

LAGUNA COUNTY SANITATION DISTRICT
SANTA BARBARA COUNTY
CALIFORNIA

STANDARD SPECIFICATIONS
FOR THE CONSTRUCTION OF SANITARY SEWERS

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INTRODUCTION

This manual covers the rules, regulations and standards for the preparation and processing of plans for sanitary sewers to be constructed under public and private contract. Also, the manual covers the documents supplemental to the plans required by the Laguna County Sanitation District ("District") for the construction of sewers and regulations for obtaining sewage collection services from the District.

The preparation and processing of plans and construction of sewage facilities collection shall comply with the requirements in this manual and related documents. In addition to the requirements given in this manual, the applicant shall comply with the applicable sections in the latest edition of the *Standard Specifications for Public Works Construction* (SSPWC), "The Greenbook," and the latest edition of the *California Plumbing Code* as adopted by the enforcing jurisdiction. In the event of any inconsistency or conflict between said publications and this manual, this manual shall control. Any special conditions of construction imposed by the District and will supersede conditions that may be in conflict with this manual.



DEPARTMENT OF PUBLIC WORKS
LAGUNA COUNTY SANITATION DISTRICT

Approved by District Engineer/Manager:



Martin Wilder

Martin Wilder

Sept 16, 2014
Date

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FOR THE CONSTRUCTION OF SANITARY SEWERS

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PART III	DESIGN REQUIREMENTS
PART IV	CONSTRUCTION SPECIFICATIONS
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PART I

GENERAL PROVISIONS

1.00 USE OF MANUAL

This manual is arranged with the intent of easy reference to most questions that may be asked regarding Laguna County Sanitation District (District) sewage collection service. The manual is in seven parts as follows:

PART I	GENERAL PROVISIONS
PART II	RULES AND REGULATIONS
PART III	DESIGN REQUIREMENTS
PART IV	CONSTRUCTION SPECIFICATIONS
PART V	CONSTRUCTION REQUIREMENTS
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2.00 PREFACE

2.01 Purpose

The purpose of this manual is to define the terms, rules, regulations, and standards of the Laguna County Sanitation District. This manual, and related documents, shall govern the requirements of construction within the jurisdiction of the District. Inspection jurisdiction of the District includes the entire sewerage system and its appurtenances from the private property line to the treatment plant. However, pursuant to County Code Section 29-27.1(b), laterals and building sewers are considered as owned and maintained by the property owner and therefore District maintenance responsibilities end at the service connection in the wye at the main.

2.02 Exceptions

It is recognized that it is not possible to address all situations that may arise and prescribe standards to every situation. However, it is expected that the policies in this manual will apply to the majority of cases and shall be complied with, unless specifically exempted by the District. In some cases, the District, in its sole and absolute discretion, may make exceptions where application of the policies to a particular situation result in an unreasonable requirement not in the District's and/or the public's best interest.

- 2.03 *Authority*
The Laguna County Sanitation District was formed December 29, 1958 by the Santa Barbara County Board of Supervisors (ex-officio District Board of Directors) per Resolution 18598 pursuant to the County Sanitation District Act as contained in Division 5, Part 3, Chapter 3 of the State Health and Safety Code commencing with Section 4700.

This manual and these standards were adopted by the District Board of Directors on September 16, 2014. The adoption of this manual and standards supersede any adopted prior.

3.00 GENERAL REQUIREMENTS

- 3.01 *Persons Authorized*
Public sewer construction related to land development projects shall be performed by authorized contractors, currently licensed by the State of California. The requirements of this section shall also apply to laterals.
- 3.02 *Construction Authorization*
No unauthorized person shall uncover, connect onto, open, use, alter, or disturb any public sewer or appurtenance, or perform work on any public sewer system without first obtaining written authorization from the District and paying applicable fees. Such authorization shall be posted at the work site and shall be shown upon the demand of any District authorized representative. Road encroachment permits from the appropriate agency shall also be required for work within public road rights of way.
- 3.03 *Application for Construction Authorization*
Any person legally entitled to apply for and receive construction authorization shall apply to the District for a Sewer Service permit. Calculations, plans, specifications, cost estimates, and other required information shall be provided for review and approval for any proposed public sewer infrastructure.
- 3.04 *Permit Compliance*
The approval of the application is evidenced by the issuance of the Sewer Service permit by the District. Once approved, no change shall be made to the proposed sewer infrastructure unless prior written permission is obtained from the District's engineering manager or other authorized District representative.
- 3.05 *Agreement*
The signature of the applicant on the Sewer Service permit shall constitute

an agreement to comply with all provisions, terms and requirements of these rules and regulations and the Laguna County Sanitation District and shall authorize right of entry for District personnel, representatives, consultants, contractors, successors and assigns.

3.06 *Liability*

The applicant, and/or the applicant's agents shall be solely liable for any defects or failure during performance of the work or any failure which may develop therein for the period of one (1) year from the notice of completion. The District, its officers, employees, agents, contractors, representatives, successors and assigns shall not be answerable for any liability, death or injury to persons or property damage due to or arising out of the performance of the work by the applicant or the applicant's agents. The applicant shall answer for and save the District, its officers, employees, agents, contractors, representatives, successors and assigns from all liabilities imposed by law, including all costs, expenses, fees and interest incurred in seeking to enforce this provision.

3.07 *Time Limits*

A suspension of work may not exceed 14 days unless measures to complete and protect newly installed facilities are exercised. If the work is to be constructed in phases such that there is partial completion of portions of the overall system, then any live portions must have passed inspection and be in an allowable state for use and access, while portions to be energized at a later date must have passed inspection and be appropriately closed and protected from stormwater, debris, public access and any other hazards.

3.08 *Power and Authority of Inspectors*

Upon the exhibition of proper credentials and identification, the appropriate District representative or inspector shall be permitted to enter into residential, commercial, institutional and industrial facilities for the purposes of inspection, observation, measurement, sampling, testing or other duties necessary to enforce or ensure compliance with the provisions of District codes, ordinances and standards.

3.09 *Owner's Responsibility*

Pursuant to Section 29-27.1(b) of the County Code, the owner shall be responsible for repair and maintenance of the lateral and building sewer from the building connection to the wye connection to the public sewer line. The District is not responsible for damage caused by line breaks or leaks occurring to the owner's lateral or building sewer. Owner shall be responsible for construction of laterals and connection to the main sewer in the event no existing lateral or wye connection is available.

3.10 *Pressurized Sewer Discharge*

The owner shall be responsible for providing a means to lift sewage to the sewer main per *California Plumbing Code* requirements when a building is situated at an elevation too low to permit gravity flow to public sewer. Use of a pressurized system such as a grinder pump shall be subject to permitting by the local planning or building authority.

3.11 *"Record Drawing"*

Drawings showing the actual location of all mains, structures, wyes, lateral, manholes, easements, etc., shall be filed with the District before final acceptance of the work by the applicant's contractor. In addition, an electronic drawing compatible with AutoCAD format showing the actual location of mains, wyes, laterals, manholes, cleanouts and appurtenant structures, and including elevations for inverts and rims thereof, shall be submitted to the District before final acceptance of the work. Drawings shall be on the 1983 North American Datum (NAD) horizontal coordinate system and on the 1988 North American Vertical Datum (NAVD).

3.12 *Swimming Pools*

Swimming pool water and backwash water typically contains high concentrations of dissolved solids. Because the District is regulated by the Regional Water Quality Control Board as to the content of dissolved solids in its effluent, the discharge of swimming pool water and backwash water shall be considered on a case by case basis. The discharge of swimming pool water and backwash water is regulated by Section 813.0 of the *California Plumbing Code* and Title 24 (Building Standards Codes) of the California Code of Regulations under Part 2 (California Building Code) Volume 2, Chapter 31B (Public Swimming Pools) Section 3142B (Wastewater Disposal) and is subject to approval by the local wastewater agency in addition to the County Environmental Health Services office. Issues to be considered are the times and duration of the discharge in order to accommodate the removal of dissolved solids at the treatment plant and the discharge flow rate to ensure nonpressurized (open channel flow) in the sanitary sewer system since sewer lines are not designed to accommodate extreme peak flow rates without surcharging. Overflows of the sewer system caused by the pool operator shall be subject to fines and other penalties.

In addition, the discharge of dechlorinated swimming pool water to the public storm drain system is regulated by the appropriate agency managing the storm drain system under federal and state law (see Chapter 29, Article IV of the County Code for discharges in the unincorporated areas of the county).

3.13 Reimbursement for Over Sizing Sewer Trunk Lines

The District may consider a reimbursement agreement with a developer when a trunk sewer (10" or greater) is conditioned for a project that is intended to serve other existing and anticipated future development. The agreement shall reimburse the developer for the costs beyond those to serve the developer's development based on a prorated residential unit equivalent basis.

3.14 Completion of Sewer Required

Before the acceptance of any sewer line by the District, and prior to the introduction of any sewage into the system, the sewer line shall have been completed, tested, and video inspected to assure full compliance with all requirements of the District's *Standard Specifications for the Construction of Sanitary Sewers*. If the sewer system is deemed satisfactory, the District shall issue a notice of satisfactory completion and acceptance. Copies of such notice will be distributed to, the contractor and the developer and to the agency with road encroachment authority for public roadways.

It shall be the duty of the person doing the work authorized by permit to notify the District that said work is ready for inspection. Such notification shall be given not less than 48 hours before the work is to be inspected. It shall be the duty of the person doing the work to ensure that work has been prepared to allow passing before giving the above notification.

3.15 Notification

The District's engineering manager or an authorized representative shall be notified at least 48 hours prior to starting of construction. Any construction done without prior notification to the District will be rejected, and any rework will be done at the contractor's own expense.

4.00 DEFINITIONS

Unless the context requires otherwise, the definitions in this section shall govern the construction of these standards. Other definitions used by the District are included in the District's Ordinances, applicable sections of the "California Plumbing Code", as adopted, and the *Standard Specifications for Public Works Construction*, latest addition.

ABS - Acrylonitrile-Butadiene-Styrene.

ANSI - American National Standards Institute.

Applicant - Any person, entity, or agent making application for District services.

Approved - Accepted under an applicable specification or standard stated or cited in

this document for the proposed use.

ASTM - American Society for Testing and Materials.

Backwater Valve - A device installed on the sewer drainage system generally located adjacent to the exterior foundation of a building to prevent reverse flow from entering.

Bond - Performance and payment bond or other instrument of security.

Building - A structure built, erected, and framed of component structural parts designed for the housing, shelter, enclosure, or support of persons, animals, or property of any kind.

Building Sewer - That portion of a drainage system that extends from the end of a building drain system and extends to a sewer main.

Change Order - A written order to the Contractor signed by the District directing an addition, deletion or revision in the work, or an adjustment in the contract price or the contract time, issued after the effective date of the contract.

CIP - Cast Iron Pipe.

CO - Cleanout (Sewer).

Commercial - A site or building used for nonresidential purposes, typically for the exchange or buying and/or selling of commodities and/or services.

Connection Fee - A one time fee to new customers granting a connection to the District's collection, treatment and discharge facilities as well as providing capacity rights.

Contractor - The individual, partnership, firm or corporation entering into an agreement with the District, or an applicant, to perform or execute the contemplated work.

County - The County of Santa Barbara, State of California, and the various agencies and departments thereof.

DIP - Ductile Iron Pipe.

District - The Laguna County Sanitation District or its authorized representatives.

District Engineer/District Manager - The engineering manager of the District.

District Personnel - Anyone engaged or employed to represent the District.

District Board - The Santa Barbara County Board of Supervisors acting as the ex officio District Board of Directors.

Domestic Sewage - Domestic sewage means the liquid and water-borne wastes derived from the ordinary living processes, free from industrial wastes, and of such character as to permit satisfactory disposal, without special treatment, into the public sewer or by means of a private sewage disposal system.

Dwelling - A structure for residential occupancy.

Engineer - An individual with a current and valid civil engineer's license issued by the State of California, under whose direction plans, profiles, and details are submitted to the District for review and approval.

Fixture Unit - A quantity in terms of which the load-producing effects on the plumbing system of different kinds of plumbing fixtures are expressed on some arbitrarily chosen scale.

Grade - Grade is the slope or fall of a line of pipe in reference to a horizontal plane. In drainage, it is usually expressed as the fall in a fraction of an inch (or mm) or percentage slope per foot (or meter) length of pipe.

Grease Interceptor - A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept nonpetroleum fats, oils, and grease (FOG) from a wastewater discharge.

Industrial - A site, structure, building or works which is, or which is designed, to be used for the manufacture, processing, or distribution of materials, equipment, supplies, food or commodities of any description.

Industrial Waste - Any and all liquid or water-borne waste from industrial or commercial processes, except domestic sewage.

Inspector - The sewer inspector for the District duly authorized by the District and responsible for particular as delegated by the District.

Institutional - Any educational, assembly, hospital or penal facility.

Interceptor (Clarifier) - A device designed and installed so as to separate and retain deleterious, hazardous, or undesirable matter from normal wastes and permit normal

sewage or liquid wastes to discharge into the disposal terminal by gravity.

Lateral Sewer - That portion of a building sewer that extends from the connection to the sewer main to the property line or right of way line.

MH - Manhole or maintenance hole.

Multiple Residential Lateral Sewer - A sewer designed to serve more than one single family residence.

PE - Polyethylene.

Permit - Specifically a sewer service permit providing written authorization required pursuant to any regulation, ordinance or standard of the Laguna County Sanitation District.

Pipe - A cylindrical conduit or conductor, conforming to the particular dimensions commonly known as "pipe size".

Plans - The official plans, profiles and drawings, or re-productions thereof, approved by the District, which show the location, character, dimensions, and details of work to be done.

Private Sewer - A sewer line owned by private individuals who are responsible its repair and maintenance that eventually discharges to a public sewer system.

Public Sewer - A common sewer line directly controlled by a public authority.

PVC - Polyvinyl Chloride.

Sampling Manhole - A standard or modified manhole approved by the District that serves to isolate the wastewater flow from a single commercial or industrial facility and provides access for sampling and/or monitoring purposes.

Sampling Well - A non-standard or modified cleanout or access point approved by the District that serves to isolate the flow from a single commercial or industrial facility and provides access for sampling and/or monitoring purposes.

Service Charge - Cost for service to a customer for the collection, treatment of wastewater and for its discharge.

Service Connection - All or any portion of the building and lateral sewer lines between a main sewer line and an individual building.

Sewage - Any liquid waste containing animal or vegetable matter in suspension or

solution and may include liquids containing chemicals in solution.

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

Sewer Main (Main Sewer) - A sewer line which has been constructed to accommodate more than one building sewer and which has been approved and accepted by the District.

Sewer Trunk (Trunk Sewer) - A sewer line which collects wastewater from the sewer mains and conveys the wastewater to the treatment facility or larger collection systems, and considered to be 10" in diameter or greater.

Single Family Residence - A standard unit of development, also known as a Residential Unit Equivalent (RUE) used for determining the relative level of development on a property. Multiple family residential, commercial and institutional development is converted to single family residential family equivalents based on waste strength and flow generation.

Single Residential Lateral Sewer - A sewer to serve a single residence.

State - The State of California.

Storm Drain - Any conduit and appurtenances intended for the reception and transfer of stormwater.

Subcontractor - Any individual with a current and valid license issued by the State of California and properly designated by the contractor to enter into contracts and to perform work of installing sewers under District jurisdiction.

Trunk Fee - A one time fee charged when additional trunk sewer capacity is required.

VCP - Vitrified Clay Pipe.

Vertical Pipe - Any pipe or fitting which is installed in a vertical position or which makes an angle of not more than 45° with the vertical.

Work - All of the work of the project contemplated and called for or shown in the contract documents.

PART II

RULES AND REGULATIONS

1.00 GOVERNMENTAL STRUCTURE

The Laguna County Sanitation District is a county sanitation district formed pursuant to Health and Safety Code Section 4700 et seq. It is a dependent district to the County of Santa Barbara such that the Board of Supervisors acts as its ex officio Board of Directors. The District's local rules and regulations are located primarily in Chapter 29 of the Santa Barbara County Code, as provided in Sections 1.01 to 1.03, and as may be amended by the District. Requirements of outside regulatory agencies may apply, replace or amend criteria set forth in these rules and regulations.

1.01 ARTICLE I. IN GENERAL

§ 29-1. "Sanitary sewer system" defined. Sanitary sewer system, as used in this article, includes the treatment plant, trunk lines, collectors, laterals, pumps, pumping stations and other lines and facilities of sanitary districts, sanitation districts and any other community sewer system rendering sewer service to the public, whether publicly owned or privately owned.

§ 29-2. Discharge of surface water, etc., into sanitary system. No person shall discharge surface waters, storm waters, stream waters or any other runoff of water of any other substance from the surface of the land into any sanitary sewer system or into any pipe, conduit or fixture leading into a sanitary sewer system, without first obtaining consent from the owner or manager of the sewer system.

§ 29-3. Flushing new sewer lines into sanitary system. No person whether as agent or principal, in the course of constructing or testing or cleaning out any new sewer lines, shall ball or flush the new sewer lines into a new sanitary sewer system without first obtaining the express consent of the manager or owner of the sanitary sewer system.

§ 29-4. Removing manhole covers; throwing rubbish, etc., into sanitary system. No person shall remove any manhole cover or covers from any manhole of a sanitary sewer system, except in an emergency, without first having obtained the consent of the manager or owner of the sanitary sewer system, and no person shall throw, place or discharge, or cause to be thrown, placed or discharged, any rubbish or refuse or sewage or any other matter into a manhole or other facility or line of any sanitary sewer system, except with the express authorization of the manager or other authorized officer.

§ 29-5. Tampering, etc., with sanitary system; unlawful connection. No person

shall tamper with, damage, cut into, perforate, or make or maintain any connection whatsoever to any sanitary sewer system or any portion thereof, or any pipeline of the sanitary sewer system without having previously obtained the consent of the manager or other authorized officer of the district or other owner or operator of the sanitary sewer system and having paid any applicable connection fees or other charges. Any unauthorized connection to a sanitary sewer system shall constitute a continuing offense so long as such connection exists.

1.02 ARTICLE II. NOT APPLICABLE TO SEWER SYSTEMS

1.03 ARTICLE III. DISCHARGE INTO LAGUNA COUNTY SANITATION DISTRICT TREATMENT SYSTEM

§ 29-21. Purpose of article. The purpose of this article is to prevent waste discharge from adversely affecting the district's sewer system, the operation of the district's treatment facilities or the quality of the effluent from the district's treatment plant, through regulations and control of the quality of wastes received by the district's sewer system.

§ 29-22. Authority. This article is adopted pursuant to provisions of section 4700 et seq. of the state Health and Safety Code.

§ 29-23. Administration and implementation of article. The manager of the Laguna County Sanitation District shall administer and implement the provisions of this article. Any powers granted to or duties imposed upon the manager may be delegated by him to persons acting in the beneficial interest of or in the employ of the district. The manager may issue such rules and regulations as are necessary for the proper and ordinary administration of this article.

Sec. 29-24. Penalties for violation. (a) A violation of this article shall be a misdemeanor punishable by fine not to exceed one hundred dollars, imprisonment not to exceed one month, or both. Each day of violation shall be a separate offense. (b) In addition, any person violating this article shall be liable in civil proceedings to the district for any expense, loss or damage to the district's sewer system, treatment facilities, or treatment process and for any fines imposed on the district under section 13350 of the California Water Code or pursuant to section 5650 of the California Fish and Game Code, as the result of a discharge in violation of this article.

Sec. 29-25. Definitions. For the purposes of this article, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Backflow Prevention Device. A backwater valve or other device approved for use by the Uniform Plumbing Code used to prevent reverse flow.

Brine Waste. A concentrated solution of dissolved solids which may be produced as a result of regeneration of a water softener exchange bed that has been used to soften water.

Discharge. To place or cause to be placed in the district's sewer system.

District. Laguna County Sanitation District.

District's Sewer System. All district's facilities required for the conveyance of wastes to the district's treatment facility.

District Treatment Facilities. Any works, equipment or structure utilized by the district in the physical, chemical or biological treatment of waste prior to final disposal.

Fats, Oils, and Grease. Any substance such as vegetable or animal product used in or is a byproduct of cooking or food preparation that may turn viscous or may solidify with a change in temperature.

Food Service Establishment. An establishment that prepares and serves foodstuffs by frying, baking, grilling, sautéing, rotisserie cooking, broiling, boiling, blanching, roasting, toasting, poaching. Also included are heating, searing, barbecuing, and other food preparation activity that produces a hot, non-drinkable food product in or on a receptacle that requires washing.

Manager. Manager of the Laguna County Sanitation District or his duly authorized representative.

Pretreatment Facility. Any works, equipment or structure employed by the user for the physical, chemical or biological treatment or flow limitation of waste prior to its discharge into the district's sewer system.

Properly Shredded Garbage. Solid waste derived from domestic, commercial or industrial preparation, cooking and dispensing of food which has been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in the district's sewer system.

Protective Facilities. Any works, equipment or structure required to insure that industrial waste does not have a deleterious effect on the receiving waters, the district's sewer system or treatment facilities (1) including physical, chemical and biological treatment prior to discharge to the district's sewer system, (2) storage to contain accidental spillage or eliminate sludge flows, and (3) all other facilities for the proper management of industrial wastes.

Receiving Waters. Those waters (including groundwater) to which effluent or its constituents, in total or in part, are ultimately returned after having passed through the district's sewer system and treatment facility.

Recycled Water. Water which, as a result of treatment of waste, is suitable for direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

Strong Concentrations. Any material not specifically mentioned in this article which is of sufficient concentration to result in deleterious effects on the district's sewer system or the receiving waters.

Unusual Strength or Character Waste. Waste treatable by the district using processes designed for domestic waste but exhibiting higher concentrations of specific constituents such as chemical oxygen demands, biochemical oxygen demand and suspended solids.

User. Any person that discharges, causes or permits the discharge of waste into the district's sewer system.

Waste. Any material discharged into the district's sewer system.

Waste, Domestic. The water derived from the ordinary living processes, free from industrial waste and of such character as to permit satisfactory discharge without special treatment into the district's sewer system.

Waste Constituents and Characteristics. The individual chemical, physical, bacteriological and radiological parameters, including volume and flow rate and such other parameters, that serve to define, classify or measure the contents, quality, quantity and strength of waste.

Waste, Industrial. Any waste, as distinct from domestic waste, including but not limited to liquid, solid, gaseous and radioactive material resulting from any producing, manufacturing, processing of either a commercial or industrial operation of whatever nature, discharged in the district's sewer system.

Water-Softening System or Device. Any apparatus which removes compounds of calcium and magnesium from the water supply.

Sec. 29-26. Prohibited wastes. It shall be unlawful for any person to knowingly discharge any of the following described wastes into the sewer system of the district:

- (a) Any waste having a temperature higher than one hundred forty degrees Fahrenheit.
- (b) Any waste which may contain more than one hundred milligrams per liter of fat, oil or grease.
- (c) Mineral oils, greases or other products of petroleum origin.
- (d) Any flammable or explosive waste.
- (e) Any garbage which has not been properly shredded.
- (f) Any ashes, cinders, sand, mud, straw, and shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, viscera or other solid or viscous substances capable of causing obstruction to the flow or undue maintenance of the district's sewer system or other interference with the proper operation of the district's treatment facility.
- (g) Any waste having pH lower than 6.0 or higher than 9.0 or waste having any other corrosive properties capable of causing damage or injury to the district's sewer system or treatment facilities or district personnel.
- (h) Any waste containing algacides, fungicides, antibiotics, insecticides, strong concentrations of oxidizing agents or strong concentrations of reducing agents.
- (i) Any noxious or malodorous gas or substance capable of creating a public nuisance either by itself or by interaction with other substances.
- (j) Any domestic or other wastes obtained from a septic tank or chemical toilet.

- (k) Any storm water, surface water, groundwater, roof runoff, subsurface drainage or uncontaminated process water.
- (l) Any waste which exhibits or causes discoloration differing from that of domestic usage.
- (m) Any waste containing in excess of any of the following:
 - 0.2 mg/l arsenic,
 - 0.2 mg/l cadmium,
 - 0.5 mg/l copper,
 - 1.0 mg/l cyanide,
 - 1.0 mg/l lead,
 - 0.01 mg/l mercury,
 - 1.0 mg/l nickel,
 - 0.2 mg/l silver,
 - 0.5 mg/l total chromium, or
 - 2.0 mg/l zinc.
- (n) Any waste containing substances which are not amenable to treatment or which cause the treatment plant effluent to fail to meet the discharge requirements established by the California State Water Resources Control Board, the California Regional Water Quality Control Board or any other state or regulatory agency.
- (o) Any brine waste resulting from the regeneration of any water softening system or device installed in any discretionary development project approved on or after January 1, 2012. The district may provide for such conditions, protections and improvements necessary to assure the exclusion of these wastes.

Sec. 29-26.1. Water-softening systems or devices. (a) It shall be unlawful for anyone to install any water softening system or device which discharges brine waste into the district's sewer system, to the ground or to a storm drain in any structure with occupancy approved on or after January 1, 2012. (b) Anyone operating a water-treating apparatus of any kind, including any water-softening system or device, shall make such apparatus accessible to the manager for inspections upon reasonable notice, and shall provide such information, as the manager may require, relative to the apparatus and its operation and maintenance.

Sec. 29-27. Interceptors; Fats, Oil and Grease Control. Grease, oil and sand interceptors shall be provided by any user when, in the opinion of the district, it is necessary for the proper handling of liquid wastes containing grease in excessive amounts or any flammable wastes, sand or other waste harmful to the district's sewer system or treatment facilities. All interceptors shall be of a type and capacity approved by the district and shall be so located as to be readily and easily accessible for cleaning and inspection.

Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature and shall be of substantial construction and equipped with easily removable covers, which, when bolted in place, shall be gas-tight and water-tight. When installed, all grease, oil and sand interceptors shall be maintained by and at user's expense, in continuously efficient operation.

All food service establishments shall install, operate and maintain appropriately designed interceptors to control fats, oils and grease. Multiple food service establishments may be served by a single interceptor when located on a single parcel of land. The operation of fats, oils and grease control devices by food service establishments shall include industry best management practices such as:

- (a) Removal of accumulated material when the material depth exceeds 25% of the design hydraulic depth, but not less frequently than every 6 months. Collection of accumulated material shall be by appropriately licensed waste haulers and disposal shall be pursuant to federal, state and local laws.
- (b) Use of drain screens.
- (c) Dry wiping to remove and disposal of food waste to trash receptacles.
- (d) Collection of waste cooking oil.
- (e) Maintenance of exhaust filters.
- (f) Employee training.
- (g) Kitchen signage.
- (h) Record keeping.

The following prohibitions shall apply to all food services establishments:

- (a) The installation of food grinders in new construction and the use of food grinders in existing construction after 180 days of the effective date of this ordinance unless authorized by the district manager.
- (b) The introduction of additives for the purpose of emulsifying or biologically or chemically treating fats, oils and grease for remediation or as a supplement to interceptor maintenance.
- (c) The disposal of waste cooking oil into a sewer drainage system.
- (d) The discharge of wastewater from dishwashers to any trap or interceptor.
- (e) The discharge of any waste removed or unauthorized bypass from the trap or interceptor to the sewer system.

Sec. 29-27.1. Sewer laterals and backflow prevention devices.

(a) Connection to Sewer Main. The sewer lateral from the building structure to the sewer main must be constructed in accordance with the California Plumbing Code. Where the sewer lateral joins or connects to the sewer main, the connection shall be made with the use of a wye fitting. New sewer lateral connections to an existing sewer main may be made with the use of alternate wye connections.

(b) Owner Responsibility. The owner of a property shall be responsible for ownership and maintenance of the entire sewer lateral from the building structure to the public sewer line (sewer main) connection. The district is not responsible for damage caused by line breaks or leaks occurring to the property owner's sewer lateral. The property owner shall be responsible for construction of sewer laterals and connections to the sewer main in the event no existing wye or sewer lateral stub out is available.

(c) Installation of Backflow Prevention Device, Responsibility for Operation and Maintenance.

(1) All new sewer laterals and all sewer lateral replacements shall be equipped with a cleanout riser fitted with a backflow prevention device of type and materials meeting California Plumbing Code requirements.

(2) Any sewer lateral serving an existing building structure having plumbing fixtures with drain outlets at an elevation below the elevation of the rim of the manhole or cleanout on the sewer main upstream of the sewer lateral connection, shall be equipped with a cleanout riser fitted with a backflow prevention device of type and materials meeting California Plumbing Code requirements.

(3) The responsibility for the ownership, operation, and maintenance of the backflow prevention device and its appurtenant fittings shall be that of the property owner. Damage caused to property for the failure to comply with the requirements of the California Plumbing Code or this ordinance shall be the responsibility of the property owner.

(d) When required, traps or interceptors, or any other pretreatment control devices, shall be installed on the sewer lateral on private property.

Sec. 29-28. Discharge reports. The district may require that any industrial waste user file a periodic discharge report. The discharge report may be required to include, but shall not be limited to, nature of process, volume, rates of flow, mass emission rate, production quantities, hours of operation, number and classification of employees or other information which relates to the generation of waste including waste constituents and characteristics. Such reports may also include the chemical constituents and

quantity of liquid or gaseous materials stored on site even though they may not normally be discharged. In addition to discharge reports, the district may require information in the form of waste discharge permit applications and self-monitoring reports.

Sec. 29-29. Waste discharge permit. (a) Industrial Waste User. Any industrial waste user (1) who has a discharge flow in excess of fifty thousand gallons per average day or (2) who has a discharge flow in excess of five percent of the district's treatment facility or (3) who has in his discharge toxic pollutants in amounts in excess of the standards established by section 307 (a) of the Federal Water Pollution Control Act, PL 92-500 and any amendments, guidelines, rules or regulations adopted thereunder, or (4) who is found by the district to have a significant impact on the district's sewer system or treatment facilities, whether singly or in combination with other industrial waste users, or (5) who discharges waste with a five day twenty degree centigrade biochemical oxygen demand greater than two hundred and forty milligrams per liter or (6) who discharges waste containing more than two hundred and fifty milligrams per liter of suspended solids or (7) who discharges waste containing any substances having the prohibited characteristics described in sections 29-26, may be required by the district to obtain a waste discharge permit and provide protective facilities, including but not limited to pretreatment facilities, before discharging any waste in the district's sewer system.

(b) Food Service Establishment. All food service establishments must obtain a fats, oil, and grease discharge permit and must install the appropriate protective facilities, including but not limited to traps or interceptors, before discharging any waste in the district's sewer system. New food service establishments or existing development being converted to a new food service establishment must comply with fats, oils and grease control measures prior to occupancy approval. Existing food services establishments found to not be in compliance must do so within 180 days from notice by the district. A waiver delaying this requirement for up to three years may be issued by the district to allow the food service establishment to either complete the appropriate plumbing retrofit or to demonstrate alternative technology or practices. A variance may be issued by the district where it may be physically infeasible to install the appropriate fats, oils and grease control device (provided alternate measures are employed), or for a food service establishment deemed by the district to be have limited food preparation.

(c) A permittee shall be subject to inspections by the district and is required to maintain records for at least two years. Permittee shall notify district of any operational problems such as onsite backups or overflows. Permittee shall notify district not less than 60 days prior to any planned changes on the premises that may result in new or increased discharges.

(d) A discharger of waste that requires a permit, or land owner housing multiple discharges on a single parcel, that has failed to install or properly operate a waste discharge control device and is found to be responsible for damage or impact to the district's facilities, a sanitary sewer overflow, or fines, shall be subject to the cost of remediating said impacts. District shall have the right to place a lien on the property to recover these costs. In addition to the penalties for violations described in section 29-24, the district may physically terminate sewer service by providing 30-day written notice via first-class mail to the landowner's last known address as indicated in the district's records for owner's failure to comply with permit requirements when in the judgment of the district there is a threat of substantial endangerment to the public, employees, the environment, overflows, or violations of federal, state or local laws. A decision to terminate service may be appealed per section 29-38.

Sec. 29-30. Same – Failure to obtain. It shall be unlawful for any person to knowingly fail to obtain a waste discharge permit when such is required.

Sec. 29-31. Protective facilities. (a) Plans, specifications and other pertinent information relating to proposed protective facilities (including pretreatment facilities) shall be submitted for review by the district and any other public agency which may have jurisdiction, prior to the construction. Where protective or pretreatment facilities are provided for any waste, they shall be maintained continuously in satisfactory and effective operation, without expense to the district. Submission of plans for review by the district will not relieve such person of his expense or providing additional facilities should those installed prove to be inadequate or incapable of meeting requirements for discharging established by the district.

In special cases, the district manager may require construction of sewer lines by the discharger to convey certain industrial wastes to a specific district sewer. All pretreatment systems or protective facilities determined by the district manager to require engineering design shall have plans prepared and signed by an engineer of suitable discipline licensed in the state.

A gravity separation interceptor, equalizing tank, neutralization chamber and control manhole may be required by the district to remove prohibited settleable and floatable solids, to equalize waste streams varying greatly in quantity and/or quality, to neutralize low or high pH flows and to facilitate inspection, flow measurement and sampling. Floor drains from commercial or manufacturing buildings, warehouses or multi-use structures shall not discharge directly to the sewer, but shall first discharge to a gravity separation interceptor.

(b) Any user may be required by the district to provide protection from accidental discharge or prohibited materials or other wastes discharged into the district sewer

system. Retention basins, dikes, storage tanks or other facilities designed to eliminate, neutralize, offset or otherwise negate the effects of prohibited materials or wastes may be required by the district prior to the user's discharge into the district's sewer system. Users shall notify the district immediately when accidental discharges of wastes in violation of this article occur so that countermeasures may be taken by the district to minimize damages to the sewer system, treatment plant, treatment processes and the receiving waters. Such notification will not relieve the user of liability for any expense, loss or damage to the sewer system, treatment plant or treatment process or for any fines imposed on the district on account thereof under section 13350 of the California Water Code or for violation of section 5650 of the California Fish and Game Code.

(c) Within fifteen days of the date of any accidental discharge, the user shall furnish to the district a detailed written statement describing the causes of the accidental discharge.

(d) In order that any employees of a waste discharge permittee be more fully informed of district requirements, copies of this article shall be permanently posted on the premises of the waste discharge permittee together with such other industrial waste information and notices which may be furnished by the district from time to time directed toward more effective water pollution control.

Sec. 29-32. Control manholes. Any waste discharge permittee may be required by the district to install a control manhole to facilitate observation, sampling and measurement of the wastes. Such manhole, when required, shall be accessible and safely located, may be required to separate industrial waste from domestic waste until the industrial wastes have passed through any required protective facility or pretreatment system or device and shall be constructed in accordance with standardized plans approved by the district. The manhole shall be installed and maintained without expense to the district in a safe condition and accessible to district personnel at all reasonable times.

Sec. 29-33. Waste volume determination. The district may determine the volume of waste discharge for the purposes of user charges and fees based upon one of the following methods:

(a) The total amount of water used from all sources including public or private, less that portion of such water diverted from the district's sewer system for which the user presents to the district evidence satisfactory to the district of the amount of such diversion.

(b) In the event that the user discharges materials that will increase the volume of discharge over and above the volume as determined by subsection (a) of this section, the district may require the user to meter the discharge.

(c) In the event the volume of discharge is unable to be determined by measurement, the district shall prepare an estimate of the volume of discharge based upon such factors as numbers of fixtures, seating capacity, population equivalent, annual

production of goods and/or services and such other determination of volume of waste discharged.

Sec. 29-34. Measurements, tests and analyses. All measurements, tests or analyses of the characteristics of waste to which reference is made in this article shall be determined in accordance with "Standard Methods for the Examination of Water and Waste-Water," 13th Ed., published by the American Waterworks Association and later editions and amendments thereto or other methods acceptable to the district and shall be determined by suitable samples.

Sec. 29-35. Right of entry. The manager and other duly authorized employees of the district shall be permitted to enter all properties served by the district for the purposes of inspection, observation, measurement, sampling and testing in accordance with the provisions of this article.

Sec. 29-36. Waste users charges and fees. (a) **Classification of Users.** All users shall be classified by the district according to the principal activity conducted on the user's premises and based on the typical waste constituents and characteristics for that type of user as determined by the district. The purpose of such classification is to facilitate the regulation of waste discharges based on waste constituents and characteristics to provide an effective means of source control and to establish a system of user charges and fees which will insure an equitable recovery of the district's costs. Waste constituents and characteristics may include but not be limited to the following: Volume, Suspended Solids, Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), Oil and Grease and Chlorine Demand.

(b) **Types of Charges and Fees.** A user classification service charge may be adopted for each user category based upon the charges for the average waste constituents and characteristics for each user classification. The charges for each waste constituent and characteristics shall be established by the district. The district may adopt a schedule of service charges and fees which may include:

- (1) User classification charges.
- (2) Fees for monitoring.
- (3) Fees for permit applications.
- (4) Appeal fees.
- (5) Charges and fees based on waste constituents and characteristics to include industrial cost recovery provisions of the Federal Water Pollution Control Act, PL 92-500, and amendments thereto.
- (6) Connection charges.

(c) **Determination of User Charges.** Each user shall pay the applicable charge as

established by the district for service charges, connection charges and other fees and methods of fee collection by the district. Should the district manager determine a user is discharging waste which does not have levels of biochemical oxygen demand, chemical oxygen demand, suspended solids or other constituents comparable with domestic waste, the district shall establish a service charge for such a user which is based on that user's proportional contribution to the total treatment works loading and the district's operational and maintenance costs.

For any user, including but not limited to industrial or commercial users, the district may establish a service charge by use of the following user charge models:

(1) Model No. 1. If the treatment works is primarily flow dependent or if the BOD, suspended solids and other wastes constituents and characteristics discharged by all users are approximately equal, then user charges can be developed on a volume basis in accordance with the model below:

$$C_u = CT/VT (V_u)$$

(2) Model No. 2. When BOD, COD, suspended solids, or other waste constituents and characteristics from a user exceed the range of concentration in normal domestic waste, a surcharge added to a base charge, calculated by means of Model No. 1 can be levied. The surcharge can be computed by the model below:

$$C_s = (B_c(B) + SC(S) + P_c(P)) V_u$$

(3) Model No. 3. This model is commonly called the "quantity/quality formula":
 $C_u = V_c V_u + B_c B_u + S_c S_u + P_c P_u$. The symbols used in the models are as defined below:

CT = Total operation and maintenance (O. & M.) costs per unit of time.

C_u = A user's charge for O. & M. per unit of time.

C_s = A surcharge for waste of excessive strength.

V_c = O. & M. cost for transportation and treatment of a unit of waste volume.

V_u = Volume contribution from a user per unit of time.

VT = Total volume contribution from all users per unit of time.

B_c = O. & M. cost for treatment of a unit of biochemical oxygen demand (BOD).

B_u = Total BOD contribution from a user per unit of time.

BT = Total BOD contribution from all users per unit of time.

B = Concentration of BOD from a user above a base level.

S_c = O. & M. cost for treatment of a unit of suspended solids.

S_u = Total suspended solids contribution from a user per unit of time.

S = Concentration of SS from a user above a base level.

P_c = O. & M. cost for treatment of a unit of any waste constituent and characteristic.

P_u = Total contribution of any waste constituent and characteristic from a user per unit of time.

P_T = Total contribution of any waste constituent and characteristic from all users per unit of time.

P = Concentration of any waste constituent and characteristic from a user above a base level.

Sec. 29-37. Special agreements. Special agreements and arrangements between the district and any persons or agencies may be established when in the opinion of the district unusual or extraordinary circumstances compel special terms and conditions.

Sec. 29-38. Appeals. All decisions, interpretations or acts of the district manager shall be subject to appeal to the board of directors of the district. Any person affected by such decision may, within thirty days after such decision is rendered, file with the clerk of the board of directors of the district an appeal in writing protesting against such decision. The board of directors of the district may, after a public hearing thereon, amend, overrule or approve the decision of the district manager.

Sec. 29-39. Recycled water, use of. (a) It is the policy of the Laguna County Sanitation District that recycled water be used wherever it is available in conformance with California Water Code sections 13550 and 13551.

(b) A person or public agency, as used in California Water Code section 13551, shall not use water from any source of quality suitable for potable domestic use for nonpotable uses if suitable recycled water is available as provided in section 13550.

(c) The district shall review the facts and make a preliminary determination pursuant to California Water Code section 13550 if a parcel or parcels of land are required to comply with subsection (b) of this section and establish a time schedule for compliance. A notice of that preliminary determination and a time schedule for compliance shall be sent to the owner of the parcel(s) using for this purpose, the last known name and address of such owners as shown upon the last assessment roll of the County of Santa Barbara. Any notice by the district under this section shall be deemed given when properly addressed and deposited into the United States mail with postage fully pre-paid or personally delivered to the owner. The owner may file a notice of objection which must be in writing, must specify the reasons for the objections and must be filed with the district within twenty days after it is given or mailed to the owner. The preliminary determination and time schedule for compliance shall be final if the owner does not file a timely objection. The district shall meet with the owner to attempt to resolve the objections. If the objections cannot be resolved to the mutual satisfaction of

the district and owner, the district shall give the owner a final determination and make a request pursuant to article 2 (commencing with section 648) of chapter 1.5 of division 3 of title 23 of the California Code of Regulations that the State Water Resources Control Board, Regional Water Quality Control Board and any other appropriate agencies conduct a hearing to determine if the parcel or parcels must use recycled water pursuant to Water Code sections 13550 and 13551.

1.04 ARTICLE IV. NOT APPLICABLE TO SEWER SYSTEMS

PART III

DESIGN REQUIREMENTS

1.00 IMPROVEMENT PLANS

1.01 Drafting Materials

Final approved plans shall be matt film (mylar) with black text.

1.02 Standard Sheet Size

Standard sheet size shall have a vertical dimension of 24" and a horizontal dimension of 36" to the outside edges. The use of standard drawings or details by other agencies it is acceptable provided it is labeled to be approved by the District. After sewer construction is completed, the mylars will be corrected by the Owner's Engineer to show as-constructed conditions and are to be submitted along with one blueprint copy for District acceptance as "Record Drawings" within 30 days of completion of construction. Each sheet showing improvements to be dedicated to the Laguna County Sanitation District must provide an approval signature and date block.

1.03 Layout

The layout shall conform to the District standards addressed in this manual.

1.04 Plans

Construction plans for each sewer project submitted for District review shall consist of a Title Sheet, Plan and Profile Sheets and Detail Sheets. Approval for sewer construction shall be based on fully signed plans only. Inspection and field copies shall be fully signed plans only.

1.04.01 The Title Sheet must show: a key map (referencing profile sheets, sewer and access road easement boundaries, building structures, and proposed sewer main which includes the laterals), a project vicinity map, general sewer notes, construction notes, plan set index, elevation datum and all benchmarks.

1.04.02 The Profile Grid must be located on the upper half of the sheet. The scale used for plan and profile drawings shall be appropriate for the drawings such as:

1" = 10' Horizontal and 1" = 1' Vertical

1" = 20' Horizontal and 1" = 2' Vertical

1" = 30' Horizontal and 1" = 3' Vertical

1" = 40' Horizontal and 1" = 4' Vertical

1" = 50' Horizontal and 1" = 5' Vertical
1" = 60' Horizontal and 1" = 6' Vertical

- 1.04.03 The Detail Sheets are for special details of structural and piping designs.
- 1.04.04 Plan sheets shall show all pertinent topographic data, right of way, easements, and existing and proposed features. All existing piping and underground structures shall be shown in plan and profile.
- 1.05 Reduction of Plans
All plans shall be drawn with the intent of having them reduced by one half, and all items shall be legible at the reduced scale.
- 1.06 Datum Requirements
Datum requirements shall be the 1983 North American Datum (NAD) for horizontal control and the 1988 North American Vertical Datum (NAVD) for vertical control as established by the National Geodetic Survey.
- 1.06.01 Benchmark information is to appear on the Title Sheet.
- 1.06.02 Local benchmark information should appear on the plan sheet where the benchmark can be readily identified.
- 1.06.03 Where the proposed sewer connects to an existing manhole, the elevation of the inlets and outlets of the existing manhole shall be shown in profile as determined by field survey. In the event an existing sewer is straddled by a new junction structure, the elevations of the existing sewer in the first manhole on each side of the proposed junction structures shall be determined by field survey. The engineer should be prepared to submit the field notes of the survey if requested to do so.

2.00 AREA SEWER STUDY

- 2.01 Necessity
An area sewer study may be required of the Owner by the District Engineer. The owner's engineer should consult with the District Engineer regarding the study requirements. The study must show area to be served and all area tributaries to the sewers under study. If such a study is required, it shall be prepared at the expense of the owner.

2.02 Requirements

An area sewer study determines depth, capacities, future public improvements and other critical design data. The results of the study will be used to evaluate if the development has capacity impacts to any of the District's existing sewer collection system. The study shall show the following:

- Major street names;
- Contour lines;
- Zoning;
- Existing or proposed utilities, storm drains, roads, etc., which may have a bearing on the sewer design;
- Depth of existing sewers that may be used to connect to where depth is critical;
- Tributary areas served, and their area (in acres) shall be noted.
- Capacity of the existing downstream system shall be investigated;
- Information regarding existing and proposed sewers should be noted including, but not limited to, pipe material, size, grade and the direction of flow;
- Other applicable information necessary for the proper design of the proposed sewer system;
- Any other information required by the District.

3.00 UNDERGROUND STRUCTURES, PIPES AND UTILITIES

3.01 Existing Facilities

One of the most important requirements of a sewer line design and construction is the research of existing and proposed underground works. They affect the location and depth of the main sewer line and lateral sewers.

3.02 Plan Information.

The plans shall delineate the size and ownership of all existing and future underground works that cross or parallel the sewer. Any line which crosses the sewer, especially gas, TV or fiberoptic cable, storm drains, telephone, water, electrical, gasoline and oil lines, shall be shown and labeled on the profile.

3.03 Responsibility

The District is not responsible for the accuracy of the location of these underground lines. Approval of sewer plans by the Laguna County Sanitation District does not constitute a representation for the accuracy of the location of, or the existence of, any underground utility, conduit or structure

within the limits of the project.

3.04 *Sewer Lines Near Water Lines and Wells*

3.04.01 The spacing between sewer lines and potable supply wells shall be per *California Department of Water Resources Bulletins 74-81 and 74-90*, any applicable updates thereto, and *California Plumbing Code* standards, which require a minimum horizontal spacing of 50'.

3.04.02 Separation between water and sewer lines for parallel and perpendicular construction shall comply with Title 22, Division 4, Chapter 16, Article 4 Section 64572 of the California Code of Regulations (CCR) "*Water Main Separation*" or code section of current date.

4.00 LOCATION OF SEWER PIPES AND STRUCTURES

4.01 *Cleanouts*

To facilitate inspection and maintenance equipment, cleanouts at the terminus of main sewers are not allowed. Manholes are to be installed at the terminus of all sewer lines.

4.02 *Clearance and Separation*

Vertical clearance between sewer lines crossing under or over underground utilities (except water lines) shall be not less than 6" or as directed by the other utility. Any clearance less than 6" shall require concrete encasement of the sewer line.

Horizontal clearance between sewer lines and facilities from utilities (except water lines) shall be not less than 12" from the outside edge of the pipe or as directed by the other utility.

The separation between domestic water lines and sewer lines (vertical shall be 12" above sewer lines, horizontal shall be 10' from sewer lines) shall conform to the standards of the State of California Department of Public Health "*Guidance Memo No. 2003-02: Criteria for Separation of Water Mains and Non-Potable Pipelines*" or as may be updated and incorporated into Section 64572 of Article 4 of Chapter 16 of Division 4 of Title 22 of the California Code of Regulations.

The applicant, at their expense, may be required to excavate and expose, or compensate for excavating and exposing existing utilities to determine location and elevation of existing utilities.

4.03 *Depth of Main Line Sewer*

The minimum depth of a sewer main shall be designed so that laterals connected to them have a minimum of 4' of cover within the right of way. The District may require greater depths when it is necessary to extend the main line sewer to serve other areas to provide for future improvements.

4.04 *Drop Manholes*

Drop manholes shall not be used unless approved by the District.

4.05 *Pipeline Slopes*

Slopes of sewer lines shall be computed using the outlet flow line elevation of the upstream manhole and the inlet flow line elevation of the next downstream manhole. All the inlet and outlet flow line elevations at each manhole shall be shown.

4.06 *Horizontal Curves*

If horizontal curves are used, they shall be per the pipeline manufacturer's recommendations. Horizontal curves shall be concentric with the street centerline where possible. Manholes on reverse or compound curves are required, and not more than one curve shall be used between manholes. Curves shall not be used in sewer lines greater than 8" in diameter. Manholes with sewer lines placed on tangents shall be required if a horizontal curve precludes the ability of a mandrel test.

4.07 *Lateral Sewers*

All lateral sewers shall be constructed with a wye installed on the sewer main at an upward 45° angle, at right angles to the sewer main, and extending straight toward to property to be served unless shown otherwise on the approved plans. The building sewer shall be appropriately sized per the *California Plumbing Code*, however the lateral sewer portion of the building sewer shall be 4" minimum for residential and 6" minimum for multiple residential and commercial development and shall be installed with a minimum grade of 1/4" per foot to the property line. The actual depth of the lateral at the property line ($\geq 4'$) shall be provided to the District for documenting on the "as-built" or record drawings. A cleanout shall be installed at the property line.

4.08 *Trunk Sewers and Collector Sewers*

Trunk and collector sewers shall be located according to the District approved plans and shall be designed pursuant to the District's most recent sewer master plan/model or an approved area sewer study.

4.09 Manhole Spacing and Locations

Manholes shall be located in roadways where possible. Manholes shall be located at all grade changes, changes in horizontal alignment, point of reverse or compound curves, changes in pipe size, pipe termini and at sewer junctions. The maximum spacing between manholes shall be per the following table except in steep grades, which may require lesser distances:

Sewer Size	Maximum Spacing
24 inch and less	350 feet
27 inch and over	400 feet

4.10 Rim Elevations of Manholes

Rim elevations of all manholes shall be shown on the profile. In paved areas, the manhole rim elevation shall match the finished grade. In areas outside of the traveled way, the height of the manhole rim shall be 18" above the finished ground grade, high water mark, or the top of future fill. In maintained landscaped areas, the manhole rim shall be 6" above finished grade and protected from damage by methods subject to approval of the District. Manhole rims may be at grade in lawn areas but shall not be located in low areas. Any manholes that must be placed in low areas and subject to runoff shall be installed with anti-infiltration devices to prevent surface water intrusion. Manholes shall be placed as unintrusively as possible in landscaped or highly visible areas.

4.11 Sewers in Alleys

Sewers constructed in alleys shall be located in the center of the alley, except where center gutters are used. Sewers shall not be located closer than five feet to the adjacent property line and shall be a minimum of five feet from the gutter line where possible.

4.12 Sewers in Easements

When proposed sewer main lines are not located in existing or proposed public roadways, easements shall be dedicated to the Laguna County Sanitation District and shall subject to review and approval by the District. This includes sewer facilities to be located in private streets and offsite locations. In order to avoid difficulties in maintaining sewers located in easements, every effort shall be made to locate sewers in streets or alleys even though a greater depth is required. Sewer lines located in easements must include access for maintenance and repair equipment. Access grade shall not exceed 20% and turnarounds may be required at convenient locations as determined by the District.

The minimum width for easements, in feet, shall be per the following table:

Sewer Size	Depth of Sewer in feet				
	0 to 15	15 to 20	20 to 25	25 to 30	Over 30
8 inch	15	15	20	25	30
10 inch	15	15	20	25	30
12 inch	15	15	20	25	30
15 inch	15	20	20	25	30
18 inch	20	20	20	25	30
21 inch	20	20	20	25	30
24 inch	20	20	25	25	30
27 inch	20	20	25	30	35
30 inch	20	20	25	30	35
33 inch	20	20	25	30	35
36 inch	20	20	25	30	35

4.13 *Sewers in Streets*

Sewer lines shall be constructed in straight lines where possible, and generally along the street centerline. No portion of the sewer line shall be constructed such that a manhole cover is within 5' of the edge of a concrete gutter. No manhole cover shall be constructed more than 6' from the centerline of the street unless permitted by the District.

4.14 *Vertical Curves*

Vertical curves shall not be used unless special permission is granted by the District.

4.15 *Wyes*

Wyes shall be clearly stationed on the plans.

4.16 *Pipe Elevations*

Sewer pipe flow line elevations at the inlet and outlet of manholes shall be delineated on the plans. Outlet elevation(s) shall be a minimum of 0.1' lower than the inlet elevation(s). When pipe size increases, the crown elevations of smaller diameter upstream pipe(s) shall match the crown elevation of the larger diameter downstream pipe(s). Manhole stationing, pipe slope, pipe length, depth to diameter ratio, velocity and flow rate shall also be shown in the pipe profile.

5.00 SPECIAL TRENCH BACKFILL AND PIPE PROTECTION

5.01 Sewer Line in Fill Areas

Sewer lines located in filled ground shall be designed under the following design criteria:

5.01.01 Designation of Filled Areas

All proposed or completed filled areas must be shown on the profile. The proposed finished surface over the sewer or the proposed curb grade must be shown by a solid line and the original surface, by a dashed line. Label "Compacted Fill" with arrows to the limits.

5.01.02 Protection and Backfill Near Building Sites

Special precautions must be taken for any sewer construction near existing or proposed building sites, whether in a fill or cut area. The load distribution line (angle of repose) will commence at, and extend downward at, a 45° angle from the bottom outside edge of the foundation.

If the sewer pipe is below the 45° line, it shall require special design or concrete cradle and be noted on the plans. Also, all backfill below the 45° line will be in accordance with the recommendation of a geotechnical engineer, engineering geologist, or other individual with the appropriate level of expertise.

5.01.03 Special Support and Protection

In fill areas in which the soil is being constructed with relative compaction of less than 90%, special design for adequate support and protection of the sewers shall be required. Sewer lines shall not be placed in material deemed to be unsuitable.

5.01.04 Trench Backfill in Fill Areas Outside New Development

Sewer trench backfilling in fill areas outside of new development must be thoroughly reviewed. The *Standard Specifications for Public Works Construction*, latest edition, and these *Standard Specifications for the Construction of Sanitary Sewers* shall apply in such cases for compaction requirements.

5.01.05 Trench Backfill in Fill Areas Within New Development

All trench backfill within new development shall be based on the soils report associated with the development and shall meet the

requirements of the Santa Barbara County Grading Ordinance of the latest date or grading ordinance of the applicable jurisdiction.

5.01.06 **Trenches in Public Roads**

Trenches in public roads shall be backfilled in accordance with the County of Santa Barbara Engineering Design Standards or standards of the applicable jurisdiction and these *Standard Specifications for the Construction of Sanitary Sewers*.

5.01.07 **Trenches Within Easements**

Trenches within easements shall be compacted to meet the requirements of the approved grading plan, Section 306 of the *Standard Specifications for Public Works Construction*, latest edition, and these *Standard Specifications for the Construction of Sanitary Sewers*.

5.02 **Structures Under Roads**

All structures and pipe placed under public roads shall be of sufficient strength or protected to support with an adequate factor of safety, the backfill, road surfacing and H-20 highway truck loading with impact.

6.00 **SIZE OF SEWERS**

6.01 **Minimum Size Sewer**

The minimum size of any public sewer main shall be 8" in diameter. When no further development is be anticipated such as at the end of a cul-de-sac, the minimum sewer main may be 6" in diameter provided the District engineer determines that the pipe can accommodate peak flows and cleaning velocities (generally, the total number of units to be served will be less than ten.

6.02 **Main Line Pipe Capacities**

Main line pipe capacities shall be designed per the following criteria:

Flow: The flow generation rates shown in the following tables were derived for anticipated development in and near the Laguna County Sanitation District service areas. The flow generation rates shall be based on the appropriate duty factor shown below in the following table to determine the average flow rate:

Service Type	Duty Factor	Unit
Single family	220	gpd/connection
Multiple family	155	gpd/connection
Hotel	150	gallons/room/day
Office	200	gallons/1,000 sf/day
Restaurant	50	gallons/seat/day
Retail	100	gallons/1,000 sf/day
Laundromat	220	gallons/washer/day
Community center	5	gallons/occupant/day
Church	5	gallons/seat/day
Parks and open space	27	gpd/acre

Alternatively for commercial development, the flow generation can be determined by using the drainage fixture units if known.

The design flow rate shall be the peak hour dry weather flow rate and shall be determined by applying a peaking factor of 2.4 to the average flow rate.

The design flow rate for maximum pipe capacity shall be half full for pipes up to 12" in diameter and three-quarters full for pipes 15" in diameter and greater.

Velocity: The design velocity for full or half full pipe depth design flow shall not be less than 2.0 ft/s. Maximum design velocity should not exceed 15 ft/s without the use of special pipe or manhole energy dissipation design but may be up to 20 ft/s in standard straight through manholes. At multiple inlet or manholes with directional changes, the maximum velocity should not exceed 8 ft/s.

Slope: Minimum slope values listed in the table below are based upon maintaining a self-cleaning velocity in the sewer. The determination of velocities, as well as capacities, has been based upon Manning's formula for which the coefficient of roughness ("n") shall equal 0.013.

$$Q = \frac{1.486AR^{2/3}S^{1/2}}{n}$$

PIPE SIZE	MINIMUM SLOPE
6 inch	0.49%
8 inch	0.34%
10 inch	0.25%
12 inch	0.20%
15 inch	0.15%
18 inch	0.12%
21 inch and greater	0.09%

7.00 SIZE OF MANHOLES

Manholes for sewer mains up to 15" shall have a 4' inside diameter shaft. Sewer lines 18 inches and greater shall have a 5' diameter shaft.

8.00 LIFT STATIONS AND FORCE MAINS

In some cases, lift stations and force mains may be required to meet the sewage collection needs of a specific property or tract.

8.01 Acceptance

Lift stations and force mains will not be accepted if an option for providing sewer service by means of gravity flow exists. Factors such as access rights, construction requirements or costs shall not be the sole or sufficient reason for allowing lift stations and force mains. Any deviation from this requirement is subject to the prior approval of the District. Any lift station to be accepted by the District must include primary and secondary pumps, backup power generation, alarm systems, security fencing, and any other necessary features useful to the District. An accepted lift station must generally provide service to a large number of parcels, said parcels to be included in a separate benefit assessment zone to be established pursuant to Section 4850 et seq. of the Health and Safety Code. A special benefit assessment to provide for the costs of replacement, operation and maintenance of the lift station will be assessed the benefitting parcels in addition to the sewer charge.

8.02 Private Lift Stations

Privately owned, constructed, operated and maintained lift stations and force mains may be connected to the public sewer collection system provided that the private lift station system is subject to review and approval by the local building authority pursuant to the *California Plumbing Code* and the District. Any private lift station system must be owned and maintained by a governing entity such as a homeowner's association and may be subject to a maintenance agreement with the Santa Barbara County Public Health Department.

8.03 *Individual Private Lift Stations*

Each separate property utilizing individual lift stations must have its own lift station and force main. The lift station system shall be privately owned, constructed, operated and maintained to the connection of the public sewage collection system and is generally subject to the requirements of the local building authority and the *California Plumbing Code*.

9.00 TYPES OF MATERIALS

9.01 *Acceptable Pipe Materials*

The type of pipe materials used shall be clearly shown on the profile. The following is a list of acceptable pipe materials used in the construction of new District sewer lines:

PVC - Polyvinyl Chloride Pipe/ ASTM D 3034 (4 inch - 15 inch), ASTM F679
(18 inch -30inch)

PE - Polyethylene/ ASTM D 3350 or ASTM F 714

Use of other pipe materials shall be subject to approval by the District.

9.02 *Fitting and Joint Materials*

All fitting and joint materials and installation shall conform to the requirements of the latest edition of the *Standard Specifications for Public Works Construction*.

9.03 *Replacing or Repairing Sections*

Replacing or repairing sections of existing sewers requires the use of PVC pipe along with conventional adaptors or couplings.

PART IV

CONSTRUCTION SPECIFICATIONS

1.00 CONSTRUCTION PROCEDURES

All work shall be constructed in accordance with the *Standard Specifications for Public Works Construction*, latest edition, and as it may be modified herein below, by the construction plans or by special agreements approved by the District.

1.01 CONSTRUCTION BONDS

The developer constructing sewer facilities to be dedicated to the District is required to provide surety bonds (payment and performance) in the amount of 100% of the estimated sewer improvement costs. Said bonds may be provided to the Laguna County Sanitation District or may be included in the bonding for other public improvements associated with the encroachment permit.

1.02 PRECEDENCE OF CONTRACT DOCUMENTS

Construction document precedence shall be as described in Section 2-5.2 of the *Standard Specifications for Public Works Construction*, latest edition. Item j) Reference Specifications, shall be understood to mean *Standard Specifications for the Construction of Sanitary Sewers*.

1.03 CHANGES IN WORK

Changes, deviations, additions or deletions of items of work from the approved plans, specifications or submittals must be approved by the District's engineering manager.

1.04 CONTRACTOR

The contractor installing facilities to be dedicated and accepted by the District shall employ competent workers. Workers who are found in the opinion of the District's engineering manager to be disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable shall cause the District to take such measures as to stop the job, or to not accept or otherwise reject the work. Such action shall not be the basis of any claim against the District or any of its officers or representatives.

1.05 PERMITS

The developer, applicant agent or contractor shall be responsible for obtaining any and all necessary permits, including but limited to encroachment permits, plumbing permits, environmental permits, stormwater discharge permits, land use permits, conditional use permits, etc., or any job related permit or requirements by a jurisdictional authority.

2.00 PUBLIC IMPROVEMENT PLAN NOTES

The following plan notes are standards and specifications that have been adopted by the District and shall be shown on the title sheet of the public improvement plans, subject to any amendments required by the District:

LAGUNA COUNTY SANITATION DISTRICT PLAN NOTES

1. The construction of public sewer system improvements shall comply with Laguna County Sanitation District standards and specifications and shall be subject to testing and inspection. An acceptance letter will be provided upon final acceptance of the work.
2. Any geotechnical reports made for the project shall be provided to the District.
3. The developer, developer's agents, contractors, vendors, etc., shall abide by all applicable safety orders such as those described in Section 7-10.4.2 of the *Standard Specifications for Public Works Construction*, latest edition. Copies of any shoring plans, confined space entry permits, or excavation permits shall be submitted to the District prior to the start of construction.
4. Commencement of construction of public sewer system improvements shall not be authorized until the public improvement plans have been signed by the District's engineering manager or authorized agent and material submittals have been approved.
5. Approval of the public improvement plans by the District does not constitute a representation as to the accuracy of the location of, or the existence of, any underground utility pipe or structure within the limits of this project. The contractor shall verify the location of existing underground utilities such as water, sewer, and storm drain systems prior to commencing construction.
6. The District shall be notified at least 48 hours prior to starting construction. Any construction done without approved plans or without prior notification will be subject to rejection and rework at the contractor's expense.
7. No revision to the sewer system shall be made to these plans without the approval of the District's engineering Manager.
8. The District shall not survey or layout any portion of the work. District reserves the right to request and receive copies of field notes generated by developer's surveyor and to field check work in progress.
9. Pipeline deflection on horizontal curves shall not exceed the manufacture's recommendations.

10. All lateral sewers shall be constructed with a wye installed on the sewer main at an upward 45° angle, at right angles to the sewer main, and extending straight toward to property to be served unless shown otherwise on the approved plans. The building sewer shall be appropriately sized per the *California Plumbing Code*, however the lateral sewer portion of the building sewer shall be 4" minimum for residential and 6" minimum for multiple residential and commercial development and shall be installed with a minimum grade of ¼" per foot to the property line. The actual depth of the lateral at the property line (≥ 4') shall be provided to the District for documenting on the "as-built" or record drawings. A cleanout shall be installed at the property line.
11. Solvent joints are not acceptable on sewer main and sewer lateral installations.
12. Testing and inspection of the following phases of work are required: trench alignment, preparation of subgrade foundation, placement of pipe, placement of manhole, placement of pipe bedding, air testing, flushing, mandrel pull, closed circuit television (CCTV) inspection (copy to be submitted to District), installation of frames and covers, and cleanup.
13. Pipe embedment material from the bedding to 12" above the pipe, unless specified in a geotechnical report, shall comply with Section 306-1.2.1 of the *Standard Specifications for Public Works Construction*, latest edition, and shall be placed on a competent subgrade foundation and shall be compacted to 95% relative compaction.
14. Backfill, unless specified in a geotechnical report or encroachment permit requirements, shall comply with Section 306-1.3.1 of the *Standard Specifications for Public Works Construction*, latest edition, and shall be compacted to 90% relative compaction in roadways or 85% relative compaction in open ground.
15. Compaction test results and geotechnical test data from a certified testing laboratory shall be provided to the District prior to acceptance.
16. Sewer lines shall be air pressure tested in accordance with section 306-1.4.4 of the *Standard Specifications for Public Works Construction*, latest edition, once the trench has been backfilled and compacted but before paving.
17. Separation and clearance between sewer lines and water lines shall be per the California Department of Public Health's *Criteria for the Separation of Water Mains and Sanitary Sewers*. Separation and clearance between sewer lines and all other underground utilities shall be a minimum of 6" unless otherwise specified by the other utility.
18. Manhole frames and covers shall be South Bay Foundry SBF 1254, or approved

equivalent, and shall be stamped "LCSD SEWER" or "LAGUNA SEWER." Manholes not located in paved streets shall have a bolt down cover and shall have a concrete jacket.

19. Manholes shall use concentric cones. Manhole interiors shall be coated per manufacturer's recommendations with an approved coating product consistent with the sanitary sewer environment when manhole depths exceed fifteen feet (15'), for drop manholes, and on manholes not located in paved areas.
20. Manhole covers shall extend 18" above finished grade in unimproved rights of way and 6" above grade in landscaped areas and shall be protected from damage with bollards when determined necessary.
21. Manhole channels shall be protected with false bottoms until all grading and roadwork is complete.
22. Record drawings showing the actual location of all sewer mains, structures, wyes, laterals, manholes, cleanouts, easements, etc., shall be submitted with the District before final acceptance of the work.

3.00 STANDARD DRAWINGS

Standard drawings applicable to the work shall be listed on the title sheet of the construction plans.

PART V

CONSTRUCTION REQUIREMENTS

1.00 SEWER SYSTEM JURISDICTION

The Laguna County Sanitation District has jurisdiction of sewage conveyance facilities in public road rights of way, and designated easements as well as on properties served by the District for the purposes of inspection, observation, measurement, sampling and testing. Private roadways and easements shall be dedicated and accepted by the District by map or deed. The District, upon acceptance, shall own the conveyance facilities up to and including the wye only and shall not include any portion of the sewer lateral or onsite sanitary drainage facilities. The local planning or building agency has inspection jurisdiction for onsite sanitary drainage facilities. Onsite sewer collection systems, such as commercial or condominium developments, shall be considered to be privately owned unless otherwise indicated.

2.00 PLANS & PERMITS

An approved Sewer Service Permit shall be obtained from the District prior to uncovering, connecting to, opening, using, altering or disturbing any District sewer or appurtenance. All work to any District facility shall be per final District approved and signed plans.

2.01 Site Plan

The site plans must show the proposed laterals, identify building floor elevations, and show rim elevations of all manholes.

2.02 Sampling Manhole

A sampling manhole, when required, shall be shown on the plans and be constructed and installed at the property line per the District Standard Drawing.

2.03 Sampling Well

A sampling well in lieu of a standard building sewer cleanout, when required, shall be shown on the plans and constructed and installed per the District Standard Drawing.

2.04 Grease Interceptor

A grease interceptor, when required, shall be sized in accordance with the *California Plumbing Code* with a minimum capacity of 750 gallons and shall be shown on the plans and constructed per the District Standard Drawing outside the building and within the private property. Grease traps for smaller applications, when required, shall conform the *California Building Code*. The type and capacity of the traps shall be approved by the District

prior to installation with the minimum capacity of 70 pounds.

2.05 *Review and Approval*

Prior to construction, plans must be signed, easements and rights of way must be recorded, applicable fees must be paid, and bonds must be posted.

2.06 *Construction Acceptance*

District will provide an acceptance letter at inspection sign-off for the constructed facilities when all work, including changes and revisions has been completed.

2.07 *Road Encroachment Permits*

A permit to excavate in public roadways must be obtained prior to construction.

2.08 *Other Permits*

Any other applicable permits such as safety, environmental, stormwater must also be obtained prior to construction.

3.00 **INSPECTION REQUIREMENTS**

3.01 *Notification*

Prior to any construction on a sewer system project, the contractor shall notify the District's inspector a minimum of 48 hours in advance.

3.02 *Changes to Plans*

The installation of the sewer system shall be constructed in accordance with the approved plans. Changes shall be pre-approved by the District and shall be reflected on a final "as-built" drawings submitted by the contractor prior to acceptance.

3.03 *Inspection*

All work relative to sewer system installation shall be subject to inspection and testing by the District's representative.

3.04 *Final Inspection*

A final inspection shall be made of the newly constructed and installed sewer facilities to assure compliance with the District's standards and the approved plans submitted. This includes review and approval of a closed circuit television (CCTV) video submitted at owner's expense of sewer lines to be accepted.

3.05 Unused Facilities

Sewer manholes, pipelines lines and laterals that may be constructed for future use must be appropriately sealed, enclosed and capped to prevent debris from entering the system.

3.06 Occupancy Release

Occupancy for any structure is approved by the Authority Having Jurisdiction of the *California Plumbing Code*. Sign-off on the occupancy card issued by the Authority Having Jurisdiction by the appropriate District personnel is confirmation that the sewer system used by that structure has been found to be in conformance with the plans, specifications, and standards employed by the District and that additional development criteria such as backwater valves installed, salt load water softeners are not used, and that applicable fees and charges have been paid.

4.00 SEPARATE SEWER CONNECTIONS

Pursuant to the *California Plumbing Code*, separate lots shall not be permitted to use the same lateral or building sewer, and every commercial building or industrial facility shall be separately connected to a public sewer if such sewer is available. Billing for sewer service shall be assessed on the tax roll for each parcel. Multiple sewer service shall be assessed for parcels with more than one sewer building.

5.00 SIZE AND GRADE OF LATERALS

The building sewer shall be appropriately sized per the *California Plumbing Code*, however the lateral sewer portion of the building sewer shall be 4" minimum for residential and 6" minimum for multiple residential and commercial development and shall be installed with a minimum grade of 1/4" per foot to the property line.

6.00 EXISTING LATERAL AND BUILDING SEWERS

Existing sewer laterals may be used when connecting new buildings. The applicant may be required to test or inspect the lateral and building sewer at applicant's expense.

7.00 DEPTH OF LATERAL

Depth of service laterals shall be at sufficient depth to provide adequate cover and service to the lowest and farthest points to be served on each lot. The depth of cover of a service lateral shall be at least 4' at the property line.

8.00 BENDS IN LATERALS

Bends shall not be allowed on lateral sewers. Building sewers shall be constructed in compliance with the *California Plumbing Code*.

9.00 LATERAL CLEANOUTS

9.01 Locations

Cleanouts shall be installed on a building sewer at the end of the lateral sewer, generally located at the property line or sewer easement line.

9.02 Fitting Requirements

Cleanouts shall consist of a wye and eighth bend and a riser pipe extended just below grade and sealed with a threaded plug or cap which can be easily removed through the cleanout access cover.

9.03 Protective Concrete Box

Cleanouts shall be protected with a concrete cleanout box. The cleanout box lid shall be cast iron with "sewer" indicated on the lid.

10.00 UNUSED WYES AND FITTINGS

Any existing wyes and fittings discovered during construction on an existing sewer line that are not to be utilized for wastewater drainage shall be removed from the sewer line.

11.00 BACKWATER OVERFLOW DEVICE

Pursuant to District ordinance in County Code Section 29-27.1, a backwater valve shall be installed on all new sewer connections and sewer connection retrofits even when not required by the *California Plumbing Code*. When not required per *California Plumbing Code* criteria but related to a multi-storied building, the backwater valve shall be installed as for a single story building. The backwater valve shall be installed at the junction of the building sewer and building drain, generally 18" from the foundation wall.

12.00 MATERIALS

12.01 Acceptable Materials

Acceptable sewer pipe materials for new trunk, main and lateral sewers shall be polyvinyl chloride (PVC) or polyethylene (PE).

12.02 Material Conditions

All materials shall be new and undamaged and approved for use by the District.

12.03 Material Similarity

The same manufacturer and type of material of each item shall be used throughout the work.

12.04 Material Standards

Where reference is made to an American National Standards Institute (ANSI), American Society of Testing Materials (ASTM), or American Water Works Association (AWWA) designation, it shall be the latest revision at the time of construction, except as noted on the plans or special provisions.

12.05 *Material Class*

Class of pipe for trunks, mains and laterals shall comply with the latest edition of the *Standard Specifications for Public Works Construction*.

12.06 *Pipe and Fitting Material Requirements*

Material composition for pipes and fittings shall comply with the latest edition of the *Standard Specifications for Public Works Construction*.

12.07 *Sewer Repair and Replacement Material*

Polyvinyl chloride (PVC) or polyethylene (PE) materials shall be used when replacing or repairing sections on existing sewers with approved coupling devices.

13.00 **BEDDING AND BACKFILL**

Bedding and backfill shall comply with these *Standard Specifications for the Construction of Sanitary Sewers* and its standard drawings. Specific requirements pertaining to the installation of any flexible sewer pipe, such as PVC and PE follows:

13.01 *Pipe Embedment Zone*

The pipe embedment zone is defined as extending from 4" to 6" below the pipe to 12" above the pipe. This material shall conform to Section 306-1.2.1 of the *Standard Specifications for Public Works Construction*, latest edition, and is defined as sand, gravel, crushed aggregate, or native free draining granular material having a sand equivalent of not less than 30 pursuant to test method California 217 or having a permeability greater than 1-1/2" per hour pursuant to test method ASTM D2434 or California 220, or other material approved by the District.

13.02 *Approved Backfill Material*

Backfill material extending from 12" above the pipe to below a roadway structural section shall be as prescribed in a geotechnical report, encroachment permit requirements, or per Section 306-1.3.1 of the *Standard Specifications for Public Works Construction*, latest edition.

13.03 *Placement of Backfill Material*

Pipe bedding material shall be placed on competent foundation and compacted in the trench before the pipe is laid in place. Upon laying and

securing the pipe on the bedding, the bedding material shall be shoveled and walked into the haunching area simultaneously on both sides of the pipe to the pipe spring line in such a way to eliminate voids. The balance of the bedding material shall be placed from the pipe spring line to 12" over the pipe and compacted. Compaction tests to be performed at developer's expense shall meet or exceed a relative compaction of 95%. The backfill shall be placed in horizontal layers of such depths as are considered proper for the type of compaction equipment being used in relation to the backfill material being placed.

13.04 *Special Precautions for Sewers near Buildings*

Special precautions must be taken for any sewer construction near existing or proposed building sites, whether in a fill or cut area. The load distribution line (angle of repose) will commence at, and extend downward at a 45° angle from the bottom outside edge of the foundation.

13.05 *Sewer Encasement*

If the sewer pipe is below the 45° line, it shall require a special design or cradle and be noted on the plans. All backfill below the 45° line shall be in accordance with the recommendations of a geotechnical report.

13.06 *Protection to Existing Building During Construction*

The contractor shall consider the proximity of a trench excavation in relation to existing buildings or other surcharges and shall comply with safety orders and permit conditions when performing the work.

14.00 **INSPECTION AND TESTING**

The following procedures shall be followed for inspection and testing of laterals and building sewers:

14.01 *Responsibility*

The equipment, material and labor necessary for inspection or tests shall be furnished by the party which has requested the inspection and testing.

14.02 *Pipe and Fitting Inspection*

All installed pipe and fittings shall be inspected by the District prior to placing backfill cover.

14.03 *Testing*

The sewer system shall be flushed with a hydrojetter, tested for roundness with an appropriately sized mandrel and pressure tested. The air pressure test shall be in accordance with section 306-1.4.4 of the *Standard Specifications for Public Works Construction* once the trench has been backfilled and compacted but before paving.

14.04 Water Tests

Water exfiltration and infiltration tests shall comply with the requirements of the latest edition of the *Standard Specifications for Public Works Construction* and shall be applied to pressurized sewer systems.

14.05 Water Test Safety

Safe access to the pressurized piping system shall consist of a platform or ladder, and shall be provided by the party which has requested the inspection and test.

14.06 Air Test Safety

The air test must be properly prepared and all plugs must be installed and braced in such a way as to prevent blowouts. Pressurizing equipment should include a regulator set at approximately 10 psig to avoid over pressurizing and damaging a pipeline. No one shall be allowed in the manholes during testing.

15.00 INTERCEPTORS AND TRAPS

Grease, oil and sand interceptors and traps shall be provided as specified in the *California Plumbing Code*, latest edition, and additionally, when in the opinion of the District, they are necessary. The minimum capacity of exterior interceptors shall be 750 gallons and shall be constructed per the District Standard drawing. Interior traps shall comply with the *California Plumbing Code*, latest edition. The type and capacity of the traps shall be approved by the District prior to installation with the minimum capacity of 70 pounds.

16.00 FINAL INSPECTION

A final inspection shall be made to verify proper installation of pipelines, manholes, cleanouts, lift stations, and any other public sewer improvements in conformance with approved plans and specifications. Final inspection shall include District approval of the closed circuit television (CCTV) video provided by the applicant.

Additional onsite inspections regarding required devices or prohibitions will be performed on development improvements and structures prior to occupancy approval. These inspections are to ensure that backwater overflow devices were installed, that grease interceptors or traps were installed as may be required for commercial development, to ensure that commercial developments has provided domestic water metering for proper sewer billing, and to ensure that water softening devices, if used, are not salt load type softeners as prohibited by ordinance. Industrial discharge permits may also be required.

PART VI

PROCESSING AND DOCUMENTATION

1.00 THE ANNEXATION PROCESS

1.01 General

Annexation to the District is made through the Santa Barbara Local Agency Formation Commission pursuant to the Cortese/Knox Local Government Reorganization Act of 2000, as amended. Below is an outline of the annexation procedure. Upon request, the District will supply the applicant with an application packet with the documents needed for annexation. The applicant is responsible for all costs for annexation to the District.

1.02 Annexation Application

- Letter requesting annexation to District.
- Description of land to be annexed.
- Annexation consent form including all property owners involved in the annexation.
- Payment of District annexation processing fees.

1.03 District Approval

District approves application by adopting a Resolution of Application and sets terms and conditions of annexation. The District submits applicant's documentation to LAFCO on behalf of applicant.

1.04 Local Agency Formation Commission (LAFCO) Filing

- District cover letter to LAFCO.
- Landowner consent if applicable.
- Resolution of application.
- Proposal Questionnaire (and Sphere of Influence Questionnaire if required).
- Compliance with the California Environmental Quality Act (CEQA).
- Map and legal description of annexation boundary.
- LAFCO fees.

1.05 The LAFCO Process

- LAFCO accepts application documents for filing.
- LAFCO contacts County Auditor-Controller's Office for a list of affecting agencies.

- Surveyor's Office certifies map and legal description.
- LAFCO certifies filing and sets public hearing date and conducts annexation hearing.
- If annexation is approved, LAFCO adopts Resolution of Approval and records a Certificate of Completion for filing with the State Board of Equalization (BOE) and the County Assessor's Office. Final BOE fees are due and must be paid by the applicant.

1.06 *Final Approvals*

- In some cases a Protest Hearing must be conducted.

2.00 SEWER PERMIT AND "CAN AND WILL SERVE" REQUIREMENTS

2.01 *Annexation Requirement*

All properties receiving sewage collection, treatment, and disposal service must be annexed to the District's service area.

2.02 *Sewer Improvement Plans*

Plans of the proposed sewer improvements are prepared by the applicant's licensed civil engineer and are submitted for review and acceptance by the District.

2.03 *Site, Floor and Plumbing Plans*

Approval of site, floor and plumbing plans are not required by the District as inspection jurisdiction resides with appropriate building permit jurisdiction, however, pad elevations and drainage fixture unit (non-residential development) information is required.

2.04 *Project Information*

Project construction cost and flow generation data are submitted by the applicant's engineer for the purpose of estimating the District's connection, permit and inspection fees, as well as to determine the construction guarantee bond amount.

2.05 *Final Maps, Parcel Maps and Deeds*

Easements or other rights to be granted to the District in the form of final maps, parcel maps or deeds are prepared by the applicant's surveyor or engineer when required, for review and acceptance by the District. Trunk line, plan check, inspection and testing fees shall be paid prior to map recordation or at acceptance (District signature) of all approved plans and when there is no subdivision of land.

2.06 *Can-and-Will-Serve*

An availability letter may be issued to an applicant upon initial project

submittal. The availability letter provides initial project comments and conditions and estimates fees.

Can-and-Will Serve letters are issued upon payment of initial fees and expire upon expiration of the applicant's project with the planning agency. Can-and Will Serve letters indicate that the project can be served upon demand and without exception, indicates that all rights of way are acceptable to the District and that initial cost obligations have been met.

Connection fees and prorated sewer service charges shall be paid prior final occupancy clearance. Connection fees may not be pre-paid prior to final occupancy clearance. Payment of connection fees shall initiate the collection of annual sewer service charges on the tax roll. The applicant shall also obtain from the District an Industrial Wastewater Discharge Permit if the applicant's project includes industrial connections.

2.07 *Sewer Service Acknowledgement*

Properties that operate businesses out of residential building shall be assessed for sewer service as commercial establishments (based on water use). The District shall first authorize commercial sewer service prior to issuance of building and/or land use permits.

2.08 *Multiple Sewer Connections*

Housing developments creating single family residential parcels in a subdivision of land shall be considered as having only one approved sewer connection. For lots sized and zoned to allow more than one single family residential unit, separate connection approval shall be required. Each single family dwelling or detached structure(s) in which plumbing fixtures are installed shall require individual laterals to the public or private main sewer main in conformity with the *California Plumbing Code*. Each single family residential unit or detached structure shall be assessed for sewer service.

Sewer connections for commercial developments and multiple residential units shall be provided for each building or business. Commercial structures shall have separate domestic and landscaping water meters.

2.09 *Illegal Connections*

Illegal connections shall be assessed all applicable fees as well as sewer service charges from the date of original building permit or date of construction if the building permit date is not known. If the District has limited capacity, the illegal connection shall be removed and the structure returned to its original permitted function.

3.00 CONSTRUCTION DOCUMENTS

3.01 Initial Submittal for Review

- Sewer improvement plans
- Grading plans
- Tentative map or parcel map
- Existing easement information and any proposed easements
- Construction cost estimate
- Flow data (d/D, V, Q)
- Area sewer study
- Other pertinent data

3.02 Final Submittal

Upon review and approval, the following shall be submitted:

- Sewer improvement plans (approved and signed by the District)
- Approved grading plans
- Final tract or parcel map
- Recorded easement documents
- Construction cost estimate or actual contract costs
- Final area sewer study (if revised)
- Bonds and agreements
- Any other documents required by the District

4.00 OTHER DOCUMENTATION

- Permits (state, county, city or others as required by law)
- Proof of insurance
- Can-and-Will-Serve letter
- Supplemental fees (if applicable)

5.00 REIMBURSEMENT PROJECTS

5.01 District/Owner Agreement

- Payment of costs for District, legal, and document preparation

6.00 PROJECT REVIEW

- Test result records
- Change order records
- Project approval required from other agencies

7.00 ACCEPTANCE OF PROJECT

- Record drawing of sewer improvement plans
- Electronic plan submittal
- Test result records
- Letter of acceptance from District

PART VII

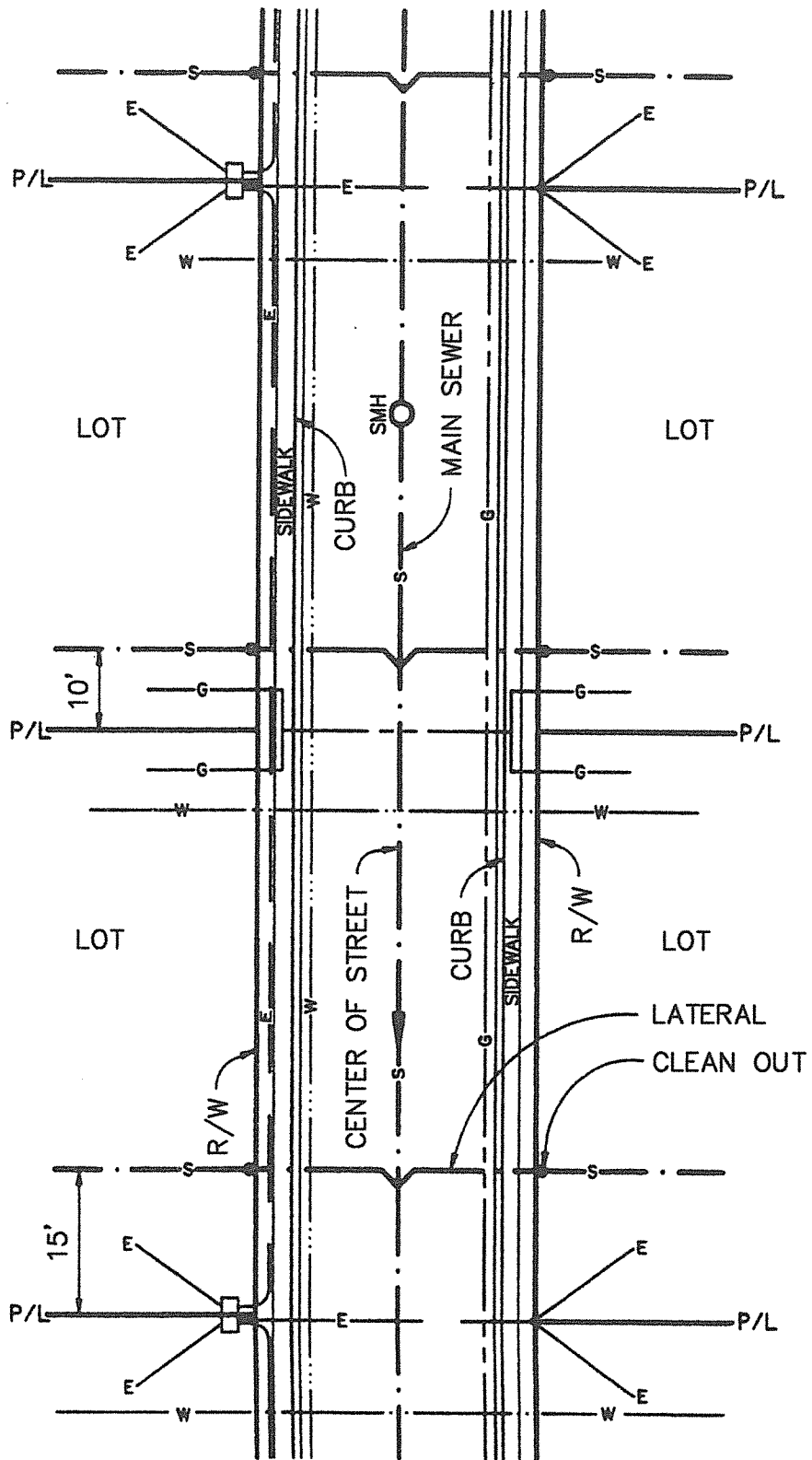
STANDARD DRAWINGS

<u>Standard Drawing</u>	<u>Title</u>
1	Sewer Location in Public Roads
2	Sewer Pipe Trench
3	Sewer Manhole
4	Sampling Well
5	Sampling Manhole
6	Wye Installation in Existing Sewer Main
7	Sewer Lateral
8	Grease Interceptor

Attachments

Water Main Separation

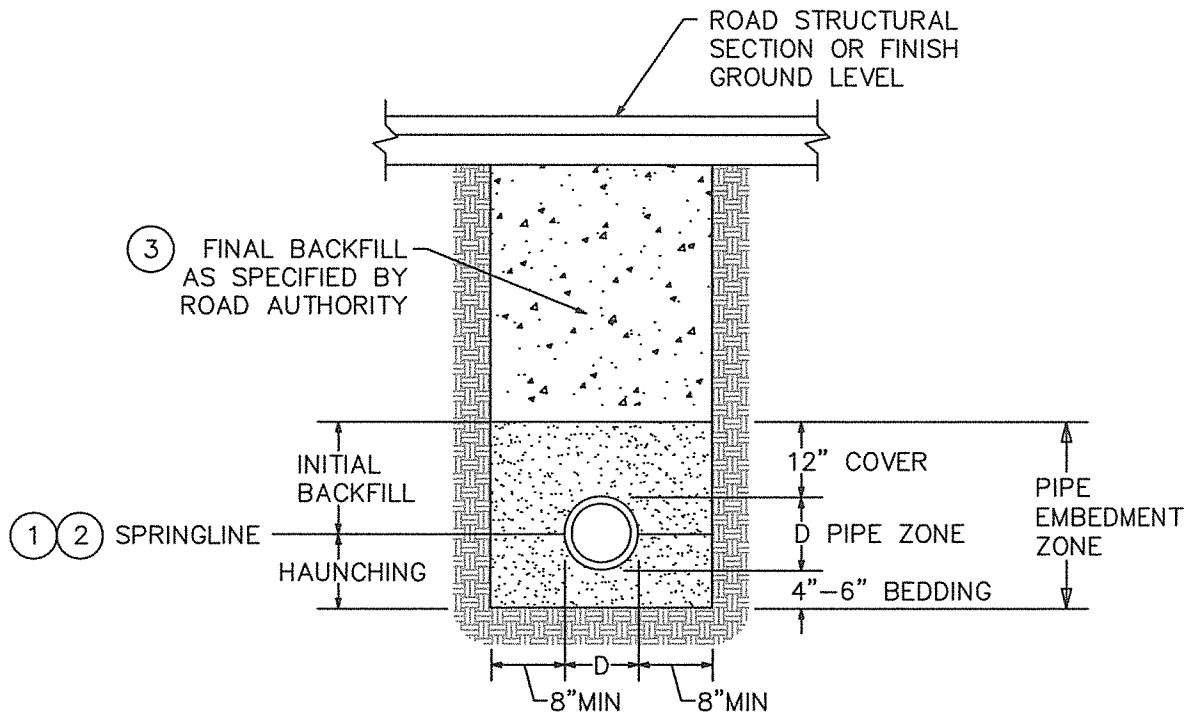
Laguna County Sanitation District Sewer Service Permit Form



LAGUNA
COUNTY
SANITATION
DISTRICT

SEWER LOCATION IN
PUBLIC ROADS

STANDARD
DRAWING
NO. 1



1. Pipe Embedment Zone:

The pipe embedment zone material shall conform to Section 306-1.2.1 of the Standard Specifications for Public Works Construction, and is defined as sand, gravel, crushed aggregate, or native free draining granular material having a sand equivalent of not less than 30 or having a permeability greater than 1½" per hour, or other material approved by the District.

2. Placement of Backfill Material:

Pipe bedding material shall be placed on competent foundation and compacted in the trench before the pipe is laid in place. Upon laying and securing the pipe on the bedding, the bedding material shall be shoveled and walked into the haunching area simultaneously on both sides of the pipe to the pipe spring line in such a way to eliminate voids. The balance of the material shall be placed from the pipe spring line to the 12" over the pipe and compacted. Compaction tests to be performed at developer's expense shall meet or exceed a relative compaction of 95%. The backfill shall be placed in horizontal layers of such depths as are considered proper for the type of compaction equipment being used in relation to the backfill material being placed.

3. Approved Backfill Material:

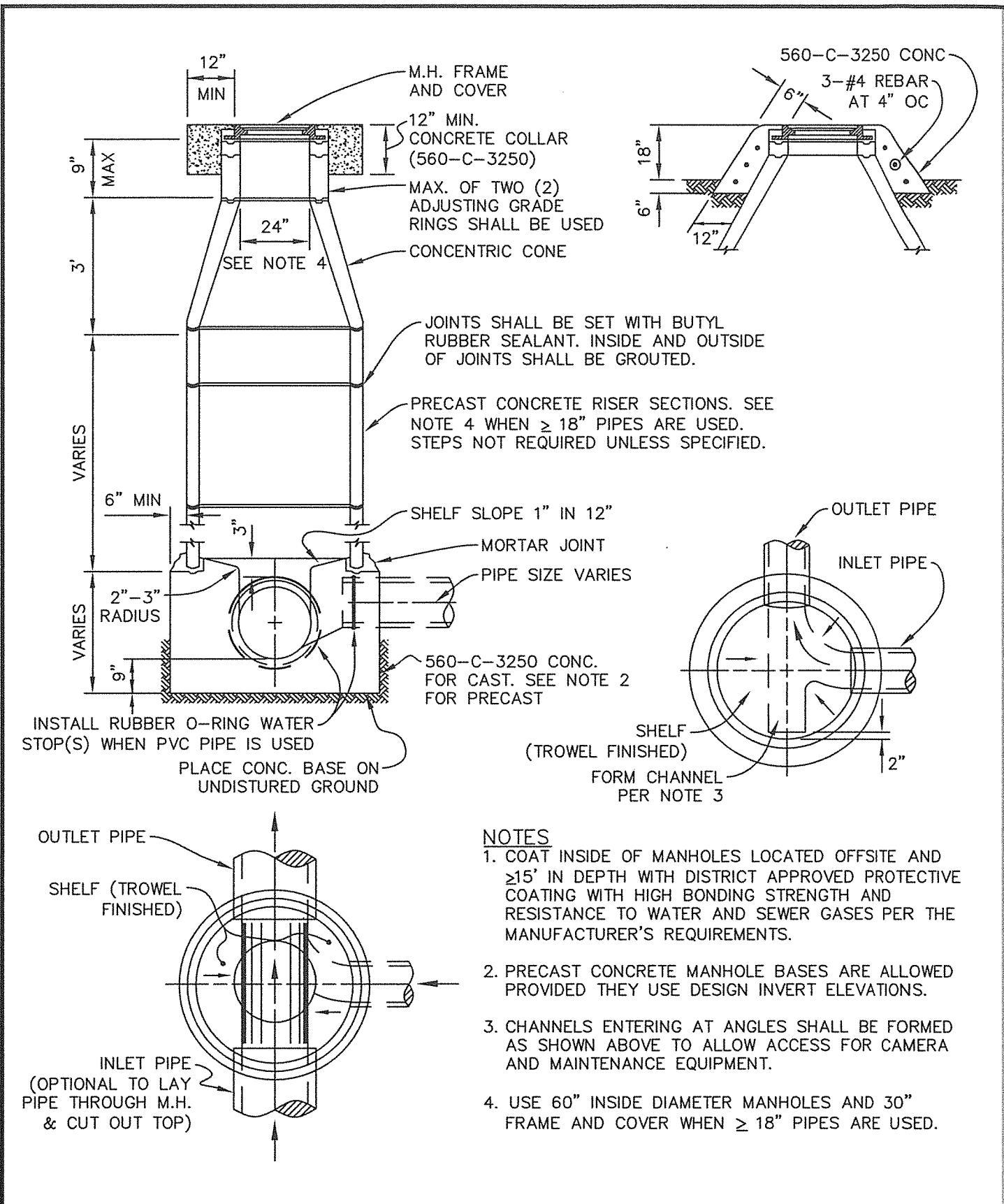
Backfill material extending from 12" above the pipe to below a roadway structural section shall be as prescribed in a geotechnical report, encroachment permit requirements, or per Section 306-1.3.1 of the Standard Specification for Public Works Construction.



LAGUNA
COUNTY
SANITATION
DISTRICT

SEWER PIPE
TRENCH

STANDARD
DRAWING
NO. 2



NOTES

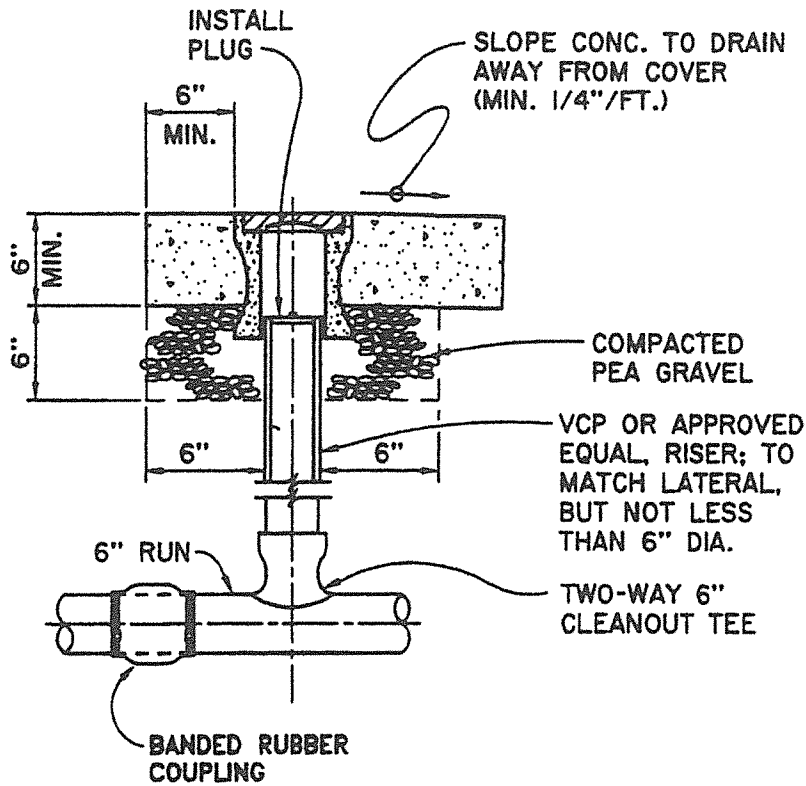
1. COAT INSIDE OF MANHOLES LOCATED OFFSITE AND $\geq 15'$ IN DEPTH WITH DISTRICT APPROVED PROTECTIVE COATING WITH HIGH BONDING STRENGTH AND RESISTANCE TO WATER AND SEWER GASES PER THE MANUFACTURER'S REQUIREMENTS.
2. PRECAST CONCRETE MANHOLE BASES ARE ALLOWED PROVIDED THEY USE DESIGN INVERT ELEVATIONS.
3. CHANNELS ENTERING AT ANGLES SHALL BE FORMED AS SHOWN ABOVE TO ALLOW ACCESS FOR CAMERA AND MAINTENANCE EQUIPMENT.
4. USE 60" INSIDE DIAMETER MANHOLES AND 30" FRAME AND COVER WHEN $\geq 18"$ PIPES ARE USED.



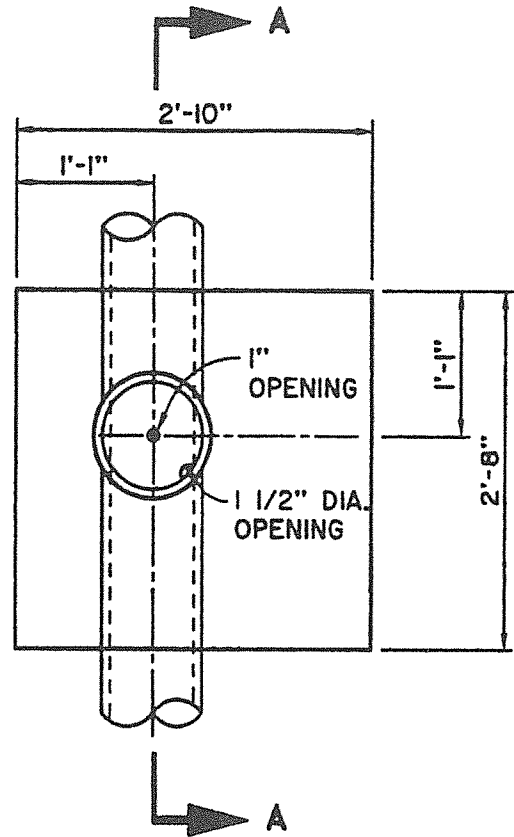
LAGUNA COUNTY
SANITATION
DISTRICT

STANDARD
MANHOLE

STANDARD
DRAWING
NO. 3



SECTION A-A



PLAN

NOTES:

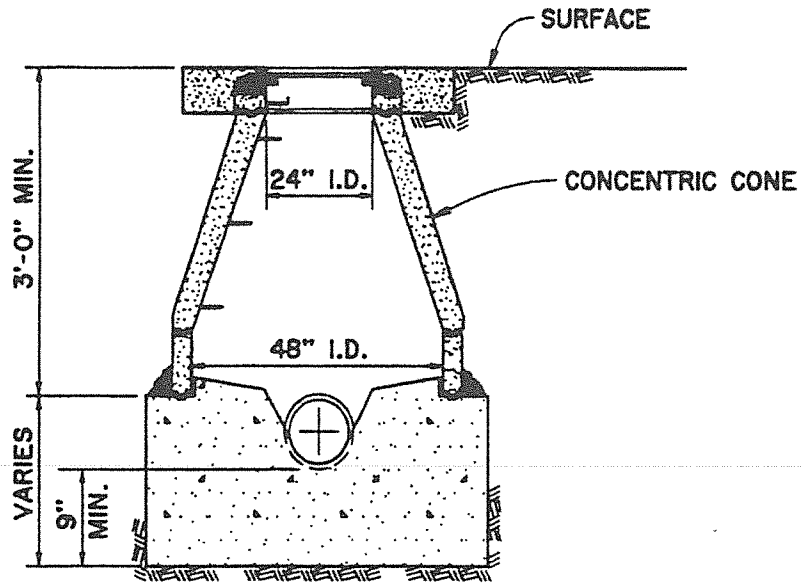
1. ON EXISTING BUILDING SEWER, INSTALL APPROVED STANDARD TWO-WAY CLEANOUT TEE WITH BANDED RUBBER COUPLINGS.
2. THE SAMPLING WELL SHALL BE LOCATED ON THE BUILDING SEWER, DOWNSTREAM OF ALL BUILDING DRAIN CONNECTIONS, SO THE ENTIRE COMBINED BUILDING WASTE WATER FLOW CAN BE SAMPLED.
3. CONTACT THE DISTRICT ENGINEER FOR LOCATION OF SAMPLING WELL IF LOCATION IS NOT SHOWN ON APPROVED DRAWINGS.



LAGUNA
COUNTY
SANITATION
DISTRICT

SAMPLING WELL

STANDARD
DRAWING
NO. 4



SECTION

NOTES:

1. REFER TO STANDARD DRAWING NO. 3 "STANDARD MANHOLE" FOR ADDITIONAL DETAILS
2. MAHOLE COVER SHALL NOT BE STAMPEDD WITH L.C.S.D. IDENTIFICATION



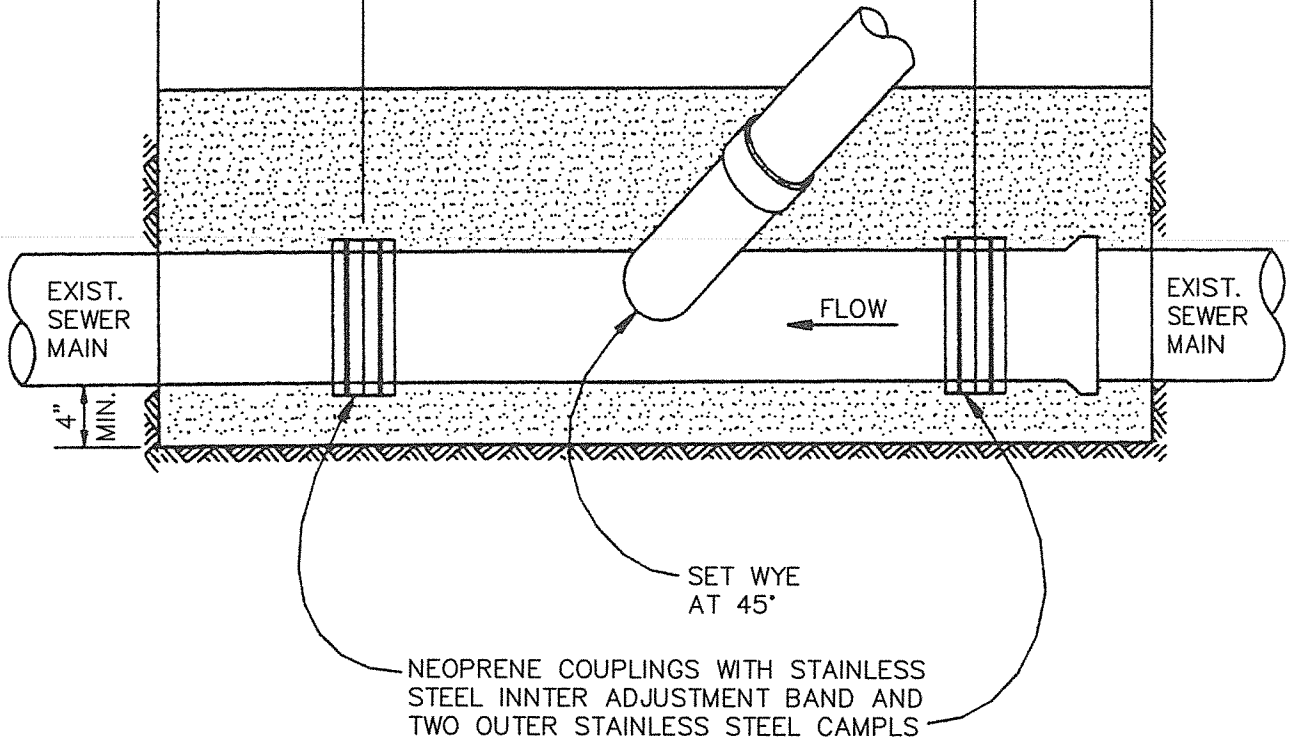
LAGUNA
COUNTY
SANITATION
DISTRICT

SAMPLING MANHOLE

STANDARD
DRAWING
NO. 5

OVEREXCAVATE A MIN. OF 12" FROM COUPLING AND BACKFILL TO A MIN. OF 12" ABOVE SEWER MAIN PIPE WITH APPROVED GRANULAR MATERIAL

REMOVE SECTION OF EXISTING SEWER MAIN PIPE & INSTALL WYE AS SHOWN



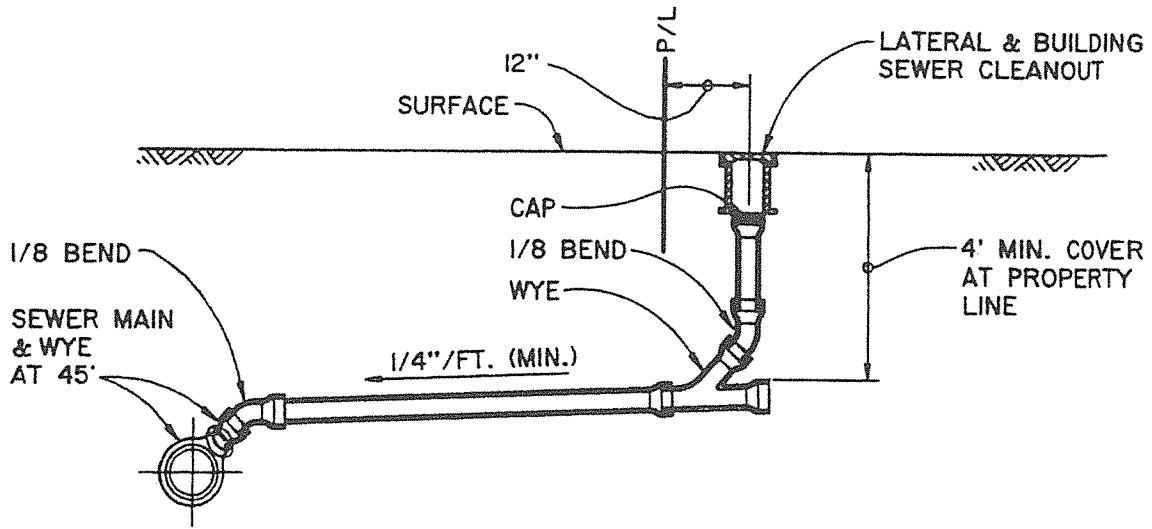
NOTE: TAPPING OR SADDLE TYPE MAY BE CONSIDERED FOR APPROVAL.



LAGUNA
COUNTY
SANITATION
DISTRICT

WYE
INSTALLATION IN
EXISTING SEWER

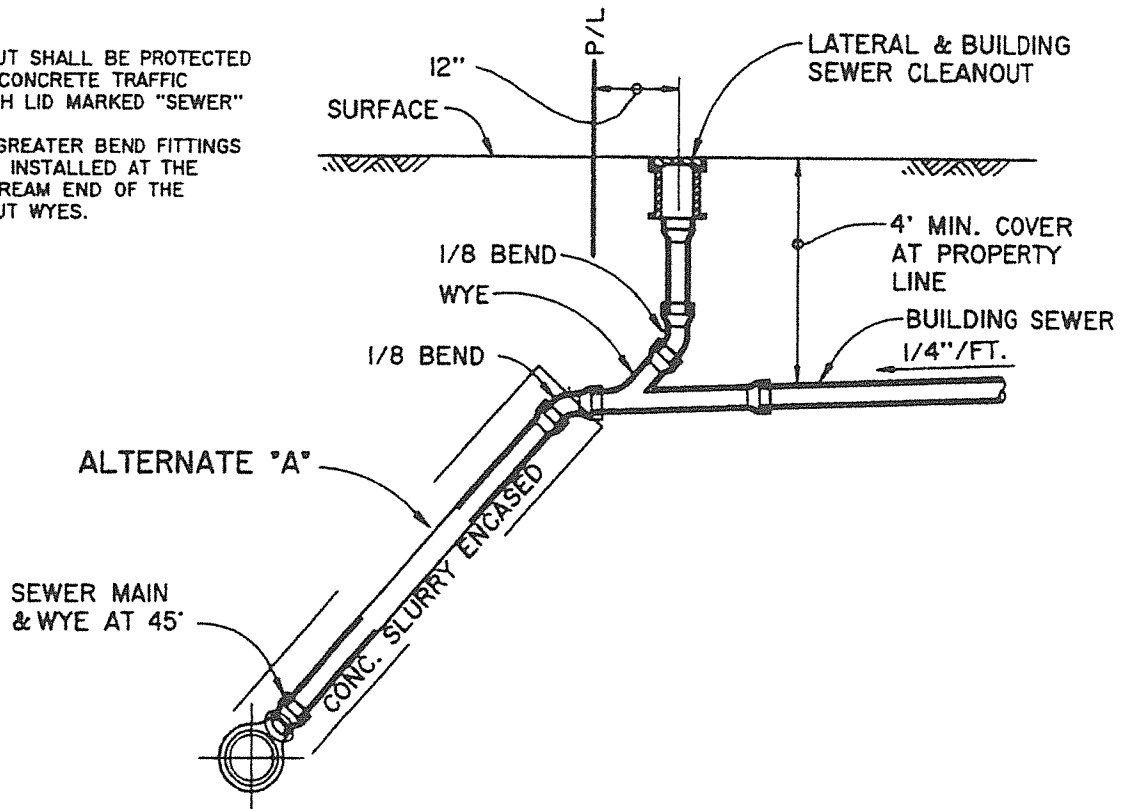
STANDARD
DRAWING
NO. 6



4" & 6" LATERAL SEWER AT TYPICAL DEPTH

NOTES:

1. CLEANOUT SHALL BE PROTECTED WITH A CONCRETE TRAFFIC BOX WITH LID MARKED "SEWER"
2. 45° OR GREATER BEND FITTINGS WILL BE INSTALLED AT THE DOWNSTREAM END OF THE CLEANOUT WYES.

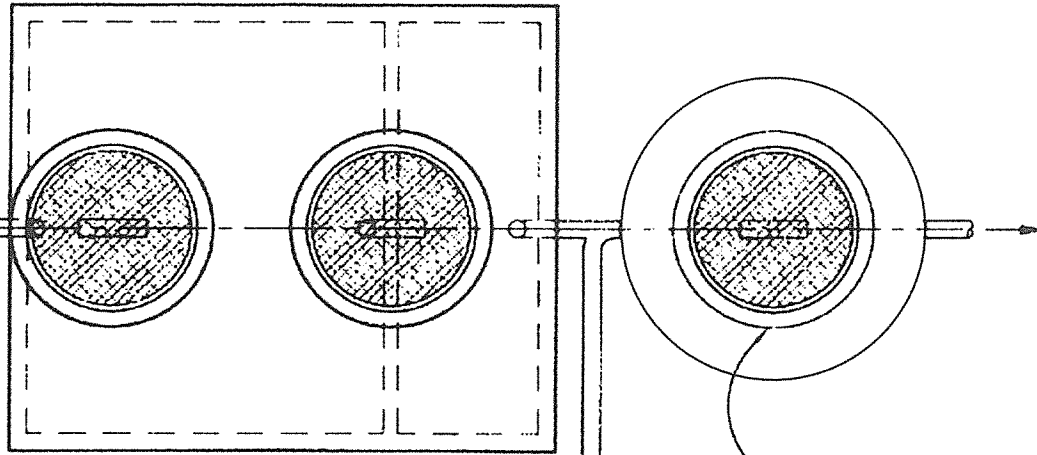


LAGUNA
COUNTY
SANITATION
DISTRICT

LATERAL SEWER

STANDARD
DRAWING
NO. 7

WASTEWATER
DRAIN LINES
WITH THE
POTENTIAL TO
DISCHARGE
LIQUID
CONTAINING
SAND, GREASE
& OIL



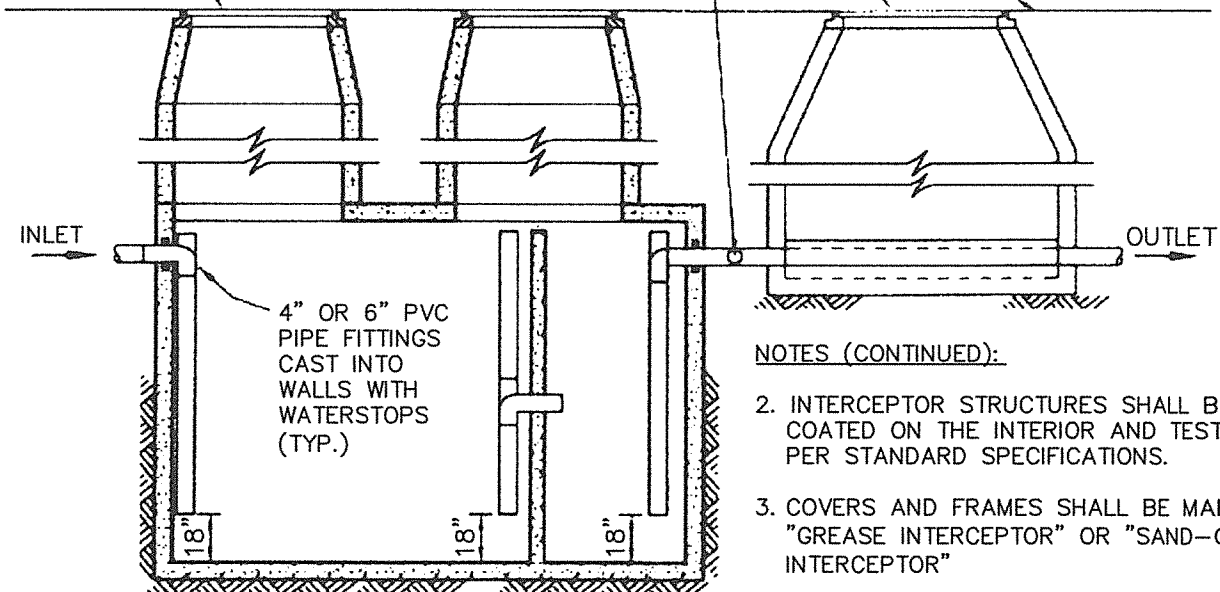
PLAN

SAMPLING MANHOLE SEE
STD. DWG. NO. 5

ALL REMAINING BUILDING WASTEWATER DRAIN LINES
WITH NO POTENTIAL TO DISCHARGE LIQUID CONTAINING
GREASE & OIL

24" CAST IRON GASTIGHT
MANHOLE FRAME AND COVER

FINISHED GRADE



INLET

OUTLET

4" OR 6" PVC
PIPE FITTINGS
CAST INTO
WALLS WITH
WATERSTOPS
(TYP.)

18"

18"

18"

SECTION

NOTES (CONTINUED):

NOTES:

1. GREASE INTERCEPTORS SHALL BE SIZED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE REQUIREMENTS. THE MINIMUM GREASE INTERCEPTOR SIZE SHALL BE A 500 GAL. UNIT.

2. INTERCEPTOR STRUCTURES SHALL BE COATED ON THE INTERIOR AND TESTED PER STANDARD SPECIFICATIONS.

3. COVERS AND FRAMES SHALL BE MARKED "GREASE INTERCEPTOR" OR "SAND-OIL INTERCEPTOR"

4. INTERCEPTOR INLET, OUTLET DISCHARGE AND PIPING SHALL BE 6" IN DIAMETER. WHEN APPROVED FOR 4" CONNECTIONS, ECCENTRIC 6"X4" REDUCERS SHALL BE USED.

6. ALL INTERCEPTORS SHALL BE VENTED PER PLUMBING CODE.



LAGUNA
COUNTY
SANITATION
DISTRICT

GREASE
INTERCEPTOR

STANDARD
DRAWING
NO. 8

Memorandum

Date: April 14, 2003 (Revised Date: October 16, 2003)

To: Regional and District Engineers

From: David P. Spath, Ph.D., Chief (*Original signed by Dave*)
Drinking Water and Environmental Management
601 North 7th Street, MS 216
Sacramento, CA 95814
(916) 322-2308

Subject: **GUIDANCE MEMO NO. 2003-02: GUIDANCE CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES**

The purpose of this memo is to update guidance dated April 5, 1983 for consistency with proposed 2003 regulations. Should there be any modification to the proposed Water Works Standards that may impact the content of this guidance, the guidance will be amended accordingly.

GUIDANCE: CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES

BACKGROUND

When buried water mains are in close proximity to non-potable pipelines, the water mains are vulnerable to contamination that can pose a risk of waterborne disease outbreaks. For example, sewers (sanitary sewer mains and sewage force mains) frequently leak and saturate the surrounding soil with sewage due to structural failure, improperly constructed joints, and/or subsidence or upheaval of the soil encasing the sewer. If a nearby water main is depressurized and no pressure or negative pressure occurs, that situation is a public health hazard that is compounded if an existing sewer is broken during the installation or repair of the water main. Further, failure of a water main in close proximity to other pipelines may disturb their bedding and cause them to fail. In the event of an earthquake or other disaster, simultaneous failure of all pipelines could occur.

The most effective protection against this type of drinking water contamination is adequate construction and separation of non-potable pipelines and water mains. The Waterworks Standards (Title 22, Chapter 16, Section 64572) provide separation criteria for new construction. However, when these criteria cannot be met, the risk of contamination can be reduced by increasing the structural integrity of pipe materials and joints, and ensuring minimum separation requirements are met. Therefore, the following guidance details construction criteria for the installation of water mains and non-potable pipelines to minimize the risk of contamination of drinking water.



DEFINITIONS

- COMPRESSION JOINT - A push-on joint that seals by means of the compression of a rubber ring or gasket between the pipe and a bell or coupling.
- CONTINUOUS SLEEVE - A protective tube of high-density-polyethylene (HDPE) pipe with heat fusion joints or other non-potable metallic casing without joints into which a pipe is inserted.
- DISINFECTED TERTIARY RECYCLED WATER - Wastewater that has been filtered and subsequently disinfected in accordance with Section 60301.230, Chapter 3 (Water Recycling Criteria), Title 22, California Code of Regulations.
- HOUSE LATERAL - A sewer line connecting the building drain and the sanitary sewer main serving the street.
- SUPPLY LINE - Pipelines conveying raw water to be treated for drinking purposes in accordance with Section 64572 ©, proposed Water Works Standards.
- WATER MAIN – Means any pipeline, except for user service lines, within the distribution system in accordance with Section 64551.70, proposed Water Works Standards.
- RATED WORKING WATER PRESSURE - A pipe classification system based on internal working pressure of the fluid in the pipe, type of pipe material, and the thickness of the pipe wall.
- SANITARY SEWER MAIN - A gravity sewer conveying untreated municipal wastewater.
- SEWAGE FORCE MAIN - A pressurized sewer conveying untreated municipal wastewater.

APPLICABILITY

Note that the construction criteria presented in this document apply to house laterals that cross above a water main, but not to those house laterals that cross below a water main.

Water mains or non-potable pipelines that are 24-inches in diameter or larger may pose a higher degree of public health concern because of the large volumes of flow involved. Therefore, installation of water mains or non-potable pipelines 24-inches in diameter or larger should be reviewed and approved in writing by the Department on a case-by-case basis prior to construction.

In no case, should water mains and non-potable pipelines conveying sewage or other liquids be installed in the same trench.

REGULATORY REQUIREMENTS

Any new development project in which all the underground facilities are being constructed for the first time must comply with the following regulatory requirements:

Existing requirements:

Section 64630. (Title 22 CA Code of Regulations) Water Main Installation

(c) Water mains shall be installed at least:

- (1) Ten feet (3 meters) horizontally from and 1 foot (0.3 meters) higher than sanitary sewer mains located parallel to the main.
- (2) One foot (0.3 meters) higher than sanitary sewer mains crossing the main.
- (3) Ten feet (3 meters), and preferably 25 feet (7.5 meters), horizontally from sewage leach fields, cesspools, seepage pits and septic tanks.

(d) Separation distances specified in (c) shall be measured from the nearest outside edges of the facilities.

(e) Where the requirements of (c) and (d) cannot be met due to topography, inadequate right-of-way easements, or conflicts with other provisions of these regulations, lesser separation is permissible if:

- (1) The water main and the sewer are located as far apart as feasible within the conditions listed above.
- (2) The water main and the sewer are not installed within the same trench.
- (3) The water main is appropriately constructed to prevent contamination of the water in the main by sewer leakage.

(f) Water mains shall be disinfected according to AWWA Standard C601-81 before being placed in service.

(g) Installation of water mains near the following sources of potential contamination shall be subject to written approval by the Department on a case-by-case basis:

- (1) Storage ponds or land disposal sites for wastewater or industrial process water containing toxic materials or pathogenic organisms.
- (2) Solid waste disposal sites.
- (3) Facilities such as storage tanks and pipe mains where malfunction of the facility would subject the water in the main to toxic or pathogenic contamination.

Although the following requirements have not yet been adopted, they should be within the next two years and should be used as guidance for future construction.

Proposed requirements as of the date of this document:

Section 64572. Water Main Separation

(a) New water mains and new supply lines shall not be installed in the same trench as, and shall be at least 10 feet horizontally from, and one foot vertically above, any parallel pipeline conveying:

- (1) Untreated sewage,
- (2) Primary or secondary treated sewage,
- (3) Disinfected secondary-2.2 recycled water (defined in section 60301.220),
- (4) Disinfected secondary-23 recycled water (defined in section 60301.225), and
- (5) Hazardous fluids such as fuels, industrial wastes, and wastewater sludge.

(b) New water mains and new supply lines shall be installed at least 4 feet horizontally from, and one foot vertically above, any parallel pipeline conveying:

- (1) Disinfected tertiary recycled water (defined in section 60301.230), and
- (2) Storm drainage.

(c) New supply lines conveying raw water to be treated for drinking purposes shall be installed at least 4 feet horizontally from, and one foot vertically below, any water main.

(d) If crossing a pipeline conveying a fluid listed in subsection (a) or (b), a new water main shall be constructed perpendicular to and at least one foot above that pipeline. No connection joints shall be made in the water main within eight horizontal feet of fluid pipeline.

(e) The vertical separation specified in subsections (a), (b), and (c) is required only when the horizontal distance between a water main and pipeline is ten feet or less.

(f) New water mains shall not be installed within 100 horizontal feet of any sanitary landfill, wastewater disposal pond, or hazardous waste disposal site, or within 25 feet of any cesspool, septic tank, sewage leach field, seepage pit, or groundwater recharge project site.

(g) The minimum separation distances set forth in this section shall be measured from the nearest outside edge of each pipe barrel.

ALTERNATIVE CRITERIA FOR CONSTRUCTION

Water Mains, and Sewers and Other Non-potable Fluid-carrying Pipelines

When new water mains, new sanitary sewer mains, or other non-potable fluid-carrying pipelines are being installed in existing developed areas, local conditions (e.g., available space, limited slope, existing structures) may create a situation in which there is no alternative but to install water mains, sanitary sewer mains, or other non-potable pipelines at a distance less than that required by the regulations [existing Section 64630 (proposed Section 64572)]. In such cases, through permit action, the Department may approve

alternative construction criteria. The alternative approach is allowed under the proposed regulation Section 64551(c):

“A water system that proposes to use an alternative to the requirements in this chapter shall demonstrate to the Department how it will institute additional mitigation measures to ensure that the proposed alternative would not result in an increased risk to public health.”

Appropriate alternative construction criteria for two different cases in which the regulatory criteria for sanitary sewer main and water main separation cannot be met are shown in **Figures 1 and 2**.

- **Case 1** - New sanitary sewer main and a new or existing water main; alternative construction criteria apply to the sanitary sewer main.
- **Case 2** - New water main and an existing sanitary sewer main; alternative construction criteria may apply to either or both the water main and sanitary sewer main.

Case 1: New Sanitary Sewer Main Installation (Figures 1 and 2)

Zone Special Construction Required for Sanitary Sewer Main

A Sanitary sewer mains parallel to water mains shall not be permitted in this zone without prior written approval from the Department and public water system.

B If the water main paralleling the sanitary sewer main does not meet the Case 2 Zone B requirements, the sanitary sewer main should be constructed of one of the following:

1. High-density-polyethylene (HDPE) pipe with fusion welded joints (per AWWA C906-99);
2. Spirally-reinforced HDPE pipe with gasketed joints (per ASTM F-894);
3. Extra strength vitrified clay pipe with compression joints;
4. Class 4000, Type II, asbestos-cement pipe with rubber gasket joints;
5. PVC sewer pipe with rubber ring joints (per ASTM D3034) or equivalent;
6. Cast or ductile iron pipe with compression joints; or
7. Reinforced concrete pressure pipe with compression joints (per AWWA C302-95).

- C If the water main crossing below the sanitary sewer main does not meet the requirements for Case 2 Zone C, the sanitary sewer main should have no joints within ten feet from either side of the water main (in Zone C) and should be constructed of one of the following:
1. A continuous section of ductile iron pipe with hot dip bituminous coating; or
 2. One of the Zone D options 1, 3, 4, or 5 below.
- D If the water main crossing above the sanitary sewer main does not meet the Case 2 Zone D requirements, the sanitary sewer main should have no joints within four feet from either side of the water main (in Zone D) and be constructed of one of the following:
1. HDPE pipe with fusion-welded joints (per AWWA C906-99);
 2. Ductile iron pipe with hot dip bituminous coating and mechanical joints (gasketed, bolted joints);
 3. A continuous section of Class 200 (DR 14 per AWWA C900-97) PVC pipe or equivalent, centered over the pipe being crossed;
 4. A continuous section of reinforced concrete pressure pipe (per AWWA C302-95) centered over the pipe being crossed; or
 5. Any sanitary sewer main within a continuous sleeve.

Case 2: New water mains Installation (Figures 1 and 2)

Zone Special Construction Required for Water Main

- A No water mains parallel to sanitary sewer mains shall be constructed without prior written approval from the Department.
- B If the sanitary sewer main paralleling the water main does not meet the Case 1 Zone B requirements, the water main should be constructed of one of the following:
1. HDPE pipe with fusion welded joints (per AWWA C906-99);
 2. Ductile iron pipe with hot dip bituminous coating;
 3. Dipped and wrapped one-fourth-inch-thick welded steel pipe;
 4. Class 200, Type II, asbestos-cement pressure pipe;

5. Class 200 pressure rated PVC water pipe (DR 14 per AWWA C900-97 & C905-97) or equivalent; or
 6. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-97 or C302-99 or C303-95).
- C If the sanitary sewer main crossing above the water main does not meet the Case 1 Zone C requirements, the water main should have no joints within ten feet from either side of the sanitary sewer main (in Zone C) and be constructed of one of the following:
1. HDPE pipe with fusion-welded joints (per AWWA C906-99);
 2. Ductile iron pipe with hot dip bituminous coating;
 3. Dipped and wrapped one-fourth-inch-thick welded steel pipe;
 4. Class 200 pressure rated PVC water pipe (DR 14 per AWWA C900-97 & C905-97); or
 5. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-97 or C301-99 or C303-95).
- D If the sanitary sewer main crossing below the water main does not meet the requirements for Case 1 Zone D, the water main should have no joints within eight feet from either side of the sanitary sewer main (in Zone D) and should be constructed as for Zone C.

Water Mains and Pipelines Conveying Non-potable Fluids

When the basic separation criteria cannot be met between water mains and pipelines conveying non-potable fluids, the requirements described above for sanitary sewer mains should apply. This includes the requirements for selecting special construction materials and the separation requirements shown in Figures 1 and 2. Note that not all construction materials allowed for sanitary sewer mains will be appropriate for other non-potable fluid lines. For example, certain plastic lines may not be appropriate for the transport of some fuel products. The selection of compatible materials of construction for non-potable fluids is a decision to be made by the project engineer.

Water Mains and Sewage Force Mains

- Sewage force mains shall not be installed within ten feet (horizontally) of a water main.

- When a sewage force main must cross a water main, the crossing should be as close as practical to the perpendicular. The sewage force main should be at least one foot below the water main.
- When a new sewage force main crosses under an existing water main, and a one-foot vertical separation cannot be provided, all portions of the sewage force main within eight feet (horizontally) of the outside walls of the water main should be enclosed in a continuous sleeve. In these cases, a minimum vertical separation distance of 4 inches should be maintained between the outside edge of the bottom of the water main and the top of the continuous sleeve.
- When a new water main crosses over an existing sewage force main, the water main should be constructed of pipe materials with a minimum rated working pressure of 200 psig or the equivalent.

Water Mains and Tertiary Treated Recycled Water or Storm Drainage

The basic separation criteria for water mains and pipelines conveying tertiary treated recycled water or storm drainage lines are a 4-foot horizontal separation where lines are running parallel and a 1-foot vertical separation (water line above recycled or storm drainage) where the lines cross each other.

When these criteria cannot be met, the Zone A criteria apply where lines are running parallel, and the Zone C and Zone D criteria apply where the lines cross each other as shown on Figures 1 and 2. For these situations, the Zone "P" criteria are in effect and prohibit construction less than 1 foot in parallel installations and less than 4 inches in vertical (crossing) situations.

For tertiary treated recycled water and storm drainage lines, the Zone B criteria (requirements for special pipe) do not apply as the basic separation criteria is a four-foot horizontal separation criteria for parallel lines. The tertiary treated recycled water lines should be constructed in accordance with the color-coding, and labeling requirements per Section 116815, California Health and Safety Code of Regulations.

MISCELLANEOUS GUIDANCE

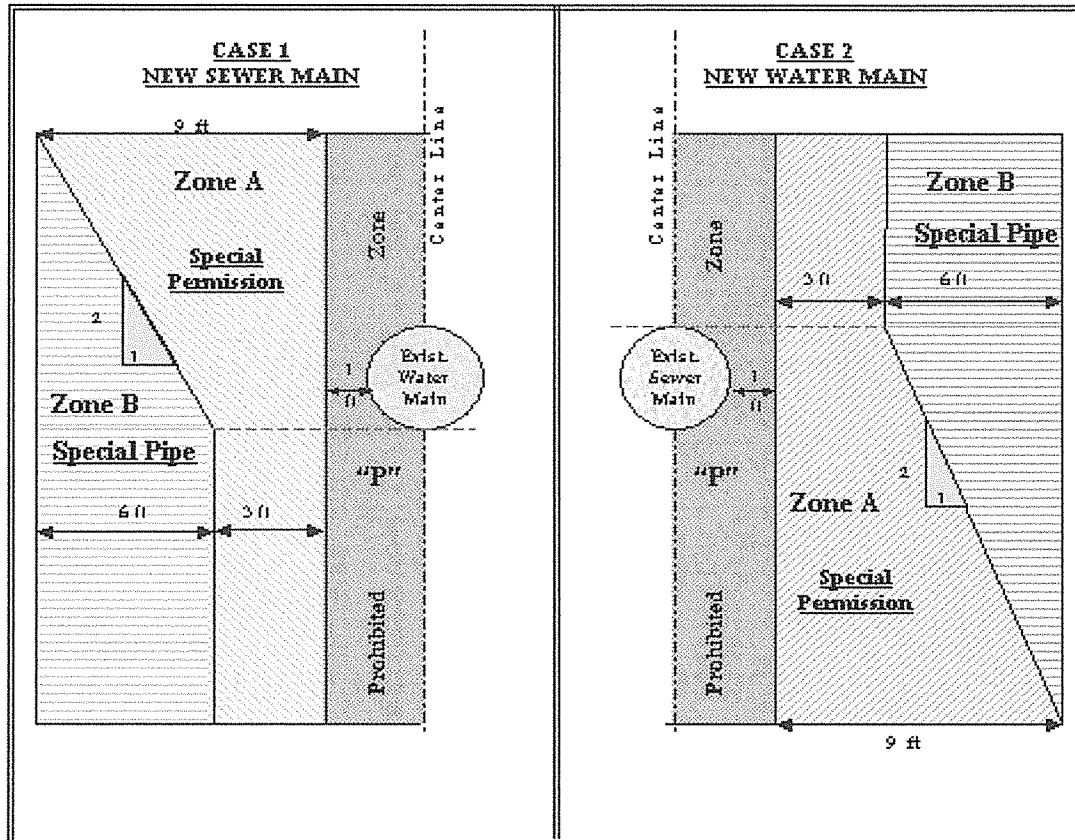
- More stringent requirements may be necessary if conditions such as high groundwater exist. HDPE or similar pipe may be required to provide flexibility to move without potential joint leaks.
- Sanitary sewer mains should not be installed within 25 feet horizontally of a low head (5 psig or less pressure) water main.
- New water mains and sanitary sewer mains should be pressure tested in accordance with manufacturer's specifications.

- When installing water mains, sewers, or other pipelines, measures should be taken to prevent or minimize disturbances of existing pipelines. Disturbance of the conduit's supporting base could eventually result in pipeline failure.
- Special consideration should be given to the selection of pipe materials if corrosive conditions are likely to exist. These conditions may be due to soil type and/or the nature of the fluid conveyed in the conduit, such as a septic sewage producing corrosive hydrogen sulfide.

NOTE: Dimensions are from the outside of the water main to the outside of the other pipeline, manhole, or sleeve.

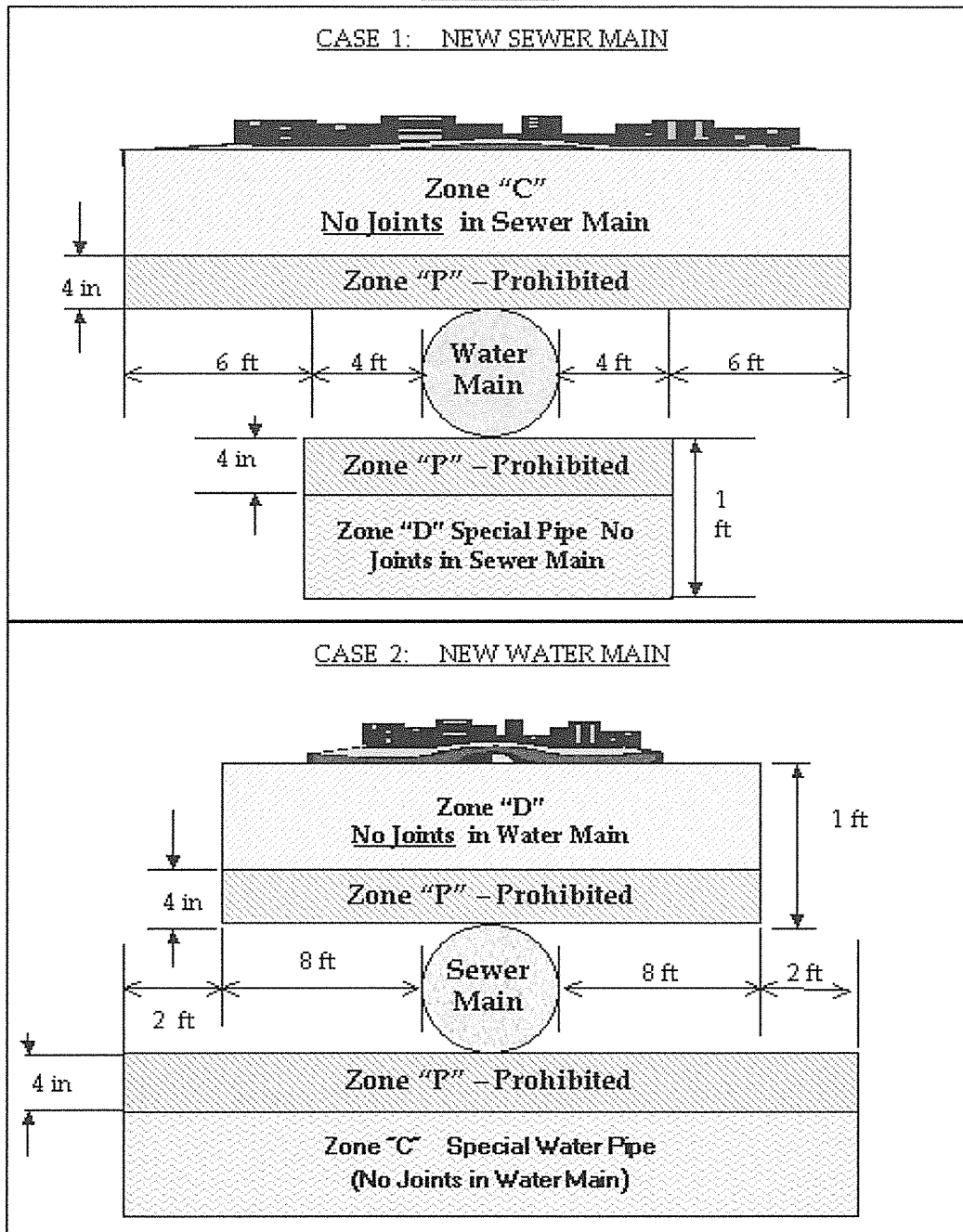
FIGURE 1 PARALLEL CONSTRUCTION

Not To Scale



Note: Zones identical on either side of center lines.
 Zones "P" is a prohibited zone. Section 64630 (e) (2) California Code of Regulations, Title 22 (Current); or Section 64572 (a) California Code of Regulations, Title 22 (Proposed).

FIGURE 2 CROSSINGS
Not To Scale



Permit No. _____



LAGUNA COUNTY SANITATION DISTRICT

620 West Foster Road

SANTA MARIA, CA 93455

PHONE: (805) 739-8750 PLANT: (805) 934-6282 FAX: (805) 739-8753

PERMIT FOR SERVICE

Date: _____

Name of Owner/Agent: _____ Telephone No: _____

Location: _____ APN: _____

Owner of Property: _____ Telephone No: _____

Contractor: _____ Telephone No: _____

Permit For: New Connection Connection Repair/Replacement Mainline Extension Addition

Description of Work _____

TO BE FILLED OUT BY LAGUNA COUNTY SANITATION DISTRICT

Check (✓) the connection type:

- Single Family Residence No. of Units _____ Commercial _____
- Apartment/Condo No. of Units _____ Industrial _____
- Institutional _____

The following conditions are required if checked (✓):

- Sampling Manhole Layout Sketch to be Submitted as Shown Below
- Grease Interceptor (750-gallon minimum) Backwater Valve

Facility Description:

<u>FEES:</u>	<u>AMOUNT</u>	<u>DATE PAID</u>	<u>RECEIPT</u>
Annexation fee:	\$0.00	_____	0
Application fee:	\$0.00	_____	0
Plan check fee:	\$0.00	_____	0
Inspection fee:	\$0.00	_____	0
Trunk line fee:	\$0.00	_____	0
Connection fee:	\$0.00	_____	0
Sewer service charge:	\$0.00	_____	0
Other fees:	\$0.00	_____	0
TOTAL FEES DUE:	\$0.00		

<u>INSPECTION RECORD</u>		
<u>INSPECTION</u>	<u>DATE</u>	<u>APPROVED BY</u>
Pipe line and wye	_____	_____
Air or water test	_____	_____
Mandrel test	_____	_____
Manhole inspection	_____	_____
Video inspection	_____	_____
Final ball and flush	_____	_____
Inspection complet	_____	_____

Accurate layout drawings of the main and lateral sewers shall be submitted to, and approved by the District prior to construction, installation and inspection of such facilities. The layout drawings shall be in accordance with the District's Standard Specifications. The permit for Service shall be for all purposes the District's "Can-and-Will Serve" commitment of service. This commitment is valid unless the project application with the planning agency expires. I hereby certify that I have read this Application and the information given to me is correct. I hereby agree to comply with all rules and regulations of the Laguna County Sanitation District, County/City Ordinances and laws of the State of California regulating sewers and sanitation. I hereby certify that I am a licensed contractor, the legal owner, or his/her authorized agent of the above described property.

AUTHORIZED SIGNATURE PRINT NAME DATE

IMPORTANT REQUIREMENTS ON REVERSE SIDE