



REQUEST FOR PROPOSALS

For a complete functional Irrigation System



NOTICE TO PROSPECTIVE BIDDERS

RFP Name: Curtiss Mansion Irrigation
Pre-Proposal Conference: MANDATORY
Proposal Deadline: January 31, 2023, 2:00 pm, at Curtiss Mansion

NOTICE IS HEREBY GIVEN that the Curtiss Mansion (“Mansion”) is soliciting proposals for fully functional irrigation system Interested companies, firms, and individuals (“Respondents”) may obtain a copy of Request for Proposals (the “RFP”) to be issued on January 3, 2023, at the Curtiss Mansion, Mansion Hall, 500 Deer Run, Miami Springs, FL 33166 The RFP contains detailed information about the scope of services, submission requirements, and selection procedures.

The proposal shall be marked “Proposal to Curtiss Mansion for Curtiss Mansion Irrigation. Proposals must be received by the Mansion by no later than January 31, 2023, 2:00 pm, at Curtiss Mansion, at which time the Proposals will be opened. Any proposal received after this time and date, whether by mail or otherwise, will be returned unopened. Respondents are responsible for ensuring that their proposal is received at the Curtiss Mansion by the deadline.

A MANDATORY pre-proposal conference will be held on January 10, 2023, 2:00 pm, at Curtiss Mansion. All Respondents planning to submit Proposals must attend this meeting. Respondents should allow sufficient time to ensure arrival prior to the indicated time.

Any questions, requests for information, or clarification pertaining to this RFP must be made in writing by no later than January 17, 2023, to: Julie Arias, Executive Director, Curtiss Mansion, 500 Deer Run, Miami Springs, FL 33166, **Email: director@curtissmansion.org**.

Dated: January 3, 2023

Published: January 3, 2023, Construction Journal

SECTION 1
INFORMATION FOR THE RESPONDENTS

1.1 INTRODUCTION/GENERAL BACKGROUND

The Curtiss Mansion (the “Mansion”), a historic Mansion and grounds located in Miami-Dade County, Florida, is soliciting proposals for Irrigation System. The Mansion hereby requests proposals for the selection of firm (“Respondent”) to provide the services set forth in Section 2 of this RFP.

The selected Respondent shall provide the services, design, labor, materials, equipment, and all incidentals necessary, as further defined in Section 2 of this request for proposals (the “Services”) to provide the design and installation of a complete irrigation system within the Mansion grounds.

The Mansion intends to award a contract to the selected Respondent for the work described in this RFP.

The contract term is to be five (5) years. The Respondent shall include all storage, refurbishment and maintenance prices for each year of the contract.

1.2 SCHEDULE OF EVENTS

The following schedule shall govern this RFP. The Mansion reserves the right to change the scheduled dates and times at its sole discretion.

No.	Event	Date	Time (EST)
1	Advertisement/ Distribution of RFP	01/3/2023	2:00 pm
2	Mandatory Pre-Proposal Meeting	01/10/2023	2:00 pm
3	Closing Date for Respondent Questions	01/17/2023	2:00 pm
4	Mansion’s Answers to Questions by Respondents	01/24/2023	2:00 pm
5	Proposals Due & Opened (Mansion will provide instructions for access)	01/31/2023	2:00 pm
6	Mansion Staff Member’s Review of Proposals for Responsiveness	02/07/2023	2:00 pm
7-A	Mansion Board Evaluation Committee Meeting & Ranking of Proposals.	02/07/2023	2:00 pm
7-B	Interview Top 3 Ranked Respondents (if requested by Evaluation Committee)	02/13/2023	2:00 pm
8	Mansion Director Issues final ranking to Board	02/15/2023	2:00 pm
9	Board Meeting to Select Successful Respondent	02/16/2023	2:00 pm
10	Clarification and Negotiations (as needed)	As-needed	As-needed
11	Proposal to be accepted and contract awarded	02/23/2023	2:00 pm

ADDENDA

If the Mansion finds it necessary to add to, or amend this RFP prior to the Proposal submittal deadline, the Mansion will issue written addenda/addendum. Each Respondent / Contractor must acknowledge receipt of each addendum by signing the acknowledgement and providing it with its Proposal.

- 1.3 CERTIFICATION.** By submitting a Proposal to this RFP, the signer of the Proposal declares that the person(s), firm(s) and parties identified in the Proposal are interested in and available for providing the Services; that the Proposal is made without collusion with any other person(s), firm(s) and parties; that the Proposal is fair in all respects and is made in good faith without fraud; and that the signer of the cover letter of the Proposal has full authority to bind the person(s), firm(s) and parties identified in the Proposal. By submitting a proposal, the Respondent shall certify that it has fully read and understood this RFP and the proposal method and has full knowledge of the scope, nature, and quality of work to be performed.
- 1.4 ECONOMY OF PREPARATION.** Respondents should be prepared simply and economically, providing a straightforward, concise description of the Respondent's ability to fulfill the requirements of the RFP.
- 1.5 INTERVIEWS.** The Mansion reserves the right to shortlist Respondents and conduct personal interviews or require presentations by any or all Respondents prior to any selection, or at any time during the evaluation process
- 1.6 PROPOSALS BINDING.** All Proposals submitted shall be binding upon the Respondent for 90 calendar days following opening.
- 1.7 UPON OPENING PROPOSALS.** All Proposals received from Respondents in response to this RFP will become the property of the Mansion and will not be returned to the Respondents. In the event of contract award, all documentation produced as part of the contract will become the exclusive property of the Mansion.
- 1.8 PROPOSAL WITHDRAWAL.** Respondents may withdraw their proposals by notifying the Mansion Clerk in writing at any time prior to the scheduled opening. Respondents may withdraw their proposals in person or through an authorized representative. Respondents and authorized representatives must disclose their identity and provide written receipt for the returned proposals. Proposals, once opened, become the property of the Mansion, and will not be returned to the Respondents.
- 1.9 RETENTION OF PROPOSAL.** The Mansion reserves the right to retain all Proposals submitted and use any ideas contained in any Proposal, regardless of whether that Respondent is selected.
- 1.10 REQUESTS FOR INFORMATION/CLARIFICATION.** The Mansion, independently or upon request, may furnish additional information related to this RFP so as to clarify any provision contained herein and/or to facilitate proposals. The Mansion has made efforts to provide accurate and complete information in this RFP. The Mansion shall not be penalized in any way for the lack of any information deemed necessary by any responding firm. Accuracy of this data is not guaranteed. It is the sole responsibility of responding Respondents to assure that they have all information necessary for submission of their proposals. Any and all questions or requests for information or clarification pertaining to this RFP must be made in writing via email to Julie Arias, Executive Director, director@curtissmansion.org by no later than January 17, 2023.

1.11 IRREGULARITIES & RESERVATION OF RIGHTS. Proposals will be selected at the sole discretion of the Mansion. The Mansion reserves the right to waive any irregularities in the request process, to reject any or all proposals, reject a proposal which is in any way incomplete or irregular, re-bid the entire solicitation or enter into agreements with more than one respondent. Proposals received after the deadline provided in this RFP will not be considered.

The Mansion reserves the right to award one or more contract(s) to the Respondent who will best serve the interests of the Mansion and whose Proposals are considered by the Mansion to be the lowest, most responsive, and responsible Respondent whose bid meets the requirements and criteria set forth in this RFP. Notwithstanding, the Mansion may, at its sole discretion, reject all Proposals and cancel the solicitation, in which case no award will be made.

The Mansion reserves the right to accept or reject any or all Proposals, based upon its deliberations and opinions. In making such determination, the Mansion reserves the right to investigate the financial capability, integrity, experience, and quality of performance of each Respondent, including officers, principals, senior management and supervisors, as well as the staff identified in the Proposal.

Respondents shall furnish additional information as the Mansion may require. This includes information that indicates financial resources as well as ability to provide the requisite services. The Mansion reserves the right to make investigations of the qualifications of the firm as it deems appropriate, including but not limited to background investigations and checking of references.

1.12 PROPOSAL/PRESENTATION COSTS. The Mansion shall not be liable for any costs, fees, or expenses incurred by any Respondent in responding to this RFP, nor subsequent inquiries or presentations relating to its Proposal.

1.13 LATE SUBMISSIONS. Proposals received by the Mansion after the time specified for receipt will not be considered. They will be marked "LATE" and returned unopened. Statements of Qualifications received after the closing time and date, for any reason whatsoever, will not be considered. Any disputes regarding timely receipt of Statements of Qualifications shall be decided in the favor of the Mansion. Respondents shall assume full responsibility for timely delivery at the location designated for receipt of Statements of Qualifications. The Mansion shall not be responsible for Statements of Qualifications received after the submittal deadline and encourages early submittal.

1.14 COMPLETENESS. All information required by this RFP must be supplied to constitute an acceptable and complete proposal.

1.15 PERMITS, TAXES, LICENSES. The Respondent shall, at its own expense, obtain all necessary permits, pay all licenses, fees and taxes required to comply with all local ordinances, state and federal laws, rules, regulations and professional standards that would apply to this contract. Any permits, specifically related to the project will be paid by Respondent and submitted to Curtiss Mansion, Inc. for reimbursement of fee cost only. Cost of permit processing and acquisition will no be reimbursable and the sole responsibility of Respondent.

1.16 LAWS, ORDINANCES. The Respondent shall observe and comply with all federal, state, and local laws, including ordinances, rules, regulations, and professional standards that would apply to the contract.

1.17 TERMS OF AGREEMENT. Respondent should be prepared to enter into an agreement for the Design Build of the project, which includes all conditions as set forth in this document for all base bid work and include an alternate for 5 years of complete maintenance of system as Alternate #1.

END OF SECTION 1

SECTION 2

SERVICES NEEDED BY THE MANSION

2.1 SCOPE OF SERVICES

The Respondent shall provide all necessary design, engineering, labor, materials, equipment, reports and expertise required to provide the services, including but not limited to the tasks identified herein, which shall collectively be referred to as the "Work":

2.2 PURPOSE

The purpose of this project is to provide construction services for the complete design and installation of a new fully functional irrigation system for the Curtiss Mansion grounds, approximately 4.5-acre site, located at 500 Deer Run, Miami Springs, Florida 33166. The project also requires the installation of new irrigation pumps along with the appropriate electrical services, as required. Proposer to design, furnish and install the fully functional irrigation system as required by the Florida Building Code.

2.3 MINIMUM DELIVERABLES

Provide all material, labor and equipment needed to complete the project.

- a. Design, Build and Install commercial irrigation system to irrigate area identified in Exhibit "A".
 - i. Main line must be minimum 24 inches below grade. Interested contractors are advised that excavation/trenching will be through coral rock that is just beneath top the layer of soil and turf.
 - ii. All Electrical connections as required.
- b. Provide scaled drawings of the proposed design, irrigation system and equipment layout.
- c. Provide Manufacturer's Product Data: Include all components associated with the project.
- d. Prepare shop drawings showing installation details, products required for proper installation, their relative locations, and critical dimensions, wiring diagrams of all mechanical and electrical equipment.
- e. Provide installation of pipe, equipment, and appurtenances for plumbing and electrical work.
- f. Connect to newly installed water meter as required by Florida Building Code.
- g. Provide back flow preventor as required by Florida Building Code specifications.
- h. Provide operational tests on the system in presence of the Executive Director or their designee.
- i. Provide restoration of disturbed area to include backfill, topsoil and sod as needed.
- j. Provide Operations Manual and training on the operations of the system to the Curtiss Mansion Director or their designee.

2.4 MANSION'S RESPONSIBILITIES

Curtiss Mansion shall be responsible for:

- a. Locating existing electric and water lines.
- b. Reviewing proposer's design drawings and approve prior to permitting and construction.

2.5 PLANS OR DRAWINGS

Provide professionally designed drawings prior to start of construction. Design drawings shall be clearly readable, to reasonable scale, show the entire site to be irrigated, including all improvements, and shall

include but not be limited to: date, scale, revisions, legend, specifications which list all aspects of equipment and assembly thereof, water source, water meter and/or point of connection, backflow prevention devices, pump station size, pump station location, design operating pressure and flow rate per zone, precipitation rate per zone, locations of pipe, controllers, valves, sprinklers, sleeves, gate valves, etc. The plans and specifications shall be prepared in accordance with Section 107 of the Florida Building Code, Building.

2.6 DESIGN CRITERIA

A. Design defined. Within the scope of this code, irrigation system design is defined as the science and art of properly selecting and applying all components within the system. The irrigation system shall be designed and installed to achieve the highest possible efficiency by providing operating pressures, sprinkler placement and nozzle selection that are within the manufacturer's recommendations and maintained to keep the system at or within those ranges.

B. Water supply.

1.The water source shall be adequate from the standpoint of volume, flow rate, pressure, and quality to meet the irrigation requirements of the area to be irrigated, as well as other demands, if any, both at the time the system is designed and for the expected life of the system. The irrigation system shall use the lowest quality water source available on site.

2.If the water source is effluent, it shall meet the advanced waste treatment standard as set forth in Florida Statute §403.086(4) as well as any other standard as set forth by the controlling governmental agency.

C. Application uniformity.

1.Sprinkler irrigation systems should be designed with the appropriate uniformity for the type of plants being grown and the type of soil found in that area. The general watering of different types of plants as one group without regard to their individual water requirements is to be avoided.

2.Use sprinkler head spacing, type and nozzle selection to achieve the highest application uniformity.

3.Use application rates which avoid runoff and permit uniform water infiltration into the soil. Land slope, soil hydraulic properties, vegetative ground cover, and prevailing winds and sun exposure will be considered when application rates are specified. Different types of sprinklers with different application rates, i.e., spray heads vs. rotor heads, bubbler heads vs. rotor heads, shall not be combined on the same zone or circuit.

D. System Zoning. The irrigation system should be divided into zones based on consideration of the following hydro zoning practices.

1.Available flow rate.

2.Cultural use of the area.

3.Type of vegetation irrigated, i.e., turf, shrubs, native plants, etc.

4.Type of sprinkler, i.e., sprinklers with matching precipitation rates.

5.Soil characteristics and slope.

6.Sun exposure.

E. Sprinkler/emitter spacing and selection.

1. Sprinkler/Emitter spacing will be determined considering the irrigation requirements, hydraulic characteristics of the soil and device, and water quality with its effect on plant growth, sidewalks, buildings, and public access areas.

2. All pop-up spray head bodies in turf areas shall be no less than 6 inches in height for St. Augustine, Zoysia and Bahia and no less than 4 inches in height for Bermuda, Centipede and Seashore Paspalum.

3. Sprinklers should be in all corners and on the perimeter of each irrigated zone area for a matched precipitation rate objective.

4. Single row head spacing should only occur when an additional row will cause saturated soils at the toe of a slope or other inefficiencies.

5. All heads shall not exceed 50 percent of manufacturer's specified diameters of coverage.

6. Water conservation will be emphasized by minimizing irrigation of non-vegetated areas.

7. Microirrigation systems should be designed using the Emission Uniformity concept. Space micro irrigation emitters to wet 100 percent of the root zone in turf areas and 50 percent of the root zone for shrubs and trees.

8. Microirrigation or low volume heads shall be required in all areas less than 4 feet in either direction.

9. All micro irrigation zones shall have adequate filtration installed at the zone valve or at the point where the drip tubing is attached to PVC pipe to protect the emission devices from contamination from a PD main or lateral break.

10. Each plant shall have an adequate number and size (gph) of micro irrigation devices, properly placed, to meet the plant water requirements for no rainfall.

F. Pipelines. Pipelines will be sized to limit pressure variations so that the working pressure at all points in the irrigation system will be in the range required for uniform water application. Velocities will be kept to 5 feet (1524 mm) per second.

G. Wells.

1. Well diameters and depths are to be sized to correspond to the irrigation system demand. Refer to SCS Code FL-642 and local water management district regulations.

2. Well location and depth shall be in compliance with applicable state, water management district and local codes.

H. Pumps.

1. Pump and motor combinations shall be capable of satisfying the total system demand without invading the service factor of the motor except during start-up and between zones.

2. Pumps shall be positioned with respect to the water surface in order to ensure that the net positive suction head required (NPSHr) for proper pump operation is achieved.

3. The pumping system shall be protected against the effects of the interruption of water flow.

I. Control valves.

1. Control valve size shall be based on the flow rate through the valve. Friction loss through the valve, an approved air gap separation, or a reduced pressure should not exceed 10 percent of the static mainline head.

2. Control systems using hydraulic communication between controller and valve(s) shall comply with the manufacturer's recommendations for maximum distance between controller and valve, both horizontally and vertically (elevation change).

3.The size of the electrical control wire shall be in accordance with the valve manufacturer's specifications; based on the solenoid in-rush amperage and the circuit length, considering the number of solenoids operating on the circuit. Minimum of #14 AWG single strand control wire shall be used on all systems, except individual, single lot residential systems.

4.Locate manually operated control valves so that they can be operated without wetting the operator.

5.Locate inground valves away from large tree and palm root zones.

6.A manual shut-off valve shall be required to be installed close to the point of connection but downstream from any backflow device to minimize water loss when the system is shut off for repairs or emergencies.

7.An automatic shut-off valve (normally closed) is required on all systems with a constantly pressurized mainline to confine the water loss from minor main line leaks, weeping valves, or stuck on valves to just the time the system is operating automatically.

J. Automatic irrigation controller. Automatic irrigation controllers must be UL approved and have an adequate number of stations and power output per station to accommodate the irrigation system design. The controller shall be capable of incorporating a rain shut-off device or other sensors to override the irrigation cycle when adequate rainfall has occurred as required by Florida Statutes, Section 373.62.

K. Chemical injection.

1.Chemical injection systems for the injection of fertilizer, pesticides, rust inhibitors, or any other injected substance will be located and sized according to the manufacturers' recommendations.

2.Injection systems will be located downstream of the applicable backflow prevention devices as required by Florida Statutes, Sections 487.021 and 487.055; the Environmental Protection Agency (EPA); Pesticide Regulation Notice 87-1; or other applicable codes.

3.If an irrigation water supply is also used for human consumption, an air gap separation or an approved reduced pressure principal backflow prevention device is required.

L. Backflow prevention methods. Provide backflow prevention assemblies at all cross connections with all water supplies in accordance with county, municipal or other applicable codes to determine acceptable backflow prevention assembly types and installation procedures for a given application. In the event of conflicting regulation provide the assembly type which gives the highest degree of protection.

1.Irrigation systems into which chemicals are injected shall conform to Florida state law (Florida Statutes 487.021 and 487.055) and Environmental Protection Agency Pesticide Regulation Notice 87-1, which requires backflow prevention regulations to be printed on the chemical label.

2.For municipal water supplies, chemical injection equipment must be separated from the water supply by an approved air gap separation or a reduced pressure principle assembly that is approved by the Foundation for CCC and the Hydraulic Research Institute. The equipment must also comply with ASSE 1013 to protect the water supply from back-siphonage and back-pressure.

3.For other water supplies, Florida State law, EPA regulations, or other applicable local codes must be followed. In the absence of legal guidelines at least a PVB should be used.

2.7 STANDARDS

A. American Society of Agricultural Engineers (ASAE) Standards:

ASAE S330.1: Procedure for sprinkler distribution testing for research purposes.

ASAE S376.1: Design, installation, and performance of underground thermoplastic irrigation pipelines.

ASAE S397.1: Electrical service and equipment for irrigation.

ASAE S435: Drip/Trickle Polyethylene Pipe used for irrigation laterals.
ASAE S398.1: Procedure for sprinkler testing and performance reporting.
ASAE S339: Uniform classification for water hardness.
ASAE S394: Specifications for irrigation hose and couplings used with self-propelled, hose-drag agricultural irrigation system.
ASAE EP400.1: Designing and constructing irrigation wells.
ASAE EP405: Design, installation, and performance of trickle irrigation systems.
ASAE EP409: Safety devices for applying liquid chemicals through irrigation systems.

B. ASTM International Standards:

ASTM D2241: Poly (Vinyl Chloride) (PVC) Plastic pipe (SDR-PR).
ASTM D2239: Specification for polyethylene (PE) plastic pipe (SDR-PR).
ASTM D2466: Specification for socket-type poly (vinyl chloride) (PVC) and chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Schedule 40.
ASTM D2855: Standard recommended practice for making solvent cemented joints with polyvinyl chloride pipe and fittings.
ASTM D3139: Specification for joints for plastic pressure pipes using flexible elastomeric seals.
ASTM F477: Specification for elastomeric seals (gaskets for joining plastic pipe).

C. American Water Works Association (AWWA) standards:

AWWA C-900: PVC pipe standards and specifications.

D. American Society of Sanitary Engineers (ASSE) Standards:

ASSE 1001: Pipe applied atmospheric type vacuum breakers.
ASSE 1013: Reduced pressure principle backflow preventers.
ASSE 1015: Double check valve-type back pressure backflow preventers.
ASSE 1020: Vacuum breakers, anti-siphon, pressure type.
ASSE 1024: Dual check valve-type backflow preventers.

E. Hydraulic Institute Standards, 14th Edition.

F. Standards and Specifications for Turf and Landscape Irrigation Systems Florida Irrigation Society (FIS) Standards.

G. Soil Conservation Service (SCS) Field Office Technical Guide, Section IV-A — Cropland Codes:

SCS Code 430-DD: Irrigation water conveyance, underground, plastic pipeline.
SCS Code 430-EE: Irrigation water conveyance. Low pressure, underground, plastic pipeline.
SCS Code 430-FF: Irrigation water conveyance, steel pipeline.
SOS Code 441-1: Irrigation system, trickle.
SCS Code 442: Irrigation system sprinkler.
SCS Code 449: Irrigation water management.
SCS Code 533: Pumping plant for water control.
SCS Code 642: Well.

2.8 MATERIALS

A. PVC pipe and fittings.

1. PVC pipe should comply with one of the following standards: ASTM D1785, ASTM D2241, AWWA C-900, or AWWA C-905. SDR-PR pipe shall have a minimum wall thickness as required by SDR-26.

All pipe used with effluent water systems shall be designated for non-potable use by either label or by the industry standard color purple.

2.All solvent-weld PVC fittings shall, at a minimum, meet the requirements of Schedule 40 as set forth in ASTM D2466.

3.Threaded PVC pipe fittings shall meet the requirements of Schedule 40 as set forth in ASTM D2464.

4.PVC gasketed fittings shall conform to ASTM D3139. Gaskets shall conform to ASTM F477.

5.PVC flexible pipe should be pressure rated as described in ASTM D2740 with standard outside diameters compatible with PVC IPS solvent-weld fittings.

6.PVC cement should meet ASTM D2564. PVC cleaner-type should meet ASTM F656.

B. Ductile iron pipe and fittings.

1.Gasket fittings for iron pipe should be of materials and type compatible with the piping material being used.

C. Steel pipe and fittings.

1.All steel pipe shall be rated Schedule 40 or greater and be hot-dipped galvanized or black in accordance with ASTM A53/A53M.

2.Threaded fittings for steel pipe should be Schedule 40 Malleable Iron.

D. Polyethylene pipe.

1.Flexible swing joints shall be thick-walled with a minimum pressure rating of 75 psi (517 kPa) in accordance with ASTM D2239.

2.Low pressure polyethylene pipe for micro irrigation systems shall conform with ASAE S-435.

3.Use fittings manufactured specifically for the type and dimensions of polyethylene pipe used.

E. Sprinklers, spray heads, and emitters.

1.Select units and nozzles in accordance with the size of the area and the type of plant material being irrigated. Sprinklers must fit the area they are intended to water without excessive overspray onto anything but the lot individual landscaped surface. Intentional direct spray onto walkways, buildings, roadways, and drives is prohibited. All sprinklers used with effluent water systems shall be designated for non-potable use by either label or by the industry standard color purple.

2.Use equipment that is protected from contamination and damage by use of seals, screens, and springs where site conditions present a potential for damage.

3.Support riser-mounted sprinklers to minimize movement of the riser resulting from the action of the sprinkler.

4.Swing joints, either flexible or rigid, shall be constructed to provide a leak-free connection between the sprinkler and lateral pipeline to allow movement in any direction and to prevent equipment damage.

5.Check valves shall be installed on any sprinkler where low point drainage occurs.

6.All tubing shall be installed under ground cover using staples at close enough intervals (24 to 36 inches) to secure the tubing and prevent it from moving through the mulch bed.

F. Valves.

1.Valves must have a maximum working pressure rating equal to or greater than the maximum pressure of the system, but not less than 125 psi (861 kPa). This requirement may be waived for low mainline pressure systems [30 psi (207 kPa) or less]. All valves used with effluent water systems shall be designated for non-potable use by either label or by the industry standard color purple.

2. Only valves that are constructed of materials designed for use with the water and soil conditions of the installation shall be used. Valves that are constructed from materials that will not be deteriorated by chemicals injected into the system shall be used on all chemical injection systems.

G. Valve boxes.

1. Valve boxes are to be constructed to withstand traffic loads common to the area in which they are installed. They should be sized to allow manual operation of the enclosed valves without excavation.

2. Each valve box should be permanently labeled to identify its contents. All valve boxes used with effluent water systems shall be designated for non-potable use by either label or by the industry standard color purple.

H. Low voltage wiring.

1. All low voltage wire which is directly buried must be labeled for direct burial wire. Wire not labeled for direct burial must be installed in watertight conduits, and be UL listed TWN or THHN type wire as described in the NEC. All wire traveling under any hardscape or roadway must be installed within a pipe and sleeve.

2. The size of the electrical control wire shall be in accordance with the valve manufacturer's specifications, based on the solenoid in-rush amperage and the circuit length, considering the number of solenoids operating, on the circuit. Minimum of #14 AWG single strand control wire shall be used on all systems, except single lot individual residential systems.

3. Connections are to be made using UL approved devices specifically designed for direct burial. All splices shall be enclosed within a valve box.

I. Irrigation controllers.

1. All irrigation controllers shall be UL listed, conform to the provisions of the *National Electric Code* (NEC), and be properly grounded in accordance with manufacturer's recommendations. Equip solid state controls with surge suppressors on the primary and secondary wiring, except single lot residential systems.

2. The controller housing or enclosure shall protect the controller from the hazards of the environment in which it is installed.

3. The rain switch shall be placed on a stationary structure minimum of 5-foot (1524 mm) clearance from other outdoor equipment, free and clear of any tree canopy or other overhead obstructions, and above the height of the sprinkler coverage. Soil moisture sensors and ET sensors shall be installed and monitored per manufacturer's guidelines per Florida Statutes, Section 373.62 requirements.

J. Pumps and wells.

1. Irrigation pump electrical control systems must conform to NEC and local building codes.

2. The pumping system shall be protected from the hazards of the environment in which it is installed.

3. Use electric motors with a nominal horsepower rating greater than the maximum horsepower requirement of the pump during normal operation. Motor shall have a service factor of at least 1.15.

4. Casings for drilled wells may be steel, reinforced plastic mortar, plastic, or fiberglass pipe. Only steel pipe casings shall be used in driven wells. Steel pipe must have a wall thickness equal to or greater than Schedule 40. See SCS code FL-642. Steel casings shall be equal to or exceed requirements of ASTM A589.

K. Chemical injection equipment.

1.Chemical injection equipment must be constructed of materials capable of withstanding the potential corrosive effects of the chemicals being used. Equipment shall be used only for those chemicals for which it was intended as stated by the injection equipment manufacturer.

L. Filters and strainers.

1.Filtration equipment and strainers constructed of materials resistant to the potential corrosive and erosive effects of the water shall be used. They shall be sized to prevent the passage of foreign material that would obstruct the sprinkler/emitter outlets in accordance with the manufacturer’s recommendations.

2.9 INSTALLATION

A. Pipe installation.

1.Pipe shall be installed at sufficient depth below ground to protect it from hazards such as vehicular traffic or routine occurrences which occur in the normal use and maintenance of a property. Depths of cover shall meet or exceed SCS Code 430-DD, Water Conveyance, as follows:

a. Vehicle traffic areas.

Pipe Size (inches)	Depth of Cover (inches)
$\frac{1}{2}$ – $2\frac{1}{2}$	18
3 – 5	24
6 and larger	30

b. All areas except vehicle traffic:

Pipe Size (inches)	Depth of Cover (inches)
$\frac{1}{2}$ – $1\frac{1}{2}$	6
2 – 3	12
4 – 6	18
more than 6	24

2. Make all pipe joints and connections according to manufacturer's recommendations. Perform all solvent-weld connections in accordance with ASTM D2855.

3. Minimum clearances shall be maintained between irrigation lines and other utilities. In no case shall one irrigation pipe rest upon another. Comingling or mixing of different types of pipe assemblies shall be prohibited.

4. Thrust blocks must be used on all gasketed PVC systems. They must be formed against a solid, hand-excavated trench wall undamaged by mechanical equipment. They shall be constructed of concrete, and the space between the pipe and trench shall be filled to the height of the outside diameter of the pipe. Size thrust blocks in accordance with ASAE S-376.1.

5. The trench bottom must be uniform, free of debris, and of sufficient width to properly place pipe and support it over its entire length. Native excavated material may be used to backfill the pipe trench. However, the initial backfill material shall be free from rocks or stones larger than 1-inch in diameter. At the time of placement, the moisture content of the material shall be such that the required degree of compaction can be obtained with the backfill method to be used. Blocking or mounding shall not be used to bring the pipe to final grade.

6. Pipe sleeves must be used to protect pipes or wires installed under pavement or roadways. Use pipe sleeves two pipe sizes larger than the carrier pipe or twice the diameter of the wire bundle to be placed under the paving or roadway and extending a minimum of 3 feet beyond the paved area or as required by the Florida Department of Transportation (FDOT). Use sleeve pipe with wall thickness at least equal to the thickness of Schedule 40 or PR 160 pipe, whichever is thicker. Proper backfill and compaction procedures should be followed.

B. Control valve installation.

1. Valve installation shall allow enough clearance for proper operation and maintenance. Where valves are installed underground, they shall be provided with a valve box with cover extending from grade to the body of the valve. The top of the valve body should have a minimum of 6 inches (152 mm) of cover in nontraffic and non-cultivated areas and 18 inches (457 mm) of cover in traffic areas. The valve box shall be installed so as to minimize the effect of soil intrusion within the valve box with the use of filter fabric, pea gravel, or other acceptable material. If an automatic valve is installed under each sprinkler, then the valve box may be omitted.

2. Install valve boxes so that they do not rest on the pipe, the box cover does not conflict with the valve stem or interfere with valve operation, they are flush with the ground surface and do not present a tripping hazard or interfere with routine maintenance of the landscape.

3. Install quick coupling valves on swing joints or flexible pipe with the top of the valve at ground level.

4. Any above ground manually operated valves on non-potable water systems will be adequately identified with distinctive purple colored paint. Do not provide hose connections on irrigation systems that utilize non-potable water supplies.

C. Sprinkler installation.

1. On flat landscaped areas, install sprinklers plumb. In areas where they are installed on slopes, sprinklers may be tilted as required to prevent erosion.

2. Sprinklers should be adjusted to avoid unnecessary discharge on pavements and structures.

a. Adjust sprinklers so they do not water on roads.

b. Provide a minimum separation of 4 inches (102 mm) between sprinklers and pavement.

c. Provide a minimum separation of 12 inches (305 mm) between sprinklers and buildings and other vertical structures.

d. Polyethylene (PE) nipples shall not be used in maintenance equipment traffic areas or alongside roadways and driveways.

3. Piping must be thoroughly flushed before installation of sprinkler nozzles.

4. Surface mounted and pop-up heads shall be installed on swing joints or flexible pipe.

5. Above-ground (riser mounted) sprinklers shall be mounted on Schedule 40 PVC or steel pipe and be effectively stabilized.

6. The pop-up height for sprays and rotator nozzles shall be adequate to prevent being obstructed by the turf grass blades: 6-inch height for St. Augustine, Zoysia and Bahia, 4-inch height for Bermuda, Centipede and Seashore Paspalum.

7. All micro irrigation zones shall have adequate filtration installed at the zone valve or at the point where the drip tubing is attached to PVC pipe to protect the emission devices from contamination from a PVC main or lateral break.

8. All micro irrigation zones shall have adequate pressure regulation installed at the zone valve or at the point where the drip tubing is attached to the PVC to ensure that all emission devices meet the manufacturer's performance standards.

9. Each plant shall have an adequate number and size (gph) of micro irrigation devices, properly placed to meet the plant water requirements for no rainfall.

10. All tubing shall be installed under ground cover using staples at close enough intervals (24 to 36 inches) to secure the tubing and prevent it from moving through the mulch bed.

D. Pump installation.

1. Install pumps as per the manufacturer's recommendations. Set pumps plumb and secure to a firm concrete base. There should be no strain or distortion on the pipe and fittings. Pipe and fittings should be supported to avoid placing undue strain on the pump. Steel pipe should be used on pumps 5 horsepower (hp) or larger whenever practical.

2. Pumps must be installed in a manner to avoid loss of prime. Install suction line to prevent the accumulation of air pockets. All connections and reductions in suction pipe sizes should be designed to avoid causing air pockets and cavitation.

3. Pumps must be located to facilitate service and ease of removal. Appropriate fittings should be provided to allow the pump to readily be primed, serviced, and disconnected. Provide an enclosure of adequate size and strength, with proper ventilation, to protect the pump from the elements (except residential systems).

E. Low voltage wire installation.

1. Install low voltage wire (less than 98 volts) with a minimum depth of cover of 12 inches (305 mm) where not installed directly under the mainline.

2. Provide a sufficient length of wire at each connection to allow for thermal expansion/shrinkage.

3. As a minimum, provide a 12-inch (305 mm) diameter loop at all splices and connections.

4. Terminations at valves will have 24-inches (610 mm) minimum free wire.

5. Install all above-ground wire runs and wire entries into buildings in electrical conduit.

Exception: No conduit is required when wiring above ground manifolds from the valve to the ground immediately beneath it.

6. Provide common wires with a different color than the power wires (white shall be used for common wires).

7. Connections are to be made using UL approved devices specifically designed for direct burial.

8. All splices shall be enclosed within a valve box.

F. Hydraulic control tubing.

1. For hydraulic control systems, use a water supply that is filtered and free of deleterious materials, as defined by the hydraulic control system manufacturer. Install a backflow prevention device where the hydraulic control system is connected to potable water supplies.

2. Install tubing in trenches freely and spaced so that it will not rub against pipe, fittings, or other objects that could score the tubing, and with a minimum 12-inch (305 mm) diameter loop at all turns and connections. Provide a minimum depth of cover of 12 inches (305 mm).

3. Connect tubing with couplings and collars recommended by the tubing manufacturer. All splices shall be made in valve boxes. Prefill tubing with water, expelling entrapped air and testing for leaks prior to installation.

Install exposed tubing in a protective conduit manufactured from Schedule 40 UV protected PVC or electrical conduit.

2.10 TESTING & INSPECTIONS

A. Purpose. All materials and installations covered by the Irrigation Code shall be inspected by the governing agency to verify compliance with the Irrigation Code.

B. Rough inspections. Rough inspections will be performed throughout the duration of the installation. These inspections will be made by the governing agency to ensure that the installation is in compliance with the design intent, specifications, and the Irrigation Codes. Inspections will be made on the following items at the discretion of the governing agency:

1. Sprinkler layout and spacing: This inspection will verify that the irrigation system design is accurately installed in the field. It will also provide for alteration or modification of the system to meet field conditions. To pass this inspection, sprinkler/emitter spacing should be within ± 5 percent of the design spacing.

2. Pipe installation depth: All pipes in the system shall be installed to depths as previously described in this code.

3. Test all mainlines upstream of the zone valves as follows:

a. Fill the completely installed pipeline slowly with water to expel air. Allow the pipe to sit full of water for 24 hours to dissolve remaining trapped air.

b. Using a metering pump, elevate the water pressure to the maximum static supply pressure expected and hold there for a period of 2 hours, solvent-weld pipe connections shall have no leakage.

c. For gasketed pipe main lines add water as needed to maintain the pressure. Record the amount of water added to the system over the 2-hour period.

d. Use the following formulas to determine the maximum allowable leakage limit of gasketed pipe.

2.11 DUCTILE IRON

$$L = \frac{SDP}{133,200}$$

2.12 PVC, GASKETED JOINT

$$L = \frac{NDP}{7,400}$$

Where:

L = allowable leakage (gph),
N = number of joints,
D = nominal diameter of pipe (inches),
P = average test pressure (psi), and
S = length of pipe (ft).

1. When testing a system which contains metal-seated valves, an additional leakage per closed valve of 0.078 gph/inch of nominal valve size is allowed.

C. Final inspection. When the work is complete the contractor shall request a final inspection.

1. Cross connection control and backflow prevention.

a. Public or domestic water systems: Check that an approved backflow prevention assembly is properly installed and functioning correctly. Review the location of the assembly to check that it is not creating a hazard to pedestrians or vehicular traffic.

b. Water systems other than public or domestic water systems: Check that the proper backflow prevention assemblies are provided.

c. All assemblies that can be, will be tested by a technician certified for backflow testing by a State recognized certifying board prior to being placed into service.

2. Sprinkler coverage testing.

a. All sprinklers must be adjusted to minimize overspray onto buildings and paved areas. Minor tolerances shall be made to allow for prevailing winds.

b. All sprinkler controls must be adjusted to minimize runoff of irrigated water. Water application rates shall not exceed the absorption rate of the soil.

c. All sprinklers must operate at their design radius of throw. Nozzle sizes and types called for in the system design must have been used. All nozzles within the same zone shall have matched precipitation rates unless otherwise directed in order to increase efficiency by adjusting the nozzle selection to match site conditions.

d. Spray patterns must overlap as designed (a.k.a. head to head coverage) or placed to achieve the highest possible distribution uniformity using the manufacturer's specifications.

e. Sprinklers must be connected, as designed, to the appropriate zone.

f. Sprinkler heads must operate within 20 percent of the optimum operating pressure but not more than the maximum nor less than the minimum guidelines as specified by the manufacturer. If the dynamic water pressure at the site's water source(s) is too low to achieve this pressure range at the sprinklers, a booster pump or alternate source shall be required. If the dynamic water pressure at the site's water source(s) is too high to achieve this pressure range at the sprinklers, a pressure regulating device shall be required at either the source, the zone valve, or the sprinklers, or any combination thereof.

D. Site restoration.

1. All existing landscaping, pavement, and grade of areas affected by work must be restored to original condition or to the satisfaction of the governing authority.

Verify that the pipeline trenches have been properly compacted to the densities required by the plans and specifications.

E. Record drawings.

1. A record drawing shall be required of all irrigation systems installed on commercial and residential developments and shall contain the following information:

a. Location, type pressure and maximum flow available of all water sources.

Include limitations like days of week watering requirements.

b. Location type and size of all components including sprinklers, micro irrigation, main and lateral piping, master valves, valves, moisture sensors, rain sensors, controllers, pump start relays, backflow devices, pumps, wells, etc.

c. The flow rate, application rate (inches per hour), and the operating pressure for the sprinklers and micro irrigation within each zone.

d. An irrigation schedule for each zone, for each season (monthly is preferred), indicating the frequency and duration each zone should operate to meet the plant water requirements without rainfall and stay within the hydraulic capacities of the sprinkler system installed.

e. The name, address, phone, email, professional license, or certification number of the installation contractor.

f. Date of installation.

g. Irrigation system maintenance schedule that shall include, but is not limited to the following:

1. routine visual inspections (at least 4 per year);
2. adjustments to components to keep sprinklers straight, at the right height.
3. aligned and unobstructed nozzles and screens cleaned.
4. filters cleaned, and sensors monitored; and
5. pressures and flows at the source and sprinklers are correct for original design.

F. Irrigation system maintenance.

a. Repairs to all irrigation components shall be done with originally installed components, equivalent components, or those with greater efficiency.

b. The operation of the irrigation system outside of the normal watering window shall be allowed for evaluating, maintaining, or repairing the system or its components.

G. Irrigation system management.

a. The frequency (times per week/month) and duration (minutes/hours) of the operation of each zone shall be adjusted and operate in order to meet the water needs of the plants within each zone as a supplement to rainfall. Adjustments shall be made a minimum 4 times per year to match the seasonal changes of the plants and the operational restrictions.

b. It is recommended that the schedule be adjusted monthly, or controllers be properly installed and programmed to automatically adjust to maximize water savings.

The Mansion, on an as needed basis, will periodically issue work orders for specific projects and assignments to the retained Respondent(s).

The Mansion may elect to have the selected Respondent(s) provide all of these services, some of the services, or none of these services. The selected Respondent(s) is/are not guaranteed any work by the Mansion under this solicitation. All projects will be coordinated with the Mansion Director and their designee.

END OF SECTION 2

SECTION 3
PROPOSAL SUBMISSION REQUIREMENTS AND EVALUATION

3.1 GENERAL PROPOSAL INSTRUCTIONS; SUBMITTAL DEADLINE

Four (4) signed Proposal shall be submitted "Proposal to Curtiss Mansion in sealed envelope imprinted the bidder and person name on the outside.

All Proposals must be received by the due date and time. Proposals received after the due date and time will not be considered.

All Proposals received will be publicly opened and announced during a meeting, on the date and at the time specified in the Schedule of Events set forth in Section 1.2, above. All Proposals received after that time shall be returned, unopened.

3.2 PROPOSAL REQUIREMENTS

Respondents interested in performing this work must display relevant experience with the type of work solicited and should emphasize both the experience and capability of particular personnel who will actually perform the work.

In order to ensure a uniform review process and to obtain the maximum degree of comparability, it is required that the Proposals be organized in the manner specified herein and contain the below-listed information and documents. Failure to do so may deem a submitted Proposal as non-responsive.

In addition to other requirements stated in this RFP, to be eligible to respond, the Respondent shall submit a Proposal that includes all of the following information/documentation, appropriately tabbed, in this exact order ("Proposal"):

1. Each Proposal submitted shall have a cover page with Respondent's business name, address, and telephone number; name and all contact information for individual that will serve as "Project Manager," a primary liaison between the Respondent and the Mansion.
2. To be eligible to respond, the Respondent shall have five (5) years of continuous operation under the same entity name and provide proof of same.
3. Respondent must include any relevant business licenses, including occupational licenses, and Florida registration (entity certifications, not personal) and a copy of the entity's State Corporate Certificate or other proof from the State of Florida, Division of Corporations that Respondent is authorized to do business in this State.
4. Respondent must provide copies of its professional and business licenses and insurance, qualifier for company name and type of licenses, as well as those for supporting firms, contractors, or subcontractors.
5. Respondent shall provide a list of current and past clients, with emphasis on Florida municipalities.

6. Respondent must also provide the official complaint history within the last five (5) years for its qualifying professional license.
7. Respondent shall identify the Principal in Charge's Experience. This individual must have a minimum of five (5) years' experience in providing the Services. This individual must be capable of speaking and making decisions on behalf of the Respondent.
8. **Computer Aided Design (CAD):** Provide acknowledgement that Respondent will produce all work product using the latest version of AutoCAD; prior to and during construction, CAD files shall be made available to the Mansion at no cost for coordination of drawings and will be provided to the Mansion at no cost at the completion of construction. It must also be acknowledged that submitted work product as well as final permitted construction documents are and will be the property of the Mansion upon submittal.
9. **Insurance:** Respondent must provide evidence of insurance currently in place that meets or exceeds the specifications herein or a commitment from an insurance company that such insurance coverage may be obtained by the Respondent prior to entering into an agreement with the Mansion. The successful Respondent(s) must submit, prior to signing of a contract, a Certificate of Insurance naming the Mansion as an additional insured and meeting the following requirements, which are also set forth in the form of Professional Services Agreement attached to this RFP:

Respondent shall secure and maintain throughout the duration of this RFP and the contract, if selected, insurance of such types and in such amounts not less than those specified below as satisfactory to Mansion, naming the Mansion as an Additional Insured, underwritten by a firm rated A-X or better by A.M. Best and qualified to do business in the State of Florida. The insurance coverage shall be primary insurance with respect to the Mansion, its officials, employees, agents, and volunteers naming the Mansion as additional insured. Any insurance maintained by the Mansion shall be in excess of the Contractor's insurance and shall not contribute to the Contractor's insurance. The insurance coverages shall include at a minimum the amounts set forth in this section and may be increased by the Mansion as it deems necessary or prudent. Copies of Contractor's actual Insurance Policies as required herein and Certificates of Insurance shall be provided to the Mansion, reflecting the Mansion as an Additional Insured. Each Policy and certificate shall include no less than (30) thirty-day advance written notice to Mansion prior to cancellation, termination, or material alteration of said policies or insurance. All coverage forms must be primary and non-contributory, and the Contractor shall provide a waiver of subrogation for the benefit of the Mansion. The Contractor shall be responsible for assuring that the insurance policies and certificates required by this Section remain in full force and effect for the duration of the Agreement and any Projects.

1. Commercial General Liability coverage with limits of liability of not less than a \$1,000,000 per Occurrence combined single limit for Bodily Injury and Property Damage. This Liability Insurance shall also include Completed Operations and Product Liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of Contractor. The General Aggregate Liability limit and the Products/Completed Operations Liability Aggregate limit shall be in the amount of \$2,000,000 each.
2. Workers Compensation and Employer's Liability insurance, to apply for all employees for statutory limits as required by applicable State and Federal laws. The policy(ies) must include Employer's Liability with minimum limits of \$1,000,000.00 each accident. No employee, subcontractor or agent of the Contractor shall be allowed to provide Services pursuant to this RFP who is not covered by Worker's Compensation insurance.

3. Business Automobile Liability with minimum limits of \$1,000,000.00 per Occurrence, combined single limit for Bodily Injury and Property Damage. Coverage must be afforded on a form no more restrictive than the latest edition of the Business Automobile Liability policy, without restrictive endorsements, as filed by the Insurance Service Office, and must include Owned, Hired, and Non-Owned Vehicles.
4. Professional Liability Insurance in an amount of not less than One Million Dollars (\$1,000,000.00) per occurrence, single limit.

10. Respondent will include preliminary drawing showing conceptual design including zoning.

11. Respondents' proposal shall verify a lump sum bid amount and a schedule of values including but not limited to the following items.

- | | |
|---|----------|
| a. Site Investigation | \$ _____ |
| b. Design | \$ _____ |
| c. Equipment / Pump | \$ _____ |
| d. Piping System | \$ _____ |
| e. Connectors | \$ _____ |
| f. Valves | \$ _____ |
| g. Total Base Bid | \$ _____ |
| h. Alternate #1, 5-year maintenance agreement (Respondent to provide sample of 5-year agreement with bid package) | \$ _____ |

12. Respondents proposal shall include a preliminary schedule including the following items.

- a. Design and drawing preparation planed duration.
- b. Permit Acquisition planed duration.
- c. Work execution planed period.
- d. Acknowledgement that typical work week onsite will be Mondays through Thursday evenings, hours from 7:00 am to 6:00 pm (Work will not be scheduled for Friday, Saturday or Sundays without prior approval.)

13. Respondents shall note and include that all areas must be protected and returned to their original condition or better once work is completed.

14. Respondents shall note and include that all Permits for required disciplines will be acquired. (City Permit Fees shall be waived by the City of Miami Springs, all other fees shall be paid by Respondents.

END OF SECTION 3