

MZO 11-33-4
PERIMETER LANDSCAPING

ARTERIAL STREETS- 1 TREE & 6 SHRUBS PER 25 L.F. OF FRONTAGE
APPROX. 220 L.F. OF FRONTAGE ALONG BROADWAY RD

REQUIRED: 9 TREES & 54 SHRUBS
PROVIDED: 9 TREES & 60 SHRUBS

PLANT SIZES: A MINIMUM OF 25% OF TREES SHALL BE 36" BOX OR LARGER, A MINIMUM OF 50% OF TREES SHALL BE 24" BOX, A MINIMUM OF 50% OF SHRUBS SHALL BE 5-GALLON OR LARGER.

36" BOX TREE: 3 (33%)	5 GAL SHRUB: 36 (60%)
24" BOX TREE: 6 (66%)	1 GAL SHRUB: 24 (40%)

MZO 11-33-4
PARKING LOT LANDSCAPING

PARKING LOT ISLANDS: 1 TREE & 3 SHRUBS PER ISLAND
PROVIDED: 13 ISLANDS, 13 TREES & 39 SHRUBS

PARKING LOT DIVIDER MEDIANS: 1 TREE & 6 SHRUBS PER EVERY 8 PARKING SPACES
PROVIDED: 3 TREES & 10 SHRUBS (SEE PLAN FOR LOCATION)

PLANT SIZES: A MINIMUM OF 10% OF TREES SHALL BE 36" BOX, THE BALANCE OF THE REQUIRED TREES SHALL BE AT LEAST 24" BOX.

36" BOX TREE: 2 (10%)
24" BOX TREE: 17 (90%)

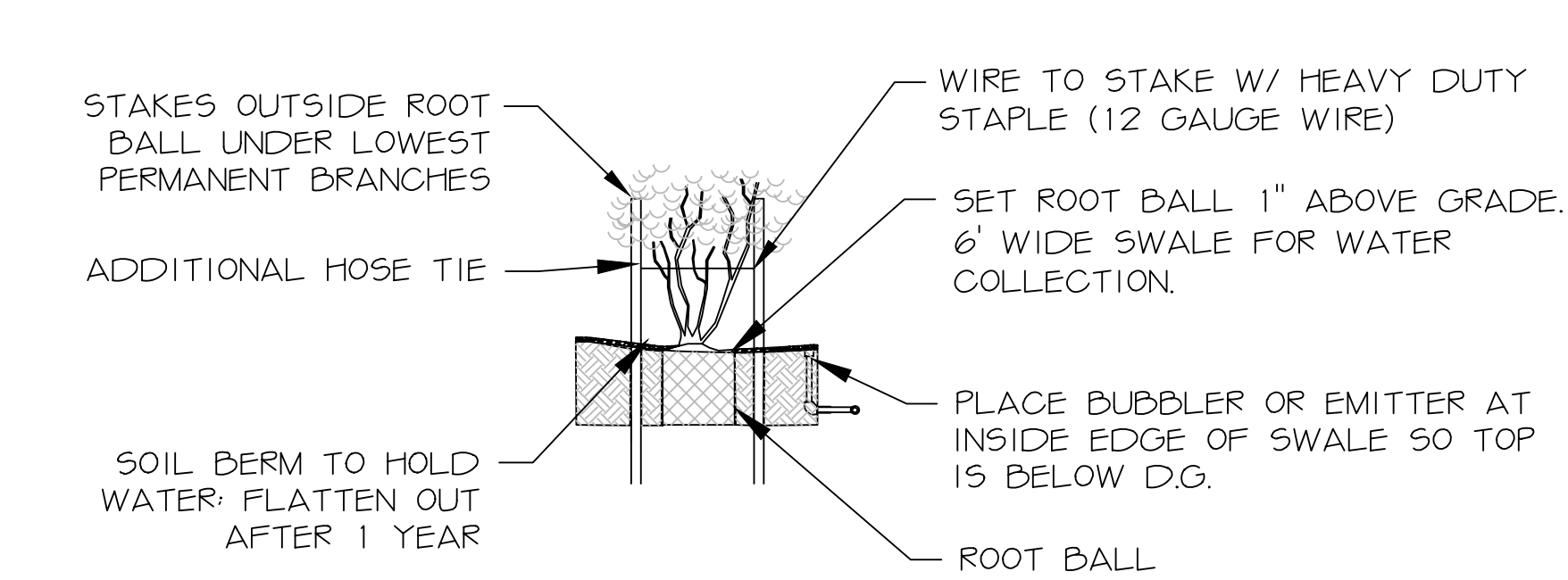
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Date: 1/2/2019

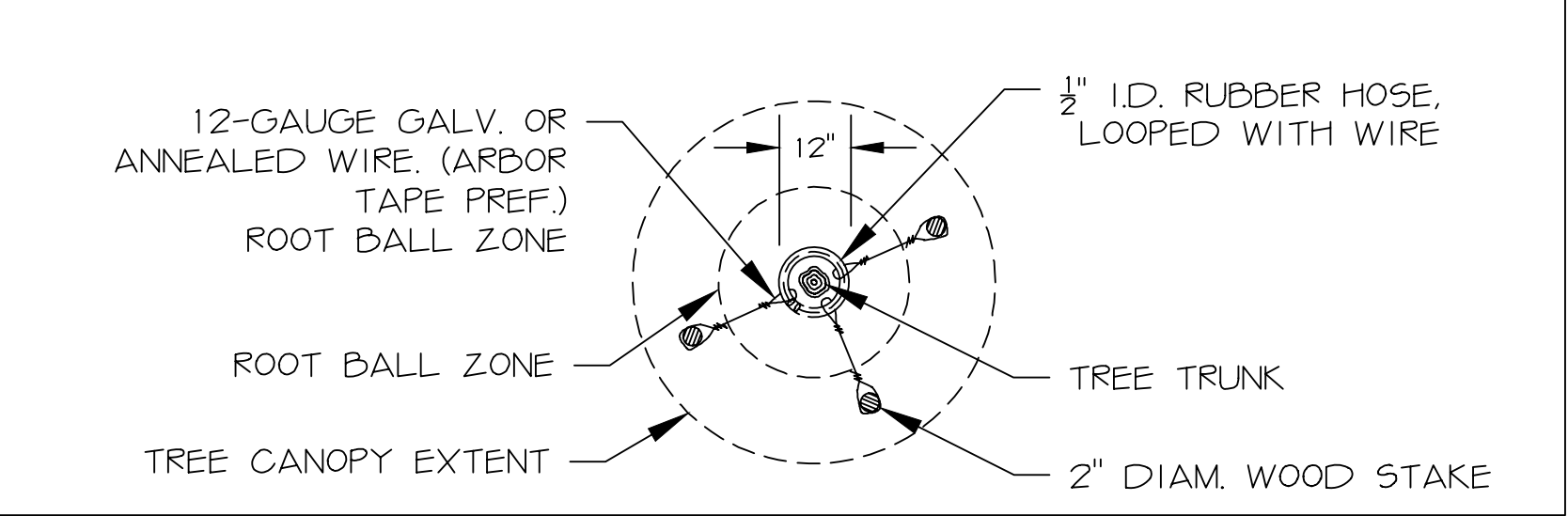


TREE PLANTING & STAKING - MULTITRUNK (MESQUITE)

NTS



DETAIL A. WIRE & HOSE TIES



PLANTING NOTES:

1. SIDES OF PLANTING PITS ARE TO BE LOOSENED OR RAKED BEFORE SETTING TREE IN PIT.
2. EXCAVATE DEPTH OF PLANTING PIT TO THE SAME DEPTH AS THE ROOTBALL.
3. THE WIDTH OF THE PLANTING PIT SHALL BE 2 X THE WIDTH OF THE ROOTBALL GENTLY LOOSEN ROOTS AROUND EXTERIOR OF ROOTBALL. CENTER TREE IN PLANTING PIT.
4. INSPECT ROOT BALLS AT POINT OF PURCHASE TO AVOID PURCHASE OF ROOT BOUND MATERIALS. REMOVE ENTIRE CONTAINER FROM ALL PLANTS PRIOR TO PLANTING.
5. NEW TREES SHALL NOT BE PRUNED UNLESS DIRECTED BY OWNER. FORM SWALE AROUND EACH TREE AS SHOWN FOR WATER COLLECTION. REMOVE ALL NURSERY STAKES.

BACKFILL NOTES:

1. PROVIDE MULCH AMENDMENT WITH BACKFILL FOR NON-DESERT TREES.
2. BACKFILL MIX SHALL CONSIST OF 3 PARTS NATIVE SOIL TO 1 PART MULCH.
3. PROVIDE 1 CUP GYPSUM IN BOTTOM OF PLANTING PIT.
4. INCLUDE 16:20:0 AMMONIUM PHOSPHATE FERTILIZER IN PLANTING PIT FOR NON-DESERT TREES. MIX INTO BACKFILL. DO NOT SPREAD ON TOP OF SOIL.

STAKING NOTES:

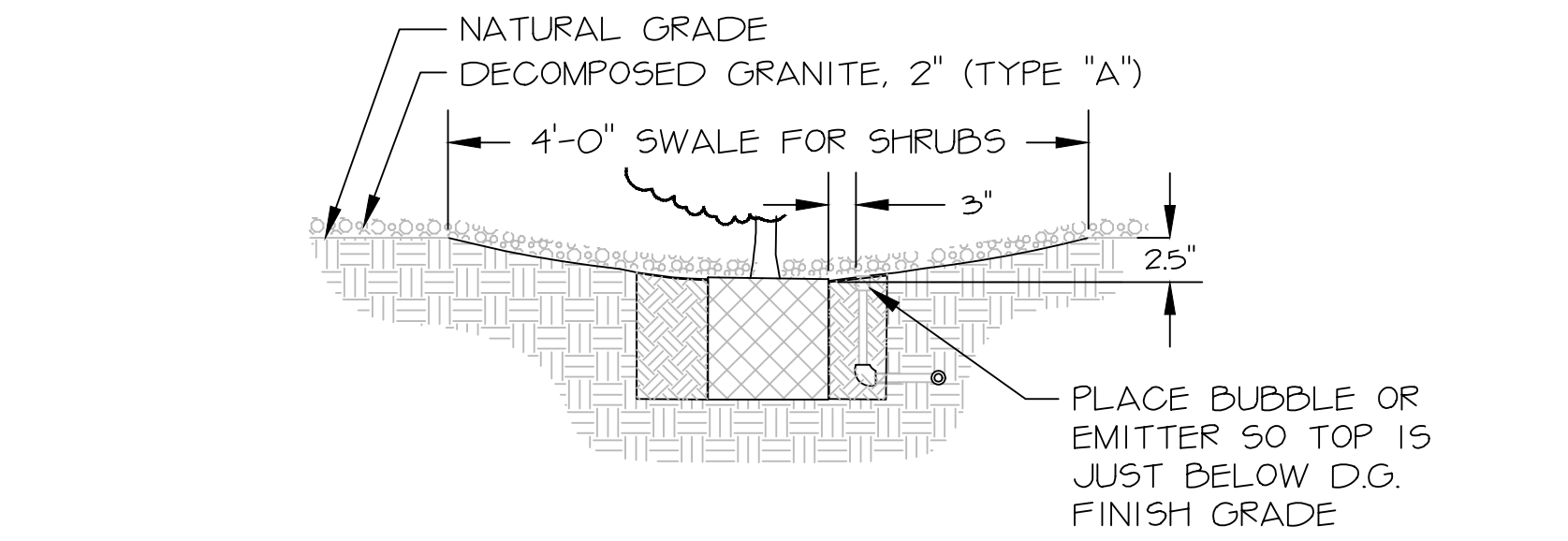
1. USE 2- 2" DIA. LODGE POLE STAKES- DOUG FIR, OR APPROVED HARDWOOD.
2. DRIVE STAKE MIN 12" INTO FIRM UNDISTURBED SOIL BELOW THE EXCAVATED DEPTH.
3. PLACE STAKES OUTSIDE THE ROOTBALL.
4. HEIGHT OF STAKE MAY VARY DEPENDING ON NEED FOR SUPPORT.
5. PLACE THE TOP TIE FOR MAXIMUM SUPPORT. THE BOTTOM TIE SHOULD BE APPROXIMATELY 1/2 WAY BETWEEN THE TOP TIE AND GROUND.
6. ALWAYS PLACE STAKE TO PREVENT DAMAGE TO TREE AND CAMBIUM.

MISC. NOTES:

1. REMOVE ALL PLASTIC TREE TIE TAPE, BAMBOO NURSERY STAKE, WIRE TIES, AND LABELS FROM TREES AFTER THEY HAVE BEEN APPROVED.
2. BACKFILL ANY HOLES LEFT IN ROOTBALL LEFT FROM NURSERY STAKES. BACKFILL SHALL BE CLEAN SOIL, NOT D.G.
3. SWALE SHALL BE A SMOOTH TRANSITION-NO ABRUPT GRADE CHANGES
4. SWALE SHALL BE WATER TESTED FOR WATER HOLDING CAPACITY PRIOR TO PLACING D.G.
5. PROVIDE ADDITIONAL WIRE HOSE TIE WHEN THE TREE IS NOT RIGIDLY SUPPORTED BY THE TWO REQUIRED SUPPORTS.
6. 2-3" MULCH TOP LAYER, NOT AROUND BASE. 1" D.G. TOP LAYER ALSO SUITABLE.

SHRUB PLANTING

NTS

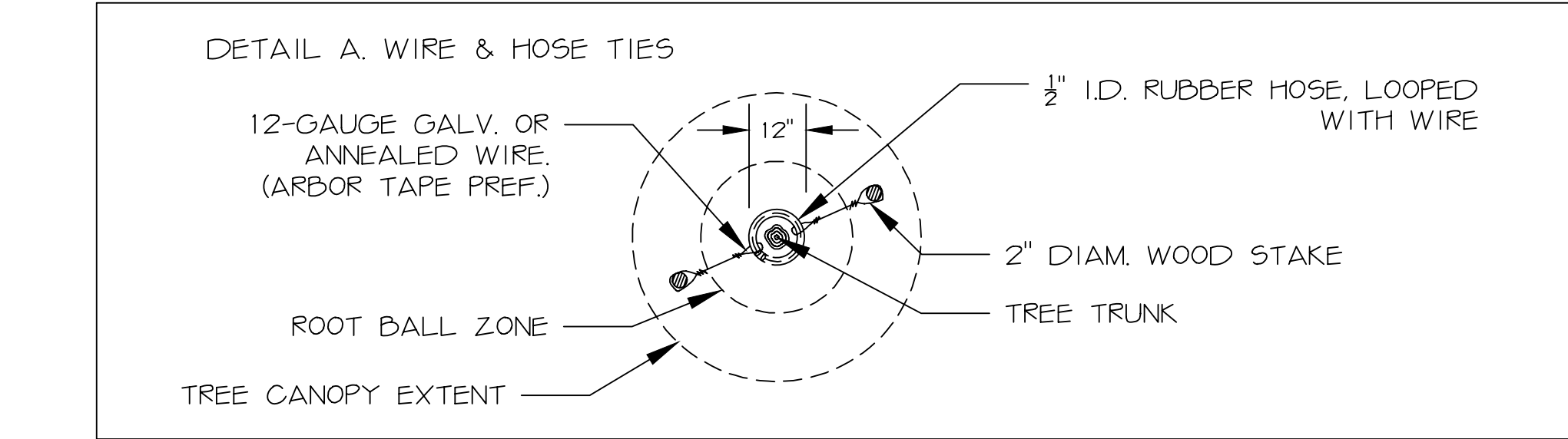
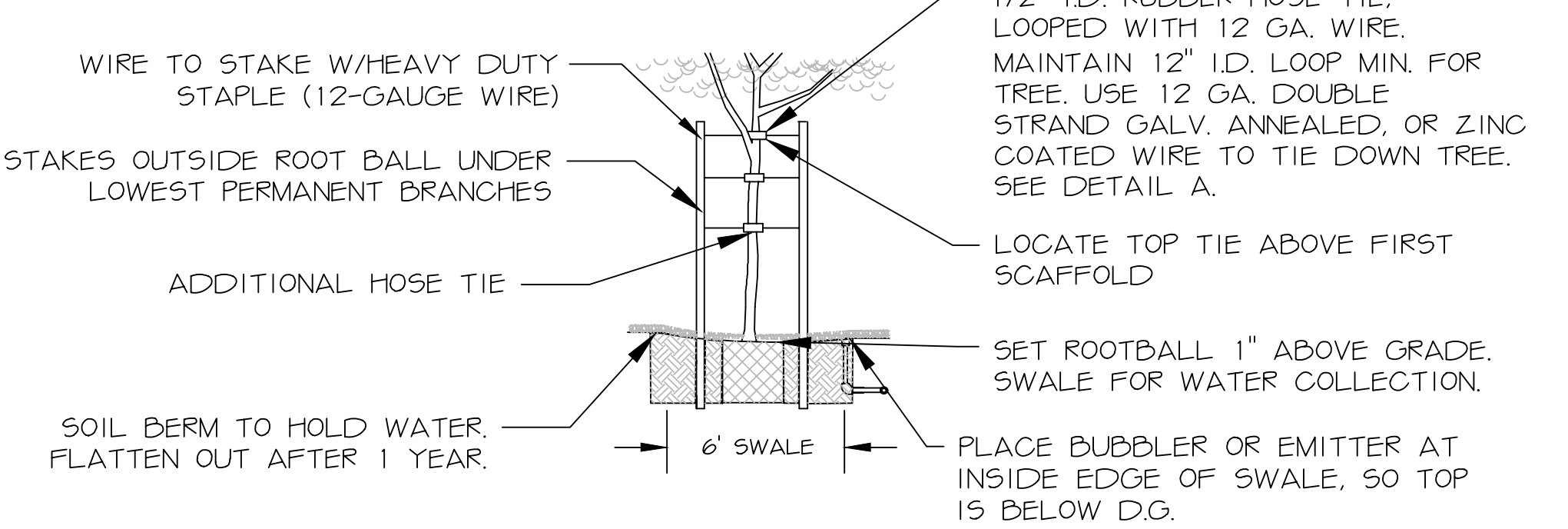


NOTES:

1. PLANT PITS SHALL NOT BE AUGER DUG. SIDES OF PIT SHALL BE RAKED TO LOOSEN PRIOR TO SETTING TREE IN PITS.
2. GENTLY LOOSEN ROOTS AROUND EXTERIOR OF ROOTBALL.
3. DO NOT PLANT ROOT BOUND PLANTS. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY TO VERIFY CONDITION OF PLANT IF ANY QUESTION.
4. REMOVE ENTIRE CONTAINER FROM ALL PLANTS PRIOR TO PLANTING.
5. DO NOT PRUNE NEW PLANTS WITHOUT LANDSCAPE ARCHITECT APPROVAL/DIRECTION.
6. PLANTING PIT TO BE 3X THE WIDTH OF THE ROOT BALL.
7. CENTER SHRUB IN PLANTING PIT. DO NOT OVER-EXCAVATE FOR DEPTH OF PLANTING PIT TO AVOID SETTLING.
8. FERTILIZER: 16:20:0 AMMONIUM PHOSPHATE FOR DESERT PLANTS. MIX INTO BACKFILL, DO NOT SPREAD ON TOP OF SOIL.

SINGLE-TRUNK TREE PLANTING & STAKING (MULGA)

NTS



PLANTING NOTES:

1. LOOSEN OR RAKE SIDES OF PLANTING PITS BEFORE SETTING TREE IN PIT.
2. EXCAVATE DEPTH OF PLANTING PIT TO THE SAME DEPTH AS THE ROOTBALL.
3. THE WIDTH OF THE PLANTING PIT SHALL BE 2X THE WIDTH OF THE ROOTBALL.
4. GENTLY LOOSEN ROOTS AROUND EXTERIOR OF ROOTBALL.
5. CENTER TREE IN PLANTING PIT.
6. INSPECT ROOT BALLS AT POINT OF PURCHASE TO AVOID PURCHASE OF ROOT BOUND MATERIALS
7. REMOVE ENTIRE CONTAINER FROM ALL PLANTS PRIOR TO PLANTING.
8. NEW TREES SHALL NOT BE PRUNED UNLESS DIRECTED BY OWNER.
9. FORM SWALE AROUND EACH TREE AS SHOWN FOR WATER COLLECTION.
10. REMOVE ALL NURSERY STAKES.

BACKFILL NOTES:

1. PROVIDE MULCH AMENDMENT WITH BACKFILL FOR NON-DESERT TREES.
2. BACKFILL MIX SHALL CONSIST OF 3 PARTS NATIVE SOIL TO 1 PART MULCH. PROVIDE 1 CUP GYPSUM IN BOTTOM OF PLANTING PIT
3. INCLUDE 16:20:0 AMMONIUM PHOSPHATE FERTILIZER IN PLANTING PIT FOR NON DESERT TREES. MIX INTO BACKFILL. DO NOT SPREAD ON TOP OF SOIL.

STAKING NOTES:

1. USE 2- 2" DIA. LODGE POLE STAKES- DOUGLAS FIR OR APPROVED HARDWOOD.
2. DRIVE STAKE MIN 12" INTO FIRM UNDISTURBED SOIL BELOW THE EXCAVATED DEPTH.
3. PLACE STAKES OUTSIDE THE ROOTBALL.
4. HEIGHT OF STAKE MAY VARY DEPENDING ON NEED FOR SUPPORT.
5. PLACE TOP TIE FOR MAXIMUM SUPPORT. BOTTOM TIE SHOULD BE APPROXIMATELY HALFWAY BETWEEN THE TOP TIE AND GROUND.
6. ALWAYS PLACE STAKE TO PREVENT DAMAGE TO TREE AND CAMBIUM.

MISC. NOTES:

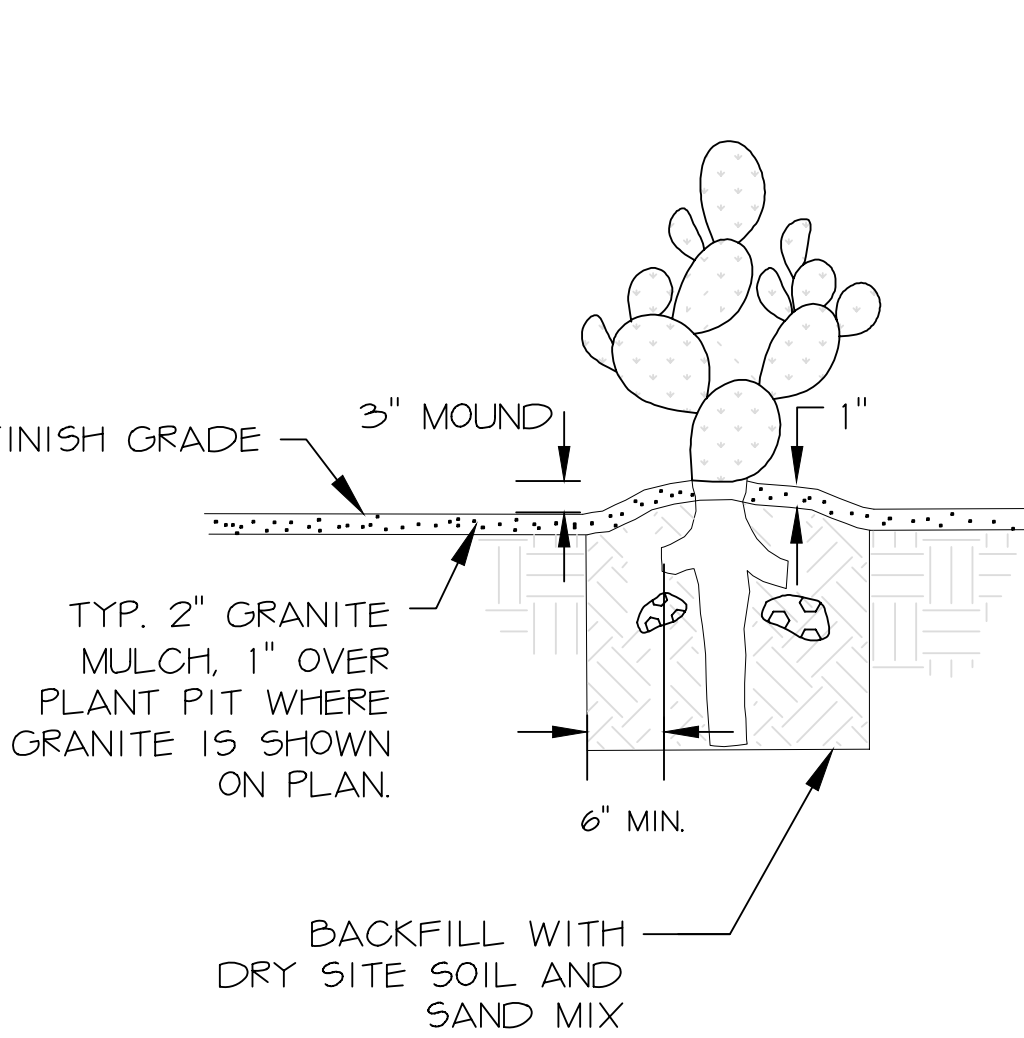
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2. BACKFILL ANY HOLES LEFT IN ROOTBALL LEFT FROM NURSERY STAKES. BACKFILL SHALL BE CLEAN SOIL, NOT D.G.
3. SWALE SHALL BE A SMOOTH TRANSITION-NO ABRUPT GRADE CHANGES.
4. SWALE SHALL BE WATER TESTED FOR WATER HOLDING CAPACITY PRIOR TO PLACING D.G.
5. PROVIDE ADDITIONAL WIRE HOSE TIE WHEN THE TREE IS NOT RIGIDLY SUPPORTED BY THE TWO REQUIRED SUPPORTS.
6. 2-3" MULCH TOP LAYER, NOT AROUND BASE. 1" D.G. TOP LAYER ALSO SUITABLE.

LANDSCAPE GENERAL NOTES (REVISED 02-15-18) (2018 VERSION)

1. LANDSCAPE CONTRACTOR SHALL CONFIRM LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION AND SHALL BE RESPONSIBLE FOR THE FOLLOWING:
 - A. DAMAGES TO SUCH UTILITIES CAUSED AS A RESULT OF THE CONTRACTOR'S ACTIVITIES.
 - B. DAMAGES TO EXISTING WALKS, WALLS, DRIVES, CURBS, ETC.
 - C. INSPECTING THE SITE IN ORDER TO BE FULLY AWARE OF EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.
2. INSTALLATION OF ALL LANDSCAPE AND IRRIGATION MATERIALS SHALL COMPLY WITH SECTIONS 424, 425, 757, AND 795 OF THE MAG STANDARD SPECIFICATIONS.
3. CONTRACTOR SHALL REPAIR ANY DAMAGE MADE TO THE EXISTING SPRINKLER SYSTEM TO THE SATISFACTION OF THE CITY AT NO ADDITIONAL COST TO THE CITY.
4. LANDSCAPE REMOVAL IS A NON-PAY ITEM UNLESS OTHERWISE NOTED.
5. ALL EXISTING VEGETATION, WEEDS, DEBRIS, ETC. NOTED TO BE REMOVED ON THE PLANS AND SPECIFICATIONS SHALL BE REMOVED FROM PROJECT AREA AND DISPOSED OF PROPERLY OFF THE SITE AT THE CONTRACTOR'S EXPENSE (SCARIFY EXISTING SUBGRADE, MINIMUM SIX (6) INCHES DEPTH).
6. DAMAGE TO TURF SHALL BE REPAIRED BY CONTRACTOR, I.E., RUTS FILLED WITH CLEAN SOIL, COMPACTED TO MATCH SURROUNDING GRADES, EXCESS SOIL, ROCK, ETC. SHALL BE REMOVED TO LEAVE THE SITE CLEAN.
7. ALL PLANT MATERIAL, OTHER THAN TREES, SHALL CONFORM TO GRADING, TYPE, ETC. AS SET FORTH IN THE AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSEYMEN. ALL TREES SHALL CONFORM TO THE CURRENT ARIZONA NURSERY ASSOCIATION TREE SPECIFICATIONS AND MAG SPEC 795.7. SHOULD ANY CONFLICTS IN THE SPECIFICATIONS OCCUR, THE ARIZONA NURSERY ASSOCIATION'S SPECIFICATIONS SHALL PREVAIL.
8. CITY RESERVES THE RIGHT TO INSPECT SHRUBS AND CONTAINERED TREES FOR CONDITION OF ROOT BALLS. FOR ANY SUCH INSPECTIONS WHICH MAY DESTROY ROOTBALL, CONTRACTOR SHALL SUPPLY ADDITIONAL PLANT AT NO COST TO CITY.
9. PLANT PITS SHALL BE INSPECTED BY CITY PRIOR TO PLANTING BY THE CONTRACTOR BY REQUESTING AN INSPECTION 48 HOURS IN ADVANCE.
10. ROUGH AND FINE GRADING TO ESTABLISH UNIFORM SMOOTH GRADE IS INCLUDED IN THIS PROJECT.
11. SOIL TEST FOR FERTILITY AND ADDITIVE RECOMMENDATIONS (FOR TURF AND ORNAMENTALS) SHALL BE COMPLETED BY CONTRACTOR TO DETERMINE IF ADDITIVES ARE REQUIRED. CONTRACTOR SHALL PROVIDE COPY OF SOIL TEST RESULTS FOR REVIEW AND APPROVAL TO ENGINEERING INSPECTOR AT LEAST SEVEN (7) DAYS PRIOR TO ANTICIPATED PLANTING. AFTER APPROVAL BY THE CITY, THE CONTRACTOR SHALL PROVIDE AND INCORPORATE ANY ADDITIVES REQUIRED PRIOR TO OR AT TIME OF PLANTING.
12. PLANT PIT SOIL MIXTURE SHALL CONSIST OF FOUR AND ONE-HALF PARTS NATURAL FERTILE, FRIABLE SOIL AND ONE PART HUMUS BY VOLUME, THOROUGHLY MIXED PRIOR TO BACKFILLING IN PITS. BACKFILLING SHALL BE IN 6" LIFTS WITH EACH LIFT WATER SETTLED WITHOUT PUDDLING.
13. CONTRACTOR SHALL STAKE TREE AND SHRUB LOCATIONS FOR 5-GALLON PLANTS AND LARGER. STAKES SHALL BE MARKED WITH PLANT NAME OR PLANT LEGEND ITEM NUMBER FROM PLANS.
14. ALL EXISTING (GAS, ELECTRIC, WATER, ETC.) COVERS AND BOXES SHALL REMAIN UNCOVERED. CONTRACTOR TO ADJUST TO FINAL GRADE AS NECESSARY. NON-PAY ITEM (NPI) UNLESS OTHERWISE NOTED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THE UNDERGROUND SPRINKLER SYSTEMS IN ADVANCE OF CONSTRUCTION. THE SPRINKLER SYSTEM LOCATIONS NOTED ON PLANS ARE FOR REFERENCE ONLY.
16. CONTRACTOR TO VERIFY DEPTH OF ALL INLET STRUCTURES AND SPRINKLER SYSTEMS PRIOR TO TRENCHING FOR LOW-FLOW CHANNEL.
17. CONTRACTOR TO PROVIDE PUMPING WITHIN FIVE (5) DAYS AFTER THE NOTICE TO PROCEED IS GIVEN AS REQUIRED TO DRY THE AREA SUFFICIENTLY TO BEGIN CONSTRUCTION.
18. CONTRACTOR SHALL ARRANGE FOR SPRINKLER SYSTEM SHUTDOWN DURING CONSTRUCTION BY CONTACTING THE ENGINEERING INSPECTOR.
19. NO ROCKS LARGER THAN 1" IN DIAMETER SHALL BE ALLOWED IN THE TOP SIX (6) INCHES OF TOPSOIL WHERE TURF ESTABLISHMENT IS SPECIFIED. ROCK REMOVAL AS NECESSARY IS A NON-PAY (NPI) ITEM UNLESS OTHERWISE NOTED.
20. WHERE CALICHE IS ENCOUNTERED IN PLANT PITS, DEPTH AND WIDTH OF PIT SHALL BE INCREASED BY ONE-THIRD (1/3) OVER SPECIFICATION, AND A LIQUID PENETRATOR, "AL-KALICHE" OR EQUAL, SHALL BE INCORPORATED FOR EACH PIT PER MANUFACTURER'S RECOMMENDATIONS.
21. CONTRACTOR SHALL INSTALL DECOMPOSED GRANITE TO A ROLLED DEPTH PER THE APPROVED PLANS AND SPECIFICATIONS. DECOMPOSED GRANITE SHALL BE PER THE APPROVED PLANS AND SPECIFICATIONS WITH THE COLOR AS SPECIFIED ON THE PLANS. PRE-EMERGENT HERBICIDE SHALL BE APPLIED BEFORE AND AFTER PLACEMENT OF DECOMPOSED GRANITE PER THE MANUFACTURER'S RECOMMENDATIONS. PRE-EMERGENT HERBICIDE SHALL BE SURFLAN, DACTHAL, OR APPROVED EQUAL. SAMPLE TO BE PROVIDED FOR CITY REVIEW AND APPROVAL. CONTRACTOR SHALL WASH OFF ROCK MULCH ONCE FINAL PLACEMENT HAS OCCURRED.
22. RESTORE ALL EXISTING LANDSCAPE IRRIGATION SYSTEMS, COMPONENTS AND LANDSCAPE AREAS IMPACTED BY ANY WORK UNDER THIS CONTRACT. RESTORE ALL EXISTING IRRIGATION AND LANDSCAPE IN ACCORDANCE WITH THE LANDSCAPE RESTORATION NOTES INDICATED WITHIN THESE DOCUMENTS. AT A MINIMUM, ALL RESTORATION SHALL BE IN ACCORDANCE WITH M.A.G. SPECIFICATION 107.9 - PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. ALL RESTORATION WORK SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY OF MESA ENGINEER.
23. ALL RESTORATION WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE REFERENCED DETAILS AND ANY ADDITIONAL DETAILS PROVIDED.
24. REFER TO LANDSCAPE PLANTING SHEETS AND ENGINEERING DRAWINGS FOR ADDITIONAL RESTORATION NOTES AND REQUIRED COORDINATION.

CACTUS PLANTING

NTS

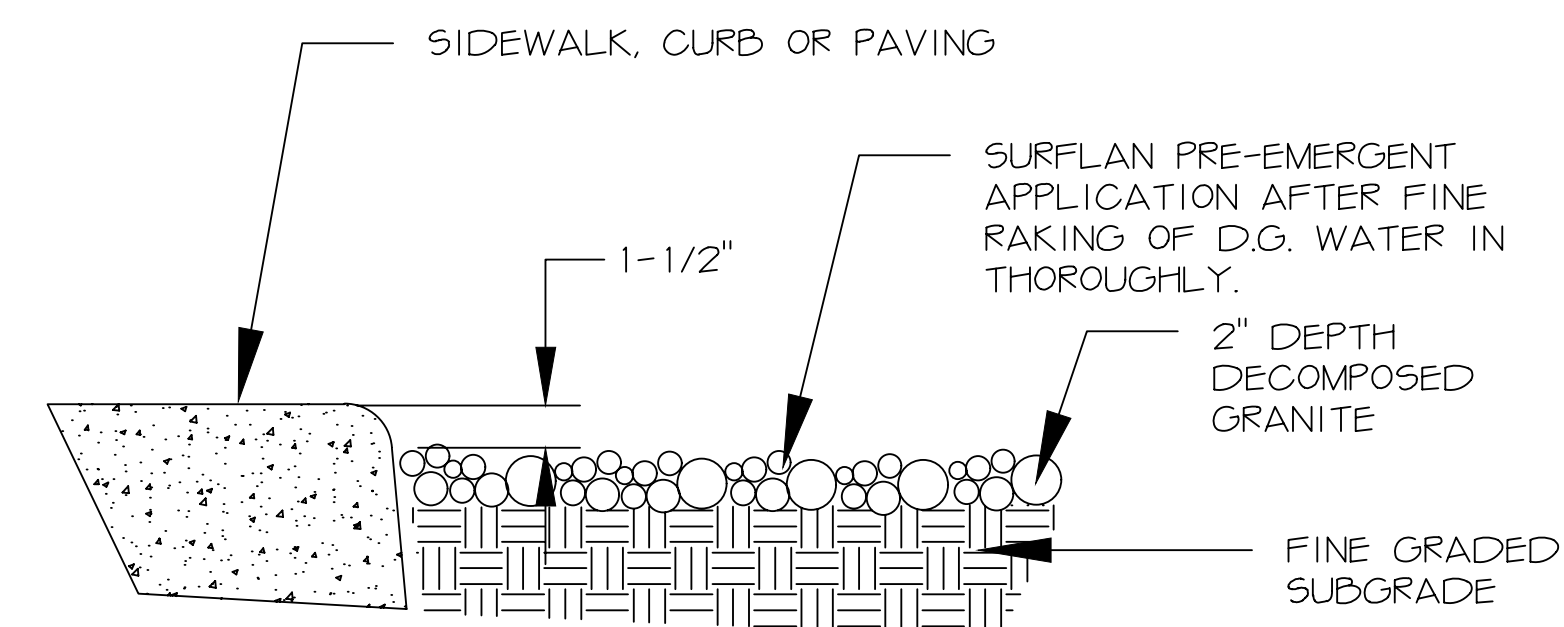


NOTES:

1. ROOT PRUNE ALL SHREDDED OR DAMAGED ROOTS.
2. ENSURE ALL WOUNDS TO THE ROOT SYSTEM ARE CLEAN CUT BEFORE PLANTING. APPLY DUSTING SULFUR TO ALL AREAS BELOW GRADE.
3. PLANT PIT SHALL BE 3 TIMES THE DIAMETER OF ROOTS AND NO DEEPER THAN THE EXTENSION OF THE ROOTS
4. BACKFILL PIT WITH 6" LAYERS OF RODDED, COMPACTED 1/3 GOLF SAND AND 2/3 DRY SITE SOIL MIX.
5. USE 6-8" ROCKS TO ANCHOR ROOTS.
6. PLANTING DEPTH SHALL BE THE DEPTH AT WHICH PLANT WAS GROWN OR DEEPER BUT THE TAPERING OF THE ROOT COLLAR MUST BE VISIBLE.
7. ENSURE SURFACE WATER CAN NOT STAND AGAINST THE ROOT COLLAR.
8. ALL OCOTILLO PLACEMENT SHALL MATCH ORIGINAL ORIENTATION W/ORIGINAL NORTH SIDE FACING NORTH.
9. DO NOT WATER FOR THREE WEEKS FOLLOWING PLANTING.
10. WATER WEEKLY THROUGHOUT THE SUMMER. MAINTAIN ORIGINAL GROWING ORIENTATION.

DECOMPOSED GRANITE

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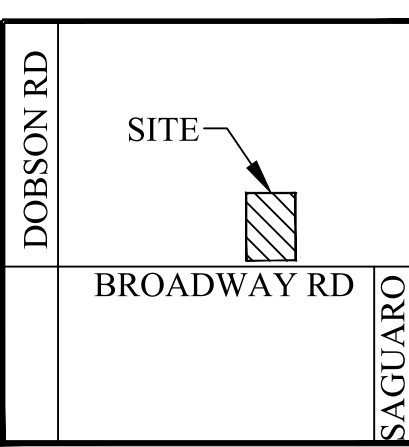


NOTES:

1. DECOMPOSED GRANITE FINISH GRADE TO BE RAKED SMOOTH. DG FINISH GRADE SHALL BE 1-1/2" BELOW ALL ADJACENT PAVING/CURBS.
2. SUBMIT CERTIFIED PESTICIDE APPLICATOR'S LICENSE PRIOR TO CONSTRUCTION. SUBMIT PRODUCT LABEL FOR APPROVAL.
3. APPLY PRE-EMERGENT HERBICIDE PER MANUFACTURER INSTRUCTIONS. TWO (2) APPLICATIONS ARE REQUIRED. ONE BEFORE PLACEMENT OF D.G. (AFTER SUBGRADE HAS BEEN APPROVED) AND ONE AFTER SPREADING D.G. CERTIFIED PESTICIDE APPLICATOR SHALL CONDUCT APPLICATION. LICENSE AND NOTIFICATION OF APPLICATION SHALL BE PROVIDED MIN. 48 HOURS IN ADVANCE OF APPLICATION. WATER IN EACH APPLICATION PER MANUFACTURER'S INSTRUCTIONS.
4. D.G. SIZE/STYLE AS SPECIFIED ON PLANT LEGEND.

Revisions

Key Map



BEEMER HAUS

For:

CURJ GROUP

4173 W. CORONA DR.
CHANDLER, AZ 85226

480-263-9712

Waibel & Associates

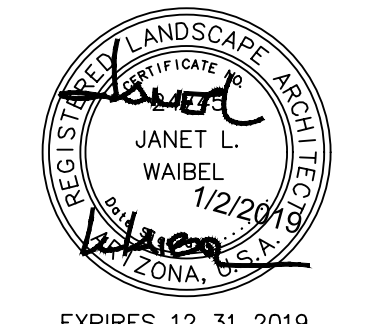
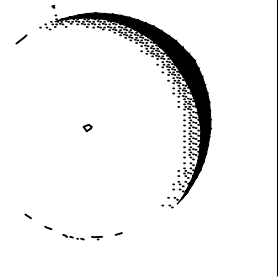
Landscape Architecture

Landscape & Consulting

Planning

Urban Design

Phone: 480-800-3840 Fax: 480-800-3846
8611 S. Priest Drive, Suite 101 Tempe, AZ 85284
Email: jans@waibel-la.com
Website: www.waibel-la.com

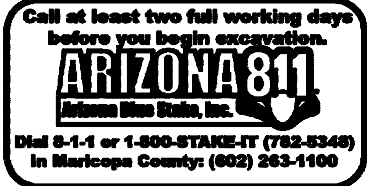


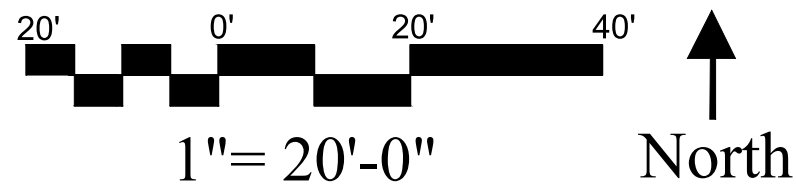
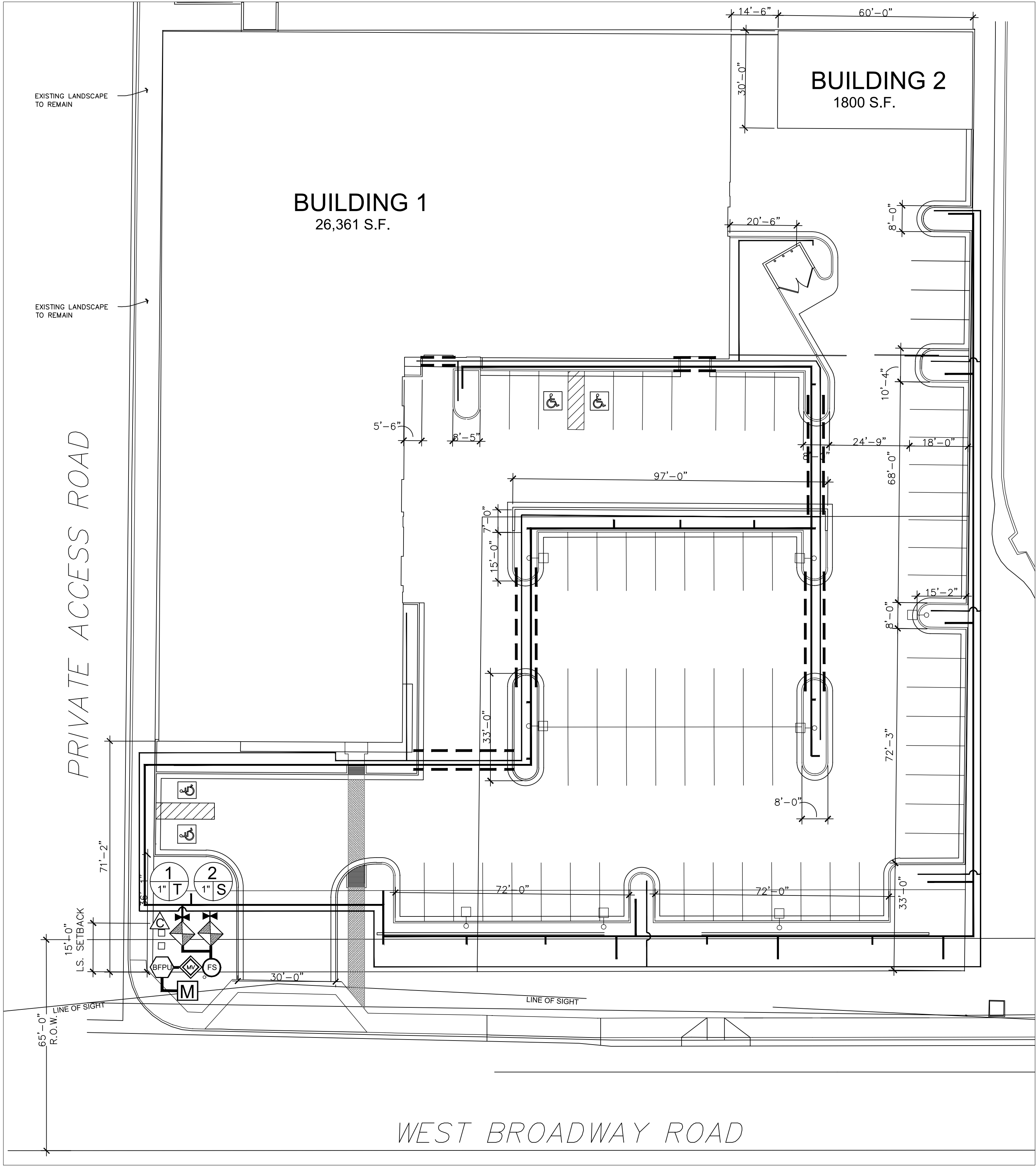
LANDSCAPE
DETAILS

SHEET
NUMBER

2 OF 5

Date: 1/2/2019

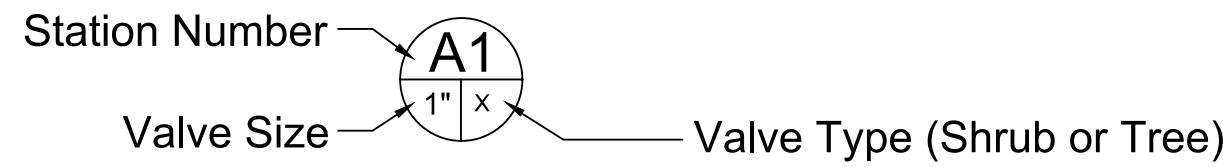




IRRIGATION LEGEND

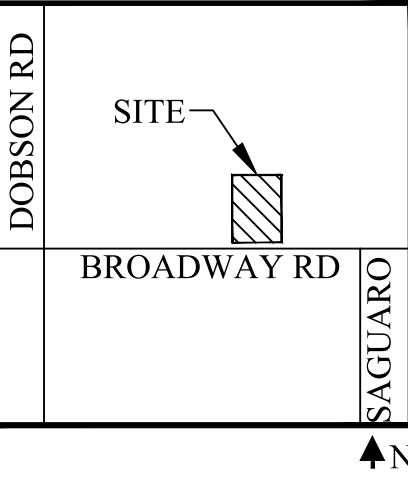
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL
	Existing Water Meter - See plan for location		
	Controller	Rainbird	ESP4ME w/ Wall Mount
	Reduced-Pressure Backflow Prevention Unit with Enclosure	Febco 825Y 1"	825Y 1" w/ Guardshack enclosure Verify color w/Owner and Landscape Architect.
	Master Valve	Griswold	2160-H
	Flow Sensor	Rainmaster	FSB-100
	Ball Valve	NIBCO	TPC-585-70
	Valve Assembly	Rainbird	XCZ-100-PRB-COM
	Emitter Irrigation Line for Trees	Cresline or equal	1" & 3/4" C. 200
	Emitter Irrigation Line for Shrubs	Cresline or equal	1" & 3/4" C. 200
	Multi-port Emitters for Trees	Bowsmith	ML 220 - 2.0 GPH Install with All Ports Open
	Multi-port Emitters for Shrubs (not shown)	Bowsmith	ML210 - 1.0 GPH for Shrubs
	3" Sch 40 PVC Sleeving under all pavement	Cresline or equal	
	Mainline - 1" Schedule 40 PVC		

VALVE KEY



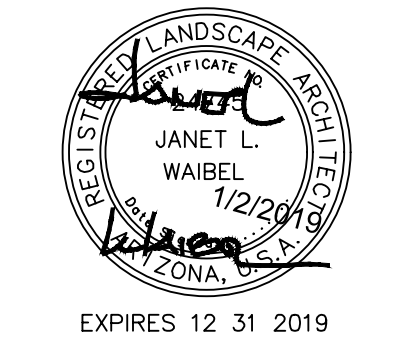
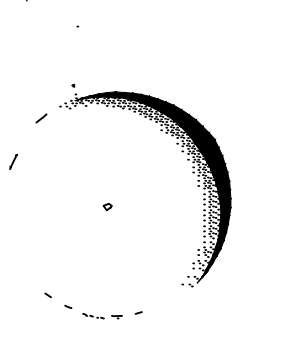
Revisions

Key Map



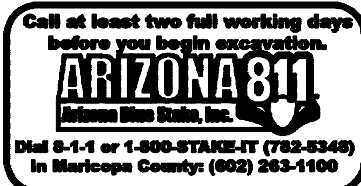
BEEMER HAUS
For
CJR GROUP
4173 W. CORONA DR.
CHANDLER, AZ 85226
480-263-9712

Waibel & Associates
Landscape Architecture
Master Planning
Gardens & Consulting
Urban Design
Phone: 480-803-3849 Fax: 480-803-3846
8611 S. Priest Drive, Suite 101 Tempe, AZ 85284
Email: jwaibel@waibel-la.com
Website: www.waibel-la.com

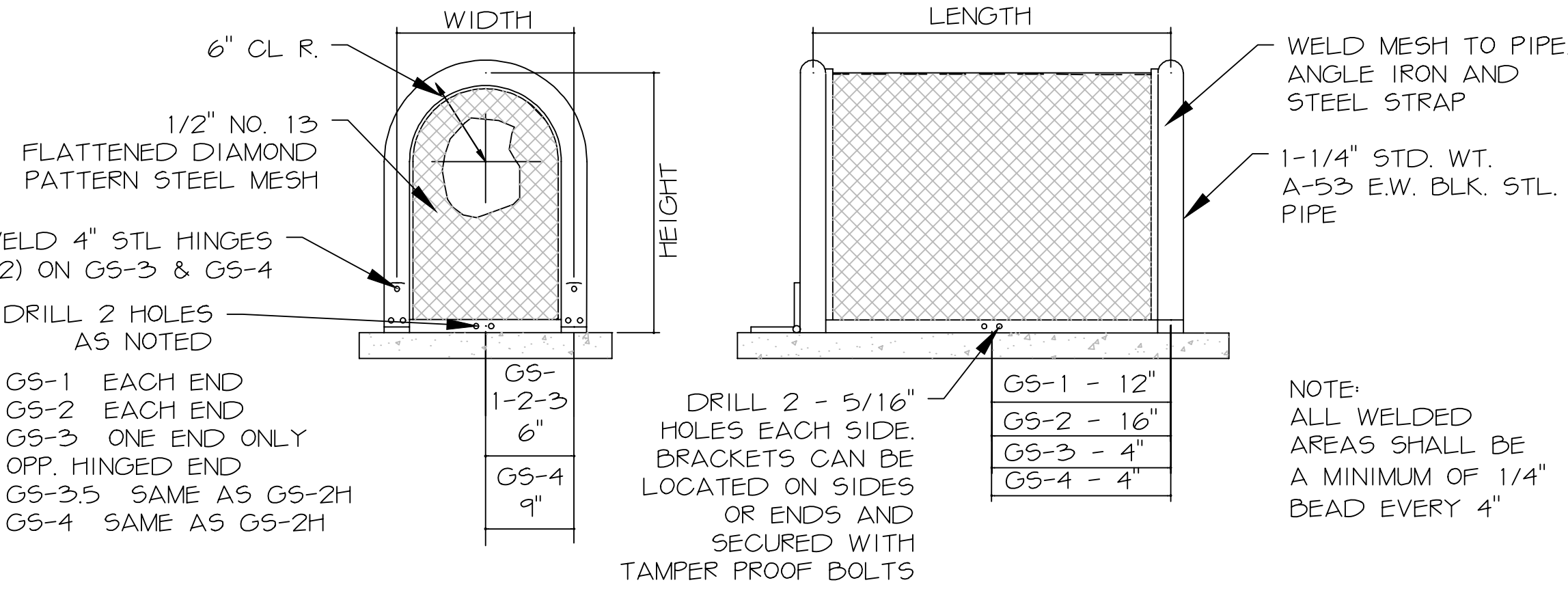


IRRIGATION PLAN

SHEET NUMBER



BACKFLOW SECURITY ENCLOSURE
NTS

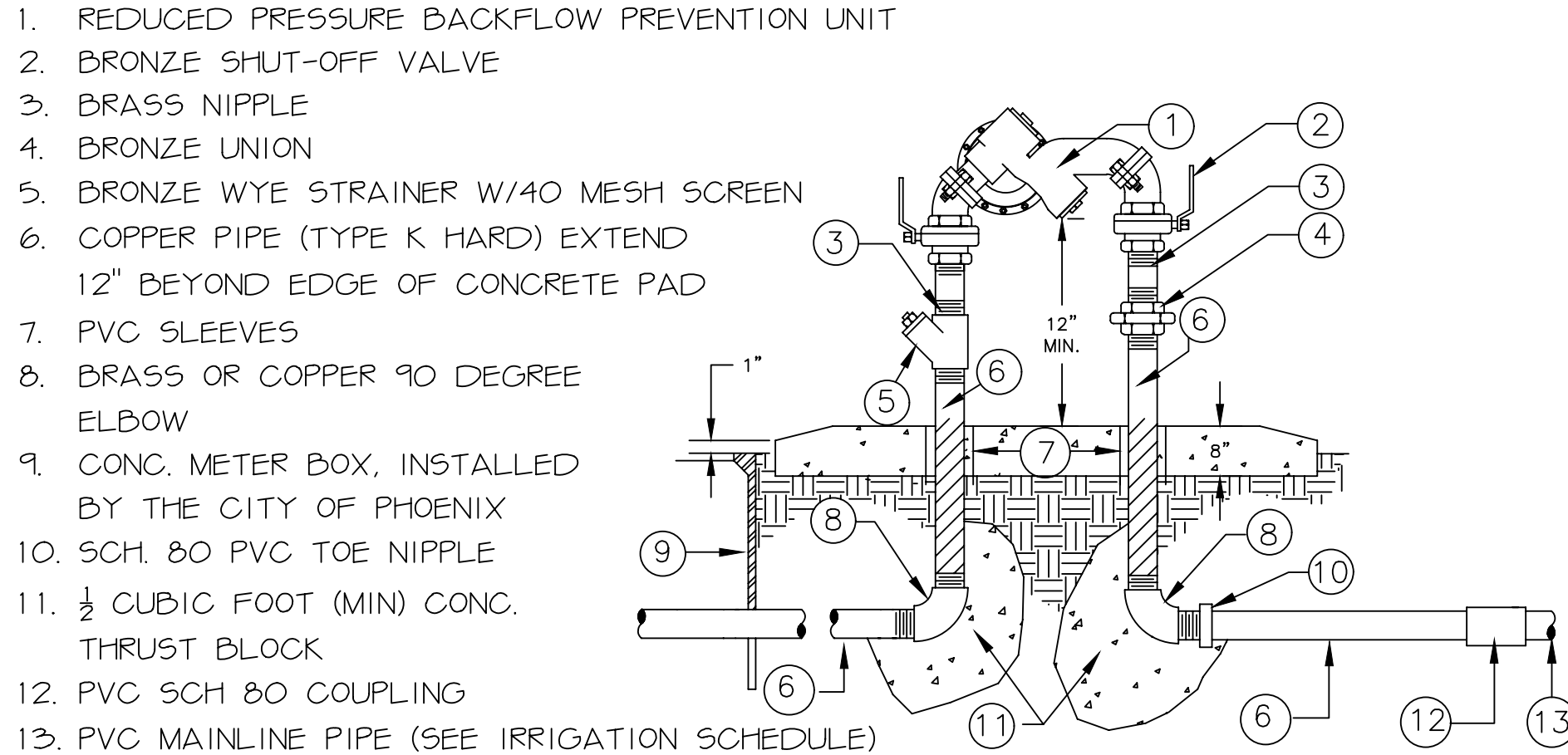


NOTE:
AFTER ALL WELDING, ENTIRE UNIT SHALL BE PROCESSED WITH IRON PHOSPHATE PRE-TREATMENT. ELECTROSTATIC APPLICATION OF POWDER SHALL BE FUSION BONDED - PR5-B-4004-C (BEIGE) OR COLOR SELECTION TO BE APPROVED BY OWNER

NOTE:
ALL BOLTS FOR HINGES & HASPS SHALL BE ZINC PLATED & TAMPER PROOF

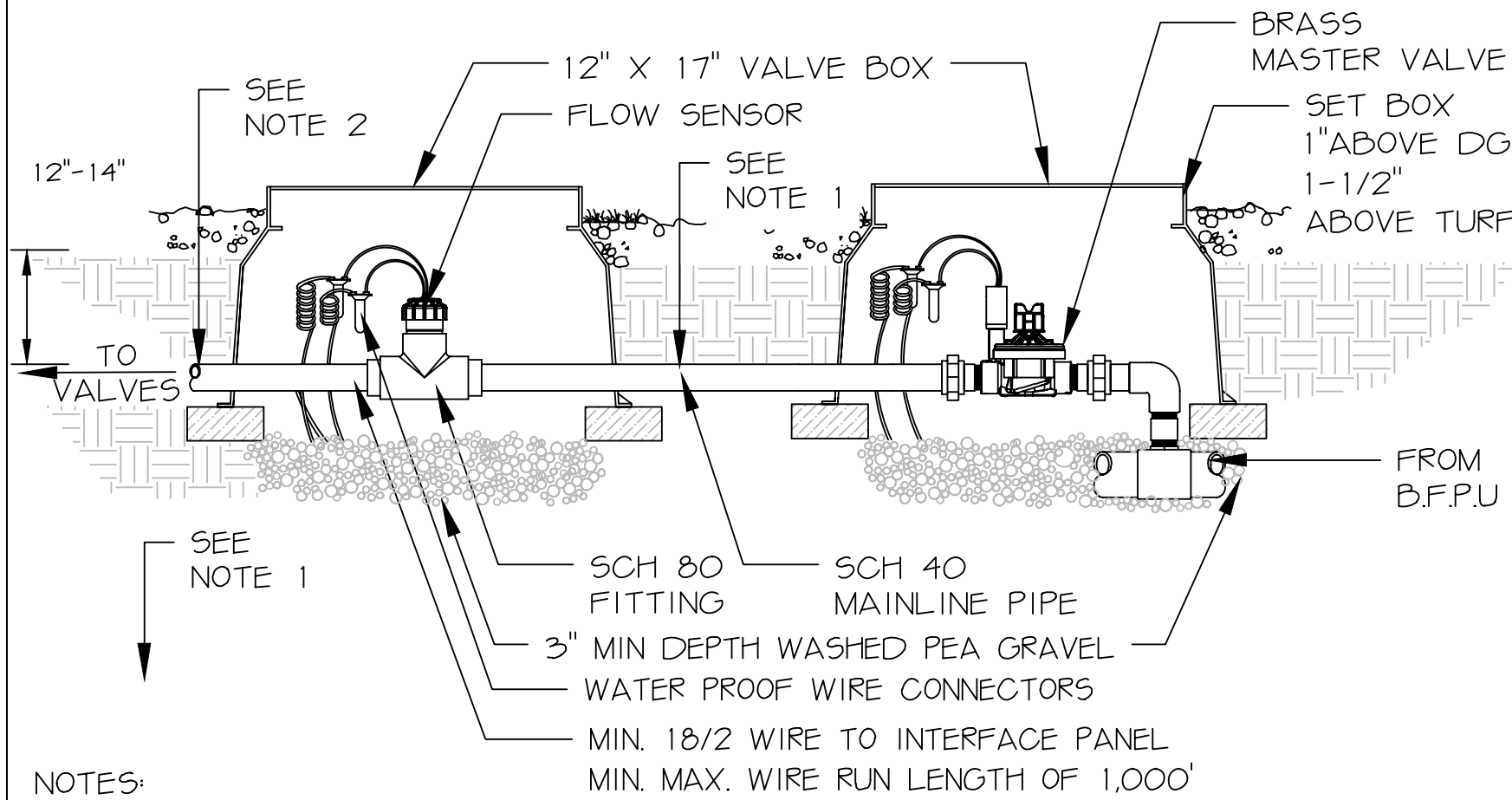
G5 = POWDER COATED STEEL GUARD SHACK

REDUCED PRESSURE BACKFLOW PREVENTION UNIT
NTS



- NOTE:
- ON UNITS 3" AND LARGER, ALL COPPER AND BRASS PIPE FITTINGS SHALL BE FLANGED DUCTILE IRON
 - WRAP ALL BURIED COPPER AND BRASS PIPE AND FITTINGS WITH PLASTIC SAFETY CLAD TAPE TO A HEIGHT OF 6" ABOVE CONCRETE
 - OBTAIN REQUIRED CERTIFICATIONS PER AGENCY REQUIREMENTS

MASTER VALVE AND FLOW SENSOR
NTS

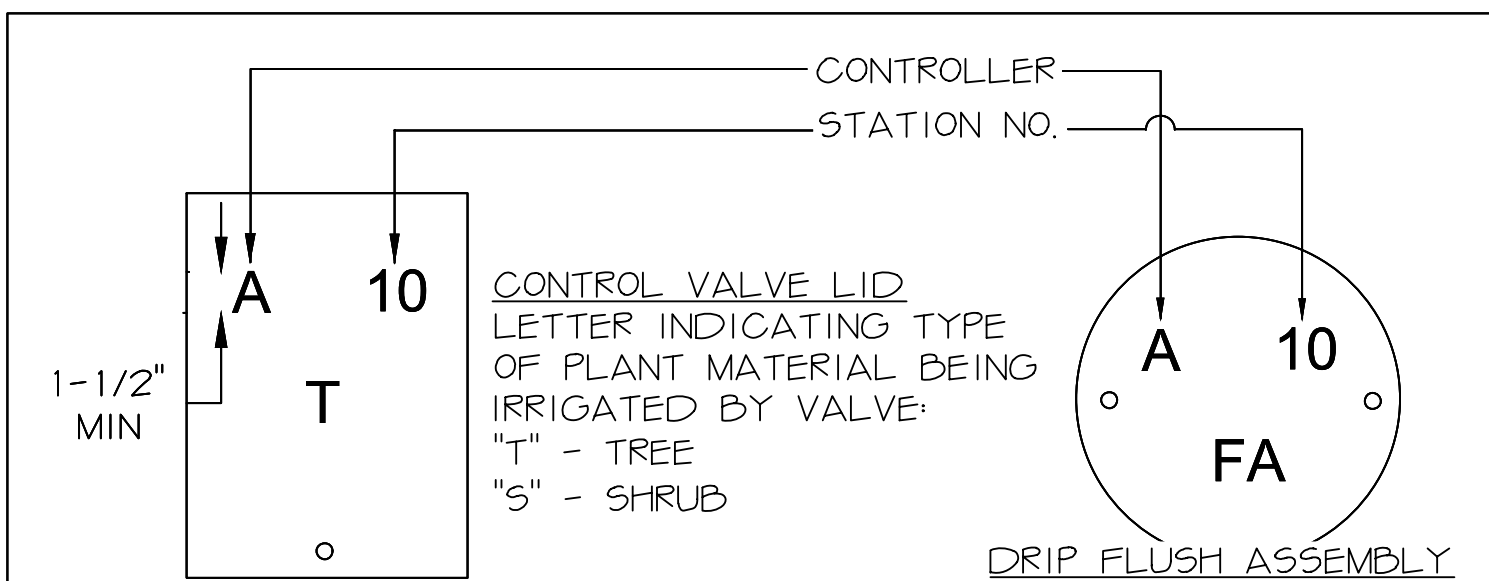
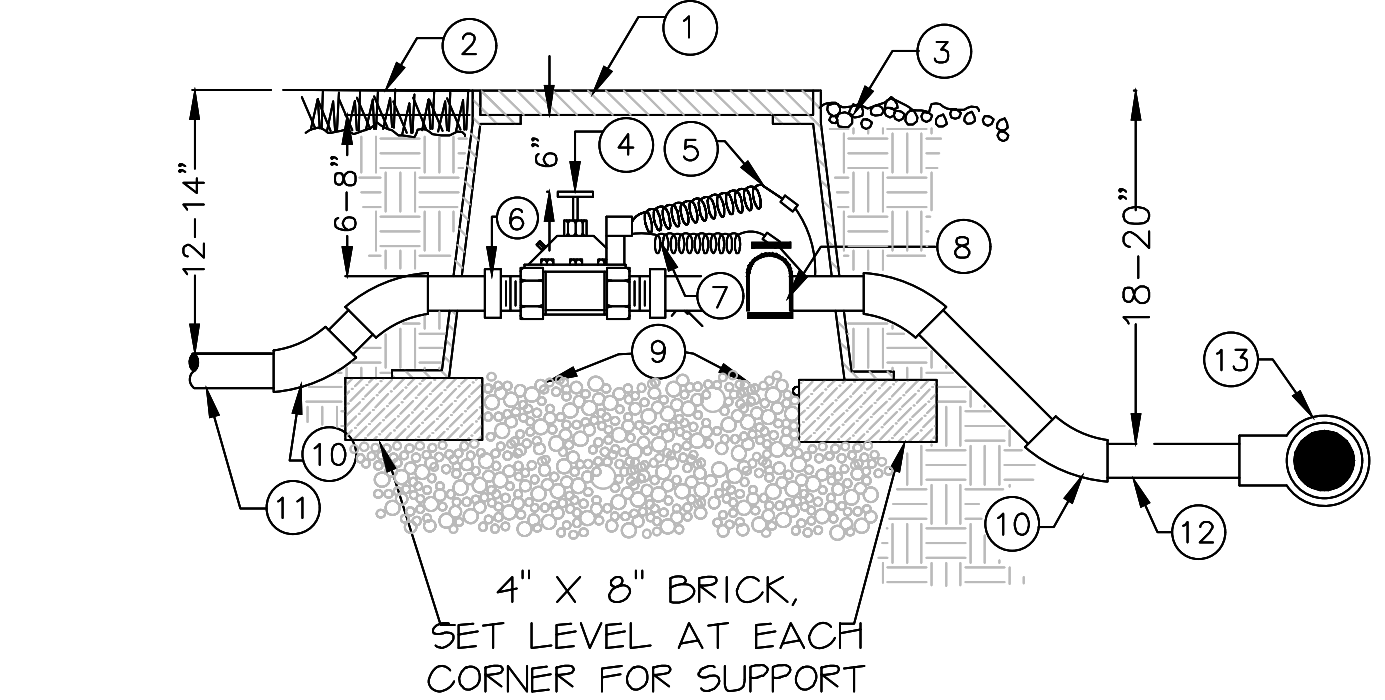


- NOTES:
- INLET PIPE LENGTH TO FLOW SENSOR MUST BE MIN. 10X PIPE DIA. IN STRAIGHT, UNOBSTRUCTED PIPE, NO FITTINGS OR TURNS.
 - OUTLET PIPE LENGTH FROM SENSOR MUST BE MIN. 5X PIPE DIA. IN STRAIGHT, UNOBSTRUCTED RUN OF PIPE, NO FITTINGS OR TURNS.
 - VERIFY MANUFACTURER SPECIFICATIONS ON DISTANCE REQUIRED BETWEEN MASTER VALVE AND FLOW SENSOR.

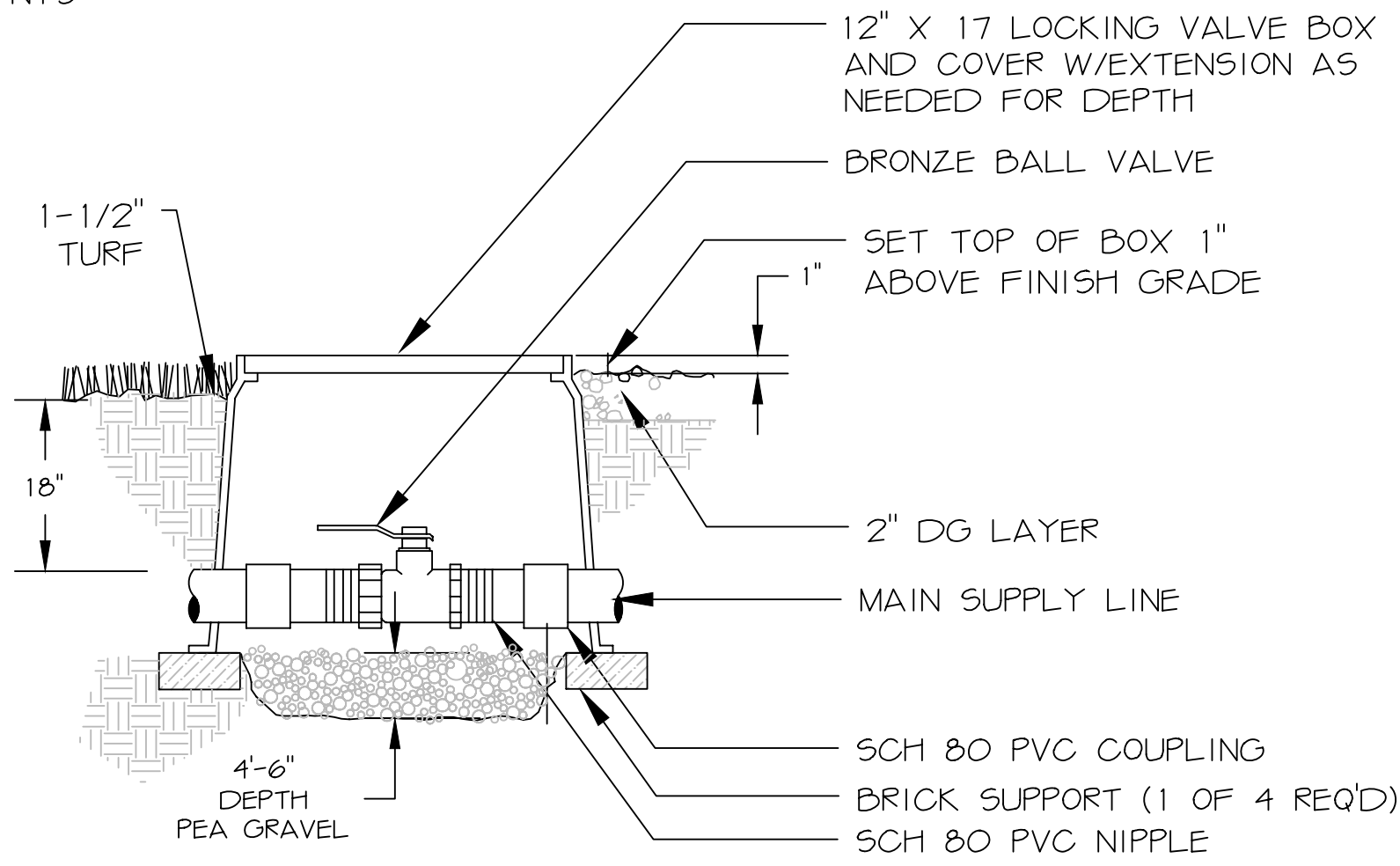
REMOTE CONTROL VALVE
MAINLINES 2 1/2" AND SMALLER
NTS.

- LARGE VALVE BOX WITH LOCKING COVER
- FOR TURF SET BOX 1-1/2" ABOVE FINISH GRADE AFTER COMPACTION
- FOR D.G. SET BOX 1" ABOVE FINISH GRADE AFTER COMPACTION
- REMOTE CONTROL VALVE
- NO. 14 CONTROL WIRE (ORANGE)
- PVC SCH 80 EXTRUDED T.O.E NIPPLE BRASS OR PLASTIC PER VALVE MATERIAL (4" LENGTH BEFORE AND AFTER VALVE)
- NO. 12 COMMON WIRE TO OTHER VALVES ON SAME CONTROLLER (WHITE)
- LINE SIZE BRASS SHUT OFF VALVE
- 6" LAYER 3/8" PEA GRAVEL, MIN 1 CU. FT MATERIAL EXTENDED BEYOND BOX FOR SUPPORT
- PVC SCH. 80 - 45 ELL
- LATERAL LINE TO IRRIGATION SYSTEM
- LATERAL LINE TO MAINLINE
- PVC SCH 80 MAINLINE FITTING

- NOTES:
- PLACE VALVE BOX ON BRICK SUPPORTS
 - JUMBO VALVE BOX MAY BE USED TO COMBINE EQUIPMENT IN LIEU OF TWO LARGE VALVE BOXES
 - CHRISTY TAG TO BE ATTACHED TO VALVE
 - PROVIDE STATION NUMBER ON VALVE BOX LID PER DIAGRAM

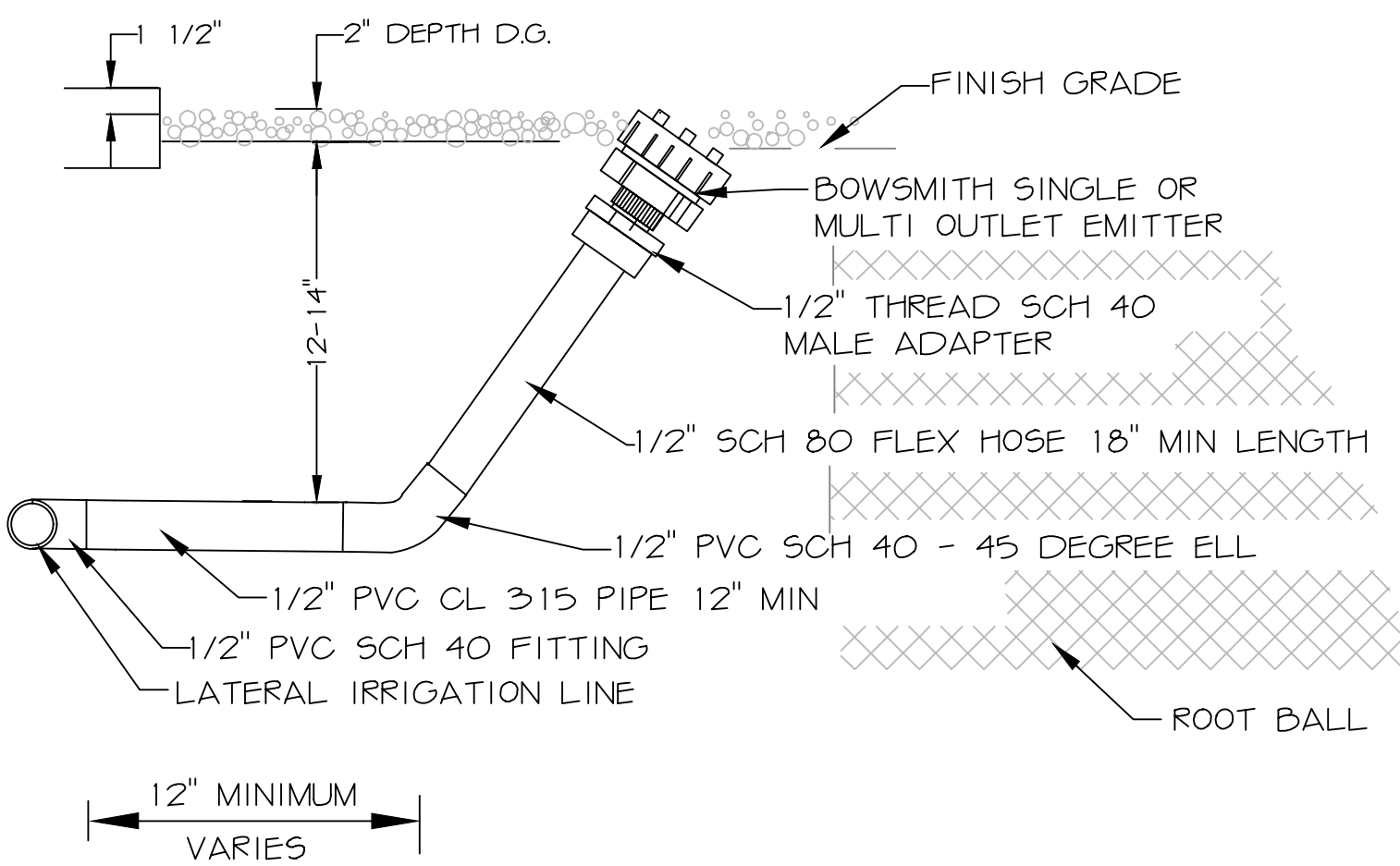


BALL VALVE
BRONZE, 2-PIECE BALL PORT
NTS



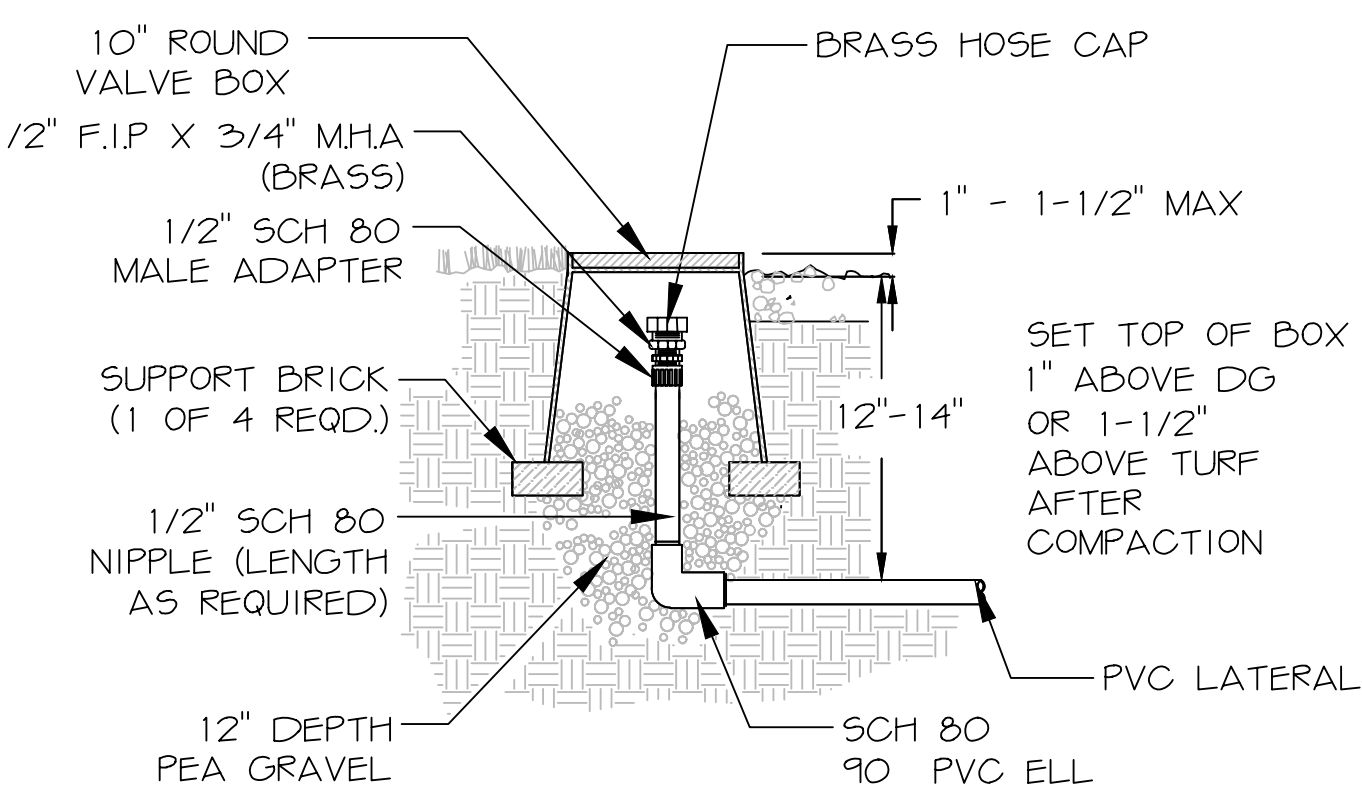
- NOTES:
- COMPACT SOIL AROUND VALVE BOX TO SAME DENSITY AS UNDISTURBED ADJACENT SOIL.
 - VALVE BOX SHALL BE SET LEVEL AND PARALLEL TO GRADE.

EMITTER--MULTI OR SINGLE OUTLET
NTS

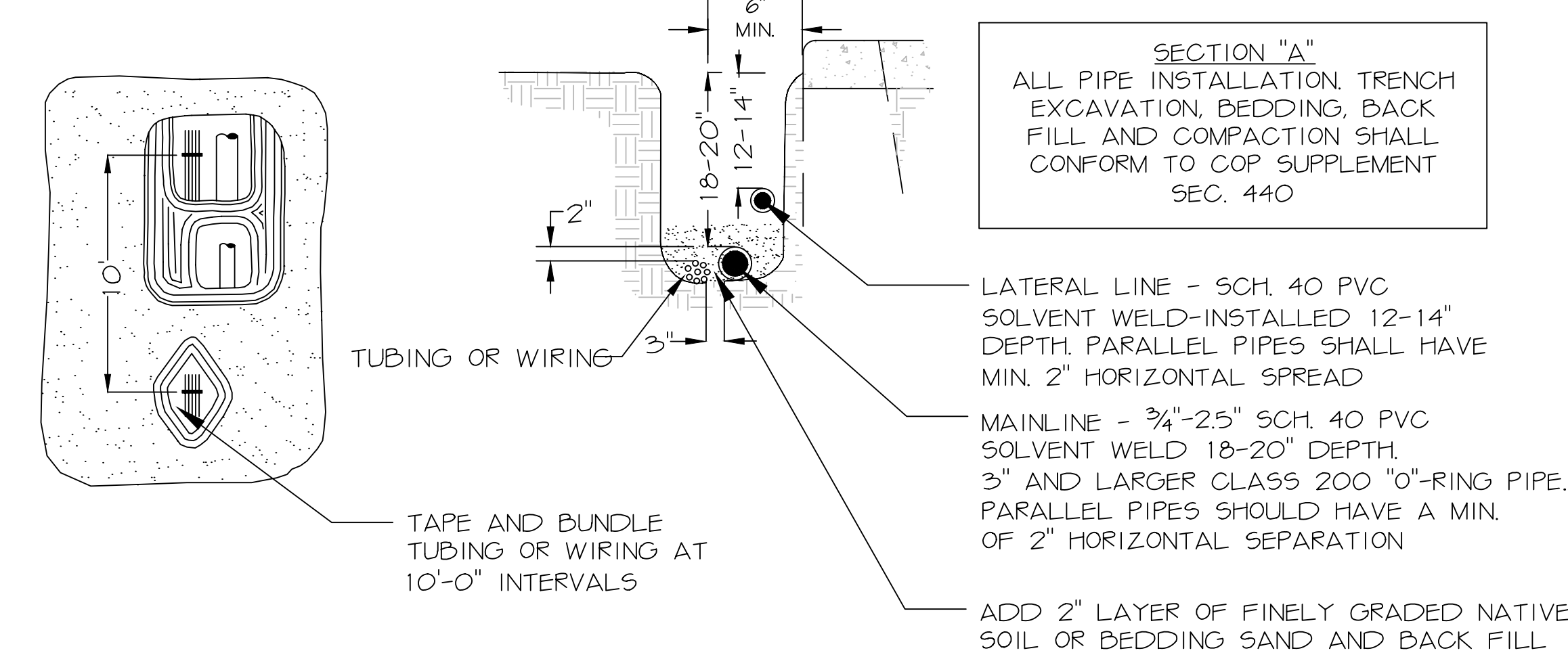


- NOTES:
- BOWSMITH EMITTER MODEL- SL 220 ONE PER SHRUB/SL 220 TWO PER TREE USE GLUE SPECIFIC FOR FLEX HOSE CONNECTIONS
 - LOCATE EMITTER ON UP-HILL SIDE OF PLANT CENTER WHERE APPLICABLE.
 - PLACE EMITTER OUTSIDE ROOTBALL BY 6".

MANUAL FLUSH VALVE
NTS

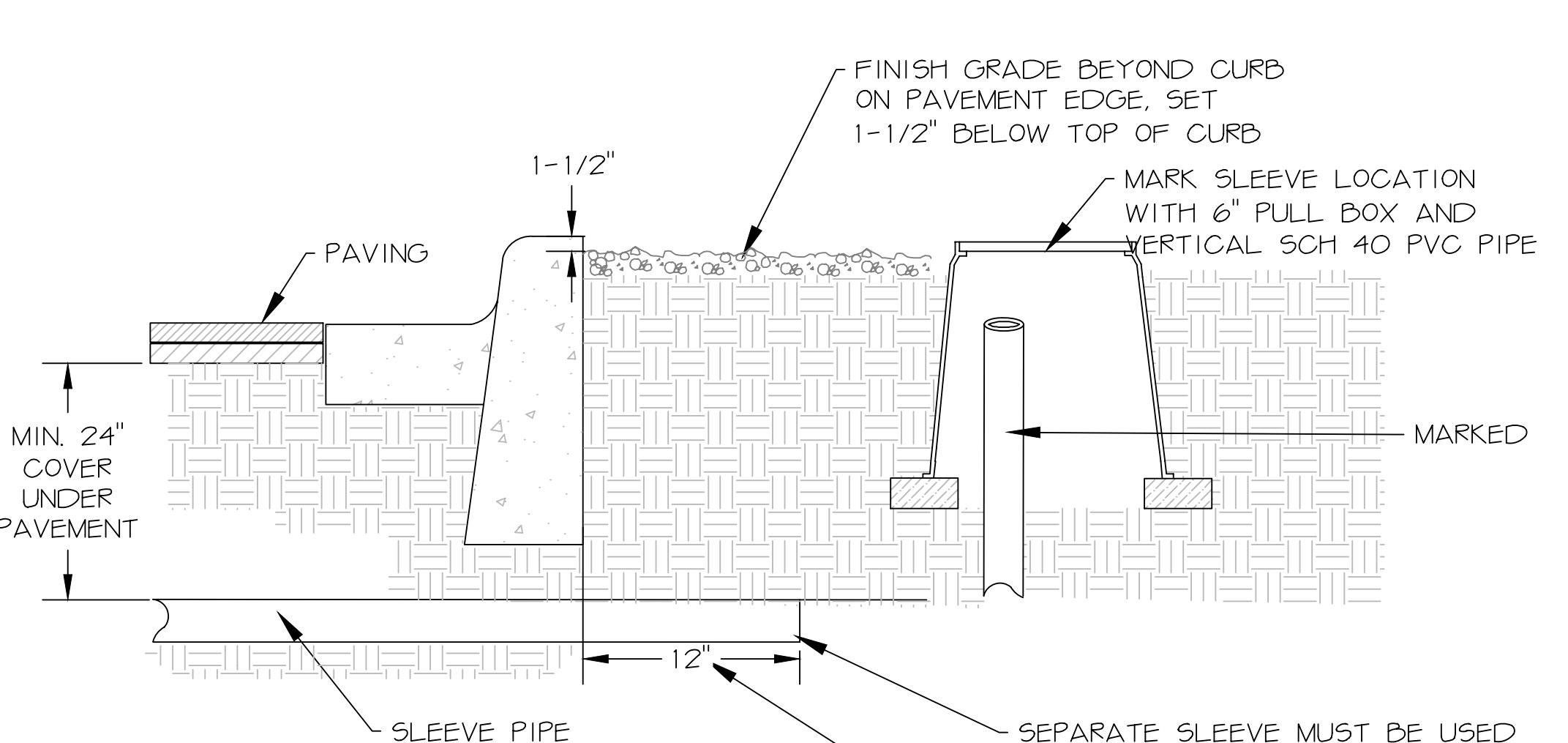


TRENCHING DETAIL
NTS



- NOTES:
- TOP OF WIRE BUNDLE SHOULD BE 2" BELOW TOP OF PIPE.
 - HORIZONTAL DISTANCE BETWEEN ALL PIPE MIN. 2"
 - ALL PIPING 3" AND LARGER SHALL HAVE 24"-26" OF COVER

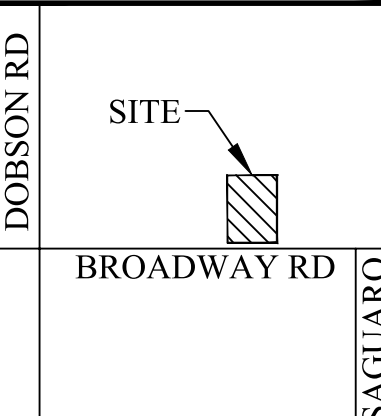
IRRIGATION SLEEVE UNDER PAVEMENT
NTS



- NOTE:
- ALTERNATIVE METHODS FOR MARKING SLEEVE LOCATIONS:
- STAMP BACK OF CURB WITH AN 'S' FOR NEW CONCRETE
 - RETROFIT WILL REQUIRE 'S' TO BE ETCHED BACK OF CURB

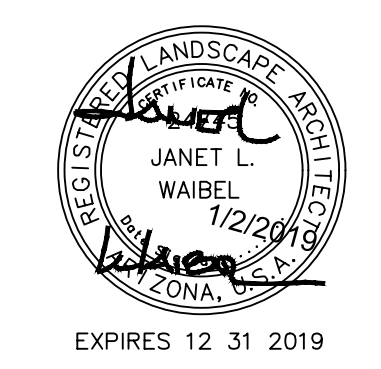
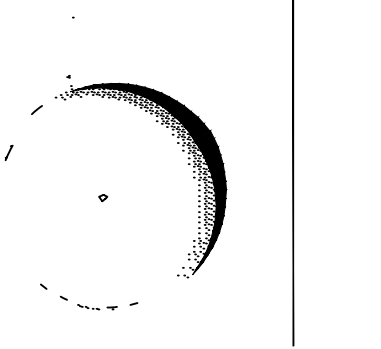
Revisions

Key Map



BEEMER HAUS
For:
CJR GROUP
4173 W. CORONA DR.
CHANDLER, AZ 85226
480-263-9712

Waibel & Associates
Landscape Architecture
Urban Design
Gardens & Consulting
Master Planning
Phone: 480-803-3849 Fax: 480-803-3846
8611 S. Priest Drive, Suite 101 Tempe, AZ 85284
Email: jwaibel@waibel-la.com
Website: www.waibel-la.com



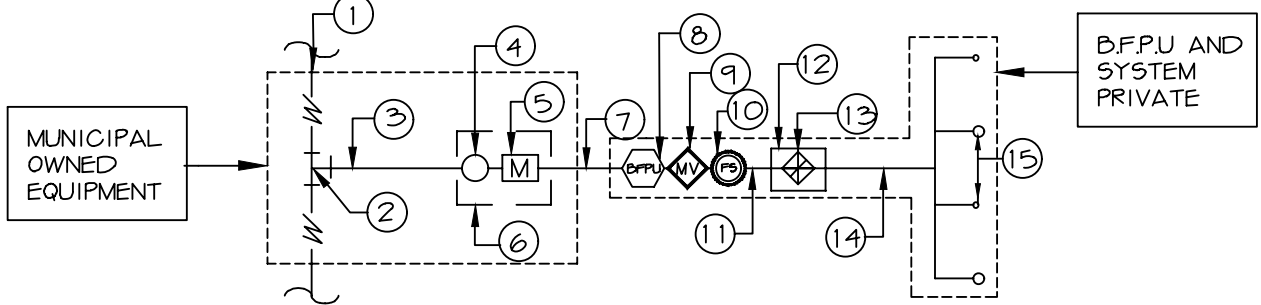
IRRIGATION
DETAILS

SHEET
NUMBER

WATER SYSTEM SCHEMATIC

NTS

- 1 WATER SUPPLY LINE
- 2 WATER TAP
- 3 WATER MAIN
- 4 CURB STOP
- 5 WATER METER
- 6 CONCRETE WATER METER VAULT PER MAG SPECIFICATIONS
- 7 TYPE "K" COPPER PIPE TO BACKFLOW PREVENTION UNIT (B.F.P.U.)
- 8 BACKFLOW PREVENTION UNIT
- 9 MASTER VALVE
- 10 FLOW SENSOR
- 11 PVC MAINLINE PIPE
- 12 REMOTE CONTROL VALVE
- 13 VALVE BOX PER SPECIFICATIONS
- 14 PVC LATERAL
- 15 SPRINKLER, BUBBLER OR EMITTER OUTLET PER PLAN



IRRIGATION PIPE AND SLEEVE SCHEDULE

NTS

PIPE SIZE	GPM
1/2"	0-5
3/4"	6-10
1"	11-15
1-1/4"	16-25
1-1/2"	26-35

SLEEVE SCHEDULE

PIPE SIZE	MINIMUM SLEEVE SIZE
1/2" - 3/4"	3"
1" - 2"	4"

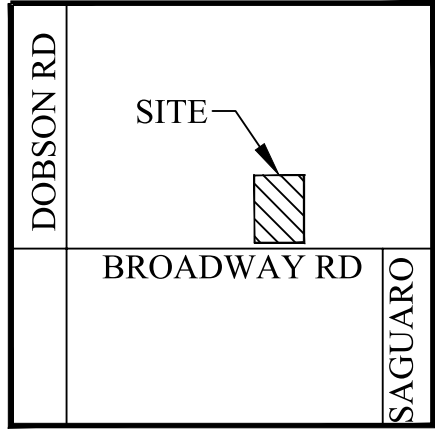
NOTE:
FOR MULTIPLE PIPES IN ONE SLEEVE MINIMUM, 3" OR LARGER SO PIPES MOVE FREELY IN BOTH DIRECTIONS.

LANDSCAPE IRRIGATION GENERAL NOTES (REVISED 02-15-18) (2018 VERSION)

- IRRIGATION DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE INTENDED TO CONCEPTUALLY CONVEY FULL COVERAGE BY THE IRRIGATION SYSTEM. PRINTS SHALL NOT BE SCALED. IRRIGATION LINES SHALL BE PLACED IN PLANTERS AND TURF AREAS, RATHER THAN UNDER PAVEMENT, WHERE POSSIBLE. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION LAYOUT OF THE SYSTEM IN ACCORDANCE WITH THE DRAWINGS TO PROPORTIONALLY COVER THE GIVEN AREAS AS SHOWN. THE LAYOUT MAY BE MODIFIED IF NECESSARY TO OBTAIN FULL COVERAGE TO SUIT THE MANUFACTURER'S STANDARD SPECIFIED HEADS. MODIFICATIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT BEFORE ANY MODIFICATIONS ARE TO BE INSTALLED. DO NOT DECREASE THE NUMBER OF IRRIGATION HEADS OR EMITTERS INDICATED UNLESS THE LANDSCAPE ARCHITECT IS NOTIFIED IN WRITING AND HAS ACCEPTED. THE SYSTEM SHALL BE TESTED FOR COMPLETE COVERAGE AND ALL NECESSARY AND PROPER ADJUSTMENTS HAVE BEEN MADE TO GET FULL AND PROPER COVERAGE PRIOR TO ACCEPTANCE BY THE OWNER
- PRIOR TO THE INSTALLATION OF ANY IRRIGATION SYSTEM COMPONENTS THE CONTRACTOR SHALL VERIFY THE STATIC PRESSURE OF THE AVAILABLE WATER POINT OF CONNECTION. IN THE EVENT THAT THE STATIC PRESSURE IS LESS THAN THE FIELD VERIFIED AMOUNT NOTED IN THE APPROVED PLANS AND SPECIFICATIONS THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF THE DISCREPANCY. THE LANDSCAPE ARCHITECT WILL ASSESS THE SITUATION AND ADJUST THE DESIGN IF NECESSARY. THE CONTRACTOR SHALL NOT CONTINUE IRRIGATION WORK UNTIL THE LANDSCAPE ARCHITECT HAS PROVIDED WRITTEN APPROVAL TO DO SO.
- ALL IRRIGATION PIPE TYPE AND SIZE PER THE APPROVED PLANS AND SPECIFICATIONS. ALL MAINLINE PIPE SHALL BE NEW PVC PIPE. ALL MAINLINE FITTINGS SHALL BE ASTM 2466 OR ASTM 2464 FITTINGS. ALL LATERAL LINE PIPE SHALL BE NEW PVC PIPE. FITTINGS ON ALL PVC LATERAL LINES SHALL BE ASTM 2466 FITTINGS UNLESS OTHERWISE SHOWN ON THE PLANS AND DETAILS.
- LIVE IRRIGATION MAINLINES SHALL BE INSTALLED A MINIMUM OF 24" BELOW FINISH GRADE. BACKFILL THE TRENCH AROUND LIVE SERVICE MAINLINES ACCORDING TO CITY OF MESA STANDARDS. LATERAL LINES SHALL BE PLACED A MINIMUM OF 18" BELOW FINISH GRADE.
- WATER SERVICE LINE TO METER WILL BE PROVIDED BY GENERAL CONTRACTOR. WATER METER WILL BE INSTALLED BY THE CITY. INSTALL THE IRRIGATION MAINLINE TO THE BACKFLOW PREVENTION DEVICE AND WATER METER, CONNECTIONS AND BACKFLOW SHALL BE INSTALLED AS PER INDUSTRY AND CITY OF MESA STANDARDS.
- ALL VALVES SHALL BE LOCATED IN GROUPS AS SHOWN ON DRAWINGS IN LANDSCAPE AREAS. VALVES SHALL BE LOCATED A MINIMUM OF 12" AWAY FROM ANY BUILDING, FENCE, MOWSTRIP, SIDEWALK OR CURB.
- ALL VALVES ARE TO BE WIRED TO CONTROLLERS USING #14 AWG DIRECT BURY WIRE AND WATER RESISTANT WIRE CONNECTORS. COMMON WIRE SHALL BE #12 AWG DIRECT BURIAL WIRE AND WATER RESISTANT WIRE CONNECTORS. ALL VALVE WIRES UNDER PAVING SHALL BE INSTALLED IN SCHEDULE 40 PVC SLEEVES BURIED 24" DEEP. RUN ONE EXTRA WIRE FROM THE CONTROLLER TO EACH GROUP OF VALVES FOR FUTURE USE AND COIL A 48" LOOP OF WIRE IN A PULL BOX. MARK THE WIRE COIL WITH A CHRISTY TAG NOTING ITS CORRESPONDING STATION NUMBER.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NEW IRRIGATION CONTROLLER IN THE LOCATION INDICATED ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR POWER CONNECTIONS FROM THE ELECTRICAL METER AND ALL SYSTEMS.
- PROVIDE AND INSTALL ALL THE MANUFACTURER'S RECOMMENDED SURGE AND LIGHTNING PROTECTION EQUIPMENT ON ALL CONTROLLERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY SITE ITEMS DAMAGED DURING THE COURSE OF CONSTRUCTION WHERE CONSTRUCTION ACTIVITIES HAVE DISTURBED THE SITE INSIDE OR OUTSIDE OF THE CONTRACT LIMITS. ALL AREAS SHALL BE REPAIRED AND RESTORED TO ORIGINAL CONDITION. REPAIRED AREAS SHALL BE CONSTRUCTED TO PROVIDE A SMOOTH TRANSITION IN GRADING AND MATERIALS FROM EXISTING TO NEW CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF THE IRRIGATION SYSTEM SHOWING EXACT MEASURED AND DIMENSIONED LOCATIONS OF ALL VALVE BOXES, PULL BOXES, QUICK COUPLERS, METER MANIFOLD EQUIPMENT, CONTROLLERS, SLEEVES AND OTHER ITEMS. TIE DIMENSIONS TO PERMANENT FEATURES SUCH AS STRUCTURES.
- IRRIGATION SLEEVES SHALL BE INSTALLED BENEATH ALL PAVEMENT, DRIVEWAYS AND DRAINAGE STRUCTURES THAT ARE CROSSED WITH IRRIGATION MAINLINE OR LATERAL PIPE OR CONTROLLER WIRE. ALL SLEEVES SHALL BE SCHEDULE 40 PIPE. SIZE SHALL BE 4" FOR ALL PIPING. SIZE SHALL BE 2" WHERE ONLY CONTROLLER WIRE IS PROVIDED. SLEEVES SHALL BE EXTENDED 6" INTO LANDSCAPE AREA.
- ONLY ONE VALVE SHALL BE PROVIDED PER VALVE BOX. ALL HARDWARE SHALL BE STAINLESS STEEL. BOLTS SHALL HAVE WASHERS. EXPANSION COILS SHALL BE PROVIDED AT EACH WIRE CONNECTION IN VALVE BOX. WRAP WIRE AROUND 1/2" PVC PIPE 15 TIMES. COVER SHALL BE EMBOSSED WITH 1/2" LETTERS ON CONTROLLER AND ON VALVES WITH CORRESPONDING FIELD NUMBER.
- ADEQUATE PRESSURE SHALL BE VERIFIED FOR ALL PIPE RUNS PRIOR TO COVERING PIPE IN TRENCHES. OWNER'S REPRESENTATIVE SHALL BE PRESENT FOR ALL IRRIGATION PRESSURE TESTING PRIOR TO COVERING TRENCHES.
- ALL WORK AND MATERIALS MUST MEET CITY OF MESA STANDARDS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS INCLUDING ALL APPURTENANCES AND LABOR NECESSARY TO INSTALL THE COMPLETE AUTOMATIC SPRINKLER SYSTEM FROM THE METER. WATER USAGE CHARGES SHALL BE PAID BY CONTRACTOR UNTIL PROJECT FINAL ACCEPTANCE BY CITY OF MESA.
- PROJECT RECORD DRAWINGS FOR IRRIGATION SYSTEM:
 - MAINTAIN ON SITE AND SEPARATE FROM DOCUMENTS USED FOR CONSTRUCTION, ONE COMPLETE SET OF CONTRACT DOCUMENTS AS PROJECT RECORD DOCUMENTS. KEEP DOCUMENTS CURRENT. DO NOT PERMANENTLY COVER WORK UNTIL AS-BUILT INFORMATION IS RECORDED.
 - RECORD PIPE AND WIRING NETWORK ALTERATIONS. RECORD WORK WHICH IS INSTALLED DIFFERENTLY THAN SHOWN ON THE CONSTRUCTION DRAWINGS. RECORD ACCURATE REFERENCE DIMENSIONS, MEASURED FROM AT LEAST TWO PERMANENT REFERENCE POINTS, OF EACH IRRIGATION SYSTEM VALVE, EACH BACKFLOW PREVENTION DEVICE, EACH CONTROLLER OR CONTROLLER UNIT, EACH SLEEVE END, EACH STUB-OUT FOR FUTURE PIPE OR WIRING CONNECTIONS, AND OTHER IRRIGATION COMPONENTS ENCLOSED WITHIN A VALVE BOX.

Revisions

Key Map

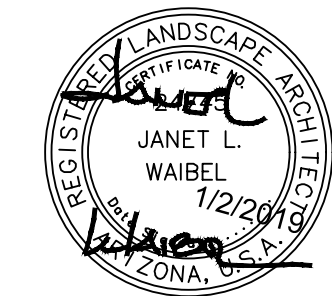
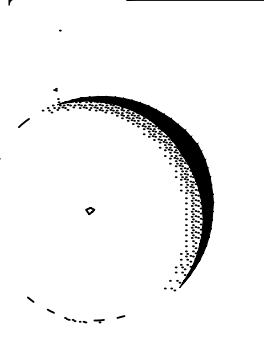


BEEMER HAUS

For:
CJRJ GROUP
4173 W. CORONA DR.
CHANDLER, AZ 85226
480-263-9712

Waibel & Associates
Landscape Architecture
Master Planning
Gardens & Consulting
Urban Design

Phone: 480-803-3849 Fax: 480-803-3846
8611 S. Priest Drive, Suite 101 Tempe, AZ 85284
Email: janet@waibel-la.com
Website: www.waibel-la.com



IRRIGATION
DETAILS

SHEET
NUMBER

5 OF 5

Date: 1/2/2019

