

**County of Colusa  
Department of Public Works**



**Subdivision Standards  
Adopted: February 22, 1977**

Revision No. 2  
Date: 1-31-77  
DWK:mz

COLUSA COUNTY  
CALIFORNIA

RESOLUTION NO. 77-13

SUBDIVISION STANDARDS

COLUSA COUNTY  
CALIFORNIA

SUBDIVISION STANDARDS

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RESOLUTION NO. 77-13

RESOLUTION ESTABLISHING  
COLUSA COUNTY SUBDIVISION STANDARDS

COLUSA COUNTY  
CALIFORNIA

WHEREAS, under the provisions of the Colusa County Subdivision Ordinance, Code No. 377, certain standards governing roadways, lots, health and safety, surveys, fee schedules, and other requirements included herein relating to land division are called for to be established by Resolution by the Board of Supervisors,

NOW, THEREFORE, BE IT RESOLVED by the Colusa County Board of Supervisors as follows:

I. GENERAL

A. The purposes of these standards are to provide minimum requirements to be applied to improvements and facilities to be dedicated to the public and accepted by the County for maintenance or operation, as well as improvements or facilities to be installed within existing rights-of-way or easements, for preparation of plans, design of facilities, methods of construction, control of materials, and to establish a fee schedule for filing, checking and inspection.

B. Resolution No. 67-20, dated April 25, 1967, or any subsequent amendments thereto, are hereby rescinded.

C. The Standard Specifications of the California Department of Transportation, edition current to the date of subdivision application, shall govern all construction work in connection with subdivisions in Colusa County, except where modified by Colusa County Ordinances or by these Standards.

D. The Highway Design Manual of the California Department of Transportation, edition current to the date of subdivision application, shall govern design of roads and drainage in connection with subdivisions in Colusa County, except where modified by Colusa County Ordinances or by these Standards.

E. Whenever in the Standard Specifications or in the Design Manual of the California Department of Transportation the following terms or words are used the intent and meaning will be as defined, unless otherwise required by the context, as follows:

Department of Public Works: The Colusa County Board of Supervisors. (As used in this Resolution, Department of Public Works shall mean the Colusa County Department of Public Works as duly authorized by the County Board of Supervisors.)

Director of Public Works: The Colusa County Director of Public Works.

Department of Transportation; Department: The Colusa County Department of Public Works.

Engineer; District Engineer: The Colusa County Director of Public Works.

Laboratory; Materials and Research Department: The Laboratory authorized by the County of Colusa to test materials or work involved in this contract.

State: The County of Colusa; the owner.

State Highway Engineer: The Colusa County Director of Public Works.

State Treasurer: The Colusa County Treasurer.

F. Methods of measurement and payment referred to in said Standard Specifications do not apply to these special provisions.

The intent of these specifications is quality control of the subdivi-der's work. Any and all costs to street and other improvements, except by special agreement, shall be the responsibility of the sub-divider.

G. Control of the Work: Control of the quality of work shall at all times be vested in the Director of Public Works of Colusa County, hereinafter referred to as "Director" or "Engineer", and his authorized agents as set forth in Section 5 of said Standard Speci-fications. The Director of Public Works or his authorized agents shall be allowed to enter any portion of the job site at any time to inspect and rule upon the adequacy of the work being performed.

Section 5-1.07 - Lines and Grades of said Standard Specifica-tions shall be modified as follows:

"The Subdivider's engineer shall submit plans and profiles for the approval of the Department prior to the beginning of any work. Line and Grade stakes, sufficient in number to produce a true and workmanlike job, shall be set by the subdivider's engineer according to the plans and profiles as approved."

The Engineer may check the accuracy of these stakes at any time.

The Subdivider shall be responsible for notifying the Engineer one (1) working day in advance at the following stages of the work:

1. Notification by contractors of when they move onto job.
2. After work has been laid out, clearing is complete, and grade stakes are set, but before any trenching, grading, or construction has commenced.
3. Subgrade is complete, ready for aggregate base, and/or curb and gutter work.

4. Underground facilities have been installed and are ready for testing, and prior to covering.
5. Aggregate base is compacted and finished and ready for prime coat or penetration treatment.
6. Prime coat or penetration treatment has been applied and the surface is ready to receive paving or seal coat.
7. Utilities are completed and ready for testing.
8. Clean-up is complete and all new construction is ready for final acceptance.
9. Notification of suspension of work and also, before resumption.
10. Such other items as required by the Contract or Agreement Documents.

Any work installed without such notification shall be considered as not in accordance with these special provisions and shall be removed, replaced, or torn up and recompactd if, in the opinion of the Engineer, it is necessary.

H. These standards may be deleted, modified, or added to for the benefit of the County, when so determined by the Board of Supervisors.

1. Definitions of words and terms as referred to herein:
  1. DIRECTOR OF PUBLIC WORKS is the person so designated by the Board of Supervisors.
  2. COUNTY ENGINEER is the same as Director of Public Works.
  3. ENGINEER is the same as Director of Public Works.
  4. DIRECTOR is the same as Director of Public Works.
  5. SOILS ENGINEER shall mean a Civil Engineer registered

in the State of California with a specialty and experience in the investigation and analysis of soils.

6. CIVIL ENGINEER shall mean an Engineer competent to practice Civil Engineering as defined in Section 6731 of, and who is registered under the provisions of the Business & Professions Code of the State of California, who is retained to provide civil engineering services related to land subdivision.

## 11. DESIGN PLANS & SPECIFICATIONS

A. General Procedure: Complete plans, specifications, calculations and construction cost estimates for and in connection with the construction of subdivision improvements, including any necessary dedications and easements shall be submitted to the Department of Public Works for approval and shall receive Department approval prior to the filing of a final map, or prior to the beginning of construction of any improvement, whichever comes first. Such plans, except house plans, shall be prepared by a registered civil engineer. An itemized estimate of costs for all improvements required for the



subdivision shall be submitted with the improvement plans and specifications.

B. Submission of Plans: Plans complete and in accordance with this Resolution shall be submitted to the Department of Public Works in duplicate together with the required specifications, cost estimates, computations, test data, and other informational material which may be necessary for the proper design and construction of the facilities. The Department of Public Works will be allowed thirty (30) days for checking. One set of plans shall be returned to the subdivider or his designated agent indicating approval of the plans or with suggested changes and/or additional supporting data as may be requested. If approved, or when resubmitted with necessary corrections or additions, a reproducible shall be submitted along with two (2) sets of final prints to the Department of Public Works. The reproducible shall be stamped "Approved" by the Director of Public Works and returned to the subdivider or his designated agent. Only plans made from these reproducibles shall be submitted for bids and used for construction. There shall be no changes permitted to an approved set of plans unless these changes are submitted to the Department of Public Works for approval as prescribed for original plans. No changes shall be made in the approved plans by any County agency unless such plans are in definite conflict with, or do not conform to California State Law, the Colusa County Subdivision Ordinance, or good engineering practice. Should such conflicts be found, the Director of Public Works shall notify the subdivider or his designated agent in writing or by making corrections on copies of the plans which shall be returned to the subdivider or his designated agent. The subdivider shall make such revisions to the plans, note

the date of revision on the plan sheet, and furnish new copies of revised sheets to bidders or contractor doing the work. Original tracings of final "As Built" improvement plans shall be furnished without cost to the County, after completion of work and acceptance by County.

C. Plans shall include sheets showing the following:

1. Title Sheet
2. Layout Sheet
3. Roadway Plan, including profile for staking control.
4. Drainage Facilities
5. Grading plan, including lots and open areas
6. Utilities layout, including water, telephone, sewer, gas, electricity, and fire protection.
7. Building construction details
8. Cross-sections, as required for pay purposes
9. Landscape Plan

D. Plan Sheet Details:

1. The title sheet shall show the name of the development, the subdivider's name and address, the engineer's name and address, an index of sheets, and a location sketch of suitable scale. The size of all sheets shall be 24" x 36".

2. The layout sheet shall contain the entire subdivision on one sheet in skeleton form, and shall show drainage features and utilities. Additional sheets may be included to show details to a larger scale.

3. Roadway plan, profiles, and typical sections shall show on one sheet the entire road system plan, including existing roads to be utilized or abandoned. Additional sheets may be included

to show profiles, typical sections, and details.

4. Drainage facilities shall include the drainage areas within the subdivision, profiles, contours as required, locations of both the existing and proposed facilities, details, and typical sections. Sufficient calculations shall accompany the plans to allow a check of flows and dimensions.

5. The grading plan shall show locations and details of all grading work to be done, and shall show sections and profiles as required to detail cuts, fills, and slopes.

6. The utilities layout shall show the overall layout of each utility, including location of valves, connections, main switches, service distributions, etc. Profiles, sections, and details shall be shown as required.

Sizes and dimensions shall be clearly shown where required.

7. Building Construction Details shall show locations, plans, elevations, and details required for construction. Sufficient calculations shall accompany the plans to allow a check of sizes and dimensions.

8. The landscape plan shall show the locations of all groups of trees, shrubs, and planting or seeding to be done. Locations of trees to be removed shall be indicated. Sufficient detail shall be shown to allow identification of varieties. Structural work in connection with landscaping shall be clearly indicated.

### III. ROAD STANDARDS

#### A. Road Grades:

1. Roads shall have a minimum longitudinal grade of 0.5

(five tenths) of a foot per 100 feet, unless otherwise approved by the Director of Public Works.

2. Roads shall have a maximum longitudinal grade of 8% except that steeper grades may be authorized for distances not to exceed 300 feet. Decision of the Department of Public Works concerning grades in excess of 8% shall be based upon traffic conditions, local snow and freezing conditions, location of road in relation to seasonal conditions, sunshine, and other considerations.

B. Sight Distances:

1. Major roads shall be based upon a minimum vehicle speed of 35 miles per hour.

2. Access, minor, and cul-de-sac roads shall be based upon a minimum vehicle speed of 25 miles per hour.

3. One-way loop roads shall be based upon a minimum vehicle speed of 20 miles per hour.

4. Roads with grades in excess of 5% intersecting highways or major roads shall have a minimum of thirty feet (30') "storage" area from the edge of pavement to the primary road.

C. Clearing Right-of-Way: All trees and brush shall be removed from the road right-of-way to a distance of seven (7) feet from the edge of the paved surface of the roadway regardless of the width of the paved section and shall be cleared a minimum of three feet (3') outside of any cut or fill slope, whichever of the above is wider. At the intersections, clearing may be required to the property line for a distance of 100 feet from the centerline of the intersection should it be found necessary to provide safe distance for approaching traffic.

D. Slope Banks: Cut and fill slopes shall normally be 1½:1 or flatter, and fill slopes shall normally be 2:1 or flatter, depending upon the material encountered. This may be modified when engineering studies indicate that stable slopes can be maintained on a steeper grade. Any cut or fill slopes five feet (5') or greater in height shall be certified by a soils engineer.

E. Driveways: In hilly or mountainous areas where sidehill cuts and fills make access to lots unfeasible or costly to the lot purchaser or where damage may occur to public right-of-way in future driveway construction, driveways shall be "roughed out" into each lot at the time of grading the right-of-way and the excess material disposed of in a satisfactory manner.

F. Dead End Roads: Dead end roads will be permitted only where conditions of building density, terrain, and alignment will not create a hazard. Where a dead end road is permitted, turn arounds of a minimum of 40 feet radius shall be provided at a maximum of 1000 feet spacing, and shall be provided at the end in every case.

G. Cul-de-sac: All cul-de-sac roads shall have a minimum of 40 feet turning radius. No cul-de-sac road shall exceed 600 feet in length from the road intersection.

H. Split Level Roads: Split level roads may be permitted in hillside subdivisions upon approval of the design of plans and profiles by the Department of Public Works. Pavement surface shall be not less than 12 feet in width.

I. Road Drainage:

1. Where drop inlets are required or are installed, they shall be in accordance with Standard S-8, S-9, or S-10 of this Resolution and they shall be placed in gutters at distances in accordance

with good engineering practices. Grades of streets with curbs and gutters shall be not less than 0.5%, unless otherwise approved by the Director of Public Works.

Maximum spacing of drop inlets, catch basins, and drainage turnouts shall not exceed 600 feet. Increased spacing will be considered by the Director of Public Works if engineering calculations verify the adequacy of the proposed system. For subdivisions above 1,000 feet elevation, the spacing of drop inlets shall be reduced 25% from the above standards.

2. Drainage pipe for underground drainage shall be designed in accordance with standard hydraulic computations based upon rainfall intensity and flow characteristics based upon the Manning or Kutter formula. Basic data regarding rainfall intensity, duration, and frequency will be furnished by the County.

3. Minimum size of underground drainage pipe for street crossing of not more than forty feet (40') between drop inlets shall be a minimum of 12 inches in diameter.

4. Pipe may be reinforced concrete, corrugated steel pipe, or other approved material. The gauge or thickness of pipe shall be determined by proper engineering calculations. Reinforced concrete pipe shall be Class III or better, and shall conform to Section 65 of the Standard Specifications. Corrugated steel pipe shall be asphalt coated, and shall conform to Section 66 of the Standard Specifications.

5. In lot easements where no vehicle loading may be expected, standard pipe may be used conforming to A.S.T.M. Designation C-118 (irrigation pipe).

6. Continuous pour concrete pipe (no-joint) may be used if prior approval is obtained from the Director of Public Works, but in no instance within the traveled portion of the roadway.

7. Valley gutters at intersections, when permitted or required, shall be of concrete.

8. Minimum diameter of cross culverts shall be 15 inches. Culverts in excess of 32 feet in length shall be a minimum of 18 inches in diameter. Where roads cross drainage areas, proper engineering calculations determining volume of water and culvert sizes and gauge or thickness shall be submitted with the construction drawings. Where pipes drain into a floodway, adequate backflow preventers shall be installed if hydraulic conditions require same.

9. The alignment of closed conduits shall be as nearly straight as practicable without undue bends and angle points. Manholes shall be provided at all angle points and at all connections with intersecting conduits. Manhole intervals shall not exceed the following except upon approval of the Engineer:

Less than 40" pipe -----600 feet maximum interval

40" pipe or greater -----800 feet maximum interval

Inverted siphons shall not be permitted except on a temporary basis.

In the event of probable erosive conditions on closed conduits, additional paving shall be provided as necessary to assure a project life of 50 years.

10. Sacked concrete headwalls, formed standard State Highway concrete headwalls, or galvanized flared end sections, properly engineered, shall be installed at the entrance and exit of road culverts where required by the Department of Public Works

11. Drainage ditches and gutters along hillside or mountain roads shall be paved with 2" of A.C. or other approved material when the slope is 7% or more, unless:

a. Drain ditches are in rock or other nonerodable material.

b. Sufficient cross culverts are provided to eliminate scouring and eroding of the roadside ditches.

Unless otherwise approved by the Director of Public Works, paved or lined gutters shall have a minimum slope of .0025 feet per foot and unlined gutters a minimum of .0035 feet per foot.

12. Downdrains and plant mix dikes will be required on edge of pavement where fill is ten feet (10') high or more and fill is at low point of vertical curve. Proper revetment shall be provided for water spillage on lesser fills.

13. Curbs and gutters where required or installed shall be constructed in accordance with Standard S-1 or S-2 of this Resolution. Radius returns shall be vertical with 5' transition section as shown on the drawn standards.

14. Earth channels constructed within the subdivision shall have side slopes of  $1\frac{1}{2}:1$  or flatter. Revetment, bank stabilization, and stream stabilization, along constructed or natural channels, will be required if the channel velocities are sufficient to cause bank or invert erosion.

The top of the bank shall be so graded that side drainage will enter channels only at points where structures or facilities are provided to prevent bank erosion.

J. Subgrade, Base and Pavement Standards: The subgrade base,



and pavement shall be installed in accordance with State Standard Specifications and shall conform to design standards as shown in Standard RS-1, 2, 3, or 4 of this Resolution for the applicable road and subdivision type. These standards are minimum. Should unstable soils or heavy traffic requirements indicate engineering studies be made, the requirements for subgrade, base, and surfacing may be increased in accordance with those studies. All roads to be dedicated to the County for maintenance shall be surfaced with A.C. paving.

K. Road Widths Required: Widths shall not be of lessor widths than those set forth in Standards RS-1, 2, 3 and 4 of this Resolution, and which are designated as minimums.

In the case of major streets or highways, the minimum rights-of-way shown may be approved when utility easements not less than 8 feet wide are dedicated outside and adjacent to street right-of-way on each side thereof.

Street sections, including right-of-way widths, shall conform to the requirements and standards of the adjacent city when located within the urban limits of that city. The urban limits of any city shall be that area located adjacent to the exterior boundaries of the city, and in accordance with a map which the city has filed with the County of Colusa defining such urban limits.

#### IV. SURFACE DRAINAGE

A. Adequate drainage facilities for other than roadway drainage will be required where either development or downstream property requires protection from flood drainage passing through the subdivision.

B. In cases where drainage facilities are necessary on an area-wide basis to permit safe, healthful and convenient development

of the area, the subdivider shall pay a pro-rata share of the cost of such facilities, as determined by the County Engineer and the Planning Commission.

C. Where it is determined by the County Engineer that it is not immediately necessary to install a drainage facility, but that such a facility will be required upon future development within the subdivision, the subdivider may satisfy drainage requirements by doing either one or both of the following, as required by the Planning Commission.

1. Paying a fee determined by the County Engineer and the Planning Commission to be the fair cost of such facilities at the time projected for future development, which fee will be reserved for the required facilities.

2. Providing a temporary solution which will not adversely affect other property.

D. Water course easements may be required as specified by the County Engineer. In all cases, concurrence of the downstream property owner must be obtained when discharging waters in a manner other than its natural state, or where the development creates a concentration or increased flow from its original state.

E. Drainage water shall not be discharged onto county right-of-way, unless so directed or allowed by the County Engineer.

F. Basic data regarding rainfall intensity, duration, and frequency will be furnished by the County.

#### V. LOT AND BLOCK STANDARDS WHERE FINAL MAPS ARE REQUIRED

A. Lots: The sizes and shapes of lots shall be in conformance with any regulations effective in the area of the proposed subdivision,

and in conformance with good standards of subdivision design as determined by the Planning Commission. No residential lot shall have less than 60 feet of street frontage except residential lots on curved or cul-de-sac streets, which shall have a minimum street frontage of forty feet and a minimum width at the established zoning front yard set-back line of 50 feet; all such lots shall have a depth of not less than 100 feet and shall have an area of not less than 6,000 square feet, or such greater area or dimensions as may be required by the Planning Commission, and as further provided, as follows:

1. Corner lots shall have a minimum width of 70 feet on one street and 100 feet on the other.

2. Lots which are to be served by neither an approved domestic water supply nor sanitary sewer system shall have areas of not less than 10,000 square feet, or such areas as may be required by the County Health Officer.

3. Lots which are to be served by either an approved domestic water supply or sanitary sewer system, but not both, shall have areas of not less than 8,000 square feet, or such areas as may be required by the County Health Officer.

4. In general, for lots having an area of less than 20,000 square feet, the average width of a lot should not be less than one-half the average depth, and the lot width should not be greater than such depth.

5. The side lines of all lots, so far as possible, shall be at right angles to streets or radial or approximately radial to curved streets, and to the center points of cul-de-sac turning circles.

6. Divided lots: No lot shall be divided by a city or county boundary line.

7. Interior lots having double frontage may be prohibited.

B. Block Length, Width: Blocks shall be not more than eight hundred nor less than four hundred feet in length and shall be of a width to contain two tiers of lots of legal and approved dimensions except that the Planning Commission may approve variations of the foregoing when it finds that pre-existing improvements or physical or natural features or conditions justify such variations.

C. Easements: The subdivider may be required to grant easements not less than 6 feet in width along either side or rear lot lines for public utilities, sanitary sewer and drainage purposes. Easements for overhead pole lines and anchors shall be provided at the rear of all lots. Where applicable and needed, utility installations for electrical power, lighting, telephone, cable television or other communication systems will be required to be installed underground by the subdivider in all subdivisions of five or more parcel divisions. Consideration for such underground installations shall be made for all other subdivisions, and shall be mandatory if the area being subdivided has undergrounding.

#### VI. SURVEYING AND MONUMENTATION

A. Surveys for boundaries, layout, and construction shall be made to conform to accepted professional standards for procedures, note recording, and errors of closure. The traverse of the exterior boundaries of the tract and of lots and blocks shall close within a limit of error of one in five thousand (1:5000).

B. Lot and boundary monuments shall be set prior to filing of the final map, except that interior monuments may be set at a later time as provided in the Map Act and in this Resolution.

C. Monuments shall be set at all lot corners and at B.C. and E.C. on property lines. These monuments shall be 3/4" x 18" iron pipe or approved equivalent, and tagged with the L.S. or R.C.E. number.

D. Monuments shall be set at all exterior boundary corners, at B.C. and E.C. of boundary curves, and at intervals of not over 1000 feet on tangents. These monuments shall be 1½" x 24" iron pipe, or approved equivalent, and tagged with the L.S. or R.C.E. number.

E. In case the lot or boundary corner is inaccessible, a witness corner shall be set at the nearest accessible location on line. The witness corner monument shall be stamped W.C. in addition to the L.S. or R.C.E. number.

F. Upon completion of a road or roads within the subdivision, a minimum of 2 intervisible centerline monuments shall be set within every 1000 feet of roadway. These monuments shall be as shown in Standard S-17 of this Resolution.

## VII. SEWAGE DISPOSAL

### A. Public Sewer Systems

1. When a subdivision is located within a reasonable distance of an existing, operating, and available public sewage system, and it is feasible to sewer the proposed subdivision by connecting to said system, the subdivider shall be required to sewer the proposed subdivision to said system. In such event, the subdivider shall be required to make application to, and receive approval from, the governing body of said public sewerage entity, and shall abide by all the laws, rules and regulations of said agency.

2. If it is not feasible to sewer a subdivision by connecting to an existing public or community sewer system, or if such

system is unable to provide the subdivision with sewer service, the subdivider may provide for sewer service by the application to the County for a publicly operated sewer system with treatment and disposal facilities. When a subdivider proposes to develop such a public sewer system, he must:

- a. Provide for the establishment of a public entity empowered and adequate to maintain and operate the system.

- b. Obtain discharge requirements from the Regional Water Quality Control Board.

3. Sewer mains within a subdivision to be sewered by connecting to a public sewer system shall be a minimum of 6 inches in diameter and shall be of either vitrified clay, cast iron, or other material approved by the Director of Public Works. The joints may be either bell and spigot or an approved rubber seal type packing. Placing of sewer pipe, including excavation and backfill, shall be in accordance with Standard S-21 of this Resolution, Manholes shall be a minimum of 48 inches in diameter and shall be of precast concrete and built in accordance with Standards S-19, S-20 and S-25 of this Resolution. All service laterals shall comply with the Uniform Plumbing Code, latest edition, and shall have a minimum slope of one-eighth inch per foot to the trunk sewer. Sewer clean out "Y" laterals and other appurtenances shall be as shown in Standard S-21 or S-16 of this Resolution.

4. Complete plans and specifications including design criteria prepared by a registered civil engineer shall be submitted to the Department of Public Works and the Department of Public Health for approval prior to connection to or construction or installation

of sewers, sewage distribution, disposal or treatment facilities in a subdivision. All connections to, construction or installation of such facilities shall be in accordance with such approved plans and specifications.

B. Individual Sewage Disposal Systems

1. If public sewer service is not provided pursuant to Section A, subsections 1 or 2 above, individual sewage disposal systems may be permitted, provided that the proposed subdivision meets the minimum criteria set forth hereafter in Section C.

2. When individual sewage disposal systems are proposed, the subdivider shall have percolation tests and soil depth studies made under the direction of a registered civil engineer, or registered sanitarian and shall submit test data to the County Department of Public Health in the form prescribed by said Department.

A minimum of one percolation test per proposed lot shall be submitted, unless otherwise modified by the County Health Department.

3. Percolation tests shall be made in the manner as prescribed by the U. S. Public Health Service Publication No. 526.

4. Minimum lot areas shall be established based on percolation tests, topography and soil depth as set forth in Table I of this Resolution.

C. Minimum Usable Lot Areas For Subdivisions and Land Divisions Where Individual Sewage Disposal Systems are to be Used; Minimum Separation Distances

1. The requirements below for sewage disposal are applicable to single-family residential subdivisions and land divisions. For other subdivisions and land divisions, the required minimum area

for sewage disposal shall be sufficient to allow for the installation of a septic tank system designed in accordance with the current edition of the USPHS manual of Septic Tank Practice provisions relating to leaching fields. This minimum area shall also include area for 100% replacement of said system.

2. Useable lot area shall mean that area of the lot usable for installation of an individual sewage disposal system. Usable lot area shall not include areas contained in the following:

a. Building setbacks required by County Ordinance or the Colusa County Code unless approved by the Health Department and the Department of Public Works.

b. Easements dedicated or reserved for surface or underground improvements unless dedicated or reserved for sewage disposal purposes on the approved and recorded map.

c. Easements for access or roadway purposes.

d. Areas occupied by structures and within 5 feet of existing structures or to be occupied by structures. For purposes of single-family residential lots on which there are no existing structures, this area shall be deemed to be 2,500 square feet.

e. Areas within 5 feet of the property line.

f. Areas which do not comply with the minimum separation distances shown in Table II below.

g. Areas with a slope in excess of 30%.

h. Areas where the percolation value is in excess of 60 min/inch.

i. Areas with less than 5 feet of soil above impervious stratum or groundwater.



1. Each lot in a single-family residential subdivision and land division shall provide the minimum area for sewage disposal found in Table I attached. Areas shown in Table I up to and including 2.0 acres are minimum usable areas for sewage disposal as defined in 2 above.

TABLE I

MINIMUM USABLE AREAS

SOIL DEPTH ABOVE GROUNDWATER OR IMPERVIOUS STRATUM

| SLOPE                    | PERC<br>VALUE | 7' OR GREATER | 7' to 6' | 6' TO 5' |
|--------------------------|---------------|---------------|----------|----------|
| 0<br>to<br>10%           | 0-10          | 6,000         | 16,000   | 21,000   |
|                          | 11-20         | 8,000         | 18,000   | 23,000   |
|                          | 21-40         | 10,000        | 20,000   | 25,000   |
|                          | 41-60         | 12,000        | 22,000   | 27,000   |
| OVER<br>10%<br>to<br>20% | 0-10          | 9,000         | 26,000   | 34,000   |
|                          | 11-20         | 11,000        | 28,000   | 36,000   |
|                          | 21-40         | 13,000        | 30,000   | 38,000   |
|                          | 41-60         | 15,000        | 32,000   | 40,000   |
| OVER<br>20%<br>to<br>30% | 0-10          | 16,000        | 36,000   | 46,000   |
|                          | 11-20         | 18,000        | 38,000   | 48,000   |
|                          | 21-40         | 20,000        | 40,000   | 50,000   |
|                          | 41-60         | 22,000        | 42,000   | 52,000   |

- NOTES: a. An impervious stratum or layer is a bed or lense of fine grained soil, rock, cemented material, or similar soil structure which retards the downward movement of water. A stratum, which has a percolation value in excess of 120 per minutes per inch and/or in which six inches of water will not seep completely away in a 12-hour period, shall be deemed to be impervious.
- b. Areas with less than 5 feet of soil above impervious strata or ground water, slopes in excess of 30% or percolation values in excess of 60 min/inch are deemed unsuitable unless it can be demonstrated that installation and use of individual sewage disposal systems will not cause significant degradation of ground water quality, surface seepage of waste material, or a health hazard/nuisance condition.
- c. In addition to the other requirements of these standards, sewage disposal areas must be of such a configuration that it is practicable to use them as disposal areas based upon standard practices for the installation of septic tank systems.

TABLE II  
MINIMUM SEPARATION DISTANCES IN LINEAL FEET

| Facility                                     | <u>S-T or Sewer Line</u> | <u>Leaching Field</u>     | <u>Seepage Pit</u>        |
|----------------------------------------------|--------------------------|---------------------------|---------------------------|
| a) Individual Domestic Well                  | 50'                      | 100'                      | 150'                      |
| b) Public Domestic Well                      | 100'                     | 100'                      | 150'                      |
| c) Perennial Stream                          | 50'                      | 100' from high water line | 100' from high water line |
| d) Drainage Course or Ephemeral Stream       | 25'                      | 50' from edge of channel  | 50' from edge of channel  |
| e) Cut or Fill Bank                          | 10'                      | 4' X vertical height      | 4' X vertical height      |
| f) Lake or Reservoir                         | 50'                      | 200' from high water line | 200' from high water line |
| g) Lot lines where individual wells are used | 25'                      | 50'                       | 75'                       |

NOTE: This requirement shall not apply where location of wells on each lot is specified on the final map and required useable area for each lot is 100' from any well location.

#### D. Testing of Sewer Lines

After the sewer lines have been properly backfilled to a depth where additional backfilling will not disturb the position of the pipe, all or any sections of the sewer lines that the Department of Public Works may select, shall be hydrostatically tested. In no case shall the required minimum backfill be less than four feet above the top of the pipe before subjecting the line to the test. All necessary materials and equipment to make the test shall be provided by the Contractor.

1. Gravity Lines - A section of sewer line shall be prepared for testing by plugging the upper side of the downstream manhole and all openings in the upstream manhole except the downstream opening. Where grades are slight, two or more sections between manholes may be tested at once. Where grades are steep, and excessive test heads would result by testing from one manhole to another, test tees the full size of the main shall be installed at intermediate points so the maximum head on any section under test will not exceed 12 feet.

The section of sewer line prepared as above shall be tested by filling with water to an elevation five feet above the top of pipe at the upstream end of the test section, or five feet above the existing ground water elevation, whichever is greater. The water should be introduced into the test section at least four hours in advance of the official test period to allow the pipe and joint material to become saturated. The pipe shall then be refilled to the original water level.

At the beginning of the test, the elevation of the

water in the upper manhole shall be carefully measured from a point on the manhole rim. After a period of four hours, or less, with the approval of the Department of Public Works, the water elevation shall be measured from the same point on the manhole rim and the loss of water during the test period calculated. If this calculation is difficult, enough water shall be measured into the upper manhole to restore the water to the level existing at the beginning of the test, and the amount added taken as the total leakage.

Should an initial test show excess leakage in a section of line, it is permissible to draw the water off and test the manholes that contained water. This test shall be made by plugging all the openings in the manholes and filling with water to the same elevation as existed during the test. The leakage from the manhole may be deducted from the total leakage of the test portion in arriving at the test leakage. After the testing is complete, the manhole shall be waterproofed by grouting. Other approved water proofing methods may be used if satisfactory to the Director of Public Works.

The allowable leakage in the test section shall not exceed 500 gallons per mile, per 24 hours, per inch diameter of pipe tested at the five foot test head.

If it is necessary or desirable to increase the test head above five feet, the allowable leakage will be increased at the rate of 80 gallons for each foot of increase in head.

Test sections showing leakage in excess of that allowed shall be repaired or reconstructed as necessary to reduce the leakage to that specified above, and the line retested.

2. Force Mains - Each section of pipe to be tested shall

be slowly filled with water and all air expelled from the pipe. After the pipe has been filled, it shall be allowed to set for a period of not less than 24 hours.

The pipe shall then be refilled to the original water level and subjected to a pressure of not less than 100 pounds per square inch or the service pressure plus 50 pounds, whichever is greater, for a period of two hours. All exposed joints, bends, angles, and fittings shall be closely examined during the test. Any part of the line which proves to be defective shall be replaced and the line retested.

The maximum allowable leakage shall not exceed 100 gallons per 24 hours per mile of pipe per inch of nominal diameter.

Where the leakage of the sewer exceeds the above amount, it shall be corrected immediately and the amount of leakage reduced to a quantity within the specified amount. In any case, the Contractor shall stop any individual leaks which may be observed.

#### VIII. SOLID WASTE DISPOSAL

Adequate provision for proper disposal of solid waste to accommodate the proposed subdivision must be provided for. The subdivider shall submit plans, specifications, and proposed locations, or information regarding the proposed means for disposal of solid wastes for approval by County prior to request for final subdivision approval.

#### IX. WATER SUPPLY, DISTRIBUTION, FIRE PROTECTION

##### A. Subdivisions:

1. The subdivider shall state in a letter accompanying the tentative map the proposed method of water supply for the subdivision. Individual wells shall not be acceptable as a method of

water supply for any subdivision in excess of five (5) lots located within an urban area and within 700 feet of an existing public water system whose service area includes or can include the subdivision.

2. The distribution system for any community water system developed to serve a subdivision within an urban area and within 1,000 feet of an existing public water system shall be designed and installed according to good engineering practice and to standards not less than those of the existing public water system.

3. Where the water supply is proposed by the extension of service from an existing water system, the subdivider shall, prior to the filing of the final map, furnish the Health Department a statement from the water purveyor stating that the purveyor is willing and able to supply water to the subdivision.

4. Should the subdivider propose individual wells, at least one test well for each twenty acres shall be developed by the subdivider and tested for quality and quantity. Where topography, geological conditions, or little information from existing wells is available, additional test wells may be required by the Health Department. Test wells shall be pumped in a manner satisfactory to the Health Department and shall produce a minimum of five (5) gallons per minute sustained yield except that in recreational subdivisions, not less than three (3) gallons per minute sustained yield shall be produced during the dry season. This provision may be waived by the Public Health Officer if sufficient well information has been developed in the area to assure adequate potable water. A statement to the Health Department by a licensed well driller may be required in this case.

5. Should the subdivider propose to develop a water

system for the subdivision, he shall:

a. Provide a legal public entity adequate to construct, maintain, and operate the system.

b. Submit complete plans and specifications including design criteria prepared by a registered civil engineer to the Health Department for approval. Wells shall be designed and installed as per Section IV.E. of this Resolution. All water systems with the surface sources shall be provided with treatment facilities satisfactory to the Department of Public Health.

c. Where a spring is to be used for the water supply system, a recognized water geologist shall state the yield in gallons per minute during the dry seasons.

d. Provide minimum source capacity and storage as shown in Table III of this Resolution.

e. Provide safe, potable water meeting the chemical and bacteriological standards of the California State Department of Health. No surface water shall be considered potable without adequate treatment.

f. Provide all information required by the California Pure Water Act as required by the Health and Safety Code, Section 4010-4035 of the State of California.

6. Existing wells which are to be abandoned in a subdivision shall be filled and capped in a manner approved by the Health Department.

B. Land Divisions:

1. Where the average resulting parcel size is sixty (60) acres or more, no information on the availability of domestic water is required.

2. Where any resulting parcel is less than sixty (60) acres, but not less than five (5) acres, a division shall be approved only if one of the following requirements is met:

a. The developer shows that water in sufficient quantity and acceptable for domestic purposes is available. Tests may be required by the County Health Department to determine the suitability of water for domestic purposes. The availability of water shall be shown by one of the following methods:

(1) By drilling at least one well within the area of the land division at a location approved by the County Health Department which will produce a flow of not less than three gallons per minute if tested during the period from January 1 through June 30 or not less than one and one-half gallons per minute if tested during the period from July 1 through December 31. The well log and a statement from a licensed well driller certifying to the flows shall be submitted to the County Health Department before filing of the final map.

(2) By providing evidence from a registered engineer or geologist that a spring exists on each such proposed parcel that will produce the quantities specified in subsection (1) above. Such statement shall be submitted to the County Health Department prior to filing of the final map.

(3) Where the water supply to the parcels created by the land division is proposed to be furnished by the extension of service from an existing water system, by furnishing a statement from the water purveyor stating that the purveyor is willing and able to supply water to the land division. Such statement shall be submitted to the County Health Department prior to filing of the final



map. The requirements of subsections (1) and (2) above may be waived at the discretion of the County Health Officer in cases where past experience has shown that potable water is available in the area of the proposed land division. Neither the waiver of the requirements of subsections (1) and (2), the acceptance of data or statements submitted pursuant to subsections (1), (2) or (3) nor the approval of the map by the County of Colusa in reliance upon such waiver, data or statements shall be, nor be construed to be, a guarantee by the County of Colusa that suitable domestic water in sufficient quantity is available to the parcels created by the land division.

b. A note is placed on the final map as follows:

"WATER: There is no evidence that domestic water is available."

Where any resulting parcel is less than five (5) acres and an individual water supply system is proposed, the division shall not be approved unless the developer shows that water in sufficient quantity and acceptable for domestic purposes is available. Tests may be required by the County Health Department to determine the suitability of water for domestic purposes. The availability of water shall be shown by one of the methods specified in subsection B.2. above.

C. Fire Standards: (For subdivisions within a fire district or County Fire Hydrant Service Area and having water capable of adequately supplying fire hydrants)

1. Requirements: The installation of fire hydrants shall meet the standards of the America Water Works Association.

a. Fire Hydrants - a fire flow minimum of tested 3000 gallons per minute in the distribution system is required for a

duration period of three (3) tested hours in commercial and industrial areas of the County.

b. A fire flow of tested 1500 gallons per minute is required for a duration period of six (6) tested hours in urban subdivisions which are zoned R-3 or P-D, or closely built-upon residential areas in which churches, schools, and other similar structures would be interspersed.

c. A fire flow of 1000 tested gallons per minute is required for a duration period of four (4) hours in standard residential subdivisions in which the system is supplied by a public water agency, district, or municipality.

d. Where adequate water is available from a public agency, the subdivider will be encouraged to furnish the maximum fire protection available over and above the minimum requirements.

Static water pressures shall be such as to deliver the required fire flows at a flowing or residual pressure of 20 pounds per square inch over and above the normal consumption demands of the system. In no case shall the fire hydrant spacing be more than 800 feet from hydrant to hydrant, or more than 400 feet from fire hydrant to the center of any lot.

2. Materials: Fire hydrants shall be of the type manufactured by M. Greenberg's Sons, or equal, and shall be of the independently valved hydrants and in conformance with AWWA standards and of a capacity to accommodate the previously stated flows herein.

3. Construction: Fire hydrants shall be constructed in accordance with the standards of the American Water Works Association and these Standards.

4. Distribution System: The supply mains, arteries, and secondary feeders shall extend throughout the system. These shall be of sufficient size, considering their length and character of the sections served, to deliver fire flow and consumption demands to all areas served. They shall be properly spaced and looped.

Feeder lines shall not be less than 8 inches in commercial and industrial areas; larger than 8 inches may be required to meet a specific fire flow. Lines of 6 inches in diameter may be used for short run residential laterals. All mains should be looped where practical due to existing conditions. Where the possibility of adjacent subdivision growth exists, the subdivider shall provide stub connections at points which will permit the subsequent subdivision to make looped tie-ins.

5. Spacing of Valves: The distribution system shall be equipped with a sufficient number of valves so located that no single case of accident, breakage, or repair to the pipe system will affect one-quarter ( $\frac{1}{4}$ ) mile of arterial mains, 500 feet of mains in commercial districts, or 800 feet of mains in residential districts.

D. Construction Standards for Public Water Supply Wells

1. Location

a. Wells shall be located an adequate distance from any source of contamination or pollution. If possible wells shall be up the ground water gradient (upstream) from sources of pollution or contamination.

b. Wells shall be located not closer than:

- (1) 50 feet to any sewer line.
- (2) 50 feet to a septic tank.
- (3) 100 feet to a sewage leach field.
- (4) 150 feet to a sewage seepage pit.

Where adverse conditions exist, these distances may be increased and special protective well construction required.

Note: See Section 3 for requirements where wells are less than 50 feet deep.

c. Where possible, wells shall be located on high ground so that the top of the casing will be above known flooding levels.

## 2. Sanitary Construction Requirements

a. Minimum depth -- 50 feet.

Note: See Section 3 for exceptions.

b. Casing and Sealing

(1) The annular space between the well casing and the drilled hole wall shall be effectively sealed to a depth of 50 feet. If an impervious formation is encountered between 50 feet and 55 feet, the seal shall be extended into such stratum.

(2) In unconsolidated or caving material where the cable tool method is used, a conductor casing shall be installed to the required sealing depth and the annular ring between the conductor casing and inner casing shall be sealed. Where the rotary method of drilling is used, the conductor casing may be left in place or withdrawn as the sealing material is placed.

(3) Gravel Packed Wells. In wells constructed without a conductor casing, the gravel pack shall terminate at the base of the seal. Gravel fill pipes may be installed in the seal. In wells constructed with a conductor casing, allowing the gravel to extend to the top of the well, the annular space between the conductor casing and the wall of the drilled hole shall be sealed to the required depth.

(4) The minimum thickness of steel conductor casing shall be  $\frac{1}{4}$  inch for single casing or No. 10 U.S. Standard Gauge for double casing.

(5) The minimum thickness of the required seal shall be two inches and not less than three times the size of that largest coarse aggregate used in the sealing material.

(6) Sealing material and placement sealing material shall consist of the neat cement, cement grout, puddled clay, or concrete. Composition of sealing material shall conform to Department of Water Resources Bulletin #74, Water Well Standards, State of California. The sealing material shall be applied in one continuous operation from the bottom of the interval to be sealed to the top.

(7) Well casing shall be of a diameter sufficient to provide for production of required flows. In addition, well casing shall be of a gauge and material adequate to protect water quality and to withstand all forces to which it is subjected during and after installation.

(8) Well casings and casing joints shall be watertight to a depth of 50 feet.

c. Well Head

(1) An adequate concrete pedestal or base shall be constructed around the top of the well; the top of the pedestal shall be at least six inches above the surrounding ground and slope away from the well.

(2) Openings into the top of the well casing shall be sealed with a watertight seal.

(3) Openings for access into the well casing shall be protected with watertight caps or plugs. Air relief openings

shall be fitted with a screened down turned "U" bend.

(4) Pumps shall discharge above ground where possible. Where subsurface discharge is permitted by the Health Department, there shall be a watertight seal between the pump discharge piping and well casing.

d. Other

(1) Gravel for gravel pack wells shall come from a clean source and be thoroughly washed and chlorinated prior to placement in the well.

(2) Wells shall be properly disinfected before placing in service.

(3) A sample tap shall be installed on the pump discharge.

(4) Wells and pumps shall be placed in a locked enclosure to prevent tampering by unauthorized persons.

3. Shallow Wells (less than 50 feet in depth)

a. Such wells are unacceptable unless there is no feasible alternative for obtaining water and unless specific approval is granted by the Health Department. Such wells shall not be permitted where sewage disposal is dependent on seepage pits.

b. Location

The location shall comply with Section 1,a and 1,c above and in addition shall be not less than 250 feet from any sewage facility.

c. Sanitary Construction Requirements

(1) Drilled Wells

Construction requirements shall be the same as in Section 2 above except that the conductor casing and annular

seals need be installed only to the depth of the aquifer used.

(2) Dug Wells

(a) Casing shall be installed to the depth of the aquifer used.

(b) Casing shall be constructed as follows:

(1) Six-inch thick reinforced concrete poured in one continuous operation.

(2) Steel or precast concrete rings set in the hole with a minimum four-inch thick concrete poured between the rings and side of the hole. Concrete shall be poured in one continuous operation.

(c) The casing shall extend not less than 12 inches above surrounding grade.

(d) A concrete slab of not less than six inches thick, six inches above surrounding grade and six inches below the top of the casing shall be installed at the surface around the casing, extending outward at least two feet from the casing.

(e) A water tight cover shall be placed over the well and all openings into the well including the pump mounting shall be water tight.

d. All provisions of Section 2,d shall apply to shallow wells.

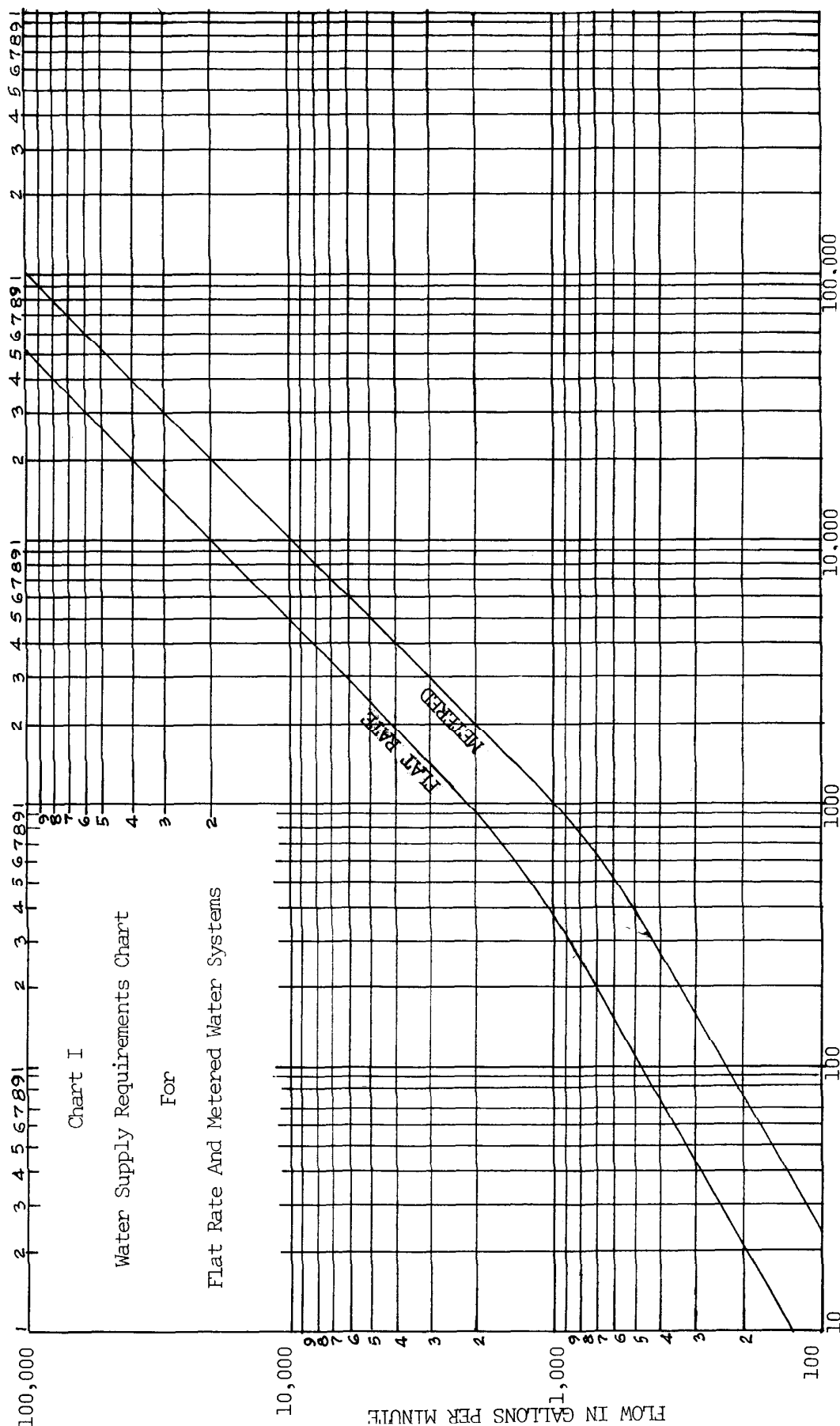
e. Provisions for the treatment and chlorination of water from shallow wells may be required by the Health Department.

TABLE III  
WATER SYSTEM REQUIREMENTS

Water systems proposed for subdivisions shall meet the minimum flows as follows:

Quantity of Supply. (a) The quantity of water available from all of the water sources and distribution storage reservoirs shall be sufficient to supply adequately, dependably, and safely the total requirements of all customers under maximum demand conditions. Maximum customer requirement may be determined from adequately supported and documented system record or by Chart. The flow requirement indicated on Chart 1 is for average demands not including fire flow. This flow shall be appropriately supplemented, as required by the department, to take into consideration such factors as climate, community type, kinds of customers, and past experience. This flow shall be available continuously for at least two hours, one third must be provided from the water source and the remainder may be provided from distribution storage.

(b) A master meter, or other suitable measuring device, shall be provided for each source of water supply.





## B. Testing of Water Mains

After the pipe has been backfilled to twelve inches over the top, except at the joints and where A.C. pipe is used, the trench is to be completely backfilled. The newly laid pipe or any valved section thereof, shall be subjected to a hydrostatic pressure of 150 pounds per square inch for a period of two hours. Each section of the pipe to be tested shall be slowly filled with water, and all air shall be expelled from the pipe. The release of the air can be accomplished by opening hydrants and service line cocks at the high points of the system and the blow-offs at all dead ends. The valve controlling the admission of water into the section of pipe to be tested should be opened wide before shutting the hydrants or blow-offs. After the system has been filled with water and all air expelled, all the valves controlling the section to be tested shall be closed, and the line be allowed to set for a period of not less than 24 hours.

The pipe shall then be refilled, if necessary, and subjected to a pressure of not less than 150 pounds (psi), whichever is greater, for a period of two hours.

All exposed pipe, fittings, valves, hydrants, and all joints shall be carefully examined during the pressure test. Joints made with lead showing leaks or seepage shall be recaulked until tight. Any cracked or defective pipe, fittings, valves or hydrants discovered during the test shall be removed and replaced with sound material, and the test repeated until the system is proved satisfactory.

Flushing and Disinfecting -- After the pressure test, the system should be thoroughly flushed out and disinfected in accordance with the requirements of the County Health Department.

F. Connection to Existing Mains

The Engineer of the Water Service Agency shall be given not less than 24 hours notice before any connection is to be made to any existing main, and all necessary Encroachment Permits, Rights of Entry, etc., shall first be obtained. In general, shutdowns in residential areas shall be made at times when there will be the least interference with the preparation of meals. Connections shall be made only after complete and satisfactory preparation for such work has been made, in order that the shut-down may be as short as possible.

X.

X. FEE SCHEDULE

A. Fees for checking tentative maps required prior to submission of Parcel Maps of Final Maps shall be a minimum of \$40.00 plus \$5.00 per lot or parcel, for subdivision of four or less lots. For subdivisions of over four lots, the checking fee shall be \$50.00 plus \$2.00 per lot for the actual number of lots over 4 shown on the tentative map up to 100 lots. There is an additional charge of \$1.00 per lot in excess of 100. Fees on tentative maps shall be submitted at the time of the submission of the tentative map and paid to the Department of Public Works. Where an additional general development plan is required by the County to show future development, only those lots actually in the proposed immediate development will be used as basis for fee payment.

B. Fees for checking final maps shall be \$40.00 plus \$5.00 per lot for all lots in the subdivision and shall be paid at the time the final map is submitted to the Department of Public Works for checking. Fees for checking Parcel Maps shall be included in the fee for the Tentative Map, and shall be required whether or not the map is recorded.

C. Fees for checking construction plans shall be 1 percent of the (estimated) construction cost of all public improvements, including grading, drainage, roads, sewer lines, water sewage treatment, lighting, and other public facilities. Fees shall be paid at the time plans are submitted to the Department of Public Works for checking, based on the estimated cost of the public facilities, and later adjusted to the actual construction costs.

D. Fees for inspection shall be 2% of the (estimated) construction cost of all improvements, including grading, drainage and road construction, water construction, sewer line construction, sewage plants, lighting and other public facilities. This fee based on estimated costs shall be paid just prior to the time the final map is presented to the Board of Supervisors for its acceptance or prior to commencement of the construction of the subdivision improvements, whichever comes first, and later adjusted to the actual construction costs. If any changes are made in the construction from the approved plans, the cost of the modified facilities shall be added to the cost of the original improvements for computing fees.

E. When the subdivider proposes to use a cash deposit in lieu of furnishing a performance bond, a fee of 1½% of the contract or estimated cost of the work shall be made to defray accounting and disbursement expenses.

F. Fee for checking Reversion to Acreage Maps shall be the actual costs incurred by the County in processing the Reversion. An estimated amount determined by the County will be required to be placed on deposit by the applicant prior to initiation of proceedings, and will be adjusted to actual costs prior to the filing of the Final Map.

G. For Bond Act proceedings, the fee prescribed under Item "D" above shall be 3% rather than 2%.

H. Filing fee for any application to the County Environmental Impact Review Committee shall be \$25.00. If required by the Committee, fees for preparation of an Environmental Impact Report shall be the actual cost of the report as prepared by the Local Agency, payable to the County prior to evaluation of same by the Committee. This fee shall be based on an estimated cost to perform same, and adjusted to reflect the actual cost of the document upon completion.

XI.

SUBDIVISION AGREEMENT  
(Typical Wording)

THIS AGREEMENT, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between \_\_\_\_\_, hereinafter called "Subdivider", and the County of Colusa, a political subdivision of the State of California, hereinafter called "County".

W I T N E S S E T H:

The parties hereto agree that the Subdivider shall complete the road and street improvements, tract drainage and all other improvements required in the approved construction plans for the \_\_\_\_\_ subdivision as per the map being filed at this time in the office of the County Recorder of the County; and Subdivider further agrees that the construction of said improvements shall be completed to the satisfaction of the Director of Public Works within \_\_\_\_\_ from the date hereof, and shall be constructed in accordance with the approved plans on file with the Colusa County Department of Public Works and the specifications for subdivision roads adopted by the County and the applicable sections of the current edition of the State of California Division of Highways Standard Specifications.

The Subdivider shall cause the work to be completed without undue delay except for inclement weather or other reasonable cause. Any delay in the completion of the work beyond the period stated, unless an extension thereof is approved by the Board of Supervisors,

shall result in forfeiture of the cash deposit and/or security, or a portion thereof, for the completion of the work.

The Subdivider further agrees to guarantee and to maintain these subdivision roads for a period of one (1) year from the date of acceptance of the work by the County Board of Supervisors.

The Subdivider further agrees that he will secure all permits and pay all fees as required by the Contract Documents and Specifications.

The Subdivider further agrees that he will pay all the costs of improvements when due, including all labor and materials and the cost of relocating existing utilities when such relocation is necessary to permit the construction of improvements required for the subdivision.

The Subdivider further agrees to pay for the setting and establishment of all survey monuments and points as shown on the filed subdivision map.

The Subdivider further agrees that at the time of execution of this agreement, he will deposit with the County in the form of a cash deposit or acceptable surety bond or bonds to guarantee the performance of work, payment for labor and materials, maintenance of the facilities for a one-year period, and payment for surveying in the amounts listed below:

1. Performance in amount of contract price \$ \_\_\_\_\_
2. Labor and material in amount of 50% of  
contract price \$ \_\_\_\_\_
3. Maintenance bond in amount of 50% of  
contract price \$ \_\_\_\_\_

4. Surveying bond in amount equal to  
estimate of work

\$ \_\_\_\_\_

The Subdivider further agrees \_\_\_\_\_

(add as required)

The County In consideration of the terms above referred to,  
agrees to permit the Subdivider to file and record said subdivision  
map and recognizes the subdivision described therein as a subdivision  
complying with the ordinances and requirements of the County of  
Colusa, and the applicable laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have set their hands,  
the day and year first above written.

COUNTY OF COLUSA

\_\_\_\_\_  
Chairman of the Board  
of Supervisors

\_\_\_\_\_  
Name

Approved:

\_\_\_\_\_  
Address

\_\_\_\_\_  
Department of Public Works

\_\_\_\_\_  
Name

ATTEST:

(\_\_\_\_\_)  
County Clerk and  
ex-officio Clerk of  
the Board of  
Supervisors

\_\_\_\_\_  
Address

\_\_\_\_\_  
Name

APPROVED AS TO FORM:

\_\_\_\_\_  
Address

\_\_\_\_\_  
District Attorney

\_\_\_\_\_  
Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Name

\_\_\_\_\_  
Address

XII.

MAINTENANCE BOND  
(Typical Wording)

KNOW ALL MEN BY THESE PRESENTS: That (Owner or Contractor and Address) as Principal and the (Insurance Company) as a (Name of State) corporation authorized to execute bonds in the State of California, and duly authorized to transact a general surety business in the State of California, as Surety, are held and firmly bound unto the County of Colusa, State of California, in the sum of ( $\frac{1}{2}$  contract price) lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT: WHEREAS (the Principal) has \_\_\_\_\_, and

WHEREAS, the said (Principal) is required to give a bond in the amount of ( $\frac{1}{2}$  contract price) to protect the said COUNTY OF COLUSA against the result of faulty materials or workmanship for a period of ONE YEAR from and after the date of completion and acceptance of said work;

NOW, THEREFORE, if the said (Principal) shall for a period of ONE YEAR from and after the date of completion and acceptance of said work, replace any and all defects arising in said work whether resulting from defective materials or defective workmanship, then the above obligation to be void; otherwise, to remain in full force and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.



# SAMPLE

## MAINTENANCE BOND

### KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the County of Colusa State of California, (County) and \_\_\_\_\_ (Principal) have entered into a (x means applicable; NA means not applicable)

( ) Subdivision Map Improvement Agreement, dated \_\_\_\_\_, 199\_\_ (Agreement), relating to County of Colusa Subdivision Map No. \_\_\_\_\_

( ) Parcel Map Improvement Agreement, dated \_\_\_\_\_, 199\_\_ (Agreement), relating to County of Yuba Parcel Map No. \_\_\_\_\_ (Map)

whereby Principal agrees to guarantee and warrant public improvements, installed and completed by Principal for a period of one year following the completion and acceptance by County of such public improvements, against any defective work or labor done or defective materials furnished (guarantee and warranty) (the Agreement and the Map are on file with the Yuba County Department of Public Works, are incorporated herein by reference, and made a part hereof); and

WHEREAS, Said Principal is required under the terms of said Agreement to furnish a bond for the faithful performance of said guarantee and warranty.

NOW, THEREFORE, we, the Principal and \_\_\_\_\_, an admitted surety insurer as provided by Code of Civil Procedure section 995.120 and as surety, (Surety) are held and firmly bound unto the County of Yuba in the penal sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded Principal, and the Principal's heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said Agreement and any alteration thereof made as therein provided, on the Principal's or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless County, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by County in successfully enforcing all obligations secured hereby, all to be taxed as costs and included in any judgement rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the work or to the specifications.

In addition to the above,

1. The sureties are jointly and severally liable on the obligations of this bond, the Bond and Undertaking Law (chapter 2 (commencing with section 995.010) of title 14 of part 2 of the Code of Civil Procedure), and the provisions of the Subdivision Map Act (division 2 (commencing with section 66410) of title 7 of the Government Code, including sections 66462 and 66463 and chapter 5 (commencing with section 66499) providing for this bond; and

2. The address at which the Principal and Surety may be served with notices, papers, and other documents relating to this bond and under the Bond and Undertaking Law is:

I/We, the undersigned, declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I/we have full authority to act for and on behalf of the parties hereto, and in a manner fully binding upon them, and each of them.

**PRINCIPAL**

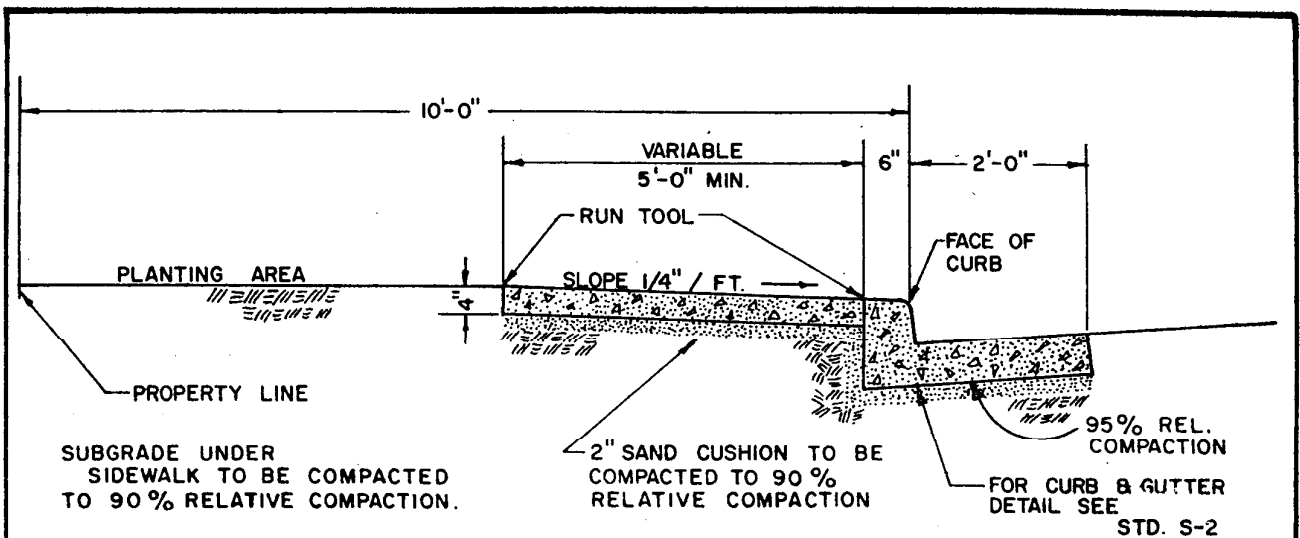
**Enter name of Principal:**

**Date:** \_\_\_\_\_ **By:** \_\_\_\_\_  
**Enter name of agent:**  
**Enter title of agent:**

**SURETY**

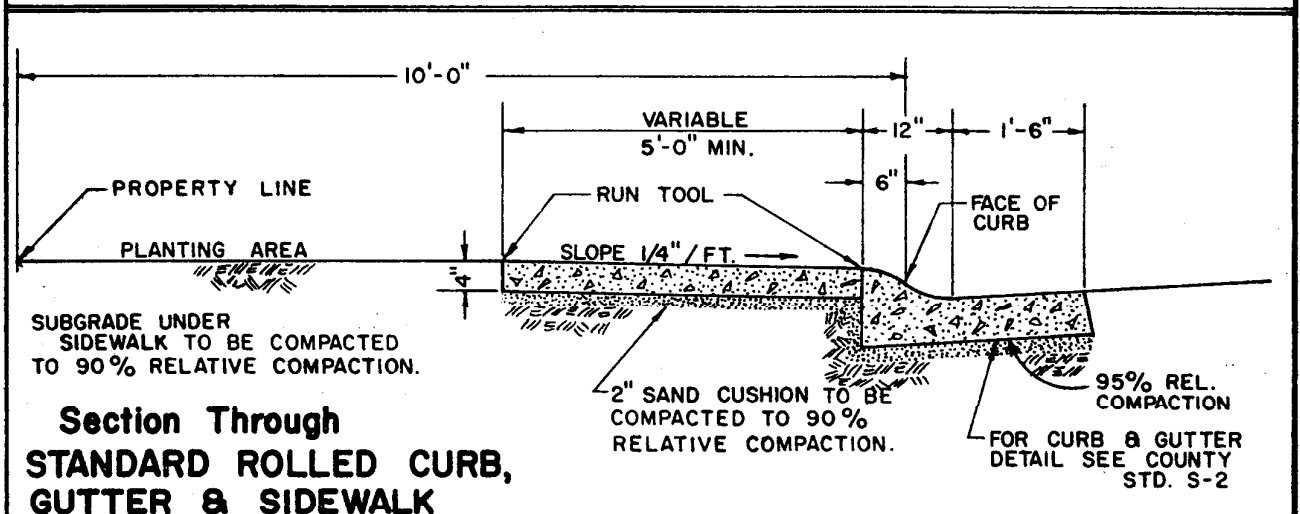
**Enter name of Surety:**

**Date:** \_\_\_\_\_ **By:** \_\_\_\_\_  
**Enter name of Attorney-in-Fact:**  
**Attorney-in-Fact**



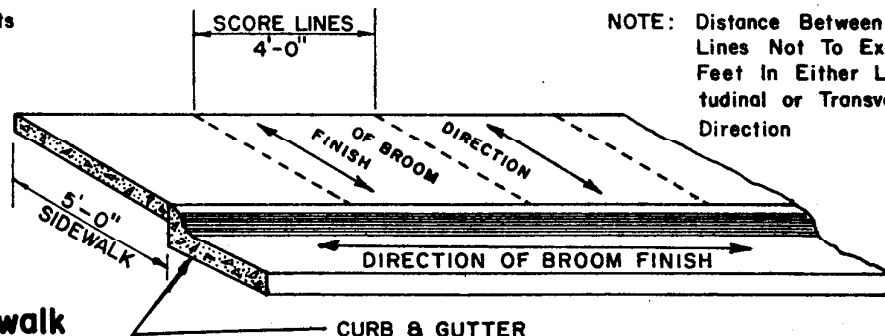
### Section Through STANDARD VERTICAL CURB, GUTTER & SIDEWALK

FOR DRIVEWAY DETAIL  
SEE COUNTY  
STD. S-4



### Section Through STANDARD ROLLED CURB, GUTTER & SIDEWALK

NOTE: Expansion Joints  
Not To Exceed  
60' Feet Apart



NOTE: Distance Between Score  
Lines Not To Exceed 4'  
Feet In Either Longi-  
tudinal or Transverse  
Direction

### DETAIL.. Sidewalk Score Lines

ALL CURB, GUTTER & SIDEWALK SHALL HAVE A  
LIGHT BROOM FINISH.

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE

STD. VERTICAL & ROLLED  
CURB, GUTTER & SIDEWALK

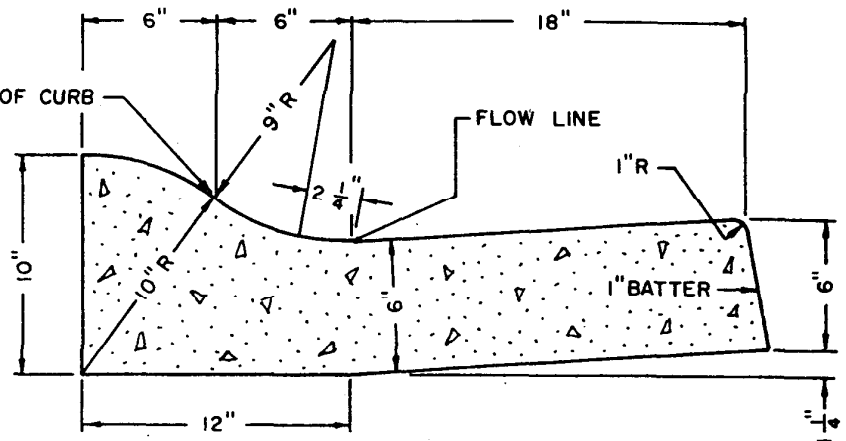
STANDARD NO.

S-1

SCALE — NONE

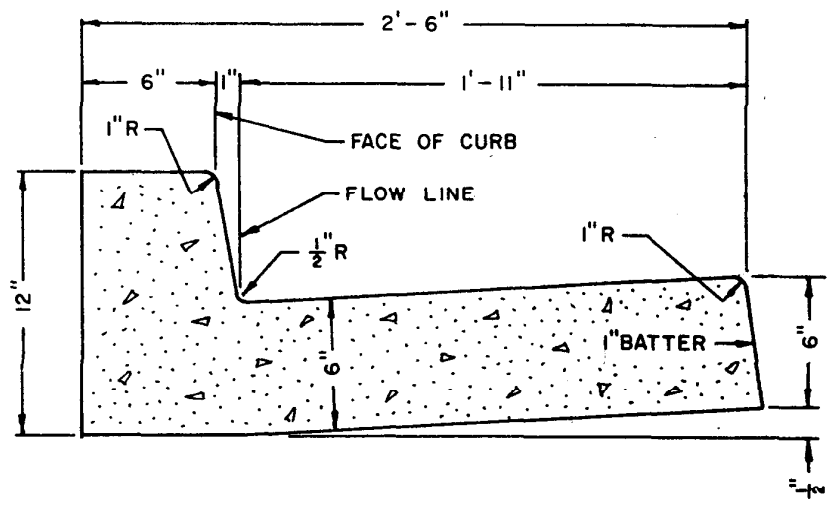
# SECTION ROLLED CURB & GUTTER

1 - LIN. FT. =  
1.44 CU. FT.



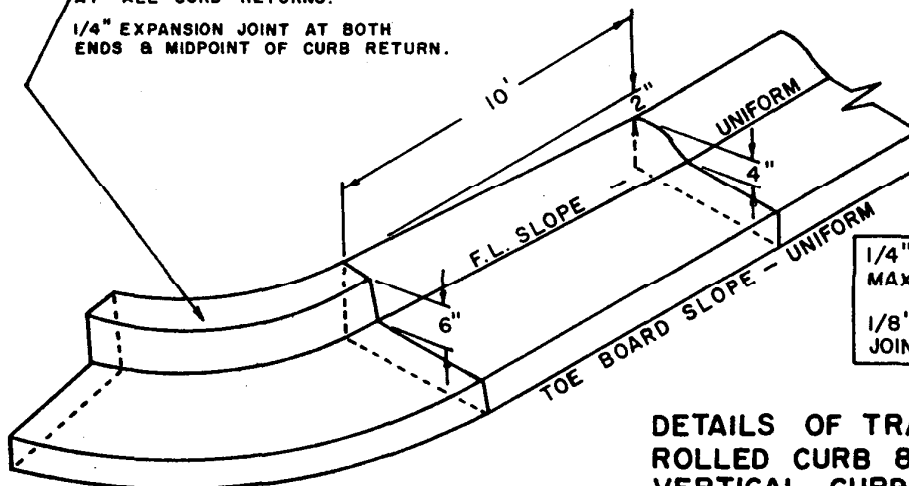
# SECTION VERTICAL CURB & GUTTER

1 - LIN. FT. =  
1.46 CU. FT.



## NOTE:

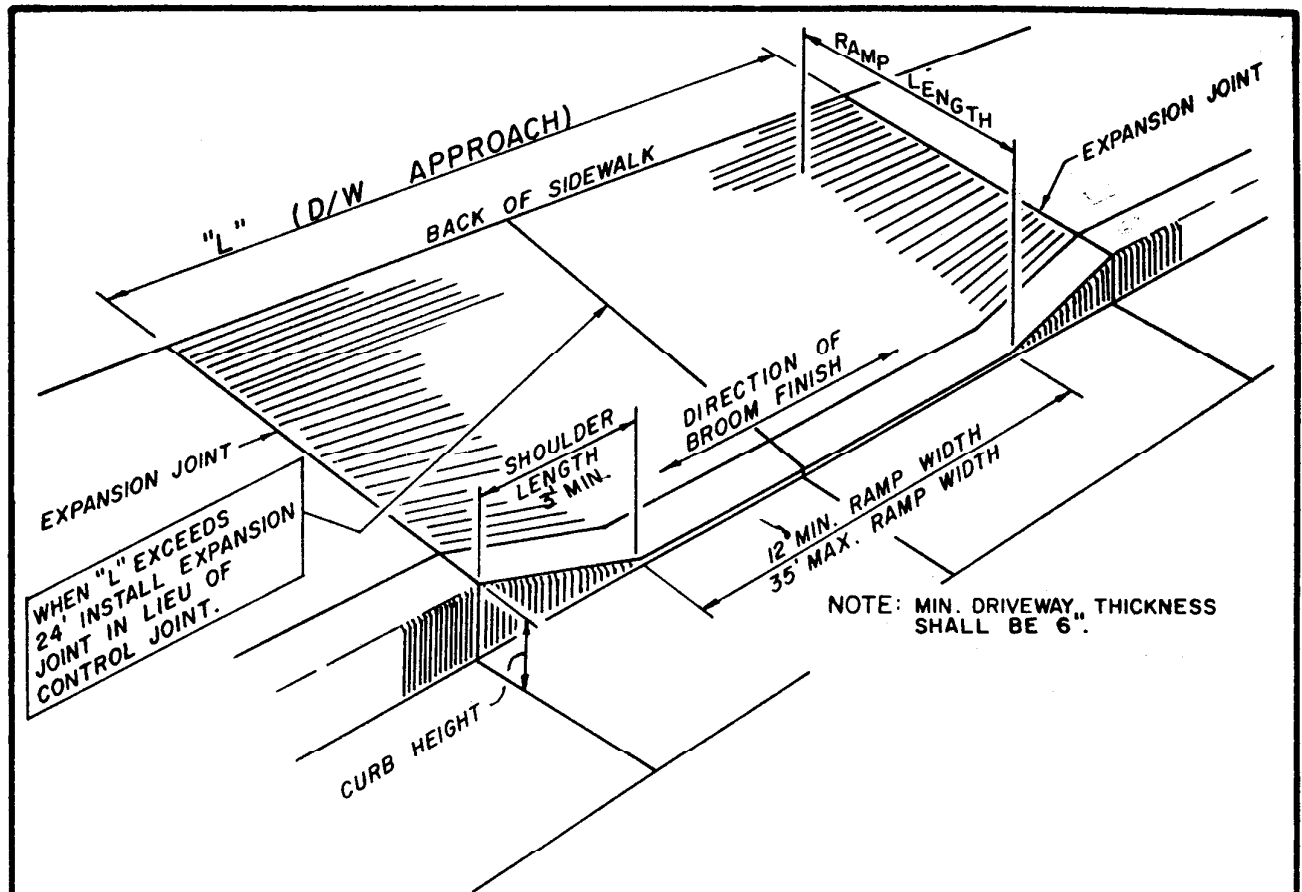
VERTICAL CURB & GUTTER TO BE USED  
AT ALL CURB RETURNS.  
1/4" EXPANSION JOINT AT BOTH  
ENDS & MIDPOINT OF CURB RETURN.



1/4" WIDE EXP. JOINTS -  
MAX. INTERVAL 24'  
1/8" SCORED CONTROL  
JOINTS - MAX. INTERVAL 24'

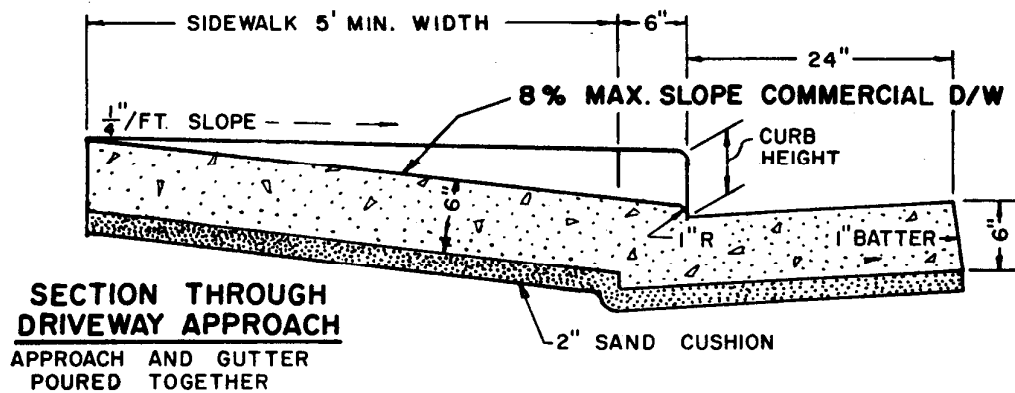
DETAILS OF TRANSITION FROM  
ROLLED CURB & GUTTER TO  
VERTICAL CURB & GUTTER AT  
CURB RETURNS

|                  |                                           |                            |                  |
|------------------|-------------------------------------------|----------------------------|------------------|
| COUNTY OF COLUSA |                                           | DEPARTMENT OF PUBLIC WORKS |                  |
| TITLE            | STD. VERTICAL AND<br>ROLLED CURB & GUTTER | STANDARD NO.               | S-2              |
|                  |                                           | SCALE:                     | 1 1/2" = 1' - 0" |

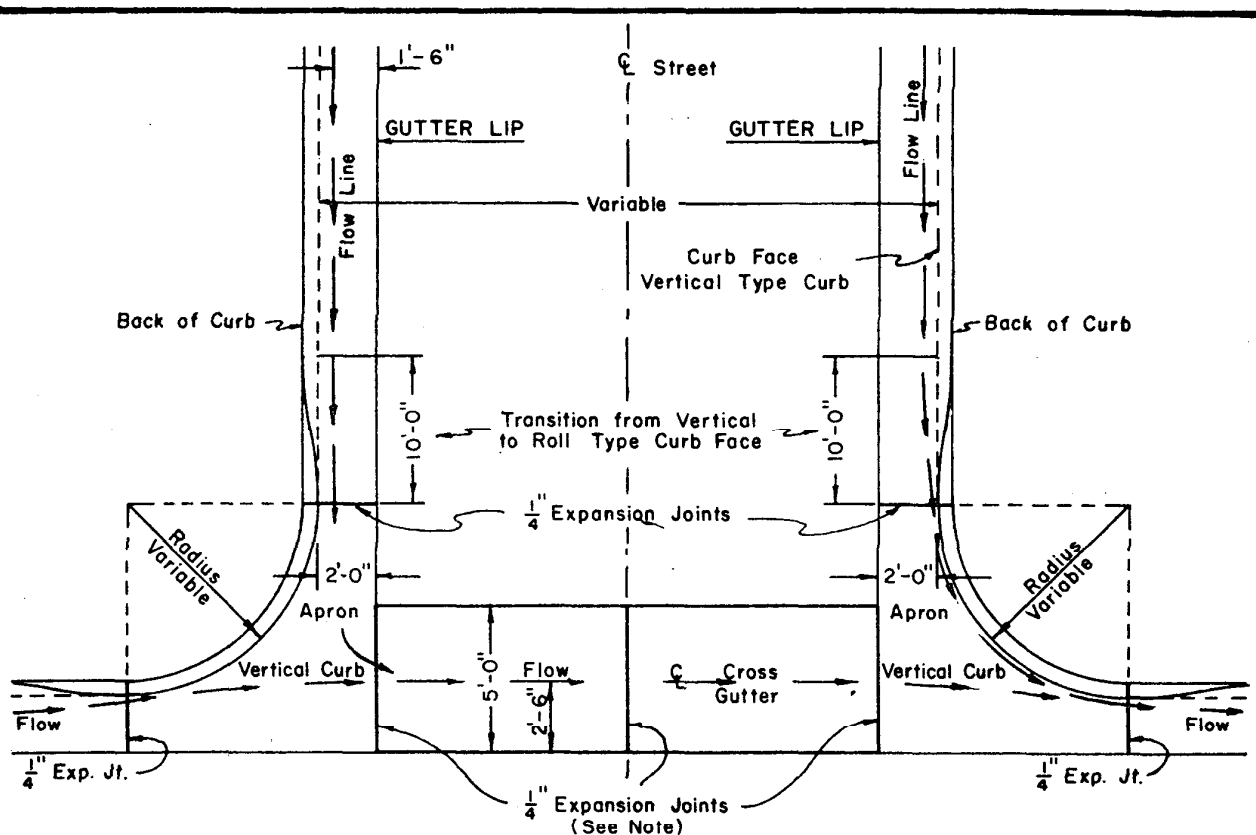


**NOTE:**

SHOULDER LENGTH 60" FOR PARKING LOTS WITH MORE THAN 10 PARKING SPACES.



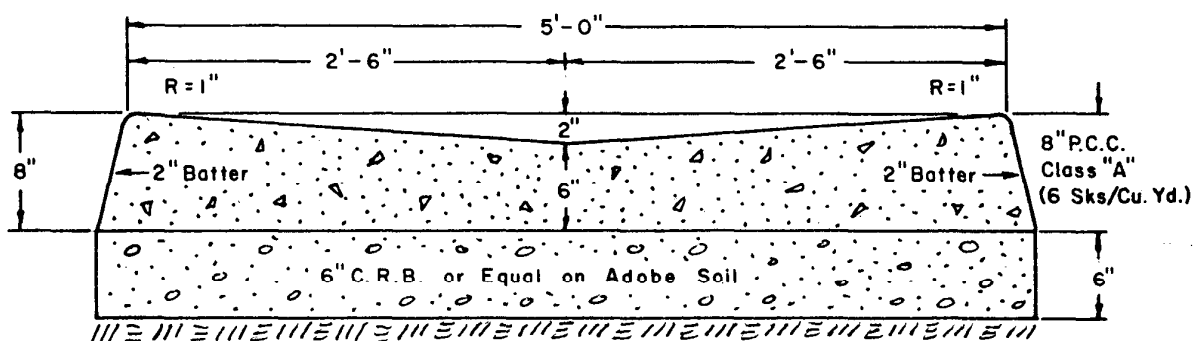
|                   |  |                            |  |
|-------------------|--|----------------------------|--|
| COUNTY OF COLUSA  |  | DEPARTMENT OF PUBLIC WORKS |  |
| STANDARD          |  | STANDARD NO. S - 3         |  |
| TITLE             |  | SCALE : NONE               |  |
| DRIVEWAY APPROACH |  |                            |  |



ALL APRONS SHALL BE CLASS "A" CONCRETE 6" THICK THROUGHOUT

NOTE: Expansion Joints Shall be Placed at Each End of Cross Gutters and at Mid-Span Perpendicular to the Longitudinal Axis, and at Both ends of All Curb Returns.

NOTE: Vertical Face Type Curb shall be Used on All Streets Any Portion of Which, Intersection to Intersection, Has A Grade of 3% or Greater and at All Curb Returns at Street Intersections.



TYPICAL CROSS-GUTTER

Scale: 1" = 1'

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

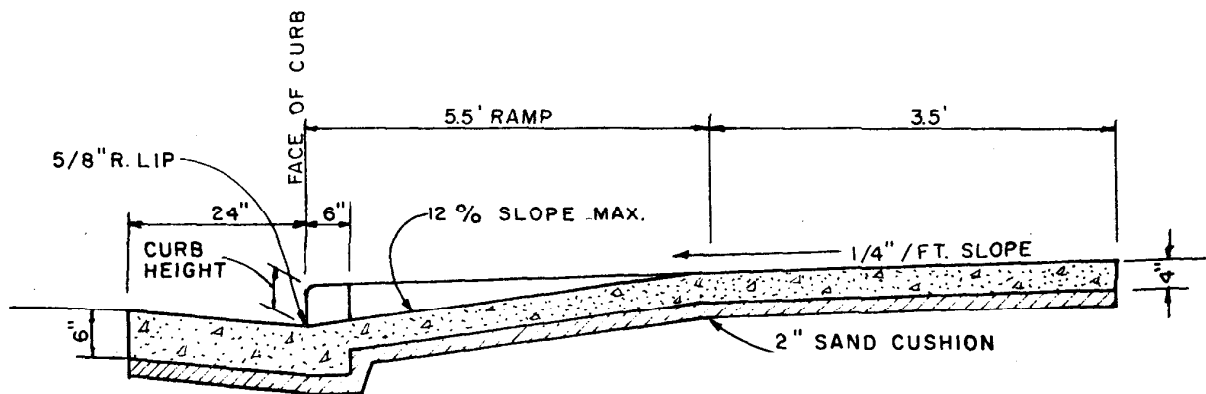
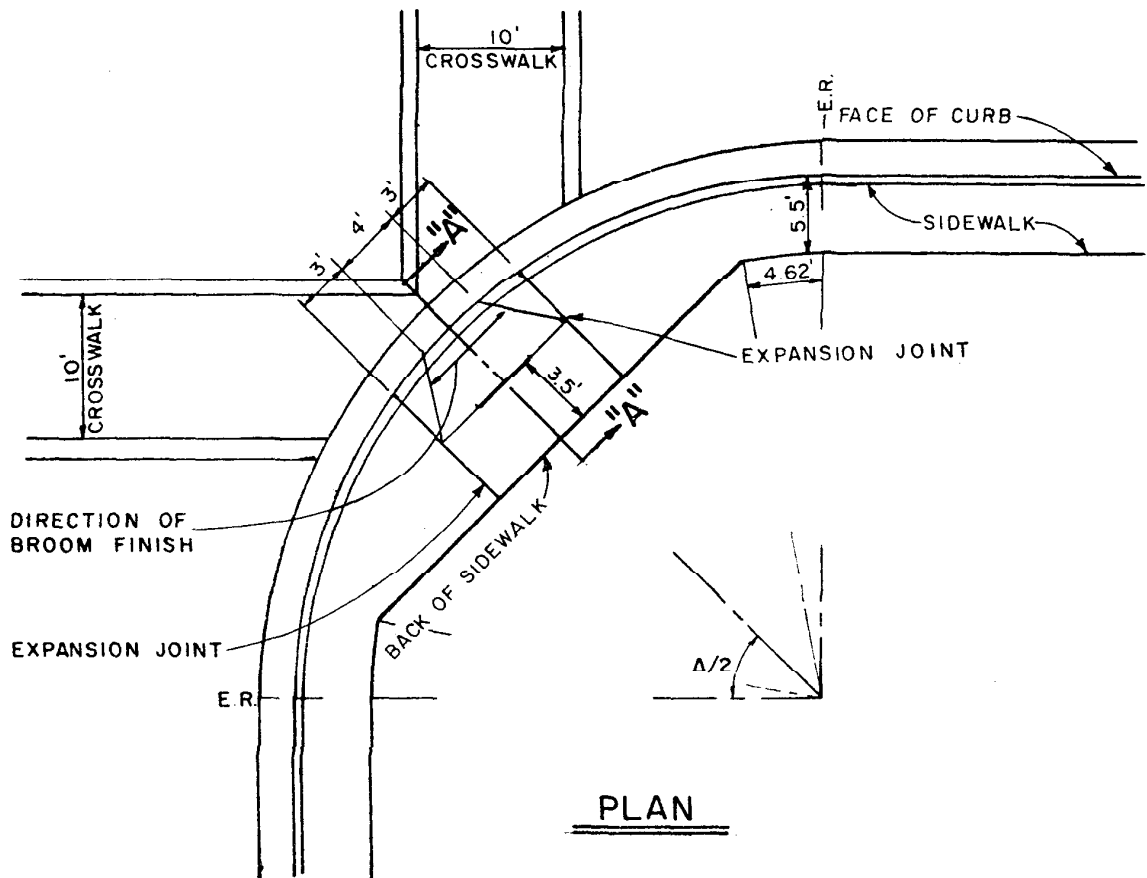
STANDARD CROSS GUTTER

STANDARD NO.

S - 4

TITLE Typical Cross - Section  
Typical Intersection Plan

SCALE: AS SHOWN



SECTION "A"-"A"

NOTE

RAMP AND GUTTER  
POURED TOGETHER

COUNTY OF COLUSA

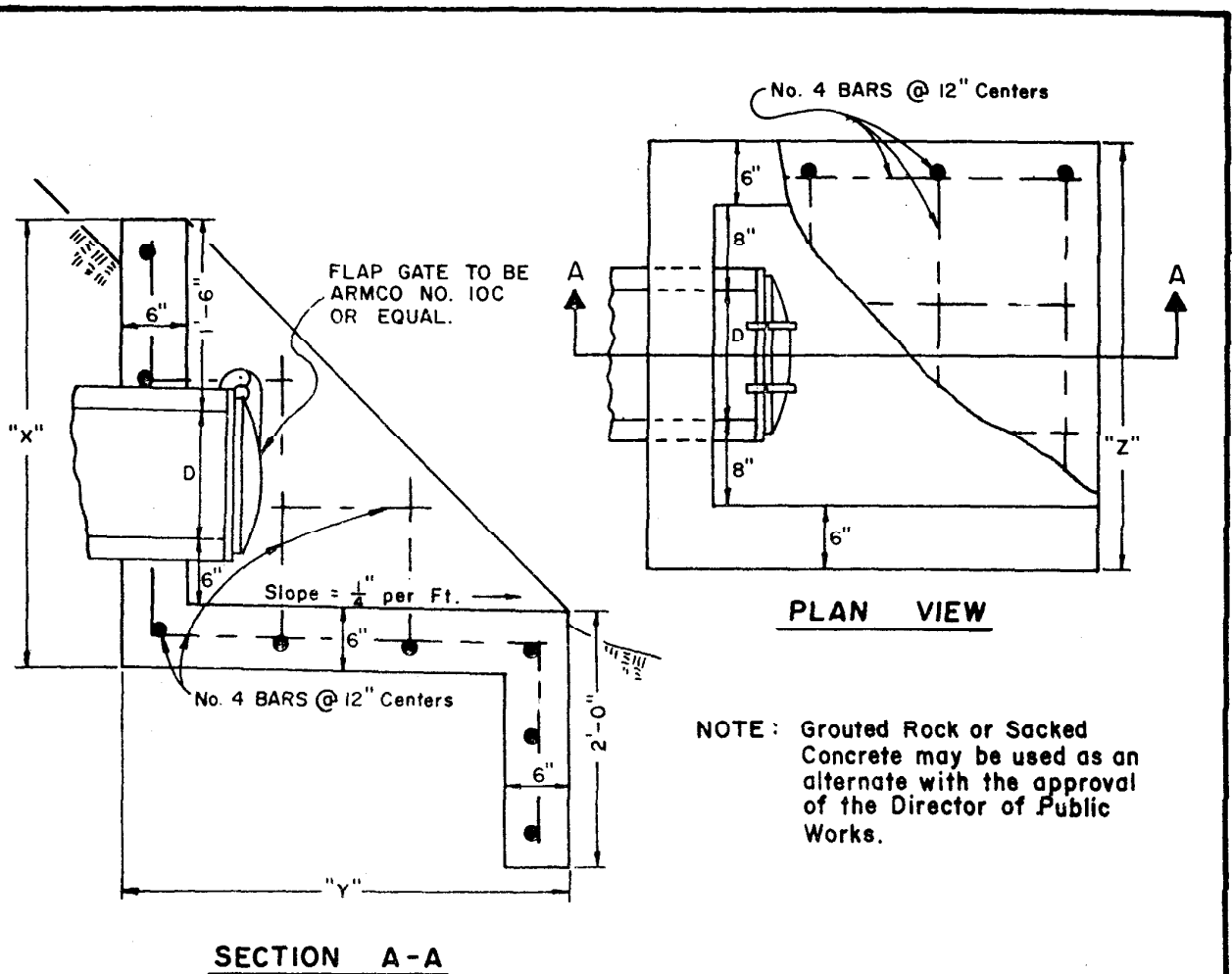
DEPARTMENT OF PUBLIC WORKS

STANDARD P.C.C.  
PEDESTRIAN RAMP

STANDARD NO. S-5

SCALE: NONE

MARCH 10, 1976



| PIPE<br>DIAMETER | HEADWALL<br>WIDTH | VARIABLE DIMENSIONS |             |                 |                      |               |                |
|------------------|-------------------|---------------------|-------------|-----------------|----------------------|---------------|----------------|
|                  |                   | SLOPE = 1 : 1       |             | SLOPE = 1.5 : 1 |                      | SLOPE = 2 : 1 |                |
| D                | "Z"               | "X"                 | "Y"         | "X"             | "Y"                  | "X"           | "Y"            |
|                  | $D + 2'-4"$       | $D + 2'-6"$         | $D + 2'-6"$ | $D + 2'-6"$     | $1.5(D + 2'-6")$     | $D + 2$       | $2(D + 2'-6")$ |
| 8"               | 3'-0"             | 3'-2"               | 3'-2"       | 3'-2"           | 4'-9"                | 3'-2"         | 6'-4"          |
| 10"              | 3'-2"             | 3'-4"               | 3'-4"       | 3'-4"           | 5'-0"                | 3'-4"         | 6'-8"          |
| 12"              | 3'-4"             | 3'-6"               | 3'-6"       | 3'-6"           | 5'-3"                | 3'-6"         | 7'-0"          |
| 15"              | 3'-7"             | 3'-9"               | 3'-9"       | 3'-9"           | 5'-7 $\frac{1}{2}$ " | 3'-9"         | 7'-6"          |
| 18"              | 3'-10"            | 4'-0"               | 4'-0"       | 4'-0"           | 6'-0"                | 4'-0"         | 8'-0"          |
| 21"              | 4'-1"             | 4'-3"               | 4'-3"       | 4'-3"           | 6'-4 $\frac{1}{2}$ " | 4'-3"         | 8'-6"          |
| 24"              | 4'-4"             | 4'-6"               | 4'-6"       | 4'-6"           | 6'-9"                | 4'-6"         | 9'-0"          |
| 27"              | 4'-7"             | 4'-9"               | 4'-9"       | 4'-9"           | 7'-1 $\frac{1}{2}$ " | 4'-9"         | 9'-6"          |
| 30"              | 4'-10"            | 5'-0"               | 5'-0"       | 5'-0"           | 7'-6"                | 5'-0"         | 10'-0"         |

COUNTY OF COLUSA

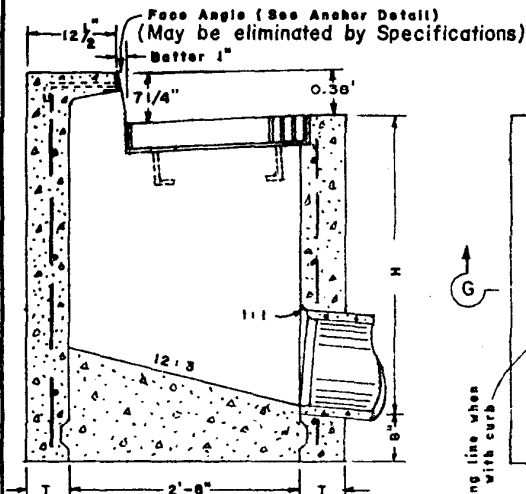
DEPARTMENT OF PUBLIC WORKS

TITLE  
STANDARD HEADWALL  
STRUCTURAL DETAILS

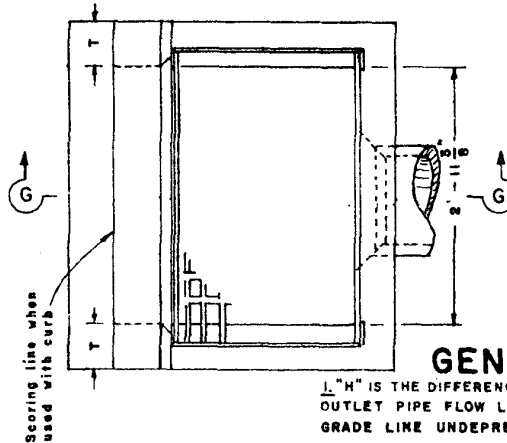
STANDARD NO. S-7

SCALE:  $\frac{3}{4}" = 1'-0"$





NOTE: For wall thickness (T) see table A.



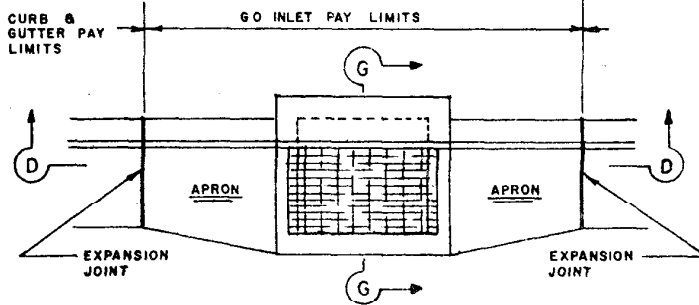
| H               | T  |
|-----------------|----|
| 8'-0" or less   | 6" |
| 8'-1" to 20'-0" | 8" |

TABLE A

## GENERAL NOTES

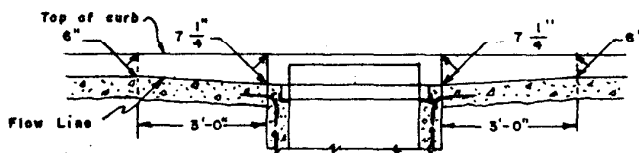
1. "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.
2. REINFORCING STEEL IN WALLS SHALL BE #4 BARS AT 18" ± CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.
3. STEPS - NONE REQUIRED WHERE "H" IS 3'-6" OR LESS. INSTALL ONE STEP 18" ± ABOVE FLOOR WHEN "H" IS MORE THAN 3'-6" AND LESS THAN 5'-0". WHERE "H" IS MORE THAN 5'-0", STEPS SHALL BE EVENLY SPACED AT 12" ± INTERVALS FROM 18" ± ABOVE FLOOR TO WITHIN 12" ± OF THE TOP OF THE BOX. PLACE STEPS IN WALL WITHOUT PIPE OPENINGS.
4. PIPE(S) CAN BE PLACED IN ANY WALL.
5. CURB SECTION SHALL MATCH ADJACENT CURB.
6. BASIN FLOORS SHALL HAVE WOOD TROWEL FINISH AND A MINIMUM SLOPE OF 12:3 FROM ALL DIRECTIONS TOWARD OUTLET PIPE.
7. ALL HARDWARE SHALL BE GALVANIZED.
8. WHEN USING STANDARD ROLLED CURB & GUTTER, WARP TO VERTICAL CURB 5' EACH SIDE OF D.I..
9. WHEN APRON IS REQUIRED WITH DROP-INLET EXTEND #4 SIDEWALL RE-BAR 12" INTO TAPERED GUTTER PAN.
10. Delete Apron in Non Curb and Gutter Areas.

## SECTION G-G



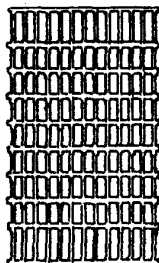
## PLAN

## PLAN



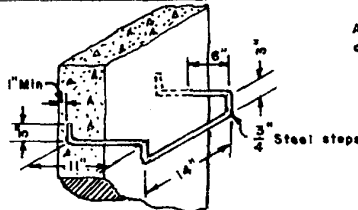
## SECTION D-D

| SLOPE NOTES           |         |
|-----------------------|---------|
| D.I. GRADE - ROAD GR. |         |
| MATCH ROAD GRADE      | 0 - 4%  |
| 4 %                   | 4 - 8%  |
| HOLD 4% GRADE CHANGE  | 8% - UP |

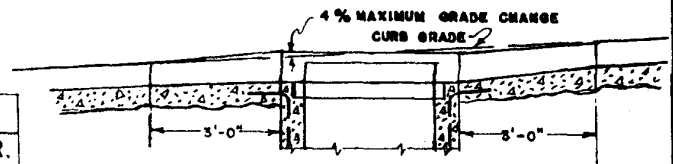


## TYPE 24-13 GRATE

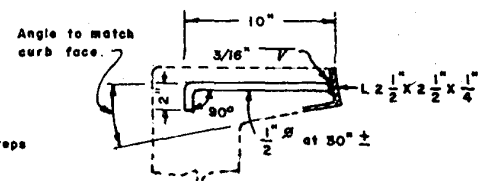
NOTE: Frame & grating shall conform to Pinkerton Foundry type A-864 or equal.



## STEP DETAIL



## SLOPE SECTION



## FACE ANGLE ANCHOR DETAIL

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE  
STANDARD GO TYPE  
DROP INLET & DETAILS

STANDARD NO. S - 8

SCALE: NONE



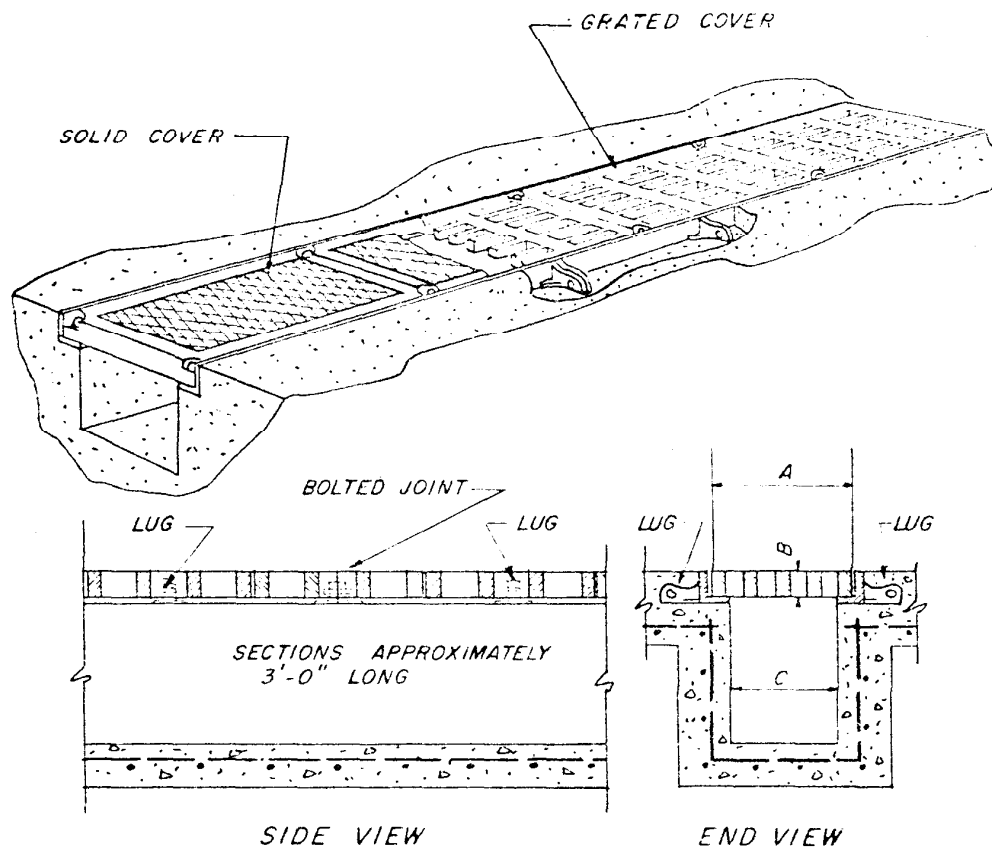


TABLE ----- DIMENSIONS IN INCHES

| A  | B     | C  |
|----|-------|----|
| 8  | 1-3/4 | 6  |
| 10 | 1-3/4 | 8  |
| 12 | 2     | 10 |
| 14 | 2     | 12 |

NOTES:

TRENCH DETAILS AND SIZE OF FRAME,  
WITH GRATE OR COVER WILL BE  
SPECIFIED ON PLANS.  
NEENAH FOUNDRY CO. NO. 4999 A-D INCLUSIVE  
OR EQUAL.

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE STANDARD  
CONCRETE TRENCH COVER  
FOR STREETS & SIDEWALKS

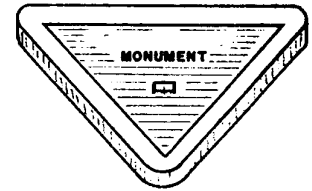
STANDARD NO. S-10

SCALE: NONE

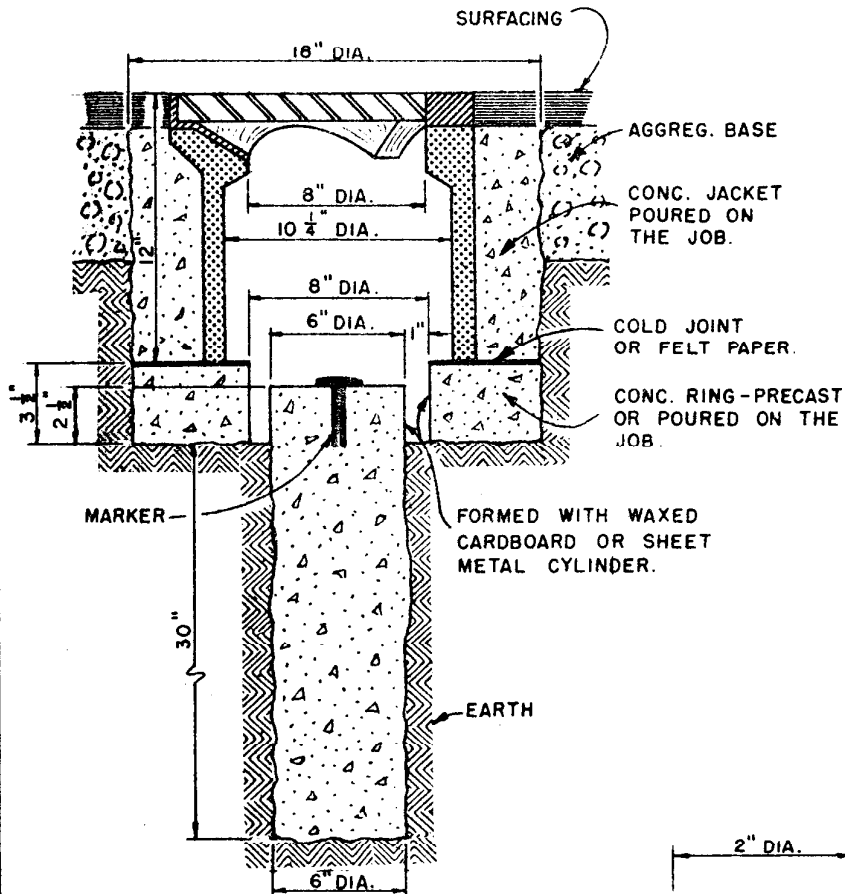
**NOTE :**

When resurfacing road  
add riser ring between  
existing box & cover  
to meet new road grade.

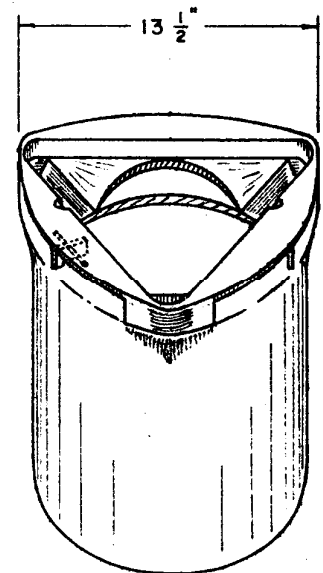
**RISER RING**



**C.I. COVER**



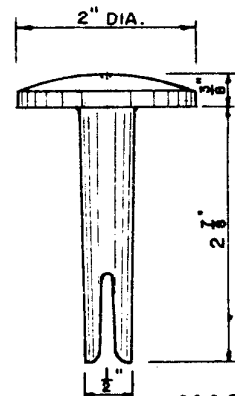
**MONUMENT SECTION**



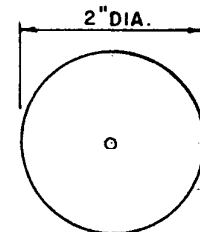
**MONUMENT**

**NOTE :**

Monument to be No. 4TT  
valve box w/C.I. face & cover  
for traffic use. Brooks  
Products Inc. or equal.



**MARKER**



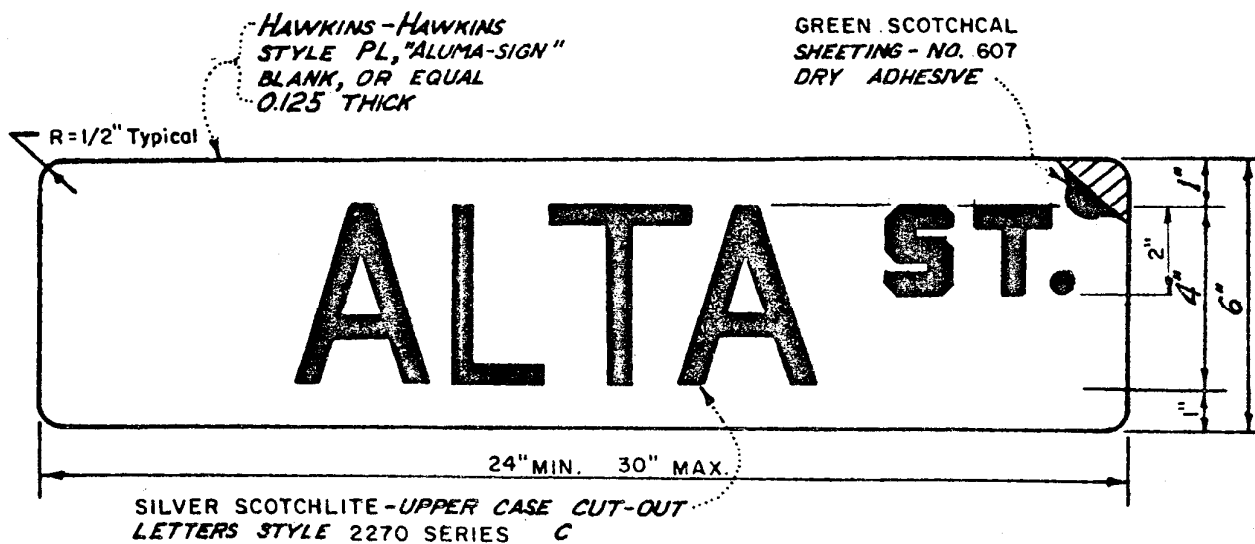
COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE  
STANDARD  
STREET SURVEY MONUMENT

STANDARD NO. S - II

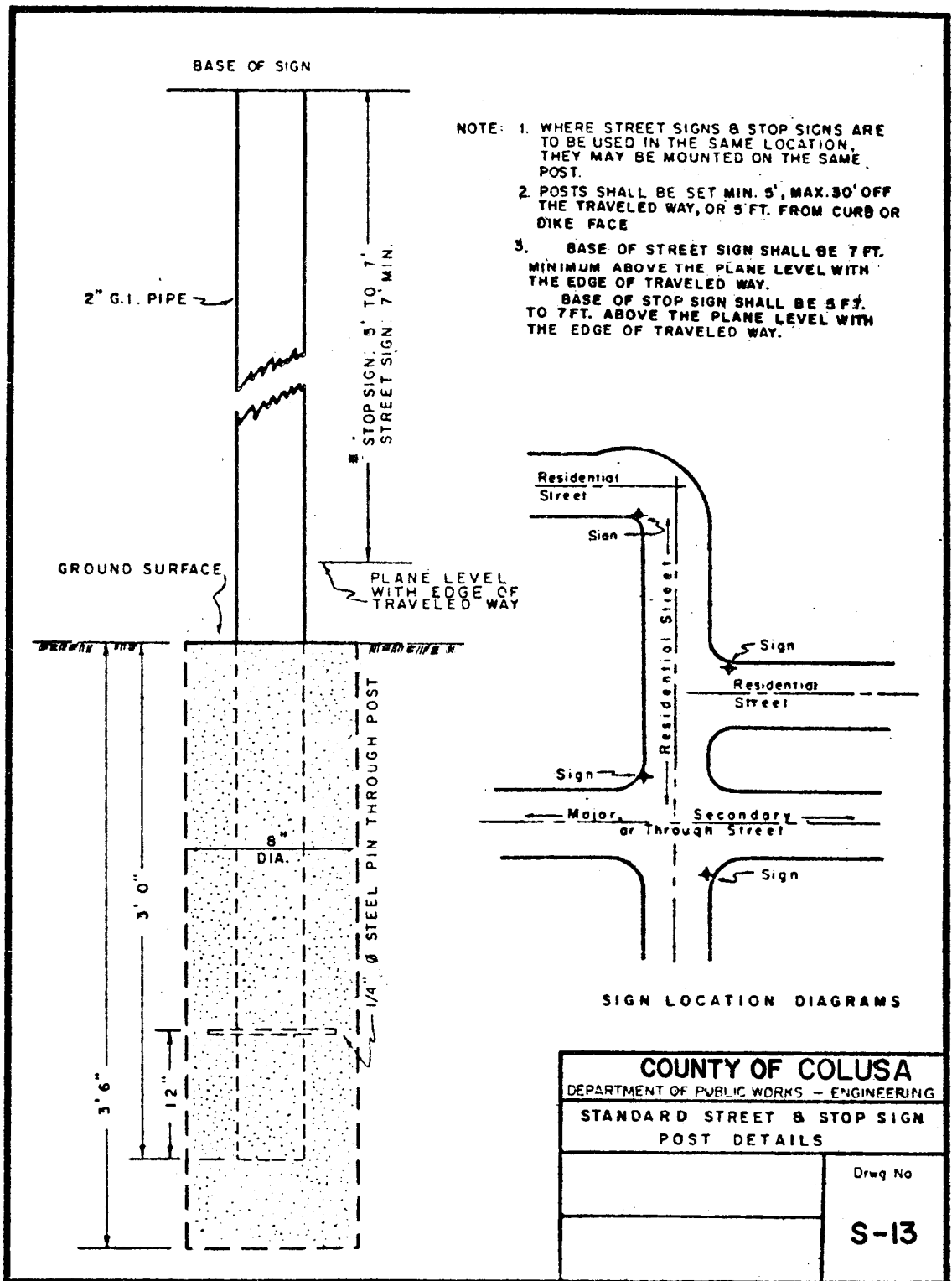
SCALE : NONE

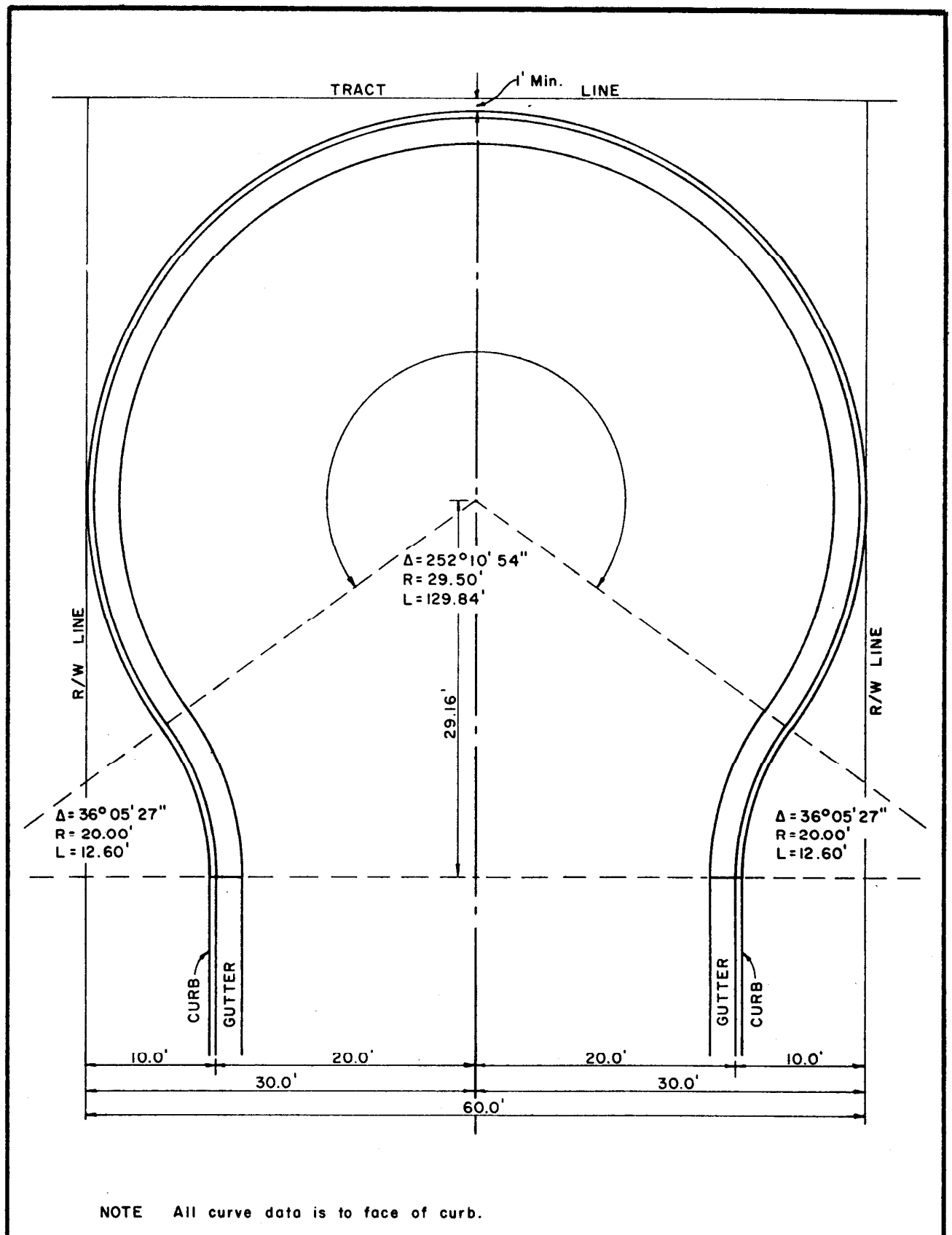


**NOTES:**

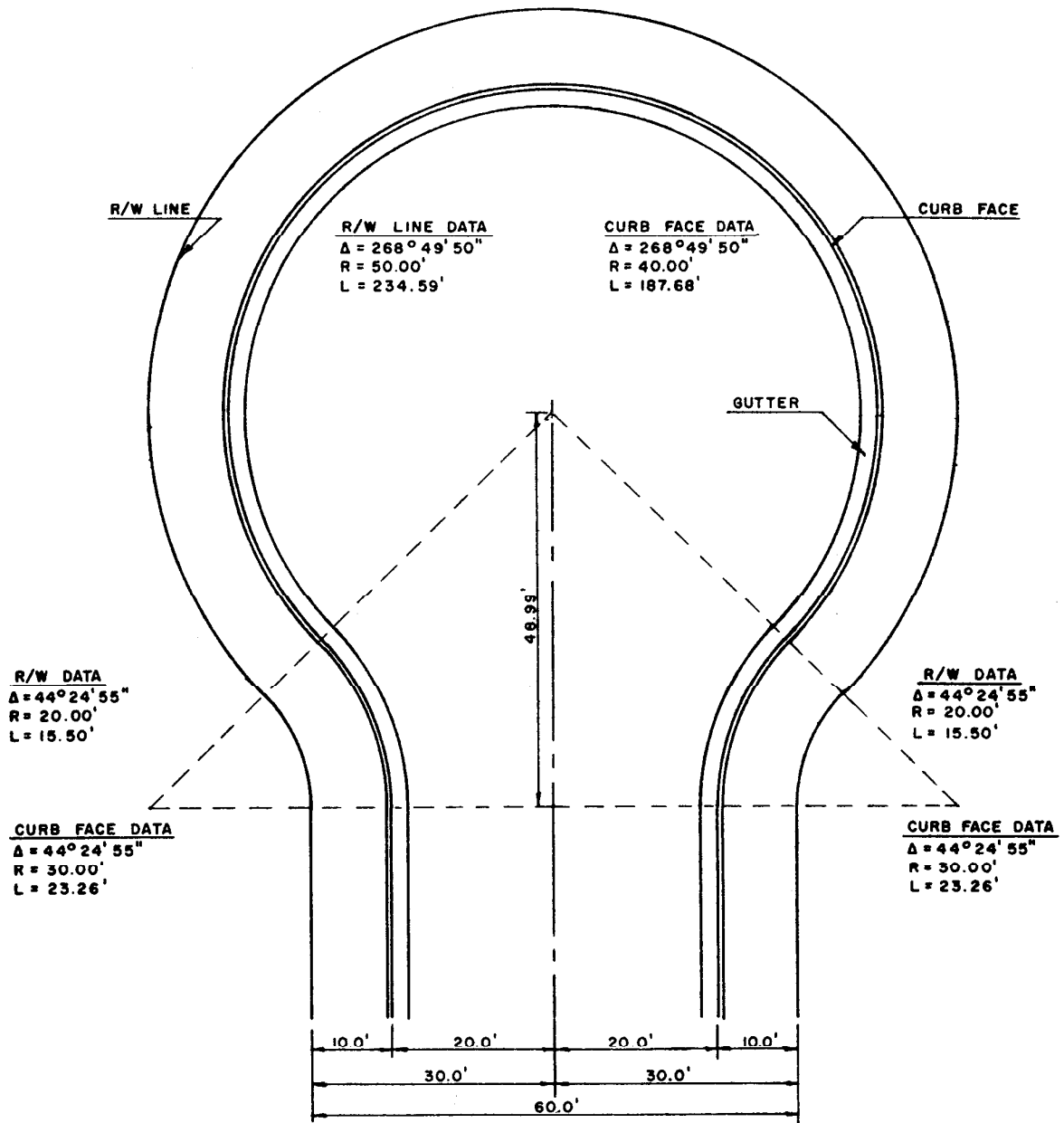
1. REFLECTIVE LETTERS SHALL BE MECHANICALLY APPLIED PER MANUFACTURER'S SPECIFICATIONS.
2. SIGNS SHALL BE PRINTED ON BOTH SIDES.
3. HARDWARE FOR MOUNTING SIGNS SHALL BE HAWKINS-HAWKINS, V14(HD)SL-105 CROSS PIECE AND V14(HD)SL-2C-CAP, POST CAP, OR EQUAL.
4. SIGNS SHALL BE MOUNTED ON 2" I.D. GALV. PIPE SET 3 FT. IN GROUND, 8 FT. OFF THE TRAVELED WAY WITH THE BASE OF THE SIGN 7 FT. ABOVE THE EDGE OF THE TRAVELED WAY.
5. ALLEN HEAD SET SCREWS AFFIXING THE SIGN TO THE HARDWARE & CAP TO THE PIPE SHALL BE TIGHTENED.
6. SEE STD. POST DETAIL DRAWING.
7. CENTER LETTERS ON SIGN AND LEAVE 1/2" MIN. MARGIN ON BOTH ENDS.

|                                          |           |
|------------------------------------------|-----------|
| COUNTY OF COLUSA                         |           |
| DEPARTMENT OF PUBLIC WORKS - ENGINEERING |           |
| STANDARD COUNTY<br>ROAD SIGN             |           |
|                                          | Drwg. No. |
|                                          | S-12      |





|                  |                                  |                            |      |
|------------------|----------------------------------|----------------------------|------|
| COUNTY OF COLUSA |                                  | DEPARTMENT OF PUBLIC WORKS |      |
| TITLE            | STANDARD<br>TEMPORARY CUL-DE-SAC | STANDARD NO.               | S-14 |
|                  |                                  | SCALE: 1" = 10' - 0"       |      |



COUNTY OF COLUSA

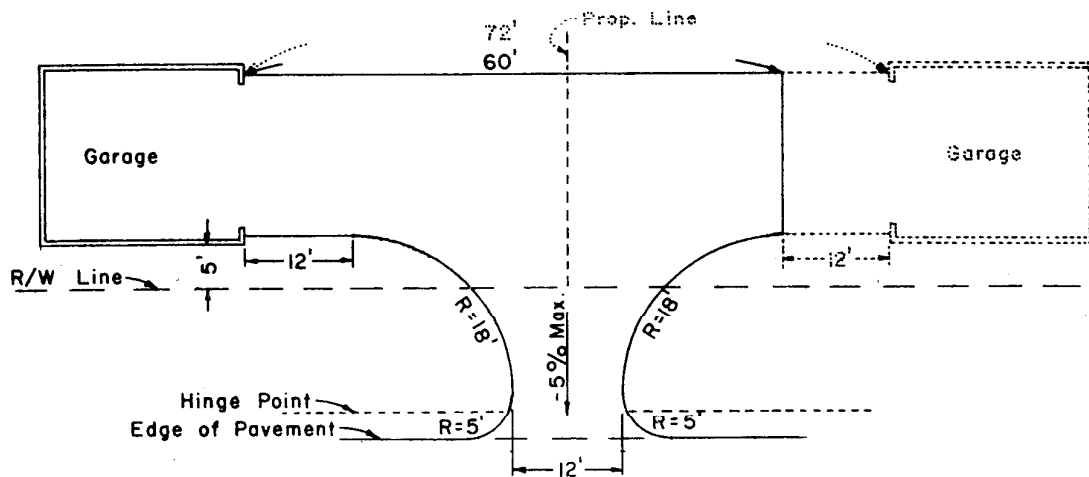
DEPARTMENT OF PUBLIC WORKS

TITLE  
 STANDARD  
 PERMANENT CUL-DE-SAC

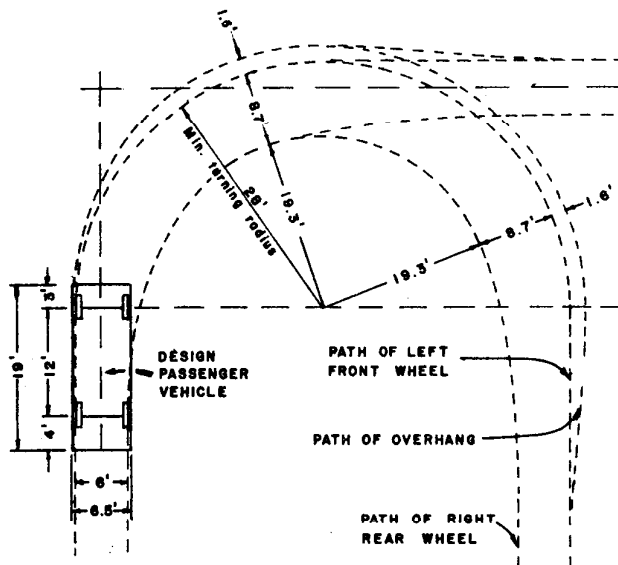
STANDARD NO. S-15

SCALE: 1" = 20' - 0"

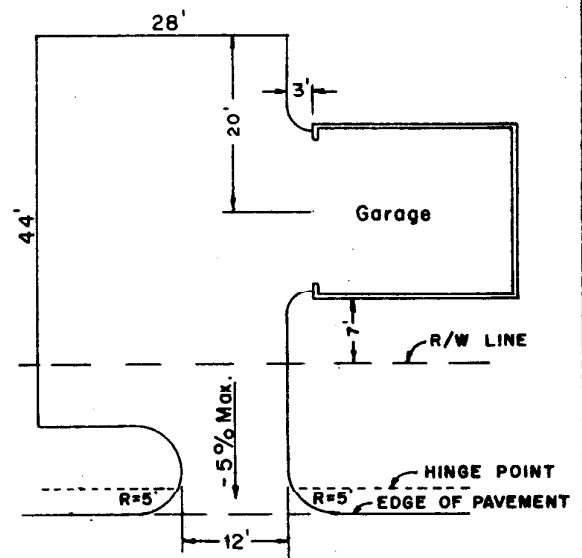




NOTE: Property line at center line of driveway only when both owners use same driveway.



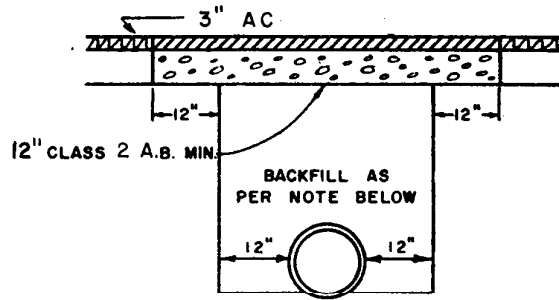
OTHER DRIVEWAY DESIGNS MAY BE APPROVED BASED ON THIS STANDARD



NOTE:

These Standards apply only when garage and turning area are near road grade & near R/W.

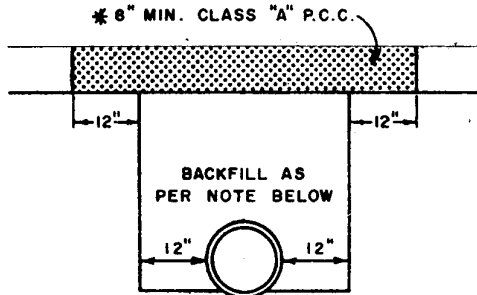
|                  |                              |                            |          |
|------------------|------------------------------|----------------------------|----------|
| COUNTY OF COLUSA |                              | DEPARTMENT OF PUBLIC WORKS |          |
| TITLE            | DRIVEWAYS FOR HILLSIDE AREAS | STANDARD NO.               | S-16     |
|                  |                              | SCALE :                    | 1" = 20' |



**TYPE A**

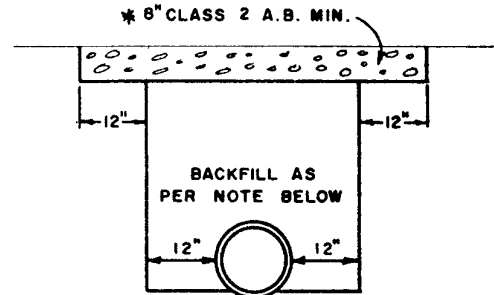
**ASPHALTIC CONCRETE OR  
SEALCOAT STREETS**

NOTE: Trench must be vertically cut with smooth edges and neat lines.



**TYPE B**

**PORTLAND CEMENT CONCRETE  
STREETS**



**TYPE C**

**UNIMPROVED STREETS, ALLEYS  
OR EASEMENTS**

**NOTES:**

All work shown above shall conform to the applicable sections of the standard specifications.

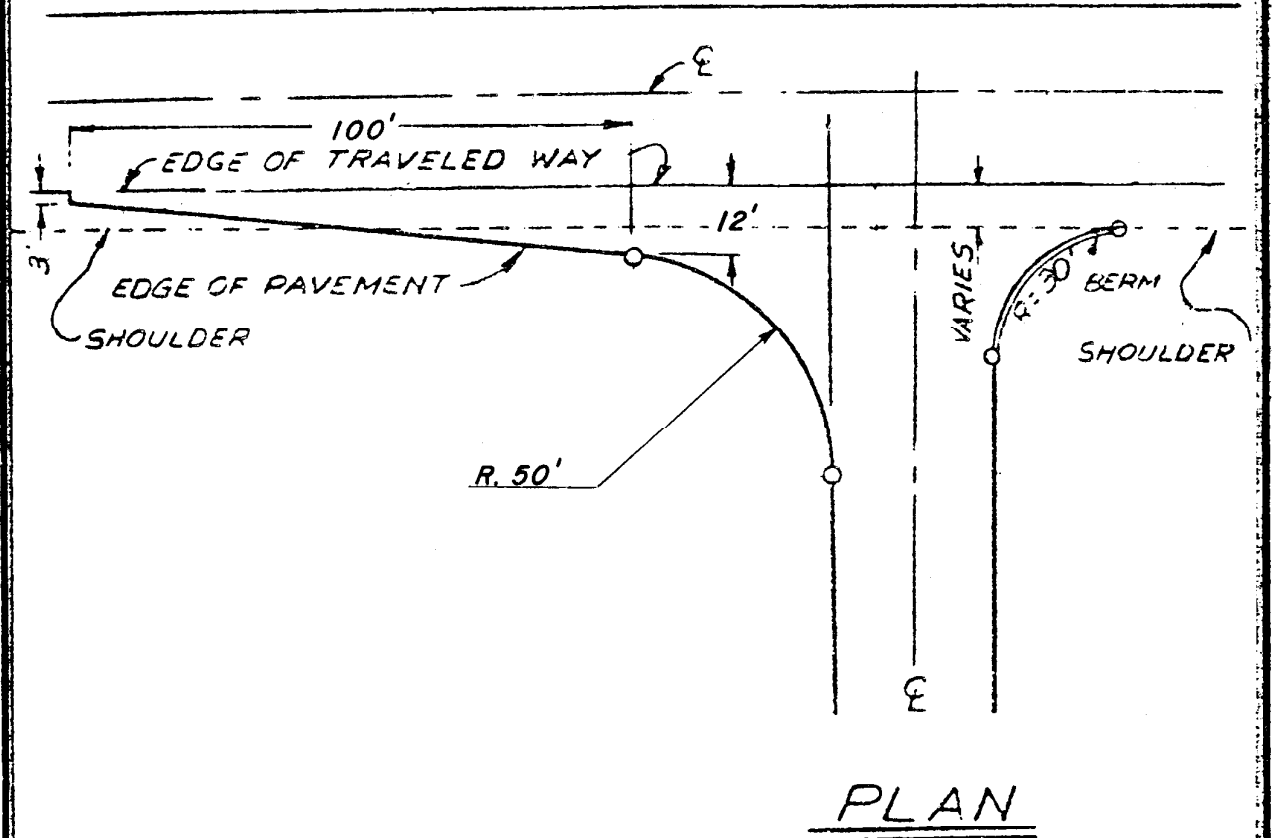
All excavation within public right of way shall be backfilled in accordance with section 19-3 of the standard specifications.

Area adjacent to the trench shall be left in a condition equal to or better than that existing prior to construction.

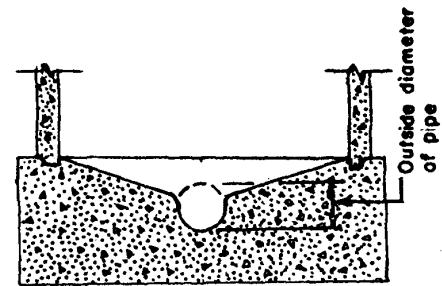
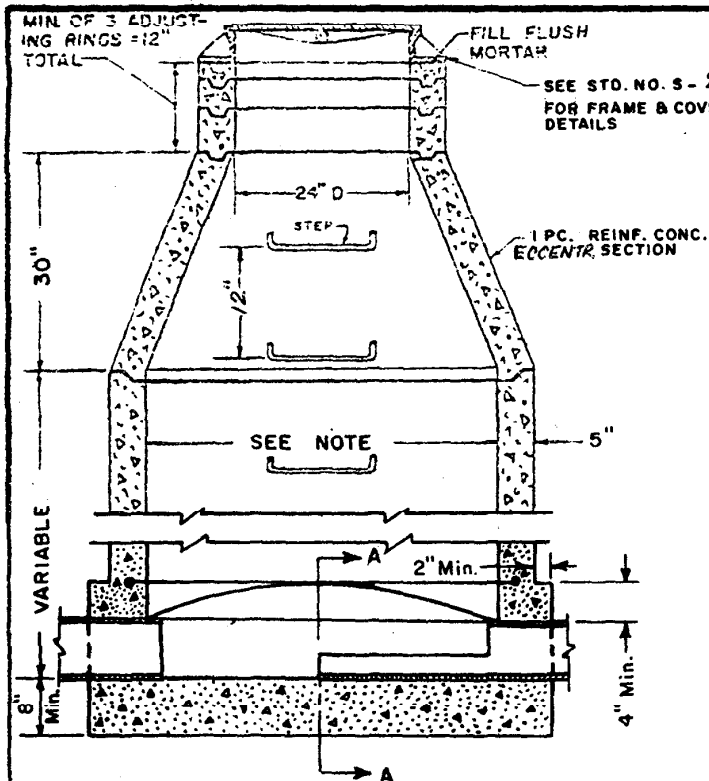
Seal Coat - Bituminous binder shall be covered with either sand or screenings to match existing surface.

\* Structural Section elements may be increased where required by the Department of Public Works due to soil conditions and traffic considerations. The replacement structural section shall equal the existing structural section as a minimum requirement, except that the section shown above is an Absolute Minimum.

|                  |                                                                         |                            |                            |
|------------------|-------------------------------------------------------------------------|----------------------------|----------------------------|
| COUNTY OF COLUSA |                                                                         | DEPARTMENT OF PUBLIC WORKS |                            |
| TITLE            | TYPICAL DETAILS OF<br>PAVEMENT REPLACEMENT<br>AND BACKFILL REQUIREMENTS | STANDARD NO.               | S-17                       |
|                  |                                                                         | SCALE:                     | $\frac{3}{8}'' = 1' - 0''$ |



|                  |                             |                            |  |
|------------------|-----------------------------|----------------------------|--|
| COUNTY OF COLUSA |                             | DEPARTMENT OF PUBLIC WORKS |  |
| TITLE            | STANDARD<br>ROAD CONNECTION | STANDARD NO. S-18          |  |
|                  |                             | SCALE : NONE               |  |

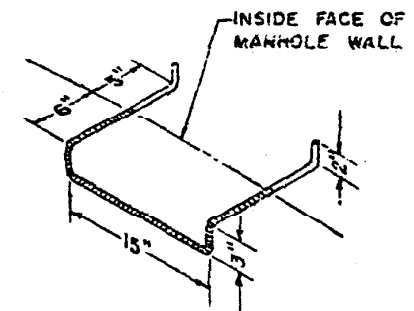
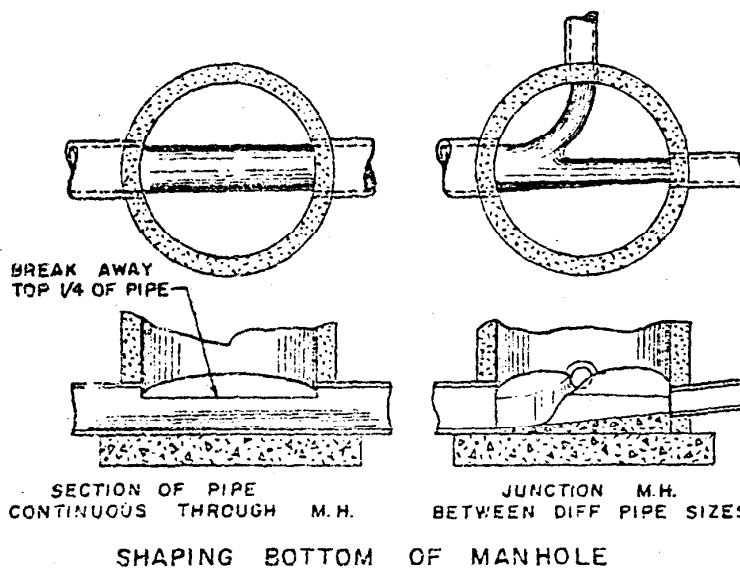


SECTION A-A

NOTE: 5'-0" Dia. M.H.  
for 39" to 48" Pipe.  
4'-0" Dia. M.H. for  
36" and Smaller Pipe.

See standard drawing  
S-25 for additional  
details

**STANDARD MANHOLE 48"**  
FOR SANITARY SEWERS 24" DIA. OR LESS



TO BE FABRICATED OF  $\frac{3}{8}$ "  
STEEL ROD & GALVANIZED  
STEPS NOT REQUIRED UNLESS  
SPECIFIED IN SPECIAL PROVISIONS

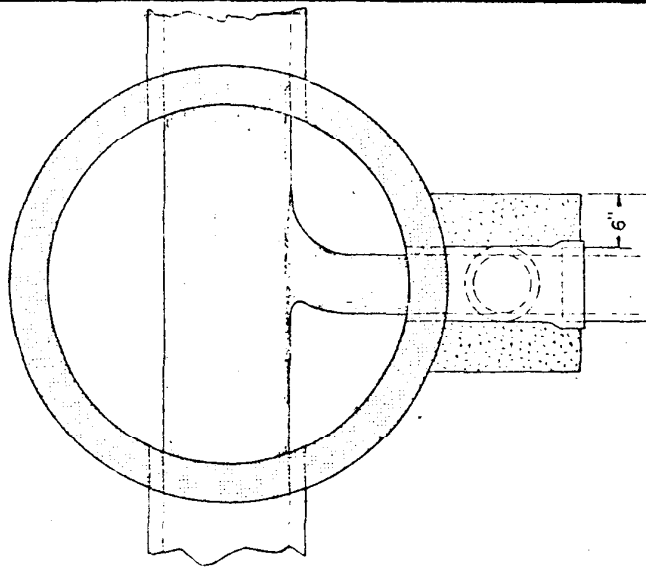
MANHOLE STEP DETAIL

COUNTY OF COLUSA

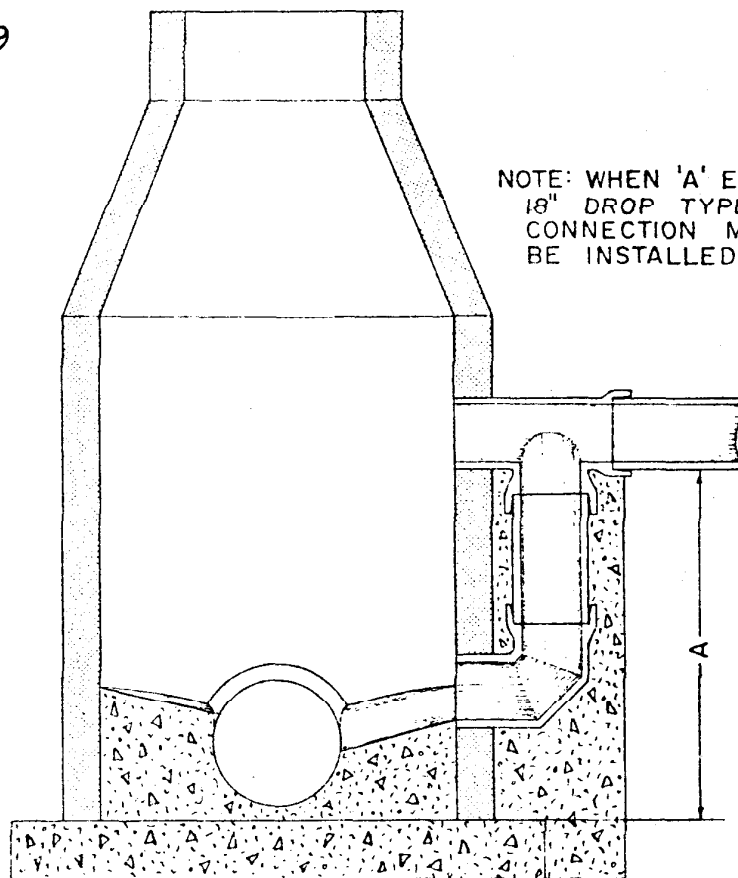
DEPARTMENT OF PUBLIC WORKS

TITLE  
**STANDARD  
ECCENTRIC MANHOLE**

STANDARD  
S-19  
SCALE : NONE



NOTE: FOR STD. MANHOLE  
DIMENSIONS SEE  
STANDARD NO. S-19



NOTE: WHEN 'A' EXCEEDS  
18" DROP TYPE  
CONNECTION MUST  
BE INSTALLED

COUNTY OF COLUSA

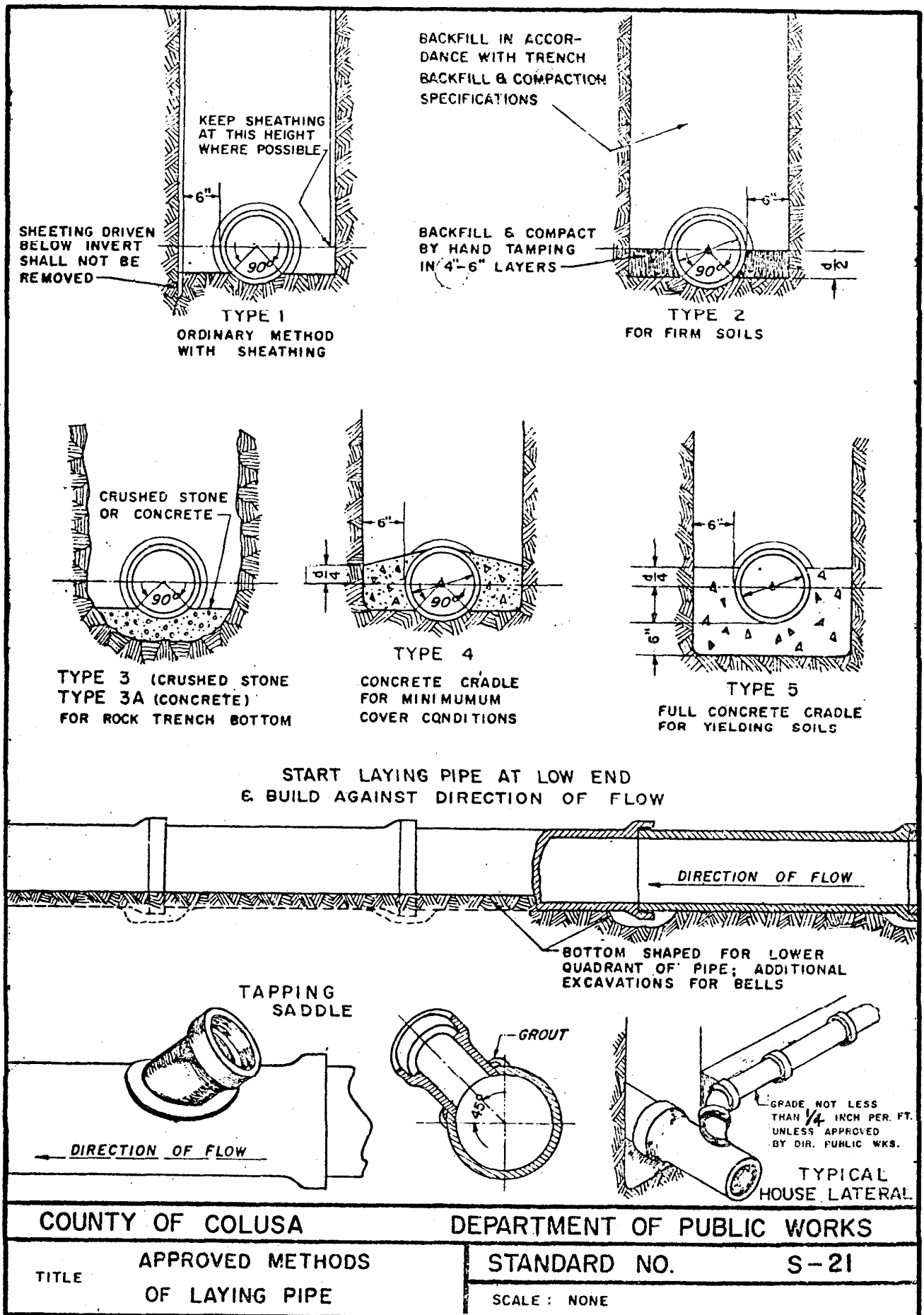
DEPARTMENT OF PUBLIC WORKS

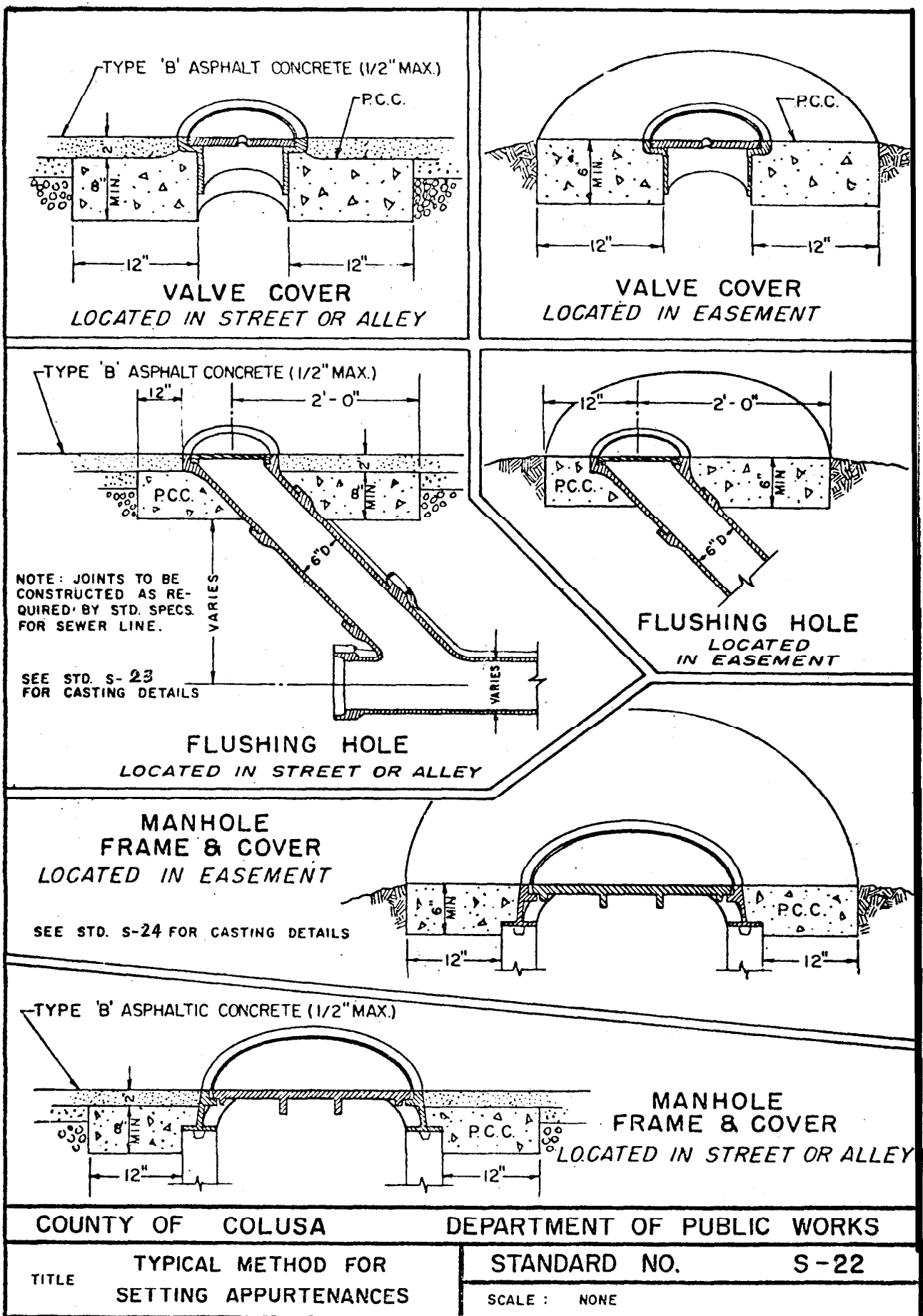
TITLE STANDARD DROP MANHOLE

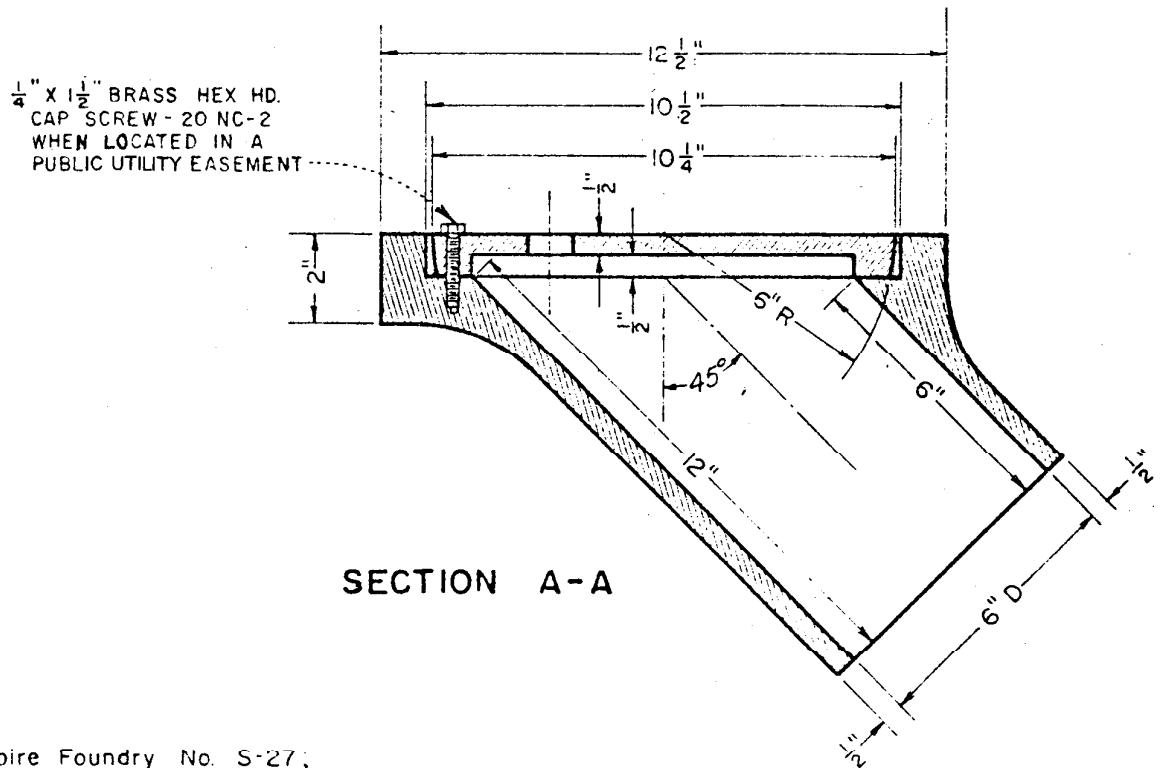
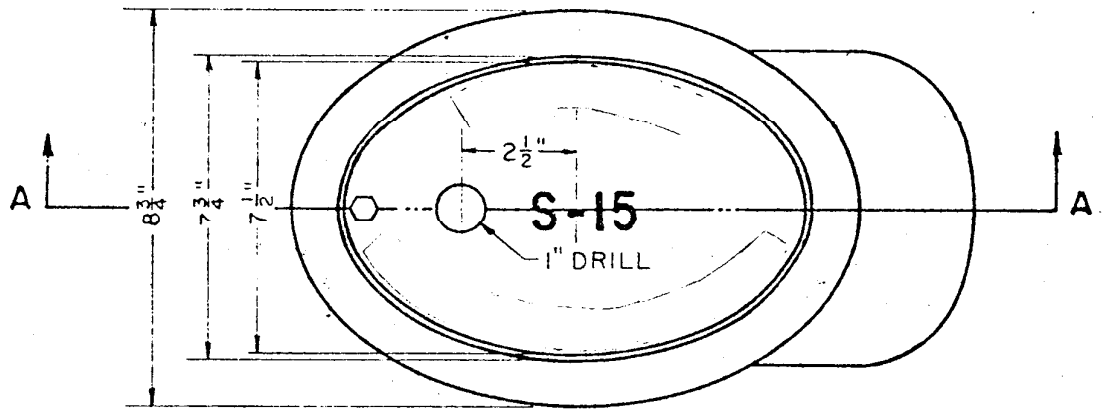
STANDARD NO.

S-20

SCALE: NONE





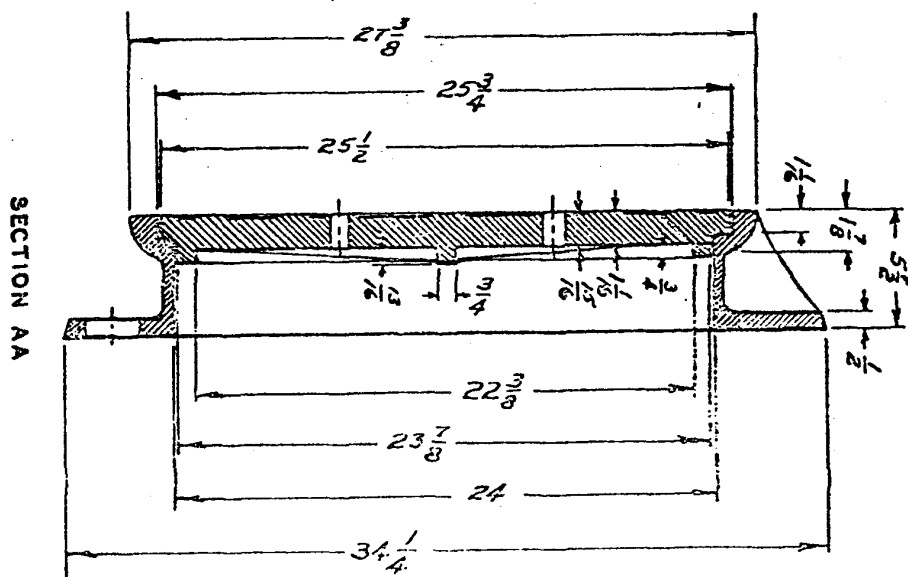
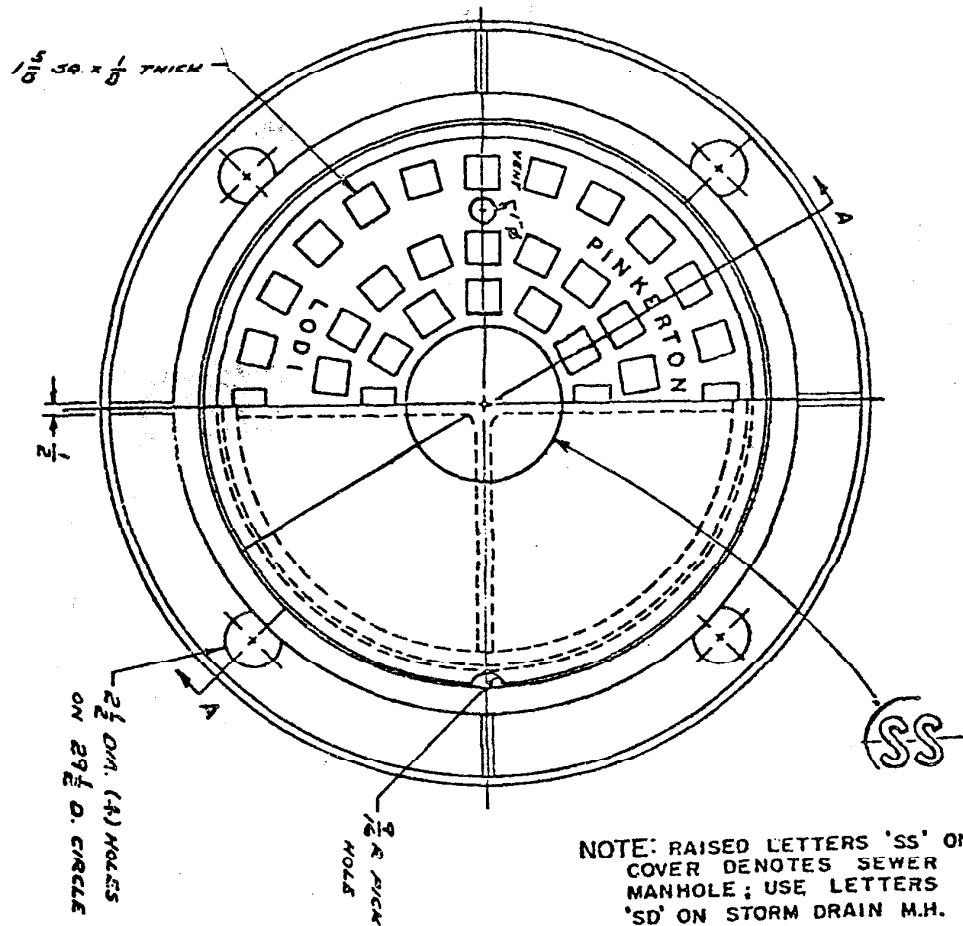


Empire Foundry No. S-27;  
Pinkerton Foundry No. A-223,  
Or Equal.

SEE STD S-22 FOR METHOD OF INSTALLATION & RISER CONSTRUCTION

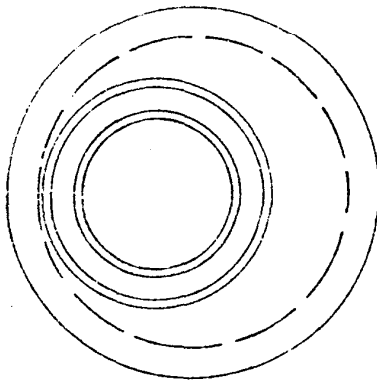
|                  |                        |                            |        |
|------------------|------------------------|----------------------------|--------|
| COUNTY OF COLUSA |                        | DEPARTMENT OF PUBLIC WORKS |        |
| TITLE            | STANDARD FLUSHING HOLE | STANDARD NO.               | S - 23 |
|                  | C. I. FRAME & COVER    | SCALE : 3" = 1' - 0"       |        |



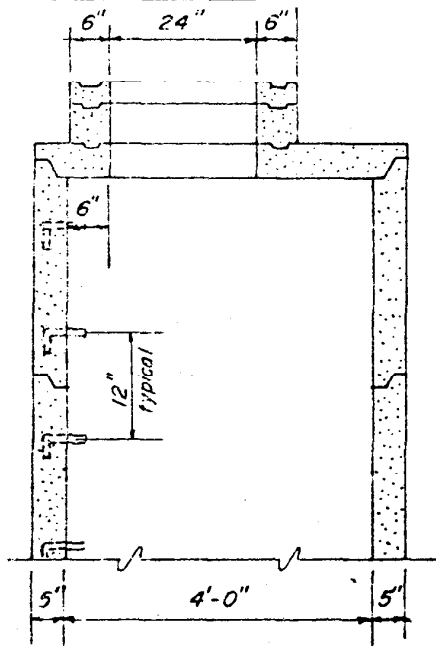


PINKERTON FOUNDRY.  
NO. A-162-A OR EQUAL

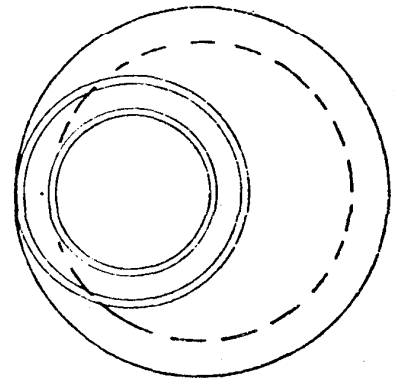
|                  |                                           |                            |      |
|------------------|-------------------------------------------|----------------------------|------|
| COUNTY OF COLUSA |                                           | DEPARTMENT OF PUBLIC WORKS |      |
| TITLE            | STANDARD MANHOLE<br>FRAME & COVER DETAILS | STANDARD NO.               | S-24 |
|                  |                                           | SCALE :                    | NONE |



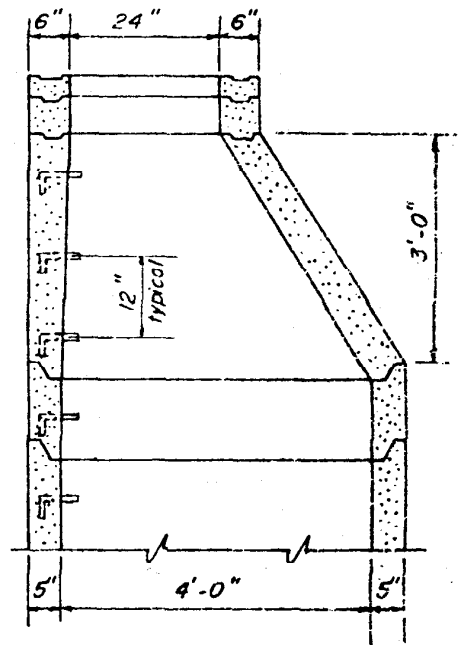
PLAN OF MANHOLE WITH  
"SHALLOW" LID



SECTION THROUGH  
"SHALLOW" LID



PLAN OF MANHOLE WITH  
ECCENTRIC TAPER



SECTION THROUGH  
ECCENTRIC TAPER

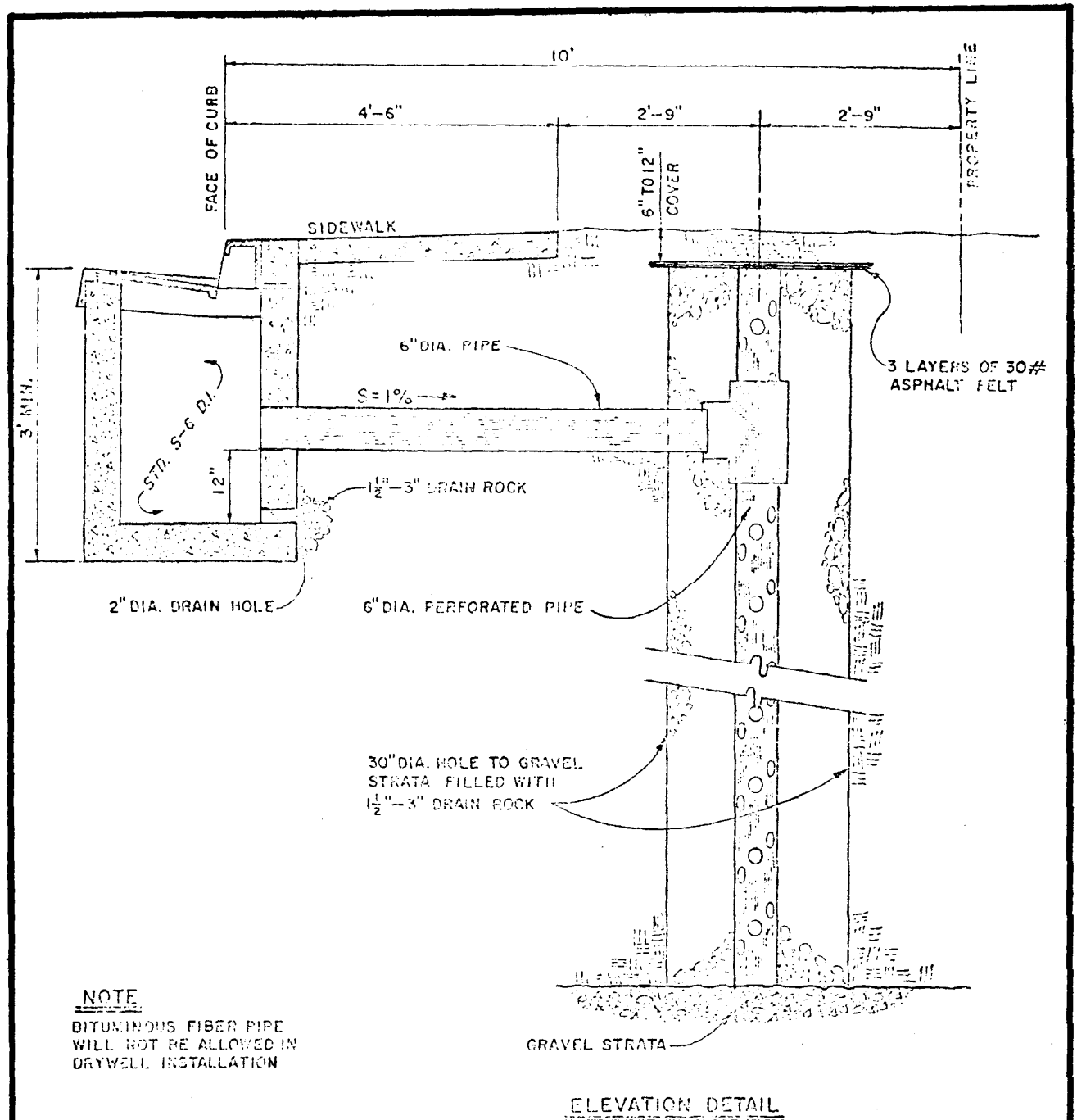
COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE  
STANDARD  
MANHOLE DETAILS

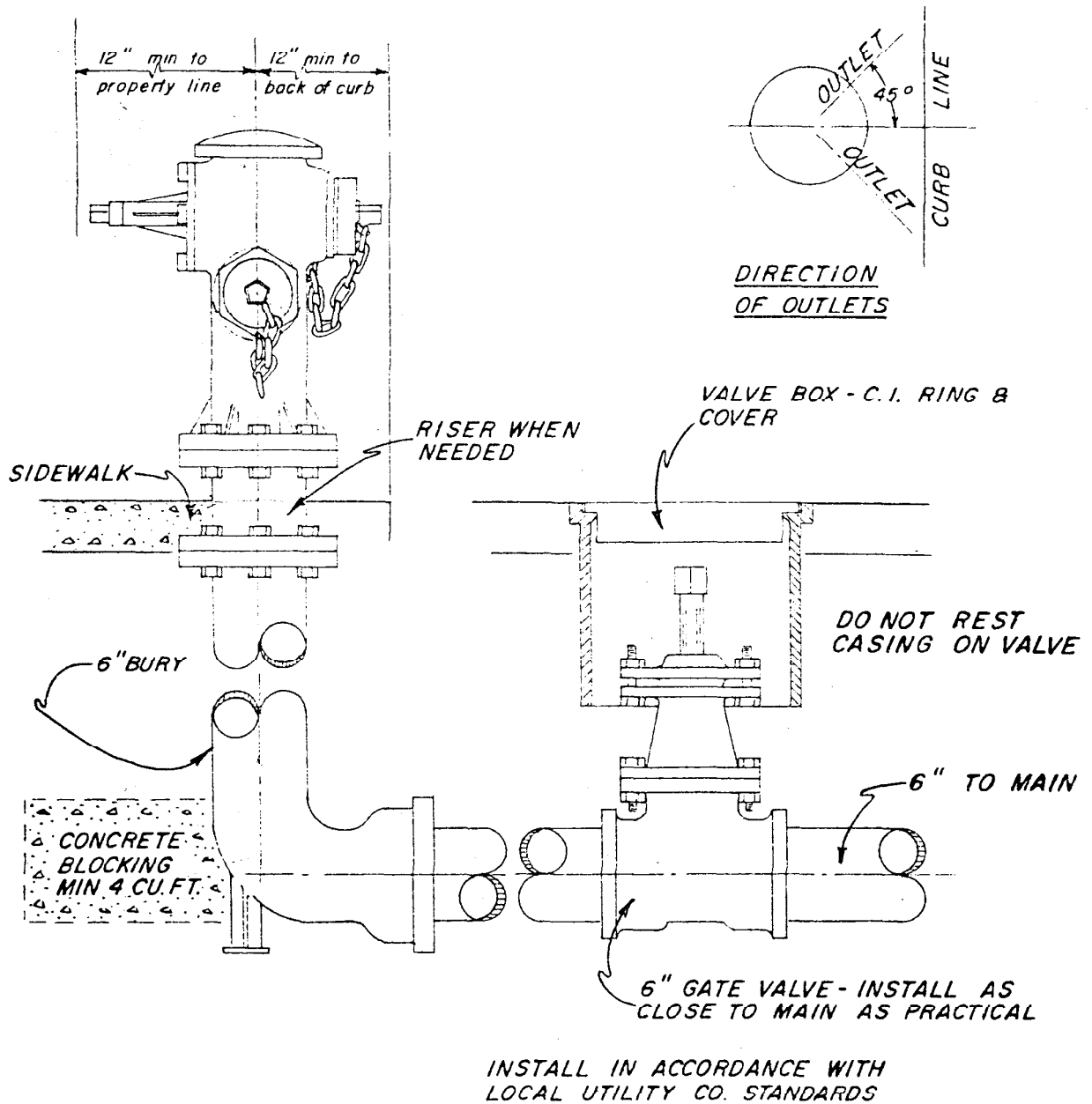
STANDARD NO. S-25

SCALE : NONE



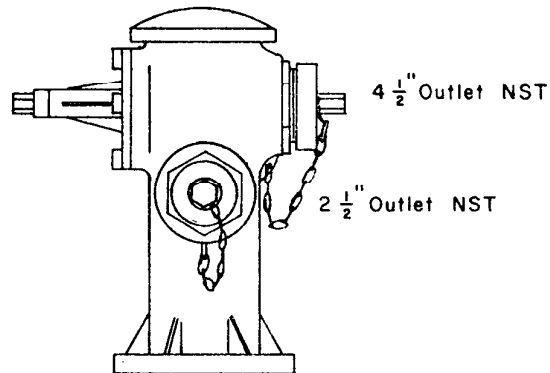
SOLUTIONS TO DRAINAGE PROBLEMS IN THIS MANNER  
WILL BE ALLOWED ONLY WITH SPECIFIC APPROVAL  
BY THE DIRECTOR OF PUBLIC WORKS

|                  |                                          |                            |      |
|------------------|------------------------------------------|----------------------------|------|
| COUNTY OF COLUSA |                                          | DEPARTMENT OF PUBLIC WORKS |      |
| TITLE            | STANDARD 30' DRYWELL<br>ON PUBLIC R.O.W. | STANDARD NO.               | S-26 |
|                  |                                          | SCALE: NONE                |      |



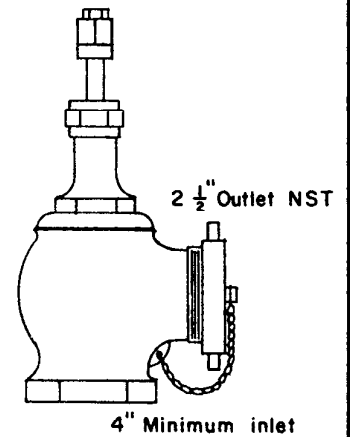
|                  |                           |                            |        |
|------------------|---------------------------|----------------------------|--------|
| COUNTY OF COLUSA |                           | DEPARTMENT OF PUBLIC WORKS |        |
| TITLE            | STANDARD                  | STANDARD NO.               | S - 27 |
|                  | FIRE HYDRANT INSTALLATION | SCALE :                    | NONE   |

GREENBERG TYPE 53 GR,  
OR 54 GR OR EQUAL.



**IMPROVED LOS ANGELES  
TYPE HYDRANT**

GREENBERG TYPE  
NO. 123 OR EQUAL.



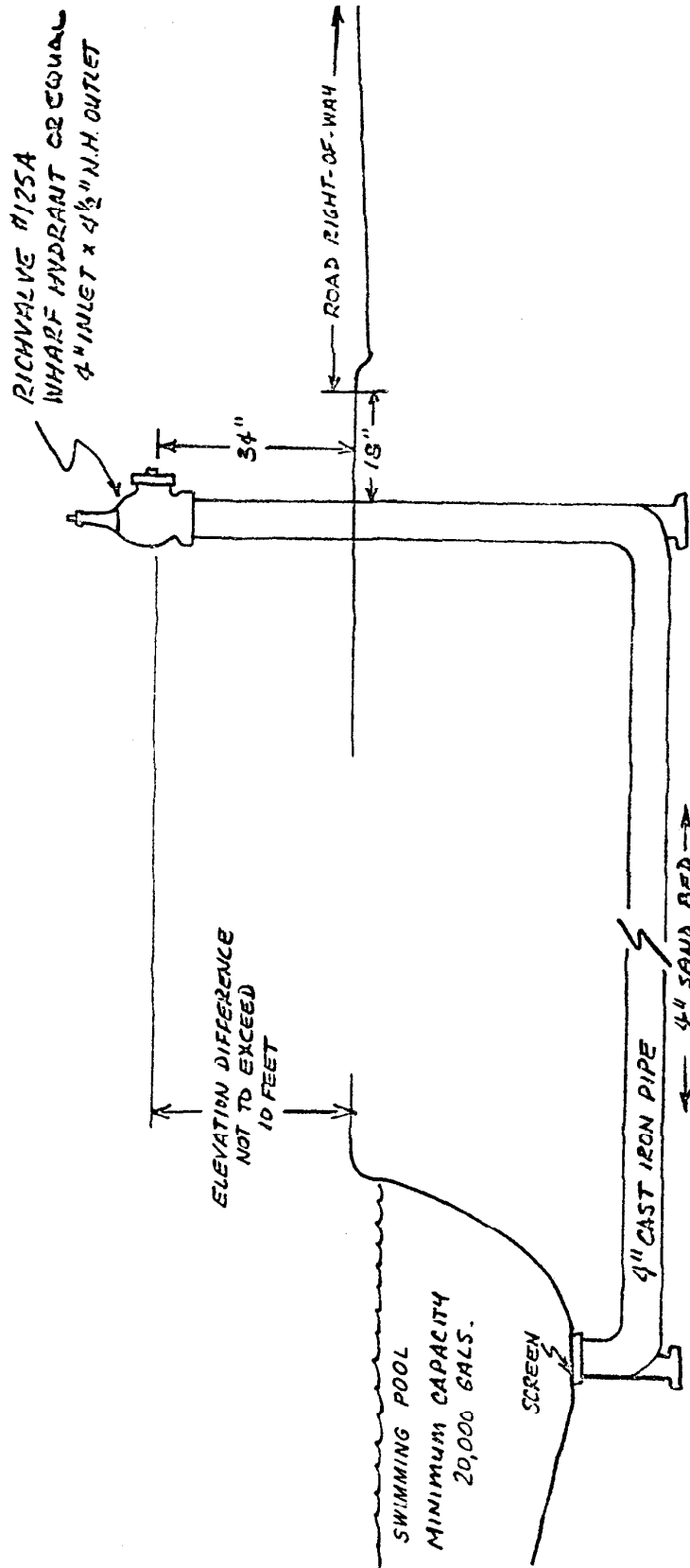
**WHARF HYDRANT**

**NOTE :**

- (1) Each hydrant must be gated between hydrant and street main.
- (2) Each hydrant shall be placed in such a manner that the 4--" outlet or wharf hydrant outlet faces the street.
- (3) For easy access to fire engines, hydrant shall be placed within 36" maximum from curb or shoulder of roadway.
- (4) In area of prolonged freezing temperatures, barrel must be of dry type or protected from freezing.
- (5) Hose threads on outlets to be National Standard dimensions.
- (6) Hydrants outlet shall not be less than 18" or more than 25" above roadway level.

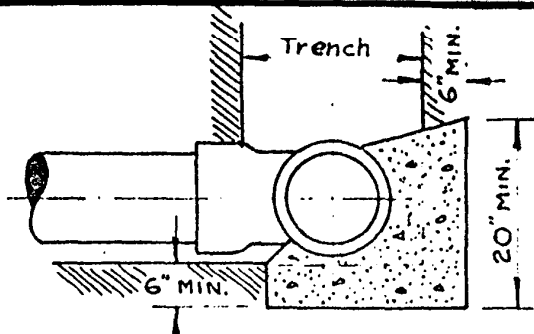
|                  |                           |                            |        |
|------------------|---------------------------|----------------------------|--------|
| COUNTY OF COLUSA |                           | DEPARTMENT OF PUBLIC WORKS |        |
| TITLE            | STANDARD<br>FIRE HYDRANTS | STANDARD NO.               | S - 28 |
|                  |                           | SCALE :                    | NONE   |

BUTTE COUNTY FIRE DEPARTMENT  
Specification Sheet  
Fire Department Swimming Pool Connection

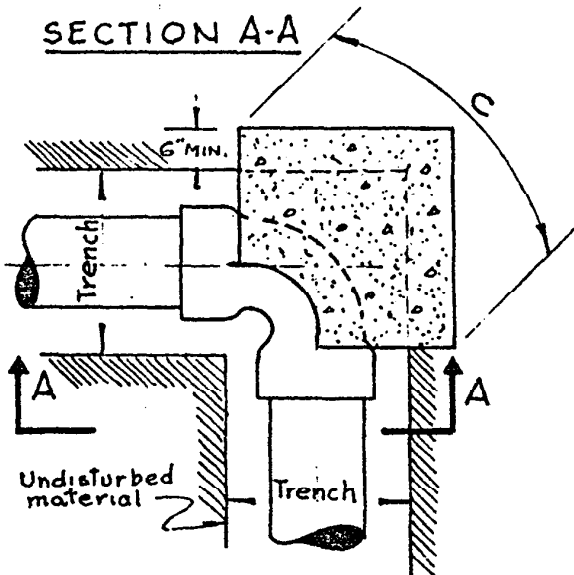


|                  |                                                |                            |      |
|------------------|------------------------------------------------|----------------------------|------|
| COUNTY OF COLUSA |                                                | DEPARTMENT OF PUBLIC WORKS |      |
| TITLE            | FIRE DEPARTMENT<br>SWIMMING POOL<br>CONNECTION | STANDARD NO.               | S-29 |
|                  |                                                | SCALE: NONE                |      |

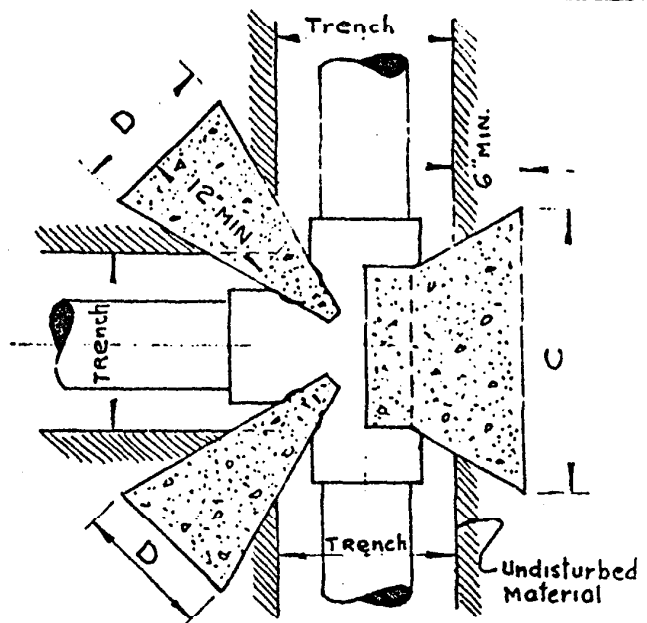




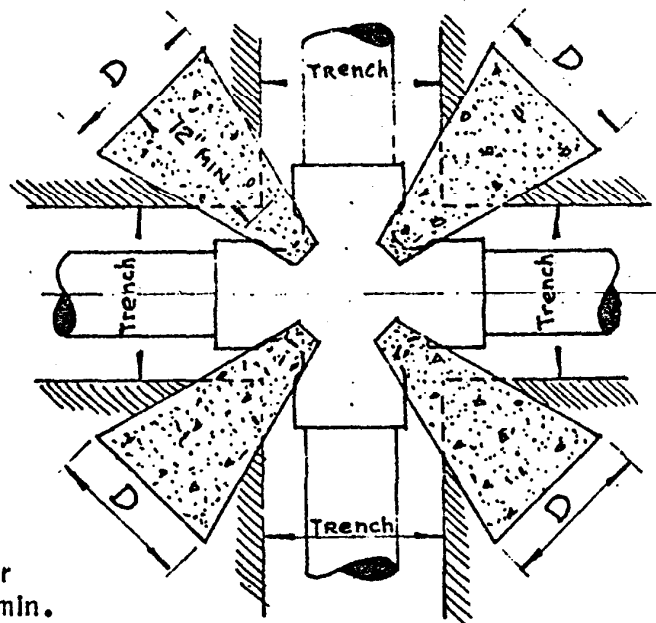
**SECTION A-A**



**BEND**



**TEE**



**CROSS**

**NOTES:**

1. All concrete shall be 2500 psi, California State Standard.
2. A min. of 24 hours curing time required for concrete thrust blocks before any water should be introduced into pipe line and a min. of 7 days curing time before pressure test.
3. Pour against undisturbed material - back & bottom.
4. All blocks to be kept clear of lugs and nobs.
5. Unsupported surfaces to be formed.
6. Letters C and D on details refer to required bearing area. See

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE

THRUST BLOCKS FOR  
A.C.P. MAINS

STANDARD NO.

S-31

SCALE: NONE



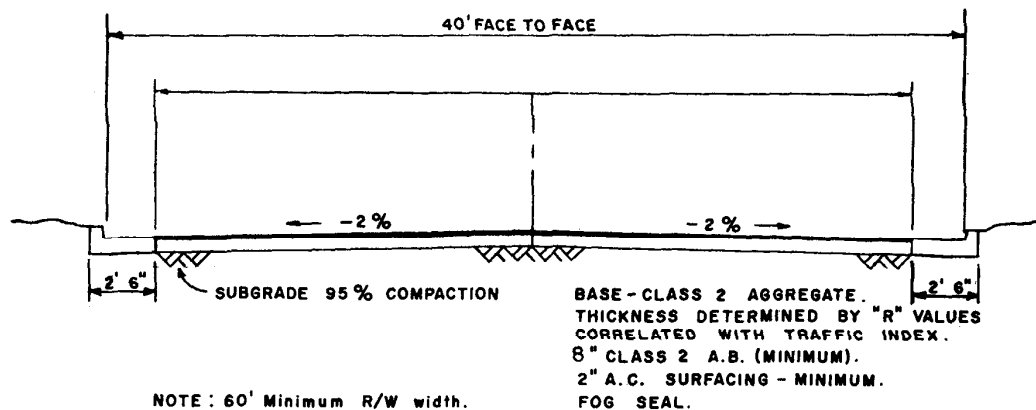
# THRUST BLOCK BEARING AREAS

Based on 180# P. S. I. Pressure

| Pipe Size  | TYPE OF SOIL        | Safe Bearing Load in Lbs. Per Sq. Ft. | REQUIRED BEARING AREA SQ. FEET |     |       |          |          |           |
|------------|---------------------|---------------------------------------|--------------------------------|-----|-------|----------|----------|-----------|
|            |                     |                                       | TEE                            |     | CROSS | 90° Bend | 45° Bend | 22½° Bend |
|            |                     |                                       | D                              | C   | D     | C        | C        | C         |
| 6" A.C.P.  | Soft Clay           | 500                                   | 14                             | 7   | 7     | 19.5     | 10.5     | 5.5       |
|            | Sand                | 1000                                  | 7                              | 3.5 | 3.5   | 10       | 5.5      | 3.0       |
|            | Sand, Gravel & Clay | 2000                                  | 3.5                            | 2.0 | 2.0   | 5        | 3        | 1.5       |
|            | Shale or Rock       | 5000                                  | 1.5                            | 1.0 | 1.0   | 2        | 1.5      | 1.0       |
| 8" A.C.P.  | Soft Clay           | 500                                   | Use Steel Welded Pipe          |     |       |          |          |           |
|            | Sand                | 1000                                  | 12                             | 6   | 6     | 17       | 9        | 4.5       |
|            | Sand, Gravel & Clay | 2000                                  | 6                              | 3   | 3     | 8.5      | 4.5      | 2.5       |
|            | Shale or Rock       | 5000                                  | 2.5                            | 1.5 | 1.5   | 3.5      | 2.0      | 1.0       |
| 10" A.C.P. | Sand                | 1000                                  | 19.5                           | 10  | 10    | 27.5     | 15       | 7.5       |
|            | Sand, Gravel & Clay | 2000                                  | 10                             | 5   | 5     | 14       | 7.5      | 4         |
|            | Shale or Rock       | 5000                                  | 4                              | 2   | 2     | 5.5      | 3        | 1.5       |
| 12" A.C.P. | Sand                | 1000                                  | 27.5                           | 14  | 14    | 39       | 21       | 11        |
|            | Sand, Gravel & Clay | 2000                                  | 14                             | 7   | 7     | 20       | 10.5     | 5.5       |
|            | Shale or Rock       | 5000                                  | 6                              | 3   | 3     | 8        | 4.5      | 2.5       |
| 14" A.C.P. | Sand                | 1000                                  | Use Steel Welded Pipe          |     |       |          |          |           |
|            | Sand, Gravel & Clay | 2000                                  | 19                             | 10  | 10    | 26.5     | 14.5     | 7.5       |
|            | Shale or Rock       | 5000                                  | 7.5                            | 4   | 4     | 10.5     | 6        | 3         |
| 16" A.C.P. | Sand, Gravel & Clay | 2000                                  | 25                             | 13  | 13    | 34       | 19       | 10        |
|            | Shale or Rock       | 5000                                  | 10                             | 5   | 5     | 14       | 7.5      | 4         |
| 18" A.C.P. | Sand, Gravel & Clay | 2000                                  | 30                             | 15  | 15    | 43       | 23       | 12        |
|            | Shale or Rock       | 5000                                  | 12                             | 6   | 6     | 17       | 9.5      | 5         |

FOR DETAILS SEE DRAWING NO. S-31

|                  |                                             |  |                            |      |
|------------------|---------------------------------------------|--|----------------------------|------|
| COUNTY OF COLUSA |                                             |  | DEPARTMENT OF PUBLIC WORKS |      |
| TITLE            | THRUST BLOCK BEARING AREAS FOR A.C.P. MAINS |  | STANDARD NO.               | S-32 |
|                  |                                             |  | SCALE                      | NONE |



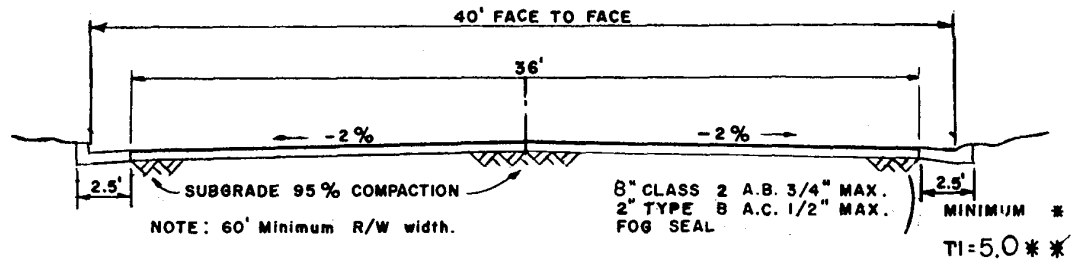
NOTE: 60' Minimum R/W width.

TI = 5.5

NOTE :

- (1) Width of Right of Way and Pavement to be determined by consultation with the Department of Public Works, with proper consideration given to the Master Plan and other Planning consideration.

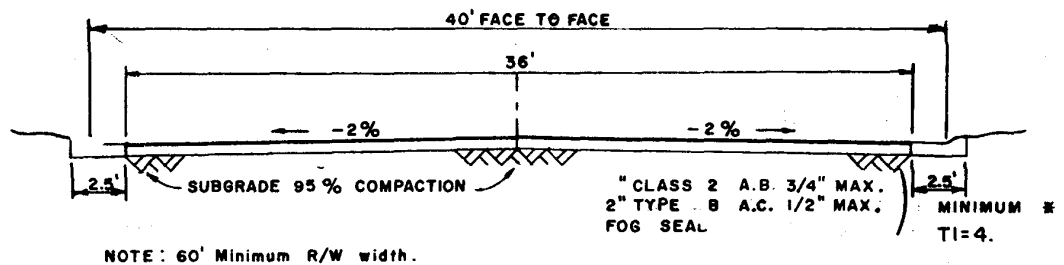
|                  |                                                                 |                            |        |
|------------------|-----------------------------------------------------------------|----------------------------|--------|
| COUNTY OF COLUSA |                                                                 | DEPARTMENT OF PUBLIC WORKS |        |
| TITLE            | TYPICAL SECTIONS FOR<br>COMMERCIAL - INDUSTRIAL<br>SUBDIVISIONS | STANDARD NO.               | RS - 1 |
|                  |                                                                 | SCALE : 1" = 8' - 0"       |        |



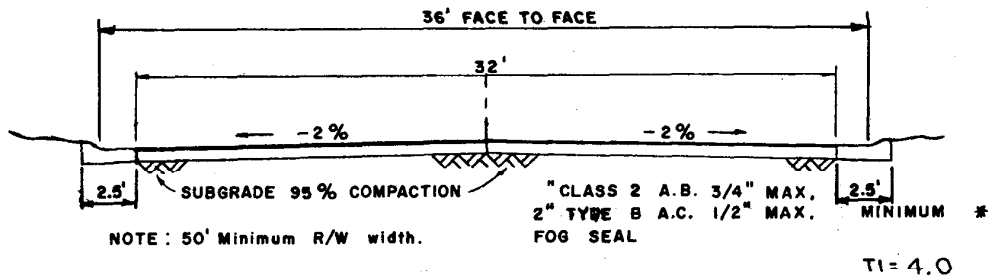
NORMAL CONST. VERTICAL ON ALL MAJOR COLLECTOR STREETS & LOCAL ACCESS ROADS  
ROLLED CURB IN SOME CASES WITH APPROVAL OF  
DEPARTMENT OF PUBLIC WORKS

### MAJOR ROAD

LOCAL ACCESS ROAD (WHERE REQUIRED DUE TO  
TRAFFIC CONSIDERATIONS)



### LOCAL ACCESS ROAD

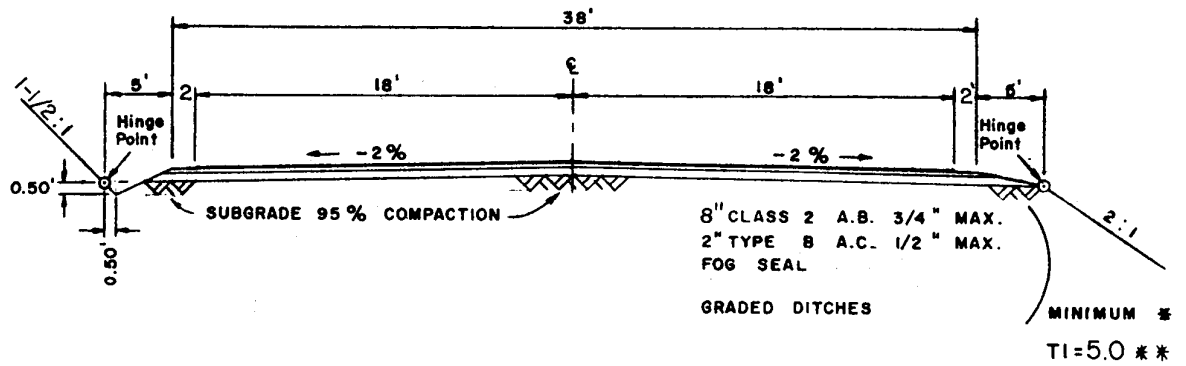


### MINOR ROAD CUL-DE-SAC ROAD

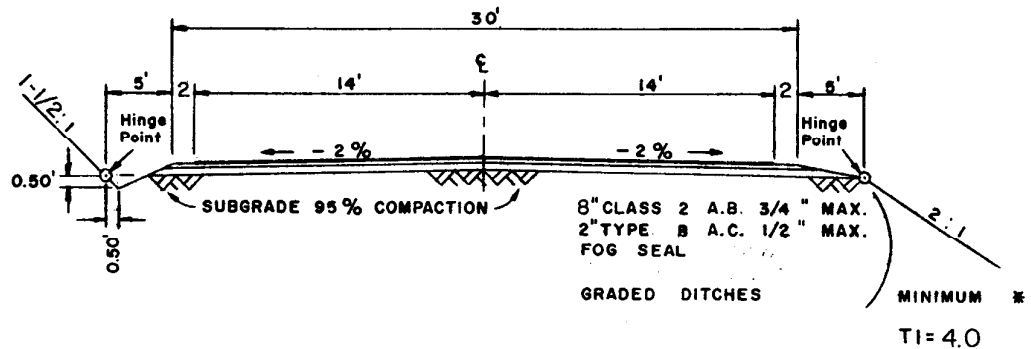
- \* SUBJECT TO ENGINEERING ANALYSIS
- \*\* TI TO BE AS REQUIRED BY THE DIRECTOR FOR  
THROUGH COUNTY ROADS OR ANTICIPATED  
THROUGH CONNECTIONS.

NOTE:  
If within the Urban Limits as designated in this  
Resolution, the Standards of the adjacent City shall govern.

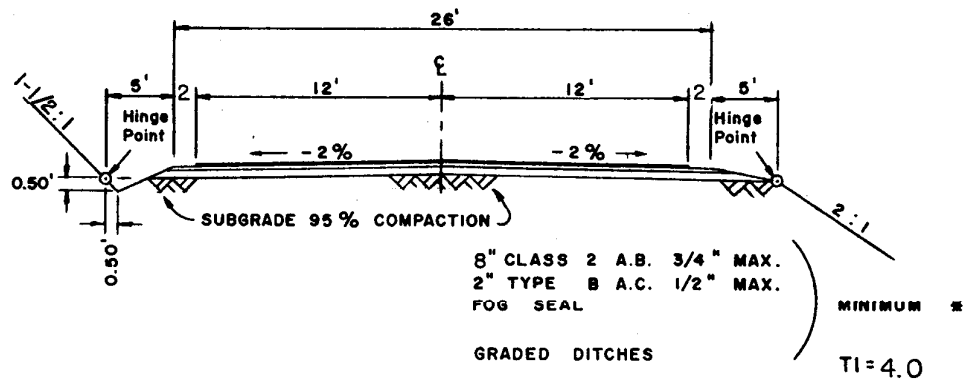
|                  |                      |                            |              |
|------------------|----------------------|----------------------------|--------------|
| COUNTY OF COLUSA |                      | DEPARTMENT OF PUBLIC WORKS |              |
| TITLE            | TYPICAL SECTIONS FOR | STANDARD NO.               | RS-2         |
|                  | SUBDIVISION ROADS    | SCALE:                     | 1" = 8' - 0" |



MAJOR ROAD



LOCAL ACCESS ROAD



MINOR ROAD

\* SUBJECT TO ENGINEERING ANALYSIS  
\*\* SEE NOTE RS-2

NOTE : 60' Minimum R/W width

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

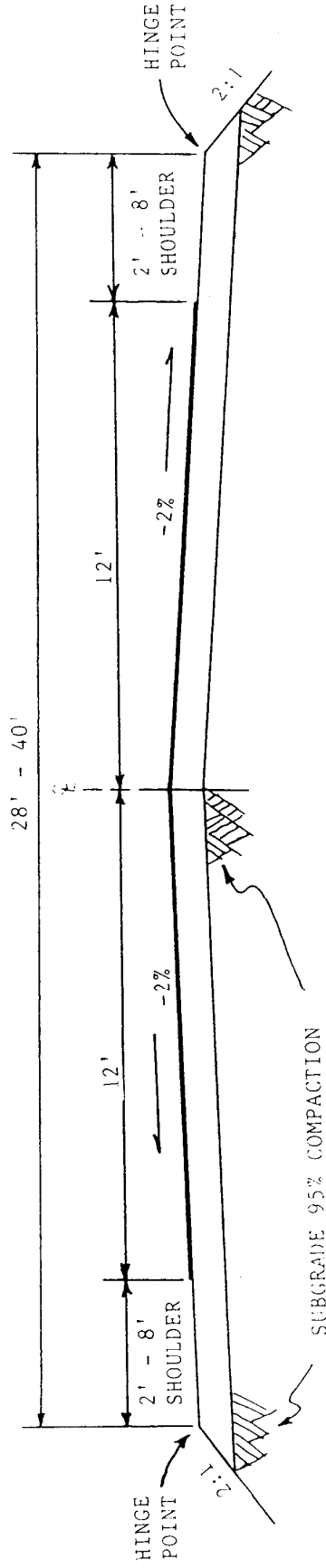
TITLE  
TYPICAL SECTIONS  
SUBDIVISION  
ROADS

STANDARD NO. RS-3

SCALE : 1" = 8' - 0"

# MINOR STREET

24' WIDE OIL TREATED SURFACE



OIL TREATED SURFACE SHALL CONSIST OF PENETRATION-TREATED AGGREGATE BASE TOPPED WITH CHIP SEAL SURFACE.

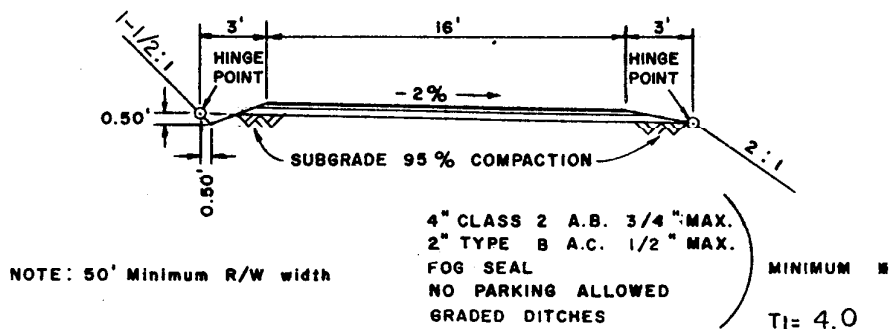
## PENETRATION TREATMENT:

8" CLASS 2 A.B. 3/4" MAX.. OIL PENETRATION TREATMENT W/M-C 250. APPLICATION RATE APPROX. 0.5 GALLONS PER SQ. YD.

## CHIP SEAL:

5/16 CHIP SURFACING. OIL APPLICATION FOR. CHIP SEAL SHALL BE APPROX. 0.28 GAL. OF CRS-2 PER SQ. YD.. CHIP APPLICATION SHALL BE APPROX. 25 lb PER SQ.YD.

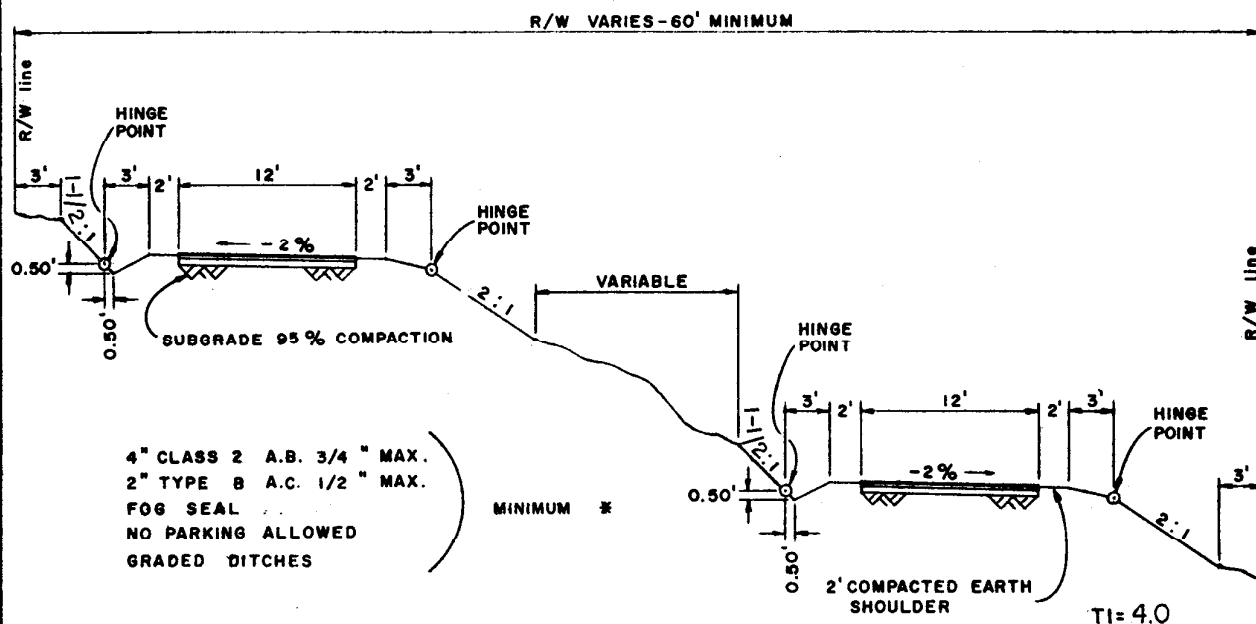
|                                          |                            |
|------------------------------------------|----------------------------|
| COUNTY OF COLUSA                         | DEPARTMENT OF PUBLIC WORKS |
| TYPICAL SECTIONS<br>SUBDIVISION<br>ROADS | STANDARD NO. RS - 3A       |
| TITLE                                    |                            |



### ONE WAY LOOP ROAD

SCALE : 1" = 8' - 0"

\* SUBJECT TO ENGINEERING ANALYSIS



### ONE WAY ROAD SPLIT LEVEL

SCALE : 1" = 12' - 0"

\* SUBJECT TO ENGINEERING ANALYSIS

COUNTY OF COLUSA

DEPARTMENT OF PUBLIC WORKS

TITLE  
TYPICAL SECTIONS FOR  
HILLSIDE  
ROADS

STANDARD NO. RS - 4

SCALE : AS SHOWN