NOTE TO CONSULTANTS: Edit, with Track Changes turned on, any text in this section that appears in Bold and Italics then, after approval of the edits, accept changes for the final version. (Remove this Note).

PART 1 - GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of contract, including General Conditions and other Division 01 Specifications, apply to work in this Section.

1.02 WORK IN OTHER SECTIONS: Coordinate related work specified in other parts of the project manual

1.03 DESCRIPTION OF WORK: The O & M Manual shall contain: all operating and maintenance data relevant to all landscape and irrigation components; architectural products, finishes and furnishings; mechanical equipment and components; electrical equipment and components; and any other special equipment and components as required for the project. Note: An itemized indexed list of all warranted items and products and their warranty term shall be placed at the beginning of the O & M Manual for easy reference.

1.04 MANUAL FORM:

A. Organization - the Manual shall be organized in accordance with the 48 Division CSI (The Construction Specifications Institute) numbering system. The 2011 CSI Master Format numbering system can be accessed at the CSI Website @ www.csinet.org.

B. Size - shall be 8-1/2" x 11"

C. Paper - provide 20 pound minimum; white for typed pages.

D. Text - provide Manufacturer's printed data, or neatly typewritten information.

E. Drawings - accordion fold all oversize drawings to 8-1/2" x 11" size for binding.

F. Flyleaf - provide for each separate product and major component parts of equipment followed by typed descriptions. Provide indexed tabs for each CSI Division.

G. Tabs- shall be typewritten, plastic coated, reinforced, and indexed to match the names and order listed in the Table of Contents.

H. Binders - provide:

1. Commercial quality three-ring hard cover binders with durable and cleanable plastic covers for inserting required cover and spine information.
2. Maximum ring size: As suitable to content, 3 inch maximum. Minimum ring size: one inch.
3. When multiple binders are used, correlate data into related groupings.

I. Cover - identify the front cover (and each volume in case of multi-volume manual) with typed title: "Operating and Maintenance Manual". Label volumes as 1 of 4, 2 of 4, 3 of 4, etc. The front cover shall show: Title of Project, names of the Consultant, Contractor, appropriate Mechanical, Electrical or other prime Subcontractor(s), and the date of Physical Completion. Show the CIP Project number, Public Works Contract number, and other information as needed. The spine shall show: Name of the project, identity of the volume if more then one and the general subject matter covered in the Manual, and the year the project was completed.

1.05 CONTENTS:

A. Title Page - provide the title of the Project, name of the Project Manager, names addresses, telephone numbers of the, Consultant, major sub-consultants, General Contractor, major sub-contractors, and date of Physical Completion.

B. Table of Contents - provide a complete table of contents listing major sections of the Manual and clearly identifying categories of information in each section.

C. Letter of Physical Completion

D. Warranty List noted in 1.03 listed above.

E. Preventative Maintenance Schedule- provided by the Consultant.

F Body of Manual - shall be in the Construction Specification Institute (CSI) Format.

1. Divisions 02 through 48: Bind all product data, product maintenance data, and warranty information together for each product listed. All products and systems that could require replacement during the 40-year life of this project must be covered in this manual.
   a. Product Data:
      1). Product Data - submit original product literature only. Mark each sheet to clearly identify specific products and component parts and data applicable to installation. Modify product data as required to accurately represent completed installation. Delete inapplicable information.
      2). Products, Applied Materials and Finishes - include all product data with catalog number, size, composition, and color and texture designations. Provide all necessary information for re-ordering custom manufactured items. Note: For all painting work, provide a complete finish schedule of products, color names and numbers, formulas, and gloss used. Provide a drawing showing all paint and color locations.
      3). Moisture Protection and Weather Exposed Products - include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

4). For each product or finish, list names, addresses and telephone numbers of suppliers, including local source of supplies and replacement parts.

5). Drawings - supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Document as maintenance drawings.

6). Additional Requirements - as specified in individual specification sections and such data that becomes apparent during instruction of Parks' personnel.

b. Product Maintenance:

1). Preventative Maintenance Instruction - Include for each piece of equipment or system furnished requiring periodic inspections, lubrication, adjustment and the like, to ensure optimum and continued performance as originally specified.

2). Instructions for Care and Maintenance - include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommend schedule for cleaning and maintenance.

3). Provide a table showing maintenance schedules and what is to be done to all equipment, i.e. scheduled maintenance spreadsheet.

c. Product Warranties: Include copies of all Extended Warranties with products that have them. See individual Project Manual sections for requirements. Add item to the itemized list at the beginning of the Manual.

2. ***Division 23 - Mechanical Equipment and Systems: <u>(If applicable to these Contract Documents)</u>***
Bind all product data, product maintenance data, and warranty information together for each product listed. All products that could require replacement during the 40-year life of this project must be covered in this manual.

a. Product Data - submit original product literature only. Mark each sheet to clearly identify specific products and component parts and data applicable to installation. Modify product data as required to accurately represent completed installation. Delete inapplicable information.

b. Include unit and component part description, operating procedures, sequence of operation, maintenance procedures, preventive maintenance schedules, and servicing and lubrication schedule listing lubricants required.

c. Include heat loss and cooling load calculations, fan curves, pump curves and other pertinent calculations, air balancing reports, sequence of operations for HVAC equipment.

d. Manufacturer's printed operating and maintenance instructions, description of operating and maintenance instructions, original manufacturer's information (parts list, illustrations, assembly

drawings and diagrams) required for maintenance, as-installed control diagrams by control Manufacturer (include one extra [each] framed and install under glass; locate room where directed), each Contractor's coordination drawings with as-installed color coded piping diagrams, charts of valve tag numbers (with location and function of each valve), list of original Manufacturer's spare parts, maintenance of finishes, and other data as required under pertinent Specification Sections.

e. Prepare and include additional data when the need for such data becomes apparent during instruction of Engineer's personnel.

f. Insert the Commissioning report documents here if part of this Contract. Final report to be inserted later when commissioning work is complete.

3. Division 26 – Electrical: <u>(If applicable to these Contract Documents)</u> Bind all product data, product maintenance data, and warranty information together for each product listed. All products that could require replacement during the 40-year life of this project must be covered in this manual.

a. Product Data - submit original product literature only. Mark each sheet to clearly identify specific products and component parts and data applicable to installation. Modify product data as required to accurately represent completed installation. Delete inapplicable information.

b. Include electrical control diagrams, description of system and component parts, circuit directories of panel boards, as-installed color coded wiring diagrams, operating procedures, maintenance procedures, manufacturer's printed operating and maintenance instructions, listed under pertinent Specifications Sections. This section shall also include lighting fixtures with all data.

c. Prepare and include additional data when the need for such data becomes apparent during instruction of Engineer's personnel.

G. Warranties:

1. Bind in one original copy of each Warranty for each product or system in a separate labeled hard cover binder and submitted with the approved O & M Manuals. See section 01 78 36 - Warranties and Bonds.

1.06 SUBMITTAL SCHEDULE:

A. Submit one copy of preliminary draft of proposed formats and outlines of contents to the Consultant for review and approval. After review, the copy will be returned to the contractor with accompanying comments.

B. Submit one copy of completed data in approved final form to the Consultant for final review. This copy will be required prior to Contractor training of Parks' personnel

C. Submit three (3) copies of approved Manuals in final form prior to Substantial Completion.

PART 2- PRODUCTS: (Not Used*)*

PART 3- EXECUTION: (Not Used)

END OF SECTION