

ISSUE/REVISION RECORD

DATE	DESCRIPTION
10/28/11	VILLAGE REVIEW
01/10/14	VILLAGE REVIEW
02/07/14	VILLAGE COMMENTS
05/12/14	REV. PER NEW BLDG.
05/29/14	BUILDING PERMIT
07/11/14	VILLAGE REVIEW
09/05/14	PLAN COMMISSION
10/07/14	BUILDING PERMIT
10/23/14	VILLAGE REVIEW

PROFESSIONAL SEAL

PROFESSIONAL IN CHARGE
D. BEHRENS, RLA
PROJECT MANAGER
J. COYLE
QUALITY CONTROL
D. BEHRENS
DRAWN BY
S. DREIER

PROJECT NAME
VLAND

BOLINGBROOK, ILLINOIS

SWQ WEBER ROAD & BOUGHTON ROAD

PROJECT NUMBER
20130893.0

SHEET TITLE
IRRIGATION NOTES AND DETAILS

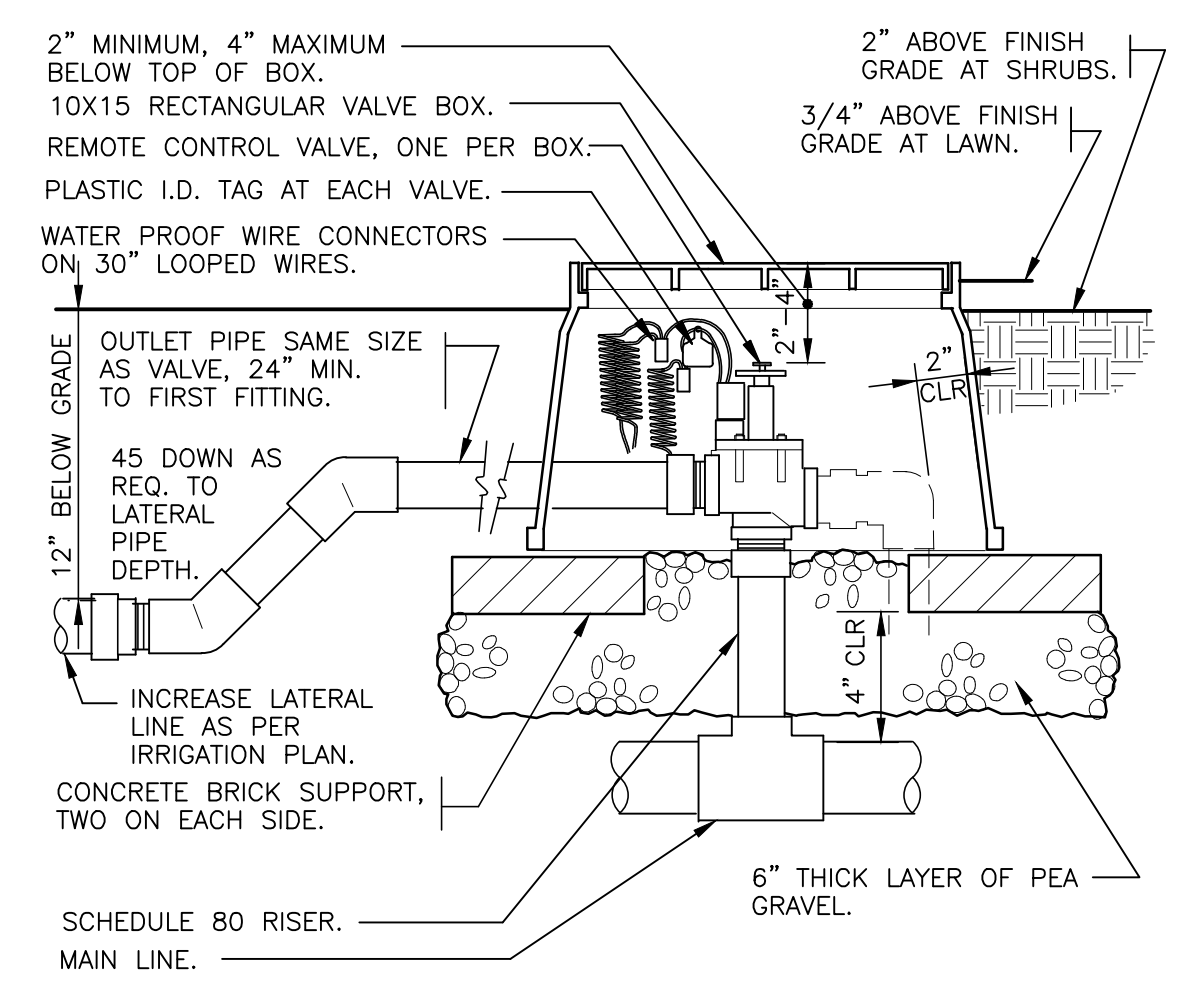
SHEET NUMBER
L2.1

NOT ISSUED FOR CONSTRUCTION

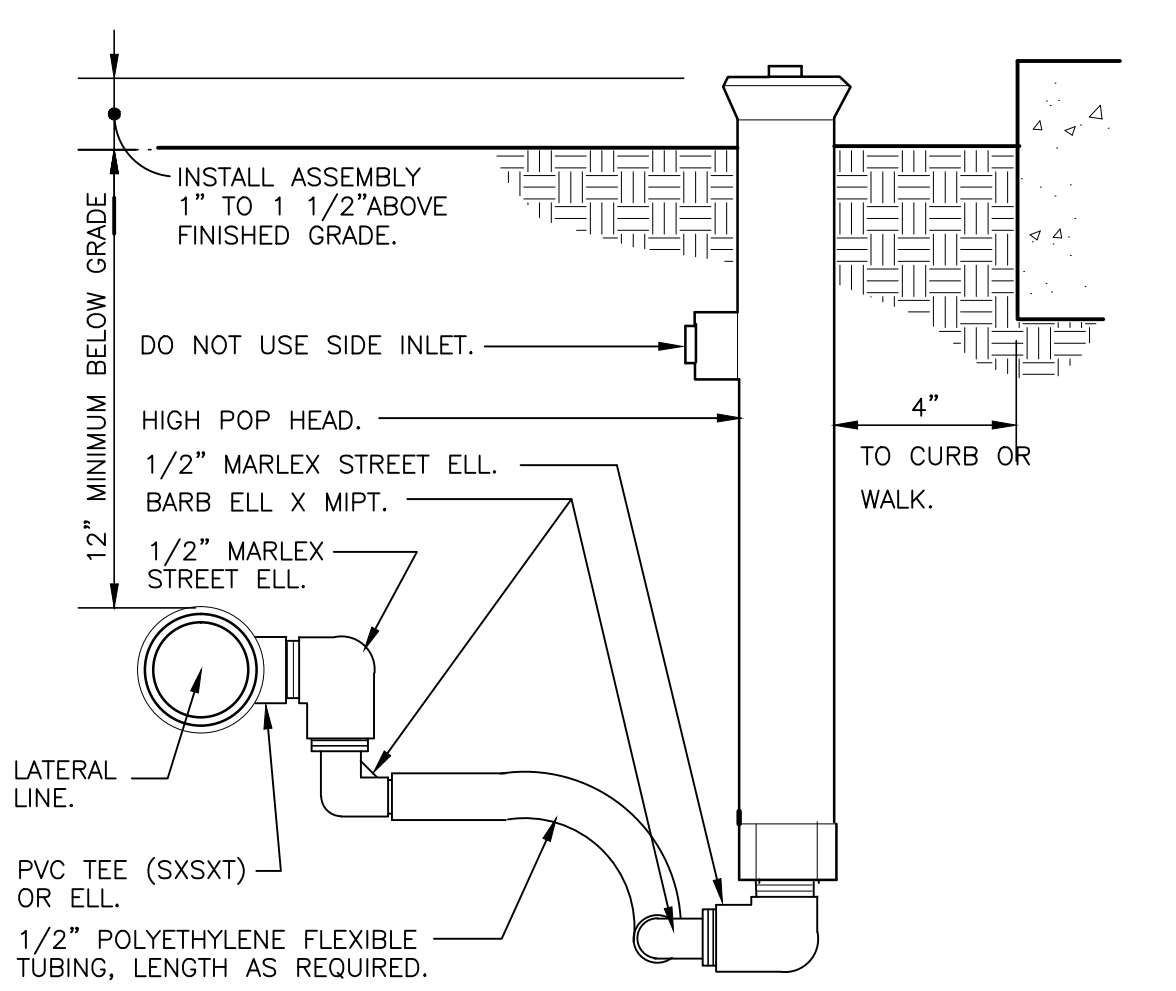
NOTES

IRRIGATION

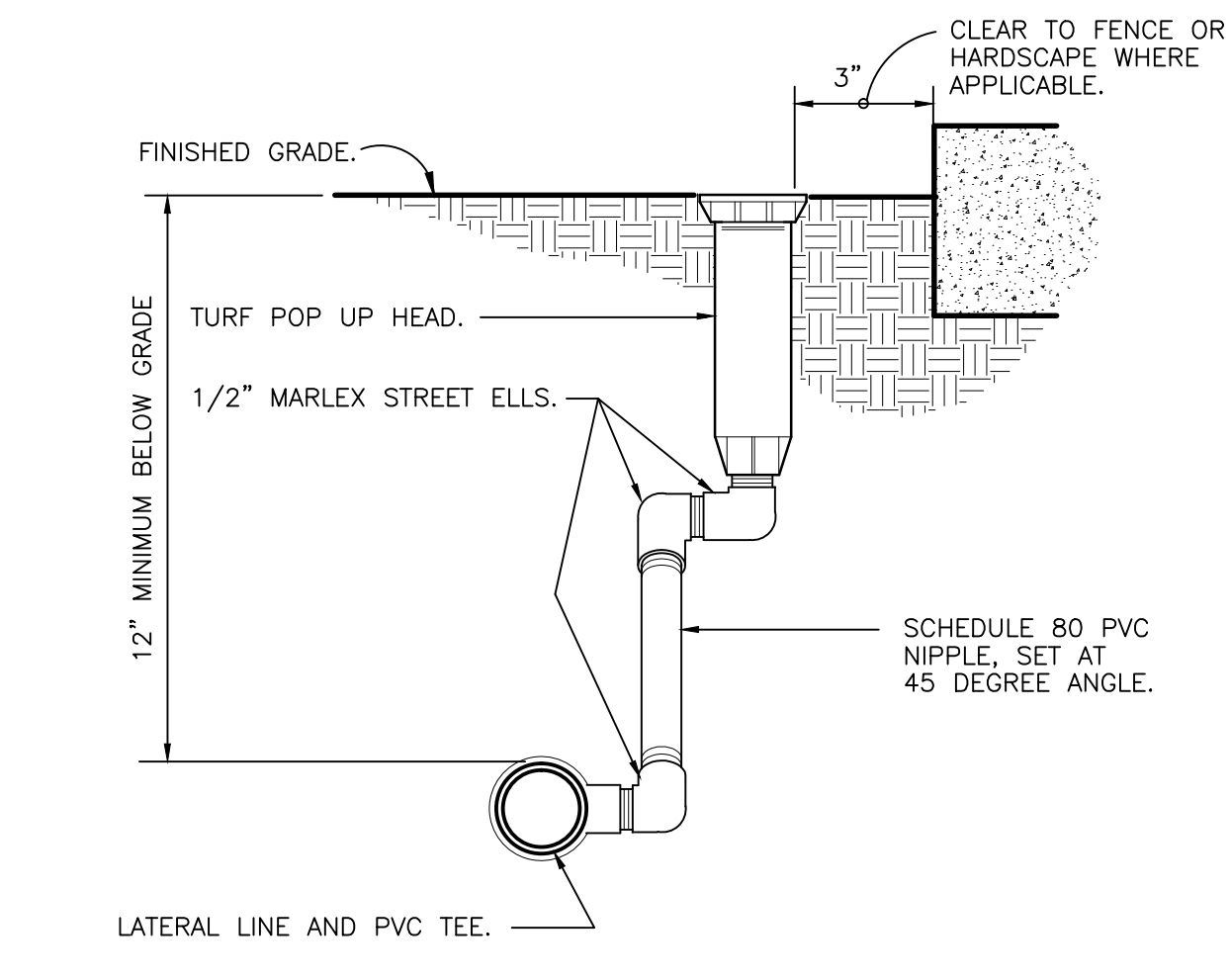
- ALL LANDSCAPE AREAS TO BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. CONTRACTOR TO ASSURE 100% COVERAGE OF ALL PLANTED LANDSCAPE AREAS. SYSTEM TO BE INSTALLED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES.
- THE FOLLOWING EQUIPMENT IS TO BE USED UNLESS SUBSTITUTIONS ARE APPROVED BY OWNER:
 - CONTROLLER - HUNTER I-CORE IN STRONG BOX WITH HUNTER SOLAR SYNC. RAIN/FREEZE SWITCH - RAIN BIRD WR2
 - BACKFLOW PREVENTER - FEBCO
 - VALVES - RAIN BIRD PGA SERIES
 - MOISTURE SENSOR - RAINBIRD SMRT-Y (TO BE USED ON ALL PROJECTS)
 - TURF SPRAY HEADS - RAIN BIRD 1800 SERIES
 - PLANTING BED SPRAY HEADS - RAIN BIRD 1800 SERIES
 - LARGE ROTOR HEADS - RAIN BIRD 5500, 6500 OR 8000 SERIES
 - SMALL ROTOR HEADS - RAIN BIRD 5000 SERIES
 - SUBSURFACE DRIP - XFS-P-09-12-100
 - PRESSURE REGULATOR KIT - RAIN BIRD XCZ
 - INSTALL U-SERIES NOZZLES WHERE APPLICABLE.
- CONTRACTOR QUALIFICATIONS: INSTALLATION OF THE IRRIGATION SYSTEM SHALL BE UNDER THE SUPERVISION OF A SUPERINTENDENT CURRENTLY LICENSED AS A LANDSCAPE IRRIGATOR IN THE STATE OR LOCAL JURISDICTION.
- GUARANTEE: GUARANTEE THE UNDERGROUND SPRINKLER SYSTEM AGAINST DEFECTS IN THE MATERIALS AND WORKMANSHIP FOR ONE (1) YEAR AFTER FINAL ACCEPTANCE.
- EXISTING UTILITIES: CONTRACTOR IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. ANY UTILITIES DAMAGED BY CONTRACT ARE TO BE REPAIRED AT HIS EXPENSE WITH NO COST TO OWNER.
- WORKMANSHIP: PROVIDE FULL AND COMPLETE COVERAGE OF ALL IRRIGATED AREAS. COMPLY WITH REQUIREMENTS OF THE UNIFORM PLUMBING CODE AND ALL OTHER APPLICABLE CODES.
- TRENCHING: PROTECT ANY EXISTING PLANT MATERIAL. ROUTE EXCAVATION TRENCHES TO AVOID DAMAGE TO EXISTING TREES. COORDINATE CONFIGURATION OF PLANTING BEDS WITH LANDSCAPE CONTRACTOR. TO ENSURE PROPER LOCATION OF TURF AND SHRUB IRRIGATION HEADS. STAKE ALL SPRINKLER HEAD LOCATIONS AND TRENCH TO A MINIMUM WIDTH OF 4" AND 18" BELOW FINISH GRADE FOR THE MAIN SUPPLY AND A MINIMUM WIDTH OF 3" AND 12" BELOW FINISH GRADE FOR LATERALS AND WIRING.
- PIPING: ALL PIPING IS TO BE SIZED FOR A MAXIMUM WATER VELOCITY OF 5 FEET PER SECOND. LAY PIPE ON A SOLID SUBBASE, UNIFORMLY SLOPED WITHOUT HUMPS AND DEPRESSIONS. KEEP PIPE INTERIOR CLEAN AT ALL TIMES.
- BACKFLOW PREVENTER: INSTALL BACKFLOW PREVENTER AS PER CITY CODES AND STANDARDS. INSTALL 2"x18" PLASTIC ACCESS BOX FLUSH WITH GRADE AND BACKFILL WITH 2" OF GRAVEL IN BOTTOM OF BOX. COORDINATE LOCATION WITH CIVIL ENGINEER, UNLESS OTHERWISE REQUIRED BY LOCAL CODES.
- VALVES: CLEAN AND TEST PRIOR TO INSTALLATION. INSTALL PLUMB AND STRAIGHT. SET PLASTIC VALVE BOX WITH 2" GRAVEL SUMP AND STABILIZE WITH COMPACTED SOIL.
- BACKFILL: USE BACKFILL FREE FROM ROCKS AND OTHER UNSUITABLE MATERIALS WHICH COULD DAMAGE PIPE OR CREATE SETTLING PROBLEMS. APPLY BACKFILL MATERIAL IN 6" LAYERS AND TAMP EACH LAYER TO PREVENTSETTLING. USE TOPSOIL (NOT SUBSOIL) WITHIN THE TOP 6" OF BACKFILL. ACHIEVE FINISH GRADE AND REPAIR ALL DAMAGED EXISTING TURF AND PLANTINGS. REMOVED EXCESS EXCAVATION AND BACKFILL MATERIAL FROMTHE SITE IMMEDIATELY.
- SPRINKLER HEADS: FLUSH LATERAL LINES WITH FULL HEAD OF WATER AND INSTALL HEADS. LOCATE SPRINKLER HEADS TO MAINTAIN A DISTANCE OF 6" FROM WALLS AND 2" FROM OTHER BOUNDARIES.
- WIRING: LAY WIRING BESIDE PIPE IN TRENCHES. PROVIDE A MINIMUM COVERING OF 12" FOR WIRING LAID IN SEPARATE TRENCHES. WATERPROOF ALL CONNECTIONS WITH SPEARS DRI-SPLICE WIRE CONNECTORS AS RECOMMENDED BY MANUFACTURER. BUNDLE AND TAPE MULTIPLE WIRES AT A MAXIMUM OF 10 FOOT INTERVALS. PROVIDE A 30" EXPANSION LOOP AT EACH ELECTRIC REMOTE CONTROL VALVE AND A EVERY 100' INTERVAL BY WRAPPING WIRE AROUND 1/2" PIPE 15 TIMES.
- AUTOMATIC CONTROLLER: PROVIDE 120 VOLT ELECTRICAL CURRENT TO THE CONTROLLER IN CONDUIT IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL CODES.
- CLEAN-UP: KEEP THE PREMISES AND PUBLIC STREETS FREE FROM ACCUMULATION OF WASTE MATERIAL. AT THE COMPLETION OF THE WORK REMOVE ALL WASTE, EXCESS MATERIAL, RUBBISH AND EQUIPMENT AND LEAVE THE SITE CLEAN.
- FINAL ACCEPTANCE: PERFORM OPERATIONAL TEST WITH THE OWNER PRESENT AFTER SYSTEM IS COMPLETE AND IRRIGATION HEADS ADJUSTED TO FINAL POSITION. DEMONSTRATE TO OWNER THAT THE ENTIRE SYSTEM MEETS COVERAGE REQUIREMENTS, AND FUNCTIONS PROPERLY. PROVIDE THE OWNER WITH COMPLETE WRITTEN INSTRUCTIONS FOR PROPER OPERATION AND MAINTENANCE OF THE SPRINKLER SYSTEM.



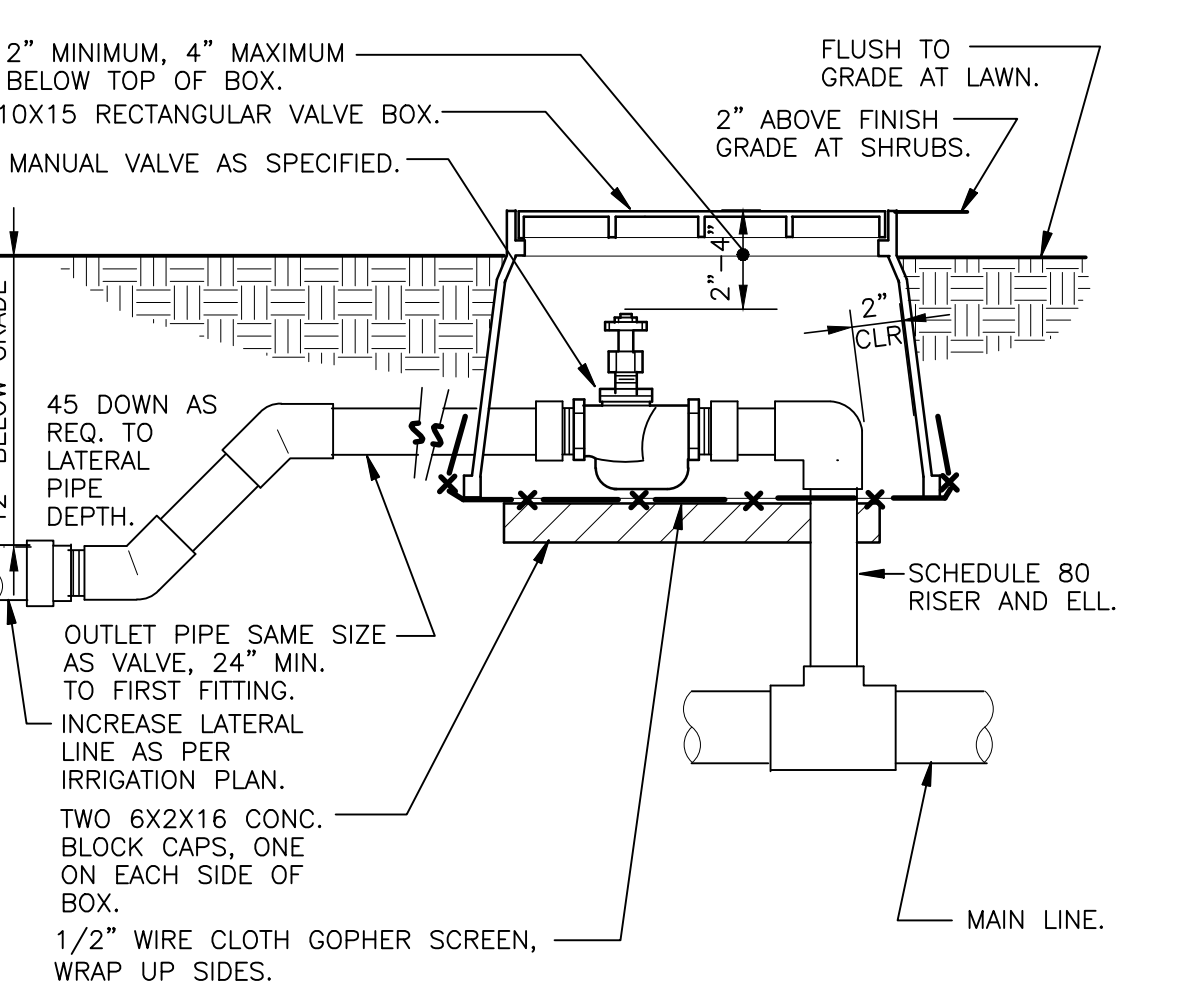
3 ELECTRIC REMOTE CONTROL VALVE
1 1/2" = 1'-0" 328406.13-01



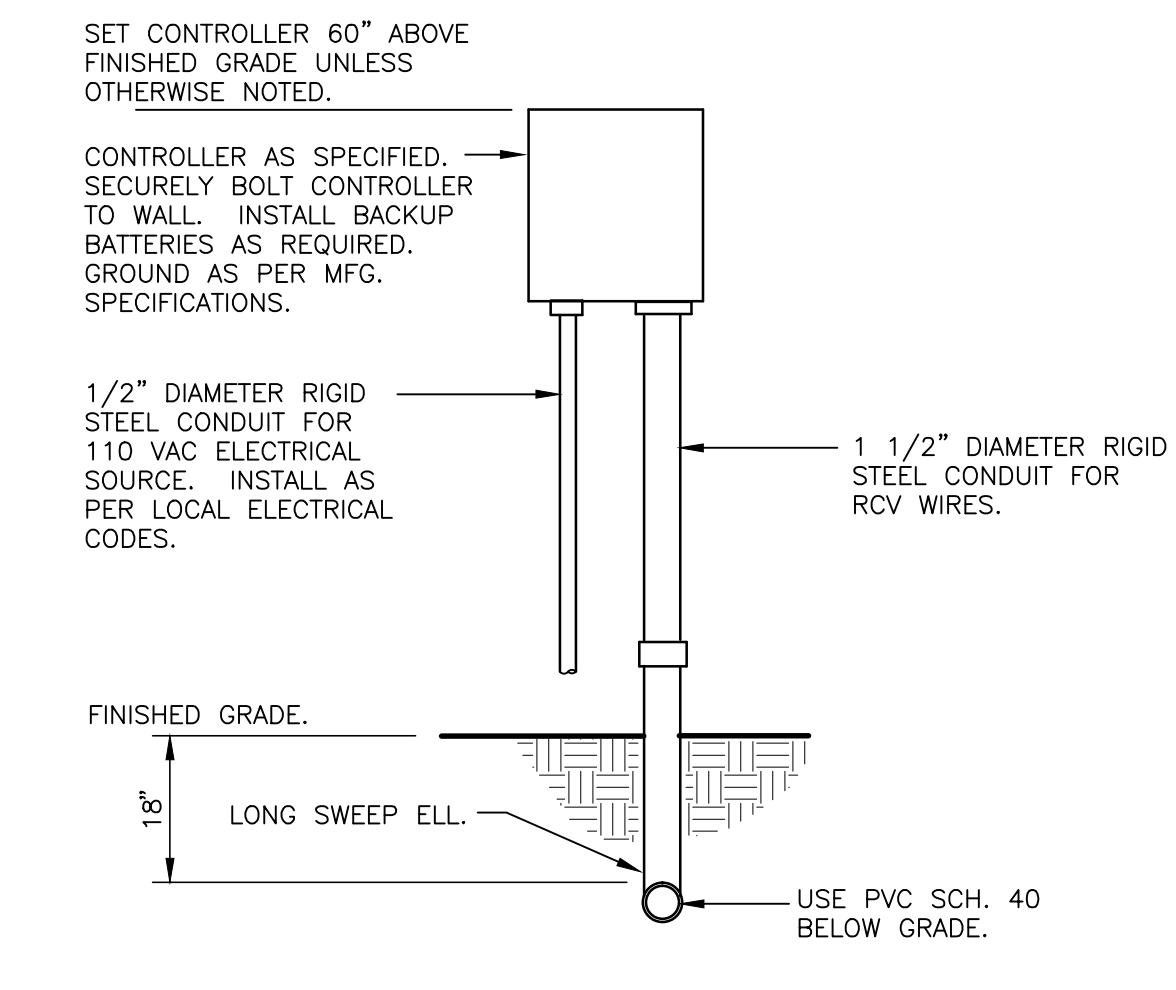
2 SHRUB SPRAY HIGHPOP W/FLEX ASSEMBLY
3" = 1'-0" 328403.29-01



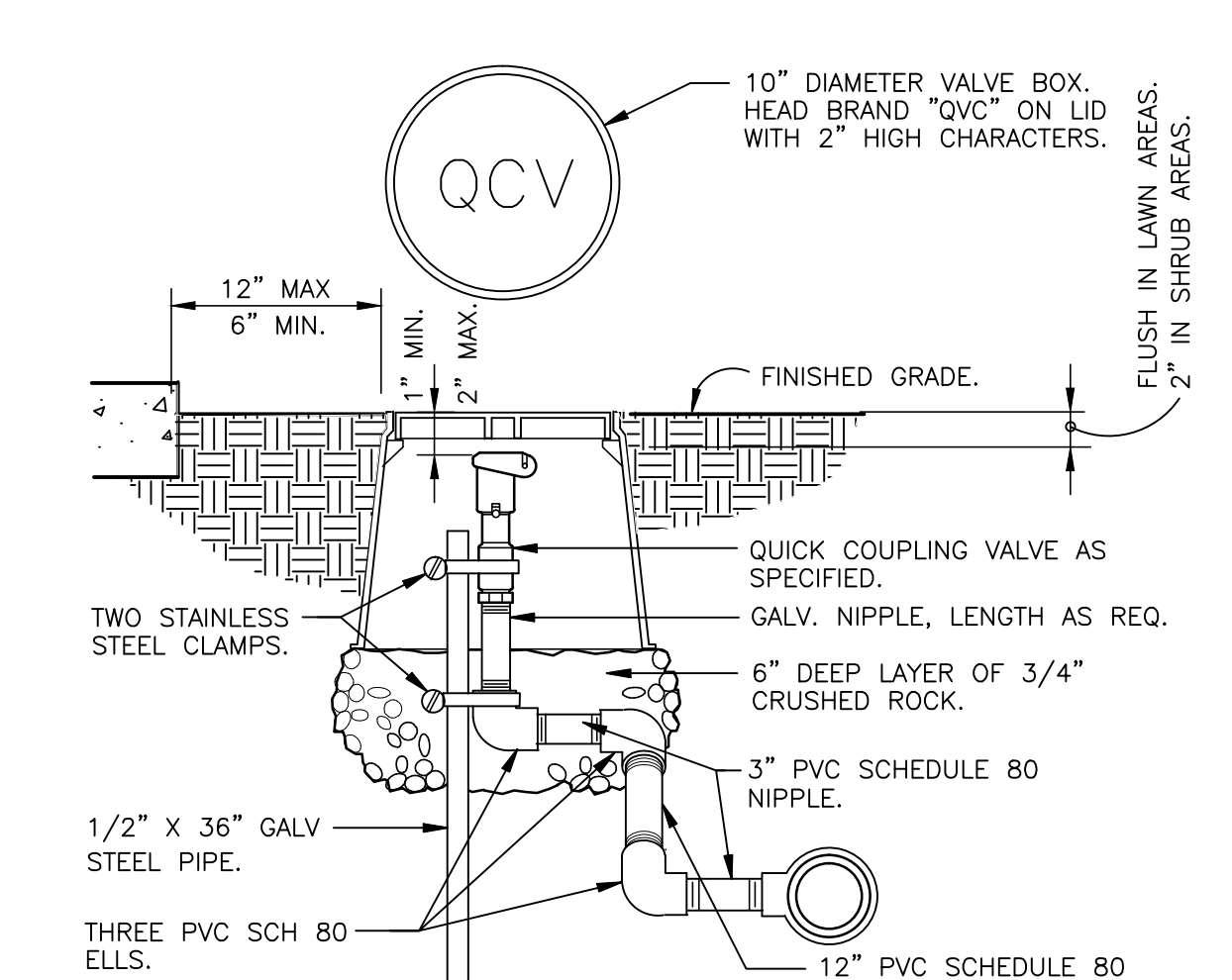
1 TURF SPRAY MARLEX ASSEMBLY
3" = 1'-0" 328403.13-01



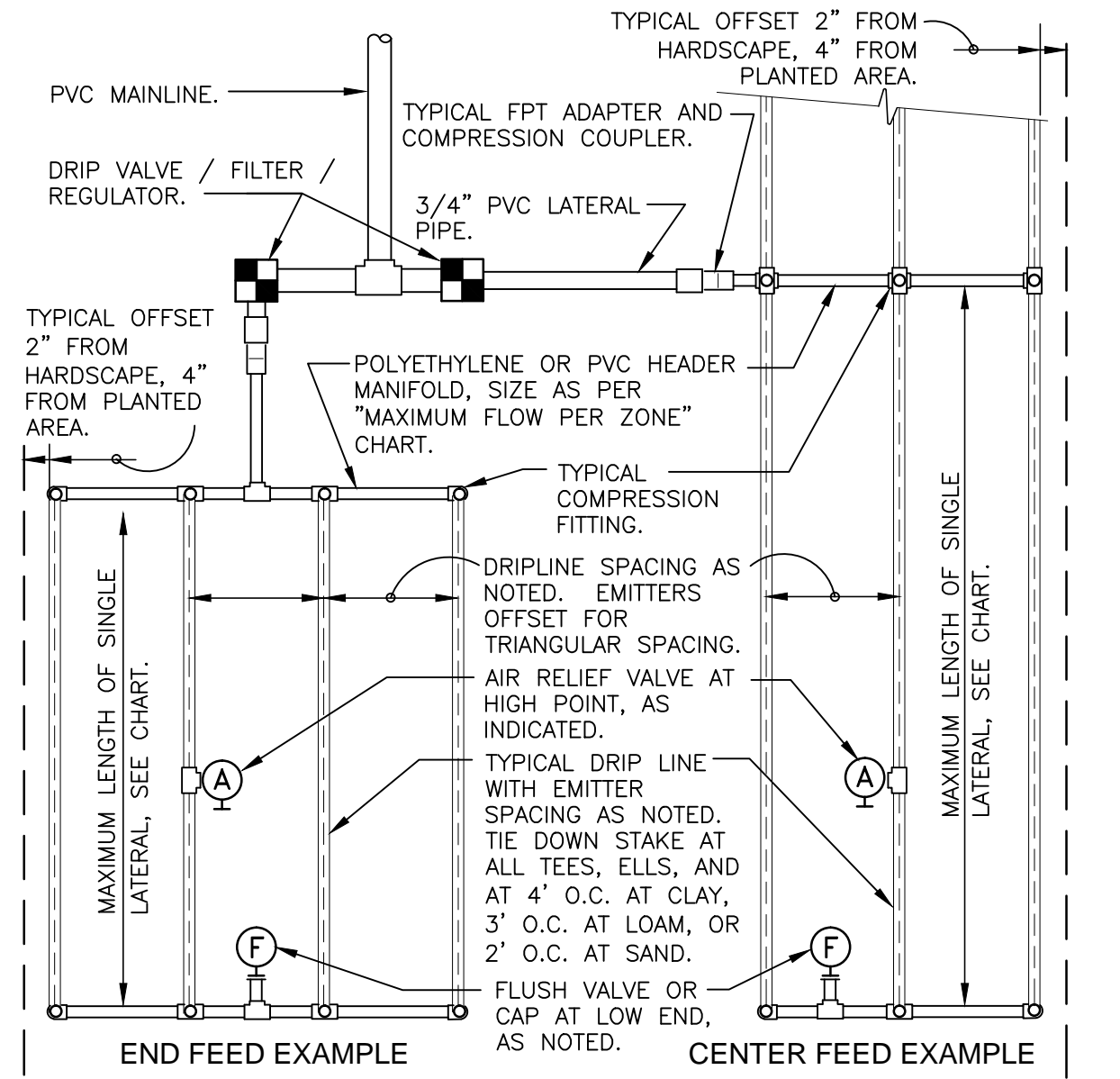
6 MANUAL CONTROL VALVE IN BOX
1 1/2" = 1'-0" 328406.19-02



5 WALL MOUNT CONTROLLER
1" = 1'-0" 328409.13-01



4 QUICK COUPLING VALVE IN BOX
1 1/2" = 1'-0" 328406.43-02



7 TYPICAL RAIN BIRD DRIPLINE REQUIREMENTS
N.T.S. 328413.56-01

MAXIMUM LATERAL LENGTH (FEET)				
PSI	EMITTER FLOW RATE GPH			
	12" SPACING 0.6 0.9	18" SPACING 0.6 0.9	24" SPACING 0.6 0.9	
10	125 96	175 135	218 171	
20	249 191	350 171	442 340	
30	307 236	434 333	550 422	
40	350 268	495 380	627 171	
50	125 96	175 135	218 171	
60	125 96	175 135	218 171	

GRID PRECIPITATION RATES (IN/HR)		
EMITTER SPACING	LATERAL SPACING	EMITTER FLOW RATE
12	12	0.96 1.44
18	18	0.89 1.03
24	24	0.28 0.41

LATERAL FLOW PER 100 FT (GPM)			
EMITTER FLOW	12" SPACING	18" SPACING	24" SPACING
0.6 GPH	1.0 GPM	0.67 GPM	0.50 GPM
0.9 GPH	1.5 GPM	1.0 GPM	0.75 GPM

MAXIMUM FLOW PER ZONE		
SCHEDULE 40 PVC HEADER SIZE	MAX GPM	PSI LOSS
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	5.6 PSI
1"	13.5 GPM	4.2 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	1.9 PSI

POLY PIPE HEADER SIZE		
SIZE	MAX GPM	PSI LOSS
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	6.3 PSI
1"	13.5 GPM	4.8 PSI
1-1/2"	31.8 GPM	2.9 PSI
2"	52.4 GPM	2.2 PSI

- SLOPED CONDITION NOTE:
- DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
 - INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
 - NORMAL SPACING WITHIN THE TOP 2/3 OF SLOPE.
 - INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM 1/3 OF THE SLOPE.
 - WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM 1/3 ON A SEPARATE VALVE.

7 TYPICAL RAIN BIRD DRIPLINE REQUIREMENTS
N.T.S. 328413.56-01