APPENDICES

CITY OF OCEANSIDE

WATER UTILTIES DEPARTMENT

WATER, SEWER, AND RECLAIMED WATER DESIGN & CONSTRUCTION MANUAL

CONSTRUCTION GUIDELINES AND REQUIREMENTS

TABLE OF CONTENTS

PARAGRAPH	TITLE	PAGE
A	PRE-CONSTRUCTION REQUIREMENTS	AP-2
B	BEDDING AND BACKFILL TESTING SPECIFICATIONS	AP-6
C	TRENCH BACKFILL TESTING REQUIREMENTS	AP-7
D	TELEVISING SEWER MAINS	AP-8
E	ADMINISTRATIVE PROCEDURE (WU-107) FOR WATER SAMPLING	AP-10
F	WATER SYSTEM TESTING REQUIREMENTS	AP-11
	1. METERING AND PROTECTION	AP-11
	2. PIPELINE HYDROSTATIC TESTING	AP-11
	3. CHLORINATION/DISINFECTION	AP-13
	4. DECHLORINATION AND DISPOSAL OF WATER	AP-13
	5. COSTS	AP-14
	6. BACTERIOLOGICAL (BT) TEST	AP-14
	7. HETEROTROPHIC PLATE COUNT (HPC) TEST	AP-15
	8. GENERAL PHYSICAL (GP) TEST	AP-15
	9. APPROVAL FOR NEW WATERLINE TIE-IN (CONNECTION)	AP-15
G	ADMINISTRATIVE PROCEDURE (W-106) FOR WATERLINE SHUTDOWNS	AP-17
H	FINAL FLUSHING AFTER NEW WATERLINE TIE-IN (CONNECTION)	AP-18
I	WALK THROUGH	AP-18
J	AS BUILT DRAWINGS	AP-18
K	FINAL/ONE YEAR START DATE/BOND RELEASE	AP-17
L	SAN DIEGO REGION WATER QUALITY CONTROL BOARD (SDRWQCB) REGULATIONS	AP-18

CONSTRUCTION GUIDELINES AND REQUIREMENTS

INDEX

A. PRE-CONSTRUCTION REQUIREMENTS

B. BEDDING AND BACKFILL TESTING SPECIFICATIONS.

C. TRENCH BACKFILL TESTING REQUIREMENTS.

D. TELEVISING SEWER MAINS

E. ADMINISTRATIVE PROCEDURE (WU-107) FOR WATER SAMPLING.

F. WATER SYSTEM TESTING REQUIREMENTS:

1. METERING AND PROTECTION
2. PIPELINE HYDROSTATIC TESTING
3. CHLORINATION/DISINFECTION
4. DECHLORINATION AND DISPOSAL OF WATER
5. COSTS
6. BACTERIOLOGICAL TEST
7. HETEROTROPHIC PLATE COUNT TEST
8. GENERAL PHYSICAL TEST
9. APPROVAL FOR NEW WATERLINE TIE-IN (CONNECTION)

G. ADMINISTRATIVE PROCEDURE (W-106) FOR WATERLINE SHUTDOWNS.

H. FINAL FLUSHING AFTER NEW WATERLINE TIE-IN (CONNECTION).

I. WALK THROUGH.

J. AS BUILT DRAWINGS

K. FINAL/ONE YEAR START DATE/BOND RELEASE

L. SDRWQCB REGULATIONS

CONSTRUCTION GUIDELINES AND REQUIREMENTS

A. PRE-CONSTRUCTION REQUIREMENTS

1. Hours of Operation ..... 7:00 AM to 6:00 PM, Monday-Friday; Including equipment warm-up.

   Saturday Operations ..... Requires filing a permit by 2:30 PM on the proceeding Thursday.

2. Developers Representative or Superintendent ..... To be on site full time.

3. Mass Grading Daily Reports ..... City copies of daily reports to be kept on site in a 2-inch notebook, which is to be turned into the City with Mass Grading Soils Report.

4. Soil Engineer ..... To be present during all grading operations.

5. Field Changes ..... All changes in approved plans, soil reports and specifications must be submitted to the City for review and approval prior to implementation in the field.

6. Construction Water ..... By permit only. Protect hoses in street. Needs to be metered and meter must be protected by a RPP backflow assembly. Requirements for Water Lines: Filling the Line, Chlorination and Dechlorination, Water Quality Testing, Notifications, Shutdowns, Tie-ins. Requirements for Sewer Lines: Protecting Existing Lines, Testing, Videotaping, Notifications, and Tie-ins. Also: SDRWQCB compliance.

7. Clear and Grub ..... Maintain dust control. Provide haul routes for removal (refer to #9). No grading within 100 feet of stockpiles.

8. Dust Control ..... Required during construction at all times.

9. Haul Routes ..... Permit required from Traffic Engineer. Provide map of hauling, beginning and ending dates and

maximum number of trucks to be used. Street cleaning is required (refer to #12).

10. Traffic Control Plan ..... Permit required from Traffic Engineer prior to implementing any traffic control.

11. Import and Export..... Permit required from Traffic Engineer.

12. Debris in Streets..... Forbidden by vehicle code. Stop Notice will be issued for non-compliance.

    Cleanup ..... Bonding will be required.

13. Protection of Adjoining ..... Developer's responsibility (read the section). No grading on adjacent properties until an approved Permission to Grade letter is on file in the Engineering Department.

14. Notice to Inspectors ..... 24-Hour notice is required for all inspections. Telephone (760) 435-5081 to leave message on recorder. For all water and sewer inspection requests, call (760) 435-5800. (NOTE: Special notifications are required per this Manual and may be greater than the 24-hour notice.

15. Canyon Clean Out..... 24-Hour notice is required for inspection; and written approval by the Soils Engineer or Geologist (not a Technician) is required prior to inspection. Can be issued as a field memorandum.

16. Keyways and Benches..... Same action item as described in #15.

17. Sub-Drains..... Same action item as described in #15. Method of construction approved by City Engineering Department prior to installation. Materials certification approved (refer to #18). Location surveyed as "As-Built" plans.

18. Materials Certification..... A letter of certification from a Material Testing facility stating

	compliance with specifications and test results for all road base, permeable materials, etc., shall be on file at the City prior to placement in the field.
19. Embankment/Fill Slope Testing	Minimum of 25% Sandcone. Minimum of 90% Compaction. 20% of density test shall be taken within 3 feet of final slope and 1 test within the outer 12 inches of the final slope, for every 5,000 square feet of slope area.
20. Fills of 10 Feet Plus (+) Or	Same action item as described in #15.
21. Slope Shaping & Debris/Silt/Fencing	Overfill and cut back Slopes Debris/Silt Fences at slope toe are required on slopes above all traveled roadways.
22. Cover Critical Items in the Soil Report	Soils Engineer, City Geotechnical Consultant settlement monumentation for surcharge areas).
23. Erosion Control	See Ordinance #82-43 and Ordinance #92-15.
24. Emergency Telephone Numbers	Answering machines or services are <u>not acceptable</u>.
25. Building Permits requirements	(A) Final Soils Report by Soil Engineer; (B) Pad Certification by Civil Engineer; (C) Construction Phasing Plan by Developer; (D) Permanent Fire Protection in and approved.
26. Interim Soils Report	Approved prior to beginning underground construction.
27. Slopes	Must be planted within 45 days of completion of grading.
28. All Items on Approved Plans and “As-Built” Plans	All items shown on the approved plans must be completed and “As-Built” plans approved prior to requesting bond release.

29. Structural Section Recommendations ..... Structural section Recommendations shall be submitted to the City Engineer for approval.

30. Drainage Devices, Slope Planting and Certifications.... All drainage devices, slope planting and certifications must be complete and approved prior to Release for Occupancy (refer to Release for Occupancy Check List for additional requirements).

31. See AB73 Highlights for Underground..... Included in the City of Oceanside Engineers Design and Processing Manual.

S I G N A T U R E S	**DATES**
Owner: _____	_____
Contractor: _____	_____
Engineer of Work: _____	_____
Engineer: _____	_____
City Inspector: _____	_____

CONSTRUCTION GUIDELINES AND REQUIREMENTS

B. BEDDING AND BACKFILL TESTING SPECIFICATIONS

NEUTRAL BACKFILL AND NATIVE BACKFILL MATERIAL

Testing and quality control of Neutral Backfill Material and Native Backfill Material has become more of an issue due to availability. Wherever there is a question of the suitability of the backfill material, a correction notice requesting testing of the material for conformance to the following requirements shall be written.

Where "Neutral" material is specified for reducing corrosion to ferrous metal appurtenances, the following specifications, as a minimum, shall be met:

Sand Equivalent	30 Minimum
PH	6.5 – 8.5
Resistivity	2,000 – 50,000 ohm-cm
Sulfate (optional)	1500 PPM or less

Where "Sand" is specified, a sieve analysis shall be required if material gradation is questioned regarding excessive fines or oversize material. The minimum requirements for "Sand" shall be that the material has 100% passing the 3/8-inch sieve, 90% - 100% passing No. 4 sieve and 0% to 5% passing the 200 sieve.

Where "Native" material is specified as an option for backfill material, a sieve analysis and sand equivalent shall be required. The material shall be a minimum SE of 30 and the sieve analysis shall conform to the disintegrated granite gradation from the Greenbook Section 400.2.3.2.

Sieve Size	Percent Passing
1 inch	90 - 100
No. 4	50 - 100
No. 30	25 - 55
No. 200	5 - 18

Before placement of material requiring certification, a qualified laboratory will test and the results will be submitted to the City of Oceanside for approval. If approved, continuous or random testing for conformance will be required.

CONSTRUCTION GUIDELINES AND REQUIREMENTS

C. TRENCH BACKFILL TESTING REQUIREMENTS

The following are the minimum compaction testing requirements for all developments. Additional tests may be required at the discretion of the inspector.

1. Test sewer main between each manhole or every 200 feet, whichever is less (–2 foot intervals below F.G.).

2. Test every fifth sewer lateral run (-2 foot intervals below F.G.).

3. Test structural backfill around all sewer manholes (-2 foot intervals below F.G.).

4. Test water main every 200 feet (pipe bedding material along side of pipe or 1 foot above top of water main; and, trench backfill at –2 foot intervals below F.G.).

5. Test every fifth water service run (-2 feet below F.G.).

6. Test dry utility main trench at 300-foot intervals (-2 feet below F.G.).

7. Test every fifth dry utility service run (-2 feet below F.G.).

8. Test storm drain backfill between each structure or at 200-foot intervals along side of pipe and at an elevation of –2 to –4.5 feet below F.G. when pipe is placed in a trench where top of culvert is 3 feet or more below ground level.

9. Test structure backfill around all drainage structures (1 test per structure –2 to –5 feet below F.G.).

10. Embankment test within proposed street right-of-way shall be taken in each fill every 3 feet in vertical elevation and at 250 feet intervals along fill.

11. Sub-grade and base compaction tests to be taken at the rate of test per block, or every 300 feet.

12. Formal results of all tests taken, including failures shall be forwarded to the City Engineer within ten days after the tests are taken. All failures shall require area re-compaction and re-testing as required by the City Engineer.

13. All tests for underground utilities as described in the Water, Sewer, and Reclaimed Water Design & Construction Manual, shall be formally submitted to the City Engineer prior to the construction of curbs, gutters, base or paving.

14. The City Engineer will request design and control testing of Portland cement concrete and asphalt concrete as necessary during construction of the project.

CONSTRUCTION GUIDELINES AND REQUIREMENTS

D. TELEVISING SEWER MAINS

1. No sewer line will be connected to the city's sewer system prior to the City's final written acceptance of the line.

2. After completion of all cleaning, testing, and mandrel passing, all sewer mains shall be inspected by closed circuit VHS television at the Contractor's expense prior to final acceptance.

3. The videotaping will take place after completion of trench backfill and finish grading but prior to the placement of pavement or permanent trench resurfacing to determine the existence and extent of any obstructions, structural deficiencies, sags, or foreign material.

4. The Contractor shall submit written notification to the City of Oceanside 10 working days in advance of the anticipated date of the videotaping.

5. All videotaping will be performed in the presence of the inspector.

6. The videotape, which will include a verbal description, and a written manuscript of the videotape, will be submitted to the Water Utilities Director for review and approval prior to final acceptance. The minimum information that is required for both the verbal and written documentation is the report number; date of the TV inspection; line location; upstream and downstream manhole numbers; size, type, and joint length of pipe; lateral locations; direction of flow; and, description and location any problem areas or defects. The City of Oceanside will have 10 working days to review each individual videotape. At the end of the city's review, a written report will be given to the contractor. The City's report will indicate whether the line is acceptable or any deficiencies or sags were discovered.

7. A calibrated device with ¼-inch markings will be mounted in front of the camera in a fashion that will be least obstructive to the forward view of the pipe.

8. The Contractor will follow the directions of the inspector in isolating the particular section of sewer main to be televised. The line to be videotaped will be isolated between manholes; and, the televising will proceed from the upstream manhole to the downstream manhole. On slopes greater than 1.6 percent (1.6%), the Contractor will cause a 5-gallon per minute continuous, metered flow of water to travel through the pipe during the videotaping. On slopes less than 1.6 percent (1.6%) the contractor will supply sufficient water to cause drainage within the isolated section prior to televising the line. The Contractor will remove all standing water in the downstream manhole by pump(s), "Vactor" truck, or other approved means. The removal and discharge of the water will comply with all applicable regulations (See #11 below).

9. Sags, or standing water in the pipe, shall meet the following criteria:

Pipe Slope	Complies with Specification	Does not Comply with Specification and Reconstruction is Required
2.0% or less	3/8" or less	greater than 3/8"
Greater than 2.0%	½" or less	greater than ½"

10. Due to unacceptably high operation and maintenance costs and poor system reliability, pipelines with sag depths exceeding those listed for "Reconstruction is Required" will be rejected. Reconstruction of the entire length of the sag plus 20 feet on each side of the sag will be required. Damaged pipe must be removed and not reused.

11. All water discharge from videotape operation shall comply with all requirements of the California Regional Water Quality Control Board—San Diego Region (SDRWQCB) regulations.

CONSTRUCTION GUIDELINES AND REQUIREMENTS

E. ADMINISTRATIVE PROCEDURE (WU-107) FOR WATER SAMPLING

I. PURPOSE

This administrative procedure identifies and clarifies the respective roles in scheduling and implementing water samplings.

II. PROCEDURE

Water samplings will be handled according to the following:

A. At least two working days prior to taking water samples an on-site meeting to review the new lines and sample locations will be conducted. Upon completion of the pressure test and disinfection process, the Inspector will contact the Water Distribution Supervisor in the Distribution Division to schedule a sample date and time.

B. A Water Utilities Department employee will take the water samples and deliver them to the Department's Laboratory.

C. All test sites will be accessible with free means of ingress and egress for the person taking the sample(s).

D. Testing shall comply with Department of Health Standards.

E. If a sample "fails", the Water Utilities Department will notify the Inspector as soon as possible in order to set a time for a re-sample.

F. The Inspector will be notified by the Water Utility Department approximately 24 hours of the general physical (GP) test results, and approximately 48 hours for the bacteriological (BT) and heterotrophic plate count (HPC) test results.

G. New line samples will not be taken on Monday or on a Tuesday that follows a Monday holiday.

H. In order to meet required water quality standards, it is imperative that authorized Water Utilities Department personnel only operate all existing water system valves.

CONSTRUCTION GUIDELINES AND REQUIREMENTS

F. WATER SYSTEM TESTING REQUIREMENTS

1. METERING AND PROTECTION

a. All water used for testing and flushing shall be metered; and, the meter shall be protected by a Reduced Pressure Backflow Prevention (RP) Assembly that will be tested and certified by a Tester on the City's approved list.

b. The City of Oceanside shall provide the meter upon receipt of a completed application and deposit. The Contractor/Developer shall provide the backflow prevention assembly and all necessary fittings, hoses, valves, etc. for testing and flushing of the new waterline(s).

c. Whenever possible, a permanent source (fire hydrant, blow-off, riser, etc.) with meter, backflow preventer, pipe(s), and hose(s) shall be connected to the temporary blow-off riser of the new waterline throughout the entire process. This will help minimize potential contamination by reconnecting the supply hose/line on multiple occasions.

d. The Contractor/Developer shall be billed for all water used at the prevailing rate.

e. The Contractor/Developer shall protect all pipes and/or hoses from vehicle traffic and damage.

2. PIPELINE HYDROSTATIC TESTING

a. Testing against valves is not authorized. Tapped end caps (temporary blow-offs) with a minimum 2-inch riser for filling the line, or releasing air, and with an appropriate size concrete thrust block will be installed to test against.

b. Pipe Manufacturer's recommendations for filling and testing shall be followed.

c. The Hydrostatic Test will be observed and verified by the Inspector. Arrange for the testing through the Water Utilities Department at (760) 435-5800.

d. All water systems will be pre-tested to insure they will pass a 2-hour test prior to calling for the Inspector.

e. The Developer or Contractor shall furnish all materials including water, pumps, meters, equipment, bracing, connections, labor and expense required for testing of water mains. The Contractor shall be responsible for the results of any failure under test, which are attributable to defective material and/or workmanship furnished by him or to his negligence or improper conduct of the test.

f. Each water main shall be hydrostatically tested by the Contractor in the presence of the Water Utilities Inspector after all pipes and appurtenances have been installed; all anchors, thrust blocks and encasement have been placed

and have attained sufficient strength; and, the required select and/or other specified backfill has been compacted and certified by the Soils Engineer.

g. The pipeline shall be tested as directed by the Inspector. The entire pipeline shall successfully meet the requirements specified herein before any portion will be accepted. The test shall be made by placing end caps at the ends of the pipe and filling the pipeline with water in such a manner as to prevent air pockets. After the line has been completely filled, it shall be allowed to stand under pressure to permit escape of air pockets and to examine valves and connections for leaks.

h. The test pump and gauge shall be connected to the water main at a location other than the highest point in the line, in order to allow release of air from the high point. Means shall be provided for accurately measuring the quantity of water pumped into the pipe during or immediately after the test period in order to maintain or restore the initial test pressure. All pipe, fittings, valves, hydrants, services and appurtenance shall be subjected to the Hydrostatic Test and irrespective of the measured quantity of leakage; all detectable leaks shall be repaired by the Contractor unless otherwise specified herein.

i. The hydrostatic pressure shall be made by pumping the pipeline to a pressure (PSI) of 1.25 times the pipe class (i.e., Class 150 x 1.25 = 187.5 PSI) measured at the highest point on the pipeline. The highest pressure of the section of pipe is measured at the lowest invert elevation of pipe in the test section. Test pressure shall be maintained for a minimum of 2 hours not allowing pressure to drop below 1.5 times the pipe class (i.e., Class 150 x 1.5 = 225 PSI). At the end of the testing period, pipeline pressure will be pumped to 1.5 times the pipe class before measuring the leakage. Leakage shall be the amount of water pumped into the pipeline to maintain the minimum pressure (1.5 times the pipe class) during the entire testing period. Allowable loss for the 2 hour test shall be computed as follows:

<u>For PVC Pipe:</u>

$$Q = \frac{L\,D\,\sqrt{P}}{148{,}000}$$

Where: Q = Quantity of makeup water, in gallons per hour
L = Length of pipe section being tested, in feet
D = Nominal diameter of the Pipe, in inches
P = Average test pressure during the leakage test, PSIG

<u>For DIP:</u>

$$L = \frac{S\,D\,\sqrt{P}}{148{,}000}$$

Where: L = Allowable leakage, in gallons per hour
S = Length of pipe tested, in feet
D = Nominal diameter of the Pipe, in inches
P = Average test pressure during the leakage test, in pounds per square inch (gauge)

j. The water main shall be tested in sections of convenient lengths as determined by the range of elevations within the test section which will result in test pressures within the limits hereinafter specified.

k. If there is more than 100 feet difference in elevation, the system shall be split and tested separately, maintaining an absolute minimum of 1.5 times the pipe class at the lowest elevation providing that a minimum of 1.25 times the pipe class (i.e., Class 150 X 1.25 = 187.5 PSI) at the highest point is maintained throughout the test period.

l. All water mains shall be tested for the length of time and at the pressure specified. Any detectable leak shall be repaired. After all leaks have been repaired, the test shall be repeated until the section tested has met the above requirements.

3. CHLORINATION/DISINFECTION

a. Preliminary flushing: Before chlorination, the main shall be filled to eliminate air pockets and shall be flushed to remove debris and particulates. The flushing velocity in the main shall not be less than 2.5 ft./sec. (0.76 m/sec).

1. NOTES:

- Flushing is no substitute for preventative measures during construction.
- All water discharge from flushing, testing, and dewatering shall comply with all requirements of the California Regional Water Quality Control Board-San Diego Region (SDRWQCB) regulations.

b. All new waterlines will be disinfected by the continuous feed method with a minimum of 25 parts per million (25ppm) of chlorine, up to a maximum of 100ppm.

c. The chlorinated lines(s) shall set static for a 24 hour period, after which time there must be a minimum of 10ppm residual at all points of the lines (s).

d. If the 10ppm residual throughout is not met, steps a, b, and c above will be repeated until it is achieved.

e. Once the 10ppm residual test has been satisfactorily completed, all piping and appurtenances (mainlines, branches, service lines, A/V's, etc.) shall be flushed within 24 hours to remove the high chlorine concentration from the new waterlines.

f. Quality test shall be performed within 10 working days from the completion of the disinfection process (see Bacteriological, Heterotrophic Plate Count, and General Physical Tests).

4. DECHLORINATION AND DISPOSAL OF WATER

a. The testing water must be dechlorinated.

b. Contact the Inspector prior to flushing any line.

c. A suitable means shall be provided for disposal and dechlorination of test, disinfection, and flushing water so that no damage results to facilities or waterways.

d. The means for dechlorination shall be subject to the approval of the City of Oceanside, local governing authorities, regulatory agencies, National Pollutant Discharge Elimination System (NPDES) requirements and AWWA C651.

e. The Contractor/Developer shall be responsible for any damage caused by its water disposal operation.

5. COSTS

a. The costs for all quality samples, including related laboratory work, shall be billed to the Contractor/Developer at the prevailing rate.

6. BACTERIOLOGICAL (BT) TEST

a. Each new waterline shall sit full and static for 16 hours from the completion of the disinfection process and before beginning of bacteriological (BT) testing.

b. Before collecting samples, each new waterline shall contain a chlorine residual that is comparative to the source water residual and shall appear free of obvious turbidity, odors, color, etc.

c. Prior to collecting samples, each sample point shall be above grade, pressurized with its own valve, and made ready with proper fittings so as to minimize spraying and provide a representative sample.

d. All samples shall be collected by a certified City of Oceanside Water Utilities Department employee and shall be delivered to the City of Oceanside State Certified Laboratory under the chain of custody criteria for analysis.

e. The certified sampler shall determine each sample location, which at minimum will include each end of the pipe run and each branch off the main line.

f. Each sample location shall be analyzed for E-Coli and total coliform bacteria. In all results, each constituent must be absent.

g. If any sample fails the first BT test, the line may be flushed; and, after a 16-hour static period, the line can be re-sampled for bacteria. The re-sample shall include an upstream and downstream sample from the failure point.

h. In addition to the resample after the first BT test failure, the resample(s) may be tested for Heterotrophic Plate Count (HPC).

i. If any sample fails a second (resample) BT test, the process shall start over beginning with Step 3 (above): CHLORINATION/DISINFECTION.

7. HETEROTROPHIC PLATE COUNT (HPC) TEST

a. May be required at any time in conjunction with the BT test.

b. HPC test when required shall have a Plate Count of <500 CFU/ml.

c. HPC test may be required after a first BT test failure if the Contractor/Developer wants to proceed with the test when it appears there is marginal chlorine residual, or when there is marginal clarity, odors, etc. in the water.

d. Lines have HPC test with a Plate Count >500 CFU/ml may be flushed and re-sampled twice to achieve the <500 CFU/ml before being required to re-chlorinate and disinfect the line.

8. GENERAL PHYSICAL (GP) TEST

a. GP test shall be required in addition to the BT and HPC tests.

b. GP test shall be performed to ensure removal of turbidity (particulates) and ensure aesthetic criteria.

c. GP test shall include Free and Total Chlorine Residual, Turbidity, Color, Odor, and pH.

d. The first GP samples shall be collected with the first BT test samples.

e. If the first GP sample fails any of the criteria, the line may be flushed and resampled until each sample meets each of the criteria.

f. For a GP resample, the line may be flushing up to the time of resample collection unless a BT resample is also scheduled requiring the 16-hour static condition.

g. Odor detection in new waterline(s) typically comes from the lack of properly and completely flushing the pipe o-ring gasket lubricant from the line(s). Therefore, the odor criteria shall be 1 TON, or no greater than any odor detected in the source water when properly flushed.

9. APPROVAL FOR NEW WATERLINE TIE-IN (CONNECTION)

a. After all water quality tests have been satisfactorily completed and passed, approval shall be given from the Water Distribution Division to the Inspector to proceed with the tie-in process.

b. The Contractor/Developer shall have 10 working days from the date of approval to complete the tie-in process or they may be subject to a flushing and testing schedule to be established by the Water Distribution Supervisor until the tie-in is complete.

c. Tie-in connections equal to, or less than, one pipe length (≤ 18 feet) may be sprayed or swabbed with a 5% chlorine solution under the direction of the Inspector.

d. Tie-in connections greater that one pipe length (> 18 feet) shall be evaluated and approved on a case-by-case basis by the Water Distribution Supervisor.

e. At no time shall any new waterline(s), piping, etc. be tied into, connected, joined, etc. to any part of the existing City of Oceanside water system without first completing all testing requirements and meeting all of the conditions of the Administrative Procedure (WU-106) for Water Line Shutdowns.

CONSTRUCTION GUIDELINES AND REQUIREMENTS

G. ADMINISTRATIVE PROCEDURE (WU-106) FOR WATER LINE SHUTDOWNS

I. PURPOSE

This administrative procedure identifies and clarifies the respective roles in scheduling and implementing water shutdowns.

II. PROCEDURE

Water shutdowns will be handled according to the following:

A. Written notice seven (7) days prior to a shutdown shall be submitted to the Water Utilities Administration office with all pertinent information regarding the water shutdown. This advance notice will allow the Department to inform the City Council, City Manager, and other City Departments that may be receiving telephone calls. Multi-media information sources such as radio, newspaper, etc. may be used to notify affected areas of the City.

B. At the time the shutdown is scheduled, verification will be made that all valves are uncovered and accessible.

C. Upon verification of the shutdown schedule, a field meeting will be scheduled for the day before that shutdown is to occur. The meeting will be on-site and will be attended by both the Water Utilities Department Field Representative and the Inspector. Both parties will verify all affected valves.

D. All customers will be given at least a 48-hour personal notice of the impending shutdown. The notice shall include all pertinent information, such as why water is being shutdown; the date and time of the shutdown; and, when the customer may expect resumption of their water service.

E. On the day of the scheduled shutdown, the same Water Utilities Department Field Representative and the same Inspector will meet and complete a final field verification. Both individuals must identity any field problems prior to any scheduled changes.

F. Water service outages will not be allowed until every other option has been eliminated.

G. All water shutdowns will be scheduled for a Tuesday, Wednesday, or Thursday.

H. Flushing of waterlines and BT and GP tests must be satisfactorily completed prior to scheduling the water shutdown.

I. All material required for a waterline tie-in will be on the job site and verified by the Water Utilities Inspector prior to submitting the written notice for the water shutdown.

CONSTRUCTION GUIDELINES AND REQUIREMENTS

H. FINAL FLUSHING AFTER NEW WATERLINE TIE-IN (CONNECTION)

1. Immediately after completion of a new waterline tie-in, flushing of the tie-in point shall be conducted under the direction of City Personnel.

2. The flushing point shall be metered and the Contractor/Developer shall provide all fittings, hoses, etc. necessary for the final flushing operation.

3. The Contractor shall supply all personnel required to complete flushing. The Contractor's personnel will install all necessary protection devices required for protection of existing improvements and storm drain systems that are adjacent to, or downstream of, the project; and, will install all necessary erosion prevention devices required.

4. Only the City of Oceanside personnel will actuate all line valves.

5. Final flushing shall continue until the water is free of apparent turbidity, odor, color, etc.

6. All water discharge from flushing, testing, and dewatering shall comply with all requirements of the California Regional Water Quality Control Board—San Diego Region (SDRWQCB) regulations.

I. WALK THROUGH

1. After all water and sewer improvements are made, the Contractor/Developer shall make their own preliminary inspection to ensure compliance with all Design Criteria and Construction Requirements.

2. After all compliance items have been corrected under the preliminary inspection, the Contractor/Developer shall contact the Inspector and schedule a final walk through.

3. Each component of the new water and sewer system shall meet all Design Criteria and Construction Requirements to the satisfaction of the Inspector.

J. AS BUILT DRAWINGS

1. After the final walk through has been completed, and before the project "final" is granted, two sets of as-builts shall be made and delivered to the Water Utilities Department for the Operations/Distribution and Maintenance Division.

K. FINAL/ONE YEAR START DATE/BOND RELEASE

1. Upon delivery of the as-builts and approval of the Water Utilities Department, a project may receive a "final" status and commence the one year period prior to "request for bond release."

2. After successful completion of the one-year period, the Contractor/Developer shall apply for the release of bonds.

L. SDRWQCB REGULATIONS

1. All water discharge from flushing, testing, and dewatering shall comply with all requirements of the California Water Quality Control Board-San Diego Region (SDRWQCB) regulations.