IRRIGATION GENERAL NOTES:

- CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING FIELD CONDITIONS, THE PUMP STATION LOCATION, ANY EXISTING IMPROVEMENTS INCLUDING ALL HARDSCAPE AREAS, AND ANY OTHER CONDITION WHICH MAY CAUSE A POSSIBLE IMPEDIMENT OF THE IMPLEMENTATION OF THIS WORK.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTORS BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL PROVIDE A SUPERVISOR THAT IS FLUENT IN ENGLISH, PROPERLY SKILLED, AND PROFICIENT IN THE TRADES REQUIRED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND PROCEDURES. ALL WORK SHALL BE PERFORMED BY WORKERS SKILLED IN THE TRADE AND APPLICATION OF THE MATERIALS INVOLVED. ALL WORK MUST BE PERFORMED IN GOOD WORKMAN LIKE MANNER AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
-THE CONTRACTOR SHALL PROVIDE WHATEVER SAFEGUARDS DEEMED NECESSARY EITHER BY THE OWNER'S REPRESENTATIVE OR ANY GOVERNING AGENCY, INCLUDING O.S.H.A., TO PROTECT ALL PERSONS DURING THE EXECUTION, AS WELL AS, THE SUSPENSION OF ANY PORTION OF THE WORK. THE CONTRACTOR SHALL PROVIDE BARRICADES TO PROTECT THE WORK, THE OWNER'S PROPERTY, AND ADJACENT TO EXCAVATED AREAS IN ORDER TO PREVENT ANY INJURY IN CONNECTION WITH THIS WORK.
- DURING AND UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL KEEP THE PROJECT SITE CLEAN AND AS DEBRI FREE AS POSSIBLE. THE CONTRACTOR SHALL RETURN ALL DISTRIBUTED AREAS BACK TO THEIR APPROXIMATE PRE-EXCAVATED CONDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUESTING THE PROPER UTILITY COMPANY TO STAKE THE EXACT LOCATION OF ANY UNDERGROUND LINES INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, GAS, CABLE, TV, WATER, SEWER, STORM DRAIN, TRAFFIC CONTROLS, STREET LIGHTING, ETC. THE CONTRACTOR SHALL USE DUE DILIGENCE IN THE LOCATION OF ANY PRIVATE IMPROVEMENT BEFORE PROCEEDING WITH ANY EXCAVATION.
- LOW VOLTAGE WIRING SHALL BE TYPE "UF". 600 VOLT, #14 AWG, SOLID COPPER, SINGLE CONDUCTOR WIRE WITH INSULATION AND BEAR UL APPROVAL FOR DIRECT BURIAL UNDERGROUND WIRE. THE WIRING SHALL BE COLOR CODED SO AS TO DISTINGUISH BETWEEN HOT AND COMMON WIRES. ONCE A COLOR WIRE IS CHOSEN FOR A PARTICULAR CONTROL VALVE, IT SHALL TRAVEL FROM THAT VALVE TO THE CONTROLLER WITHOUT A VARIATION IN COLOR. TWO SPARE WIRES COLORED DIFFERENT FROM ANY OTHER COLOR WIRE SHALL BE INSTALLED FROM THE CONTROLLER TO THE FURTHEST VALVES IN EACH DIRECTION OF THE MAIN LINE. THE CONTROL WIRE SHALL BE INSTALLED IN GRAY PVC CONDUIT, SPLICED ONLY AT VALVE LOCATIONS OR WITHIN A VALVE BOX. SPLICES SHALL BE MADE ONLY WITH 3M BY WATERPROOF CONNECTORS. ALL CONTROL WIRES SHALL BE LABELED AT THE CONTROL VALVE LOCATION, WITHIN ANY JUNCTION BOX, AND AT THE CONTROLLER. ALL COMMON WIRES SHALL BE WHITE IN COLOR. IN MOST CASES TWO ELECTRIC CONTROL VALVES SHALL BE WIRED TO OPERATE SIMULTANEOUSLY. CONTRACTOR SHALL INSTALL HOT WIRE FROM EACH VALVE TO THE CONTROLLER. UNDER NO CIRCUMSTANCES SHALL ONE WIRE OPERATE MORE THAN ONE VALVE.
- CONTRACTOR SHALL LOCATE THE CONTROLLER AS SHOWN ON THE DRAWINGS. ALL LOW VOLTAGE WIRES TRAVELING FROM GRADE TO THE CONTROLLER SHALL BE ENCASED IN GRAY PVC CONDUIT. PROVIDE AND INSTALL THREE ADDITIONAL COPPER CLAD GROUNDING ELECTRODES DRIVEN INTO THE EARTH WITH AN 8' TRIANGULATED PATTERN CONNECTED TOGETHER AS DETAILED BY THE MANUFACTURER. A MEG READING WILL BE PERFORMED ON THE 3 RODS TO VERIFY A READING OF 10 OHMS OR LESS FOR MAXIMUM PROTECTION. EACH CONTROLLER SHALL BE CONNECTED WITH A #4 AWG GREEN-JACKETED WIRE TO THE GROUND ROD GRID AS PER THE MANUFACTURER'S SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE, INSTALL, AND CALIBRATE THE RAIN SHUT OFF DEVICE THAT WILL AUTOMATICALLY SHUT SYSTEM OFF DURING RAIN. LOCATE RAIN SHUT OFF DEVICE IN AN OPEN AREA AWAY FROM ANY TREE CANOPY AND HIGH ENOUGH SO THAT NO SPRINKLER CAN SPRAY DIRECTLY ONTO IT.
- ALL LATERAL PIPES TO BE CUT SQUARELY AND ALL BURRS TO BE REMOVED. THE CONTRACTOR SHALL PROVIDE CLEANER DESIGNATED FOR PVC PIPE AND FITTINGS USED IN PREPARATION FOR SOLVENT WELDINGS. THE SOLVENT CEMENT SHALL BE GRAY AND MEET OR EXCEED ASTM D-2564 FOR SOLVENT WELDING PIPE AND FITTINGS AND SHALL BE RECOMMENDED BY THE MANUFACTURER.
- ALL SPRINKLER HEADS SHALL BE INSTALLED BY THE CONTRACTOR AS DETAILED ON THE DRAWINGS. SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM INDICATED ON THE DRAWINGS. IN NO CASE SHALL THE SPACING EXCEED THE MAXIMUM RECOMMENDED BY THE MANUFACTURER. EACH POP-UP SPRAY SPRINKLER HEAD SHALL BE INSTALLED ON A FLEXIBLE SWING JOINT THAT SHALL CONSIST OF A MINIMUM OF 18" OF FUNNY PIPE. THE 7000 SERIES TURF ROTOR SHALL BE INSTALLED ON A 1"PVC JOINT. THE 5000 SERIES TURF ROTOR SHALL BE INSTALLED ON A FLEXIBLE SWING JOINT THAT SHALL CONSIST OF A MINIMUM OF 18" OF FUNNY PIPE. SPRINKLER HEADS WITHIN PLANTER BEDS SHALL BE INSTALLED ON A ½" SCHEDULE 40 PVC PIPE TO A STANDARD HEIGHT OF 2"-4" ABOVE PLANTS. IF RISERS ARE 18" OR HIGHER THEY SHALL BE STAKED AND NYLON STRAPPED TO THE RISER TO INCREASE STABILIZATION. BACKFILL AROUND THE SPRINKLER AND FITTING SHALL BE FREE OF ROCKS, ROOTS, OR FOREIGN DEBRIS. SPRINKLER HEAD PLACEMENT SHALL BE AS FOLLOWS: SPRINKLERS ADJACENT TO SIDEWALKS SHALL BE 4" OFF EDGE OF WALK, SPRINKLERS ADJACENT TO THE BUILDING SHALL BE 12" OFF THE WALL, SPRINKLERS ADJACENT TO THE CURBED ROADWAYS SHALL BE 4"-6" OFF CURB, SPRINKLERS ADJACENT TO UNCURBED ROADWAYS 36" OF EDGE. ADJUSTMENT FEATURES OF SPRINKLERS SPECIFIED SHALL BE UTILIZED TO SINSURE PROPER COVERAGE WHILE MINIMIZING UNDESIRABLE OVERTHROW. RISERS SHALL BE PAINTED TO BLEND WITH PLANT MATERIAL.

PRE-CONSTRUCTION SUBMITTALS:
- CONTRACTOR SHALL SUBMIT SHOPDRAWINGS AND SPECIFICATIONS OF THE SYSTEM TO BE INSTALLED. THESE DRAWINGS SHALL BE PART OF THE PERMIT SUBMITTAL PACKAGE.
- PRIOR TO FINAL ACCEPTANCE CONTRACTOR SHALL DEMONSTRATE AUTOMATIC OPERATION OF SYSTEM, PROGRAM AND LABEL CONTROLLER, AND PROVIDE OWNER WITH AS BUILT. UPON FINAL APPROVAL FROM OWNER CONTRACTOR SHALL WARRANTY SYSTEM FOR ONE FULL YEAR.

MATERIAL
PVC PIPE AND FITTINGS
1. PVC PIPE SHOULD COMPLY WITH ONE OF THE FOLLOWING STANDARDS: ASTM D 1785, ASTM D-2241, AWWA C-900, OR AWWA C-905. SDR-PR PIPE SHALL HAVE A MINIMUM WALL THICKNESS AS REQUIRED BY SDR-26.
2. ALL SOLVENT-WELD PVC FITTINGS SHALL, AT A MINIMUM, MEET THE REQUIREMENTS OF SCHEDULE 40 AS SET FORTH IN ASTM D 2466.
3. PVC FLEXIBLE PIPE SHOULD BE PRESSURE RATED AS DESCRIBED IN ASTM D 2740 WITH STANDARD OUTSIDE DIAMETERS COMPATIBLE WITH PVC IPS SOLVENT-WELD FITTINGS.
4. PVC CEMENT SHOULD MEET ASTM D 2564. PVC CLEANER SHOULD MEET ASTM F 656.

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 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 RIDGED, SHALL BE CONSTRUCTEDTO PROVIDE A LEAK-FREE CONNECTION BETWEEN THE SPRINKLER AND LATERALPIPELINE TO ALLOW MOVEMENT IN ANY DIRECTION AND TO PREVENT EQUIPMENT DAMAGE.

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. THIS REQUIREMENT MAY BE WAIVED FOR LOW MAINLINE PRESSURE SYSTEMS (30 PSI OR LESS).
2. ONLY VALVES THAT ARE CONSTRUCTED OF MATERIALS DESIGNED FOR USE WITH THE WATER AND SOIL CONDITIONS OF THE INSTALLATION SHALL BE USED.

IRRIGATION CONTROLLERS
1. ALL IRRIGATION CONTROLLERS SHALL BE UL LISTED, CONFORM TO THE PROVISIONS OF THE NATIONAL ELECTRIC CODE, 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 CLEARANCE FROM OTHER OUTDOOR EQUIPMENT, FREE AND CLEAR OF ANY TREE CANOPY OR OTHER OVERHEAD OBSTRUCTIONS, AND ABOVE THE HEIGHT OF THE SPRINKLER COVERAGE.

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 1/2" - 2-1/2" DEPTH OF COVER (INCHES) 18" - 24"
B. NON-TRAFFIC AND NON-CULTIVATED AREAS
PIPE SIZE 1/2" - 1-1/4" DEPTH OF COVER 6" - 12"
2. ALL PIPES UNDER SIDEWALKS, WHERE APPLICABLE, SHALL BE SLEEVED WITH PIPE MINIMUM OF TWO SIZES LARGER THAN PIPE TRAVELING THROUGH IT.
3. MAKE ALL PIPE JOINTS AND CONNECTIONS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. IN NO CASE SHALL ONE IRRIGATION PIPE REST UPON ANOTHER. CO-MINGLING OR MIXING OF DIFFERENT TYPES OF PIPE ASSEMBLIES SHALL BE PROHIBITED.
5. THRUST BLOCKS MUST BE USED ON ALL GASKETED PVC SYSTEMS. 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 STANDARD S-376.1.
6. TRENCH BOTTOM MUST BE UNIFORM, FREE OF DEBRIS, AND OF SUFFICIENT WIDTH TO PROPERLY PLACE PIPE AND SUPPORT IT OVER ITS ENTIRE LENGTH. BACKFILL MATERIAL SHALL BE FREE FROM ROCKS OR STONES LARGER THAN 1-INCH IN DIAMETER.
7. ALL SLEEVES UNDER CONCRETE AND ASPHALT SHALL BE SCHEDULE 40 PVC; SLEEVES SHALL HAVE A MINIMUM OF 24" COVER. SLEEVES SHALL EXTEND 2' BEYOND THE EDGE OF SIDEWALK AND 3' BEYOND EDGE OF PAVEMENT. COORDINATE SLEEVE INSTALLATION WITH PROJECT SUPERINTENDENT

8. ALL PIPE LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND SHALL BE LOCATED WITHIN THE ADJACENT GREEN AREA WHEREEVER POSSIBLE. ALL NON-PRESSURIZED LATERALS AND ALL ABOVE GROUND PLASTIC PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D-2241,D-1784,TYPE 1120OR 1220 SCHEDULE 40 SOLVENT WELD TYPE, PIPE JOINTS FOR SOLVENTS SHALL BE BELED END. ALL LATERAL PIPE FITTINGS SHALL BE SHCHEDULE 40 PVC WITH SOLVENT WELD JOINTS AND CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D-2467 AND D-2464 RESPECTIVELY. ALL MAIN LINE SHALL BE PRESSURE TEST FORMULA LISTED BELOW
9. THE MAIN LINE PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D-2241,D-1784. TYPE 1120 OR 1220 CLASS 200 GASKET TYPE. RUBBER RINGS SHALL CONFORM TO ASTM D-1869 AND F-477. THE MAIN LINE FITTINGS SHALL BE DUCTILE IRON AS MANUFACTURED BY HARCO CORPORATION. FITTINGS SHALL HAVE PROVISIONS FOR EXPANSION AND CONTRACTION AND SHALL BE DESIGNED FOR PUSH-ON MAKEUP CONNECTION. A LUBRICANT APPROVED BY THE PIPE AND/OR FITTING MANUFACTURER SHALL BE APPLIED TO ALL JOINTS DESIGNED FOR A PUSH ON CONNECTION. THE LUBRICANT SHALL BE FORMULATED TO BE NON TOXIC, NOT SUPPORT BACTERIAL GROWTH, HAVE NO DETERIORATING EFFECTS ON THE GASKET MATERIAL, AND IS WATER SOLUBLE. IT SHALL MEET THE REQUIREMENTS OF AWWA/ANSIC111/A21.11. ALL GASKET JOINT FITTINGS SHALL BE THOROUGHLY CLEANED, REMOVE ALL FOREIGN MATTER FROM INSIDE OF THE FITTING. BE SURE THE GASKET IS COMPLETELY SEATED AND APPLY A GENEROUS COATING OF LUBRICANT TO THE EXPOSED GASKET SURFACE. CLEAN THE PLAIN END OF PIPE AND GRIND OR FILE SHARP EDGES, WHICH MIGHT DAMAGE THE GASKET, APPLY LUBRICANT TO THE BEVELED NO/SE. PLACE PLAIN END IN THE COMPANION BELL AND PROVIDE REASONABLY STRAIGHT ALIGNMENT. PUSH PIPE STRAIGHT HOME WITH THE AID OF A BAR OR MORE POWERFUL MEANS. CHECK THE ASSEMBLY-THE JOINT IS COMPLETELY ASSEMBLED WHEN THE HOME STRIPE ON THE PIPE HAS MOVED PROPORTIONALLY TO THE LENGTH OF THE JOINT OR TO NO LONGER VISIBLE.
10. THRUST BLOCKS SHALL BE INSTALLED AT ALL DIRECTIONAL CHANGES IN THE GASKET-PIPING NETWORK. THE CONCRETE MIX SHALL HAVE A COMPRESSIVE STRENGTH NOT LESS THAN 2500 PSI. PLACE THE CONCRETE BETWEEN UNDISTURBED GROUND AND THE FITTING TO BE ANCHORED. PLACE THE THRUST BLOCKING SO THAT THE PIPE AND FITTING JOINTS WILL BE ACCESSIBLE TO REPAIRS.
11. ENTIRE SYSTEM TO BE INSTALLED IN COMPLIED WITH ALL LOCAL CODES, FLORIDA BUILDING CODE, PLUMBING CODE, APPENDIX "F". CONTRACTOR TO SUPPLY ALL ITEMS NECESSARY, PERMITS, ETC., AS REQUIRED BY THESE CODES EVEN IF ITEMS ARE NOT SHOWN ON DRAWINGS.

B. CONTROL VALVE INSTALLATION
1. VALVE INSTALLATION SHALL ALLOW ENOUGH CLEARANCE FOR PROPER OPERATION AND MAINTENANCE.
2. CONTROL VALVE SIZE SHALL BE BASED ON THE FLOW RATE THROUGH THE VALVE. FRICTION LOSS THROUGH THE VALVE SHOULD NOT EXCEED 10% OF THE STATIC MAINLINE HEAD.
3. 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 TO OVERRIDE THE IRRIGATION CYCLE WHEN ADEQUATE RAINFALL HAS OCCURRED, AS REQUIRED BY FLORIDA STATUTES, SECTION 373.62.
4. AUTOMATIC CONTROL VALVE LOCATIONS ARE SCHEMATIC ONLY AND SHALL BE PLACED AT OPTIMUM LOCATION FOR FUNCTION AND SERVICE AS FIELD CONDITIONS ALLOW. ALL VALVES SHALL BE INSTALLED USING SCHEDULE 80 PVC NIPPLES. ONLY THE ANGLE CONFIGURATION SHALL BE USED, NO PVC MALE ADAPTERS SHALL BE ALLOWED. QUICK COUPLERS SHALL BE INSTALLED WITH SCHEDULE 80 NIPPLES PROPERLY STAKED TO INCREASE STABILIZATION. CONTRACTOR SHALL PROVIDE A 55K-1 KEY AND SH-1 SWIVEL FOR QUICK COUPLER. IN ADDITION, CONTRACTOR SHALL PROVIDE THREE 3349 LOCKING COVER KEYS. EACH VALVE, NO MATTER WHAT SIZE, SHALL BE ENCLOSED IN A 12" RECTANGULAR AMETEC OR CARSON VALVE BOX INSTALLED FLUSH TO GRADE UNLESS OTHERWISE INSTRUCTED. FLOW ADJUSTMENT FEATURE OF VALVE SHALL BE USED TO BALANCE OPERATING AND VALVE CLOSING SPEED.

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. SPRINKLERS SHOULD BE ADJUSTED TO AVOID UNNECESSARY DISCHARGE ON PAVEMENTS AND STRUCTURES. ADJUST SPRINKLERS SO THEY DO NOT WATER ON ROADS.
2. PROVIDE A MINIMUM SEPARATION OF 4-INCHES BETWEEN SPRINKLERS AND PAVEMENT. PROVIDE A MINIMUM SEPARATION OF 12 INCHES BETWEEN SPRINKLERS AND BUILDINGS AND OTHER VERTICAL STRUCTURES. PIPING MUST BE THOROUGHLY FLUSHED BEFORE INSTALLATION OF SPRINKLER NOZZLES. SURFACE MOUNTED AND POP-UP HEADS SHALL BE INSTALLED ON SWING JOINTS, FLEXIBLE PIPE, OR POLYETHYLENE (PE) NIPPLES. ABOVE-GROUND (RISER MOUNTED) SPRINKLERS SHALL BE MOUNTED ON SCHEDULE 40 PVC OR STEEL PIPE AND BE EFFECTIVELY STABILIZED.

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 INSURE 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. CONTRACTOR

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% OF THE DESIGN SPACING.
2. PIPE INSTALLATION DEPTH: ALL PIPES IN THE SYSTEM SHALL BE INSTALLED TO DEPTHS AS PREVIOUSLY DESCRIBED IN THIS CODE.
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.

DUCTILE IRON:

L = S D P / 133,200

PVC, GASKETED JOINT:

L = N D P

7400

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).

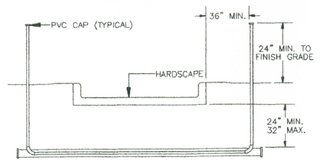
C. FINAL INSPECTION. WHEN THE WORK IS COMPLETE THE CONTRACTOR SHALL REQUEST A FINAL INSPECTION.

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 CERTIFIED TECHNICIAN PRIOR TO BEING PLACED INTO SERVICE.

2. SPRINKLER COVERAGE TESTING
A. ALL SPRINKLERS MUST BE ADJUSTED TO MINIMIZE OVER-SPRAY ONTO BUILDINGS AND PAVED AREAS.
B. ALL SPRINKLER CONTROLS MUST BE ADJUSTED TO MINIMIZE RUNOFF OF IRRIGATED WATER.
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.
D. SPRAY PATTERNS MUST OVERLAP AS DESIGNED.
E. SPRINKLERS MUST BE CONNECTED, AS DESIGNED, TO THE APPROPRIATE ZONE.

D. SITE RESTORATION.

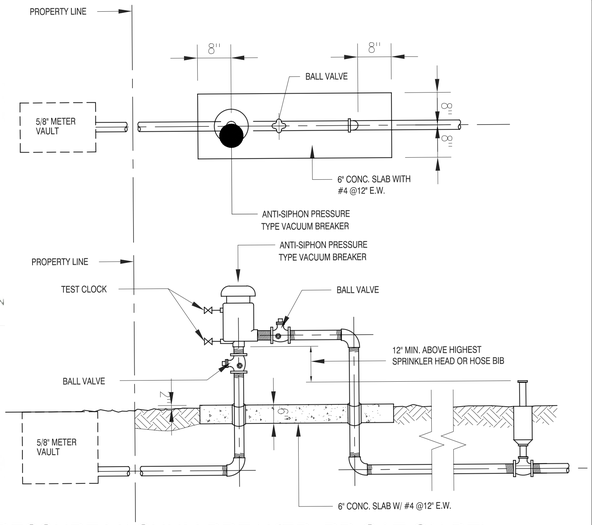
1. BE RESTORED TO ORIGINAL CONDITION OR TO THE SATISFACTION OF THE GOVERNING AUTHORITY.
2. VERIFY THAT THE PIPELINE TRENCHES HAVE BEEN PROPERLY COMPACTED TO THE DENSITIES REQUIRED BY THE PLANS AND SPECIFICATIONS.
3. TRENCHES SHALL BE EXCAVATED AS STRAIGHT AS POSSIBLE AND DEPTH COVER SHALL BE MAINTAINED WITH RESPECT TO FINISHED ALL TRENCHES SHALL BE HAND RAKED AND ALL DEBRIS REMOVED. DEPTHS SHALL BE AS FOLLOWS: MAIN LINE AND CONDUIT 30", LATERAL PIPE 12", WIRE TRENCH WHERE ONLY CONDUIT AND WIRE ARE INSTALLED 18". PVC PIPE WITHIN STABILIZED PARKING AREAS 24", BACKFILL SHALL BE OF SUITABLE MATERIAL FREE OF LARGE ROCKS, STONE, OR OTHER DEBRIS THAT WOULD
DAMAGE IRRIGATION SYSTEM COMPONENTS. ALL PIPES SHALL MAINTAIN A MINIMUM OF 4" CLEARANCE FROM EACH OTHER AND OTHER UTILITIES. ROUGH INSPECTIONS WILL BE PERFORMED THROUGHOUT THE DURATION OF THE INSTALLATION. THESE INSPECTIONS WILL BE MADE BY THE GOVERNING AGENCY TO INSURE 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.



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE SCHEDULE 40 PVC PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. EXTEND SLEEVE 36" MINIMUM BEYOND EDGE OF PAVEMENT
4. SIDEWALK SLEEVE SHALL BE 2 PIPE SIZES LARGER THAN PIPE WITHIN
5. SIDEWALK SLEEVE DEPTH 12" EXTEND 2' BEYOUND EDGE

SLEEVING DETAILS

N.T.S.



PRESSURE VACUUM BREAKER IRRIGATION DTL

N.T.S.

LEGEND

- ¼" STAKE W/ XERI BUG EMITTER
- 6 OUTLET MANIFOLD: EMT-6XERI
- ¼" BARB TEE
- BARBED MULTI OUTLET EMITTER
- STAKE TIE DOWN @ 4'-6" (typ.)
- ¾" CONTROL VALVE
- ¾" PVC LATERAL
- ½" PVC LATERAL
- PVC LATERAL SLEEVE

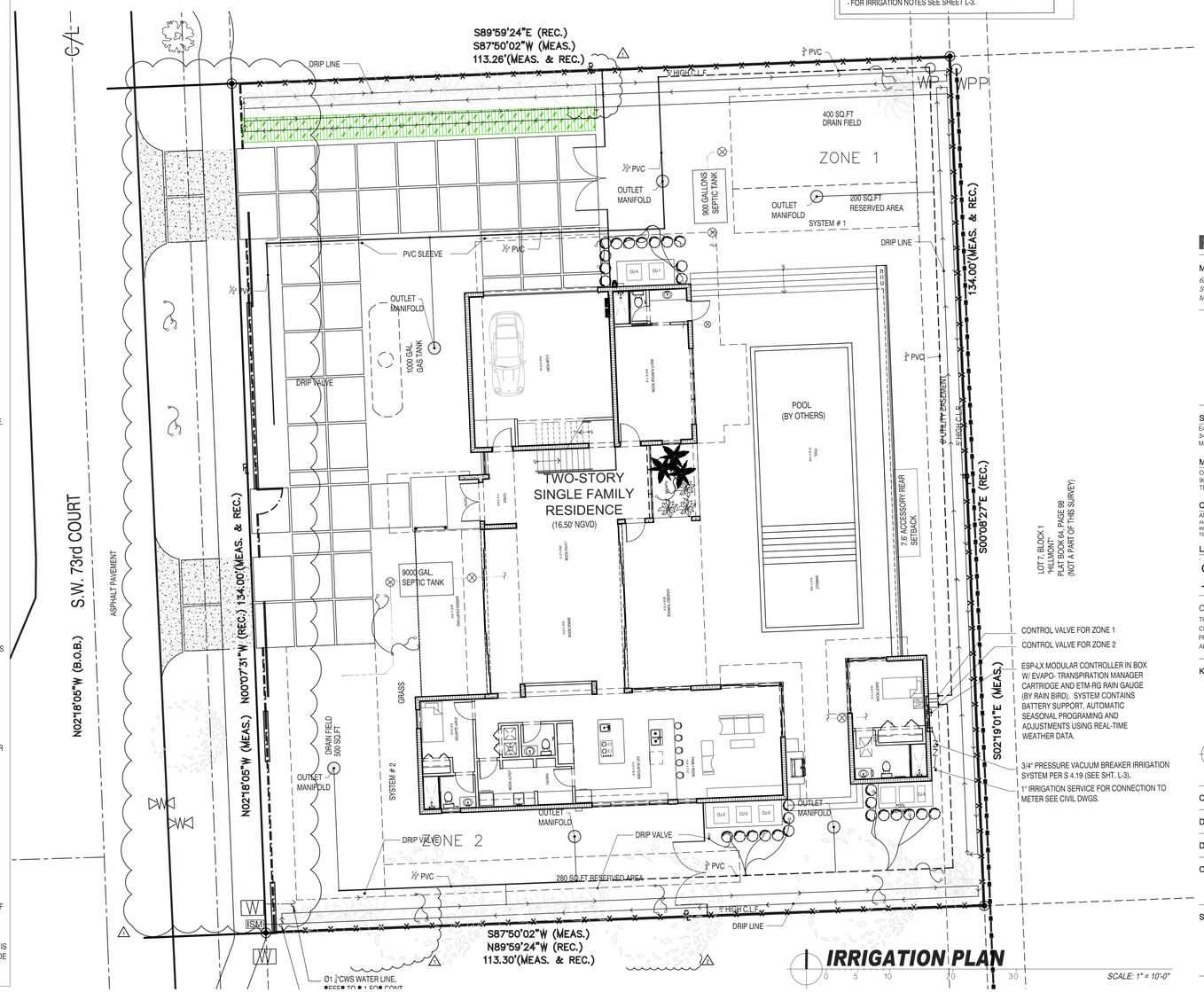
1. CONTRACTOR SHALL PERFORM A PRESSURE TEST AT METER PRIOR TO DESIGN OF SYTEM AND CONFIRM SOIL TYPE AND OTHER FIELD CONDITIONS. THE PROPOSED DESIGN ASSUMED A FINE SOIL TYPE, AN EMITTER SPACING OF 24" AND EMMITTER FLOW RATE OF .6 GPH.

2. CONTRACTOR SHALL SUBMIT SHOPDRAWINGS, CALCULATIONS AND SPECIFICATIONS OF THE SYSTEM TO BE INSTALLED. SUBMITTAL SHALL BE APPROVED BY ARCHITECT/ENGINEER PRIOR TO PURCHASE AND INSTALLATION OF SYSTEM.

3. A PRESSURE REGULATOR SHALL BE INSTALLED AFTER THE BACK FLOW PREVENTER OR AT THE CONTROL ZONE TO ENSURE PROPER WORKING PRESSURE AND FLOW RATE. SYSTEM PRESSURE SHALL NOT EXCEDE 50 PSI. COORDINATE WORKING FLOW RATE REQUIREMENTS FOR ALL COMPONENTS.

4. PRIOR TO FINAL ACCEPTANCE CONTRACTOR SHALL DEMONSTRATE AUTOMATIC OPERATION OF SYSTEM, PROGRAM AND LABEL CONTROLLER, AND PROVIDE OWNER WITH AS BUILT DOCUMENTATION. UPON FINAL APPROVAL FROM OWNER, CONTRACTOR SHALL WARRANTY SYSTEM FOR ONE FULL YEAR. SEE SHEET L-3 FOR ADDITIONAL INFORMATION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION PRIOR TO PROCEDEING WITH DESIGN OR INSTALLATION.

NOTE:
- PIPE LESS THAN 1-1/2' DIA. SHALL BE PVC SCHEDULE 40.
- PIPE 1-1/2" DIA. & LARGER SHALL BE SCHEDULE 40.
- SPRINKLER CONTRACTOR SHALL ADJUST SPRINKLER HEAD SPAY TO PREVENT OVER SPRAY ONTO ADJACENT PROPERTIES, PARKING AREAS, DRIVEWAYS AND SIDEWALKS.
- FOR IRRIGATION NOTES SEE SHEET L-3.



IRRIGATION PL