

SECTION 6: IMPROVEMENT PLANS

6.1 ENGINEERING POLICY

The District requires compliance with the Professional Engineers Act of the Business and Professions Code of the State of California. All civil engineering plans, specifications, reports and related documents shall be prepared by a registered Civil Engineer, or by a subordinate under the responsible charge of the Civil Engineer, and shall be signed and stamped with his/her seal.

It shall be the Project Engineer's responsibility to review any proposed sewer system, extension and/or existing system change with the District, prior to design, to determine any special requirements or whether the proposal is permissible.

Approval of plans by the District does not relieve the Project Engineer of his/her responsibility to meet the requirements of the District. Plans shall be revised or supplemented at any time it is determined that the requirements of the District have not been met.

6.2 IMPROVEMENT PLANS

6.2.1 BASIC REQUIREMENTS

Improvement plans for each sewer project submitted to the District shall consist of a Title Sheet and plan and profile sheets. Detail sheets shall be provided if appropriate.

Title Sheet Requirements:

- 0 Key Map (Showing the buildings, the proposed sewer alignment, laterals and building sewers to each building, and sewer and access easement boundaries)
- Vicinity Map
- Graphic Sheet Index (Referencing Plan and Profile Sheets)
- Sheet Index
- General Sewer Notes
- Sewer Construction Notes
- Elevation Datum and Benchmarks.
- Basis of Bearings

Plan and Profile Sheet Requirements:

- Minimum scale of the Plan shall be 1" = 40'
- Minimum scale of the Profile shall be 1" = 40' Horizontal and 1"=4' Vertical
- North Arrow
- Graphic Scale
- Rights-of-way, property boundaries and easements
- Topography
- Buildings, roads and other structures
- Alignment of main and building sewers
- Type, class and size of sewer pipes
- Manholes, cleanouts and other structures
- Invert elevations of manhole inlet and outlet pipes
- Manhole rim elevations
- Length and slope of sewer pipes from manhole to manhole
- Sewer line stationing at manholes, cleanouts, wyes and other structures

- CI Existing utilities and other facilities
- Pipe clearances from other utilities and structures
- Laterals and cleanouts at property lines

Detail Sheet Requirements:

- As required for defining specific construction requirements of structural and/or piping designs.

6.2.2 PLANS

Sewer plans shall show the true horizontal relationship between the proposed sewer improvements and the existing and/or proposed field conditions including existing and proposed utilities and other facilities. Sewer plans shall include the total acreage of the improvement or development, sewer line size and class, structures, property lines and corners adjacent to the sewer alignment, laterals with ties to property corners, required stationing of pipelines and structures, horizontal curve data and street names.

Where applicable, the plans shall show the proposed lateral connection, building floor elevations, and rim elevation of the upstream manhole from the proposed connection.

6.2.3 PROFILES

Sewer profiles shall show the vertical relationship between the sewer invert and the ground surface at the time of sewer construction and the finish ground and/or paving surface. The sewer size, pipe type and class, shall be shown between each consecutive structure on the sewer profile. Profiles shall also show existing and proposed utilities and other facilities which cross the alignment of the sewer and shall accurately indicate the clearance when less than twelve inches (12"). Design rim elevations for each manhole, including existing manholes, shall be shown on the profile.

Proposed and/or completed fill areas shall be shown and labeled on the profile. The proposed finished surface over the sewer or the proposed curb grade shall be shown by a solid line and clearly labeled. The original ground surface shall be shown by a dashed line and clearly labeled.

6.3 STANDARD PLAN SIZE AND LAYOUT

The improvement plan size and layout shall conform to Standard Drawing 1.

Standard sheet size shall have a vertical dimension of 24-inches and a horizontal dimension of 36-inches to the outside edges. All plans shall be drawn with the intent of having them reduced by one half and shall be legible at the reduced scale. Text height shall be not be less than one-tenth of an inch (0.10") on the full size drawing.

It is acceptable to use the County of Santa Barbara or City Of Goleta Public Works Department standard sheets when sewers are part of improvements for new roads or subdivisions. When proposed sewer facilities are shown on County or City Public Works plans, sewer facilities shall be shown bold so that the sewer facilities are prominent. Other information on the plans shall be screened approximately 50%.

6.4 DRAWING MEDIA

Final improvement plans shall be produced using black ink on matte mylar, 4 mil minimum thickness. Adhesive decals are not allowed on mylar submittals.

6.5 DATUM REQUIREMENTS

6.5.1 VERTICAL DATUM REQUIREMENTS

Vertical datum shall be the NAVD 88 — North American Vertical Datum 1988.

The benchmark information is to appear in the lower left-hand corner of the Title Sheet. Local benchmark information should appear on the plan sheet where the benchmark can be readily identified.

6.5.2 HORIZONTAL DATUM REQUIREMENTS

Drawings shall be prepared with the horizontal coordinate system of NAD83 - North American Datum 1983 (rev. 1992).

6.6 EXISTING FACILITIES

Improvement plans shall show the location, size and ownership of existing and known future underground works that cross or parallel the sewer. Utility lines that cross the sewer, such as gas, cable television, storm drains, telephone, communication, water, power, gasoline and oil lines shall be shown and labeled on the plans and profiles.

The District is not responsible for the accuracy of the location of these underground lines. Approval of sewer plans by the Goleta Sanitary 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.

Applicants are advised of the California One Call Law per Government Code 4216 that requires every person planning to conduct any excavation is required to contact the appropriate regional notification center, at least two working days, but not more than 14 calendar days, prior to commencing that excavation. Call Underground Service Alert (USA) at 1-800-227-2600.

6.7 GENERAL NOTES

The following general notes are requirements adopted by the District and shall be shown on the title sheet of the improvement plans:

GOLETA SANITARY DISTRICT
GENERAL SEWER NOTES

1. *Revisions shall not be made to these plans without the approval of the District.*
2. *Before beginning work, the contractor shall obtain a permit to excavate in public road right of ways from the County of Santa Barbara or City of Goleta, as applicable.*
3. *If work is to be done in a state highway, a permit must be obtained from the State of California, Division of Highways, District 5, San Luis Obispo, California.*
4. *Prior to issuance of the required sewer connection permit or Notice to Proceed, the contractor shall obtain and file with the District, copies of: encroachment permit(s) to excavate in County/City streets, a permit for excavations and trenches from the State of California, Division of Industrial Safety, a Certificate of Worker's Compensation Insurance and Liability Insurance with the District named as the certificate holder. The certificate shall state that the holder shall be notified 30 days prior to cancellation of policy.*
5. *Acceptance of the sewer 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.*
6. *The Contractor shall have at the Work site, copies or suitable extracts of. Construction Safety Orders, Tunnel Safety Orders and General Industry Safety Orders issued by the State Division of Industrial Safety. The Contractor shall comply with the provisions of these and all other applicable laws, ordinances and regulations.*
7. *The District will not survey or layout any portion of the work*
8. *The District shall be notified 48 hours prior to staking the sewer line.*
9. *A licensed Civil Engineer or surveyor shall furnish the District with grade (cut) sheets and stationing for all lateral sewers and wyes, and shall provide stakes for them at their proper locations with stationing clearly marked. Lateral sewers shall be constructed in a straight alignment at right angles from the main line sewer, except as shown on the plans. Any change in alignment shall be requested in writing by the Civil Engineer.*
10. *The Civil Engineer or surveyor shall furnish the lateral sewer depth at the property line below the top of curb elevation for each lateral sewer on the grade (cut) sheet.*

6.8 CONSTRUCTION NOTES

The following sewer line construction notes are requirements adopted by the District and shall be shown on the title sheet of the improvement plans:

GOLETA SANITARY DISTRICT
SEWER CONSTRUCTION NOTES

1. *Construction of sewage collection facilities shall not commence until construction plans have been approved and permits issued by the Goleta Sanitary District. Sewer mains, laterals, and appurtenances shall be constructed according to Goleta Sanitary District standards and specifications and shall be subject to inspections to obtain acceptance of the constructed work.*
2. *Compliance with Goleta Sanitary District Standard Specifications and Santa Barbara County/City of Goleta encroachment permit(s) will be required for trench backfill. Certification of backfill compaction and materials and equivalents by a qualified, registered testing laboratory shall be provided to the Goleta Sanitary District by the permittee prior to the issuance of a Certificate of Acceptance.*
3. *Geotechnical investigations and soils reports prepared for the project shall be made available to the District.*
4. *The Goleta Sanitary District shall be notified at least forty-eight (48) hours prior to starting construction. Any construction done without approved plans, permits or prior notification to the District will be rejected, and any rework will be done at the contractor's expense. Inspection and approval by the Goleta Sanitary District shall be requested by the contractor prior to commencing and after each phase of construction, specifically, trench alignment, pipe bedding, pipe installation, backfill over installed pipe, final backfill and compaction, and clean-up.*
5. *Sewer lines near the construction site or involved with the sewer line construction shall be protected with plugs in the inlets and outlets of manholes until work is complete.*
6. *Contractor shall verify existing water, sewer, storm drain and other utility elevations prior to sewer trenching construction.*
7. *Clearance between sewer lines crossing under or over other underground utilities shall not be less than six inches (6") except for water pipes. Sewer lines shall be installed under water lines, unless otherwise approved by the Water and Sanitary Districts. If construction over water lines is permitted, the sewer main construction shall comply with State Health Department Guidelines.*
 0. *The contractor shall be responsible for installing adequate bracing and shoring for excavations, temporary structures, and all partially completed portions of the work, as necessary. Sheeting, shoring, bracing, or equivalent protection for all excavations over 5 feet deep shall be provided as required by CAL-OSHA.*

Trenches shall be backfilled or secured with steel traffic plates at the end of each workday. Traffic control devices shall be provided in accordance with State of California (Caltrans) Manual of Traffic Controls for Construction and Maintenance Work Zones, latest edition, or as otherwise directed by the District.

10. *Solvent joints are not acceptable.*
11. *A minimum four-inch (4') diameter lateral and building sewer shall be installed for each single-family residential unit with a minimum grade of 1/4" per foot (approximately 2%) from the public sewer main to the building connection.*
12. *A minimum six-inch (6") diameter lateral and building sewer shall be installed on a minimum grade of 1/8" per ft. (approximately 1%) for multiple family dwellings, churches, commercial, industrial, school buildings, etc., from the sewer main to the building connection.*
13. *Lateral sewer connections to mainline sewers shall be with fabricated wye fittings in accordance with District Standard Drawing No. 16.*
14. *Lateral sewers shall be constructed with five (5) feet of cover at property line.*
15. *The Contractor shall furnish material, labor and equipment for conducting tests for deflection, leakage, infiltration and CCTV inspections. Tests shall be made after the sewer trench has been backfilled and compacted and before paving. Compaction test reports shall be submitted to the District prior to testing.*
16. *Deflections in installed pipe shall not exceed five (5) percent of the internal pipe diameter. Any section of the pipeline that exceeds the maximum allowable deflection shall be uncovered and, if not damaged, reinstalled at the Contractor's expense. Damaged pipe shall be removed from the Work site. The contractor shall test the deflection with an approved mandrel in the presence of a Goleta Sanitary District representative.*
17. *Prior to paving and video tests, installed pipe shall be cleaned by the balling method or with a hydro jet rodding/debris vacuum unit with a spinning nozzle approved by the District. A debris trap shall be installed at the most downstream manhole during the cleaning operation. A District Inspector shall be present at all times.*
18. *Prior to paving, the main sewer line shall be CCTV inspected from center of manhole to center of manhole by the Contractor in accordance with the District's standards. Water shall be discharged into the pipeline just prior to CCTV inspection. A DVD and (printed) hardcopy of the CCTV inspection shall be submitted to the Goleta Sanitary District. A District Inspector shall be present during the entire CCTV inspection.*
19. *Manhole interiors shall be coated and spark tested in accordance with District Standards. District Inspector shall be present during the coating and testing of the Manhole. A pull test may be required at the Inspector's discretion.*

20. *Manhole covers and frames shall be manufactured of ductile iron in accordance with Goleta Sanitary District Standard Drawing No. 12. Manhole covers shall be stamped with "G.S.D. Sewer".*
21. *Manhole tops in unimproved rights of way shall be 18" above finished grade, 6" above grade in maintained landscaped areas and shall be protected per Goleta Sanitary District Standard Drawing 10.*
22. *New manholes shall be vacuum tested for leaks after assembly and before backfill unless the requirement is waived by the District Inspector.*
23. *Record Drawings. Drawings showing the actual location of all mains, structures, wyes, laterals, manholes, cleanouts, easements, etc., shall be filed with the District before final acceptance of the work. In addition, an electronic AutoCad™ format drawing recorded on a CD, showing the actual location of mains, wyes, laterals, manholes, cleanouts and appurtenant structures, including invert and rim elevations, shall be submitted to the District before final acceptance of work. The Electronic Drawing shall be in the following coordinate system; Horizontal NAD 83 North America Datum, Vertical NAVD 88 North American Vertical Datum.*

6.9 RECORD DRAWINGS

A complete set of approved drawings shall be maintained at the work site during construction. The Contractor shall record changes from the approved plans on the drawings including change orders, approved field revisions, existing utility locations and depths and other information that may differ from the approved plans.

Upon completion of construction, inspection and testing, the Project Engineer shall prepare and submit to the District a complete set of original mylars with all of the changes shown and marked as "Record Drawings". The corrected mylars, one set of prints and a CD with electronic files of the drawings in an AutoCad™ .DWG format shall be submitted to the District within 30 days of completion of construction. Record Drawings are required prior to acceptance of the sewer improvements and prior to release of bonds.

END OF SECTION

GOLETA SANITARY DISTRICT
STANDARD SPECIFICATIONS
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