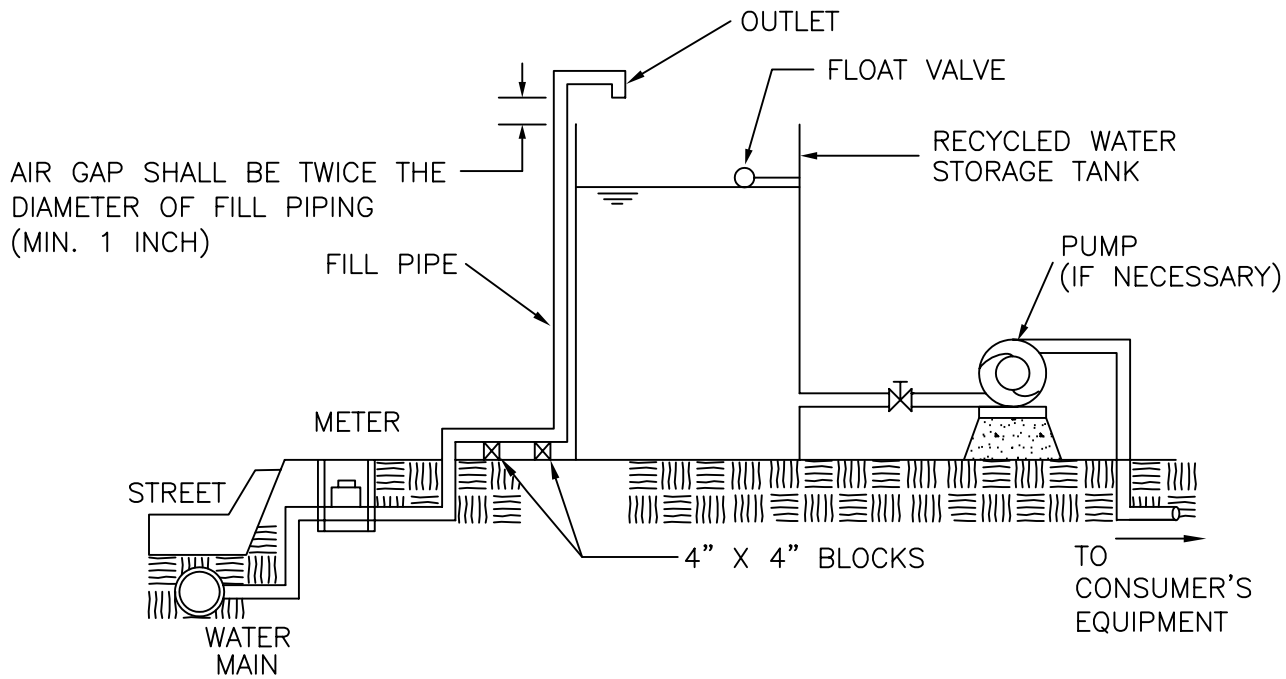
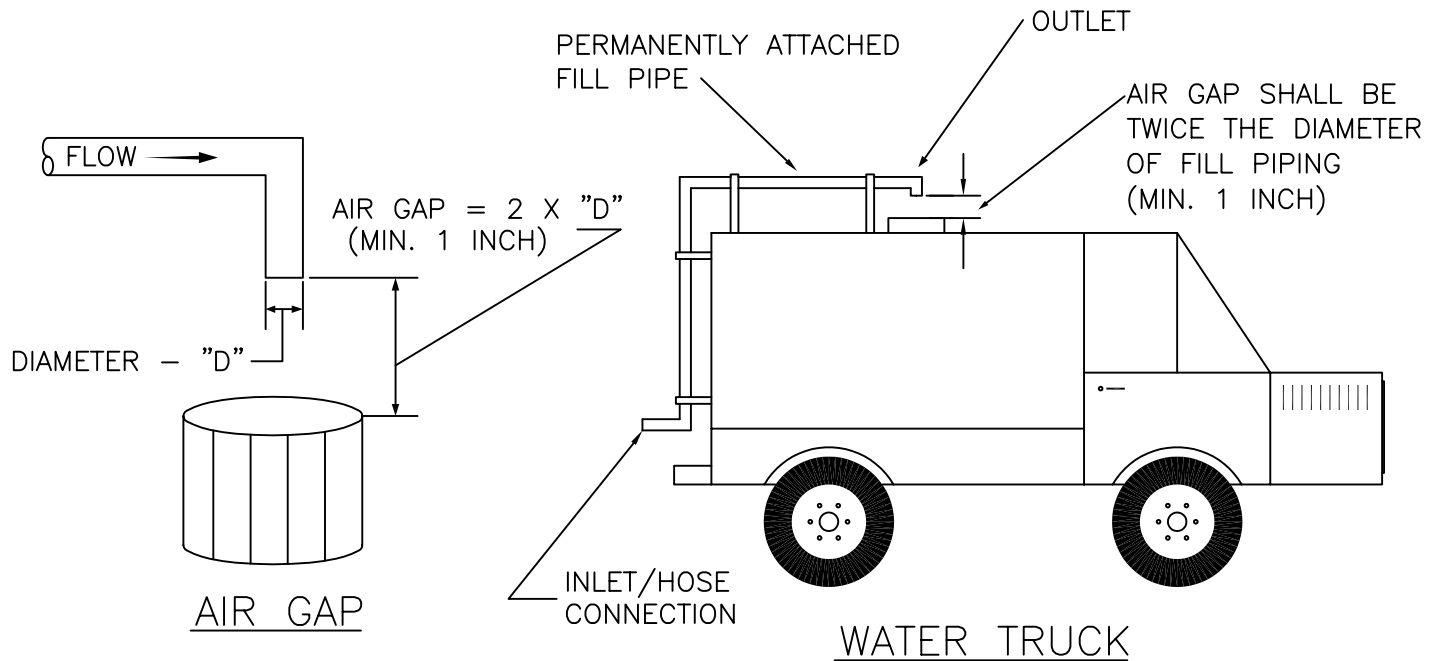


TABLE OF CONTENTS
STANDARD DRAWINGS
FOR
RECYCLED WATER IRRIGATION

<u>Dwg No.</u>	<u>Dwg Title</u>
IRR-1	Air Gap
IRR-2	Appurtenance Layout
IRR-3	Wye Strainer
IRR-4	Basket Strainer
IRR-5	Backflow Prevention Device
IRR-6	Backflow Prevention Layout
IRR-7	Pressure Regulator Installation
IRR-8	Master Control Valve
IRR-9	Flow Sensor
IRR-10	Remote Control Valve
IRR-11	Ball/Gate Valve
IRR-12	Quick Coupling Valve
IRR-13	Design Criteria for Separation of Onsite Water and Sewer Mains for New Recycled Water Mains
IRR-14	Trenching
IRR-15	Pipes Under Paving
IRR-16	Thrust Blocks for Plastic Pipe
IRR-17	Terrace Drain Crossing
IRR-18	Rotor/Pop-Up Sprinkler Head
IRR-19	Rotor/Sprinkler Head on Grade
IRR-20	Shrub Spray on Riser
IRR-21	Slope Conditions
IRR-22	Pipe Stabilizer on Grade
IRR-23	Controller
IRR-24	Branding Guide
IRR-25	Aboveground Pipeline/Hose Identification
IRR-26	Identification Tags and Labels
IRR-27	Recycled Water Site Identification Sign
IRR-28	Plan Criteria, Signature Block Layout
IRR-29	Plan Notes
IRR-30	Drinking Fountain Cover Detail
IRR-31	Recycled Water Retrofit Point of Connection Requirements
IRR-32	Drip Combo Flush & Indicator Pop-up
IRR-33	Recycled Water Standard Notes



ON-SITE STORAGE FACILITY



NOTES:

1. THE TERM "AIR GAP" SHALL MEAN A PHYSICAL SEPARATION BETWEEN THE FREE FLOWING DISCHARGE END OF A WATER SUPPLY PIPELINE AND AN OPEN OR NON-PRESSURE RECEIVING VESSEL, AND "APPROVED AIR GAP" SHALL BE AT LEAST DOUBLE THE DIAMETER OF THE SUPPLY PIPE MEASURED VERTICALLY ABOVE THE OVERFLOW RIM OF THE VESSEL - IN NO CASE LESS THAN 1 INCH.
2. PIPING SHALL BE PERMANENTLY INSTALLED.
3. ATTACH RECYCLED WATER IDENTIFICATION LABELS AND TAGS TO PIPING STORAGE TANKS AND VEHICLES AS DIRECTED BY MNWD.

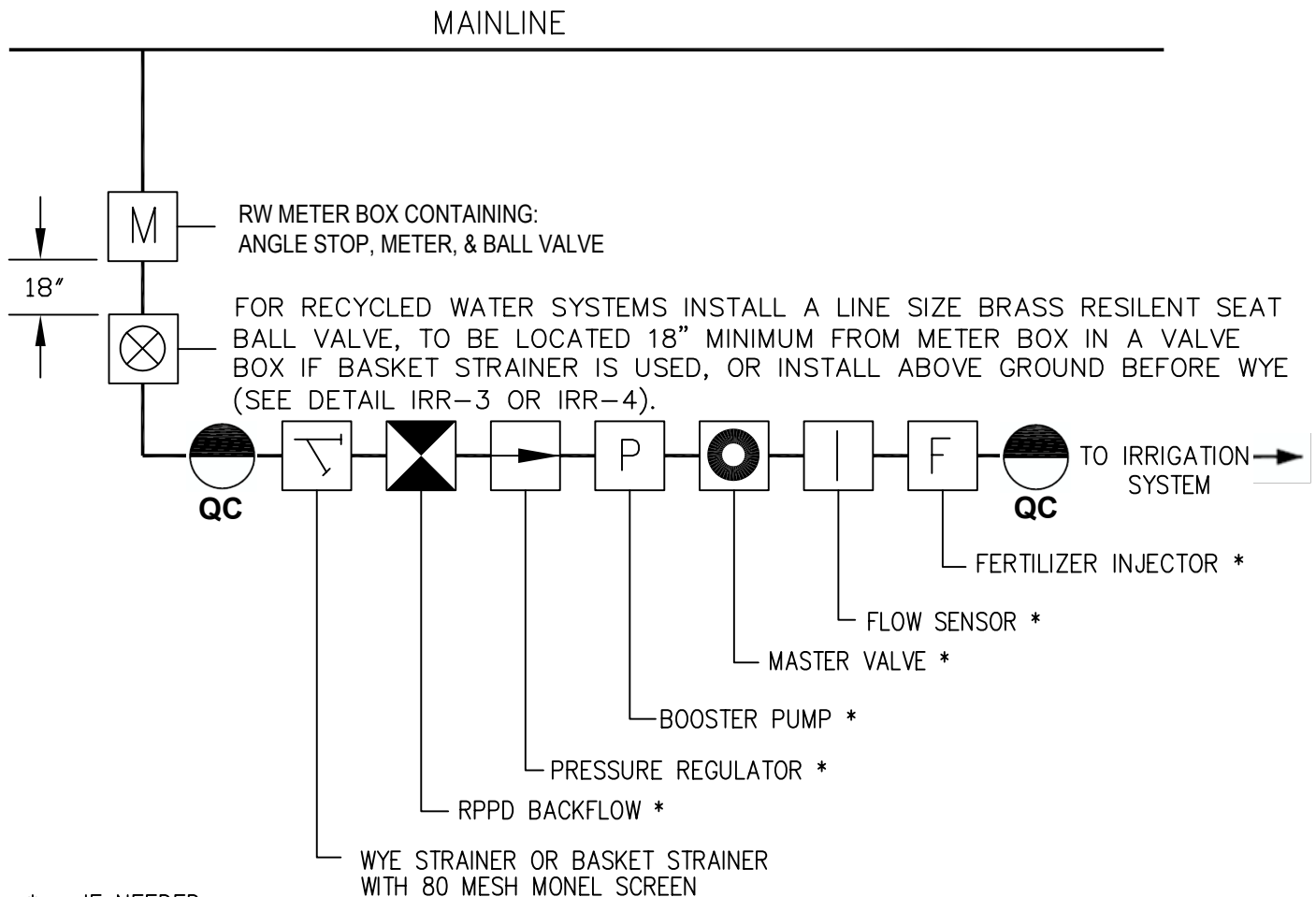
MOULTON NIGUEL WATER DISTRICT

AIR GAP

IRR-1

NOTES:

1. INSTALL BRASS PIPING UP TO INLET SIDE OF MASTER VALVE.
2. WRAP ALL BRASS PIPING WITH UPC 10 MIL BLACK PIPE WRAP.
3. IDENTIFY RECYCLED WATER PIPING BY ATTACHING 3" WIDE PURPLE IDENTIFICATION TAPE (SEE DETAIL IRR-26).
4. IDENTIFY POTABLE WATER PIPING USED FOR IRRIGATION BY ATTACHING 3" WIDE GREEN IDENTIFICATION TAPE (SEE DETAIL IRR-26).
5. INSTALL WATER METER, METER BOX, BALL VALVE, AND METER TELEMETRY PER MNWD STANDARD SPECIFICATIONS FOR CONSTRUCTION OF DOMESTIC WATER, SEWER AND RECYCLED WATER FACILITIES, DETAIL W-3.
6. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAG AS DIRECTED ON RECYCLED SYSTEM TO WATER METER (SEE DETAIL IRR-26).
7. ATTACH GREEN IRRIGATION IDENTIFICATION TAG TO THE POTABLE WATER USED FOR IRRIGATION AS DIRECTED ON POTABLE IRRIGATION SYSTEMS TO WATER METER (SEE DETAIL IRR-26).
8. IF BOOSTER PUMP IS NOT INSTALLED IN CLOSE PROXIMITY TO THE WATER METER CONTACT MNWD FOR SPECIFIC INSTALLATION INSTRUCTIONS FOR ALL APPURTENANCES.
9. ATTACH IDENTIFICATION TAPE TO ALL BELOW GRADE BRASS PIPING AS DIRECTED BY THE DISTRICT.



* — IF NEEDED



QUICK COUPLING VALVE
NELSON 7645 ACME THREAD

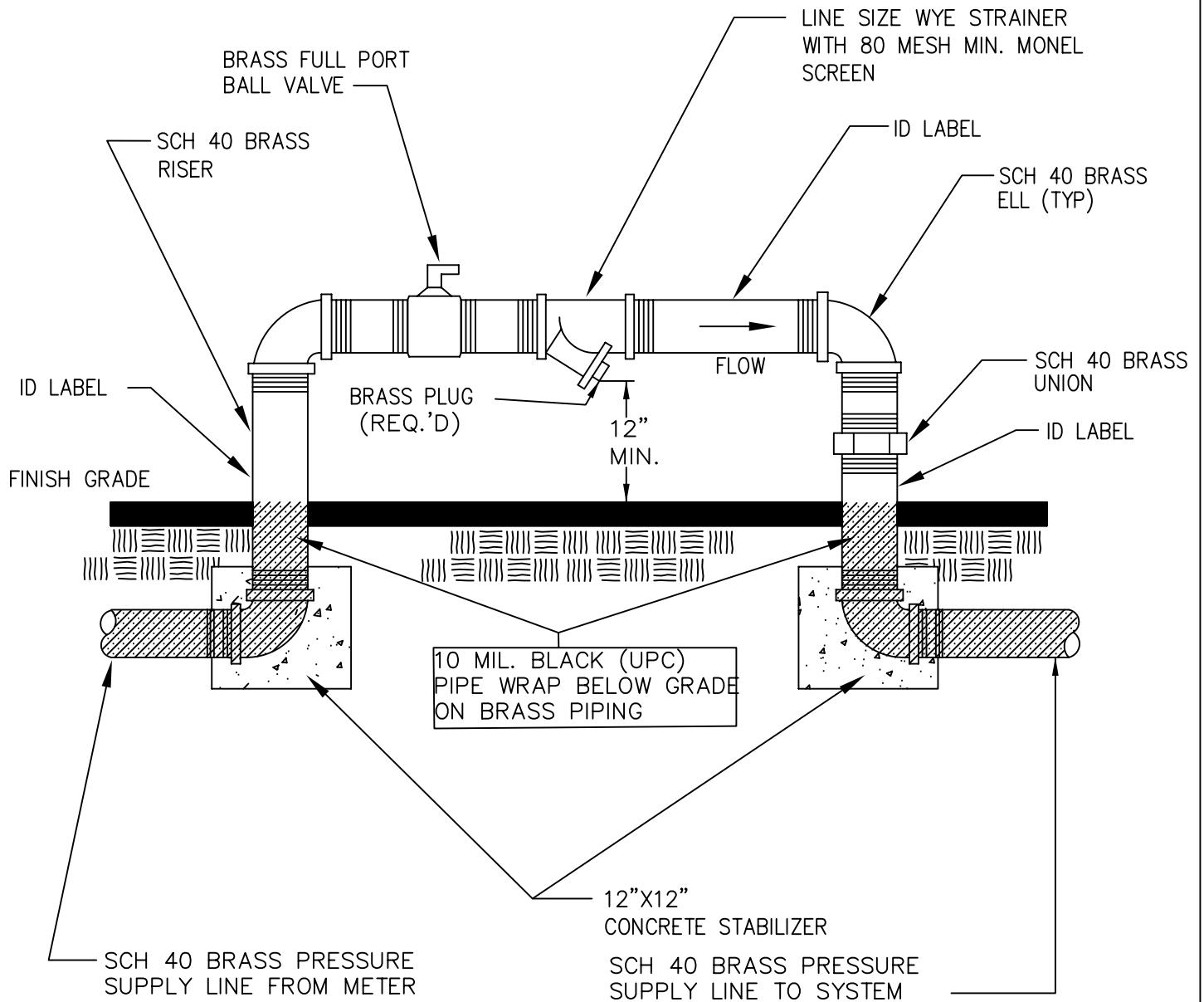
MOULTON NIGUEL WATER DISTRICT

APPURTENANCE LAYOUT

IRR-2

NOTES:

1. ATTACH PURPLE RECYCLED IDENTIFICATION (ID) LABELS AS DIRECTED ON RECYCLED SYSTEM.
2. IDENTIFY RECYCLED WATER PIPING BY ATTACHING 3" WIDE PURPLE IDENTIFICATION TAPE TO ALL BELOW GRADE PIPING (SEE DETAIL IRR-26)



MOULTON NIGUEL WATER DISTRICT

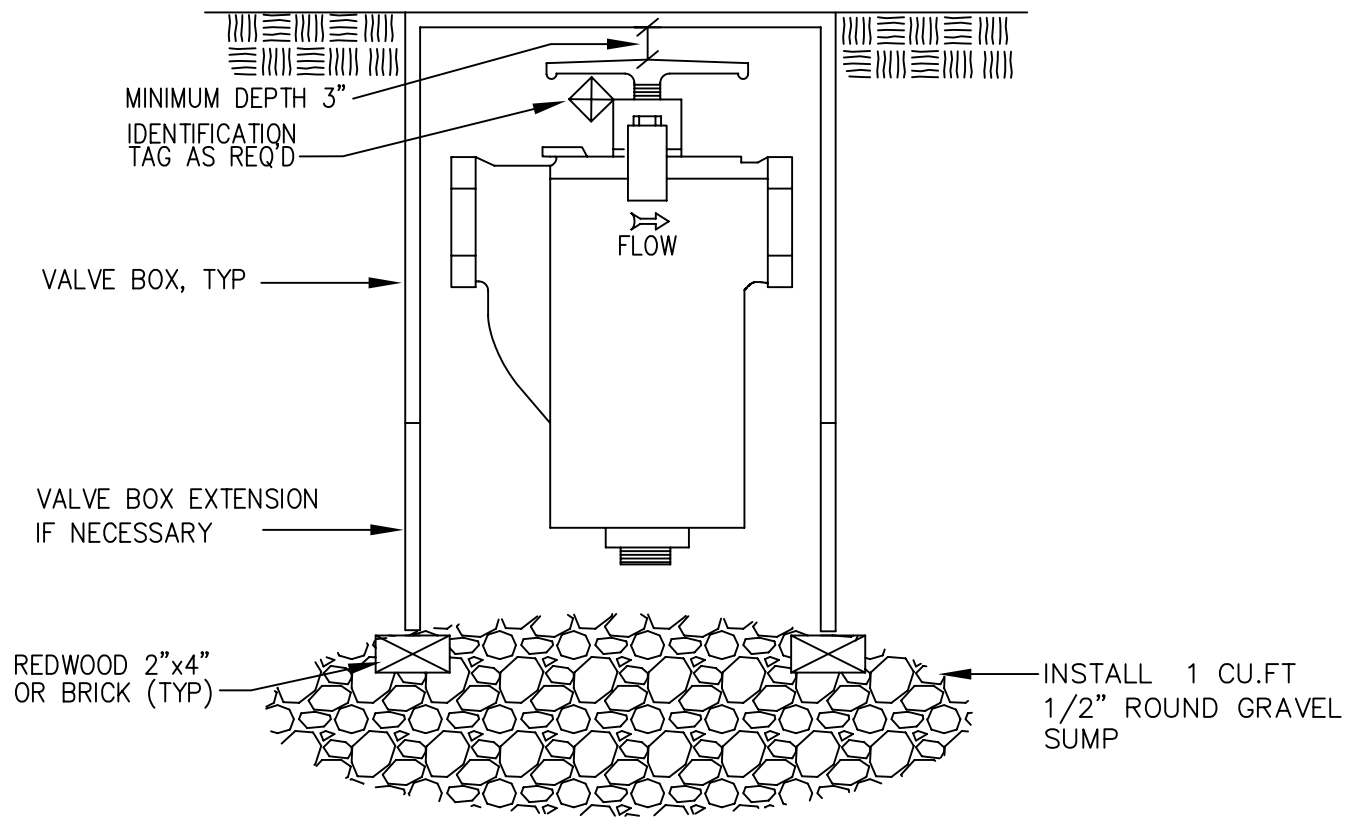
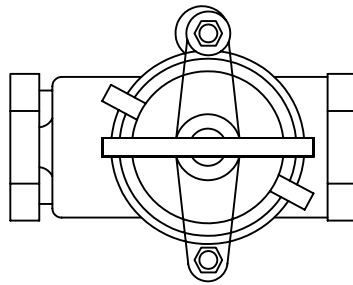
WYE STRAINER

IRR-3

NOTES:

1. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAGS AS DIRECTED ON RECYCLED SYSTEM.
2. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
3. INSTALL RECTANGULAR PLASTIC VALVE BOX WITH LOCKING COVER. BOLT DOWN COVER WITH STAINLESS STEEL BOLT AND WASHER. COVER SHALL BE BRANDED TO IDENTIFY BASKET STRAINER. SEE "BRANDING DETAILS". USE PURPLE RECYCLED WATER IDENTIFICATION BOXES AND COVER FOR RECYCLED SYSTEMS.

BRASS OR CAST IRON
BASKET STRAINER WITH
80 MESH MONEL
SCREEN

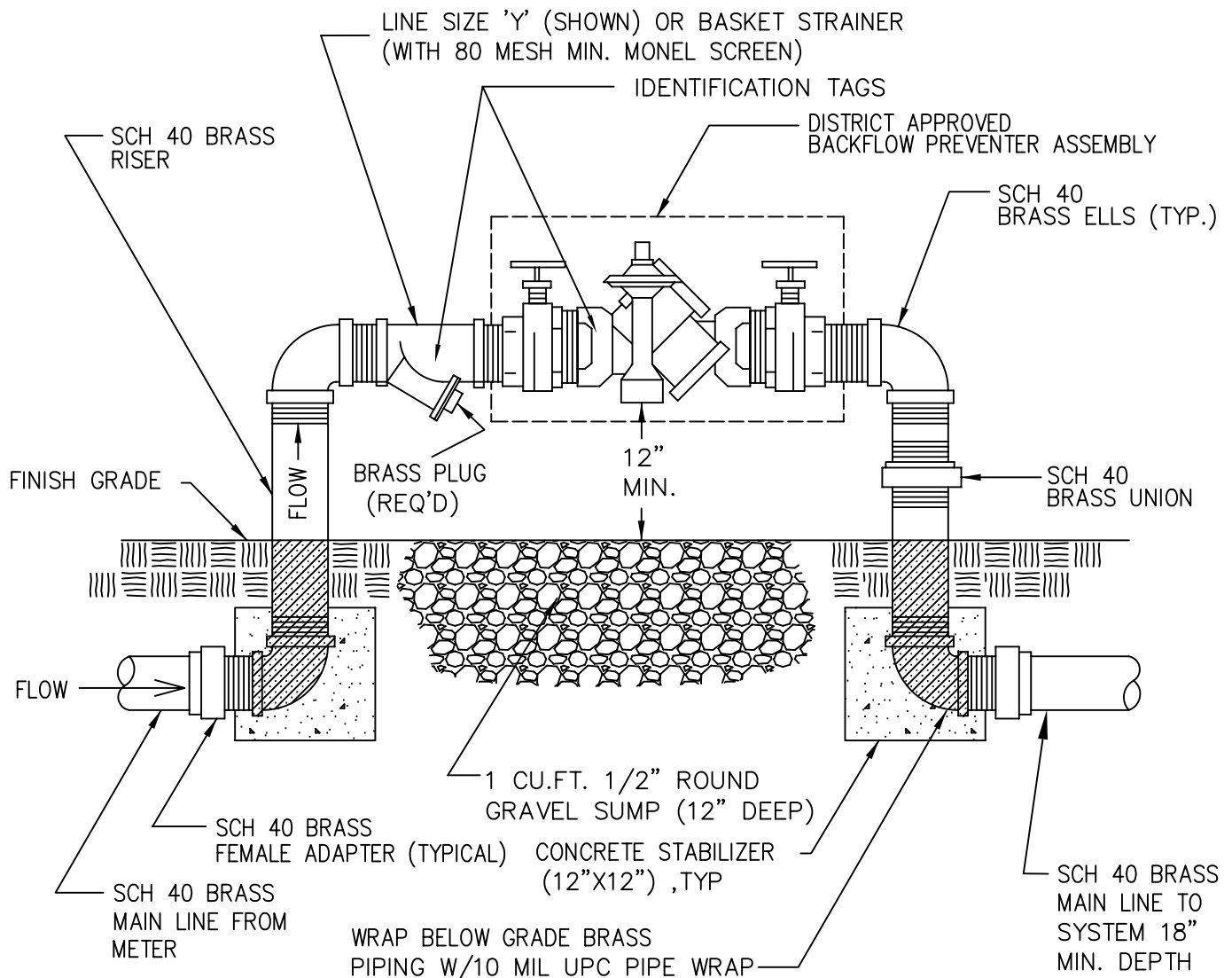


MOULTON NIGUEL WATER DISTRICT
BASKET STRAINER

IRR-4

NOTES:

1. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAGS AS DIRECTED ON RECYCLED SYSTEMS.
2. ATTACH BLUE POTABLE WATER IDENTIFICATION TAGS AS DIRECTED ON POTABLE SYSTEMS.
3. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
4. ALL BACKFLOW PREVENTION DEVICES FOR METER PROTECTION SHALL BE INSTALLED DIRECTLY OUTSIDE OF THE WATER METER BOX.
5. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON RECYCLED WATER SYSTEMS.
6. ATTACH BLUE POTABLE WATER IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON POTABLE WATER SYSTEMS.
7. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.

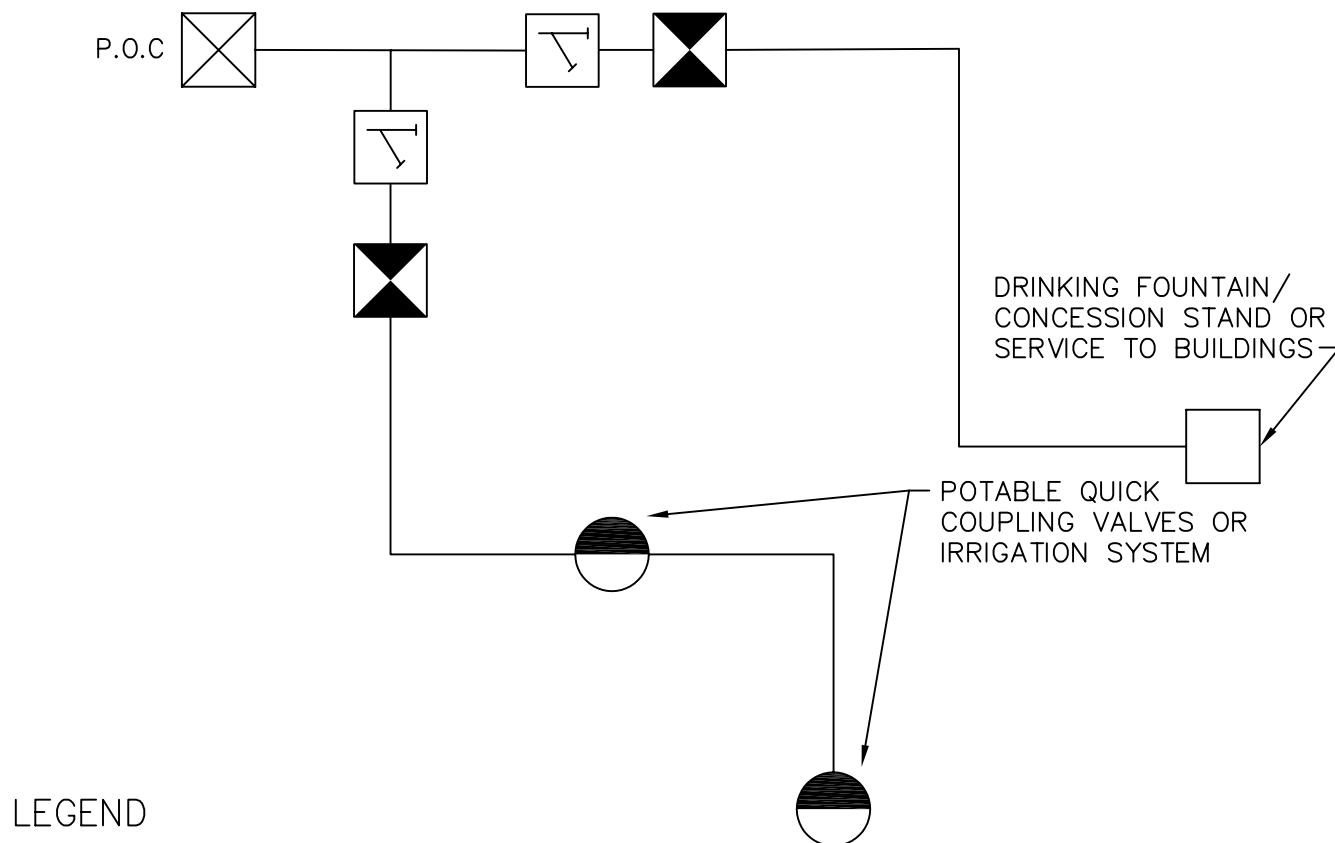


MOULTON NIGUEL WATER DISTRICT
BACKFLOW PREVENTION DEVICE

IRR-5

NOTES:

1. SEE DISTRICT DETAILS IRR-2 FOR POINT OF CONNECTION (P.O.C.) INFORMATION AND IRR-5 FOR BACKFLOW PREVENTION DEVICE INFORMATION.
2. ATTACH APPROPRIATE IDENTIFICATION TAPES, LABELS AND TAGS AS DIRECTED BY MNWD.
3. USE SCH 40 BRASS PIPING AND FITTINGS UP TO THE INLET SIDE OF BACKFLOW ASSEMBLIES. SEE DETAILS IRR-2, IRR-3 AND IRR-4 FOR INSTALLATION REQUIREMENTS.
4. IDENTIFY ALL PIPING AS DIRECTED BY THE DISTRICT.



LEGEND



P.O.C./ WATER METER



MNWD APPROVED RPP BACKFLOW ASSEMBLY



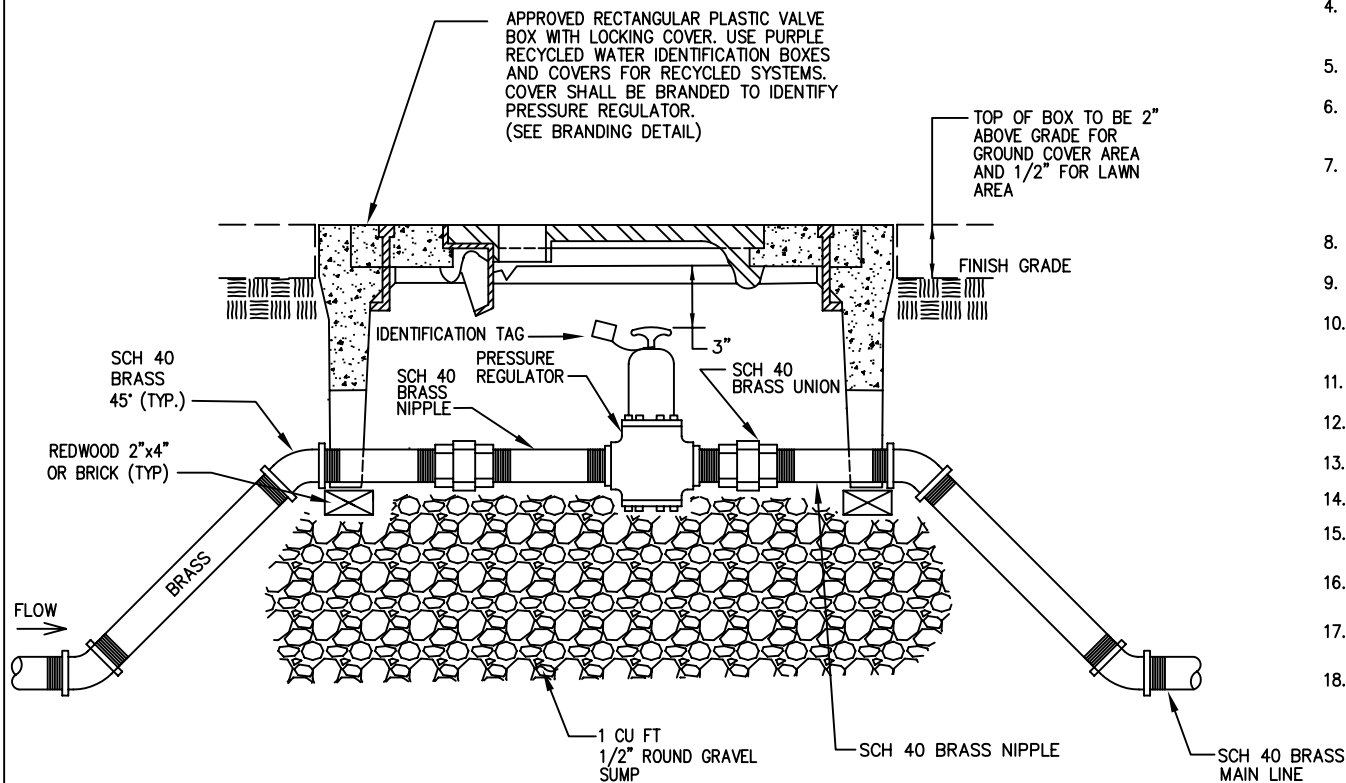
QUICK COUPLING VALVE (USE PIN TYPE QUICK COUPLING VALVES ON POTABLE WATER IRRIGATION SYSTEMS)



STRAINER

MOULTON NIGUEL WATER DISTRICT
BACKFLOW PREVENTION LAYOUT

IRR-6

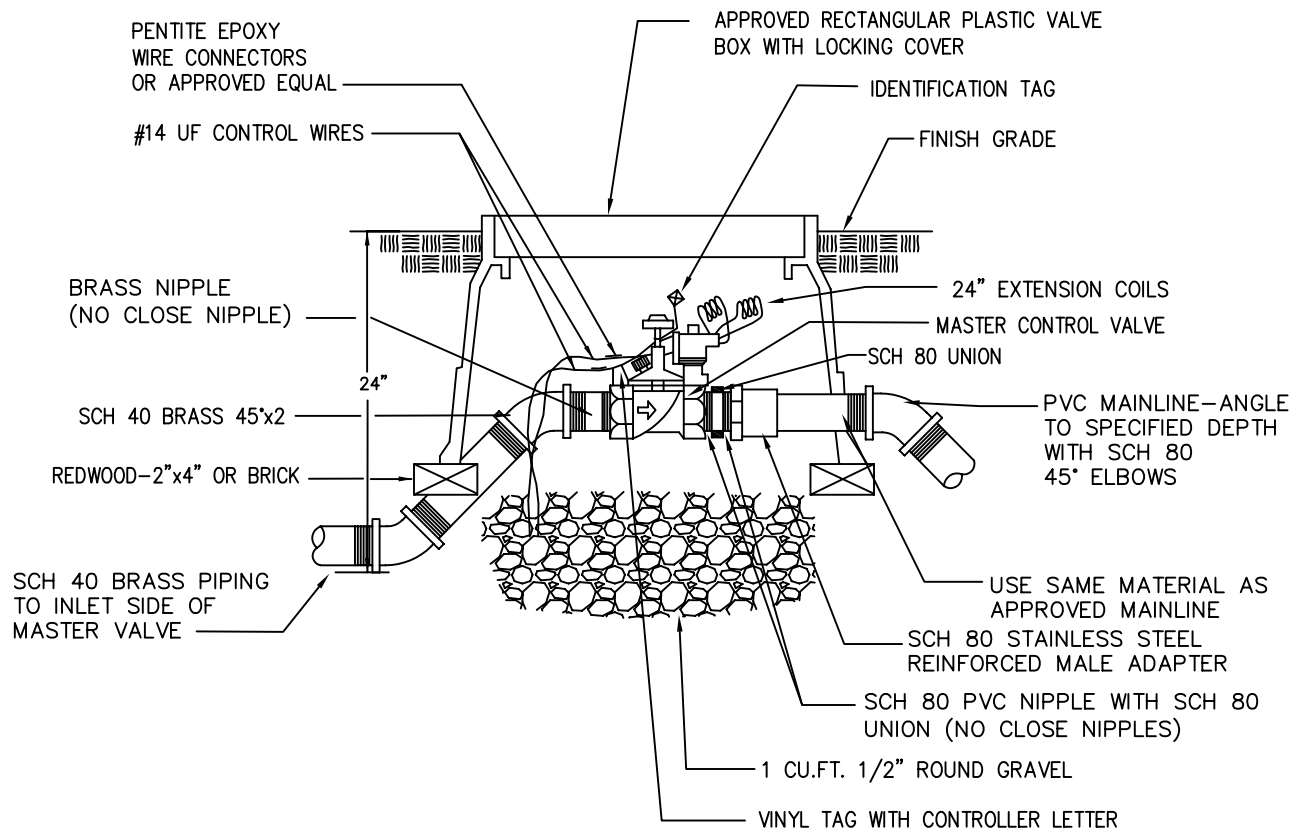


NOTES:

1. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAGS AS DIRECTED ON RECYCLED SYSTEMS.
2. ATTACH BLUE POTABLE WATER IDENTIFICATION TAGS AS DIRECTED ON POTABLE SYSTEMS.
3. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
4. PRESSURE REGULATOR SHALL BE OF BRONZE AND/OR BRASS CONSTRUCTION.
5. PRESSURE SETTING SHALL BE AS SPECIFIED ON PLANS.
6. VALVE BOX SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE PRESSURE REGULATOR ASSEMBLY.
7. PRESSURE REGULATOR SHALL BE INSTALLED HORIZONTAL SO ADJUSTMENT NUT, AND MAIN CAP ON PRESSURE REGULATOR ARE ACCESSIBLE.
8. ALL PIPING SHALL BE BRASS, SCH 40.
9. ALL FITTINGS, EXCEPT AS NOTED, SHALL BE THREADED BRASS.
10. AREA AROUND BOX MAY BE PLANTED, HARD-SURFACE OR COMBINATION.
11. INSTALL GRAVEL SUMP AS SHOWN.
12. CLOSE NIPPLES SHALL NOT BE USED.
13. WRAP BELOW GRADE BRASS PIPING W/UPC 10 MIL. BLACK PIPE
14. SEE THRUST BLOCK DETAIL IRR-16 FOR REQ'D THRUST BLOCK.
15. BOLT DOWN VALVE BOX COVER WITH STAINLESS STEEL BOLT AND WASHER.
16. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON RECYCLED WATER SYSTEMS.
17. ATTACH BLUE POTABLE WATER IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON POTABLE WATER SYSTEMS.
18. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.

MOULTON NIGUEL WATER DISTRICT
PRESSURE REGULATOR INSTALLATION

IRR-7

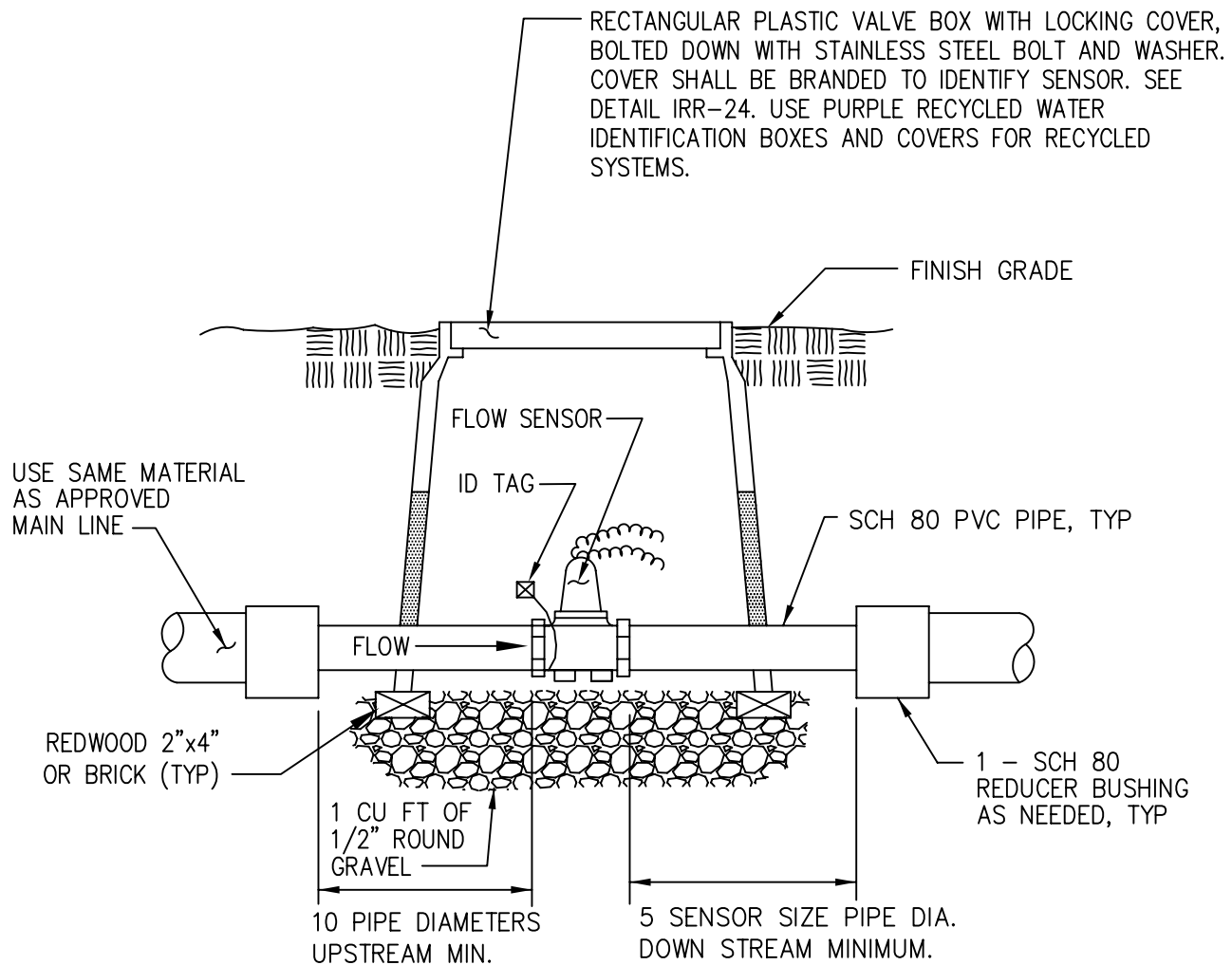


NOTES:

1. WRAP ALL BELOW GRADE SCH 40 BRASS WITH UPC 10 MIL BLACK "PIPE WRAP".
2. ATTACH PURPLE RECYCLED IDENTIFICATION TAGS AS DIRECTED ON RECYCLED WATER SYSTEMS.
3. ATTACH GREEN POTABLE WATER USED FOR IRRIGATION IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
4. VALVE BOX LID SHALL BE BRANDED TO IDENTIFY VALVE. SEE DETAIL IRR-24.
5. ATTACH ID TAGS WITH #14 UF WIRE OR ZIP TIE.
6. USE DIELECTRIC COUPLINGS ON ALL GALVANIZED STEEL PIPING BETWEEN UNION AND DOWNSTREAM PIPING
7. VALVE BOXES SHOULD REST ON A 1/2" ROUND GRAVEL SUMP, 12" SQUARED.
8. GRAVEL SUMP MUST BE INSTALLED FIRST.
9. BOLTDOWN VALVE BOX COVER WITH STAINLESS STEEL BOLT AND WASHER.
10. USE PURPLE RECYCLED WATER IDENTIFICATION BOXES AND COVER FOR RECYCLED SYSTEMS.
11. MINIMUM DISTANCE FROM TOP OF VALVE ASSEMBLY TO BOTTOM OF VALVE COVER SHALL BE 3 INCHES.
12. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON RECYCLED WATER SYSTEMS.
13. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.

NOTES:

1. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAGS AS DIRECTED ON RECYCLED SYSTEMS.
2. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
3. IDENTIFY POTABLE WATER USED FOR IRRIGATION PIPING BY ATTACHING 3" WIDE GREEN IDENTIFICATION TAPE (SEE DETAIL IRR-26).

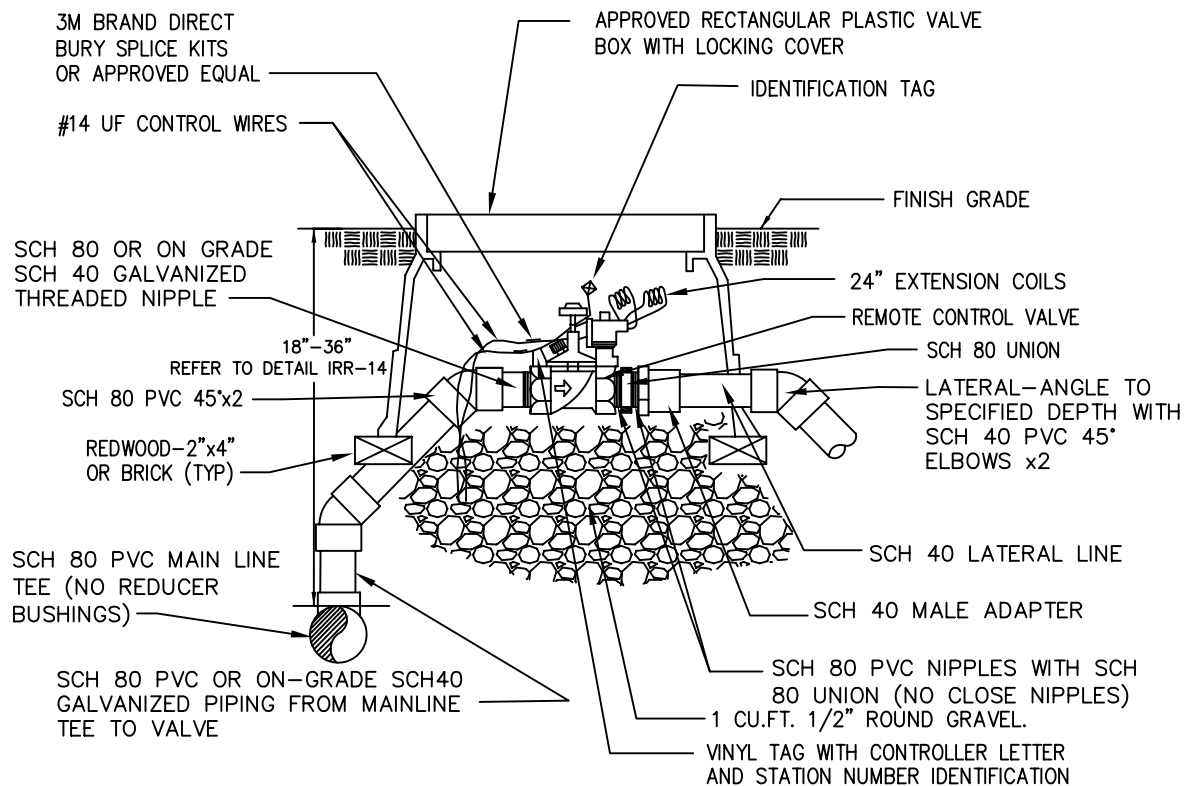


MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE FOLLOWED

MOULTON NIGUEL WATER DISTRICT

FLOW SENSOR

IRR-9

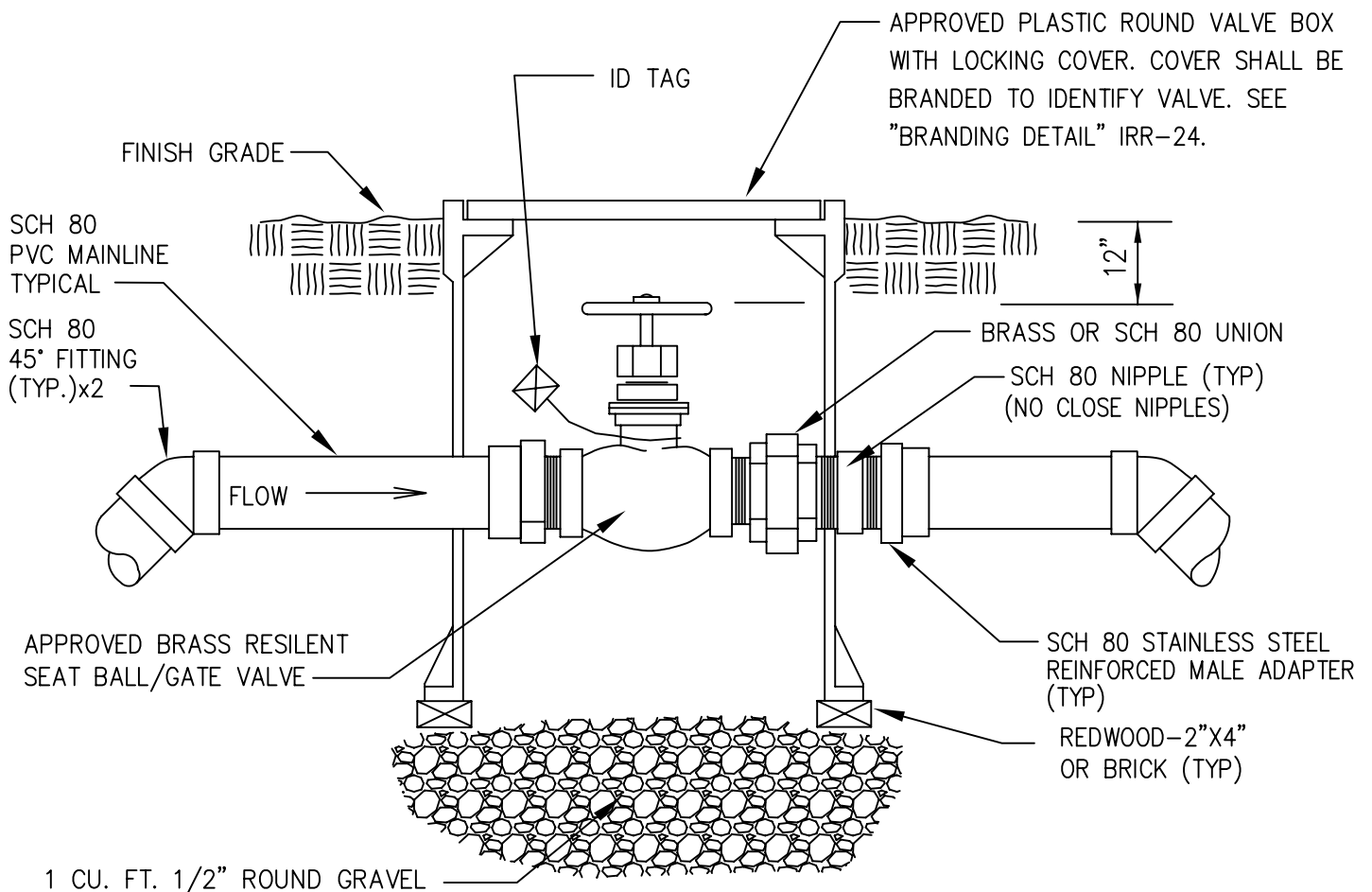


NOTES:

1. WRAP ALL BELOW GRADE SCH 40 GALVANIZED STEEL WITH UPC 10 MIL BLACK "PIPE WRAP" AND IDENTIFICATION TAPE AS DIRECTED BY THE DISTRICT.
2. ATTACH PURPLE RECYCLED IDENTIFICATION TAGS AS DIRECTED ON RECYCLED SYSTEM.
3. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
4. VALVE BOX LID SHALL BE BRANDED TO IDENTIFY VALVE (SEE "BRANDING DETAILS" IRR-24).
5. ATTACH ID TAGS WITH #14 UF WIRE OR ZIP TIE.
6. USE DIELECTRIC COUPLINGS ON ALL GALVANIZED STEEL PIPING BETWEEN UNION AND LATERAL LINE.
7. VALVE BOXES SHOULD REST ON A GRAVEL SUMP. 12" SQUARED.
8. GRAVEL SUMP MUST BE INSTALLED FIRST.
9. BOLTDOWN VALVE BOX COVER WITH STAINLESS STEEL BOLT AND WASHER.
10. USE PURPLE RECYCLED WATER IDENTIFICATION BOXES AND COVER FOR RECYCLED SYSTEM.
11. ALL MAINLINE AND REMOTE CONTROL VALVE FITTINGS SHALL BE SCH 80.
12. MINIMUM DISTANCE FROM TOP OF VALVE ASSEMBLY TO BOTTOM OF VALVE COVER SHALL BE 3 INCHES.
13. FOR SCH 40 GALVANIZED PIPING CONTACT MNWD.

NOTES:

1. ATTACH PURPLE RECYCLED IDENTIFICATION TAGS AS DIRECTED ON RECYCLED SYSTEM.
2. ATTACH BLUE POTABLE WATER IDENTIFICATION TAGS AS DIRECTED ON POTABLE SYSTEMS.
3. ATTACH GREEN POTABLE WATER IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
4. VALVES UP TO 3 INCHES DIA. SHALL HAVE MALLABLE IRON TEE HANDLES, VALVES LARGER THAN 3 INCHES SHALL HAVE SQUARE OPERATING NUTS.
5. 4-45°SCH 80 PVC ELBOW FITTINGS SHALL BE USED TO RAISE BALL/GATE VALVE TO WITHIN 12" OF FINISH GRADE.
6. USE PURPLE RECYCLED WATER IDENTIFICATION VALVE BOXES AND COVER FOR RECYCLED WATER SYSTEMS.
7. IDENTIFY RECYCLED WATER PIPING BY ATTACHING 3" WIDE PURPLE IDENTIFICATION TAPE (SEE DETAIL IRR-26).
8. IDENTIFY POTABLE WATER PIPING USED FOR IRRIGATION BY ATTACHING 3" WIDE GREEN IDENTIFICATION TAPE (SEE DETAIL IRR-26).
9. IDENTIFY POTABLE WATER PIPING BY ATTACHING 3" WIDE BLUE IDENTIFICATION TAPE (SEE DETAIL IRR-26).
10. FOR SCH 40 GALVANIZED PIPING CONTACT MNWD.

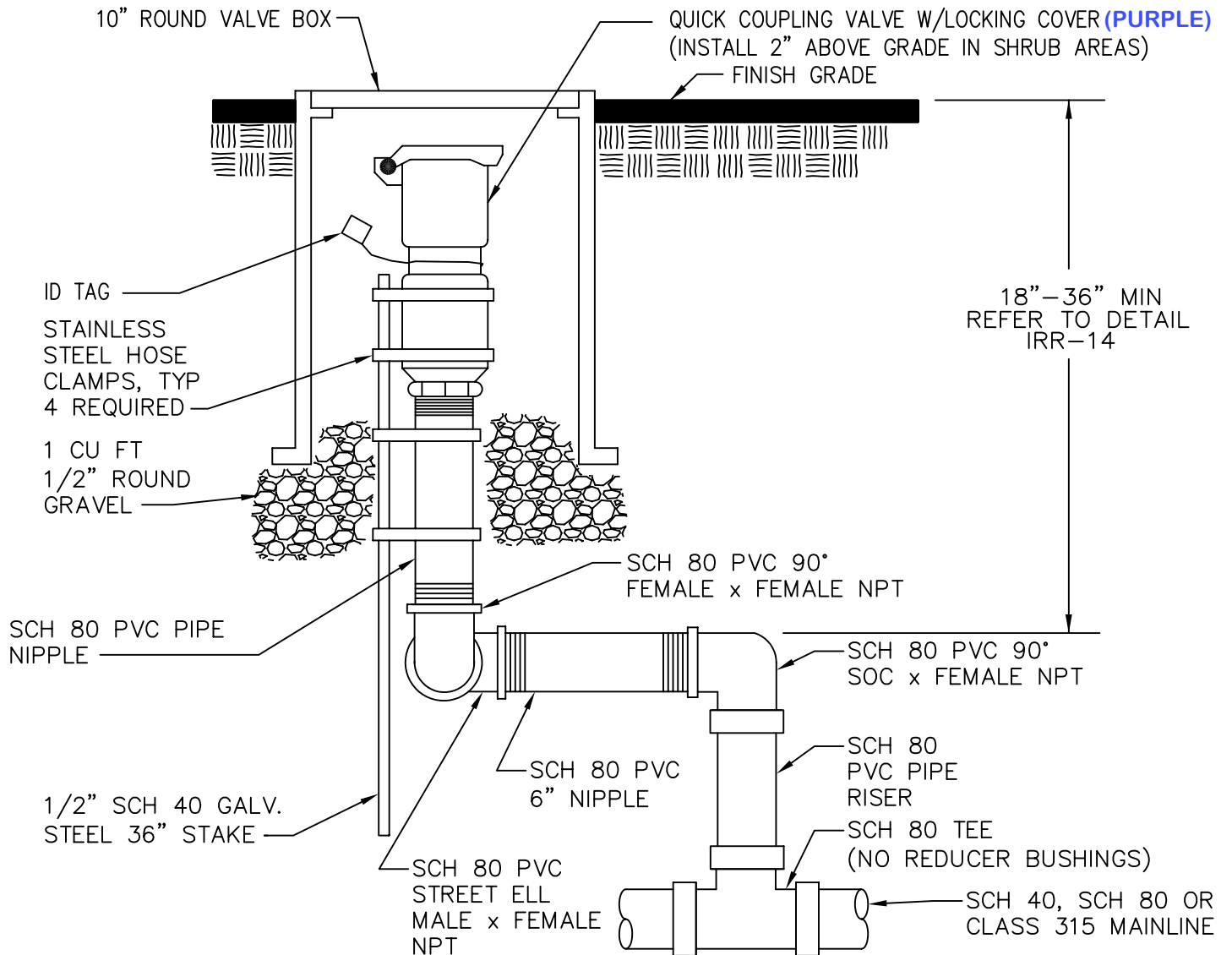


MOULTON NIGUEL WATER DISTRICT
BALL/GATE VALVE

IRR-11

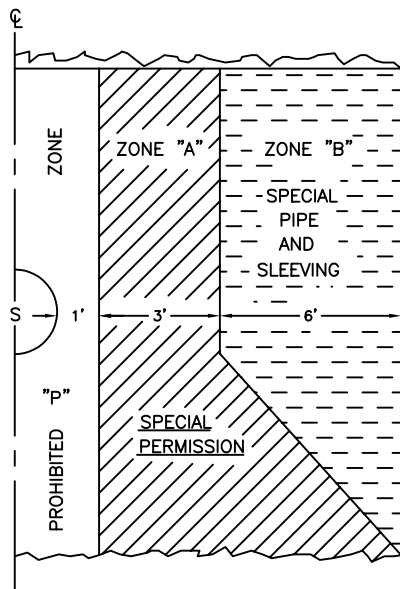
NOTES:

1. VALVE BOX LID SHALL BE BRANDED TO IDENTIFY QUICK COUPLER "SEE BRANDING DETAIL".
2. ATTACH RECYCLED WATER IDENTIFICATION TAGS OR POTABLE WATER USED FOR IRRIGATION IDENTIFICATION TAGS AS DIRECTED BY THE DISTRICT.
3. ACME THREAD PIPE TYPE QUICK COUPLING VALVE FOR RECYCLED WATER USE (NELSON 7645 ACME THREAD)
4. PIN LOCK TYPE QUICK COUPLING VALVE FOR POTABLE WATER USE
5. BOLTDOWN VALVE BOX COVER WITH STAINLESS STEEL BOLT AND WASHER.
6. USE PURPLE RECYCLED WATER IDENTIFICATION BOXES AND COVERS FOR RECYCLED SYSTEMS.
7. FOR SCH 40 GALVANIZED PIPING CONTACT MNWD.
8. MINIMUM DISTANCE FROM TOP OF QUICK COUPLING VALVE TO BOTTOM OF VALVE COVER SHALL BE 3 INCHES.
9. ATTACH PURPLE RECYCLED WATER IDENTIFICATION TAPE TO ALL PIPING AS DIRECTED ON RECYCLED WATER SYSTEMS.
10. ATTACH BLUE POTABLE WATER IDENTIFICATION TAPE TO ALL BRASS PIPING AS DIRECTED ON POTABLE WATER SYSTEMS.
11. ATTACH GREEN POTABLE WATER, USED FOR IRRIGATION, IDENTIFICATION TAPE TO ALL PIPING AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.

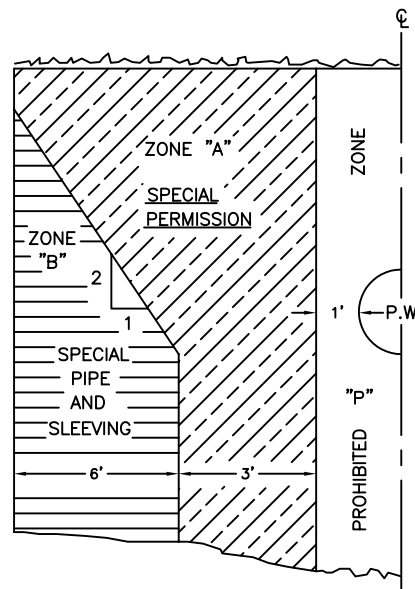


MOULTON NIGUEL WATER DISTRICT
QUICK COUPLING VALVE

IRR-12



RECYCLED WATER MAIN
PARALLEL TO SEWER MAINS



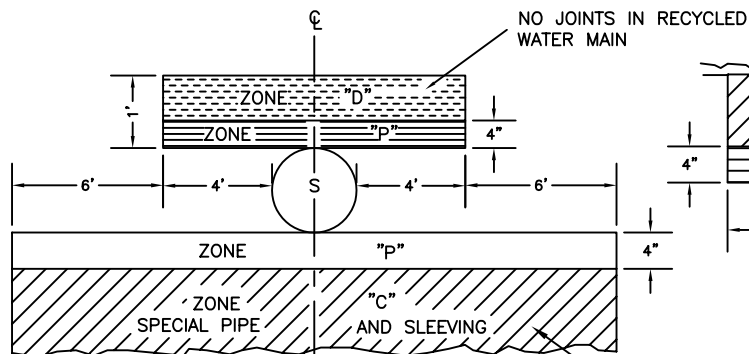
RECYCLED WATER MAIN
PARALLEL TO WATER MAINS

SPECIAL CONSTRUCTION REQUIRED FOR RECYCLED WATER ZONES

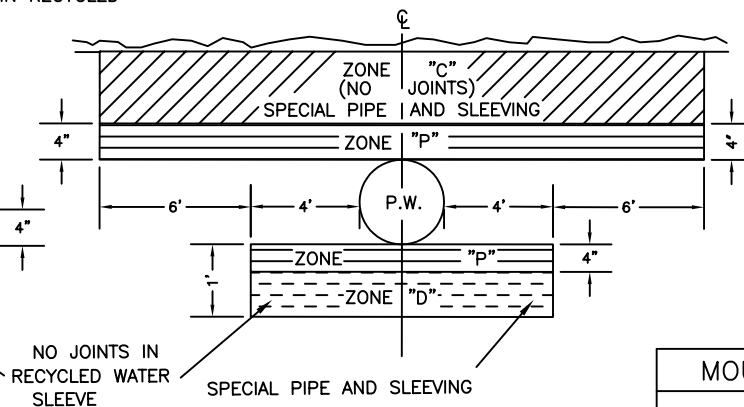
- ZONE A. NO RECYCLED WATER MAINS PARALLEL TO POTABLE WATER MAINS OR A SANITARY SEWER SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM COUNTY AND STATE HEALTH SERVICES AND MNWD.
- ZONE B. THE RECYCLED WATER MAIN SHALL BE CONSTRUCTED OF:
1. SCH.40, SCH.80, OR CLASS 315 PVC PIPE
 2. PIPING SHALL BE INSTALLED IN A PIPE SLEEVE CONSISTING OF PURPLE SCH 40 PVC PIPING OR GREATER.
- ZONE C. THE RECYCLED WATER MAIN SHALL HAVE NO JOINTS IN ZONE C AND BE CONSTRUCTED OF:
1. SCH.40, SCH.80, OR CLASS 315 PVC PIPE
 2. PIPING SHALL BE INSTALLED IN A PIPE SLEEVE CONSISTING OF PURPLE SCH 40 PVC PIPE OR GREATER NO JOINTS ARE ALLOWED IN THE ZONE.
- ZONE D. THE WATER MAIN SHALL HAVE NO JOINTS WITHIN THE ZONE AND SHALL BE CONSTRUCTED OF:
1. SCH.40, SCH.80, OR CLASS 315 PVC PIPE
 2. PIPING SHALL BE INSTALLED IN A PIPE SLEEVE CONSISTING OF PURPLE SCH 40 PVC PIPE OR GREATER NO JOINTS ARE ALLOWED WITHIN THE ZONE.
- ZONE P. NO WATER MAIN SHALL BE CONSTRUCTED PER SECTION 64630(2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22.

BASIC SEPARATION STANDARDS

1. PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN PRESSURE POTABLE WATER AND RECYCLED WATER MAINS AND SEWER LINES SHALL BE AT LEAST 10 FEET.
2. PERPENDICULAR CONSTRUCTION (CROSSING): PRESSURE POTABLE WATER MAINS SHALL BE AT LEAST ONE FOOT ABOVE SANITARY SEWER AND RECYCLED WATER LINES WHERE THESE LINES MUST CROSS.
3. 4 - 45° FITTING SHALL BE USED TO RAISE OR LOWER THE MAINLINE TO SLEEVE DEPTH. ALL COUPLINGS AND ELBOW FITTING SHALL BE SCH 80 PVC.
4. CEMENT SLURRY PIPING ENCASEMENTS OR OTHER CONSTRUCTION METHODS MAY BE CONSIDERED BY MNWD ON A CASE BY CASE BASIS.



RECYCLED WATER MAIN
CROSSING SEWER MAINS



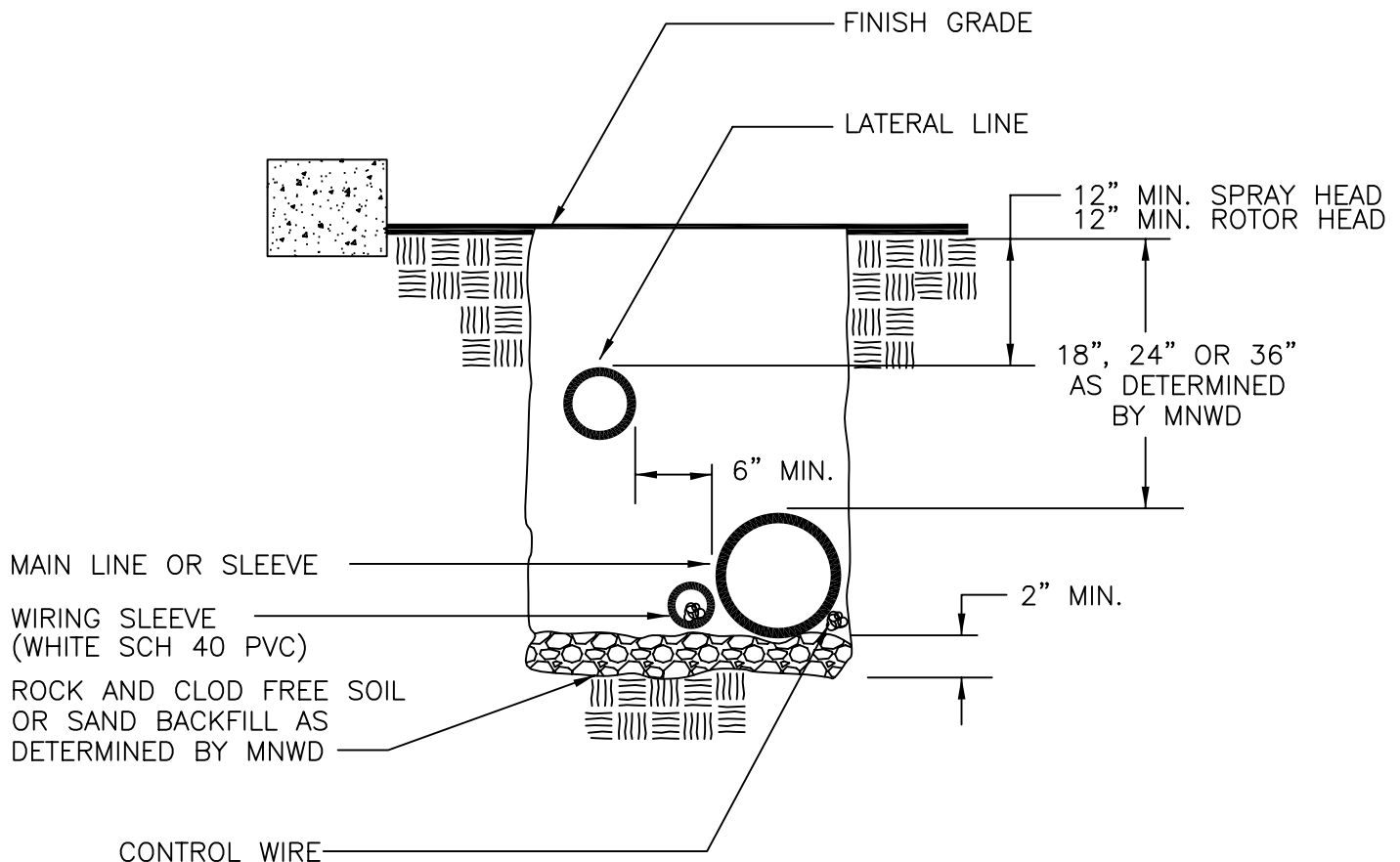
RECYCLED WATER MAIN
CROSSING WATER MAINS

MOULTON NIGUEL WATER DISTRICT
DESIGN CRITERIA FOR SEPARATION
OF ONSITE WATER AND SEWER MAINS
FOR NEW RECYCLED WATER MAINS

IRR-13

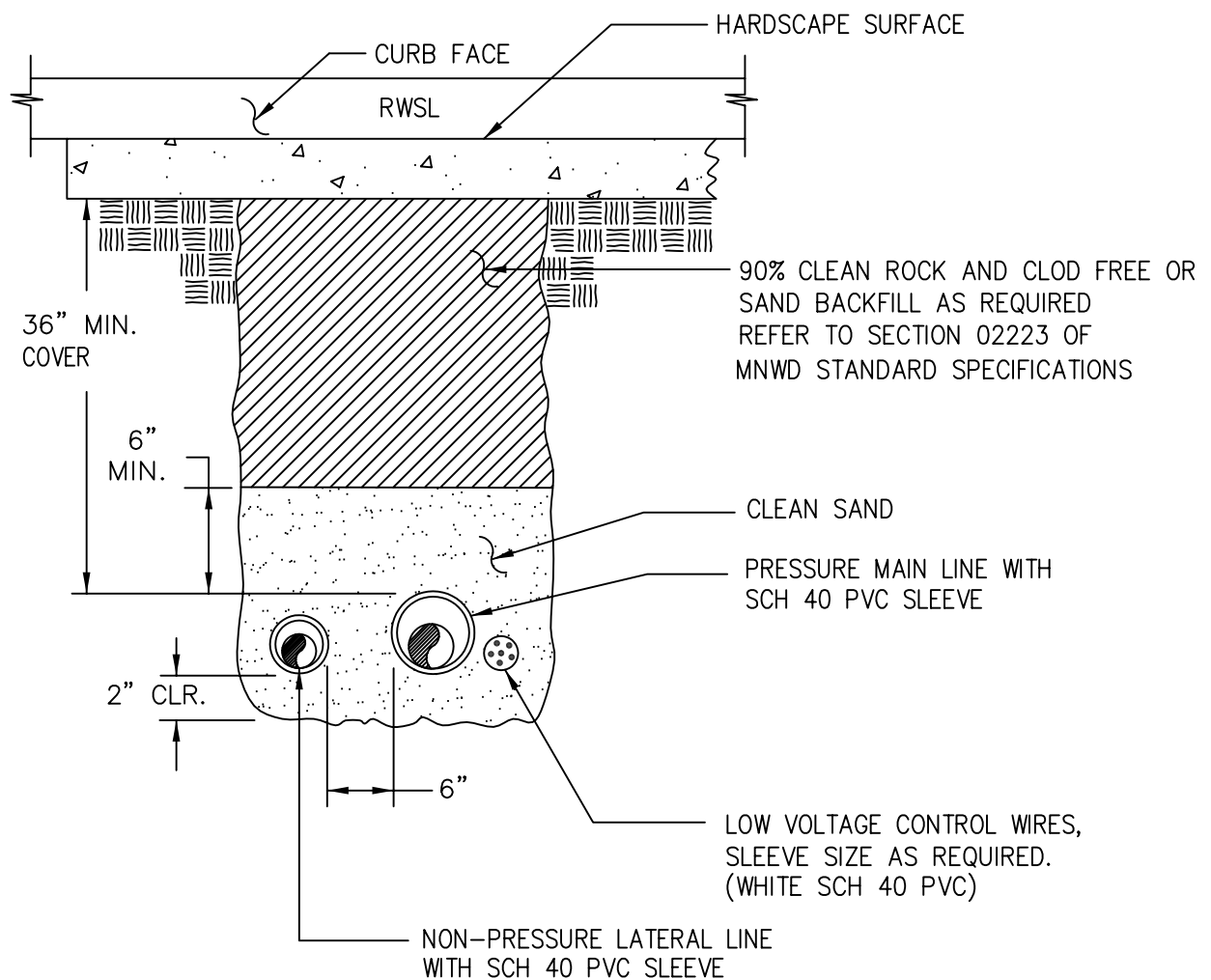
NOTES:

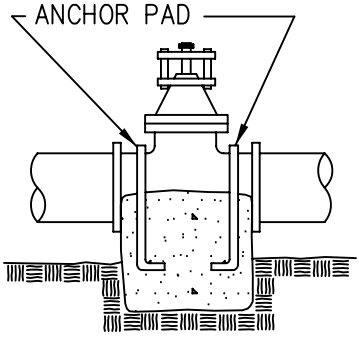
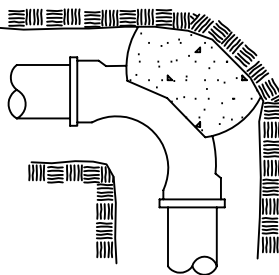
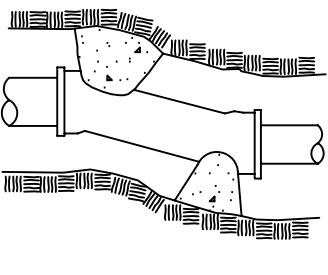
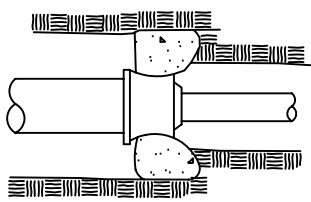
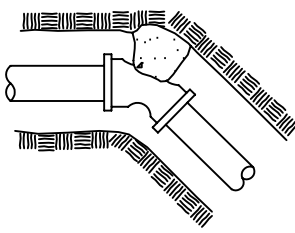
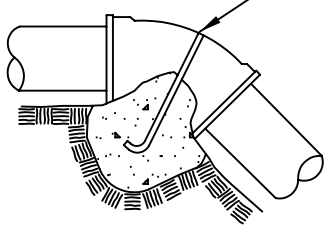
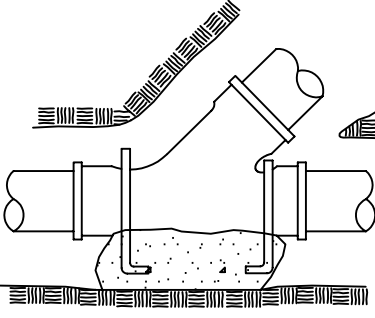
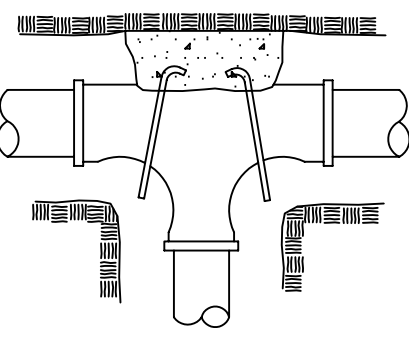
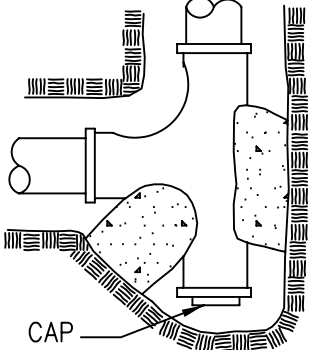
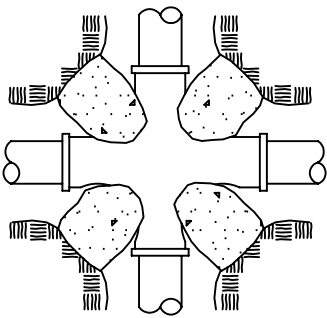
1. BUNDLE & LOOSELY TAPE WIRING AT 10' INTERVALS USING UL APPROVED BLACK ELECTRICAL TAPE.
2. TIE A LOOSE 24" LOOP IN WIRING EVERY 100 FEET AND AT CHANGES OF DIRECTION GREATER THAN 30°. UNTIE ALL LOOPS AFTER ALL CONNECTIONS HAVE BEEN MADE.
3. INSTALL ALL CONTROL WIRE ON THE UNDERSIDE OF THE MAIN LINE PIPE.
4. MEET LOCAL CODE REQUIREMENTS FOR BACKFILL & COMPACTION REQUIREMENTS.
5. PIPE COVER FOR PRESSURE MAINLINES SHALL BE A MINIMUM OF 18", 24" OR 36" AS DETERMINED BY MNWD.
6. PIPE COVER FOR NON-PRESSURE LATERAL LINES SHALL A BE MINIMUM 12" OR 18" FOR SPRAY HEADS.
7. PIPE COVER FOR NON-PRESSURE LATERAL LINES SHALL BE A MINIMUM 12" OR 18" FOR ROTOR HEADS.
8. COMMON TRENCH WITH OTHER UTILITIES OR PIPING IS PROHIBITED.
9. PIPING CLASSIFICATIONS AND ASTM APPROVALS SHALL BE PLACED IN THE UPRIGHT POSITION FOR ALL PIPING.



NOTES:

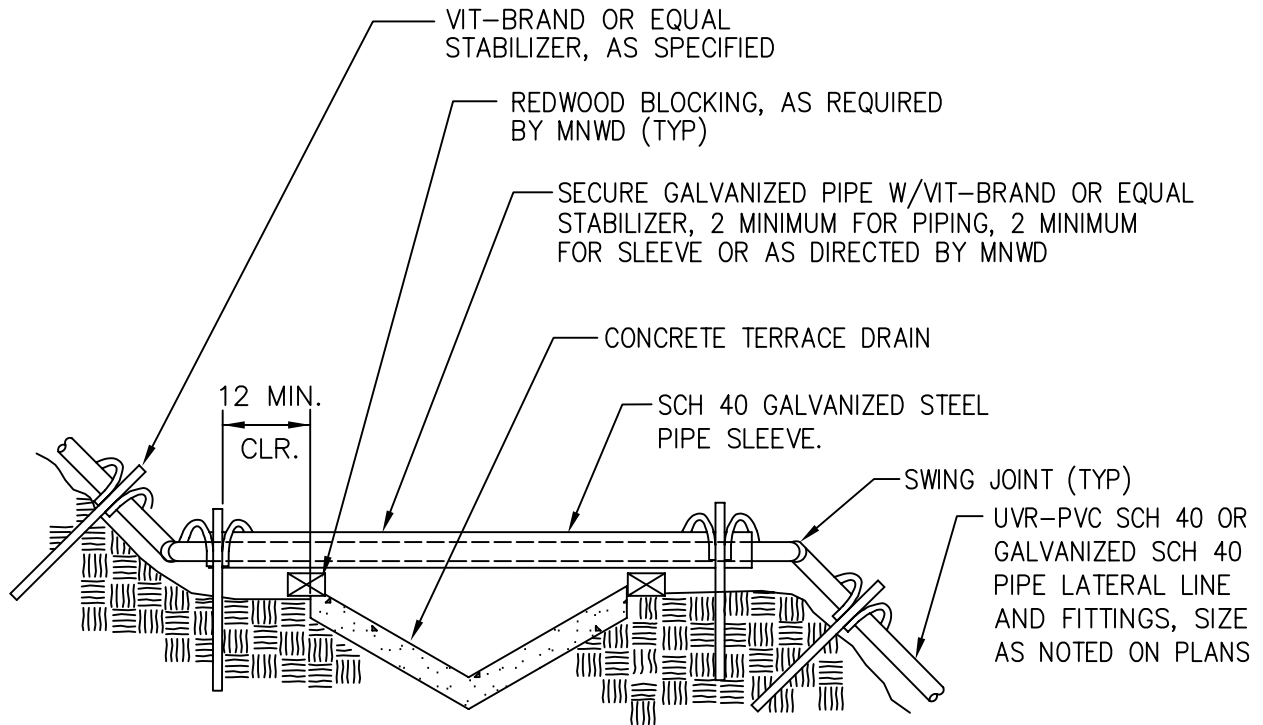
1. ALL SLEEVES SHALL BE PVC SCH 40 PIPE, OR GREATER.
2. ALL SLEEVES SHALL BE SIZED TWICE THE DIAMETER OF THE CARRIER PIPE.
3. ALL SLEEVES SHALL RUN A MINIMUM OF 12" BEYOND HARDSCAPE EDGES.
4. USE RECYCLED WATER IDENTIFICATION, PURPLE PIPE FOR SLEEVING RECYCLED WATER PRESSURE MAINLINES AND NON-PRESSURE LATERAL LINES.
5. FOR POTABLE WATER, OR POTABLE WATER USED FOR IRRIGATION, MAINLINES AND NON-PRESSURE LATERAL LINES, USE PIPING WITH 3 INCH IDENTIFICATION TAPE (SEE DETAIL IRR-26).
6. USE WHITE SCH 40 PVC FOR ALL LOW VOLTAGE WIRING.
7. CURBS SHALL BE ETCHED OR CHIPPED TO IDENTIFY THE HARDSCAPE CROSSING SLEEVING AT THE CURBLINE (RWSL) IN 4-INCH LETTERS.



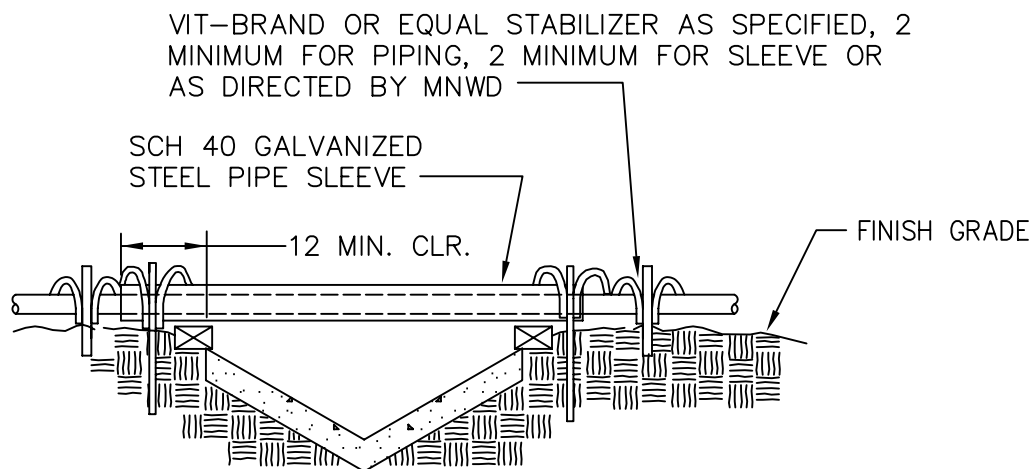
 <p>ANCHOR PAD</p> <p><u>ELEVATION</u></p>		
		 <p>ANCHOR ROD (TYP.)</p> <p><u>ELEVATION</u></p>
		 <p>CAP</p>
	<p><u>NOTES:</u></p> <ol style="list-style-type: none"> 1. ALL RING-TITE OR SOLVENT WELDED PLASTIC PIPE TO BE INSTALLED ACCORDING TO THESE DETAILS UNLESS OTHERWISE NOTED OR DETAILED AS DIRECTED BY MNWD. 2. PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE 420-C-2000 CONCRETE. 3. ALL ANCHOR RODS SHALL BE GALVANIZED STEEL, MINIMUM 1/2 INCH DIAMETER, WRAPPED AROUND PIPE. 4. SIZE OF THRUST BLOCKS SHALL BE SPECIFIED ON PLANS OR AS DIRECTED BY MNWD. 5. ALL VIEWS ARE PLAN VIEW UNLESS OTHERWISE NOTED. 6. THRUST BLOCKS REQ'D ON LINE SIZES 2" OR GREATER OR AS REQ'D BY MNWD. 	

NOTES:

1. EXTEND SCH 40 GALVANIZED STEEL SLEEVES A MINIMUM OF 12 INCHES BEYOND THE EDGE OF THE TERRACE DRAIN TO SUPPORT SLEEVE AND PIPING.
2. ATTACH A MINIMUM OF TWO ABOVE GROUND PIPING IDENTIFICATION LABELS ON GALVANIZED STEEL SLEEVE (SEE DETAIL IRR-26).
3. ALL SCH 40 GALVANIZED PIPE SLEEVING SHALL BE BURR FREE, AND NO SHARP EDGES.
4. ALTERNATE DIRECTION OF STABILIZERS WHEN SECURING PIPING (SEE DETAIL IRR-22).



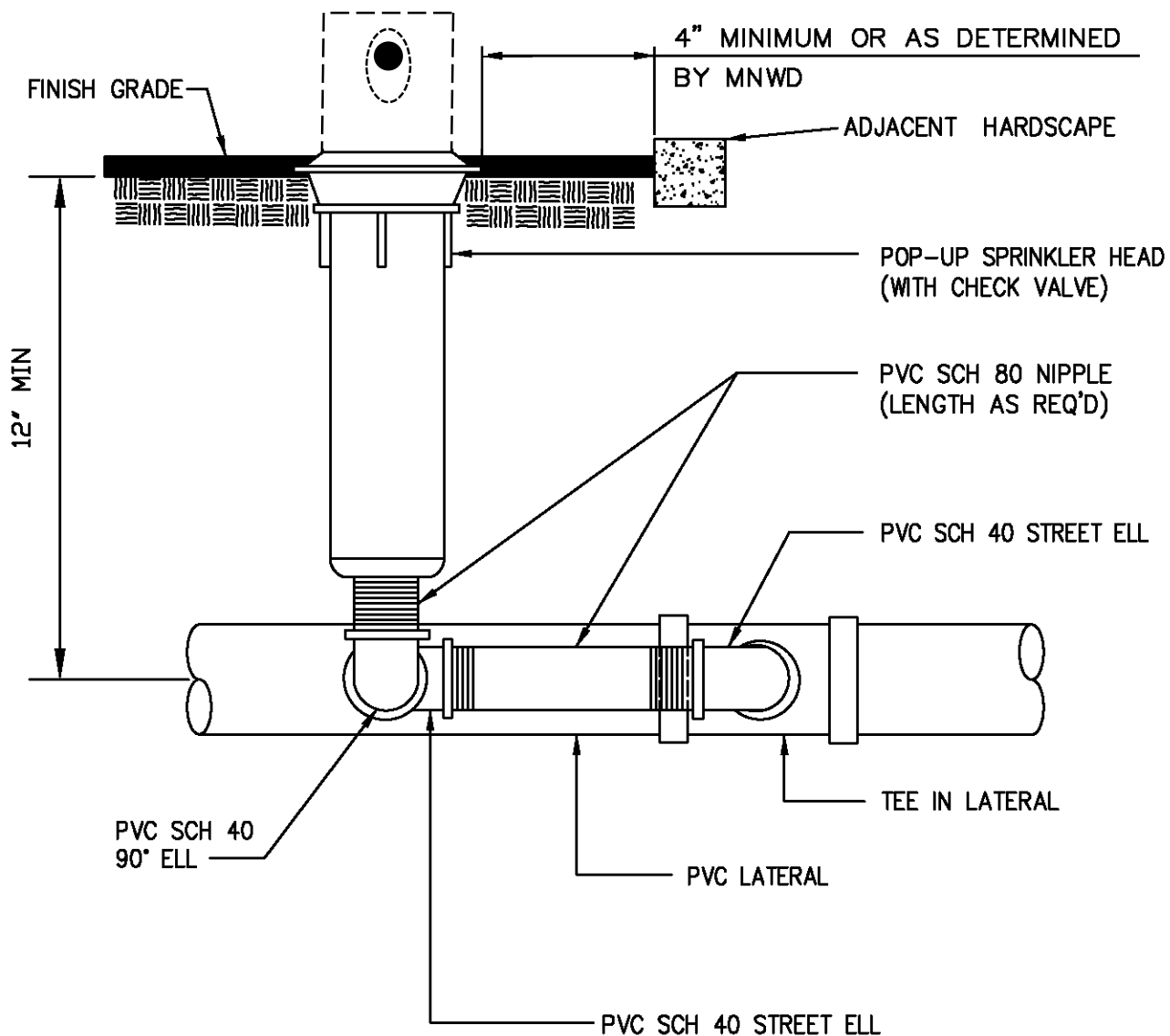
VERTICAL PIPE RUN



HORIZONTAL PIPE RUN

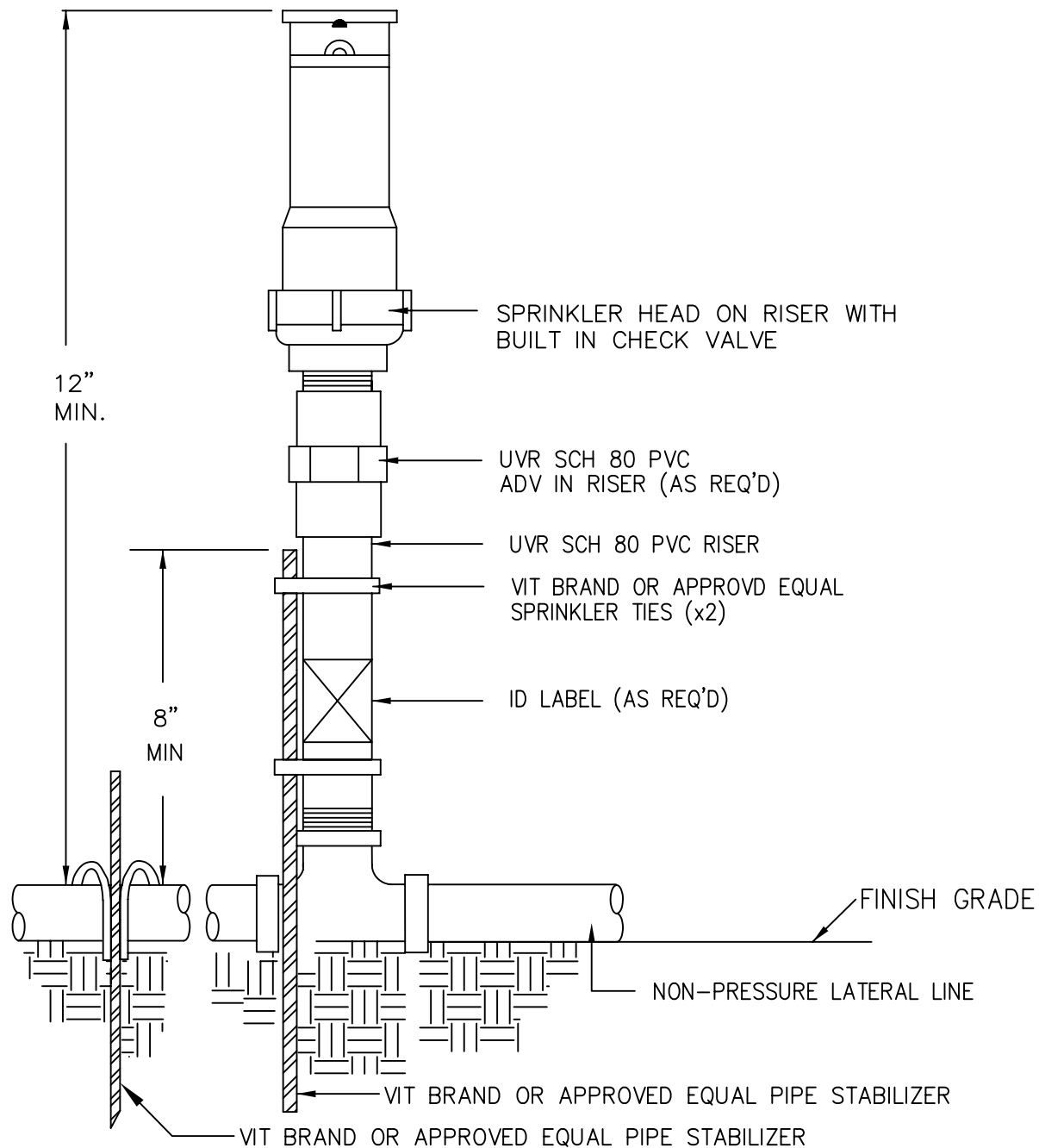
NOTES:

1. RECYCLED WATER IDENTIFICATION REQUIRED ON ALL SPRINKLER HEADS USING RECYCLED WATER. USE OF MANUFACTURER'S SUPPLIED IDENTIFICATION PRODUCTS IS MANDATORY.
2. USE TEFLON TAPE ON ALL SCH 40 AND SCH 80 THREADED NIPPLES AND FITTINGS.
3. FOR ALL ROTOR SPRINKLER HEADS, SCH 40 AND SCH 80 NIPPLES AND FITTINGS SHALL BE USED.



NOTES:

1. RECYCLED WATER IDENTIFICATION IS REQUIRED ON ALL SPRINKLER HEADS USING RECYCLED WATER. USE OF MANUFACTURER SUPPLIED IDENTIFICATION PRODUCTS IS MANDATORY.
2. ATTACH PURPLE RECYCLED WATER IDENTIFICATION LABELS AS DIRECTED ON RECYCLED SYSTEMS.
3. ATTACH GREEN POTABLE WATER USED FOR IRRIGATION IDENTIFICATION TAGS AS DIRECTED ON POTABLE IRRIGATION SYSTEMS.
4. FOR SCH 40 GALVANIZED STEEL LATERAL LINE SYSTEMS CONTACT MNWD.
5. ALL ABOVE GRADE NIPPLES AND FITTINGS SHALL BE UVR. (UVR=ULTRA VIOLET RESISTANT)

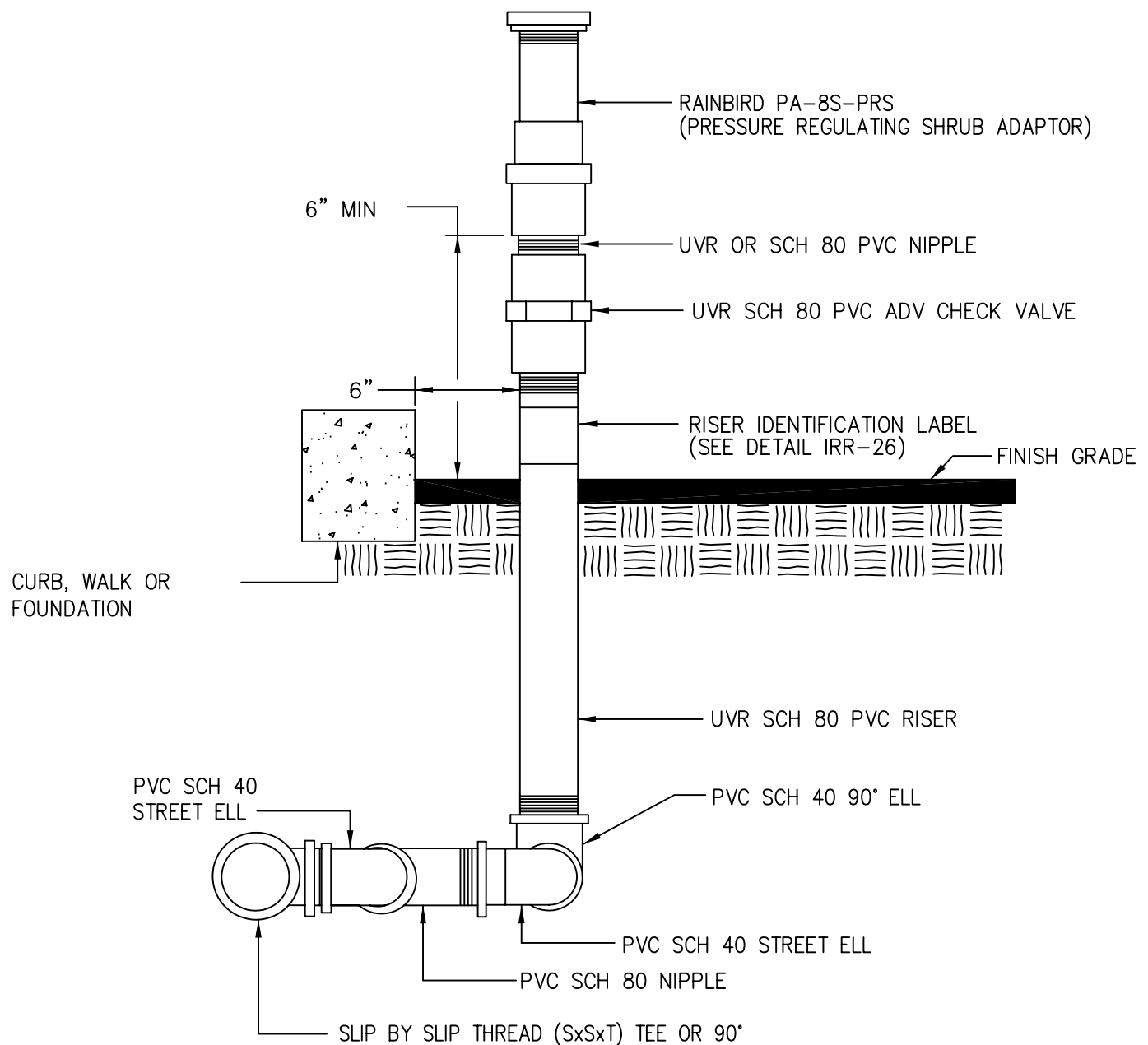


MOULTON NIGUEL WATER DISTRICT
ROTOR/SPRINKLER HEAD ON GRADE

IRR-19

NOTES:

1. INSTALL HEADS 12 INCHES ABOVE GRADE IN THE INTERIOR OF PLANTING BEDS.
2. INSTALL HEADS 6 INCHES ABOVE GRADE NEXT TO BUILDING AND HEADERS.

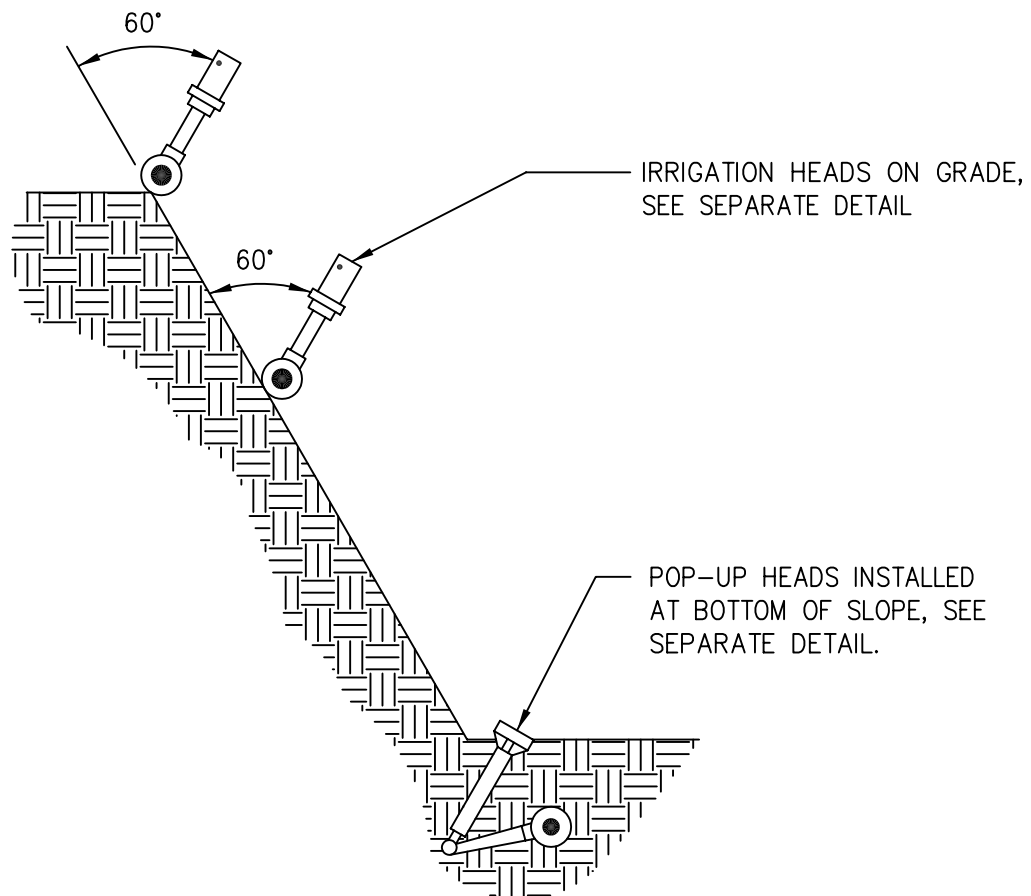


MOULTON NIGUEL WATER DISTRICT
SHRUB SPRAY ON RISER

IRR-20

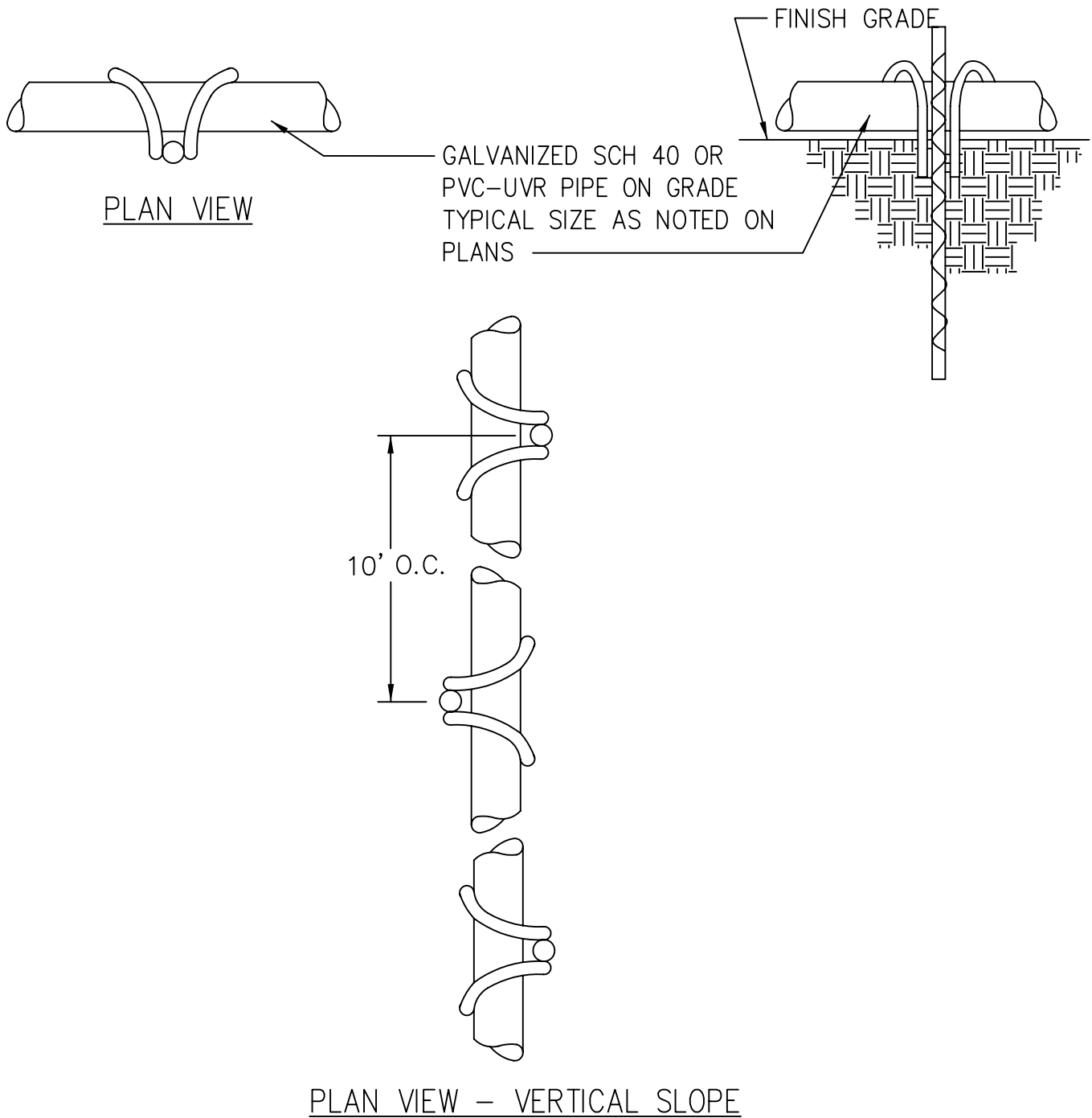
NOTE:

SET ANGLE OF HEADS TO PREVENT OVERSPRAY AND WIND BLOWN SPRAY OR AS DIRECTED BY MNWD.



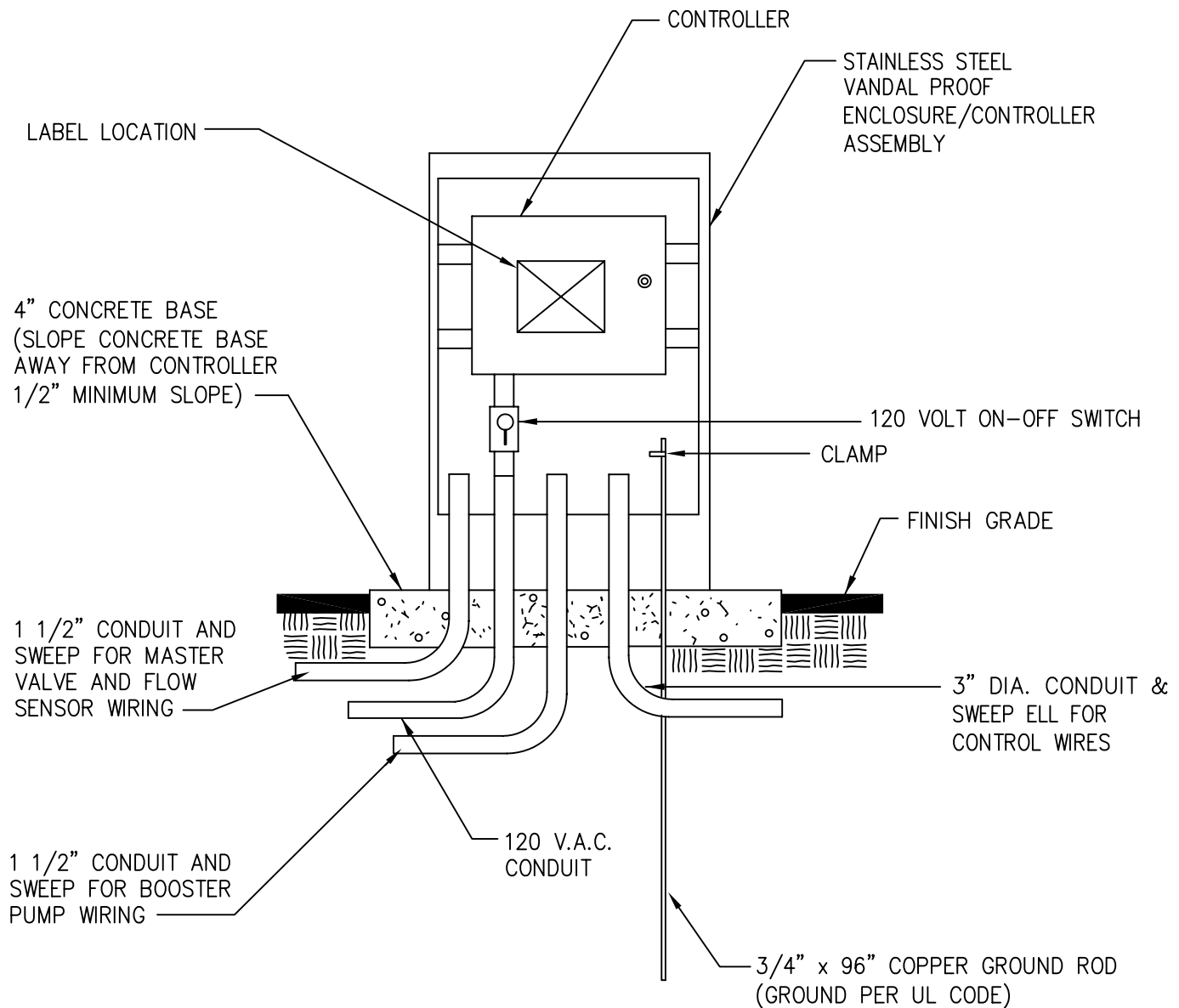
NOTES:

1. ALL STABILIZER ASSEMBLIES SHALL BE VIT BRAND OR APPROVED EQUAL
2. ALL STABILIZER ASSEMBLIES SHALL BE PLACED ON DOWNHILL SIDE OF PIPING.
3. FOR VERTICAL SLOPE INSTALLATIONS, INSTALL STABILIZER STAKE ASSEMBLIES ON ALTERNATING SIDES OF PIPE.
4. PLACE STABILIZER ASSEMBLIES 10' FEET ON CENTER OR AS DIRECTED BY MNWD.



NOTES

1. ALL WIRE TO BE INSTALLED AS PER LOCAL CODE. PROVIDE COMMERCIAL PADLOCK AND TWO KEYS TO OWNER.
2. RECYCLED WATER IDENTIFICATION LABEL TO BE PLACED ON CABINET DOOR AND CONTROLLER. LABELS PROVIDED BY MNWD.
3. PLACE GREEN POTABLE WATER USED FOR IRRIGATION LABEL ON CONTROLLER AND CONTROLLER ENCLOSURE.
4. CONTROLLER WIRING SHALL BE INSTALLED IN A NEAT AND ORDERLY MANNER AS DIRECTED BY MNWD.



MOULTON NIGUEL WATER DISTRICT

CONTROLLER

IRR-23

RECYCLED WATER LID BRANDING GUIDE

P	W	R	W	C	S	D
O	A	E	A	O	T	E
T	T	C	T	N	A	V
A	E	Y	E	T	T	I
B	R	C	R	R	I	C
L		L		O	O	E
E		E		L	N	
		D		L		
				E		
				R		

PW	RW	A	GR	GROUNDING RODS
PW	RW	A	(STATION #)	REMOTE CONTROL VALVES
PW	RW	A	MV	MASTER VALVES
PW	RW	A	FS	FLOW SENSORS
PW	RW	A	GV	GATE VALVES
PW	RW	A	FI	FERTILIZER INJECTORS
PW	RW	A	BS	BASKET STRAINERS
PW	RW	A	MS	MOISTURE SENSORS
PW	RW	A	SB	WIRING PULL BOXES
PW	RW	A	QC	QUICK COUPLERS
PW	RW	A	FVA	FLUSH VALVE ASSEMBLY

NOTES:

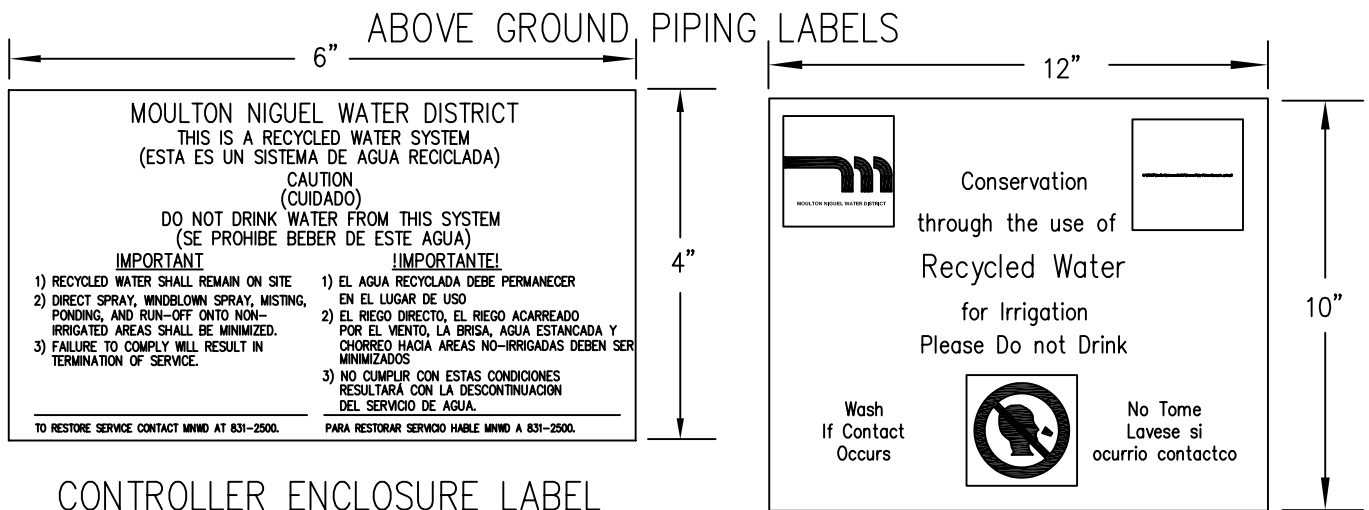
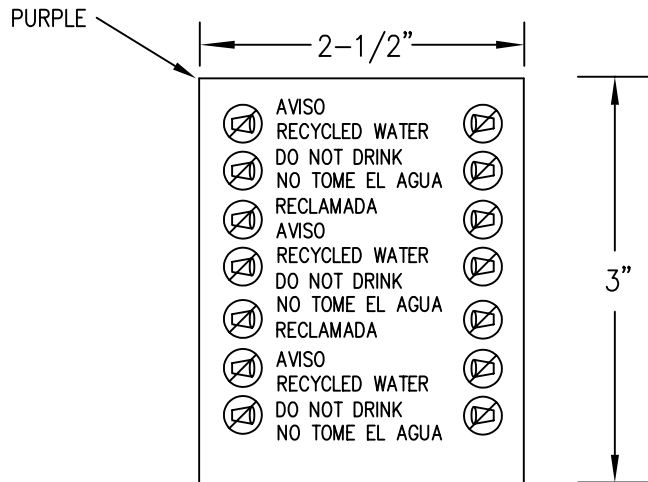
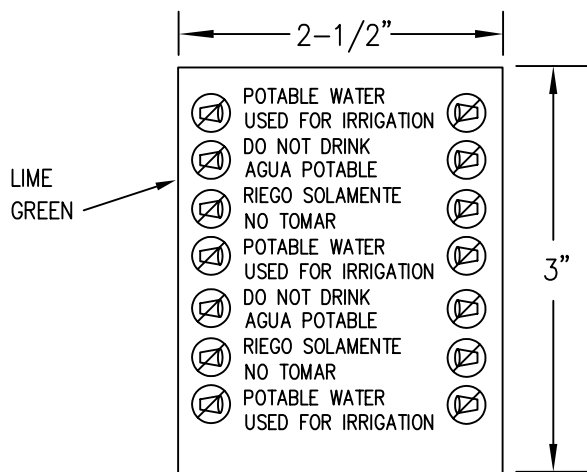
1. CONTACT MNWD FOR INFORMATION ON ANY DEVICE IN A BOX NOT LISTED, OR OTHER TYPES OF WATER SOURCES, I.E. NON POTABLE WATER.
2. FOR RECYCLED WATER IDENTIFICATION, PURPLE VALVE BOXES AND COVER, ARE MANDATORY FOR RECYCLED WATER SYSTEMS.

NOTES:

1. ATTACH PURPLE RECYCLED WATER IDENTIFICATION LABELS EVERY 5 FEET.
2. ATTACH BLUE POTABLE WATER IDENTIFICATION LABELS EVERY 5 FEET.
3. ATTACH GREEN POTABLE WATER USED FOR IRRIGATION IDENTIFICATION LABELS EVERY 5 FEET.
4. FOR PROPER ADHESION CLEAN PIPING WHERE LABELS ARE TO BE PLACED BEFORE ATTACHING IDENTIFICATION LABELS.
5. ALL WATER/GARDEN HOSES USING RECYCLED WATER SHALL BE PURPLE WITH HEAVY DUTY BRASS FITTINGS. HOSES SHALL BE CONTINUOUSLY IMPRINTED WITH "CAUTION: RECYCLED/RECLAIMED WATER – DO NOT DRINK". HOSES SHALL BE RATED AT 150 PSI WORKING PRESSURE. HOSES SHALL ONLY BE USED FOR RECYCLED WATER USE. POTABLE WATER USE AT ANY TIME IS STRICTLY PROHIBITED.

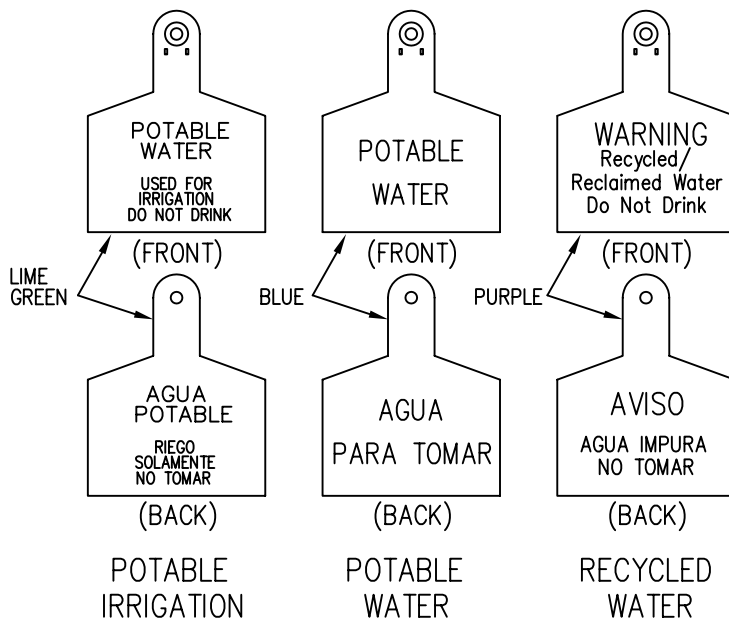


MOULTON NIGUEL WATER DISTRICT	IRR-25
ABOVEGROUND PIPELINE/HOSE IDENTIFICATION	

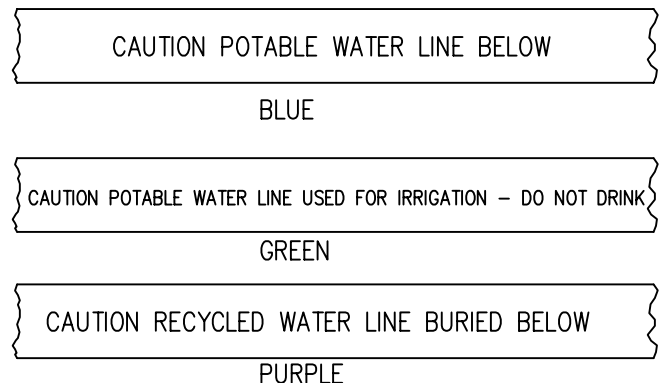


CONTROLLER ENCLOSURE LABEL

CONTROLLER ENCLOSURE LABEL

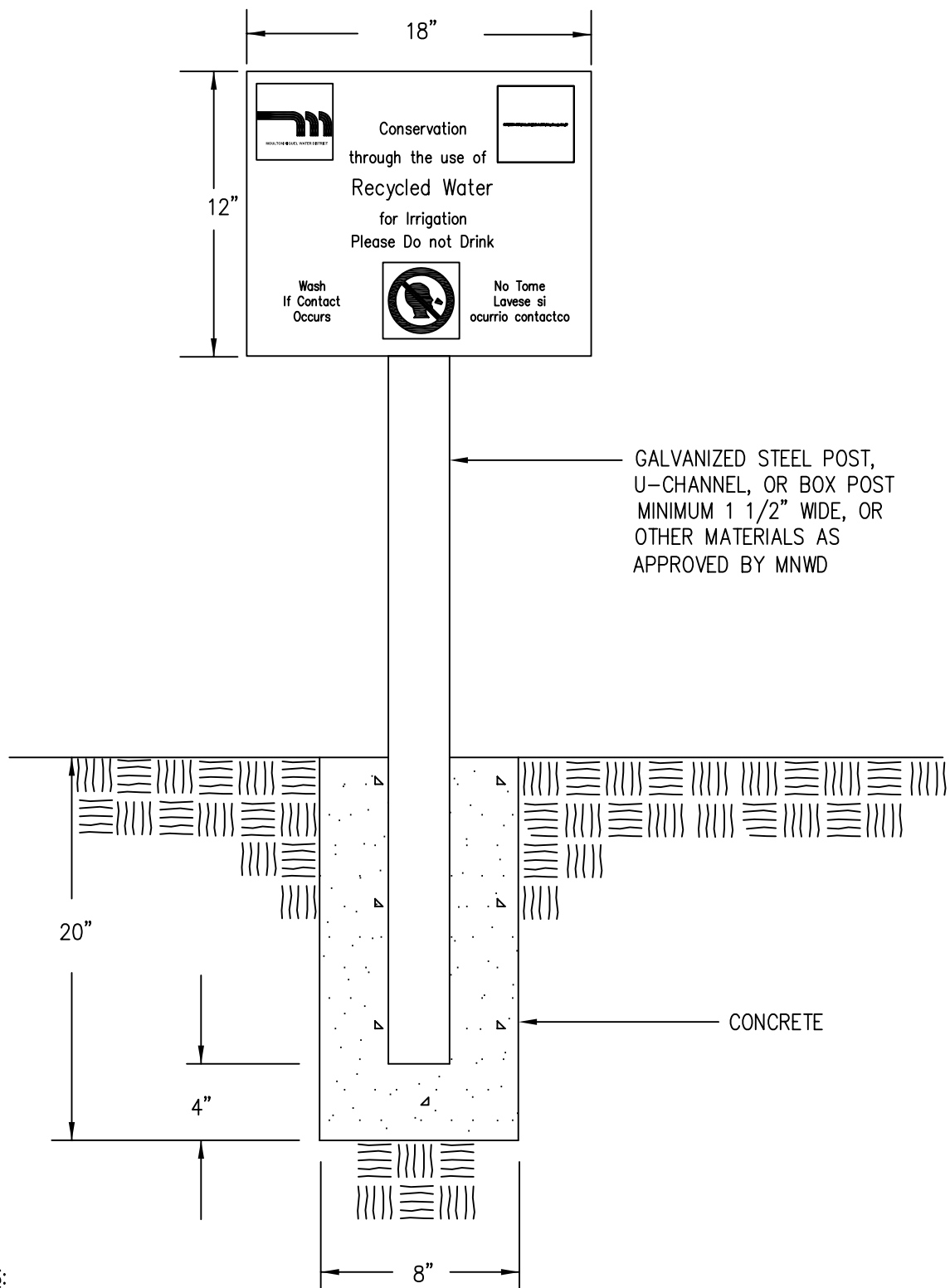


TAGS



PIPING TAPES

NOTE: USE IDENTIFICATION MATERIALS ABOVE OR APPROVED EQUALS.



NOTES:

1. ONE SIGN MINIMUM PER SITE.
2. ATTACH SIGNAGE TO POST TO AS DIRECTED BY MNWD.
3. THE LOCATION AND AMOUNT OF RECYCLED WATER IDENTIFICATION SIGNAGE ONSITE SHALL BE DETERMINED BY MNWD.

MOULTON NIGUEL WATER DISTRICT	IRR-27
RECYCLED WATER SITE IDENTIFICATION SIGN	

* Tract and Lot Numbers _____
 * Use Site Number _____
 * Meter Size _____
 * Elevation _____
 * Zone/HGL _____
 * POC Static Pressure _____ psi
 * Required Dynamic Pressure _____ psi
 * Average Application Rate _____ gpm/acre
 * Maximum Application Rate _____ gpm/acre
 * Area Served _____ acres (irrigated)
 * Annual Water Used _____ acre ft/yr

PLACE RECYCLED/POTABLE WATER CRITERIA BLOCK AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION SHOWN ON PLANS.

MOULTON NIGUEL WATER DISTRICT
FOR POTABLE WATER IRRIGATION ONLY

This set of irrigation plans has been reviewed and approved by Moulton Niguel Water District for adherence to District Rules and Regulation for Potable Water Irrigation only. District is not responsible for design assumptions and accuracy. District is not guaranteeing availability of water to this area.

Reviewed by _____

Date _____

PLACE THE POTABLE WATER IRRIGATION SIGNATURE BLOCK IN LOWER RIGHT CORNER OF COVER SHEET OR IRRIGATION P.O.C. SHEET.

MOULTON NIGUEL WATER DISTRICT USE SITE NUMBER(S) _____

This set of irrigation plans has been reviewed and approved by Moulton Niguel Water District for adherence to District Rules and Regulation for Recycled Water Irrigation only. District is not responsible for design assumptions and accuracy. District is not guaranteeing availability of water to this area. Moulton Niguel Water District's approval does not relieve applicant from adhering to any health department requirements.

Reviewed by _____

Date _____

PLACE THE RECYCLED WATER IRRIGATION SIGNATURE BLOCK IN LOWER RIGHT CORNER OF COVER SHEET OR IRRIGATION P.O.C. SHEET.

MOULTON NIGUEL WATER DISTRICT

Δ REVISION DATE: _____ APPROVED BY: _____ DATE: _____

The delta revision(s) shown above has (have) been reviewed and approved by Moulton Niguel Water District for adherence to District Rules and Regulations for Potable Water used for Irrigation only. District is not responsible for design assumptions and accuracy. District is not guaranteeing availability of water to this area.

MOULTON NIGUEL WATER DISTRICT

Δ REVISION DATE: _____ APPROVED BY: _____ DATE: _____

The delta revision(s) shown above has (have) been reviewed and approved by Moulton Niguel Water District for adherence to District Rules and Regulations for Recycled Water Irrigation only. District is not responsible for design assumptions and accuracy. District is not guaranteeing availability of water to this area.

PLACE THE POTABLE WATER IRRIGATION REVISION BLOCK NEXT TO THE DISTRICT'S SIGNATURE BLOCK.

PLACE THE RECYCLED WATER IRRIGATION REVISION BLOCK NEXT TO DISTRICT'S SIGNATURE BLOCK.

MOULTON NIGUEL WATER DISTRICT

PLAN CRITERIA, SIGNATURE BLOCK LAYOUT

IRR-28

MAINLINE SEPARATION REQUIREMENTS

RECYCLED WATER MAINLINES SHALL MAINTAIN A (4) FOUR FOOT MINIMUM HORIZONTAL SEPARATION BETWEEN THE PRESSURIZED RECYCLED WATER PIPELINE AND POTABLE WATER PIPING. WHERE RECYCLED AND POTABLE WATER MAINLINES CROSS, THE RECYCLED WATER PIPING SHALL BE INSTALLED AT A MINIMUM OF (1) ONE FOOT BELOW THE PRESSURIZED POTABLE WATER LINE AND CROSS AT A RIGHT ANGLE. IF THESE REQUIREMENTS CAN NOT BE MET, REFER TO DETAIL IRR-13.

IRRIGATION COVERAGE

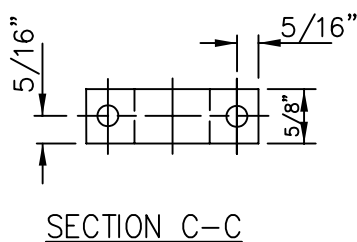
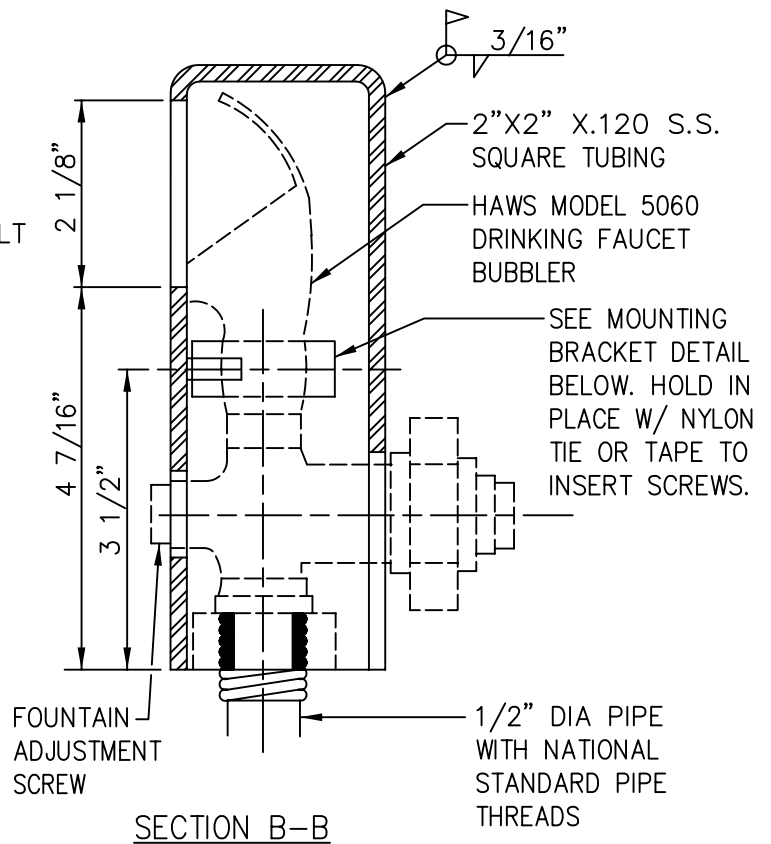
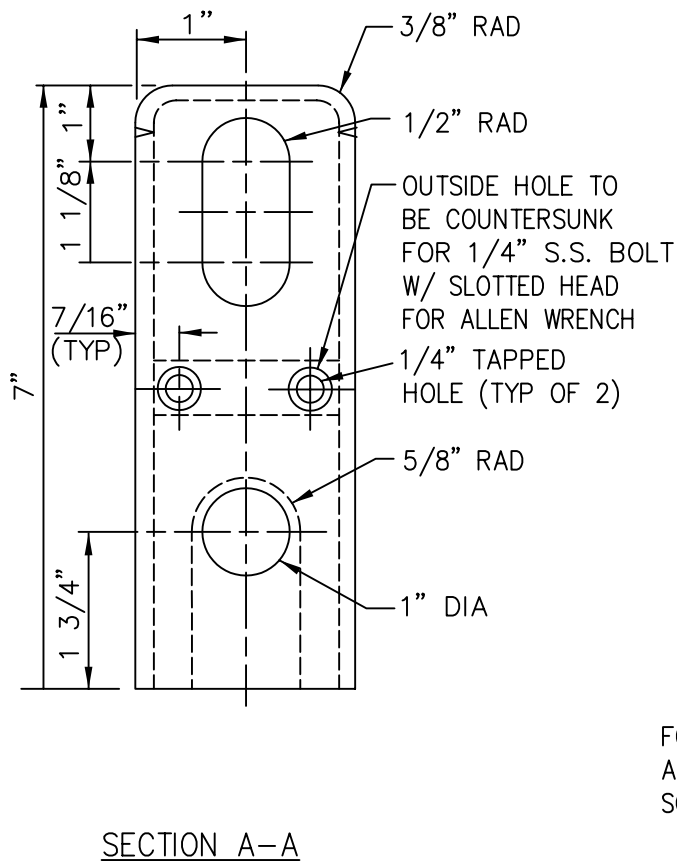
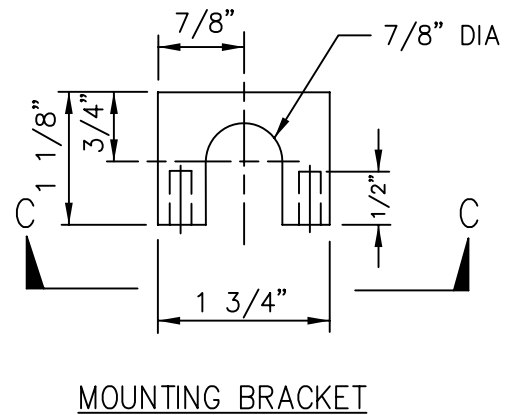
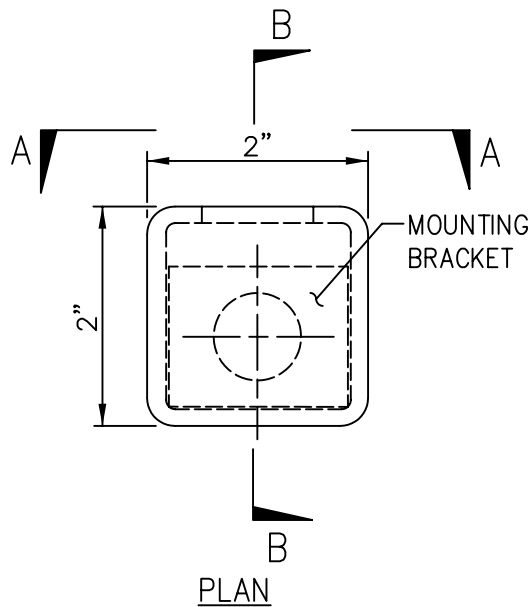
ALL IRRIGATION HEADS SHALL BE INSTALLED AND ADJUSTED TO PREVENT DIRECT SPRAY AND WINDBLOWN SPRAY ON TO ALL NON-VEGETATED SURFACES OR FACILITIES INCLUDING BUT NOT LIMITED TO DRINKING FOUNTAINS, PICNIC TABLES, BENCHES, PLAY EQUIPMENT, BUILDINGS AND HARDSCAPE AND ALL NON-VEGETATED SURFACES. SEE DISTRICT'S CUSTOMER OPERATIONAL REQUIREMENTS SECTION 6 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

NOTE:

PLACEMENT OF DISTRICT STANDARD NOTES ON PLANS IS MANDATORY (SEE SECTION 3.3 SUBMITTALS AND RECORDS "STANDARD NOTES" FOR INFORMATION).

MOULTON NIGUEL WATER DISTRICT
PLAN NOTES

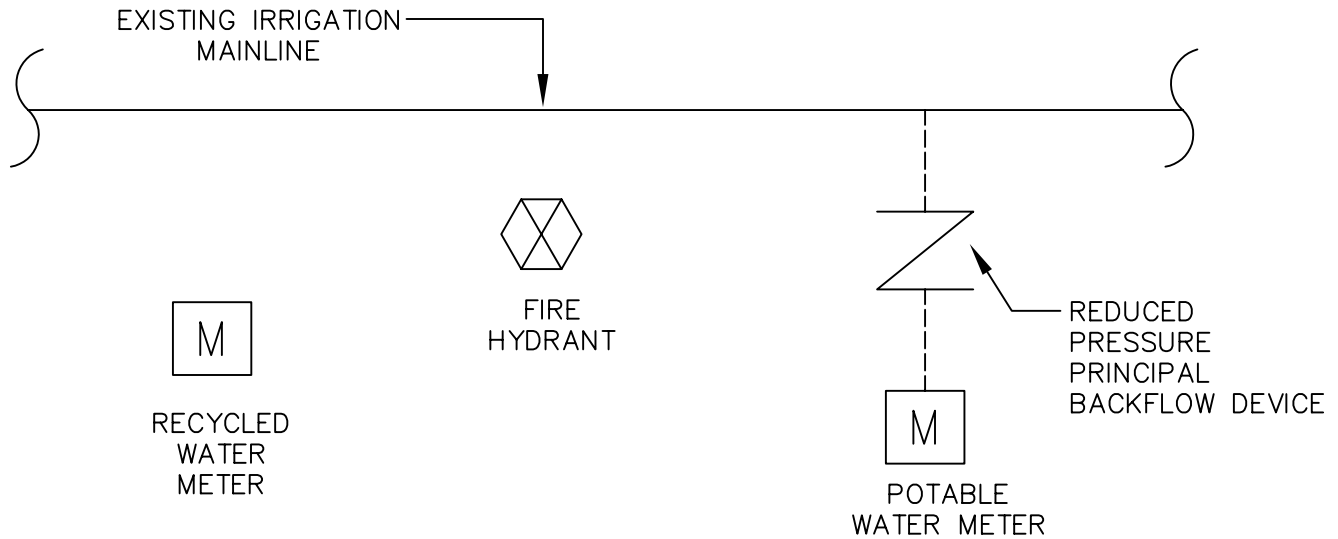
IRR-29



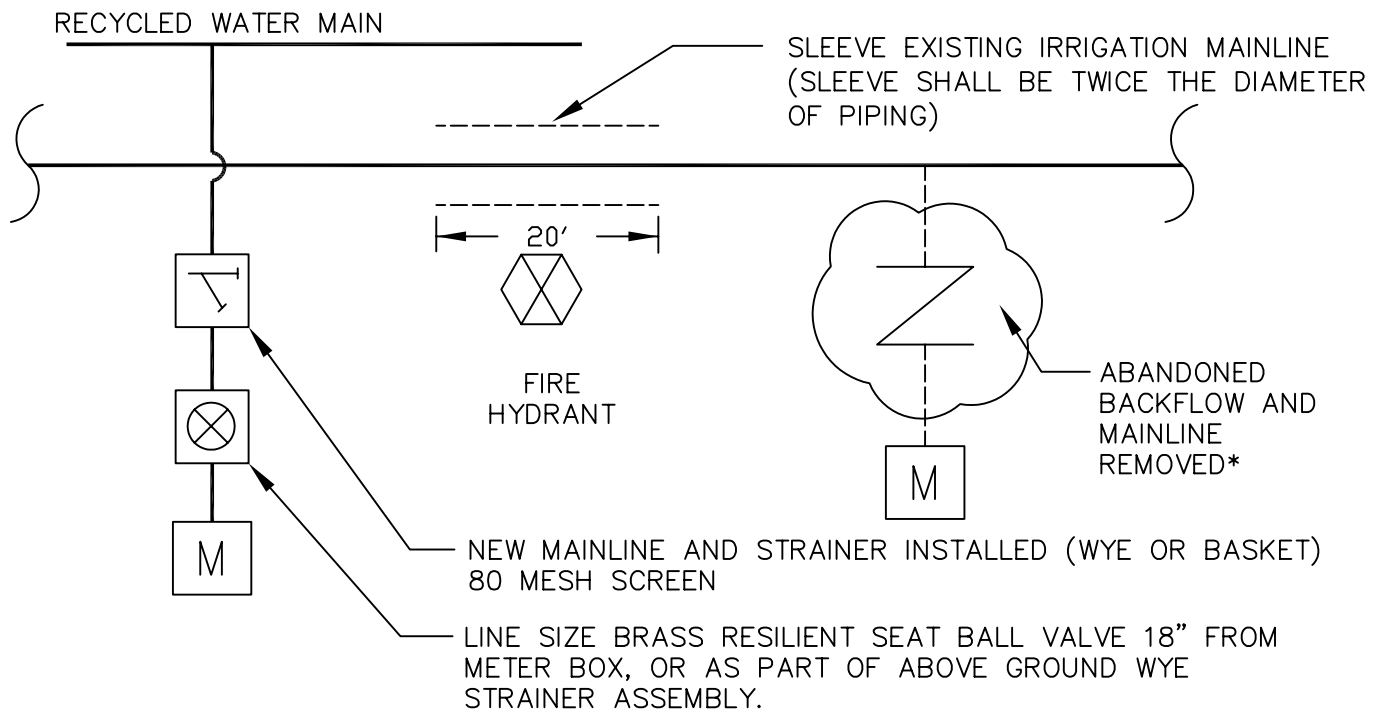
NOTE: ALL COMPONENTS SHALL BE TYPE 316 S.S.

MOULTON NIGUEL WATER DISTRICT	IRR-30
DRINKING FOUNTAIN COVER DETAIL	

BEFORE RETROFIT



AFTER RETROFIT

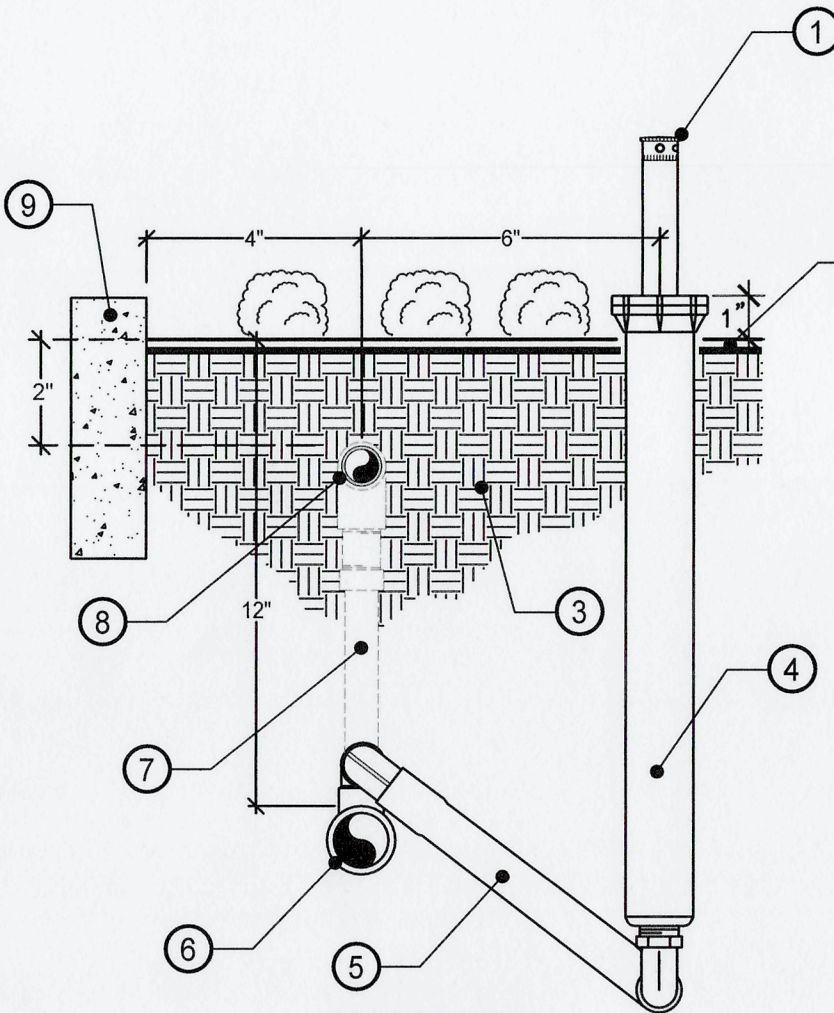


NOTES:

1. SEE SLEEVING REQUIREMENTS (PROVISION 6) FOR DETAILS.
2. BACKFLOW AND MAINLINE ABANDONED BY OWNER, AND P.O.C. ABANDONED BY DISTRICT*.
3. PRESSURE REGULATORS ARE REQUIRED IF POINT OF CONNECTION STATIC PRESSURE IS 50 PSI OR GREATER.
4. SEE SLEEVING FOR RECYCLED SYSTEMS CROSSING POTABLE SYSTEMS (IRR-13).

LEGEND:

1. POP-UP DRIP INDICATOR HEAD, WITH DRIP FLUSH NOZZLE, - SEE LEGEND FOR TYPE.
2. FINISH GRADE. INSTALL POP-UP DRIP INDICATOR $\frac{1}{2}$ " ABOVE GRADE IN TURF DRIP AREAS AND 1" ABOVE GRADE IN SHRUB DRIP AREAS.
3. APPROVED AMENDED BACKFILL.
4. 12" POP-UP SPRAY HEAD - SEE LEGEND FOR TYPE.
5. MANUFACTURED SWING JOINT - HUNTER MODEL #SJ-512 OR RAIN BIRD MODEL #SA-125050 $\frac{1}{2}$ " SWING JOINT ASSEMBLY.
6. SCH 40 PVC PIPE END FLUSH EXHAUST HEADER FROM DRIP SYSTEM, MINIMUM SIZE 1- $\frac{1}{4}$ ".
7. DRIP ASSEMBLY CONNECTION.
8. SUB-SURFACE IN-LINE DRIP TUBING - SEE LEGEND FOR TYPE.
9. HARDSCAPE / CURB / PAVING



SECTION VIEW

NOTES:

- A. AFTER COMPLETE SYSTEM FLUSH, INSTALL DRIP INDICATOR NOZZLE AND ADJUST TO FULLY CLOSED POSITION.
- B. FOR POTABLE WATER INSTALL "ORANGE" COLORED FLUSH NOZZLE. FOR RECYCLED WATER INSTALL "PURPLE" COLORED FLUSH NOZZLE.
- C. INSTALL POP-UP INDICATOR HEAD 10" FROM PERIMETER OF PLANTER / HARDSCAPE.
- D. DISCHARGE EXHAUST HEADER SHALL BE INSTALLED 12" BELOW FINISHED SOIL GRADE, TYPICAL.
- E. INSTALL MINIMUM ONE(1) DRIP INDICATOR / FLUSH ASSEMBLY PER DRIP ZONE.
- F. USE TEFLON TAPE ON THREADED FITTINGS, TYPICAL. (NO LIQUID TEFLON)

NOT TO SCALE

(H)

DRIP COMBINATION FLUSH VALVE /
DRIP INDICATOR POP-UP HEAD IRR-32

Moulton Niguel Water District Standard Notes

The Standard Notes are to be listed on the plans.

1. The design, installation, identification and use of all onsite potable water systems, fire protection systems, potable water used for irrigation systems and recycled water irrigation systems shall conform to all State, County, AWWA, SOCWA and District rules, regulations, guidelines, articles and codes regarding the design, installation, identification, use and maintenance of onsite systems and protection of the public's health. The Contractor shall always have a copy of these plans and the District Standard Specifications on the job.
2. No construction shall take place without all required approvals and signatures on the plans.
3. A mandatory pre-construction meeting shall be held on the jobsite a minimum of 24 hours prior to the start of construction. No work shall take place without a pre-construction meeting onsite.
4. The District's inspector shall be notified a minimum of two days (48 hours) prior to construction, or any inspection.
5. All potable and recycled water meters, backflow assemblies, and related appurtenances shall be installed, inspected, and tested per District specifications before any recycled water use can take place.
6. New piping systems shall be subjected to a 4-hour hydrostatic pressure test. The testing shall be conducted by the contractor in the presence of the District inspector. For systems with static operating pressures less than 125 psi, the four-hour pressure test shall be 150 psi. For systems with pressures over 125 psi, the test will be based on 120% of static system pressure.
7. Onsite Separation Requirements:

Horizontal Separation: The pressurized recycled water piping shall always maintain a four (4) foot horizontal separation from all potable water piping and/or a parallel sanitary sewer system. If a 4-foot horizontal separation is not possible, special construction requirements shall be considered, refer to District standard detail drawing IRR-13. Common trench construction is prohibited.

Vertical Separation: The pressurized recycled water piping shall always maintain a minimum one-foot vertical separation from all pressurized potable water piping and/or a sanitary sewer system. The pressurized recycled water piping shall be installed one foot below all pressurized potable water piping and one foot above all sanitary sewer systems. If a one-foot vertical separation is not possible, special construction requirements shall be considered, refer to District standard detail drawing IRR-13.

8. Quick coupling valves on recycled water irrigation mainline may be required to be removed at the end of the maintenance period. If the quick coupling valves are required to be removed, the District shall determine the manner of removal.
9. Adjust all sprinkler, impact and rotor heads and drip systems to minimize direct overspray, windblown spray, ponding, and runoff, onto non-irrigated areas.
10. The installation of internal, external, or in-line check valves are mandatory to prevent low-head drainage immediately after the remote-control valve has closed.
11. Any deviations from the signed and approved set of plans must be approved in writing prior to installation by the design consultant and the District. Any revision must be submitted to the design consultant and the District for approval. Failure to comply will result in a "STOP WORK NOTICE."
12. Final coverage tests must be performed and passed before a final release will be issued. Direct overspray, windblown spray, ponding, and runoff onto non-irrigated areas are to be minimized.
13. Cross-connection tests shall be performed on all water systems, including existing and future recycled water irrigation systems, and all potable and non-potable water systems, as determined by the District prior to the use of recycled water. All cross-connection tests must be performed and passed before a final release will be issued.
14. The entire irrigation system and its appurtenances, as well as all onsite facilities and appurtenances shall be inspected and reviewed by the District. Final inspections/site reviews must be performed and passed by the District before a final release will be issued.
15. Unless directed otherwise by the District, recycled water system regular hours of operation are as follows:
 - a) Turf areas and center street medians - between 6:00 p.m. and 6:00 a.m.
 - b) Slopes and groundcover/shrub areas - any hour
 - c) Golf courses - fill impoundments between 4:00 a.m. and 6:00 p.m.

The consideration for potential public contact with recycled water shall take precedence over all recycled watering schedules. All irrigation systems run times shall be adjusted to minimize contact with recycled water on an individual lateral system basis. The District may require specific run times and durations where there is a history of public contact.

16. The following information must be submitted to the District at the completion of the project before a final release will be issued:
 - a) One set of "As-built" PDF drawings which reflect the contractors redline mark-ups.
 - b) One PDF Copy of contractors redline mark-ups on the original approved drawings.

- c) These plans need to specify “Record Drawings” on each sheet with a cover sheet that includes all signatures at the time of approval for construction.
 - d) Following review and approval of “As-built” drawings, final drawings can be used to generate color charts for submittal to the District.
 - e) Upon approval of color charts, the following is needed for final submittal.
 - f) One set – Color Charts, 11” x 17” laminated hard copy – One set per controller.
 - g) One set – Irrigation Site Plans and Color Charts in electronic format (AutoCAD, PDF, or other)
 - h) A Completed District backflow investigation and test reports for all backflow prevention assemblies on site. Submit to the District.
 - i) Certificates of substantial compliance, calibration, acceptance and/or proper installation/operation of the irrigation system and appurtenances as deemed necessary by the District.
 - j) A Completed District recycled water Use Permit (Appendix 6) for each recycled water point of connection.
17. Failure to comply with any of the prior provisions and/or any other of the Rules and Regulations will place the system in violation of the Rules and Regulations and will result in a stop work notice and/or termination of service until appropriate corrective steps have been taken.

Additional notes may be added, as appropriate.

Rev. 8/2021