APPENDIX 2.2.B
NOTES AND FORMAT

On Grading Plans where existing pipelines or facilities may be affected include the following note:

Existing water, sewer, and/or recycled water facilities in the area affected by grading shall be kept in service at all times. In some instances it may be necessary to high line facilities to keep facilities in service. Absolutely no cutting or filling will be allowed over existing facilities until facilities have been either relocated into the street and tested or high lined and tested.

Water and Sewer Notes shall include the following:

STANDARD NOTES: (Include On All Improvement Plans)

Unless otherwise indicated herein, all work shall be done in accordance with below; Precedence shall follow order listed:

A. These project plans and specification

B. VCMWD standard water and sewer drawings, latest approved edition

C. VCMWD sewer facility design manual, February 2000 and standard specifications for the construction of pipelines and appurtenances, latest edition.

D. Standard specification for public works, "Greenbook" latest edition

1. A Pre-Job conference shall be held before the start of construction. Contractor attendance is mandatory.

2. Contractor shall notify the VCMWD Engineering Department in writing one week prior to the start of construction and verbally 24 hours in advance of beginning work to arrange for inspection of the project.

3. Contractor must call "Dig Alert" of Southern California to have underground service utilities located prior to construction.

4. Work done without District inspection shall be subject to removal.

5. The telephone number of the Valley Center Municipal Water District is (760) 735-4500.

6. Approval of plans by the Valley Center Municipal Water District does not constitute responsibility for accuracy of information nor locations of other existing utilities.

7. Contractor is required to submit all materials for approval prior to installation, any materials installed without approval shall be subject to remove.

8. Contractor is required to employ certified third party testing for compaction and provide reports on a timely basis.

9. Contractor shall pothole all facilities affected by construction of this project to verify depths, grades, sizes, locations, etc., minimum 10 days prior to the start of trenching operations. Any discrepancies found in the field with the information provided on these drawings must be brought to the attention of the district engineer prior to proceeding with construction.

10. Any changes to the design or these drawings shall be approved by the District Engineer, in writing, prior to proceeding with construction.

11. All materials shall be installed per manufacturer's recommendation, unless directed otherwise

12. Any “break-ins” or modifications to existing installations shall be made in the presence of the District Engineer or his representative.

13. Contractor will be responsible for maintaining all existing VCMWD above and below ground facilities affected by construction of this project.

14. Contractor shall obtain all permits required for construction of the work, including a permit from the County Department Of Public Works for any excavation within existing county rights-of-way.

15. Contractor is to observe all safety and traffic control regulations as required by CAL/OSHA, County Of San Diego and the American Public Works Association.

16. Prior to installing any district pipeline in a fill area, a soils report shall be submitted to the District Engineer certifying that all earth fills were compacted to a minimum 90% relative density top to bottom.

17. The final location and elevation of sewer and water laterals shall be shown on original plans prior to acceptance of work.

18. Contractor shall maintain an up to date set of As-Builts onsite.

19. Contractor shall possess current hard copies of project plans and all referenced specifications onsite.

20. The Contractor shall follow insurance, bonding, and warranty requirements as specified in the District Facilities Agreement.

Water Notes: (Include On Water Improvement Plans)

1. Shutdowns and connections to existing district facilities will be made in accordance with VCMWD's General Conditions of the Standard Specifications, which detail the notice periods, required conditions, and responsibilities of the contractor.

2. Unless shown deeper, all pipelines 14" and smaller shall be installed with a minimum cover of 36" for paved roadways or 42" for unpaved roadways and easements. Pipelines 16" and larger shall be installed with a minimum cover of 48" for paved roadways or 54" for unpaved roadways and easements.

3. All mainline and hydrant valves shall be flanged.

4. Contractor may be required to install 2" service saddle with 2" corporation stop to top of 8" water main to serve as manual air release during pipeline testing. Upon completion of all pipeline testing, contractor will remove 2" corp. Stop and install 2" threaded brass plug into service saddle.

5. Water service laterals shall not be installed within driveway or sidewalk areas.

6. Contractor shall, at no cost to the district, extend or relocate existing water main appurtenances, relocate existing water service laterals and meters; reconnect, extend/shorten all customer's private lines affected by the road improvements included in these plans, when necessary, at developers cost. The developer will be responsible for the cost to upgrade all relocated water meters to current backflow standards.

7. Pressure testing shall be completed per section 15044 of the standard specifications, with exception to the leakage amount, no measurable leakage allowed, that is not due to gauge tolerance and ambient temperature changes during testing.

8. All new waterlines shall be disinfected per AWWA C651-14. Bacteria sampling shall be done using method A procedure.

9. Disinfection and pressure testing of new waterlines shall be completed and accepted by district prior to making connection to existing systems. An air gap or test plate shall be used, pressurizing/disinfecting against a closed valve is not allowed.

10. Pipe deflection shall not exceed 80% of manufacturer allowable tolerance. Additional deflection shall be accomplished with appropriate fittings, submitted and approved by district prior.

11. All above ground appurtenances (FH, AV, BO, etc.) And PRV valves and fittings, which are being abandoned as a part of this project, shall be removed to minimum 12" below grade and delivered to the VCMWD yard or as directed by inspector.

12. Materials shall be adequately rated for specified test pressure.

Sewer Notes: (Include On Sewer Improvement Plans)

1. Trench width shall be per VCMWD S-8, for pipe up to 15 inches, unless otherwise noted. For pipe 15 inches and over, trench width shall be per Greenbook specifications, 306-1.2.13. whenever the excavated material is not suitable for backfill, the contractor shall remove this material and arrange for and furnish suitable imported backfill material which is capable of attaining the required relative density. Imported backfill material, or other backfill material shall be approved by the Engineer, and per Section 306-1.3.5 of the “Greenbook” Standard Specifications.

2. Contractor shall install traps and plugs in upstream manholes to prevent construction debris from entering as directed by district inspector.

3. After completion of pipe laying, all main line sewers, service laterals and structures shall be air and mandrel tested per SSPWC Section 306-7.8 in the presence of the inspector.

4. Final acceptance of sewer lines will be subject to internal closed circuit television (CCTV) inspection. CCTV shall have been done no more than 6 months prior to acceptance. It will be the contractor's responsibility to pay for the cost of this work and any additional CCTV that is required to verify re-work or corrections.

    4.1. Video inspection shall show with high resolution operational and structural defects e.g., inflows, sags, offset joints, cracks, roughness, “fins” or folds in the pipelines, complete with audio commentary and inspection log.

    4.2. The District inspector shall be notified a minimum of 2 working days in advance of video inspecting.

4.3. Video inspection shall be performed one pipe reach (e.g., manhole to manhole) at a time.

4.4. The contractor shall video inspect the pipeline with maximum flow diverted (if required) from the pipeline. The pipe reach being inspected shall be isolated from the remainder of the pipelines with the upstream sewage flow bypassed (if required). In the event that the existing flow is interfering with the video operation, a bypass shall be performed by the contractor to lower the flow volume sufficiently to allow for a clear video picture. Sufficient water shall be supplied to the isolated section to cause drainage reaching the downstream manhole prior to video inspecting. If existing flows are high, pre-construction video inspection can be done with partial flow. Depth of the flow shall not exceed:

Pipes 6" - 10" - 20% of the Pipe Diameter
Pipes 12" - 24" - 25% of the Pipe Diameter
Pipes 27" and up - 30% of the Pipe Diameter

4.5. The camera shall be moved through the pipeline in a downstream direction at a uniform rate by means of power cable winches or self-propelled tractors at each manhole, stopping and rotating the camera head at each lateral connection, defect, or both to allow for adequate evaluation. The contractor shall stop when necessary to ensure proper documentation of the pipe condition, but in no case shall the camera be pulled at a speed greater than 30' per minute. A clear picture shall be provided looking into each service connection. Both pre and post video inspections shall be submitted to the engineer.

4.6. Measurement for location of defects shall be above ground by means of a measuring device. Footages shown in the digital files shall coincide with horizontal lengths from stationing as shown on the plans. Footage measurements shall begin at the centerline of the upstream manhole or storm drain access point, unless permission is given by the Engineer to do otherwise.

4.7. The contractor shall clean the sewer mains prior to video inspecting as necessary to adequately perform the video recording operations. If the camera will not pass through the entire pipeline section, the contractor shall reset the equipment at the downstream manhole and attempt to inspect the section of pipe from the opposite direction. If the camera fails to pass through the entire section, it shall be assumed that an obstruction exists. Efforts to video record that section of pipe shall be temporarily suspended and the contractor shall notify the Engineer. Upon removal of the obstruction, the contractor shall complete the inspection.

4.8. If an obstruction is encountered during the post-construction video inspection, the contractor shall remove the obstruction by excavation, repair, or other means approved by the engineer at the contractor's expense, in order that video inspection may continue.

4.9. The system used to move the camera through the pipe shall not obstruct the camera's view. The contractor shall calibrate the measuring device each day with a known distance to the satisfaction of the Engineer prior to starting the inspection and video recording process.

4.10. The contractor shall obtain the Engineer's approval for any additional point repairs.

5. Tolerances encountered following inspection shall be addressed as follows:

    5.1. For new underground sewer installations, the maximum operational tolerance for sag shall be 1/2". When video recorded inspection is used to check for sag, a calibrated 1/4" diameter steel bar/"sag gage" or approved equal device, mounted in front of the camera, shall be used to measure the depth of sag.

    5.2. If the Engineer determines that the deficiencies or sags are non-repairable in place, the affected portion(s) shall be reconstructed.

    5.3 No measurable debris is allowed, jetting and cleaning to be done as needed to achieve internal cleanliness.

6. The construction of PCC sewer manhole per VCMWD S-4 or VCMWD S-5 poured-in-place manhole bases shall be a monolithic pour finished complete at time of pour. Each new manhole shall be vacuum tested prior to back filling. The test shall be conducted immediately after placement of pre-cast units with polymer mortar/butyl sealant. All pipes in the manhole shall be securely plugged. The test head shall be placed at the inside of the top pre-cast unit prior to the installation of the grade ring, and the seal inflated in accordance with the manufacturer's recommendations.

    6.1. A vacuum of 10 psi shall be drawn and the vacuum pump shut off. With the valve closed, the time shall be measured for the vacuum to drop to 9 psi. The manhole shall pass if the time is greater than 75 seconds. If the manhole fails the initial test, necessary repairs shall be made with no shrink grout while vacuum is still being drawn. Retesting shall proceed until a satisfactory test is obtained.

    6.2. Polymer mortar shall be used to join pre-cast components on all manholes to create watertight joints to resist infiltration. The mortar shall be mixed in accordance with the manufacturer's specifications, and shall not exceed five parts sand to one part polymer. Acceptable joint sealant products shall be skidder 31 and 32 HI-MOD gel manufactured by SIKA Corporation, 490 epoxy putty and 498 underwater epoxy putty manufactured by Engard Coatings, and CS 102 butyl gaskets (rope form) manufactured by Concrete Sealants or approved equal.

    6.3. The concrete or other surfaces that are to adhere to polymer mortar shall be free from dust, loose aggregates, oil, grease or other contaminants.

    6.4. On all manholes, contractor shall apply waterproofing agent consisting of a coal tar emulsion on all exterior surfaces. The emulsion shall be TNEMEC 46-465, or approved equal. The emulsion shall be applied in no less than two coats to achieve a total dry thickness of 25 mils minimum. The exterior emulsion coatings shall be applied prior to delivery to the jobsite. In addition, a Bitumastic Band 6 inches wide shall be applied at all joints on exterior of such manholes that shall be waterproofed.

6.5. When completed, all manholes shall be watertight with zero infiltration of groundwater.

Safety Requirements:

The contractor shall provide for the protection of all persons and property as herein specified in accordance with CAL-OSHA & OSHA, to which the contractor is required by law to conform. In the event the contractor fails to observe any of the safety provisions of these standards, Director Of Operations/Facilities, the District Engineer, District Safety Officer or District Authorized Representative shall order the work stopped in the affected areas for noncompliance of said safety orders until corrected. Contractor is responsible for the safety and first aid procedures of their employees on the job site. Contractor must notify the District Project Manager or Project Inspector if an employee is injured on the job site. Notification is not required for ergonomic injuries.

The contractor shall take necessary measures to protect the work and prevent accidents during construction. The contractor shall provide and maintain sufficient night lights, barricades, guards, temporary sidewalks, temporary bridges, danger signals, watchmen, and necessary appliances and safeguards to properly safeguard life and property. He shall also protect all excavations, equipment, and materials with barricades and danger signals so that the public will not be endangered.