

## CHAPTER 10

**AS-BUILT REQUIREMENTS**

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## 10.1 “AS-BUILT” REQUIREMENTS

### 10.1.1 INTERIM AS-BUILT SUBMITTAL REQUIREMENTS

Water, Sewer, and Storm Drain Interim As-built drawings shall be provided to the City Inspector for review and approval prior to placing any asphalt pavement. Interim As-Built drawings are in addition to Final As-Built drawings required prior to acceptance.

A. Interim Storm Drain As-Built drawings shall include:

1. Street centerline station, offset, and invert elevation of pipe at all proposed structures.
2. Calculated pipe slope between structures.

B. Interim Water As-Built drawings shall include:

1. Street centerline station and elevation at all changes in profile/vertical alignment.
2. Street centerline station and offset to main at all changes in horizontal alignment.
3. Street centerline station and offset to all fire hydrants, valves and fittings.
4. Centerline station and offset to each service tap and the size of tap.
5. Dimension to all operating nuts referenced to the water main on valves with offset operating devices (i.e. butterfly valves).

C. Interim Sewer As-Built drawings shall include:

1. Sewer line station and offset from street centerline at center of each manhole.
2. Calculated pipe slope between manholes.
3. Sewer line stationing at each service tap referenced from the closest downstream manhole.
4. If service is not installed at 90 degrees to main, station and offset provided to end of each service tap at the back of right-of-way.

### 10.1.2 FINAL AS-BUILT SUBMITTAL REQUIREMENTS

“As-Built” Plans shall be submitted prior to acceptance by the City Engineer and the commencement of the warranty period. “As-Built” plans submitted to the City shall be of high enough quality to allow microfilming. They shall have dimensions between 22 inches x 34 inches and 24 inches x 36 inches with a thickness of 4 mils. A bond or paper set of black line drawings (including redlines of all field changes) shall be submitted to the Engineering Department for review. Upon Engineering

Department approval of the redlined bond set, a final Mylar copy of the plans shall be submitted for signature.

As-Built plans shall be signed and sealed by a Registered Professional Engineer or Registered Land Surveyor with the “AS-BUILT CERTIFICATION” approval block (See Administrative section of this manual).

As-Built submittals shall include the most current approved plans with amendments. Plans shall reflect changed field conditions as well as any field changes to the plans.

All required checks and changes shall be noted with “AB” (as-built)

A. Paving Plan As-Builts shall include:

1. Station for all grade breaks.
2. Back of curb offset dimension at all changes in alignment.
3. Top of curb, gutter, and pavement centerline elevations at all grade breaks, curb returns, valley gutters, plus any other location necessary to adequately show drainage.
4. Survey monuments - installation and accuracy certifications.
5. Longitudinal Street Grade calculated (per plan if approved < .4%)
6. Changes in curb alignment

B. Traffic Signal Plan As-Builts shall include:

1. Street centerline station and offset dimension to all fixture poles, cabinets, boxes, or other signal related equipment.
2. Street centerline station and offset dimension to all interconnect conduit runs, and junction boxes.

C. Signing & Striping Plan As-Builts shall include:

1. Street centerline station and offset dimension to all signage, painted arrows, wording, and symbols.
2. Face of curb dimensions to all striping and lane dimensions.

D. Irrigation and Storm Drain Plan As-Builts shall include:

1. Street centerline station and offset dimension to the main at all changes in alignment and/or changes in grade (Station, offset, and Elevation).
2. Street centerline station and offset dimension to all structures and changes in alignment.
3. Top, inlet, and invert elevations for all structures.

E. Landscaping Plan As-Builts shall:

1. Be revised as needed to reflect the addition, removal, relocation or change of irrigation lines, plant materials or hardscape.
2. Identify City maintained irrigation water meters
3. Identify City maintained irrigation controllers.
4. Identify City maintained landscape areas.
5. Identify City maintained irrigation valves.
6. Identify what City maintained irrigation valves are irrigating (shrub/trees/palms/cactus).
7. Identify City maintained irrigation valve stations numbered from the controller.
8. Identify City maintained irrigation master valves.
9. Identify City maintained irrigation backflows.
10. Identify City maintained power meter pedestals.
11. Identify City maintained irrigation water mains & irrigation lateral lines.
12. Identify City maintained irrigation sleeves.

City maintained improvements referred to above are to be limited solely to those improvements that are located within areas the city owns or is required by ordinance, law, or regulation to maintain.

F. Grading and Drainage As-Builts shall include:

1. Elevations at all drainage control points shown on the grading plans (i.e. retention overflow point, top and bottom of retention basins, drain rims, top of channels and channel flowlines, weirs, top of curb elevation at lot outfalls, valley gutters, etc.).
2. Calculations verifying the actual as-built volume of all retention facilities shall be included on the as-builts. They shall also include a table which compares the as-built volumes with the approved, required volumes indicated in the approved Drainage Report.
3. Retention calculations revised to as-built condition.
4. Pad elevations.
5. Location of all existing structures (e.g. buildings).
6. Location of all retaining walls and elevations.

G. Water Plan As-Builts shall include:

1. Street centerline station and elevation at all changes in profile/vertical alignment.
2. Street centerline station and offset to main at all changes in horizontal alignment.
3. Street centerline station and offset to all fire hydrants, valves, and fittings.
4. Dimension to all operating nuts referenced to the water main on valves with offset operating devices (e.g. butterfly valves).
5. Centerline station and offset to each service tap and the size of tap.
6. Dimension of meter box to nearest side property line if not per typical lot detail.
7. Street centerline stationing and offset to all other appurtenances (e.g. sampling stations, ARVs, blowoffs, backflow assemblies, landscape meters, etc.).
8. Updated Master utility plan sheet updated to reflect any changes.
9. Notations indicating whether polywrap was added to the pipe if not called out on plans.

H. Sewer Plan As-Builts shall include:

1. Sewer line station and offset from street centerline at center of each manhole and all changes in alignment.
2. Final Rim and invert elevation for each connection to a manhole.
3. Calculated pipe slope between manholes.
4. Sewer line stationing at each service tap referenced from the closest downstream manhole.
5. If service is not installed at 90 degrees to main, station and offset provided to end of each service tap at the back of right-of-way.
6. Updated Master Utility plan sheet updated to reflect any changes.
7. Minimum depth has been provided (6').
8. Updated Master Utility plan sheet updated to reflect any changes.

I. Reclaimed Water Plan As-Builts shall include:

1. Street centerline station and elevation at all changes in profile/vertical alignment.
2. Street centerline station and offset to main at all changes in horizontal alignment.
3. Street centerline station and offset to all fire hydrants, valves, and fittings.

4. Dimension to all operating nuts referenced to the water main on valves with offset operating devices (e.g. butterfly valves).
5. Centerline station and offset to each service tap and the size of tap.
6. Dimension of meter box to nearest side property line if not per typical lot detail.
7. Street centerline stationing and offset to all other appurtenances (e.g. sampling stations, ARVs, blowoffs, backflow assemblies, landscape meters, etc.).
8. Updated Master utility plan sheet updated to reflect any changes.
9. Notations indicating whether polywrap was added to the pipe if not called out on plans.

J. Drywell Plan As-Builts shall include:

1. The ADEQ Registration Number for each drywell constructed in the project, which shall be provided by the Engineer/Land Surveyor who prepared the As-Built Grading & Drainage plans.
2. Latitude & Longitude for each drywell constructed in the project.
3. Rim elevations for each drywell constructed in the project.
4. The completed Annual Drywell Inspection Report for each drywell constructed in the project

K. Streetlight Plan As-Builts shall include:

1. ID number noted on plan.
2. Street centerline stationing and offsets to pole locations.
3. Changes to locations referenced by street centerline station and offset.