2.7	VAL	LVE BOXES	A Design Dressure. This invigation system has been designed to ensure with a minim	
	A.	Use plastic rectangular box for all electrical control valves as required. Detail as shown. Provide stainless ste	 Design Pressure: This irrigation system has been designed to operate with a mining the notes and drawings. The Contractor shall take a pressure reading prior to beginning than indicated, the Contractor shall notify the Owner's Representative. 	
	В.	Provide extensions as required to ensure box rests on continuous soil base.	3.2 PREPARATION	
	C.	All openings including the bottom to be sealed with geotextile fabric.		
	D.	Valve boxes shall be as follows:	A. Physical Layout	
	Quic Junc Rem	ick Coupling ValveCarson Model 910 with T Style Coverinction Box, Pull BoxCarson Model 1419 with T Style Covermote Control ValveCarson Model 1220 with T Style Cover	 Prior to installation, the Contractor shall stake out pressure supply lines, location of sprinkler heads and controllers. Layout shall be approved by Owner's Representative prior to installation. Prior approved by Owner's Representative prior to installation. 	
	Valv	ve Carson Model 1324 with T Style Cover	controllers, main line routing and sprinkler locations.	
2.8	SLE	EEVES eves shall be provided where shown on the drawings, where required and/ or specified herein. Not all required s	 Strict adherence shall be made to provide clearances between potable and irrigation standards. 	
	A.	Mainlines, lateral line piping, emitter headers and lateral piping and control wire shall be installed in a sleeve u paving walls and concrete surfaces.	B. Water Supply Inder	
	B.	Sleeving shall be Schedule 40 or SDR 35 PVC solvent weld pipe.		
	C.	Joints shall be solvent welded. Welds to be primed and glued as per pipe size.	 Connections shall be made at approximate locations as shown on drawings. Conti caused by actual site conditions. 	
	D.	Sleeves shall be capped and kept clean of dirt and debris.	3.3 EXCAVATION AND BACKFILL	
	E.	Excavation and backfill shall be as specified in Section 3.3.	A. Trenching: Dig trenches straight and support pipe continuously on bottom of	
	F.	All sleeves shall extend a minimum of 2 feet into the planting area.	Trenching excavation shall follow layout indicated on drawings and as noted is found to consist of rock, caliche, or any other material shall be removed for at l	
	G.	Location of sleeves shall be shown on the record drawings.	and be refilled to specified trench depth with sand or similar material thoroug	
	H.	Each sleeve shall be taped along its entire length with metallic locator tape manufactured for that purpose.	 B. Trenching and installation of mainline and lateral lines shall occur after exca the placement of imported soil. 	
	I.	Sleeves shall have a minimum horizontal clearance of 12" from each other and other piping. Sleeves shall no installed parallel and directly over another line. Sleeves shall have a minimum of 6 inches vertical clearance withey cross other lines.	t be vhere C. Burial of Pipe: Burial of pipe shall be as indicated on drawings:	
	J.	Sleeves shall be a minimum size of 2" or 2 pipe sizes larger than the pipe being sleeved. Each pipe shall hav	D. Backfilling e its own	
		sleeve unless approved by the Owner's Representative.	1. The trenches shall not be backfilled until all required tests are performed. Trenche the excavated materials approved for backfilling consisting of earth loam sandy clay sa	
2.9	COPPI H.	Where indicated on the drawings, use Type K rigid conforming to ASTM Standard B88.	clods of earth or stones larger than 1" in diameter. Backfill shall be mechanically compacte equal to adjacent undisturbed soil in planting areas. Backfill will conform to adjacent grade	
	I	Fittings shall be wrought copper or bronze. Use a 95% tin and 5% antimony solder	other surface inegularities. Dacklining shall not be performed while trenches of backlin in	
2.10	BACK	KFLOW PREVENTER AND ENCLOSURE	 A fine granular material backfill will be initially placed on all lines to a depth of 3". 1 1/2" in size will be permitted in the initial backfill. 	
	A.	The backflow preventer shall be Wilkins 975XL as shown on the plans and installed per city of West Jordan s details PK-155 and CW-240.	3. Flooding of trenches will be permitted only with approval of the Owner's Represent andard	
	B.	Enclosure must be a minimum of 12" above grade per West Jordan City Public Works Guidelines.	 If settlement occurs and subsequent adjustments in pipe, valves, sprinkler heads, I construction are necessary, the Contractor shall make required adjustments 	
2.11	QUI	ICK COUPLING VALVES	A. Trenching and Backfill Under Paving	
	C.	As shown on drawings.	1. Trenches located under areas where paving, asphaltic concrete or concrete will be	
SEC	TION	02819 - UNDERGROUND SPRINKLER IRRIGATION SYSTEM	sand (a layer 6" below the pipe and 3" above the pipe) and compacted in layers to 90% c or mechanical tamping devices. Trenching for piping shall be compacted to equal the cor adjacent undisturbed soil and shall be left in a firm, unyielding condition. Trenches shall t adjoining grade. The sprinkler irrigation Contractor shall set in place, cap, and pressure t	
PAR	13	EXECUTION	prior to the paving work.	
3.1	INST	STALLATION	 Provide for a minimum cover of 24" between the top of the pipe and the bottom of t pressure and non-pressure piping installed under asphaltic concrete paving. 	
	A.	General	3. Where the plans or site conditions require the existing paving to be cut, the saw cu	
		 Contractor Responsibility: The Contractor shall not willfully install the irrigation system as shown on the or when it is obvious in the field that obstructions, grade differences or discrepancies in equipment usage, a dimensions or static water pressure exist that might not have been considered in the engineering. Such 	rawings removed paving shall be replaced in kind. F. Trenching Adjacent to Existing Trees	
		obstructions or differences shall be brought to the attention of the Owner's Representative. In the event t notification is not performed, the Contractor shall assume full responsibility for any revision necessary.	his Where it is necessary to excavate adjacent to existing trees, the Contractor trees and tree roots. Excavation in areas where 2" and larger roots occur sh	
		 Material and equipment shall be delivered to the job site in unbroken reels, cartons or other packaging to demonstrate that such material is new and of a quality and grade in keeping with the intent of these spec 	fications. ficati	
	В.	Site Conditions	should be closed within 24 hours, and where this is not possible the side of the should be closed within 24 hours.	
		 Scaled dimensions are approximate. The Contractor shall check and verify size dimensions and receive Representative approval prior to proceeding with work under this Section. 	Owner's 3.4 ASSEMBLIES	
		2. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damage to utilities which are caused by his operation or neglect. Contractor to employ the services of a professional utility locator service to locate existing on site utilities in the construction area prior to beginn	A. Routing of sprinkler irrigation lines as indicated on the drawings is diagramm ng work to conform with the details shown on drawings and in accordance with the m	
		and as needed to maintain clear indications of utility locations.	B. Install no multiple assemblies on plastic lines. Provide each assembly with i	

3. Coordinate installation of irrigation materials, including pipe, so there shall be no interference with utilities or other construction or difficulty in planting trees, shrubs, and ground covers. Contractor shall coordinate with other Contractors to insure timely placing of necessary sleeves, wires and pipes under walks, curbs and paving.

e: This irrigation system has been designed to operate with a minimum static inlet water pressure as shown on s. The Contractor shall take a pressure reading prior to beginning construction. If the pressure reading is less ontractor shall notify the Owner's Representative.

Layout

ation, the Contractor shall stake out pressure supply lines, location of remote control valves, specialty valves, ontrollers.

e approved by Owner's Representative prior to installation. Prior approval shall be obtained for valves,

routing and sprinkler locations.

e shall be made to provide clearances between potable and irrigation lines as required by Municipality

m shall be connected to water supply points of connection as indicated on the drawings.

hall be made at approximate locations as shown on drawings. Contractor is responsible for minor changes conditions.

AND BACKFILL

g: Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. ng excavation shall follow layout indicated on drawings and as noted. If the bottom of a pipe trench excavation to consist of rock, caliche, or any other material that, by reason of its hardness, cannot be excavated to give a bearing surface, said rock or other material shall be removed for at least 2" below the specified trench depth, efilled to specified trench depth with sand or similar material thoroughly tamped into place.

ng and installation of mainline and lateral lines shall occur after excavation of existing grass and soil, but before ement of imported soil.

shall not be backfilled until all required tests are performed. Trenches shall be carefully backfilled in 6" lifts with als approved for backfilling, consisting of earth, loam, sandy clay, sand, or other approved materials, free from es larger than 1" in diameter. Backfill shall be mechanically compacted in landscaped areas to a dry density listurbed soil in planting areas. Backfill will conform to adjacent grades without dips, sunken areas, humps or arities. Backfilling shall not be performed while trenches or backfill material is in a wet or muddy condition.

material backfill will be initially placed on all lines to a depth of 3". No foreign matter larger than size will be permitted in the initial backfill.

enches will be permitted only with approval of the Owner's Representative.

ccurs and subsequent adjustments in pipe, valves, sprinkler heads, lawn or planting, or other ction are necessary, the Contractor shall make required adjustments without cost to the Owner.

ng and Backfill Under Paving

ted under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with w the pipe and 3" above the pipe) and compacted in layers to 90% compaction, using manual ng devices. Trenching for piping shall be compacted to equal the compaction of the existing soil and shall be left in a firm, unyielding condition. Trenches shall be left flush with the e sprinkler irrigation Contractor shall set in place, cap, and pressure test all piping under paving

ninimum cover of 24" between the top of the pipe and the bottom of the aggregate base for all

ns or site conditions require the existing paving to be cut, the saw cut method shall be used. The

ng Adjacent to Existing Trees

it is necessary to excavate adjacent to existing trees, the Contractor shall use all possible care to avoid injury to nd tree roots. Excavation in areas where 2" and larger roots occur shall be done by hand. All roots 6" and n diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped rlap to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots than 51 mm in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts. " and larger in diameter shall be painted with two coats of Tree Seal or equal. Trenches adjacent to trees be closed within 24 hours, and where this is not possible the side of the trench adjacent to the tree shall be kept with burlap or canvas.

of sprinkler irrigation lines as indicated on the drawings is diagrammatic. Install lines and various assemblies orm with the details shown on drawings and in accordance with the manufacturer's recommendations.

o multiple assemblies on plastic lines. Provide each assembly with its own outlet.

C. Install assemblies specified herein in accordance with respective detail. In absence of detail drawings or specifications pertaining to specific items required to complete work, perform such work in accordance with best standard practice with prior approval of Owner's Representative.

- PVC pipe and fittings shall be thoroughly cleaned of dirt, dust and moisture before installation. Installation solvent-welding methods shall be recommended by the pipe and fitting manufacturer. Primer shall be use weld joints. No solvent weld joint shall be submitted to water pressure until curing for 24 hours minimum.
- On PVC to metal connections, the Contractor shall work the metal connections first. Teflon paste or appre shall be used on threaded PVC to PVC joints, and on threaded PVC to metal joints. Light wrench pressur required. Where threaded PVC connections are required, use threaded PVC adapters into which the pipe welded.

5 PVC PIPE INSTALLATION

- Piping shall be snaked in the trench to allow for thermal expansion and contraction.
- After curing of solvent weld joint and after having received the approval of the Owner's Representative, th shall be filled. Extreme care will be taken to slowly fill the piping while releasing entrapped air at the ends
- Lines shall have a minimum clearance of 6" from each other, and from lines of other trades. Parallel lines installed directly over one another.
- Manufacturing's installation recommendations shall be strictly adhered to.

FLUSHING OF SYSTEM

- After new sprinkler pipe lines and risers are in place and connected, necessary diversion work has been and prior to installation of sprinkler heads, emitters, the control valves shall be opened and a full head of v flush out the system.
- Sprinkler heads and emitters shall be installed only after flushing of the system has been accomplished to satisfaction of the Owner's Representative.

REMOTE CONTROL VALVES

Install remote control valves where shown on drawings and details. Drawings are schematic and valves shall be adjacent and perpendicular to walks or curbs where possible. When grouped together, allow at least 1" between Install each remote control valve in a separate valve box. Electric control valves shall be tagged with permanent markings indicating valve number, controller, controller station and type and location of heads and emitters on the Each remote control valve box shall be branded with the controller and station number in an approved manner. connecting the main line with the valve shall be the same size as the largest lateral pipe size for that zone. Redu shall occur at the unions and ball valve on either side of the valve. Each remote control valve shall have a separ the main line. Boxes shall be aligned in a manner acceptable to the Owner's Representative.

3 CONTROL WIRE INSTALLATION

Control wire less than 2500 feet in length shall be continuous without splices or joints from the controller to the v Connections to the electric valves shall be made within 18" of he valve using connectors specified in Paragraph otherwise approved by the Owner's Representative in writing.

Control wires shall be installed at least 16" deep. Contractor shall obtain the Owner's Representative's approval routing when installed in separate ditch. Control wires may be installed in a common ditch with piping; however, be installed a minimum of 4" below or to one side of piping.

3.9 FIELD QUALITY CONTROL

- Adjustment of the system
- 1. The Contractor shall flush system for optimum performance.
- 2. All parts of the irrigation system and associated equipment shall be adjusted to function properly and turned over to the Owner in operating condition.
- Testing of Irrigation System:

paving.

- 1. The Contractor shall request the presence of the Owner's Representative at least 48 hours in advance of testing.
- 2. Test pressure lines under hydrostatic pressure of 150 psi and prove water tight.
- 3. Piping under paved areas shall be tested under hydrostatic pressure of 150 psi and proved water tight prior to
- 1. PVC lateral line pipe shall be tested at working line pressures with couplings exposed and swing joints and other outlets capped.
- 5. Sustain pressure in lines for not less than two hours. Pipe sections shall be center loaded and couplings shall be exposed. Before testing, the line shall have been filled with water for at least four hours and provisions made for thoroughly bleeding the line of air.
- 6. All hydrostatic tests shall be made only in the presence of Owner's Representative. No pipe shall be backfilled until it has been inspected, tested and approved in writing.
- 7. Furnish necessary force pump and other test equipment.
- 8. Upon completion of each phase of work, entire system shall be tested and adjusted to meet site requirements.

n and ed on solvent	3.10	MAINTENANCE
roved equal		A. Contractor shall provide job maintenance of the entire irrigation system and shall continue until job acceptance by the Owner. Maintain system components and assure proper watering of plants. Repair leaks and replace defective components. After landscape and irrigation
re is all that is e may be		operations are complete and in conformance with the contract documents, the Owner shall grant provisional acceptance.
		D. Following provisional acceptance, the Contractor shall provide job maintenance for 1- year consisting of all items covered under maintenance alone. Following the 1-year maintenance period, the Owner shall grant final job acceptance after verifying all work and system components are in conformance with the contact documents.
ao mainlina	3.11	CLEANUP
s of the main		Cleanup shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site, walks and paving shall be broomed or washed down, and any damage sustained on the work of others shall be repaired to the original conditions acceptable to the Owner's Representative.
s shall not be	3 12	FINAL OBSERVATION PRIOR TO ACCEPTANCE
	0.12	
		deemed not acceptable shall be reworked to the complete satisfaction of the Owner's Representative.
completed, water used to		The Contractor shall show evidence to the Owner's Representative that the Owner has received accessories, charts, record drawings, and equipment as required before final observation can occur.
	3.13	OBSERVATION SCHEDULE
o the complete		A. Contractor shall be responsible for notifying the Owner's Representative in advance for the following observations according to the time indicated:
		1. Pre-job conference - 7 days
e located n valve boxes. t tags and		2. Main line layout, pump installation, remote control valve locations 72 hours
ne valve. Piping		3. Pressure supply line installation and testing - 72 hours
lucing fitting trate tee from		4. Automatic controller hook up - 72 hours
		5. Control wire installation - 72 hours
		6. Final observation - 7 days
aives. 2.5, unless		B. When the inspections have been conducted by other than the Owner's Representative, show evidence of when and by whom these inspections were made.
l for wire , wires must		C. No observation shall commence without as-built drawings. In the event the Contractor calls for an observation without as-built drawings, without completing previously noted corrections, or without preparing the system for observations, he shall be responsible for reimbursing the Owner's Representative at the hourly rate in effect at the time.
		END OF SECTION
l shall be		



Reserved for permit stamp

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principal architect

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> checked by Checker job no. 20052

> > date May 17, 2024

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MEP Engineer WSP USA

revisions: A IFC 2 5/17/2024

no. date

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THE CLIENT, AND/OR THE CLIENT'S CONTRACTOR, IS RESPONSIBLE FOR ATTAINING OR PROVIDING THE NECESSARY CONSTRUCTION PERMIT FOR CITY CODE COMPLIANCE.

DESIGN AND PROVIDING THEIR OWN CALCULATIONS AND AREAS FOR THE PURPOSES OF COST

CONSTRUCTION DOCUMENTS 95% IFC SET 2 OF 3

May 17, 2024

IRRIGATION

SPECIFICATIONS

L80

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