

CHAPTER 8

UTILITY SYSTEMS

Electrical Systems

Irrigation/Water Management Systems

Water Connections

ELECTRICAL SYSTEMS

Purpose

Provide the necessary power systems for park facilities.

General Information

Systems shall be compliant with the NEC and Virginia Electrical Code.

Electrical power will be provided through Dominion Energy.

Materials and Finish

Electrical service enclosures shall be NEMA-3 standard enclosures, powder coated dark green.

Seal openings and bolt down areas with silicone.

Electrical components shall be UL labeled.

Conductors shall be THW or THWN copper.

Features

New electrical service shall be 240 volt 3-phase power where feasible.

Installation

Electric work shall be permitted with the City of Alexandria.

New electrical connections shall be installed underground in compliance with City of Alexandria Standards.

Transformers and electrical service enclosures shall be located outside of property setbacks. Selected locations shall be inconspicuous and outside of major use areas. Locations shall be selected to limit quantity of electrical conduit.

Electrical connections beneath paving shall be installed in industry standard sleeves.

Ballasts shall be located underground.

Screening for service enclosures and transformers shall comply with City of Alexandria Code.



NEMA-3 rated electrical enclosure

IRRIGATION/WATER MANAGEMENT SYSTEMS

Purpose

Irrigation and water management systems shall be implemented to provide supplementary water for plantings and turf areas during periods of drought.

General Information

Irrigation systems shall be integrated with the City's Maxicom Central Control Irrigation System and current department irrigation specifications.

Standard irrigation components shall be manufactured by Rainbird or City approved equal.

Materials and Finish

Irrigation installations shall include communication devices to coordinate with the central controller including the following as applicable: cluster control unit, site satellite or radio antenna, flow sensor, and rain sensor. Small sites may be exempt at the determination of the Director of Recreation, Parks and Cultural Activities.

Valve boxes shall be heavy duty, H-20 loaded, Carson boxes with green covers. Boxes shall include 3 inches minimum vertical depth of gravel at the base and placed over a brick base.

Features

New irrigation installations shall include an accurate, complete, data report of all components installed, precipitation rates and water pressure/flow rates.

Irrigation systems may include drip, spray-head and turf rotors as applicable for site specific needs.

Installation

Irrigation components shall be installed in compliance with plans designed by a professional irrigator licensed in the Commonwealth of Virginia.

Irrigation installations shall be documented with as-built drawings detailing component type and information, location and connections.

Irrigation systems shall provide head-to-head coverage.

Installation documentation shall include field verified precipitation rates for input in the City's Maxicom central control system.

Life Cycle Expectations

Communication components shall be warranted for a minimum of 5 years.

Irrigation components shall be warranted for a minimum of 1 year.



Athletic field irrigation

WATER CONNECTIONS

Purpose

Water connections shall be installed in parks and public open space for drinking fountains, ornamental fountains, interactive fountains, irrigation systems and maintenance use.

General Information

Water connections shall be installed by a certified professional licensed in the Commonwealth of Virginia.

Water service will be provided through Virginia American Water.

Connections shall be compliant with USBC Plumbing Code and other applicable plumbing and health codes.

Materials and Finish

Below grade enclosures shall be heavy duty, H-20 loaded, Carson irrigation boxes with green covers or City approved equal. In-ground valve boxes shall include 3 inches minimum vertical depth of pea gravel at the base.

Above grade backflow preventer and booster pump enclosures shall be marine grade aluminum. Color shall be stainless steel or dark green.



Securing cover for above grade backflow preventer

Features

Water meters are the property of Virginia American Water.

Connections shall have backflow preventers.

Installation

Water connections shall be installed beneath the frost line.

Water connections beneath pavement shall be installed as sleeved connections. Pavement shall be notched at sleeve locations.

Water meters locations shall be inconspicuous and outside of major use areas.



Above grade irrigation backflow preventer enclosure



Below grade irrigation securing enclosure