

FDOT IRRIGATION NOTES

1. THE IRRIGATION SYSTEM SHALL USE THE LOWEST QUALITY WATER AVAILABLE WHICH ADEQUATELY AND SAFELY MEETS THE WATER NEEDS OF THE SYSTEM. STORM WATER, RECLAIM WATER, OR GREY WATER IRRIGATION SHALL BE USED WHENEVER POSSIBLE.
2. THE FDOT REQUIRES 24-HOUR EMERGENCY ACCESS TO WATER SOURCE.
3. CONTRACTOR SHALL PROVIDE THE FDOT DISTRICT OPERATIONS MANAGER WITH A SET OF "AS-BUILT" IRRIGATION PLANS.
4. SLEEVING MUST BE 36" BELOW THE ROADWAY. VERIFY WITH THE FDOT MAINTENANCE THAT SLEEVING/DIRECTIONAL BORE IS PERMITTED AT TIME OF PROPOSED INSTALLATION. A NEWLY RESURFACED ROAD CANNOT BE DISTURBED FOR 5 YEARS.
5. PERMITTEE'S REPRESENTATIVE & THE FDOT INSPECTOR MUST BE ON SITE DURING ALL BORING ACTIVITIES. UPON COMPLETION OF THE BORING ACTIVITIES, PERMITTEE SHALL PROVIDE ALL DOCUMENTATION TO BE IN ACCORDANCE WITH THE FDOT STANDARD SPECIFICATIONS, SECTION 555 OR 556, WHICHEVER IS APPLICABLE.
6. PERMITTEE'S CONTRACTORS THAT ARE PERFORMING DIRECTIONAL DRILLING AND/OR JACK AND BORE ACTIVITIES SHALL PROVIDE THE DEPARTMENT (PERMITS OFFICE) PROOF OF A PROPER STATE CONTRACTOR'S LICENSE AND CERTIFICATE OF LIABILITY INSURANCE PRIOR TO ANY COMMENCEMENT OF PERMITTED WORK.
7. PERMITTEE WILL ENSURE THAT ALL LOCATES HAVE BEEN PERFORMED PRIOR TO SCHEDULING OF ANY BORING ACTIVITIES. THIS SHALL INCLUDE SOFT DIGS TO VERIFY VERTICAL & HORIZONTAL ALIGNMENT.
8. SHOULD THE EXISTING IRRIGATION SYSTEM NOT BE FUNCTIONAL FOR THE TIME DURING CONSTRUCTION, ENSURE THAT MEASURES ARE TAKEN TO WATER THE EXISTING PLANT MATERIAL AND SOD. THIS MAY INCLUDE PORTIONS OF THE LANDSCAPE AREAS OUTSIDE THE RENOVATION AREA DEPENDING ON HOW THE SYSTEM IS ZONED.
9. NOTE THAT 100% COVERAGE MUST BE ACHIEVED IN THE LANDSCAPE AREAS WHERE EXISTING IRRIGATION MODIFICATIONS OCCUR.
10. TO ENSURE THE ENTIRE EXISTING IRRIGATION SYSTEM IS RESTORED TO FULLY FUNCTIONAL CONDITION, THE CONTRACTOR AND MAINTAINING AGENCY ARE TO PERFORM A PRE-CONSTRUCTION VISUAL INSPECTION AND PERFORMANCE TEST TO DOCUMENT THE CONDITION OF THE EXISTING SYSTEM. ANY REPAIRS THAT ARE REQUIRED TO THE EXISTING SYSTEM TO REMAIN WILL BE PERFORMED BY THE MAINTAINING AGENCY PRIOR TO CONSTRUCTION. ANY EXISTING OR PROPOSED COMPONENTS THAT ARE DAMAGED DURING CONSTRUCTION OR THE WARRANTY PERIOD WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ENTIRE SYSTEM MUST BE RESTORED TO THE SAME CONDITION IT WAS IN BEFORE THE START OF CONSTRUCTION.








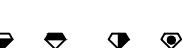






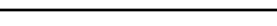


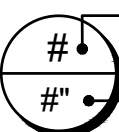
COVERAGE STATEMENT OF INTENT

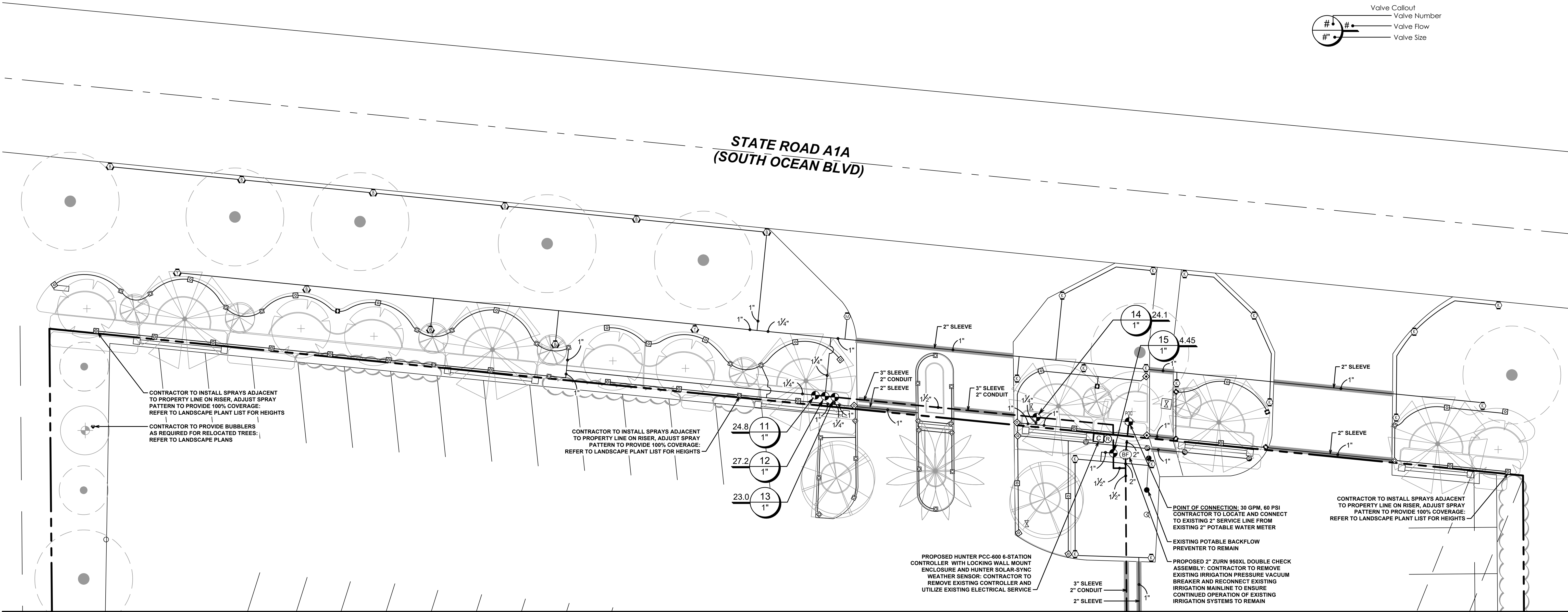
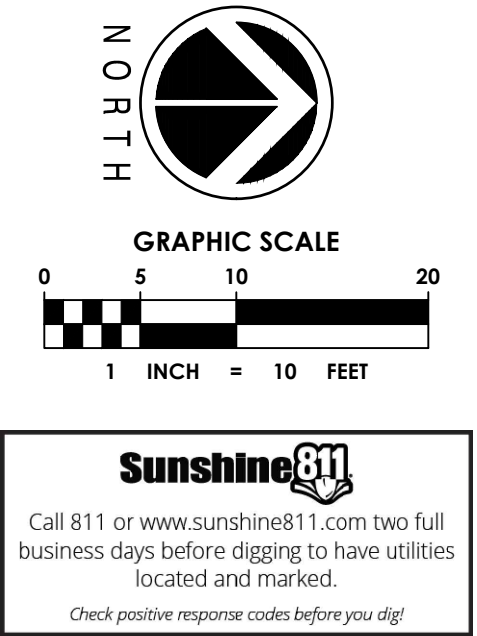
PROPOSED LANDSCAPED AREAS HAVE BEEN DESIGNED WITH A FULLY AUTOMATED IRRIGATION SYSTEM COMPRISING OF 100-PERCENT HEAD-TO-HEAD COVERAGE OF ALL PLANT MATERIALS AND GRASS AREAS. THE IRRIGATION SYSTEM HAS BEEN DESIGNED TO MEETING THE REQUIREMENTS AND INTENT OF ALL APPLICABLE LAND DEVELOPMENT CODES AND ORDINANCES. THE PLAN INCLUDES A COMBINATION OF WATER-CONSERVING IRRIGATION PRINCIPLES SUCH AS WATERING BASED ON HYDROZONES, HIGH-EFFICIENCY ROTARY NOZZLES AND SPRAYS WITH PRESSURE REGULATING POP-UPS, BUBBLERS, AND A SMART IRRIGATION CONTROLLER WITH A WEATHER SENSOR AND ADVANCED SCHEDULING CAPABILITIES.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.
2. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO TAKE THE NECESSARY PRECAUTIONS TO ENSURE PROPER SAFETY AND WORKMANSHIP WHEN WORKING IN THE VICINITY OF EXISTING UTILITY LINES.
3. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH FPL ON ANY WORK IN THE VICINITY OF OVERHEAD OR UNDERGROUND POWER LINES.
4. CONTRACTOR SHALL VERIFY PROPER CLEARANCE BELOW EXISTING OVERHEAD POWER LINES PRIOR TO WORKING WITHIN THE VICINITY THE POWER LINES.
5. MAINLINE LOCATION, WHERE SHOWN, IS FOR GRAPHIC CLARITY PURPOSES ONLY. INSTALL AT THE BACK OF CURB, FRONT OF WALK, BACK OF WALK, OR ADJACENT TO OTHER HARDSCAPES TO FACILITATE FUTURE LOCATION AND TO PROTECT FROM DAMAGE. ENSURE MAINLINE IS INSTALLED ACCORDING TO THE IRRIGATION SPECIFICATIONS AND DETAILS.
6. IF IT IS NECESSARY TO HAVE PIPING UNDER HARDSCAPE ITEMS, SUCH AS ROADS, WALKS AND PATIOS, THE PIPES MUST BE SLEEVED WITH THE SLEEVE DIAMETER BEING AT LEAST TWICE THE SIZE OF THE PIPE IT IS CARRYING.
7. ANY MAJOR DESIGN CHANGES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OF RECORD PRIOR TO CONSTRUCTION; CONTRACTOR PROCEEDS WITH CHANGES AT OWN RISK.
8. NO SUBSTITUTIONS SHALL BE PERMITTED, EXCEPT WITH WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT OF RECORD.
9. CONTRACTOR TO PROVIDE ADDITIONAL BUBBLERS AS REQUIRED FOR TREE AND PALM SPECIMEN ESTABLISHMENT.

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL
	Hunter PROS-12-PRS30-CV with Adjustable Arc
	Hunter PROS-00-PRS30-CV on Riser with 5' strip spray
	Hunter PROS-00-PRS30-CV on Riser with Adjustable Arc
	Hunter PROS-06-PRS40-CV with MP Corner
	Hunter PROS-06-PRS40-CV with MP1000
	Hunter PROS-06-PRS40-CV with MP2000
	Hunter PROS-06-PRS40-CV with MP3000
	Hunter PCB 10
SYMBOL	MANUFACTURER/MODEL
	Hunter ICV-G
	Nibco T-113
	Zurn 950XL 2"
	Hunter PCC-600
	Hunter Solar-Sync
	Point of Connection 2"
	Irrigation Lateral Line: PVC Class 200 SDR 21
	Irrigation Mainline: PVC Class 200 SDR 21
	Pipe Sleeve: PVC Schedule 40
	Valve Callout Valve Number Valve Flow Valve Size



project:
delray beach
club entrance
2001 s. ocean blvd.
delray beach, fl.

dave bodker
landscape architecture/planning inc.
601 n. congress ave., suite 105-a
delray beach, florida 33445
561-276-6311

#LA0000999
sheet title:
irrigation
plan

project number:
10121
date: 2/14/2022
scale: 1" = 20'-0"
drawn by: msb

revisions:
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1 of 5 sheets

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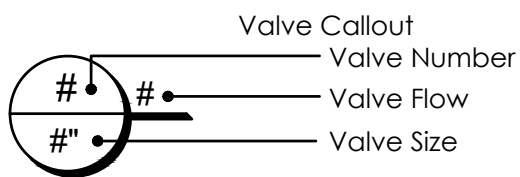
1 INCH = 10 FEET

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SYMBOL	MANUFACTURER/MODEL
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	Nibco T-113
	Zurn 950XL 2"
	Hunter PCC-600
	Hunter Solar-Sync
	Point of Connection 2"
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	Irrigation Mainline: PVC Class 200 SDR 21
	Pipe Sleeve: PVC Schedule 40



EXISTING TENNIS COURT

EXISTING 1 STORY BUILDING

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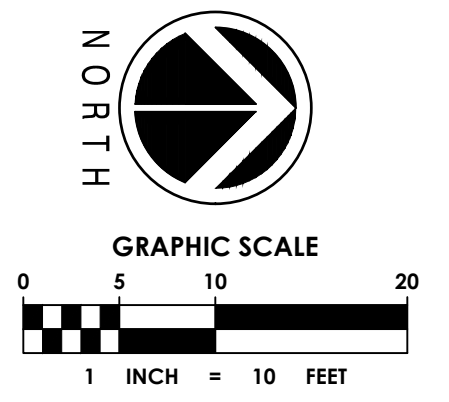
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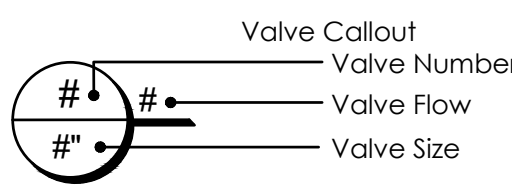
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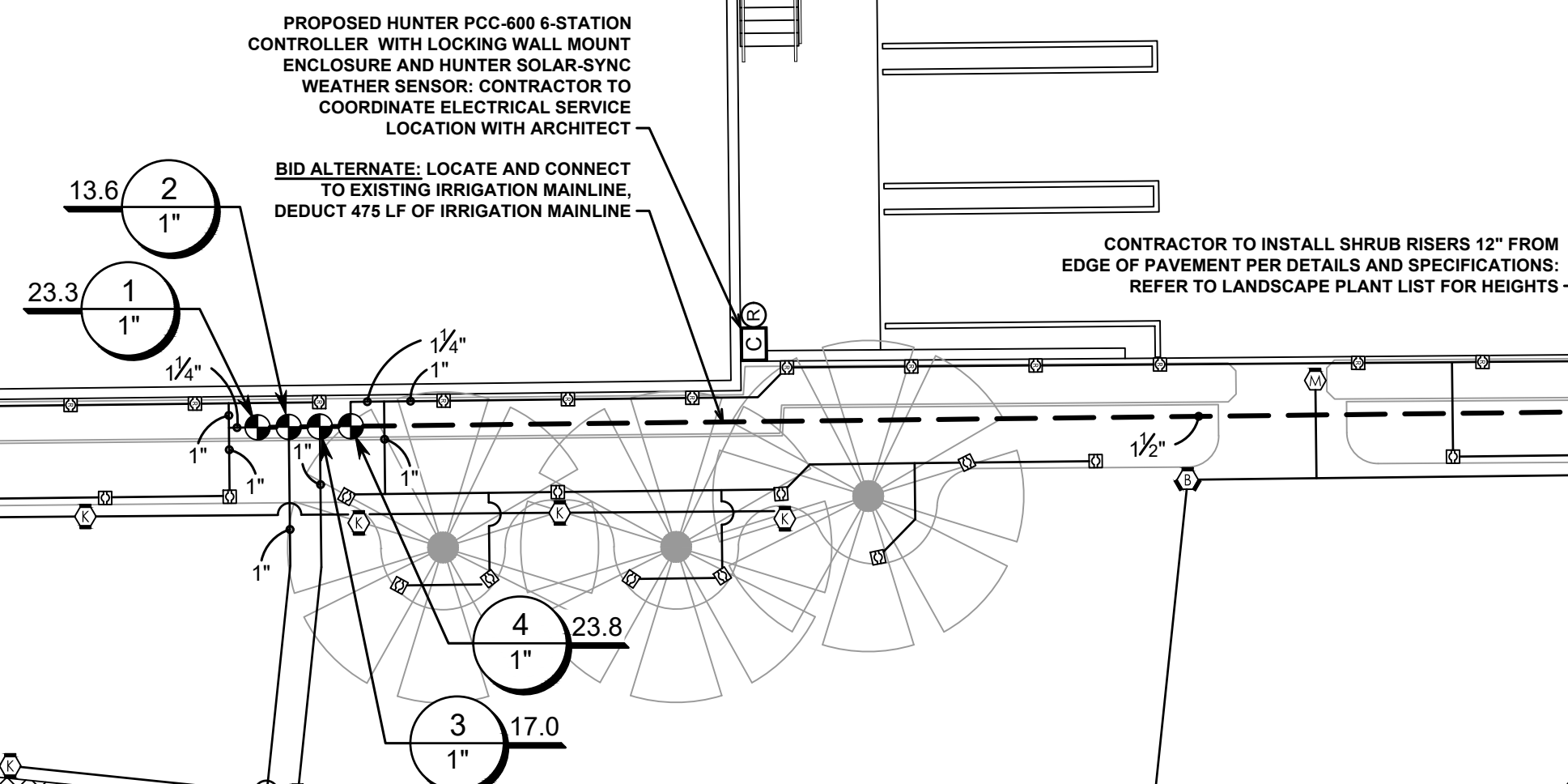


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EXISTING 1 STORY BUILDING



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IRRIGATION SPECIFICATIONS

1. GENERAL

1.1. THE SYSTEM HAS BEEN DESIGNED TO CONFORM WITH THE REQUIREMENTS OF ALL APPLICABLE CODES. SHOULD ANY CONFLICT EXIST, THE REQUIREMENTS OF THE CODES SHALL PREVAIL. IT IS THE RESPONSIBILITY OF THE OWNER/INSTALLATION CONTRACTOR TO INSURE THE ENTIRE SYSTEM IS INSTALLED ACCORDING TO ALL APPLICABLE LAWS, RULES, REGULATIONS AND CONVENTIONS. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS ACCORDING TO FEDERAL, STATE AND LOCAL LAWS.

1.2. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES.

1.3. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO TAKE THE NECESSARY PRECAUTIONS TO ENSURE PROPER SAFETY AND WORKMANSHIP WHEN WORKING IN THE VICINITY OF EXISTING UTILITY LINES.

1.4. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND VERIFY PROPER CLEARANCE WITH FPL ON ANY WORK IN THE VICINITY OF OVERHEAD OR UNDERGROUND POWER LINES.

1.5. THE CONTRACTOR MUST SUBMIT FOR APPROVAL, PRIOR TO INSTALLATION, COPIES OF THE MANUFACTURER'S CUT SHEETS/SPECIFICATIONS FOR ALL COMPONENTS TO BE USED IN THE IRRIGATION SYSTEM.

1.6. THE IRRIGATION CONTRACTOR SHALL BE CERTIFIED AS A CERTIFIED IRRIGATION CONTRACTOR BY THE IRRIGATION ASSOCIATION. THE CERTIFICATION SHALL BE CURRENT AND IN GOOD STANDING.
2. SCOPE OF WORK

2.1. THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING ALL COMPONENTS NECESSARY FOR THE INSTALLATION, TESTING, AND DELIVERY OF A COMPLETE, FULLY FUNCTIONAL AUTOMATIC LANDSCAPE IRRIGATION SYSTEM THAT COMPLETELY COMPLIES WITH THE 100% IRRIGATION PLANS, SPECIFICATIONS, NOTES, DETAILS AND ALL APPLICABLE LAWS, REGULATIONS, CODES AND ORDINANCES. THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE PROVIDING OF ALL REQUIRED MATERIAL (PIPE, VALVES, FITTINGS, CONTROLLERS, WIRE, PRIMER, GLUE, ETC.), LAYOUT, PROTECTION OF THE PUBLIC, EXCAVATION, ASSEMBLY, INSTALLATION, BACK FILLING, COMPACTING, REPAIR OF ROAD SURFACES, CONTROLLER AND LOW VOLTAGE FEEDS TO VALVES, CLEANUP, MAINTENANCE, GUARANTEE AND AS-BUILT PLANS.

2.2. ALL IRRIGATED AREAS SHALL PROVIDE 100% HEAD-TO-HEAD COVERAGE FROM A FULLY AUTOMATIC IRRIGATION SYSTEM WITH A RAIN SENSOR AS SHOWN. THE RAIN SENSOR SHALL BE INSTALLED TO PREVENT ITS ACTIVATION BY ADJACENT HEADS. ALL WATERING PROCEDURES SHALL CONFORM TO LOCAL CODES, AS WELL AS THIS PROJECT'S REGIONAL WATER MANAGEMENT DISTRICT RESTRICTIONS AND REGULATIONS. ZONES ARE PRIORITIZED FIRST BY PUBLIC SAFETY AND THEN BY HYDRAULIC CONCERNS. THIS SEQUENCING WILL BE A MANDATORY PUNCH LIST ITEM. THESE PLANS HAVE BEEN DESIGNED TO SATISFY/EXCEED THE FLORIDA BUILDING CODE (FBC) APPENDIX F AND THE FLORIDA IRRIGATION SOCIETY STANDARDS AND SPECIFICATIONS FOR TURF AND LANDSCAPE IRRIGATION SYSTEMS, FOURTH EDITION.

2.3. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES 72 HOURS PRIOR TO COMMENCEMENT OF WORK.

2.4. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTION, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS, OR DIFFERENCES, SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER' AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

2.5. IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL EXISTING SITE ITEMS DAMAGED BY THEIR WORK. IRRIGATION CONTRACTOR SHALL COORDINATE THEIR WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.

2.6. THE CONTRACTOR SHALL TAKE IMMEDIATE STEPS TO REPAIR, REPLACE, OR RESTORE ALL SERVICES TO ANY UTILITIES WHICH ARE DISRUPTED DUE TO THEIR OPERATIONS, ALL COSTS INVOLVED IN DISRUPTION OF SERVICE AND REPAIRS DUE TO NEGLIGENCE ON THE PART OF THE CONTRACTOR SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
3. SUBMITTALS

3.1. THE CONTRACTOR SHALL PROVIDE FOR APPROVAL PRIOR TO INSTALLATION, MANUFACTURER'S PRODUCT DESCRIPTION SHEETS/SPECIFICATIONS FOR ALL MAJOR COMPONENTS OF THE IRRIGATION SYSTEM. MODEL NUMBERS SHALL BE HIGHLIGHTED OR CIRCLED.

3.2. NO SUBSTITUTIONS OR DEVIATIONS FROM THE SPECIFIED BRANDS, MODELS, OR SIZES SHALL BE PERMITTED, EXCEPT WITH WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT OF RECORD.

3.3. ANY MAJOR DESIGN CHANGES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OF RECORD PRIOR TO CONSTRUCTION; CONTRACTOR PROCEEDS WITH CHANGES AT OWN RISK, DESIGN CHANGES, SUBSTITUTIONS, OR DEVIATIONS NOT APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD WILL RESULT IN REJECTION AND REPLACEMENT OF MATERIALS AT NO ADDITIONAL COST TO THE OWNER.
4. POST CONSTRUCTION DOCUMENTATION

4.1. DOCUMENTATION:

4.1.1. PROVIDE THE MANUFACTURERS' RECOMMENDED OPERATING INSTRUCTIONS FOR ALL MAJOR COMPONENTS INCORPORATED INTO THE IRRIGATION SYSTEM.

4.1.2. PROVIDE SYSTEM OPERATION MANUALS, MAINTENANCE SCHEDULES, RECOMMENDED SCHEDULE OF OPERATION INCLUDED AVERAGE APPLICATION RATES WITH SEASONAL ADJUSTMENTS FOR EACH ZONE.

4.1.3. PROVIDE ALL REQUIRED TESTING AND INSPECTION CERTIFICATES TO THE OWNER OR OWNER'S REPRESENTATIVE

4.2. AS-BUILT DRAWINGS: PROVIDE RECORD DRAWINGS AND PLANS SHOWING ALL CHANGES IN THE DESIGN TO INDICATE THE ACTUAL INSTALLATION AND LOCATION OF ALL EQUIPMENT AND MATERIALS. THE FOLLOWING SPECIFIC ITEMS MUST BE INCLUDED:

4.2.1. LOCATION AND SIZE OF MAINLINE PIPING, LATERAL PIPING, AND PIPE SLEEVING.

4.2.2. ISOLATION VALVES

4.2.3. REMOTE CONTROL VALVE LOCATIONS, SIZES, NUMBER, AND AREA OF COVERAGE SHOWN USING DIFFERENT COLORS.

4.2.4. SPLICE BOXES AND LOW VOLTAGE WIRING PATH.

4.2.5. CONTROLLER AND RAIN SHUTOFF DEVICES.

4.2.6. POINT OF CONNECTION INCLUDING THE TYPE OF WATER SOURCE, SIZE, FLOW RATE, AND OPERATING PRESSURE.

4.2.7. DATE AND SCALE.

4.2.8. CONTRACTOR'S NAME, ADDRESS, AND TELEPHONE NUMBER.

4.2.9. THE AS-BUILT DRAWINGS SHALL BE SIGNED BY A FLORIDA REGISTERED LANDSCAPE ARCHITECT OR PROFESSIONAL ENGINEER.

- 4.3. CONTRACTOR SHALL FURNISH FIVE EXTRA UNITS OF EACH TYPE OF POPUP SPRAY AND EMITTER THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS. INCLUDE TOOLS TO SERVICE THESE PRODUCTS.
5. FINAL ACCEPTANCE

5.1. FINAL ACCEPTANCE OF THE IRRIGATION SYSTEM WILL BE GIVEN AFTER THE FOLLOWING DOCUMENTS AND CONDITIONS HAVE BEEN COMPLETED AND APPROVED. FINAL PAYMENT WILL NOT BE RELEASED UNTIL THESE CONDITIONS ARE SATISFIED.

5.1.1. FINAL WALK-THRU AND CORRECTION OF ALL PUNCH LIST ITEMS.

5.1.2. COMPLETION AND ACCEPTANCE OF AS-BUILT RECORD DRAWINGS.

5.1.3. TURNOVER OF ALL REQUIRED PARTS AND TOOLS AS OUTLINED IN THE PROJECT SPECIFICATIONS.

6. GUARANTEE

6.1. FULLY WARRANT THE LANDSCAPE IRRIGATION SYSTEM FOR A PERIOD OF ONE (1) YEAR AFTER THE WRITTEN FINAL ACCEPTANCE.

6.2. DURING THE WARRANTY PERIOD, ENFORCE MANUFACTURER'S AND SUPPLIER'S WARRANTIES. MALFUNCTIONS, DEFICIENCIES, BREAKS, DAMAGES, DISREPAIR OR OTHER DISORDERS DUE TO MATERIALS, WORKMANSHIP, OR INSTALLATION BY THE CONTRACTOR AND HIS SUPPLIERS SHALL BE IMMEDIATELY AND PROPERLY CORRECTED.

6.3. REPAIR DAMAGES PROMPTLY WHICH ARE CAUSED BY SYSTEM MALFUNCTION.

7. POINT OF CONNECTION (P.O.C.)

7.1. THE POC IS AN EXISTING 2" POTABLE WATER METER WITH A 2" SERVICE, UTILIZING A PROPOSED MUNICIPAL POTABLE WATER MAIN. THE POC SHALL BE CAPABLE OF SUPPLYING A MINIMUM OF 30 GPM AT 60 PSI. CONTRACTOR SHALL VERIFY THESE MINIMUM CONDITIONS CAN BE MET PRIOR TO BEGINNING IRRIGATION SYSTEM INSTALLATION.

7.2. IF THE CONDITIONS CAN NOT BE MET, THE CONTRACTOR MUST NOTIFY THE DESIGNER PRIOR TO PROCEEDING WITH THE WORK. IF THE CONTRACTOR DOES NOT DO SO, THE CONTRACTOR PROCEEDS AT THEIR OWN RISK AND BECOMES RESPONSIBLE FOR ANY FUTURE WORK REQUIRED TO MAKE THE SYSTEM PERFORM AS REQUIRED.

8. PIPING

8.1. MAINLINE PIPE: PVC CLASS 200 SDR 21, NON-GASKETED, SOLVENT WELD, WITH SCHEDULE 40 PVC FITTINGS.

8.2. LATERAL PIPE: PVC CLASS 200 SDR 21, NON-GASKETED, SOLVENT WELD, WITH SCHEDULE 40 PVC FITTINGS.

8.3. THREADED PIPE: PVC SCHEDULE 80.

8.4. PIPE LOCATIONS SHOWN ON THE PLAN ARE SCHEMATIC AND SHALL BE ADJUSTED IN THE FIELD. WHEN LAYING OUT MAINLINES PLACE A MAXIMUM OF 12" AWAY FROM EITHER THE BACK OF CURB, FRONT OF WALK, BACK OF WALK, OR OTHER HARDSCAPE TO ALLOW FOR EASE IN LOCATING AND PROTECTION FROM PHYSICAL DAMAGE. INSTALL ALL LATERAL PIPE NEAR EDGES OF PAVEMENT OR AGAINST BUILDINGS WHENEVER POSSIBLE TO ALLOW SPACE FOR PLANT ROOT BALLS. ALWAYS INSTALL PIPING INSIDE PROJECT PROPERTY BOUNDARY.

8.5. PIPES SHALL ALWAYS BE PLACED IN PLANTING BEDS, IF IT IS NECESSARY TO HAVE PIPING UNDER HARDSCAPES, SUCH AS ROADS, WALKS, AND PATIOS, THE PIPES MUST BE SLEEVED USING SCH 40 PVC WITH THE SLEEVE DIAMETER BEING TWICE THE SIZE OF THE PIPE IT IS CARRYING WITH A MINIMUM SLEEVE SIZE OF 2".

8.6. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.

8.7. CONTRACTOR TO ENSURE ALL MAINLINE PIPING IS PROPERLY RESTRAINED USING MECHANICAL JOINT FITTINGS, RESTRAINING COLLARS, THREADED RODS, THRUST BLOCKS, ETC., AS AND WHERE REQUIRED, CONTRACTOR SHALL REFER TO PIPE MANUFACTURER'S RECOMMENDED INSTALLATION PRACTICES FOR FURTHER DIRECTION.

8.8. PVC PIPE JOINT COMPOUND AND PRIMER: SLOW-DRYING, HEAVY DUTY CEMENT AND TINTED (PURPLE) PRIMER THAT IS COMPATIBLE WITH THE CEMENT. THE PVC CEMENT SHALL BE WELD-ON 2711 GREY AND THE PRIMER SHALL BE WELD-ON P70 PURPLE PRIMER, OR APPROVED EQUALS.

8.9. MAIN LINE PIPE DEPTH MEASURED TO THE TOP OF PIPE SHALL BE 18" MINIMUM, 36" MINIMUM AT VEHICULAR CROSSINGS.

8.10. LATERAL LINE DEPTHS MEASURED TO TOP OF PIPE SHALL BE 12" MINIMUM, 30" MINIMUM AT VEHICULAR CROSSINGS.

9. LAYOUT

9.1. LAY OUT IRRIGATION SYSTEM MAINLINES AND LATERAL LINES. MAKE THE NECESSARY ADJUSTMENTS AS REQUIRED TO TAKE INTO ACCOUNT ALL SITE OBSTRUCTIONS AND LIMITATIONS PRIOR TO EXCAVATING TRENCHES.

9.2. STAKE ALL SPRINKLER HEAD LOCATIONS. ADJUST LOCATION AND MAKE THE NECESSARY MODIFICATIONS TO NOZZLE TYPES, ETC. REQUIRED TO INSURE 100% HEAD TO HEAD COVERAGE. REFER TO THE EDGE OF PAVEMENT DETAIL ON THE IRRIGATION DETAIL SHEET.

9.3. SPRAY HEADS SHALL BE INSTALLED 4" FROM SIDEWALKS OR CURBED ROADWAYS AND 12" FROM UNCURBED ROADWAYS AND BUILDING FOUNDATIONS. ROTORS SHALL BE INSTALLED 4" FROM SIDEWALKS OR CURBED ROADWAYS, 12" FROM BUILDING FOUNDATIONS, AND 36" FROM UNCURBED ROADWAYS.

9.4. SHRUB HEADS SHALL BE INSTALLED ON 3/4" SCH 40 PVC RISERS. THE RISERS SHALL BE SET AT A MINIMUM OF 18" OFF SIDEWALKS, ROADWAY CURBING, BUILDING FOUNDATIONS, AND/OR ANY OTHER HARDSCAPED AREAS. SHRUB HEADS SHALL BE INSTALLED TO A STANDARD HEIGHT OF 4" BELOW MAINTAINED HEIGHT OF PLANTS AND SHALL BE INSTALLED WITHIN PLANTED MASSES TO BE LESS VISIBLE AND OFFER PROTECTION. PAINT ALL SHRUB RISERS WITH FLAT BLACK OR FOREST GREEN PAINT, UNLESS IRRIGATION SYSTEM WILL BE INSTALLED FROM A REUSE WATER SYSTEM WITH PURPLE PVC RISERS.

9.5. LOCATE VALVES PRIOR TO EXCAVATION. INSURE THAT THEIR LOCATION PROVIDES FOR EASY ACCESS AND THAT THERE IS NO INTERFERENCE WITH PHYSICAL STRUCTURES, PLANTS, TREES, POLES, ETC. VALVE BOXES MUST BE PLACED A MINIMUM OF 12" AND A MAXIMUM OF 15" FROM THE EDGE OF PAVEMENT, CURBS, ETC., AND THE TOP OF THE BOX MUST BE 2" ABOVE FINISH GRADE. NO VALVE BOXES SHALL BE INSTALLED IN TURF AREAS WITHOUT APPROVAL BY THE IRRIGATION DESIGNER; ONLY IN SHRUB BEDS. NEVER INSTALL VALVE BOXES WITHIN A SPORTS FIELD OR DESIGNATED PLAY AREA.

10. CONTROL WIRING

10.1. IRRIGATION CONTROL WIRE SHALL BE THERMOPLASTIC SOLID COPPER, SINGLE CONDUCTOR, LOW VOLTAGE IRRIGATION CONTROLLER WIRE SUITABLE FOR DIRECT BURIAL AND CONTINUOUS OPERATION AT RATED VOLTAGES.

10.2. TAPE AND BUNDLE CONTROL WIRES EVERY 10' AND RUN ADJACENT TO THE MAINLINE. AT ALL TURNS IN DIRECTION MAKE A 2' COIL OF WIRE. AT ALL VALVE BOXES COIL WIRE AROUND A 3/4" PIECE OF PVC PIPE TO MAKE A COIL USING 30 LINEAR INCHES OF WIRE. MAKE ELECTRICAL CONNECTIONS WITH 3M-DBY,DBR CONNECTORS.

10.3. NUMBER ALL WIRES USING AN ELECTRICAL BOOK OF NUMBERS ACCORDING TO THE PLANS. NUMBER WIRES IN ALL VALVE BOXES, JUNCTION BOXES AND AT THE CONTROLLER.

10.4. WIRE SIZED, NUMBERED AND COLORED AS FOLLOWS:

#14 WHITE FOR COMMON

#14 SPARE BLACK COMMON

#14 RED FOR HOT WIRES

#14 SPARE YELLOW HOT WIRE

11. CONTROLLER GROUNDING

11.1. CONTRACTOR TO UTILIZE 4'X8'X5/8" COPPER GROUNDING PLATES, 5/8'X10' COPPER CLAD GROUNDING RODS, 'ONE STRIKE' CAD WELLS AT ALL CONNECTION POINTS, #6 BARE COPPER WIRE, AND EARTH CONTACT MATERIAL. INSTALL THESE AND OTHER REQUIRED COMPONENTS AS OUTLINED IN THE DETAIL. CONTRACTOR TO VERIFY THAT THE EARTH TO GROUND RESISTANCE DOES NOT EXCEED 10 OHMS. CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION ON A LICENSED ELECTRICAL CONTRACTORS LETTER HEAD SHOWING THE DATE OF THE TEST, CONTROLLER LOCATION, AND TEST RESULTS. EACH CONTROLLER SHALL BE SO GROUNDED AND TESTED.

12. VALVES

12.1. SEQUENCE ALL VALVES SO THAT THE FARTHEST VALVE FROM THE P.O.C. OPERATES FIRST AND THE CLOSEST TO THE P.O.C. OPERATES LAST. THE CLOSEST VALVE TO THE P.O.C. SHOULD BE THE LAST VALVE IN THE PROGRAMMED SEQUENCE.

12.2. ADJUST THE FLOW CONTROL ON EACH RCV TO ENSURE SHUT OFF IN 10 SECONDS AFTER DEACTIVATION BY THE IRRIGATION CONTROLLER.

12.3. USING 3" HIGH NUMBER STENCILS, PAINT THE VALVE NUMBER IN WHITE ON THE LID OF EACH VALVE BOX.

13. EQUIPMENT

13.1. BUBBLERS SHALL BE INSTALLED USING SCH 80 NIPPLES AND SHALL BE PLACED AT THE BASE OF TREES FOR LOW LEVEL WATERING.

13.2. ALL POP-UP HEADS AND SHRUB RISERS SHALL BE PRESSURE COMPENSATING. ALL POP-UP HEADS SHALL BE MOUNTED ON FLEX-TYPE SWING JOINTS.

13.3. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS, AND IN ACCORDANCE WITH LOCAL AND STATE LAWS.

14. TRENCHING

14.1. EXCAVATE STRAIGHT AND VERTICAL TRENCHES WITH SMOOTH, FLAT OR SLOPING BOTTOMS. TRENCH WIDTH AND DEPTH SHOULD BE SUFFICIENT TO ALLOW FOR THE PROPER VERTICAL AND HORIZONTAL SEPARATION BETWEEN PIPING AS SHOWN IN THE PIPE INSTALLATION DETAIL ON THE DETAIL SHEET.

14.2. PROTECT EXISTING LANDSCAPED AREAS. REMOVE AND REPLANT ANY DAMAGED PLANT MATERIAL UPON JOB COMPLETION. THE REPLACEMENT MATERIAL SHALL BE THE SAME GENUS, SPECIES, AND SIZE OF THE MATERIAL IT IS REPLACING. THE FINAL DETERMINATION AS TO WHAT NEEDS TO BE REPLACED AND THE ACCEPTABILITY OF THE REPLACEMENT MATERIAL SHALL BE SOLELY DETERMINED BY THE OWNER OR OWNER'S REPRESENTATIVE.

15. INSTALLATION

15.1. CUT ALL PIPE SQUARE AND DEBURR. CLEAN PIPE AND FITTINGS OF FOREIGN MATERIAL. THEN APPLY A SMALL AMOUNT OF PRIMER WHILE ENSURING THAT ANY EXCESS IS WIPED OFF IMMEDIATELY. PRIMER SHOULD NOT PUDDLE OR DRIP FROM PIPE OR FITTINGS. NEXT APPLY A THIN COAT OF PVC CEMENT. FIRST APPLY A THIN LAYER TO THE PIPE, THEN A THIN LAYER INSIDE THE FITTING, AND FINALLY ANOTHER VERY THIN LAYER ON THE PIPE. INSERT THE PIPE INTO THE FITTING. INSURE THAT THE PIPE IS INSERTED TO THE BOTTOM OF THE FITTING, THEN TURN THE PIPE A 1/4 TURN AND HOLD FOR 10 SECONDS. MAKE SURE THAT THE PIPE DOESN'T RECEDE FROM THE FITTING. IF THE PIPE ISNT AT THE BOTTOM OF THE FITTING UPON COMPLETION, THE GLUE JOINT IS UNACCEPTABLE AND MUST BE DISCARDED.

15.2. PIPES MUST CURE A MINIMUM OF 30 MINUTES PRIOR TO HANDLING AND PLACING INTO TRENCHES. A LONGER CURING TIME MAY BE REQUIRED; REFER TO THE MANUFACTURER'S SPECIFICATIONS. THE PIPE MUST CURE A MINIMUM OF 24 HOURS PRIOR TO FILLING WITH WATER.

16. BACKFILLING

16.1. THE BACKFILL 6" BELOW AND 6" ABOVE ALL PIPING SHALL BE CLEAN SAND. ALL OTHER TRCNCH BACKFILL CAN BE NATIVE MATERIAL BUT SHALL NOT CONTAIN ANYTHING LARGER THAN 2" IN DIAMETER.

16.2. CONTRACTOR SHALL BACKFILL ALL PIPING, BOTH MAINLINE AND LATERALS, PRIOR TO PERFORMING ANY PRESSURE TESTS. THE PIPE SHALL BE BACKFILLED WITH THE EXCEPTION OF 2' ON EACH SIDE OF EVERY JOINT (BELL FITTINGS, 90'S, TEES, 45'S, ETC.). THESE JOINTS SHALL NOT BE BACKFILLED UNTIL ALL PIPING HAS SATISFACTORILY PASSED ITS APPROPRIATE PRESSURE TEST AS OUTLINED BELOW.

17. TESTING & FLUSHING

17.1. LEAKAGE TESTING

17.1.1. REMOVE ALL REMOTE CONTROL VALVES AND CAP USING A THREADED CAP. FILL MAINLINE WITH WATER AND PRESSURIZE THE SYSTEM TO 125 PSI. MONITOR THE SYSTEM PRESSURE AT TWO GAUGE LOCATIONS; THE GAUGE LOCATIONS MUST BE AT OPPOSITE ENDS OF THE MAINLINE. WITH THE SAME RESPECTIVE PRESSURES, MONITOR THE GAUGES FOR TWO HOURS.

17.1.2. PVC SOLVENT-WELD PIPE CONNECTIONS SHALL HAVE NO LEAKAGE. GASKETED PIPING SHALL LOSE NO MORE WATER THAN ALLOWED PER THE FLORIDA STATE BUILDING CODE, VOLUME II PLUMBING, PART VI, APPENDIX 'F'. REFER TO THIS SECTION FOR THE FORMULA TO BE USED TO CALCULATE THE MAXIMUM ALLOWABLE WATER LOSS DURING THE TESTING TIME.

17.1.3. REPAIR ALL LEAKS AND RETEST MAINLINE PIPING UNTIL THE TEST IS SUCCESSFUL.

17.1.4. LATERAL PIPE MUST BE FILLED AND VISUALLY CHECKED FOR LEAKS. ANY LEAKS DETECTED MUST BE REPAIRED. NO PRESSURE TEST OF THE LATERAL LINES IS REQUIRED.

17.2. FLUSHING:

17.2.1. PRIOR TO THE PLACEMENT OF HEADS, FLUSH ALL LINES FOR A MINIMUM OF 10 MINUTES OR UNTIL LINES ARE COMPLETELY CLEAN OF DEBRIS, WHICHEVER IS LONGER.

17.2.2. USE SCREENS IN HEADS AND ADJUST HEADS FOR PROPER COVERAGE AVOIDING EXCESS WATER ON WALLS, WALKS AND PAVING.

17.3. OPERATIONAL TESTING:

17.3.1. UPON COMPLETION OF BACKFILLING, FINISH GRADING AND CONTOURING, TEST THE ENTIRE SYSTEM FOR PROPER OPERATION, INCLUDING ELECTRICALLY ACTUATING THE REMOTE CONTROL VALVES. RUN EACH ZONE UNTIL WATER BEGINS TO PUDDLE OR RUN OFF. THIS WILL ALLOW DETERMINATION OF THE NUMBER OF IRRIGATION START TIMES NECESSARY TO MEET THE WEEKLY EVAPOTRANSPIRATION REQUIREMENTS OF THE PLANTING MATERIAL IN EACH ZONE. IN SANDY SOILS NO PUDDLING WILL OCCUR. IN THESE CASES, CALCULATE THE REQUIRED RUN TIMES.

17.3.2. ONCE THE MAINLINE AND LATERAL LINES HAVE PASSED THEIR RESPECTIVE TESTS AND THE SYSTEM IS COMPLETELY OPERATIONAL, A COVERAGE TEST AND DEMONSTRATION OF THE SYSTEM IS REQUIRED. THE IRRIGATION CONTRACTOR MUST DEMONSTRATE TO THE OWNER OR HIS/HER REPRESENTATIVE THAT PROPER COVERAGE IS OBTAINED AND THAT THE SYSTEM WORKS AUTOMATICALLY FROM THE CONTROLLER. THIS DEMONSTRATION REQUIRES THAT EACH ZONE BE TURNED ON IN THE PROPER SEQUENCE AS SHOWN ON THE PLANS FROM THE CONTROLLER. EACH ZONE WILL BE INSPECTED FOR PROPER COVERAGE AND FUNCTION. THE DETERMINATION OF PROPER COVERAGE AND FUNCTION WILL BE SOLELY DETERMINED BY THE OWNER OR OWNER'S REPRESENTATIVE.

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