

SECTION 8 CONTROL OF WORK

8-01 Authority of District. All work shall be done in a workmanlike manner and shall be performed to the reasonable satisfaction of the District, which shall have general control of all work included hereunder. To prevent disputes and litigation, the District shall in all cases determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are provided; shall decide all questions relative to the true construction, meaning, and intent of the specifications and drawings; and shall have the power to reject or condemn all work or material which does not conform to the plans and specifications.

Should the Permittee or Contractor fail to act promptly or be remiss in the prosecution of any work done under these specifications, or should the exigencies of the case require that repairs or replacements be made before the Contractor can be notified or can respond to notification, the District may, at its option, make or cause to be made the necessary repairs or replacements or perform the necessary work, and the Permittee or Contractor shall pay to the District the cost of such work plus fifteen percent (15%) for District administration. Any such action by the District shall not relieve the Permittee, Contractor or his/her surety of their obligation or responsibility in the prosecution of the job, nor do these provisions establish contingent liability on the part of the District.

The Permittee shall pay all costs of his/her contractor, including the cost of any changes in the work required by the District.

8-02 Plans. The approved plans shall be supplemented by such working drawings as are necessary to control the work adequately. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made in any plan or drawing after it has been approved by the District, except by its direction.

The Contractor shall keep on the job site a copy of the plans and specifications, as well as a copy of all City, County, State and other governing specifications, which plans and specifications shall be accessible to the District at all times. The plans, specifications, standard drawings, Special Provisions and all supplementary documents are to be considered the requirements of the work, and it shall be the responsibility of the Contractor to familiarize himself fully with the requirements of these and the various governing authorities having jurisdiction over the work.

Working drawings, not included in the plans furnished by the Job Engineer, may be required for the prosecution of the work. They shall include shop details, erection plans, masonry layout diagrams, and bending diagrams for reinforcing steel, which shall be approved by the District before any work involving these plans is performed.

It is expressly understood that approval by the District of the Contractor's working drawings does not relieve the Contractor of any responsibility for accuracy of dimensions and details. It is mutually agreed that the Contractor shall be responsible for agreement and

conformity of his working drawings with the approved plans and specifications. Further, approval by the District of the Contractor's working drawings or any method of work proposed by the Contractor shall not relieve the Contractor of any of his responsibility for any errors therein and shall not be regarded as any assumption of risk or liability by the District or any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure or partial failure or inefficiency of any plan or method so approved. Such approval shall be considered to mean merely that the District has no objection to the Contractor using, upon his own full responsibility, the plan or method proposed.

8-03 Suggestions to Contractor. Any plan or method for work suggested by the District to the Contractor, but not specified or required, if adopted or followed by the Contractor in whole or part, shall be used at the risk and responsibility of the Contractor; and neither the District, District Board, District Manager nor the District Engineer or their agents shall assume responsibility therefor.

8-04 Conformity with Plans and Allowable Deviations. Finished surfaces in all cases shall conform with the lines, grades, cross-sections, and dimensions shown on the approved plans. Unless otherwise specified herein, deviations from the approved plans and working drawings, as may be required by the exigencies of construction, will in all cases be determined by the District and authorized in writing.

8-05 Interpretation of Plans and Specifications. The plans and specifications are intended to be explanatory of each other. Any work indicated in the plans and not in the specifications, or vice versa, is to be executed as if indicated in both. All work shown on the plans, the dimensions of which are not shown, shall be accurately followed to the scale to which the plans are made, but shown dimensions are in all cases to be followed, where given, though they differ from scaled measurements. Large scale drawings shall be followed in preference to small scale drawings. Should it appear that the work to be done, or any of the matters relative thereto, are not sufficiently detailed or explained in the plans and specifications, the Contractor shall apply to the Job Engineer for such further explanation as may be necessary, and shall conform thereto as part of the contract. In the event of any doubt or question arising respecting the true meaning of the specifications, Special Provisions or plans, reference shall be made to the District and its decision thereon shall be final.

8-06 Superintendence. The Contractor shall give his personal attention to and shall supervise the work to the end that it shall be prosecuted faithfully, and when he is not personally present on the work, he shall at all reasonable times be represented by a competent superintendent or foreman who shall receive and obey all instructions or orders given by the District, and who shall have full authority to execute the same, and to supply materials, tools and labor without delay and who shall be the legal representative of the Contractor. The Contractor shall be liable for the faithful observance of any instructions delivered to him or to his authorized representative.

8-07 Character of Workmen. The Contractor shall employ only such foreman, mechanics and laborers as are competent and skilled in their respective lines of work, and, when required

by the District, the Contractor shall discharge any person who commits trespass, or is, in the opinion of the District, incompetent, unfaithful, intemperate, disorderly, or uses threatening or abusive language to any person on the work representing the District, or is otherwise unsatisfactory, and such person shall not again be employed on the work. Such discharge shall not be the basis of any claim for compensation or damages against the District or any of its officers or representatives.

8-08 Construction Utilities. The Contractor shall be responsible for providing, for and on behalf of his work under the contract, all necessary utilities, such as special connections to water supply, sanitation facilities, telephones, power lines, fences, roads, watchmen, suitable storage places, etc. All utility arrangements, including applicable permits, shall be obtained prior to the start of work and paid for by the Contractor.

8-09 Lines and Grades. When the Contractor requires stakes or marks, he shall notify the Job Engineer of his requirements at least forty-eight (48) hours in advance of starting operations that require such stakes or marks. The Contractor shall have all the utilities located and marked prior to staking.

Stakes and marks set by the Job Engineer shall be carefully preserved by the Contractor. If any such stakes and marks, necessary to complete construction are destroyed or damages by reason of the Contractor's operation, the Contractor shall pay for replacing or restoring such stakes and marks by the Job Engineer.

The Contractor shall furnish all additional stakes, templates, and other material necessary for accurately transferring lines and grades to the bottom of trenches or excavations for the construction of pipelines and structures. For this purpose, he shall employ competent personnel or an independent licensed Civil Engineer or licensed Land Surveyor acceptable to the Job Engineer, who shall be responsible for accurately performing this work.

All distances given and measurements will be in a horizontal plane. Grades are given from the top of stakes or nails, or other points approved by the District.

Three (3) consecutive points shown on the same rate of slope must be used in common, in order to detect any variations from a straight grade, and in case an such discrepancy exists, it must be reported to the Job Engineer and to the District. If such discrepancy is not reported, the Contractor shall be responsible for any error in the finished work.

8-10 Proof of Compliance with Specifications and Drawings. In order that the District may determine whether the Contractor has complied with the requirements of the contract not readily enforceable through inspection and tests of work and material, the Contractor shall, at any time when requested, submit to the District properly authenticated documents or other satisfactory proofs as to his compliance with such requirements.

8-11 Errors and Omissions. If the Contractor, in the course of the work, finds and errors or omissions in plans or in the layout as given by survey points and instructions, or if he finds any

discrepancy between the plans and the physical conditions of the locality, he shall immediately inform the District, in writing, and the District shall promptly verify the same. Any work done after such discovery, until authorized, will be done at the Contractor's risk.

8-12 Inspection. The District's representatives shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper and safe facilities for such access and for inspection. The District shall be furnished with every reasonable facility for ascertaining that the materials and the workmanship are in accordance with the requirements and intentions of the plans and specifications. All work done and all materials furnished shall be subject to his inspection and approval.

If the specifications, the District's instructions, laws, ordinances, or any public authority require any work to be specifically tested or approved, the Contractor shall give the District timely notice of its readiness for inspection, and if the inspection is by another authority than the District, of the date fixed for such inspection. If any work should be covered up without approval or consent of the District, it must, if required by the District, be uncovered for examination and properly restored at the Contractor's expense.

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract as prescribed, and defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such defective work and materials have been previously overlooked by the District and accepted for payment.

All inspection requested outside of normal District working hours or days shall be reimbursed to the District by the Contractor at rates established by the District.

8-13 Inspection by Division of Industrial Safety. All work shall conform to the applicable requirements of the State of California Division of Industrial Safety. When the work involves construction of a treatment plant or pump station, it shall be inspected by representatives of said Division prior to the final inspection by the District (see Section 8-24). Any necessary corrective work disclosed by such inspection shall be satisfactorily completed at the Contractor's expense prior to acceptance of the work by the District.

8-14 Commencement of Work and Delays - Permit Work. This section shall apply to the commencement of work and delays for work done under permit within the District. For District contract work, requirements concerning the progress of the work, etc., refer to the job specifications for said work.

Before initial work is begun, the Contractor and his foremen shall file with the District addresses and telephone numbers where they can be reached during non-working hours.

As provided in Section 11-02, prior to excavation work, the Contractor shall contact all utilities and agencies which have or may have aboveground and/or underground facilities within the work area.

The Contractor shall also give the District notice of the time when he will start work or resume work when suspended. Notices shall be given at least forty-eight (48) hours in advance of the starting or resumption time, exclusive of Saturdays, Sundays, or holidays, for the purpose of permitting the District to make the necessary assignment of its representative or inspector on the work. After the Contractor once begins the work, the work shall be prosecuted diligently and continuously each day until completed. Work may be suspended only during emergencies or inclement weather or where required under these specifications.

In the event the District shall determine that the work is not proceeding in accordance with plans and these specifications, or any applicable rules and regulations, the District may order the cessation of further work until the work proceeds in compliance with such requirements. All delays in the work occasioned by such stoppage shall not relieve the Contractor of any duty to perform the work or serve to extend the time for its completion.

When, in the opinion of the District, the Contractor's delay in completing the work or failure to comply with the plans and specifications and any applicable rules and regulations has or may cause damage to the existing sanitary sewerage facilities of the District, the District may order such work to be done as is necessary to protect said facilities and the expense of such work shall be charged to the Contractor by the District.

8-15 Removal of Defective and Unauthorized Work. All work which has been rejected as defective shall be remedied, or removed and replaced by the Contractor in an acceptable manner at no cost to the District. Any work done beyond the lines and grades shown on the plans or established by the District, or any extra work done without written authority, will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the Contractor's expenses. Upon failure on the part of the Contractor to comply promptly with any order of the District made under the provisions of this article, the District shall have the authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed and bill the costs to the Contractor or the Permittee.

8-16 Access to Work. During the performance of the work, the District and its agents and employees may at any time enter upon the work, or the shops where any part of such work may be in preparation, or the factories where any materials for use in the work are being or are to be manufactured or fabricated, and the Contractor shall provide proper and safe facilities therefor, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as the District's interest may require. Other Contractors performing work for the District may also, for all purposes required by their respective contracts, enter upon the work.

8-17 Placing Portions of Work in Service. If desired by the District, portions of the work, as completed, may be placed in service, and the Contractor shall give proper access to the work for this purpose, but such use and operation shall not constitute an acceptance of the work by the District, and the Contractor shall be liable for defects due to defective materials, workmanship and equipment until the entire work is finally accepted by the District. The

warranty period on equipment shall not begin until the entire work is finally accepted by the District.

8-18 Removal or Replacement of Work Done Without Lines, Grades or Levels. Any work done without lines, levels or grades being given by the Job Engineer or without favorable review of a District Inspector, may be ordered replaced at the Contractor's sole expense, except when such work is specifically authorized by the District.

8-19 Equipment and Methods. The work under the contract or permit shall be prosecuted with all materials, tools, machinery, apparatus, and labor and by such methods as are necessary to the complete execution of everything described, shown or reasonably implied. If at any time before the beginning or during the progress of the work, any part of the Contractor's plant, or equipment or any of his methods of execution of the work, appear to the District to be unsafe, inefficient or inadequate to insure the required quality or rate of progress of the work, he may order the Contractor to increase or improve his facilities or methods, and the Contractor shall comply promptly with such orders; but neither compliance with such orders nor failure of the District to issue such orders shall relieve the Contractor from his obligation to secure the degree of safety, the quality of the work, and the rate of progress required of the Contractor. The Contractor alone shall be responsible for the safety, adequacy, and efficiency of his plant, equipment and methods.

8-20 Unfavorable Weather and Other Conditions. During unfavorable weather and other conditions, the Contractor shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work whose satisfactory quality and efficiency will be effected by any unfavorable conditions shall be constructed while these conditions obtain, unless by special means or precautions approved by the District, the Contractor shall be able to overcome them.

8-21 Easement Construction. The Contractor shall make every effort to restrict his operations to areas within the easements or rights-of-way provided for the work. He shall caution all employees not to trespass or operate equipment outside the easements provided, without first having obtained written permission from adjacent property owners. A copy of said written permission is to be submitted to the District prior to any encroachment. Prior to commencing any work on private property or within easements, the Contractor shall take pictures of the original condition. The Contractor shall clean up and restore all easement and other disturbed areas to a condition equal to or better than the original.

The Contractor shall conduct his operations so as to cause as little damage as possible to existing yard improvements. Yard improvements such as fences, landscaping, trees, patios, walkways, driveways, etc., in the line of construction shall be removed by the Contractor only after approval by the District. Unless otherwise provided in the Special Provisions or permitted by the District and/or property owners, all fences, trees, plants, lawns, ornamental shrubbery, patios, walkways, driveways, and any other yard improvements within the working easements or rights-of-way which have been damaged by the Contractor's operations shall be completely replaced, repaired or restored to its original conditions by the Contractor to the

satisfaction of the District and/or property owner. Replacing, repairing, and restoring shall be accomplished with materials of the same kind and quality as those of the original improvement.

The Contractor shall remove, haul and dispose of, off the job site, all surplus and waste materials resulting from his operations that are not required to complete the project and shall thoroughly clean up the site of the work and dress the slopes and banks to the satisfaction of the District.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

8-22 Alterations. The District reserves the right to increase or decrease the quantity of any items or portions of the work or to omit portions of the work as may be deemed necessary or advisable by the District; also to make such alterations or deviations, additions to, or omissions from the plans and specifications, as may be determine during the progress of the work to be necessary and advisable for the proper completion thereof. Upon written order of the District, the Contractor shall proceed with the work as increased, decreased or altered. On private work, the Permittee shall pay all costs of any alternatives to work required by the District.

8-23 Cleaning Up. The Contractor shall confine his equipment, storage of materials, and construction operations to such limits as may be directed by the District, and shall not allow the site of the work to become littered with trash and waste material, but shall maintain the same in a neat and orderly condition throughout the construction period. The District shall have the right to determine what is or is not waste material or rubbish and the place and manner of disposal.

On or before the completion of the work, the Contractor shall without charge therefor, carefully clean out all pits, pipes, chambers or conduits and shall tear down and remove all temporary structures built by him and shall remove rubbish of all kinds from any of the grounds which he has occupied and leave them in first class condition.

8-24 Final Inspection. When the work contemplated by the contract, permit or agreement has been completed, the District will, upon request by the Contractor, make the final inspection on the grounds together with an authorized representative or representatives of any and all other agencies having an interest in the work.

SECTION 9 CONTROL OF MATERIAL

9-01 Source of Supply and Quality of Materials. Prior to commencement of any work, the Contractor shall submit to the District, a list of the suppliers or sources of all materials to be incorporated in the work. This list shall be approved by the District before any of the materials are delivered to the job site.

Only new materials conforming to the requirements of these specifications and approved by the District shall be used in the work. All materials proposed for use may be inspected or tested at any time during their preparation and use. After trial, if it is found that sources of supply which have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other approved sources. No material which, after approval, has in any way become unfit for use shall be used in the work. Manufacturer's guarantees, instructions and parts lists shall be delivered to the District before acceptance of the work. All materials shall be manufactured, handled, and used in a workmanlike manner to insure completed work in accordance with the plans and specifications.

9-02 Quality in Absence of Detailed Specifications. Whenever under the contract, permit or agreement, the Contractor is required to furnish materials or manufactured articles or to do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market from firms of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first class material or articles of the kind required, with due consideration of the use to which they are to be put. In general, the work performed shall be in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.

9-03 Drawings, Samples and Tests. As soon as possible after execution of the contract or issuance of the permit, the Contractor shall submit to the District, in triplicate, sufficient information including, if necessary, assembly and detail drawings to demonstrate fully that the equipment and materials to be furnished comply with the provisions and intent of the specifications and drawings. If the information thus submitted indicates the equipment or material is acceptable, the District will return one (1) copy stamped with his approval; otherwise one (1) copy will be returned with an explanation why the equipment or material is unsatisfactory. The Contractor shall have no claim for damages or extension of time on account of any delay due to the revision of drawings or rejection of material. Fabrication or other work performed in advance of approval shall be done entirely at the Contractor's risk. After approval of the equipment or material the Contractor shall not deviate in any way from the design and specifications given without the written consent of the District. When requested by the District, sample or test specimens of the materials to be used or offered for use in connection with the work shall be prepared at the expense of the Contractor and furnished by

him in such quantities and sizes as may be required for proper examinations and tests, with all freight charges prepaid and with information as to their sources.

All samples shall be submitted before shipment and in ample time to permit the making of proper tests, analyses, or examinations before the time at which it is desired to incorporate the material into the work. All tests of materials furnished by the Contractor shall be made by the District in accordance with recognized standard practice. No material shall be used in the work unless or until it has been approved by the District. Samples will be secured and tested whenever necessary to determine the quality of the material.

9-04 District Furnished Materials. The Contractor shall furnish all materials required to complete the work, except such materials as are designated on the plans or in the Special Provisions to be furnished by the District.

Upon written request of the Contractor, materials to be furnished by the District will be delivered to him within a reasonable time at the points designated in the Special Provisions, or if not designated in the Special Provisions, then to the project. They shall be unloaded and hauled to the site of the work by the Contractor at his expense, the cost of handling and placing all materials after they are delivered to the Contractor shall be considered as included in the contract prices paid for the items in connection with which they are used.

The Contractor will be held responsible for all materials delivered to him, and deductions will be made from any monies due him to make good any shortages and deficiencies, for any cause whatsoever, which may occur after such delivery, or for any demurrage charges due to delinquency in unloading.

9-05 Local Materials. The Contractor shall satisfy himself as to the quantity of acceptable material which may be produced or obtained at local sources, and the District will not assume any responsibility as to the quantities or quality of acceptable material available.

When tests of materials from sources in the vicinity of the work have been made by the District, the results of such tests will be available to the Contractor or to prospective bidders on inquiry at the office of the District. This information is furnished for the Contractor's or the bidder's convenience only and the District does not guarantee such tests and assumes no responsibility whatever as to the accuracy thereof or the interpretation thereof stated in the test records.

9-06 Acquisition of Materials. The Contractor shall have on hand, at the time he starts construction of any section of the work, all materials necessary to complete in a reasonable length of time, all work which would create a hazard or inconvenience if not completed.

9-07 Storage of Materials. Materials shall be so stored as to insure the preservation of their quality and fitness for the work. When considered necessary by the District, they shall be placed on wooden platforms or other hard, clean surfaces and not on the ground. They shall

be placed under cover when so directed. Stored materials shall be so located as to facilitate prompt inspection.

All surplus piping materials shall be removed from the site of the work within five (5) days after completion of the pipe laying.

9-08 Defective Materials. All materials not conforming to the requirements of the specifications shall be considered as defective and all such materials, whether in place or not, shall be rejected. They shall be removed immediately from the site of the work, unless otherwise permitted by the District. No rejected material, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the District. Upon failure on the part of the Contractor to comply promptly with any order of the District made under the provisions of this section, the District shall have the authority to remove and replace defective material and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

9-09 Trade Names and Alternatives. For convenience and designation on the plans or in the specifications, certain equipment or articles or materials may be designated under trade names or the names of the manufacturers and with catalog information. Use of alternative equipment or an article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the approval of the District.

The burden of proof as to the comparative quality and suitability of alternative equipment or articles or materials shall be upon the Contractor and he shall furnish, at his expense, all information necessary or related thereto as required by the District. The District shall be the sole judge as to the comparative quality and suitability of alternate equipment or articles or materials and its decision shall be final. All additional costs required for redesign or modifications required to accommodate the substituted materials and/or equipment shall also be at the expense of the Contractor.

9-10 Certificates of Compliance. The Engineer may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a certificate of compliance stating that the materials involved comply in all respects with the requirements of the specifications. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials. A certificate of compliance must be furnished with each lot of material delivered to the work and the lot so certified must be clearly identified in the certificate.

All materials used on the basis of a certificate of compliance may be sampled and tested at any time. The fact that material is used on the basis of a certificate of compliance shall not relieve the Contractor of responsibility for incorporating material in the work which conforms to the requirements to the plans and specifications and any such material not conforming to such requirements will be subject to rejection whether in place or not.

The District reserves the right to refuse to permit the use of material on the basis of a certificate of compliance. The form of the certificate of compliance and its disposition shall be as directed by the District.

9-11 Salvage of Existing Materials. Unless otherwise indicated in the Special Provisions or permitted by the District, all old castings for manholes, rodholes, etc., and any other salvage construction materials which have been a part of the District's sewerage system may be claimed by the District and if so claimed such materials shall be delivered to the District yard.

SECTION 10 LEGAL RELATIONS AND RESPONSIBILITY

10-01 Laws to be Observed. The Contractor shall keep himself fully informed of all State and National laws and County, District and municipal ordinances and regulations which in any manner effect those engaged or employed in the work, or the materials used in the work, or which in any way effect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

The Contractor shall at all times observe and comply with, and shall cause all his agents and employees to observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the District, and all of its officers and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications, or contract for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the District in writing.

10-02 Permits and Licenses. The Contractor shall, prior to beginning any work, procure all permits and licenses, pay all inspection charges and permit fees, give all notices necessary and incident to the due and lawful prosecution of the work and shall furnish to the District written proof of compliance of this section.

10-03 Patents. The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and agrees to indemnify and save harmless the District, the District Engineer and their duly authorized representatives, from all suits at law or actions of every nature for, or on account of the use of any patented materials, equipment, devices or processes.

10-04 Traffic Control. This section defines the Contractor's responsibility with regard to providing for the passage of public traffic through the work during construction. The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to public traffic, and he shall have under construction no greater length or amount of work than he can prosecute properly with due regard to the rights of the public. Prior to commencing work, the Contractor shall submit to the agency exercising jurisdiction over the road or street a written traffic control plan, including proposed street or land closure times, for their approval and shall comply with the approved traffic control plan and all requirements of the encroachment permit.

Unless detours are permitted or unless otherwise provided in the Special Provisions, all traffic shall be permitted to pass through the work with as little inconvenience and delay as possible. Street or lane closures shall only be made within the hours provided in the approved

traffic control plan. Spillage resulting from hauling operations along or across the traveled way shall be removed immediately at the Contractor's expense.

While trenching and paving operations are underway, traffic shall be permitted to use shoulders and the side of the roadbed opposite the one under construction. When sufficient width is available, a passageway wide enough to accommodate two (2) lanes of traffic shall be kept open at all times at locations where construction operations are in active progress.

In order to expedite the passage of public traffic through or around the work and where ordered by the Engineer, the Contractor shall install signs, lights, flares, barricades, and shall furnish flaggers and/or a pilot car and driver and other facilities for the sole convenience and direction of public traffic. Also where directed by the District or the agency having jurisdiction over the street, he shall provide and station competent flaggers whose sole duty shall consist of directing the movement of public traffic through or around the work. Where needed or required, flaggers shall be equipped with two-way radios.

In addition to the requirements herein specified for furnishing facilities and flaggers for expediting the passage of public traffic through or around the work, the Contractor shall furnish and erect, within or adjacent to the limits of the contract, such warning and directional signs required in the approved traffic control plan or as may be designated by the District Engineer or the agency having jurisdiction over the roadway.

All roads must be kept open for public traffic at all times unless specific written permission to close or restrict the use of a particular street is given by the District and by the Department of Transportation or the Public Works Director of Marin County or by any of the Public Works Director of the cities inside the District. In the event that closing of a particular street is allowed, it shall be the responsibility of the Contractor to notify police and fire departments, the school district and ambulance services as to the hours and dates of the street closure and routes of detours at least 24 hours in advance of their occurrence, and again to notify them when they are discontinued.

Whenever the Contractor's operations create a hazardous condition, he shall furnish at his own expense and without cost to the District, such flaggers and guards as are necessary to give adequate warning of and protection from any dangerous conditions to be encountered and he shall furnish, erect, and maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents and avoid damage or injury. Flaggers and guards while on duty shall be equipped with red wearing and a red flag or paddle-type signal which shall be kept clean and in good repair. Flaggers shall be equipped with 2-way radios when needed for traffic control. Signs, flags, lights, and other warning and safety devices shall conform to the requirements set forth in the current "Manual of Traffic Controls for Construction and Maintenance Work Zones", issued by the State Department of Transportation.

10-05 Public Convenience. Convenience of abutting owners along the road or sewers shall be provided for as far as practicable. Convenient access to driveways, houses and buildings

along the line of the work shall be maintained and temporary approaches to crossings or intersecting highways shall be provided and kept in good condition.

The right is reserved to municipal corporations, county authorities, and to water, gas, telephone, telegraph, television, and other electric power transmission utilities to enter upon any public highway, road or right-of-way for the purpose of making repairs and changes that have become necessary by the reason of the sewer installation.

All fences subject to interference shall be maintained by the Contractor until the work is completed, at which time they shall be restored to the condition prior to starting the work.

Excavation and backfill shall be conducted in such a manner as to provide a reasonably smooth and even surface satisfactory for use by the public traffic at all times. When possible, sewer construction shall be conducted on one-half the width of the traveled way at a time and that portion of the traveled way being used by public traffic shall be kept open and unobstructed until the opposite side of the traveled way is ready for use by traffic. The roadbed shall be sprinkled with water, if necessary, to prevent dust nuisance.

Bridges of approved construction shall be installed and maintained across the trench at all cross walks, intersections, and at such other points where, in the opinion of the Engineer, traffic conditions make it advisable.

10-06 Safety. This section defines the Contractor's responsibility with regard to providing for safety during construction. The Contractor alone shall be responsible for the safety of his plant, equipment and methods, including trench shoring. All trench shoring and other construction methods shall comply with State and Federal Safety Orders.

Should the Contractor appear to be neglectful or negligent in furnishing warning and protective measures, the District may direct attention to the existence of a hazard, and may order the Contractor to improve his facilities or methods, and the Contractor shall promptly comply with such orders, and the necessary warning and protective measures shall be furnished and installed by the Contractor at his own expense without cost to the District. Whether or not the District issues orders, and whether or not he points out the inadequacy of warning and protective measures shall be furnished and installed by the Contractor at his own expense without cost to the District. Whether or not the Engineer issues orders, and whether or not he points out the inadequacy of warning and protective measures, and even though the Contractor takes appropriate steps in accordance therewith, the Contractor shall not be relieved from responsibility for securing the necessary degree of safety, nor shall his obligation to furnish and pay for appropriate plant, equipment and methods be abrogated.

No material or equipment shall be stored where it will interfere with the free and safe passage of public traffic, and at the end of each day's work and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from that portion of the roadway to be opened for use by

public traffic. No material or other obstructions shall be placed within fifteen (15) feet of fire hydrants, which shall be at all times readily accessible to the fire department, nor within five (5) feet of United States mailboxes.

Open fires, smoking, the striking of matches, open flame lamps or lanterns, and electrical equipment and appliances that will generate or produce sparks shall not be permitted in the sewer or portion thereof where there is or may be an accumulation of inflammable gas in explosive quantities.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

10-07 Use of Explosives. The use of explosives is prohibited.

10-08 Preservation of Property. Attention is directed to Section 11 of these specifications. Due care shall be exercised to avoid injury to existing sewer improvements or facilities, streets, highways, pavements, utility facilities, adjacent property, and roadside trees and shrubbery that are not to be removed. Dust resulting from the Contractor's operations shall be kept to a minimum. If required by the District, the Contractor shall keep on the job site equipment for washing the streets. Where landscaping or landscape irrigation lines are disrupted, the Contractor shall provide for alternate watering for irrigation of lawns or landscaping.

In case it shall be necessary to remove any telephone, telegraph, or electric power transmission poles, gas pipes, water pipes, electrical conduits or underground structures of any character, or portion thereof, the owners or their agents or superintendents, upon proper application of the Contractor shall be notified by the authorized official to remove same within a specified time, and the Contractor shall not interfere with said structures until the time specified in the said notice shall have expired. In case water or gas service pipes crossing the line of the sewer trench are cut by the Contractor, such connection shall be restored without delay, after the passing of the trenching machine. Such cutting and restoration of service connections shall be at the sole expense of the Contractor and shall be done at such times and manner as to insure the least inconvenience to the users.

The Contractor shall examine all roadbeds, bridges, culverts and other structures on or near the work, over which he will move his materials and equipment, and before using them, he shall properly strengthened such roads and structures, where necessary. The Contractor shall be held responsible for any and all injury or damage to such roads and structures caused by reason of his operations.

Any painting, striping, safety buttons, traffic loops, catch basins, street signs and any public or private properties that are damaged or destroyed by the Contractor or his subcontractor shall be replaced with the consent of the District Engineer, the District Manager

or the encroachment permit issuer. This pertains to the job site or any area being used by the Contractor. The cost of replacement shall be included in the bid price for sewer line.

The fact that any underground facility is not shown upon the plans shall not relieve the Contractor of his responsibility under this section. It shall be the Contractor's responsibility to ascertain the existence of any underground improvements or facilities which may be subject to damage by reason of his operations.

Full compensation for furnishing all labor, materials, tools and equipment, and for doing all the work involved in protecting or repairing property as specified in this section, shall be considered as included in the contract work.

10-09 Responsibility for Damage or Injury. The District, District Board, District Engineer or any of their officers or employees shall not be answerable or accountable in any manner, for any loss or damage that may happen to the work or any part thereof; for any of the materials or other things used or employed in performing the work; for injury to any person or persons either workmen or the public; for damage to the property from any cause which might have been prevented by the Contractor, or his workmen, or anyone employed by him. The Contractor shall be responsible for any liability imposed by law upon the District, its officers, employees, or the Engineer for any damage to any person or property occurring or arising in the execution of the contract or performance of the work, including such resulting from a failure to abide by all applicable laws and regulations, or occurring or arising out of the improper execution of the contract or performance of the work, including such resulting from the failure to abide by all applicable laws and regulations, or occurring or arising out of the improper execution of the contractor or performance of the work, or resulting from work or materials which are defective, unsatisfactory, or imperfect or whose defective, unsatisfactory, or imperfect nature is discovered during any guarantee period, and shall indemnify, defend, and save harmless the District, the District Engineer and each of their agents, officers and employees, from all suits, actions, claims and demands of every name and description, brought for, or on account of any such injuries or damages and in addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the contract as shall be considered necessary by the District may be retained by the District until the disposition has been made of such suits or claims for damages aforesaid.

No retention of money due the Contractor under and by virtue of the contract will be made by the District pending disposition has been made of such suits or claims for damages brought against the said county, city or district.

10-10 Contractor's Responsibility for Work. Until the acceptance of the work under the contract or permit, the Contractor shall have the charge and care of the work and of the materials to be used therein and shall bear the risk of injury, loss, or damage to any part thereof by the action of the elements or from any other cause whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work or materials

occasioned by any of the above causes before its completion and acceptance and shall bear the expense thereof, except for such injuries or damages as are directly and proximately caused by acts of God.

In case of suspension of work for any cause whatever, the Contractor shall be responsible for the work as above specified, and he shall also be responsible for all materials delivered to the work, including materials for which he has received partial payment or materials which have been furnished by the District, and if ordered by the Engineer, he shall, at his own expense, properly store such materials. Such storage by the Contractor shall be on behalf of the District and the District shall at all times be entitled to the possession of such materials, and the Contractor shall promptly return the same to the site of the work when requested. The Contractor shall not dispose of any of the materials so stored except on written authorization from the Engineer. Where necessary to protect the work from damage, the Contractor shall, at his expense, provide suitable drainage and erect temporary structures.

Neither the District, District Engineer nor any of their agents, officers and employees assumes any responsibility for collecting indemnity from any person or persons causing damage to the work of the Contractor.

10-11 Indemnity. The Contractor shall hold harmless, indemnify and defend the District, the District Board, the District Engineer and each of their officers, agents and employees from any and all liability claims, suits, actions, losses or damage arising or alleged to arise from the performance of the work described herein or damages or claims to which the District, District Board, District Engineer and each of their officers, agents and employees may be subjected arising out of the Contractor's negligent performance, willful misconduct or unreasonable delay in connection with the work.

Indebtedness incurred for any cause arising out of the Contractor's negligent performance or willful misconduct in connection with work must be paid by the Contractor; and the District, District Board, District Engineer and each of their officers, agents and employees are hereby relieved at all times from any indebtedness or claim other than the contract sum.

10-12 Contractor's Insurance. The Contractor shall not commence work under the contract until he has obtained all insurance as specified herein; nor shall the Contractor allow any subcontractor to commence work on this project until the same insurance requirements have been complied with by each subcontractor.

The types of insurance the Contractor shall obtain and maintain for the full period of the contract will be Worker's Compensation Insurance, Comprehensive General Liability Insurance and Automobile Liability Insurance, as detailed below. Any insurance bearing on adequacy of performance will be maintained after completion of the project for the full guarantee period. The Contractor shall be solely responsible for damage payments up to the amount of the deductible. Nothing contained in these insurance requirements is to be

construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from his operations.

- A. Worker's Compensation Insurance - The Contractor and all subcontractors shall obtain for the period of the contract full Worker's Compensation Insurance coverage for all persons whom they employ or may employ in carrying out the work under this contract. This insurance will be in strict accordance with the requirements of the most current and applicable State Worker's Compensation Insurance laws. In case any class of employees engaged in hazardous work under the contract at the site of the project is not protected under the Worker's Compensation statute, the Contractor shall provide and shall cause each subcontractor to provide adequate insurance for the protection of his employees not otherwise protected. The Contractor shall sign and file with the District the certification required pursuant to Section 1861 of the Labor Code.
- B. Comprehensive General Liability - The Contractor and all his subcontractors shall obtain for the period of the contract full Comprehensive General Liability Insurance coverage. This coverage shall provide for both bodily injury and property damage, including coverage for injury, sickness or disease, death, and destruction of property arising directly or indirectly out of or in connection with the performance of work under this contract, including explosion, collapse, under-ground exposure and flooding, and will provide for a limit of not less than one million dollars (\$1,000,000) for all damages arising out of bodily injury, sickness or disease to, or death of one person in any one occurrence, and an aggregate limit of not less than two million dollars (\$2,000,000). Included in such insurance will be contractual coverage sufficiently broad to insure that provision titled "Indemnity" set forth in Section 10-11.
- C. Automobile Liability Insurance - The Contractor and all of his subcontractors shall obtain for the period of the contract Automobile Liability Insurance with a combined single limit of \$1,000,000 for bodily injury or death and property damage. This insurance shall cover all vehicles, whether rented or owned, while being used in connection with performance of the work.
- D. Proof of Carriage of Insurance - Before commencing work, the Contractor shall furnish the District a certificate or certificates, evidencing issuance of all insurance policies mentioned above. The Comprehensive General Liability insurance policy shall bear the following endorsements: (a) endorsement precluding cancellation or reduction in coverage before the expiration of thirty-five (35) days after the District shall have received written notification by registered mail from the insurance carrier, (b) a standard cross liability endorsement, (c) an endorsement naming as additional insureds the District, District Board, District Engineer and each of their officers, agents and employees, and (d) an endorsement that the insurance as provided is primary insurance, and no other insurance available to the above shall be called upon to contribute to a loss.

- E. Insurance Rating - All insurance shall be placed with an insurance company with a current AM Best rating of not less than A:VII.

10-13 Disposal of Material Outside the Right-of-Way. Unless otherwise specified in the Special Provisions, the Contractor shall make his own arrangements for disposing of materials outside the right-of-way and he shall pay all costs involved therewith.

When any materials, including excess or unsuitable excavated earth or other sewer materials are to be disposed of outside the right-of-way, the Contractor shall first obtain a written permit from the property owner on whose property the disposal is to be made, and shall file a copy of the permit with the District, and the disposal area shall be kept in a neat and orderly condition throughout the construction period.

10-14 Cooperation Between Contractors and District. The Contractor shall cooperate with all other contractors who may be employed on the work or related or adjacent work, and any workmen who may be employed by the District on any work in the vicinity; he shall so conduct his operations as to interfere to the least possible extent with the work of such contractors or workmen. He shall make good promptly, at his own expense, any injury or damage that may be sustained by other contractors or employees of the District at his hands.

Any difference or conflict which may arise between the Contractor and other contractors, or between the Contractor and workmen of the District in regard to their work shall be adjusted and determined by the District.

If the work of the Contractor is delayed because of any acts or omissions of any other contractor or of the District, the Contractor shall on that account have no claim against the District other than for an extension of that time.

10-15 Acceptance of Work. When the District has made the final inspection as provided in Section 8-24, and determines that all work under the contract, permit or agreement has been satisfactorily completed in all aspects in accordance with the plans and specifications and District rules and regulations, he will recommend formal acceptance by the District Board of Directors. Approved record drawings as required under Section 6-05 shall be submitted prior to acceptance of the work by the District.

10-16 Guarantee of Work. Unless more stringent requirements are otherwise specified (or in the case of permit work set forth in the form of a condition on the main extension permit), all work shall be guaranteed for a period of one (1) year from the date of acceptance by the District. The Contractor shall promptly make all needed repairs arising out of defective materials, workmanship and equipment. The District is hereby authorized to make such repairs if within ten (10) days after the mailing of the notice in writing to the Contractor, or his agent, the Contractor shall neglect to make or undertake with due diligence the aforesaid repairs; provided, however, that in case of an emergency where, in the opinion of the District,

delay would cause serious loss or damage, repairs may be made without notice being sent to the Contractor, and the Contractor shall pay the costs thereof.

10-17 Personal Liability. Neither the District Board, the District Engineer nor any other officer or authorized employee of the District shall be personally responsible for any liability arising under or by virtue of the contract.

10-18 Protection of Survey Monuments. Various survey monuments consisting of iron pipe, cast iron, brass, and concrete markers may be located along the center lines of streets, at intersections, points of beginning and ending of curves, property corners, and at other points, and where the installation of the sewers or other work of the contract may cause these monuments to be destroyed or disturbed. The Contractor shall notify the Job Engineer and the Contractor shall not disturb any monument or property corner that must be removed in the performance of his work until he has been advised by the Job Engineer that it has been properly referenced out for resetting. Should the Contractor disturb or remove any monuments or property corners due to his neglect, he shall be held responsible for the expense of their resetting by the District.

10-19 Sewer Service. The Contractor shall be held solely responsible to provide uninterrupted sewer service to all services effected by his work. The Contractor shall protect and indemnify the District, the District Board, the Inspector and all other officers, agents and employees against any claim or liability arising from or based on failure to provide such continuous service.

10-20 Business License. Each incorporated City and the County of Marin requires a business license.

SECTION 11 UTILITIES, OBSTRUCTIONS AND CONCRETE REMOVAL

11-01 Preservation of Property. Attention is directed to Sections 10-08 and 10-09, "Preservation of Property", and "Responsibility for Damage or Injury" of these specifications. Due care shall be exercised to avoid damage to existing improvements, utility facilities, and adjacent property. When any railroad, street, highway, private or public utility is crossed, all precautionary construction measures required by the owner of said crossing shall be followed by the Contractor.

11-02 Utilities. A particular effort shall be made to locate and indicate on the plans underground utilities and/or other facilities which may conflict with, cross or lie close to the work. The service connections to these utilities may be, but are not necessarily, shown on the drawings. Overhead utilities, including wires, poles and guys, are not necessarily shown on the plans and shall be determined from the Contractor's visit to the site.

While the locations shown are believed to be reasonably correct, neither the Job Engineer nor the District can guarantee the accuracy or adequacy of this information. It shall be the responsibility of the Contractor to determine the exact location of all utilities and service connections thereto ahead of any excavations through marking by USA Underground Service Alert and by potholing. The Contractor shall make his own investigations, including exploratory excavations, referenced herein as potholing, to determine the locations and type of existing utilities, including service connections, prior to commencing work which could result in damage to such utilities or conflict with the grade or alignment of the new installation. The Contractor shall immediately notify the Job Engineer as required under Section 11-07, "Changed Conditions."

The Contractor shall be responsible for all damage to underground utilities, whether they are shown on the plans or not, or whether they have been potholed or not. The Contractor shall determine the location of all underground utilities and services through conferring with the utility companies and through potholing as described hereinbelow.

11-03 Utility Locations and Potholing. The Contractor shall, before proceeding with the work, call USA Underground Service Alert to have utilities marked on the ground by the various utility owners. The Contractor shall then confer with all agencies and utilities which have or may have aboveground and/or underground facilities in the vicinity of the work. The purpose of the conference shall be to notify said agencies and utilities of the proposed construction schedule and to locate and/or verify the locations of all facilities, including house connections in the area of the work.

As soon as the utility survey is completed and prior to fabrication of engineered pipe, the Contractor shall commence potholing to determine the actual location of the pipe, duct, or conduit. The Contractor shall uncover all underground utilities, including sewers and storm

drains. Underground utilities shall be uncovered to a point one (1) foot below the pipe, where crossing, interferences or connections are shown on the drawing, before the Engineer sets pipeline grades, the shop drawings are prepared or there is any trenching or excavating for any pipe or structure, in order to determine actual clearance elevations, i.e., outside the top and bottom of the pipeline or structure. Once uncovered, the Contractor shall record the depth of the utility at the pothole and clearly mark the depth on the pavement. Any variation in the actual elevations and the indicated elevations shall be brought to the Job Engineer's and District's attention. If the Contractor does not expose all required utilities prior to shop drawing preparation and trenching, he shall not be entitled to additional compensation for work necessary to avoid interferences, nor for repair to damaged utilities. Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury or damage to workmen and the electrical ducts or conduits. Similar precautions shall be exercised around gas line, telephone, and television cables.

All potholes dug by the Contractor or his subcontractors for any reason shall be backfilled and compacted, and a minimum of two (2) inches of cutback shall be put down and compacted as temporary cover during construction.

11-04 Utility Relocations and Suspension of Service. Any utility relocations necessary for the work shall be coordinated with and/or performed by the owner of the respective utility. The Contractor shall also arrange for all necessary suspension of service and make arrangements to physically locate and avoid interference with all existing facilities. The Contractor may make arrangements for alterations for his sole convenience (not actually required to complete the sewer installation); such alterations shall be completely at the expense of the Contractor.

Where existing utilities and/or facilities, aboveground and/or underground, are encountered during construction, they shall not be displaced or molested unless necessary. If necessary to disturb or relocate a facility in the prosecution of the work, including accidental damage, the Contractor shall notify the owner or proper authority and shall abide with the requirements of and cooperate with such owner or authority (who may enter upon the work at any time) while protecting, repairing, replacing or relocating such facilities. All abandoned pipe lines that are severed during the work, shall be immediately plugged by the Contractor, with approved material (see Section 15), unless otherwise approved by the District.

All utility and other facility arrangements, agreements, permits, fees, locating, protection, repair, replacement, suspension of service, temporary relocations and other work in connection with utilities and other facilities, shall be the sole responsibility of and at the expense of the Contractor. Necessary permanent relocation of utilities and other facilities to accommodate the sewer construction, shall be the owner's responsibility.

11-05 Alignment Changes. In the event the Contractor requests a change in alignment to gain the advantage of reduced interference with utilities or other physical hazards and said change is agreed to by the District, the Contractor thereafter shall assume all responsibility for any

physical hazards encountered along the realigned route at no cost to the District. The costs of engineering, including surveys and administrative work, incurred by the District in connection with said requested change shall be paid by the Contractor.

11-06 Removal of Obstructions. The Contractor shall remove, or cause to be removed, at his expense, all trees, bushes, landscaping, fences and structures of all kinds, whether above or below ground, as and when required by the plans, or where the proper construction and completion of the work require their removal. The Contractor shall also remove at his expense, all rock, stones, debris, and all obstructions of whatsoever kind or character, whether natural or artificial, encountered in the construction of the work. However, no trees, plants, shrubbery or ornamental vegetation shall be removed without the consent of the District first being obtained, and suitable mutually agreeable arrangements made by the Contractor and the District for the replacement of such improvements. In addition, a permit from the City, Town or County shall be obtained for any necessary tree trimming or removal within public street rights-of-way.

Unless otherwise provided on the plans, in the Special Provisions or permitted by the District, all fences, trees, plants, lawns, ornamental shrubbery or vegetation, structures, walkways, driveways, and any other yard or street improvements which have been damaged by the Contractor's operations shall be completely replaced, repaired or restored by the Contractor, at his expense, to the satisfaction of the Engineer. Replacing, repairing, restoring shall be accomplished with materials of the same kind and quality as those of the original improvement.

Attention is directed to Section 8-21, "Easement Construction", for additional requirements for removal and replacement of obstructions within easements.

Any and all materials that are removed and are not to be incorporated in the improvement being constructed, shall be disposed of, off the job site, by the Contractor at his expense. Trenches or pits caused by the removal of existing improvements or obstructions shall be backfilled with suitable material designated by the District.

Existing improvements shown on the plans or required by the specifications or designated by the District to be salvaged, shall be carefully removed and stockpiled as directed by the Engineer.

Compensation for conforming to the requirements of this section shall be at no cost to the District.

11-07 Changed Conditions. In accordance with Section 7104 of the Public Contract Code, the Contractor shall promptly, and before the following conditions are disturbed, notify the Engineer, in writing, of any:

1. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
2. Subsurface or latent physical conditions at the site differing from those indicated.
3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

The Engineer shall promptly investigate the conditions, and if he finds that the conditions materially differ, or involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.

In the event that a dispute arises between the District and the Contractor, whether the conditions materially differ or involve hazardous waste and cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided for, either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

Conditions shall not be deemed to materially differ if (1) the Contractor has failed to comply in any respect with the provisions herein, or (2) the Contractor has failed to make such independent investigations, tests or examinations as a prudent contractor would deem necessary to satisfy itself as to conditions to be encountered in the performance of the work.

11-08 Disturbance to Trees. When working in the vicinity of any trees, the Contractor shall comply with the requirements of City, Town, or County ordinances and the requirements set forth below.

Disturbance of trees, shrubs and planting and their root structures shall be held to a minimum. Trees with root structure disturbed during construction shall be protected, pruned, treated, and watered as specified below. Where shrubs and plantings must be disturbed, they shall either be removed and replanted or shall be replaced in kind and size. All work on trees and shrubs shall be performed by a licensed Arborist. The Arborist and all work performed on trees and shrubs is subject to the approval of the District. All costs of the Arborist and all work on trees and shrubs which are damaged shall be borne by the Contractor.

No trees are to be removed unless specifically called for on the plans or specified in the Special Provisions. All trees within the work area shall be protected with a temporary barricade.

1. Tree limbs overhanging the line of the work and in danger of being damaged by the Contractor's operations shall be trimmed by the Contractor. The Contractor shall also remove other tree limbs under the direction of the Engineer, so that the tree will present a balanced appearance.
2. All pruning and treating of trees shall be done by a professional arborist or established tree service whose operators are skilled in the care of trees, at the expense of the Contractor. The arborist or tree service selected shall be subject to approval by the District.
3. Where a tree to be left standing is so close to the work area that it could not be adequately protected during a conventional trenching operation, the Contractor shall employ an alternative method of excavation for the pipeline, such as tunneling or boring.
4. No tree roots shall be unnecessarily cut in excavating or trenching operations. Major roots, defined as roots two (2) inches or larger, which are encountered in the course of excavation shall be exposed but not severed, and they shall be wrapped in plastic as a protective measure while exposed. Any other roots that are cut shall be pruned cleanly so that jagged or torn ends do not exist. Where a root has been shattered or jaggedly cut, the Contractor shall dig back to a sound point, but as close as possible to the point of tearing, shattering or splitting, and prune the root cleanly.
5. If any trees or shrubs are damaged or destroyed, the Contractor shall compensate the District or property owner for their full appraisal value using the method described in the "Guide for Establishing Values of Trees and Other Plants," current edition, published by the ISA or obtain a letter from the property owner that the claim has been settled.
6. The removal of any trees, shrubs, fences or other improvements outside of sewer easements or rights-of-way as deemed necessary by the Contractor, shall be arranged with the property owner involved, and such improvements shall be removed and replaced, if required, by the Contractor at his expense.

11-09 Removal of Concrete or Masonry Construction. At locations described in the Special Provisions, or shown on the plans or where directed by the District, portions of existing concrete pavement, curbs, gutter, sidewalks, foundations, and other concrete or mortared structures or objects not shown or noted in the plans or mentioned in the Special Provisions, but encountered in the line of construction shall be removed where necessary and disposed of by the Contractor at his expense.

All concrete curbs, gutters, aprons, patios, driveways and sidewalks that are broken, cracked or damaged by the installation of the improvements shall be reconstructed by and at

the expense of the Contractor (see Section 20-15). The repairs shall be made by removing and replacing the entire portions between joints or by removing the damaged portions by concrete saw and not by merely refinishing the damaged part.

Concrete removal operations in connection with the alteration of an existing structure shall be performed without damage to any portion of the structure that is to remain in place. If damage occurs, the Contractor shall repair any such damage at his own expense, to the satisfaction of the District. Where existing reinforcement is to be incorporated in new work, such reinforcement shall be protected from damage and shall be thoroughly cleaned of all adhering material before being embedded in new concrete.

Unless otherwise provided in the Special Provisions or directed by the District, material removed as above specified shall be broken into pieces not larger than two (2) feet in greatest dimension and disposed of in a manner acceptable to the District.

Compensation for conforming to the requirements of this section shall be at no cost to the District.

11-10 Crossing Under Railroad, Highway or Utilities. When any railroad, highway, private or public utility is crossed, all precautionary construction measures required by the owner of the railroad, highway, or utility shall be followed by the Contractor. All necessary permits, licenses, bonds, and fees required for the crossings shall be obtained at no cost to the District. The Contractor shall give all notices necessary and incident to the work.

11-11 Coordination Of Work With Others. The Contractor shall coordinate his/her work with others to assure completion of the project in accordance with the Plans and Specifications.

11-12 Traffic Control. The Contractor shall provide a traffic control plan which must be reviewed and approved by the agency issuing the Encroachment Permit. The traffic control plan shall be approved one week before construction is planned. The traffic plan shall incorporate, but is not limited to, the following conditions:

- A. One way traffic flow at a minimum shall be provided at all times when possible in the judgment of the District.
- B. If in the determination of the Engineer that one way traffic flow cannot be established, the roadway may be closed. The roadway shall be reopened at intervals to provide no longer than 30 minute delays in traffic. The Agency issuing the Encroachment Permit shall be notified 24 hours in advance of all closures.
- C. All work shall be controlled by a minimum of two flaggers when there is only one lane available for traffic.
- D. Access to all out-of-project areas shall be maintained during Project construction.

- E. The Contractor shall not terminate access through the area without providing adequate alternate routing for local traffic and emergency access. The Contractor shall provide additional trench plates to be put in place by the Contractor for emergency access when requested.
- F. At the end of the day, any alternative route shall be made safe and clearly delineated.

11-13 Storm Water Pollution Prevention Plan (SWPPP). The Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the County of Marin requirements.

The intent of these provisions is to enforce federal, state, and other local agencies regulations designed to eliminate storm water pollution. Storm drains discharge directly to watercourses without treatment. Storm water pollution due to construction operations shall be controlled by keeping pollution out of storm drain systems, reducing the exposure and discharge of materials and wastes to storm water, and by reducing erosion and sedimentation.

In this Section, the term “storm drain system” shall refer to any storm water conduits, storm drain inlets amid other storm drain structures, street gutters, channels, watercourses, creeks, lakes, the bay or ocean.

- A. Material Storage - The Contractor shall comply with the following practices for materials storage:
 - 1. The Contractor shall propose designated areas of the project site, for approval by the Engineer, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and at least ten (10) feet away from catch basins, gutters, drainage courses, and creeks.
 - 2. During wet weather or when rain is forecast within 72 hours, the Contractor shall store materials that can contaminate rainwater or be transported by storm water or other runoff to the storm drain system inside a building or cover them with a tarp or any other waterproof material secured in a manner that would prevent any of the materials from contacting the rainwater.
 - 3. The storage and disposal of all hazardous materials such as paints, thinners, solvents, and fuels, and all hazardous wastes such as waste oil, must meet all federal, state, and local standards and requirements.
- B. Street Sweeping - At the end of each working day or as directed by the Engineer, the Contractor shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The Contractor shall not use water to flush down streets in place of street sweeping.

- C. Hazardous/Waste Management - The storage and disposal of all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels, and all hazardous wastes, such as waste oil and antifreeze, shall comply with all federal, state, and local standards and requirements. When rain is forecast within 72 hours or during wet weather, the Engineer may prevent the Contractor from applying chemicals in the outside area.
- D. Spill Prevention And Control - The Contractor shall take any and all precautions to prevent accidental spills during the Work under this contract. The Contractor shall keep a stockpile of spill cleanup materials such as rags or absorbents, readily accessible on-site. In the event of a spill, the Contractor shall immediately contain and prevent leaks and spills from entering the storm drain system, and properly clean up and dispose of the waste and cleanup materials. If the waste is hazardous, the Contractor shall comply with all federal, state, and local hazardous waste requirements.

The Contractor shall not wash any spilled material into the streets, gutters, storm drains, or creeks.

- E. De-Watering Operations - All groundwater removed from the trench must be de-silted prior to discharging it into the storm drain system through filtering materials methods meeting the Association of Bay Area Governments (ABAG) Standards For Erosion & Sediment Control Measures and/or through methods and procedures described in the California Storm Water Best Management Practice Handbook - Construction Activity (latest edition).

The Contractor shall reuse the water for other needs, such as dust control and irrigation, to the maximum extent practicable. The rinse water shall be permitted to infiltrate in dirt area.

- F. Pavement Saw-Cutting Operations - The Contractor shall prevent any saw-cutting debris from entering the storm drain system. The Contractor, preferably, shall use dry cutting techniques and sweep up residue. If wet methods are used, the Contractor shall vacuum slurry as cutting proceeds or collect all waste water by constructing a sandbag sediment barrier. The bermed area shall be of adequate size to collect all waste water and solids. The Contractor shall allow collected water to evaporate if the waste water volume is minimal and if maintaining the ponding area does not interfere with public use of the street area or create a safety hazard. If approved by the Engineer, the Contractor may direct or pump saw-cutting waste water to a dirt area and allow to infiltrate. The dirt area shall be adequate to contain all the waste water. After waste water has infiltrated, all remaining saw-cutting residue must be removed and disposed of properly. With the approval of the Engineer, the Contractor shall filter the saw-cutting waste water through filtering materials and methods meeting ABAG Standards for Erosion and Sedimentation Control Measures (latest edition) before discharging to the storm drain.

G. Pavement Operations - The Contractor shall prevent the discharge of pollutants from paving operations by using measures to prevent run-on and runoff pollution, properly disposing of wastes, and by implementing the following practices:

1. No paving during wet weather.
2. Proper Material Storage (refer to Paragraph 11.13A).
3. Cover inlets and manholes when applying asphalt, seal coat, tack coat, slurry seal, or fog seal.
4. Place drip pans or absorbent materials under paving equipment when not in use. During wet weather, store contaminated paving equipment indoors or cover with tarp or other waterproof covering.
5. If paving involves Portland cement concrete, refer to Paragraph 11.13H.

H. Concrete Operations - The Contractor shall prevent the discharge of pollutants from concrete operations by properly disposing of wastes, and by implementing the following practices:

1. Store all materials in waterproof containers or under cover away from drain inlets or drainage areas.
2. Avoid mixing excess amount of Portland cement material.
3. Do not wash out concrete trucks into storm drains, open ditches, streets, streams, etc. Whenever possible, perform washout of concrete trucks off site where discharge is controlled and not permitted to discharge into the storm drain system. For on site washout, locate washout area at least fifty (50) feet from storm drains, open ditches, or other water bodies, preferably in a dirt area. Control runoff from this area by constructing a temporary pit or bermed area large enough for the liquid and solid waste.
4. Wash out concrete wastes into the temporary pit where the concrete can set, be broken up and then disposed of properly. If the volume of water is greater than what will allow concrete to set, allow the wash water to infiltrate and/or evaporate, if possible. Remove or vacuum the remaining silt and debris from the pond or bermed area and dispose of it properly.
5. Dispose of waste water from washing of exposed aggregate to dirt area. The dirt area shall be adequate to contain all the waste water and once the waste water has infiltrated, any remaining residue must be removed. If a suitable dirt area is not available, then the Contractor shall filter the wash water through straw bales or other filtering materials meeting ABAG Standards For Erosion and Sediment Control Measures.

6. Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in trash container.
- I. Grading And Excavation Operations - The Contractor shall implement sedimentation and erosion control measures to prevent sediments or excavated material from entering the storm drain system.

The erosion and sedimentation control materials and methods shall be in accordance with ABAG Standards for Erosion and Sediment Control Measures and/or the procedures and methods described in the California Storm Water Best Management Practices Handbook - Construction Activity (latest edition).

- J. Vehicle/Equipment Cleaning - The Contractor shall not perform vehicle or equipment cleaning on site or in the street using soaps, solvents, degreasers, steam cleaning equipment, or equivalent methods. The Contractor shall perform vehicle or equipment cleaning, with water only, in a designated, bermed area that will not allow rinse water to run off-site or into the storm drain system.

The Contractor shall dispose of wash water from the cleaning of water base paint equipment and tools as hazardous waste.

If using oil based paint, to the maximum extent practicable, the Contractor shall filter the paint thinner and solvents for reuse, and dispose of any waste thinner, waste solvent, and sludge from cleaning of equipment and tools as hazardous waste.

- K. Vehicle/Equipment Maintenance And Fueling - The Contractor shall perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will not allow run-on of storm water or runoff of spills. The Contractor shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured. The Contractor shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste.

The Contractor shall inspect vehicles and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made. The Contractor shall recycle waste oil and antifreeze to the maximum extent practicable. The Contractor shall comply with Federal, State, and other local agencies for aboveground tanks.

- L. Contractor Training And Awareness - The Contractor shall train all employees and subcontractors on the water pollution prevention requirements contained in these provisions. The Contractor shall inform all subcontractors of the water pollution prevention control requirements and include appropriate subcontract provisions to ensure that these requirements are met.

SECTION 12 REFERENCES TO STANDARD SPECIFICATIONS

12-01 State Standard Specifications. Whenever the words “State Standard Specifications” are referred to in the specifications, the reference is to the State of California, Business, Transportation and Housing Agency, Department of Transportation, (Caltrans) Standard Specifications, latest edition. All work shall be done in conformance with applicable provisions of the State Standard Specifications, except as modified in these Specifications and in the Special Provisions. Where the terms “State” or “Engineer” are used in the State Standard Specifications, they shall be considered as meaning the “District” as defined herein. In case of a conflict between these specifications and the State Standard Specifications, these specifications will apply.

12-02 County Specifications. Whenever the words “County Specifications” are referred to in the specifications, the reference is to the Cities of Marin, and County of Marin, Department of Public Works, Standard Specifications dated June 1992 and Uniform Construction Standards dated June 1979.

