

1.0 SUBMITTAL REQUIREMENTS

1.1 GENERAL

The Contractor shall submit the operations and maintenance manuals and as-built drawing, as per the City's standard format, prior to the Total Completion of the project.

1.2 OPERATIONS AND MAINTENANCE MANUALS

- .1 Submit an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified.
- .2 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
- .3 Submit complete operation and maintenance manual to Project Manager prior to the date of Total Completion.
- .4 Submit three (3) copies.
- .5 Contents of manuals shall include the following:
 - .1 Date Submitted
 - .2 Project Title, location and Tender Number
 - .3 Model and serial numbers of all pumps and pumping components
 - .4 Pump Curves
 - .5 Parts list of all components with catalogue numbers where applicable
 - .6 Installation details
 - .7 Operating instructions
 - .8 Maintenance instructions

1.3 PROJECT RECORD DRAWINGS

- .1 The Contractor shall submit an as-built drawing, as per the City's standard format, prior to the Total Completion of the project.
- .2 The City will not accept the project without the submission of a complete set of as built drawings.
- .3 The Contractor shall prepare the as-built drawings and they shall be drafted in a professional manner. The as built drawing shall be prepared to scale from a legal base plan provided by the City. The drawing shall show the

exact "as built" location of the system relative to the property line, including the locations of all irrigation components, trees, shrub beds and park amenities. All items must be tied in at two points each from site property lines or other features that are geo-referenced.

- .4 Requirements for acceptable submission of "as-built" drawings will include but not be limited to the following:
 - .1 Sheet size 600 mm x 850 mm, with proper title block and labeling.
 - .2 Key plan showing location of site.
 - .3 Plan of site showing property lines, north location, utilities, all site structures and amenities to suitable scale. Include acreage of area
 - .4 Legal description including registered plan number.
 - .5 Schedule of irrigation materials (valves, irrigation main line and laterals, sprinkler heads, controllers, irrigation vaults, irrigation boxes, conduit etc.) describing sizes, materials, manufacturer and model number.
 - .6 Indicate static water pressure at the service or at the nearest fire hydrant on the same main as the Parks service as well as the date and time of the test and the testers name.
 - .7 Working water pressure at the sprinkler head located at the furthest point as measured along the supply pipe system indicating the date and time of the test.
 - .8 Wiring sequence - identify color-coding utilized.
 - .9 For computerized irrigation sites provide an installation report (Form PK 211).
 - .10 Location of all wire splices.
 - .11 Location and Latin and common name of all plant material.
 - .12 Location of all hard surface landscaping (trails, shale/mulch areas, benches, garbage receptacle, bridges etc), playgrounds and park amenities (basketball hoops, asphalt pads etc).
- .5 Two hard copies of the plans shall be submitted to the Project Manager for review (600 mm x 850 mm sheet size) prior to final submission of the digital drawings. The Project Manager will verify the as built drawings and any discrepancies in the Contractor's field notes or as built drawings will be noted and returned to the Contractor for correction.
- .6 As-built shall be submitted in CD disk format compatible with the City's GIS system (AutoCAD V-2000) and supplied in NAD83 coordinates.

END OF SECTION