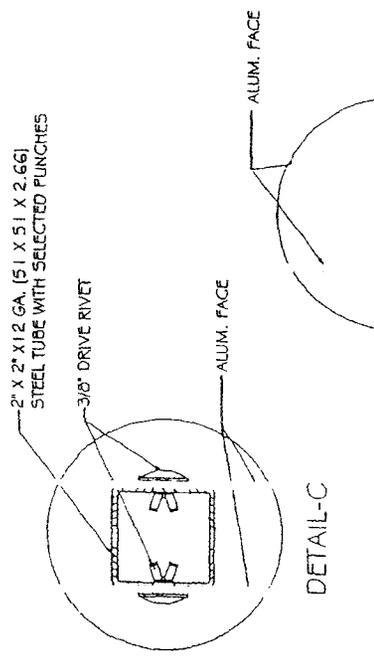
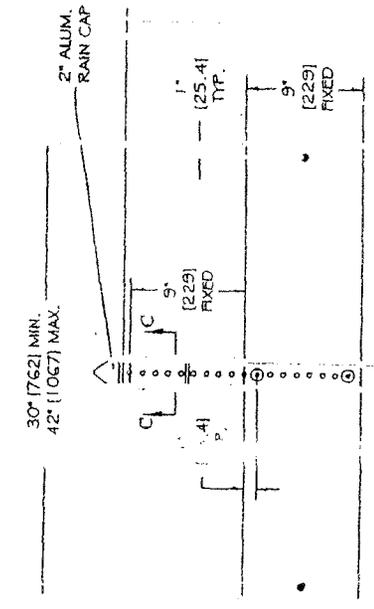
VIEW C-C

DETAIL-D

VIEW B-B

VIEW A-A

DETAIL-D



2" X 2" X 12 GA. (51 X 51 X 2.66)  
STEEL TUBE WITH SELECTED PUNCHES  
( 4 SIDES PUNCH TOP 18" (457)  
AND 4 SIDES PUNCH BOTTOM 6" (152) )

VIEW A-A

VIEW B-B

# City of Calexico CAD Submittal Standards

Pursuant to the goals of serving the citizens of Calexico, the City of Calexico is actively pursuing a program of computerized construction related documents. In general terms, this document describes the requirements for CAD related drawings, the required accompanying documentation, and the form and format of the electronic data.

The intent of these standards is two-fold; first to not jeopardize the efficiency of the consultant's internal drawing development methods by imposing overly ambitious CAD standards; and second, to provide a set of documents that are consistent with the needs of the City for management and future construction.

At no time during the project life will electronic drawings be used as approved documentation. Only hard copies signed, dated, and stamped by the appropriate professional will be used for approval purposes.

## The Basics

### Purpose

This Standard has been developed for all building, land, and infrastructure disciplines and is intended for all architects, engineers, contractors, Computer Aided Design (CAD) operators, customers, and associates (hereafter referred to as "Applicant") involved in the creation and revision of drawings submitted to the City of Calexico. It sets mandatory, procedures for CAD drawings submittals. Adherence to the Standard allows for the intelligence contained within the drawings to be readily transferred to the data systems used by the City of Calexico.

Drawing templates and information files are available for download at <http://www.calexico.ca.gov>. From this website go to "Departments", then go to "Engineering", then to "Forms".

The purposes of this CAD standard are as follows:

- Consistent Drawings
- Source of data for City of Calexico Departments
- Operation and maintenance data
- Record drawings for future improvements

### Applicability

These standards are applicable to all drawings submitted to the Engineering Department in the City of Calexico.

### Accuracy

Applicants are responsible for the accuracy of all CAD drawings delivered to the City of Calexico. For all drawing entities all lines meet at intersections, straight lines are straight, and

blocks are inserted properly without overlap. At its discretion, the City of Calexico may provide contractors with existing CAD drawings for convenience.

Applicants will apply the appropriate state plane projection to all plan documents.

## **Ownership**

The City of Calexico, for itself and such others as it deems appropriate, will have unlimited rights to all information and materials submitted to the City. This includes any documentation thereof, reports and listings, and all other items pertaining to the work and services. Unlimited rights under this clause are rights to use, duplicate, or disclose data and information, in whole or in part, in any manner and for any purpose whatsoever without compensations to or approval from the contractor. The City will, at all reasonable times have the right to inspect the work and will have access to and the right to make copies of the above-mentioned items. All digital files, associated data, and other products submitted shall become the property of the City of Calexico.

## **File Formats**

### **Drawings**

All drawings shall be drawn and created using the current version of Autodesk products used by the Engineering Department including but not limited to Civil 3D and associated Autodesk Land Development Desktop software. All drawings shall be readable in native \*.DWG files. The City of Calexico shall not accept any drawing in the Drawing Interchange Format (DXF) or any other format. Being “readable” is constituted by the ability to open a file without any errors, such as proxy, font substitution, xref resolution, etc., and the objects, layers, etc. in the file remaining intact. The applicant shall be responsible for software and data upgrades throughout the contract lifecycle.

### **Other Formats**

Other Graphics may be submitted in \*.TIF, \*.GIF, \*.JPG, \*.PDF or \*.BMP file format only. This option is intended for photos, conceptual sketches, etc., and not as an indication that raster file drawings will be accepted in lieu of Autodesk files. When a hard copy drawing in the drawing set includes photographs or other images the electronic file submission shall include a corresponding Autodesk \*.DWG sheet file containing these raster images as xrefs or embedded files.

Specifications, calculations, and reports pertaining to associated projects shall be delivered in MS Word or .PDF format.

## **Drawing Files**

### **File Names**

Electronic drawing file names shall contain the sheet number they represent, i.e. C2.0.DWG.

## Layer Names

It is up to the Applicant to determine the layer naming standard used in the drawing file. It is the responsibility of the Applicant to ensure that the layer naming system adopted for the project remain consistent and logical for the duration of the project.

At the minimum, colors for layers shall be “BYLAYER” and linetype for layers shall be “BYLAYER”.

## Additional Drawing Requirements

**Attributes** – Attributes may be used to store data in the drawing. Do not use attributes to store large amounts of data (greater than 10% of drawing size) or types of data that are better stored in external databases. The City of Calexico requires the use of an attributed title block.

**Blocks** – Any graphic entity that occurs repeatedly in drawings should be made into a block. Attributes contained within a block should pertain to the current project. Insertion points for each block shall be consistent with its placement in the drawing. Use logical insertion points such as the center of a circle, bottom left corner of an object, etc. Keep names simple and descriptive. Purge all unused blocks from the drawing. Nested blocks are permitted but should be avoided whenever possible. Draw objects used to create blocks on layer 0 so the block inherits the properties of the layer on which it is inserted. Do not insert blocks on layer 0 (zero). When submitting drawings, no objects will be on layer 0 (zero) unless otherwise specified. Blocks shall not be exploded.

**Dimensioning** – All dimensions shall update automatically when the distance they are measuring changes (associated dimensioning).

**Drawing limits** – Do not set the limits any larger than necessary to accommodate the drawing. No entities shall be located outside the drawing limits.

**Drawing origin** – For building plans, organize drawings in model space so that the lower left intersection of the outermost column lines that remain constant on most floors is placed at 0,0,0. In order to ensure proper insertion of xrefs and the stacking of floor plans, the origin point for an entire building must be consistent between model files. Once the origin is established, it cannot be changed. For sheet files, place the lower left corner of the sheet at 0,0,0.

For site, land and infrastructure drawings, organize drawings in model space so that it is aligned with the appropriate state plane grid, GPS data point, or bench mark.

**Graphic standards** – Drawing standards and symbology shall be in accordance with the American Public Works Association, or California Department of Transportation. The *U.S. National CAD Standard* is also a good reference for drawing symbols, details, and guidelines.

**Hatching** – Do not use polylines with increased width for poché or hatching. All hatching shall be associative.

**Key Plan** – A key site plan should be drawn whenever appropriate.

**Layers** – See “Layer Name” discussion above.

**Layer colors** – All entities shall be assigned color by layer.

**Line types** - Contour lines, dashed lines, and other fonted lines shall be made of one continuous line segment, not a series of separate line segments. Use of toned or pochéd lines are acceptable for distinguishing between various types of work, such as new from existing, phase 1 from phase 2, or background plans. Curved entities such as circles, arcs, and ellipses shall be created of one continuous line segment, the exception being entities that have to be physically constructed in a segmented fashion. These may be segmented to represent the joints in the actual construction.

**Line weights** – See sample “Line Weight” discussion.

**Scale** – Create drawing entities at full size. For example, a 60 foot roadway will be drawn to 60 feet and a 1 foot column will be drawn to 1 foot. Drawings considered schematic in nature can be drawn to any scale. Some examples of schematic drawings are schedules, riser diagrams, schematic diagrams, and single line diagrams. Drawings shall be readable when reduced to 11 x 17 (ledger) size.

**Plan drawings** – Create a separate sheet file for each drawing. Use sheet files to combine floor plans with non-plan information or multiple elevations. Do not combine several drawings such as elevations, sections, and details in one model file. When a site plan is too large to fit on a single sheet at the desired scale, use viewports in separate sheet files to show portions of the floor. DO NOT create individual model files for portions of a site.

**Title Blocks** – The City of Calexico requires the use of a standardized, attributed title block for each sheet file. Templates, blocks, and instructions are listed in the “Available Files” section and are available at (insert web address).

**Text and fonts** - Use only standard Autodesk product or Standard Microsoft Windows True Type fonts. The minimum plotted text size for all full size drawings shall be 0.1 inch. For clarity and presentation purposes it may be necessary to use other text sizes. Drawings shall be readable when reduced to 11 x 17 (ledger) size.

**Units** – Imperial units shall be the standard system of measurement for new facilities unless otherwise specified.

**Xrefs** – Xref is an Autodesk product for external reference, otherwise known as a background drawing. Xrefs help to organize drawing information, enhance coordination, and minimize redundant data. The xref path shall not include drives or directory designations and the xref is placed on layer 0. Document the relationship between drawing file and xref on the project documentation report and deliverables matrix. It is recommended that the sheet file and xref file reside in the same directory.

## Line Weight

Line weights are used to improve drawing readability. The table below shows some typical weights and their uses in construction drawings.

Line Weight	Line Weight	Description
Thin	0.18mm/0.007 in	Dimension leaders, dimension lines, object lines seen in the distance, and most patterns.
Medium	.025mm/0.010 in	Minor object lines, line terminators (arrowheads and ticks), hidden lines, and note leader lines.
Medium Thick	0.35 mm/0.014 in	Most object lines, text, schedule boxes, and charts.
Thick	0.50 mm/0.020 in	Minor title underlining, title text, object lines requiring special emphasis.
Extra Thick	0.70 mm/0.028 in	Use sparingly for underlining titles and separating portions of drawings, elevation grade lines, building footprints, and top of grade markings.
Optional	1.00 mm/0.040 in	

## Deliverable Requirements

### Deliverable Preparation

All drawing files shall be submitted to the City of Calexico on CD or data DVD, all files shall be free of viruses using the latest version of virus cleaning and scanning software. Drawing shall be saved with index of all drawing number, file name, drawing title, including the similar information for all Xref files, and blocks used. If a CD-R is to be used, the CD-R shall be written in a single-session (closed) format, using an ISO9660 file system.

All submitted electronic media shall be clearly labeled with the project name, consultant name, date of submittal, and list of data files. If a CD-R is submitted, this information shall be recorded on both the case and disk. Labels shall be firmly attached to diskette or CD.

In addition, the CD or DVD shall contain a folder containing files for each sheet with all xreferences binded.

All drawing files shall undergo the following checks prior to submission:

<b>Digital File Deliverable Check List</b>	
<input type="checkbox"/>	All filenames reference sheet name or number.
<input type="checkbox"/>	Verify that all entities outside the drawing limits are deleted.
<input type="checkbox"/>	Ensure that all blocks, layers, attributes, etc not referenced in the drawing are purged.
<input type="checkbox"/>	Verify that all xrefs are attached without drive or directory specifications.
<input type="checkbox"/>	Create separate file directory containing sheet files with xreferences binded.
<input type="checkbox"/>	Scan all files for viruses.
<input type="checkbox"/>	Check that all unused layout tabs are deleted.
<input type="checkbox"/>	All fonts and pen tables are included.
<input type="checkbox"/>	Paper copies are signed, dated, and stamped by the appropriate professional.

## Drawing Settings

These settings should have the file open without error and sheet files ready to plot. Autodesk product commands and variables are to be set as follows.

<b>Command</b>	<b>Settings</b>
BASE	Insertion base point (0,0,0) with respect to the appropriate State Plane Grid
GRID	OFF
LAYER	Current Layer is 0
LIMITS	Off, drawing limits are set to drawing size
LINETYPE	Current entity linetype BYLAYER; current linetype CONTINUOUS
MENU	Standard Autodesk Autocad (acad.mnc)
POINT	Display mode 0, size 0.0
QTEXT	Off
SNAP	Off

TEXT	Style STANDARD
UCS	Set UCS to “World”
UCSICON	Set UCSICON to ON
UNITS	(linear) As appropriate for drawing
ZOOM	To drawing extents

## Available Files

### Files for Download

(see <http://www.calexico.ca.gov>)

### All Files for Download

All files, includes layer templates, title blocks, and others can be downloaded from <http://www.calexico.ca.gov>. From this website go to “Departments”, then go to “Engineering”, then to “Forms”.

## Suggestions for the Standards

The content of the manual is not intended to be static or all-inclusive, and thus will be updated and enhanced as appropriate. Suggestions for improvements are encouraged, so that subsequent updates reflect the needs of the City. Submit suggestions, as well as any pertinent new information that will enhances these standards to the Engineering Department.

To keep with current technologies, the City of Calexico reserves the right to update and enhance these standards. Every effort will be made to distribute these standards via the City’s web site.

**Appendix K**

**CITY OF CALEXICO**

**Traffic Study Requirements for the City of Calexico**

A traffic study is required if your project meets the following criteria:

- For residential projects, if 10 or more units are proposed.
- For non-residential projects, if the project generates 500 ADT or 50 peak hour trips.

If your project meets the above criteria, please provide the appropriate traffic analysis. Applicants must submit five copies of the study to the Planning Department Front Counter.

Manual turning movement counts and machine counts must be conducted within the past year. Counts older than 1 year will not be accepted. Due to seasonal traffic variations in Imperial County, traffic counts taken during the summer months (June through early September) shall be adjusted to reflect normal peak traffic conditions. In addition, heavy truck traffic volumes shall be forced into the traffic analysis for study intersections along Cole Road, Hwy 98 and Hwy 111.

The City has established a LOS C or better as a minimum acceptable Level of Service for both intersections and roadway segment, except for HWY 111 and HWY 98 locations. A LOS D or better shall be maintained for these State Highway locations. Level of Services (LOS) criteria is contained in the Circulation Element of the General Plan. LOS D is acceptable for HWY 111 and HWY 98 south intersections. LOS that drops below these thresholds will be considered a significant impact if the delay or volume threshold contained in the table below is exceeded:

LOS E	Signalized Int. Delay of 2 sec.	Un-signalized Int. 20 peak hour trips on a critical movement
LOS F	Delay of 1 sec., or 5 peak hour trips on A critical movement	5 peak hour trips on a critical movement

The intersection to be studied shall be determined based on the number of new peak hours trips anticipated to travel through the intersection. If 50 or more new peak hour trips are anticipated to travel through an intersection, this intersection must be included in the analysis.

There are three types of traffic analysis defined. The minimum level of analysis is a **Traffic Assessment Letter**. All projects that meet the above referenced criteria will

prepare a Traffic Assessment Letter. At the discretion of the City Traffic Engineer a **Focused Traffic Analysis** may be required to address site-specific issues. A **Traffic Impact Study** shall be required for Zone Changes and CUP's which increase trip generation, projects which identify significant immitigable impacts through lesser analysis, or at the discretion of the City Engineer.

A detailed description of the three types of analysis is as follows:

1. **Traffic Assessment Letter**

The Traffic Assessment Letter shall be prepared by the developer's traffic engineer or the City Traffic Engineer and at minimum shall include the following:

- Project description (land use, size, location, etc...)
- Location of access points
- Site Plan
- List of project area intersections.
- Existing lane geometry exhibit
- Existing peak hour turning movement counts (typically AM and PM, however Sat. or Sun. peak hour may be required).
- Existing ADT's (counted, not calculated).
- Trip generation table
- Trip distribution exhibit for proposed project
- Trip assignment exhibit for proposed project and each cumulative project.
- Capacity of existing street sections.
- Capacity of ultimate street sections.
- Segment analysis for each scenario based on Riverside County's "Link Volume Capacities/Level of Service for Riverside County Roadways" table.
- Intersection capacity analysis based on Highway Capacity Manual (HCM) methodology including (but not limited to) the following scenarios:
  - \* Existing Conditions
  - \* Existing + Near Term Cumulative Projects (growth factor may be required).
  - \* Existing + Near Term Cumulative Projects + Project. (Actual or HCM default peak hour factor must be used).
- A saturation flow rate of 1,800 vehicles/hour/lane shall be used.
- A peak hour factor 0.90 shall be used.
- Table impacts and significance.
- Recommendations for any mitigation required as a result of the proposed project.
- Case number of the project on the cover. This is necessary before the review of the traffic study may be started, and is obtained from the client once the project has been submitted to the City.

2. **Focused Traffic Analysis**

A Focused Traffic Analysis shall be prepared by the developer's traffic engineer or the City Traffic Engineer and shall include the items in the Traffic Assessment Letter. Additionally, the following items may be necessary:

- On site circulation analysis.
- Parking analysis.
- Gap analysis
- Queuing analysis
- Signal warrant analysis
- Sight distance analysis.
- Truck turning analysis.

3. **Traffic Impact Study**

A Traffic Impact Study shall be prepared by a City Consultant or the City Traffic Engineer. The study shall include the items in the Traffic Assessment Letter and select items in the Focused Traffic Analysis, as needed.

A buildout analysis (with and without project) based on a City of Calexico approved model will also be required.

## LIST OF AGENCIES

<b>Services</b>	<b>Company</b>	<b>Telephone No.</b>
Utility Referral	DigAlert	1-800-422-4133
Water	City of Calexico	(760) 768-2162
Water	Imperial Irrigation District	(760) 339-9380
Sewer	City of Calexico	(760) 768-2167 (760) 768-2168
Gas	Southern California Gas Co.	(800) 422-4133
Electricity	Imperial Irrigation District	(800) 303-7756 (760) 335-3640
Off-site Drainage	City of Calexico Engineering Dept.	(760) 768-2100
Railroad Maintenance		
Cable Television	Adelphia	(888) 683-1000
County Roads	County of Imperial Public Works Dept.	(760) 482-4462
State Highway	Caltrans	(760) 352-2071
Border Crossings	Port of Entry	(760) 357-2441
Tourist Information	Calexico Chamber of Commerce	(760) 357-1166
All-American Canal	U. S. Bureau of Reclamation	(760) 339-0379