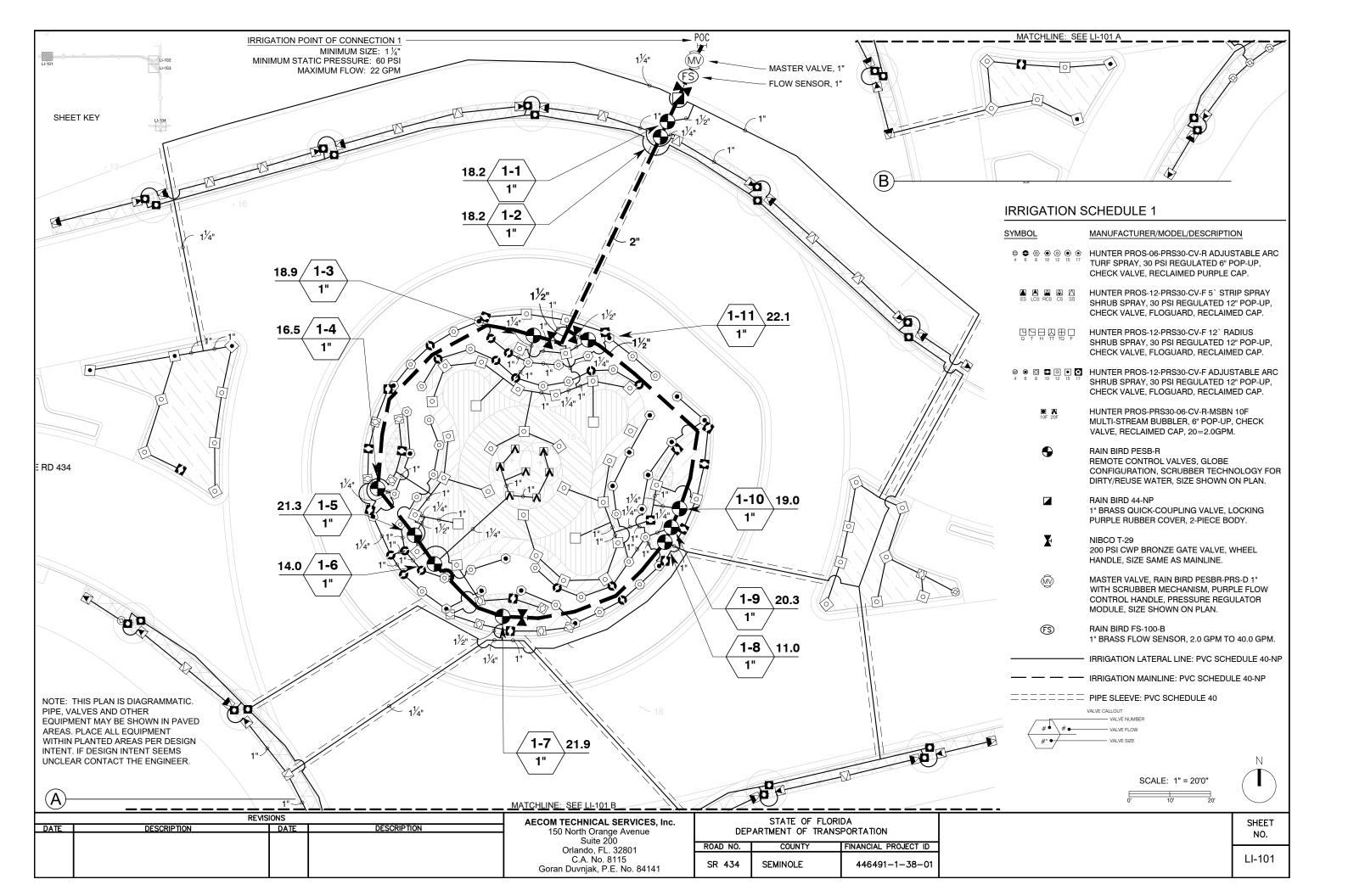
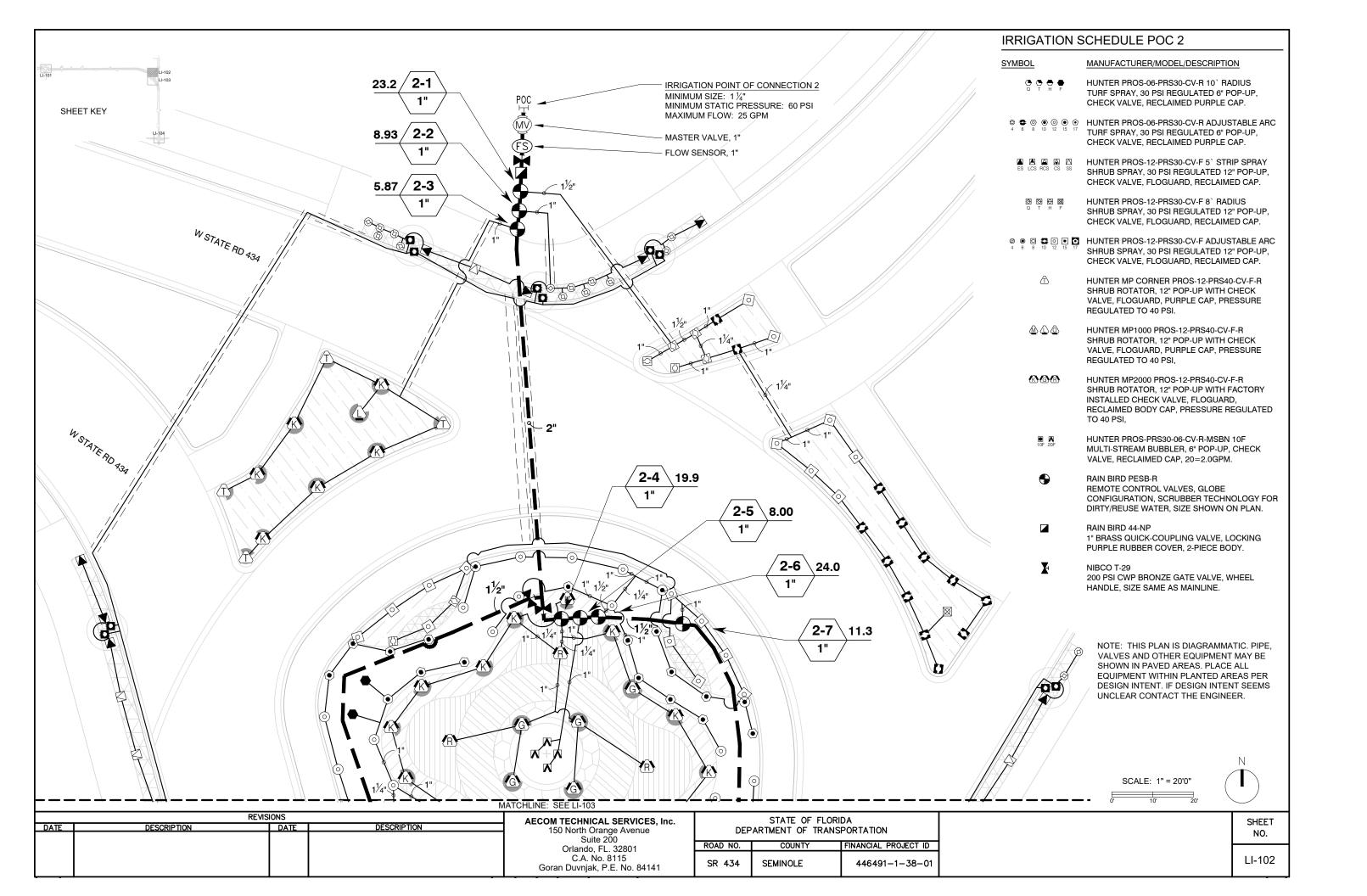
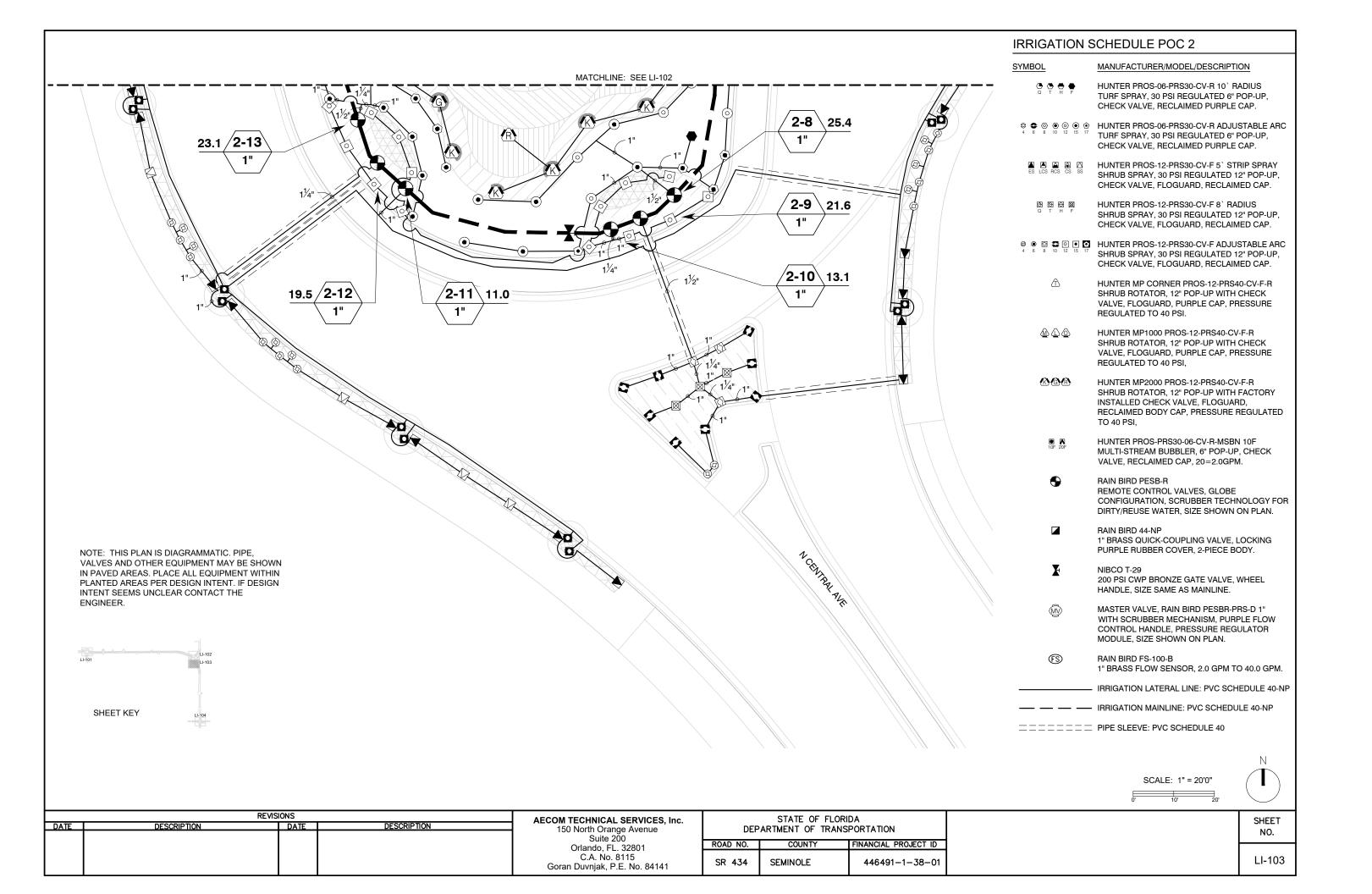
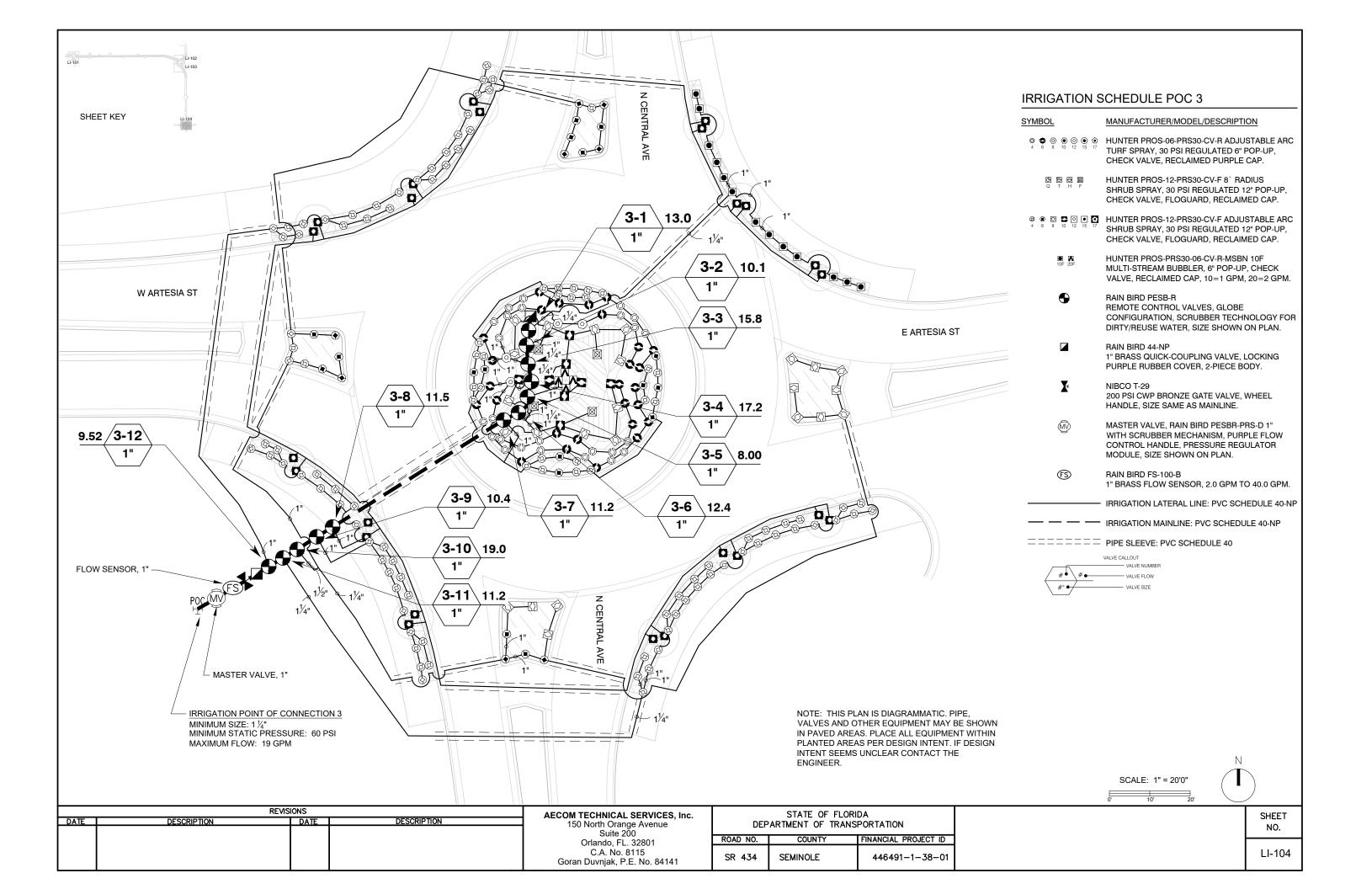
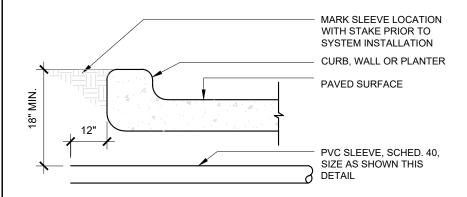
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>	<u>PSI</u>	SYMBOL	MANUFACTURER/MODE	L/DESCRIPTION		<u>QTY</u>	<u>PSI</u>					
	HUNTER PROS-06-PRS30-CV-R 10` RADIUS TURF SPRAY, 30 PSI REGULATED 6" POP-UP, CHECK VALVE, RECLAIMED PURPLE CAP.	3	30	C3	RAIN BIRD ESP12LXMEF 12 STATION, WITH FLOW LXMMSS-LXMMSSPED S PEDESTAL.	/ MODULE, INSTA		1						
	HUNTER PROS-06-PRS30-CV-R ADJUSTABLE ARC TURF SPRAY, 30 PSI REGULATED 6" POP-UP, CHECK VALVE, RECLAIMED PURPLE CAP.	175	30	FS	RAIN BIRD FS-100-B 1" BRASS FLOW SENSOF	R, 2.0 GPM TO 40.	O GPM.	3						
ES LCS RCS CS SS	HUNTER PROS-12-PRS30-CV-F 5` STRIP SPRAY SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP, CHECK VALVE, FLOGUARD, RECLAIMED CAP.	67	30		IRRIGATION LATERAL LIN			9,015 L.F. 860 L.F.						
<b>७ ७ ∅</b> ⊠ α т н ғ	HUNTER PROS-12-PRS30-CV-F 8` RADIUS SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP, CHECK VALVE, FLOGUARD, RECLAIMED CAP.	8	30	=====	PIPE SLEEVE: PVC SCHE  VALVE CALLOUT  VALVE NUMBER	EDULE 40		1,420 L.F.						
	HUNTER PROS-12-PRS30-CV-F 12` RADIUS SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP, CHECK VALVE, FLOGUARD, RECLAIMED CAP.	4	30	# • #	VALVE FLOW VALVE SIZE									
②	HUNTER PROS-12-PRS30-CV-F ADJUSTABLE ARC SHRUB SPRAY, 30 PSI REGULATED 12" POP-UP, CHECK VALVE, FLOGUARD, RECLAIMED CAP.	350	30	POC 1 \	/ALVE SCHEDULE	TYPE	GPM	HEADS	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PRECIP	
₾	HUNTER MP CORNER PROS-12-PRS40-CV-F-R SHRUB ROTATOR, 12" POP-UP WITH CHECK VALVE, FLOGUARD, PURPLE CAP, PRESSURE REGULATED TO 40 PSI.	4	40	1-1 1-2 1-3 1-4 1-5	RAIN BIRD PESB-R 1"	SHRUB SPRAY SHRUB SPRAY TURF SPRAY TURF SPRAY SHRUB SPRAY	18.24 18.20 18.92 16.50 21.34	19 20 23 19 23	30 30 30 30 30 30	3.38 2.25 0.34 0.5 0.64	2.71 2.7 2.78 2.52 3.26	36.08 34.95 33.13 33.02 33.9	1.41 in/h 1.43 in/h 2.74 in/h 2.18 in/h 1.7 in/h	
₩ △ △	HUNTER MP1000 PROS-12-PRS40-CV-F-R SHRUB ROTATOR, 12" POP-UP WITH CHECK VALVE, FLOGUARD, PURPLE CAP, PRESSURE REGULATED TO 40 PSI,	1	40	1-6 1-7 1-8 1-9 1-10	RAIN BIRD PESB-R 1"	BUBBLER SHRUB SPRAY BUBBLER TURF SPRAY SHRUB SPRAY	14.00 21.94 11.00 20.26 18.98	7 29 22 22 17	30 30 30 30 30	0.41 2.06 2.12 0.37 0.42	2.24 3.42 1.91 2.97 2.79	32.64 35.49 34.03 33.34 33.21	27.23 in/h 1.48 in/h 27.22 in/h 2.16 in/h 1.55 in/h	
<b>&amp;&amp;</b>	HUNTER MP2000 PROS-12-PRS40-CV-F-R SHRUB ROTATOR, 12" POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, RECLAIMED BODY CAP, PRESSURE REGULATED TO 40 PSI.	30	40	1-11 POC 2 \ NUMBER	RAIN BIRD PESB-R 1"  /ALVE SCHEDULE  MODEL SIZE	SHRUB SPRAY  TYPE	22.10 <u>GPM</u>	18  HEADS	DESIGN PSI	0.59 FRICTION LOSS	VALVE LOSS	34.06  PSI 36.3	1.47 in/h PRECIP	-
<b>● A</b> 10F 20F	HUNTER PROS-PRS30-06-CV-R-MSBN 10F MULTI-STREAM BUBBLER, 6" POP-UP, CHECK VALVE, RECLAIMED CAP, 20=2.0GPM.	96	30	2-1 2-2 2-3 2-4 2-5	RAIN BIRD PESB-R 1"	SHRUB SPRAY SHRUB SPRAY SHRUB ROTARY SHRUB ROTARY BUBBLER		26 18 11 24 4	30 30 40 40 30	2.53 0.75 0.7 0.88 0.59	3.78 1.78 1.72 2.88 1.76	36.3 32.53 42.42 43.77 32.35	1.83 in/h 2.07 in/h 0.47 in/h 0.49 in/h 27.23 in/h	
•	RAIN BIRD PESB-R REMOTE CONTROL VALVES, GLOBE CONFIGURATION, SCRUBBER TECHNOLOGY FOR DIRTY/REUSE WATER, SIZE SHOWN ON PLAN.	36		2-6 2-7 2-8 2-9	RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1"	TURF SPRAY SHRUB SPRAY TURF SPRAY SHRUB SPRAY	24.02 11.35 25.44 21.57	13 17 32	30 30 30 30	0.5 0.92 0.77 2.74	3.99 1.95 4.37 3.32	34.48 32.88 35.14 36.06	1.62 in/h 1.58 in/h 1.48 in/h 1.82 in/h	
	RAIN BIRD 44-NP 1" BRASS QUICK-COUPLING VALVE, LOCKING PURPLE RUBBER COVER, 2-PIECE BODY.	4		2-10 2-11 2-12 2-13	RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1"	SHRUB SPRAY BUBBLER SHRUB SPRAY TURF SPRAY	13.10 11.00 19.51 23.09	14 22 27 20	30 30 30 30	0.92 2.36 2.34 0.51	2.14 1.91 2.85 3.73	33.06 34.27 35.18 34.24	1.59 in/h	
¥	NIBCO T-29 200 PSI CWP BRONZE GATE VALVE, WHEEL HANDLE, SIZE SAME AS MAINLINE.	9		POC 3 \	/ALVE SCHEDULE  MODEL SIZE	TYPE	<u>GРМ</u>	HEADS	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PRECIP	
	MASTER VALVE, RAIN BIRD PESBR-PRS-D 1" WITH SCRUBBER MECHANISM, PURPLE FLOW CONTROL HANDLE, PRESSURE REGULATOR MODULE, SIZE SHOWN ON PLAN.	3		3-1 3-2 3-3 3-4 3-5	RAIN BIRD PESB-R 1"	SHRUB SPRAY TURF SPRAY TURF SPRAY BUBBLER SHRUB SPRAY	10.13 15.82 17.16 8.00 12.40	11 26 30 4 13	30 30 30 30 30	0.4 0.58 0.85 0.17 0.22	1.81 2.44 2.59 1.76 2.06	32.21 33.02 33.43 31.93 32.28	1.83 in/h 3.74 in/h 3.72 in/h 28.4 in/h 1.9 in/h	
<u>C1</u>	RAIN BIRD ESP12LXMEF-LXMMSS-LXMMSSPED 12 STATION, WITH FLOW MODULE & EXPANSION MODULE, INSTALL IN LXMMSS-LXMMSSPED STAINLESS STEEL PEDESTAL.	1		3-6 3-7 3-8 3-9 3-10	RAIN BIRD PESB-R 1"	SHRUB SPRAY BUBBLER SHRUB SPRAY SHRUB SPRAY SHRUB SPRAY	11.19 11.50 10.41 18.97 11.19	29 24 27 34 29	30 30 30 30 30	0.79 2.89 0.62 2.42 1.89	1.93 1.97 1.85 2.79 1.93	32.72 34.85 32.47 35.2 33.83	3.9 in/h 27.22 in/h 3.7 in/h 2.63 in/h 3.86 in/h	
C2	RAIN BIRD ESP12LXMEF-LXMMSS-LXMMSSPED 12 STATION, WITH FLOW MODULE, INSTALL IN LXMMSS-LXMMSSPED STAINLESS STEEL PEDESTAL.	1		3-11 3-12	RAIN BIRD PESB-R 1" RAIN BIRD PESB-R 1"	SHRUB SPRAY BUBBLER	9.52 13.00	26 13	30 30	3.11 1.91	1.79 2.13	34.91 34.04	3.61 in/h 30.64 in/h	
DEC.	REVISIONS	DECODIDE	NAI		HNICAL SERVICES, Inc.			OF FLORI						
DESCR	IPTION DATE	DESCRIPTION	N .		rth Orange Avenue	<b>I</b> DEPA	RTMENT (	OF TRANS	PORTATION					









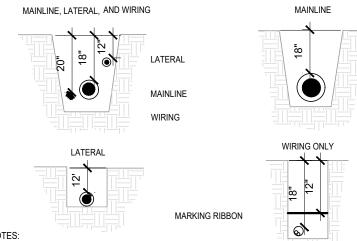


PIPE SIZE OR WIRE	SLEEVE SIZE REQUIRED
1"-1 1/4" PIPE	2"
1 1/2 - 2" PIPE	4"
2 1/2 - 3" PIPE	6"
CONTROL WIRES	2"

- EACH LENGTH OF SLEEVED PIPE SHOWN SHALL BE ROUTED THROUGH A SEPARATE
- MINIMUM ALLOWABLE SLEEVE DEPTH IS 18-INCHES.
- 3. USE SEPARATE SLEEVE FOR WIRE.

## IRRIGATION SLEEVE INSTALLATION

NOT TO SCALE



### NOTES

- TAPE AND BUNDLE CONVENTIONAL CONTROL WIRING AT 10-FOOT INTERVALS.
- ALL MAINLINE PIPING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION SPECIFICATIONS.
- ROUTE TRENCH MINIMUM 6 FEET FROM ANY TREE PLANTING OR EXCAVATE CAREFULLY BY HAND AND FOLLOW TREE PROTECTION PLAN.
- TIE A 20-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTIONS GREATER THAN 30 DEGREES. UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.
- BACK FILL MATERIAL TO BE FREE OF ALL DEBRIS AND ROCKS LARGER THAN  $\frac{3}{4}$ " IN

REVISIONS

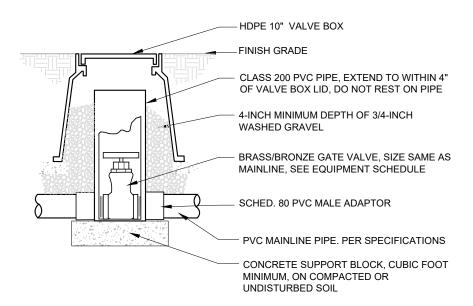
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DATE

## PIPE & WIRE INSTALLATION

NOT TO SCALE



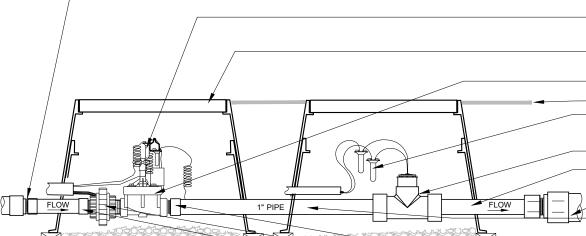


ISOLATION GATE VALVE INSTALLATION

1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL SIZE OF MAINLINE PIPE.







- - 1. SENSOR INLET PIPE MUST BE AT MINIMUM 12" (10 TIMES PIPE DIAMETER), STRAIGHT RUN W/ NO FITTINGS. 2. SENSOR OUTLET MUST BE AT MINIMUM 7" (5 TIMES PIPE DIAMETER), STRAIGHT RUN W/ NO FITTINGS.
  - 3. ENCASE CONTROL WIRE IN PVC SLEEVE UNDER STRUCTURES, PAVEMENT, AND IF NOT PROTECTED UNDER MAINLINE. 4. ENCASE FLOW SENSOR CONTROL WIRE IN SEPARATE PVC SLEEVE.
  - 4. LOCATE AT LEAST 12" FROM, AND ALIGN WITH, ADJACENT WALLS OR PAVED EDGES.

## MASTER VALVE & FLOW SENSOR INSTALLATION

NOT TO SCALE

**AECOM TECHNICAL SERVICES, Inc.** 150 North Orange Avenue Suite 200 ROAD NO. Orlando, FL, 32801 C.A. No. 8115 SR 434 **SEMINOLE** Goran Duvnjak, P.E. No. 84141

FINISH GRADE 3-INCH CL 200 PVC PIPE (LENGTH AS REQUIRED) 3-INCH DEPTH, MIN., OF 3/4-INCH WASHED GRAVEL IRRIGATION MAINLINE 1" DRAIN VALVE, CURB STOP TYPE, PIPING TO BE SCHED. 80 PVC REST ON BRICK ON UNDISTURBED OR COMPACTED SOIL PROVIDE GRAVEL SUMP. 2 CUBIC FEET MIN., WRAP IN GEOTEXTILE FABRIC

HDPE VALVE BOX, 10" ROUND

PLACE DRAIN VALVE AT ALL LOW POINTS ALONG MAINLINE.

## DRAIN VALVE INSTALLATION

IRRIGATION POINT OF CONNECTION, CONNECT TO LINE FROM PUMP STATION

CONNECTORS: 3M-DB SERIES, ROUTE CONTROL WIRE IN SCHED. 40 PVC CONDUIT IF NOT UNDER MAINLINE

VALVE BOXES (1 OF 2): CARSON 1220 OR EQUAL, W/EXTENSIONS AS NEEDED, BRAND "MV" OR "FS" INTO COVER AS APPROPRIATE

1" MASTER VALVE: RAIN BIRD PESB-R

FINISH GRADE

CONNECTORS: 3M-DB SERIES, ROUTE COMMUNICATION WIRE TO CONTROLLER IN SCHED. 40 PVC CONDUIT, FOLLOWING MANUFACTURER'S RECOMMENDATIONS

1" FLOW SENSOR: RAIN BIRD FS-100-B

OBSERVE 5X NOMINAL PIPE SIZE DIA. DISTANCE BETWEEN FLOW SENSOR AND FIRST FITTING, & AS DIRECTED BY MANUFACTURER.

IRRIGATION MAINLINE, SCCHED. 40 PVC, SIZE SHOWN ON PLAN. MAINLINE BETWEEN MASTER VALVE & FLOW SENSOR TO BE 1"-INCH PVC. OBSERVE 10X DIA. CLEARANCE BETWEEN MASTER VALVE AND FLOW SENSOR, AS DIRECTED BY MANUFACTURER. SCHED. 80 MALE ADAPTER

PROVIDE AT LEAST ONE SCH.80 UNION FOR EASY REMOVAL

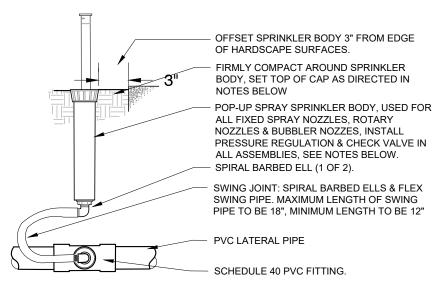
SHEET

NO.

LI-105

SCHED. 80 MALE ADAPTER

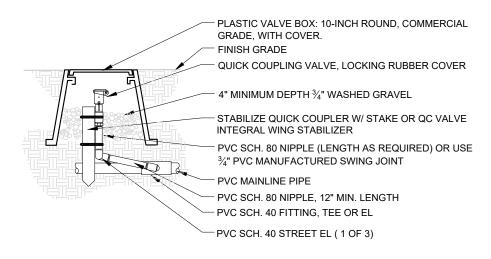
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION FINANCIAL PROJECT ID 446491-1-38-01



### NOTES:

- 1. SET SPRINKLER LEVEL WITH FINISHED GRADE IN TURF GRASS AREAS. SET TOP OF SPRINKLER 1/2" ABOVE FINISHED GRADE IN PLANTING BEDS.
- 2. REFER TO SPECIFICATIONS FOR ALL MATERIALS CALLED OUT IN DETAIL
- 3. INSTALL PROPER SPRINKLER BODIES:
  - USE 40 PSI PRESSURE REGULATION FOR ROTARIES USE 30 PSI PRESSURE REGULATION FOR FIXED SPRAYS
  - USE 30 PSI RESSURE REGULATION FOR BUBBLERS
  - USE 6" POP-UP FOR TURF AND BUBBLER NOZZLES
  - USE 12" POP-UP FOR PLANTING BED NOZZLES

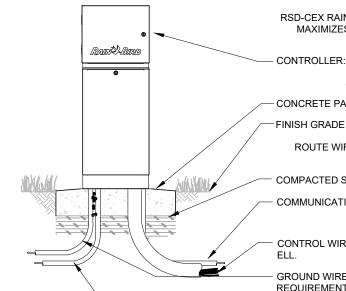
## SPRINKLER & BUBBLER INSTALLATION



- 1. BRAND "QC" INTO LID OF EACH VALVE BOX W/ 2" LETTERS.
- 2. AS ALTERNATIVE TO ASSEMBLY SHOWN ABOVE, MANUFACTURED SWING JOINT AS MANUFACTURED BY RAIN BIRD, HUNTER OR LASCO MAY BE USED.



## QUICK COUPLER VALVE INSTALLATION



RSD-CEX RAIN SHUT OFF: MOUNT ON POST, 8' HEIGHT, MIN. IN LOCATION THAT MAXIMIZES DIRECT SUNLIGHT, OPEN TO RAINFALL AND OUT OF SPRINKLER SPRAY PATTERN.

CONTROLLER: RAIN BIRD ESPLXMEF. STAINLESS STEEL PEDESTAL

SCHEDULE 40 PVC CONDUIT, CLAMP TO POST, 3' MIN. ON CENTER

CONCRETE PAD, 6" THICK MIN., EXTEND 6" BEYOND PEDESTAL

ROUTE WIRE IN SCHED. 40 CONDUIT WITH SWEEPS FROM CONTROLLER TO

**RAIN SENSOR POST** 

FINISH GRADE

COMPACTED SUBGRADE

COMMUNICATION WIRE TO RAIN SENSOR

ANCHOR POST W/ CONCRETE BASE

CONTROL WIRE CONDUIT, 2" IN SIZE, PVC SCH 40 CONDUIT, FITTINGS & SWEEP

GROUND WIRE, 1" PVC CONDUIT, GROUND TO MINIMUM MANUFACTURER'S REQUIREMENTS, INSTALL PER ELECTRIC CODE

POWER SUPPLY, 1" PVC CONDUIT, FITTINGS & SWEEP ELL; FOLLOW ALL

APPLICABLE ELECTRICAL CODES.

1. STRICTLY FOLLOW ALL CONTROL SYSTEM MANUFACTURER'S INSTRUCTIONS, INSTALLATION GUIDES, & USER MANUALS. 2. INSTALL ALL GROUNDING EQUIPMENT AS SPECIFIED BY CONTROL SYSTEM MANUFACTURER & ASIC GUIDELINES.

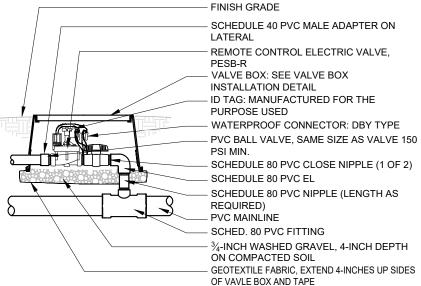
3. INSTALL CONTROLLER ADJACENT TO ELECTRICAL SERVICE PROVIDED.

4. INSTALL ALL COMPONENTS PER ELECTRICAL CODE.

# IRRIGATION CONTROLLER INSTALLATION



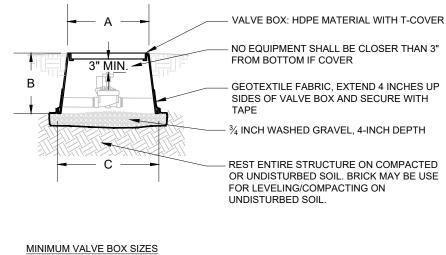
## NOT TO SCALE



- 1. FITTINGS SHALL BE SIZED IDENTICALLY WITH NOMINAL VALVE SIZE.
- 2. LOCATE VALVE BOX AT LEAST 12" FROM, AND ALIGN WITH NEARBY WALLS OR EDGES OF PAVED AREAS. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL. ARRANGE GROUPED BOXES IN RECTANGULAR PATTERN.
- 3. BRAND CONTROLLER AND STATION NUMBER INTO LID OF EACH VALVE BOX IN 3"
- 4. LEAVE A 30" COIL OF CONTROL WIRE IN VALVE BOX.

## REMOTE CONTROL VALVE

NOT TO SCALE



DIMENSION	А	ь	C
1" RCV VALVE	17"	12"	21'
1.5" RCV VALVE	21"	15"	25'

- 1. BRAND STATION NUMBER OR COMPONENTS IDENTIFICATION INTO LID OF EACH VALVE BOX IN 3" LETTERS.
- 2. USE ONLY DB TYPE WATER-TIGHT ELECTRICAL CONNECTORS.
- 3. COIL 30 INCHES OF CONTROL WIRE, WHERE CONTROL WIRE IS USED.

# VALVE BOX INSTALLATION

NOT	TΩ	SCA

REVISIONS			AECOM TECHNICAL SERVICES, Inc.	STATE OF FLORIDA			SHEET	
DATE	DESCRIPTION	DATE	DESCRIPTION	150 North Orange Avenue	DEPARTMENT OF TRANSPORTATION			
				Suite 200				NO.
				Orlando, FL. 32801	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				C.A. No. 8115	CD 474	CEMINIOLE	140404 1 70 04	LI-106
				Goran Duvnjak, P.E. No. 84141	SR 434	SEMINOLE	446491-1-38-01	