STANDARD SPECIFICATIONS

CITY OF MENDOTA

COUNTY OF FRESNO

CALIFORNIA

643 QUINCE STREET

MENDOTA, CALIFORNIA 93640

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2007

PREPARED BY

GIERSCH & ASSOCIATES, INC.
CIVIL ENGINEERS
MADERA, CALIFORNIA

MICHAEL L. GIERSCH, P.E.
CITY ENGINEER

9/27/2007

CITY OF MENDOTA
COUNTY OF FRESNO
CALIFORNIA

2007

PHONE: (559) 655-3291

CITY COUNCIL:

MAYOR	ROBERT SILVA
MAYOR PRO TEM	JOSEPH AMADOR
MEMBER	LEO CAPUCHINO
MEMBER	RENE COVARRUBIA
MEMBER	JOSEPH RIOFRIO

CITY ADMINISTRATION:

CITY MANAGER	GABRIEL GONZALEZ

DEPARTMENT OF PUBLIC WORKS:

DIRECTOR	DOMINGO MORALES
CITY ENGINEER	GIERSCH & ASSOCIATES, INC.

CITY OF MENDOTA

ESTABLISHMENT AND ADOPTION OF THESE

CITY STANDARD SPECIFICATIONS

These standard specifications were amended and added to by the City Engineer in September of 2007 and were adopted by the Council of the City of Mendota on the 25th day of September, 2007.

HOW TO KEEP THESE STANDARD SPECIFICATIONS UP TO DATE

Keeping these specifications up to date is a matter of keeping track of the proper pages. Information concerning the page is found at the bottom. The date on the right is the date that the page was prepared. The number on the center is the page number and section number. The number on the left is the book identification number and is how many times this page has been changed. (book identification-/# changed)

We are now talking about the pages, not changes in the contents. This we will discuss below. A master copy of an up-to-date specifications is kept at City Hall in the office of Director of Public Works, telephone 559-655-3291. If you doubt that a page is up to date, you may call this number and obtain the information as to what is the latest reprint of this page.

A service is provided to all persons who wish an up-to-date set of specifications. This service provides for the mailing, with instructions, of new pages, when necessary. Carefully following the instructions will insure that you have an up-to-date set of specifications.

HOW TO DETERMINE THE HISTORY OF A PARTICULAR PARAGRAPH, SECTION, OR SUBSECTION OF THE SPECIFICATIONS

If you have the latest page, the contents of that page will have all the up-to-date changes. If you desire to know either what a particular part once said or the dates when it was changed, refer to the paragraph itself. All of the paragraphs were originally written in August of 2001. Any change since that time will be dated. Should you desire to know the intermediate changes between August of 2001 and the reading of the up-to-date page, you must visit the above office and review the pages as they have been changed from time to time.

HOW TO HANDLE THESE STANDARD SPECIFICATIONS IN CITY CONTRACTS

Following is the format which will be generally followed in City public works' contracts. These specifications will be incorporated in the contracts by use of the pages following this page.

I. BID, CONTRACT AND BOND DOCUMENTS AND FORMS

A. Bid Documents

1. Notice Inviting Bids
2. Instructions to Bidders
3. Bid Proposal
4. Bidder's Bond

B. Contract Documents

1. Agreement Form

C. Bond Documents

1. Performance Bond Form
2. Labor and Material Bond Form

II. GENERAL CONDITIONS

A. Standard Specifications

1. Standard Provisions) These are the City
2. Standard Technical Provisions) Standard Specifications found in this volume.
3. Standard Drawings)

B. Federal & State Requirements, etc.

) These are other standard required contract items which might be used in any particular contract.

III. SPECIAL PROVISIONS

A.	**Special Specifications**	) These apply to, and are
		) especially tailored
1.	Special Provisions	) for, this contract and
2.	Special Technical Provisions	) this job only.
		)
		)
B.	**Plans, etc.**	)

CITY STANDARD SPECIFICATIONS

The following indicated provisions of the City of Mendota's Standard Specifications, Department of Public Works, dated January 1989, are hereby referred to and incorporated herein as though set forth in full. Copies of the specifications may be obtained for $35.00 plus tax at the City Hall, 643 Quince Street., Mendota, CA 93640. (If mailed, a mailing charge of $5.00 will be required for postage and handling charges.)

SECTION	TITLE
	GENERAL CONDITIONS
1	ABBREVIATIONS & DEFINITIONS
2	PROPOSAL REQUIREMENTS & CONDITIONS
3	SCOPE OF WORK
4	CONTROL OF WORK
5	CONTROL OF MATERIALS
6	UTILITIES
7	LEGAL RELATIONS AND RESPONSIBILITY
8	PROSECUTION AND PROGRESS
9	MEASUREMENTS AND PAYMENTS
	SPECIAL PROVISIONS
10	INCORPORATION OF STANDARD SPECIFICATIONS
11	CLEARING AND GRUBBING
12	WATERING
13	ROADWAY EXCAVATION AND GRADING
14	FINISH ROADWAY
15	CONCRETE WORK
16	AGGREGATE BASE
17	ASPHALT CONCRETE
18	WATER SUPPLY FACILITIES
19	INTERCEPTOR GRAVITY SEWERS, PRESSURE SEWERS
20	STORM DRAIN CONSTRUCTION
21	ADJUSTMENT TO MANHOLE AND VALVE BOXES TO GRADE
22	ROAD CROSSING (TRENCHING PROHIBITED)
23	STREET LIGHTING
24	DEMOLITION OF BUILDINGS
25	CHAIN LINK FENCE
26	STREET TREE WELL CONSTRUCTION

The following indicated Standard Drawings are hereby referred to and incorporated herein as though set forth in full:

Drawing No.	Drawing Title
ST-1	TRAFFIC INDEX CHART
ST-2	STRUCTURAL DESIGN CHART
ST-3	STANDARD RESIDENTIAL STREET
ST-3A	MODIFIED RESIDENTIAL STREET
ST-4	MAJOR COLLECTOR RESIDENTIAL
ST-5	MAJOR COLLECTOR COMMERCIAL
ST-6	MAJOR ARTERIAL
ST-7	EXPRESSWAY
ST-8	ACCESS ROAD
ST-9	ALLEY
ST-10	CUL-DE-SAC TURN-AROUND WITH ADJACENT SIDEWALK
ST-11	CURB & GUTTER
ST-12A	CURB, GUTTER & SIDEWALK
ST-12B	SUBGRADE PREPARATION UNDER SIDEWALKS & RESIDENTIAL DRIVE APPROACHES
ST-13A	CURB RAMP-TYPE A
ST-13B	CURB RAMP-TYPE B
ST-13C	CURB RAMP-TYPE C
ST-14	CONCRETE VALLEY GUTTER STREET INTERSECTION
ST-15	RESIDENTIAL DRIVE APPROACH (2 Sheets)
ST-16	COMMERCIAL DRIVE APPROACH (3 Sheets)
ST-17	ALLEY APPROACH
ST-18	STREET LIGHT ELECTROLIERS (2 Sheets)
ST-19	STREET NAME SIGN
ST-20	TEMPORARY TIMBER BARRICADE
ST-21	ASPHALT CONCRETE SPEED HUMP (3 Sheets)
D-1	CURB DRAIN INLET-OUTLET TYPE A (3 Sheets)
D-2	DRAIN INLET-OUTLET TYPE B
D-3	DRAIN INLET FRAME & GRATE
D-4	SIDEWALK UNDERDRAIN PIPE

Drawing No.	Drawing Title
D-5	STANDARD DRYWELL
D-6	STORM DRAIN MANHOLE FRAME & COVER
S-1	MANHOLE FRAME & COVER
S-1A	MANHOLDE GRADE ADJUSTMENT
S-2	48" MANHOLE
S-3	48" DROP MANHOLE
S-4	54" MANHOLE
S-5	60" MANHOLE
S-6	SLOPING LAMPHOLE WITH CAST IRON CLEANOUT & COVER
S-7A	RESIDENTIAL SERVICE SEWER CLEANOUT
S-7B	COMMERCIAL SERVICE SEWER CLEANOUT
S-8	MONITORING WELL
S-9	SAND INTERCEPTOR
S-10	GREASE INTERCEPTOR
W-1	SERVICE CONNECTION WITH METER BOX & METER
W-2	FIRE HYDRANT INSTALLATION & LOCATION
W-3	VALVE BOX & COVER DETAIL
W-3A	WATE VALVE BOX & COVER GRADE ADJUSTMENT
W-4	WATER MAIN BLOW-OFF
W-5	THRUST BLOCK DETAILS
W-6	THRUST BLOCK BEARING AREA
W-7	3/4 " WATER SAMPLE STATION (2 Sheets)
W-8	WATER MAIN CONNECTION PROCEDURE (3 Sheets)
W-9	AIR GAP DETAIL
W-10	VACUUM BREAK ASSEMBLY (2 Sheets)
W-11	DOUBLE CHECK VALVE BACKFLOW PREVENTER
W-12	REDUCED PRESSURE BACKFLOW PREVENTER
W-13	LANDSCAPE IRRIGATION CONTROLLER
W-14	PVC TEE RESTRAINTS (3 Sheets)
W-15	FIRE SERVICE ASSEMPLY OPTION 1 WITH DETECTOR CHECK VALVE (3 Sheets)
M-1	UTILITY LOCATION IN STREET (2 Sheets)
M-2	PARKING LOT LAYOUT (4 Sheets)

Drawing No.	Drawing Title
M-3	WOOD FENCE DETAIL RESIDENTIAL YARD CONSTRUCTION
M-4	CHAIN LINK FENCE (2 Sheets)
M-5	4" CONCRETE BLOCK FENCE
M-6	6" CONCRETE BLOCK FENCE
M-7	BLOCK FENCE GENERAL NOTES & SPECIFICATIONS
M-8	GUARD POST
M-9	PROPERTY MONUMENT DETAILS
M-10	BENCH MARK
M-11A	TRENCH BACKFILL & RESURFACING DETAIL
M-11B	TRENCH BACKFILL UNPAVED AREAS
M-12	COMMERCIAL & INDUSTRIAL TRASH ENCLOSURE (5 Sheets)
M-13	STREET TREE PLANTING (4 Sheets)
M-14	COMMERCIAL TREE WELL WITH AUTOMATIC IRRIGATION SYSTEM

bis(dichloroisopropyl) ether, bis-(chloroethoxy) methane and polychlorinated diphenyl ethers)
38. Halomethanes (other than those listed elsewhere; includes methylene chloride, methylchloride, methylbromide, bromoform, dichlorobromomethane
39. Heptachlor and metabolites
40. Hexachlorobutadiene
41. Hexachlorocyclohexane
42. Hexachlorocyclopentadiene
43. Isophorone
44. Lead and compounds
45. Mercury and compounds
46. Naphthalene
47. Nickel and compounds
48. Nitrobenzene
49. Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
50. Nitrosamines
51. Pentachlorophenol
52. Phenol
53. Phthalate esters
54. Polychlorinated biphenyls (PCBs) [1]
55. Polynuclear aromatic hydrocarbons (including benzanthracenes, benzopyrenes, benzofluoranthene, chrysenes, dibenzanthracenes, and indenopyrenes)
56. Selenium and compounds
57. Silver and compounds
58. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)
59. Tetrachloroethylene
60. Thallium and compounds
61. Toluene
62. Toxaphene [1]
63. Trichloroethylene
64. Vinyl chloride
65. Zinc and compounds

[44 FR 44502, July 30, 1979, as amended at 46 FR 2266, Jan. 8, 1981; 46 FR 10724, Feb. 4, 1981]

§ 401.16 Conventional pollutants.

The following comprise the list of conventional pollutants designated pursuant to section 304(a)(4) of the Act:

1. Biochemical oxygen demand (BOD)
2. Total suspended solids (nonfilterable) (TSS)
3. pH
4. Fecal coliform
5. Oil and grease

[44 FR 44503, July 30, 1979; 44 FR 52685, Sept. 10, 1979]

§ 401.17 pH Effluent limitations under continuous monitoring.

(a) Where a permittee continuously measures the pH of wastewater pursuant to a requirement or option in a National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to section 402 of the Act, the permittee shall maintain the pH of such wastewater within the range set forth in the applicable effluent limitations guidelines, except excursions from the range are permitted subject to the following limitations:

(1) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and

(2) No individual excursion from the range of pH values shall exceed 60 minutes.

(b) The Director, as defined in § 122.3 of this chapter, may adjust the requirements set forth in paragraph (a) of this section with respect to the length of individual excursions from the range of pH values, if a different period of time is appropriate based upon the treatment system, plant configuration or other technical factors.

(c) For purposes of this section, an *excursion* is an unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth in the applicable effluent limitations guidelines.

(Secs. 301, 304, 306 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 et. seq., as amended by the Clean Water Act of 1977, Pub. L. 95-217))

[47 FR 24537, June 4, 1982]

PART 402 [RESERVED]

PART 403—GENERAL PRETREATMENT REGULATIONS FOR EXISTING AND NEW SOURCES OF POLLUTION

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403.2 Objectives of general pretreatment regulations.
403.3 Definitions.
403.4 State or local law.
403.5 National pretreatment standards: Prohibited discharges.
403.6 National pretreatment standards: Categorical standards.
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403.9 POTW pretreatment programs and/or authorization to revise pretreatment standards: Submission for approval.

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SECTION ONE

ABBREVIATIONS & DEFINITIONS

1.1 ABBREVIATIONS

Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

AASHO	American Association of State Highway Officials
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
AREA	American Railway Engineering Association
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing Materials
AWSC	American Welding Society Code
AWWA	American Water Works Association
IEEE	Institute of Electrical and Electronics Engineers
NBS	National Bureau of Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturers' Association
NSF	National Sanitation Foundation
TVR	Tulare Valley Railroad
SSS	State Standard Specifications, State of California, Department of Public Works, Division of Highways, and all subsequent additions and revisions
UBC	Uniform Building Code, Latest Edition
UL	Underwriters' Laboratories, Inc.
USC&GS	United States Coast and Geodetic Survey

1.2 DEFINITIONS

1. Acceptance: The formal written acceptance by the City Engineer of an entire contract which has been completed in all respects in accordance with the Plans, Specification, City Standards and any modifications thereof previously approved.

2. Manager: The City Manager of the City of Mendota.

3. Advertisement: The published notice inviting sealed proposals for the construction of the project.

4. Bidder: Any individual, firm, co-partnership, or corporation submitting a proposal for the work contemplated, acting either directly or through properly authorized agents.

5. Bidding Requirements: The notice inviting bids, instructions to bidders, form of bid proposal and bidder's bond.

6. Change Order: A written order to the Contractor, signed by the City Engineer, ordering a change that has been found necessary in the work from that originally shown on the plans and specifications but which is still within the general scope of the contract. If the work is of a nature involving an adjustment of unit prices, a Supplemental Agreement shall be executed. Change Orders duly signed and executed by the Contractor constitute authorized modifications of the contract.

7. City: The City of Mendota, located in Fresno County, California.

8. City Engineer: The City Engineer of the City of Mendota, acting directly or through properly authorized agents.

9 City Hall: The City Hall, City of Mendota, located at 1100 E. Mendota Avenue, Mendota, California 93648.

10. City Standards: Unless otherwise specified, City Standards shall refer to the Standard Specification and Drawings of the City of Mendota including revisions.

11. City Superintendent: The City Superintendent of Public Works, of the City of Mendota, acting directly or through properly authorized representatives.

12. Contract or Contract Documents: The written agreement covering performance of the work and furnishing of equipment, labor, and materials in the construction or doing of the work. The Contract shall be deemed to include all of the following: Notice to Contractors, the accepted Proposal, General Provisions, Special Provisions, Plans and Detailed Drawings, Agreement, Bidders Bond, Faithful Performance Bond, Labor and Materials Bond, and any and all supplemental agreements amending, decreasing, or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner.

13. Contractor: Shall mean the Bidder that is awarded the Contract for the work.

14. Contract Bond: The approved form of security furnished by the Contractor and his surety as a guarantee of good faith and ability on the part of the Contractor to execute the work in accordance with the terms of the plans, specifications, and Contract.

15. Council: The City Council of the City of Mendota.

16. Date of Acceptance: The date on which the Council authorizes the issuance of a certificate of satisfactory completion and acceptance, or the issuance of a warrant to the Contractor in lieu of payment.

17. Definitions of Words: Wherever, in these specifications, the words directed, required, permitted, ordered, designated, or words of like import are used, they shall be understood to mean the direction, requirement, permission, order or designation of the City Engineer. Similarly the words approved, acceptable, satisfactory, shall mean approved by, acceptable to, or satisfactory to the City Engineer.

    The words shown, indicated, noted, called for, shall mean indicated, noted, called for, on the drawings for the work referred to.

    The word equal shall mean "or equal in the opinion of and approved in writing by the City Engineer".

    The words Other Specifications: Wherever in these specifications other specifications are mentioned, it shall be understood that the materials or methods mentioned therewith shall conform to all requirements of the latest revision of the specifications so mentioned.

    The words The Work: All the work specified in the special provisions, proposal of Contract, or indicated on the plans as the contemplated improvement covered by the Contract, including the furnishing of all labor and materials.

18. Director of Public Works: The Superintendent of Public Works of the City of Mendota, acting directly or through properly authorized agents.

19. Equipment: All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

20. Inspector: An authorized representative of the City Engineer assigned to make all necessary inspections of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

21. Laboratory: The official testing laboratories of the City or such other laboratories as may be designated by the City Engineer.

22. Major Bid Item: A single Contract item constituting ten percent (10%) or more of the Contract price.

23. Notice of Award: A written notice to the successful bidder stating that his bid has been accepted and that in accordance with the terms of the notice to contractors and the specifications, he is required to execute the Contract and furnish satisfactory Contract bond.

24. Notice to Proceed: A written notice to the Contractor of the date on which he is to begin the prosecution of the work for which he has contracted.

25. Payment Bond: The approved form of security furnished by the Contractor and his Surety as a guarantee that he will pay in full all bills and accounts for materials and labor used in the construction of the work, as provided by law.

26. Pavement: The combined surface course, base course, and subbase course considered as a single unit of pavement.

27. Person: Any individual, association, partnership, corporation, trust, joint venture, or other legal entity.

28. Plans: The official plans, profiles, typical cross sections, general cross sections, working drawings and supplemental drawings, or exact reproductions thereof, approved by the City Engineer, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as a part of the Contract supplementary to these specifications.

29. Proposal: The offer of the Bidder for the work when made out and submitted on the prescribed proposal form, properly signed and guaranteed.

30. Proposal Form: The approved form on which the City Engineer requires formal bids be prepared and submitted for the work.

31. Reference Specifications: Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume, or date.

32. Right-of-Way: All lands or other property interests provided or acquired for the development and operation of a public facility and its appurtenances.

33. Roadway: The portion of a street reserved for vehicular use.

34. Service Connection: Service connections are all or any portion of the conduit, cable or duct, including meter, between a utility distribution line and an individual consumer.

35. Sewer: Any conduit intended for the reception and transfer of sewage and fluid industrial waste.

36. Sewer House Branch: A sewer, within a public street or right-of-way, proposed to connect any parcel, lot, or part of a lot with a main line sewer.

37. Special Conditions: Any conditions which supplement or modify these Standard Specifications.

38. Specifications: The directions, provisions, and requirements contained herein as supplemented by such special provisions as may be necessary, pertaining to the method and manner of performing the work or to the quantities and qualities of materials to be furnished under the Contract. The Special Provisions are specific clauses setting forth conditions or requirements peculiar to the project under consideration and covering work or materials involved in the proposal and estimate but not satisfactorily covered by these specifications Supplemental agreements are written agreements executed by the Contractor and City Engineer, covering alterations, amendments or extensions to the Contract, as hereinafter provided.

39. State: State of California.

40. State Standard Specifications: Unless otherwise specified, standard specifications shall refer to the Standard Specifications of the State of California, Department of Public Works, Division of Highways latest edition, insofar as the same may apply and in accordance with the following provisions.

    In case of conflict between the Standard Specifications and these Special Provisions, the Special Provisions shall take precedence over and be used in lieu of such conflicting portion.

41. Storm Drain: Any conduit and appurtenances intended for the reception and transfer of storm water.

42. Street: Any public road, highway, parkway, freeway, alley, walk, or right of way.

43. Structures: As used in these specifications, structures shall mean culverts, drainage construction such as storm sewers, gutters, catch basins, deep inlets, manholes, retaining walls, lighting structures, and other construction which may be encountered in the building of the project.

44. Subcontractor: The person entering into a Contract with the Contractor to perform a portion of the work.

45. Subgrade: The soil which forms the pavement foundation.

46. Superintendent: The executive representative for the Contractor present on the work during progress, authorized to receive and fulfill instructions from the City Engineer, and who shall supervise and direct the construction.

47. Supervision: Supervision, where used to indicate supervision by the City Engineer, shall mean the performance of obligations and the exercise of rights specifically imposed upon and granted to the City in becoming a party to the Contract. Except as specifically stated in the Contract, supervision by the City shall not mean active and direct superintendence of details of the work.

48. Surety: The corporate body or individuals who are bound by the Contract bond and the payment bond with and for the Contractor, and which engage to be responsible

for the entire and satisfactory fulfillment of the Contract and for the payment of all debts incurred in fulfilling the Contract.

49. Surfacing: The top layer of the pavement.

50. Utility: Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, sewers or storm drains owned, operated, or maintained in or across a public right-of-way or private easement.

51. Working Day: A working day shall be any day, other than a legal holiday or Sunday, on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the Contract unless work is suspended for causes beyond the Contractor's control. Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an Inspector, will be considered as working days.

52. Working Time: The working time or time for completion stated in the proposal and the Contract, shall be given as a definite number of calendar days and shall be considered an essential part of the Contract. Calendar days shall include all Saturdays, Sundays and Holidays.

SECTION TWO

PROPOSAL REQUIREMENTS & CONDITIONS

2.1 GENERAL INFORMATION

The requirements of this section shall apply unless specifically waived or otherwise provided by action of the City Council.

The City Council will receive at the City Hall until the hour and day specified in the "Notice to Bidders", sealed proposals for furnishing of material, supplies, equipment and labor for performing the work as specified in the plans, special provisions and these specifications, all of which are intended to coordinate.

2.2 PROPOSAL FORMS

All proposals shall be made upon forms to be obtained from the office of the City Engineer and/or at the City Hall. The proposal forms will state the location and description of the contemplated construction, an estimate of the various quantities and kinds of work to be performed, a schedule of bid items and provide an affidavit form and instructions regarding subcontractors.

All items shown on the Schedule of Bid Items shall be properly filled in. The cost shall include all costs of labor, materials, equipment, State, Federal or other taxes applicable to the transaction. The completed forms shall be without interlineation, erasures or alterations of any nature. If the proposal is made by an individual, his name and post office address must be shown; or, if made by a partnership, the name and address of each member of the partnership must be shown; or if made by a corporation, the proposal shall show the name of the State under the laws of which the corporation was chartered and the names, titles and business addresses of the President, Secretary and Treasurer of said corporation. Bidder shall sign each page of bid form in the space provided for Bidder's signature.

2.3 PROPOSAL GUARANTEE

All proposals must be accompanied by either a cashier's check, certified check or bidder's bond of a corporate surety authorized to do business in the State of California and acceptable to the City in a sum equal to at least ten percent (10%) of the total amount of the bid. Checks or bonds must be payable to the City of Mendota; such securities to be retained by the City as a guarantee that the bidder, if his bid is accepted, will enter into a satisfactory Contract within ten (10) calendar days from the date notice of award is mailed to the bidder, and will furnish acceptable bonds in accordance with the requirements of these specifications.

2.4 WITHDRAWAL OR MODIFICATION OR PROPOSALS

Any bid may be withdrawn at any time prior to the time fixed for the opening of bids only upon written request of the withdrawal of the bid filed with the City. The request shall be executed by the bidder or his duly authorized representative. The withdrawal of a bid does not prejudice the right of the bidder to file a new bid. Any bid may be modified after delivery to the City Hall, on or before the time fixed for the bid opening by submission of a written sealed supplement to the original bid marked "Supplement to (designation of original bid)". Such supplement shall clearly identify the bid item, the original bid price, and the modified price. The City Council may reject any supplemental bid which, in their opinion, does not set forth the proposed modification clearly enough to determine with certainty the price or prices offered by the bidder. A bid will not be received, and no bid may be withdrawn or modified after the time fixed for the opening of bids.

2.5 QUALIFICATION OF CONTRACTORS

Only qualified Contractors with a minimum of three years experience in each of the specialties detailed in the Special Provisions shall be employed in this Contract.

The Contractor shall submit a list of five (5) or more Owners for whom he has completed similar work. This list shall include Owners name, address, phone number, date of construction, nature of construction and other pertinent data. This list shall be submitted with the bid.

At the time of Contract award, the Contractor is required to possess a valid State of California Contractor's License.

2.6 DESIGNATION OF SUBCONTRACTORS

In compliance with Sections 4100-4107 of the Government Code, Contractor shall file with his bid the name and address of each Subcontractor who will perform more than one-half of one percent of the work. Only one Subcontractor shall be listed for each portion of the work, which portion shall be defined as to its nature and extent. The failure of Contractor to specify a subcontractor shall constitute a statement that Contractor is qualified and intends to perform said work himself.

Designation of subcontractors must be made upon blank forms included with the proposal forms obtained from the City. The Bidder must give the names of all the subcontractors and the form must be signed by the Bidder.

The Contractor must have the consent of the Council, conveyed in writing, to substitute a Subcontractor other than that designated in the original bid, to permit any subcontract to be assigned or transferred, to allow a subcontract to be performed by other than the original Subcontractor, or to subcontract work for which no Subcontractor was originally designated.

Violation of any of the above provisions will be considered a violation of the Contract, and the City may: cancel the Contract, assess the Contractor a penalty of not more than 10 percent of the subcontract involved, or cancel the Contract and assess the penalty. Notice and hearing, where required by Government Code Section 4110, shall be given.

All persons engaged in the work, including subcontractors, will be considered as employees of the Contractor. The Contractor will be held responsible for their work. The City will deal directly with, and make all payments to the Contractor only.

The Contractor shall be responsible for the coordination of all trades, subcontractors, and materialmen engaged upon the work. Neither the City nor the City Engineer will undertake to settle any differences between the Contractor and his subcontractors or between subcontractors. In this regard, it is recommended to the Contractor that local subcontractors and materialmen be used whenever possible as one of the best methods of maintaining the coordination and activity essential to proper job scheduling and completion.

When subcontracted work is not being prosecuted in a manner satisfactory to the City Engineer, the Contractor shall be notified to take corrective action within a specified time. If timely correction is not made on receipt by the Contractor of written instructions from the City Engineer, the Subcontractor shall be removed immediately from the work. He shall not be re-employed on the work.

2.7 ESTIMATED QUANTITIES

The quantities given in the Notice to Contractors, Proposal and Contract forms are approximate only, being given as a basis for the comparison of bids, and the City does not, expressly nor by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of work, as may be deemed necessary or expedient by the City Engineer.

2.8 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK

The bidder shall examine carefully the site of the work contemplated and the proposal, plans, specifications and Contract forms therefore. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished, and as to the requirements of these specifications. The submission of a proposal shall be considered as evidence that the bidder has made such examination.

Specific data required in regard to Public Utility Companies' pipes, conduits and structures shall be obtained from said Public Utility Companies. In case there should be any rubbish, stumps, trees, brush or other encumbrances on the line of work not covered by separate heading, they will be removed by the Contractor at his own expense.

Prospective bidders must satisfy themselves, by such means as they prefer, as to local conditions and all other matters which influence their bid for the work. The City or City Engineer shall not be liable on account of any obstructions of any nature, unforeseen difficulties in construction, or unreliable information from any source.

If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the Specifications and Drawings or other Contract Documents, or finds discrepancies in, or omissions from the Specifications and Drawings, he may submit to the City a written request for an interpretation or correction thereof. The person

submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by Addendum duly issued and a copy of such Addendum will be mailed or delivered to each Bidder receiving a set of such Contract Documents. The City will not be responsible for any other explanations or interpretations of the Contract Documents. No oral interpretations of any provision in the Contract Documents will be made to any Bidder.

2.9 MATERIAL GUARANTEE

Before any Contract is awarded, the Bidder may be required to furnish a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work, together with samples, which samples may be subjected to the tests provided for in these specifications or in the special provisions, to determine their quality and fitness for the work.

2.10 REJECTION OF PROPOSALS

The City reserves the right to reject any or all proposals. Proposals may be rejected if they show any alteration of form, additions not called for, conditional or alternative bids, incomplete bids, erasures, or irregularities of any kind. Proposals in which the prices are obviously unbalanced may be rejected.

More than one proposal from an individual, a firm or partnership, a corporation or an association under the same or different names, will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. If there is reason to believe that collusion exists among the Bidders, none of the participants in such collusion will be considered in future proposals.

2.11 AWARD OF CONTRACT

The award of the Contract, if it be awarded, will be to the lowest responsible Bidder whose proposal complies with all the requirements prescribed, provided his bid is reasonable and it is in the interest of the City to accept it. The award, if made, will be made within sixty (60) days after the opening of the proposals.

2.12 EXECUTION OF CONTRACT

The Contract, in form and contents satisfactory to the City, shall be executed by the successful bidder and returned, together with the Contract bonds and compensation and public liability policies or certificates, within ten (10) calendar days after the date when the notice of award is mailed to the Contractor. No proposal shall be considered binding upon the City until the execution of the Contract. Failure to execute the Contract and file acceptable bonds, policies, or certificates as provided herein, within such ten (10) day period, shall be just cause for the annulment of the award, and forfeiture of proposal guarantee to the City as liquidated damages.

2.13 BONDS

2.13 BONDS

ALL BONDS SHALL BE ON THE FORMS PROVIDED BY THE CITY.

2.14 CONTRACT SECURITY

The Contractor shall furnish a surety bond in an amount equal to at least one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract. Contractor shall also furnish a separate surety bond in an amount equal to at least one hundred percent (100%) of the Contract price as security for the payment of all persons performing labor and furnishing materials in connection with this Contract. Sureties on each of said bonds shall be satisfactory to the City.

"Bidder hereby waives the provisions of Section 4590 of the California Government Code in accordance with Section 3513 of the California Civil Code which permits anyone to waive the advantage of a law intended solely for his benefit, and agrees to abide by the payment and retainer provisions set forth in this Contract".

2.15 ASSIGNMENT

No Contract or portion thereof may be assigned without consent of the Council, except that the Contractor may assign money due or which will accrue to him under the Contract. If given written notice, such assignment will be recognized by the City to the extent permitted by law, but any assignment of money shall be subject to all proper set offs and withholdings in favor of the City and to all deductions provided for in the Contract. All money withheld, whether assigned or not, shall be subject to being used by the City for completion of the work, should the Contractor be in default.

2.16 UNIT PRICES

Excepting the items for which lump sums are called for, the unit prices inserted in the bid form by the Bidder will be considered to be the bid prices for the various units of work and shall be used in the calculation of the amount due the Contractor for work performed. In case of a discrepancy between the unit price bid and the calculated total for the item, the unit price shall govern.

2.17 INSURANCE AND INDEMNIFICATION

At the time of the execution of the Contract, the Contractor shall, at his own expense, procure, and at all times during the prosecution of the work hereunder and until final completion thereof maintain, in full force and effect, Workmen's Compensation Insurance, General Liability Insurance Automobile Liability, and Builders Risk (All Risk) Insurance, in accordance with the following requirements.

1. A policy covering the full liability of the Contractor to any and all persons employed by him directly or indirectly in or upon the work, or their dependents, in accordance with the provisions of the Labor Code of the State of California, relating to Workmen's Compensation and Occupation Disease Insurance.

2. Employer's Liability Insurance in an amount of at least $2,000,000.00.

3. A policy (subject to specific waiver or amendment) of Comprehensive General Liability Insurance insuring against loss from liability imposed by law, contingent and otherwise, for injury to, or death of, any person or persons, or damage to real or personal property, and arising in or by reason of or in connection with all claims, demands, actions or legal proceedings made or brought by any person or persons, by reason of any injury, death or damage, and to pay all judgments, interests, legal costs and other expenses arising out of or in connection therewith. Coverage shall have minimum limits as found on page 2-8 Section 2.17.

4. A policy providing Builder's Risk Insurance (all risk), when required, on one hundred percent (100%) of the Contract price for the benefit of the City, the Contractor and all subcontractors, as their interest may appear.

5. Acceptability of Insurers

   Insurance is to be palce with insurers wiht a current A.M. BEST'S rating of no less than A:VII.

   The Entity reserves the right to waive and consider as an informality the A:VII rating criteria as follows:

   When insurance carriers with a rating less than A:VII are proposed, the same carrier shall submitt a "cut through Agreement" or "Assumption fo Liability Endorcement" attached to and becoming a part of the policy which fully declares all liability and conditions of the policy to another carrier with minimum Rating A:VII.

All Insurance, excepting Workmen's Compensation and Occupational Disease Insurance, shall include as additional named insured: The City of Mendota, the City Council, The City Manager, the City Engineer and all officers, employees and agents of the City of Mendota. The policies mentioned in this section shall be issued by an insurance carrier satisfactory to the City and shall be delivered to the City at the time of the delivery of such Contract. In lieu of actual delivery of such policies, a certificate issued by the insurance carrier showing such policies to be in force for the period covered by the Contract will be accepted. Such policies or certificates shall be in a form approved by the City Attorney and shall contain an endorsement precluding cancellation or reduction in coverage thereof before the expiration of thirty (30) days after the City shall have received written notice, by registered mail, from the insurance carrier, and in the event the insurance provided to protect the City is issued in a form naming the City as an additional insured on a policy covering the Contractor in the limits stated, such certificate shall include a standard cross-liability endorsement. Should any such policy be cancelled before final completion of the work herein contemplated and the Contractor should fail to immediately procure other insurance as herein required, then the City may procure such insurance and deduct the cost thereof from the amount due the Contractor.

With respect to any work required to be done under this Contract, the Contractor will indemnify and hold harmless the City of Mendota, the City Engineer and all other participating public agencies, whether or not said agencies are named herein, who have

jurisdiction within the areas in which the work is to be performed, and all officers and employees of the City, the City Engineer and other participating action, damages, (including damages to City property or property of the participating agencies), cost of liabilities (including costs, or liabilities of the City, the City Engineer and the participating agencies with respect to its employees), in law or in equity of every kind and nature whatsoever, directly or proximately resulting from or caused by the performance of the Contract, whether such performance by the Contractor, his Subcontractor or anyone directly or indirectly employed by him; and the Contractor shall, at his sole risk and expense, defend any and all suits, actions or other legal proceedings which may be brought or instituted by third persons against the City, the City Engineer, the participating agencies, their officers and employees on any such claim, demand or cause of action, and the Contractor shall pay and satisfy any judgement or decree which may be rendered against the City, the City Engineer, the participating agencies, their officers and employees in any such suit, action, or other legal proceedings.

INSURANCE REQUIREMENTS FOR CONTRACTORS
(With Construction Risks)

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence form CG001).

2. Insurance Services Office form number CA 0001 (Ed.1/87) covering Automobile Liability, Code 1 (any auto).

3. Workers Compensation insurance as required by the State of California and Employer's Liability Insurance.

4. Course of Construction insurance form providing coverage for "all risks" of loss.

Minimum Limits of Insurance

Contractor shall maintain limits no less than:

1. General Liability: (Including operations, products and completed operations.) $2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

2. Automobile Liability: $1,000,000 per accident for bodily injury and property damage.

3. Employer' Liability: $1,000,000 per accident for bodily injury or disease.

4. Course of Construction: Completed value of the project with no coinsurance penalty provisions.

Deductibles and Self-Insured Retention

Any deductibles or self-insured retention's must be declared to and approved by the Entity. At the option of the Entity, either: the insurer shall reduce or eliminate such deductibles or self-insured retention's as respects the ***Entity, Giersch & Associates, Inc., and any officers, officials, employees and volunteers, of the above;*** or the Contractor shall provide a financial guarantee satisfactory to the Entity guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Other Insurance Provisions

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. ***The Entity, Giersch & Associates, Inc., and any officers, officials, employees, agents and volunteers of the above,*** are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance, or as a separate owner's policy. Activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or

borrowed by the Contractors. The coverage shall contain no special limitations on the scope of protection afforded to the ***Entity, Giersch & Associates, Inc., its officers, officials, employees, agents or volunteers of the above.***

2. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the ***Entity, Giersch & Associates, Inc., its officers, officials, employees, agents and volunteers of the above.*** Any insurance or self-insurance maintained by the ***Entity, Giersch & Associates, Inc., its officers, officials, employees, agents or volunteers of the above*** shall be excess of the Contractor's insurance and shall not contribute with it.

3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the ***Entity, Giersch & Associates, Inc., its officers, officials, employees, agents, or volunteers of the above.***

4. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the ***Entity, Giersch & Associates, Inc., its officers, officials, employees, agents, or volunteers of the above.***

5. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subdivision (b) of Section 2782 of the Civil Code.

Course of construction policies shall contain the following provisions:

1. ***Entity, Giersch & Associates, Inc., its officers, officials, employees, agents, or volunteers of the above*** shall be named as loss payee.

2. The insurer shall waive all rights of subrogation against ***Entity, Giersch & Associates, Inc., and its officers, officials, employees, agents, or volunteers of the above.***

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

Verification of Coverage

Contractor shall furnish the ENTITY with original certificates and mandatory **endorsements** effecting coverage required by this clause. The endorsements are to be on forms provided by the ENTITY, or on other than the Entity's forms, provided those endorsements or policies conform to the requirements.. All certificates and endorsements are to be received and approved by the Entity before work commences. The Entity reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

Subcontractors

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

GENERAL LIABILITY SPECIAL ENDORSEMENT
FOR: City of Mendota (Entity) and City Engineer, and officers, employees and agents.

SUBMIT IN TRIPLICATE

ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)

PRODUCER

Telephone

POLICY INFORMATION:
Insurance Company:
Policy No.:
Policy Period: (from) (to)
LOSS ADJUSTMENT EXPENSE ❑ Included in Limits ❑ In Addition to Limits

❑ Deductible Self-Insured Retention (check which) of $ _____

NAMED INSURED

APPLICABILITY. This insurance pertains to the operation and/or tenancy of the named insured under all written agreements and permits in force with the Entity unless checked here ❑ in which case only the following specific agreements and permits with the Entity are covered:
CITY AGREEMENTS/PERMITS

TYPE OF INSURANCE

❑ COMMERCIAL AUTO POLICY
❑ BUSINESS AUTO POLICY
❑ OTHER

OTHER PROVISIONS❑

LIMITS OF LIABILITY

CLAIMS: Underwriter's representative for claims pursuant to this insurance.
Name: _____
Address: _____
Telephone: ( )

_____ per accident, for bodily injury and property damage❑

consideration of the premium charge and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, it is agreed as follows:

1. INSURED: The Entity, its officers, officials, employees and volunteers are included as insureds with regard to damages and defense of claims arising from: the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Named Insured, or for which the Named Insured is responsible.
2. CONTRIBUTION NOT REQUIRED. As respects work performed by the Named Insured for or on behalf of the Entity, the insurance afforded by this policy shall: (a) be primary insurance as respects the Entity, its officers, officials, employees and volunteers; or (b) stand I an unbroken chain of coverage excess of the Named Insured's primary coverage. Any insurance or self-insurance maintained by the Entity, its officers, officials, employees and volunteers shall be excess of the Named Insured's insurance and not contribute with it.
3. CANCELLATION NOTICE. With respect to the interests of the Entity, this insurance shall not be canceled, except after thirty (30) days prior written notice by receipted delivery has been given to the Entity.
4. SCOPE OF COVERAGE. This policy affords coverage at least as broad as:
   (1) If primary, Insurance Services Office Form Number CA0001 (Ed. 1/87), Code 1 ("any auto"); or
   (2) If excess, affords coverage which is at least as broad as the primary insurance forms referenced in the preceding Section (1).

Except as stated above, nothing herein shall beheld to waive, alter or extend any of the limits conditions, agreements or exclusions of the policy to which this endorsement is attached.

ENDORSEMENT HOLDER

ENTITY

City of Mendota
Giersch & Associates, Inc.

AUTHORIZED REPRESENTATIVE ❑ Broker/Agent ❑ Underwriter ❑ ____

I, _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company, and by my signature hereon do so bind this company to this endorsement.

Signature _____
(original signature required)
Telephone: ( ) Date Signed _____

AUTOMOBILE LIABILITY SPECIAL ENDORSEMENT
FOR: City of Mendota (Entity) and City Engineer, and officers, employees and agents.

SUBMIT IN TRIPLICATE

ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)

PRODUCER

Telephone

POLICY INFORMATION:
Insurance Company:
Policy No.:
Policy Period: (from) (to)
LOSS ADJUSTMENT EXPENSE ☐ Included in Limits ☐ In Addition to Limits

☐ Deductible Self-Insured Retention (check which) of $ _____

NAMED INSURED

APPLICABILITY. This insurance pertains to the operation and/or tenancy of the named insured under all written agreements and permits in force with the Entity unless checked here ☐ in which case only the following specific agreements and permits with the Entity are covered:
CITY AGREEMENTS/PERMITS

TYPE OF INSURANCE

☐ COMMERCIAL AUTO POLICY
☐ BUSINESS AUTO POLICY
☐ OTHER

OTHER PROVISIONS ☐

LIMITS OF LIABILITY

_____ per accident, for bodily injury and property damage ☐

CLAIMS: *Underwriter's representative for claims pursuant to this insurance.*
Name: _____
Address: _____
Telephone: ( ) _____

In consideration of the premium charge and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, it is agreed as follows:

1. INSURED: The Entity, its officers, officials, employees and volunteers are included as insureds with regard to damages and defense of claims arising from: the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Named Insured, or for which the Named Insured is responsible.
2. CONTRIBUTION NOT REQUIRED. As respects work performed by the Named Insured for or on behalf of the Entity, the insurance afforded by this policy shall: (a) be primary insurance as respects the Entity, its officers, officials, employees and volunteers; or (b) stand I an unbroken chain of coverage excess of the Named Insured's primary coverage. Any insurance or self-insurance maintained by the Entity, its officers, officials, employees and volunteers shall be excess of the Named Insured's insurance and not contribute with it.
3. CANCELLATION NOTICE. With respect to the interests of the Entity, this insurance shall not be canceled, except after thirty (30) days prior written notice by receipted delivery has been given to the Entity.
4. SCOPE OF COVERAGE. This policy affords coverage at least as broad as:
   (1) If primary, Insurance Services Office Form Number CA0001 (Ed. 1/87), Code 1 ("any auto"); or
   (2) If excess, affords coverage which is at least as broad as the primary insurance forms referenced in the preceding Section (1).

Except as stated above, nothing herein shall beheld to waive, alter or extend any of the limits conditions, agreements or exclusions of the policy to which this endorsement is attached.

ENDORSEMENT HOLDER

ENTITY

City of Mendota
Giersch & Associates, Inc.

AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ ____

I, _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company, and by my signature hereon do so bind this company to this endorsement.

Signature _____
(original signature required
)

Telephone: ( ) Date Signed _____

.ORKERS' COMPENSATION AND EMPLOYER'S LIABILITY SPECIAL ENDORSEMENT
FOR: City of Mendota (Entity) and City Engineer, and officers, employees and agents.

SUBMIT IN TRIPLICATE

ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)

PRODUCER

Telephone☐

POLICY INFORMATION:

Insurance Company:

Policy No.:

Policy Period: (from) _____ (to)

OTHER PROVISIONS

NAMED INSURED

☐

CLAIMS: Underwriter's representative for claims pursuant to this insurance.

Name: _____

Address: _____

_____

'ephone ' (____) _____

EMPLOYERS LIABILITY LIMITS

$ _____ (Each Accident)

$ _____ (Disease - Policy Limit)

$ _____ (Disease - Each Employee)

In consideration of the premium charge and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, it is agreed as follows:

1. CANCELLATION NOTICE. This insurance shall not be canceled, except after thirty (30) days prior written notice by receipted delivery has been given to the Entity
2. WAIVER OF SUBROGATION. This Insurance Company agrees to waive all rights of subrogation against the Entity, its officers, officials, employees and volunteers for losses paid under the terms of this policy which arise from the work performed by the Named Insured for the Entity.

Except as stated above, nothing herein shall beheld to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached. ☐

ENDORSEMENT HOLDER

ENTITY

City of Mendota

AUTHORIZED REPRESENTATIVE ☐ Broker/Agent ☐ Underwriter ☐ _____

I, _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company, and by my signature hereon do so bind this company to this endorsement.

Signature _____
(original signature required)

Telephone: ( ) Date Signed _____

CERTIFICATE OF INSURANCE

Completed Certificate to

City of Mendota (Entity)
64[illegible] Quince Street
[illegible]ta, CA 93640
[illegible] City Manager

TO

CITY OF MENDOTA
(Entity)

Only this Certificate of Insurance form will be accepted

This certifies to the Entity that the following described policies have been issued to the Insured named below and are in force at this time.

Insured _____
Address _____
_____

Description of operations/locations/products insured (show contract name and/or number, if any):_____
_____

POLICIES AND INSURERS	LIMITS	POLICY NUMBER	EXPIRATION DATE
Workers' Compensation _____ (Name of Insurer) Best's Rating _____	Employers Liability $_____		
Check policy type: [illegible]mprehensive General Liability ____ or [illegible]ommercial General Liability ____ _____ (Name of Insurer) Best's Rating _____ Claims-Made _____ or Occurrence _____	Comprehensive General Liability Each Occurrence $_____ Aggregate $_____ Non-owned Auto $_____ --- Commercial General Liability Each Occurrence $_____ General Aggregate either per project/location $_____ or twice occurrence limit $_____ Non-owned Auto $_____		
Business Auto Policy Liability Coverage Symbol _____ _____ (Name of Insurer) Best's Rating _____ Claims-Made _____ or Occurrence _____	Each Person $_____ Each Accident $_____ Each Accident $_____ or Combined Single Limit $_____		
Umbrella Liability _____ (Name of Insurer) Best's Rating _____ [illegible]ims-Made _____ or Occurrence _____	Occurrence/ Aggregate $_____ Self Insured Retention $_____		

Re[illegible] 12/27/90 Note: *If commercial general liability insurance is used or if aggregate limits are endorsed to the comprehensive general liability policy form, the general aggregate must apply per location/project or the aggregate limit must be at least twice the occurrence limit.*

The following coverage or conditions are in effect:	*YES*	*NO*
THE ENTITY, GIERSCH & ASSOCIATES, INC., ITS OFFICIALS, OFFICERS, EMPLOYEES AND VOLUNTEERS OF THE ABOVE, are named on all liability policies described above as insured as respects: (a) activities performed for the Entity by or on behalf of the named insured, (b) products and completed operations of the Named Insured, and (c) premises, owned, leased or used by the Named Insured.		
Products and Completed Operations		
The undersigned will mail to the ENTITY 30 days' written notice of cancellation or reduction of coverage or limits.		
Cross Liability Clause (or equivalent wording)		
Personal Injury, Perils A, B and C		
Broad Form Property Damage		
X, C, U Hazards included		
Contractual Liability Coverage applying to this Contract		
Liquor Liability		
Coverage afforded the ENTITY, GIERSCH & ASSOCIATES, INC., ITS OFFICIALS, OFFICERS, EMPLOYEES AND VOLUNTEERS OF THE ABOVE, as Insureds applies as primary and not excess or contributing to any insurance issued in the name of the Entity.		
Waiver of subrogation from Workers' Compensation insurer.		

This certificate is issued as a matter of information. This certificate is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

Agency or Brokerage

Address

Name of Person to be Contacted

Telephone Number

Insurance Company

Home Office

Authorized Signature *Date*

NOTE: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of official of insurer.

Revised 12/27/90

HOLD HARMLESS AND INDEMNIFICATION AGREEMENT

Contractor shall indemnify and hold harmless ENTITY, GIERSCH & ASSOCIATES, INC., AND ITS OFFICERS, OFFICIALS, EMPLOYEES, AGENTS AND VOLUNTEERS OF THE ABOVE from and against all claims, damages, losses and expenses including requirement to pay litigation expenses and attorneys fees arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the Entity.

The State Compensation Insurance Fund has stated that it will not accept the Worker's Compensation Endorsement form titled "Workers" Compensation And Employer's Liability Special Endorsement," as contained in Section titled, "Insurance Requirements for Contractors." Instead, it issues a package of four endorsements, as follows:

- *Certificate of Workers' Compensation Insurance*
- *Additional Insured Employer Endorsement Agreement*
- *Waiver of Subrogation Endorsement Agreement*
- *Certificate Holder's Notice Endorsement Agreement*

Each of the endorsements above must be filled out separately for each of the additional insureds listed below, with one name per endorsement. Additional insureds which require Workers' Compensation Endorsements are as follows:

- *The City of Mendota*
  643 Quince Street
  Mendota, CA 93640

- *Giersch & Associates, Inc.*
  421 North "I" Street
  Madera, CA 93637

Reproduction of State Compensation Insurance Fund Form

STATE COMPENSATION INSURANCE FUND

P.O. BOX 807, SAN FRANCISCO, CALIFORNIA 94101

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

POLICY NUMBER:
CERTIFICATE EXPIRES:

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon 30 days' written notice to the employer.

We will give you 30 days' advance notice should this policy be canceled prior to its normal expiration.

This certificate of insurance is not an insurance policy and odes not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

PRESIDENT

(Note: following text is typewritten addition to printed form)

THE STATE COMPENSATION INSURANCE FUND WAIVES ANY RIGHT OF SUBROGATION ENDORSEMENT #2570. AGAINST (ENTITY) _____ , ITS OFFICIALS, EMPLOYEES AND VOLUNTEERS BY REASON OF ANY PAYMENT UNDER THIS POLICY.

ENDORSEMENT #0015 ENTITLED ADDITIONAL INSURED EMPLOYER EFFECTIVE 07-20-87 IS ATTACHED TO AND FORMS A PART OF THIS POLICY. ADDITIONAL INSURED EMPLOYER: _____

ENDORSEMENT #2065 ENTITLED 30 DAY CANCELLATION NOTICE EFFECTIVE 07-20-87 IS ATTACHED TO AND FORMS A PART OF THIS POLICY.

LIABILITY OF THE STATE COMPENSATION INSURANCE FUND IS LIMITED TO $3,000,000 FOR ALL DAMAGES FOR ONE OR MORE CLAIMS RESULTING FROM EACH ACCIDENT OF OCCURRENCE ARISING OUT OF ANY ONE EVENT.

EMPLOYER

Reproduction of State Compensation
Insurance Fund Form

STATE
COMPENSATION
INSURANCE
FUND

ADDITIONAL INSURED EMPLOYER

ENDORSEMENT AGREEMENT

Home Office
San Francisco

All Effective Dates are at 12:01 AM Pacific Standard Time or the Time Indicated at Pacific Standard Time

ANYTHING IN THIS POLICY TO THE CONTRACT NOTWITHSTANDING, IT IS AGREED THAT

(NAMED OF ADDITIONAL INSURED EMPLOYER: ONE NAME PER ENDORSEMENT)

IS HEREBY NAMED AS AN ADDITIONAL INSURED EMPLOYER ON THIS POLICY BUT ONLY AS RESPECTS EMPLOYEES WHOSE NAMES APPEAR ON THE PAYROLL RECORDS OF

(POLICY NAME)

(HEREIN CALLED THE PRIMARY INSURED) WHILE THOSE EMPLOYEES ARE ENGAGED IN WORK UNDER THE SIMULTANEOUS DIRECTION AND CONTROL OF THE PRIMARY INSURED AND THE ADDITIONAL INSURED EMPLOYER.

IT IS FURTHER AGREED THAT THE PAYMENT OF THE FULL PREMIUM DUE AND PAYABLE UNDER THIS POLICY SHALL REMAIN THE SOLE RESPONSIBILITY OF THE PRIMARY INSURED.

NOTHING IN THIS ENDORSEMENT CONTAINED SHALL BE HALED TO VARY, ALTER, WAIVE OR EXTEND ANY OF THE TERMS, CONDITIONS, AGREEMENTS OR LIMITATIONS OF THIS POLICY OTHER THAN AS STATED. NOTHING ELSEWHERE IN THIS POLICY SHALL BE HELD TO VARY, ALTER, WAIVE OR LIMIT THE TERMS, CONDITIONS, AGREEMENTS OR LIMITATIONS OF THIS ENDORSEMENT.

COUNTERSIGNED AND ISSUED AT SAN FRANCISCO 0015

Reproduction of State Compensation
Insurance Fund Form

STATE
COMPENSATION
INSURANCE
FUND

WAIVER OF SUBROGATION

ENDORSEMENT AGREEMENT

Home Office
San Francisco

All Effective Dates are at 12:01 AM Pacific Standard Time or the Time Indicated at Pacific Standard Time

ANYTHING IN THIS POLICY TO THE CONTRARY NOTWITHSTANDING, IT IS AGREED THAT THE STATE COMPENSATION INSURANCE FUND WAIVES ANY RIGHT OF SUBROGATION AGAINST:

(SPECIFY 3RD PARTY REQUESTING WAIVER: ONE NAME PER ENDORSEMENT)

WHICH MIGHT ARISE BY REASON OF ANY PAYMENT UNDER THIS POLICY IN CONNECTION WITH WORK PERFORMED BY:

(POLICY NAME)

IT IS FURTHER AGREED THAT THE INSURED SHALL MAINTAIN PAYROLL RECORDS ACCURATELY SEGREGATING THE REMUNERATION OF EMPLOYEES WHILE ENGAGED IN WORK FOR THE ABOVE EMPLOYER.

IT IS FURTHER AGREED THAT PREMIUM ON THE EARNINGS OF SUCH EMPLOYEES SHALL BE INCREASED BY _____ %.

NOTHING IN THIS ENDORSEMENT CONTAINED SHALL BE HALED TO VARY, ALTER, WAIVE OR EXTEND ANY OF THE TERMS, CONDITIONS, AGREEMENTS OR LIMITATIONS OF THIS POLICY OTHER THAN AS STATED. NOTHING ELSEWHERE IN THIS POLICY SHALL BEHELD TO VARY, ALTER, WAIVE OR LIMIT THE TERMS, CONDITIONS, AGREEMENTS OR LIMITATIONS OF THIS ENDORSEMENT.

COUNTERSIGNED AND ISSUED AT SAN FRANCISCO 2570

STATE
COMPENSATION
INSURANCE
FUND

CERTIFICATE HOLDERS' NOTICE

ENDORSEMENT AGREEMENT

Home Office
San Francisco

All Effective Dates are at 12:01 AM Pacific Standard Time or the Time Indicated at Pacific Standard Time

ANYTHING IN THIS POLICY TO THE CONTRARY NOTWITHSTANDING, IT IS AGREED THAT THIS POLICY SHALL NOT BE CANCELED UNTIL:

(SPECIFY NUMBER) _____ DAYS

AFTER WRITTEN NOTICE OF SUCH CANCELLATION HAS BEEN PLACED IN THE MAIL BY STATE FUND TO CURRENT HOLDERS OF CERTIFICATE OF WORKERS' COMPENSATION INSURANCE.

NOTHING IN THIS ENDORSEMENT CONTAINED SHALL BE HALED TO VARY, ALTER, WAIVE OR EXTEND ANY OF THE TERMS, CONDITIONS, AGREEMENTS OR LIMITATIONS OF THIS POLICY OTHER THAN AS STATED. NOTHING ELSEWHERE IN THIS POLICY SHALL BEHELD TO VARY, ALTER, WAIVE OR LIMIT THE TERMS, CONDITIONS, AGREEMENTS OR LIMITATIONS OF THIS ENDORSEMENT.

COUNTERSIGNED AND ISSUED AT SAN FRANCISCO 0015

CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

y of Mendota (Entity) and City Engineer, and officers, employees and agents.

PRODUCER

☐

INSURED

☐

THIS CERTIFICATE OF INSURANCE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

		COMPANIES	BEST'S RATING
COMPANY LETTER	A		
COMPANY LETTER	B		
COMPANY LETTER	C		
COMPANY LETTER	D		

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS ARE SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☐ OCCUR. ☐ OWNER'S & CONTRACTOR'S PROT. ☐ OTHER _____ ☐				GENERAL AGGREGATE	$
					PRODUCTS-COMP/OPS AGGREGATE	$
					PERSONAL & ADVERTISING INJURY	$
					EACH OCCURRENCE	$
					FIRE DAMAGE (Any one fire)	$
					MEDICAL EXPENSE (any one person)	$
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ☐ NONOWNED AUTOS ☐ GARAGE LIABILITY				COMBINED SINGLE LIMIT	$
					BODILY INJURY (Per person)	$
					BODILY INJURY (Per accident)	$
					PROPERTY DAMAGE	$
	EXCESS LIABILITY ☐ UMBRELLA ☐ OTHER THAN UMBRELLA FORM				EACH OCCURRENCE	$
					AGGREGATE	$
	☐ WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY	$
					EACH ACCIDENT	$
					DISEASE-POLICY LIMIT	$
					DISEASE-EACH EMPLOYEE	$
	PROPERTY INSURANCE ☐ COURSE OF CONSTRUCTION				AMOUNT OF INSURANCE	$

DESCRIPTION OF OPERATIONS/LOCATION/VEHICLES/RESTRICTION/SPECIAL ITEMS

THE FOLLOWING PROVISIONS APPLY:

1. None of the above-described policies will be canceled until after 30 days' written notice has been given to the Entity at the address indicated below.
2. The Entity, its officials, officers, employees and volunteers are added as insureds on all liability insurance policies listed below.
3. It is agreed that any insurance or self-insurance maintained by the Entity will apply in excess of and not contribute with, the insurance described above.
4. The Entity is named a loss payee on the property insurance policies described above, if any.
5. All rights of subrogation under the property insurance policy listed above have been waived against the Entity.
6. The workers' compensation insurer named above, if any, agrees to waive all rights of subrogation against the Entity for injuries to employees of the insured resulting from work for the Entity or use of the Entity's premises or facilities.

CERTIFICATE HOLDER/ADDITIONAL INSURED (ENTITY)

y of Mendota
Giersch & Associates, Inc.

AUTHORIZED REPRESENTATIVE

SIGNATURE _____

TITLE _____

PHONE NO. _____ ☐

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

AMENDMENT—AGGREGATE LIMITS OF INSURANCE (PER PROJECT)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART/

The General Aggregate Limit under LIMITS OF INSURANCE (SECTION III) applies separately to each of your projects away from premises owned by or rented to you.

CG 25 03 11 85 Copyright, Insurance Services Office, Inc., 1984

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

AMENDMENT—AGGREGATE LIMITS OF INSURANCE (PER LOCATION)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

The General Aggregate Limit under LIMITS OF INSURANCE (SECTION III) applies separately to each of your projects away from premises owned by or rented to you.

"Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.

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SECTION THREE

SCOPE OF WORK

3.1 WORK TO BE DONE

The work to be done consists of furnishing all labor, materials, methods or process, implements, tools, machinery, incidentals, except as otherwise specified, which are required to construct the work as designated on the plans and in the Special Provisions ready for use, and to leave the grounds in a neat condition.

3.2 ALTERATIONS

The City of Mendota reserves the right to increase or decrease the quantity of any item or portion of the work or to omit portions of the work as may be deemed necessary or advisable by the City Engineer; also, to make such alterations or deviations, additions to, or omissions from, the plans and specifications, as may be determined during the progress of the work to be necessary and advisable for the completion thereof.

Upon written order of the City Engineer, the Contractor shall proceed with the work as increased, decreased or altered.

1. Alterations not Involving Changes in the Character of the Work:

   In the event the Contractor is ordered to make alterations involving an increase or decrease in the quantity of any item or portion of the work, or to omit portions of the work, which do not materially change the character of the work from that on which the Contractor's bid prices were based, no adjustment will be made for any increase or decrease in the cost of any given item unless the quantity of such item is increased or decreased more than twenty-five percent (25%) of the Contract quantity of such item. If an increase or decrease is made which; together with previous orders or agreed changes in quantity, increases or decreases the quantity of any item more than twenty-five percent (25%) of the Contract quantity thereof, an adjustment of compensation will be made. Such adjustment will be based on the increased or decreased actual cost per unit of said item or items to the Contractor or, at the option of the City, such adjustment will be made on the basis of force account. In any case, such adjustment shall apply only to the excess of the increase or decrease over twenty-five percent (25%) of the original Contract quantity of such item or items. The City Engineer shall determine the amount of such adjustment and his decision shall be final and conclusive between the parties.

2. Alterations Involving Changes in the Character of the Work:

   If the character of the work is materially changed by reason of an order of the City Engineer from that on which the Contractor based his bid price, adjustment will be made as may be agreed upon between the City Engineer and the Contractor, or, in the event of failure to agree, the Contractor will be paid on the basis of force account in accordance with the provisions of the following section of these specifications entitled "Extra Work".

By way of example and without limitation, the ordinary adjustments of alignment and grade to balance quantities or improve field conditions shall not be considered a material change in the character of the work and the slopes shown on the cross sections shall not be considered an indication of the class of material to be excavated, but are used only for the basis of determining the approximate estimate of the quantities and to define the limitations of the work.

When the City Engineer and the Contractor fail to agree as to whether an alteration ordered by the City Engineer constitutes a material change or difference in the character of work as herein contemplated, or fail to agree on the compensation to be allowed for such altered work, the Contractor shall forthwith proceed with the altered work upon written order from the City Engineer. Pending a settlement of the dispute, the Contractor shall file with the City Engineer within ten (10) days after receiving such written notice to proceed a protest setting forth in detail in what particulars the character of the work was changed and by what amount the unit cost was increased. The failure of the City Engineer to recognize a change in the character of the work when ordering alterations shall in no way be construed as relieving the Contractor of his duty and responsibility for filing a protest as above provided. The Contractor shall receive no additional compensation for such altered work unless he files such a protest within ten (10) days after receiving notice from the City Engineer to proceed and full settlement shall be made on the basis of the Contract unit prices.

3.3 EXTRA WORK

The City Engineer may require changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the provisions of this agreement or any other Contract Documents.

Adjustments, if any, in the amounts to be paid to the Contractor by reason of any such change, addition, or deductions, shall be by the unit prices contained in the Contractor's original bid and incorporated in the Contract Documents or fixed by subsequent agreement between the City and the Contractor. Force Account Work shall be paid in accordance with Section 9-1.03 of the State Standard Specifications.

No extra work shall be performed or change made until the issuance of a written order form the City, stating that the extra work or change is authorized and no claim for an addition to the Contract sum shall be valid, unless so ordered; provided, however, that nothing in this paragraph shall excuse the Contractor from proceeding with the prosecution of the work so changed. The Contractor shall, when required by the City, furnish an itemized breakdown of the quantities and prices used in computing the value of any change that might be ordered. Any bills for extra work done in any month shall be filed in writing with the City before the fifteenth of the following month.

The City reserves the right to furnish any material deemed expedient and the Contractor shall have no claim for profit on the cost of such materials. All extra work shall be adjusted daily upon report sheets furnished to the City by the Contractor and signed by both parties, which daily reports shall thereafter be considered the true record of extra work done.

3.4 CHANGE ORDER

Work added to or subtracted from the Contract, for which there is not an item bid price, shall be covered by change order.

3.5 REMOVAL OF OBSTRUCTIONS

Obstructions not designated for removal by others, or set up under separate heading, shall be removed and disposed of by the Contractor at his own expense.

3.6 MATERIALS FOUND ON THE WORK

The Contractor, with the approval of the City Engineer, may use material found in the excavations, in the proposed construction. The City Engineer shall judge the suitability of materials found in the excavations. The Contractor will be paid for the excavation of such materials at the corresponding Contract unit price. The Contractor shall replace, at his own expense, all of that portion of the material so removed with other suitable material required for use in embankments and backfills.

The Contractor shall not excavate or remove any materials from within any right-of-way which is not included in the excavating sections as indicated by slope stakes or grade lines in the field, without written authorization of the City Engineer.

3.7 FINAL CLEANUP

Upon completion and before making application for acceptance of the work, the Contractor shall clean the streets, roads, canals, ditches and all ground occupied by him in connection with the work, of all rubbish, excess materials, temporary structures and equipment and all parts of the work shall be left in a neat and presentable condition.

SECTION FOUR

CONTROL OF WORK

4.1 AUTHORITY OF CITY ENGINEER

The City Engineer shall decide all questions which may arise as to the quality or acceptability of materials used and work performed and as to the manner of performance and rate of progress of the work; all questions which may arise regarding the interpretation of the plans and specifications; all questions concerning the acceptable fulfillment of the Contract on the part of the Contractor; and all questions as to compensation. His decision shall be final and he shall have authority to enforce and make effective such decisions and orders which the Contractor fails to carry out promptly.

4.2 PLANS

The approved plans shall be supplemented by such working drawings that may be necessary to adequately control the work. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made on any plan or drawing after the same has been approved by the City Engineer, except by his direction. Any shop or working drawings furnished by the Contractor shall be at his own expense and are subject to approval, unless approval is waived by the City Engineer. All such plans shall be in conformity with the approved plans, but, although approved by the City Engineer, the Contractor shall be responsible for accuracy of dimensions or details.

4.3 CONFORMITY WITH PLANS AND ALLOWABLE DEVIATIONS

Finished surfaces in all cases shall conform with the lines, grades, cross sections, and dimensions shown on the approved plans, except those deviations required by the exigencies of construction, which will in all cases be determined by the City Engineer and authorized in writing.

4.4 COORDINATION OF PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS

The specifications, plans, special provisions and supplemental documents are essential parts of the Contract, and a requirement occurring in one is as binding as though it occurred in all. They are intended to be cooperative to describe and provide a complete work. Plans shall govern over General Conditions; Special Provisions shall govern over both specifications and plans.

4.5 INTERPRETATION OF PLANS AND SPECIFICATIONS

Conflicts between plans and specifications or questions concerning interpretation of plans and specifications shall be immediately reported to the City Engineer, in writing, by the Contractor. The City Engineer shall be the sole interpreter of the intent of the plans and specifications and shall decide all questions concerning coordination of plans, specifications and site conditions. The Contractor shall not proceed with that portion of the work in question until a written response is received from the City Engineer. If the

Contractor fails to report conflicts or discrepancies, or proceeds with the work prior to receiving instructions from the City Engineer, the Contractor shall repair, replace or reconstruct the work, as required by the City Engineer, at the Contractors own expense.

4.6 OMISSIONS IN PLANS AND SPECIFICATIONS

Any materials or work mentioned in the specifications and not shown on the drawings or that is shown on the drawings but not mentioned in the specifications shall be of the same effect as if shown or mentioned in both.

Omissions from the drawings or the specifications of the materials or details of work which are manifestly or obviously necessary to carry out the intent of the drawings and specifications, or which are customarily furnished or performed, shall not relieve the Contractor of his responsibility for furnishing such omitted materials or performing such omitted work; but such materials or work shall be furnished or performed as if fully shown or described in the drawings or specifications.

4.7 SUPERINTENDENCE AND SUPERVISION

The Contractor shall employ only competent workmen for the execution of his work and all such work shall be performed under the direct supervision of an experienced person satisfactory to the City Engineer.

Whenever the Contractor is not present on the work, he shall be represented at all times by a representative approved by the City Engineer, whose duty shall be to coordinate and prosecute all phases of the work as required by the plans and specifications, and to receive and execute any orders give by the City Engineer. Any orders give by the City Engineer, not otherwise required by the specifications to be in writing, will, on the request of the Contractor, be given or confirmed by the City Engineer in writing. Whether the Contract is comprised of an individual or two or more persons, co-partnership or corporation, functioning on a joint venture basis, said Contractor shall designate in writing to the City Engineer the name of the authorized representative on each job who shall have sole, primary and supreme authority to direct the work and to whom orders will be given by the City Engineer, to be received and executed by the Contractor.

4.8 LINES AND GRADES

Surveying adequate for construction will be done by the City Engineer except for private contracts. The Contractor shall be responsible for preserving construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes or permanent survey monuments or bench marks are lost or disturbed without the consent of the City Engineer, such replacement shall be by the City Engineer at the expense of the Contractor.

All distances and measurements will be made and given in a horizontal plane. Stakes will be set and stationed by the City Engineer for curbs, headers, water mains (where required), sewers, storm drains, structures, and rough grade and a corresponding cut or fill to finished grade (or flow line) indicated on a grade sheet. Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the City Engineer. In the absence of

such report, the Contractor shall be responsible for any error in the grade of the finished work.

Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench. The Contractor shall notify the City Engineer at least two (2) working days before he will require survey services in connection with laying out of any portion of the work. The Contractor shall dig all holes necessary for line and grade stakes.

Surveying by private engineers on work under the control of the City shall conform to the quality and practice required by the City Engineer. The City Engineer shall be notified before the stakes are set. Private engineers are required to furnish cut sheets to the City Engineer immediately upon the setting of the grades and prior to any construction activities of the Contractor.

4.9 INSPECTION

The City Engineer shall at all times have access to the work during construction and shall be furnished with every reasonable facility for ascertaining that the stock and materials used and employed and the workmanship, are in accordance with the requirements and intention of these specifications. All work done and all materials used shall be subject to inspection and approved by the City Engineer.

Whenever the Contractor varies the period during which work is carried on each day, he shall give due notice to the City Engineer so that proper inspection may be provided. Any work done in absence of the City Engineer will be subject to rejection.

The inspection of the work shall not relieve the Contractor of any obligation to fulfill the Contract as prescribed. Defective work shall be made good, and unsuitable materials may be rejected notwithstanding the fact that such defective work and unsuitable materials have been previously overlooked by the City Engineer and accepted or estimated for payment.

Projects financed in whole or in part with funds from sources other than the City shall be subject to inspection at all times by the agency providing said funds or its authorized agent.

4.10 REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK

All work that has been rejected shall be remedied or removed and replaced by the Contractor in an acceptable manner and no additional compensation will be allowed him for such removal or replacement.

Any work done beyond the lines and grades shown on the plans or established by the City Engineer, or any extra work done without written authority, will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the Contractor's expense. Upon failure on the part of the Contractor to comply with any order of the City Engineer made under the provisions of this article, the City Engineer shall have authority to cause defective work to be remedied or removed and replaced and unauthorized work to be removed and to deduct cost of same from any monies due or to become due the Contractor.

4.11 EQUIPMENT

Equipment not suitable to produce the quality of work required will not be permitted to operate on the project. The Contractor shall provide and maintain adequate and desirable equipment to meet the above requirements and, when ordered by the City Engineer, shall remove unsuitable equipment from the premises. All vehicles used to haul materials over existing roadways shall be equipped with pneumatic tires.

4.12 SEQUENCE OF WORK

The City Engineer shall have the power to direct the order and sequence of the work to the degree necessary to insure that the construction of one part will not interfere with the proper completion of other parts.

If at any time before the commencement, or during the progress of the work, the materials and appliances used or to be used appear to the City Engineer as insufficient or improper for securing the quality of work required, or the required rate of progress, he may order the Contractor to increase efficiency or to improve the quality of the work and the Contractor shall conform to such order. However, the failure of the City Engineer to demand any increase of such efficiency or any improvement shall not release the Contractor from his obligation to secure the quality of work or the rate of progress specified.

4.13 FINAL INSPECTION

Whenever the work provided and contemplated by the Contract shall have been satisfactorily completed and the final cleanup performed, the Contractor shall notify the City Engineer in writing that the work is complete and ready for the final inspection. The City Engineer will make the final inspection and any deficiencies noted during such inspection will be corrected prior to acceptance of the project.

4.14 SANITARY PROVISIONS

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the state and local Department of Health and other agencies having jurisdiction therewith.

4.15 AIR AND WATER POLLUTION

The Contractor shall use suitable precautions to minimize air pollution during the progress of the work. To this end, unpaved haul roads shall be sprinkled as necessary to prevent dust diffusion. Aggregate bins, cement bins, and dry material batch trucks shall be properly covered to prevent loss of material. Quarrying, batching, and mixing operations shall be properly controlled to minimize the spreading of dust.

4.16 SAFETY PROVISIONS

The Contractor shall, at his own expense, furnish, install and maintain all necessary signs, lights, barricades, stairs, railings and bridges and other safety devices, and shall take all other necessary precautions to prevent damage to life or property. To the maximum extent

possible, the Contractor shall arrange his work so as to keep two way vehicular traffic open at all times and will direct and supervise traffic as instructed by the City Engineer and/or the Department of Public Works.

Safety regulations as set forth in the State Standards and the State Department "Manual of Traffic Controls", shall be complied with at all times.

In the safe and proper conduct of the work requires the closing to public travel of any public street or way, or any part thereof, with consequent interruption of, or diversion of traffic, or if the work is adjacent to such a street or way, the Contractor shall furnish, erect and maintain through the progress of the work such warning, detour and other signs, barricades, fences, stairs, railings, underpasses, bridges or other temporary structures as may be necessary for the safe and convenient passage of traffic through, past, around, over or under the work. The Contractor shall notify the City Fire Department, Police Department and Public Works Department whenever it is necessary to close a street; also, when said street is again open for traffic. The approval of the City Engineer as to type, size and lettering of signs shall be obtained before erection. During the hours of darkness, sufficient red lights or flares shall be maintained in good order on or at all such temporary structures and at a suitable distance therefrom to warn the approaching traffic, and if necessary such signs and structures shall be artificially illuminated to insure adequate visibility.

The Contractor shall maintain full access to houses, private garages, businesses and other property by carefully constructed, compacted and unyielding entrances, kept in good repair. Where necessary, adequate plank bridges with beveled edges and equipped with hand or guard rails are to be maintained for smooth and safe traffic of pedestrians and vehicles. In order to avoid danger and delay to the public the Contractor shall, when ordered by the City Engineer, provide competent flagmen whose sole duty shall be to direct and control the movement of traffic through or past hazards incident to the work.

The Contractor shall comply with all the provisions of Chapter 9 Section 6705 and following of the California Labor Code. The Contractor shall provide adequate sheeting, shoring and bracing, or equivalent method for the protection of life or limb, which shall conform to applicable safety orders of the Codes. Nothing in this section shall be construed to impose Tort Liability on the City, the City Engineer or any of its officers, and employees.

4.17 EXISTING STRUCTURES IN RELATION TO PLANS

Where underground and surface structures are shown on the Plans, the locations, depth, and dimensions of such structures are believed to be reasonably correct but are not guaranteed. Such structures are shown for the information and convenience of the Contractor but such information so given is not to be construed as a representation that such structures will, in all cases, be found or encountered just where shown or that they represent all the structures which may be encountered. It shall be the Contractor's responsibility to locate and protect or remove all structures as the case may be.

4.18 PROTECTION OF WORK

The Contractor must provide and maintain proper barricades, fences, signal lights, or watchmen to protect properly the work, persons, animals, and property against injury. He

shall also furnish and maintain sign boards lettered "CLOSED" in large, readable type, on all approaches leading to his work as may be direct by the City Engineer. These statements of specific duties of the Contractor shall not be construed as a limitation of the general duties imposed by the Contract or specifications.

The City reserves the right to remedy any neglect on the part of the Contractor as regards to the protection of the work, After twenty-four (24) hours notice in writing except in case of emergency, when the City shall have the right to remedy any neglect without notice, and in either case, to deduct the cost from money due the Contractor.

4.19 CARE OF EXISTING STRUCTURES

The Contractor shall be liable for all damage done to any structure arising through his operations. He shall take care of and maintain all sewers, drains, culverts, and house services encountered in the performance of the work. The Contractor shall take care of all pipes for water, sewer, steam or gas, and all wire conduits as well as any underground structures crossing such work.

The Contractor shall repair all damage done to any of the said structures through his acts or neglect and shall keep them in repair during the life of this Contract. He shall in all cases leave them in as good condition as they were prior to the commencement of the work.

Care shall be taken not to move, without the consent of the City Engineer, any sewers, drains, culverts, water, gas, or other pipes, poles, or other structures. In crossing or running parallel with such structures, they shall be securely hung, braced, and supported in place until the work is completed.

4.20 CONSTRUCTION RECORD DRAWINGS

At the completion of the project and prior to final acceptance, the Contractor shall furnish the City Engineer with a complete set of construction "Record" drawings, reproducible, which clearly indicate the sizes, locations and depths of all piping, conduits, structures, existing utilities encountered and all deviations from the basic Contract drawings.

SECTION FIVE

CONTROL OF MATERIALS

5.1 MATERIALS AND WORKMANSHIP

All materials, parts and equipment furnished by the Contractor in the work shall be new, first quality and free from defects. Workmanship shall be in accordance with generally accepted standards. Both materials and workmanship shall be subject to the approval of the City Engineer. Any materials and workmanship not conforming to the requirements of these Specifications shall be considered defective and will be subject to rejection. Defective work or materials, whether in place or not, shall be removed immediately from the site by the Contractor, at his expense, when so directed by the City Engineer. If the Contractor fails to replace any defective or damaged work or material after notice from the City Engineer, the City Engineer may cause such work or materials to be replaced. The replacement expense shall be deducted from the amount to be paid to the Contractor. All materials shall be fully guaranteed against defects for a period of one (1) year from the date of the filing of the Notice of Completion by the City.

Used or secondhand materials, parts and equipment may be used only if specifically permitted in the Special Provisions or Technical Specifications.

5.2 SAMPLES AND TESTS

At the option of the City Engineer, the source of supply of each of the materials shall be approved by him before delivery is started or any of the materials are used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor of all materials to be used in the work for testing or examination as requested by the City Engineer. All tests of materials submitted by the Contractor shall be made in accordance with commonly recognized standards of national organizations and such special methods and tests as are prescribed in these Specifications. The Contractor shall furnish such samples as are requested by the City Engineer, without charge. No material shall be used until it has been approved by the City Engineer. Samples will be secured and tested whenever necessary to determine the quality of the material.

5.3 DEFECTIVE MATERIALS

All materials not conforming to these Specifications shall be considered defective, and all such materials, whether in place or not, shall be rejected and shall be immediately removed from the site of the work, unless otherwise permitted to remain, by the City Engineer. Rejected material, the defects of which have been subsequently corrected, shall not be used until written approval has been obtained from the City Engineer.

5.4 WITNESS TESTS AND SOURCE INSPECTIONS

When the specifications require (1) certified factory or (2) the City Engineer to witness certified factory tests or (3) material inspections at the source, the Contractor shall include

in his bid, all costs associated with furnishing the required tests or inspections and all transportation, per diem and overtime expenses for the City Engineer or his representative to witness the testing and/or make source inspections. Equipment and materials tested or inspected at the source shall be subject to retesting or reinspection at the job site.

5.5 EQUIPMENT AND MATERIAL QUALIFICATIONS

The Contractor shall base his bid on those types of equipment or materials shown on the Drawings, or called for in the Specifications, The City Engineer shall be the sole judge as to whether alternate equipment or materials may be substituted. Written approval must be obtained from the City Engineer before any alternate equipment or material is purchased.

All materials and equipment installed shall be new. Equipment shall be of recent manufacture (not a discontinued product, incapable of obtaining repair parts), with manufacturer's parts and service facilities within 500 miles of the City of Mendota.

All materials and equipment shall conform to the requirements of the applicable society, institute or association responsible for establishing industry standards and testing procedures.

When two or more units of the same equipment are required, they shall be identical standard products of a single manufacturer, unless otherwise approved in writing by the City Engineer.

5.6 TRADE NAMES AND ALTERNATIVES

The intent of the Specifications is to specify high-grade standard equipment, and it is not the intent of these Specifications to exclude or omit the products of any responsible manufacturer, if such products are equal in every respect to those mentioned herein. Whenever an article, or any class of materials, is specified by the trade name or by the name of any particular patentee, manufacturer or dealer, or by reference to the catalog of any such manufacturer, or dealer, it shall be taken as intending to mean and specify the article of material described or any other equal thereto in quality, finish and durability, and equally as serviceable for the purpose for which it is or they are intended.

Whenever a Contract is awarded wherein the material or article to be furnished is described in these Specifications by trade name, brand name, or other references to specific manufacturers or suppliers, "or equal" the person to whom the Contract is awarded shall have twenty (20) days after the award of the Contract to submit data substantiating a request for the substitution of an "or equal" item; however, the submittal shall be at least ten (10) days prior to anticipated incorporation into the work.

The Contractor shall, at his expense, furnish tests and data concerning items offered by him as equivalent to those specified. He shall have the material tested as required by the City Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the City Engineer. Test results shall be reported promptly to the City Engineer, who will evaluate the results and determine whether

the material offered is equivalent to that specified. The City Engineer's findings shall be final. Adequate time shall be allowed for the City Engineer to make this determination.

Installation and use of a substitute item shall not be made until approved by the City Engineer. If a substitute offered by the Contractor is found to be not equal to the specified material, the Contractor shall furnish and install the specified material.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this subsection.

5.7 SUBMITTALS

Within twenty (20) calendar days of the Notice of Proceed the Contractor shall provide six (6) copies of all submittal materials. Three copies of approved submittals will be returned to the Contractor. Five copies of rejected submittals will be returned. The Contractor shall resubmit 6 copies of corrected or revised submittals for approval. Submittals are required for all materials and equipment to be used on the project. Furnishing materials or equipment referenced in the Specifications by trade name does not relieve the Contractor of the requirement to provide submittal information. Manufacturers product changes often requires reexamination of product suitability.

Prior to installation, the Contractor shall submit four (4) copies of corrected Drawings, together with all necessary erection and installation Drawings. Fabrication of equipment shall not be started until submittal material has been reviewed and approved by the City Engineer.

Upon completion of work, the Contractor shall furnish statements from equipment suppliers to the effect that equipment supplied has been correctly installed and is ready for operation. For use in instructing operators and subsequent operation and maintenance, the Contractor shall furnish and place on file six (6) copies of operating and maintenance instructions and parts catalogs supplied by manufacturers for equipment furnished.

5.8 GUARANTEE

The Contractor shall guarantee that all work performed and each item of mechanical equipment furnished will function satisfactorily for a period of one (1) year from the date of the filing of the Notice of Completion. Mechanical parts, materials, equipment or workmanship found to be defective during this period shall be removed, and new materials or equipment furnished and installed without charge by the Contractor. The guarantee period shall then be one (1) year from the date that the work or equipment is restored to full operational service.

5.9 STORAGE OF MATERIALS

The Contractor shall at all times carefully and properly protect all materials of every description both before and after being used in the work, and provide any enclosing or special protection from the weather deemed necessary by the City Engineer, without additional cost to the City. Partial payments will not relieve the Contractor of any of his responsibilities.

Mechanical equipment, with electric motors, bearings or other moving parts, delivered to the job site, shall be housed inside a weather-tight building or enclosure until installed in its operating position.

5.10 INSTALLATION OF EQUIPMENT

All equipment shall be installed complete and ready to operate by the Contractor. In the installation of the equipment, only workmen skilled in the various trades shall be employed.

All machinery shall be set plumb and level in accordance with manufacturer's recommendations.

Oil and grease, of quantities and type in accordance with the manufacturer's recommendations, shall be furnished for initial operation, and for 60 days of operation after final acceptance of equipment.

Welding, where required, shall be by the electric arc process and shall be performed by qualified welders in accordance with the applicable welding code.

Metal work to be embedded in concrete shall be accurately placed and held in correct position while the concrete is being placed. The surface of all metal work to be in contact with concrete shall be thoroughly clean of all rust, dirt, grease, paint, loose scale, grout, mortar, or other foreign substances immediately before concrete is placed.

All foundation and anchor bolts shall be hot-dipped galvanized except for bolts located in a submerged or corrosive environment (i.e., chemical or chlorine gas or solution exposure) which shall be Type 316 stainless steel. Where it is impracticable to set anchor bolts before the concrete is placed, holes may be drilled in the concrete after it is properly set and cinch anchors installed. Foundation bolts for pumping units and such other equipment as may be deemed necessary shall be encased in metal tubing of light wall thickness having a diameter not less than three times the diameter of the bolt. Anchor bolts so noted on the Plans shall be set prior to concrete placement.

Pump and other equipment foundations shall be left three-quarters (3/4") inch below the grade of machine base unless otherwise noted or indicated on the Plans. After the proper setting of machine for alignment and grade, the recess below the base, together with recess between the anchor bolt and the metal tube, shall be grouted and carefully finished.

The Contractor shall make the necessary changes in the structures to fit the equipment or mechanisms purchased. All existing structures, pipe work and mechanisms are believed to be positioned as shown on the Plans, based on the information available. Existing piping and equipment shall be supported in place and the location adjusted when required to make a satisfactory fit to new construction. When new construction is to be joined to existing structures or equipment, all dimensions involved shall be checked by the Contractor. Any cost that may be incurred by the Contractor in carrying out these construction requirements will be considered as having been included in the prices bid for the various items of work and no extra allowance will be made therefore.

Shop coats of paint shall be applied in accordance with the provisions of these Specifications and protected as much as it is practicable during handling, storage and

installation. After installation, all exposed surfaces shall be painted as specified under the "Painting and Coatings" section.

5.11 FIELD TESTING AND INSPECTION

Upon completion of construction and installation of all mechanical and electrical equipment, field tests shall be made of the equipment.

An authorized representative of the company or companies supplying the various pieces of equipment shall check the installation and adjust and test the equipment furnished until such equipment operates properly.

Field performance tests of all pumping units and all other equipment including auxiliaries shall be made in accordance with the appropriate and approved Test Codes of the ASME and the IEEE and as specified in these Specifications. When necessary, process water shall be used in testing the equipment.

The Contractor shall furnish the services of a competent representative of the manufacturer of the various items of mechanical equipment to instruct City Maintenance Personnel in operation and maintenance procedures.

Prior to the initial operation phase, the equipment suppliers shall check out their equipment to determine that it is in proper working order and is ready for integrated operation with other equipment in the plant. Once the final checkout of equipment has started, the manufacturer's representative shall stay at the site until proper operation is attained, unless other arrangements have been made with the City Engineer.

The Contractor's test operation of each piece of mechanical equipment shall continue for not less than eight (8) hours without interruption or for a period of time acceptable to the City Engineer that will permit adequate testing of the equipment to the satisfaction of the City Engineer. All parts shall operate satisfactorily in all respects, under continuous full-load unless the City Engineer approves a reduced load test and in accordance with the specified requirements, for the full duration of the eight-hour test period. If any part of a unit shows evidence of unsatisfactory or improper operation during the eight-hour test period, correction or repairs shall be made and the full eight-hour test operation as specified above shall be completed after all parts operate satisfactorily. The Contractor shall furnish all personnel, power, fuel, oil, grease and all other necessary facilities for conducting the Contractor's test operations. The Contractor shall give continuous, competent supervision at the immediate site of the equipment for the full test period.
After all equipment is installed and tested by the Contractor, the Owner will test the equipment for a period not to exceed seven (7) days by operating, either under actual or simulated operating conditions before final acceptance is give. All defects of material or workmanship that appear during the Owner's test period shall be corrected by the Contractor. After such corrections are made, the Owner's seven day test may be run again before final acceptance if it is deemed advisable by the City Engineer. The Contractor will supply all power, water, oil, grease, auxiliaries and operating personnel required for the Owner's test operation.

SECTION SIX

UTILITIES

6.1 LOCATION

The City has searched all known records and has indicated on the Plans those utilities, except water services and sewer laterals, which may affect the work. All available information regarding removal, relocation, or disconnection of utilities, or installation of new utilities, is shown on the Plans. The Contractor shall immediately report to the City Engineer those utilities omitted from the Plans or found substantially at variance with the location shown.

At least 3 working days before entering into the work, the Contractor shall request utility owners, through the USA Underground Service Alert Organization for Utility Undergrounding Permits per Section 4216 of the government Code. The Contractor shall maintain and obtain all identification numbers and certification required for underground utility locations prior to starting excavation within the project limits of work. The Underground Services Alert Phone Number is 1-800-642-2444 to mark or otherwise indicate the location of the substructures. It shall ultimately be the Contractor's responsibility to determine the true location and depth of all utilities and service connections. The Contractor shall also familiarize himself/herself with the type, material, age and condition of any utility which may be affected by the work.

6.2 PROTECTION

The Contractor shall not interrupt the service function or disturb the supporting base of any utility, without authority from the utility Owner or order from the City.

Where protection is required to insure support of utilities located substantially as shown on the Plans or in accordance with other information furnished Bidders prior to receipt of bids, or for underground service connections, the Contractor shall, unless otherwise provided, furnish and place the necessary protection at his expense.

The Contractor shall immediately notify the City Engineer and the utility owner if he disturbs, disconnects or damages any utility located substantially as indicated on the Plans. The Contractor shall bear the costs of repair or replacement.

When placing concrete around or contiguous to any utility, the Contractor shall at his expense, furnish and install a cushion of expansion joint material, clear opening, or sleeve, or by other suitable means shall prevent embedment in or bonding with the concrete.

6.3 REMOVAL

Unless otherwise specified, the Contractor shall remove all portions of interfering utilities shown on the Plans as "abandoned" or "to be abandoned in place". Before starting removal operations, the Contractor shall ascertain from the utility owner whether abandonment is complete. The costs involved in the removal and disposal shall be absorbed in the Contractor's bid.

6.4 RELOCATION

When feasible, the Owners responsible for utilities within the area affected by the work will complete their necessary installations, relocations, repairs, or replacements before commencement of work by the Contractor. When the Special Provisions or Plans indicate that a utility is to be relocated, altered or constructed by others, the City will conduct all negotiations with the Owners and the work will be done at no cost to the Contractor.

Utilities, found by the City Engineer to interfere with the permanent project work after award of the Contract, will be relocated, altered, or reconstructed by the Owners, or the City Engineer may order changes in the work to avoid interference.

When the plans or specifications provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such work shall be absorbed in the Contractor's bid. Temporary or permanent relocation or alteration of utilities desired by the Contractor for his own convenience shall be his responsibility, and he shall make all arrangements and bear all costs. The Contractor may, for his own convenience or to expedite the work, agree with the Owner of any utility to disconnect and reconnect interfering service connections. The City shall not be involved in any such agreement.

6.5 DELAYS

The Contractor is responsible for notifying utility owners in time to prevent delays attributable to utility relocations or alterations. The Contractor shall not be entitled to damages or additional payment if such delay does occur. The City Engineer will determine the extent of the delay attributable to such interference, the effect of the delay on the project as a whole, and any commensurate extension of time.

6.6 COOPERATION

When necessary, the Contractor shall so conduct his operations as to permit access to the work site and provide time for utility work to be accomplished during the progress of the Contract work.

6.7 AVAILABLE UTILITIES

Arrangements for electric power and gas service shall be made by the Contractor with Pacific Gas and Electric Company. All costs for providing energy used will be paid by Contractor. The Contractor shall make all required arrangements for obtaining water for compaction and dust control.

The Contractor is responsible for the protection of any utility and or any damage to any such utility during the prosecution of his work. Any damages to a utility shall be repaired to the satisfaction of the agency owning the facility. The City reserves the right, if so requested by the agency, to permit the agency to repair such damage, and all expenses of whatever nature arising from such damage shall be borne by the Contractor.

All costs for fees, permits, labor, materials, etc. used to obtain utility services necessary for this Contract shall be arranged and obtained by the Contractor at his expense. There shall not be an extension of Contract time due to the Contractor neglecting to make proper arrangements with the utility company at the beginning of the Contract for said services.

SECTION SEVEN

LEGAL RELATIONS AND RESPONSIBILITY

7.1 LAWS TO BE OBSERVED

In all operations connected with the work on this Contract, all ordinances of the City, County and all laws of the United States and the State of California, which shall be or become applicable to, and control or limit in any way, the actions of those engaged in any way as principal or agent, shall be respected and strictly complied with. The Contractor shall keep himself fully informed of all State and Federal laws and City and County ordinances and regulations, and revisions thereto, that in any way affect those engaged or employed in or on the work or in any way affecting the conduct of the work, and of all orders or decrees of bodies of officials having jurisdiction or authority over the same. He shall, himself, at all times observe and comply with all such laws, ordinances and regulations, orders and decrees. He shall protect and indemnify the said City, City Engineer and its officers, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree whether by himself or his employees. If any discrepancy or inconsistency is discovered in the Plans, Drawings, Specifications or Contract for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the City Engineer in writing.

7.2 HOURS OF LABOR

The Contractor shall forfeit, as penalty to the City, Twenty-Five Dollars($25.00) for each workman employed in the execution of the Contract by him or by any subcontractor under him for each calendar day during which any workman is required or permitted to labor more than eight (8) hours in violation of the provisions of the Labor Code and, in particular, Section 1810 of Section 1815 thereof, inclusive.

7.3 LABOR DISCRIMINATION

Attention is directed to Section 1735 of the Labor Code, as added by Chapter 643, Statutes of 1939, which reads as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, color or religion of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of the chapter."

7.4 PREVAILING WAGE

The Contractor shall forfeit as penalty to the City Twenty-Five Dollars ($25.00) for each calendar day or portion thereof, for each workman paid less than the stipulated prevailing rates for any work done under the Contract by him by any subcontractor under him in violation of the provisions of the Labor Code and, in particular, Section 1770 to Section 1781, thereof, inclusive.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the Contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not, under any circumstances, be considered as the basis of a claim against the City on the Contract.

7.5 REGISTRATION OF CONTRACTORS

Contractors shall be licensed in accordance with the provisions of an act entitled "An Act Providing for the Registration of Contractors, and Defining the Term Contractor; Providing a Method of Obtaining Licenses to Engage in the Business of Contracting, and Fixing the Fees for Such Licenses; and prescribing the Punishment for Violation of the Provisions of this Act", codified as Chapter 9 of Division III of the Business and Professions Code, Chapter 37 of the Statutes of 1939, as amended.

7.6 APPRENTICES

In accordance with the provisions of Section 1777.5 of the Labor Code, as amended by Chapter 971, Statutes of the Labor Code, Statutes of 1939, and in accordance with the Regulations of the California Apprenticeship Council, properly indentured apprentices may be employed in the prosecution of the work.

Information relative to number of apprentices, identification, wages, hours of employment and standards of working conditions shall be obtained from the Director of the Department of Industrial Relations, who is the Administrative Officer of the California Apprenticeship Council.

7.7 FAIR LABOR STANDARDS ACT

The attention of bidders is invited to the fact that the City has been advised by the Wage and Hour Division, U.S. Department of Labor, that contractors engaged in public construction work are required to meet the provisions of the Fair Labor Standards Act of 1938 and as amended (52 Stat. 1060).

7.8 PERMITS AND LICENSES

The Contractor shall, at his own expense, procure all permits and licenses, pay all charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the work.

7.9 ROYALTIES AND PATENTS

All royalty fees or claims for any patented invention, article, or arrangement that may be used upon or in any manner connected with the doing of the herein proposed work or any part thereof shall be included in the price bid for doing the work herein proposed, and the Contractor and his sureties shall protect and hold any and all departments of the City and City Engineer together with all officers and employees, harmless against any and all suits and claims brought or made by the holder of any invention, patent, copyright or trademark, or growing out of any alleged infringement of any invention, patent, copyright or trademark,

and before final payment is made on account of the Contract, the Contractor shall furnish acceptable proof to the City Engineer of a proper release from all such fees or claims.

7.10 PUBLIC CONVENIENCE AND SAFETY

Materials stored at construction site shall be so placed and the work shall, at all times, be so conducted as to cause no greater obstruction to the streets, roads or private property than is considered necessary by the City Engineer.

Where the Contractor is required to construct temporary crossing for canals, culverts, ditches, or trenches, his responsibility for accidents shall include the approaches as well as the structures of such crossings. The Contractor shall conform to all safety provisions as outlined in the Government Code and other regulatory agencies.

7.11 PRESERVATION OF PROPERTY

Due care shall be exercised to avoid injury to existing improvements or facilities, utility facilities, canals, adjacent property, trees and shrubbery. Trees and shrubbery not to be removed, pole lines, fences, signs, survey monuments, buildings, structures, conduits, pipelines under or above ground, canals, sewer and water line and any other improvements or facilities within or adjacent to the work shall be protected from injury or damage, and, if ordered by the City Engineer, the Contractor shall provide and install suitable safeguards to protect the same. Full compensation for furnishing all labor, materials, tools and equipment and for doing all work involved in protecting or repairing damage to property as above specified, shall be considered as included in the prices paid for the various Contract items of work and no additional compensation will be made therefore.

The Contractor shall furnish, maintain and use such dust controlling equipment as may be necessary to protect adjacent property from damage caused by dust from any of the operations of the Contractor and he shall be liable for any damage caused by said dust due to negligence in the use of said dust-controlling equipment. Failure on the part of the Contractor to control dust from his operations shall be cause for stopping said work until dust is controlled and any expense caused by such delay shall be borne by the Contractor.

7.12 RESPONSIBILITY FOR DAMAGE

Except as otherwise provided, until the date of the filing of the Notice of Completion, the Contractor shall have the charge and care thereof, and shall bear the risk of injury or damage to any part thereof from any cause whatever, whether arising from the execution or non-execution of the work.

The Contractor shall rebuild, restore, repair and make good all injuries or damages to any portion of the work occasioned by any cause before its acceptance and shall bear the expense thereof, except for such injuries or damages as are directly or proximately caused by the Federal Government or the public enemy. In case of suspension of the work, it will not in any way relieve the Contractor of his responsibility in the protection of materials and the work.

7.13 DISPOSAL OF MATERIAL

When any materials, including excess or unsuitable excavation are to be disposed of outside of the right-of-way, the Contractor shall first obtain permission in writing from the property owner on whose property the disposal is to be made and shall file a copy of such permit with the City Engineer. Material thus disposed of shall be placed in a neat and uniform manner so as not to have an unsightly appearance and to the satisfaction of the City Engineer. Unless otherwise provided in the Special Provisions, the Contractor shall make his own arrangements for disposal of such materials and shall pay all charges involved. Full costs for disposing of such material shall be included in various items of work and no additional payment will be made therefore.

7.14 COOPERATION BETWEEN CONTRACTORS

Where two or more Contractors are employed on related or adjacent work, eachshall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each Contractor shall be responsible to the other for any damage to work or injury to person or property or for loss caused by failure to complete the work within the specified time for completion.

7.15 PROPERTY RIGHTS IN MATERIALS

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used in the work after they have been attached or affixed to the work or soil, but the same shall be and remain the property of the City.

7.16 FIRE PROTECTION

The Contractor shall provide access to all fire hydrants located along the line of his work. Such access shall meet the approval of the City Fire Department. Approval shall be obtained from the City Fire Department and Public Works Department for the use of any fire hydrant.

7.17 REMOVAL OF TEMPORARY STRUCTURES

On or before completion of the work, the Contractor shall, without charge therefor, tear down and remove all buildings and other structures built by him for facilitating the carrying out of the work, and shall remove all surplus material and rubbish of all kinds from the grounds which he has occupied and shall leave the site of work clean and in good condition.

SECTION EIGHT

PROSECUTION AND PROGRESS

8.1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK

After notification of award and prior to start of any work, the Contractor shall submit to the City Engineer for approval his proposed construction schedule. The construction schedule shall be in the form of a tabulation, chart, or graph and shall be in sufficient detail to show the chronological relationship of all activities of the project including, but not limited to, estimated starting and completion dates of various activities, procurement of materials, and scheduling of equipment. The construction schedule shall reflect completion of all work under the Contract within the specified time and in accordance with these specifications.

The City Engineer shall decide all questions as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work; all questions as to the interpretation of the Contract; all questions as to the acceptable fulfillment of the Contract on the part of the Contractor; and all questions as to claims for additional compensation on the part of the Contractor, claims for deductions from the Contract price on the part of the City and the amount of compensation due at each payment period. The Contractor, without delaying the job, shall promptly comply with all decisions of the City Engineer, and all directions and orders given by the City Engineer, and the City Engineer shall have the authority to enforce and make effective all such decisions, directives, and orders which the Contractor fails to promptly carry out. Unless a decision of the City Engineer is fraudulent, capricious, arbitrary, or so grossly erroneous as necessarily to imply bad faith, it shall be final and conclusive for all purposes.

Unless otherwise provided, the Contract time shall commence upon issuance of the Notice to Proceed. The work shall start within 15 days thereafter, and be diligently prosecuted to completion within the time provided in the Contract.

If the Contractor desires to make a major change in his method of operations after commencing construction, or if his schedule fails to reflect the actual progress, he shall submit to the City a revised construction schedule in advance of beginning revised operations.

The City Engineer may waive these requirements for work constructed under permit.

8.2 PROSECUTION OF WORK

To minimize public inconvenience and possible hazard and to restore streets and other work areas to their original condition and former state of usefulness as soon as practicable, the Contractor shall diligently prosecute the work to completion. If, in the City Engineer's opinion, the Contractor fails to prosecute the work to the extent that the above purposes are not being accomplished, the Contractor shall, upon orders from the City Engineer, immediately take the steps necessary to fully accomplish said purposes. All costs of prosecuting the work as described herein shall be absorbed in the Contractor's Bid.

Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the City Engineer to do so, the City Engineer may suspend the work in whole or in part, until the Contractor takes said steps. With or without such suspension, the City Engineer may cause such steps to be taken by force account or other means at the Contractor's expense.

As soon as possible under the provisions of these specifications, the Contractor shall backfill all excavations and restore to usefulness all improvements existing prior to the start of the work.

If work is suspended through no fault of the City, all expenses and losses incurred by the Contractor during such suspensions shall be borne by him. If the Contractor fails to properly provide for public safety, traffic, and protection of the work during periods of suspension, the City may elect to do so, and deduct the cost thereof from monies due the Contractor. Such action will not relieve the Contractor from any liability.

8.3 TEMPORARY SUSPENSION OF WORK

When conditions at the site of the proposed work are considered by the City Engineer to be unsatisfactory for the prosecution of the work, the Contractor may be ordered in writing to suspend a part or all the work until reasonable conditions for its prosecution exist. When such suspension is not due, in the opinion of the City Engineer, to the fault or negligence of the Contractor, the time allowed for completion of such suspended work will be extended by a period of time equal to that lost due to the delay occasioned by the ordered suspension.

8.4 SUBCONTRACTORS

The Contractor shall be wholly responsible for the work and shall give his personal attention to the fulfillment of the Contract.

Subcontractors will not be recognized as such and all persons engaged in the work shall be considered as employees of the Contractor and their work shall be subject to all the provisions of the Contract and these Specifications. Should a subcontractor fail to prosecute the work in compliance with these Specifications he may, upon written request to the Contractor by the City Engineer, be removed and shall not again be employed on the work. No subcontractors, except whose names were submitted with the proposal, will be permitted to perform any part of the work unless by special permission in writing from the City Engineer.

8.5 CHARACTER OF WORKMEN

The Contractor shall neither permit nor suffer the introduction or the use of abusive substance upon or about the work or upon any ground occupied by him in the prosecution of the work. If any subcontractor or person employed by the Contractor fails or refuses to comply with the directions of the City Engineer, or conducts himself in a disorderly, improper, or incompetent manner, he shall be immediately discharged upon request in writing from the City Engineer.

8.6 OVERTIME INSPECTION

When inspection services are required during other than normal working hours or on Saturdays, Sundays or Holidays, the Contractor shall reimburse the City for all overtime expenses. The amount of overtime expenses shall be deducted by the City from the payment due the Contractor.

8.7 TIME OF COMPLETION AND LIQUIDATED DAMAGES

The Contractor shall complete the work within the number of calendar days specified in the Contract after the issuance of the "Notice to Proceed". It is agreed by the parties to the Contract that in case all the work called for under the Contract in all parts and requirements is not completed within the number of calendar days as set forth in the Contract, damage will be sustained by such delay. It is therefore agreed that the Contractor will pay to the City the sum specified in the Contract per day for each and every days' delay in finishing the work in excess of the number of calendar days prescribed, and the Contractor agrees to pay said liquidated damages as herein provided, and in case the same are not paid, agrees that the City may deduct the amount thereof from any monies due or that may become due under the Contract. It is further agreed that in case the work called for under the Contract is not completed in all its parts and requirements within the number of calendar days specified, the City Engineer shall have the right to increase the number of working days or not, as may seem best to serve the interest of the City, and if the City decides to increase the said number of calendar days, the City shall further have the right to charge to the Contract, and deduct from the final payment for the work, all or any part, as it may deem appropriate, of the actual cost of City Engineer, Inspection, Superintendence, and other overhead expenses which are directly chargeable to the Contract, except that cost of final surveys and preparation of final estimate shall not be included in such charges. The Contractor shall not be assessed with liquidated damages nor the cost of engineering and inspection during any delay beyond the time named for completion of the work caused by the Acts of God, a public enemy, acts of the City or State, fire, floods, epidemics, strikes, quarantine restrictions and freight embargoes or delays of subcontractors due to such causes, provided the Contractor notifies the City Engineer in writing of the cause of the delay within ten (10) days from the beginning of such delay. Failure to provide notification may result in refusal to grant an extension of time. The Contractor shall not be entitled to damages or additional payment due to these delays.

Extensions of time, when granted, will be based upon the effect of delays to the project as a whole and will not be granted for noncontrolling delays to minor included portions of the work unless it can be shown that such delays did, in fact, delay the progress of the project as a whole.

The Contractor may file a written request for an extension of time based upon properly reported delays as specified in this section. The City Engineer will ascertain the facts, the extent of the delays and the effect upon the entire project.

The request for extension must be made at least 15 days before the specified completion date.

8.8 TERMINATION OF, OR DEFAULT ON CONTRACT

All conditions of the Contract are considered material, and failure to comply with any of said conditions on the part of the Contractor shall be considered a breach of Contract. Should the Contractor neglect or fail to perform any of the conditions of the Contract, the City shall have the right, whether any alternative right is provided or not, to declare the Contract terminated.

The issuance of a written notice by the City, stating that the Contract is terminated and the service of a copy of said notice upon the Contractor, shall be deemed a complete termination upon the Contract.

Upon the Contract being so terminated, the Contractor shall forfeit all sums due under the Contract, and both he and his sureties shall be liable upon his bond for all expenses and damages caused the City by reason of his failure to complete the Contract.

If the Contractor fails to begin the work, as required by the Contract, or if at any time he refuses, neglects, or fails, in the judgment of the City Engineer, to have available on the work a sufficient amount of suitable materials, adequate equipment and a sufficient force of competent workmen, to insure completion of the work within the specified time, or if the Contractor fails to perform the work in good faith in an acceptable manner in accordance with the Specifications, or if he refuses, neglects or fails for any reason whatsoever to observe any of the conditions and covenants of the Contract, of if he abandons the work, or if the Contractor shall be adjudged bankrupt or make a general assignment for the benefit of creditors, or shall fail to make prompt payment to subcontractors or for labor or materials, or if a receiver shall be appointed on account of the Contractor's insolvency, or shall disregard instructions of the City Engineer, then in any or all of such events the Contractor shall be deemed in default and the City may give written notice to the Contractor that if said default or defaults as specified in said notice are not remedied within a specific time (which shall be not less than five days from receipt of said notice), the Contractor's control over the work will be terminated. If any such default specified in said notice is not remedied, to the satisfaction of the City and the City Engineer, within the time specified in said notice, the City may give the Contractor written notice of termination, and on the date specified in such notice the Contractor's control over the work shall terminate.

Upon such termination, the City may enter upon and take possession of the entire work and may also take possession, for the purpose of completing the work, of all of the Contractor's tools, equipment and appliances upon the work, and all materials on the site or stored off-site for incorporation into the work; and the City may call upon and permit the surety on any performance bond given to guarantee the performance of the Contract to take over and complete the work by day labor or by Contract entered into by negotiation or by competitive bidding or otherwise, as the City in its sole discretion shall elect.

After termination of the Contractor's control over the work as herein provided, the Contractor shall not be entitled to any further payments under the Contract until the entire work thereunder has been fully completed and finally accepted by the City. After such completion and acceptance, if the unpaid balance of the Contract price (as defined in the next paragraph) exceeds the sum of the amounts expended by the City in taking over and completing the work, including all managerial and administrative expense incurred by the City on account thereof, and the amount of all damages incurred by the City by reason of

the Contractor's default, such excess shall be paid to the Contractor, but if said sum exceeds said unpaid balance, the Contractor and his surety shall be liable to the City for the difference. The expense incurred by the City in taking over and completing the work, and the amount of any damage incurred by the City by reason of the Contractor's default shall be audited and certified by the City Engineer, whose certificate thereof shall be binding and conclusive upon the parties.

For the purposes of the computations required by the paragraph above, the "unpaid balance of the Contract price: shall be the original Contract price as adjusted by any change orders issued prior to termination of the Contractor's control, less all payments made on account thereof prior to such termination, and less any and all amounts withheld or paid pursuant to stop notices filed with the City upon claims of subcontractors or others for equipment, labor or materials furnished to the work by order of or Contract with the Contract.

Upon completion and acceptance of the work the Contractor shall be entitled to the return of all his materials not used in the work, but without claim against the City for loss or damage with respect thereto, and shall be entitled to the return of all his equipment, tools, and appliances taken possession of by the City, but without claim against the City for any charge for the use thereof or for usual and ordinary depreciation or wear and tear.

The remedies provided in this paragraph for default of the Contractor shall be in addition to, and the exercise thereof shall not be deemed a waiver by the City of, any other rights and remedies of the City under the Contract for default of the Contractor.

The Council may terminate the Contract at its own discretion or when conditions encountered during the work make it impossible or impracticable to proceed, or when the City is prevented from proceeding with the Contract by an act of God, by law, by official action of a public authority, or because of war or other declared national emergency. Such termination shall be authorized by resolution of the City Council.

The issuance of a written notice by the City, stating that the Contract is terminated and the service of a copy of said notice upon the Contractor, shall be deemed a complete termination upon the Contract.

Upon such termination, the Contractor shall be entitled to proportionate compensation at the Contract unit prices for such portion of the Contract as may have been performed.

8.9 LEGAL ADDRESS OF CONTRACTOR

The address given in the Bid or Proposal is hereby designated as the legal address of the Contractor, but such address may be changed at any time by notice in writing, delivered to the City or City Engineer.

The delivering to such legal address or the depositing in the Post Office in a postpaid wrapper, directed to the Contractor at the above address, of any drawing, notice, letter or other communication shall be deemed to be a legal and sufficient service thereof upon the Contractor.

8.10 COMPLETION AND ACCEPTANCE

Upon written notification from the Contractor that the work is complete and ready for inspection, the City Engineer shall make the final inspection. If, in the City Engineer's judgement, the work has been completed in accordance with the plans and specifications and any discrepancies noted during the final inspection have been satisfactorily corrected, the City Engineer shall verify the date of completion and shall recommend acceptance of the work to the Council. This will be the date to which liquidated damages will be computed. After the City Engineer recommends acceptance, the Council may accept the completed work and authorize the filing of the Notice of Completion. The date of filing of the Notice of Completion shall be the date when the Contractor is relieved from responsibility to protect the work, the beginning of the one year guarantee period and the beginning of the 35 day waiting period before issuance of the final payment. As specified in Section 9, only the final payment shall be conclusive evidence of the satisfactory performance of the Contract.

8.11 USE OF IMPROVEMENT DURING CONSTRUCTION

The City reserves the right to take over and utilize all or part of any completed facility or appurtenance. Such action by the City will relieve the Contractor of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, except injury or damage resulting from the Contractor's operations or negligence. The Contractor will not be required to reclean such portions of the improvement before final acceptance, except for cleanup made necessary by his operations. Nothing in this section shall be construed as relieving the Contractor from full responsibility for correcting defective work or materials.

SECTION NINE

MEASUREMENTS AND PAYMENTS

9.1 MEASUREMENT

All work completed under the Contract, other than work included under a lump sum bid price, shall be measured by the City Engineer according to United States Standard Measures. When payment is to be made on the basis of weight, the Contractor shall furnish the City Engineer with duplicate licensed weighmaster's certificates showing the actual net weights.

A lump sum price shall be paid on all lump sum items and this price shall include all work under said item. No extra payment shall be made for parts of lump sum items, although a method for measuring certain of the quantities included in said lump sum item may be provided in the Special Provisions.

9.2 EXTRA AND FORCE ACCOUNT WORK

Extra and force account work shall conform to the Provisions of the State Standard Specifications.

9.3 PROGRESS PAYMENTS

On the first of each month, unless otherwise specified, the Contractor shall submit an estimate in writing to the City Engineer of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used, to the time of such estimate and the value thereof. The City shall retain ten percent (10%) of such estimated value of the work done and fifty percent (50%) of the value of the materials so estimated to have been furnished and delivered and unused, as aforesaid, as part security for the fulfillment of the Contract by the Contractor and shall pay monthly to the Contractor while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the Contract. No such estimate or payment shall be required to be made when in the judgement of the City Engineer, the work is not proceeding in accordance with the provisions of the Contract, or when in his judgement the total value of the work done since the last estimate amounts to less than Two Thousand Dollars ($2,000.00). No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

9.4 FINAL PAYMENT

Upon completion of the work, final inspection and acceptance by the City, the City Engineer shall prepare a final report of quantities and the value of such work, and the City shall pay to the Contractor the entire sum found to be due after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior progress estimates and payments shall be subject to correction in the final report and payment. Final payment shall not be due until thirty-five

(35) days after the Notice of Completion has been recorded, in compliance with the Code of Civil Procedure of the State of California. It is mutually agreed between the parties to the Contract that no certificate given or payments made under the Contract, except the final certificate and payment, shall be conclusive evidence of the satisfactory performance of the Contract. The Contractor further agrees that the payment of the final amount due under the Contract and the adjustment and payment for any work done in accordance with any alteration of the same, shall release the City, the City Engineer and all officers and employees of the City and City Engineer, from any and all claims or liability on account of the work performed under the Contract or alterations thereof. The final payment shall be conclusive and binding against both parties to the Contract on all questions relating to the performance of the Contract and the amount of work done thereunder and compensation therefore, except in case of gross error.

9.5 PAYMENT DELAYS

Any payment to be made under these specifications shall not become due and payable until the date of the next regular meeting of the City Council after receiving the City Engineer's estimate of the work completed.

The Contractor is hereby notified that delays of as much as thirty (30) days may occur in his receipt of payment for progress pay estimates and the final pay estimate on projects funded by State or Federal agencies.

SPECIAL PROVISION (SECTIONS 10 - 26)

SECTION TEN

INCORPORATION OF STANDARD SPECIFICATIONS

10.1 GENERAL

The work embraced herein shall be done in accordance with the appropriate provisions and construction details of the Specifications entitled "State of California, Department of Public Works, Division of Highways, Standard Specifications", latest date, insofar as the same may apply, which specifications are hereinafter referred to as the Standard Specifications of the State of California and in accordance with the following provisions:

In case of conflict between the Standard Specifications of the State of California and the Standard Specifications of the City, those of the City shall take precedence over and be used in lieu of such conflicting portions.

SECTION ELEVEN

CLEARING AND GRUBBING

11.1 GENERAL

Clearing and grubbing shall conform to Section 16 of the State Standard Specifications and these Special Provisions. In case of conflicts, these Special Provisions shall govern.

11.2 PRESERVATION OF PROPERTY

The Contractor shall make such investigations and examinations as are required to determine the existence and locations of all pipes, conduits, and other underground improvements and shall consult with and advise the owners of the utilities before undertaking any work that might endanger them.

The Contractor shall assume full responsibility for any damage to pipes, conduits, poles, or any other structures or utilities. He shall not make any claim for inconvenience, delay or added cost of performing the work which may be attributed in any degree to inaccuracy of information furnished by the City relative to the locations, sizes, dimensions, depths, and character of any pipes, conduits, poles, or other structures and utilities or for failure of the City to furnish any information relative thereto.

At locations where lawn sprinkler systems exist, the Contractor will cut and cap water lines at the property lines or at such point as directed by the City Engineer. All heads and pipe removed shall be salvaged and returned to their respective Owners. Full compensation for cutting and capping water lines shall be considered as included in this item.

Existing land subdivision monuments and stakes shall be fully protected from damage or displacement and they shall not be disturbed unless directed by the City Engineer.

11.3 CLEARING AND GRUBBING OPERATIONS

All of the work shown on the Plans and included in these Specifications that is located in the public streets in the City shall be done in accordance with City Ordinances regulating the use of public streets.

Where a portion of an existing concrete facility is to be removed, it shall be cut to a minimum depth of one and one-half (1-1/2) inches with an abrasive type saw at the first scoring line at or outside the planned joint and removed without damage to any portion that is to remain in place. If curbs and gutters cannot be cut off square and neat, the entire curb and gutter shall be removed to the nearest weakened plane or expansion joint. No patching at expansion joints will be permitted.

All concrete (Portland Cement or Asphalt) and oil dirt within the right-of-way shall be removed by the Contractor unless designated to remain on the Plans. Existing manholes, drain wells, drainage structures, irrigation lines, structures and headwalls to be abandoned shall be removed to at least two (2) feet below the surface and backfilled.

11.4 REMOVAL AND DISPOSAL OF MATERIALS

Within the limits of clearing, all stumps, large roots, buried logs, and all other organic material shall be removed three (3) feet below the existing ground surface.

All material removed during clearing and grubbing shall be disposed of at an approved dump site. The Contractor shall make all arrangements for disposal of material. Tree branches extending over the roadway which interfere with the work shall be trimmed by the City Public Works Department on the request of the Contractor.

11.5 TRAFFIC CONTROL SIGNS AND STREET SIGNS

All traffic signs and street signs within the limits of the improvement, if required, shall be removed, salvaged and stockpiled at locations designated by the City Engineer. Traffic control signs and street signs shall be replaced upon completion of the work.

The Contractor shall install temporary traffic control devises, if required, at locations designated by the City Engineer and/or City Superintendent.

SECTION TWELVE

WATERING

12.1 GENERAL

Watering shall conform to the requirements of Section 17 of the State Standard Specifications. Water may be purchased from the City of Mendota and obtained from a fire hydrant near the jobsite. The Contractor shall contact the City's Water Superintendent for arrangements prior to using the water supply.

SECTION THIRTEEN

ROADWAY EXCAVATION & GRADING

13.1 GENERAL

Roadway excavation consists of performing all operations necessary to excavate, grade and compact the roadway prism including the area for curbs, gutters and sidewalks.

13.2 CONSTRUCTION

Construction shall be in accordance with the applicable portions of Section 19 of the State Standard Specifications.

Relative compaction shall be determined by test method ASTM D 2937, D2922and D1557.

The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to the public and he shall have under construction no greater length or amount of work then he can execute properly with due regard to the rights of the public. Attention is directed to Section 24.2 & 4.16 of these Specifications and to Section 7-1.08 of the Standard Specifications.

It shall be the Contractor's responsibility to prevent a dust nuisance from originating from the site of the work as a result of his operations during the effective period of this contract. Preventative measures shall include but shall not be limited to the following:

1. Water shall be applied to all unpaved areas to prevent the surface from becoming dry enough to permit dust formation.

2. Paved surfaces over which vehicular traffic is permitted to travel shall be kept free of dirt.

3. Unpaved areas over which large volumes of vehicular traffic must be permitted to pass, such as street intersections, shall be treated with a dust palliative.

The Contractor shall be responsible for preventing a dust nuisance after normal working hours and on Saturdays, Sundays and holidays as well as during his operations. Temporary suspension of the work, either as a result of an order by the City Engineer or as a result of conditions beyond the control of the Contractor, shall not relieve him from the responsibility for dust control as set forth herein.

Excavation, grading and compaction shall conform to the requirements of Section 19 of the State Standard Specifications. The relative compaction limits specified in the second paragraph of Section 19-5.03, "Relative Compaction (95%)", of the State Standard Specifications are amended to the limits shown on the Typical Cross Section.

Surplus excess materials shall be removed and disposed of in accordance with the requirements of Section 7-1.13 of the State Standard Specifications and these Specifications.

13.3 IMPORTED BORROW

Imported borrow shall be material required for backfill or embankments. It shall be taken from a location secured by the Contractor, at his expense and approval by the Engineer.

Imported borrow shall be clean material free from vegetation and deleterious material and shall have no lumps or chunks over 2 inches in diameter. Such material shall have a sand equivalent of no less than 20 and a minimum R-value of 55.

SECTION FOURTEEN

FINISH ROADWAY

14.1 GENERAL

Finishing roadway shall conform to the requirements of Section 22 of the State Standard Specifications.

14.2 RELOCATION OF MAIL BOXES

Any existing mail boxes located within the limits of work may be temporarily removed and reset to a position to be designated by the City Engineer. All mail boxes temporarily removed shall be temporarily set in accordance to the postal service requirements for continued service until permanently installed in place per these specifications.

14.3 COMPACTION TESTS

Compaction tests will be required as directed by the City Engineer. Test locations shall be determined by the City Engineer upon notification from the Contractor that the structure sub-base is ready for tests.

All tests shall be performed by a qualified testing laboratory licensed in the State of California. All tests must meet the minimum requirements of these Specifications.

SECTION FIFTEEN

CONCRETE WORK

15.1 GENERAL

This work shall consist of furnishing all labor, tools, equipment, materials and incidentals for the construction of sidewalks, curbs & gutters, radius returns with handi-cap ramps and drive approaches, reinforced concrete approaches and structures including all earthwork, grading, excavation, backfill, watering, compaction, finish grading between curb & sidewalk or between sidewalk and property line, incidentals and appurtenances for a complete clean and neat construction area.

15.2 MATERIALS

Portland Cement

Portland Cement Concrete shall conform to the Specifications of Section 90 of the State Standard Specifications.

Reinforcement

Bars for reinforcing shall be deformed domestic steel bars conforming to ASTM Designation A615 Grade 60.

Wire shall be No. 18 AWG black annealed or heavier.

Wire fabric shall consist of No. 10 AWG galvanized wire mesh.

15.3 CONSTRUCTION

1. Concrete Work

   Concrete curbs, gutters, sidewalks, radius returns, residential drive approaches commercial drive approaches and valley gutters shall conform to the Specifications of Section 73 of the State Standard Specifications and these Special Provisions except that all concrete shall be 6 sacks of Portland Cement per cubic yard.

   All commercial drive approaches and valley gutters shall contain reinforcements per the detail drawings and these Plans & Specifications and shall conform to the appropriate sections of Section 52 of the State of California State Standard Specifications.

2. Earthwork

   Excavation and backfill necessary for the construction of concrete work shall conform to the Specifications of Section 19 of the State Standard Specifications and these Special Provisions.

3. Other Structures

Concrete work for storm drain inlet structures, manholes and other miscellaneous items shall conform to the minimum requirements of the Specifications of Section 51 and 52 of the State Standard Specifications and these Special Provisions

All structure concrete shall be 6 sacks of Portland Cement per cubic yard and comply with the applicable portions of Section 90 of the State of California Standard Specifications. All reinforcement steel shall be Grade 60 per the requirements of the State of California Standard Specifications.

4. Miscellaneous Concrete

The Contractor shall provide miscellaneous concrete 4-inch thick at locations directed by the City Engineer. Miscellaneous concrete shall be used for drive approach transitions and for sidewalk transitions as directed by the City Engineer.

5. Compaction Requirements

Relative compaction requirements shall be 90% below sidewalk and miscellaneous concrete with only pedestrian traffic, and 95% below all other concrete, unless specifically stated otherwise by City of Mendota approved Plans and Specifications.

SECTION SIXTEEN

AGGREGATE BASE

16.1 GENERAL

This work shall consist of furnishing, spreading, watering and compacting aggregate base.

16.2 AGGREGATE BASE

Aggregate base shall be Class 2 and shall conform to the requirements of Section 26 of the State Standard Specifications. Aggregate for Class 2 aggregate base shall be free from organic matter and other deleterious substances, and shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base.

Aggregate may include material processed from reclaimed asphalt concrete, Portland Cement concrete, lean concrete base, cement treated base or a combination of any of these materials. The amount of reclaimed material shall not exceed the portion allowed under the most current version of Section 26 of the State Standard specifications.

16.3 CONSTRUCTION

Aggregate base shall be spread, watered, compacted and graded in accordance with the requirements of Section 26 of the State Standard Specifications.

SECTION SEVENTEEN

ASPHALT CONCRETE

17.1 GENERAL

This work shall consist of furnishing, spreading and compacting asphalt concrete.

17.2 MATERIALS

1. Aggregate Material

   Aggregate material shall conform to the Specifications of Section 39 of the State Standard Specifications for 3/4 inch (medium) maximum aggregate for the street reconstruction.

2. Asphalt Concrete

   Asphalt concrete shall be Type B and shall conform to the provisions of Section 39 of the State Standard Specifications, and these Specifications. Asphalt concrete shall have a bituminous binder of paving asphalt and shall conform to the requirements of Section 92 of the State Standard Specifications.

   The amount of bituminous binder to be mixed with the mineral aggregate shall be between 5 percent and 7 percent by weight of the weight of the dry mineral aggregate. The exact amount of bituminous binder to be mixed with the mineral aggregate will be determined by the City Engineer.

   When the temperature is above 85 degrees, AR-8000 paving asphalt shall be used with a minimum paving asphalt content of 5.5% by weight.

   When the temperature is below 85 degrees, AR-4000 paving asphalt shall be used with a minimum paving asphalt content of 5.5% by weight.

   A self-propelled paving machine may not be required in small, difficult unique areas if approved by the City Engineer.

   Sufficient time shall be required in advance of the paving operation to permit inspecting and testing of materials. The Contractor shall furnish the City Engineer a list of his sources of materials and the locations at which such materials will be available for inspection.

   Samples of aggregate may be taken and a design test made to determine the exact amount of bituminous binder required.

In addition to the provisions of Section 39 of the State Standard Specifications, the asphalt concrete mixture shall not have a loss greater than that shown below when tested by Test Method No. Calif. 360, Surface Abrasion Test:

15 grams	Loss with rubber balls
32 grams	Loss with steel balls

3. Paint Binder

A paint binder shall be applied to all concrete edges abutting the asphalt surface and on existing asphalt surfacing for overlay transitions in accordance with Section 39-4 of the State Standard Specifications and the following provisions:

A. Paint binder shall be applied only so far in advance of placing the surface as may be permitted by the City Engineer.

B. Paint binder shall be furnished and applied in accordance with the provisions in Section 94, "Asphaltic Emulsions", of the State Standard Specifications, and shall be applied to all vertical surfaces of existing pavements, curbs, gutters and construction joints in the surfacing against which additional material is to be placed, to existing pavements to be overlaid and to other surfaces designated by the City Engineer.

C. Paint binder shall be applied in one application at a rate of from 0.02 to 0.10 gallon per square yard of surface covered. The exact rate of application will be determined by the City Engineer.

4. Seal Coats

A fog seal shall be applied to the asphalt surface areas in accordance with Section 37 of the State Standard Specifications and the following provisions:

A. Fog seal shall not be applied until the surfacing has been open to public traffic for a period of not less than one week.

B. Fog seal shall be applied in one application at a rate of from 0.05 gallon per square yard of surface covered.

17.3 CONSTRUCTION

1. Rolling Equipment

Except as hereinafter specified rolling equipment shall be as required under Section 39 of the State Standard Specifications. The roller equipment shall include both a steel & rubber roller per State Standard Specifications.

At locations where miscellaneous areas are to be surfaced in accordance with the provisions in Section 39 of the State Standard Specifications and where the width of asphalt concrete to be placed is less than 8 feet or the total thickness of asphalt concrete to be placed is less than 0.1-foot, the required minimum rolling equipment

specified in Section 39 of the State Standard Specifications may be reduced to one 8-ton, 2-axle tandem roller for each 100 tons or less. Areas which are inaccessible to an 8-ton, 2-axle roller shall be thoroughly compacted to the lines, grades and cross-section by means of pneumatic tampers or by other methods that will produce the same degree of compaction as specified in Section 39 of the State Standard Specifications.

2. Spreading

The spreading of asphalt concrete shall comply with the provisions of Section 39-6 of the State Standard Specifications and these Special Provisions.

Connections to both existing surfacing and to existing concrete gutters and valley gutters shall be feathered out to conform to the requirements for smoothness and to avoid abrupt drop offs.

SECTION EIGHTEEN

WATER SUPPLY FACILITIES

18.1 GENERAL

The work to be done consists, in general, of constructing domestic water line including all piping, connections, fittings, valves, valve boxes and covers, adaptor, tracer wire, trenching, backfill, compaction, watering, fire hydrants, bacteriological testing, thrust blocks, dust control, trench resurfacing, clean-up and all appurtenances all in accordance to these Plans and Specifications.

18.2 PVC PRESSURE PIPE

Polyvinyl Chloride (PVC) pipe suitable for potable water service shall conform to AWWA C-900, Class 150 (DR 18).

The minimum wall thickness of the bell at any point between the ring groove (gasket face) and the pipe barrel shall conform with the DR requirements for the pipe. The minimum wall thickness in the ring groove and entry section shall equal or exceed the minimum wall thickness of the pipe barrel.

All rubber gaskets shall be a solid cross section conforming to ASTM D-1869 and F-477.

PVC pressure pipe shall have C.I. outside diameters suitable for direct connection to C.I. dimensional fittings, both slip joint and mechanical joint.

Pipe shall be installed in accordance with the manufacturer's recommendations and these Specifications.

18.3 GATE VALVES

Gate valves shall be resilient wedge type conforming to AWWA C-509. Body shall be cast iron with epoxy coating inside and out. Wedge shall be cast iron encased in a styrene butadiene elastomer or have a reinforced molded rubber disc seat ring attached with S.S. screws. Cast iron wedge shall have opening to prevent solids build-up in stem cavity. Valve shall have a smooth unobstructed waterway free from any sediment pockets. Stem shall be high strength manganese bronze with double "O" ring seals and anti-friction thrust washers above and below the thrust collar to minimize operating torque. Wedge nut shall be bronze. Seal between the stuffing box and bonnet shall be nitrile rubber. Valves shall be Mueller, Waterous, AVK, or approved equal. Valves shall open left and have 2-inch operating nut or handwheel as specified on the Plans.

The dimension of the hubs on the valves shall conform to the requirements of the pipe manufacturer. Valves designated for mechanical joint pipe shall have bell dimensions which conform to ANSI 21.11 (AWWA C-111).

The ends of flanged valves shall conform in dimension and drilling to ANSI B 16.10 for cast iron flanges and flanged fittings, Class 125.

Gate valves shall be furnished complete with all glands, gaskets and necessary bolts. Flanged connections underground shall have stainless steel bolts.

Valves shall be carefully installed in their respective positions, free from all distortion and strain, with joints made as specified and left in satisfactory operating condition. All gate valves shall have their stems in a vertical position.

All valves and all other materials shall be protected from damage and corrosion before installation and until completion of work. After installation, all valves except bronze valves and those underground shall be painted in accordance with the painting requirements and color code of the pipelines of which they are a part. Bright or rubbing surfaces shall not, however, be painted, but shall be protected with an approved lubricant.

Valves shall be supplied with suitable operating keys, levers, extension rods or handwheels as required for proper operation.

18.4 FITTINGS

Fittings shall be gray iron or ductile iron conforming to ANSI A21.10 (AWWA C-110) and ANSI A21.11 (AWWA C-111).

Fittings for PVC pipe shall have push on ends suitable for use with AWWA C-900 Class Pipe. Gaskets and lubricants shall conform to ANSI A21.11 (AWWA C-111) and pipe manufacturer's requirements. Flanged and mechanical joint fittings shall conform to ANSI A21.10 (AWWA C-110) and ANSI A21.11 (AWWA C-111). Flange bolt circle and holes shall conform to ANSI B16.1 Class 125. Gaskets may be ring or full face. Flanged connections underground shall have stainless steel bolts.

Flanged coupling adapters shall have gray iron or steel body with ductile iron follower. Flanged coupling adapters shall be manufactured by Rockwell, Dresser or approved equal.

The Contractor may use fusion epoxy lined and coated steel fittings in lieu of ductile iron. Dimensions and tolerances shall conform to AWWA C-208 or C-111. Flanged fittings shall conform to AWWA C-207 Class D. Steel body shall conform to AWWA C-200 and M-11. Welding shall conform to AWS B3.0. Coating and lining shall conform to AWWA C-213. Fittings shall have a minimum working pressure rating of 150 psi.

18.5 THRUST BLOCKS

Thrust blocks shall be constructed at all bends or angle points of the water mains over 5 degrees and at fire hydrants. Thrust blocks shall be constructed in accordance to the Standard Drawings.

18.6 VALVE BOXES

Valve boxes shall conform to the Standard Drawings.

18.7 WATER SERVICES

Water service materials and installation shall conform to the Standard Drawings.

18.8 METHODS OF INSTALLATION

In locations where pipe is to be laid or encroaches into paved streets, the amount of pavement cut or removed shall not exceed the width of trench specified.

The Contractor shall saw cut, or by other means approved by the City Engineer, all asphalt concrete surfacing within the street right-of-ways. Pavement shall be cut accurately to the correct line without unnecessarily disturbing the pavement beyond the trench line.

Trench excavation for pipe shall be in open cut except as indicated and shall include the removal of all materials or objects of any nature that would interfere with the execution of the work. The trench shall be braced and drained when necessary so that workman may work therein safely and efficiently.

Safety regulations, as set forth in the State of California "Trench Construction Orders" issued by the Division of Industrial Safety, shall be complied with in all work.

The location of subsurface obstructions found in the field may necessitate a variance in the depth of the pipe. The depth shall be approved by the City Engineer. It shall be the responsibility of the Contractor to locate all substructures, piping and utilities that may affect the installation of the new water main.

The completed trench shall be uniformly graded to a flat bottom conforming to the grade to which the pipe is to be laid. The pipe shall be laid upon sound soil cut true and even so that the barrel of the pipe shall be in full bearing for its entire length. Any portion of the trench excavated below the approved grade shall be corrected and brought up to grade with an approved material thoroughly compacted. Material excavated from the trench shall be placed so as to offer the minimum obstruction to traffic. Any exceptions must be approved by the City Engineer.

The length of open trench shall not exceed 600 feet when working within or adjacent to traveled right-of-ways unless authorized by the City Engineer.

The pipe work and backfill shall be installed at all cross streets or driveways in order to provide minimum interruption of the normal flow of traffic.

Proper implements, tools and facilities satisfactory to the City Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, fittings, and valves shall be carefully lowered into the trench by means of a derrick or other suitable tools or equipment in such a manner as to prevent damage to the pipe or fittings. Any damage to the pipe or fittings shall be repaired by the Contractor at his expense. The Contractor shall be responsible for the safety of all materials to the time of acceptance of the finished work.

All of the pipe shall be thoroughly cleaned of all dirt, rock and other debris that may be found in the interior of the pipe as stockpiled. If considered necessary by the City

Engineer, he may direct the Contractor to swab the pipe to clean it. At the end of each day's work, each end of the pipe shall be closed.

After the trench has been excavated and prepared in accordance with the requirement of the previous paragraphs, the pipe shall then be carefully lowered into place and adjusted accurately to the required line and grade. Any blocking used to support the pipe during laying shall be removed after sufficient backfill has been placed to hold the pipe on the required line and grade.

Each pipe shall have a firm bearing for its full length in the trench except at the bell holes and field joints.

Whenever necessary to deflect the pipe from a straight line either in vertical or horizontal plane to avoid obstructions, or where long radius curves are permitted, the degree of deflection of joints shall be approved by the City Engineer.

The gasket shall be wiped clean with a cloth and a thin film of lubricant shall then be applied to the inside surface of the gasket that will come in contact with the entering pipe.

The plain end of the entering pipe shall be wiped clean and placed in proper alignment with the bell of the pipe to which it is to be joined. It may be desirable to apply a thin film of lubricant to the outside of the plain end.

The joint shall then be made by exerting sufficient force on the entering pipe (by methods approved by the City Engineer) so that its plain end is moved past the gasket until the bell is flush with the reference mark on the spigot end of the entering pipe.

When it is necessary to cut pipe in the field, the newly cut end shall be conditioned by tapering the end back about 1/2 inch at an angle of 30 degrees with the centerline of the pipe. This shall be done with a coarse file or a portable grinder. This operation shall remove any sharp or rough edges that might otherwise injure the gasket.

18.9 TRACER WIRE

Before placing backfill material around pipe a 10 gauge insulated copper wire shall be attached to the top of the pipe. This tracer wire shall be looped up into valve boxes to provide access for electronic location of PVC pipe.

18.10 BACKFILL PROCEDURE AT PIPE ZONE

Select earth backfill material free from lumps, hardpan, paving material or other unsuitable materials shall be placed in accordance to the Standard Drawings. The backfill material shall be moistened sufficiently to produce maximum compaction. Minimum relative compaction at the pipe zone shall be 90%.

18.11 BACKFILL PROCEDURE ABOVE PIPE ZONE

Succeeding layers of the backfill may contain coarse materials but shall be free from lumps, hardpan chunks, paving materials, organic material or other objectionable matter

that would prevent proper consolidation or that might cause subsequent settlement. Backfill and compaction shall conform to the Standard Drawings.

No free water shall be allowed in the top 12 inches of backfill. Compaction shall be determined by ASTM Method D-2937 and D-1557. The top 24 inches below the subgrade surface in paved areas shall be compacted to 95% as determined by ASTM Method D-2937 and D-1557. Each trench section must be backfilled, compacted and resurfaced within thirty (30) days from start of trenching for that section.

18.12 TESTING PIPE

Testing shall be performed after all backfill and compaction have been completed and compaction tests approved.

All pipe work, including all joints, connections and fittings shall be placed under a hydrostatic pressure test of 100 pounds per square inch for a period of two hours. All air shall be expelled from the line during this testing. Such pressure shall be maintained for a period of not less than two hours. Any leaks, failure, or imperfect construction revealed by such test shall be promptly corrected by the Contractor at his sole expense, and retested until all leakage has been stopped.

Tests shall not be made until at least 36 hours after the last concrete thrust or reaction block shall have been cast with high early strength cement or at least seven (7) days after the last concrete thrust or reaction block shall have been cast with standard concrete.

All labor, equipment, power and materials required for the tests herein specified shall be adequate for the purpose and shall be furnished by the Contractor at his sole expense. All such tests shall be made in the presence of the City Engineer or authorized representative. The Contractor shall notify the City Engineer of his intention to make the tests specified in this section 48 hours in advance of the actual tests.

18.13 CHLORINATION

Before being placed in service, all new water mains, main extensions and other portions of water transmission and distributions systems shall be cleansed and sterilized, and water passing through shall be proven safe by bacteriological tests acceptable to the Department of Public Health. Water samples will be taken by City Agents and testing will be paid for by the City. Prior to sterilization, the lines shall be thoroughly flushed through their extremities by means of fire hydrants or temporary blowoffs until all foreign or extraneous material shall have been removed from said mains.

Physical connections to existing water pipelines with recently constructed bacteriologically unsafe water pipelines, will not be permitted unless a backflow prevention system compliant with Section 7601 of the California Code of Regulations is submitted for approval by the City of Mendota.

The water mains shall be sterilized by the introduction into the mains of a chlorinating agent which shall produce a chlorine residual of between 50 and 100 parts of chlorine per million. The Contractor shall submit in writing to the City Engineer, for approval, a method by which the chlorinating agent will be introduced into the mains.

Tests with a Orthotolidine reagent shall be made at selected points to determine the chlorine residual. The recommended time schedule for the sterilizing of the water mains is as follows:

1. Chlorine agent to produce between 50 and 100 parts of chlorine per million is introduced into the water mains.

2. Twenty-four hours later treated water is flushed from water mains.

3. Forty-eight hours later water samples are taken for bacteriological tests.

18.14 COMPACTION TESTS

Compaction tests will be required at intervals not to exceed 300 feet. Test locations shall be determined by the City Engineer upon notification from the Contractor that the trenches are ready for tests. Tests shall conform to ASTM D-2937 and D-1557.

All tests shall be performed by a qualified testing laboratory licensed in the State of California. All tests must meet the minimum requirements of these Specifications.

18.15 WATERING

The Contractor shall apply water for dust control as frequently as may be required by the City Engineer. This includes Saturdays, Sundays and Holidays. If dust control is not adequate in the opinion of the City Engineer, this work shall be done by others and the cost shall be reimbursed to the City. All dust control equipment and vehicles shall be properly marked in accordance with all Local, County, State and Federal Safety Requirements.

Watering shall conform to Section 17 of the State Standard Specifications. The Contractor shall make all arrangements for obtaining water for use on the project.

18.16 CLEANUP

The Contractor shall remove all excess spoil, dirt, rubble and any other material left over as a result of the work performed. The streets shall be left broom-clean upon completion of the work. All excess material shall be disposed of at an approved dump site.

SECTION NINETEEN

INTERCEPTOR GRAVITY SEWERS, PRESSURE SEWERS

19.1 SCOPE

The Contractor shall furnish all labor, materials, tools, equipment and incidentals required to construct wastewater gravity sewers, force main sewer piping, safety and shoring, trenching, backfill, watering, pressure and gravity tests, compaction tests and appurtenances complete as specified.

19.2 MATERIALS

1. Ductile Iron Pipe

   Ductile iron pipe shall conform to ANSI A21.52/AWWA C-151 as modified by Federal Specification WW-P-421. Pipe shall be Class 51 for 4" and Class 50 for 6" and larger. Flanged pipe shall be Class 53.

   Buried pipe and pipe fittings shall have push-on joints conforming to Type II of Specifications WW-P-421 unless otherwise specified or indicated on the Drawings. Mechanical joints conforming to Type III of Specification WW-P-421 may be substituted for push-on joints for buried piping. Flanged joints shall be used when specified or indicated on the Drawings for exposed piping.

   For push-on joints, shape of pipe ends shall conform to the requirements specified for Type II pipe in Specifications WW-P-421. Conformation of ends for fittings shall conform to ANSI A21.11 (AWWA Standard C-111). Gaskets and lubricant for pipe and fittings shall conform to ANSI A21.11 (AWWA Standard C-111).

   For mechanical joints, dimensional and material requirements for pipe ends, glands, bolts and nuts and gaskets shall conform to ANSI A21.11 (AWWA Standard C-111), or to the requirements specified for Type III pipe in Specification WW-P-421, as applicable.

   For flanged joints, ends of pipe and fittings shall be provided with cast iron flanges conforming to ANSI 21.10/AWWA C-110, except that flanges for pipe shall be screw-on type with threads conforming to ANSI B2.1. Bolt circle and bolt holes shall conform to ANSI B16.1 Class 125. Bolts and nuts shall conform to ANSI B18.2 with threads conforming to ANSI B1.1 - coarse thread series Class 2A and 2B.

   Gaskets shall be 1/8" thick Neoprene rubber meeting the material requirements of AWWA C-111 mechanical joint gaskets. Gaskets may be ring or full face.
   Fittings with push-on mechanical-joint and flanged ends shall conform to ANSI A21.10 (AWWA C-110). Fittings shall have pressure rating at least equivalent to that of the pipe.

2. Polyvinyl Chloride Gravity Sewer Pipe

This Specification designates general requirements for Type PSM and PS-46 polyvinyl chloride (PVC) Plastic Gravity Sewer Pipe with integral wall bell and spigot joint for the conveyance of domestic sewage.

The pipe and fittings shall meet or exceed all of the requirements of ASTM D 3034 (SDR35) or ASTM F679 or ASTM F794 and ASTM F789.

All pipe shall be suitable for use as a gravity sewer conduit. Provisions must be made for contraction and expansion at each joint with a rubber ring. The bell shall consist of an integral wall section with solid cross section rubber ring factory assembled in either the bell or spigot.

The integral bell gasketed joint shall be designed so that when assembled, the gasket will be compressed radially on the pipe spigot or in the bell to form a watertight seal. The joint shall be designated to avoid displacement of the gasket when installed in accordance with the manufacturer's recommendation.

All fittings and accessories shall be as manufactured and furnished by the pipe supplier or approved equal and have bell and/or spigot configuration identical to that of the pipe. All connections to material other than PVC pipe shall be made with calder couplings or approved equal.

Sampling and testing of pipe shall conform to ASTM D3034, or F789 and the following ASTM Standards: D618, D2122, D2152, D2412 and D2444. Joints shall be tested in accordance to ASTM D3212.

The installation of all PVC pipe shall conform to ASTM D2321. A minimum of thirty days after completion and acceptance of compaction, a rigid mandrel with a circular cross-section having a diameter at least 95% of the specified average inside diameter, shall be pulled through the pipe. The method of measuring the deflection shall be approved by the City Engineer. The maximum deflection shall not exceed 5% of the inside diameter of the pipe. If deflection exceeds 5%, the Contractor shall excavate and make suitable repairs.

Any pipe subjected to any method or process other than removal, which attempts, even successfully, to reduce or cure any over deflection, shall be uncovered, removed from the work site and replaced with new pipe.

3. Pressure Sewer - Polyvinyl Chloride

The pressure sewer pipe shall be PVC (Polyvinyl Chloride) pressure pipe suitable for sewer force mains.

The pipe and fittings shall meet and/or exceed all the requirements of UNI-BELL-B-11, DR 25 and ASTM F447.

The pipe shall be suitable for use at long term hydrostatic pressures of 165; psi @ 73 degrees Fahrenheit. All pipe shall be hydrostatically tested at two times the

rated pressure for a minimum of 5 seconds.

Excavation, bedding, backfill, watering and compaction shall conform to other provisions of these Plans and Specifications.

19.3 PRESSURE AND LEAKAGE TESTS, GRAVITY LINES

Leakage tests shall be performed after all backfill and compaction have been completed and compaction tests approved. If the Contractor so desires, he may pretest the lines at his own expense, but final testing must be performed after compaction is approved. The Contractor shall water test the main lines for leakage by filling the pipe and cleanouts with water to a minimum head of four (4) feet. The maximum internal pressure at the lowest end may not exceed 25 feet of head (10.8 psi). After the pipe and cleanouts have reached maximum absorption, (4 to 8 hours), refill the cleanouts to original depth. After a 30 minute lapse of time, measure the difference in elevation of the water surface and convert into gallons. The maximum allowable seepage is 50 gal./inch of inside diameter per mile of pipe over a 24 hour period.

In lieu of the water test outlined above, the Contractor may, at his expense, conduct a line acceptance test using low pressure air. The test shall be performed using the following procedures and under the supervision of the Inspecting City Engineer. Prior to testing, all pipe shall be flushed clean or other approved cleaning methods used to assure pipe contains no debris of any nature.

All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs to 25 psi. The sealed pipe shall be pressurized to 5 psi. The plugs shall hold against this pressure without bracing and without movement of the plugs out of the pipe.

If the rate of air loss, as measured by pressure drop, exceeds the allowable limit, the Contractor shall excavate and make suitable repairs.

PVC pipe shall be tested in accordance with the following procedures:

After a reach of pipe has been backfilled, compacted and cleaned, and the pneumatic plugs are checked by the above procedure, the plugs shall be placed in the line at each end and inflated to 25 psi. Low pressure air shall be introduced into this sealed line until the internal air pressure reaches 4 psi greater than the average back pressure of any groundwater that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize.

After the stabilization period (3.5 psi minimum pressure in the pipe), the air hose from the control panel to the air supply shall be disconnected. The portion of the line being tested shall be termed "acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 3.0 psi (greater than the average back pressure of any ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following table:

Test Time:

Pipe Diameter Inches	Minimum Time (Min. & Sec.)	Length for Minimum Time (Feet)	Time for Longer Lengths (Seconds)
4"	1:53	0-597	0.190 x Length
6"	2:50	0-398	0.427 x Length
8"	3:47	0-298	0.760 x Length
10"	4:43	0-239	1.187 x Length
12"	5:40	0-199	1.709 x Length
15"	7:05	0-159	1.671 x Length

Larger Diameters shall be tested per the City Engineer requirements.

If the installation fails to meet the above requirements, the Contractor shall, at his own expense, determine the source of leakage. He shall then repair or replace all defective materials and/or workmanship.

19.4 PRESSURE TEST OF FORCE MAIN

1. Pressure Tests Force Main

   Pressure tests shall be performed after all backfill and compaction have been completed and compaction tests approved. If the Contractor so desires, he may pretest the lines at his own expense, but final testing must be performed after compaction is approved. The pipe and fittings shall be subjected to a hydrostatic test pressure of 70 psi. Tests shall be made at least (7) days after the last concrete thrust or reaction backing has been cast with standard cement.

   The duration of each pressure test shall be one hour unless otherwise directed by the City Engineer.

   Each section of pipeline shall be slowly filled with water, and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the City Engineer. The pump, pipe connection, and all necessary apparatus shall be furnished by the Contractor.

   During the filling of the pipe and before applying the specified test pressure, all air shall be expelled from the pipeline. To accomplish this, taps shall be made, if necessary, at point of highest elevation, and after completion of the test the taps shall be tightly plugged unless otherwise specified.

   During the test, all exposed pipes, fitting and couplings will be carefully examined. If found to be cracked or defective, they shall be removed and replaced by the Contractor. The test shall then be repeated until satisfactory to the City Engineer.

2. Leakage Tests Force Main

   The Contractor shall test the force main for leakage after completion of the pressure

tests. The leakage test shall consist of an examination of all exposed joints for leakage as well as an overall leakage test of the completed pipeline.

50 psi pressure shall be maintained during the test.

The duration of each leakage test shall be two hours unless otherwise directed by the City Engineer.

Each section of pipeline shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe, in a manner satisfactory to the City Engineer. The pump, pipe connection and all necessary apparatus shall be furnished by the Contractor.

Before starting the leakage test, all air shall be expelled from the pipe.
All exposed pipes, fittings and joints shall be examined for leakage during the test. Any joint found where the accumulated leakage of that joint exceeds the rate of leakage specified shall be rejected by the City Engineer.

No pipe installation will be accepted until or unless the leakage for the section of line tested is less than the rate of leakage specified. Should any test of a section of pipeline disclose joint leakage greater than the permitted, the Contractor shall at his own expense locate and repair the defective joints until the leakage is within the permitted allowance.

The maximum acceptable leakage shall be 0.05 gallons per inch of pipe diameter per 1,000 feet per hour at maximum test pressure of 50 psi. The Contractor may perform the pressure and leakage tests on the force main, at the same time.

19.5 EXCAVATION

All excavations shall be made in accordance with the Trench Construction Safety Orders issued by the Division of Industrial Safety of the Department of Industrial Relations of the State of California including Chapter 9, Section 6705 and following of the California Labor Code.

The width of trenches at approximately the level of the top of the pipe to be installed shall be not more than the allowable limits specified by the pipe manufacturer. The clearances may be increased to accommodate shoring and also provide space for banding at points required. Excavation for structures shall be at least 12 inches beyond dimensions of structures as shown on the Plans.

If the Contractor is unable to maintain the trench width allowed in previous paragraph, the Contractor shall provide additional bedding to compensate for the additional loading on the pipe. Such additional bedding may require crushed rock or other suitable granular bedding material or concrete encasement as necessary to obtain satisfactory pipe support.

Trenches shall be excavated to the depths required for the foundation of sewers or storm drains and their appurtenances shown on the Plans and where conditions make it necessary to such depths as may be directed by the City Engineer. The bottom of the

trench shall be excavated or backfilled so that the barrel of the pipe shall have uniform bearing for its entire length, except for the area necessary for bell holes. All adjustment of pipe to line and grade must be made by scraping away or filling and tamping. The use of blocks as supports is forbidden. An additional depth and width shall be hand dug at joint or bell locations of sufficient depth to relieve the bell of any load and to allow ample space for making the joint.

If groundwater or seepage is encountered from the existing canal, lagoons or perched water tables, it shall be the Contractor's responsibility to provide all necessary shoring and trench or bore pit dewatering equipment, materials, labor and incidentals required to construct the project as specified.

Where the pipe is to be laid on sand having less than optimum moisture, as determined by the City Engineer, the Contractor shall apply sufficient water and compact the sand prior to placing the pipe.

All existing conduits, sewers and other structures which are not, in the opinion of the City Engineer, required to be changed in location shall be carefully supported and protected from injury, they shall be restored by him, without additional compensation, to as good a condition as that in which they were found.

The Contractor shall provide, without additional compensation, suitable temporary channels for the water that may flow along or across the site of the work when necessary.

If all excavated material cannot be stored within the work area in such a manner as to maintain access to property along side of the work, the surplus material shall be removed from the work and stored until needed for backfill at which time it shall be brought back. If the surplus material is to be stored on other than private property, prior approval must be obtained from the City Engineer for the site to be used. The cost of removing and returning material shall be at the Contractor's expense.

19.6 INSTALLATION OF PIPE

Proper facilities shall be provided for stringing and lowering sections of pipe into the trench. The pipe shall be laid carefully to lines and grades given.

The grade line shown on the Plans indicates the flowline or invert of the pipe and all cuts unless otherwise indicated, refer to this line.

The pipe sections shall be laid commencing at the downstream or outlet and with the spigot or tongue end in the direction of flow. Pipe with elliptical reinforcement shall be placed with the minor axis in a vertical position.

The position of the pipe in the trench shall be referred to a chalkline or wire suspended above ground by means of metal stakes placed at each grade stake, or by means of a chalkline set at a convenient location in the bottom of the trench. The chalkline shall be stretched across three or more stakes with each setting and shall be placed parallel with and at a convenient distance above grade line of the pipe to be laid. When conditions are such that either method is impracticable, the Contractor shall have an City Engineer on the ground to set grade of each joint of pipe by means of an City Engineer's level.

Each joint of pipe must be fully pressed into place so that there will be no unevenness or settlement of one length of pipe with the other at the joint.

The interior of the pipe shall be kept free from dirt, and other foreign material as the laying progresses. Any pipe which shows undue settlement or is damaged shall be taken up and replaced or relayed at the Contractor's expense.

All pipe shall be laid to true line and grade. Occasional variations as follows will be permitted:

Above grade, 1/4 inch; below grade, not to exceed 1/2 inch; alignment not to exceed 2 inches if gradual and regular over a distance of 20 feet.

PVC Pipe bedding shall conform to the drawings and these Specifications.

PVC Pipe bedding shall be prepared in accordance with ASTM D-2321.

Bedding material shall be Class 2 conforming to ASTM D-2487 which, in part, reads as follows:

Class 2 - Course sands and gravels with the maximum particle size of 40 millimeters (1 1/2") including variously graded sands and gravels containing small percentages of fine, generally granular and non-cohesive either wet or dry soil types GM, GP, GW and SP.

19.7 BACKFILL

For PVC Pipe, after the pipe has been laid to line and grade, place Class 2 material to the spring line of the pipe and compact by hand or mechanical tamping to 90% relative compaction. This should extend to the undisturbed trench walls and care should be taken to ensure that sufficient material has been worked under the haunch of the pipe to provide adequate side support. From the spring line to 12 inches above the top of the pipe, select native material shall be placed by hand and compacted to 90% relative compaction. Selected excavated material at optimum moisture and free from all rocks, hardpan, paving material, organic matter or other deleterious substances shall be used for the remaining backfill. The relative compaction from the pipe zone to within 24 inches of the finish surface shall be 90%. Relative compaction in the top 24 inches shall be 95%.

The method of obtaining the density requirements shall be such that the bedding material shall be completely compacted around the lower haunches of the pipe and the pipe's line and grade is not disturbed.

All backfill shall be compacted and tested for ASTM D-2937 and D-1557 in lieu of California Test Method 216.

No free water will be allowed in the top 24 inches of backfill.

19.8 COMPACTION TESTS

Compaction tests will be required at intervals not to exceed 300 feet. Test location shall be

determined by the City Engineer upon notification from the Contractor that the trenches are ready for tests. Tests shall conform to ASTM D-2937 and D-1557.

All tests shall be performed by a qualified testing laboratory licensed in the State of California. All tests must meet the minimum requirements of these Specifications.

19.9 INSTALLATION OF BURIED PIPING

Pipe shall be inspected for cracked, broken or defective pieces before laying. Pipe shall be carefully lower into the trench to prevent damage. All dirt or other foreign matter shall be removed from inside pipe before lowering into the trench. The Contractor will be required to replace all damaged pipe.

The pipe shall be protected to prevent entrance of foreign material during laying operations. When laying is not in progress, open pipe ends shall be protected with a watertight plug or other approved means to exclude water or foreign material.

The allowable angle of deflection at any joint shall not exceed the amount recommended by the pipe manufacturer for the particular pipe size used. Deviation of any pipe section from the line and grade established by the City Engineer shall not exceed 1/2 inch. Concrete thrust blocks shall be poured at all changes of alignment where deflections exceed 11 degrees and other locations where unbalanced forces exist in underground piping in accordance with Details shown on the Drawings. Place blocks between the undisturbed ground and the fitting to be anchored. Place blocking so that pipe and fittings will be accessible for repairs.

19.10 PIPING THROUGH WALLS

Extreme care shall be taken to insure watertight joints. The pipe shall be free of all dirt and grease to secure a tight bond with concrete or water proof material. Wall castings, when used, shall conform to AWWA Specifications for Class D pipe. Piping shall be grouted in place with a non-shrinking grout for a permanent water-tight connection.

19.11 MANHOLES

Manholes shall be constructed in accordance with Standard Detail Drawings.

Pre-cast concrete pipe manholes shall consist of a poured-in-place concrete base section, a reinforced-concrete pipe section, a reinforced concrete taper section, grade rings and cast iron frame and cover.

Pre-cast sections shall be manufactured in conformity to Class II, ASTM, Designated: C-76 (Latest Revision) for their respective diameters.

Elliptical single line reinforcement will not be permitted. Single line circular reinforcement will be permitted and the minimum steel area required for the inner-cage reinforcement.

Tapered sections, Standard and Off-set, shall conform to the requirements for pipe of the size equal to the largest internal diameter of the tapered sections.

Concrete for the base section shall be 6 sacks or Portland Cement per cubic yard and meet requirements on applicable portions of Section 90 of the State Standard Specifications.

The inside of the manhole shall be formed to the flow line of the sewer pipe. SEE STANDARD DRAWINGS.

If a sewer main is laid through the manhole, the top of the pipe shall be carefully broken or cut out and removed so the bottom half of the pipe forms the flow line.

"Jiffy Rings" for raising manholes will be allowed. Manholes shall be adjusted to finish road pavement grade.

19.12 SHORING

Expenditures in excess of $25,000.00 and excavation of any trench or trenches 5 feet or more in depth, your attention is directed to California Labor Code Section 6705 relating to a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches, the entire provisions of which are incorporated by this reference as if fully set forth hereinafter.

The Contractor's shoring and trenching plan shall be checked or designed by a registered Civil or Structural Engineer. Responsibility for checking or design shall be evidence by the registered Engineer's signature and seal on the shoring and trenching.

If there is any non-compliance with said detailed plan, then the Contractor shall stop all trench work until there is compliance in the opinion of the State Division of Industrial Safety.

SECTION TWENTY

STORM DRAIN CONSTRUCTION

20.1 GENERAL

The work to be done consists, in general, of constructing a storm drain system including all piping and connections, manholes, inlet structures, trench resurfacing, steel covers, grating, structure excavation, backfill, compaction, watering, dust control, concrete work, finish grading, clean-up, disposal and leveling of excavated materials, trench resurfacing and other appurtenant items as shown on the Plans, the State Standard Specifications, these Special Provisions to be performed, constructed or furnished complete in place.

20.2 STORM DRAIN PIPING

1. General

Storm drain piping shall consist of performing all operations necessary to furnish and install all piping complete in place.

Storm drain piping shall conform to the provisions of the State Standard Specifications, Plans and these Special Provisions.

A. Reinforced Concrete Pipe (RCP) - Shall conform to the provisions of Section 65 of the State Standard Specifications, the Plans and these Special Provisions. RCP shall be Class III conforming to ASTM C-76, with rubber gasketed joints conforming to Section 65-1.06 B of the State Standard Specifications. Bedding shall be Class D.

B. Polyvinyl Chloride Pipe (PVC) - Shall conform to ASTM F 794 (Series 10) and these Specifications. PVC pipe bedding and installation shall conform to ASTM D 2321.

C. High Density Polyethylene (HDPE) Profile Wall Sewer Pipe 18-Inch and Larger - The HDPE profile wall sewer pipe shall be in conformance with ASTM F 894 and shall have gasketed or welded joints. The manufacturer shall furnish and affidavit that all materials delivered comply with the requirements of ASTM F 894.

Pipe fittings shall be manufactured in accordance with the requirements of ASTM F 894. Pipe shall be made from a plastic compound meeting the requirements of Type III, Class C, Category 5, Grade P34 as defined in ASTM D 1248 and with established hydrostatic design basis (HDB) of not less than 1250 psi for water at 73.4 degrees F. determined in accordance with method ASTM D 2837. Materials meeting the requirements of cell classification PE 334433C of higher cell classification in accordance with ASTM D 3350 are also suitable.

The ring stiffness constant (RSC) for the pipe shall be 63. The pipe shall be tested in accordance to ASTM D 2412. The installation of HDPE pipe shall conform to ASTM D2321.

Pipe joints shall be the bell and spigot type. Gaskets shall meet the requirements of ASTM F 477 and be molded into a circular form or extruded to the proper section, then spliced into circular form, and shall be made of a properly cured high grade elastomeric compound.

The gasket installation shall be done in accordance with the pipe manufacturer's instructions using all the necessary materials, lubricants and equipment recommended by the manufacturer.

Thermal welding material, the material used for thermally welded pipe joints, shall meet the requirements established for the basic pipe material as detailed above under materials.

Connections to existing lines shall be made by coupling a piece of smooth wall HDPE profile pipe to the existing line. The coupling shall be a flexible rubber boot with stainless steel clamps, such as FERNCO or equivalent. The coupling is to be encased in cement stabilized sand, grout or concrete.

Lateral connections to HDPE Profile wall pipe may be made using the INSERTATEE as manufactured by the Fowler Manufacturing Company of Hillsboro, Oregon or by providing a HDPE stubout which is head fused to the pipe.

2. Construction

The trenching, laying of pipe, backfill, watering and compaction shall conform to the appropriate sections of Section 19, 63, 64 and 65 of the State Standard Specifications and these Specifications.

Compaction of the trenches shall be accomplished during backfill. The relative compaction limits for all trenches shall be 95% for the pipe zones, 90% from the pipe zone to within 24 inches of the finish surface and 95% within the top 24 inches. Relative compaction shall be determined by ASTM D 2937 and D 1557.

For PVC and HDPE, upon completion and acceptance of compaction, the Contractor shall pull an approved deflectometer or mandrel through the installed line to demonstrate the maximum deflection does not exceed 5 percent of the inside diameter of the pipe. If excessive pipe deflection obstructs passage of the mandrel or should the deflection exceed 5 percent, the Contractor shall excavate and make suitable repairs.

20.3 MANHOLES

Manholes shall be constructed in accordance with the Standard Drawings shown on the Plans and as specified in this Specification.

Pre-cast concrete pipe manholes shall consist of a poured-in-place concrete base section, a reinforced-concrete pipe section, a reinforced concrete taper section, grade rings and cast iron frame and cover. Pre-cast sections shall be manufactured in conformity to Class II, ASTM Designation: C-76 (latest revision) for their respective diameters.

Elliptical single line reinforcement will not be permitted. Single line circular reinforcement will be permitted and the minimum steel area shall equal the minimum steel area required for the inner-cage reinforcement.

Tapered sections shall conform to the requirements for pipe of the size equal to the largest internal diameter of the tapered sections.

Concrete for the base section shall be 6 sacks of Portland cement per cubic yard and meet requirements of applicable portions of Section 90 of the State Standard Specifications.

The inside of the manhole shall be formed to the flow line of the storm drain.

Each manhole shall be complete with a cast iron frame and cover. Cover and frame shall conform to the Standard Drawings. Cover shall have wording cast in the cover "Storm Drain".

Structure excavation, embankment, watering and compaction shall conform to Section 19 of the State Standard Specifications. Compaction of all structure backfill shall be 90% to within 24 inches of the finish surface. The top 24 inches shall be compacted to 95%.

20.4 ADJUSTMENT OF MANHOLES TO FINISH GRADE

The Contractor shall adjust the manhole cover frame to existing street grade prior to trench resurfacing.

20.5 STORM DRAIN INLETS

1. General

   Storm drain inlets shall be constructed at the locations shown on the Plans and shall consist of a concrete structure, pipe connections, cast iron frame, cover and/or grate and appurtenances complete in place.

2. Construction

   A. Storm drain inlet shall conform to the minimum requirements of the Standard Drawings.

   B. Concrete shall be in 6 sacks of Portland cement per cubic yard and meet requirements of applicable portions of Section 90 of the State Standard Specifications.

   C. Fabricated steel frame and cover shall conform to the requirements of the Specifications and the Standard Drawings.

D. Structure excavation, embankment, watering and compaction shall conform to Section 19 of the State Standard Specifications. Compaction of all structure backfill shall be 90% to within 24 inches of the finish surface. The top 24 inches shall be compacted to 95%.

20.6 ADJUSTMENT OF VALVE BOXES

Existing valve boxes within the roadway area to be reconstructed shall be adjusted to grade in accordance with Section 15-2.05A of the State Standard Specifications.

20.7 COMPACTION TESTS

Compaction tests will be required at intervals not to exceed 300 feet. Test locations shall be determined by the City Engineer upon notifications from the Contractor that the trenches are ready for test. Test shall conform to ASTM D 2937 and D 1557.

All tests shall be performed by a qualified testing laboratory licensed in the State of California. All tests must meet the minimum requirements of these Specifications.

20.8 CONNECTION TO EXISTING STORM DRAIN AND MANHOLE

The Contractor shall connect to the existing storm drains at the location shown on the Plans. The Contractor shall field locate the existing storm drain pipe prior to start of construction. The manhole flowline shall be formed in the direction of the new storm drain piping. The manholes shall conform to Section 20.3 of these Specifications.

20.9 DUST CONTROL

The Contractor shall supply water for dust control as frequently as may be required by the City Engineer. This includes Saturdays, Sundays and Holidays. If dust control is not adequate in the opinion of the City Engineer, this work shall be done by others and the cost shall be deducted from the total payment due the Contractor. All dust control equipment and vehicles shall be properly marked in accordance with all local, county, state and federal safety requirements.

20.10 CLEANUP

The Contractor shall remove all excess spoil, dirt, rubble and any other material left over as result of the work performed under this contract.

20.11 SHORING AND SAFETY

All excavations shall be made in accordance with the Trench Construction Safety Orders issued by the Division of Industrial Safety of the Department of Industrial Relations of the State of California including Chapter 9, Section 6705 and following of the California Labor Code.

20.12 TRENCH RESURFACING

The Contractor shall clean and regrade all trench surface areas to the depth shown on the Standard Plans. The trench edges shall be cleaned and asphalt emulsion tack coated. Trenches shall be surfaced as specified in the Standard Drawings or as required by the City Engineer.

20.13 STORM DRAIN USING CAST-IN-PLACE PIPE

1. General

   Storm drains using cast-in-place pipe may be allowed in non-traffic right-of-way approved by the City Engineer.

2. Materials

   Concrete for non-reinforced cast-in-place concrete pipe shall be 6 sacks of Portland cement per cubic yard and meet the applicable portions of Section 90 of the State Standard Specifications with a minimum compressive strength at 28 days of 3,000 psi. A minimum modulus of rupture for the concrete may be required in the Special Provisions. Admixtures to prevent segregation and to improve the workability of the concrete will be permitted with the approval of the City Engineer.

   Cement shall be Type II and shall meet the requirements for low alkali.

   Fine and coarse aggregate shall conform to the latest revision of ASTM Specification C-33 with a maximum size limitations not to exceed one-third the finished pipe wall thickness of the cast-in-place pipe, three-fourths inch maximum from twenty-four inches to forty-eight inch diameter pipe; one and one-half inch maximum for forty-eight inch pipe and over.

   The aggregates shall be so sized and proportioned and thoroughly mixed with such proportions of cement and water as necessary to produce a homogeneous concrete mixture of such quality that the pipe will conform to the test and design requirements of these Specifications and to the service requirements of the project.

   Slump shall not exceed three (3) inches as determined by a Slump Test.

   The actual internal diameter of the pipe at any point shall not be less than 95% of the normal internal diameter for pipes up to and including 30 inches, and 97% for the remaining pipe sizes up to and including 60-inch diameter, also the actual internal cross-sectional area of the pipe at any point shall not be less than the cross-sectional area of a circle computed from the nominal internal diameter.

   Wall thickness, unless modified in the Special Provisions or Detailed Drawings, for the various sizes of pipe shall be as follows:

Internal Diameter	Minimum Wall Thickness	
24"	2-1/2"	
27"	3"	
30"	3"	
33"	3-1/2"	
36"	3-1/2"	
42"	4"	
48"	5"	
54"	5-1/2"	
60"	6"	
66"	6-1/2"	NOTE: Pipes over 60 inches
72"	7"	diameter may be constructed
84"	8"	only with the approval of the
96"	9"	City Engineer.

3. Construction

The pipe trench shall be excavated to lines and grades as shown on the Plans or as directed by the City Engineer. The bottom of the trench shall be graded and prepared to provide full, firm and uniform support by undisturbed earth or compacted fill throughout the bottom two hundred twenty degrees of the pipe periphery.

Where a firm foundation is not encountered, due to soft, spongy or otherwise unsuitable material, the material under the lower half of the pipe shall be removed to a depth of not less than twelve inches below the bottom of the pipe and the space backfilled with suitable material compacted to the satisfaction of the City Engineer and shaped to provide the proper support for the pipe.

The Special Provisions may provide for the use of rubber gasket reinforced concrete pipe in those areas where it is unsafe or impractical to use cast-in-place concrete pipe, in which case the Plans or the City Engineer will determine where each type of pipe is to be used.

Cast-in-place pipe may be constructed only in ground capable of standing unsupported from the bottom of the trench to the top of the pipe without sloughing. Localized minor earth sloughing will be allowed with the approval of the City Engineer and as outlined in the Special Provisions.

All surfaces against which concrete is to be placed shall be free from standing water, mud, and debris and shall be firm enough to prevent contamination of the concrete by earth or other foreign material.

Absorptive surfaces against which concrete is to be placed shall be moistened thoroughly so that the moisture will not be drawn from the freshly placed concrete. When placing operations cease or are delayed for any reason for more than thirty minutes the end of the pipe shall be left rough with a slope of approximately forty-five degrees and the ends of the pipe shall be securely closed by heavy canvas or

other acceptable material, to prevent excessive dehydration of the concrete already placed.

All elbows and sections with manhole openings shall be constructed of pre-cast concrete pipe.

Cast-in-place pipe shall be constructed in one placement around the complete periphery of the pipe by means of a traveling form or pipe casting machine. The forms used shall be of sufficient strength to withstand vibrating of concrete and permit workmen to walk on the forms without causing springing or bulging at any point, and form support systems shall be constructed so that previously placed concrete will not be damaged. Controlled vibration shall be used to consolidate the concrete effectively and, also, secure bond between pipe shell and supporting earth.

Forms shall be lapped so that lap ridges in the pipe shall face downstream in the direction of flow.

Concrete shall not be placed when the air temperature in the shade, in the vicinity of the work exceeds ninety-five degrees F, or when the temperature of the concrete exceeds eighty-five degrees F.

Cement mortar shall be composed of one part Portland Cement and two parts of clean, well graded sand of such size that it will pass a No. 8 sieve. An admixture of hydrated lime, fire clay or diatomaceous earth may be used in the mortar to facilitate workability and the amount of such material used will be limited as ordered by the City Engineer.

No mortar shall be used in which water has remained for a period of over thirty minutes.

Flowline grade must not vary more than 0.10 feet from the design grade line, and alignment must not vary more than 2.0 degrees and a maximum of 0.20 feet from the staked alignment.

Care shall be taken when removing the forms to prevent damage to the pipe. After removal of the forms, the inside of the pipe shall be inspected and any repairs made promptly, never in excess of twenty-four hours after removal of the forms. All porous and fractured concrete shall be removed by chipping openings into the concrete with dimensions as directed by the City Engineer, and the chipped openings shall be filled with concrete or cement mortar as directed.

If the Contractor cuts holes in the pipe for inspection or to facilitate removal of forms, the pipe shall be repaired in a manner satisfactory to the City Engineer.

If construction of the pipe stops short of a manhole, the resulting joint must be reinforced with a concrete collar which may be either precast of cast-in-place. This collar must extend one foot both sides of the joint, and must be a minimum thickness equal to that of the pipe.

Construction joints shall be clean and damp when covered with fresh concrete or mortar. Cleaning of construction joints shall consist of removing all loose or defective concrete, coatings, and foreign material.

The interior surface of the pipe shall be equivalent to a steel screened finish. All extraneous concrete shall be removed from the interior surface as soon as possible after placing.

Offsets at form laps shall not exceed the following:

Pipe Diameter	Maximum Offset
24"	3/8"
30"	3/8"
36"	1/2"
42"	1/2"
48"	5/8"
54"	5/8"
60"	3/4"
72"	7/8"
84"	1"
96"	1"

Immediately after finishing of exposed exterior surfaces, curing of the surfaces shall be undertaken by placing a plastic cover, or other approved waterproof covering, immediately followed by a two to three inch layer of moist earth free of lumps.

During the curing period following placement of the concrete, the ends of the pipeline shall be securely closed with heavy canvas or other acceptable materials, and other openings into the pipeline shall be kept closed at all times during construction, except when work is in progress, to prevent air drafts from drying the concrete.

Final backfilling following the curing procedure shall not begin until seven days after the placement of the pipe. Backfilling shall conform to the requirements as set forth in these Standard Specifications.

During the pouring operations, the Contractor, if requested, shall assist the City Engineer in securing three standard test cylinders for each fifty cubic yards, or portions thereof, per day. Test cylinders shall be cured by approved methods. Cylinders shall be tested for strength by a recognized testing laboratory. The cost of such tests will be at the Contractor's expense and certified copies of the results will be submitted to both the Contractor and the City Engineer. One-third of the cylinders will be tested at the end of seven days, and one-third of the test cylinders will be tested at the end of the twenty-eight day period, and one-third of the test cylinders will be held to be tested at the discretion of the City Engineer, all in accordance with the procedures established by the latest revision of ASTM Specification C39.

If obvious segregation or honeycombing or inadequate wall thickness is encountered during inspection, the pipe may be rejected by the City Engineer.

After the concrete in the pipeline has reached a compressive strength of 3,000 pounds per square inch, the Contractor may be required by the City Engineer to test the pipe with water to the maximum operating head. The line may be tested in one length or in sections, as approved by the City Engineer. Each test shall be maintained for twenty-four hours at the maximum operating head. All leaks creating wet spots at the soil surface, or otherwise exposed by the test shall be repaired by, and at the expense of the Contractor. Leakage loss during this test period shall not exceed one thousand gallons per inside diameter inch, per mile of pipe installed, for a period of twenty-four hours.

Where leakage exceed the allowable, the Contractor shall discover the cause and remedy it before the line is offered for retesting and acceptance. If the leakage is less than the allowable, but individual leaks are observed they shall be repaired in a manner satisfactory to the City Engineer.

The Contractor shall guarantee all materials, equipment, and workmanship of the installation. Should any material or appliance or any work develop any defect or weakness due, in the opinion of the City Engineer, to the use of imperfect materials, equipment or workmanship, the Contractor shall be notified at once and he shall immediately, at his own expense, make the necessary repairs or replacements to make the defective item or items suitable and satisfactory.

SECTION TWENTY-ONE

ADJUSTMENT TO EXISTING FACILITIES

21.1 GENERAL

Existing structures within the roadway area to be constructed shall be adjusted to grade in accordance with Section 15-2.05A of the State Standard Specifications.

SECTION TWENTY-TWO

ROAD CROSSING
(TRENCHING PROHIBITED)

22.1 GENERAL

The work to be done consists, in general, of constructing a road crossing including all excavation, shoring and safety, casing, installation of casing, jacking equipment, jacking pipe in place, pavement resurfacing, cleanup and appurtenances all in accordance to the State Standard Specifications and these Plans and Specifications.

22.2 MATERIALS AND INSTALLATION

Jacking of steel casing shall conform to the requirements of Section 66-3.10 of the State Standard Specification and these Special Provisions, except that the casing shall be rolled steel welded joints.

The strength will be designed for vertical load only. Additional thickness or strength required to withstand jacking pressure shall be determined and furnished by the Contractor at his expense.

Steel pipe casing shall be of the size, type and cylinder wall thickness specified on the Plans.

Excavation, backfill, watering and compaction shall conform to the appropriate provisions of these Specifications.

22.3 BORE PIT

Bore pit shall be barricaded and shored to provide maximum safety to pedestrians, vehicle traffic and workmen safety and shall conform to all the requirements of the State Standard Specifications, all Health and Safety Laws of the City, County, State and/or Federal Government and these Special Provisions.

22.4 VARIATION IN ALIGNMENT

The variation from plan alignment shall not exceed 1.0-feet for the total length of the casing and shall not exceed 0.3-feet from plan grade for non-gravity use for the total length of casing.

Casing installed for gravity systems shall be laid to grade per the requirements of the City Engineer.

22.5 IDENTIFICATION MARKERS

The Contractor shall provide identification markers per the requirements of the City Engineer.

SECTION TWENTY-THREE

STREET LIGHTING

23.1 GENERAL

Street lighting work shall consist of furnishing and installing, modifying or removing one or more street lighting systems, partial installations for future systems, electrical equipment on poles or pedestals, or combinations thereof, all in accordance with the Plans, Specifications and these Special Provisions.

The locations of foundations, standards, services, pull boxes and other appurtenances shown on the Plans are approximate. Exact locations and grades will be established by the City Engineer in the field.

The materials furnished and used shall be new, except such used materials as may be specifically provided for on the Plans or in these Special Provisions.

Where an existing system is to be modified, the existing material shall be reused in the revised system, removed, salvaged and stockpiled, or abandoned as shown on the Plans, as specified in these Special Provisions, or as directed by the City Engineer. No existing equipment shall be reused unless specifically called for in the Specifications or on the Plans.

"Standard Details", as used in this section means the Standard Drawings.

23.2 RULES AND REGULATIONS

All work and materials shall be in full accordance with the latest rules and regulations of the National Board of Fire Underwriters, and local ordinance or State laws, the State of California Industrial Accident Commission's Safety Orders, and Regulations of the Pacific Gas and Electric Company pertaining to service equipment and installations thereof. All work shall comply with the City electrical ordinances and National Electrical Manufacturer's Association Standards. Nothing in these Plans and Specifications shall be construed to permit work not complying with these codes.

23.3 EXCAVATING AND BACKFILLING

The excavations required for the installations of conduit, foundations, and other appurtenances shall be performed in such a manner as to avoid any unnecessary damage to streets, sidewalks, landscaping, and other improvements.

The trenches shall not be excavated wider than necessary for the proper installation of the electrical appurtenances and foundations. Excavation shall not be performed until immediately before installation of conduit and other appurtenances. The material from the excavation shall be placed in a position that will not cause damage or obstruction to vehicular and pedestrian traffic nor interfere with surface drainage.

The excavations shall be backfilled in conformance with the provisions of these Standard Specifications.

Excavations in the street or highway shall be performed in such a manner that not more than one traffic lane is restricted in either direction at any time, unless otherwise provided in these Special Provisions.

Concrete removal and installation shall comply with the provisions of these Standard Specifications.

23.4 FOUNDATIONS

Foundations for lighting equipment may be of 6 sacks of Portland cement per cubic yard and meet requirements of applicable portions of the State Standard Specifications, or better, and shall conform to the details shown on the Plans.

Foundations shall be poured against undisturbed earth where practicable. The exposed portion shall be formed and finished to present a neat appearance. Where obstructions or other conditions prevent construction of planned foundations, the Contractor shall construct an effective foundation satisfactory to the City Engineer.

The bottom of concrete foundations shall rest on firm ground. Forms shall be true to line and grade, rigid and securely braced in place, and they shall not be removed until the concrete has thoroughly set. When placing the foundations, the Contractor shall place all conduit ends in their proper position, at the correct heights and shall securely bond them together with conduit ground wire attached to grounding bushings and standard ground lugs. Poles Standards shall be bonded to the steel conduit system. See Section 23.11.

Both forms and earth to be in contact with foundations shall be thoroughly moistened before placing concrete.

Sidewalk surface finish shall be applied to all exposed surfaces of concrete.

Anchor bolts shall be galvanized and shall extend above the finished base as shown on the Plans. Pole leveling shall be accomplished by means of leveling nut, as shown. All nuts, washers, screws and other post hardware shall be galvanized. Anchor bolts and conduits shall be held in place by means of a template until concrete sets.

Poles, standards and pedestals shall not be erected until the foundation concrete has set at least seventy-two hours and shall be plumbed or raked as directed by the City Engineer. Top of concrete foundations shall be finished relative to curb or sidewalk grade as shown on the Plans or as directed by the City Engineer.

In unpaved areas a raised concrete pad, four inches deep and not to exceed sixteen square feet in area, shall be placed in front of each controller as directed by the City Engineer.

23.5 STANDARDS, STEEL PEDESTALS AND POSTS

Standards for electronics and steel pedestals and posts for cabinets and other equipment shall be as shown on the Plans and in the Standard Details. Locations shown on the Plans are schematic. Exact locations and grades will be staked in the field.

23.6 CONDUIT

1. Rigid Steel

Conduit shall be of rigid type, conforming to Article 346 of the National Electrical Code. All conduit and fittings shall be hot dip galvanized. Each length shall bear the labels of Underwriters Laboratories, Inc. Installations shall conform to appropriate Articles of the Code.

The ends of all conduits shall be well reamed to remove burrs and rough edges. When nipples or pieces of conduit are cut, the ends shall be reamed and made square and true. Where two pieces of conduit are to be jointed together and a standard coupling cannot be used, running threads will not be permitted; an approved galvanized conduit union shall be used. All threads shall be well painted with approved pipe thread compound before couplings are made up. All couplings shall be well screwed up so that good electrical and mechanical connection will be made throughout the entire length of the conduit run.

Where the coating on the conduit has been injured in handling or installing, such injured places shall be thoroughly painted with an approved paint or coating.

All conduit ends shall be threaded and capped with standard conduit caps until wiring is started. When caps are removed, the threaded ends shall be provided with approved conduit bushings equipped with grounding lugs.

The size of conduit used shall be as shown on the Plans. Conduit smaller than one inch electrical trade size shall not be used, except that grounding jumpers at service points may be enclosed in one-half inch diameter conduit.

It shall be privilege of the Contractor at his own expense to use larger size conduit if desired, and where larger size conduit is used, it shall be for the entire length of the run from outlet to outlet. No reducing couplings will be permitted.

All conduit shall be laid to a depth of not less than twenty-four inches nor greater than thirty-six inches below the curb grade in the sidewalk areas and below the finished surface in street areas. Conduits in sidewalk areas parallel to curb shall not be installed more than twenty-four inches from inside of curb line toward property line.

Conduit shall be placed under existing pavement by approved jacking methods. Pavement shall not be disturbed without the written permission of the City Engineer and then only in the event insurmountable obstructions are encountered. Excessive use of water, such that pavement might be undermined, or subgrade softened, will not be permitted.

Conduit terminating in pole or pedestal bases shall extend vertically four inches above the foundations. All conduit bends shall be made with the largest radii practicable in the particular circumstances. No conduit couplings shall be installed within a concrete foundation, nor within six inches of the tangent point of a conduit bend.

Conduit runs shown on the Plans are for bidding purposes and may be changed, with permission of the City Engineer and at the Contractor's expense to avoid underground obstructions.

2. Rigid PVC

Rigid PVC conduits are permitted in all underground locations and below vapor barrier of slabs unless otherwise noted on plans. They shall be Underwriters Laboratories tested,

10' lengths, type 40 heavy thickwall polyvinyl chloride conduit. Conduit shall be installed in accordance with manufacturer's recommendations and accepted trade practices.

Where conduit rises above ground in exposed locations the riser bend and riser shall be of rigid metal conduit installed according to Paragraph 1 above.

PVC conduit will not be permitted in exposed locations.

All PVC conduits shall carry a bond wire with the size determined by applicable codes for the ampacity of the circuit being transported.

23.7 PULL BOXES

Concrete pull boxes shall be located as shown on the Plans or as directed by the City Engineer and shall conform to the State Standard Specifications insofar as they may apply, and the Standard Details.

23.8 CONDUCTORS

Unless otherwise specified, single conductors for connection in multiple circuits shall be Underwriters' Laboratories approved, with Type TW or better insulation and shall carry a voltage rating of 0-600 volts. Conductors shall be solid or stranded copper of the AWG size called for on the Plans. Single conductors shall be color coded as called for on the Plans.
Conductors for series street lighting service shall be No. 8 AWG solid copper with 10/64" minimum insulation and 4/64" neoprene sheath and shall be rated for 5,000 volt operation.

A Certificate of Compliance conforming to State Standard Specifications Section 6-1.07 shall be submitted by the Contractor covering all 5,000 volt series street lighting conductors when such certificate is required by the City Engineer.

23.9 WIRING

Wiring and wiring methods shall conform to the provisions of the applicable Codes.

Conductors shall be pulled into conduits by hand. The use of winches, capstands or other strain increasing devices will not be allowed unless such use is specifically approved by the City Engineer and supervised by him. An approved, chemically inert, non-solidifying wire lubricant shall be used where the required pulling strain can be expected to exceed, or does exceed, the pulling capability of one man pulling "hand over hand".

When cables are pulled into the conduit, all ends of the cables shall be taped to exclude moisture, and shall be so kept until the splices are made or terminal appliances attached.

A minimum of three feet of slack in each single conductor and cable run shall be left at each lighting standard and in each pull box.

Series street lighting cables shall be run from ballast to ballast and from ballasts to the service without splices in the runs. Splices will be permitted only by approval of the City Engineer in special circumstances.

When splices are made on series street lighting conductors the splice shall be "in line" and the connection shall be made by means of a compression type sleeve and its mating indenting or staking tool. Insulation of the splice shall be accomplished as follows:

1. Remove sharp edges and burrs from connector.

2. Pencil 1 1/2 inches of insulation and sheath each side of bare conductor. Buff insulation and 4 inches of sheath smooth with Aloxite cloth. Clean final surface.
3. Coat connector, conductor and insulation with Okonite Splicing Cement and allow to dry until tacky.

4. Apply Okolite high voltage tape in half-lapped layers, stretching to three-fourths of original width. Taping shall extend 4 1/2 inches each side of center of connector. Insulating tape thickness over connector shall be 1/4 inch minimum.

5. Coat buffed sections of sheath with Okonite Splicing Cement and allow to dry until tacky.

6. Apply two half-lapped layers of Okonite Okoprene neoprene jacketing tape.

   NOTE: Following the word "Okonite", "Okolite" and "Okoprene" above, read "or approved equal."

   Where splices or taps on multi-conductor cables in pull boxes are necessary and approved, they shall be made as follows:

   1. The stripped ends of the wires to be spliced shall be connected together by means of an insulated spring type connector.

   2. A 2-component, self-curing, epoxy resin shall be furnished in a two-

compartment, plastic envelope. The splice insulation shall be made by thoroughly mixing the two components in the envelope and, after cutting open one end of the envelope, inserting the wire connection into the epoxy resin and then taping shut the open end of the envelope.

3. Sufficient epoxy resin shall be provided to cover the complete connection and care shall be taken to eliminate skips or voids.

Conductors of #6 AWG size and larger shall be spliced by means of compression type sleeve and its mating indenting or staking tool. In-line, tap, tee and pig-tail splices in multiple circuits shall be insulating and adhesive padding material, rated for 600 volts, molded closely about the splice and the adjacent conductor insulations. Care shall be taken to eliminate skips and voids. The splice shall then be wrapped with one layer of "all weather" type, plastic backed, pressure sensitive electrical tape, leaving no adhesive material exposed.

23.10 FUSED SPLICE CONNECTORS

In each electrolier pole, immediately inside the hand hole, a fused, disconnect, in-line, fuse holder shall be installed in each ungrounded conductor connecting the luminaire ballast to a multiple circuit. Conductor slack shall be arranged so that the fuse holders may be readily withdrawn through the hand hole.

Fuses shall be standard midget, ferrule type. Fusing for 400-watt lamps shall be 5-ampere for 480-volt circuits, 10-ampere for 240-volt circuits and 15-ampere for 120-volt circuits. Fusing for 700-watt lamps shall be 10-ampere for 480-volt circuits, 20 ampere for 240-volt circuits and 30-ampere for 120-volt circuits.

For 240-volt and 480-volt circuits, each connector shall be designed so that both ungrounded conductors are disconnected simultaneously. When disconnected, the fuses shall be retained in the load side section of the holder.

The splice connector shall completely enclose the fuse and shall protect the fuse against damage from water and weather. The contact between the fuse and fuseholder shall be by spring pressure. Springs shall not be a part of the current carrying circuit.

The terminals of the splice connector shall be rigidly crimped on to the line conductors and the conductors to the ballasts and shall be insulated and made waterproof in accordance with Section 23.9.

Fused splice connectors shall not be used in series circuits.

23.11 BONDING AND GROUNDING

Metallic cable sheaths, metal conduit, non-metallic conduit grounding wire, ballast and transformer cases, service equipment, anchor bolts, and metal poles and pedestals shall be made mechanically and electrically secure to form a continuous system, and shall be effectively grounded. Bonding and grounding jumpers shall be copper wire or copper strap of the same cross sectional area as No. 6 AWG for series lighting systems and No. 8 AWG for all other systems.

Bonding of standards and pedestals shall be by means of a bonding jumper attached to an anchor bolt or a 3/16 inch, or larger, brass or bronze bolt installed in the lower portion of the shaft. Any bond conductor shall be one continuous run.

One side of the secondary circuit of series-multiple and step-down transformers shall be grounded.

Bonding of metallic conduit in concrete pull boxes shall be by means of galvanized grounding bushings and bonding jumpers.

23.12 SERVICES

Where new service points or service equipment are shown on the plans, the Contractor shall conform with the provisions of the applicable Codes.

Where service equipment is to be mounted on a P.G. & E. Company pole, the Contractor shall consult the company and follow its requirements as to pole quadrant and location of equipment.

23.13 PAINTING

Street lighting poles, standards and posts shall be factory prime coated with zinc chromate or equal primer. Damaged prime coat shall be restored in the field to the satisfaction of the City Engineer.

Over the clean and undamaged prime coat, all steel poles, standards and posts shall be given two coats of Glidden Company #592, or approved equal, aluminum paint, allowing 24 hours minimum drying time between coats.

All scuff marks and blemishes shall be repainted after installation to the satisfaction of the City Engineer.

23.14 CONTROLLERS

All street lighting lamps shall be equipped with an approved photo-electric cell.

23.15 RAILROAD PRE-EMPTION

Railroad pre-emption equipment and the installation thereof shall comply with Section 86 of the State Standard Specifications.

23.16 SALVAGED MATERIAL AND CARE OF EQUIPMENT

All material of value removed from the existing electrical installation, and surplus to the final installation, shall be cared for by the Contractor and delivered by him to the City's representative at its corporation yard.
The Contractor shall exercise care and diligence in removing, relocating or salvaging electrical equipment and parts during the prosecution of his work. The Contractor shall

replace, at his expense any lighting, or other electrical equipment which is lost, damaged or destroyed as result of his operations.

23.17 FIELD TESTS

Prior to acceptance of the work, the Contractor shall cause the following tests to be made:

1. For continuity of each circuit.

2. For freedom from accidental grounds.

3. An insulation resistance test (minimum 1 megohm).

4. A functional test in which it is demonstrated that each and every part of the system functions as specified or intended herein.

The Contractor shall correct any defects indicated by these tests and make such adjustments as the City Engineer may direct.

23.18 TRAFFIC CONTROL

The Contractor shall furnish and install all signs and barricades in conformity with these Standard Specifications, Plans and Special Provisions. Signs, barricades, flashers, warning devices and any other traffic control equipment shall be placed where and as required and approved by the City Engineer and/or the City Superintendent.

23.19 GUARANTEE

The Contractor guarantees the installation called for to be free from electrical and mechanical defects. He agrees to replace or repair, without cost to the owner and to the satisfaction of the City Engineer, any part of the installation which might fail or fail to operate properly within a period of one year from the date of final acceptance, provided such failure is due to defective materials or workmanship or to failure to follow the plans and specifications.

SECTION TWENTY-FOUR

DEMOLITION OF BUILDINGS

24.1 GENERAL

This section covers the demolition of buildings, foundations, underground and surface utilities and appurtenances, concrete slabs and asphalt concrete. In the absence of limiting provisions in the special conditions, all such facilities shall be removed.

24.2 PUBLIC SAFETY

All work shall conform to the requirements of Section 3303.9 of the Uniform Building Code.

24.3 UTILITIES

The Contractor shall notify all utility companies 48 hours in advance of demolition so utility mains can be protected and discovered.

24.4 PERMITS

The Contractor shall secure a building demolition permit from the City.

24.5 DISPOSITION OF DEBRIS

The Contractor shall arrange for the disposition of all debris off the site to an area satisfactory to the City Engineer. This will be at the expense of the Contractor and is a part of the bid price.

24.6 BASEMENTS

All basements shall be backfilled. The material used for backfill shall have a minimum R-value of 55. Tests for "R" value shall be made in accordance with Test Method No. Calif. 301 of the State Standard Specifications and shall be at the expense of the Contractor. The backfill shall have a relative compaction of 90% except when the basement is within the street right-of-way, the top two feet of backfill shall have a relative compaction of 95% as determined by ASTI Methods D 2937 and D 1557. All concrete will be removed before backfilling.

SECTION TWENTY-FIVE

CHAIN LINK FENCE

25.1 GENERAL

The work to be done consists, in general, of constructing a chain link fence and gate complete with steel posts, wire fabric, braces, guides, anchors, concrete, adaptor and appurtenances.

25.2 CHAIN LINK FENCE

Fencing shall be first quality, new chain link fence with the following characteristics:

Corner, pull or terminal posts shall be 2-7/8 inch O.D. Standard weight galvanized pipe; line posts shall be 2-3/8 inch O.D. galvanized pipe; fabric shall be 2-inch mesh 11 ga. galvanized steel fabric conforming to the Specifications of AASHO Designation M 181. The fabric shall be not-dip galvanized after weaving or aluminum coating per ASTM Specification A-491 or zinc coating Class I or II per ASTM Specification A-392. Fabric shall be connected to line posts with 6 ga. wire every 14 inches; to terminal, corner, and gate posts by using 1/4" x 3/4" stretcher bars and 1/8" x 1" stretcher bar bands spaced at one foot intervals and 3/8" diameter bolts and nuts; to tension wire with 11 ga. hog rings closed with ends overlapping ever 24 inches. The tensile strength of the fabric wire shall be 80,000 psi minimum. Gate posts shall be 4" I.D., 10.8 lb./Ft galvanized pipe.

Barbed wire shall be 3 strand of either aluminum coated with a minimum coating of 0.30 ounces per square foot of wire surface and aluminum barb, or steel with Class III galvanized coating per ASTM Specification A 121. The barbed wire consists of two 12-1/2 ga. stranded line wires 14 ga. round wire barbs in a 4 point pattern on 5-inch centers.

Barbed wire may be omitted at special locations not involving the heath, safety or welfare of the public and approved by the City Engineer.

All fence and gate materials shall be coated to prevent corrosion, pipe posts shall have tops which exclude moisture, posts shall be set in concrete all in accordance to these Specifications and the Standard Drawings.

Height of the chain link fence shall be 6' - 0", unless otherwise noted on the drawings.

Chain link fence gate and appurtenances shall conform to the minimum requirements of the Standard Drawings and these Specifications.

Concrete shall be, 2500 psi @ 28 days and shall conform to 5 sacks of Portland cement per cubic yard and meet requirements of applicable portions of Section 90 of the State Standard Specifications.

SECTION TWENTY-SIX

STREET TREE WELL CONSTRUCTION

26.1 GENERAL

This work shall consist of furnishing all labor, tools, materials and incidentals for the complete installation of tree wells, irrigation system, controls and testing of landscape and irrigation systems (where required). Construction shall conform to the City of Mendota Standard Drawings M-13 and M-14 and other Conditions of Approval by the City.

26.2 STREET TREE LOCATIONS

Street tree locations shall conform to the planter areas shown on Standard Drawing M-13 or per City Conditions of Approval.

In areas where no sidewalks exist a space shall be left for future sidewalk construction in accordance to the Standard requirements.

The street trees shall be planted in the planter strips midway between the curb and sidewalk or midway between the sidewalk and property line on streets with monolithic curb, gutter and sidewalks.

Street trees located along commercial or industrial property or on major arterial or expressway streets shall be located in tree wells within the sidewalk area. Tree locations shall be determined by the site plan review committee and approved by the City Engineer.

Trees shall be trimmed so that no branches are lower than 7 feet above the sidewalk.

Trees shall be located at least 20 feet from property corners at all intersections to provide vehicular sight clearance with approaching traffic.

26.3 MATERIALS

1. Tree size - Street trees shall be 15 gallon size. (min.)

2. Root guard - Root protection shall consist of Shaw Town Industries Model F115 walled planter or approved equal.

3. Tree stakes and ties - Tree stakes and ties shall conform to Standard Drawing M-13.

4. Weed mat - Weed mat shall consist of Reemay-Typar landscape fabric or approved equal.

5. Landscaping - Landscaping shall conform to the approved Plans, Specifications and Conditions of Approval of the City of Parlier.

26.4 IRRIGATION SYSTEMS

1. Emitters - Emitters shall be Toro #514-20 (2.5 gph) or approved equal.

2. Risers - Risers shall be Toro Funny pipe with flex connection inside of planter or approved equal.

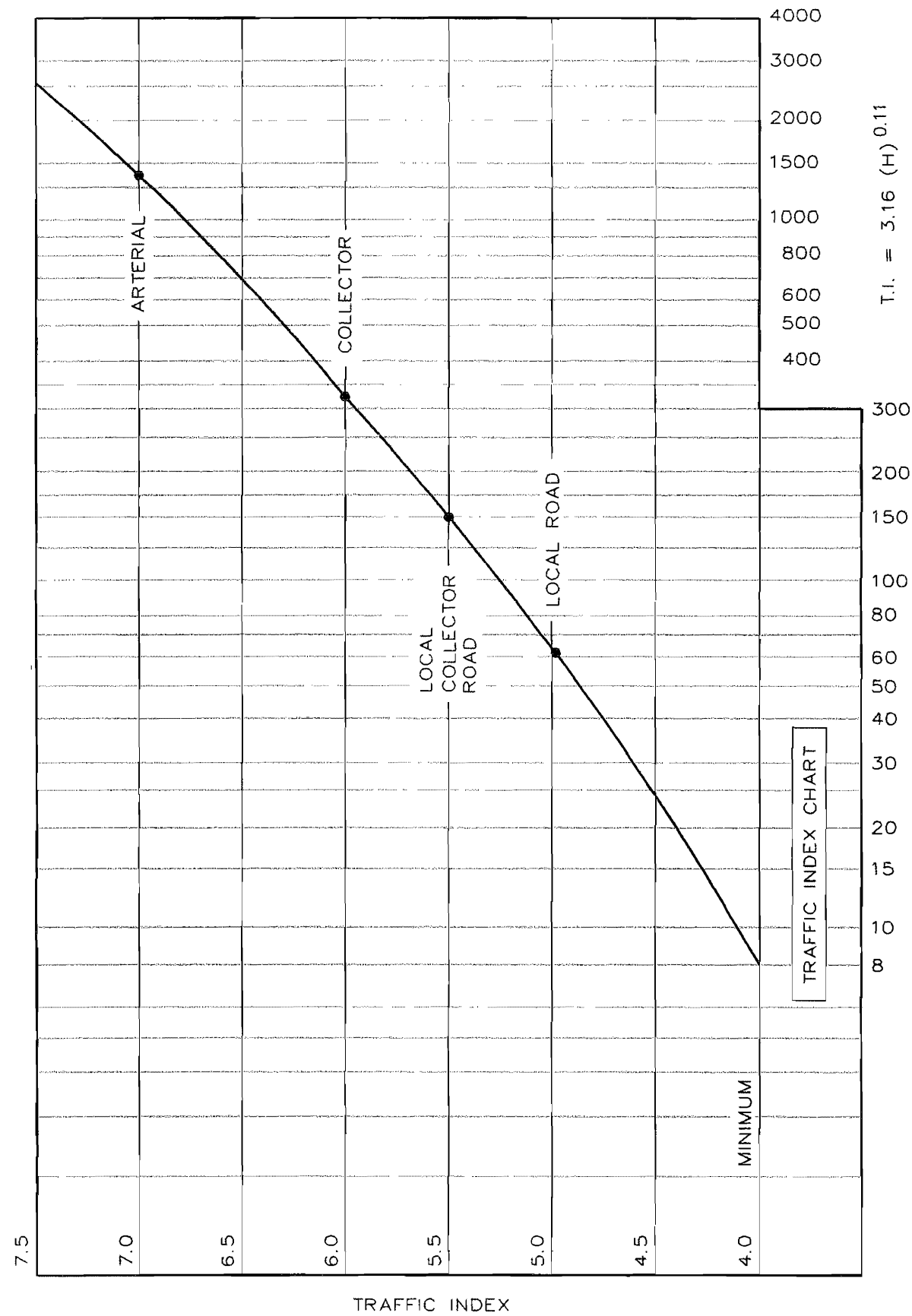
3. Pipe and fittings - Pipe and fittings shall be galvanized iron pipe or schedule 40 PVC or approved equal. For all pressurized lines. PVC class 200, or equal, for non-pressurized lateral lines.

4. Controllers - Controllers shall be mounted above ground, weather protected and secured in a lockable cabinet. Controllers shall be designed for conditions specified and shall provide automatic 7 day - 24 hour control per the number of required stations. Controllers shall be Irritrol, Toro Superior, or approved equal.

5. Automatic valves - Automatic valves shall be Hardie, Toro Angle Globe valves or approved equal.

6. Backflow preventors - Backflow preventors shall be atmospheric vacuum breaker or pressure vacuum breaker per the specified requirements for design.

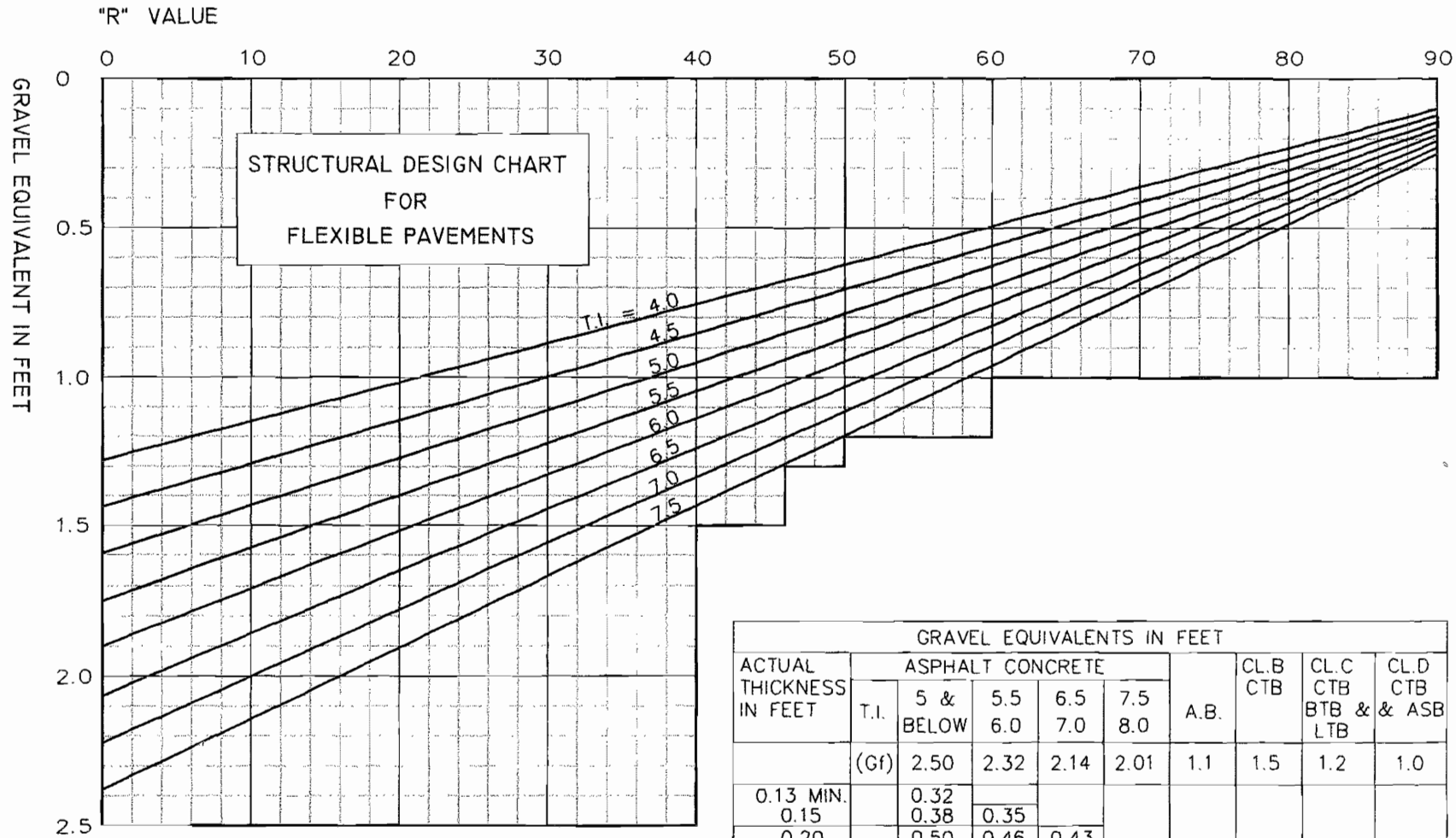
7. Prior to construction, Contractor shall submit manufacturers literature and catalog cuts of landscape and irrigation equipment to the City Parks, Recreation and Community Services Department for approval.



CALCULATED T.I.'S SHALL BE ROUNDED UP TO THE NEAREST 0.5 WHERE THE NUMBER OF UNITS TO BE SERVED OR TRAFFIC COUNTS CAN NOT BE DETERMINED USE THE TRAFFIC INDEX SHOWN.

AREAS CONSIDERED AS SHOULDERS MAY HAVE T.I.'S EQUAL TO 0.6 OF THE TRAVEL LANES. 4.0 IS MINIMUM T.I. FOR DESIGN OF THE TRAVELWAY AND SHOULDERS.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
9-25-07	TRAFFIC INDEX CHART	ST-1



GRAVEL EQUIVALENTS IN FEET									
ACTUAL THICKNESS IN FEET	ASPHALT CONCRETE T.I.	5 & BELOW	5.5 6.0	6.5 7.0	7.5 8.0	A.B.	CL.B CTB	CL.C CTB BTB & LTB	CL.D CTB & ASB
	(Gf)	2.50	2.32	2.14	2.01	1.1	1.5	1.2	1.0
0.13 MIN.		0.32							
0.15		0.38	0.35						
0.20		0.50	0.46	0.43					
0.25		0.63	0.58	0.54	0.50				
0.30		0.75	0.70	0.64	0.60				
0.35		0.88	0.81	0.75	0.70	0.39		0.42	0.35
0.40		1.00	0.93	0.86	0.80	0.44		0.48	0.40
0.45			1.04	0.96	0.90	0.50	0.68	0.54	0.45
0.50			1.16	1.07	1.01	0.55	0.75	0.60	0.50
0.55				1.18	1.11	0.61	0.83	0.66	0.55
0.60					1.21	0.66	0.90	0.72	0.60
0.65					1.31	0.72	0.98	0.78	0.65
0.70						0.77	1.05	0.84	0.70
0.75						0.83	1.13	0.90	0.80
0.80						0.88	1.20	0.90	0.80

NOTES:

1. ALL PAVEMENTS SHALL BE DESIGNED ACCORDING TO TEST METHOD NO. CALIF. 301-G AND PART VII PLANNING MANUAL OF INSTRUCTIONS STATE OF CALIFORNIA WITH EXCEPTION THAT T.I.'S WILL BE DETERMINED FROM THE TRAFFIC INDEX CHART WHERE APPLICABLE.

2. WHERE EXPANSIVE SOILS ARE ENCOUNTERED AS DESCRIBED IN THE STANDARD SPECIFICATIONS DESIGN OF THE STRUCTURAL SECTION TO BE BASED UPON LABORATORY TEST AND SUBMITTED TO CITY ENGINEER FOR APPROVAL.

REVISION DATE

CITY OF MENDOTA

STRUCTURAL DESIGN CHART

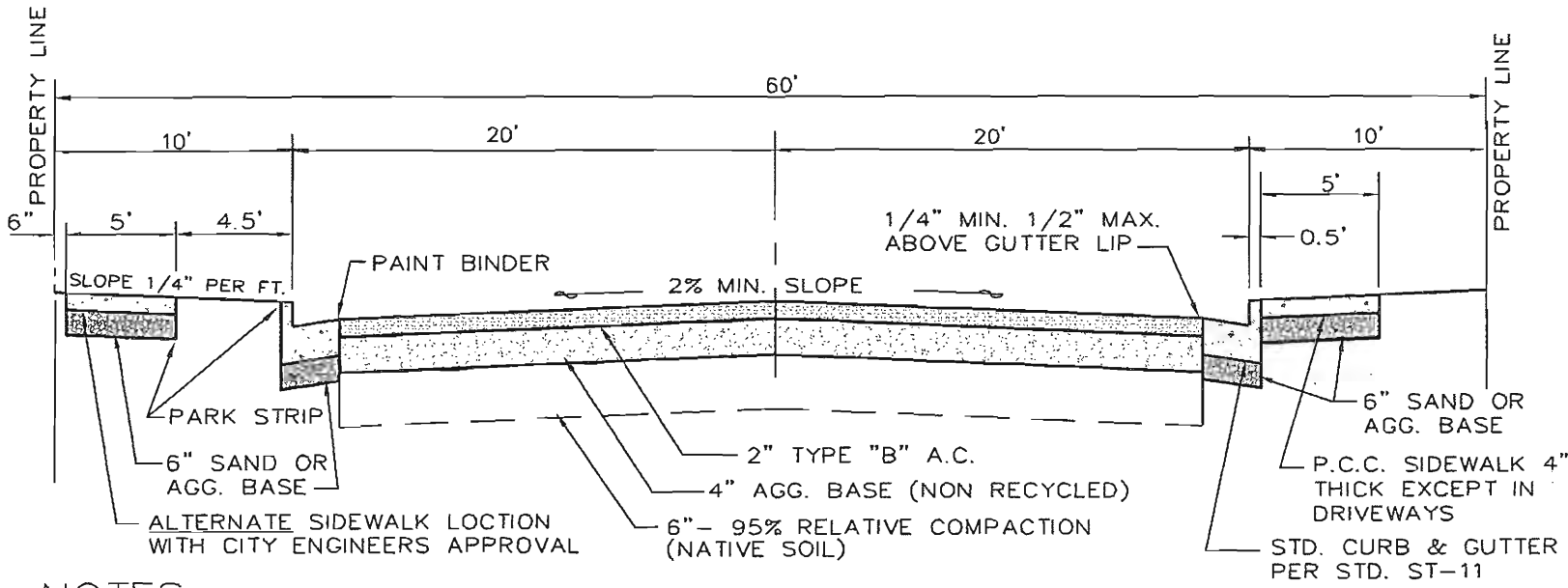
STD. DWG.

ST-2

REVISION DATE	CITY OF MENDOTA
AUG 04	

STANDARD RESIDENTIAL STREET
(THRU STREET)

STD. DWG. ST-3



NOTES:

1. ASPHALT CONCRETE, AND EARTHWORK SHALL CONFORM TO SECTIONS 39, AND 19 OF THE STATE STANDARD SPECIFICATIONS LATEST EDITION.
2. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOIL R-VALUE OF 50. FOR R-VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE DESIGNED IN ACCORDANCE TO STANDARDS ST-1, AND ST-2.
3. TRAFFIC INDEX = 4
4. MINIMUM GUTTER SLOPE = 0.12%
5. MINIMUM CROSS SLOPE = 2%
6. MAXIMUM CROSS SLOPE = 5%
7. MINIMUM SLOPE ON WIDENING = 1.5%
8. DESIGN SPEED = 25 MPH.
9. MINIMUM RADIUS = 250'
10. STOPPING SIGHT DISTANCE = 200'
11. SIDEWALKS SHALL BE CONSTRUCTED CONTIGUOUS WITH CURB AND ALL HYDRANTS, LIGHT POLES, ETC. LOCATED BEHIND THE SIDEWALK. (MAIL BOXES TO BE ERECTED IN GROUPS AT ONE LOCATION SUBJECT TO POST OFFICE REGULATIONS.) CONCRETE SHALL BE 6 SACK CEMENT PER CUBIC YARD.
12. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS EXCEPT THAT A DISTINCTION IS MADE BETWEEN AGGREGATE BASE COMPOSED OF 100% VIRGIN AGGREGATES AND AGGREGATE BASE CONTAINING ANY QUANTITY OF RECYCLED OR RECLAIMED AGGREGATES. AGGREGATE BASE SHALL BE OF 3/4" MAXIMUM GRADING.
13. RECYCLED BASE ROCK- THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%.

REVISION DATE

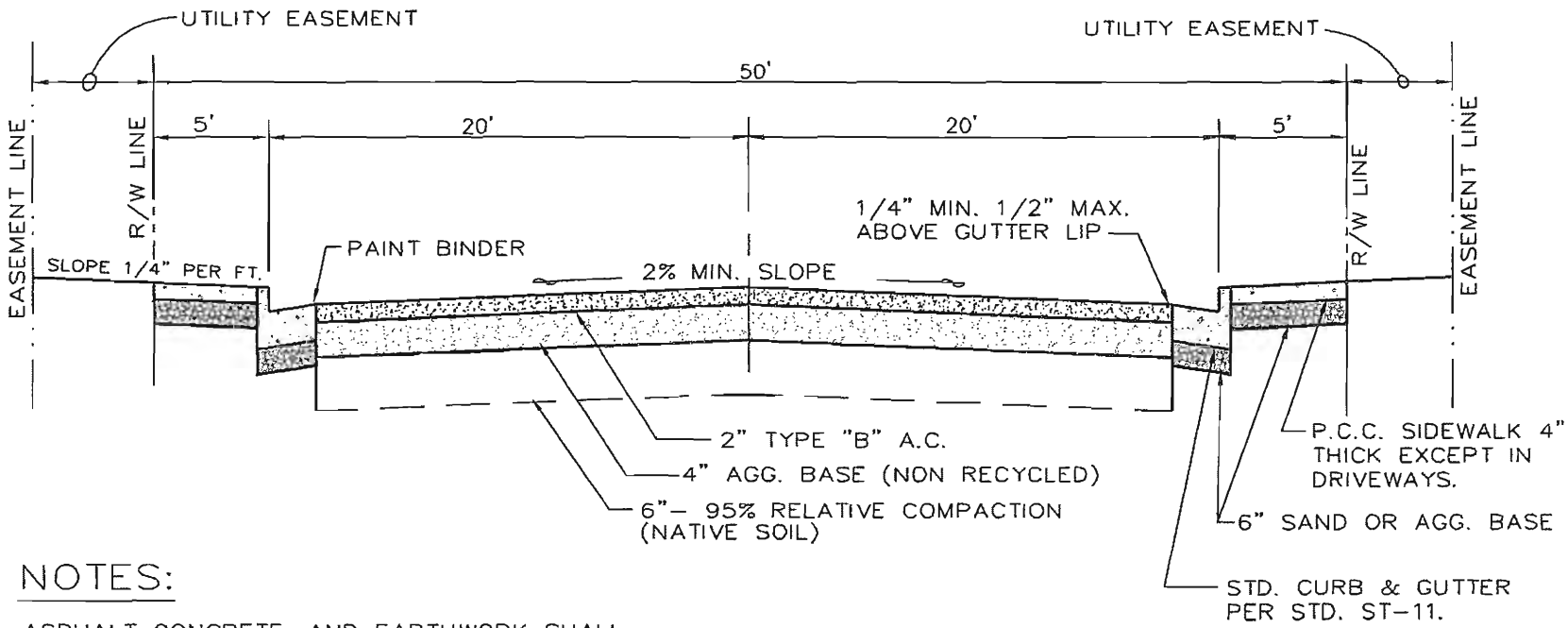
AUG 04

CITY OF MENDOTA

MODIFIED RESIDENTIAL STREET
(FOR CUL-DE-SAC & NON-THROUGH STREETS)

STD. DWG.

ST-3A



NOTES:

1. ASPHALT CONCRETE, AND EARTHWORK SHALL CONFORM TO SECTIONS 39, AND 19 OF THE STATE STANDARD SPECIFICATIONS LATEST EDITION.
2. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOIL R-VALUE OF 50. FOR R-VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE DESIGNED IN ACCORDANCE TO STANDARDS ST-1 AND ST-2.
3. TRAFFIC INDEX = 4
4. MINIMUM GUTTER SLOPE = 0.12%
5. MINIMUM CROSS SLOPE = 2%
6. MAXIMUM CROSS SLOPE = 5%
7. MINIMUM SLOPE ON WIDENING = 1.5%
8. DESIGN SPEED = 25 MPH.
9. MINIMUM RADIUS = 250'
10. STOPPING SIGHT DISTANCE = 200'
11. SIDEWALKS SHALL BE CONSTRUCTED CONTIGUOUS WITH CURB AND ALL HYDRANTS, LIGHT POLES, ETC. LOCATED BEHIND THE SIDEWALK. (MAIL BOXES TO BE ERECTED IN GROUPS AT ONE LOCATION SUBJECT TO POST OFFICE REGULATIONS.) CONCRETE SHALL BE 6 SACK CEMENT PER CUBIC YARD.
12. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS EXCEPT THAT A DISTINCTION IS MADE BETWEEN AGGREGATE BASE COMPOSED OF 100% VIRGIN AGGREGATES AND AGGREGATE BASE CONTAINING ANY QUANTITY OF RECYCLED OR RECLAIMED AGGREGATES. AGGREGATE BASE SHALL BE OF 3/4" MAXIMUM GRADING.
13. RECYCLED BASE ROCK - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%.

NOTE: MODIFIED RESIDENTIAL STREETS ARE LIMITED TO CUL-DE-SAC AND NON THROUGH STREETS. MODIFIED NON-STANDARD STREET WIDTH REQUIRES APPROVAL OF THE CITY.

REVISION DATE

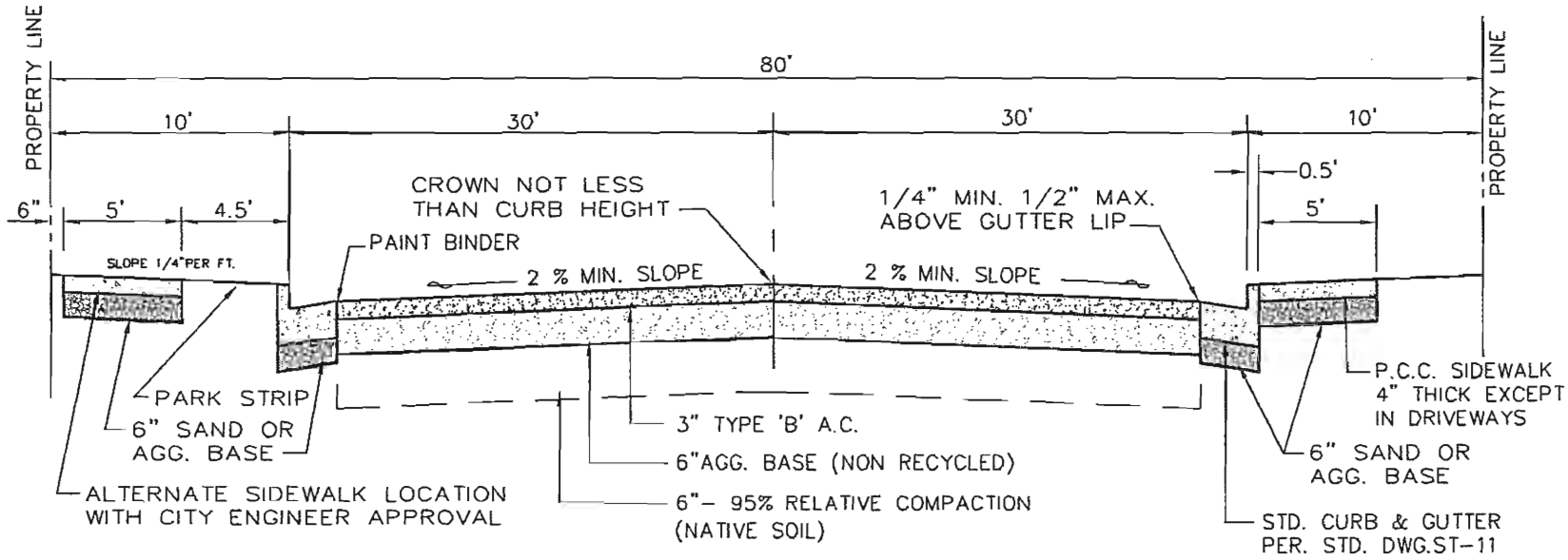
AUG 04

CITY OF MENDOTA

MAJOR COLLECTOR
RESIDENTIAL

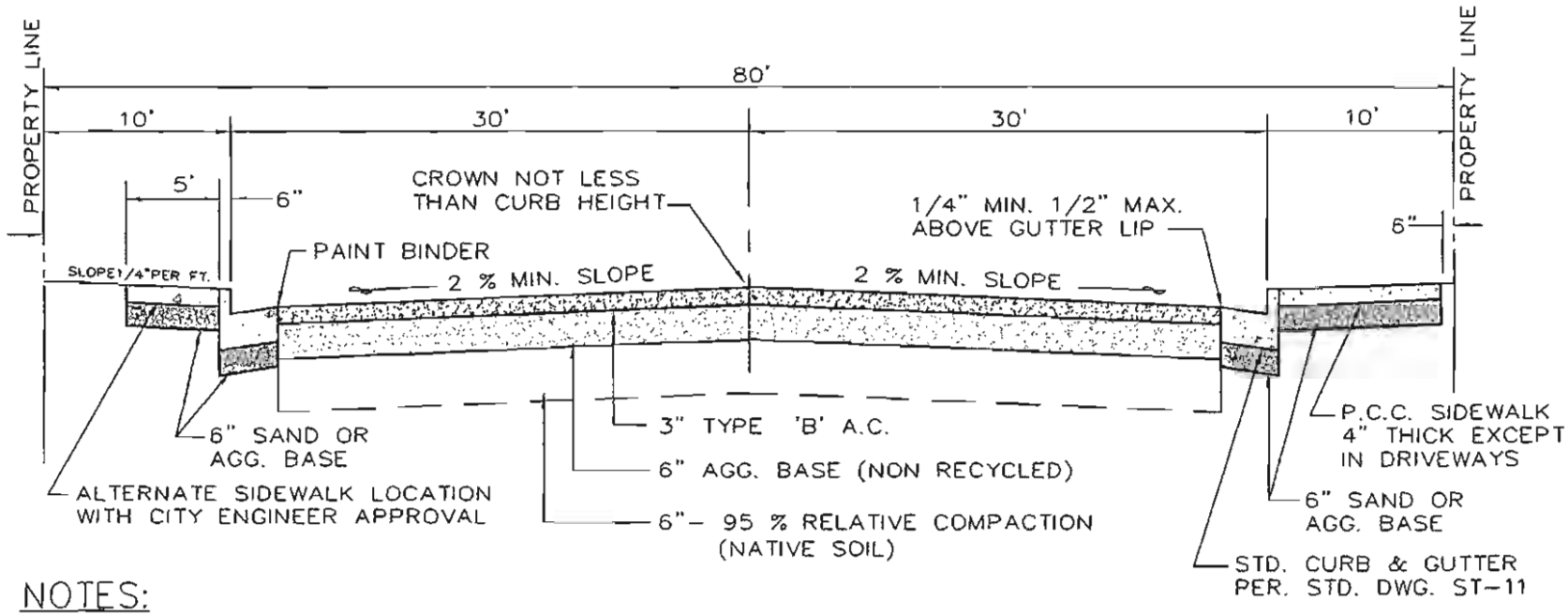
STD. DWG.

ST-4



NOTES:

1. ASPHALTIC CONCRETE, AND EARTHWORK SHALL CONFORM TO SPECIFICATIONS 39, AND 19 OF THE STATE STANDARD SPECIFICATIONS LATEST EDITION.
2. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOIL R-VALUE OF 50. FOR R-VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE DESIGNED IN ACCORDANCE TO STANDARDS ST-1, AND ST-2.
3. TRAFFIC INDEX = 6
4. MINIMUM GUTTER GRADE =0.12%
5. MINIMUM CROSS SLOPE = 2%
6. MAXIMUM CROSS SLOPE = 5%
7. MINIMUM SLOPE ON WIDENING = 1.5%
8. DESIGN SPEED = 40 MPH
9. MINIMUM RADIUS = 550'
10. STOPPING SIGHT DISTANCE = 300'
11. ALL HYDRANTS, LIGHT POLES, ETC. SHALL BE LOCATED BEHIND THE CURB AND GUTTER (MAIL BOXES TO BE ERECTED IN GROUPS AT ONE LOCATION SUBJECT TO POST OFFICE REGULATIONS.) CONCRETE SHALL BE 6 SACK PER CUBIC YARD.
12. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS EXCEPT THAT A DISTINCTION IS MADE BETWEEN AGGREGATE BASE COMPOSED OF 100% VIRGIN AGGREGATES AND AGGREGATE BASE CONTAINING ANY QUANTITY OF RECYCLED OR RECLAIMED AGGREGATES. AGGREGATE BASE SHALL BE OF 3/4" MAXIMUM GRADING.
13. RECYCLED AGGREGATE BASE - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHALL BE INCREASED BY 50%.



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3. TRAFFIC INDEX = 6
4. MINIMUM GUTTER GRADE =0.12%
5. MINIMUM CROSS SLOPE = 2%
6. MAXIMUM CROSS SLOPE = 5%
7. MINIMUM SLOPE ON WIDENING = 1.5%
8. DESIGN SPEED = 40 MPH
9. MINIMUM RADIUS = 550'
10. STOPPING DISTANCE = 300'
11. ALL HYDRANTS, LIGHT POLES, ETC. SHALL BE LOCATED BEHIND THE CURB AND GUTTER (MAIL BOXES TO BE ERECTED IN GROUPS AT ONE LOCATION SUBJECT TO POST OFFICE REGULATIONS.) CONCRETE SHALL BE 6 SACK CEMENT PER CUBIC YARD.
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13. RECYCLED BASE ROCK - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%

REVISION DATE
AUG 04

CITY OF MENDOTA

MAJOR COLLECTOR
COMMERCIAL

ST-5

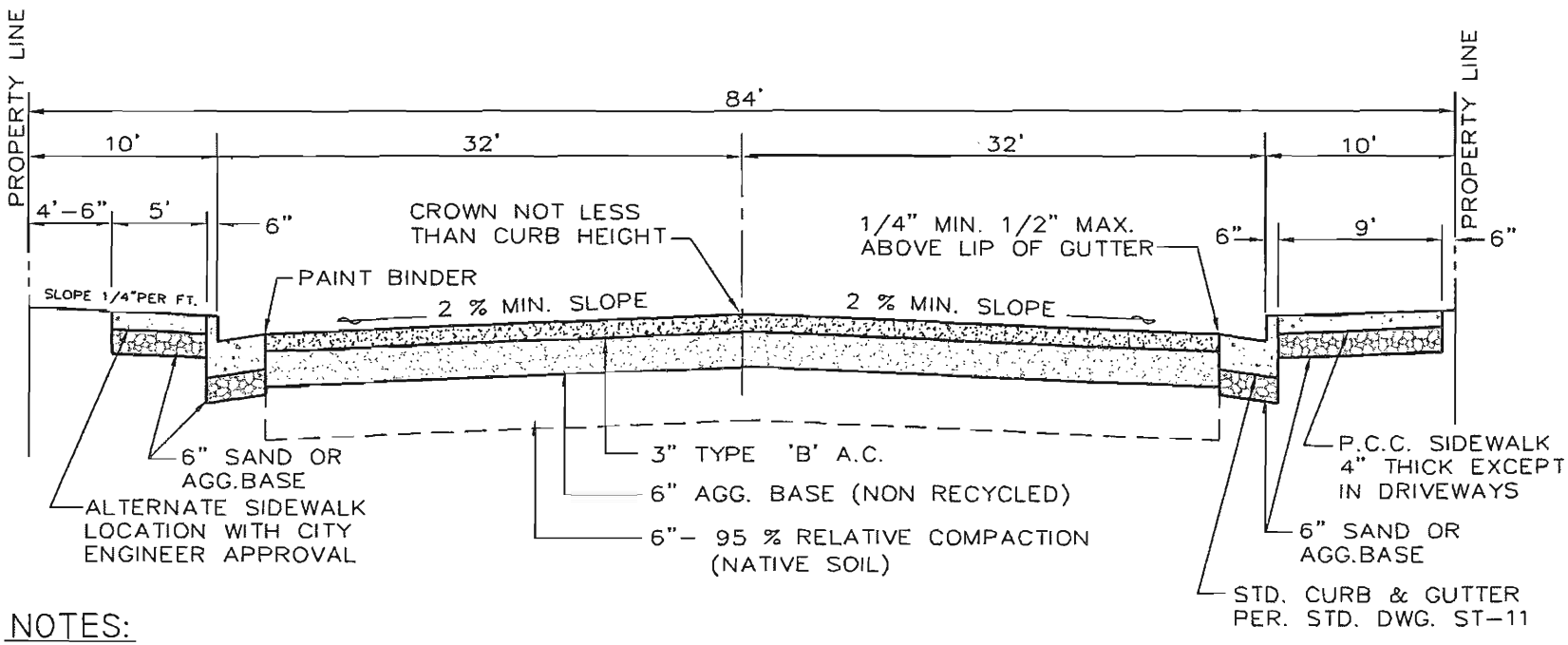
STD.DWG.

REVISION DATE	
AUG 04	
9-25-07	

CITY OF MENDOTA

MAJOR ARTERIAL

STD.DWG. ST-6



NOTES:

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3. TRAFFIC INDEX = 6
4. MINIMUM GUTTER GRADE =0.12%
5. MINIMUM CROSS SLOPE = 2%
6. MAXIMUM CROSS SLOPE = 5%
7. MINIMUM SLOPE ON WIDENING = 1.5%
8. DESIGN SPEED = 40 MPH
9. MINIMUM RADIUS = 550'
10. STOPPING DISTANCE = 300'
11. ALL HYDRANTS, LIGHT POLES, ETC. SHALL BE LOCATED BEHIND THE CURB AND GUTTER (MAIL BOXES TO BE ERECTED IN GROUPS AT ONE LOCATION SUBJECT TO POST OFFICE REGULATIONS.) CONCRETE SHALL BE 6 SACK CEMENT PER CUBIC YARD.
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13. RECYCLED BASE ROCK - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%

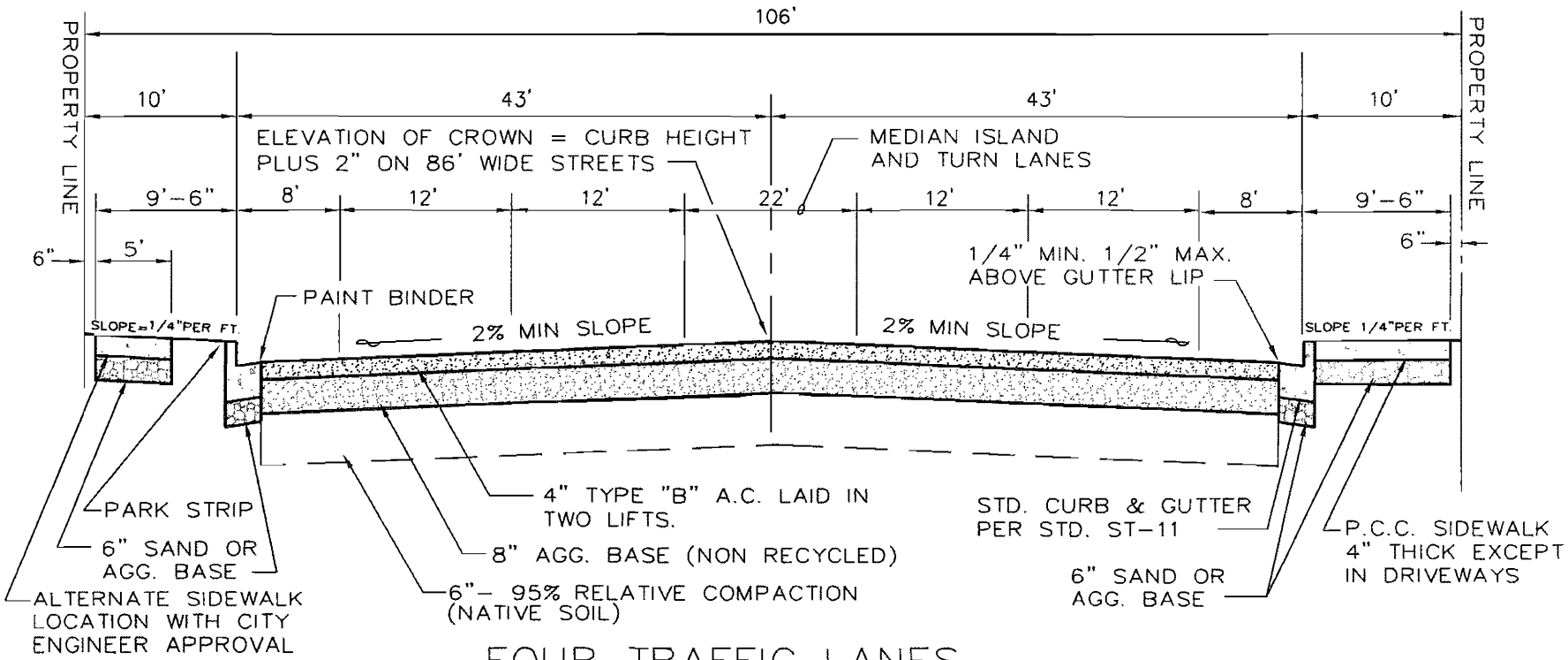
REVISION DATE	
AUG 04	9-25-07

CITY OF MENDOTA

EXPRESSWAY

ST-7

STD.DWG.



FOUR TRAFFIC LANES

NOTES:

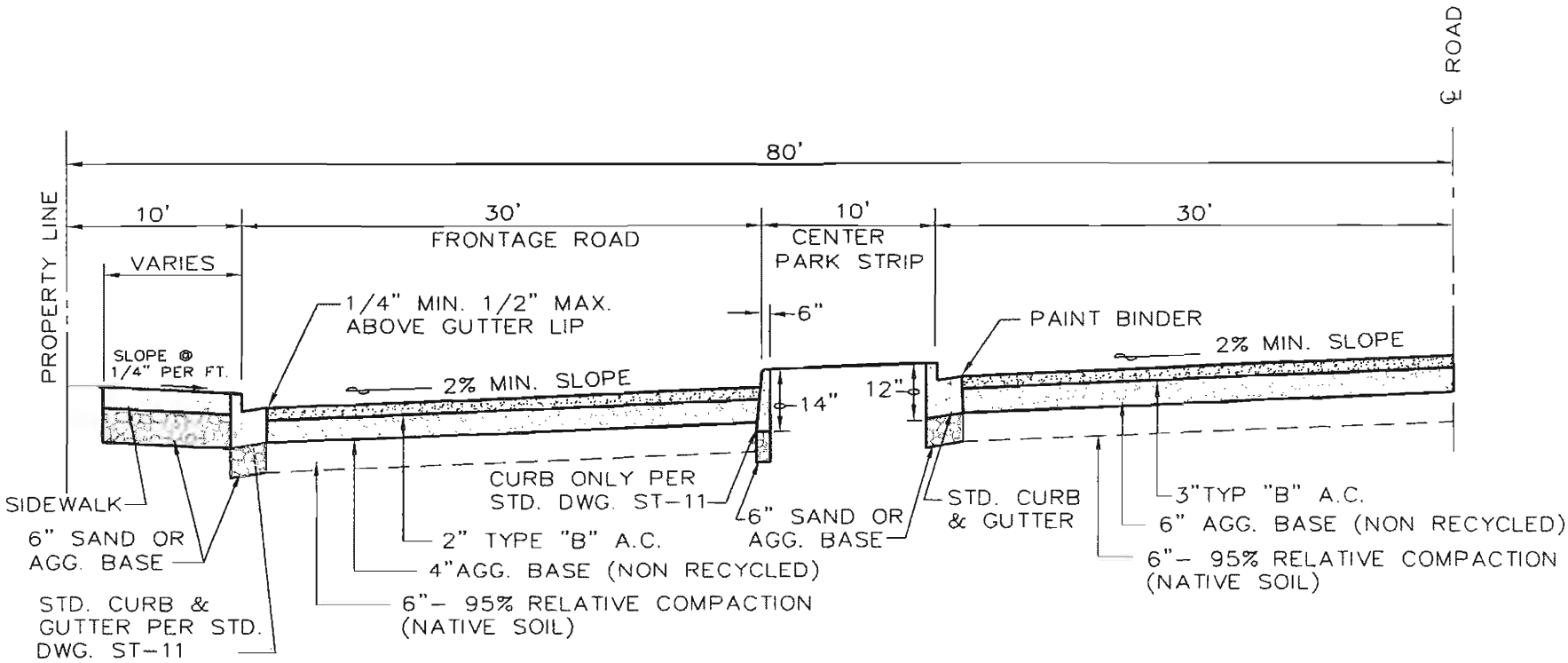
1. ASPHALT CONCRETE, AND EARTHWORK SHALL CONFORM TO SECTIONS 39, AND 19 OF THE STATE STANDARD SPECIFICATIONS LATEST EDITION.
2. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOIL R-VALUE OF 50, FOR R-VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE DESIGNED IN ACCORDANCE TO STANDARDS ST-1, AND ST-2.
3. TRAFFIC INDEX = 8
4. MINIMUM GUTTER SLOPE = 0.12%
5. MINIMUM CROSS SLOPE = 2%
6. MAXIMUM CROSS SLOPE =5%
7. MINIMUM SLOPE ON WIDENING = 1.5%
8. DESIGN SPEED = 50 MPH.
9. MINIMUM RADIUS = 850'
10. STOPPING SIGHT DISTANCE = 400'
11. ALL HYDRANTS, LIGHT POLES, ETC. SHALL BE LOCATED BEHIND THE CURB AND GUTTER. (MAIL BOXES TO BE ERECTED IN GROUPS AT ONE OFF-STREET LOCATION SUBJECT TO POST OFFICE REGULATIONS.) CONCRETE SHALL BE 6 SACK PER CUBIC YARD.
12. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS EXCEPT THAT A DISTINCTION IS MADE BETWEEN AGGREGATE BASE COMPOSED OF 100% VIRGIN AGGREGATES AND AGGREGATE BASE CONTAINING ANY QUANTITY OF RECYCLED OR RECLAIMED AGGREGATES. AGGREGATE BASE SHALL BE OF 3/4" MAXIMUM GRADING.
13. RECYCLED BASE ROCK - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%

REVISION DATE	
AUG 04	

CITY OF MENDOTA

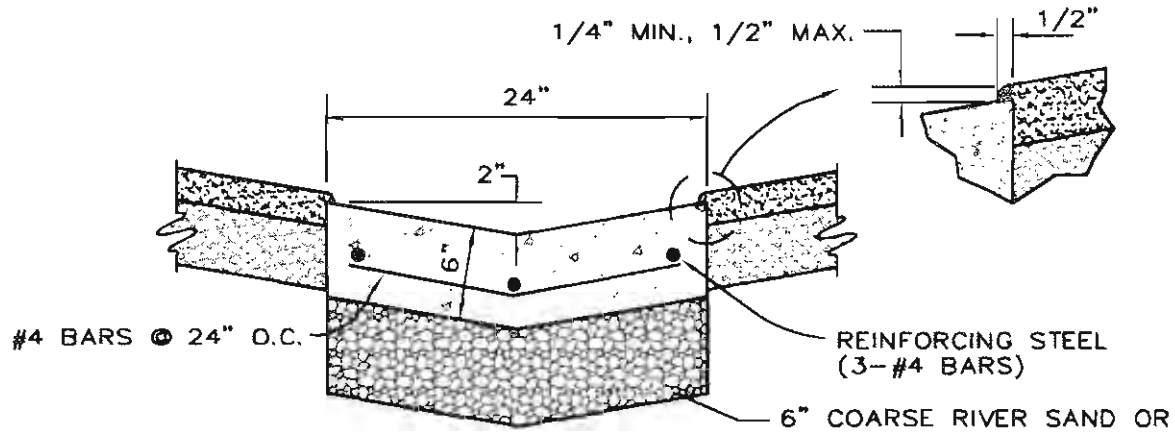
ACCESS ROAD

STD. DWG. ST-8

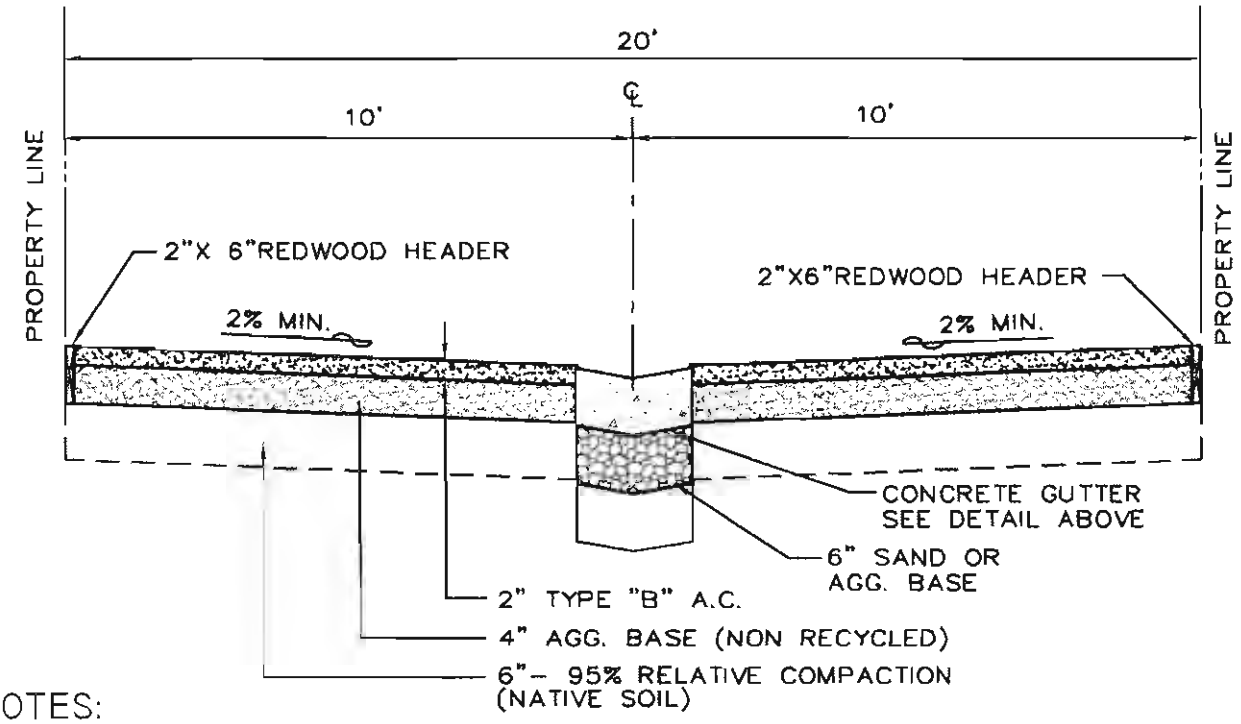


NOTES:

1. ASPHALTIC CONCRETE, AND EARTH WORK SHALL CONFORM TO SECTIONS 39, AND 19 OF THE STATE STANDARD SPECIFICATIONS LATEST EDITION.
2. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOIL R-VALUE OF 50. FOR R-VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE IN ACCORDANCE TO STANDARDS ST-1 AND ST-2. (SECTION SHOWN IS FOR A RESIDENTIAL ACCESS ROAD AND MAJOR COLLECTOR ADJACENT STREET).
3. FOR OTHER COMBINATIONS OF STREETS CONSULT APPROPRIATE STREET DESIGNATION FOR ADDITIONAL INFORMATION AND/OR REQUIREMENTS. ALL DESIGNS ARE SUBJECT TO REVIEW AND APPROVAL OF CITY ENGINEER.
4. CONCRETE SHALL BE 6 SACK CEMENT PER CUBIC YARD
5. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS EXCEPT THAT A DISTINCTION IS MADE BETWEEN AGGREGATE BASE COMPOSED OF 100% VIRGIN AGGREGATES AND AGGREGATE BASE CONTAINING ANY QUANTITY OF RECYCLED OR RECLAIMED AGGREGATES. AGGREGATE BASE SHALL BE OF 3/4" MAXIMUM GRADING.
4. <u>RECYCLED BASE ROCK</u> - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%



GUTTER DETAIL



NOTES:

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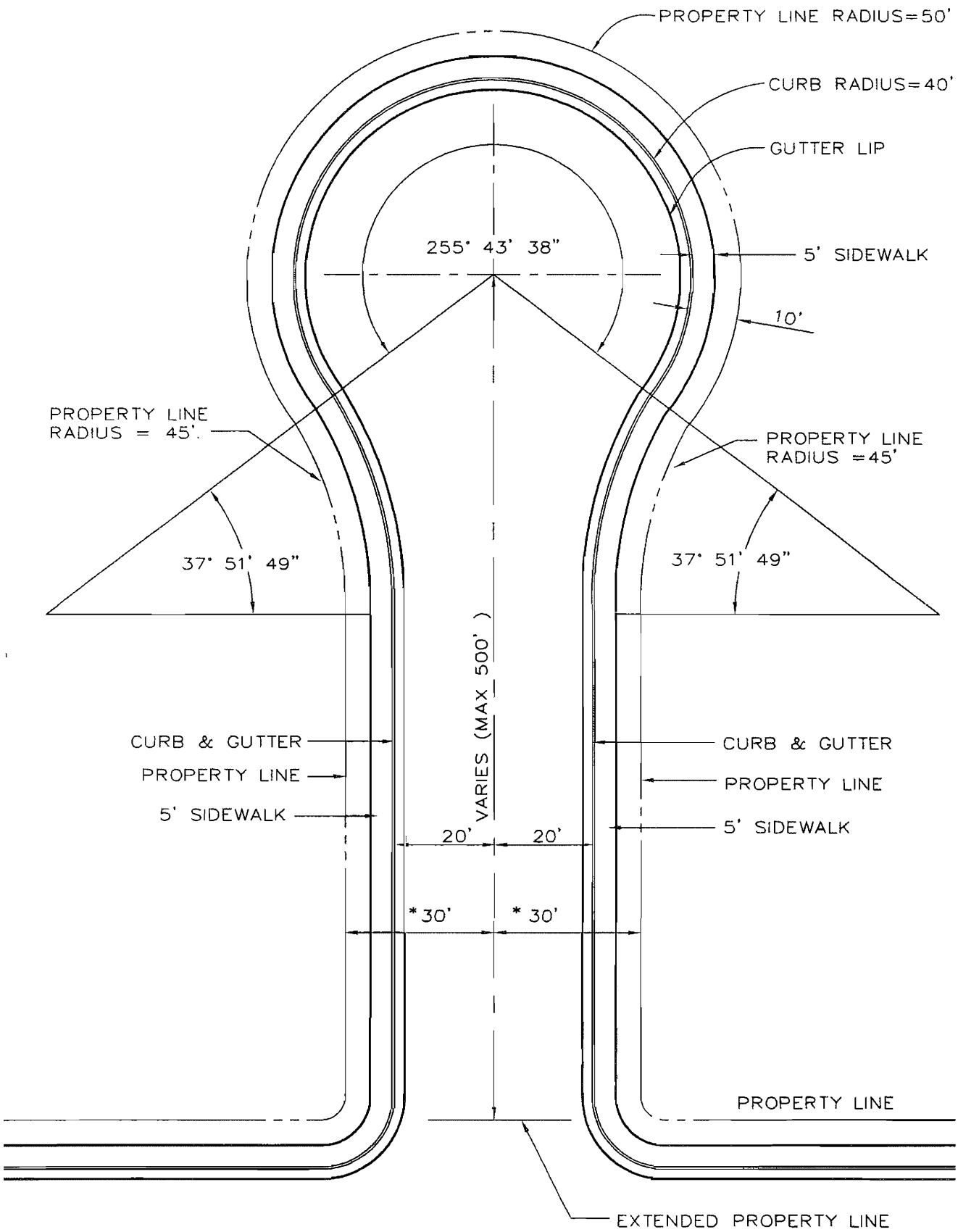
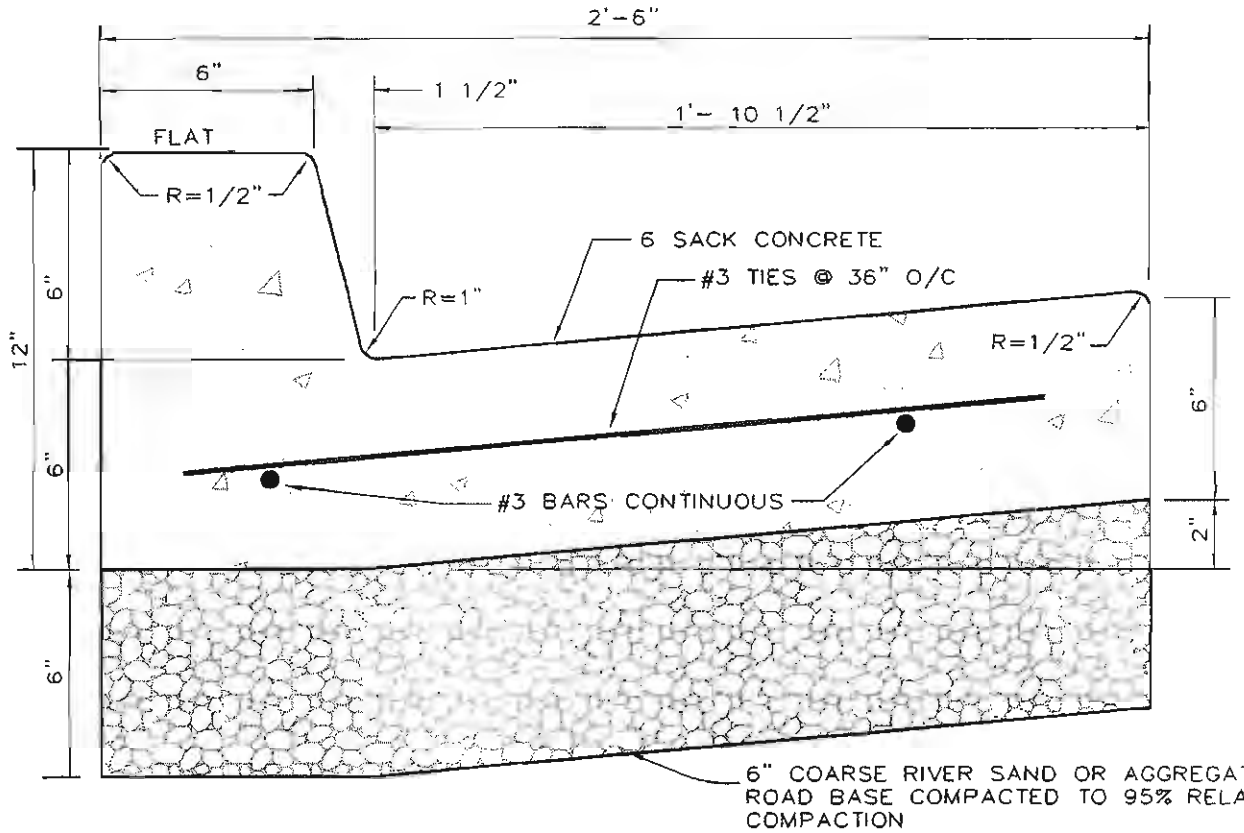
2. THE STRUCTURAL SECTION AS SHOWN SHALL HAVE A MINIMUM SUBSOIL R-VALUE OF 50, FOR R-VALUES LESS THAN 50, THE STRUCTURAL SECTION SHALL BE DESIGNED IN ACCORDANCE TO STANDARDS ST-1 AND ST-2 WITH A TRAFFIC INDEX = 4.
3. CONCRETE VALLEY GUTTER SHALL HAVE WEAKENED PLAN JOINTS @ 15' O.C. TOOL EDGES OF JOINT.
4. PROVIDE EXPANSION JOINT IN CONCRETE GUTTER @ 90' O.C. TOOL EDGES OF JOINT.
5. CONCRETE SHALL BE 6 SACK CEMENT PER CUBIC YARD.
6. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE STATE STANDARD SPECIFICATIONS EXCEPT THAT A DISTINCTION IS MADE BETWEEN AGGREGATE BASE COMPOSED OF 100% VIRGIN AGGREGATES AND AGGREGATE BASE CONTAINING ANY QUANTITY OF RECYCLED OR RECLAIMED AGGREGATES. AGGREGATE BASE SHALL BE OF 3/4" MAXIMUM GRADING.
7. RECYCLED BASE ROCK - THE STRUCTURAL AGGREGATE BASE SECTION THICKNESS SHOWN SHALL BE INCREASED BY 50%

REVISION DATE		CITY OF MENDOTA	STD.DWG.
AUG 04	9-25-07	ALLEY	ST-9

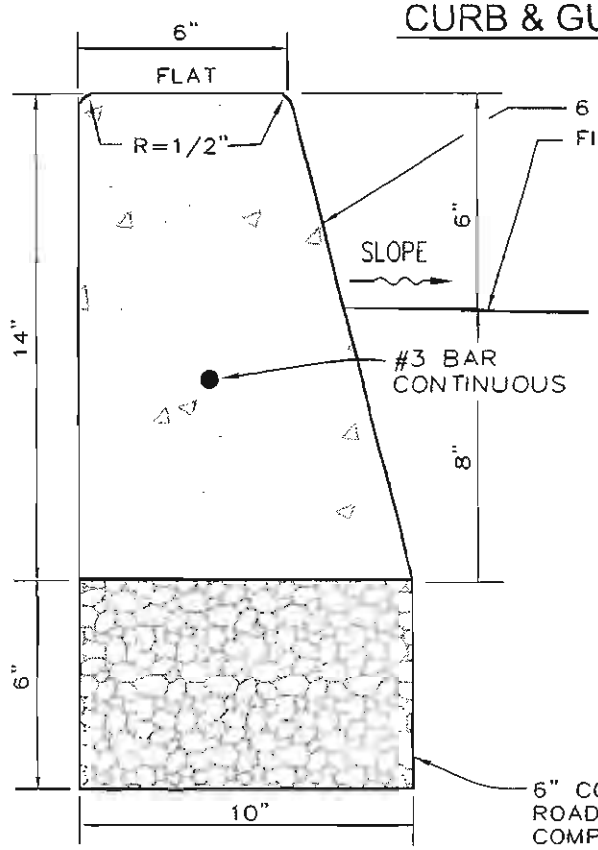


* SEE MODIFIED RESIDENTIAL STREET STANDARD ST-3A

REVISION DATE	CITY OF MENDOTA	STD. DWG.
	CUL-DE-SAC TURN-AROUND WITH ADJACENT SIDEWALK	ST- 10



CURB & GUTTER DETAIL

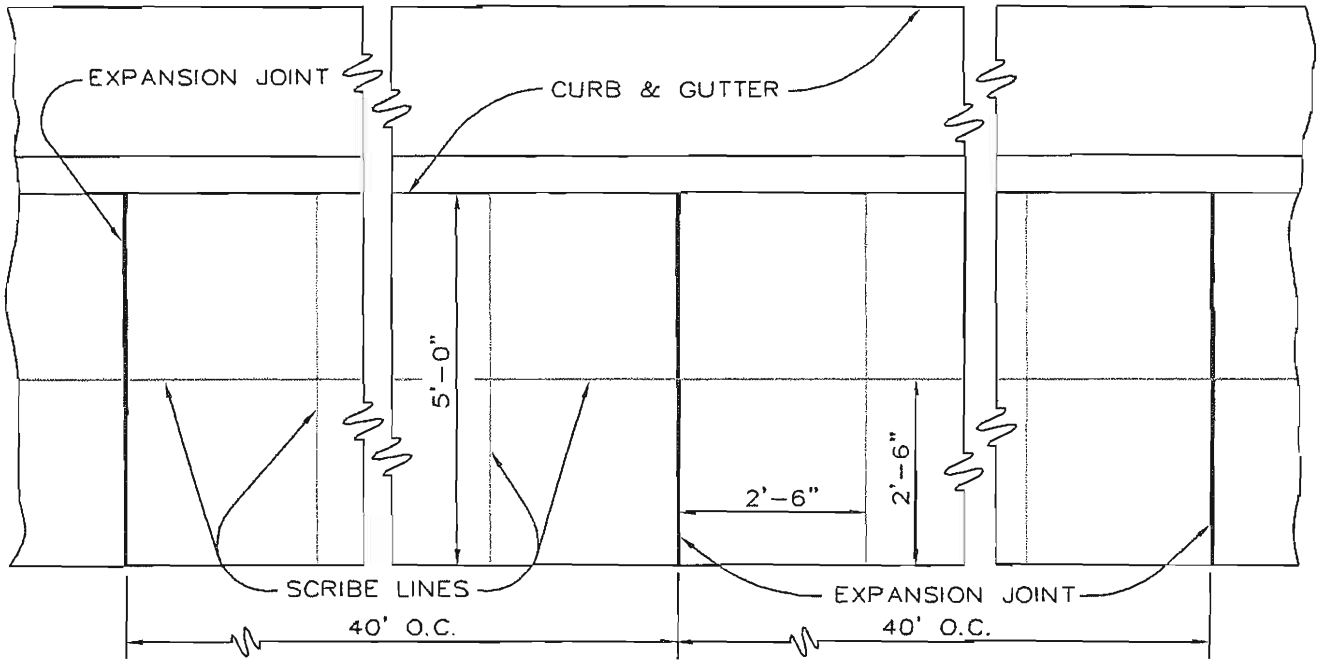


CURB DETAIL

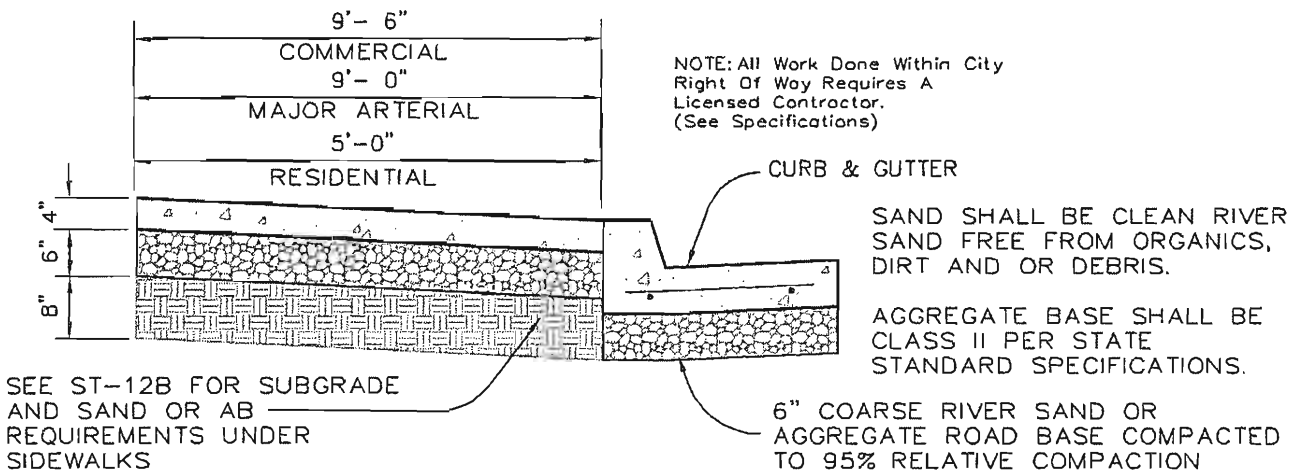
NOTES:

1. TOP OF CURB TO BE TROWELED AND HAVE A LIGHT BRUSH FINISH. GUTTER TO BE TROWELED AND HAVE LIGHT BRUSH FINISH.
2. 1/4" TO 1/2" FELT EXPANSION JOINT TO BE PLACED AT ALL CURVE RETURNS AND DEEP SCORE JOINTS PLACED AT A MAXIMUM OF 10 FEET.
3. SAND SHALL BE A CLEAN RIVER SAND FREE FROM ORGANICS, DIRT AND OR DEBRIS.
4. AGGREGATE BASE SHALL BE CLASS II PER STATE STANDARD SPECIFICATIONS.
5. FOR CONTINUOUS MACHINE CURB & GUTTER, THE #3 TIES @ 36" O.C. MAY BE DELETED IF THE CONCRETE MIX INCLUDES A MINIMUM OF 1 LB. PER YARD OF CONCRETE NYLON PROCONM FIBER.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
9-25-07	CURB & GUTTER	ST-11



PLAN OF SIDEWALK, CURB & GUTTER, SCRIBE LINE DETAILS



SECTION OF SIDEWALK AND CURB

(EXCEPT THROUGH ALLEY AND DRIVE APPROACHES)

NOTES:

1. WEAKENED PLANE JOINTS SHALL BE INSTALLED IN SIDEWALK AND CURB & GUTTER AT 10' O.C. MAXIMUM.
2. EXPANSION JOINTS SHALL BE INSTALLED IN SIDEWALK AT 40' O.C. MAXIMUM.
3. EXPANSION JOINTS SHALL BE INSTALLED IN SIDEWALK AND CURB & GUTTER AT ALL CURB RETURNS.
4. SEE ST-12B FOR SUBGRADE AND SAND OR AGGREGATE ROAD BASE PLACED UNDER SIDEWALKS.
5. SIDEWALK, CURB AND GUTTER TO BE CONSTRUCTED WITH 6 SACK CONCRETE.

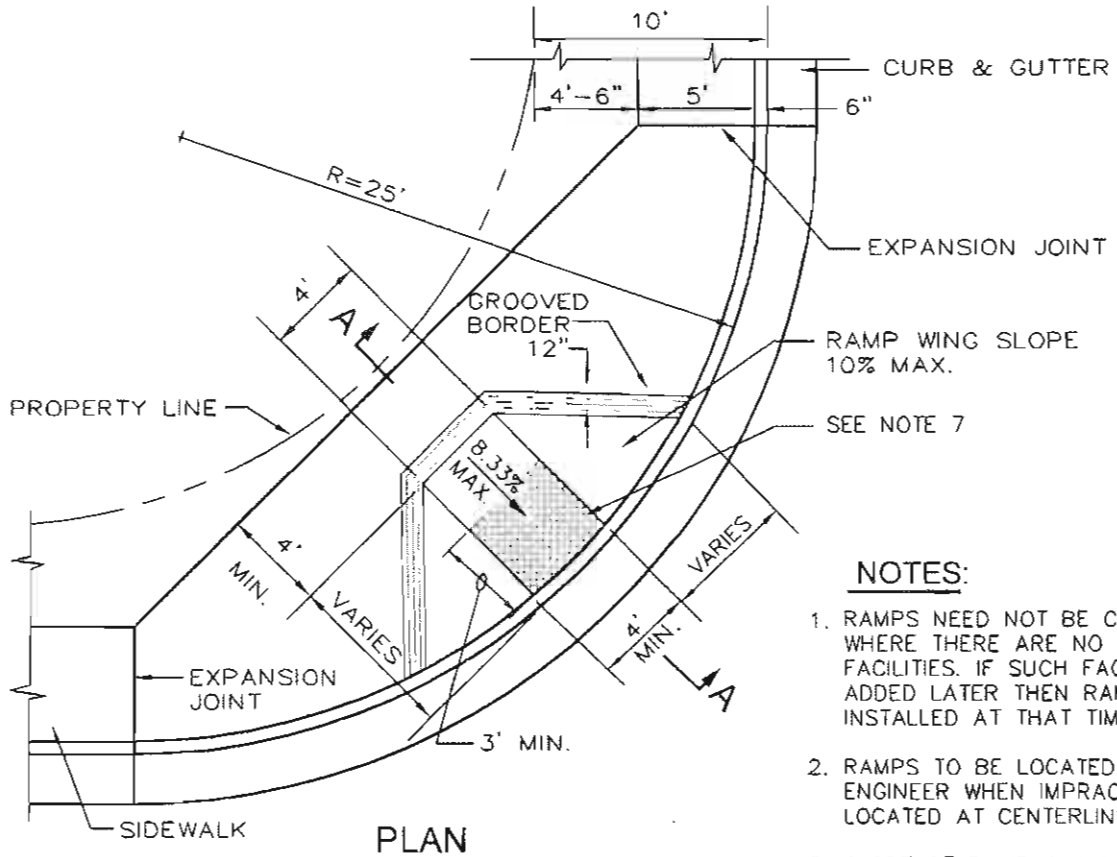
REVISION DATE		CITY OF MENDOTA	STD. DWG.
9-25-07		CURB, GUTTER, & SIDEWALK	ST-12A

COMPACTION CRITERIA

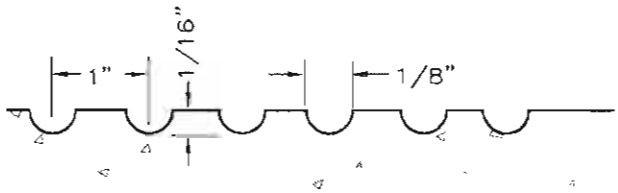
SUBGRADE SOIL UNDER SIDEWALKS, RAMPS AND RESIDENTIAL DRIVE APPROACHES SHALL BE MOISTURE CONDITIONED AND COMPACTED TO A DEPTH OF 8 INCHES AS SHOWN IN FOLLOWING TABLE. MOISTURE CONDITIONING AND COMPACTING SHALL BE BASED UPON THE EXPANSION POTENTIAL OF THE NATIVE SOIL. A MINIMUM OF 6" OF SAND OR CLASS II AGGREGATE BASE SHALL BE REQUIRED BETWEEN THE SUBGRADE AND SIDEWALK, RAMP OR RESIDENTIAL DRIVE APPROACH. THE SAND OR AGGREGATE BASE SHALL HAVE A MINIMUM COMPACTION EQUIVALENT TO THE SUBGRADE. IN THE ABSENCE OF A SOILS REPORT, A PLASTICITY INDEX (PI) OF GREATER THAN 25 SHALL BE USED. COMPACTION TESTS WILL BE REQUIRED AT LOCATIONS DESIGNATED BY AND SUPERVISED BY THE CITY, AND PAID FOR BY THE PROPERTY OWNER.

EXPANSION POTENTIAL OF SOILS		RELATIVE COMPACTION (MIN.–MAX.)	MINIMUM MOISTURE CONDITIONING (% OVER OPTIMUM)
PI	EI		
< 9	< 20	90%	+ 0%
9 TO 15	21 – 40	90 – 95%	+ 3%
16 TO 25	41 – 80	88 – 92%	+ 4%
> 25	> 80	88 – 92%	+ 5%

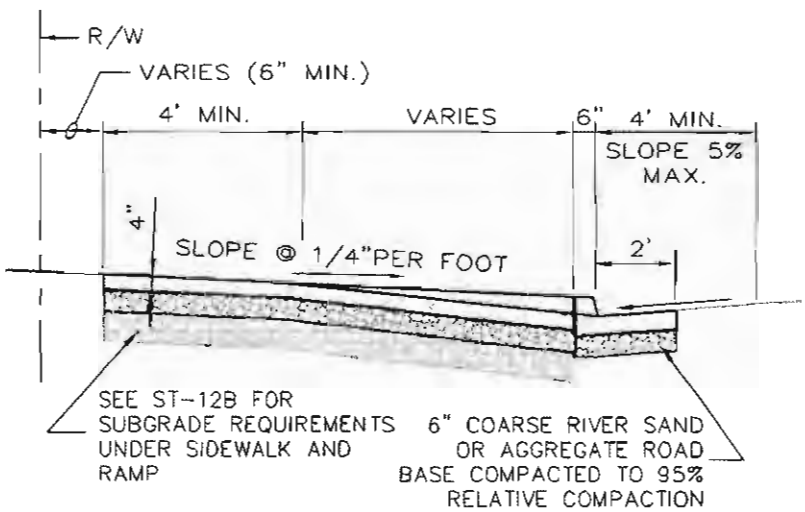
REVISION DATE		CITY OF MENDOTA	STD. DWG.
9-25-07		SUBGRADE PREPARATION UNDER SIDEWALKS AND RESIDENTIAL DRIVE APPROACHES	ST-12B



PLAN



GROOVING DETAIL

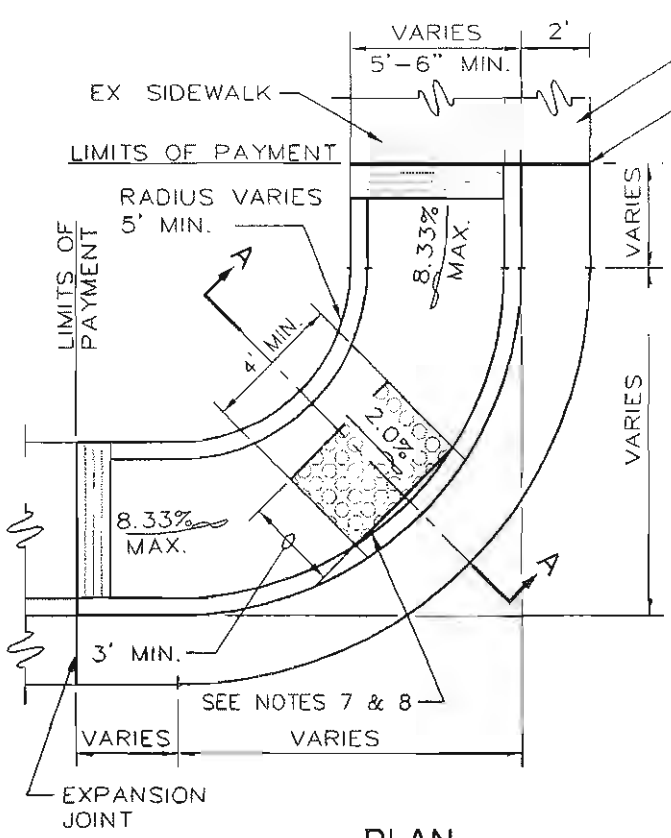


SECTION A - A

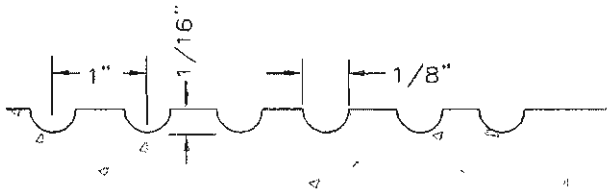
NOTES:

1. RAMPS NEED NOT BE CONSTRUCTED WHERE THERE ARE NO PEDESTRIAN FACILITIES. IF SUCH FACILITIES ARE ADDED LATER THEN RAMPS MUST BE INSTALLED AT THAT TIME.
2. RAMPS TO BE LOCATED BY THE CITY ENGINEER WHEN IMPRACTICAL TO BE LOCATED AT CENTERLINE OF RADIUS.
3. SLOPE OF RAMP SHALL NOT EXCEED 1:12. THE SLOPE OF FLARED SIDES SHALL NOT EXCEED 1:10.
4. A LEVEL LANDING 4' DEEP (MIN.) SHALL BE PROVIDED AT THE UPPER END OF EACH RAMP.
5. THE RAMP SHALL HAVE A 12" WIDE GROOVED BORDER AT LEVEL SURFACE OF SIDEWALK. SEE GROOVING DETAIL. THE RAMP WINGS SHALL HAVE A BROOMED SURFACE TEXTURE CONTRASTING TO THE SURROUNDING SIDEWALK.
6. RAMP SIDE SLOPE VARIES UNIFORMLY FROM A MAXIMUM OF UP TO 10% AT THE CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO THE TOP OF THE RAMP.
7. ALL CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND A MINIMUM 3' DEPTH OF THE RAMP, PER CALTRANS STANDARD DETAIL PLATE A88A, WHICH CONSISTS OF RAISED TRUNCATED DOMES 0.2" HIGH BY 1.6"-2.4" O.C.

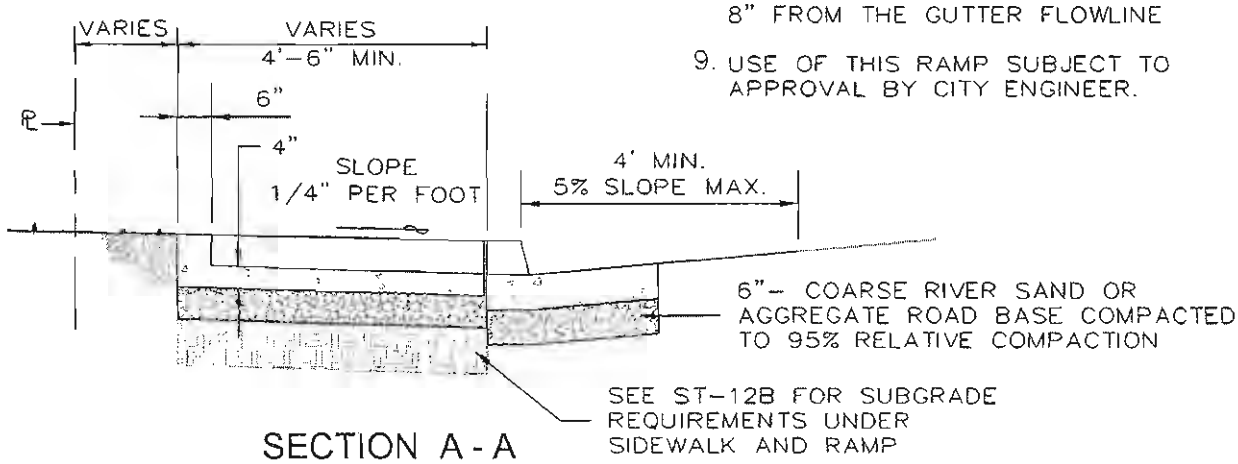
REVISION DATE		CITY OF MENDOTA	STD.DWG.
1-23-03		CURB RAMP-TYPE A	ST-13A
7-2-04			
6-23-09			



PLAN



GROOVING DETAIL

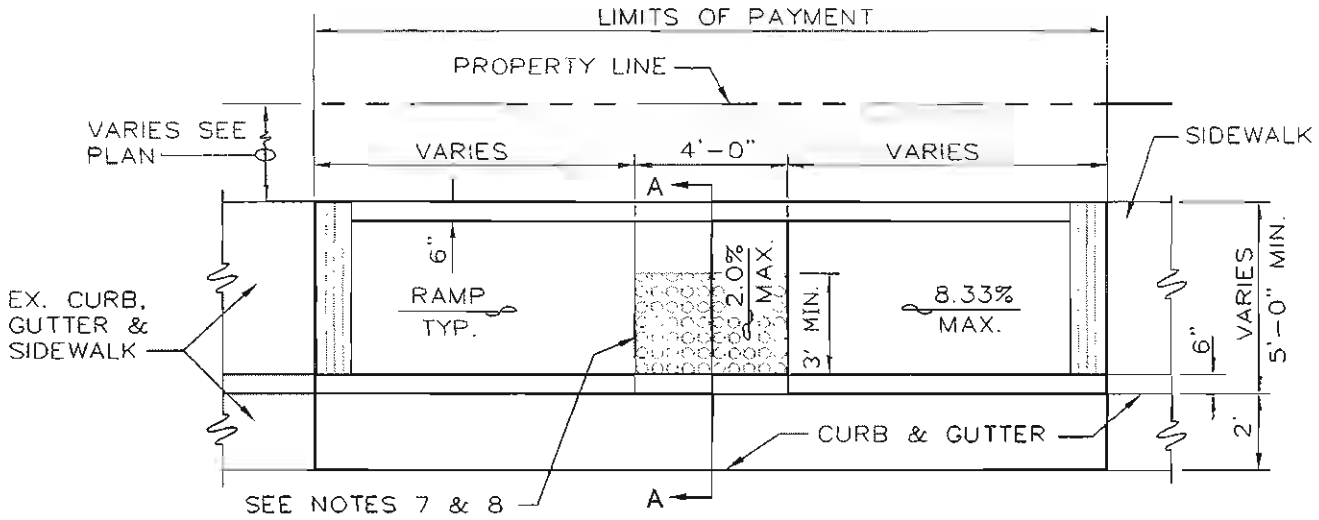


SECTION A - A

NOTES:

1. RAMPS NEED NOT BE CONSTRUCTED WHERE THERE ARE NO PEDESTRIAN FACILITIES. IF SUCH FACILITIES ARE ADDED LATER THEN RAMPS MUST BE INSTALLED AT THAT TIME.
2. RAMPS TO BE LOCATED BY THE CITY ENGINEER WHEN IMPRACTICAL TO BE LOCATED AT CENTERLINE OF RADIUS.
3. SLOPE OF RAMP SHALL NOT EXCEED 1:12.
4. A LANDING 4' DEEP (MIN.) WITH A SLOPE OF 2% SHALL BE PROVIDED ADJACENT TO CURB RETURN. LANDING SHALL HAVE A BROOM FINISH.
5. THE RAMP SHALL HAVE A 12" WIDE GROOVED BORDER AT LEVEL SURFACE OF SIDEWALK. SEE GROOVING DETAIL. THE RAMP SHALL HAVE A BROOMED SURFACE TEXTURE CONTRASTING TO THE SURROUNDING SIDEWALK.
6. RAMP SIDE SLOPE SHALL BE 2% ALL DEVIATIONS SHALL BE APPROVED BY THE CITY ENGINEER.
7. ALL CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND A MINIMUM 3' DEPTH OF THE CURB RAMP, PER CALTRANS STANDARD DETAIL PLATE A88A, WHICH CONSISTS OF RAISED TRUNCATED DOMES 0.2" HIGH BY 1.6 – 2.4" O.C.
8. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE
9. USE OF THIS RAMP SUBJECT TO APPROVAL BY CITY ENGINEER.

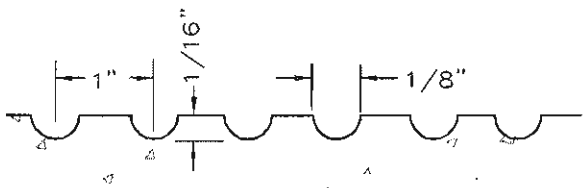
REVISION DATE		CITY OF MENDOTA	STD.DWG.
1-23-03		CURB RAMP-TYPE B	ST-13B
7-2-04			
6-23-09			



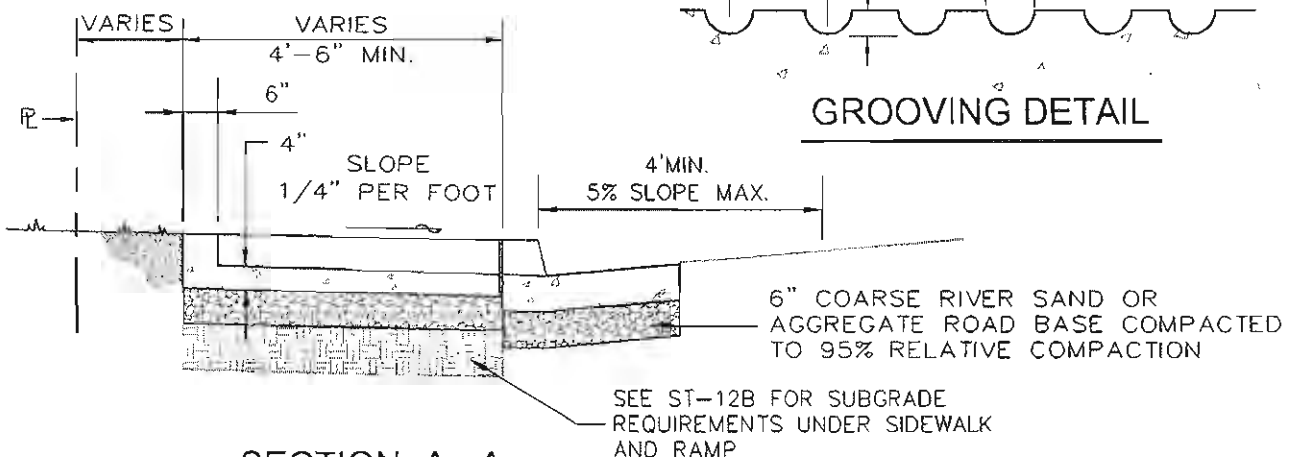
PLAN

NOTES:

1. RAMPS NEED NOT BE CONSTRUCTED WHERE THERE ARE NO PEDESTRIAN FACILITIES. IF SUCH FACILITIES ARE ADDED LATER THEN RAMPS MUST BE INSTALLED AT THAT TIME.
2. RAMPS TO BE LOCATED BY THE CITY ENGINEER.
3. SLOPE OF RAMP SHALL NOT EXCEED 1:12.
4. A LANDING 4' DEEP (MIN.) WITH A SLOPE OF 2% SHALL BE PROVIDED ADJACENT TO CURB. LANDING SHALL HAVE A BROOM FINISH.
5. THE RAMP SHALL HAVE A 12" WIDE GROOVED BORDER AT LEVEL SURFACE OF SIDEWALK. SEE GROOVING DETAIL. THE RAMP SHALL HAVE A BROOMED SURFACE TEXTURE CONTRASTING TO THE SURROUNDING SIDEWALK.
6. RAMP SIDE SLOPE SHALL BE 2% ALL DEVIATIONS SHALL BE APPROVED BY THE CITY ENGINEER.
7. ALL CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND A MINIMUM 3' DEPTH OF THE CURB RAMP, PER CALTRANS STANDARD DETAIL PLATE A88A, WHICH CONSISTS OF RAISED TRUNCATED DOMES 0.2" HIGH BY 1.6 – 2.4" O.C.
8. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE
9. USE OF THIS RAMP SUBJECT TO APPROVAL BY CITY ENGINEER.

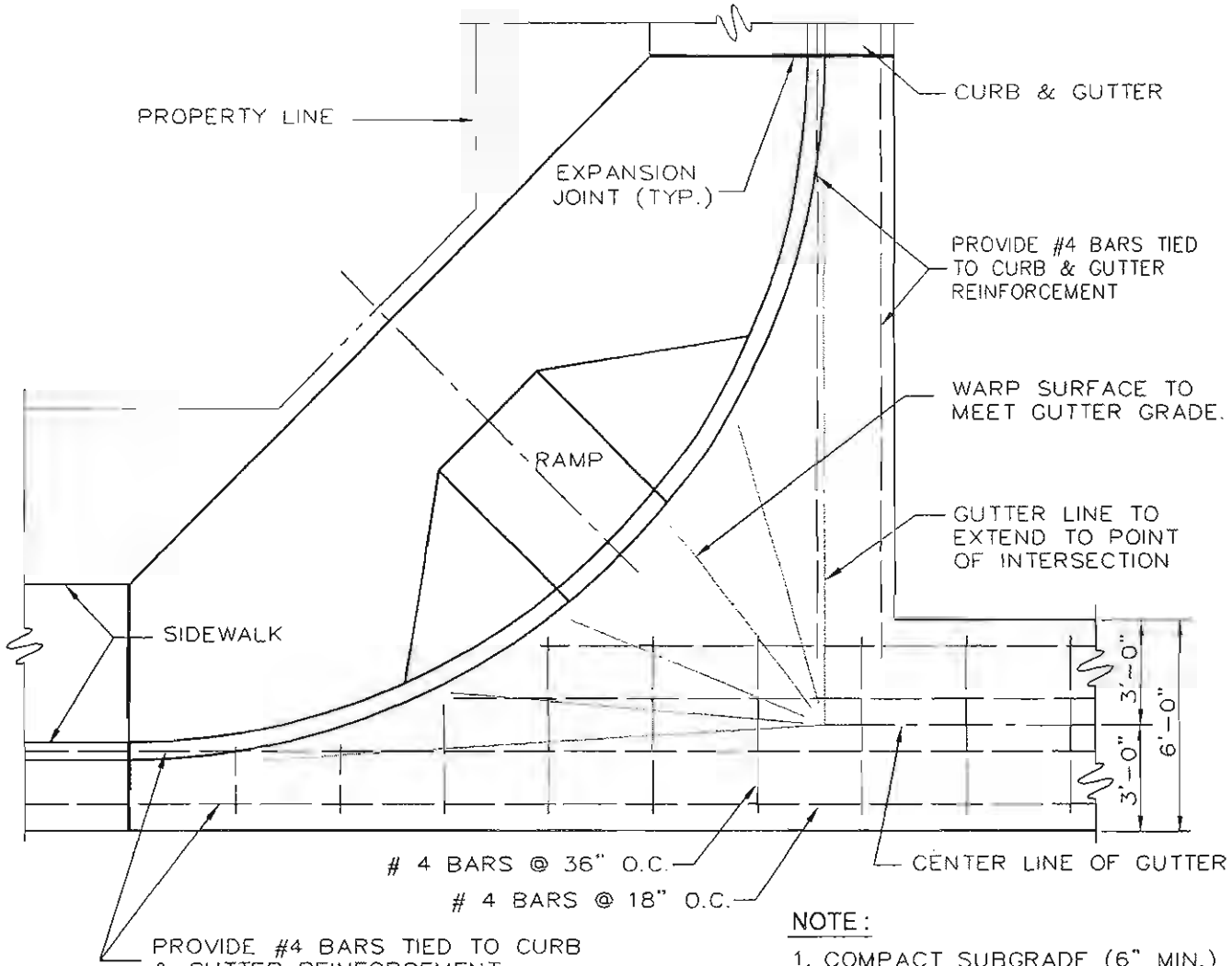


GROOVING DETAIL



SECTION A - A

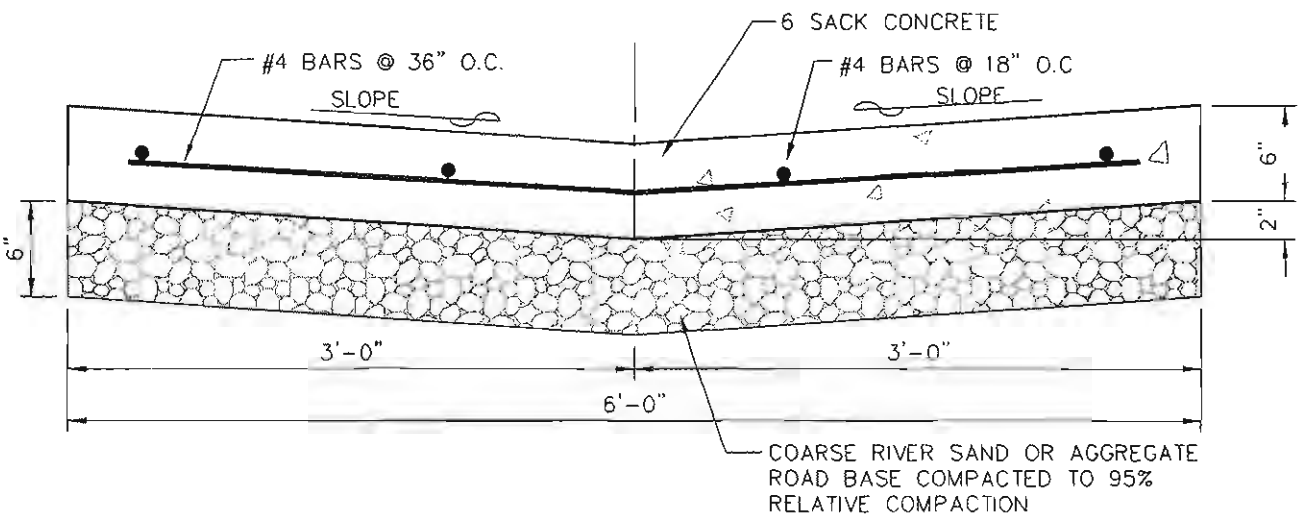
REVISION DATE		CITY OF MENDOTA	STD.DWG.
1-23-03		CURB RAMP-TYPE C	ST-13C
7-2-04			
6-23-09			



NOTE:

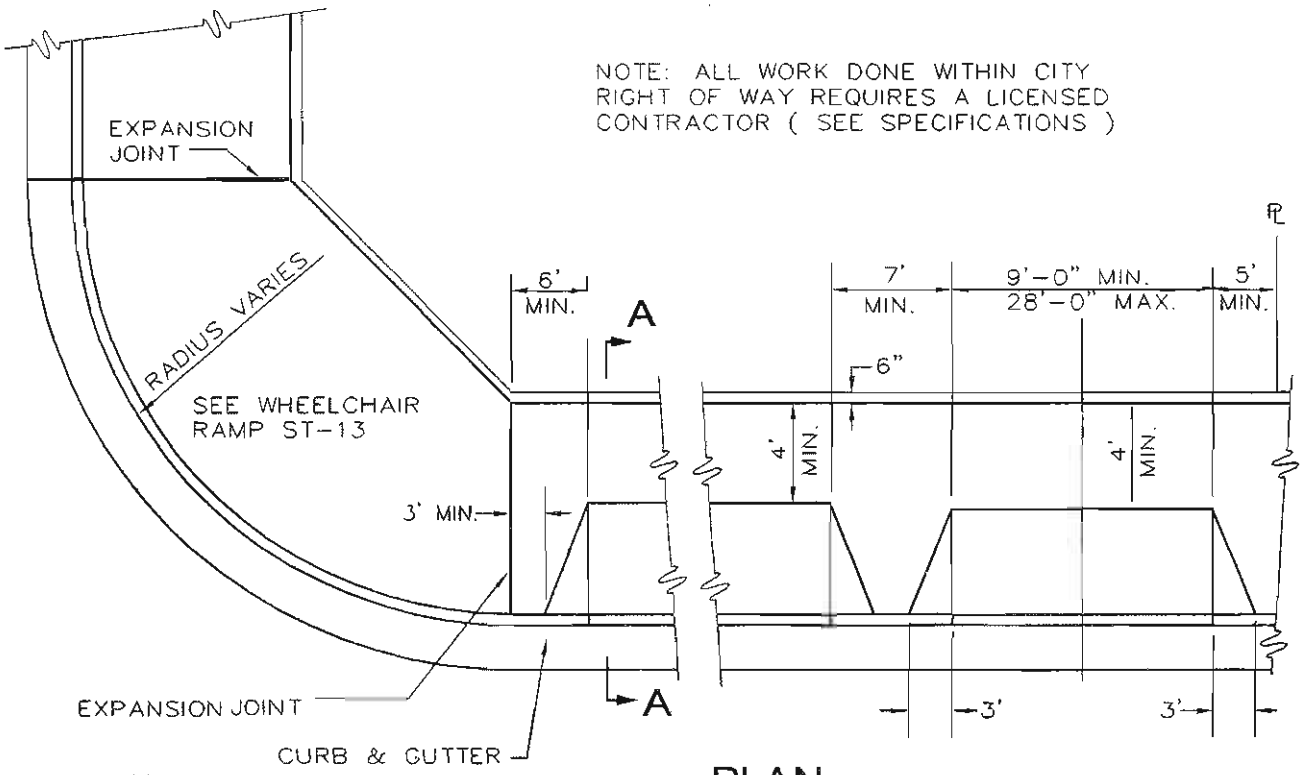
1. COMPACT SUBGRADE (6" MIN.) TO 95% RELATIVE COMPACTION PER ASTM D-2937 & D-1557.

PLAN

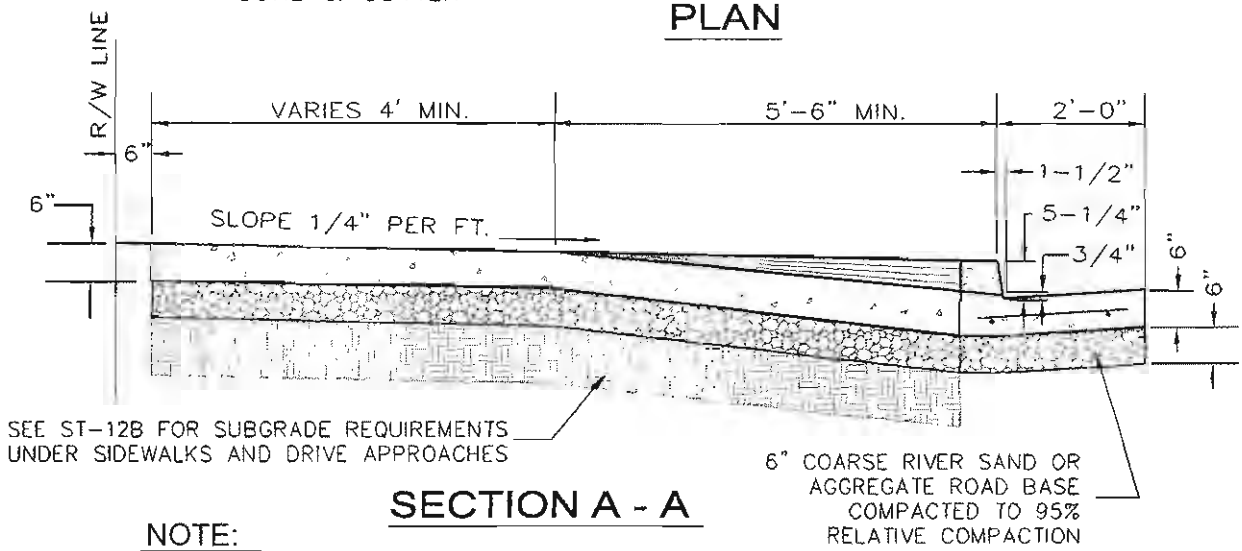


SECTION

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
6-23-09	CONCRETE VALLEY GUTTER STREET INTERSECTION	ST-14



PLAN



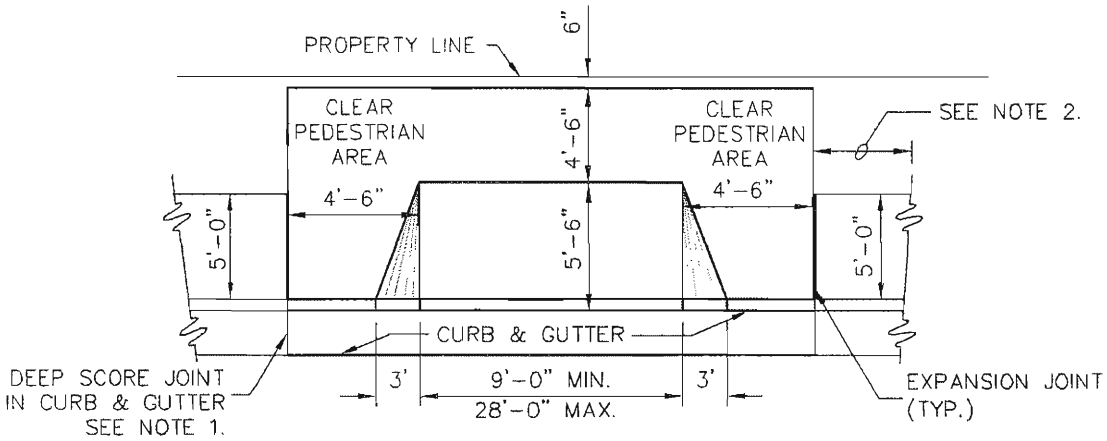
SECTION A - A

NOTE:

1. NOT MORE THAN 60% OF THE PROPERTY FRONTAGE MAY BE USED FOR DRIVEWAY OPENING.
2. DRIVEWAY WING SHALL BE A MINIMUM OF 3' FROM THE END OF THE CURB RETURN.
3. ALL CONSTRUCTION SHALL BE 6 SACK CONCRETE.
4. SEE STANDARD ST-15 SHEET 2 OF 2 FOR COMBINATION SIDEWALK APPROACH.
5. SAND SHALL BE A CLEAN RIVER SAND FREE FROM ORGANICS, DIRT AND OR DEBRIS.
6. AGGREGATE BASE SHALL BE CLASS II PER STATE STANDARD SPECIFICATIONS.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
6-23-09	RESIDENTIAL DRIVE APPROACH	ST-15
		1 OF 2

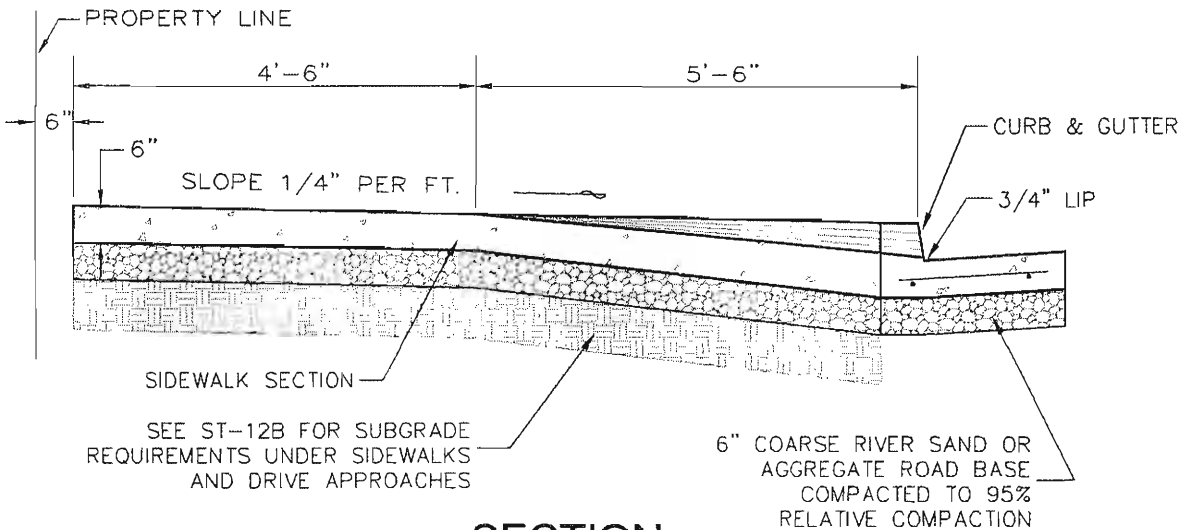
NOTE: ALL WORK DONE WITHIN CITY RIGHT OF WAY REQUIRES A LICENSED CONTRACTOR (SEE SPECIFICATIONS)



PLAN

NOTES:

1. CONSTRUCTION OF NEW DRIVEWAYS WITHIN AREAS OF EXISTING IMPROVEMENTS SHALL BE SAWCUT AT THE EXPANSION JOINT LOCATION.
2. IN RESIDENTIAL AREAS WHERE DRIVE APPROACHES ARE PAIRED, THE ADA SIDEWALK BEHIND DRIVE APPROACH SHALL BE CONTINUOUS BETWEEN APPROACHES.



SECTION

REVISION DATE		CITY OF MENDOTA	STD.DWG.
6-23-09		RESIDENTIAL DRIVE APPROACH COMBINATION SIDEWALK- APPROACH	ST-15 2 OF 2

REVISION DATE

6-23-09

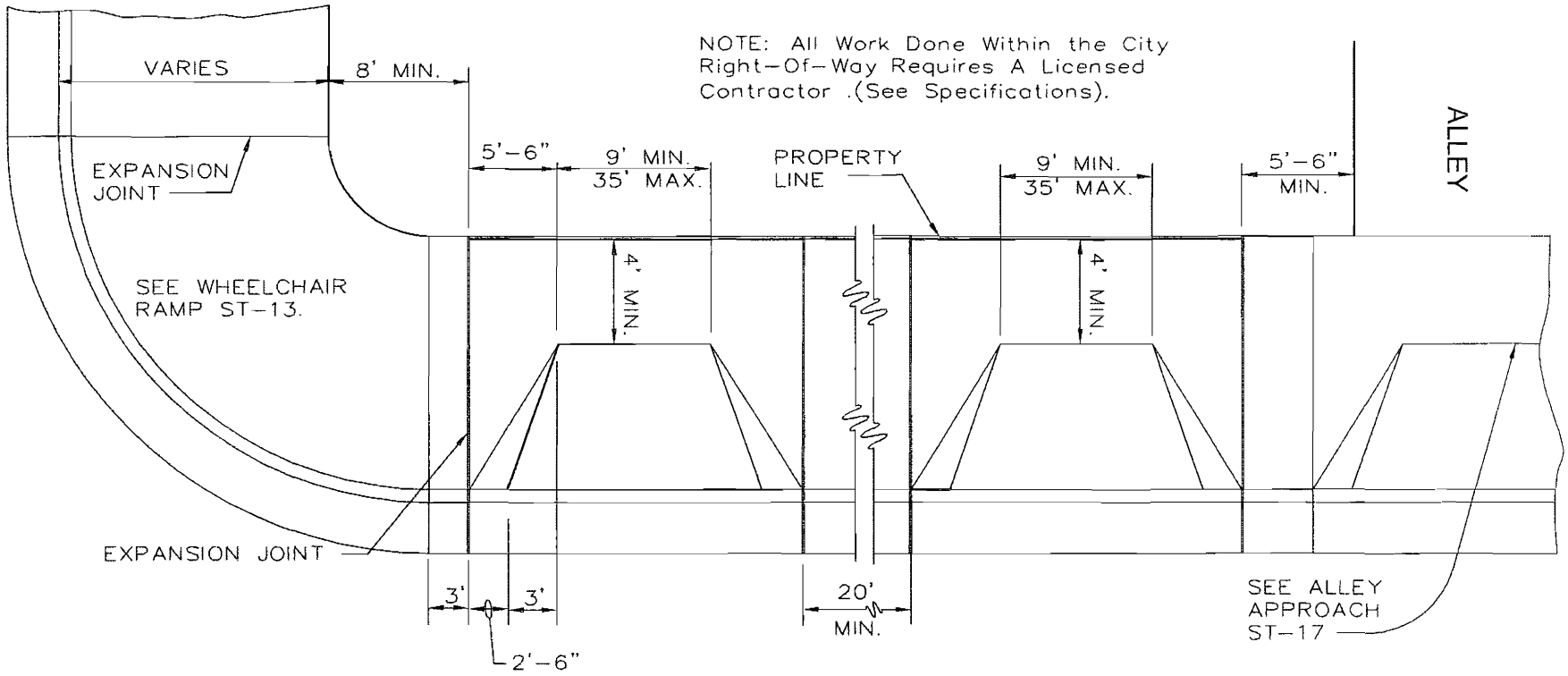
CITY OF MENDOTA

COMMERCIAL DRIVE APPROACH

STD.DWG.

ST-16

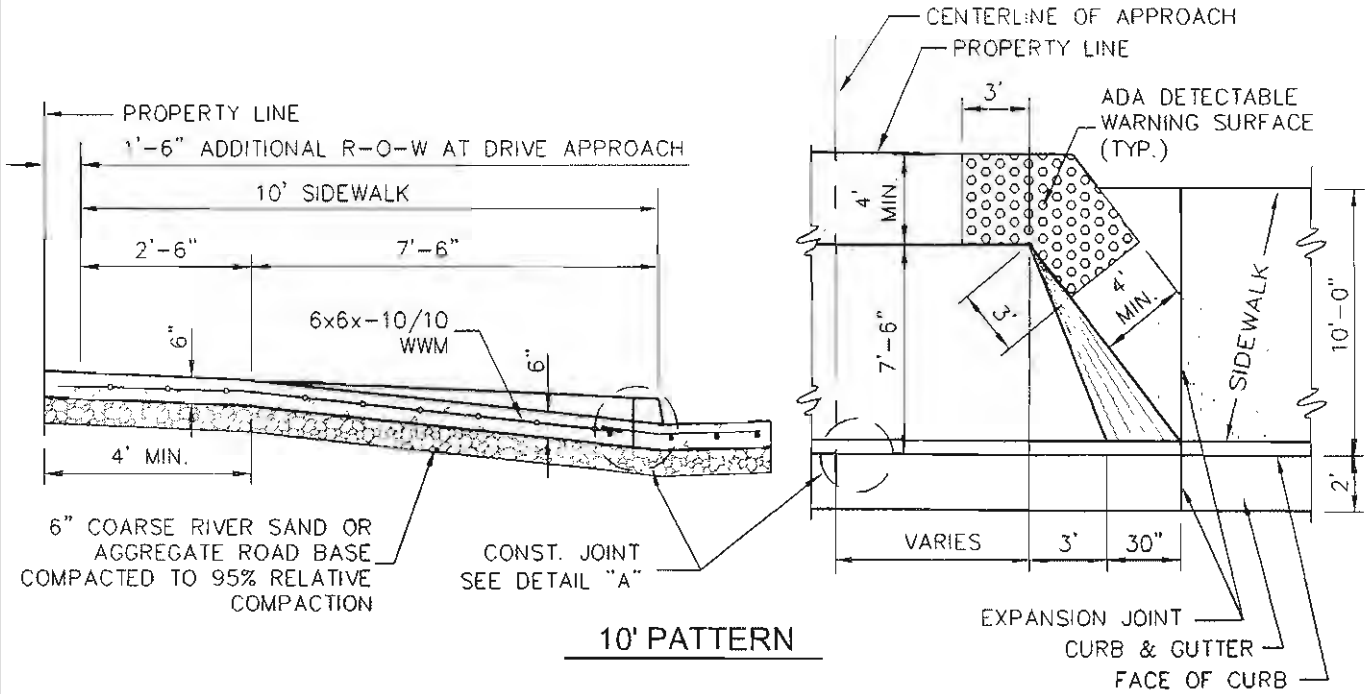
1 OF 3



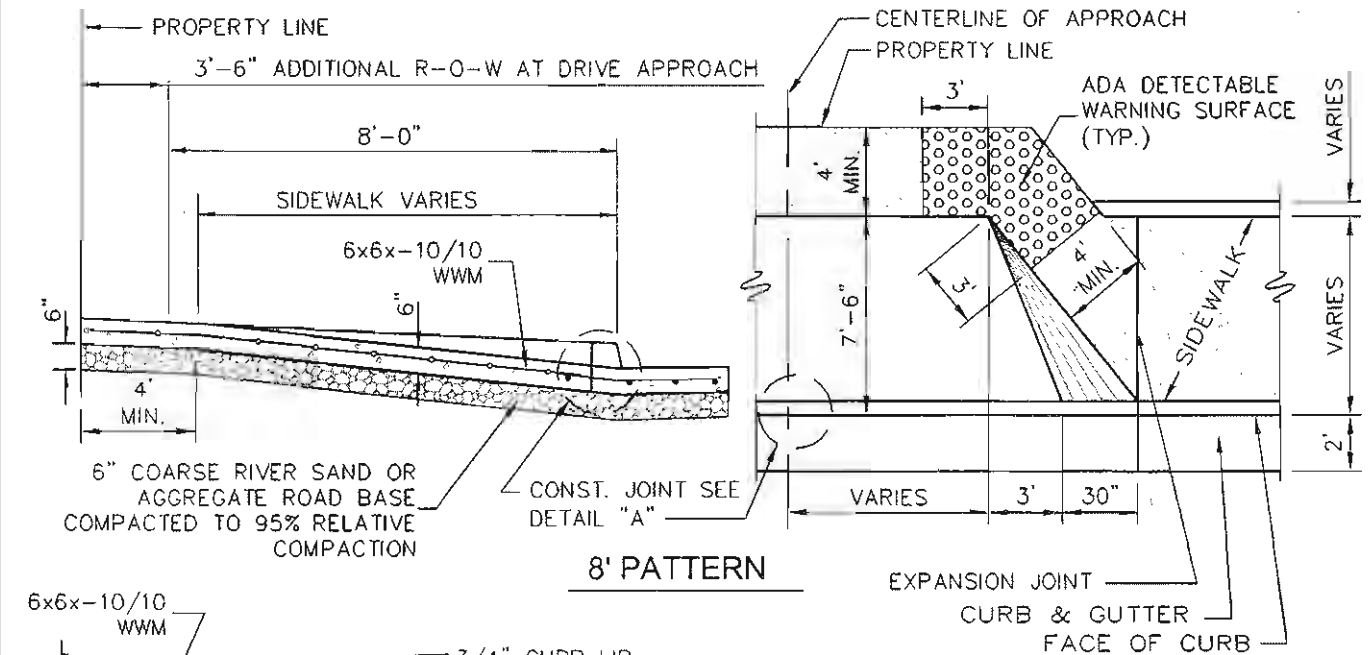
STANDARD COMMERCIAL CURB, GUTTER AND SIDEWALK

NOTES:

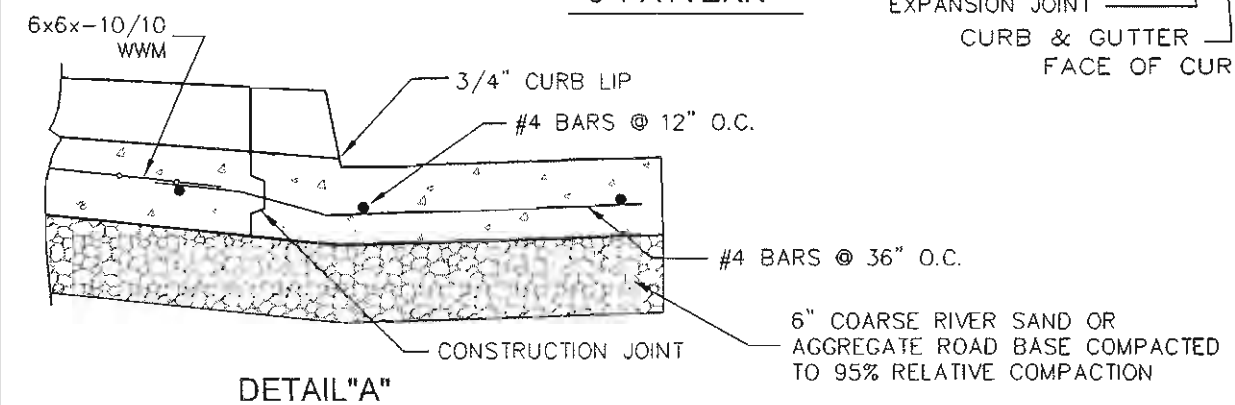
1. NOT MORE THAN 60% OF PROPERTY FRONTAGE MAY BE USED FOR DRIVEWAY OPENINGS.
2. END OF DRIVEWAY WING SHALL BE 8' MINIMUM FROM STREET RIGHT-OF-WAY AND 3' MINIMUM FROM END OF CURB RETURN.
3. ALL CONSTRUCTION SHALL BE 6 SACK PER CUBIC YARD CONCRETE.
4. STANDARD COMMERCIAL DRIVE APPROACH FOR T.I. OF 6-7 OR LESS.
5. HEAVY COMMERCIAL DRIVE APPROACHES SEE STANDARD ST-16 SHEET 3 OF 3. FOR MINIMUM REQUIREMENTS.
6. ADDITIONAL RIGHT-OF-WAY SHALL BE TAKEN AT DRIVE APPROACHES TO ACCOMMODATE ADA REQUIREMENTS FOR PASSAGE BEHIND DRIVEWAY RAMPS.



10' PATTERN



8' PATTERN



DETAIL"A"

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
6-23-09		COMMERCIAL DRIVE APPROACH	ST-16
			2 OF 3

HEAVY COMMERCIAL AND INDUSTRIAL DRIVE APPROACHES STANDARD FOR TRAFFIC INDEX EXCEEDING 7

NOTES:

1. MINIMUM REINFORCEMENT SHALL BE #4 BARS AT 12 INCHES O.C. BOTH WAYS.
2. BASEMENT SOIL MATERIAL R-VALUE SHALL NOT BE LESS THAN 40 TESTED BY A QUALIFIED TESTING LABORATORY.
3. THE MINIMUM THICKNESS SHALL BE AS FOLLOWS:

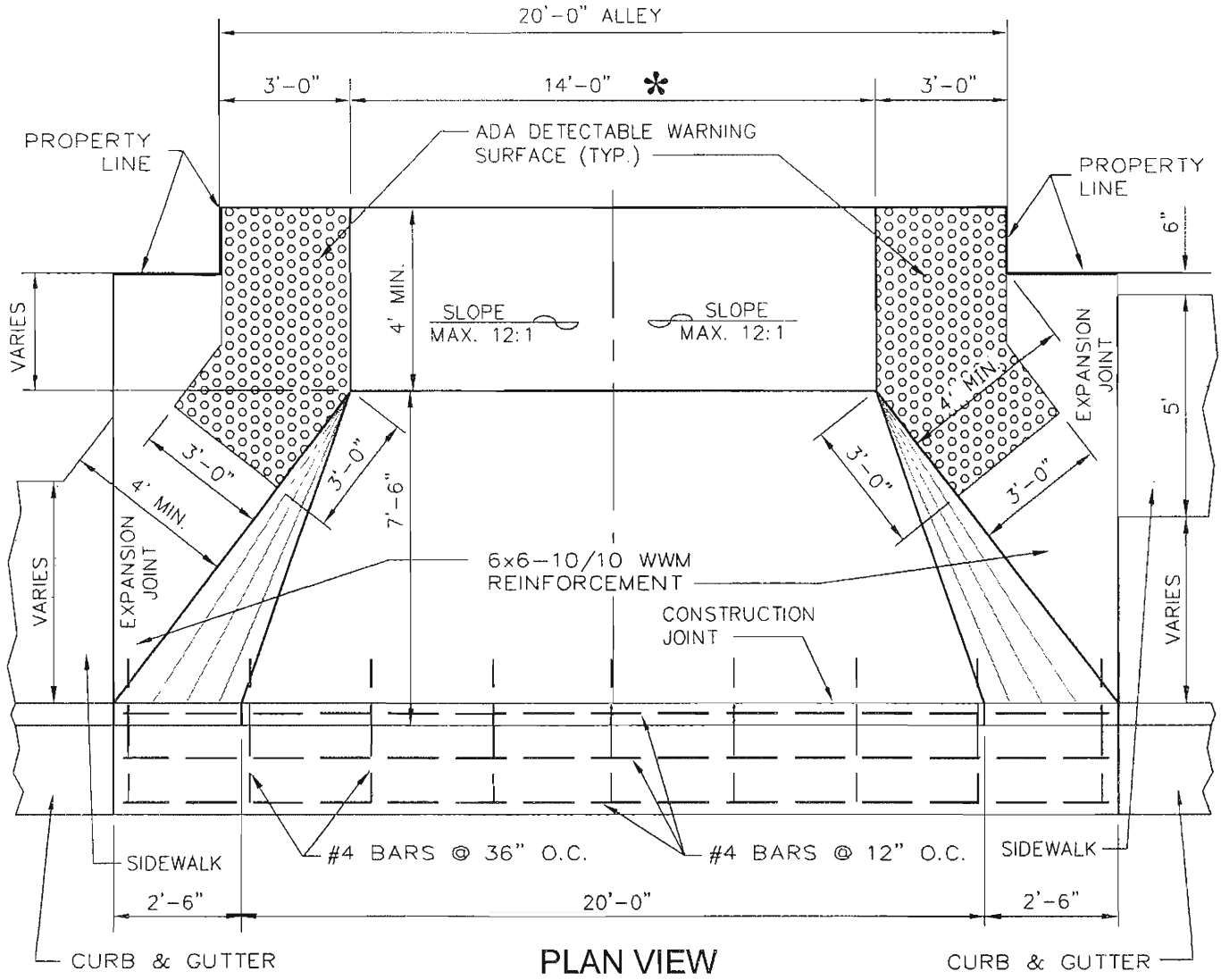
T.I.	PCCP MM - INCHES	TREATED PERMEABLE BASE[1] (ATPB) (CTPB) MM - INCHES	AGGREGATE BASE (AB) MM - INCHES	AGGREGATE SUBBASE (AS) MM - INCHES	BASE [2] LCB, ACB MM - INCHES
7 1/2 – 8	185 7 1/4	105 4	105 4	–	105 4
8 1/2 – 10	215 8 1/2	105 4	120 4 3/4	–	120 4 3/4
10 1/2 – 12	230 9	105 4	120 4 3/4	–	120 4 3/4
12 +	260 10 1/4	105 4	105 4	105 4	150 6

1. THE STANDARD THICKNESS UNDER PCCP FOR BOTH ATPB AND CTPB IS 105 MM WHICH ALLOWS THE CONTRACTOR THE OPTION TO CHOOSE THE MOST ECONOMICAL BASE.
2. CTPB WITH A 30 MM OGAC CAP MAY BE USED ONLY UNDER SPECIAL CONDITIONS WITH THE APPROVAL OF THE CITY ENGINEER.

LEGEND

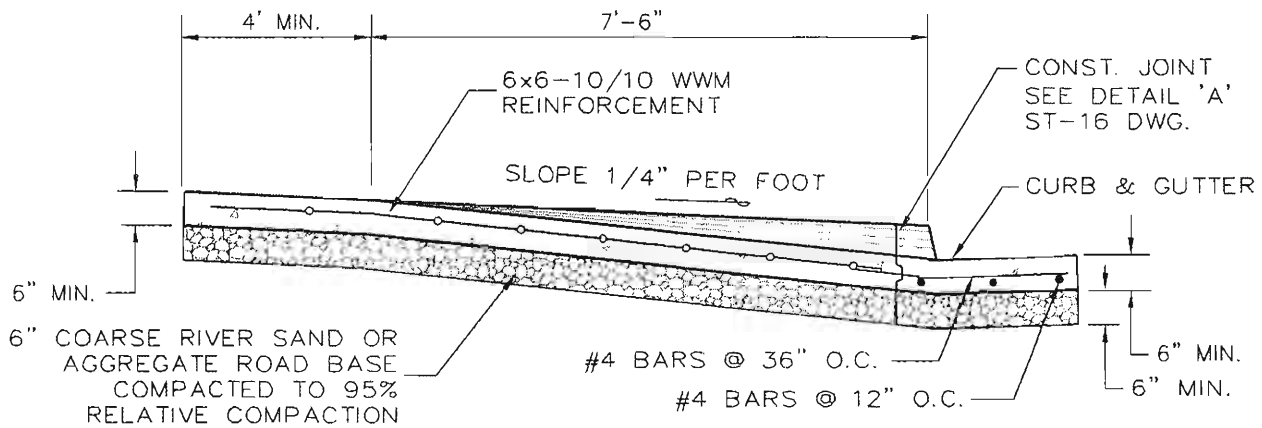
LCB = LEAN CONCRETE BASE
ACB = ASPHALT CONCRETE BASE
ATPB = ASPHALT TREATED PERMEABLE BASE
CTPB = CEMENT TREATED PERMEABLE BASE
AB = AGGREGATE BASE
AS = AGGREGATE SUBBASE
PCCP = PORTLAND CEMENT CONCRETE PAVEMENT
OGAC = OPEN GRADED ASPHALT CONCRETE

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
6-23-09		COMMERCIAL DRIVE APPROACH	ST-16 3 OF 3



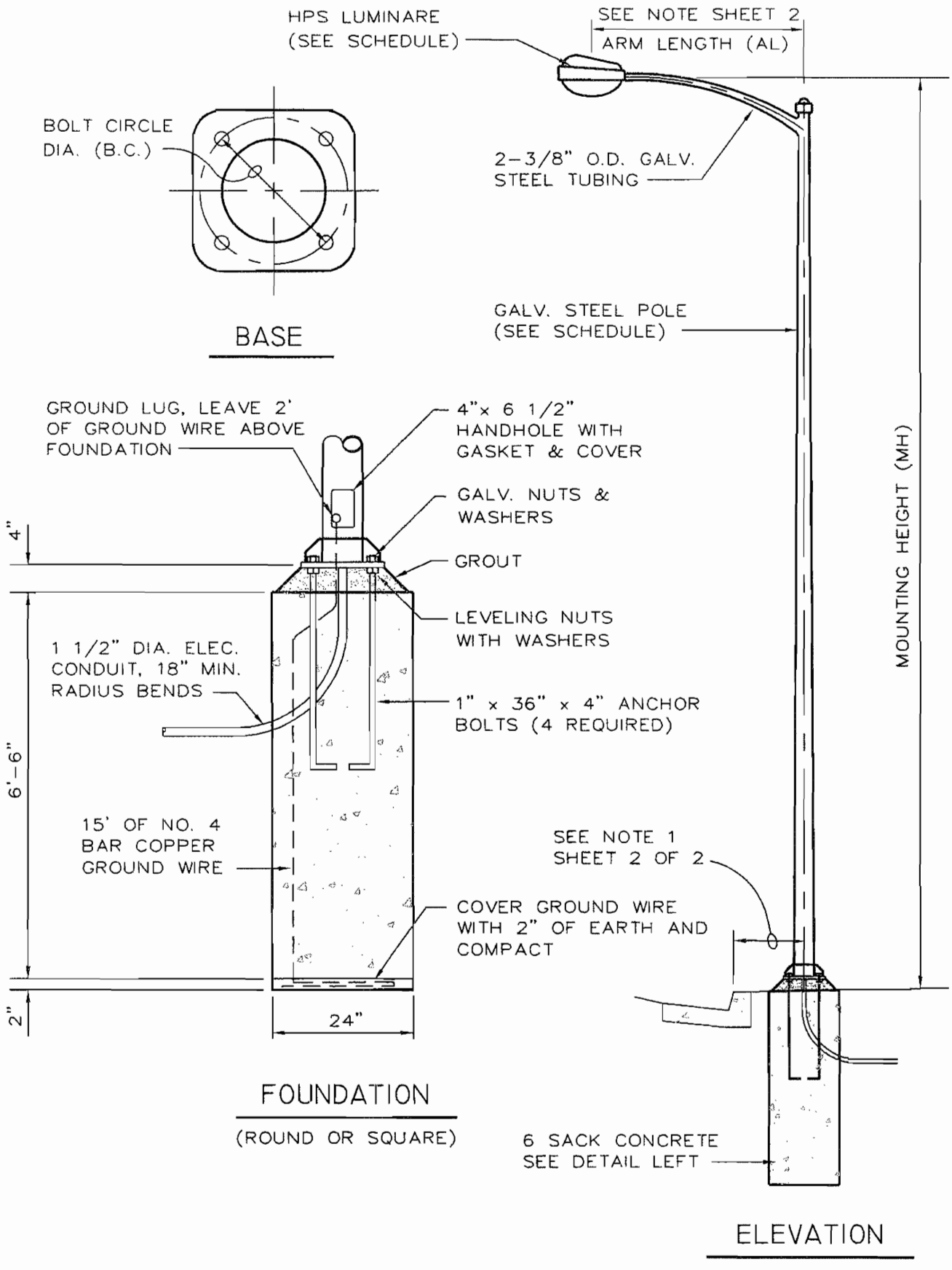
PLAN VIEW

* FOR STREET WITH LESS THAN A 10 FOOT CURB PATTERN SHALL BE ENGINEERED FOR ADA REQUIREMENTS



SECTION AT CENTERLINE

REVISION DATE		CITY OF MENDOTA	STD.DWG.
6-23-09		ALLEY APPROACH	ST-17



REVISION DATE	CITY OF MENDOTA	STD. DWG.
	STREET LIGHT ELECTROLIERS	ST-18 1 OF 2

STREET LIGHT ELECTROLIERS

NOTES:

1. IN RESIDENTIAL AREAS HAVING CONTIGUOUS SIDEWALKS, POLES SHALL BE CENTERED 12" BEHIND REAR EDGE OF SIDEWALK AND ELECTROLIERS SHALL HAVE 8'-0" ARM LENGTH (AL). IN ALL OTHER CONDITIONS POLE SHALL BE CENTERED 2'-0" FROM FACE CURB.

2. LUMINARIES SHALL BE HIGH PRESSURE SODIUM CONFORMING TO ANSI C78, WITH POLYCARBONATE REFRACTORS AND NEMA STANDARD PHOTOELECTRIC UNITS.

3. RESIDENTIAL
ONE ELECTROLIER SHALL BE LOCATED AT EACH INTERSECTION. SEE SCHEDULE FOR INTERMEDIATE SPACING REQUIREMENTS.

   COLLECTOR ARTERIAL AND EXPRESSWAY
SHALL HAVE ONE ELECTROLIER LOCATED AT EACH OF (4) CORNERS OF EACH INTERSECTION. SEE SCHEDULE FOR REQUIREMENTS.

4. WIRING SHALL BE MINIMUM #8 COPPER, THW INSULATION, ENCLOSED IN APPROVED ELECTRICAL CONDUITS.

5. ALL SPLICES SHALL BE WATERTIGHT AND MADE IN APPROVED JUNCTION BOXES.

6. PULL BOXES SHALL BE 12" X 22" REINFORCED CONCRETE WITH REINFORCED CONCRETE LIDS MARKED "STREET LIGHTING". BOXES SHALL BE SET ON 6" OF CRUSHED ROCK AND FLUSH WITH FINISH GRADE. CONDUIT ENTRIES SHALL BE SEALED WITH GROUT. BONDING JUMPER AND GROUNDING BUSHINGS SHALL BE CONNECTED TO EACH CONDUIT. WHEN PULL BOXES ARE INSTALLED IN TRAFFIC AREAS, BOXES SHALL HAVE A CONCRETE FOUNDATION AND STEEL TRAFFIC LID.

7. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL SYSTEM INCLUDING ALL MATERIALS AND LABOR. ALL INSTALLATION AN CONNECTION CHARGES SHALL BE PAID BY THE CONTRACTOR.

8. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE CITY ENGINEER AND SHALL BE TESTED AT THE CONTRACTOR'S EXPENSE FOR PROPER OPERATION, PRIOR TO FINAL APPROVAL AND ACCEPTANCE.

9. THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS SHOWING THE LOCATIONS OF ALL CONDUITS AND PULL BOXES PRIOR TO FINAL APPROVAL AND ACCEPTANCE.

STREET WIDTH	STREET TYPE	MH	AL	BC	POLE SIZE	LUMINARE VOLTS-WATTS		POLE SPACING
60'	RESIDENTIAL	26'-0"	6'-0"	10"	7.0"X3.5"X25'-0", 11GA.	120	100	180'-240'
80'	MAJOR COLLECTOR	29'-6"	8'-0"	11"	7.5"X3.5"X28'-6", 11GA.	120	150	180'-220'
84'	MAJOR ARTERIAL	31'-0"	8'-0"	11"	8.0"X3.8"X30'-0", 11GA.	120	250	160'-200'
106'	EXPRESSWAY	31'-0"	8'-0"	11"	8.0"X3.8"X30'-0", 11GA.	120	250	150'-180'

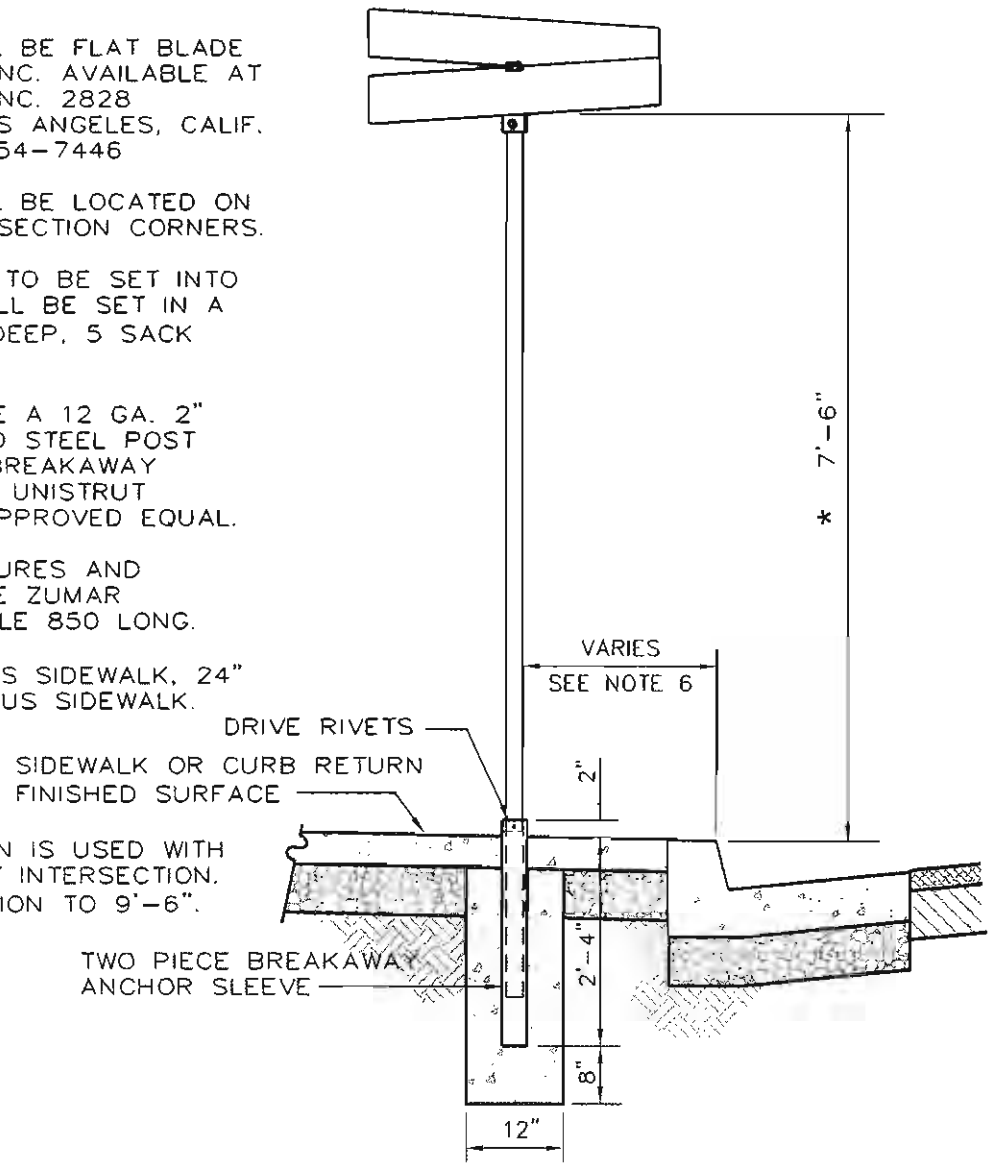
REVISION DATE	CITY OF MENDOTA	STD. DWG.
	STREET LIGHT ELECTROLIERS	ST-18
		2 OF 2

SIGN SHALL BE 0.080 THICK 5052-H38 ALUMINUM WITH GREEN ENGINEER GRADE REFLECTIVE SHEETING BACKGROUND AND WHITE ENGINEER GRADE REFLECTIVE SHEETING LETTERS, DOUBLE FACED. (STREETS NAMED FOR MILITARY VETERANS, SHALL BE PRECEDED BY A SOLID WHITE FIVE POINTED STAR).

NOTES

1. STREET SIGNS SHALL BE FLAT BLADE ZUMAR INDUSTRIES INC. AVAILABLE AT ZUMAR INDUSTRIES INC. 2828 STANDFORD AVE. LOS ANGELES, CALIF. 90011 PH. 1-800-654-7446
2. STREET SIGNS SHALL BE LOCATED ON THE NE & SW INTERSECTION CORNERS.
3. WHEN SIGN POST IS TO BE SET INTO NATIVE SOIL, IT SHALL BE SET IN A 12" DIAMETER, 36" DEEP, 5 SACK CONCRETE FOOTING.
4. SIGN POST SHALL BE A 12 GA. 2" SQUARE PERFORATED STEEL POST WITH A TWO PIECE BREAKAWAY ANCHOR SLEEVE, BY UNISTRUT CORPORATION, OR APPROVED EQUAL.
5. SIGN MOUNTING FIXTURES AND HARDWARE SHALL BE ZUMAR INDUSTRIES INC. STYLE 850 LONG.
6. 12" WITH CONTIGUOUS SIDEWALK, 24" WITH NON-CONTIGUOUS SIDEWALK.

* WHEN STOP SIGN IS USED WITH STREET SIGN AT INTERSECTION, CHANGE DIMENSION TO 9'-6".



REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		STREET NAME SIGN	ST- 19

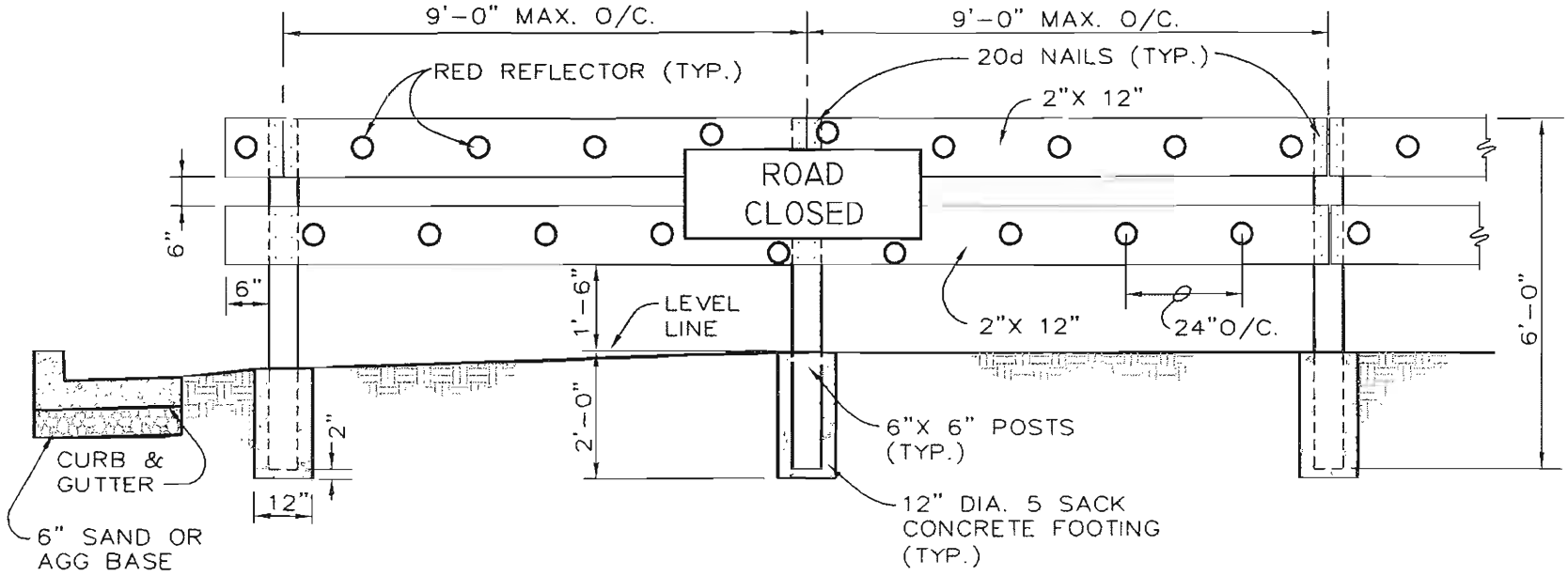
REVISION DATE

CITY OF MENDOTA

TEMPORARY TIMBER BARRICADE

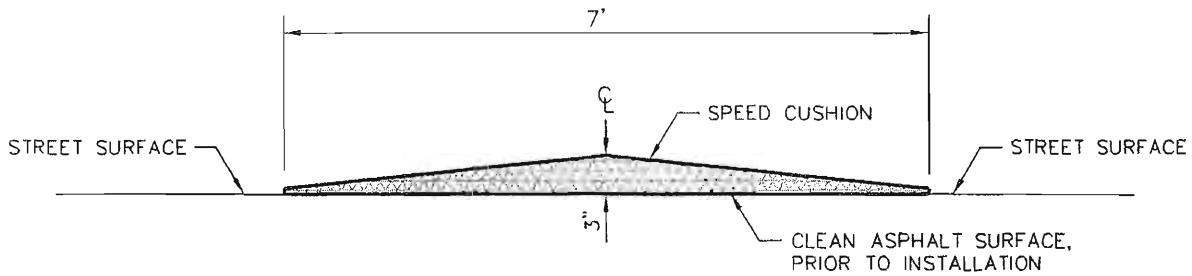
STD.DWG.

ST-20



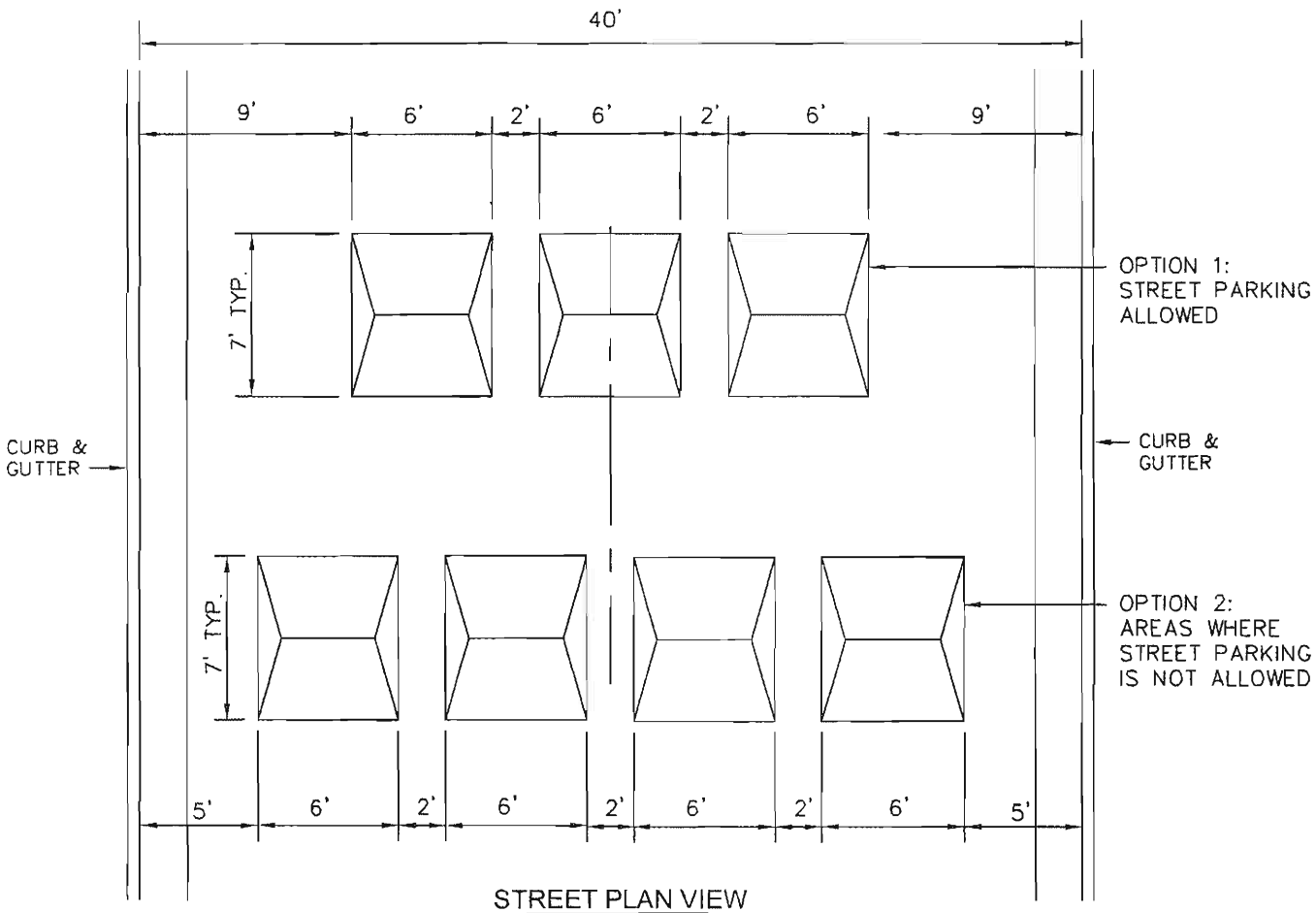
NOTES:

1. BARRICADES MUST BE CONSTRUCTED THE FULL WIDTH OF PAVEMENT OR TRAVELED WAY.
2. APPLY 2 COATS OF EXTERIOR WHITE PAINT TO ALL EXPOSED WOOD SURFACES.
3. POSTS SET IN CONCRETE SHALL BE PRE-TREATED OR TREATED WITH WOOD PRESERVATIVE PRIOR TO SETTING.



SPEED CUSHION

N.T.S.



STREET PLAN VIEW

N.T.S.

NOTES:

1. SPEED CUSHIONS WILL BE USED IN LIEU OF SPEED HUMPS AT LOCATIONS DESIGNATED BY THE CITY.
2. SPEED CUSHIONS SHALL BE MANUFACTURED BY TRAFFIC LOGIX AND CONSTRUCTED OF RECYCLED RUBBER WITH PERMANENT HIGH VISIBILITY MARKINGS. CUSHIONS SHALL BE BOLTED TO STREET USING APPROVED ANCHORS.
3. TYPICAL SPACING SHOW ABOVE, NUMBER OF CUSHIONS REQUIRED SHALL BE DETERMINED BY THE STREET WIDTH AND APPROVED BY THE CITY.

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		ASPHALT CONCRETE SPEED HUMP	ST- 21
			SHT. 3 OF 3

Specifications:

SCOPE:

THE CONTRACTOR SHALL CONSTRUCT COMPLETE IN PLACE AN ASPHALT CONCRETE SPEED HUMP AT THE LOCATIONS DESIGNATED BY THE CITY ENGINEER AND/OR PUBLIC WORKS DIRECTOR. SPEED HUMPS SHALL INCLUDE ALL STRIPING, SIGNS AND INCIDENTALS REQUIRED PER THESE SPECIFICATIONS.

ASPHALT CONCRETE:

PRIOR TO PLACING THE ASPHALT CONCRETE FOR THE SPEED HUMP, THE CONTRACTOR SHALL CLEAN THE SURFACE AND APPLY A TACK COAT TO THE EXISTING ROAD SURFACE. ALL ASPHALT CONCRETE SHALL BE TYPE B WITH AGGREGATE NOT GREATER THAN 1/2" AND SHALL CONFORM TO SECTION 39 OF THE STATE STANDARDS SPECIFICATION. MECHANICAL TAMPERS OR ROLLING COMPACTORS SHALL BE USED TO FINISH THE SPEED HUMPS.

UTILITY & DRIVEWAY CLEARANCE:

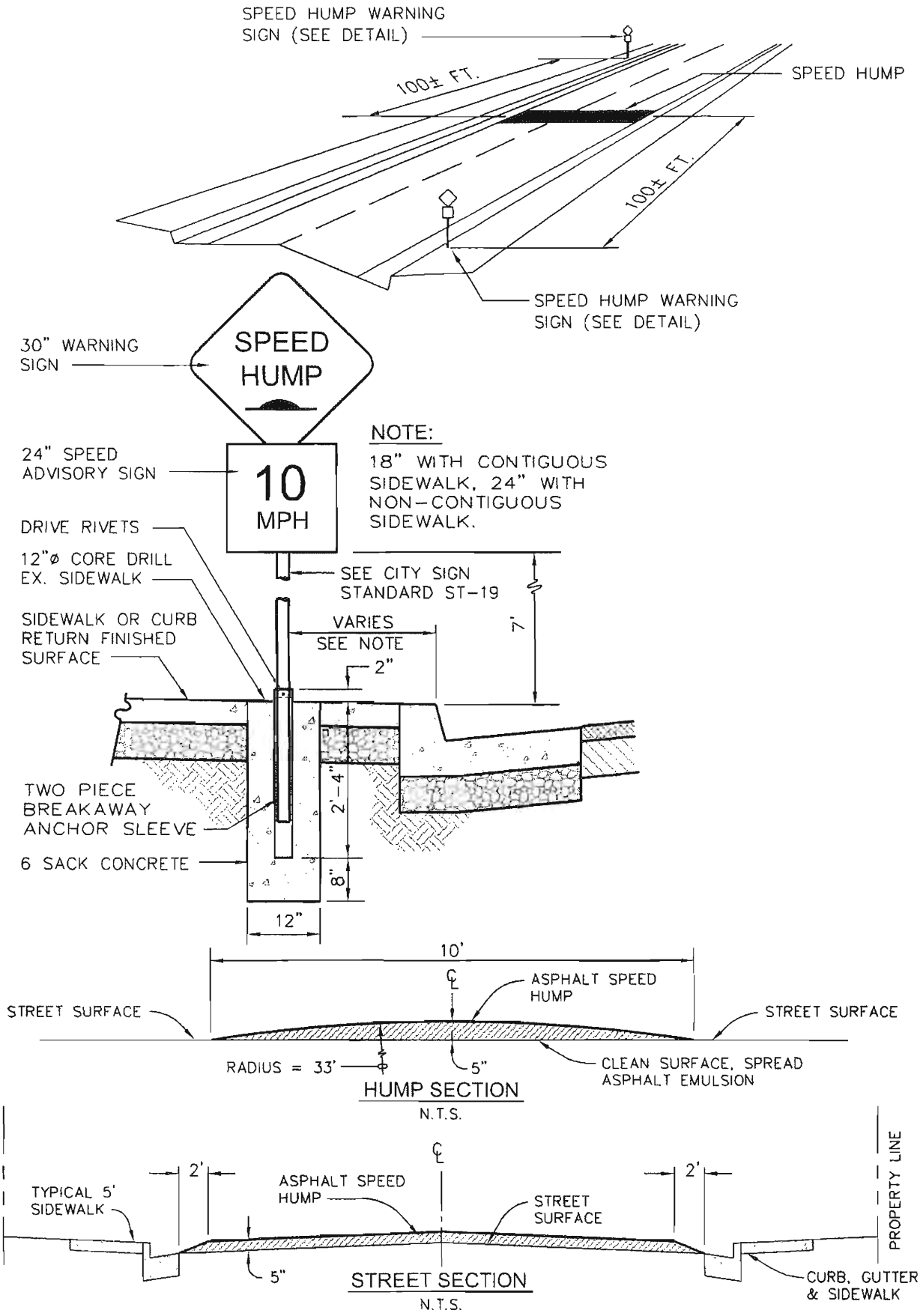
SPEED HUMPS SHOULD NOT BE LOCATED SO AS TO COVER ANY MANHOLE, WATER VALVE, STREET MONUMENT OR WITHIN 25 FEET OF A FIRE HYDRANT. SPEED HUMPS SHOULD NOT BE LOCATED WITHIN TEN FEET OF ANY PORTION OF A DRIVEWAY.

SIGNAGE:

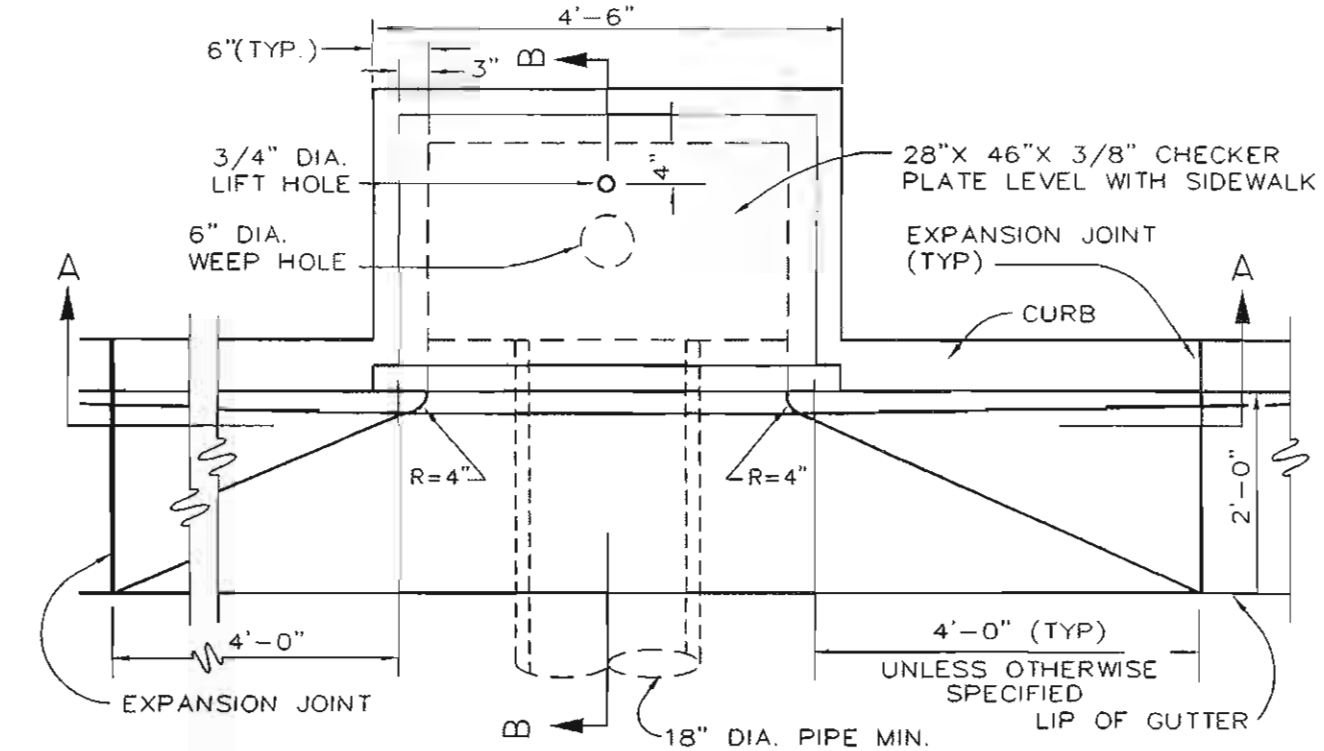
THE SIGNING SHALL BE AS INDICATED WITH A THIRTY INCH SIGN STATING "SPEED HUMP" WITH UPPER CASE LETTERS FIVE INCH (5") SERIES "C" CALTRANS ABOVE A PICTORIAL REPRESENTATION OF A UNDULATION. A 24" SPEED ADVISORY SIGN PLACED BELOW THE SPEED HUMP WARNING SIGN SHALL STATE "10 MPH" WITH TWELVE INCH (12") SERIES "C" CALTRANS LETTERS INDICATING THE DESIGNATED SPEED AND FOUR AND-A-HALF INCH (4 1/2") UPPER CASE LETTERS INDICATING "MPH". SIGNS SHOULD HAVE CALTRANS YELLOW BACKGROUND WITH BLACK LETTERS AND BORDER.

THE WARNING SIGNS SHALL BE LOCATED ON THE APPROACH SIDE OF THE SPEED HUMP A 100 FEET FROM THE CENTER LINE OF UNDULATION AND 18" BEHIND THE CURB FACE. THE BOTTOM OF THE ADVISORY SPEED SIGN PLATE SHALL BE A MINIMUM 7 FEET FROM THE TOP OF CURB.

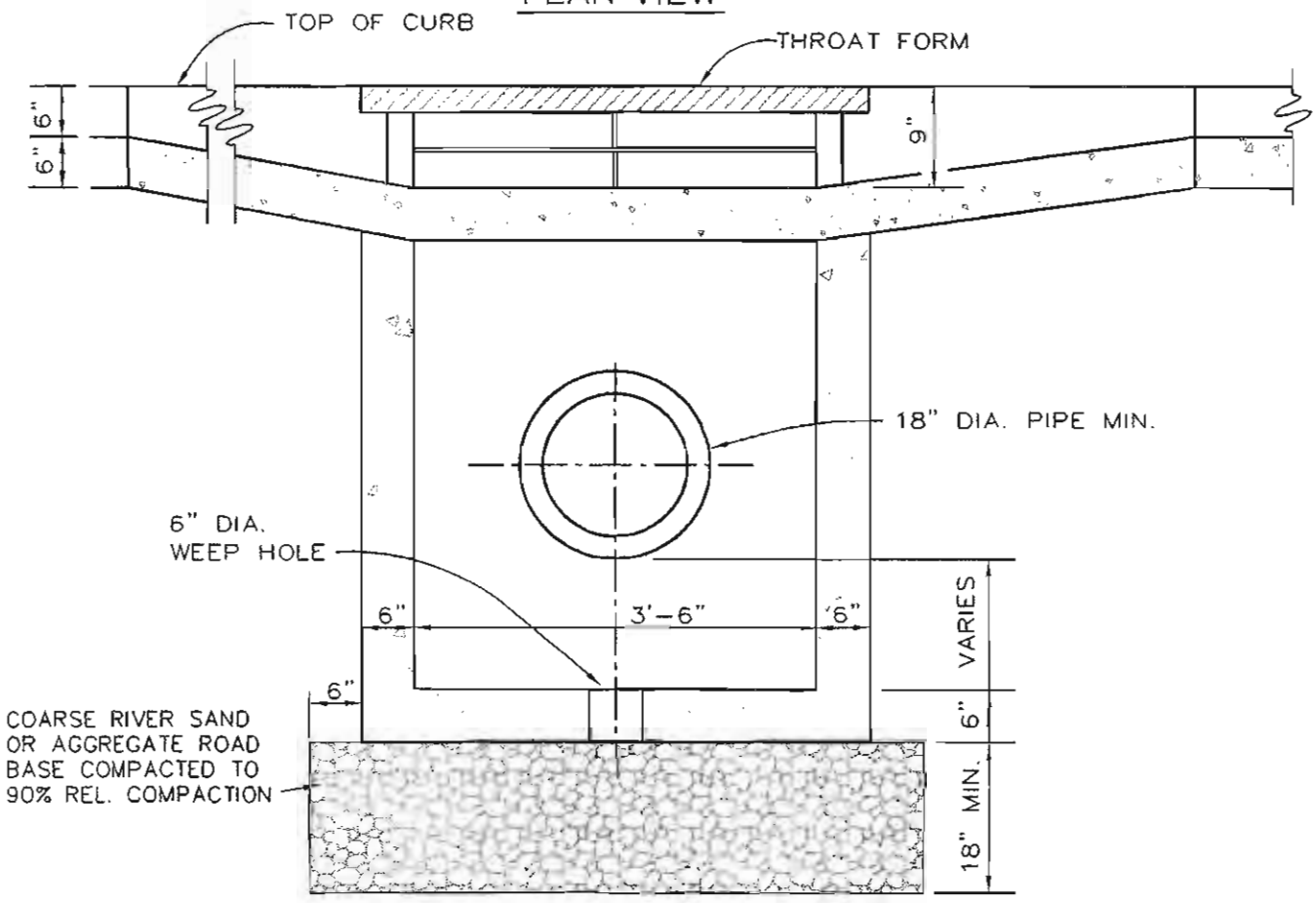
WHITE RAISED REFLECTORIZED PAVEMENT MARKERS SHALL BE INSTALLED ON THE CENTER LINE AT THE CREST AND IN FRONT OF SPEED HUMP FROM THE APPROACH DIRECTIONS. PAVEMENT MARKINGS SHALL INCLUDE WHITE 12-INCH WIDE LONGITUDINAL PAINT STRIPES FOUR FEET ON CENTER PAINTED ACROSS EACH SPEED HUMP AND WORK HUMP PAINTED IN 4-FOOT HIGH LETTERS 35 FEET IN FRONT OF THE SPEED HUMP.



REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		ASPHALT CONCRETE SPEED HUMP	ST- 21 SHT. 1 OF 3

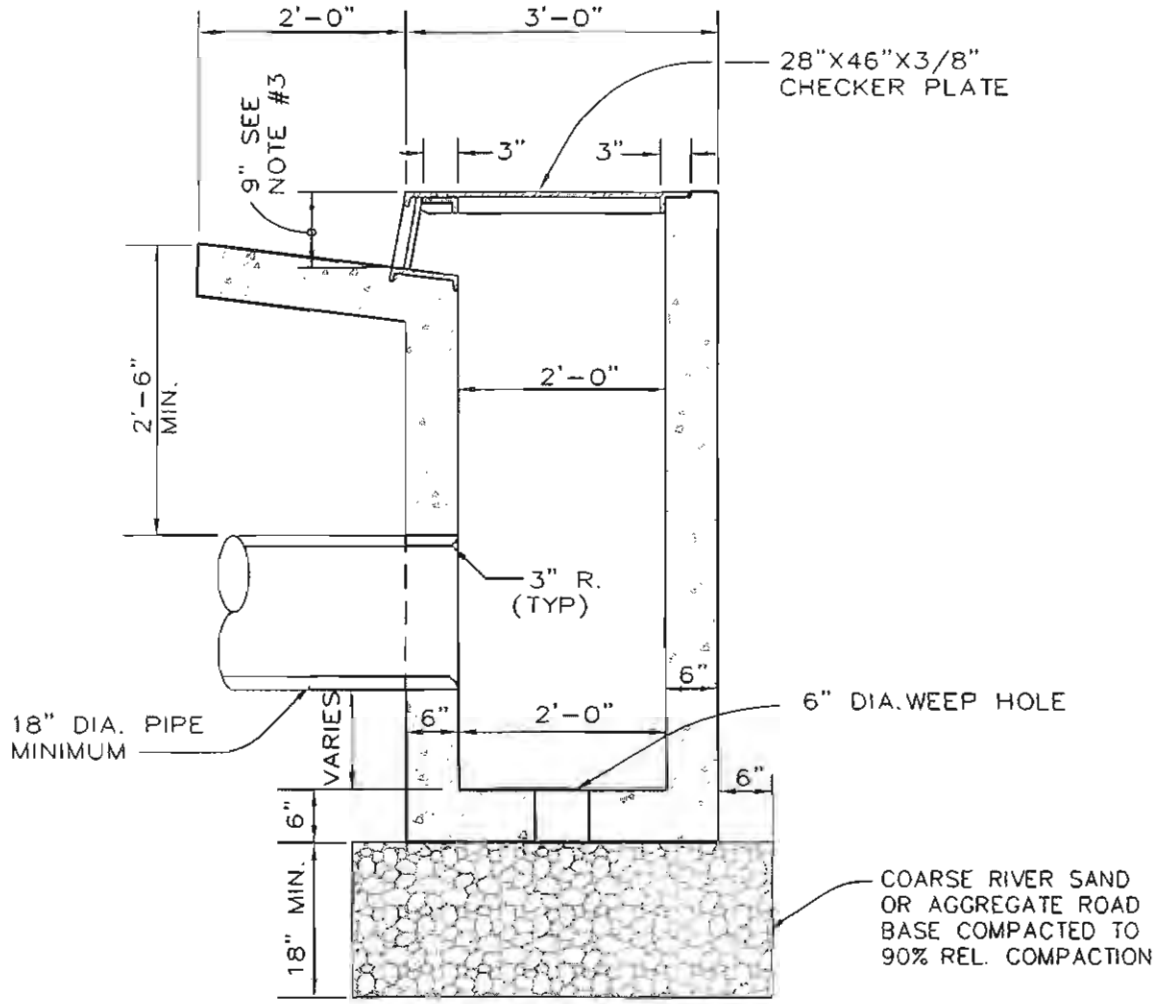


PLAN VIEW



SECTION A-A

REVISION DATE	CITY OF MENDOTA	STD. DWG.
	CURB DRAIN INLET- OUTLET TYPE A	D-1
		1 OF 3

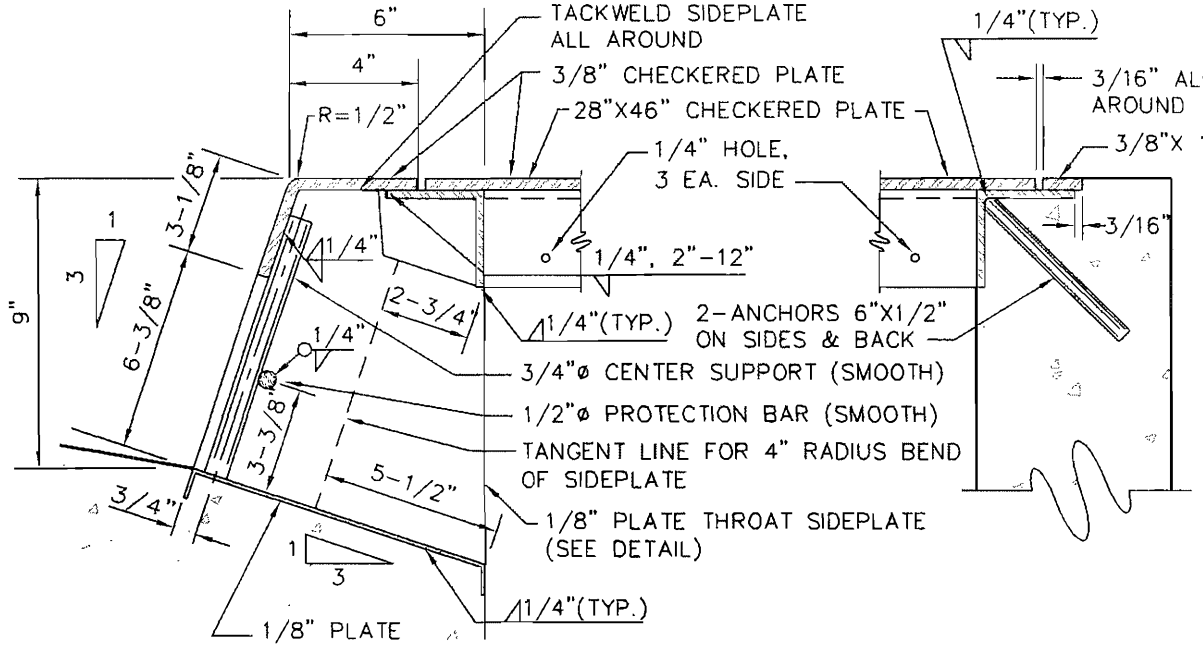


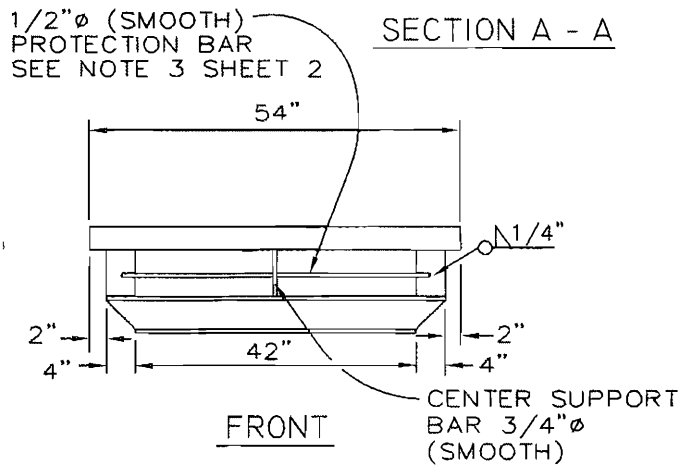
SECTION B-B

NOTES:

1. THE INLET MAY BE MODIFIED SLIGHTLY TO MATCH EXISTING IMPROVEMENTS, AS DIRECTED BY THE CITY ENGINEER.
2. STRUCTURE SHALL BE 6 SACK CONCRETE. EXPOSED SURFACES SHALL BE FINISHED TO MATCH CURB AND SIDEWALK FINISH.
3. WHEN EMPLOYED AS OUTLET, PLACE GUTTER 6" BELOW TOP OF CURB GRADE AND ELIMINATE 1/2" IRON ROD FROM THROAT FORM.
4. CURB AND GUTTER SHALL BE CONSTRUCTED OR RECONSTRUCTED ON EACH SIDE OF BOX AS REQUIRED.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
	CURB DRAIN INLET- OUTLET TYPE A	D-1
		2 OF 3



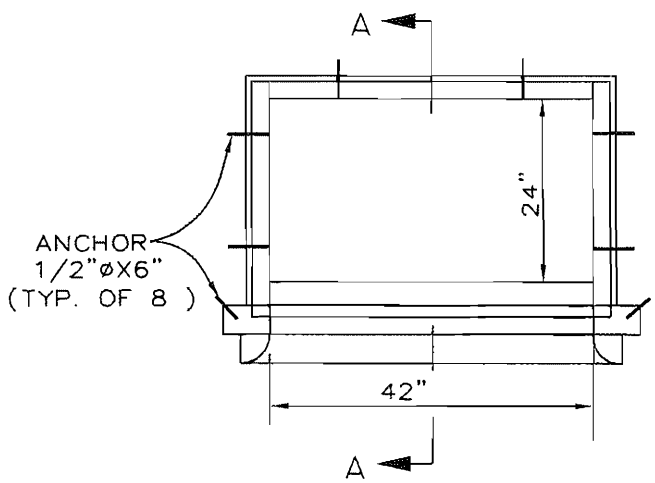


SECTION A - A

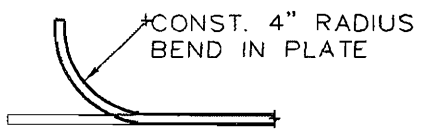
FRONT

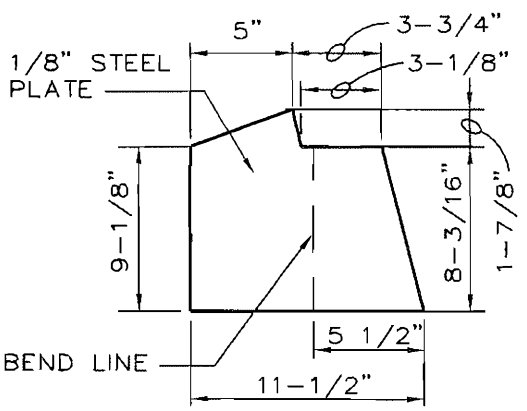
NOTES:

1. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
2. ALL PARTS SHALL BE STRUCTURAL GRADE STEEL.
3. ALL EXPOSED METAL PARTS SHALL BE PAINTED. METAL PARTS IN CONTACT WITH CONCRETE SHALL HAVE A COAL TAR EPOXY COATING.



THROAT FORM & FRAME PLAN





SIDE PLATE

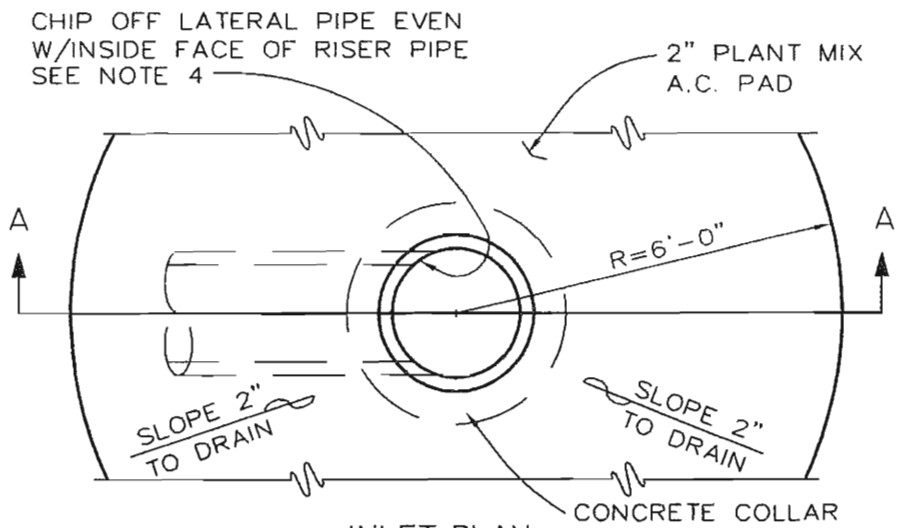
REVISION DATE	CITY OF MENDOTA	STD. DWG.
	CURB DRAIN INLET- OUTLET TYPE A	D-1
		3 OF 3

DRAIN INLET-OUTLET TYPE B

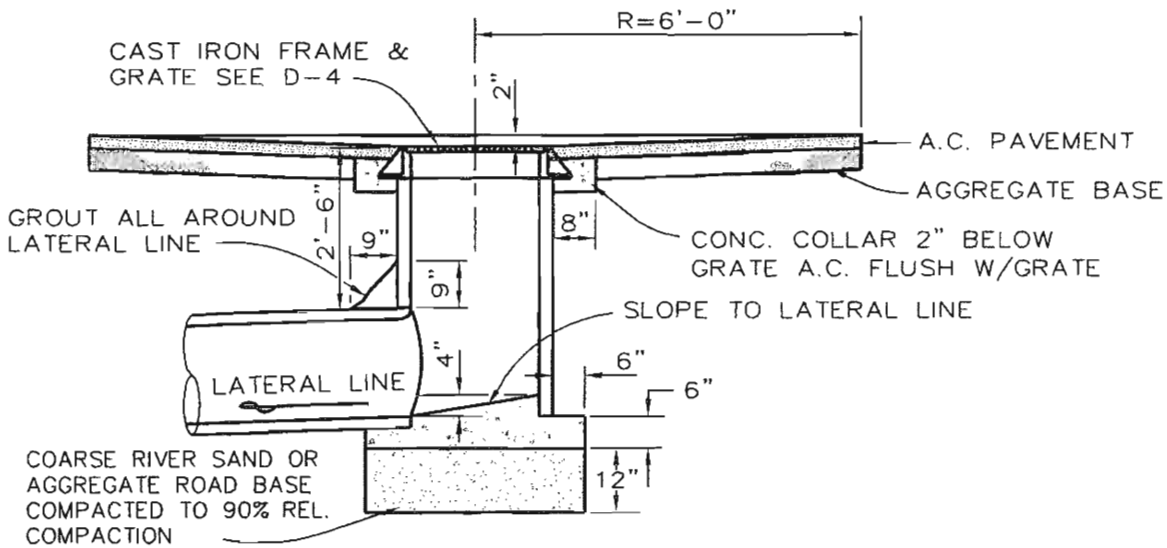
CITY OF MENDOTA

REVISION DATE

STD.DWG. D-2



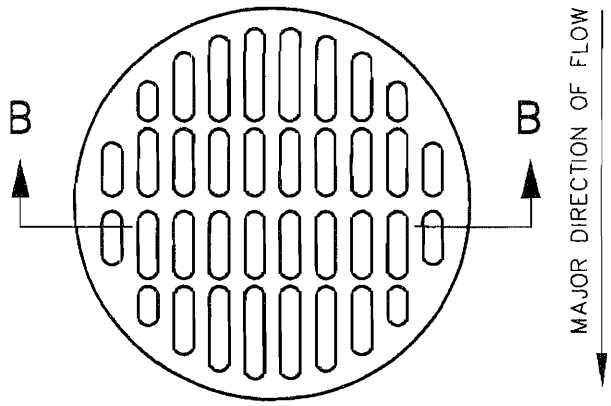
INLET PLAN



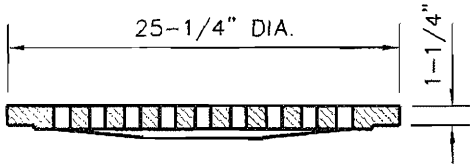
SECTION A - A

NOTES:

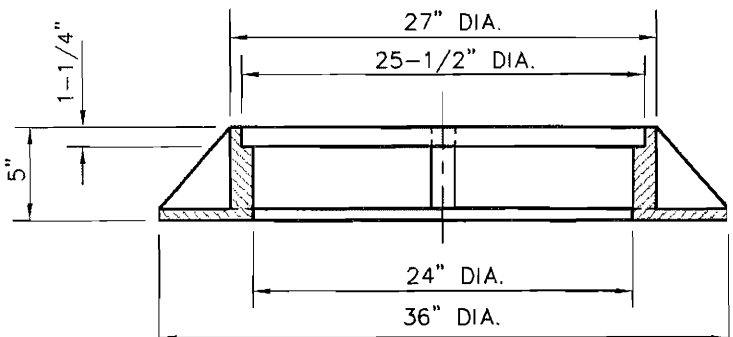
1. 24" CONCRETE RISER PIPE SHALL BE ASTM C-76, CLASS III, RCP.
2. BREAK OUT RISER PIPE AND CUT LATERAL LINE NEATLY ALONG JOINT. FILL JOINT SPACE WITH GROUT.
3. ALL CONCRETE SHALL BE 6 SACK.
4. AT THE CONTACT POINT BETWEEN THE LATERAL LINE AND THE INLET WALL A SMOOTH 3" RADIUS CURVE SHALL BE CONSTRUCTED.
5. FLOOR OF THE INLET SHALL SLOPE TO THE LATERAL LINE AND SHALL BE GIVEN A STEEL TROWELLED FINISH.



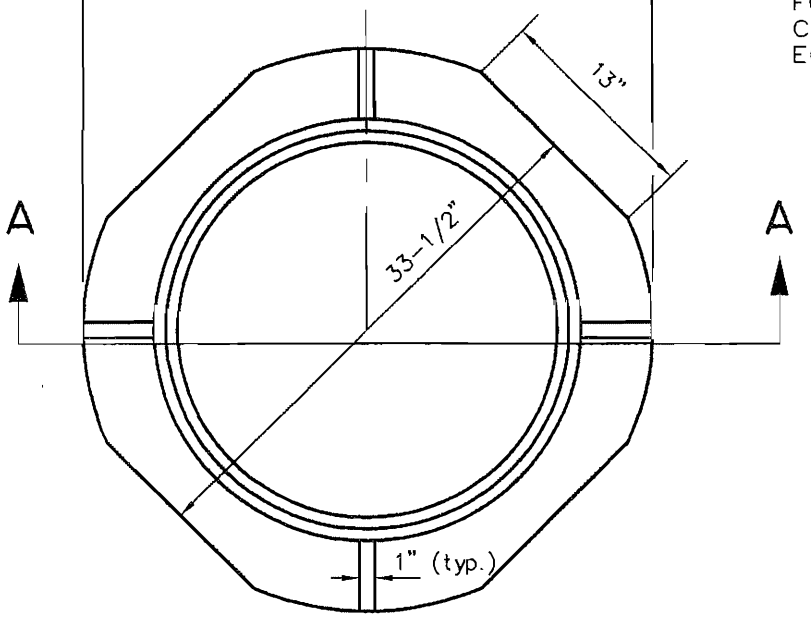
DRAIN INLET GRATE



SECTION B - B



SECTION A - A

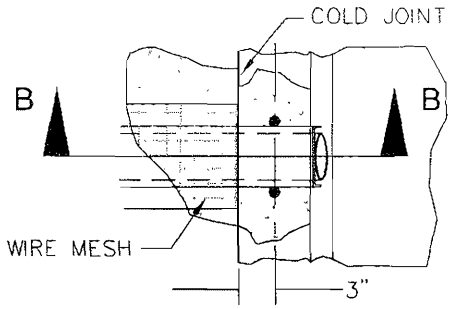


DRAIN INLET FRAME

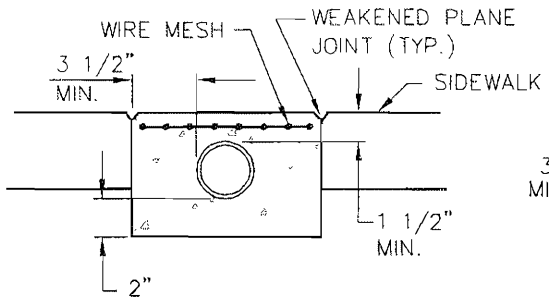
NOTES:

1. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
2. FRAME & GRATE SHALL BE CAST IRON.
3. GRATE SHALL BE INSTALLED SUCH THAT THE SLOTS ARE PARALLEL TO MAJOR DIRECTION OF DRAINAGE FLOW.
4. DRAIN INLET FRAME AND GRATE SHALL BE SOUTH BAY FOUNDARY, GRATE & FRAME C7, SBF 1000 OR APPROVED EQUAL.

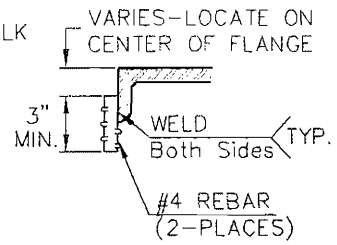
REVISION DATE	CITY OF MENDOTA	STD.DWG.
	DRAIN INLET FRAME & GRATE	D-3



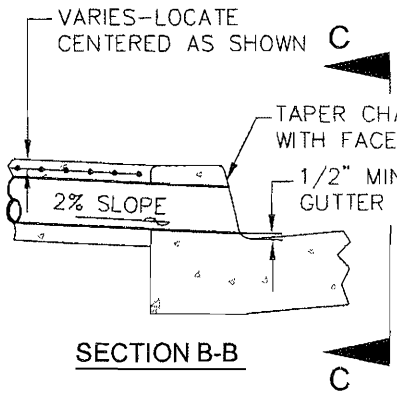
DETAIL -A-



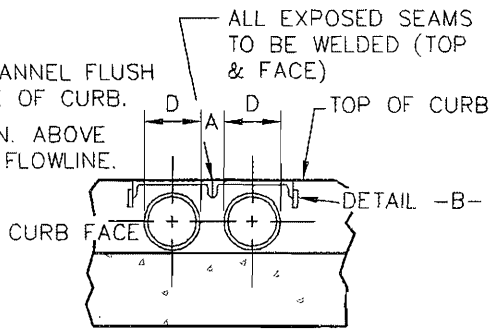
SECTION A-A



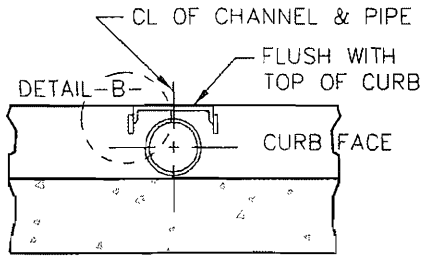
DETAIL -B-



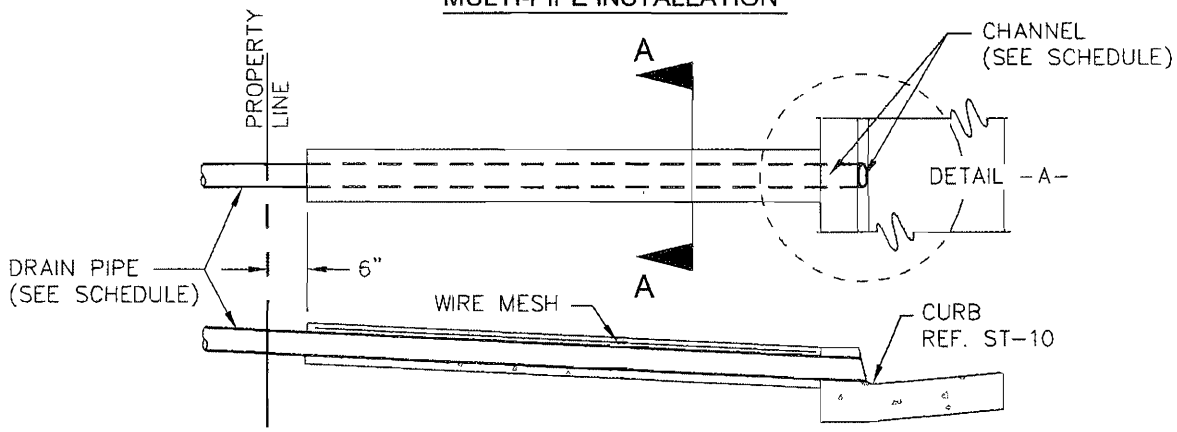
SECTION B-B



MULTI-PIPE INSTALLATION

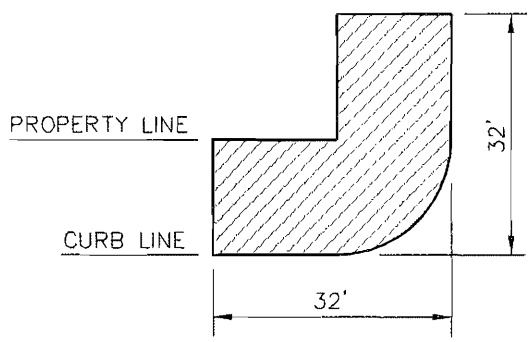


SECTION C-C



NOTES:

1. PIPE SHALL BE ONE CONTINUOUS LENGTH FROM PROPERTY LINE TO CURB LINE.
2. MULTIPLE PIPES TO BE SET A MIN. DISTANCE OF D/2 APART.
3. CONCRETE SHALL BE 6 SACK.
4. PIPE SHALL BE CIRCULAR DUCTILE IRON OR RIGID PLASTIC.
5. WIRE MESH TO BE INSTALLED IN CONCRETE ABOVE DRAIN LINE.
6. SEE ST-12B FOR SUBGRADE REQUIREMENTS UNDER SIDEWALK



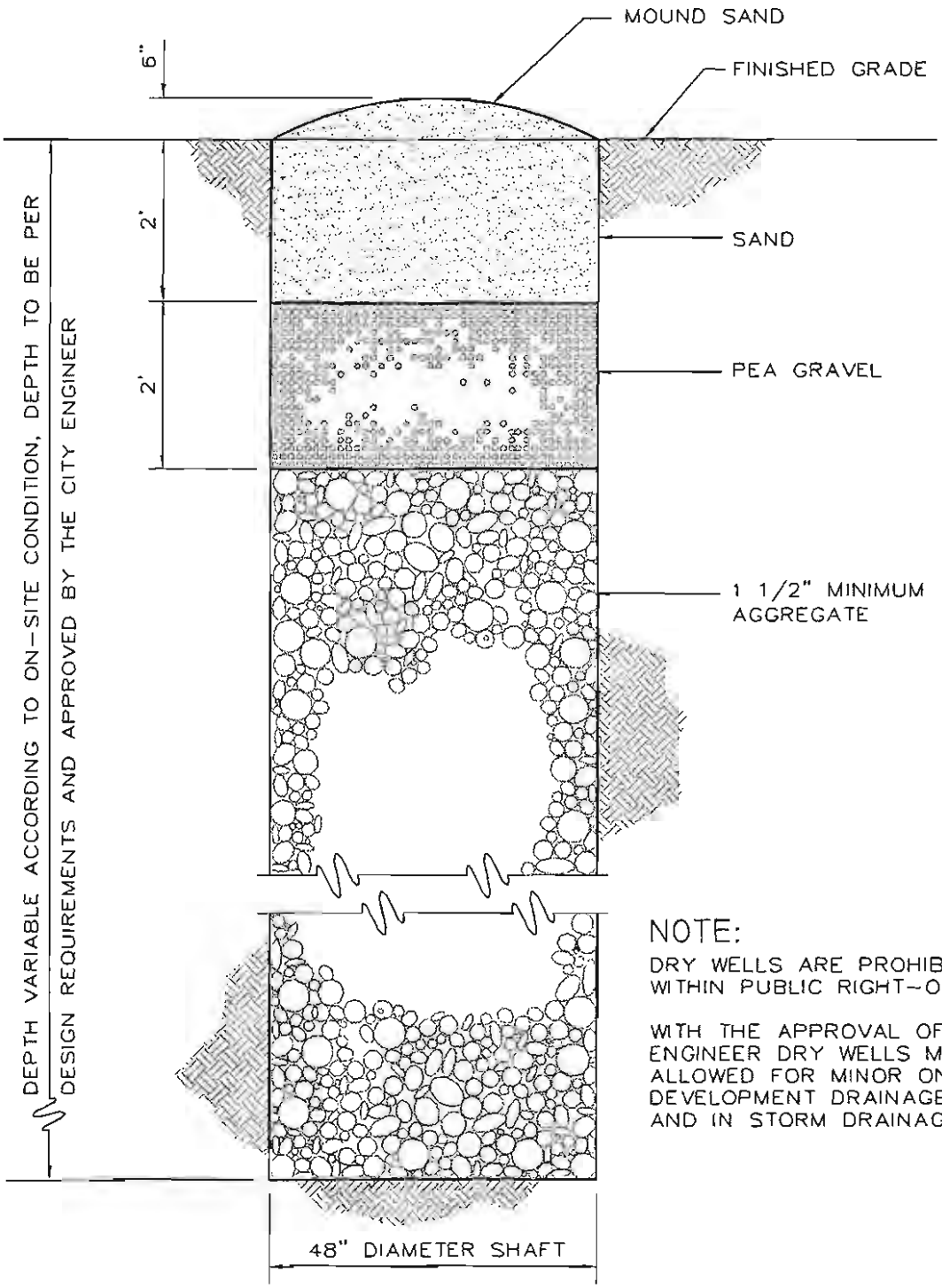
DRAIN SHALL NOT OCCUPY THE HATCHED AREA.

BLOCK CORNER

SCHEDULE		
PIPE DIA.	CURB FACE	CHANNEL
3"	6" TO 8"	6"
4"	6" TO 8"	6"
6"	8" TO 10"	8"

CHANNEL MATERIAL TO BE STD. GALV. OR EQUIV., UNLESS OTHERWISE APPROVED BY CITY ENGINEER.

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-26-07		SIDEWALK UNDERDRAIN PIPE	D-4
6-23-09			

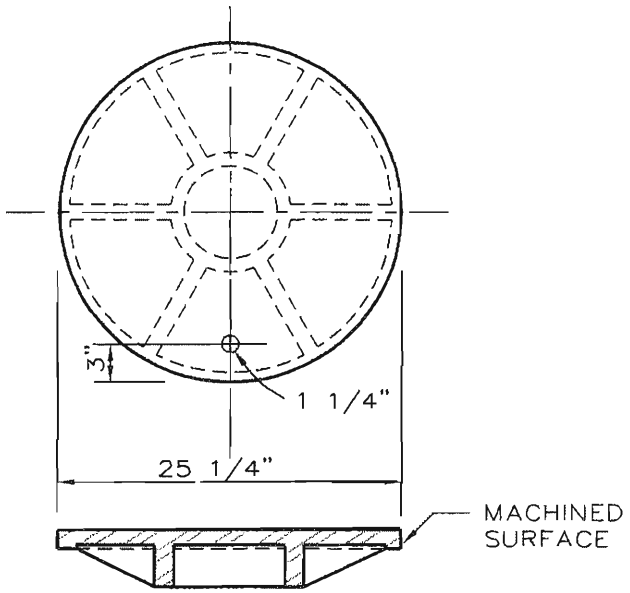


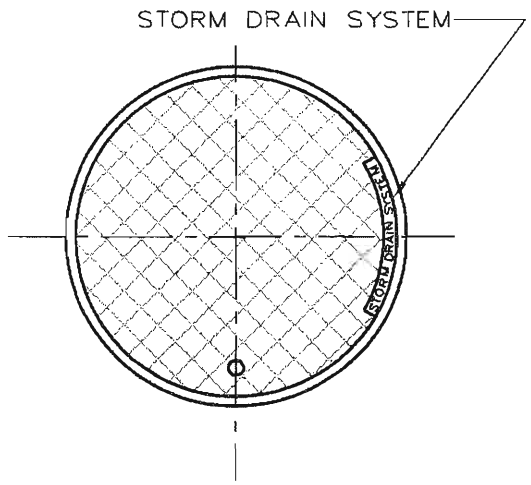
NOTE:

DRY WELLS ARE PROHIBITED WITHIN PUBLIC RIGHT-OF-WAY.

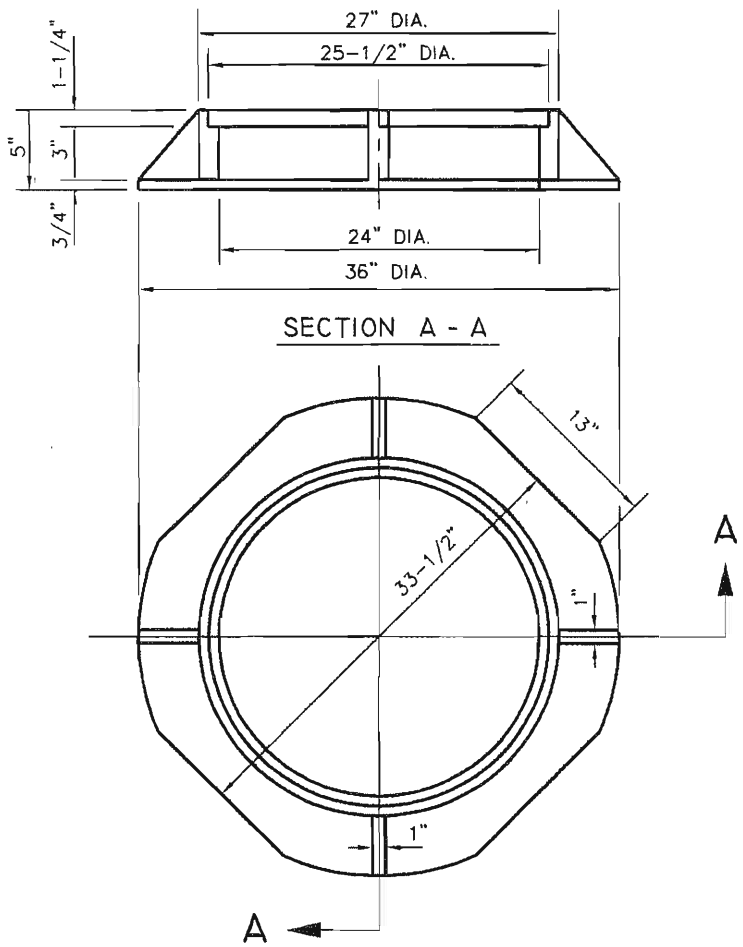
WITH THE APPROVAL OF THE CITY ENGINEER DRY WELLS MAY BE ALLOWED FOR MINOR ON-SITE DEVELOPMENT DRAINAGE AREAS AND IN STORM DRAINAGE BASINS.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	STANDARD DRYWELL	D-5





MANHOLE COVER



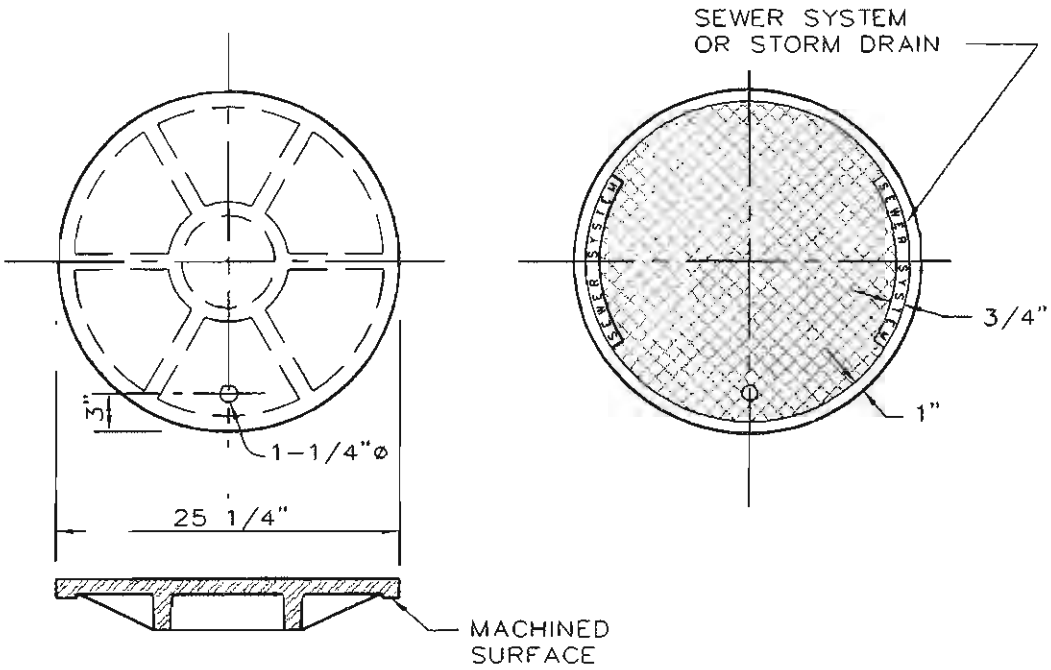
MANHOLE FRAME

NOTES:

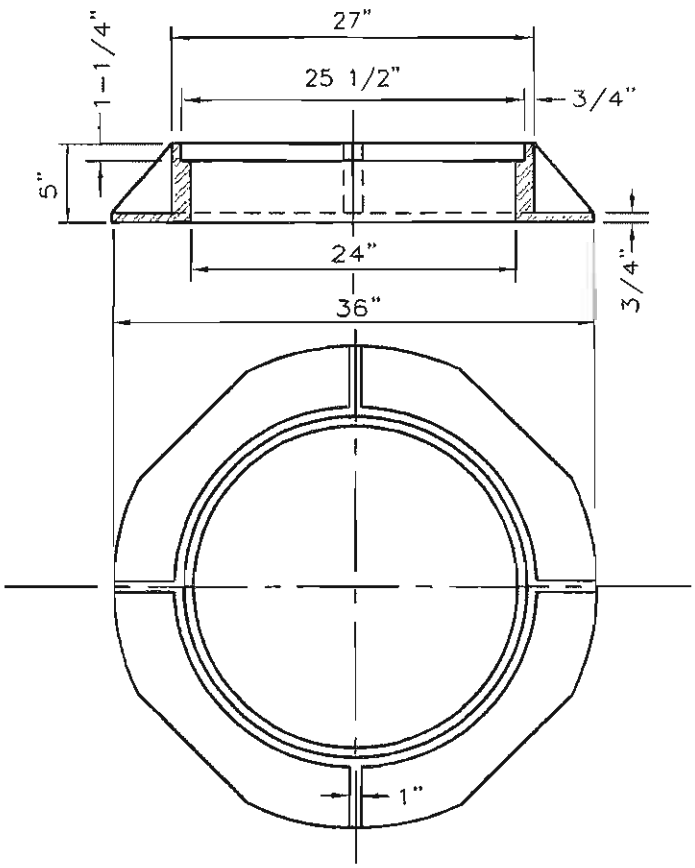
1. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
2. FRAME & GRATE SHALL BE CAST IRON.
3. FRAME AND COVER SHALL BE SOUTH BAY FOUNDRY A62 SBF 1000 OR APPROVED EQUAL.

SET WEIGHT	
COVER-	155 LBS.
FRAME-	165 LBS
TOTAL	320 LBS.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	STORM DRAIN MANHOLE FRAME & COVER	D-6



MANHOLE COVER

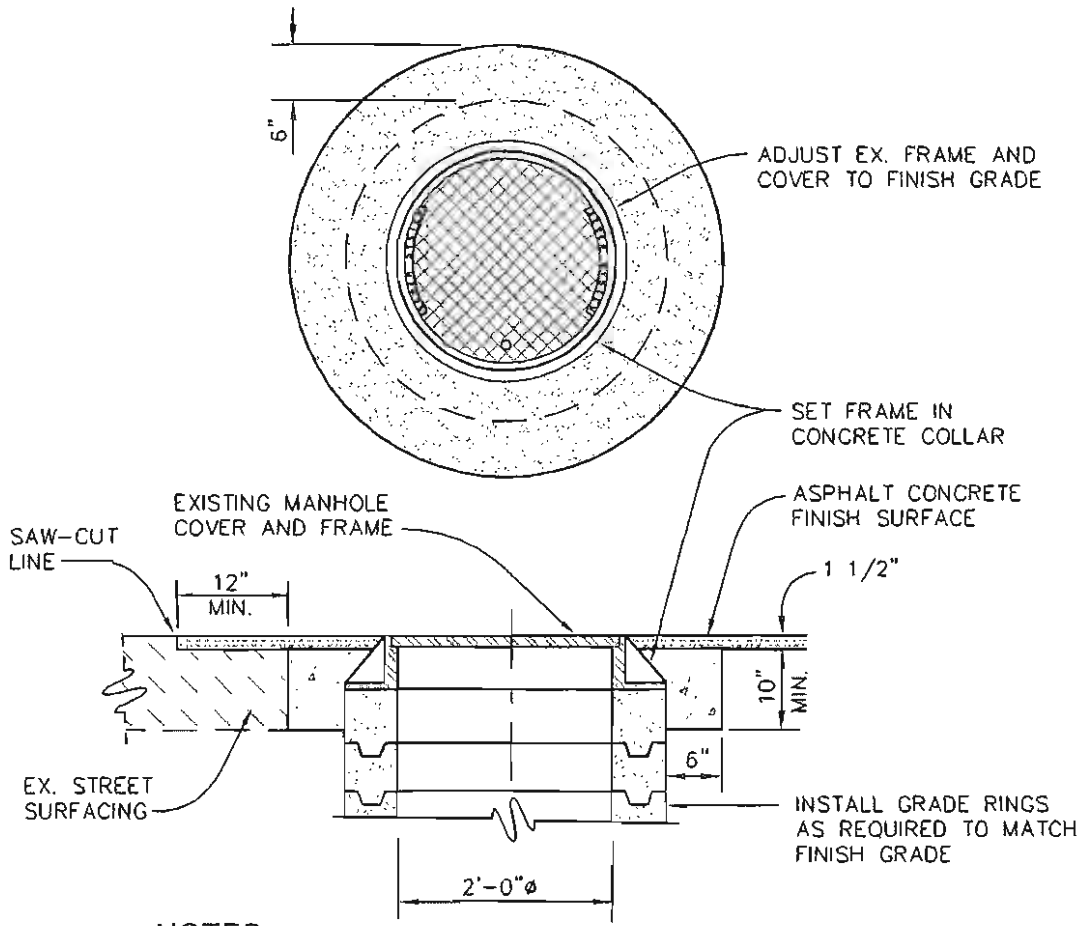


MANHOLE FRAME

MANHOLE FRAME & COVER SHALL BE SOUTH BAY FOUNDRY A 62, SBF 1000 OR APPROVED EQUAL.

SET WEIGHT	
COVER–	155 LBS.
FRAME–	165 LBS
TOTAL	320 LBS.

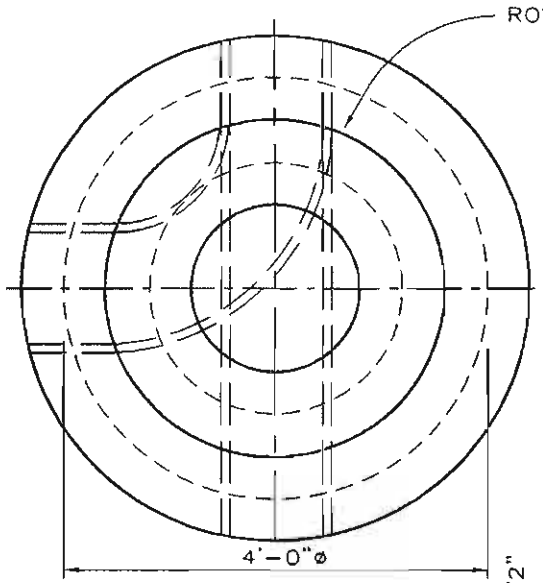
REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		MANHOLE FRAME & COVER	S-1



NOTES:

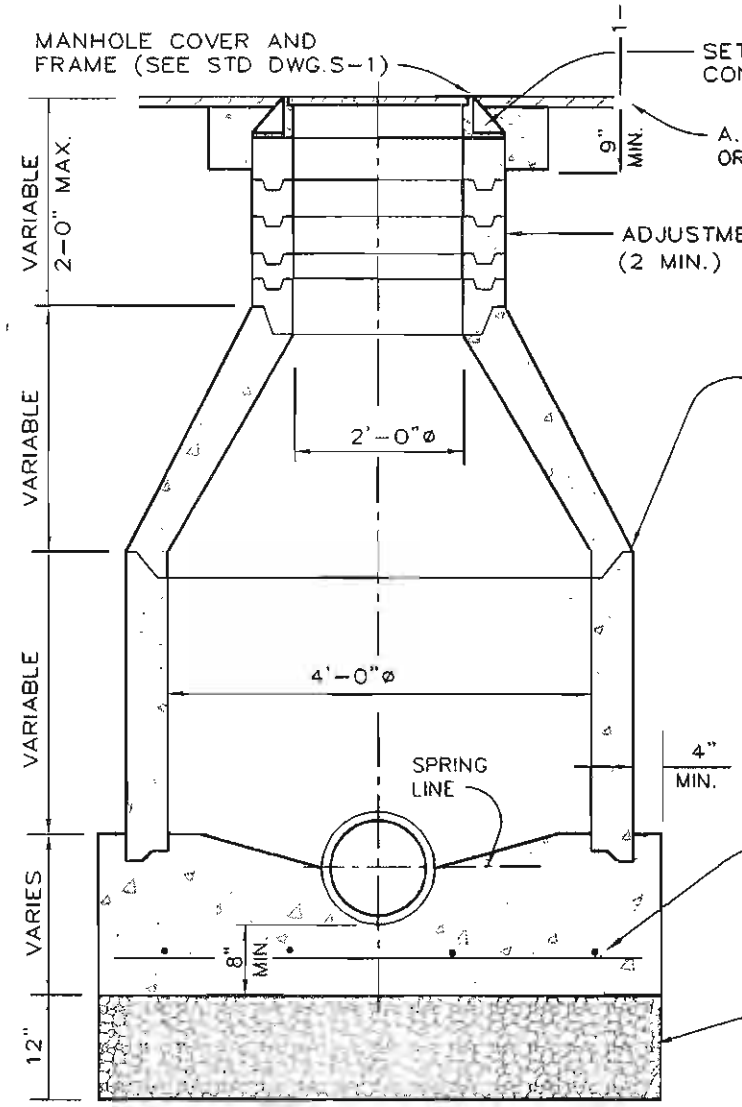
1. REMOVE EXISTING CONCRETE COLLAR IF ANY.
2. ADJUST EXISTING MANHOLE FRAME AND COVER TO FINISH GRADE AFTER PAVING IS COMPLETED.
3. CONSTRUCT CONCRETE COLLAR AS REQUIRED OR AS DIRECTED BY THE ENGINEER.
4. ALL CONSTRUCTION SHALL BE 6 SACK CONCRETE.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	MANHOLE GRADE ADJUSTMENT	S-1A



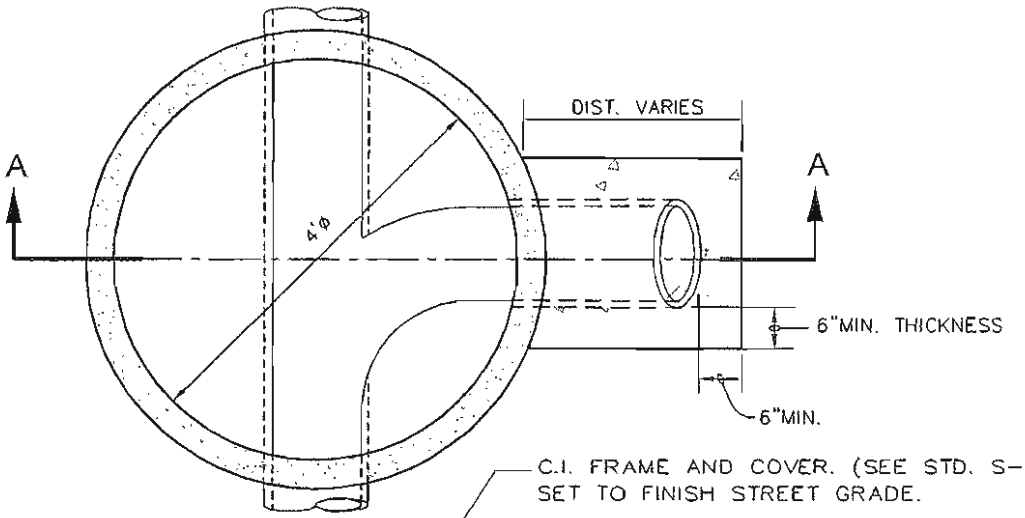
NOTES:

1. ALL STRAIGHT PIPE SHALL BE LAID THROUGH MANHOLES WITH TOP HALF REMOVED AND ROUGH EDGES MORTARED SMOOTH.
2. QUARTER TURNS SHALL BE CONSTRUCTED TO FORM A SMOOTH FLOW LINE OF SAME SHAPE AND PATTERN AS BOTTOM OF PIPE.
3. MANHOLE BARREL SECTIONS, CONICAL SECTIONS, AND ADJUSTMENT RINGS SHALL CONFORM TO ASTM C478.
4. ALL REINFORCING STEEL EXPOSED SHALL BE COATED WITH 2" OF CONCRETE.

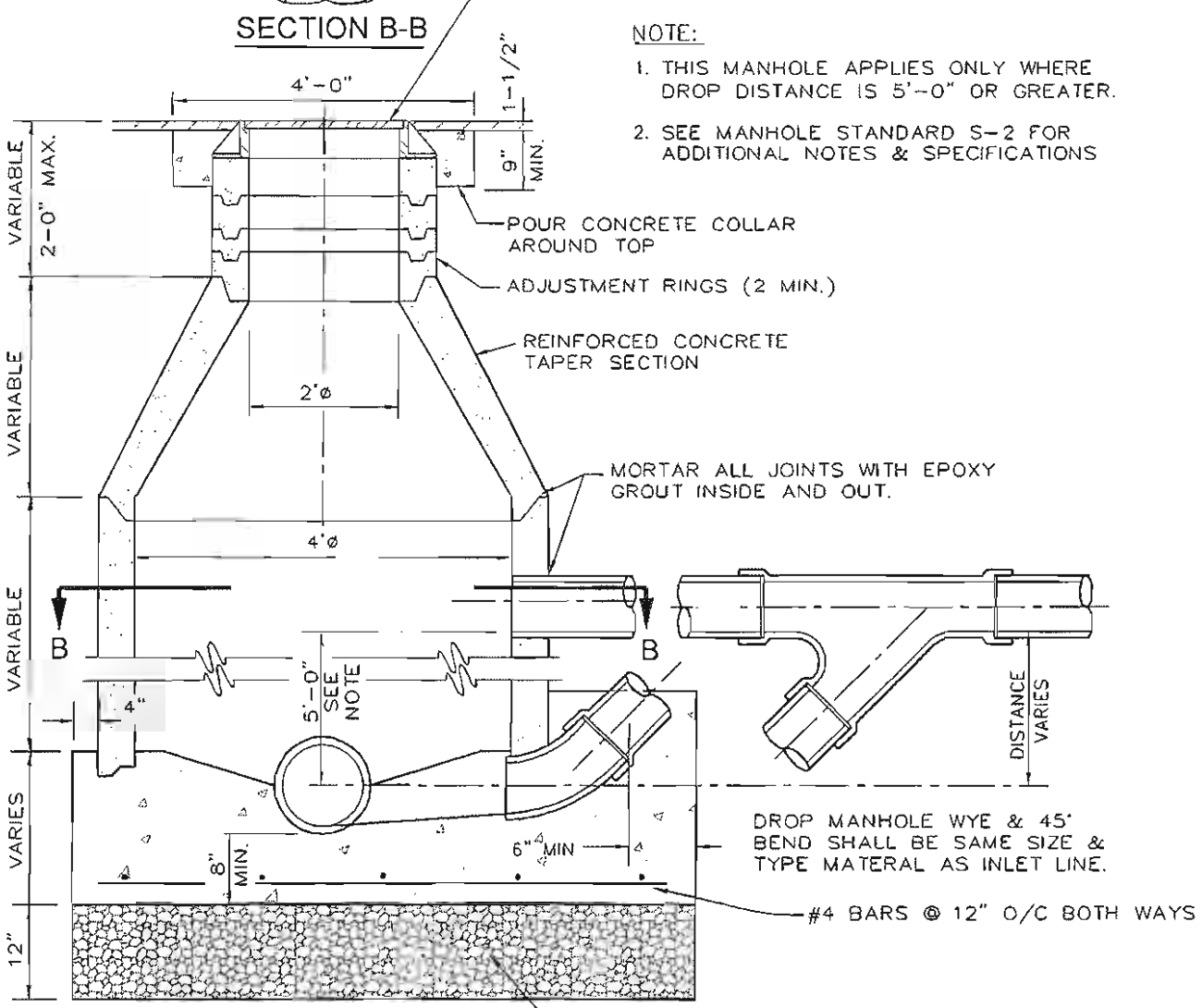


SEE PLAN FOR FLOW LINE ELEVATIONS AND SIZE OF PIPE. ENLARGED BASE OPTIONAL, TO TOP OF PIPE. SURFACE OF BASE AND CONCRETE FLOW LINE TO EQUAL SMOOTHNESS OF PIPE. BASE SHALL BE POURED IN PLACE WITH 6 SACK CONCRETE. BASE MAY BE MADE ROUND OR SQUARE.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
9-25-07	48" MANHOLE	S- 2



SECTION B-B

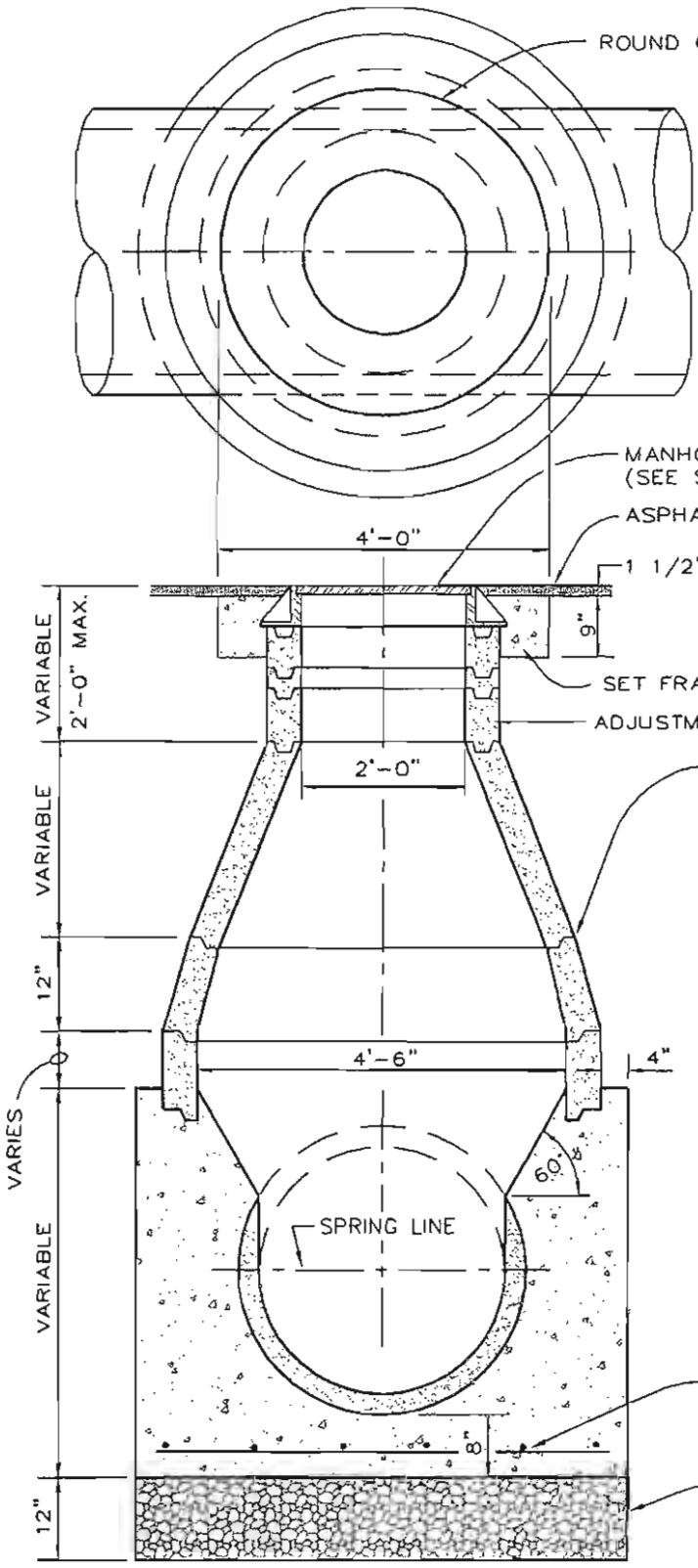


SECTION A-A

NOTE:

1. THIS MANHOLE APPLIES ONLY WHERE DROP DISTANCE IS 5'-0" OR GREATER.
2. SEE MANHOLE STANDARD S-2 FOR ADDITIONAL NOTES & SPECIFICATIONS

REVISION DATE	CITY OF MENDOTA	STD. DWG.
9-25-07	48" DROP MANHOLE	S-3



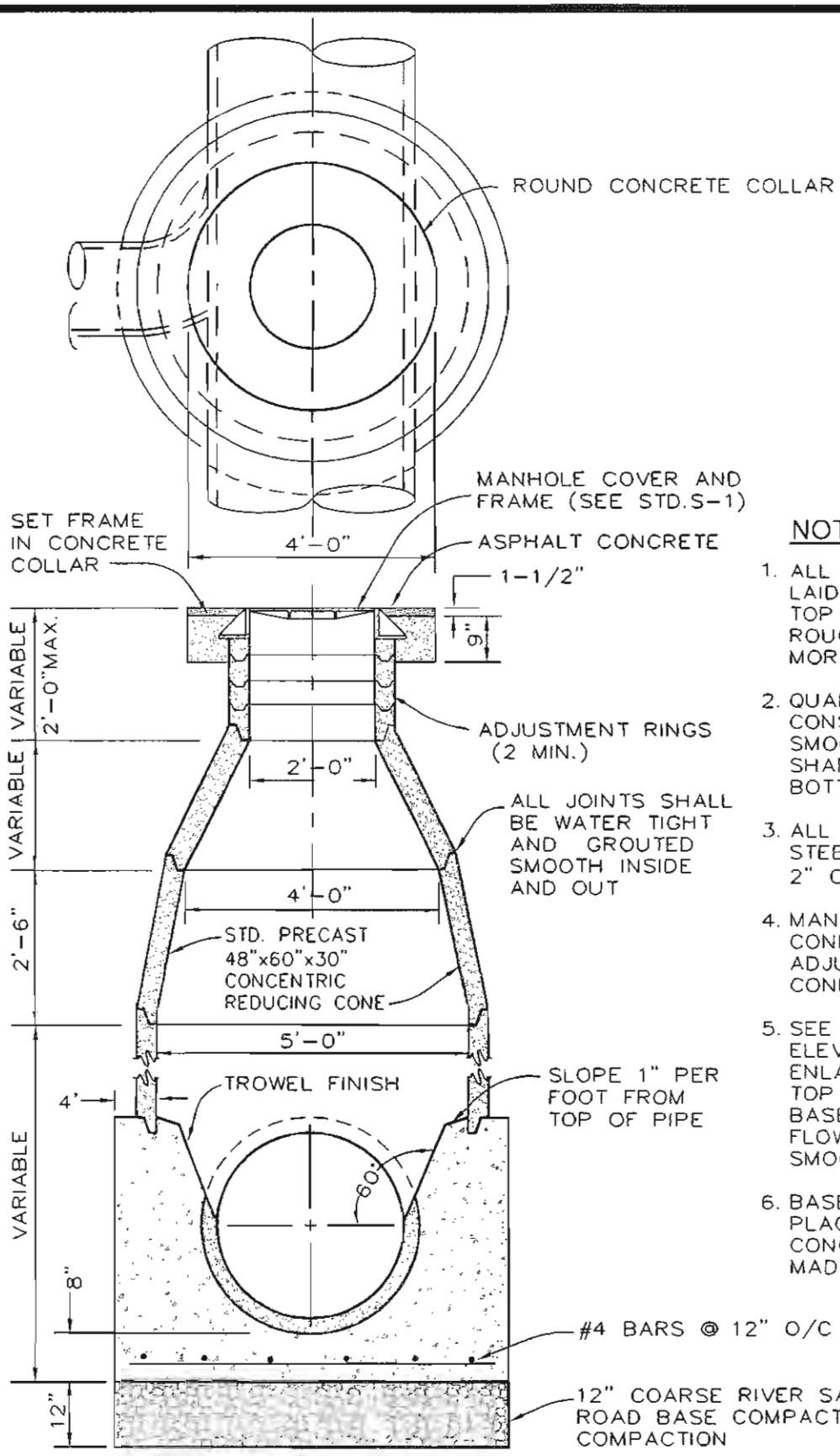
NOTES:

1. ALL STRAIGHT PIPE SHALL BE LAID THROUGH MANHOLES WITH TOP HALF REMOVED AND ROUGH EDGES MORTARED SMOOTH.
2. ALL EXPOSED REINFORCING SHALL BE COATED WITH 2" OF CONCRETE.

NOTES:

1. MANHOLE BARREL SECTIONS, CONICAL SECTIONS, AND ADJUSTMENT RINGS SHALL CONFORM TO ASTM C478.
2. SEE PLAN FOR FLOWLINE ELEVATIONS AND SIZE OF PIPE. ENLARGED BASE OPTIONAL, TO TOP OF PIPE. SURFACE OF BASE AND CONCRETE FLOWLINES TO EQUAL SMOOTHNESS OF PIPE.
3. BASE SHALL BE POURED IN PLACE WITH 6 SACK CONCRETE. BASE MAY BE MADE ROUND OR SQUARE.

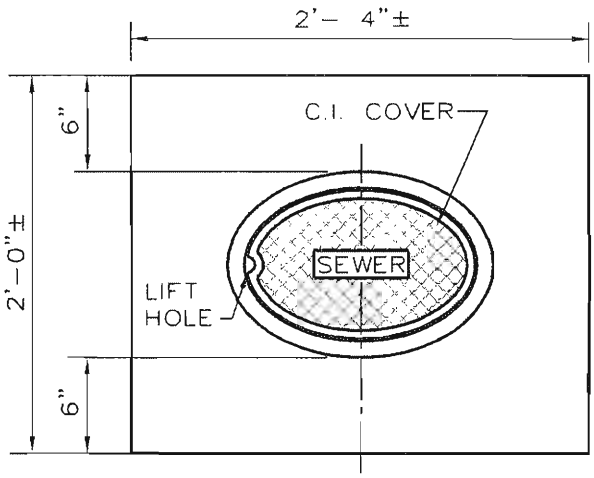
REVISION DATE	CITY OF MENDOTA	STD.DWG.
9-25-07	54" MANHOLE	S-4



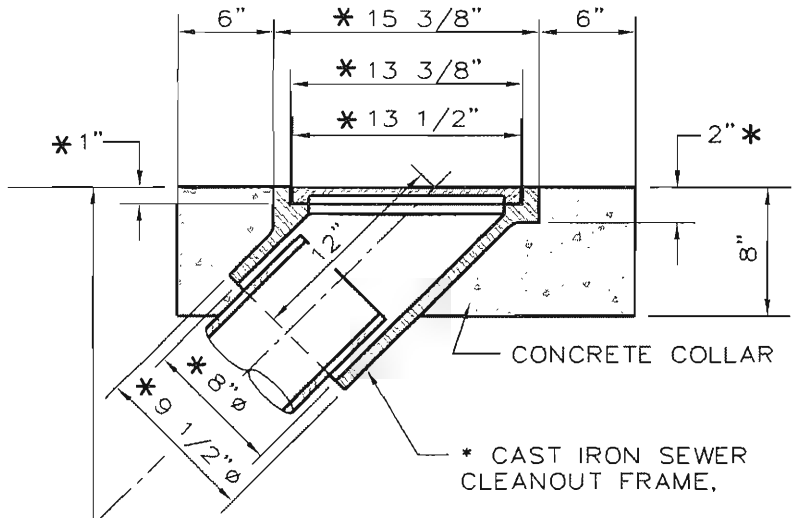
NOTES:

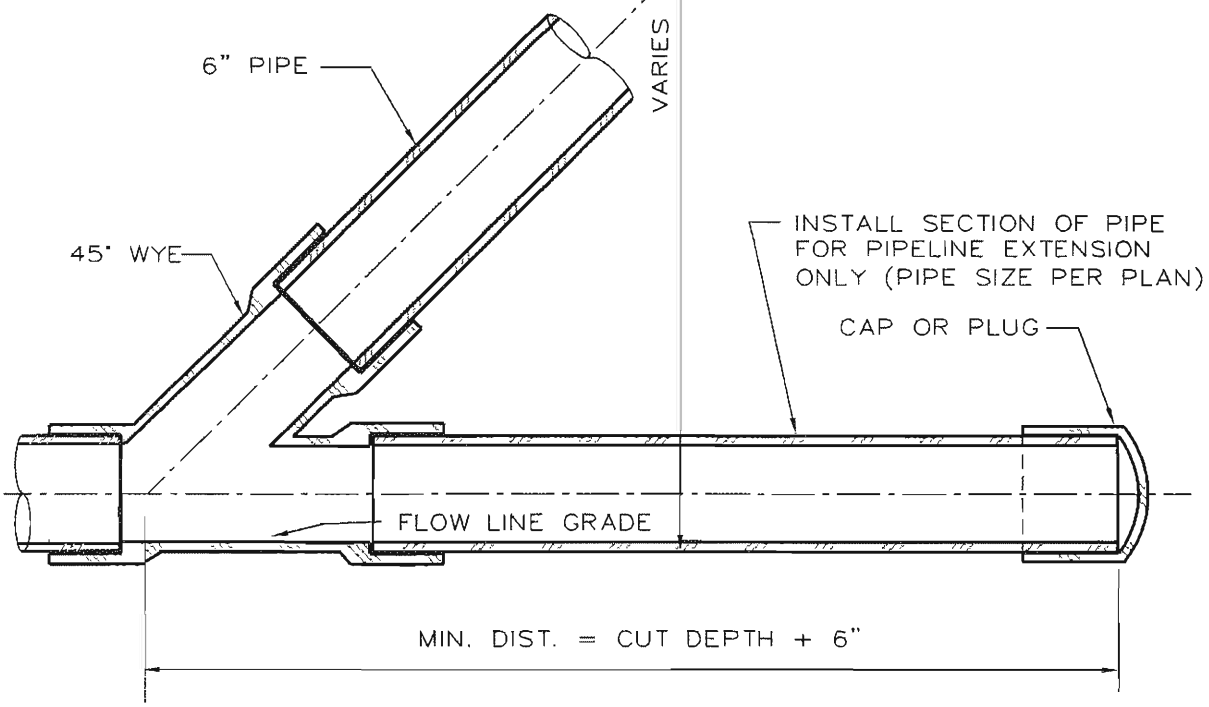
1. ALL STRAIGHT PIPE SHALL BE LAID THROUGH MANHOLES WITH TOP HALF REMOVED AND ROUGH BROKEN EDGES MORTARED SMOOTH.
2. QUARTER TURNS SHALL BE CONSTRUCTED TO FORM A SMOOTH FLOW LINE OF SAME SHAPE AND PATTERN AS BOTTOM OF PIPE.
3. ALL EXPOSED REINFORCING STEEL SHALL BE COATED WITH 2" OF CONCRETE.
4. MANHOLE BARREL SECTIONS, CONICAL SECTIONS, AND ADJUSTMENT RINGS SHALL CONFORM TO ASTM C478.
5. SEE PLAN FOR FLOWLINE ELEVATIONS AND PIPE SIZE. ENLARGED BASE OPTIONAL TO TOP OF PIPE. SURFACE OF BASE AND CONCRETE FLOWLINES TO EQUAL SMOOTHNESS OF PIPE.
6. BASE SHALL BE POURED IN PLACE WITH 6 SACK CONCRETE. BASE MAY BE MADE ROUND OR SQUARE.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
5-13-96	60" MANHOLE	S-5
9-25-07		

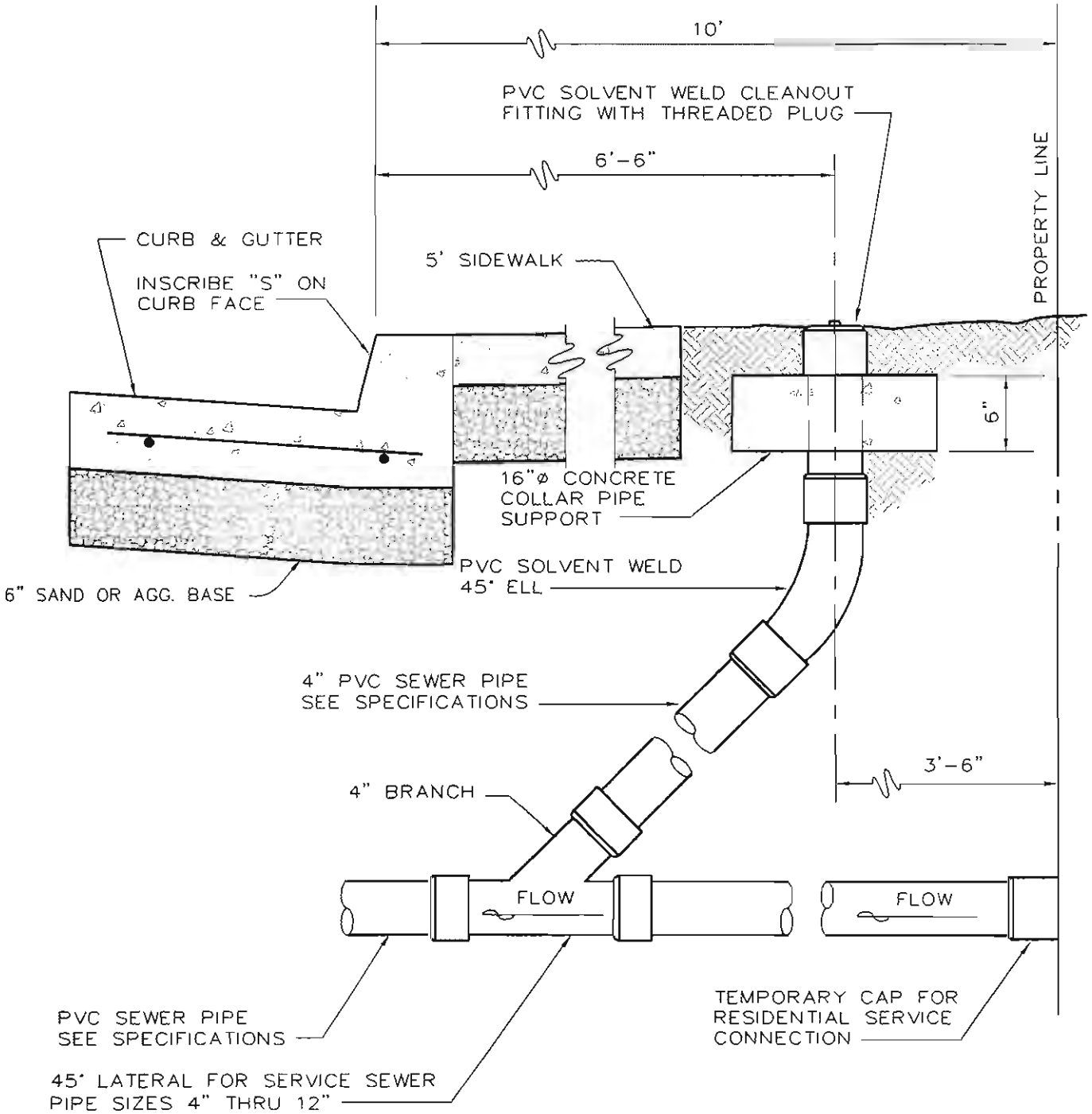


* DIMENSIONS VARY PER MANUFACTURER. SOUTH BAY FOUNDRY, SBF 1247 OR AN APPROVED EQUAL. (209) 367-1940

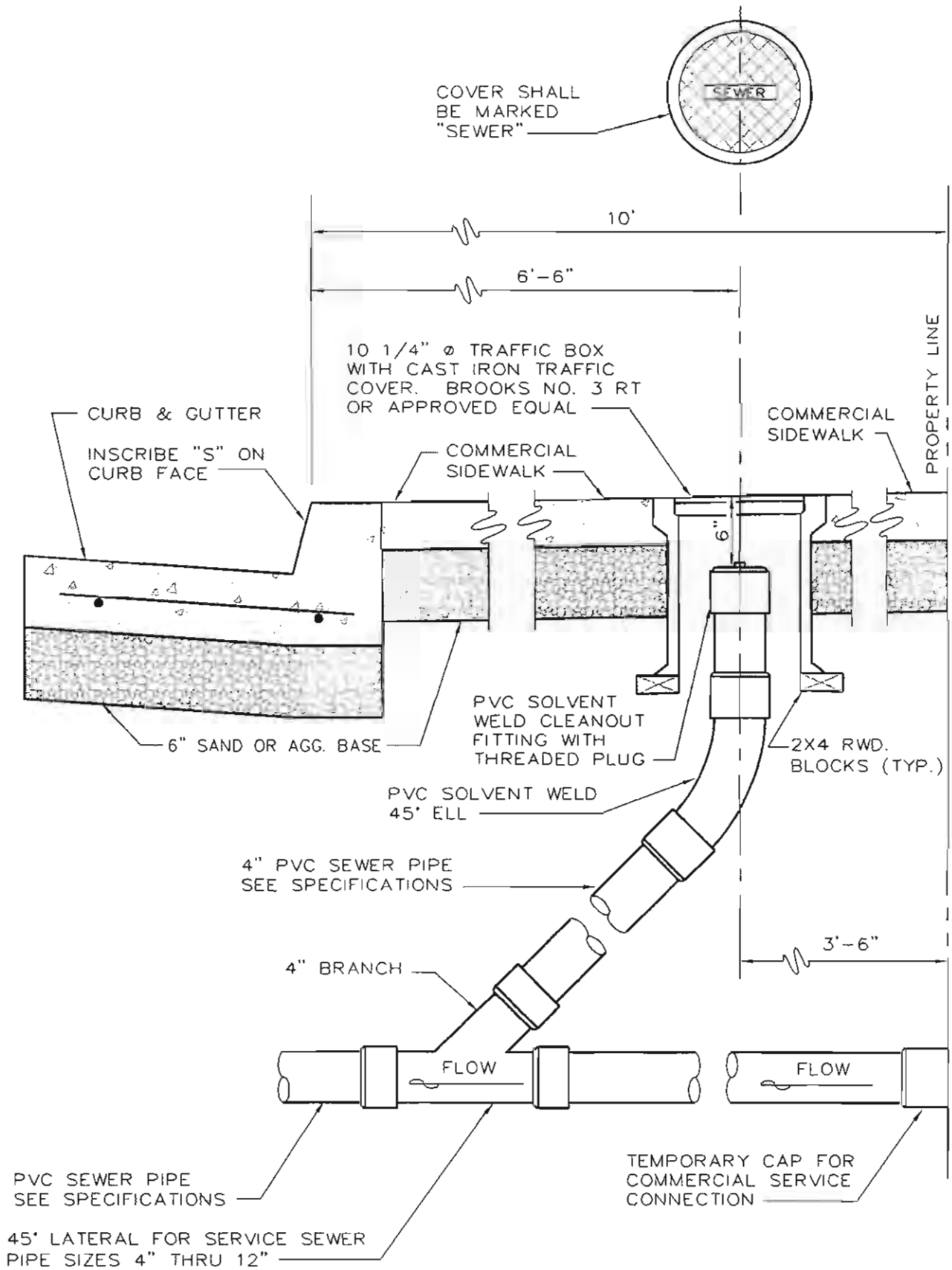




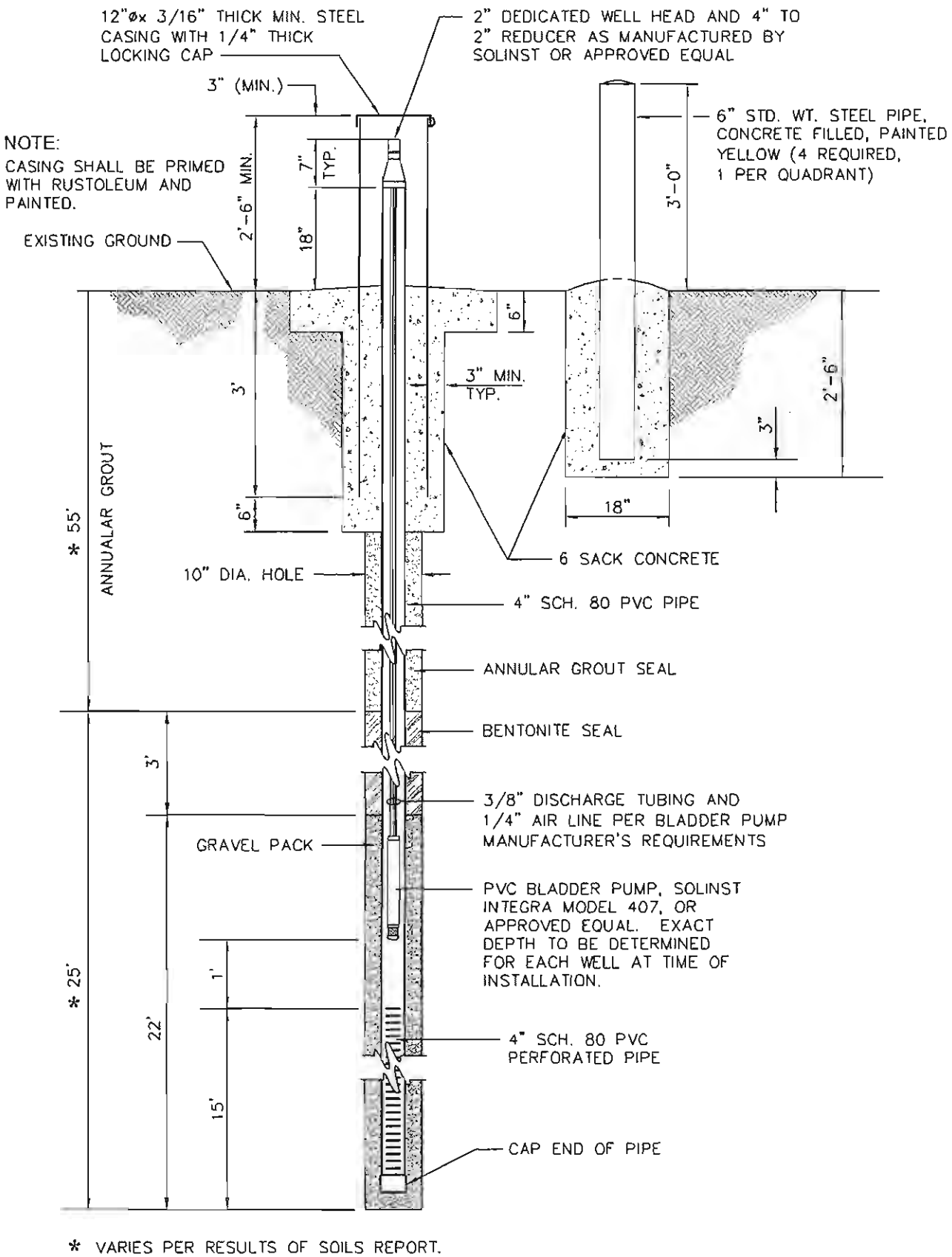
REVISION DATE	CITY OF MENDOTA	STD. DWG.
	SLOPING LAMPHOLE WITH CAST IRON CLEANOUT AND COVER	S-6



REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	RESIDENTIAL SERVICE SEWER CLEANOUT	S-7A

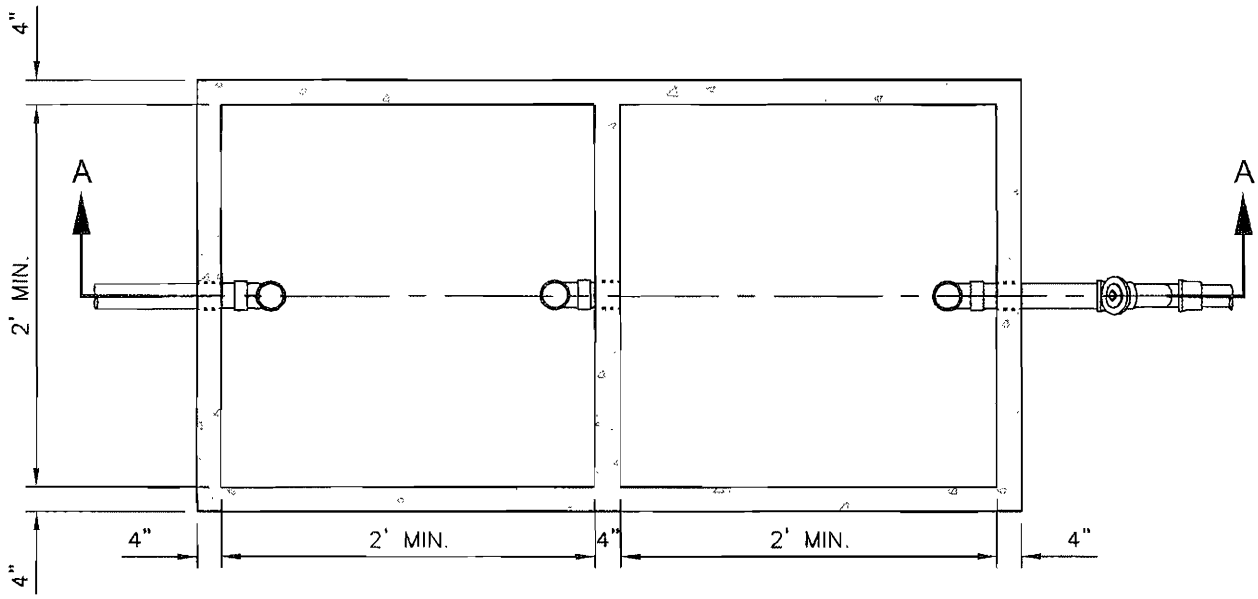


REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	COMMERCIAL SERVICE SEWER CLEANOUT	S-7B

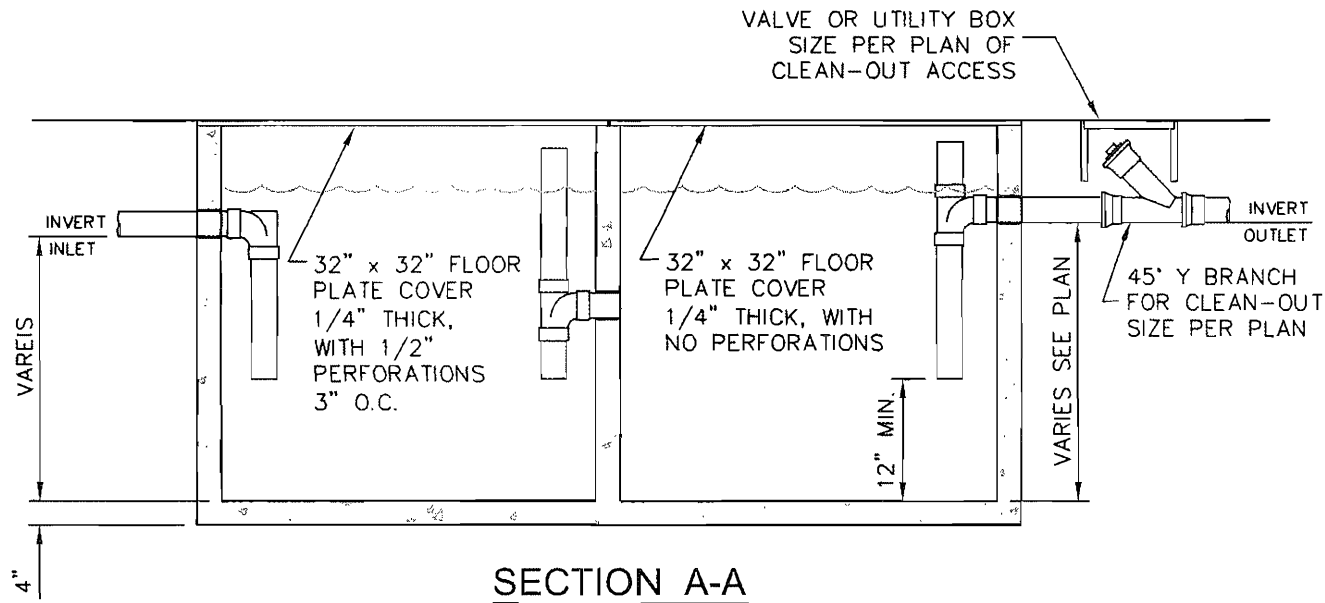


* VARIES PER RESULTS OF SOILS REPORT.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		MONITORING WELL	S-8



PLAN VIEW



SECTION A-A

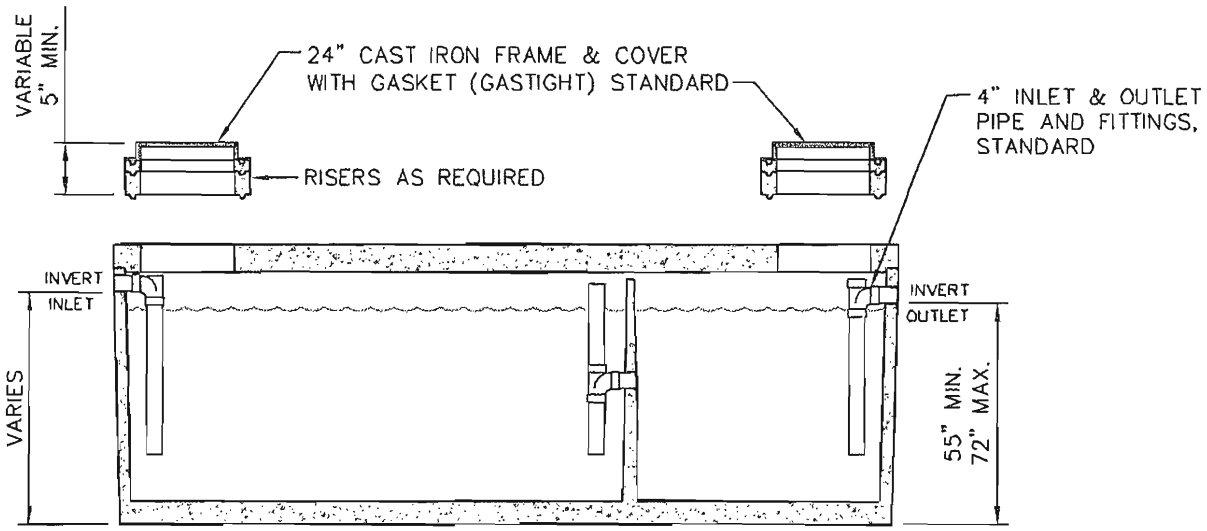
NOTES:

1. A PARTIAL LIST OF AREAS WHERE SAND INTERCEPTORS MAY BE REQUIRED INCLUDES INDUSTRIAL PLANTS, STEAM CLEANING PLANTS, SERVICE STATIONS, AND CAR WASHES.

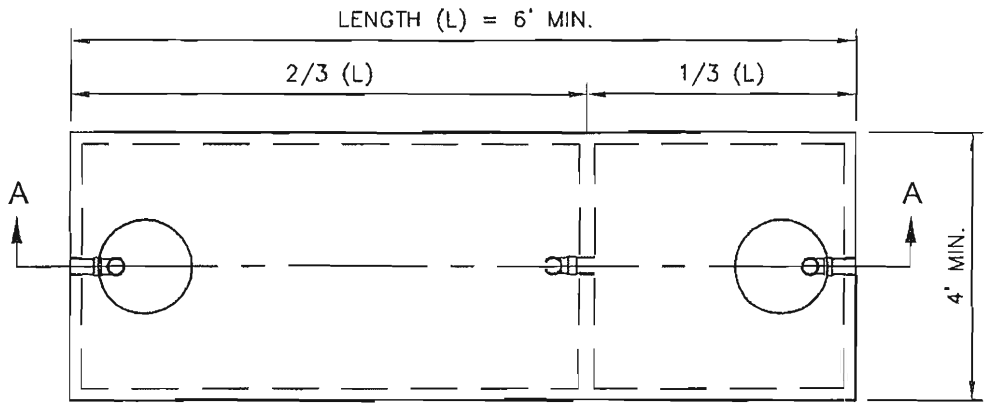
2. PRE CAST SAND INTERCEPTORS SHALL BE APPROVED BY THE CITY ENGINEER.

3. UNITS INSTALLED IN TRAVELED WAY SHALL BE DESIGNED FOR H-20 TRAFFIC LOADING, BOX AND COVER.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
9-25-07	SAND INTERCEPTOR	S-9



SECTION A-A

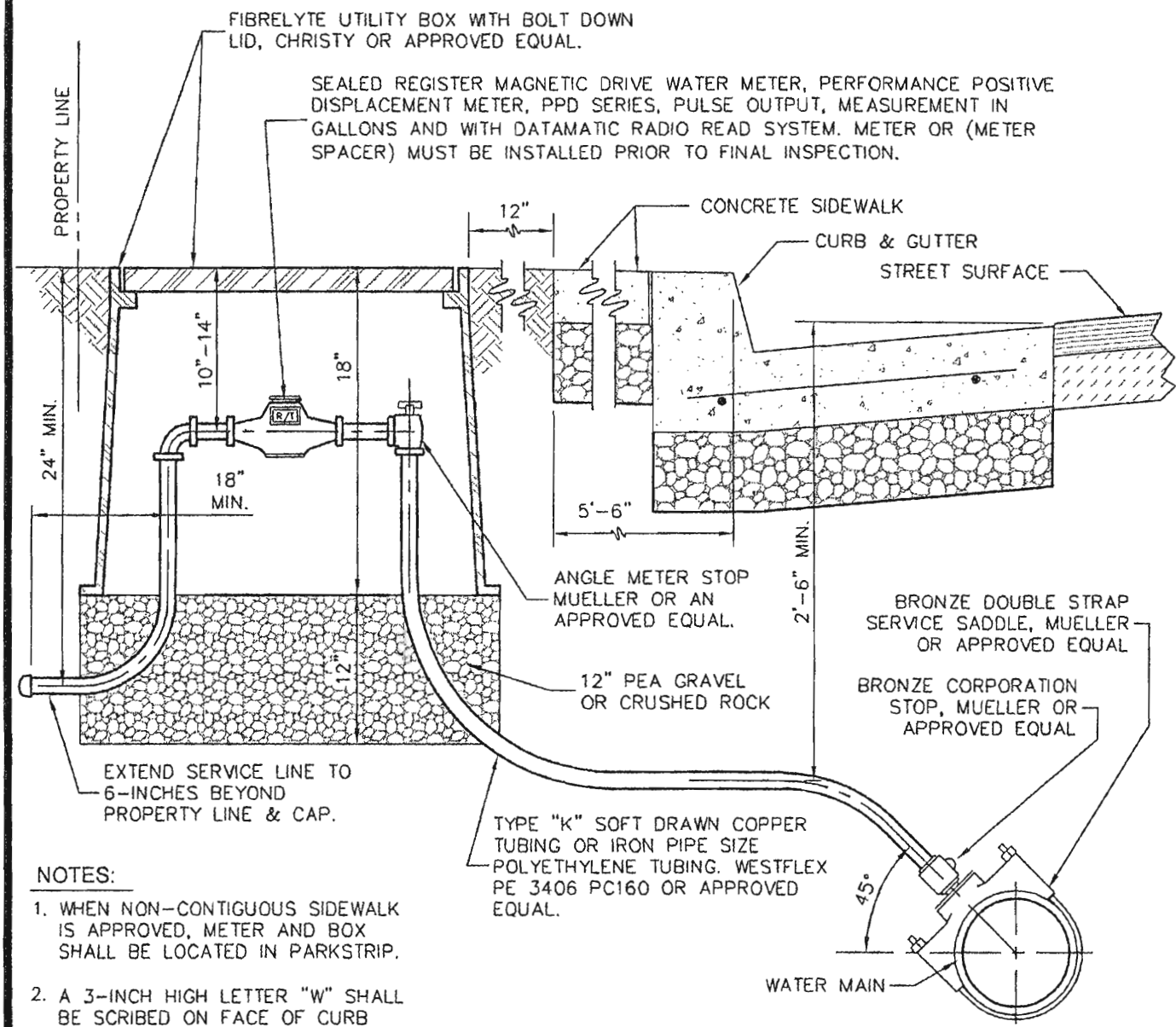


TOP VIEW

NOTES:

1. REQUIRED SIZE OF GREASE INTERCEPTOR SHALL BE DETERMINED BY APPENDIX H OF THE UNIFORM PLUMBING CODE, CURRENT EDITION. THE MINIMUM ALLOWABLE LIQUID VOLUME 500 GALLONS.
2. UNITS INSTALLED IN TRAVELED WAY SHALL BE DESIGNED FOR H-20 TRAFFIC LOADING.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
9-25-07	GREASE INTERCEPTOR	S-10



NOTES:

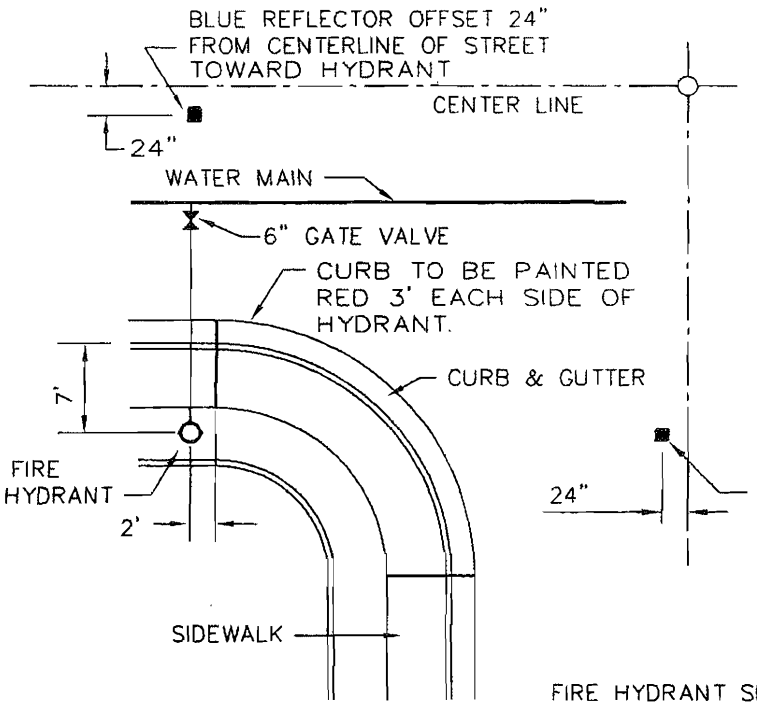
1. WHEN NON-CONTIGUOUS SIDEWALK IS APPROVED, METER AND BOX SHALL BE LOCATED IN PARKSTRIP.
2. A 3-INCH HIGH LETTER "W" SHALL BE SCRIBED ON FACE OF CURB ABOVE SERVICE LINE.

ITEM	1" SERVICE	1-1/2" SERVICE	2" SERVICE
SERVICE SADDLE	BRONZE DOUBLE STRAP	BRONZE DOUBLE STRAP	BRONZE DOUBLE STRA
CORPORATION STOP	BRONZE	BRONZE	BRONZE
ANGLE METER STOP	BRONZE-LOCKABLE	BRONZE-LOCKABLE	BRONZE-LOCKABL
WATER METER	PPD-07	PPD-09	PPD-12
UTILITY BOX	FL30BOX18 13"x24"	FL36BOX18 17"x30"	FL36BOX18 17"x3
UTILITY BOX COVER	FL30T W/PENTAHEAD BOLTS	FL36T W/PENTAHEAD BOLTS	FL36T W/PENTAHEA
SERVICE TUBING	SP-3406/SDR-9	SP-3406/SDR-9	SP-3406/SDR

REVISION DATE	
01/10/05	
9-25-07	

CITY OF MENDOTA

SERVICE CONNECTION WITH METER BOX & METER



FIRE HYDRANT LOCATION

PLAN VIEW

*FOR COMMERCIAL & SET BACK SIDEWALK CENTER OF HYDRANT SHALL BE LOCATED 2'-9" FROM FACE OF CURB.

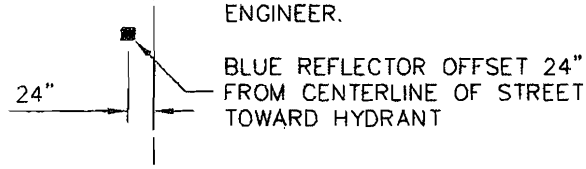
NOTES:

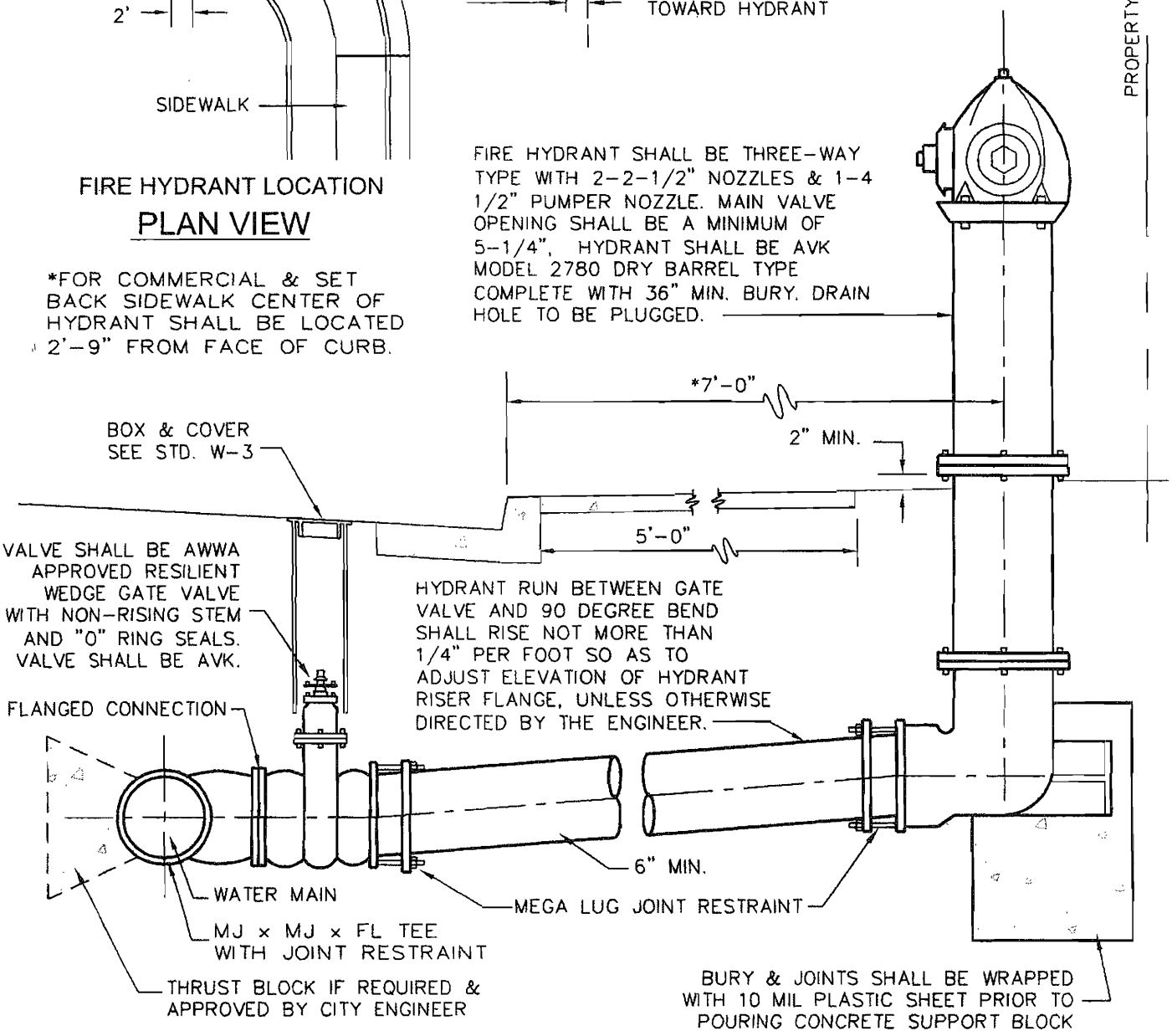
NOZZLES AND CAPS SHALL HAVE NATIONAL STANDARD PIPE THREADS.

HYDRANTS TO BE PAINTED WITH RUSTOLEUM 7744, COLOR TO BE APPROVED BY THE CITY ENGINEER.

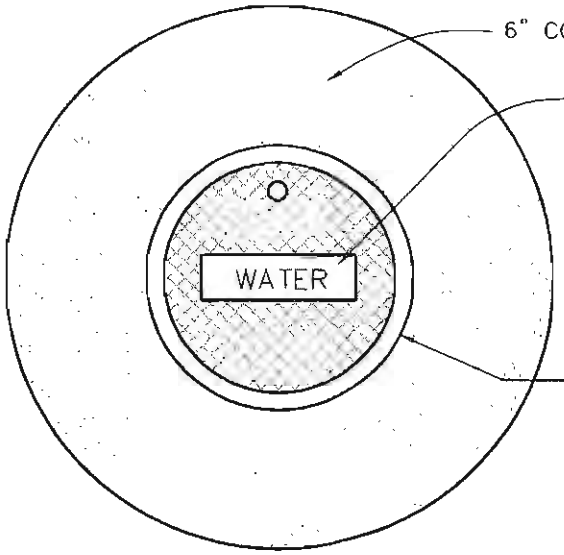
HYDRANTS IN AN AREA WITH NO CURBS OR EXPOSED TO BACK SIDE DAMAGE SHALL HAVE GUARD POSTS INSTALLED TO PROTECT FROM VEHICLE DAMAGE. (SEE STD. M-8)

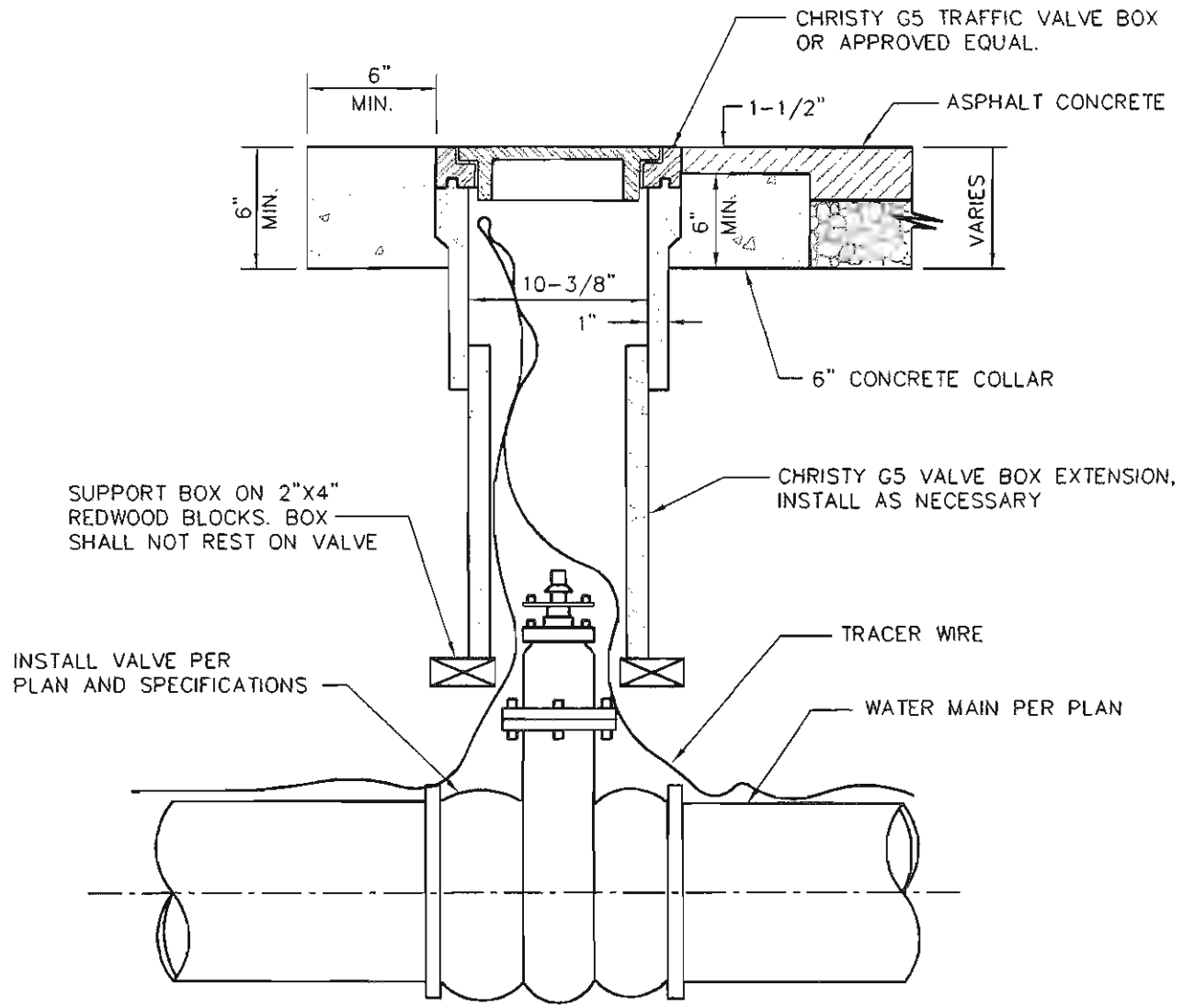
DISTANCES INDICATED SHALL BE USED, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.



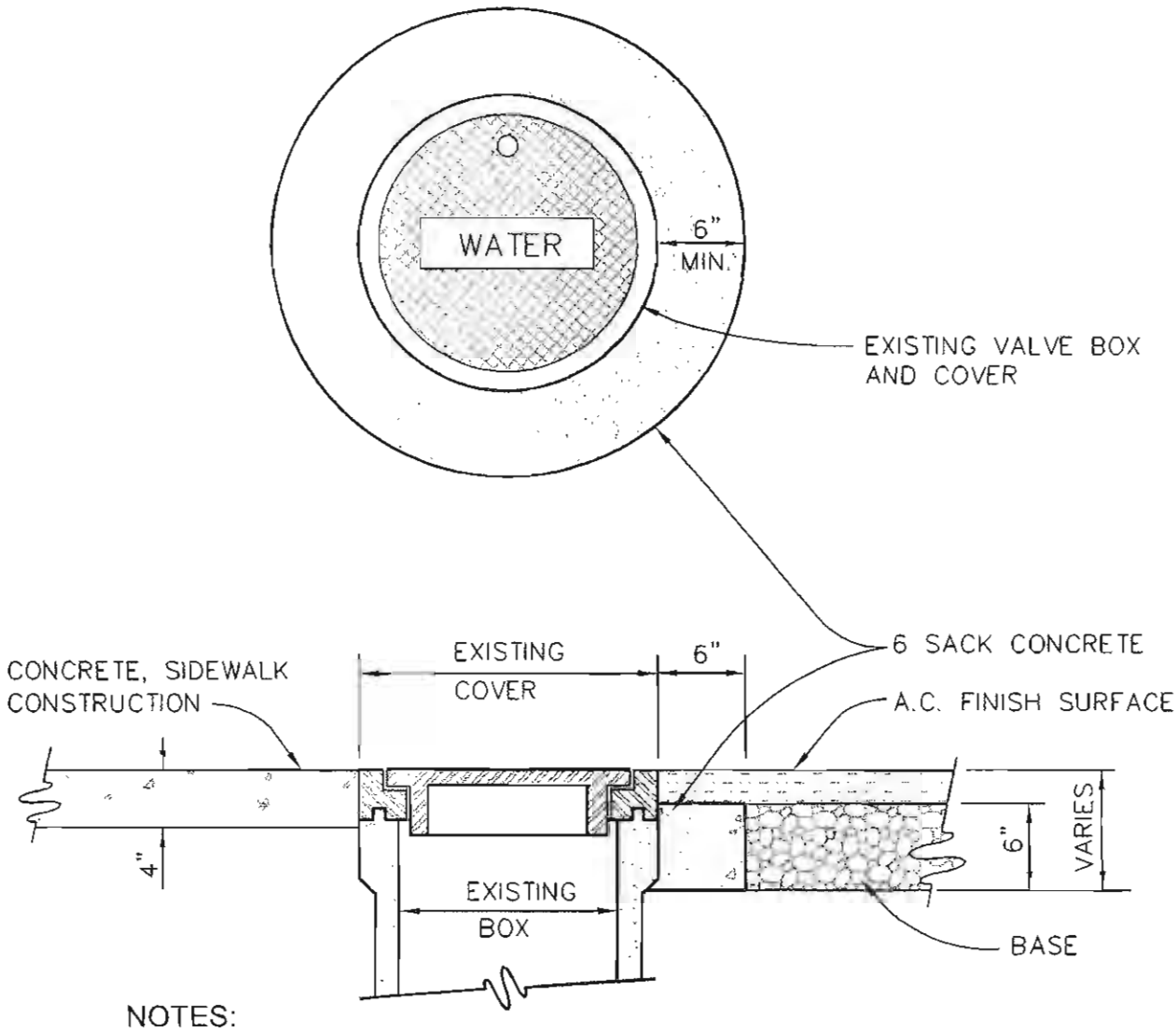


REVISION DATE		CITY OF MENDOTA	Std. Dwg.
1/10/06		FIRE HYDRANT INSTALLATION & LOCATION	W-2
9-25-07			





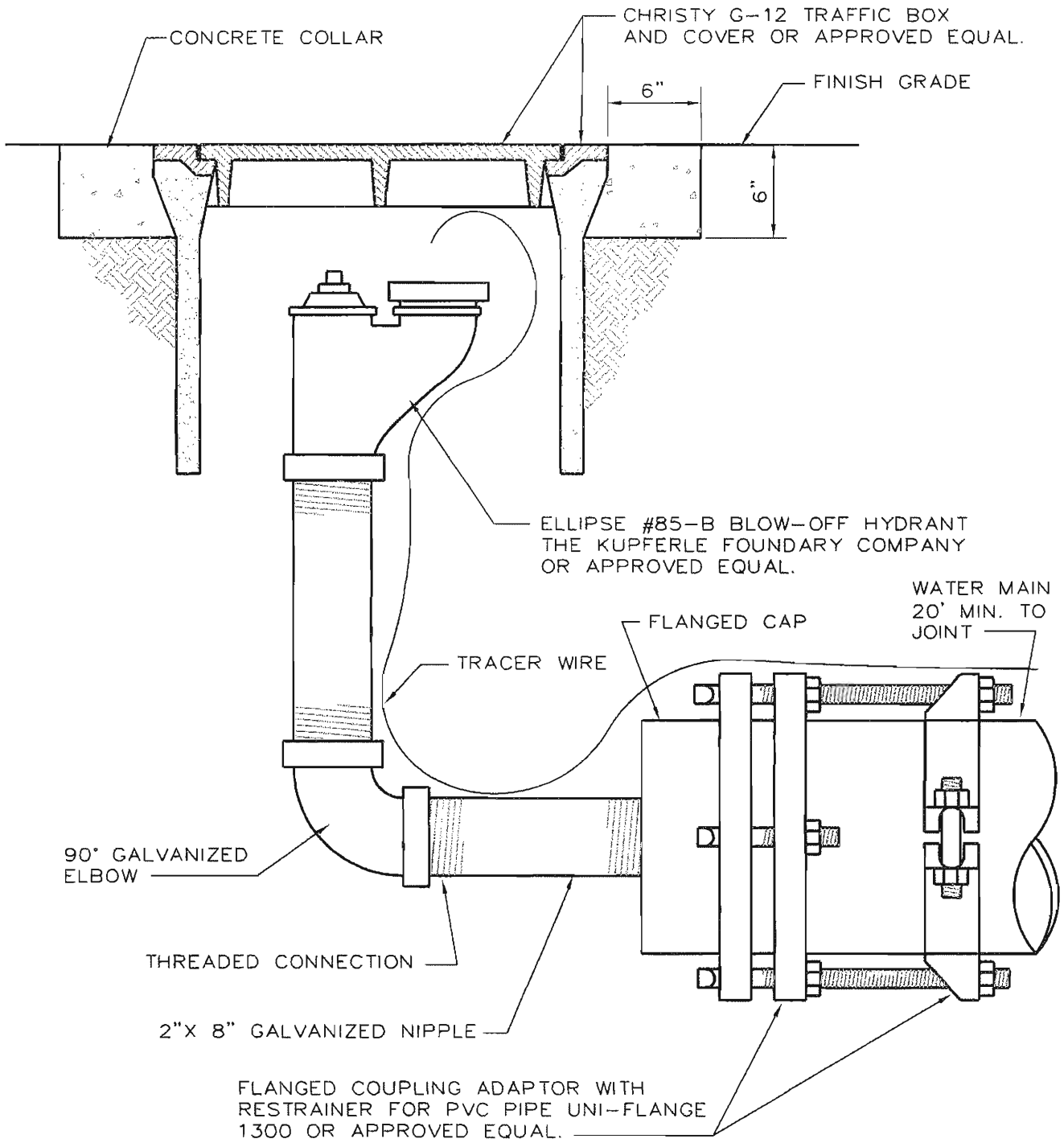
REVISION DATE	CITY OF MENDOTA	STD. DWG.
	VALVE BOX & COVER DETAIL	W-3



NOTES:

1. REMOVE EXISTING CONCRETE COLLAR IF ANY.
2. ADJUST EXISTING VALVE BOX AND COVER TO FINISH GRADE AFTER PAVING IS COMPLETED.
3. RECONSTRUCT CONCRETE COLLAR OR CONSTRUCT NEW SIDEWALK AS REQUIRED AND/OR DIRECTED BY THE ENGINEER.
4. CONCRETE COLLAR SHALL BE CONSTRUCTED USING 6 SACK CONCRETE.
5. APPLY PAINT BINDER TO EXPOSED SIDE OF VALVE BOX PRIOR TO PAVING.

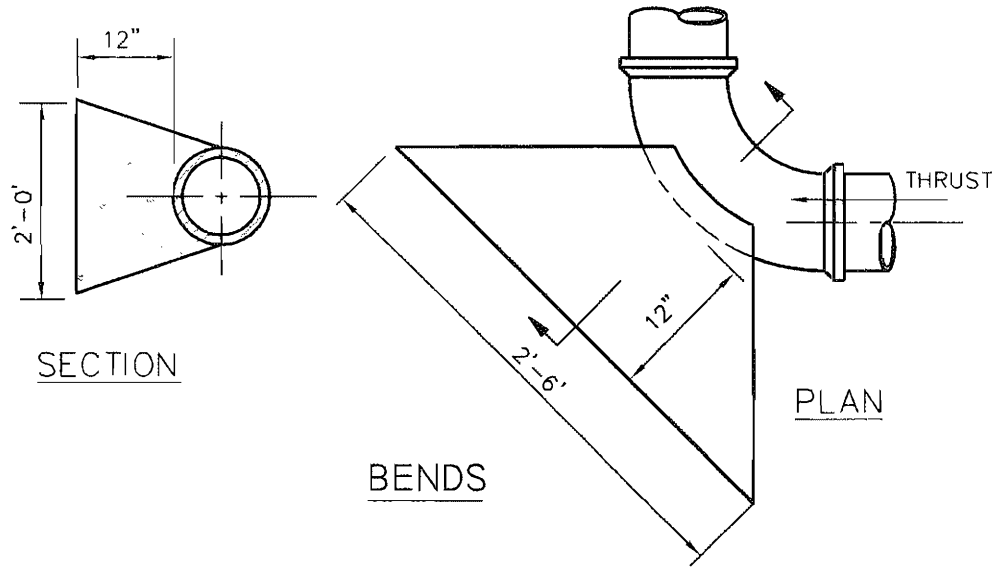
REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	WATER VALVE BOX & COVER GRADE ADJUSTMENT	W-3A



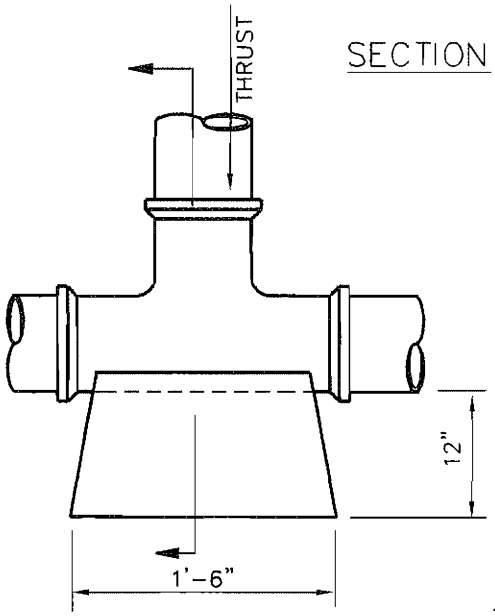
NOTE

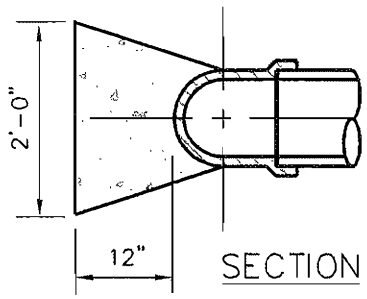
ALL BURIED GALVANIZED PIPE SHALL BE WRAPPED WITH 20 MIL PVC PIPE WRAP.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
	WATER MAIN BLOW-OFF	W-4

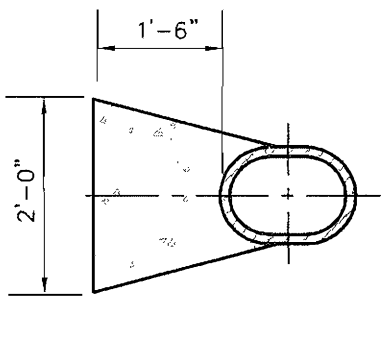


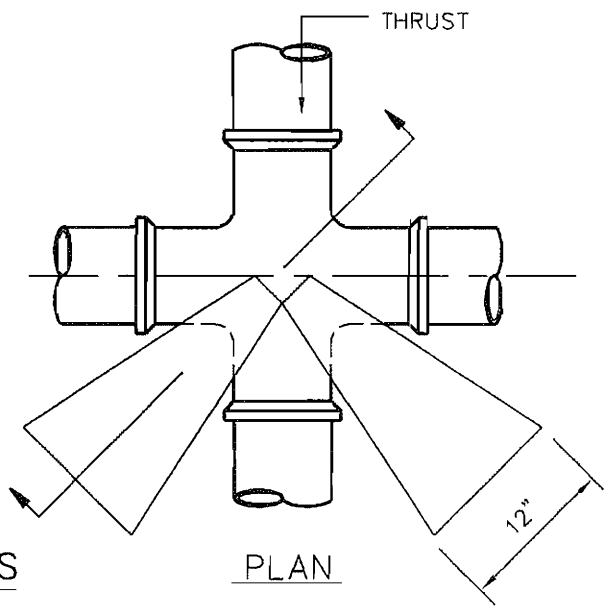
BENDS





TEES



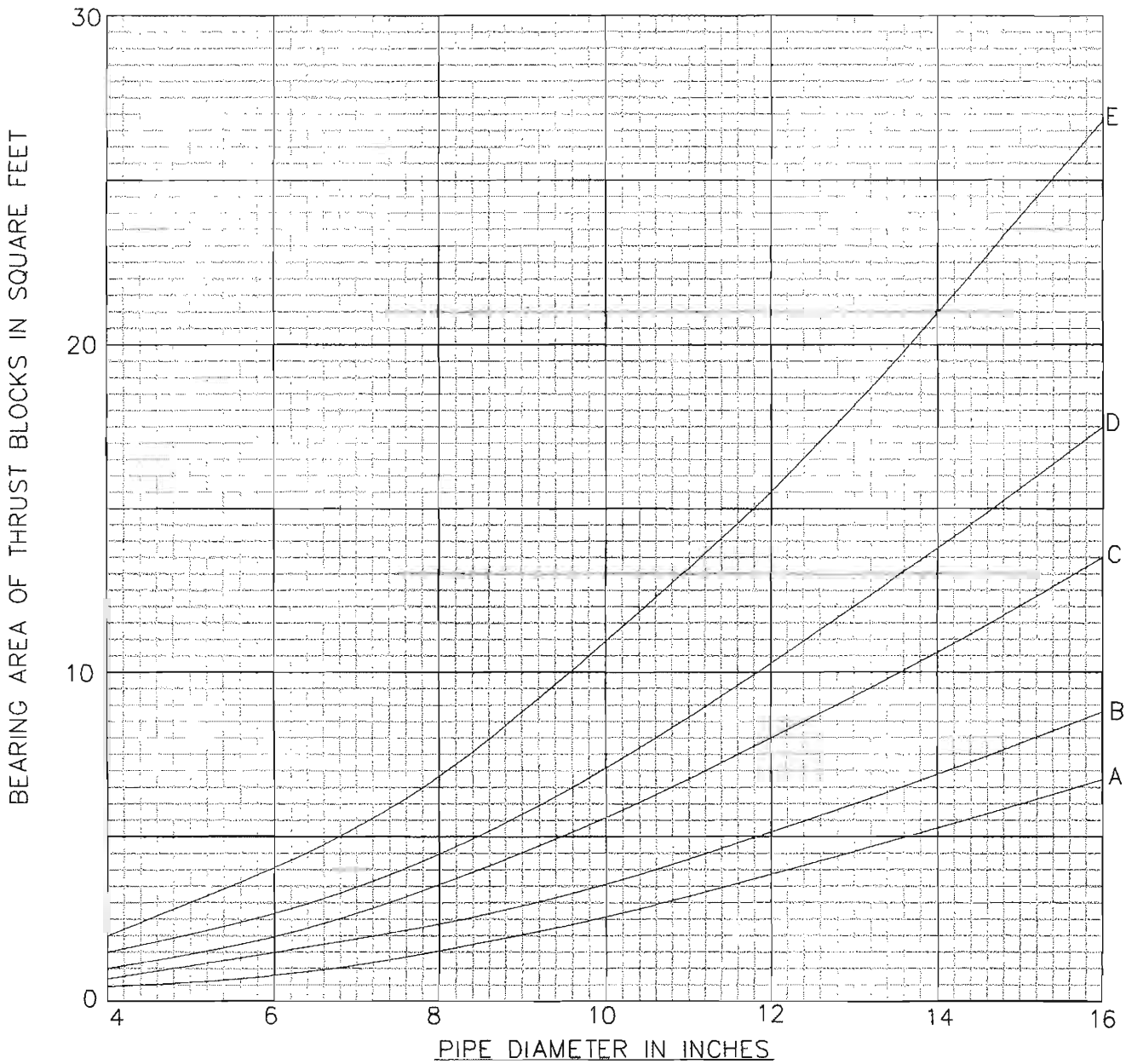


CROSSES

NOTES:

1. ALL THRUST BLOCKS TO BE POURED AGAINST UNDISTURBED SOIL, WITH A MINIMUM THICKNESS OF 12 INCHES BETWEEN FITTINGS AND SOIL.
2. ALL DIMENSIONS SHOWN ARE MINIMUM, SEE THRUST BLOCK BEARING AREA CHART.
3. CONCRETE SHALL BE 5 SACK MIX PER STATE OF CALIFORNIA DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION.
4. SUPPORT AND PROTECT ALL PIPE. CONCRETE SHALL NOT BEAR AGAINST PIPES.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
	THRUST BLOCK DETAILS	W-5



NOTES:

1. HORIZONTAL THRUST AT FITTINGS IS BASED ON 150 PSI WATER PRESSURE.
2. VALUES FROM CURVES ARE FOR TEES AND DEAD ENDS, i.e. STRAIGHT LINE THRUST. FOR OTHER FITTINGS, MULTIPLY THE BEARING AREA OBTAINED FROM CURVES BY THE FOLLOWING FACTORS: (FOR 90° BEND, 1.4) (FOR 45° BEND, 0.8) (FOR 22-1/2° BEND, 0.4).
3. SAFE BEARING LOADS ON UNDISTURBED SOIL ARE AS FOLLOWS:
   CURVE A = 4000 PSF, MASSIVE CRYSTALLINE BEDROCK.
   CURVE B = 3000 PSF, SEDIMENTARY AND FOLIATED BEDROCK.
   CURVE C = 2000 PSF, SANDY GRAVEL AND / OR GRAVEL.
   CURVE D = 1500 PSF, SANDY, SILTY SAND OR GRAVEL AND CLAYEY SAND OR GRAVEL.
   CURVE E = 1000 PSF,CLAY, SANDY CLAY, SILTY CLAY, AND CLAYEY SILT.
4. THRUST BLOCKS FOR CONDITIONS NOT COVERED BY CURVES SHALL BE APPROVED BY THE CITY ENGINEER.

REVISION DATE	CITY OF MENDOTA	STD. DWG.
	THRUST BLOCK BEARING AREA	W-6

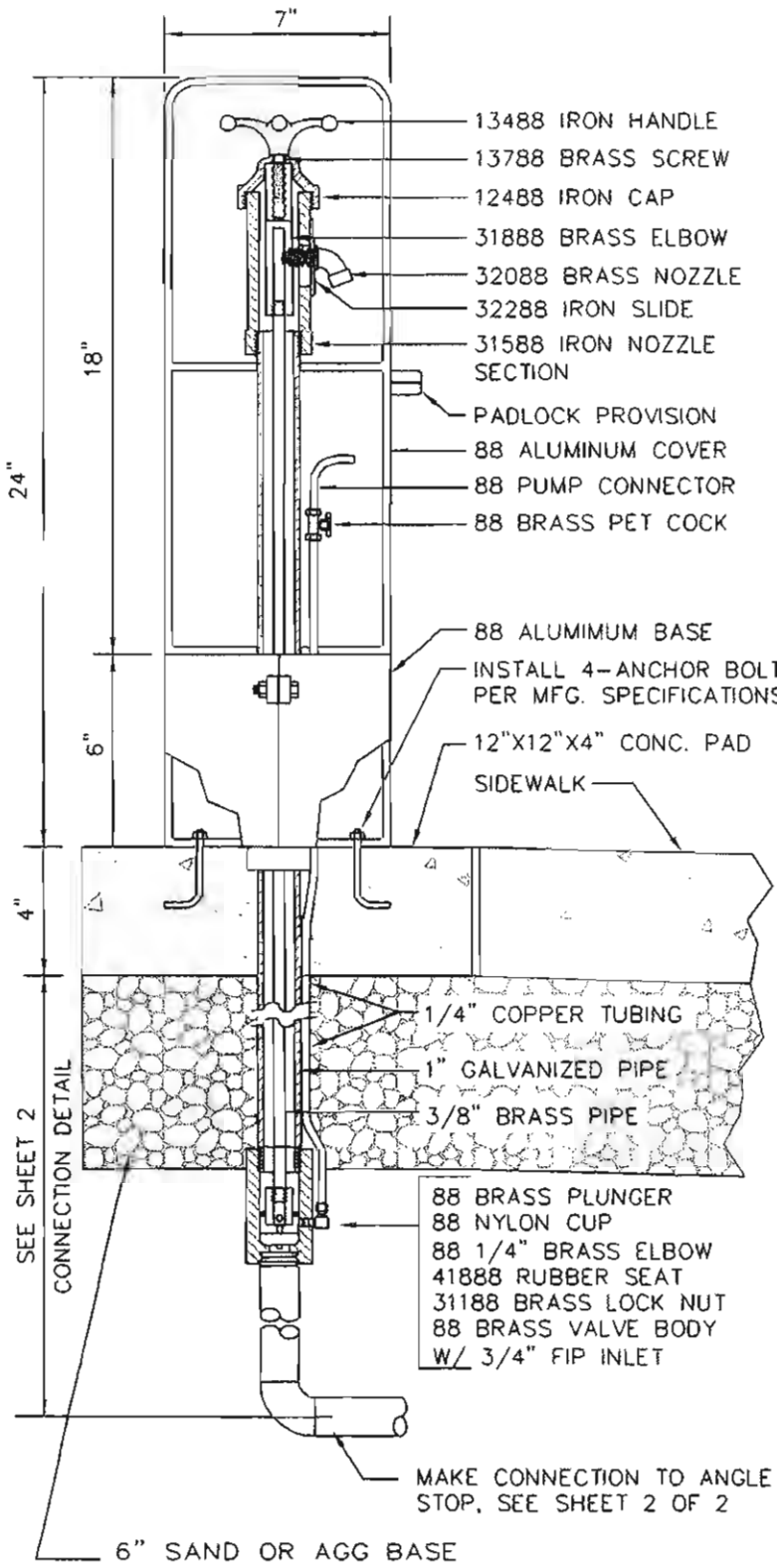
STANDARD SPECIFICATIONS:

SAMPLING STATIONS SHALL HAVE A MINIMUM. 3/4" FIP INLET, AND A 3/4" HOSE OR UNTHREADED NOZZLE. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING. WHEN OPENED THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL-BRASS WATERWAY. ALL WORKING PARTS WILL ALSO BE BRASS AND BE REMOVABLE FROM ABOVE GROUND WITH NO DIGGING. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIAL GROWTH. THE EXTERIOR PIPING WILL BE GALVANIZED, AS MANUFACTURED BY KUPFERLE FOUNDRY, ST. LOUIS, MO. 63102.

NOTES:

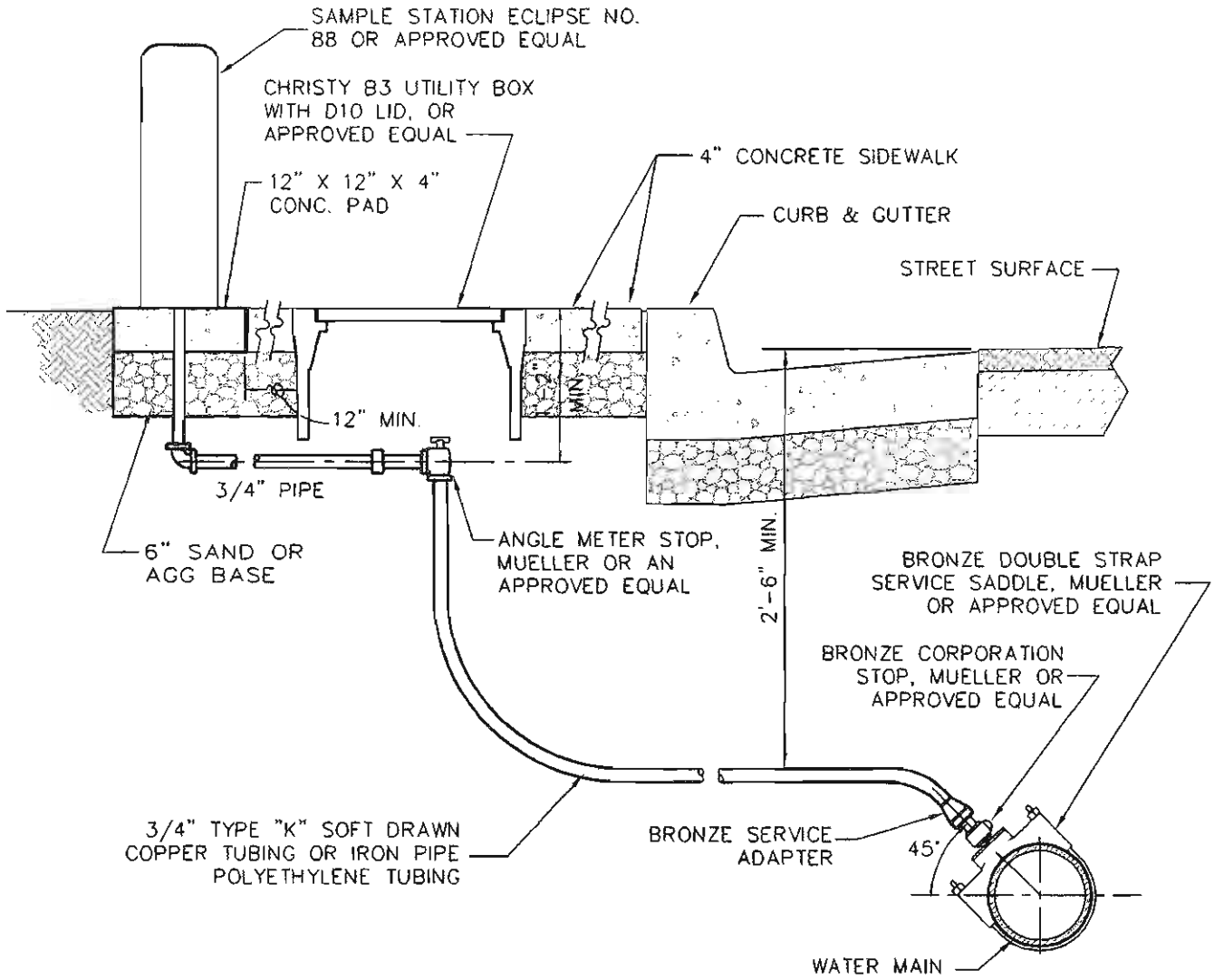
1. LOCATION OF WATER SAMPLE STATIONS SHALL BE DETERMINED BY THE SUPERINTENDENT OF PUBLIC WORKS AND APPROVED BY THE CITY ENGINEER.

2. WATER SAMPLE STATIONS SHALL BE LOCATED WITHIN EACH WELL SUPPLY AND DISTRIBUTION AREA TO PROVIDE THE MINIMUM NUMBER OF SAMPLES REQUIRED BY THE STATE HEALTH DEPARTMENT.

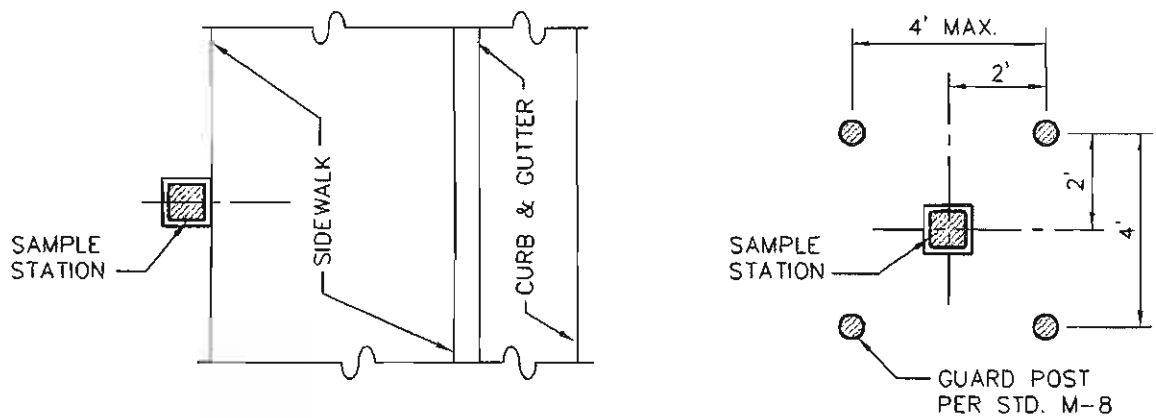


ECLIPSE NO. 88
SAMPLING STATION

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		3/4" WATER SAMPLE STATION	W-7
			1 OF 2



sample station connection detail

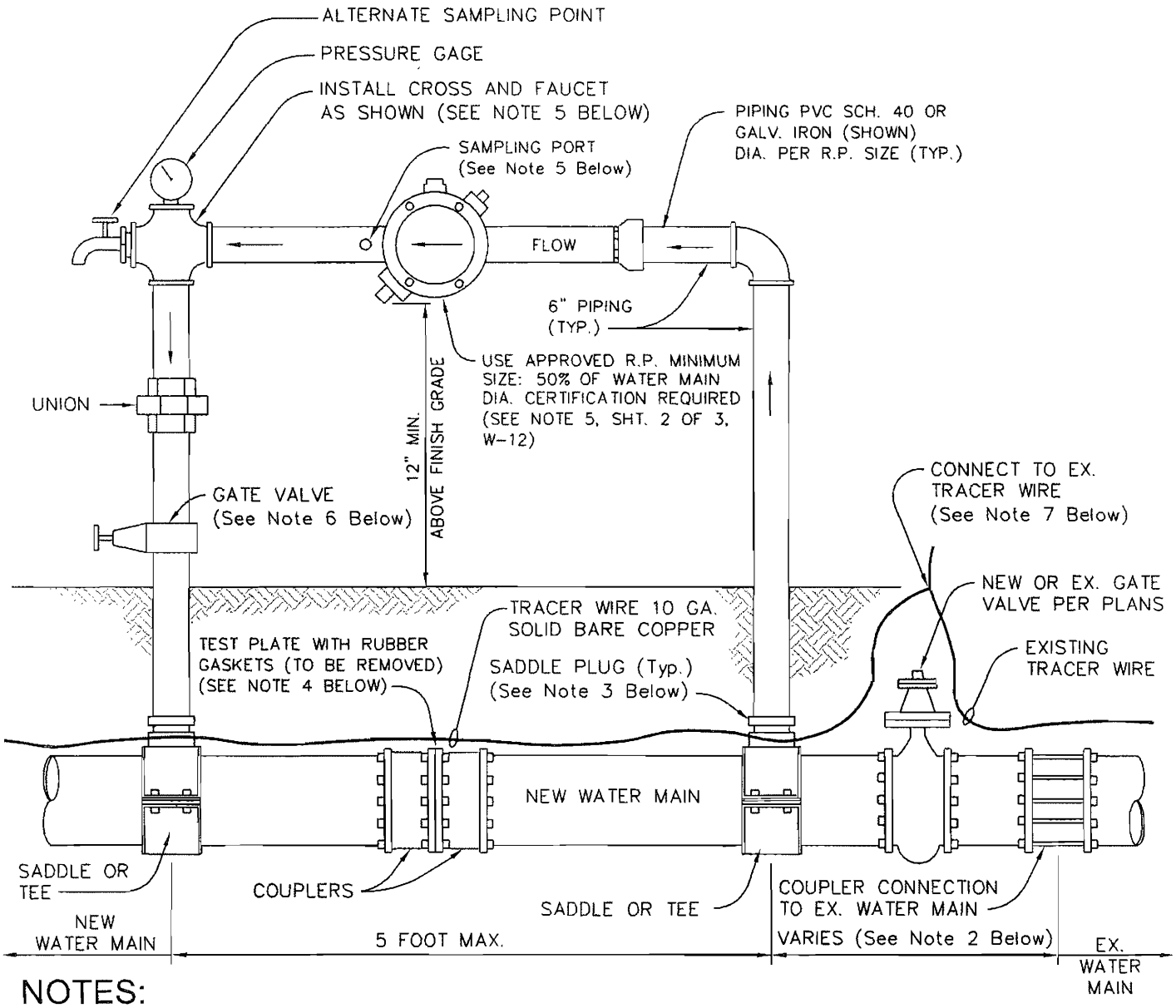


BACK OF SIDEWALK

OPEN AREA

PLAN VIEW

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		3/4" WATER SAMPLE STATION	W-7 2 OF 2



NOTES:

1. WATER MAIN CONNECTION AND REDUCED PRESSURE PRINCIPAL (R.P.) BACK FLOW PREVENTION ASSEMBLY AS SHOWN ABOVE SHALL BE UTILIZED FOR CONNECTION TO THE EXISTING MAIN AS SHOWN ON PLANS.
2. DISTANCE VARIES PER INSTALLATION, DISTANCE REQUIRES CITY ENGINEER'S PRIOR APPROVAL. ALL PIPING BETWEEN EXISTING WATER MAIN SHALL BE SWABBED PER NOTE #3, SHT. 2 OF 3, W-8.
3. INSTALL SADDLE PLUGS WITH TEFLON TAPE WHEN R.P. ASSEMBLY IS REMOVED AND NEW WATER MAIN HAS PASSED THE BACTERIA TEST.
4. REMOVE TEST PLATE AFTER NEW WATER MAIN HAS PASSED THE BACTERIA TEST. BOLT COUPLERS TOGETHER USING ONLY ONE RUBBER GASKET BETWEEN FLANGES, AND PROCEED PER NOTE #13, SHT. 3 OF 3, W-8.
5. SAMPLING PORT TO BE USED ON R.P. SHALL BE DOWN STREAM SIDE OF R.P. OR SHALL BE ALTERNATE SAMPLING POINT AS SHOWN.
6. MAY BE DELETED WITH ENGINEERING DIVISION APPROVAL IF NEW WATER MAIN IS COMPLETELY INSTALLED.
7. SPLICING OF FINDER WIRE SHALL BE ACCOMPLISHED BY WRAPPING THE BARE ENDS OF THE WIRE TOGETHER, SOLDERING THE CONNECTION, AND WRAPPING THE SOLDERED CONNECTION WITH ELECTRICAL TAPE.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	WATER MAIN CONNECTION PROCEDURE	W-8
		SHT. 1 OF 3

Water Main Installation and Connection Procedure

1. CONTRACTOR SHALL SECURE THE END OF ALL WATER MAIN PIPES BEING INSTALLED IN TRENCH EACH AND EVERY TIME THE WORK SITE IS LEFT UNATTENDED, i.e. LUNCH BREAKS, OVERNIGHT, ETC. ONLY WATER TIGHT PLUGS WILL BE ALLOWED.

2. ALL CHLORINATION DISINFECTION PROCEDURES SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF A.W.W.A. STANDARD, C-651, FOR DISINFECTING WATER MAINS.

3. ALL CONNECTIONS TO EXISTING CITY WATER MAINS, WHERE FEASIBLE, SHALL BE HOT TAP FITTINGS. GATE VALVE, TEMPORARY PLUMBING AND R.P. VALVE SHALL BE DISINFECTED BY SWABBING WITH 1% HYPOCHLORITE SOLUTION TO THE SATISFACTION OF THE CITY INSPECTOR PRIOR TO INSTALLATION. WHERE HOT TAP IS NOT POSSIBLE AS DETERMINED BY THE CITY INSPECTOR, ALL NECESSARY PRECAUTIONS, INCLUDING OVER EXCAVATION AND PUMPING, SHALL BE TAKEN TO PREVENT CONTAMINATION OF THE EXISTING MAIN. CONTRACTOR SHALL NOTIFY ALL AFFECTED WATER CUSTOMERS A MINIMUM OF 48 HOURS PRIOR TO DISRUPTION OF WATER SERVICE.

4. CONTRACTOR SHALL NOTIFY CITY ENGINEERING DIVISION 48 HOURS PRIOR TO COMMENCING INSTALLATION OF WATER MAIN.

5. CONTRACTOR SHALL USE APPROVED REDUCED PRESSURE PRINCIPAL (R.P.) BACKFLOW PREVENTER ASSEMBLY BETWEEN NEW WATER MAIN AND EXISTING CITY WATER MAIN. CITY INSPECTOR SHALL BE PRESENT DURING THE TIME OF CONNECTION. THE R.P. SHALL BE CHECKED, APPROVED BY AN A.W.W.A. CERTIFIED TESTER AND WRITTEN CERTIFICATION SUBMITTED TO THE CITY INSPECTOR AFTER INSTALLATION AND PRIOR TO ANY CONNECTION TO A NEWLY INSTALLED WATER MAIN.

6. CITY INSPECTOR SHALL TEST AFTER 24 HOURS TO VERIFY RESIDUAL OF 10 ppm MINIMUM CHLORINE.

7. AFTER 48 HOURS, IF CHLORINE RESIDUAL LEVEL IS APPROVED, CONTRACTOR SHALL FLUSH NEW MAIN THROUGH R.P. VALVE UNTIL CHLORINE RESIDUAL IS ZERO (0) AS TESTED AND VERIFIED BY THE CITY INSPECTOR. GATE VALVE SHALL THEN BE CLOSED TO MAINTAIN ISOLATION.

8. AFTER 48 HOURS OF ISOLATION, CITY WILL SAMPLE FOR BACTERIOLOGICAL ANALYSIS.

9. UPON APPROVAL OF BACTERIOLOGICAL TEST, CONTRACTOR SHALL REMOVE R.P. VALVE AND BLOW-OFF ASSEMBLY, THEN MAKE CONNECTION TO THE EXISTING WATER MAIN. CITY ENGINEERING DIVISION SHALL BE NOTIFIED 24 HOURS IN ADVANCE AND THE CITY INSPECTOR SHALL BE PRESENT DURING THE CONNECTION PROCEDURE.

10. CONTRACTOR SHALL PREVENT EXCESS WATER WHICH IS FLOWING FROM DISCONNECTED PIPES FROM COMING IN CONTACT WITH EXISTING AND NEW WATER MAIN BY OVER EXCAVATION OF CONNECTION SITE. WATER SHALL BE PUMPED OUT OF WORK AREA TO PREVENT CONTACT WITH AND INFILTRATION INTO THE WATER MAINS.

11. FINAL CONNECTION PIPING AND FITTINGS SHALL BE SWABBED WITH A 1% HYPOCHLORITE SOLUTION IN ACCORDANCE WITH PARAGRAPH 3 ABOVE.

12. THE CONTRACTOR SHALL SUBMIT A CONNECTION SEQUENCE AND PLAN INCLUDING LOCATION OF R.P. VALVE FOR APPROVAL BY THE CITY. IN THOSE CASES WHERE THE POINT OF CONNECTION AND/OR R.P. VALVE ARE LOCATED IN A TRAFFIC AREA, REMOTE LOCATION OF R.P. VALVE MAY BE SUBMITTED FOR APPROVAL.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	WATER MAIN CONNECTION PROCEDURE	W-8
		SHT. 2 OF 3

Water Main Installation and Connection Procedure Continued

13. CONTRACTOR SHALL FLUSH NEW WATER MAIN (BOTH WAYS IF POSSIBLE) THROUGH FIRE HYDRANT AND/OR BLOW-OFF ASSEMBLY IMMEDIATELY AFTER ALL CONNECTIONS HAVE BEEN MADE TO THE EXISTING WATER MAINS. THIS IS TO REMOVE CHLORINE SWABBING RESIDUE. THE CITY INSPECTOR WILL THEN VERIFY (0) RESIDUAL. THE CONTRACTOR SHALL THEN CLOSE ALL VALVES, IN THE PRESENCE OF THE INSPECTOR, TO ACHIEVE ISOLATION OF THE NEWLY INSTALLED WATER SYSTEM.

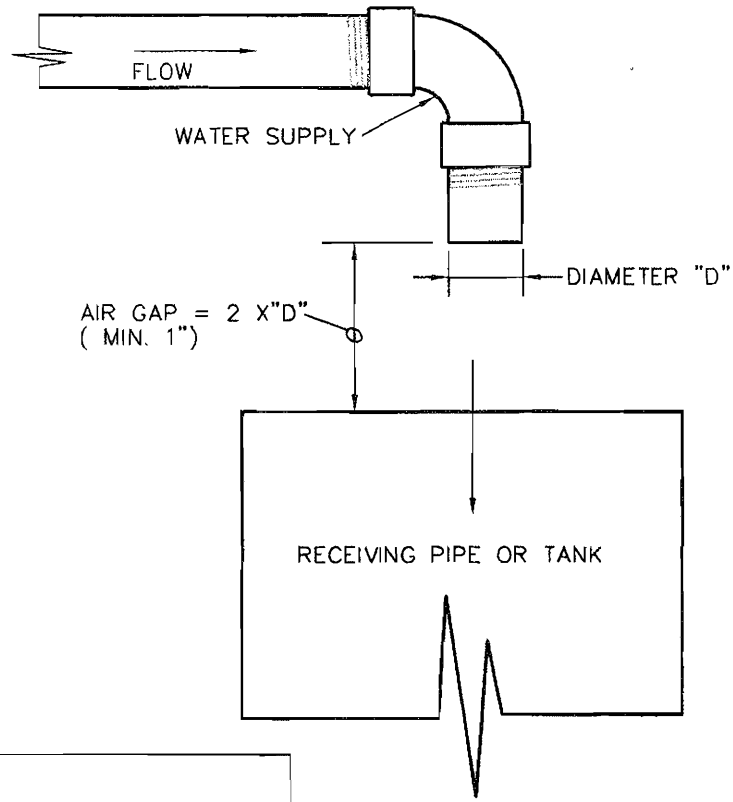
14. CITY WILL SAMPLE FOR BACTERIOLOGICAL ANALYSIS. IF ANY BACTERIA ARE FOUND IN ANY SAMPLES TAKEN THE CONTRACTOR SHALL IMMEDIATELY SUBMIT TO CITY ENGINEERING DIVISION CORRECTIVE ACTION PLANS FOR RECHLORINATION AND RETESTING.

15. CONTRACTOR SHALL REIMBURSE THE CITY FOR ALL COSTS INCURRED BY THE CITY FOR BACTERIOLOGICAL RETESTING PRIOR TO FINAL PROJECT APPROVAL.

16. UPON APPROVAL, CONTRACTOR SHALL FULLY OPEN ALL NEW MAINLINE VALVES AND FIRE HYDRANT VALVES. THE CITY INSPECTOR MUST VERIFY AND APPROVE THIS PROCEDURE PRIOR TO FINAL PROJECT APPROVAL.

17. WATER DISCHARGE FROM FLUSHING OPERATIONS SHALL NOT BE DISCHARGED TO A SANITARY SEWER SYSTEM.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
	WATER MAIN CONNECTION PROCEDURE	W-8
		SHT. 3 OF 3



EXAMPLE

PIPE DIAMETER: 3"
AIR GAP: 2 X 3–INCHES = 6–INCHES

SPECIFICATIONS

THIS BACKFLOW PREVENTER MUST CONFORM TO THE MOST RECENT SPECIFICATIONS OF THE STATE OF CALIFORNIA APPROVED BACKFLOW PREVENTION ASSEMBLIES FOR SERVICE ISOLATION

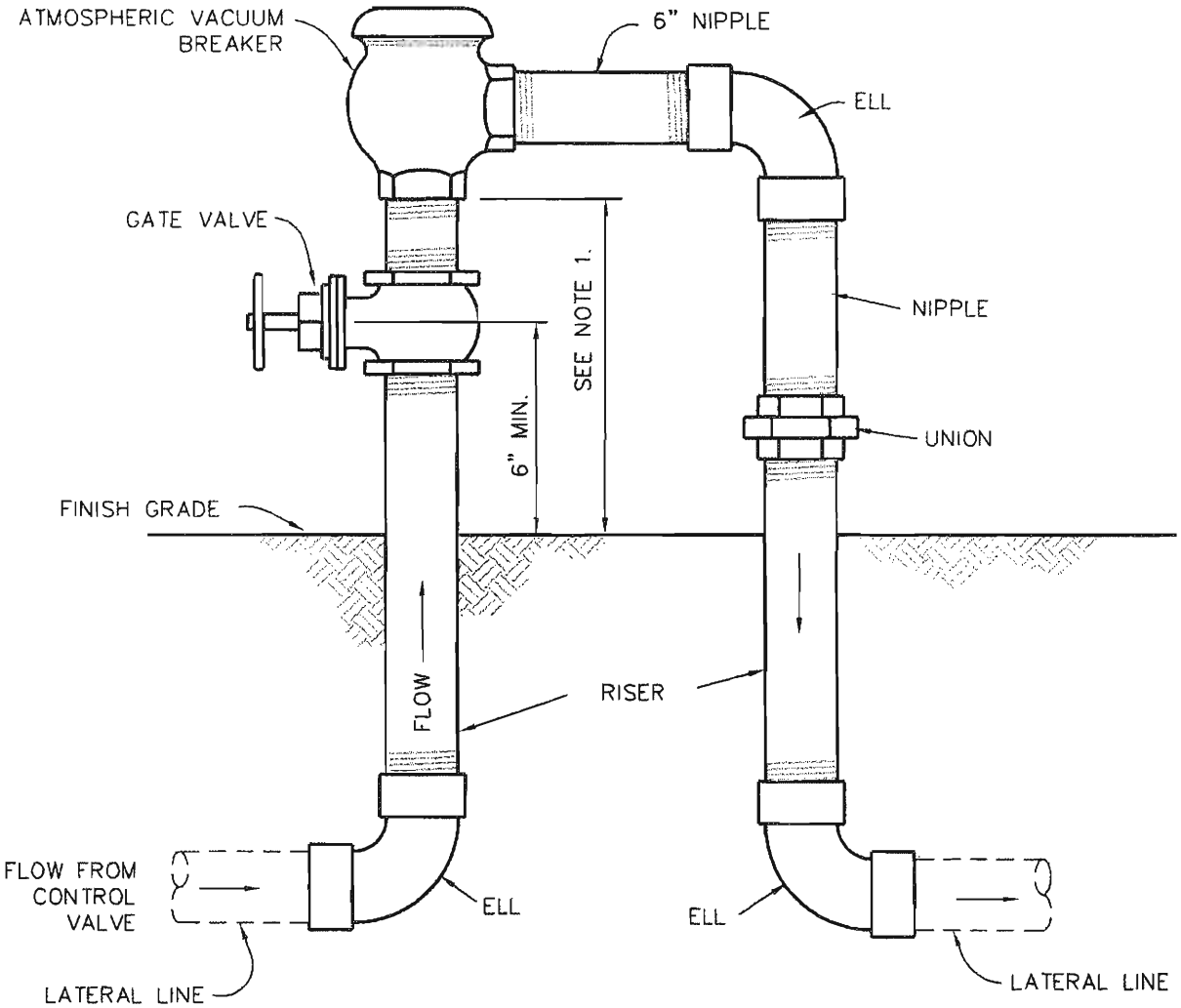
NOTES:

1. DEVICES AND INSTALLATION SHALL MEET FRESNO COUNTY DEPARTMENT OF HEALTH AND CITY OF MENDOTA DEPARTMENT OF PUBLIC WORKS REGULATIONS AND REQUIREMENTS.
2. CLOSE NIPPLES SHALL NOT BE USED.
3. APPROVED PLASTIC TAPE (1/2") WIDE SHALL BE USED ON ALL THREADED CONNECTIONS.
4. ALL PIPE SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE UNLESS OTHERWISE SPECIFIED.
5. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT.
6. ALL VALVES SHALL BE PROVIDED WITH RESILIENT SEATS.

REVISION DATE		CITY OF MENDOTA	STD. DWG.
9-25-07		AIR GAP DETAIL	W-9

SPECIFICATIONS

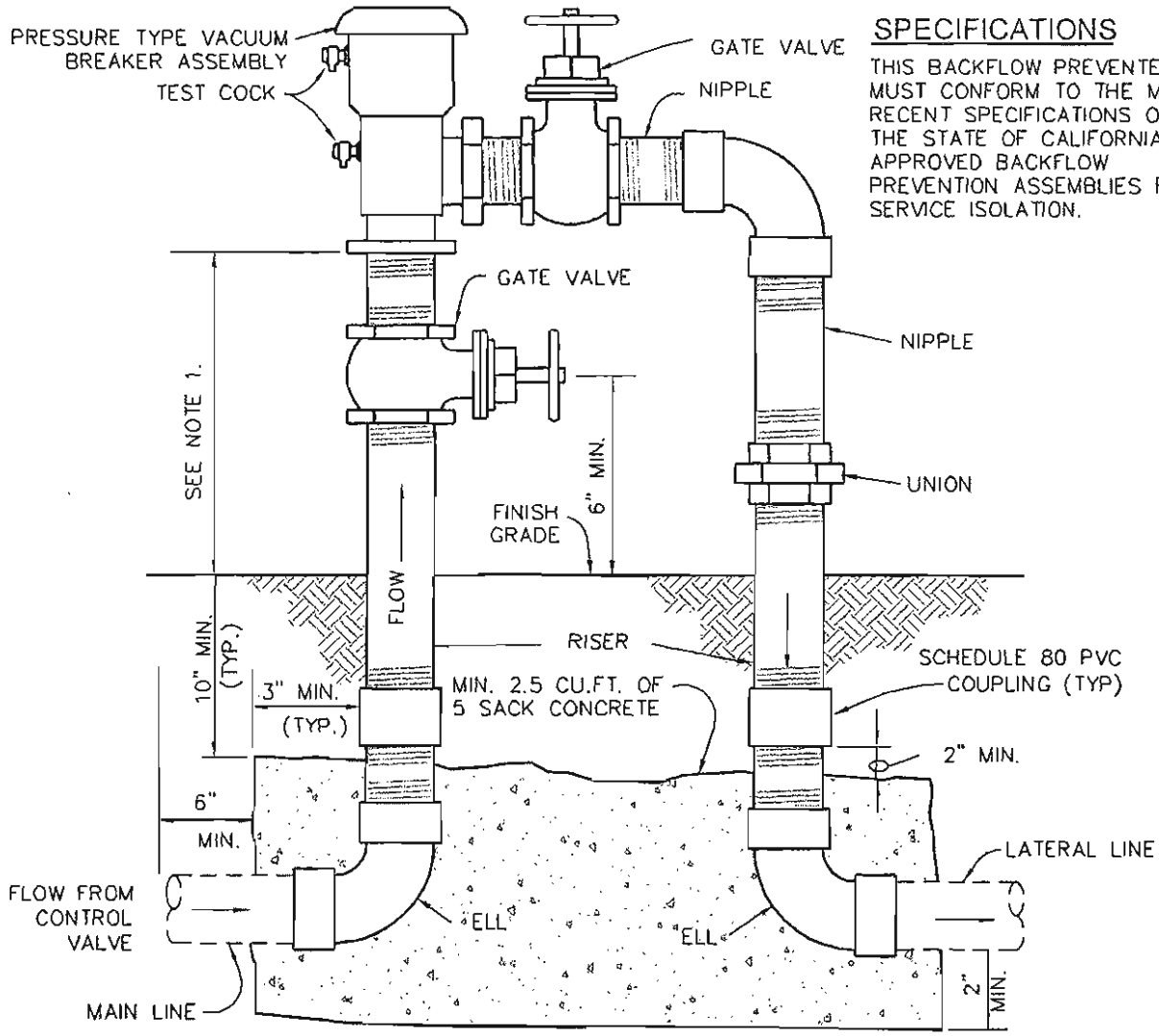
THIS BACKFLOW PREVENTER MUST CONFORM TO THE MOST RECENT SPECIFICATIONS OF THE STATE OF CALIFORNIA APPROVED BACKFLOW PREVENTION ASSEMBLIES FOR SERVICE ISOLATION.



ATMOSPHERIC TYPE 2" AND SMALLER

1. ATMOSPHERIC TYPE VACUUM BREAKERS SHALL BE INSTALLED A MINIMUM OF 6" ABOVE THE HIGHEST OUTLET OR FLOOD LINE, WHICHEVER IS HIGHER AND ON THE DOWNSTREAM SIDE OF VALVE ONLY.
2. DEVICES AND INSTALLATION SHALL MEET FRESNO COUNTY DEPARTMENT OF HEALTH AND CITY OF MENDOTA DEPARTMENT OF PUBLIC WORKS REGULATIONS AND REQUIREMENTS.
3. CLOSE NIPPLES SHALL NOT BE USED.
4. APPROVED PLASTIC TAPE (1/2") WIDE SHALL BE USED ON ALL THREADED CONNECTIONS.
5. ALL PIPE SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE UNLESS OTHERWISE SPECIFIED. ALL BURIED GALVANIZED PIPE SHALL BE WRAPPED WITH 20 MIL PVC PIPE WRAP.
6. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT.
7. ALL VALVES SHALL BE PROVIDED WITH RESILIENT SEATS AND LOCKABLE.
8. BACKFLOW ASSEMBLY SHALL BE COVERED WITH A PROTECTIVE ENCLOSURE.

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		VACUUM BREAKER ASSEMBLY	W-10
			1 OF 2



PRESSURE TYPE 2" AND SMALLER

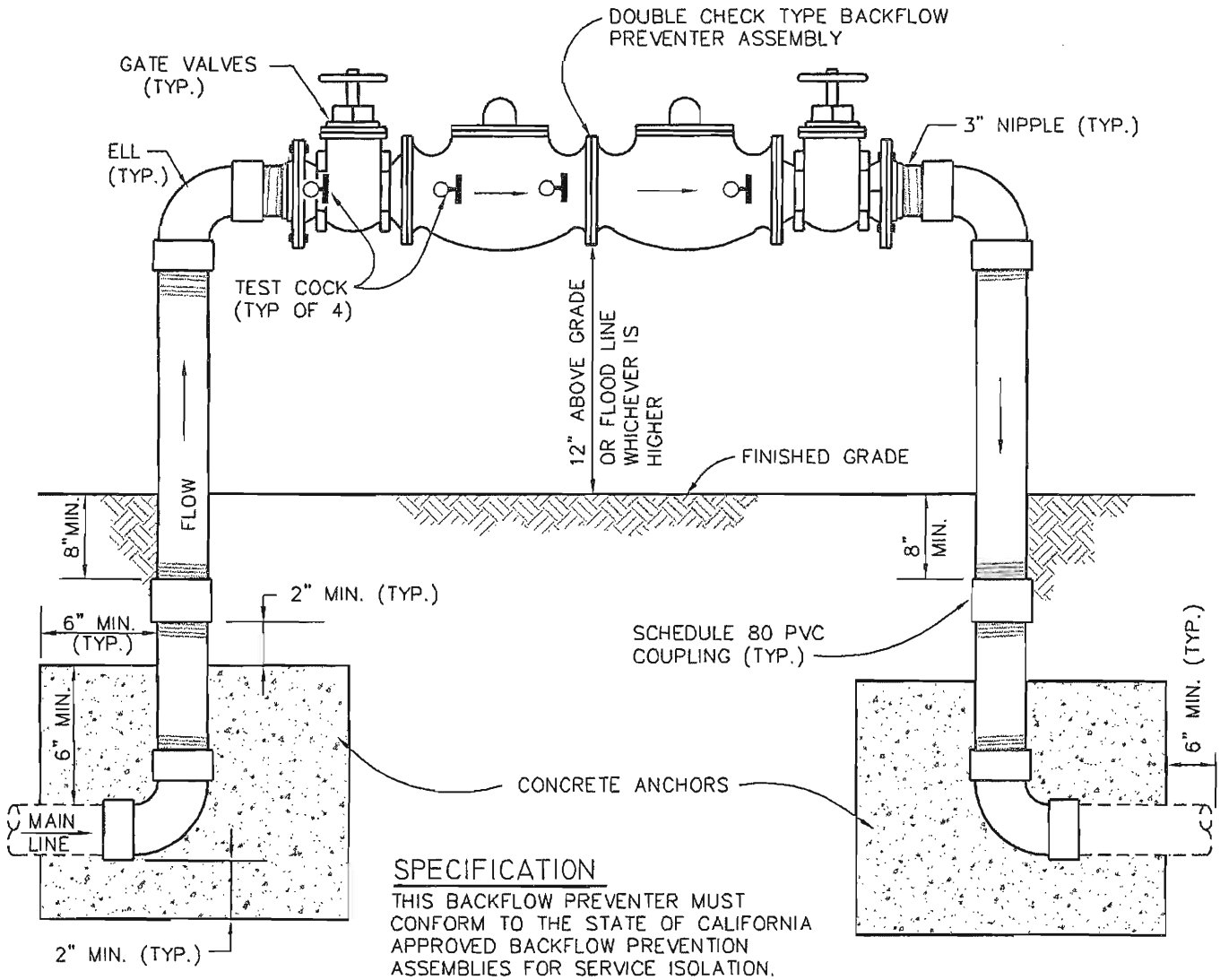
SPECIFICATIONS

THIS BACKFLOW PREVENTER MUST CONFORM TO THE MOST RECENT SPECIFICATIONS OF THE STATE OF CALIFORNIA APPROVED BACKFLOW PREVENTION ASSEMBLIES FOR SERVICE ISOLATION.

NOTES:

1. PRESSURE TYPE VACUUM BREAKERS SHALL BE INSTALLED A MINIMUM OF 12" ABOVE THE HIGHEST OUTLET OR FLOOR LINE, WHICHEVER IS HIGHER.
2. PRESSURE TYPE VACUUM BREAKERS SHALL NOT BE SUBJECTED TO BACK PRESSURE OR DRAINAGE.
3. DEVICES AND INSTALLATION SHALL MEET FRESNO COUNTY DEPARTMENT OF HEALTH AND CITY OF MENDOTA DEPARTMENT OF PUBLIC WORKS REGULATIONS AND REQUIREMENTS.
4. CLOSE NIPPLES SHALL NOT BE USED.
5. DISSIMILAR METALS SHALL BE SEPARATED BY AN APPROVED DIELECTRIC COUPLING.
6. PLASTIC PIPE SHALL NOT BE USED ABOVE FINISHED GRADE.
7. ALL PIPE SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE UNLESS OTHERWISE SPECIFIED. ALL BURIED GALVANIZED PIPE SHALL BE WRAPPED WITH 20 MIL PVC PIPE WRAP.
8. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT.
9. ALL VALVES SHALL BE PROVIDED WITH RESILIENT SEATS AND LOCKABLE.
10. BACKFLOW ASSEMBLY SHALL BE COVERED WITH A PROTECTIVE ENCLOSURE.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
9-25-07	VACUUM BREAKER ASSEMBLY	W-10
		2 OF 2



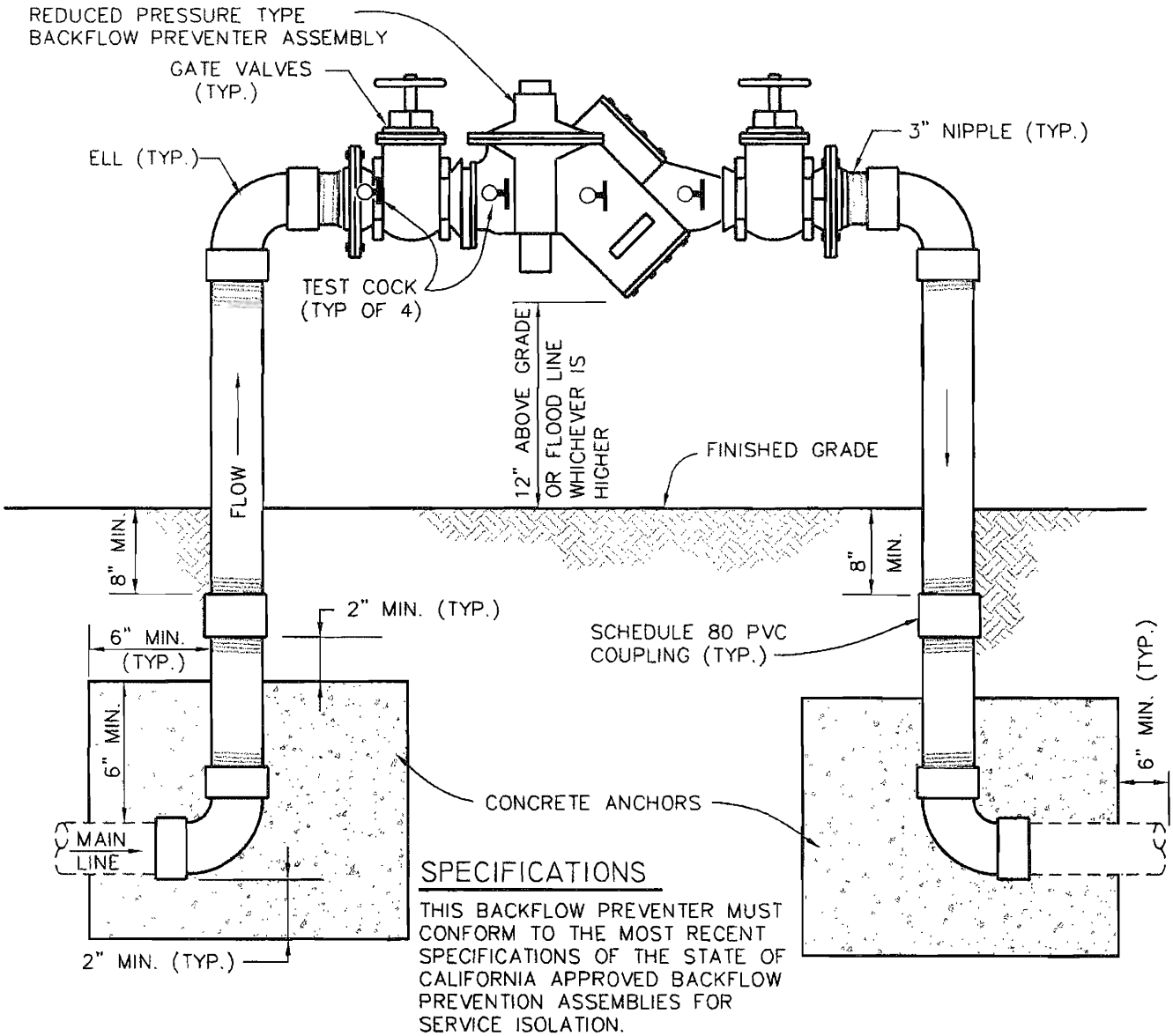
SPECIFICATION

THIS BACKFLOW PREVENTER MUST CONFORM TO THE STATE OF CALIFORNIA APPROVED BACKFLOW PREVENTION ASSEMBLIES FOR SERVICE ISOLATION.

NOTES:

1. ALL PIPE FITTINGS SHALL BE SCHEDULE 40 GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED. ALL BURIED GALVANIZED PIPE SHALL BE WRAPPED WITH 20 MIL PVC PIPE WRAP.
2. CONCRETE SHALL BE 5 SACK.
3. THE BACKFLOW PREVENTER DEVICES AND INSTALLATIONS SHALL BE APPROVED BY THE FRESNO COUNTY DEPARTMENT OF HEALTH SERVICES AND CITY OF MENDOTA DEPARTMENT OF PUBLIC WORKS.
4. VALVE ASSEMBLIES MAY HAVE SCREWED FITTINGS OR FLANGED. IF SCREWED FITTINGS ARE USED UNIONS SHALL BE INSTALLED ON EACH SIDE OF ASSEMBLY ABOVE GROUND. ALL VALVES SHALL BE PROVIDED WITH RESILIENT SEATS AND SHALL BE LOCKABLE.
5. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT.
6. APPROVED PLASTIC TAPE, 1/2" WIDE, SHALL BE USED ON ALL THREADED CONNECTIONS.
7. DISSIMILAR METALS SHALL BE SEPARATED BY AN APPROVED DIELECTRIC COUPLING.
8. PLASTIC PIPE SHALL NOT BE USED ABOVE FINISHED GRADE.
9. BACKFLOW ASSEMBLIES 3" OR SMALLER SHALL BE COVERED WITH A PROTECTIVE ENCLOSURE.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	DOUBLE CHECK VALVE BACKFLOW PREVENTER	W-11



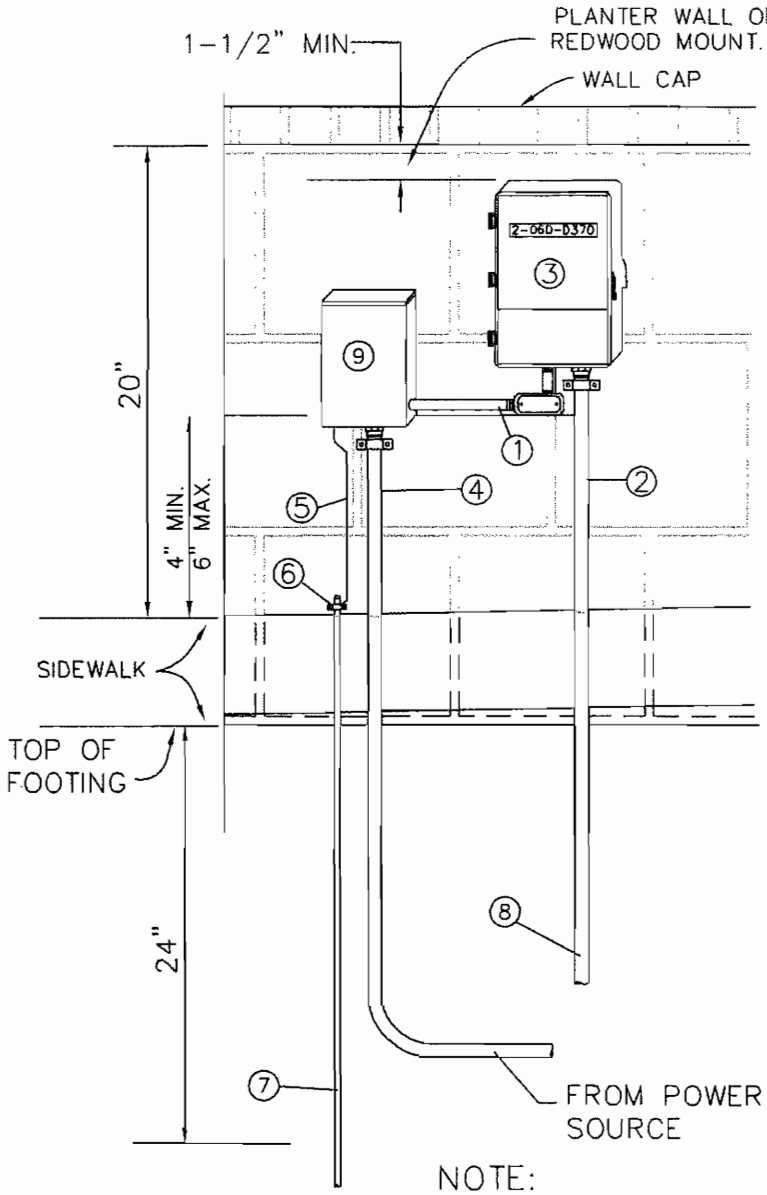
SPECIFICATIONS

THIS BACKFLOW PREVENTER MUST CONFORM TO THE MOST RECENT SPECIFICATIONS OF THE STATE OF CALIFORNIA APPROVED BACKFLOW PREVENTION ASSEMBLIES FOR SERVICE ISOLATION.

NOTES:

1. ALL PIPE FITTINGS SHALL BE SCHEDULE 40 GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED. ALL BURIED GALVANIZED PIPE SHALL BE WRAPPED WITH 20 MIL PVC PIPE WRAP.
2. CONCRETE SHALL BE 5 SACK.
3. THE BACKFLOW PREVENTER DEVICES AND INSTALLATIONS SHALL BE APPROVED BY THE FRESNO COUNTY DEPARTMENT OF HEALTH SERVICES AND CITY OF MENDOTA DEPARTMENT OF PUBLIC WORKS.
4. VALVE ASSEMBLIES MAY HAVE SCREWED OR FLANGED FITTINGS. IF SCREWED FITTINGS ARE USED, UNIONS SHALL BE INSTALLED ON EACH SIDE OF ASSEMBLY ABOVE GROUND. ALL VALVES SHALL BE PROVIDED WITH RESILIENT SEATS AND SHALL BE LOCKABLE.
5. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT.
6. APPROVED PLASTIC TAPE, 1/2" WIDE, SHALL BE USED ON ALL THREADED CONNECTIONS.
7. DISSIMILAR METALS SHALL BE SEPARATED BY AN APPROVED DIELECTRIC COUPLING.
8. PLASTIC PIPE SHALL NOT BE USED ABOVE FINISHED GRADE.
9. BACKFLOW ASSEMBLIES 3" OR SMALLER SHALL BE COVERED WITH A PROTECTIVE ENCLOSURE.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
9-25-07	REDUCED PRESSURE BACKFLOW PREVENTER	W-12



① ONE 1/2" O.L.R. CONDUIT AS REQUIRED (KILLARK OLR-1 OR EQUAL). FLEX CONDUIT NOT ACCEPTABLE.

② 1-1/4" P.V.C. SCH. 80 CONDUIT AND LOW VOLTAGE CONTROL CONDUCTORS AS REQUIRED.

③ IRRIGATION CONTROLLER AS REQUIRED, IDENTIFICATION NUMBERS TO BE ASSIGNED BY THE CITY ENGINEER IDENTIFICATION NUMBERS TO BE PROVIDED AND INSTALLED BY CONTRACTOR. BOX MUST BE LOCKABLE.

④ 1-1/4" P.V.C. SCH. 80 CONDUIT W/ 2#8-1#8 THWN COPPER CONDUCTORS SHALL BE IDENTIFIED AS PER NEC 210-5 (A) & (B). A PVC CONDUIT IS PREFERRED.

⑤ #8 SOLID COPPER ARMORED GROUND PER NEC 250-91.

⑥ ARMORED GROUND CLAMP PER NEC 250-115.

⑦ 5/8" x 8' GALV. GROUND ROD PER NEC 250-83.

⑧ TO SPRINKLER CONTROL VALVE.

⑨ 30 AMP SINGLE PHASE NEMA/3R WITH TWO CIRCUIT DISTRIBUTION PANEL WITH (2) 20-AMP CIRCUIT BREAKERS (SQUARE D OR EQUAL). SUBMIT SPECIFICATIONS TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. BOX MUST BE LOCKABLE.

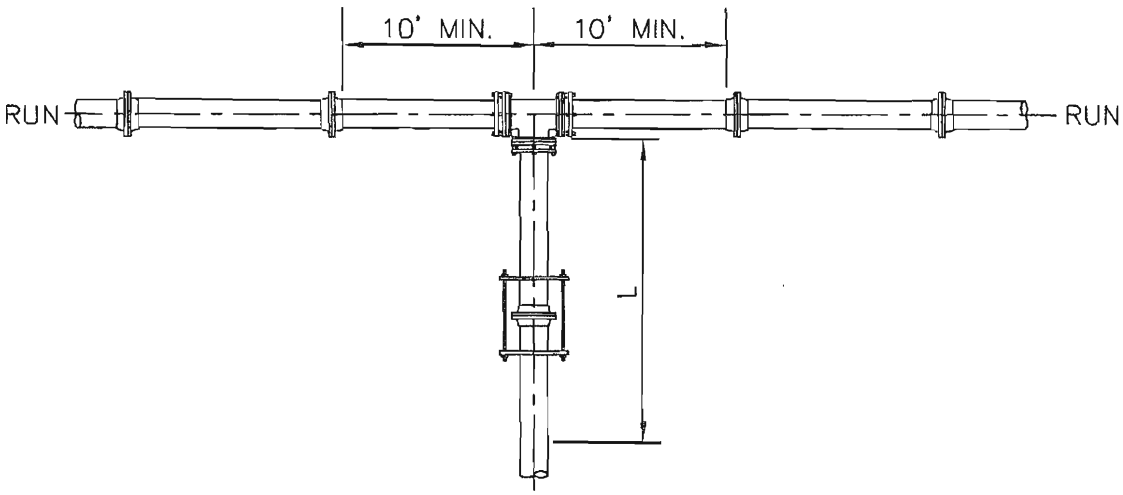
NOTE:
WALL MOUNT CONTROLLER AND BREAKER BOX TO PLANTER WALL OR MOUNT PANEL PER MANUFACTURURERS RECOMMENDATIONS.

IRRITROL MC - 4 PLUS-B IRRIGATION CONTROLLER

IRRIGATION CONTROLLER DETAIL

N.T.S.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	LANDSCAPE IRRIGATION CONTROLLER	W-13



BRANCH

PVC TEE RESTRAINT/RUN SIZE

BRANCH SIZE	4	6	8	10	12	14	16	18
4	*	*	*	*	*	*	*	*
6		*	*	*	*	*	*	*
8			3	*	*	*	*	*
10				14	*	*	*	*
12					27	14	3	*
14						38	27	16
16							50	39
16								61

* — FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

RESTRAINED LENGTHS "L" (IN FEET)

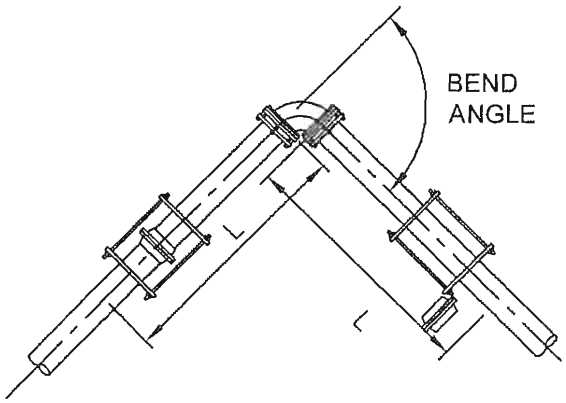
1. RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. THERE SHOULD BE A MINIMUM OF 10' OF JOINT FREE PIPE INSTALLED ON EACH SIDE OF THE RUN. IF THE 10' MINIMUM CANNOT BE INSTALLED, PROVIDE A THRUST BLOCK AT THE TEE.

2. ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER SPECIFICATIONS.

3. CALCULATIONS BASED UPON SOIL TYPE ML PER ASTM D-2487, TRENCH COMPACTION MINIMUM 90% RELATIVE PER ASTM D-1557 AND D-2937, 1.5 SAFETY FACTOR, 100 PSI TEST PRESSURE, PIPE COVER 3 FT. MINIMUM. FOR OTHER CONDITIONS, INCREASE LENGTH "L" PER JOINT RESTRAINT MANUFACTURER REQUIREMENTS.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
9-25-07	PVC TEE RESTRAINTS	W-14
		1 OF 3

TREAT COMPOUND/COMBINATION BENDS
AS NEXT LARGEST SINGLE FITTING.



BEND ANGLE	NOMINAL PIPE SIZE							
	4"	6"	8"	10"	12"	14"	16"	18"
90	12	17	21	25	30	33	37	41
45	5	7	9	11	13	14	16	17
22.5	3	4	5	5	6	7	8	9
11.25	2	2	3	3	3	4	4	4

RESTRAINED LENGTHS "L" (IN FEET)

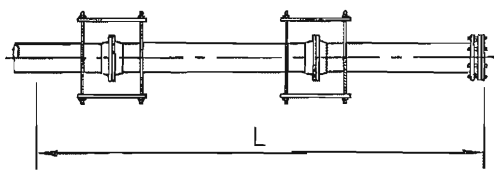
HORIZONTAL BEND

GENERAL NOTES ON USE OF RESTRAINED JOINT LENGTHS & HORIZONTAL BEND

THESE RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA.

1. ALL JOINTS WITHIN THE LENGTH "L" ON EACH BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER SPECIFICATIONS.

2. CALCULATIONS BASED UPON SOIL TYPE ML PER ASTM D-2487, TRENCH COMPACTION MINIMUM 90% RELATIVE PER ASTM D-1557 AND D-2937, 1.5 SAFETY FACTOR, 100 PSI TEST PRESSURE, PIPE COVER 3 FT. MINIMUM. FOR OTHER CONDITIONS, INCREASE LENGTH "L" PER JOINT RESTRAINT MANUFACTURER REQUIREMENTS.

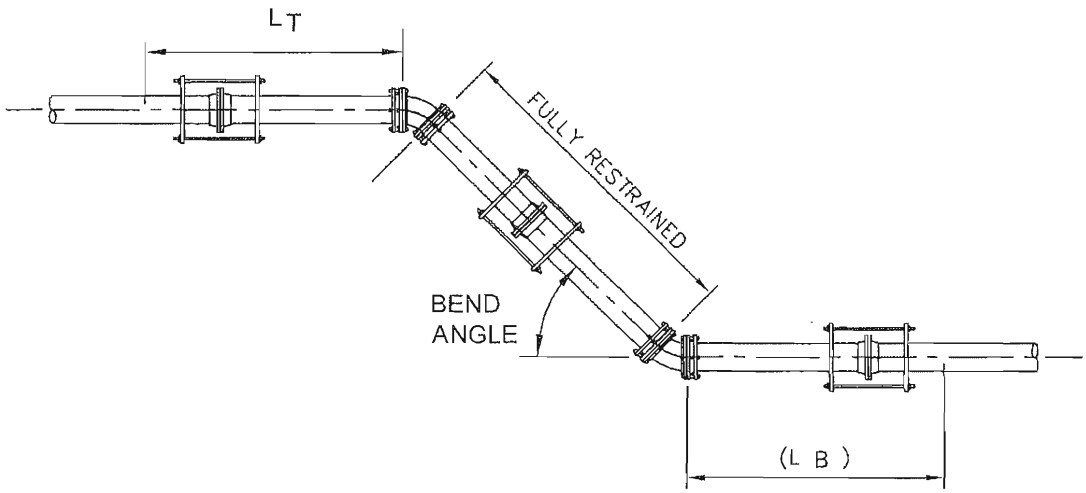


DEAD END – PVC PIPE SIZE							
4	6	8	10	12	14	16	18
35	50	65	77	91	104	117	129

RESTRAINED LENGTHS "L" (IN FEET)

DEAD END FOR PVC PIPE

REVISION DATE		CITY OF MENDOTA	Std. Dwg.
9-25-07		PVC PIPE RESTRAINTS	W-14
			2 OF 3



VERTICAL BEND/OFFSET

BEND ANGLE \ SIZE	4	6	8	10	12	14	16	18
45	15 (3)	21 (5)	27 (6)	32 (7)	38 (8)	43 (9)	49 (10)	54 (11)
22.5	7 (2)	10 (2)	13 (3)	16 (4)	19 (4)	21 (5)	24 (5)	26 (6)
11.25	4 (1)	5 (1)	7 (2)	8 (2)	9 (2)	11 (3)	12 (3)	13 (3)

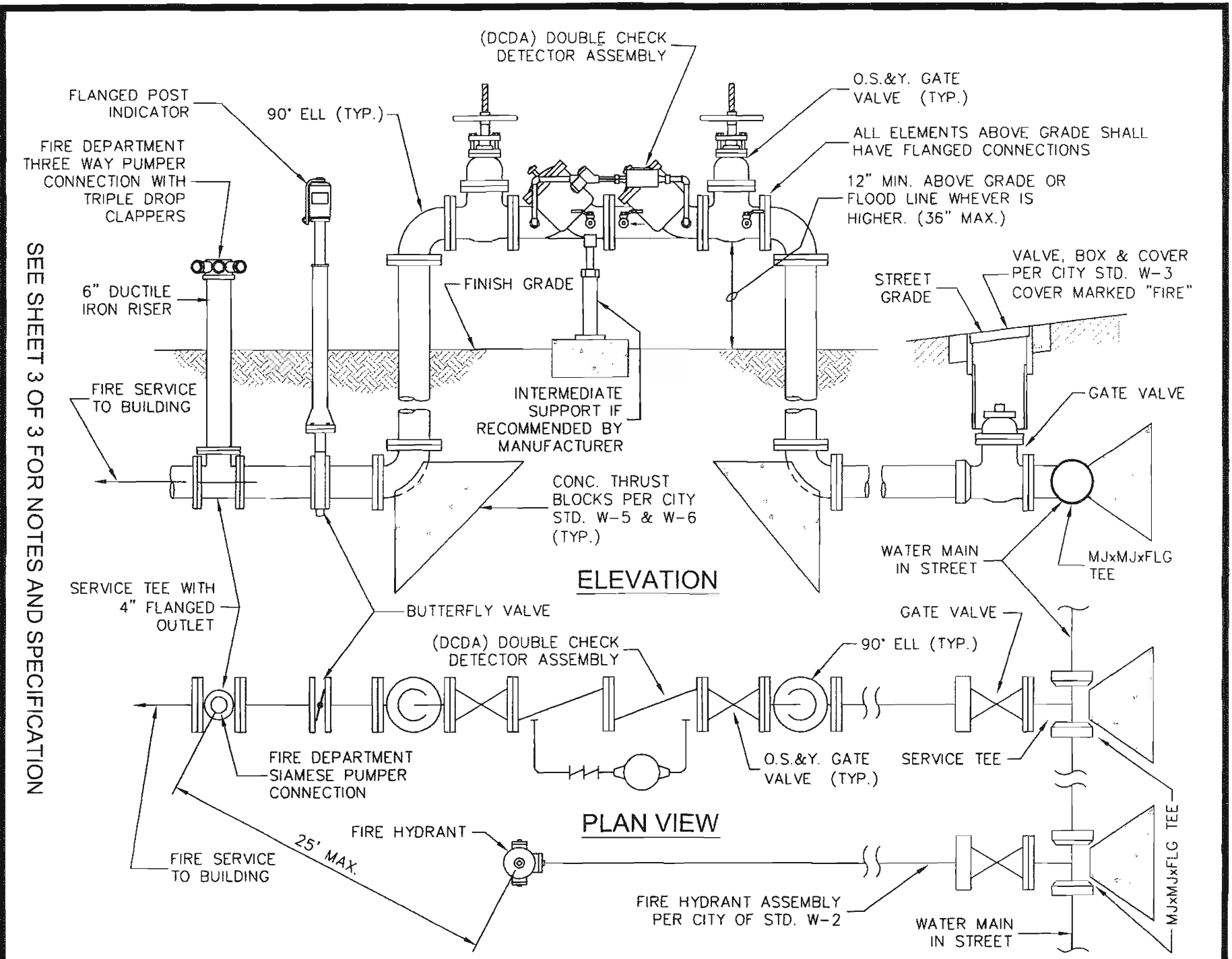
RESTRAINED LENGTHS "L_T" (IN FEET)

RESTRAINED LENGTHS (L_B) (IN FEET)

1. ALL JOINTS WITHIN THE LENGTH L_T AND L_B MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER SPECIFICATIONS.

2. CALCULATIONS BASED UPON SOIL TYPE ML PER ASTM D-2487, TRENCH COMPACTION MINIMUM 90% RELATIVE PER ASTM D-1557 AND D-2937, 1.5 SAFETY FACTOR, 100 PSI TEST PRESSURE, UPPER PIPE COVER 3 FT. MINIMUM, LOWER PIPE COVER 5 FT. MINIMUM. FOR OTHER CONDITIONS, INCREASE LENGTH L_T OR L_B PER JOINT RESTRAINT MANUFACTURER REQUIREMENTS.

REVISION DATE	CITY OF MENDOTA	Std. Dwg.
9-25-07	PVC PIPE RESTRAINTS	W-14
		3 OF 3



SEE SHEET 3 OF 3 FOR NOTES AND SPECIFICATION

FIRE SERVICE ASSEMBLY OPTION 1 WITH DETECTOR CHECK VALVE

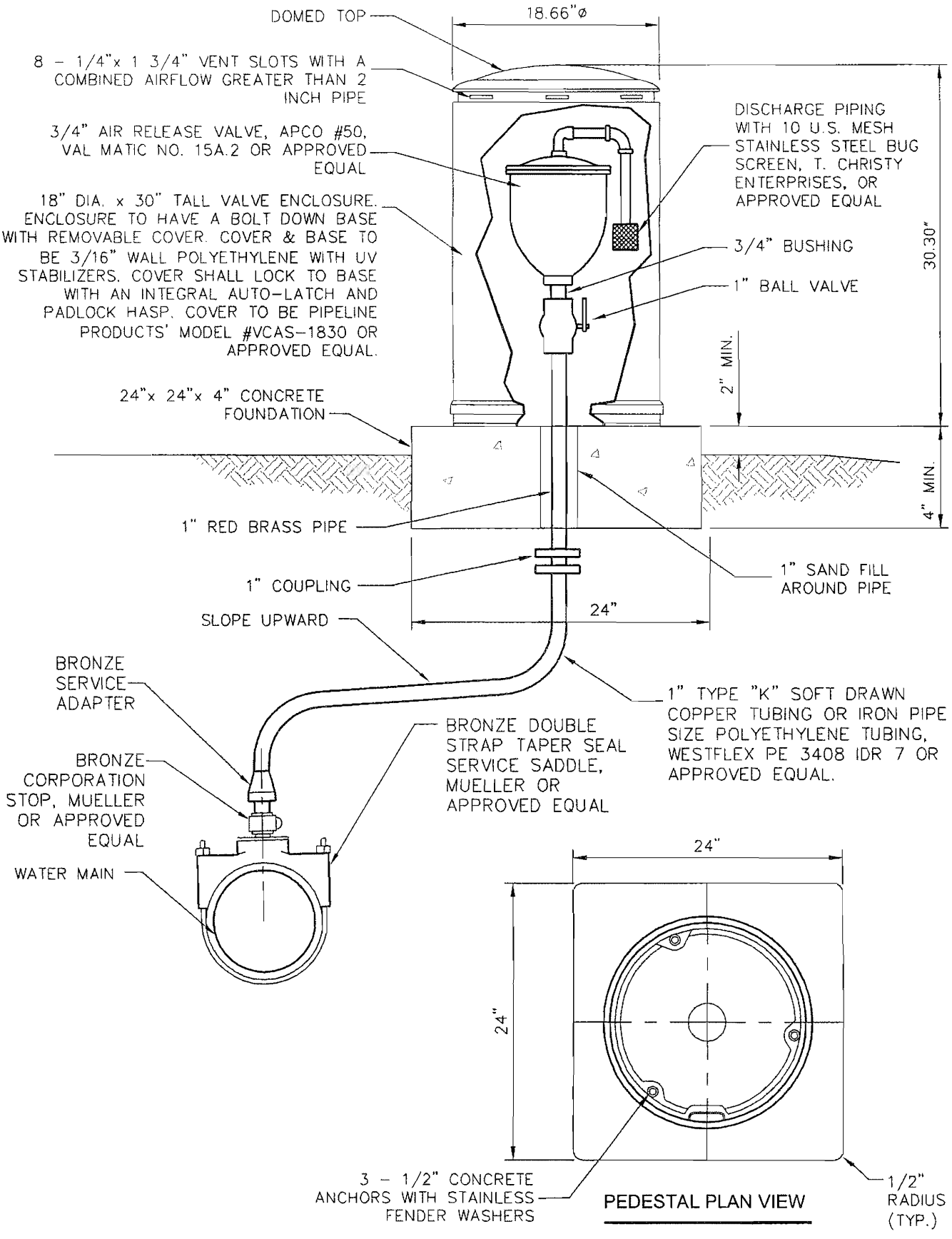
CITY OF MENDOTA

REVISION DATE	STD.DWG.
9-25-07	W-15

SHT. 1 OF 3

SEE SHEET 2 OF 3 FOR NOTES AND SPECIFICATION

REVISION DATE	CITY OF MENDOTA	STD.DWG.
9-25-07	FIRE SERVICE ASSEMBLY OPTION 2 WITH DETECTOR CHECK VALVE	W-15
		SHT. 2 OF 3



PEDESTAL PLAN VIEW

REVISION DATE		CITY OF MENDOTA	STD.DWG.
6-23-09		AIR RELEASE VALVE	W-16
			ALT 1

REVISION DATE

6-23-09

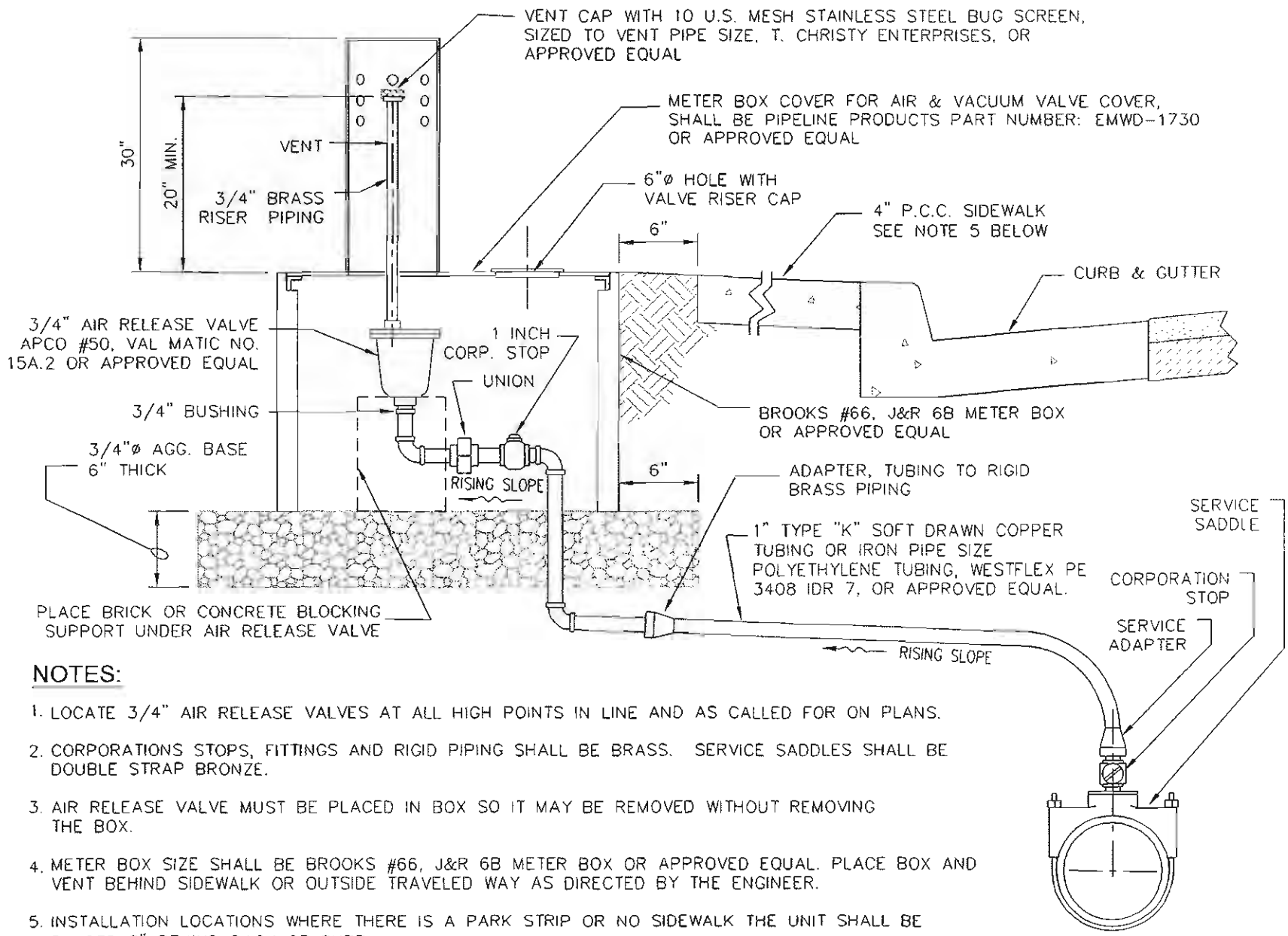
CITY OF MENDOTA

AIR RELEASE VALVE

Std. Dwg.

W-16

ALT 2



NOTES:

1. LOCATE 3/4" AIR RELEASE VALVES AT ALL HIGH POINTS IN LINE AND AS CALLED FOR ON PLANS.
2. CORPORATIONS STOPS, FITTINGS AND RIGID PIPING SHALL BE BRASS. SERVICE SADDLES SHALL BE DOUBLE STRAP BRONZE.
3. AIR RELEASE VALVE MUST BE PLACED IN BOX SO IT MAY BE REMOVED WITHOUT REMOVING THE BOX.
4. METER BOX SIZE SHALL BE BROOKS #66, J&R 6B METER BOX OR APPROVED EQUAL. PLACE BOX AND VENT BEHIND SIDEWALK OR OUTSIDE TRAVELED WAY AS DIRECTED BY THE ENGINEER.
5. INSTALLATION LOCATIONS WHERE THERE IS A PARK STRIP OR NO SIDEWALK THE UNIT SHALL BE PLACED 6" BEHIND BACK OF CURB.

NOTES & SPECIFICATIONS:

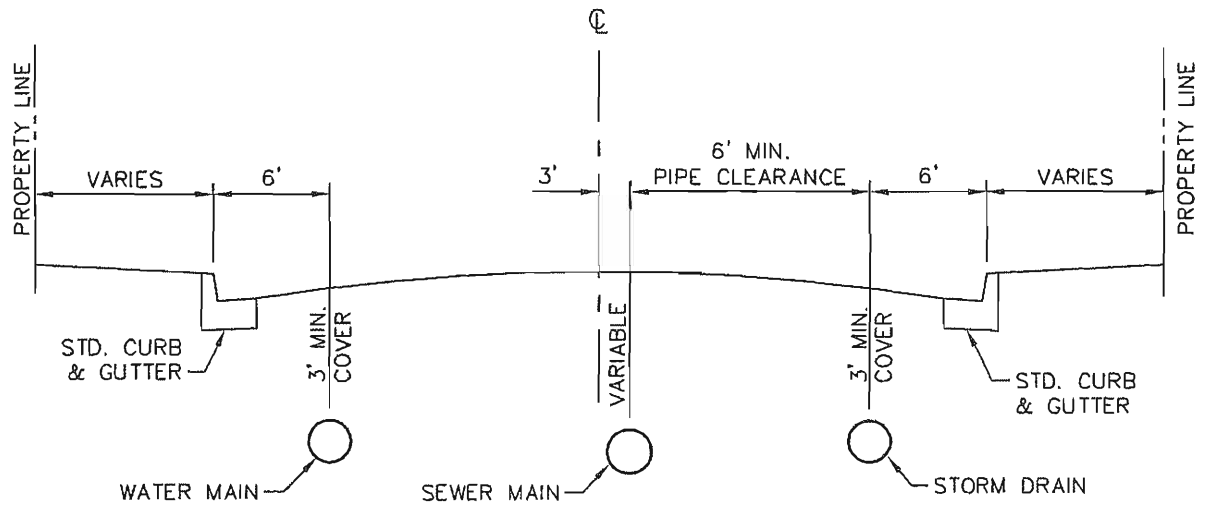
1. ALL PIPE AND FITTINGS SHALL BE FLANGED OR MECHANICAL JOIN WITH JOINT RESTRAINT FOR PVC AND APPROVED BY THE CITY ENGINEER. ALL T-BOLTS AND NUTS SHALL BE CORROSION RESISTANT, COR-BLUE, CERAMIC FILLED, WITH BAKED ON FLUOROCARBON RESIN. ALL FLANGE BOLTS AND NUTS SHALL BE XYLAN COATED. GALVANIZED PIPE APPROVED FOR USE IN A BURIED APPLICATIONS SHALL BE WRAPPED WITH 20 MIL PVC PIPE WRAP.
2. CONCRETE SHALL HAVE 5 SACKS OF CEMENT MINIMUM PER CUBIC YARD OF CONCRETE.
3. THE BACKFLOW PREVENTER DEVICES AND INSTALLATIONS SHALL BE APPROVED BY CITY OF MENDOTA DEPARTMENT OF PUBLIC WORKS.
4. VALVE ASSEMBLIES MAY HAVE SCREWED FITTINGS OR FLANGED. IF SCREWED FITTINGS ARE USED UNIONS SHALL BE INSTALLED ON EACH SIDE OF ASSEMBLY ABOVE GROUND.
5. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT.
6. APPROVED PLASTIC TAPE, 1/2" WIDE, SHALL BE USED ON ALL THREADED CONNECTIONS.
7. DISSIMILAR METALS SHALL BE SEPARATED BY AN APPROVED DIELECTRIC COUPLING.
8. PLASTIC PIPE SHALL NOT BE USED ABOVE FINISHED GRADE.
9. DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE FEBCO MODEL 856, WILKINS 350ADA, OR APPROVED EQUAL.
10. FLANGED POST INDICATOR VALVE SHALL BE POTTER-ROEMER, INC. MODEL 6223 WITH TAMPER SWITCH AND CONDUIT WITH WIRES TO ALARM PANEL, OR APPROVED EQUAL.
11. FIRE DEPARTMENT CONNECTIONS SHALL HAVE NST THREADS AND LETTERING "AUTO. SPKR."

    OPTION 1: SHALL BE POTTER-ROMER MODEL 5746-C. THREEWAY WITH TRIPLE CLAPPERS OR APPROVED EQUAL. ON THREADED 6" DUCTILE IRON PIPE RISER. RISER SHALL BE PAINTED WITH 1 COAT PRIMER AND 2 COATS RED ENAMEL.

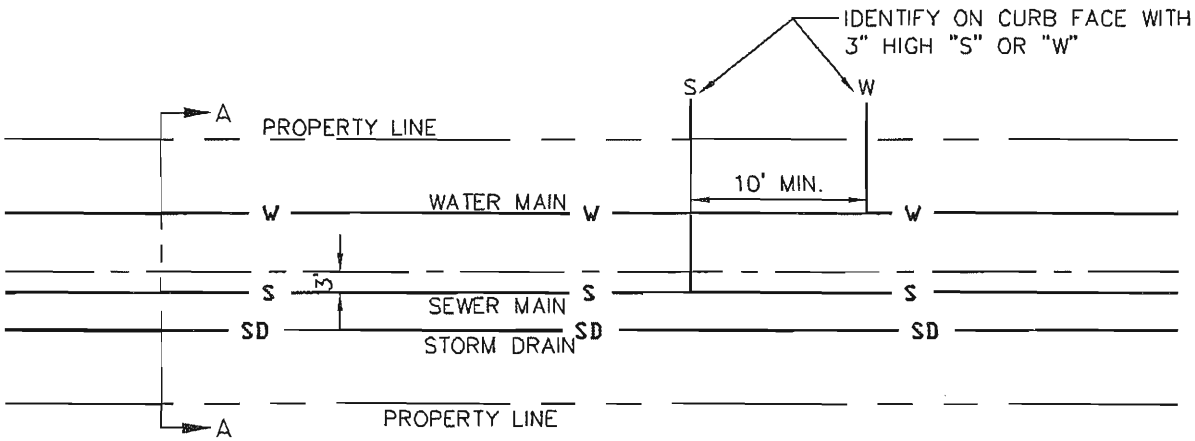
    OPTION 2: SHALL BE POTTER-ROMER MODEL 5731-C TWO WAY WITH DOUBLE CLAPPERS OR APPROVED EQUAL ON THREADED 4" CONNECTION.

12. POST INDICATOR VALVE AND FIRE DEPARTMENT CONNECTIONS SHALL MEET THE COUNTY OF FRESNO, FIRE DEPARTMENT STANDARDS. FOR OPTION 2, PROVIDE HEAVY DUTY CHAIN TO LOCK VALVES ON DETECTOR ASSEMBLY. PROVIDE ONE 6 INCH LONG CHAIN SECTION FOR DOUBLE LOCKING WITH CITY AND FIRE DEPARTMENT LOCKS.
13. BACKFLOW ASSEMBLIES 2" OR SMALLER SHALL BE COVERED WITH A APPROVED PROTECTIVE ENCLOSURE AND COVERED WITH A PROTECTIVE FREEZE BLANKET APPROVED BY THE CITY ENGINEER.
14. UNDERGROUND PIPING FOR FIRE LINES SHALL BE TESTED HYDROSTATICALLY AT 200 PSI FOR 2 HOURS AS PER NFPA 13. UNDERGROUND PIPE DURING TESTING SHALL NOT BE BURIED BUT MAY BE CENTERED LOAD BURIED DURING 200 PSI TEST.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		FIRE SERVICE ASSEMBLY NOTES AND SPECIFICATIONS	W-15
			SHT. 3 OF 3



STREET CROSS SECTION A–A

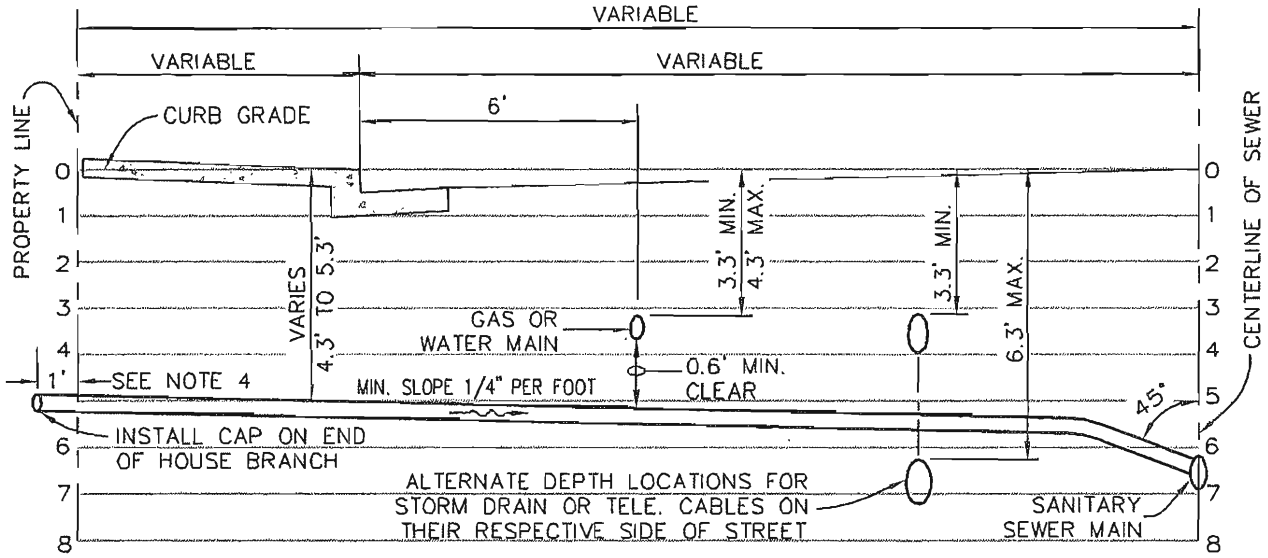


PLAN VIEW

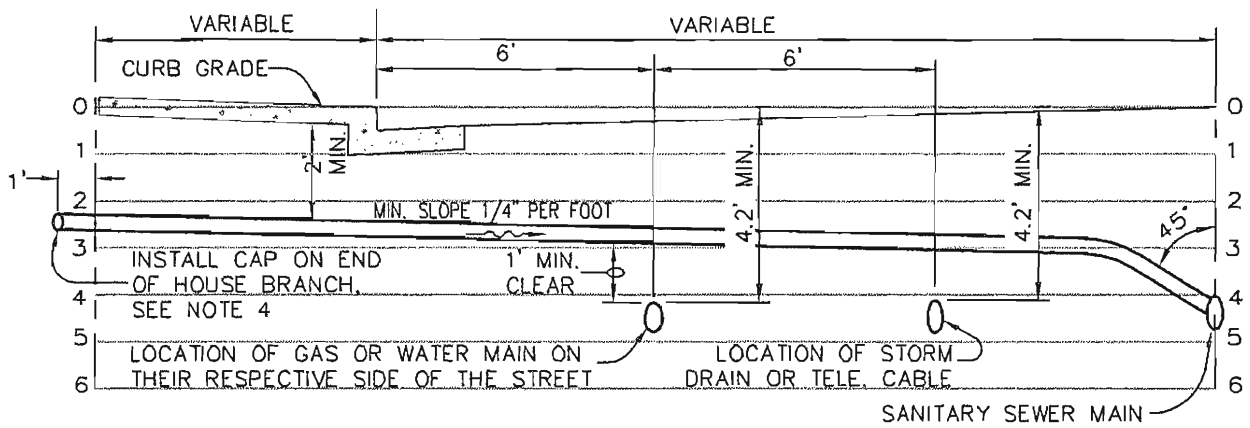
NOTES:

1. STORM DRAINS SHALL BE PLACED ON THE SAME SIDE OF THE STREET WITH THE SEWER MAINS.
2. WATER MAINS SHALL NOT BE PLACED ON THE SAME SIDE OF THE STREET WITH SEWER MAINS.
3. SEWER MAINS SHALL BE PLACED THREE (3) FEET SOUTH OR EAST OF THE CENTER LINE OF THE STREET.
4. ALL SEWER MAINS AND SERVICES SHALL MEET ALL CURRENT REQUIREMENTS OF THE COUNTY & STATE HEALTH DEPARTMENTS.
5. MINIMUM CLEARANCE BETWEEN WATER AND SANITARY SEWER MAINS SHALL BE TEN (10) FEET.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		UTILITY LOCATION IN STREET	M-1
			Sht. 1 of 2



ALL NEW CONSTRUCTION AND LOCATIONS WHERE SEWER INSTALLATION PRECEDES INSTALLATION OF WATER AND GAS

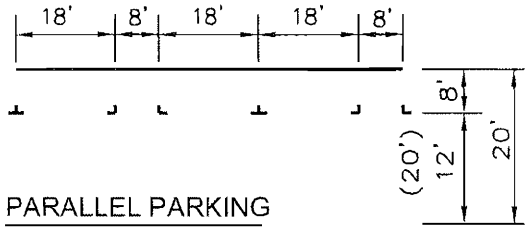


DEPTH OF WATER OR GAS MAINS IF INSTALLATION OF WATER OR GAS MAINS PRECEDES INSTALLATION OF SEWER

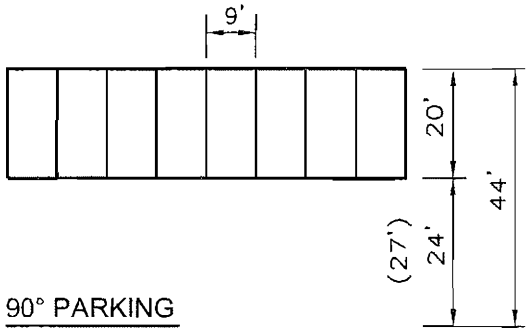
NOTES:

1. EXTEND HOUSE BRANCH 1' BEYOND PROPERTY LINES IN ALL CASES.
2. WATER MAINS AND TELEPHONE DUCTS SHALL OCCUPY ONE SIDE OF THE STREET.
3. GAS MAINS AND STORM MAINS TO OCCUPY THE OTHER SIDE.
4. THE LETTER "S" 3" HIGH SHALL BE SCRIBED IN THE FACE OF THE CURB AT THE LOCATION OF THE HOUSE BRANCH.
5. WHEN INSTALLING A NEW HOUSE BRANCH LINE, PLACE A 2X4" WOODEN STAKE AT THE END OF THE SERVICE BRANCH. THE STAKE SHOULD EXTEND FROM THE END OF THE BRANCH LINE TO A POINT APPROXIMATELY 2' ABOVE THE CURB GRADE.

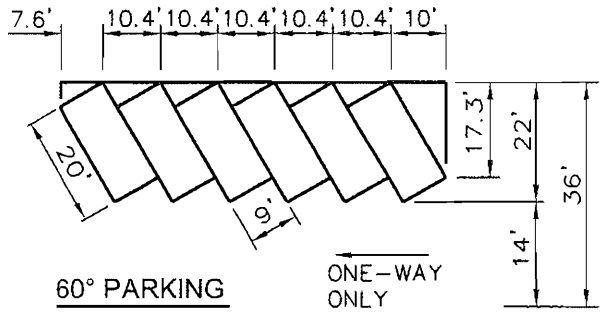
REVISION DATE	CITY OF MENDOTA	STD.DWG.
9-25-07	UTILITY LOCATION IN STREET	M-1
		Sht. 2 of 2



PARALLEL PARKING

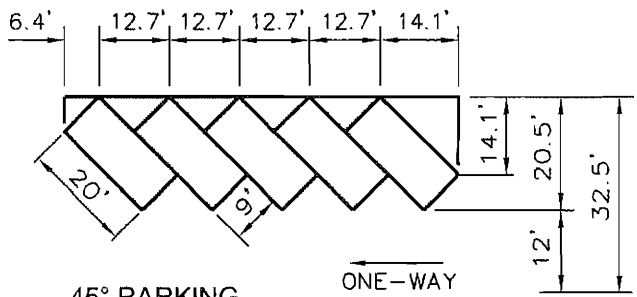


90° PARKING



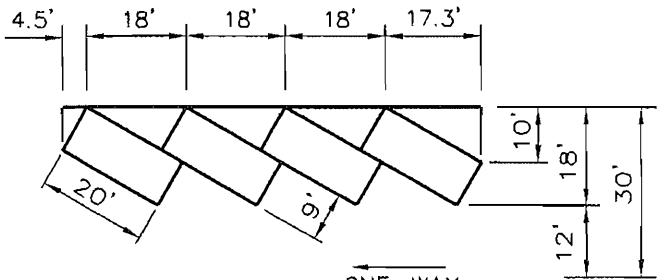
60° PARKING

ONE-WAY ONLY



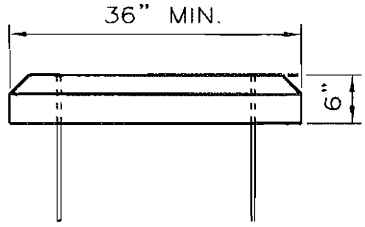
45° PARKING

ONE-WAY ONLY



30° PARKING

ONE-WAY ONLY



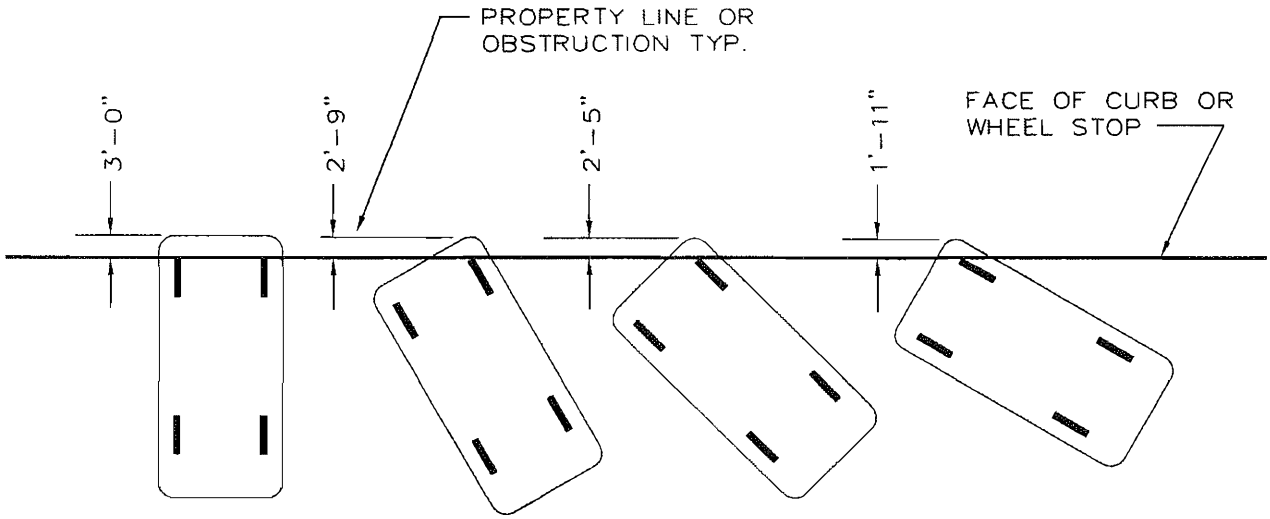
CONCRETE WHEEL STOP

NOTES:

1. DIMENSIONS IN PARENTHESIS INDICATE THE MINIMUM AISLE REQUIRED FOR TWO WAY TRAFFIC.
2. THE PERCENT OF AREA TO BE LANDSCAPED SHALL BE DETERMINED AT THE TIME OF SITE PLAN REVIEW.
3. PROVIDE THE REQUIRED NUMBER OF PARKING STALLS SPECIFIED BY THE CITY PLANNING DEPARTMENT, BASED ON ZONING AND LAND USE.
4. INSTALL WHEEL STOPS TO PREVENT PARKED CARS FROM ENCROACHING OVER SIDEWALKS, ADJOINING PROPERTY OR CITY RIGHT-OF-WAY. REFER TO STD. DWG. M-2 ,SHEET 2 OF 4 FOR OVERHANG CLEARANCE AND WHEEL STOP REQUIREMENTS.
5. REFER TO CONSTRUCTION PLANS FOR PARKING LOT DRAINAGE AND STRUCTURAL SECTION REQUIREMENTS.
6. PARKING LOTS SHALL HAVE 2% OF THE SPACES DESIGNATED FOR THE PHYSICALLY HANDICAPPED. PARKING LOTS WITH 50 SPACES OR LESS SHALL HAVE A MINIMUM OF ONE HANDICAPPED PARKING SPACE.
7. SEE SHEETS 3 AND 4 FOR HANDICAPPED PARKING STALL AND SIGNAGE REQUIREMENTS.
8. A MAXIMUM OF 30% OF THE REQUIRED PARKING SPACES MAY BE DESIGNED FOR COMPACT AUTOMOBILES. HOWEVER, NOT MORE THAN 30 SPACES WILL BE ALLOWED IN ANY ONE ON-SITE PARKING LOT WITHOUT HAVING FIRST OBTAINED PERMISSION FROM THE CITY ENGINEER. SIZE OF COMPACT AUTOMOBILE STALLS SHALL BE NO LESS THAN 9 FEET IN WIDTH AND 16 FEET IN LENGTH.

NOTE: AISLE WAYS WHICH PROVIDE DIRECT ACCESS TO PARKING STALLS SHALL BE ONE-WAY AISLES, EXCEPT FOR PERPENDICULAR OR PARALLEL PARKING TO THE AISLE WAY.

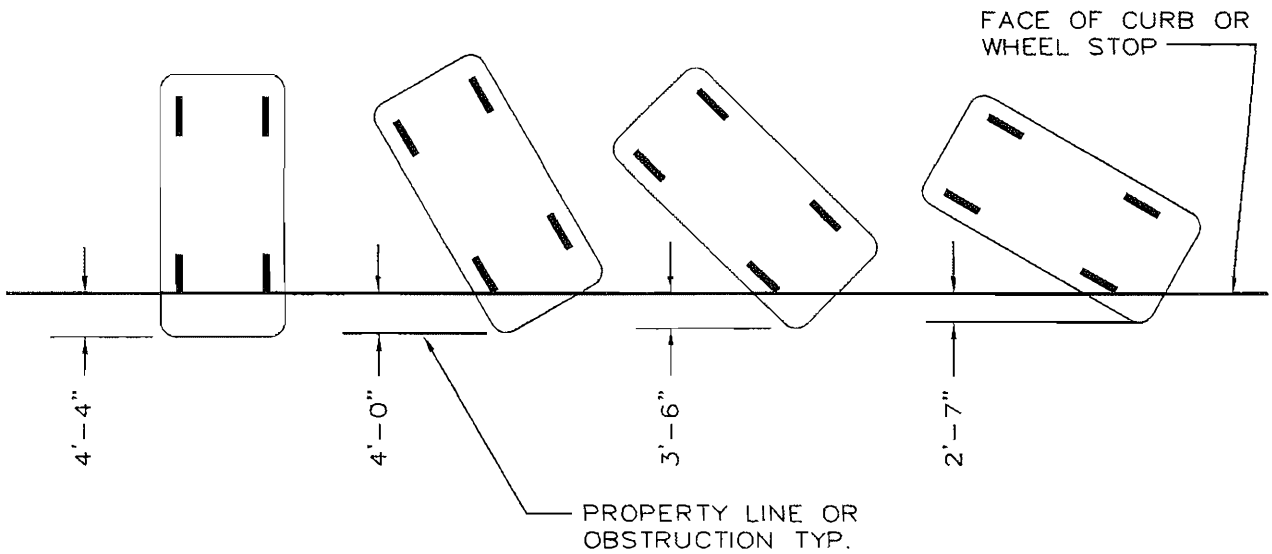
REVISION DATE		CITY OF MENDOTA	STD.DWG.
03-06		PARKING LOT LAYOUT	M-2
			1 OF 4



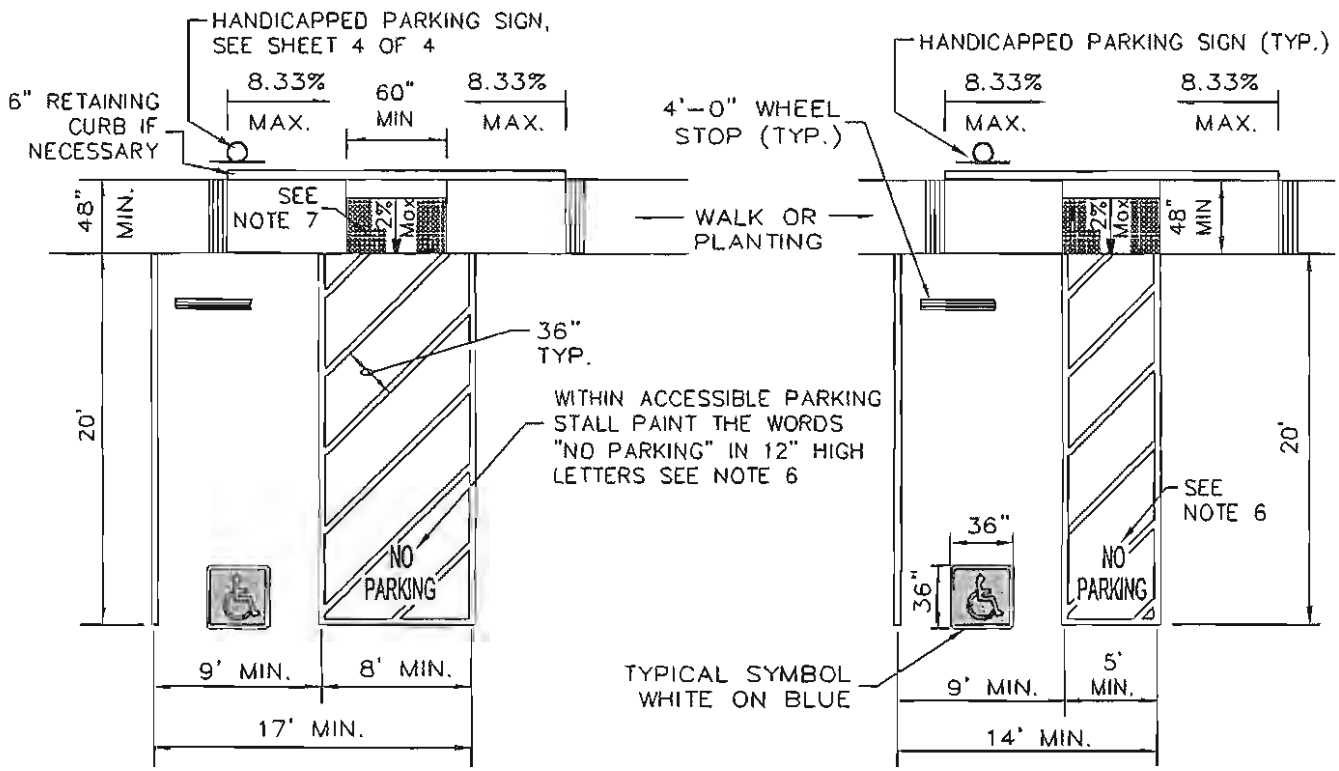
FRONT OVERHANG CLEARANCE

90°	60°	45°	30°

REAR OVERHANG CLEARANCE



REVISION DATE	CITY OF MENDOTA	STD.DWG.
	PARKING LOT OVERHANG CLEARANCE	M-2
		2 OF 4



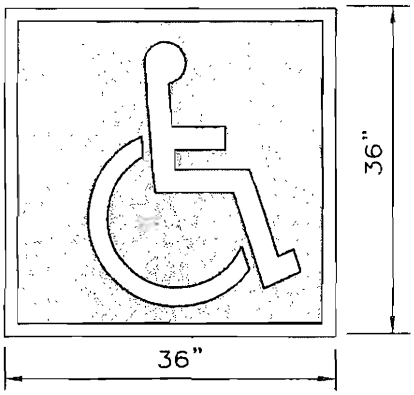
VAN ACCESSIBLE HANDICAPPED PARKING SPACE

STANDARD HANDICAPPED PARKING SPACE

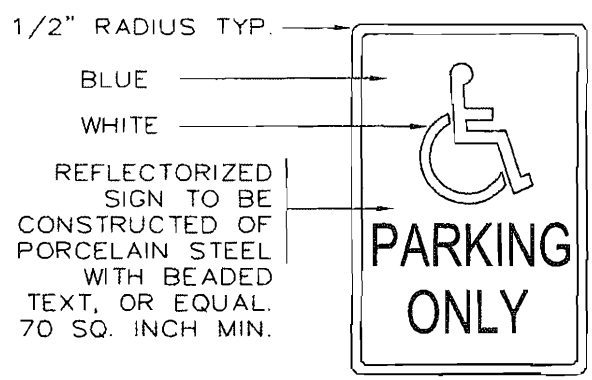
Notes:

1. FIRST HANDICAPPED PARKING SPACE IN ANY FACILITY SHALL BE VAN ACCESSIBLE, PARKING SPACE DIMENSIONS SHALL BE 20 FOOT LONG BY 9 FOOT MINIMUM WIDE WITH A 8 FOOT MINIMUM ACCESS AISLE ON THE PASSENGER SIDE. SLOPE OF PARKING SPACE AND ACCESS AISLE SHALL NOT EXCEED 2% IN ANY DIRECTION.
2. IN EACH PARKING STALL, A CURB OR BUMPER SHALL BE PROVIDED AND LOCATED TO PREVENT ENCROACHMENT OF VEHICLES OVER THE REQUIRED WIDTH OF WALKWAYS. SEE STD. DWG. M-2, SHEET 1 AND SHEET 2 OF 4.
3. WHEELCHAIR USER MUST NOT BE FORCED TO GO BEHIND PARKED CARS OTHER THAN THEIR OWN.
4. EACH PARKING SPACE RESERVED FOR PERSONS WITH DISABILITIES SHALL BE IDENTIFIED BY A REFLECTORIZED SIGN PERMANENTLY POSTED IMMEDIATELY ADJACENT AND VISIBLE FROM EACH STALL OR SPACE, CONSISTING OF A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON DARK BLUE BACKGROUND, SEE STD. DWG. M-2, SHEET 4 OF 4.
5. THE WORDS "NO PARKING", SHALL BE PAINTED IN WHITE LETTERS NO LESS THAN 12" HIGH AND LOCATED SO THAT IT IS VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS. MARKINGS SHALL CONFORM TO CALTRANS REVISED NEW STANDARD PLAN RNSP A90B.
6. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3.0' DEPTH OF THE RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO CALTRANS STD. RSP A88A, CASE "C" AND THE REQUIREMENTS IN THE SPECIAL PROVISIONS.

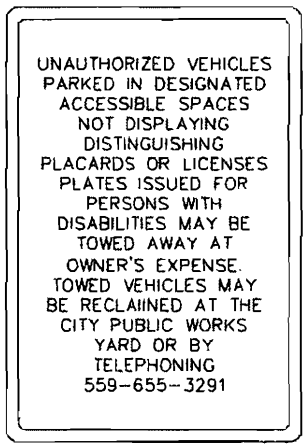
REVISION DATE		CITY OF MENDOTA	STD.DWG.
03-06		HANDICAPPED PARKING	M-2
9-25-07			3 OF 4



PAINTED PARKING SURFACE EMBLEM



WALL OR FREE STANDING SIGN



SEE NOTE NO. 7

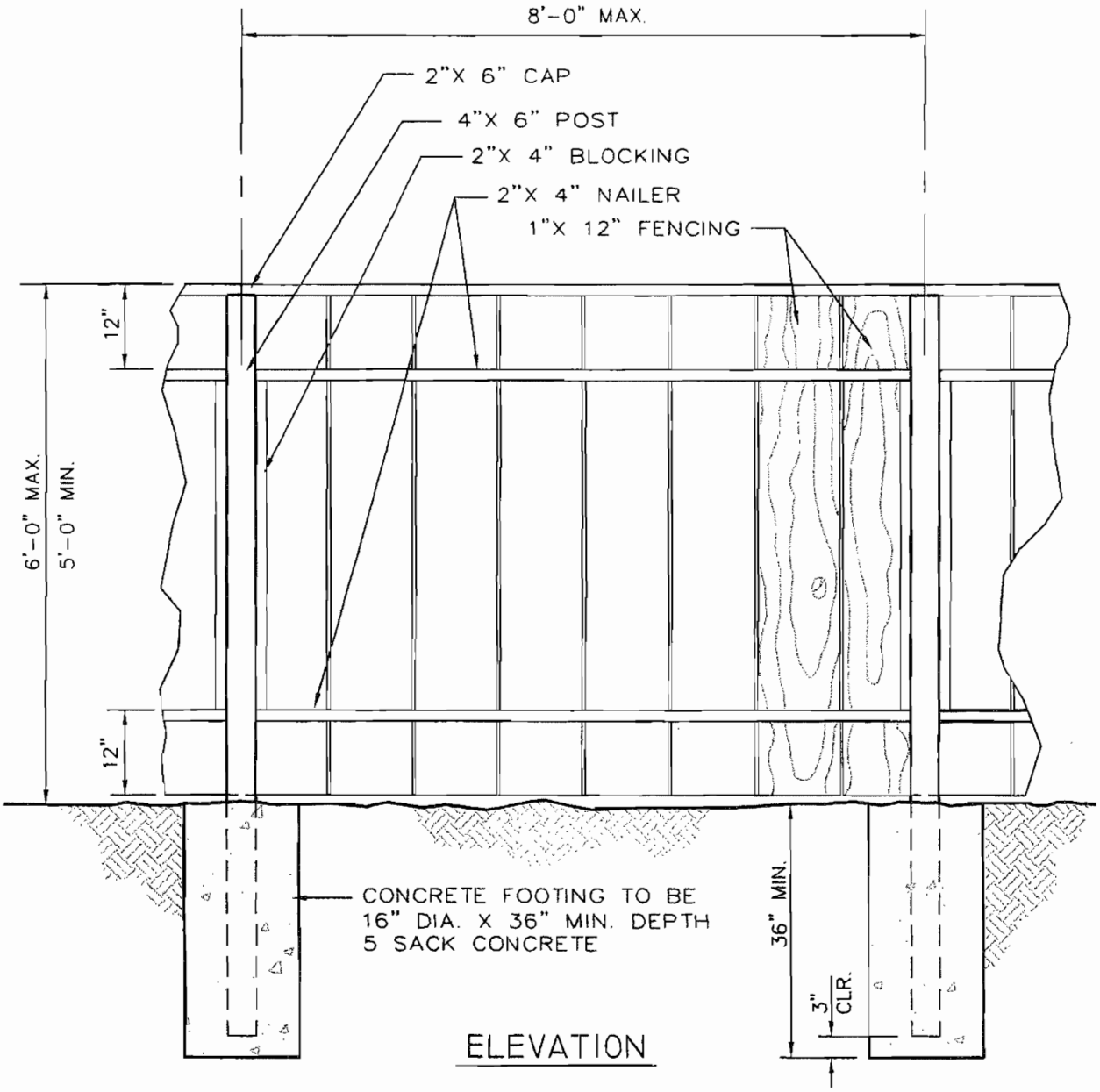
WARNING SIGN

NOTES:

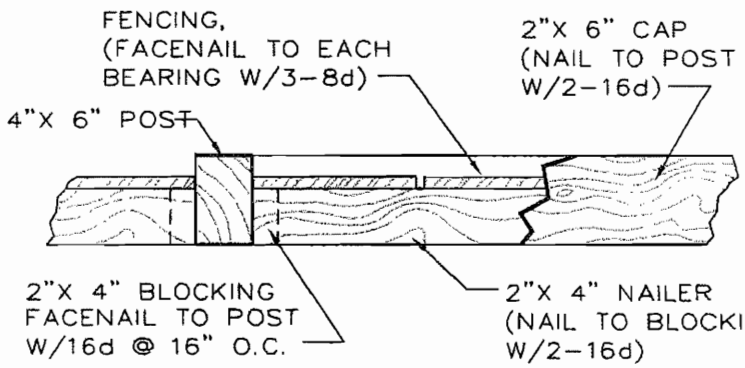
1. SIGNAGE IS TO BE INSTALLED AT EACH SPACE.
2. AREA OF THE SIGN(S) IS NOT SMALLER THAN 70 SQUARE INCHES.
3. WHEN POSTED IN A PATH OF TRAVEL, THE BOTTOM OF THE SIGN IS TO BE 80" MINIMUM FROM THE PARKING SPACE FINISHED GRADE.
4. WHEN WALL MOUNTED, SIGN IS CENTERED ON THE WALL AT THE INTERIOR END OF THE PARKING SPACE AT A MINIMUM HEIGHT OF 36" FROM THE PARKING SPACE FINISHED GRADE, GROUND OR SIDEWALK.
5. VAN ACCESSIBLE PARKING SPACES HAVE ADDITIONAL SIGN MOUNTED BELOW SYMBOL OF ACCESSIBILITY THAT STATES "VAN ACCESSIBLE".
6. EACH PARKING SPACE RESERVED FOR PERSONS WITH DISABILITIES SHALL BE IDENTIFIED BY OUTLINING A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON BLUE BACKGROUND. THE PROFILE VIEW SHALL BE LOCATED SO THAT IT IS VISIBLE TO A TRAFFIC ENFORCEMENT OFFICER WHEN A VEHICLE IS PROPERLY PARKED IN THE SPACE AND SHALL BE 36" HIGH BY 36" WIDE.
7. AN ADDITIONAL SIGN SHALL ALSO BE POSTED IN A CONSPICUOUS PLACE AT EACH ENTRANCE TO OFF-STREET PARKING FACILITIES, OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE. THE SIGN SHALL NOT BE LESS THAN 17 INCHES BY 22 INCHES (432mm BY 559mm) IN SIZE WITH LETTERING NOT LESS THAN 1 INCH (25mm) IN HEIGHT, WHICH CLEARLY AND CONSPICUOUSLY STATES THE FOLLOWING:

   "UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR LICENSES PLATES ISSUED FOR PERSONS WITH DISABILITIES MAY BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT THE CITY PUBLIC WORKS YARD OR BY TELEPHONING 559-655-3291".

REVISION DATE		CITY OF MENDOTA	STD.DWG.
3-06		HANDICAPPED PARKING SPACE SIGNAGE	M-2
9-25-07			4 OF 4



ELEVATION



DETAIL

NOTES:

1. 1 x 12 FENCING SHALL BE CEDAR. POSTS, BLOCKING AND NAILERS SHALL BE PRESSURE TREATED DOUGLAS FIR CONFORMING TO STANDARDS OF QUALITY AT SECTION 2303.3, U.B.C.
2. ALL NAILS USED ARE TO BE GALVANIZED. NUMBER AND SIZE AS NOTED.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		WOOD FENCE DETAIL RESIDENTIAL YARD CONSTRUCTION	M-3

REVISION DATE

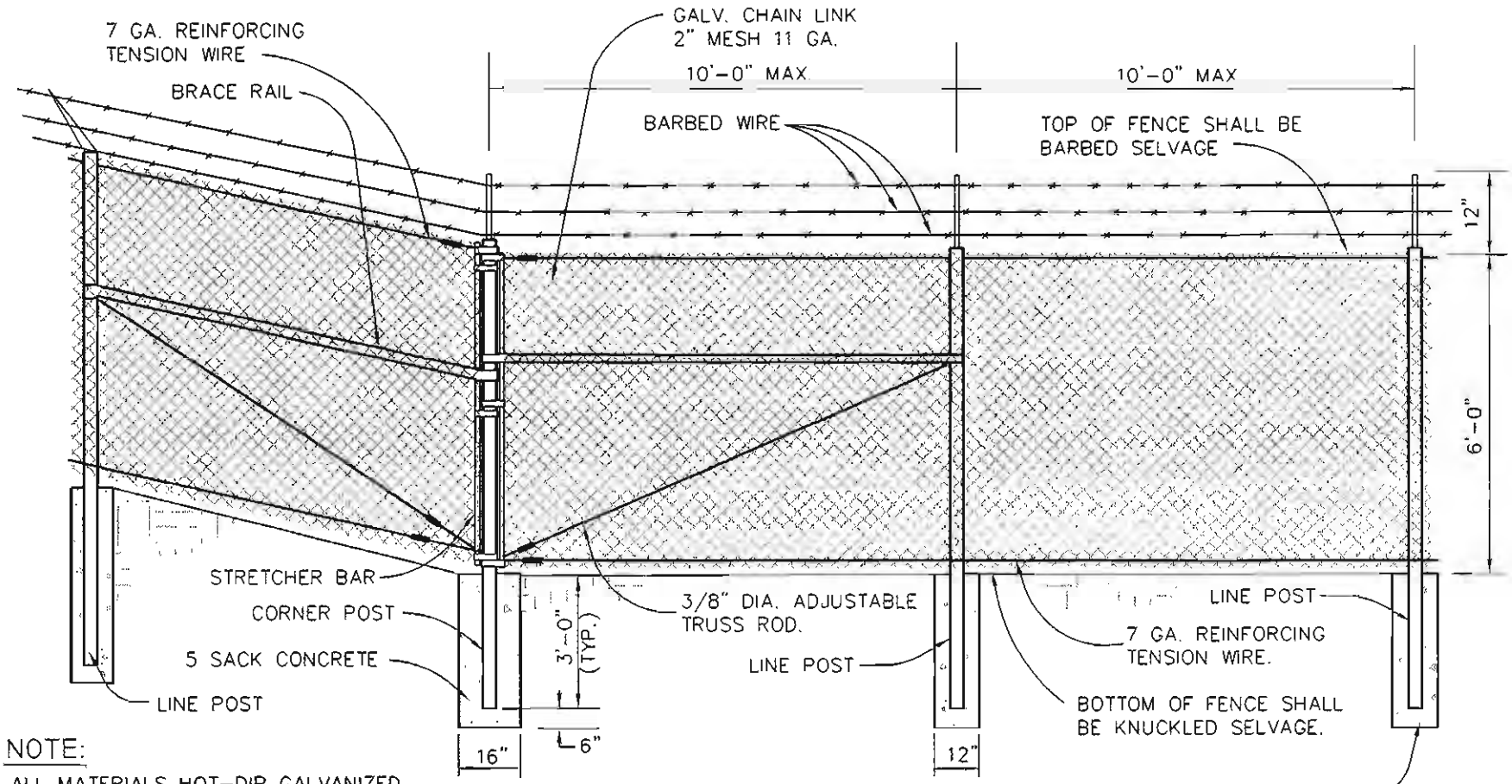
CITY OF MENDOTA

CHAIN LINK FENCE

STD. DWG.

M-4

1 OF 2



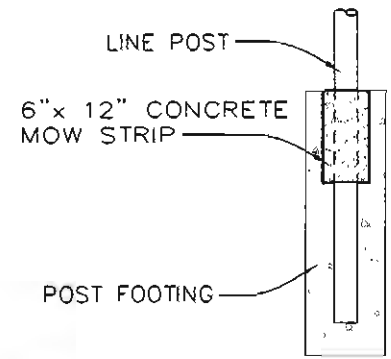
TYPICAL FENCE ELEVATION

NOTE:

ALL MATERIALS HOT-DIP GALVANIZED, (EXCEPT AS NOTED).
WHEN DIRECTED BY THE CITY ENGINEER THE CHAIN LINK FABRIC SHALL HAVE FACTORY INSTALLED POLYETHYLENE OR WOOD SLATS.

TABLE A

DESCRIPTION	SIZE	DESCRIPTION	SIZE
END POSTS	2-7/8" O.D. SCH.40	STRETCHER BAR BANDS	1/8" X 1"
CORNER POSTS	2-7/8" O.D. SCH.40	STRETCHER BARS	1/4" X 3/4"
LINE POSTS	2-3/8" O.D. SCH.40	TRUSS RODS	3/8" DIA. ADJUSTABLE
TENSION WIRE	7 GA. REINFORCING	TENSION WIRE TIES	11 GA. @ 24" O.C.
BRACE RAIL	1-5/8" O.D. SCH.40	LINE POSTS TIES	6 GA. @ 14" O.C.
GALVANIZED AFTER WEAVING CHAIN LINK FABRIC	2"x 11GA.x 6'	BARBED WIRE	12 1/2 GA. 4 PT.
		GATE POSTS	4-1/2" O.D. SCH.40



MOW STRIP DETAIL

CHAIN LINK GATE

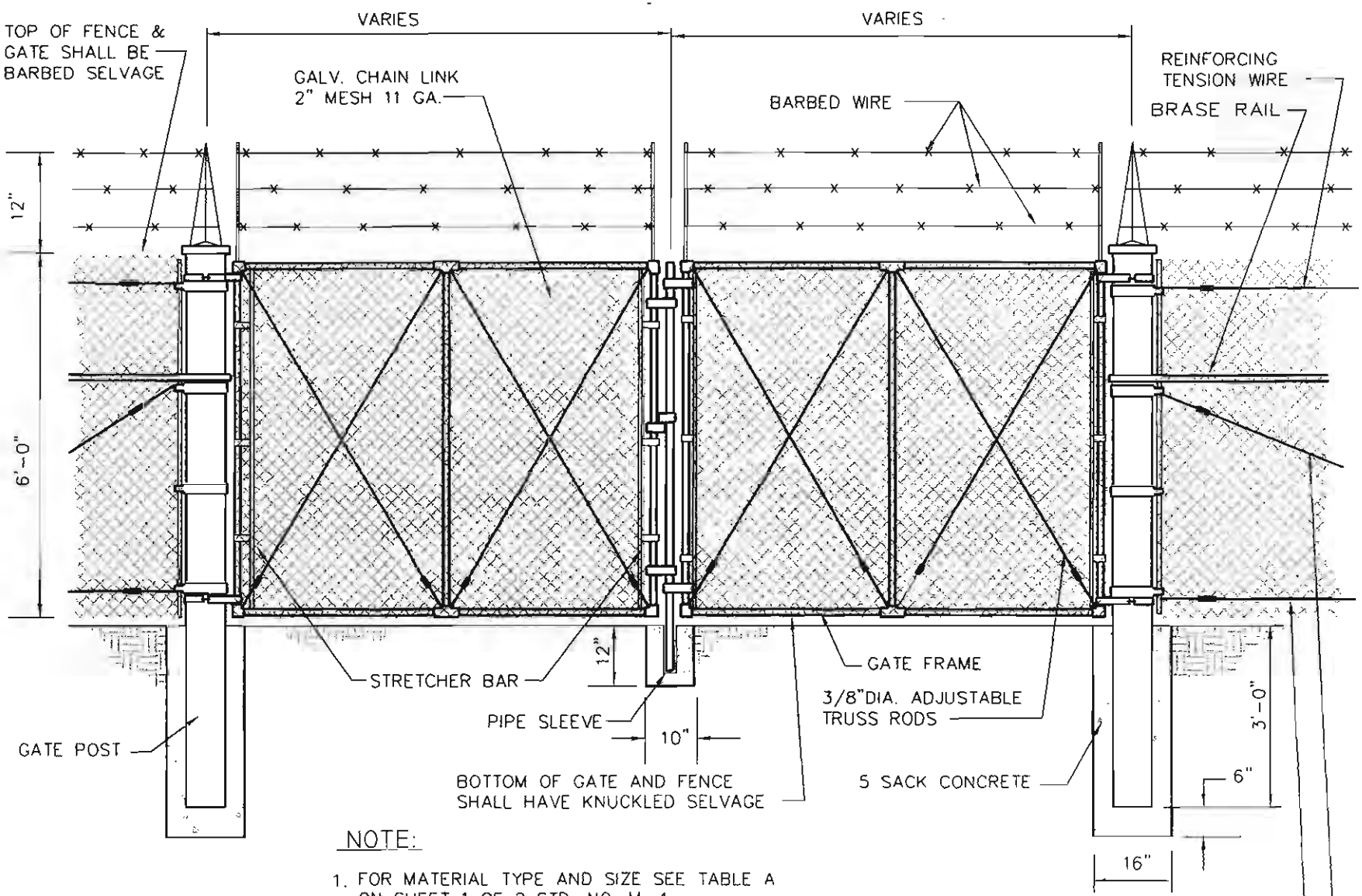
CITY OF MENDOTA

REVISION DATE

STD. DWG.

M-4

2 OF 2



NOTE:

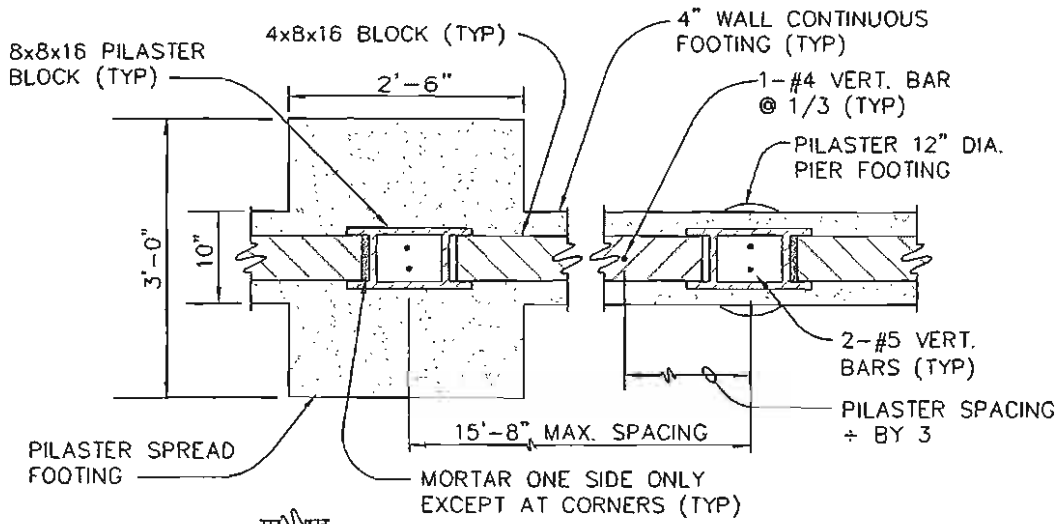
1. FOR MATERIAL TYPE AND SIZE SEE TABLE A ON SHEET 1 OF 2 STD. NO. M-4.
2. PROVIDE GALVANIZED GATE LATCHES FOR POSITIVE OPEN POSITION. ONE REQUIRED FOR EACH GAATE WING.
3. SEE SPECIFICATIONS FOR OPTIONS WITH BARBED WIRE.

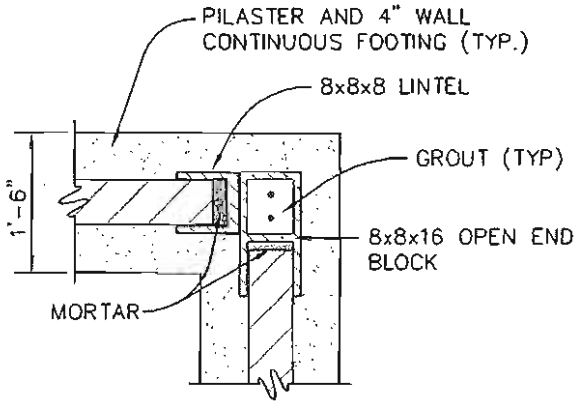
REVISION DATE	
9-25-07	

CITY OF MENDOTA

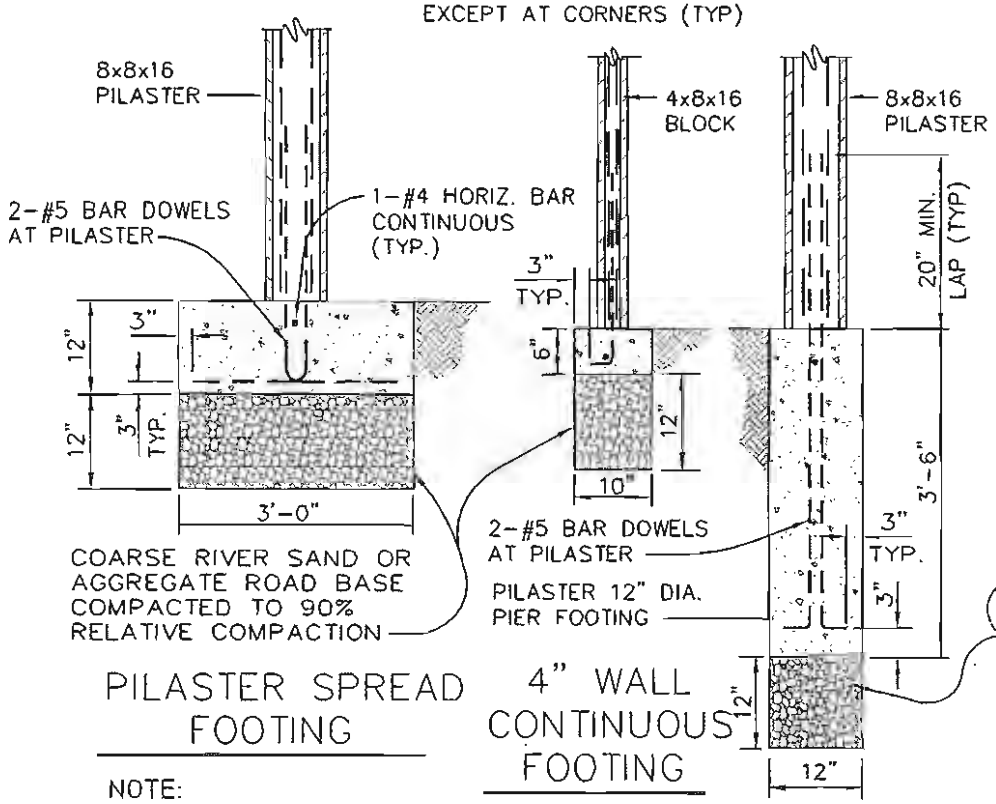
4" CONCRETE BLOCK FENCE

STD.DWG. M-5



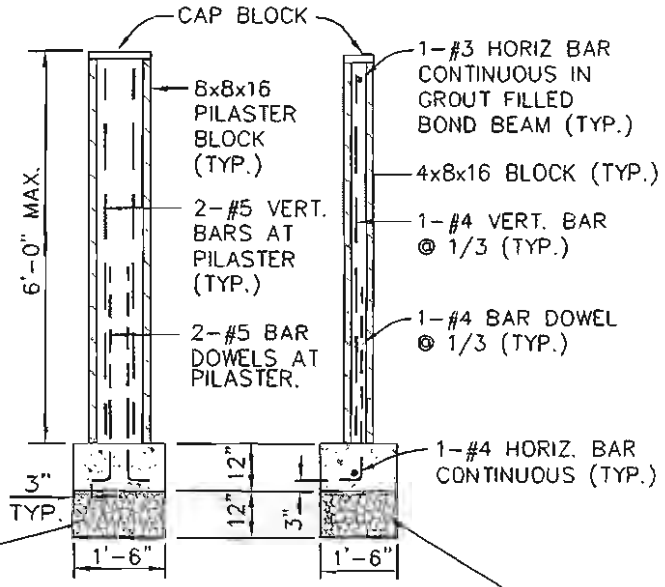


CORNER CONSTRUCTION



PILASTER SPREAD FOOTING

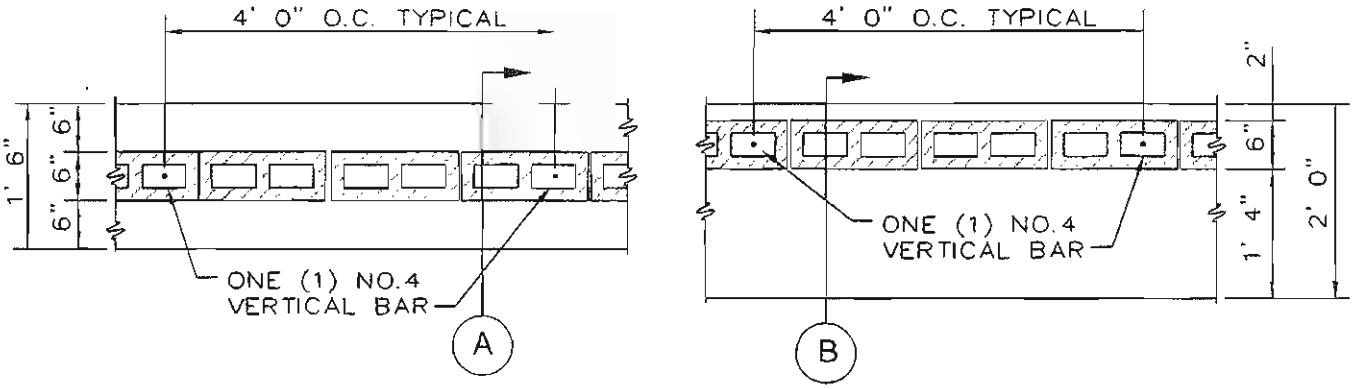
4" WALL CONTINUOUS FOOTING

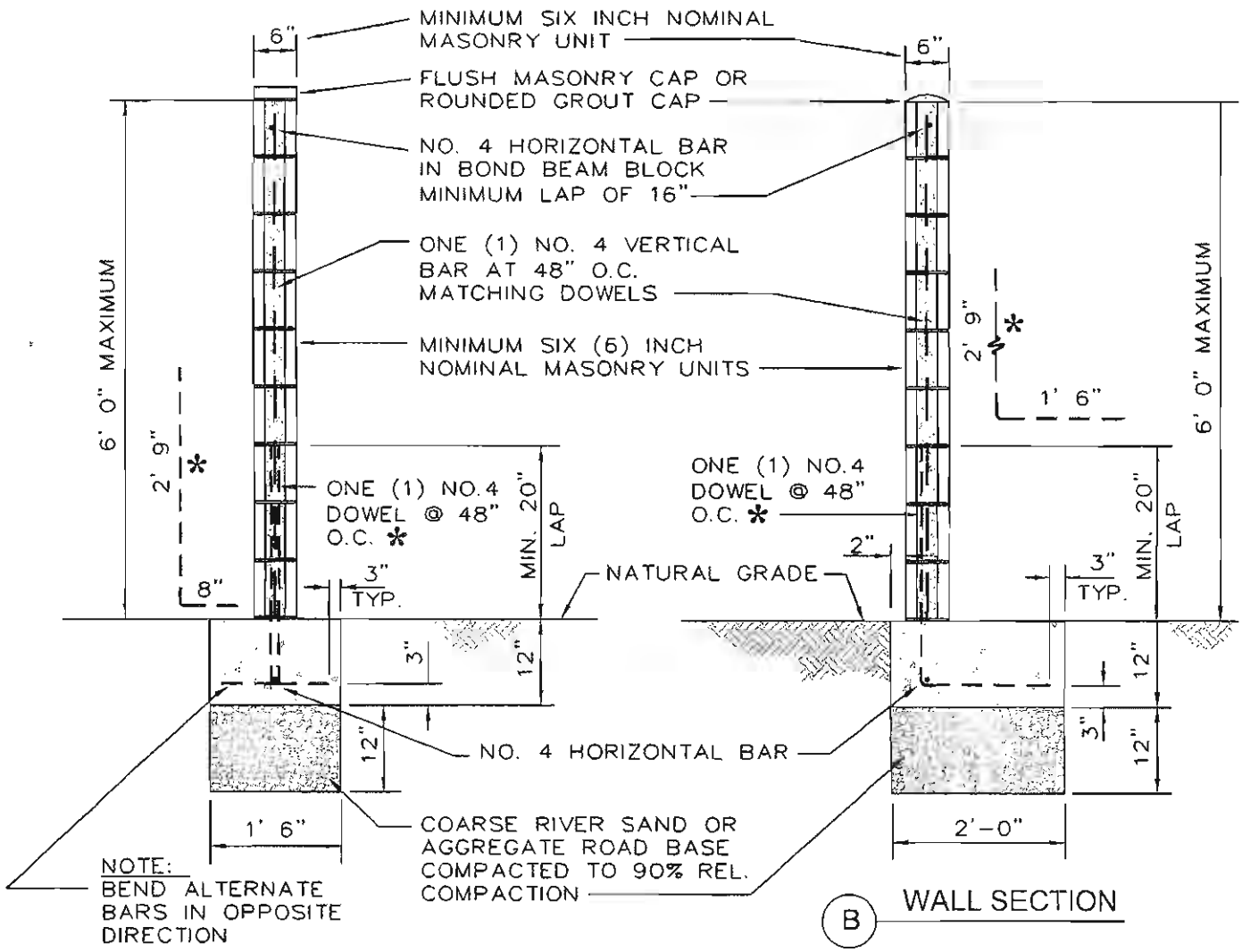


PILASTER AND 4" WALL CONTINUOUS FOOTING

NOTE:

FOR GENERAL NOTES AND SPECIFICATION SEE STANDARD DRAWING M-7.





NOTES:

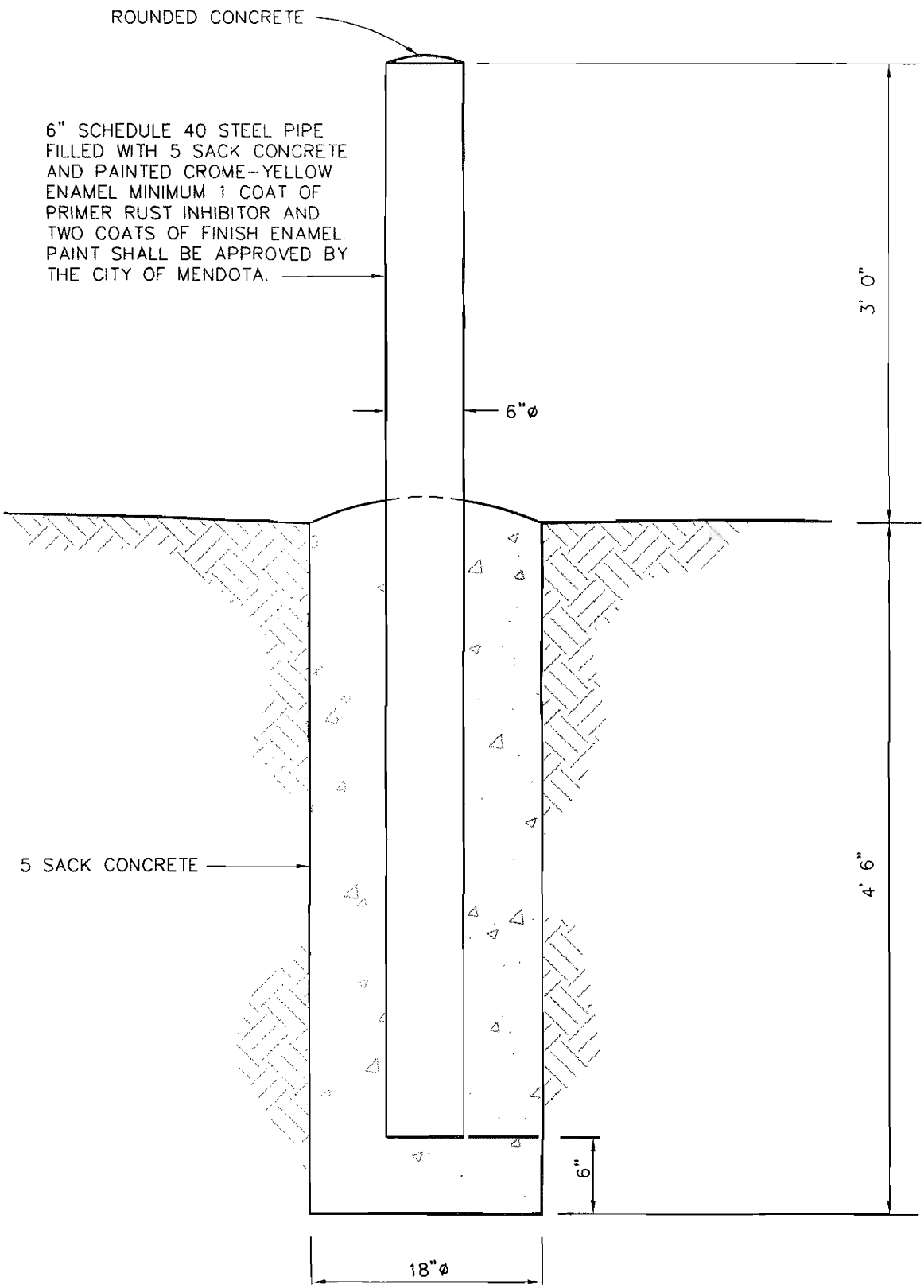
1. FOR GENERAL NOTES AND SPECIFICATIONS SEE STANDARD M-7.
2. BLOCK RETAINING WALLS SHALL BE ENGINEERED AND CERTIFIED.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
9-25-07	6" CONCRETE BLOCK FENCE	M-6

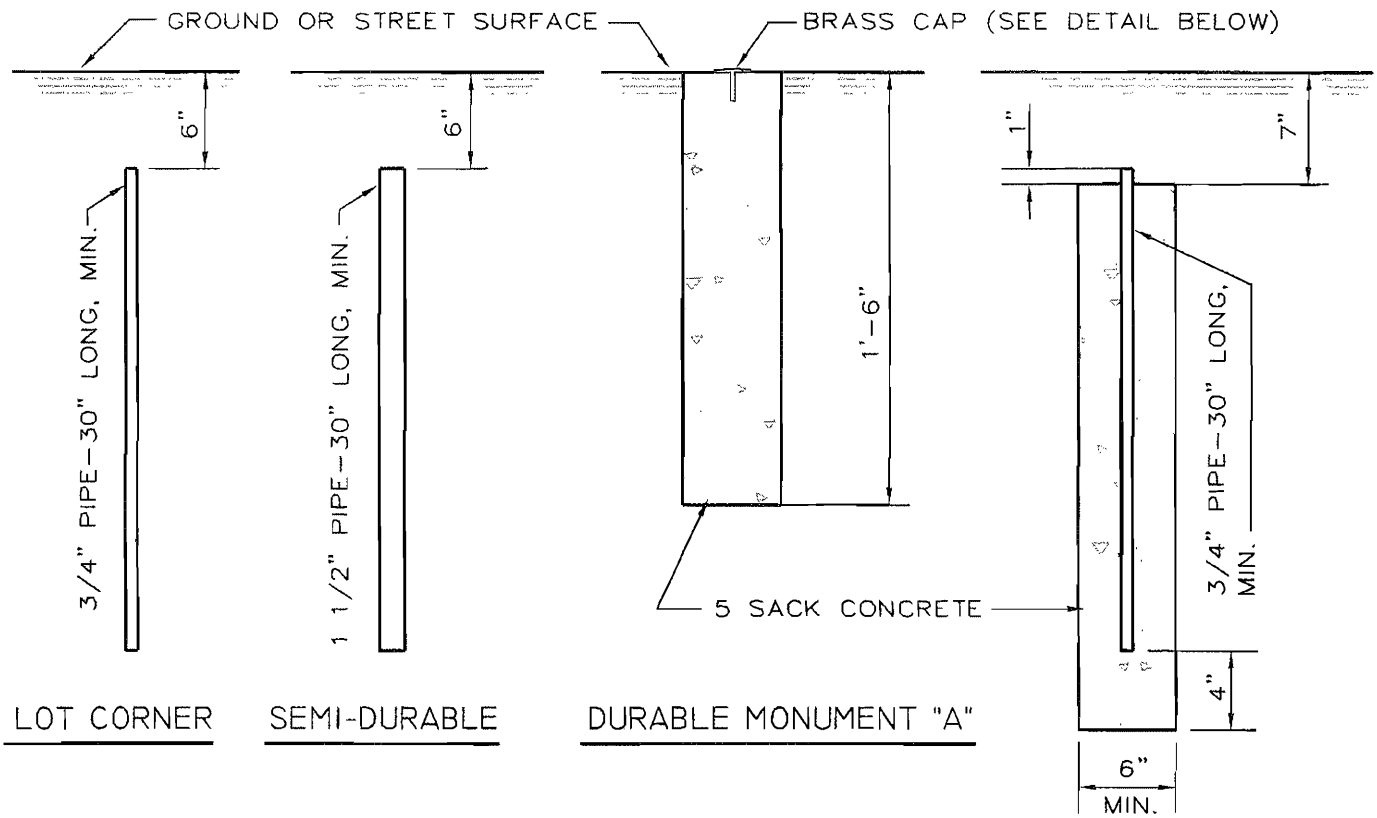
GENERAL NOTES AND SPECIFICATIONS:

1. ALL CONSTRUCTION SHALL COMPLY WITH THE UNIFORM BUILDING CODES.
2. GROUT ALL CELLS CONTAINING REINFORCING STEEL.
3. ALL MASONRY UNITS SHALL COMPLY WITH THE LATEST ADOPTED UNIFORM BUILDING CODE, U.B.C. STD. 21-4 AND ASTM C-90, GRADE N.
4. ALL MASONRY WALLS SHALL BE INSPECTED BY THE CITY ENGINEER.
5. DEPTH OF FOOTINGS ARE TO BE PLACED ON IMPORTED RIVER SAND OR CLASS II AGGREGATE BASE PER STATE STANDARD SPECIFICATIONS. ALL IMPORT MATERIAL SHALL HAVE AN R-VALUE OF 50 OR GREATER.
6. REINFORCING STEEL SHALL BE DEFORMED BARS MINIMUM GRADE 40.
7. FOOTING CONCRETE SHALL BE MINIMUM 2500 PSI @ 28 DAYS.
8. THIS DESIGN SHALL NOT BE USED FOR RETAINING EARTH.
9. MORTAR SHALL BE TYPE-S (MIN. 1800 PSI @ 28 DAYS) 1 PART TYPE 1 CEMENT; ONE-HALF (1/2) PART LIME PUTTY OR HYDRATED LIME; FOUR AND ONE-HALF (4 1/2) PARTS SAND (MAXIMUM).
10. GROUT SHALL BE A MINIMUM 2000 PSI AT 28 DAYS, ONE PART CEMENT; THREE PARTS SAND; TWO PARTS PEA GRAVEL.
11. EARTH COLORED MATERIALS SHALL BE USED WHERE RESIDENTIAL AREAS ARE AFFECTED.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	BLOCK FENCE GENERAL NOTES AND SPECIFICATIONS	M-7



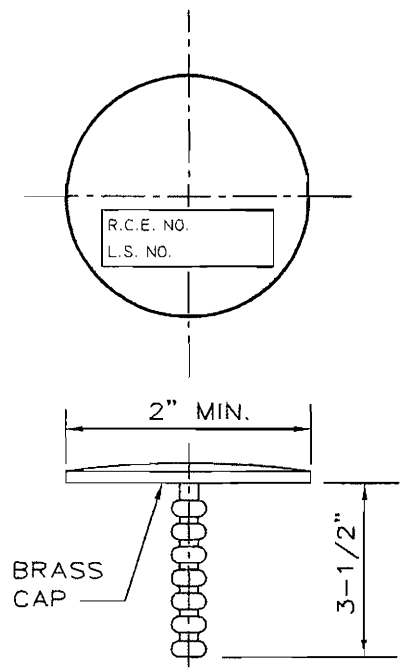
REVISION DATE	CITY OF MENDOTA	STD.DWG.
	GUARD POST	M-8



DURABLE MONUMENT "B"

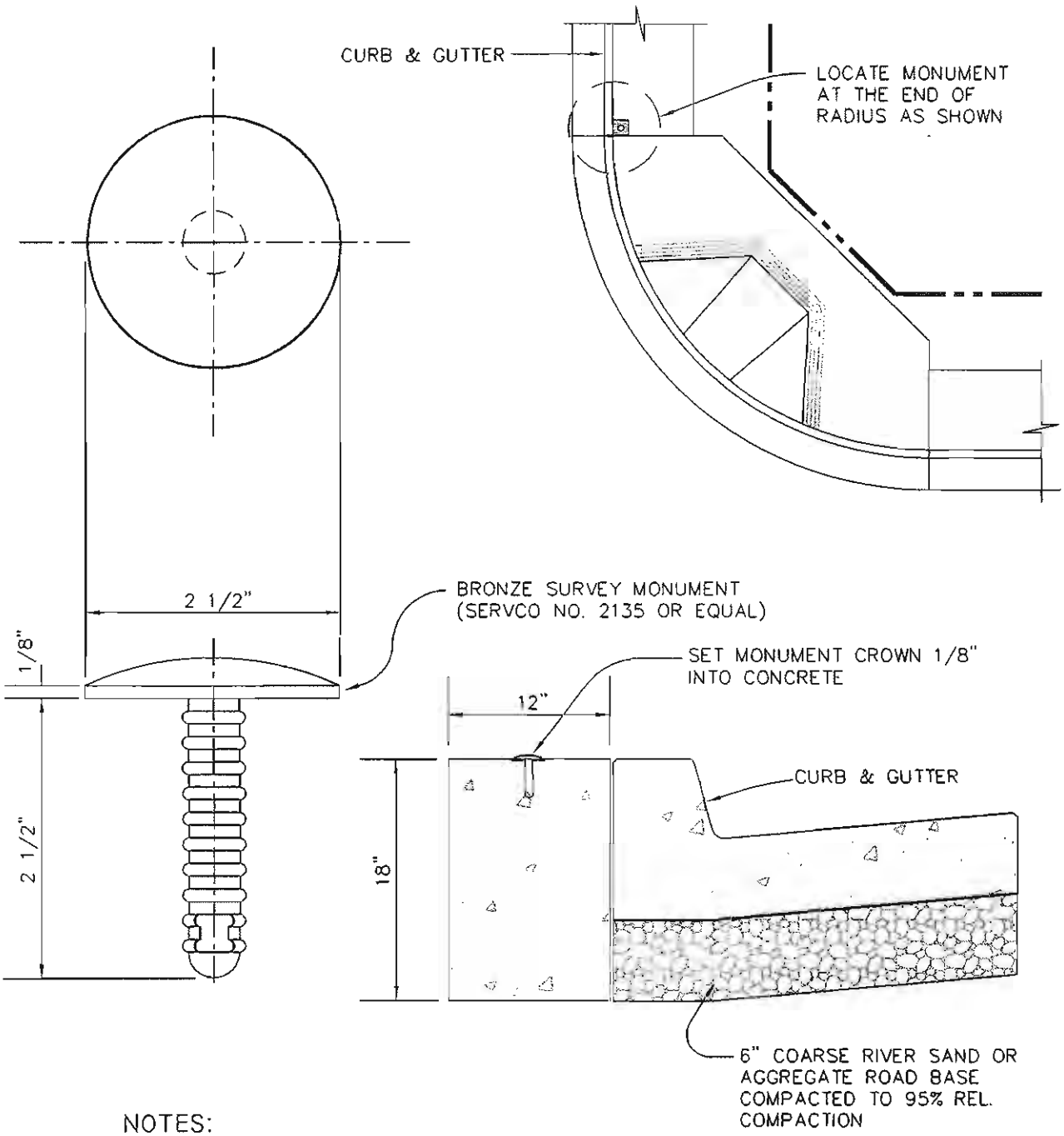
NOTES:

1. STATE LAW REQUIRES ALL CORNERS TO BE TAGGED WITH LAND SURVEYOR'S OR REGISTERED CIVIL ENGINEER'S NUMBER.
2. REGULAR–SHAPED SUBDIVISIONS SHALL HAVE BLOCK CORNERS MARKED WITH SEMI–DURABLE MONUMENTS OR DURABLE MONUMENT "B".
3. ALL INTERSECTIONS, ANGLE AND CURVE POINTS OF STREET CENTER LINES SHALL BE MARKED WITH DURABLE MONUMENTS "A", AFTER STREET SURFACING IS IN PLACE.



DETAIL - BRASS CAP

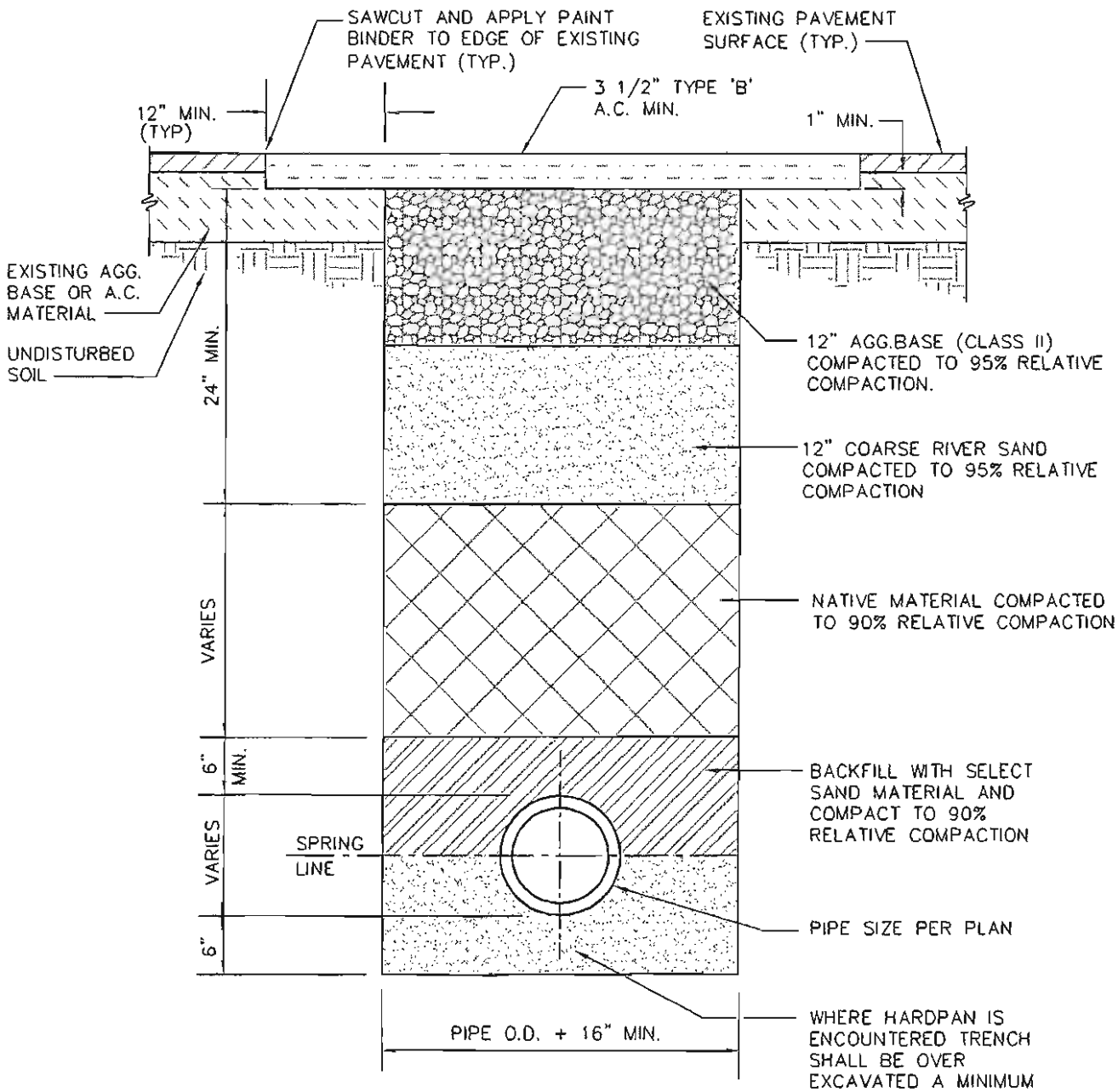
REVISION DATE	CITY OF MENDOTA	STD.DWG.
	PROPERTY MONUMENT DETAILS	M-9



NOTES:

1. LOCATE BENCH MARKS AT THE NORTHEAST CORNER OF INTERSECTIONS APPROVED BY THE CITY ENGINEER.
2. COMPLETE NOTES SHOWING LOCATIONS, ELEVATIONS, AND CLOSURES SHALL BE FILED WITH THE CITY ENGINEER.
3. ELEVATION SHALL BE BASED ON U.S.G.S DATUM.
4. BENCH MARK MONUMENT SHALL BE BRONZE SURVEY MONUMENT (SERVCO NO. 2135 OR APPROVED EQUAL. AVAILABLE AT: SERVCO, 2942 CENTURY PLACE, COSTA MESA, CA. 92626.)

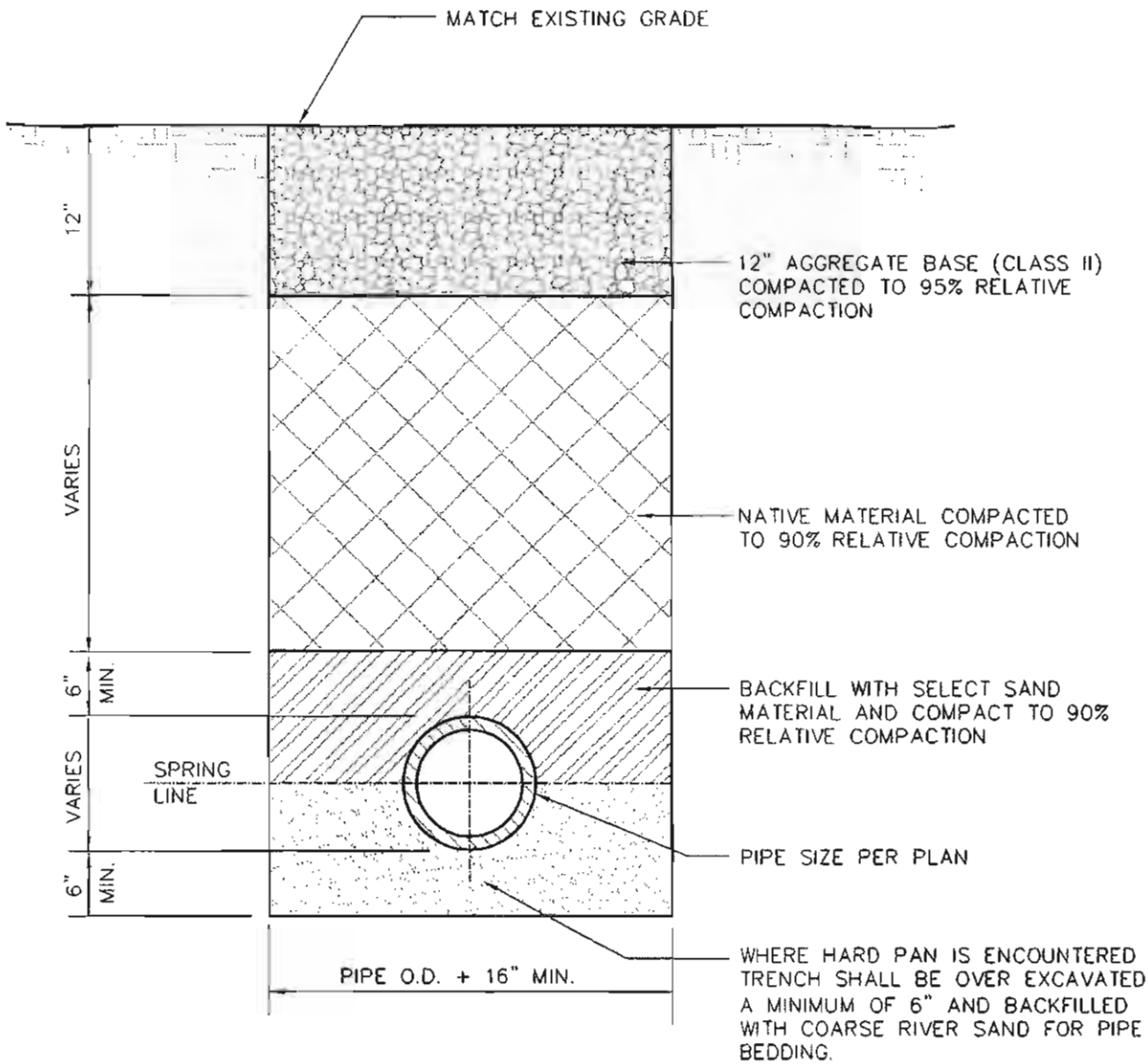
REVISION DATE	CITY OF MENDOTA	STD.DWG.
	BENCH MARK	M-10



NOTE:

COMPACTION OF ALL MATERIALS SHALL BE PER ASTM D-1557 & D-2937 EXCEPT THAT D-2922 MAY BE USED FOR THE AGGREGATE BASE.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	TRENCH BACKFILL & RESURFACING DETAIL	M-11A



NOTE:

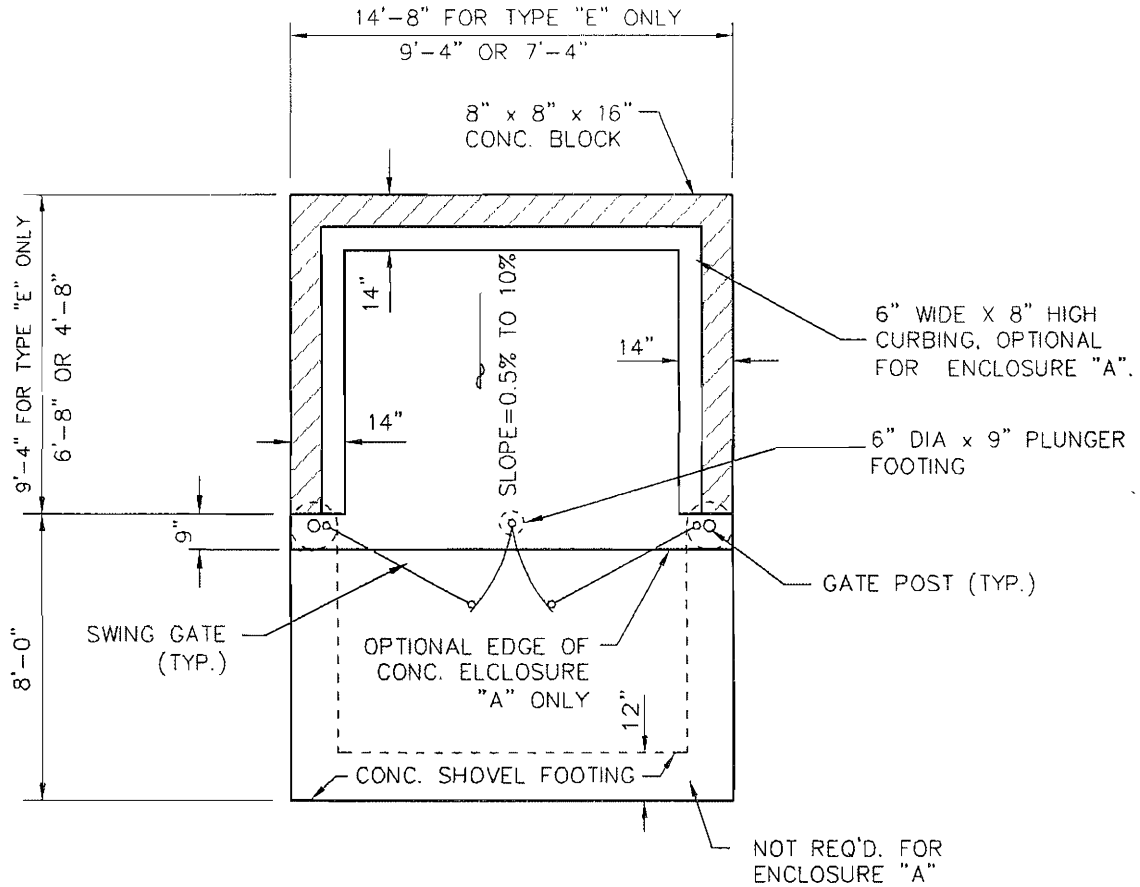
COMPACTION OF ALL MATERIALS SHALL BE PER ASTM D-1557 & D-2937 EXCEPT THAT D-2922 MAY BE USED FOR THE AGGREGATE BASE.

REVISION DATE	CITY OF MENDOTA	STD.DWG.
	TRENCH BACKFILL UNPAVED AREAS	M-11B

GENERAL NOTES AND SPECIFICATIONS

1. ALL CONSTRUCTION SHALL COMPLY WITH THE UNIFORM BUILDING CODE.
2. GROUT ALL CELLS CONTAINING REINFORCING STEEL.
3. ALL MASONRY UNITS SHALL COMPLY WITH THE LATEST ADOPTED UNIFORM BUILDING CODE, U.B.C. ST. 21-4 AND ASTM C-90, GRADE N.
4. ALL MASONRY WALLS SHALL BE INSPECTED BY THE CITY ENGINEER.
5. DEPTHS OF FOOTINGS ARE INTO NATURAL UNDISTURBED SOIL OR TESTED AND APPROVED COMPACTED FILL.
6. REINFORCING STEEL SHALL BE DEFORMED BARS MINIMUM GRADE 40.
7. FOOTING CONCRETE SHALL BE MINIMUM 2500 PSI @ 28 DAYS.
8. THIS DESIGN SHALL NOT BE USED FOR RETAINING EARTH.
9. MORTAR SHALL BE TYPE-S (MIN. 1800 PSI @ 28 DAYS) 1 PART TYPE 1 CEMENT, ONE HALF (1/2) PART LIME PUTTY OR HYDRATED LIME; FOUR AND ONE HALF (4 1/2) PARTS SAND MAXIMUM).
10. GROUT SHALL BE A MINIMUM 2000 PSI @ 28 DAYS, ONE PART CEMENT, THREE PARTS SAND, TWO PARTS PEA GRAVEL.
11. EARTH COLORED MATERIALS SHALL BE USED WHERE RESIDENTIAL AREAS ARE AFFECTED.
12. CHAIN LINK GATE SHALL HAVE STANDARD FORK TYPE LATCH.
13. CHAIN LINK FABRIC SHALL BE 11 GA. MIN. AND SIZED FOR LATH INSERTS, REDWOOD, CEDAR OR AS APPROVED BY CITY ENGINEER.
14. GATE SHALL BE DOUBLE SWING GATES FOR TYPE "A" AND "B" AND "E" ENCLOSURES. DOUBLE SWING GATES SHALL HAVE CENTER PLUNGER STOP ON ONE LEAF.
15. ALL CHAINLINK GATE MATERIALS SHALL BE HOT DIP GALVANIZED STRUCTURAL STEEL GATES SHALL BE POWDER COATED OR OTHER COATING APPROVED BY THE CITY ENGINEER. SEE CHAINLINK FENCE STANDARD M-4, SHEETS 1 & 2 FOR ADDITIONAL REQUIREMENTS.
16. CONTRACTOR SHALL VERIFY SIZE OF OPENING IN FIELD.
17. TRASH ENCLOSURE TYPE "A" - TRASH CANS ONLY.
18. TRASH ENCLOSURE TYPE "B" - TRASH CANS OR SINGLE BIN.
19. TRASH ENCLOSURE TYPE "C" - MULTIPLE BINS AND RECYCLE CANS.
20. TRASH ENCLOSURE TYPE "D" - MULTIPLE BINS AND RECYCLE BIN.
21. TRASH ENCLOSURE TYPE "E" - TRASH BIN AND RECYCLE BIN.
22. SIZE TO BE APPROVED BY CITY ENGINEER.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
26AUG05	9-25-07	COMMERCIAL & INDUSTRIAL TRASH ENCLOSURE	M-12
25NOV08	6-23-09		1 OF 5



TRASH ENCLOSURE PLAN TYPE "A" & "B" & "E"

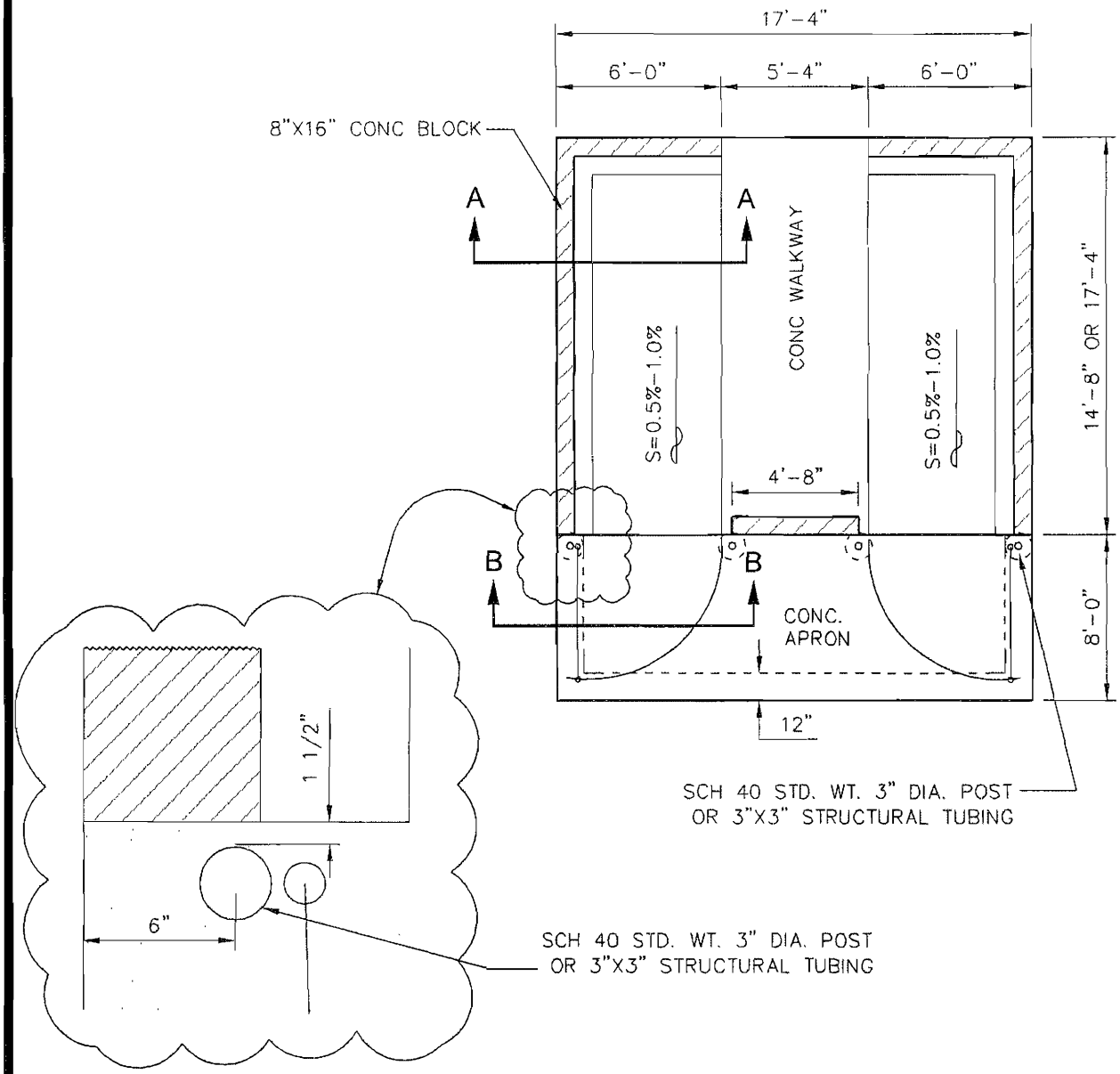
TRASH ENCLOSURE SIZE

TYPE "A" – TRASH CANS ONLY
(7'– 4" X 4'– 8")
TYPE "B" – TRASH CANS OR SINGLE BIN
(9'– 4" X 6'– 8")
TYPE "E" – TRASH BIN AND RECYCLE BIN
(14'– 8" X 9'– 4")

NOTES:

1. TRASH ENCLOSURE SIZE TO BE APPROVED BY CITY ENGINEER AND REFUSE HAULER
2. GATE HARDWARE SHALL CONFORM TO CITY STD. M–4.
3. WALL SECTION SHALL CONFORM TO SHEET 4 OF 5 EXCEPT FOR WALKWAY.
4. GATE MOUNTING SHALL CONFORM TO SHEET 5 OF 5 EXCEPT THAT CENTER WALL SECTION IS OMITTED AND GATES SHALL BE DOUBLE SWING GATES WITH CENTER PLUNGER

REVISION DATE		CITY OF MENDOTA	STD.DWG.
26AUG05	9–25–07	COMMERCIAL & INDUSTRIAL TRASH ENCLOSURE	M-12
25NOV08	6–23–09		2 OF 5



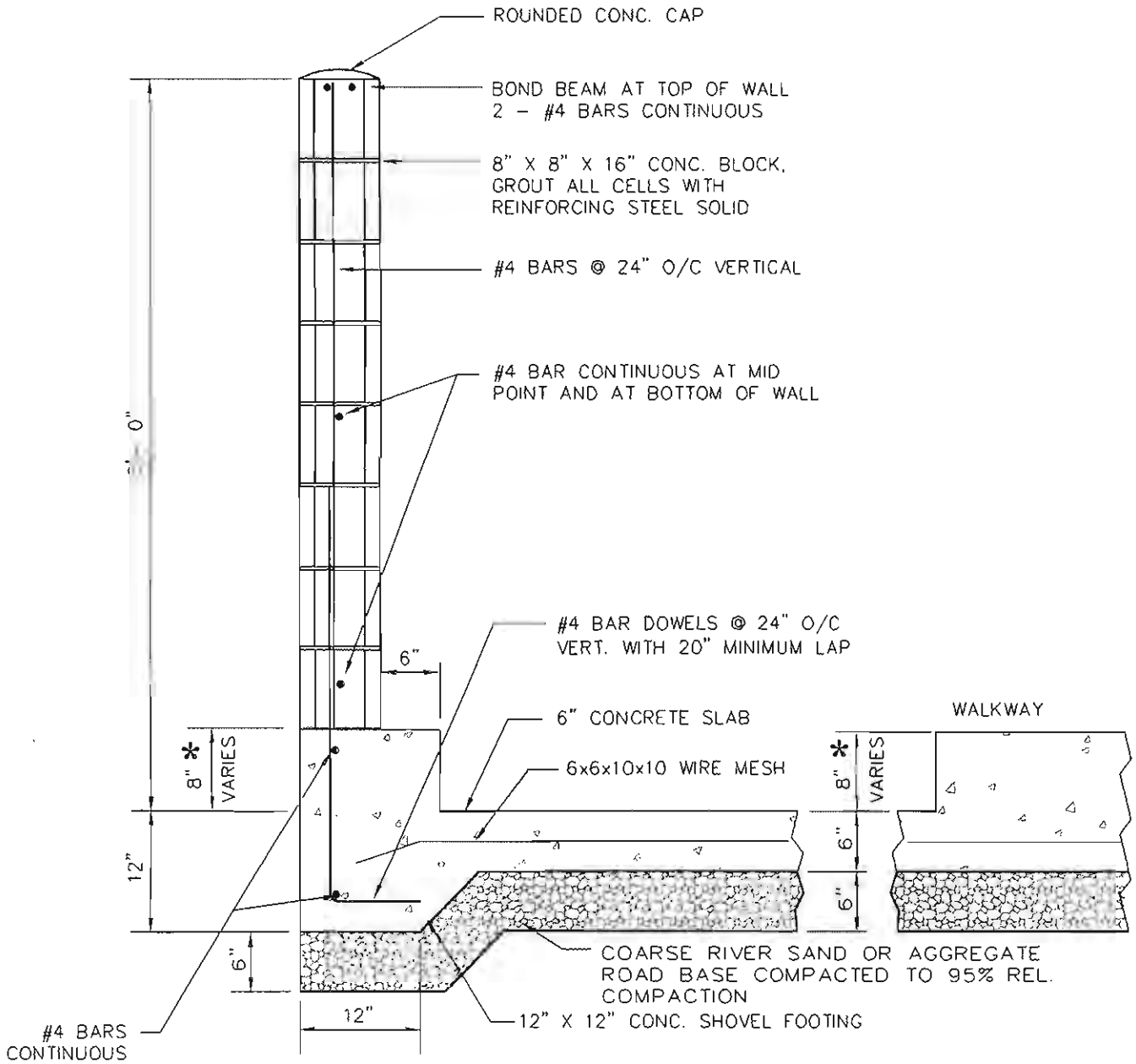
TRASH ENCLOSURE PLAN TYPE "C" & "D"

TRASH ENCLOSURE SIZE

TYPE "C" – MULTIPLE BINS & RECYCLE CANS
(17'-4" X 14'- 8")
TYPE "D" – MULTIPLE BINS & RECYCLE BINS
(17'- 4" X 17'- 4")

NOTE:
TRASH ENCLOSURE SIZE TO BE APPROVED BY CITY ENGINEER AND REFUSE HAULER

REVISION DATE		CITY OF MENDOTA	STD.DWG.
26AUG05	9-25-07	COMMERCIAL & INDUSTRIAL TRASH ENCLOSURE	M-12
25NOV08	6-23-09		3 OF 5

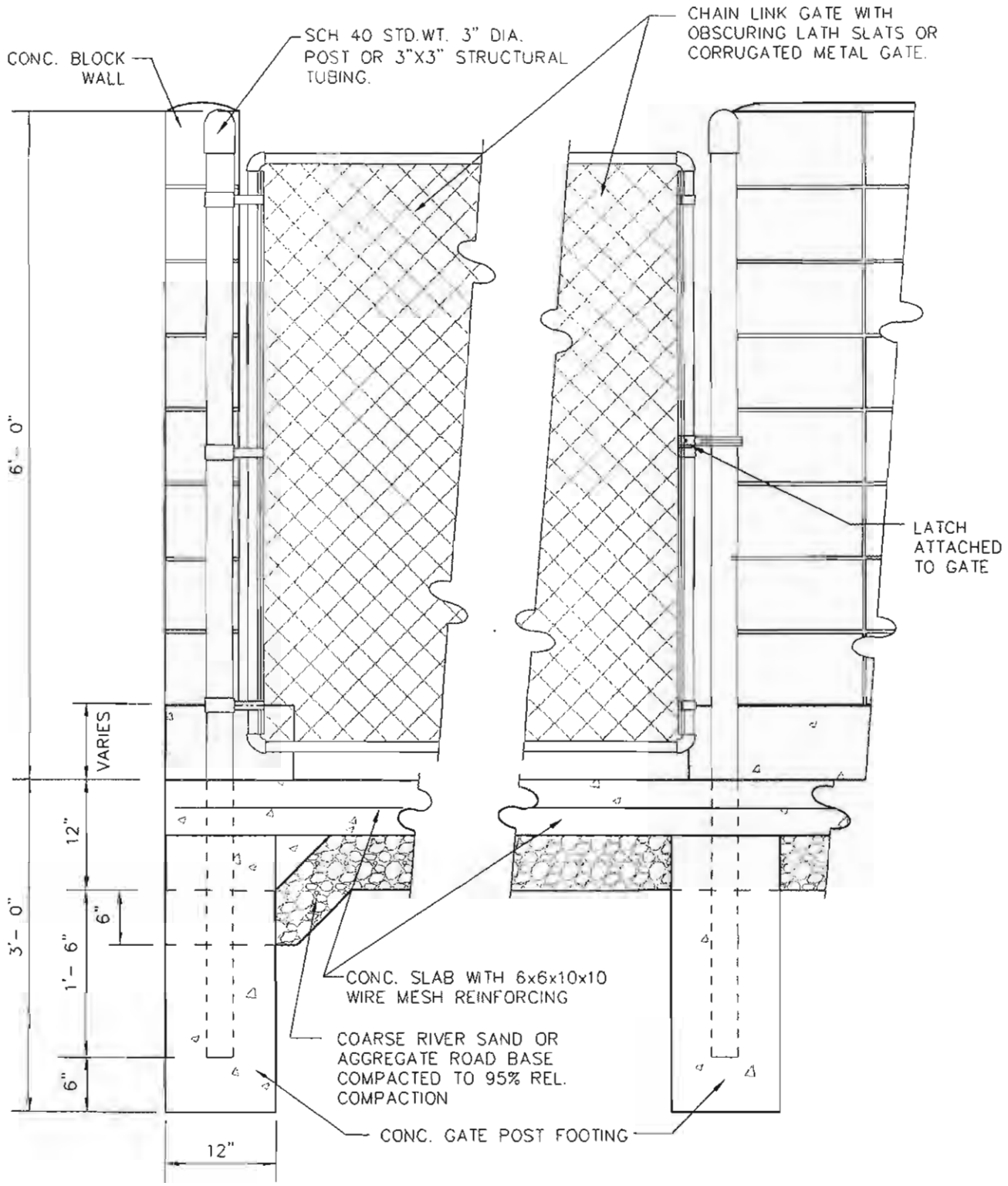


BLOCK WALL SECTION A - A

* NOTE

1. FOUNDATION STEM WALL MAY BE OMITTED FROM TRASH ENCLOSURE TYPE "A".
2. WALKWAY AND STEM WALL HEIGHT VARIES FROM 8" AT BACK OF STRUCTURE TO MAXIMUM OF 10" AT FRONT DEPENDING UPON FLOOR SLOPE.

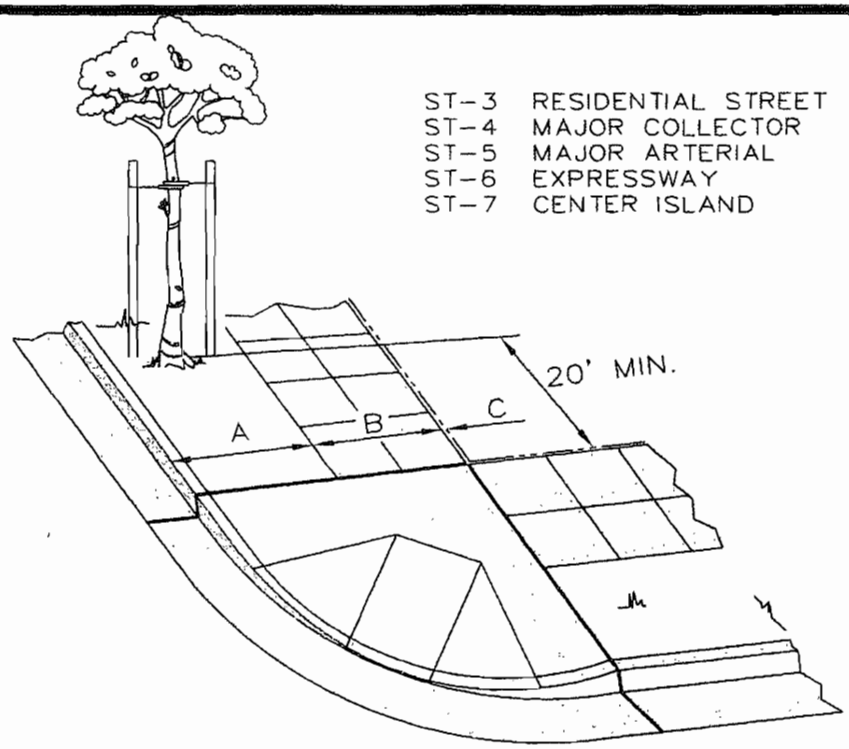
REVISION DATE		CITY OF MENDOTA	STD.DWG.
26AUG05	9-25-07	COMMERCIAL & INDUSTRIAL TRASH ENCLOSURE	M-12
25NOV08	6-23-09		4 OF 5



GATE SECTION B - B

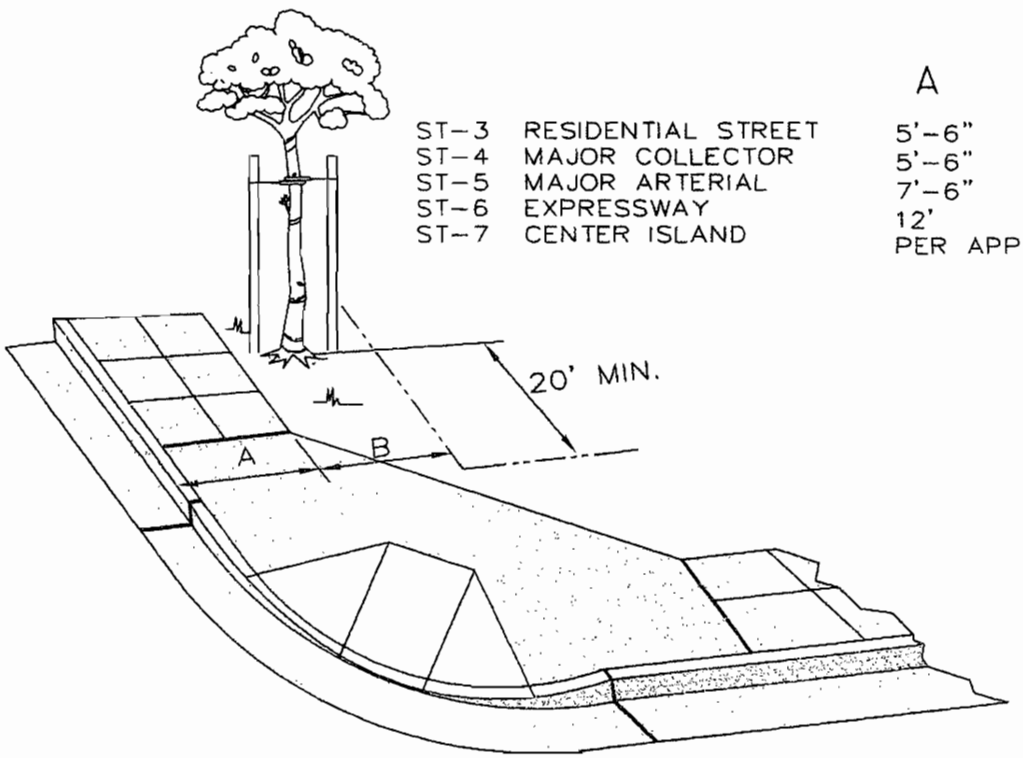
* SEE NOTE ON SHEET 4 OF 5

REVISION DATE		CITY OF MENDOTA	STD.DWG.
26AUG05	9-25-07	COMMERCIAL & INDUSTRIAL TRASH ENCLOSURE	M-12
25NOV08	6-23-09		5 OF 5



		A	B	C
ST-3	RESIDENTIAL STREET	4'-6"	5'	6"
ST-4	MAJOR COLLECTOR	4'-6"	5'	6"
ST-5	MAJOR ARTERIAL	NOT APPLICABLE		
ST-6	EXPRESSWAY	6'-6"	5'	6"
ST-7	CENTER ISLAND	PER APPLICABLE CONDITIONS		

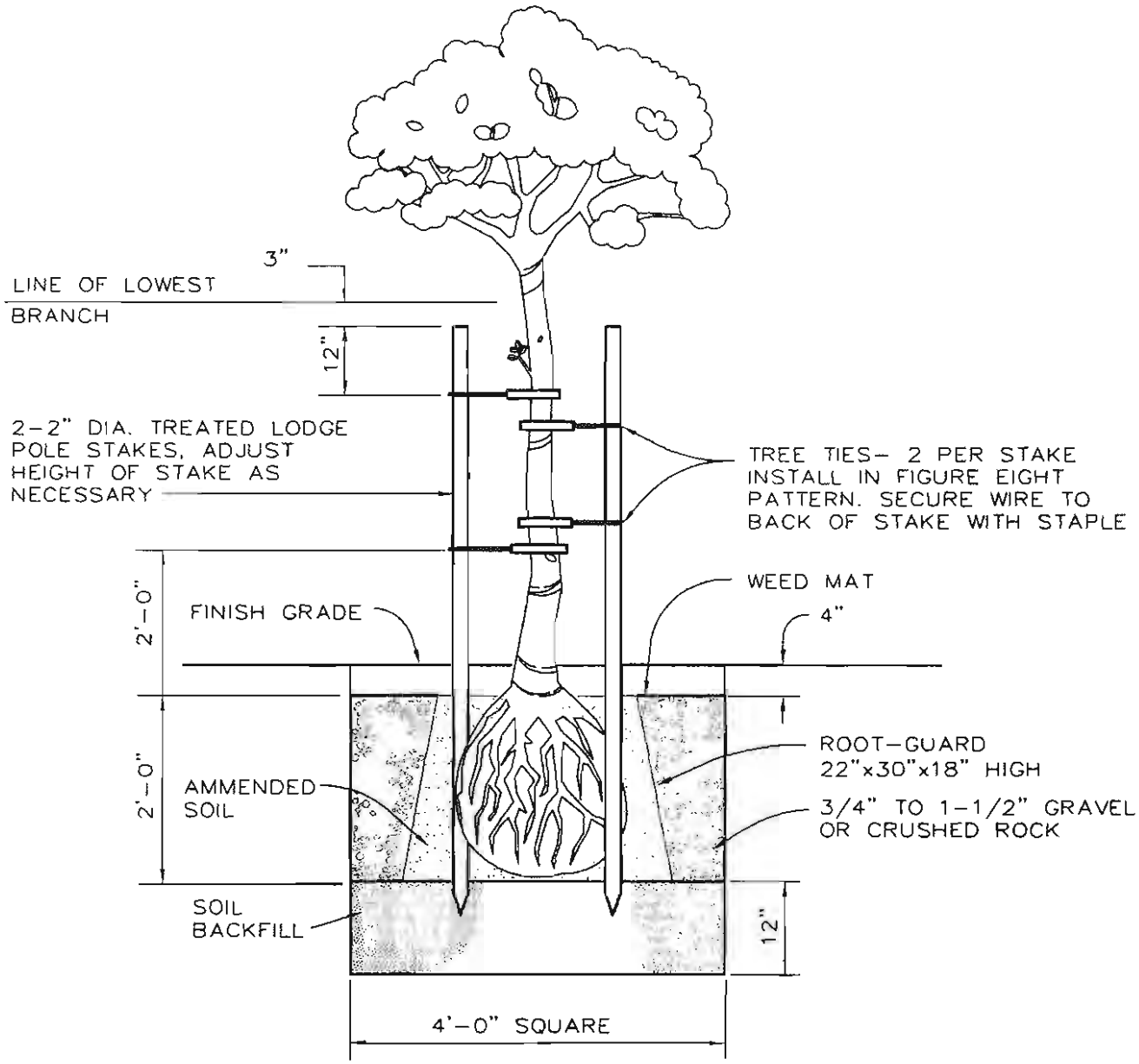
CURB, GUTTER AND SIDEWALK WITH PARK STRIP



		A	B
ST-3	RESIDENTIAL STREET	5'-6"	4'-6"
ST-4	MAJOR COLLECTOR	5'-6"	4'-6"
ST-5	MAJOR ARTERIAL	7'-6"	6"
ST-6	EXPRESSWAY	12'	---
ST-7	CENTER ISLAND	PER APPLICABLE CONDITIONS	

CURB, GUTTER WITH MONOLITHIC SIDEWALK

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		STREET TREE PLANTING	M-13
			1 OF 4



NOTES:

1. PROPERTY OWNERS, DEVELOPERS, CONTRACTORS, ENGINEERS & ARCHITECTS MAY PLANT ONLY THE TREES LISTED ON THE PARKWAY TREE LIST SEE DETAIL M-13 SHEET 2 OF 3.
2. FULL SPECIFICATIONS SHALL BE PROVIDED FOR CITY APPROVAL.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		STREET TREE PLANTING	M-13
			2 OF 4

CITY OF MENDOTA
PARKWAY TREE LIST

PROPERTY OWNERS MAY PLANT THE FOLLOWING TREES IN THE PARKWAY STRIP (BETWEEN THE PROPERTY LINE AND THE STREET PAVEMENT) UPON RECEIVING A PERMIT FROM THE LICENSE & PERMITS CLERK.

NAME	COMMON NAME
ALNUS RHOMBIFOLIA	WHITE ALDER
FRAXNUS OXYOARPA 'RAYWOOD'	CLARAT ASH
LIQUIDAMBAR STYRACIFLUA	PALO ALTO SWEET GUM
LIRIODENDRON TULIPIFERA	TULIP TREE
PISTACIA CHINENSIS	CHINESE PISTACIA (KEITH DAVEY)
PLANTANUS ACERIFOLIA	LONDON PLANE TREE
PODOCARPUS GARCILIOR	FERN PINE
PYRUS CALLERYANA 'BRADFORD'	BRADFORD PEAR
PYRUS CALLERYANA 'REDSPIRE'	FLOWERING PEAR
PYRUS KAWAKAMII	EVERGREEN PEAR
ULMUS PARVIFOLIA 'SEMPERVIRENS'	CHINESE EVERGREEN ELM
ULMUS PARVIFOLIA 'DRAKE'	CHINESE ELM
PRUNUS CERASIFERA 'KRAUTER VESUSVIUS'	FLOWERING PLUM
QUERCUS ILEX	HOLLY OAK

NOTE:

CITY ORDINANCE 12.16.050 PROHIBITED TREES:
IT IS UNLAWFUL TO PLANT IN ANY PUBLIC PARKING STRIP THE FOLLOWING TREES: ACACIA, BLACK WALNUT EUCALYPTUS, ELM, PLAM, POPLAR, TREE OF HEAVEN OR SYCAMORE. IT IS UNLAWFUL TO PLANT WILLOW, COTTONWOOD OR POPLAR TREES ANYWHERE IN THE CITY UNLESS THE SUPERINTENDENT OF PUBLIC WORKS APPROVES THE SITE AS ONE WHERE THE ROOTS WILL NOT INTERFERE WITH PUBLIC SEWER.

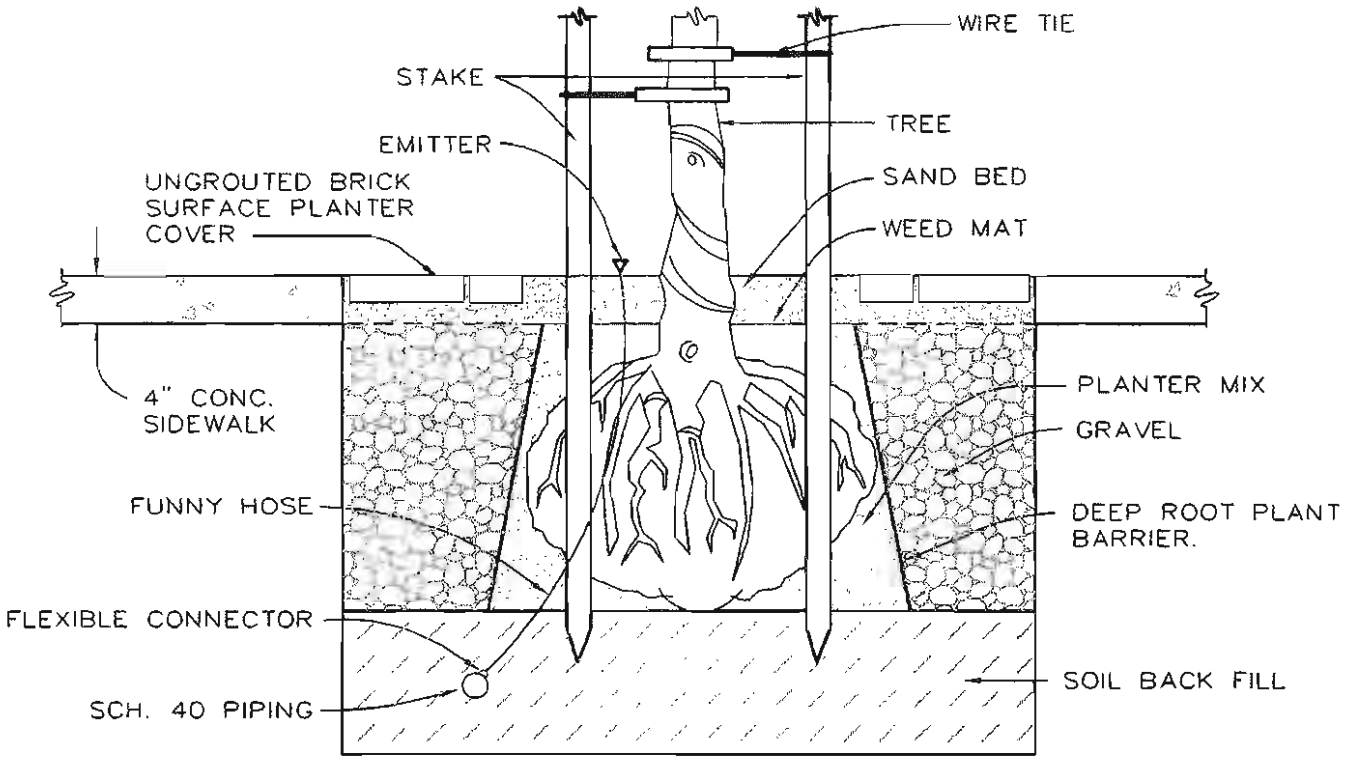
REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		APPROVED TREE & SHRUB LIST	M-13
			3 OF 4

CITY OF MENDOTA
PARKWAY SHRUB LIST

PROPERTY OWNERS MAY PLANT THE FOLLOWING SHRUBS IN THE PARKWAY STRIP (BETWEEN THE PROPERTY LINE AND THE STREET PAVEMENT) UPON RECEIVING A PERMIT FROM THE LICENSE & PERMITS CLERK.

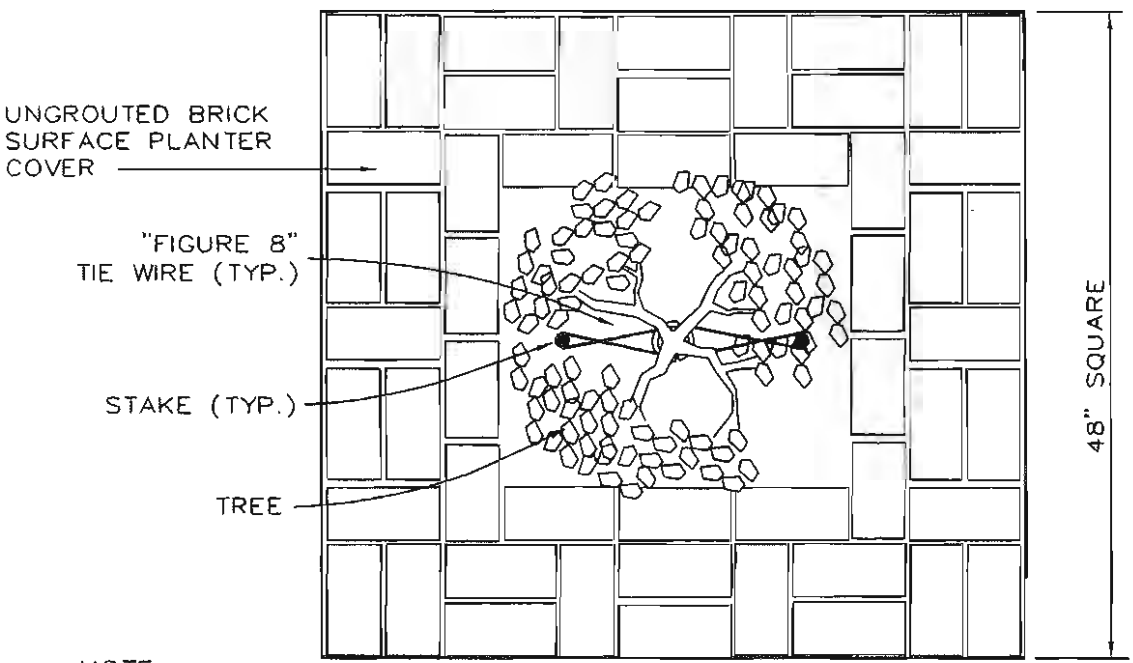
NAME	COMMON NAME
BERBERIS THUNBERGIL 'ROSE GLOW'	BARBERRY
COPROSMA PETRIEI 'VERDE VISTA'	MIRROR SHRUB
HEMEROCALLIS HYBRIDS 'STELLA D'ORO'	DAYLILLY
LANTANA HYBRID 'SPREADING YELLOW'	LANTANA
LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD'	TEXAS RANGER
LIGUSTRUM JAPONICA TEXANUM	WAX LEAF PRIVET
NANDINA DOMESTICA 'COMPACTA'	HEAVENLY BAMBOO
PENNISETURN SETACEUM 'RUBRUM'	FOUNTAIN GRASS
RHAPHIOLEPIS INDICA 'INDIAN PRINCESS'	INDIA HAWTHORN
SALVIA LEUCANTHA	MEXICAN SAGE
TRACHELOSPERMUM JASMINOLDES	STAR JASMINE
VIBURNUM TINUS 'SPRING BOUQUET'	LAURUSTINUS

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07		APPROVED TREE & SHRUB LIST	M-13
			4 OF 4



NOTES:

1. SEE SPECIFICATIONS SECTION 26.
2. SEE TREE LIST Std. Dwg. M-13.
3. SEE TREE WELL Std. Dwg. M-13.



NOTE:

COMMON OR PAVING BRICK PLANTER COVER, REQUIRED ONLY IN COMMERCIAL AREAS OR WHERE SIDEWALK EXISTS. BRICK COVER PATTERN SHALL BE AS SHOWN ABOVE. ALTERNATIVES TO TO THE BRICK COVER WILL BE ACCEPTABLE WITH APPROVAL OF THE CITY.

REVISION DATE		CITY OF MENDOTA	STD.DWG.
9-25-07	05/24/06	COMMERCIAL TREE WELL WITH AUTOMATIC IRRIGATION SYSTEM	M-14