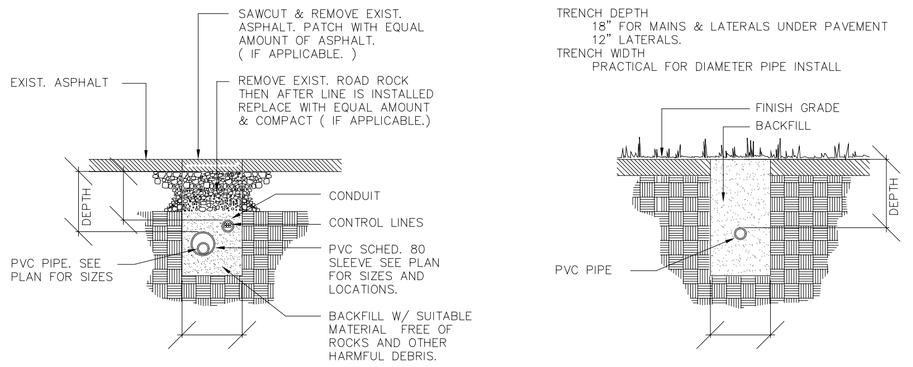
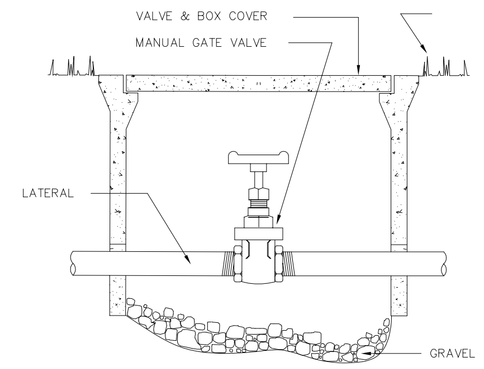


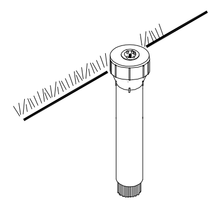
TRENCH DEPTH
18" FOR MAINS & LATERALS UNDER PAVEMENT
12" LATERALS.
TRENCH WIDTH
PRACTICAL FOR DIAMETER PIPE INSTALL

TYPICAL TRENCHING DETAIL
N.T.S.



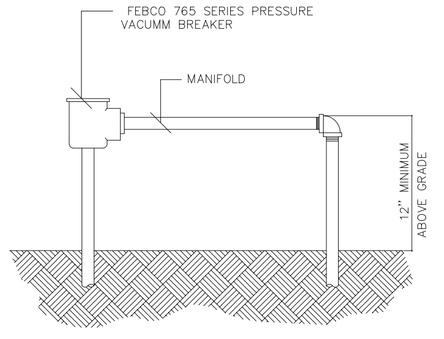
MANUAL GATE VALVE (SHUT OFF VALVE)
N.T.S.

FINISH GRADE



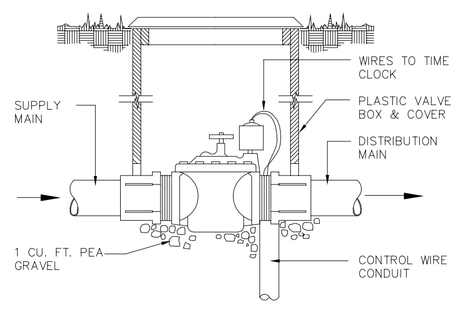
TORO 570Z SERIES, NOZZLE PATTERNS AS SPEC.
570 MPR PLUS SPRAY NOZZLES

TYPICAL SPRINKLER HEADS
N.T.S.

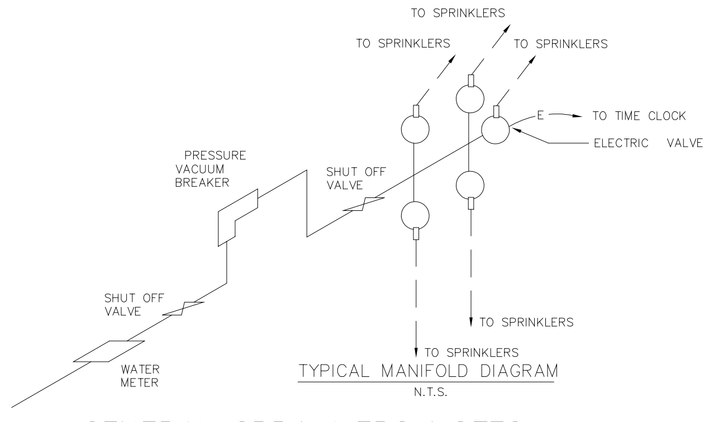


VACUMM BREAKER DETAIL
N.T.S.

LAND53.DWG



TYPICAL ELECTRICAL VALVE INSTALLATION DETAIL
N.T.S.



TYPICAL MANIFOLD DIAGRAM
N.T.S.

GENERAL SPRINKLERS NOTES:

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES AND MATERIAL PRIOR TO SUBMITTING HIS BID.

CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE ANY UNDERGROUND CONSTRUCTION OR UTILITIES.

ALL IRRIGATION PIPING TO BE SCHEDULE 40 PVC. . INSTALL SLEEVES WHERE SHOWN.
SEE INSTALLATION DETAIL ABOVE, THIS SHEET. ALL SLEEVES TO BE SCHEDULE 40 PVC.

CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ALL ROCKS AND DEBRIS GENERATED BY HIS OPERATION. CONTRACTOR SHALL AT ALL TIMES KEEP THE JOB SITE CLEAN AND FREE FROM ACCUMULATION OF WASTE MATERIAL.

CONTRACTOR SHALL OBTAIN ALL NECESSARY LICENSES AND PERMITS PRIOR TO CONSTRUCTION.

A. GENERAL: CONDITIONS AND REQUIREMENTS

1. WORK TO INCLUDE FURNISHING LABOR, MATERIALS, TOOLS AND EQUIPMENT,OBTAINING NECESSARY PERMITS,INSTALLING ALL MATERIALS NECESSARY TO COMPLETE, IN PLACE AND IN AN OPERATING CONDITION, AN IRRIGATION SYSTEM,AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED.

2. THE INSTALLATION SHALL COMPLY WITH ALL REGULATIONS OF THE CITY, THE COUNTY, AND THE STATE OF FLORIDA. ALL LICENSES, PERMITS AND INSPECTIONS REQUIRED SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. AT COMPLETION OF THE WORK, THE CONTRACTOR WILL TRANSMIT ALL APPLICABLE CERTIFICATES OF INSPECTION TO THE OWNER OR AUTHORIZED REPRESENTATIVE.

3. THE CONTRACTOR OR THE IRRIGATION SUBCONTRACTOR SHALL PROVIDE A QUALIFIED FOREMAN PRESENT ON THE SITE AT ALL TIMES. THE FOREMAN SHALL BE WELL-VERSED IN READING AND UNDERSTANDING PLANS, PVC ASSEMBLY, AND STANDARD PLUMBING PROCEDURES. THE FOREMAN SHALL BE A FULLY AUTHORIZED AGENT OF THE CONTRACTOR, CAPABLE OF MAKING ON-SITE DECISIONS.

4. SPRINKLER LINES SHOWN ON THE DRAWINGS ARE ESSENTIALLY DIAGRAMATIC. LOCATIONS OF ALL SPRINKLER HEADS, VALVES, PIPING, WREING, ETC. SHALL BE ESTABLISHED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. SPACING OF THE SPRINKLER HEADS ARE SHOWN ON THE DRAWINGS AND SHALL BE EXCEEDED ONLY WITH PERMISSION OF THE OWNER, OR AUTHORIZED REPRESENTATIVE.

5. ALL MATERIALS INCORPORATED IN THIS SYSTEM SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS AND OF QUALITY AND PERFORMANCE AS SPECIFIED AND MEETING THE REQUIREMENTS OF THE SYSTEM. ALL MATERIAL OVERAGES AT THE COMPLETION OF THE INSTALLATION ARE THE PROPERTY OF THE CONTRACTOR AND ARE TO BE REMOVED FROM THE SITE.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES AND MATERIAL PRIOR TO SUBMITTING BID.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. CARE SHALL BE TAKEN NOT TO DISTURB OR DAMAGE ANY UNDERGROUND CONSTRUCTION OR UTILITIES. ANY DAMAGE TO THOSE FACILITIES DURING IRRIGATION INSTALLATION SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR AS APPROVED BY THE OWNERS REPRESENTATIVE.

8. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ALL ROCKS AND DEBRIS GENERATED BY HIS OPERATION. CONTRACTOR SHALL AT ALL TIMES KEEP THE JOB SITE CLEAN AND FREE FROM ACCUMULATING OF WASTE MATERIAL.

9. CONTRACTOR SHALL OBTAIN ALL NECESSARY LISCENSES AND PERMITS PRIOR TO CONSTRUCTION.

10. ALL LINE LOCATIONS ARE SCHEMATIC ONLY AND SHALL BE FIELD ADJUSTED TO CREATE THE GREATEST POSSIBLE DISTANCE FROM EXISTING TREES. THE CONTRACTOR WILL BE HELD LIABLE FOR TREE DAMAGE RESULTING FROM UNAPPROVED TRENCHING.

11. ALL HEADS ARE TO BE ADJUSTED TO AVOID OVERSPRAY ONTO THE SIDEALK.

12. ALL TRENCHING AND BACKFILLING OF MAIN LINES AND LATERALS TO BE COMPLETED AFTER INSTALLATION OF TREES, AND BEFORE INSTALLATION OF SHRUBS AND GROUNDCOVERS.

13. ALL TREE ROOTS OVER 1 1/2" DIAMETER CUT BY TRENCHES SHALL BE RECUT CLEANLY 12" BACK FROM THE EDGE OF THE TRENCH.

14. CONTRACTOR IS RESPONSIBLE TO CORDINATE AND PAY ALL FEES REQUIRED BY ALL MUNICIPAL AGENCIES. CONTRACTOR SHALL INSTALL A COMPLETE SYSTEM READY TO USE.

15. THRUST BLOCKS SHALL BE INSTALLED AT ALL CORNERS OF PROPOSED 3" MAIN.

B. PRODUCTS

1. PLASTIC PIPE AND FITTINGS:

a. PLASTIC PIPE SHALL BE RIGID UNPLASTICIZED PVC SCHEDULE 40 . THE PIPE SHALL BE HOMOGENOUS THROUGHOUT AND FREE FROM CRACKS, HOLES, FOREIGN MATERIAL, BLISTERS, DELETERIONS, WRINKLES, AND DENTS.

b. PRESSURE SUPPLY PIPES, FROM THE WATER SOURCE TO THE VALVES, SHALL BE PVC SCHEDULE 40 OR AS SHOWN ON THE PLANS.

c. PIPE SIZES SHALL CONFORM TO THOSE AS SHOWN ON THE DRAWING. NO SUBSTITUTIONS OF SMALLER PIPE SIZES WILL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL PIPE DAMAGED OR REJECTED BECAUSE OF DEFECTS SHALL BE REMOVED FROM THE SITE AT THE TIME OF REJECTION.

d. ALL PLASTIC PIPE FITTINGS TO BE INSTALLED SHALL BE MOLDED FITTINGS MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE SUITABLE FOR SOLVENT WELD, SLIP JOINT RING TITE SEAL, OR SCREWED CONNECTIONS. CONNECTIONS BETWEEN PVC AND STEEL PIPE SHALL BE MADE WITH MECHANICAL FITTINGS.

e. SLIP FITTING SOCKET TAPER SHALL BE SO SIZED THAT A DRY UNSOFTENED PIPE END, CONFORMING TO THESE SPECIAL CONDITIONS, CAN BE INSERTED NO MORE THAN HALFWAY INTO THE SOCKET. PLASTIC SADLE AND FLANGE FITTINGS SHALL NOT BE PERMITTED. ONLY SCHEDULE 80 PIPE MAY BE THREADED.

f. NO MALE THREADED PVC SHALL BE PERMITTED WITH THE EXCEPTION OF SPRINKLER RISER ADAPTERS.

g. ALL PIPE SHALL BE CONTINUOUSLY AND PERMANENTLY MARKED WITH THE FOLLOWING INFORMATION:

MANUFACTURER'S NAME OR TRADEMARK, SIZE, SCHEDULE AND TYPE OF PIPE, WORKING PRESSURE AT 73 DEGREES F, AND NATIONAL SANITATION FOUNDATION (NSF) APPROVAL.

2. IRRIGATION HEADS:

a. ALL HEADS AS SPECIFIED ON PLAN, SHALL BE MARKED WITH THE MANUFACTURER'S NAME AND IDENTIFICATION, IN SUCH A POSITION THAT THEY CAN BE IDENTIFIED WITHOUT BEING REMOVED FROM THE SYSTEM.

b. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADES, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, OR OTHERWISE SPECIFIED.

c. ALL SPRINKLERS, HAVING ADJUSTABLE PIN NOZZLES, SHALL HAVE THE PINS ADJUSTED INTO THE STREAM FOR PROPER AND ADEQUATE DISTRIBUTION OF THE WATER OVER THE COVERAGE PATTERN OF THE SPRINKLER AT SUCH TIME AS THE SYSTEM IS FINALLY COMPLETELY CHECKED OUT.

d. ALL NOZZLES ON STATIONARY POP-UP SPRINKLERS OR STATIONARY SPRAY HEADS SHALL BE TIGHTENED AFTER INSTALLATION. ALL SPRINKLERS HAVING AN ADJUSTABLE SCREW, ADJUSTING STEM, OR ADJUSTING FRICTION COLLARS SHALL BE ADJUSTED ON A LATERAL LINE OR CIRCUIT AS REQUIRED FOR THE PROPER ARC OF COVERAGE, RADIUS, DIAMETER, AND/OR GALLONAGE DISCHARGE.

e. SEE SPRINKLER HEAD KEY BELOW

5. VALVE BOXES: ALL REMOTE CONTROL VALVES ON GRADE SHALL BE INSTALLED IN AN AMTEK PLASTIC IRRIGATION VALVE BOX 16" X 12" X 10-3/4".

6. CONTROL CABLE AND ELECTRICAL WIRE CONNECTIONS:

a. CONTROL CABLE: ALL ELECTRICAL CONTROL AND GROUND WIRE SHALL BE IRRIGATION CONTROL CABLE. ALL WIREING TO BE USED FOR CONNECTING THE AUTOMATIC REMOTE CONTROL VALVE TO THE AUTOMATIC CONTROLLERS SHALL BE TYPE "UF", 600 VOLT, SOLID COPPER, SINGLE CONDUCTOR WIRE WITH PVC INSULATION AND BEAR UL APPROVAL FOR DIRECT UNDERGROUND BURIAL FEEDER CABLE. CONTRACTOR IS RESPONSIBLE FOR WIRE SIZING ACCORDING TO DISTANCE OF RUN.

INSULATION SHALL BE 4/64" THICK MINIMUMCOVERING OF AN APPROVED THERMOPLASTIC COMPOUND FOR POSITIVE WATERPROOF PROTECTION OF SIZES AWG SIZE 18 THROUGH AND INCLUDING AWG SIZE 10. AWG SIZE 8 THROUGH AWG SIZE 00 SHALL BE INSULATED WITH 5/64" OF AN APPROVED THERMOPLASTIC COMPOUND.

VERIFICATION OF WIRE TYPES AND INSTALLATION PROCEDURES SHALL BE CHECKED TO LOCAL CODES.

b. ELECTRICAL WIRE CONNECTIONS: WIRE CONNECTIONS TO REMOTE CONTROL ELECTRIC VALVES AND SPLICES OF WIRE IN THE FIELD SHALL BE MADE IN THE FOLLOWING MANNER, USING RAIN BIRD PEN-TITE WIRE CONNECTORS AND SEALING CEMENT:

1) STRIP ENDS OF WIRE AND PUSH WIRES THROUGH THE HOLES OF THE BASE SOCKET.
2)TWIST WIRES TOGETHER AND MECHANICALLY BOND TOGETHER USING CRIMP SLEEVE AND CRIMP PLIERS.
3)PULL WIRE CONNECTION BACK INTO BASE SOCKET AS FAR AS POSSIBLE.
4)APPLY SOLVENT CEMENT TO OUTSIDE OF SEALING PLUG AND THEN FILL CAVITY OF SEALING

C. INSTALLATION:

1. TRENCHES: TRENCHES FOR PLASTIC PIPE OR GALVANIZED PIPE SPRINKLER LINES SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO PERMIT PROPER HANDLING AND INSTALLATION OF THE PIPE AND FITTINGS. THE BACKFILL SHALL BE THOROUGHLY COMPACTED AND EVENED OFF WITH THE ADJACENT SOIL LEVEL. SELECTED FILL DIRT OR SAND SHALL BE USED IF SOIL CONDITIONS ARE ROCKY. IN ROCKY AREAS, THE TRENCHING DEPTH SHALL BE TWO (2) INCHES BELOW NORMAL TRENCH DEPTH TO ALLOW FOR THIS BEDDING. THE FILL DIRT OR SAND SHALL BE USED IN FILLING FOUR (4) INCHES ABOVE THE PIPE. THE REMAINDER OF THE BACKFILL SHALL SHALL CONTAIN NO LUMPS OR ROCKS LARGER THAN THREE (3) INCHES. THE TOP SIX (6) INCHES OF BACKFILL SHALL BE FREE OF ROCKS OVER ONE (1) INCH, SUBSOIL OR TRASH. ALL TRENCHES THAT ARE OPENED DURING ANY PARTICULAR WORKING DAY SHALL BE CLOSED OR BACKFILLED THE SAME DAY. NO OPEN TRENCHES SHALL BE LEFT OVERNIGHT.

GENERALLY, PIPING UNDER ASPHALT OR CONCRETE SHALL BE INSTALLED BY JACKING, BORING OR HYDRAULIC DRIVING. WHERE ANY CUTTING OR BREAKING OF SIDEWALKS, CONCRETE AND/OR ASPHALT IS NECESSARY, IT SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR. PERMISSION TO CUT OR BREAK SIDEWALKS, CONCRETE AND/OR ASPHALT SHALL BE OBTAINED FROM THOSE HAVING PROPER JURISDICTION. WHERE PIPING ON THE DRAWINGS IS SHOWN UNDER PAVED AREAS, BUT RUNNING PARALLEL AND ADJACENT TO PLANTED AREAS OR TURF AREAS, THE INTENT OF THE DRAWING IS TO INSTALL THE PIPING IN THE PLANTED OR TURFED AREAS.

UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR REQUIRED, ALL PLASTIC AND GALVANIZED PIPE SPRINKLER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 12" BASED ON FINISHED GRADES. MAIN LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BASED ON FINISH GRADES. ALL LINES CROSSING PARKING, PAVED OR OTHER AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE INSTALLED WITH A MINIMUM COVER OF 24".

2. PLASTIC PIPE: PLASTIC PIPE SHALL BE INSTALLED IN A MANNER SO AS TO PROVIDE FOR EXPANSION AND CONTRACTION AS RECOMMENDED BY THE MANUFACTURER. INTERIOR OF PIPES SHLL BE KEPT FREE FROM DIRT AND DEBRIS AND WHEN PIPE LAYING IS NOT IN PROGRESS, OPEN ENDS OF PIPE SHALL BE CLOSED BY APPROVED MEANS.
PLASTIC PIPE SHALL BE CUT WITH A HANDSAW OR A HACKSAW WITH THE ASSISTANCE OF A SQUARE IN SAWING DEVISE, OR IN A MANNER SO AS TO INSURE A SQUARE CUT. BURRS AT CUT ENDS SHALL BE REMOVED PRIOR TO INSTALLATION SO THAT A SMOOTH UNOBSTRUCTED FLOW WILL BE OBTAINED.
ALL PLASTIC TO PLASTIC JOINTS SHALL BE SOLVENT WELD JOINTS. ONLY THE SOLVENT AND ASEMBLY RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED. ALL PLASTIC PIPE AND FITTINGS SHALL BE INSTALLED AS OUTLINED AND INSTRUCTED BY THE PIPE MANUFACTURER, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS WITH THE PIPE MANUFACTURER FOR ANY FIELD ASSISTANCE THAT MAY BE NECESSARY.. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE CORRECT INSTALLATION.

THE SOLVENT WELD JOINTS SHALL BE MADE IN THE FOLLOWING MANNER:

a. THOROUGHLY CLEAN THE MATING PIPE AND FITTING WITH A CLEAN DRY CLOTH.
b. APPLY A UNIFORM COAT OF SOLVENT TO THE OUTSIDE OF THE PIPE WITH AN APPROVED APPLICATOR.
c. APPLY SOLVENT TO THE FITTING IN A SIMILAR MANNER.
d. REAPPLY A LIGHT COAT OF SOLVENT TO THE PIPE AND QUICKLY INSERT IT INTO THE FITTING.
e. GIVE THE PIPE OR FITTING A QUARTER TURN TO INSURE EVEN DISTRIBUTION OF THE SOLVENT AND MAKE SURE THE PIPE IS INSERTED TO THE FULL DEPT OF THE FITTING SOCKET.
f. HOLD IN POSITION FOR 15 SECONDS/
g. WIPE OFF EXCESS SOLVENT THAT APPEARS AT THE OUTER SHOULDER OF THE FITTING.

CARE SHOULD BE TAKEN SO AS NOT TO USE AN EXCESS AMOUNT OF SOLVENT, THEREBY CAUSING AN OBSTRUCTION TO FORM ON THE INSIDE OF THE PIPE. THE JOINTS SHALL BE ALLOWED TO SET AT LEAST 24 HOURS BEFORE PRESSURE IS APPLIED TO THE SYSTEM ON PVC PIPE.

4. REMOTE CONTROL VALVES: VALVES SHALL BE CONNECTED TO THE MAIN AND TO THE LATERAL LINES WITH FEMALE THREADED COUPLINGS. VALVES SHALL BE AT AN ELEVATION SO THAT THE VALVE IS WITHIN THE VALVE BOX FOR EASY MAINTENANCE. FOUR (4) INCHES OF DRAIN ROCK SHALL BE PLACED BELOW THE VALVE. VALVES SHALL BE LOCATED AS SHOWN ON THE PLANS UNLESS SOME UNDERGROUND OBSTRUCTION PREVENTS THAT LOCATION. ANY RELOCATION OF VALVES SHALL BE REFLECTED ON THE AS-BUILT DRAWINGS.

5. VALVE BOX: THE TOP OF THE VALVE BOX SHALL BE FLUSH WITH FINISHED GRADE. NO GRADE DEPRESSIONS OR "HUMPS" AT THE VALVE BOX ARE PERMITTED.

6. AUTOMATIC CONTROLLER: THE AUTOMATIC SHALL BE LOCATED AS SHOWN ON THE PLANS. WALL-MOUNTED CONTROLLERS SHALL BE SECURELY FASTENED WITH THE PROPER HARDWARE. THE CONTROLLER SHALL LOCATED AT A HEIGHT THAT ALLOWS EASY ACCESS AND VIEWING. CONTROL WIRE LEADING TO THE CONTROLLER FROM GRADE OR SLAB SHALL BE ENCASED IN CONDUIT THAT IS SECURELY ASTENED TO THE WALL.

7. TESTING:

a. MAIN TEST: THE MAIN SHALL BE CAPPED OFF AND PRESSURIZED TO 100 PSI FOR ONE (1) HOUR. THE MAIN PRESSURE SHALL NOT DROP MORE THAN TEN PERCENT (10%) TO BE ACCEPTED. THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER OR AUTHORIZED REPRESENTATIVE.
b. AFTER ALL NEW SPRINKLER PIPING AND RISERS ARE IN PLACE AND CONNECTED FOR A GIVEN SECTION, AND ALL NECESSARY DIVISION WORK HAS BEEN COMPLETED, AND PRIOR TO THE INSTALLATION OF SPRINKLER HEADS, ALL CONTROL VALVES SHALL BE OPENED AND A FULL HEAD OF WATER USED TO FLUSH OUT THE SYSTEM.
c. COVERAGE TEST: WHEN THE ENTIRE IRRIGATION SYSTEM IS COMPLETED, THE CONTRACTOR SHALL PERFORM A COVERAGE TEST TO DETERMINE IF THE WATER COVERAGE FOR ALL AREAS IS COMPLETE AND ADEQUATE. THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK TO CORRECT ANY INADEQUACIES . THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER, OR AUTHORIZED REPRESENTATIVE.

MICHAEL FAY: LANDSCAPE ARCHITECT
REG.# 540
420 N.W. 7th ST., DELRAY BCH., FL.,
PH. 561-306-4003

Digitally signed by Michael
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2/24/2021

REVISIONS:

DATE: 1-29-20
DRAWN BY: M. FAY
CHECKED BY:
CAD FILE:

PROJECT:
ATLANTIC 3350
3350 ATLANTIC BLVD.
POMPANO BEACH, FLORIDA

IRRIGATION DETAILS & SPECIFICATIONS

SHEET NO.
IR-2
OF 3
DRAWING FILE NO.