

RIDGEGATE SOUTHWEST VILLAGE FILING 1, OCTAVE AVENUE R.O.W. LANDSCAPE PLANS

GENERAL NOTES:

- THE BASE PLANS ON THESE DRAWINGS HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION, HOWEVER, IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL MATERIAL LOCATIONS AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES THAT ARE FOUND. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL DUE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING UTILITY LINES NOT OF RECORD OR NOT SHOWN ON THE PLANS. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THESE PLANS FOR PERTINENT INFORMATION RELATING TO SITE CONSTRUCTION.
- THE LANDSCAPE CONTRACTOR SHALL HAVE ONE (1) APPROVED COPY OF PLANS AT THE JOB SITE AT ALL TIMES.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONSTRUCTION BARRICADES, SIGNS, AND WARNING DEVICES NECESSARY DURING CONSTRUCTION.
- LANDSCAPE CONTRACTOR SHALL MAINTAIN A QUALIFIED SUPERVISOR ON SITE AT ALL TIMES DURING CONSTRUCTION.
- LANDSCAPE CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES AND SPECIFICATIONS.
- LANDSCAPE CONTRACTOR SHALL COORDINATE AND OBTAIN ALL PERMITS AT THEIR OWN EXPENSE, WHICH ARE NECESSARY TO PERFORM ALL PROPOSED WORK AND SHALL COMPLY WITH ALL NOTIFICATION AND INSPECTION REQUIREMENTS.
- LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND NOTIFY THE GENERAL CONTRACTOR IN WRITING OF UNSATISFACTORY CONDITIONS. DO NOT PROCEED UNTIL CONDITIONS HAVE BEEN CORRECTED.
- BEFORE COMMENCING WORK, CONTACT APPROPRIATE UTILITY COMPANIES FOR UTILITY LOCATIONS, AND COORDINATE WITH THE OWNER'S REPRESENTATIVE IN REGARD TO LOCATION OF PROPOSED UTILITIES, IRRIGATION SLEEVES, CONDUITS, (ETC). LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS OR DAMAGES TO THE UTILITY LINES, STRUCTURES OR INJURIES THEREFROM. FOR EXISTING UTILITY INFORMATION CONTACT "THE UTILITY NOTIFICATION CENTER OF COLORADO" AT 1-800-922-1987. A MINIMUM OF THREE (3) BUSINESS DAY NOTICE IN ADVANCE OF LOCATIONS NEEDED ARE REQUIRED.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT AREAS OUTSIDE THE CONSTRUCTION ZONE FROM STORM WATER RUNOFF, EROSION, AND/OR DEPOSITION OF DEBRIS RESULTING FROM CONSTRUCTION OF THIS PROJECT. ANY AREAS OUTSIDE THE CONSTRUCTION ZONE DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED AT HIS COST.
- THE CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT, AND METHODS REQUIRED TO PREVENT HIS OPERATIONS FROM PRODUCING DUST IN AMOUNTS DAMAGING TO PROPERTY, CULTIVATED OR NATIVE VEGETATION, DOMESTIC AND NON-DOMESTIC ANIMALS, OR POSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING BY DUST RESULTING FROM HIS OPERATIONS.
- WHERE PROVIDED, AREA TAKEOFFS AND QUANTITY ESTIMATES ARE PROVIDED FOR CONTRACTOR CONVENIENCE ONLY. THE CONTRACTOR IS RESPONSIBLE TO DO THEIR OWN QUANTITY TAKEOFFS FOR ALL MATERIALS AND SIZES SHOWN ON THE PLANS. IN THE CASE OF DISCREPANCIES, PLANS TAKE PRECEDENCE OVER PLANT CALL-OUTS AND/OR LISTS.
- LANDSCAPE CONTRACTOR TO SUBMIT SAMPLES OF MISCELLANEOUS LANDSCAPE & HARDSCAPE MATERIALS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION, IE.; WOOD/ROCK MULCH, EDGER, LANDSCAPE FABRIC (ETC).
- THE LANDSCAPE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE AND SCHEDULE A PRE-CONSTRUCTION MEETING BEFORE ANY CONSTRUCTION TAKES PLACE.
- ALL MATERIAL AND WORKMANSHIP SHALL BE GUARANTEED AND MAINTAINED FOR ONE YEAR FROM THE DATE OF INITIAL ACCEPTANCE UNLESS OTHERWISE AGREED UPON CONTRACTUALLY BETWEEN OWNER AND CONTRACTOR. ALL REPLACEMENT COST SHALL BE BORN BY THE CONTRACTOR.
- ALL LANDSCAPE CONSTRUCTION PRACTICES, WORKMANSHIP, AND ETHICS SHALL, BE IN ACCORDANCE WITH INDUSTRY STANDARDS SET FORTH IN THE CURRENT CONSTRUCTION HANDBOOK PUBLISHED BY THE COLORADO LANDSCAPE CONTRACTORS ASSOCIATION.
- A RIGHT OF WAY PERMIT MAY BE REQUIRED BY THE CITY'S PUBLIC WORKS DEPARTMENT FOR LANDSCAPING AND IRRIGATION INSTALLATION.
- ANY EXISTING OR INVASIVE OR PROHIBITED SPECIES MUST BE REMOVED PRIOR TO LANDSCAPE INSTALLATION
- ANY CHANGES TO PLANTINGS MUST BE APPROVED BY THE CITY OF LONE TREE.

PROJECT CONTACTS

LANDSCAPE ARCHITECT
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SHEET INDEX

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L-101	PLANTING PLAN
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MAINTENANCE SPECIFICATIONS

GENERAL

- A. WEEDING**
- WEEDS REPRESENT THE GREATEST THREAT TO SUCCESSFUL ESTABLISHMENT OF NEWLY LANDSCAPE AREAS. THEREFORE, A VIGOROUS, HIGH LEVEL OF WEED CONTROL IS NECESSARY TO MAINTAIN AN ATTRACTIVE, HEALTHY LANDSCAPE.
 - SPOT CONTROL WEEDS BI-WEEKLY USING CHEMICAL AND/OR MECHANICAL MEANS. DO NOT SPRAY IN WINDY WEATHER. USE EXTRA CAUTION IN APPLICATION OF CHEMICALS TO PREVENT OVERSPRAY ONTO DESIRED PLANT MATERIAL.
 - MECHANICAL MEANS ARE THE PREFERRED METHODS FOR REMOVAL OF WEEDS.
 - PLANTING BEDS SHALL BE INSPECTED BI-WEEKLY FOR WEEDS.
 - IF SPRAYING WEEDS, DEAD MATERIAL SHALL BE REMOVED FROM IMMEDIATELY SO AS NOT TO CREATE UNNECESSARY DEBRIS.
- B. NOXIOUS WEED CONTROL**
- REMOVE NOXIOUS WEEDS, AS DEFINED BY THE STATE OF COLORADO AND DOUGLAS COUNTY, FROM THE AREA WITHIN FIVE FEET OF THE PERIMETERS OF THE LANDSCAPED AREAS BY SPRAYING WITH AN APPROVED BROADLEAF HERBICIDE BY MAY 15TH AND OCTOBER 1 WITH SPOT APPLICATION AS REQUIRED. COST FOR SPOT APPLICATIONS, SHALL BE DONE ON A TIME AND MATERIAL BASIS PER THE CONTRACT DOCUMENTS.
- C. TREE MAINTENANCE**
- TRIM TREE LIMBS TO PREVENT ENCROACHMENT ON PEDESTRIAN OR VEHICULAR PATH.
 - MAINTAIN TENSIONED TREE GUYS. REPLACE ANY STAKES OR GUYS THAT MAY BECOME LOOSE.
 - REPLACE TREE WRAP WHERE APPLICABLE.
 - REMOVE STAKES AND GUYS AFTER 1 YEAR.
 - SOME TREES WILL BE SUBJECT TO LOW LIMBING REQUIREMENTS OUTLINED IN THE SOUTHWEST VILLAGE WILDFIRE MITIGATION PLAN.
 - TREE CANOPIES EXTENDING OVER THE ROADWAY SHALL BE MAINTAINED AT A MINIMUM CANOPY OF 14' ABOVE THE ROADWAY.
 - TREE CANOPIES WITHIN SIGHT TRIANGLES OR OVER SIDEWALKS SHALL BE MAINTAINED TO HAVE A MINIMUM 7' CLEARANCE BETWEEN GROUND SURFACE AND TREE CANOPY.
 - ALL SIDEWALKS WILL BE MAINTAINED SO THAT ACORNS WILL BE REMOVED WHERE PRESENT.
- D. SHRUB MAINTENANCE**
- TRIM SHRUBS TO PREVENT PEDESTRIAN OR VEHICULAR CONFLICTS.
 - REMOVE WEEDS INCLUDING ROOTS FROM SHRUB BEDS.
 - IF BARE SOIL OR FILTER FABRIC IS VISIBLE WITHIN SHRUB BEDS, RE-APPLY MULCH PER DRAWINGS.
 - NO HERBICIDE TO BE USED IN SHRUB BEDS.
 - SOME SHRUBS WILL BE SUBJECT TO THINNING REQUIREMENTS OUTLINED IN THE SOUTHWEST VILLAGE WILDFIRE MITIGATION PLAN.
- F. MOWING:**
- MOWING DURING MAINTENANCE PERIOD IS THE RESPONSIBILITY OF THE CONTRACTOR. DO NOT BEGIN MOWING UNTIL THE RTF SOD HAS HAD AT LEAST TEN (10) CONSECUTIVE DAYS FROM INSTALLATION TO ROOT INTO THE SOIL.
 - MOWING HEIGHT SHALL BE NO LESS THAN 2". MOW NEWLY SEEDED AREAS WHEN 75% OF GRASS REACHES 3" HEIGHT. TRIM RTF SOD AROUND FOUNDATIONS, ROCKS, LIGHT POLES, FIRE HYDRANTS AND ANY OTHER OBJECTS WITHIN THE LAWN AREAS. DO NOT USE HERBICIDE AS A SUBSTITUTE FOR TRIMMING.
 - SOME LANDSCAPE AREAS WILL BE SUBJECT TO MOWING AND THINNING REQUIREMENTS OUTLINED IN THE SOUTHWEST VILLAGE WILDFIRE MITIGATION PLAN.
- G. FERTILIZING:**
- APPLY FERTILIZER AFTER FIRST MOWING AND WHEN THE GRASS IS DRY. USE 10:6 OR EQUIVALENT AT RATE OF 1 LB. OF NITROGEN PER 1000 SQ. FT. OF LAWN AREA.
- H. WATERING:**
- TREES AND SHRUBS: WATER AREA SUFFICIENTLY TO MOISTEN SOIL THOROUGHLY AND IN SUCH A MANNER AS TO AVOID EROSION. COMMENCE WATERING ON THE DAY OF INSTALLATION AND CONTINUE AS NEEDED.
 - RTF SOD: WATER NEW LAWN AREA SUFFICIENTLY TO MOISTEN SOIL THOROUGHLY AND IN SUCH A MANNER AS TO AVOID EROSION. COMMENCE WATERING ON THE DAY OF INSTALLATION AND CONTINUE AS NEEDED.
 - PROVIDE AND MAINTAIN TEMPORARY PIPING, HOSES AND LAWN WATERING EQUIPMENT TO CONVEY WATER FROM SOURCES AND TO KEEP ALL PLANTED AREAS UNIFORMLY MOIST AS REQUIRED FOR PROPER GROWTH.

Soils Report:

- IT'S THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE MOST CURRENT COPY OF THE SOILS REPORT FROM THE DEVELOPER AND FOLLOW ALL REQUIREMENTS PERTAINING TO IRRIGATION AND LANDSCAPE INSTALLATION AND MAINTENANCE PRACTICES. IF THESE DRAWINGS ARE IN CONFLICT IN ANYWAY WITH THE REPORT, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY TO WORK OUT A RESOLUTION.

Plants Around Structures:

- PLANTS PLACES CLOSE TO FOUNDATION WALLS SHOULD BE LIMITED TO THOSE WITH LOW MOISTURE REQUIREMENTS. IRRIGATED GRASS SHOULD NOT BE LOCATED WITHIN 5 FEET OF THE FOUNDATION. SPRINKLERS SHOULD NOT DISCHARGE WITHIN 5 FEET OF THE FOUNDATIONS. IRRIGATED VEGETATION, SUMP PUMP DISCHARGE PIPES, SPRINKLER VALVE BOXES, AND ROOF DOWNSPOUT TERMINATIONS SHOULD ALSO BE AT LEAST 5 FEET FROM THE FOUNDATION.

MAINTENANCE SCHEDULE

- SUBMIT 1 YEAR MAINTENANCE SCHEDULE TO OWNER AT FINAL ACCEPTANCE WALK.
- EDGE OF ALL TURF AREAS WITH A STEEL BLADED EDGER ADJACENT TO WALKS AND DRIVEWAYS TWICE A MONTH DURING GROWING SEASON.
- (4) FOUR WINTER WATERINGS ON ALL TREES AND EVERGREEN SHRUBS.
- MANICURED TURF AREAS SHALL BE FERTILIZED TWICE YEARLY IN APRIL AND SEPTEMBER.
- PERENNIALS AND ORNAMENTAL GRASSES SHALL BE CUT BACK ONCE ANNUALLY IN SPRING (TYPICALLY MARCH).
- PLANTING BEDS SHALL BE WEDED BI-WEEKLY.
- TREES AND SHRUBS SHALL BE FERTILIZED ONCE ANNUALLY IN THE SPRING. THIS CAN BE CONCURRENT WITH FERTILIZATION OF THE MANICURED TURF IN APRIL.
- TRASH SHALL BE REMOVED FROM THE SITE ON A WEEKLY BASIS DURING GROWING SEASON.
- WEEKLY IRRIGATION SYSTEM CHECK, SPRING START UP, MAINTENANCE, WINTERIZATION, & WATER MANAGEMENT.



KEY MAP

SUMMARY TABLE	
FILING 1 ROW LANDSCAPE PLANS	
TOTAL LANDSCAPED AREA:	22,200 SF
SOD:	14,400 SF
NATIVE SEED:	0 SF
PLANTING AREA:	7,800 SF
TOTAL HARDSCAPE AREA:	0 SF
SCORED CONCRETE:	0 SF

RIDGEGATE SOUTHWEST VILLAGE PHASE 1



RIDGEGATE SOUTHWEST VILLAGE FILING 1, OCTAVE AVE R.O.W. LANDSCAPE PLANS



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REVISION RECORD		
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2	RESUBMIT.	1.27.23
3	RESUBMIT.	3.10.23

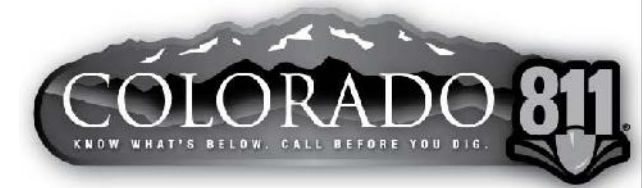
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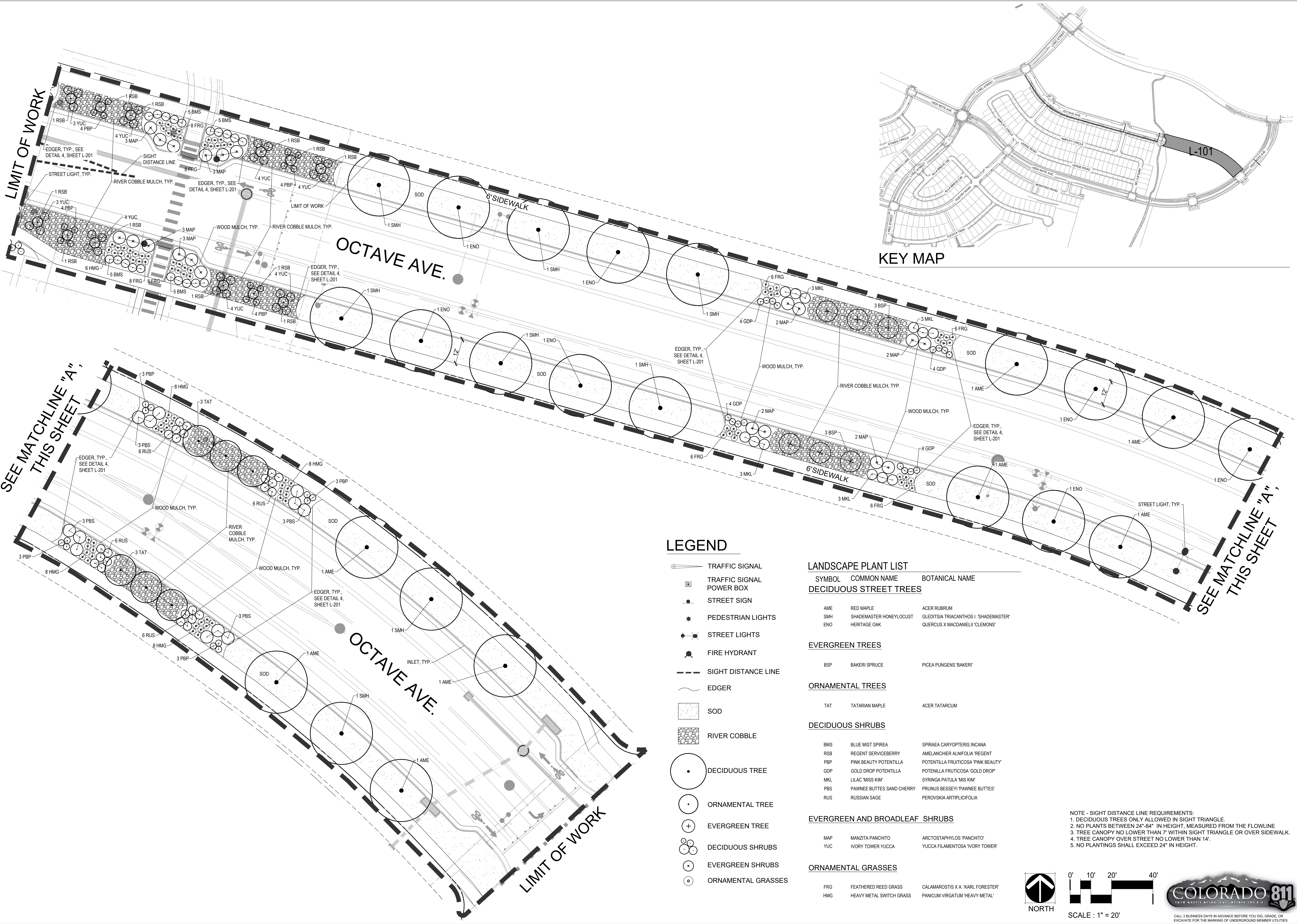
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RIDGEGATE SOUTHWEST VILLAGE PHASE 1





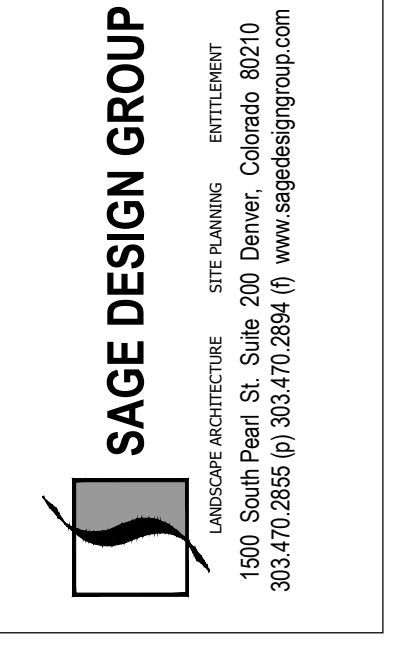
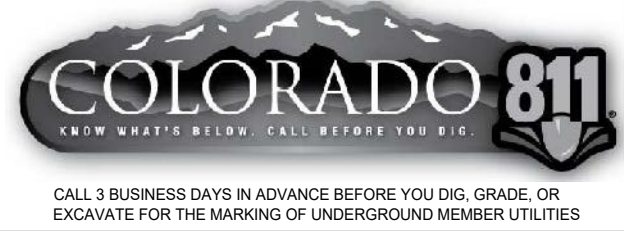
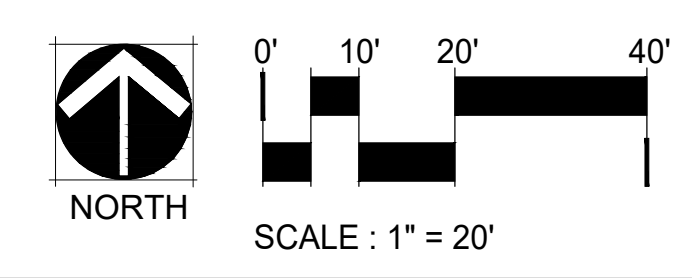
LEGEND

- TRAFFIC SIGNAL
- TRAFFIC SIGNAL POWER BOX
- STREET SIGN
- PEDESTRIAN LIGHTS
- STREET LIGHTS
- FIRE HYDRANT
- SIGHT DISTANCE LINE
- EDGER
- SOD
- RIVER COBBLE
- DECIDUOUS TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUBS
- EVERGREEN SHRUBS
- ORNAMENTAL GRASSES

LANDSCAPE PLANT LIST

SYMBOL	COMMON NAME	BOTANICAL NAME
DECIDUOUS STREET TREES		
AME	RED MAPLE	ACER RUBRUM
SMH	SHADEMASTER HONEYLOCUST	GLEDITSIA TRIACANTHOS 'SHADEMASTER'
ENO	HERITAGE OAK	QUERCUS X MACDANIELI 'CLEMONS'
EVERGREEN TREES		
BSP	BAKERI SPRUCE	PICEA PUNGENS 'BAKERI'
ORNAMENTAL TREES		
TAT	TATARIAN MAPLE	ACER TATARICUM
DECIDUOUS SHRUBS		
BMS	BLUE MIST SPIREA	SPIRAEA CARYOPTERIS INCANA
RSB	REGENT SERVICEBERRY	AMELANCHIER ALNIFOLIA 'REGENT'
PBP	PINK BEAUTY POTENTILLA	POTENTILLA FRUITICOSA 'PINK BEAUTY'
GDP	GOLD DROP POTENTILLA	POTENTILLA FRUITICOSA 'GOLD DROP'
MKL	LILAC 'MISS KIM'	SYRINGA PATULIA 'MISS KIM'
PBS	PAWNEE BUTTES SAND CHERRY	PRUNUS BESSEYI 'PAWNEE BUTTES'
RUS	RUSSIAN SAGE	PEROVSKIA ARTIOPHYLLA
EVERGREEN AND BROADLEAF SHRUBS		
MAP	MANZITA PANCHITO	ARCTOSTAPHYLOS 'PANCHITO'
YUC	IVORY TOWER YUCCA	YUCCA FILAMENTOSA 'IVORY TOWER'
ORNAMENTAL GRASSES		
FRG	FEATHERED REED GRASS	CALAMAROSTIS X.A. 'KARL FORESTER'
HMG	HEAVY METAL SWITCH GRASS	PANICUM VIRGATUM 'HEAVY METAL'

NOTE - SIGHT DISTANCE LINE REQUIREMENTS:
 1. DECIDUOUS TREES ONLY ALLOWED IN SIGHT TRIANGLE.
 2. NO PLANTS BETWEEN 24"-84" IN HEIGHT, MEASURED FROM THE FLOWLINE
 3. TREE CANOPY NO LOWER THAN 7' WITHIN SIGHT TRIANGLE OR OVER SIDEWALK.
 4. TREE CANOPY OVER STREET NO LOWER THAN 14'.
 5. NO PLANTINGS SHALL EXCEED 24" IN HEIGHT.

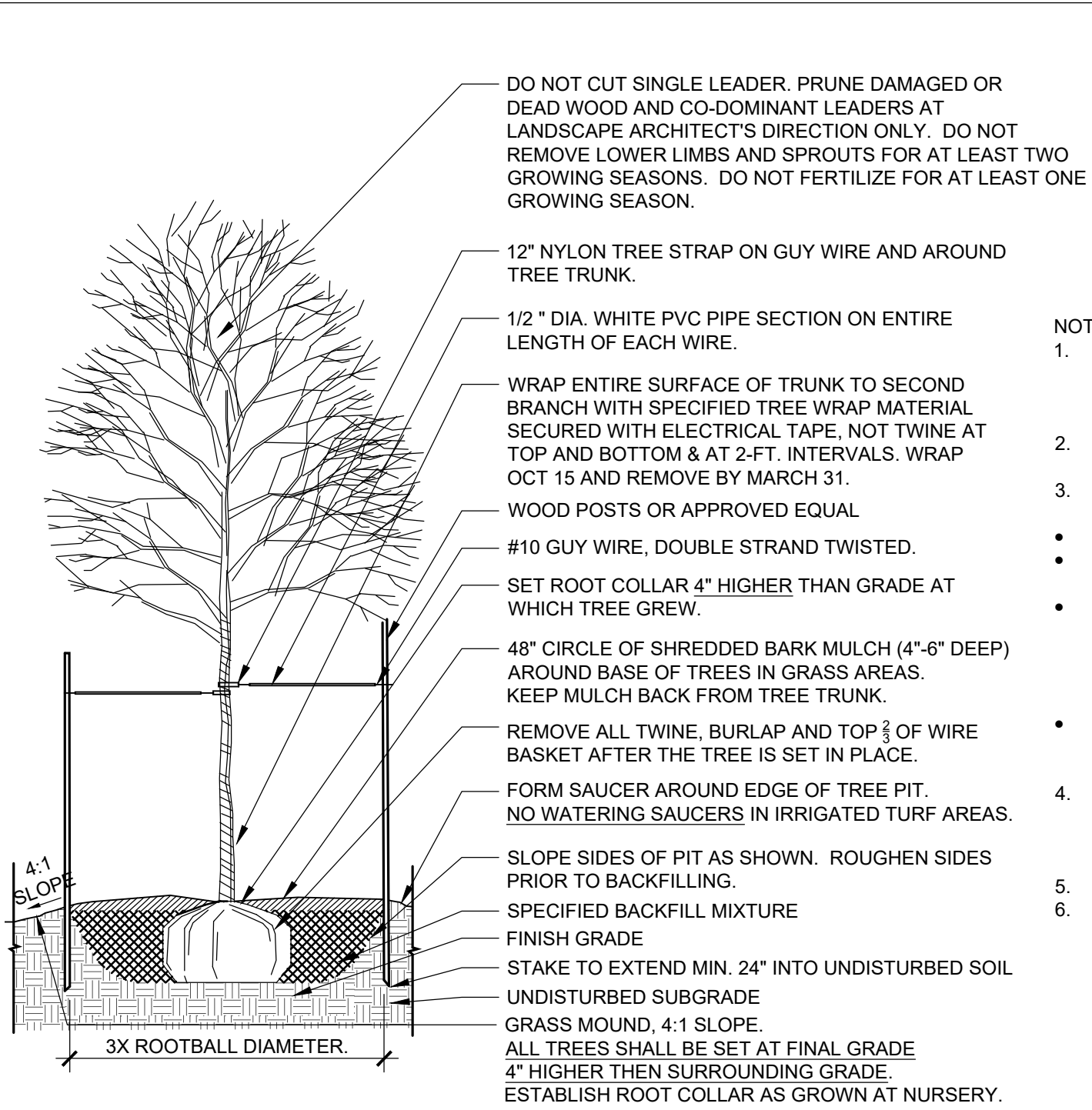


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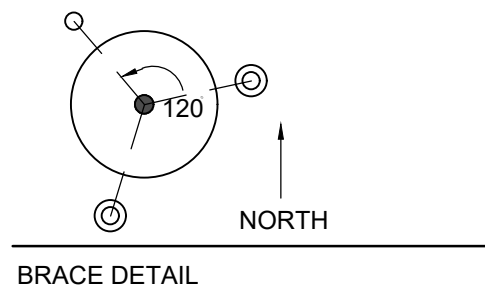
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 PLANTING PLAN
 SHEET NO. :
L-101
 RIDGEGATE SOUTHWEST VILLAGE PHASE 1



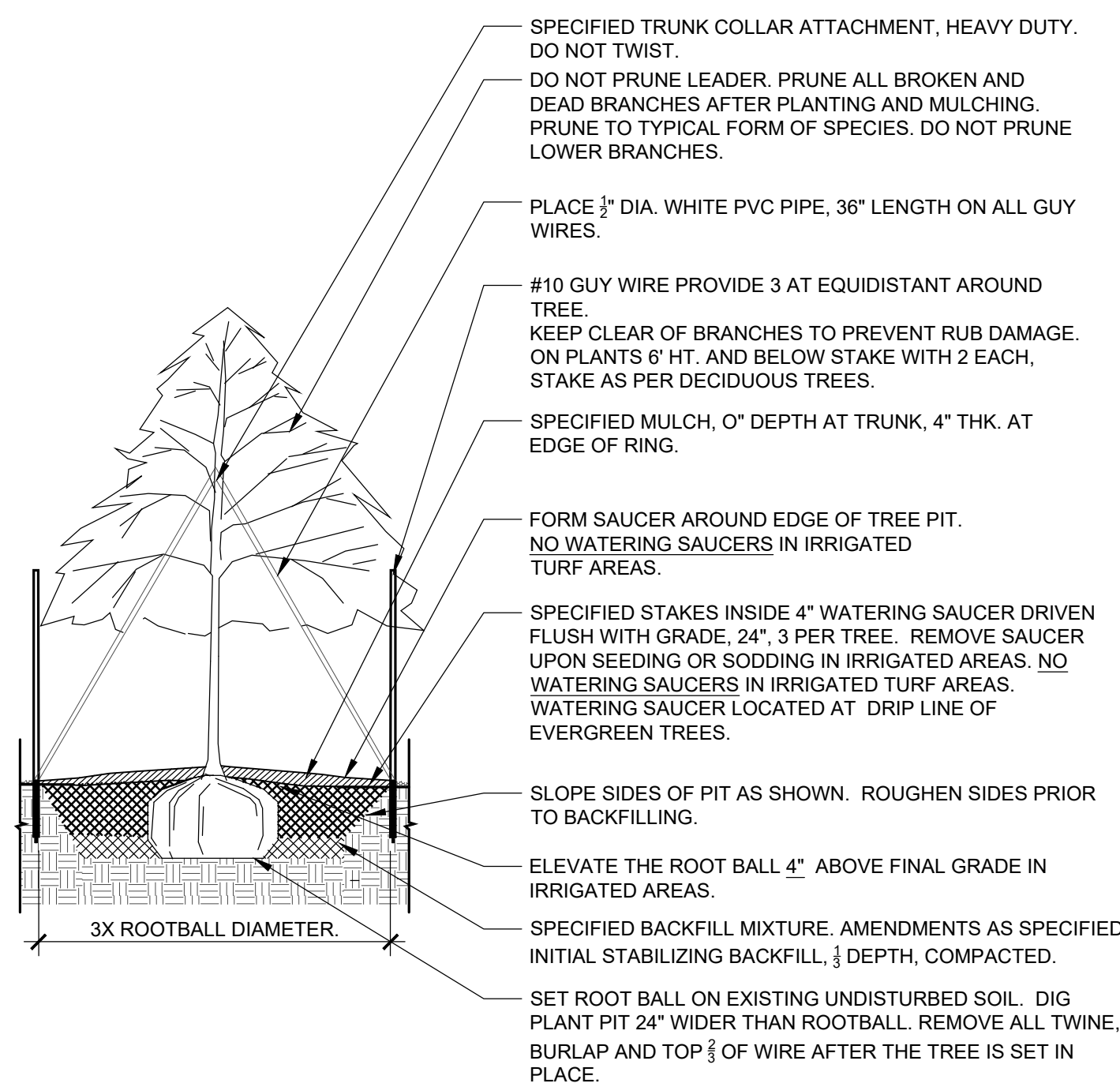
NOTES:

- ANY BROKEN OR CRUMBLING ROOTBALL WILL BE REJECTED. REMOVING THE WIRE WILL NOT BE AN EXCUSE FOR DAMAGED ROOTBALLS. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
- TREES SHOULD BE PLANTED THE SAME DAY AS DELIVERED TO THE SITE.
- REPLACE ALL PIT EXCAVATION WITH THE FOLLOWING BACKFILL:
 - CLASS I, SUBMIT TESTING CERTIFICATE.
 - TOPSOIL TO BE CLEAN, NEUTRAL PH AND HAVE NO FOREIGN MATERIALS OR CONTAMINATES.
 - 50% PLANTER MIX / 50% COMPOST OR PREPARED PLANTER MIX OR 75% IMPORTED TOPSOIL / 25% PREPARED PLANTER MIX. SUBMIT PROPOSED BACKFILL TO OWNERS REPRESENTATIVE FOR APPROVAL BEFORE PLANTING.
- DO NOT INCLUDE FERTILIZER FOR NEWLY PLANTED TREES UNLESS DIRECTED BY OWNERS REPRESENTATIVE.
- COORDINATE IRRIGATION AND TREE PLANTINGS IN SOD AREAS. IRRIGATE IN MORE APPLICATIONS IN LESSER AMOUNTS. PREVENT OVER WATERING. CONTACT OWNERS REPRESENTATIVE IF NEEDED.
- NO WATERING SAUCERS IN IRRIGATED TURF AREAS.
- SUPPLEMENTAL HAND WATERING WILL BE REQUIRED DURING ESTABLISHMENT PERIOD AND PERSONNEL MUST BE ON SITE TO INSURE NEWLY PLANTED TREES GET ENOUGH WATER WERE NEEDED. COORDINATE WITH OWNERS REPRESENTATIVE TO MEET ALL WATERING ISSUES AND ESTABLISH BEST MAINTENANCE PRACTICES. CONSTANT VIGILANCE WILL BE NEEDED FOR SUCCESSFUL TREE PLANTING.



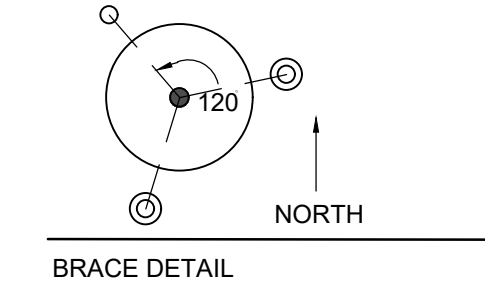
1 DECIDUOUS TREE DETAIL

NTS



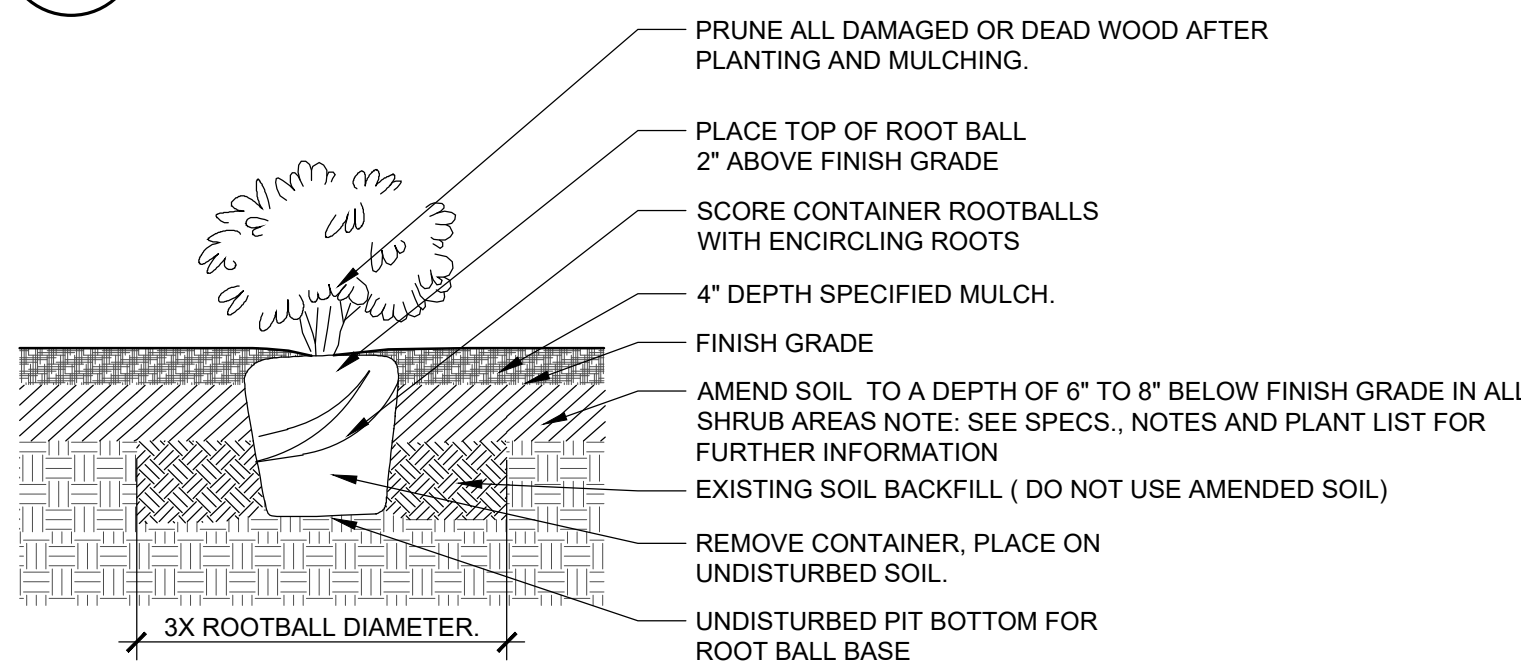
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2 EVERGREEN TREE DETAIL

NTS



NOTE:

- DO NOT PLANT ANY PLANT WITH ROOTBALL NOT IN CONFORMANCE WITH COLORADO NURSERY ACT REQUIREMENTS
- HOLD MULCH TOP GRADE 1\"/>

3 SHRUB PLANTING DETAIL

NTS

PLANTING NOTES:

Minimum Plant size Requirements and Soil Preparation:

- ALL PLANT MATERIALS SHALL MEET OR EXCEED SIZE IN SCHEDULES. OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REFUSE PLANT MATERIALS WHICH DO NOT MEET THE QUALITY REQUIRED FOR THE PROJECT. ALL DECIDUOUS TREES SHALL HAVE FULL, WELL SHAPED HEADS. ALL EVERGREEN TREES SHALL BE UNSHEARED AND FULL TO THE GROUND. PLANT MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1.
- ALL TREES TO BE STAKED OR GUYED PER DETAILS ON THIS SHEET. ALL TREE LOCATIONS ARE TO BE STAKED FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- BLUE GRASS SOD AND SHRUB BEDS AREAS SHALL BE AMENDED WITH CLASS II COMPOST AT A RATE OF 5 CUBIC YARDS PER 1000 S.F., AMMONIUM SULFATE (20-0-0) AT A RATE OF 5 LBS PER 1000 S.F.; AND SOIL SULFUR (90%-100% ELEMENTAL) AT A RATE OF 10 LBS PER 1000 S.F. AMENDMENTS SHALL BE THOROUGHLY BLENDED TO HOMOGENEOUS CONDITION TO A DEPTH OF NO LESS THAN 6\"/>

LANDSCAPE PLANT LIST

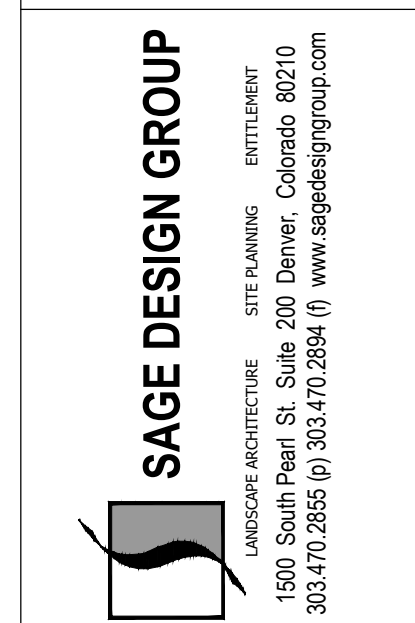
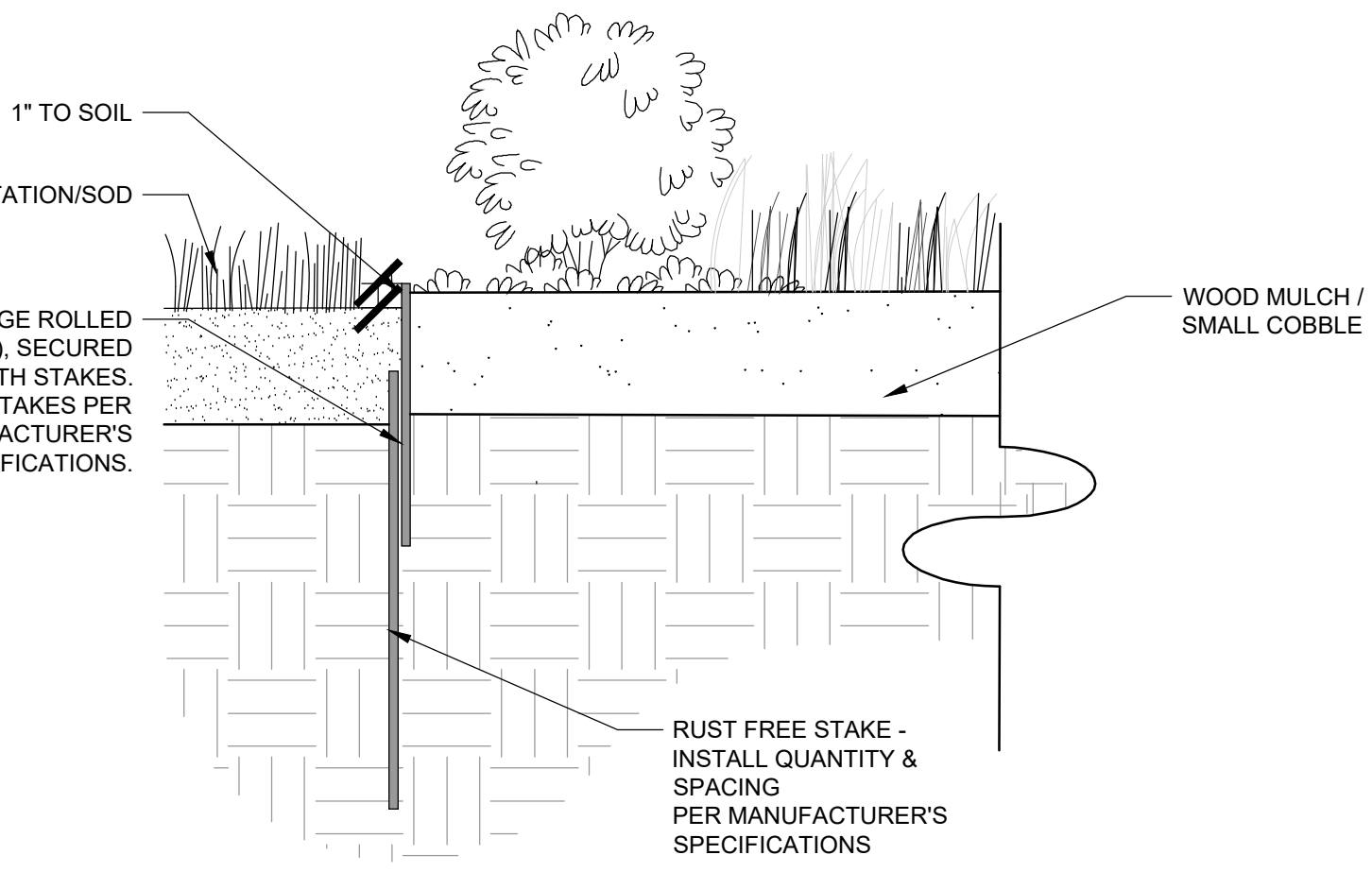
SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE & CONDITION	QUANTITY	HIGH WATER USE	PLANT SIZE (H X W)	SALT TOLERANCE	PET WASTE TOLERANCE
DECIDUOUS STREET TREES								
AME	RED MAPLE	ACER RUBRUM	3\"/>					

MULCH								
LANDSCAPE FABRIC	3 OZ. SUPERIOR LANDSCAPE FABRIC BY PIONEER SAND COMPANY - 303-791-3535. LOCATE UNDER SPECIFIED MULCH			4,500 SF				
WOOD MULCH	WASHINGTON CEDAR ("GORILLA HAIR") BY PIONEER SAND COMPANY - 303-791-3535. WITH NO LANDSCAPE FABRIC. LOCATE PER PLANS.		4\"/>					

NOTE - SOD, NATIVE SEED AND SHRUB BEDS TOTALS ARE FOR CONTRACTOR CONVENIENCE ONLY. WHERE CONFLICT OCCURS, THE AREAS/QUANTITIES SHOWN ON THE PLAN SHALL PREVAIL.

4 EDGER DETAIL

NTS



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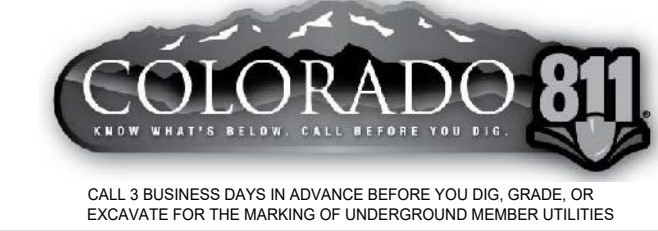
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POINTS OF CONNECTION

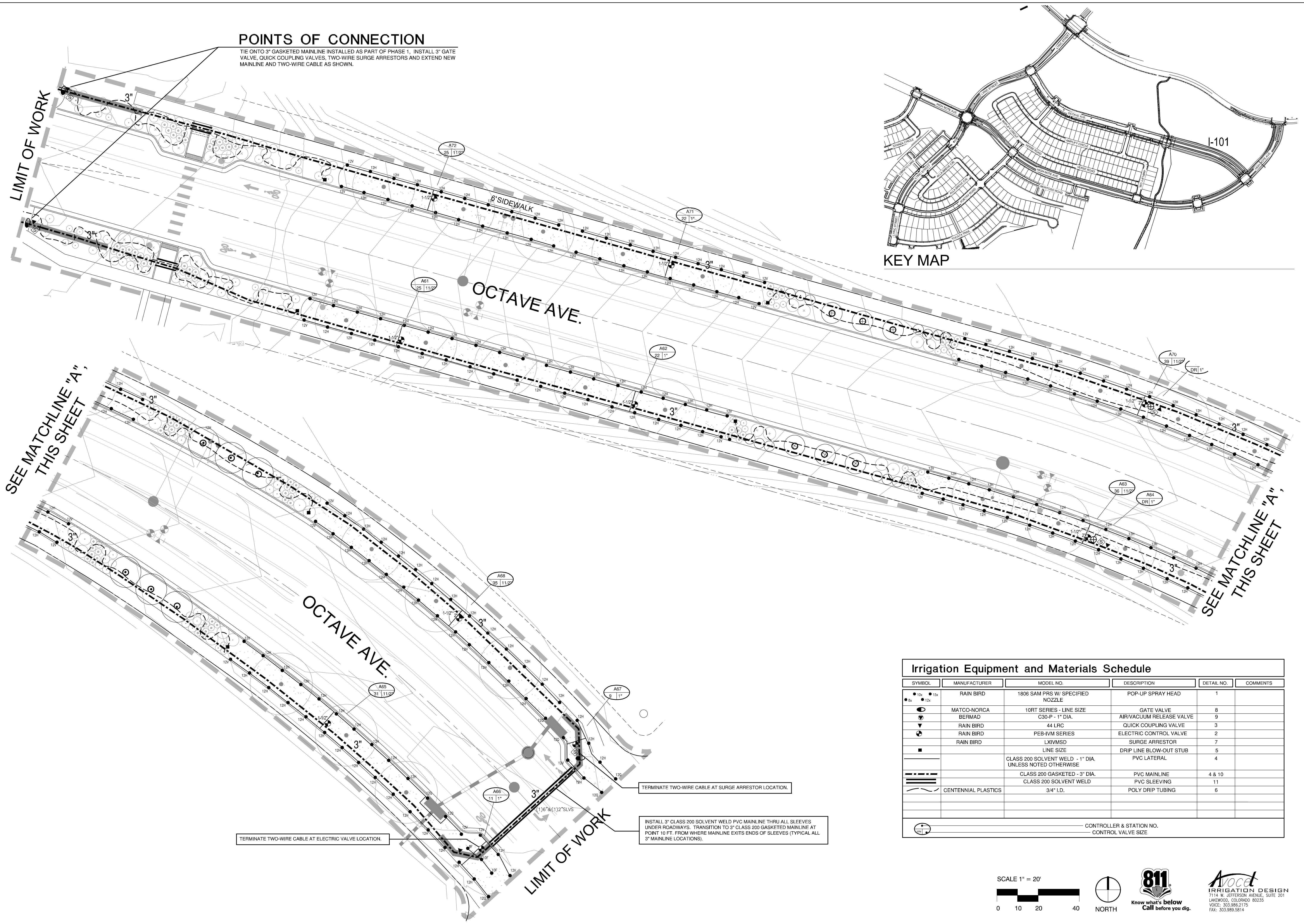
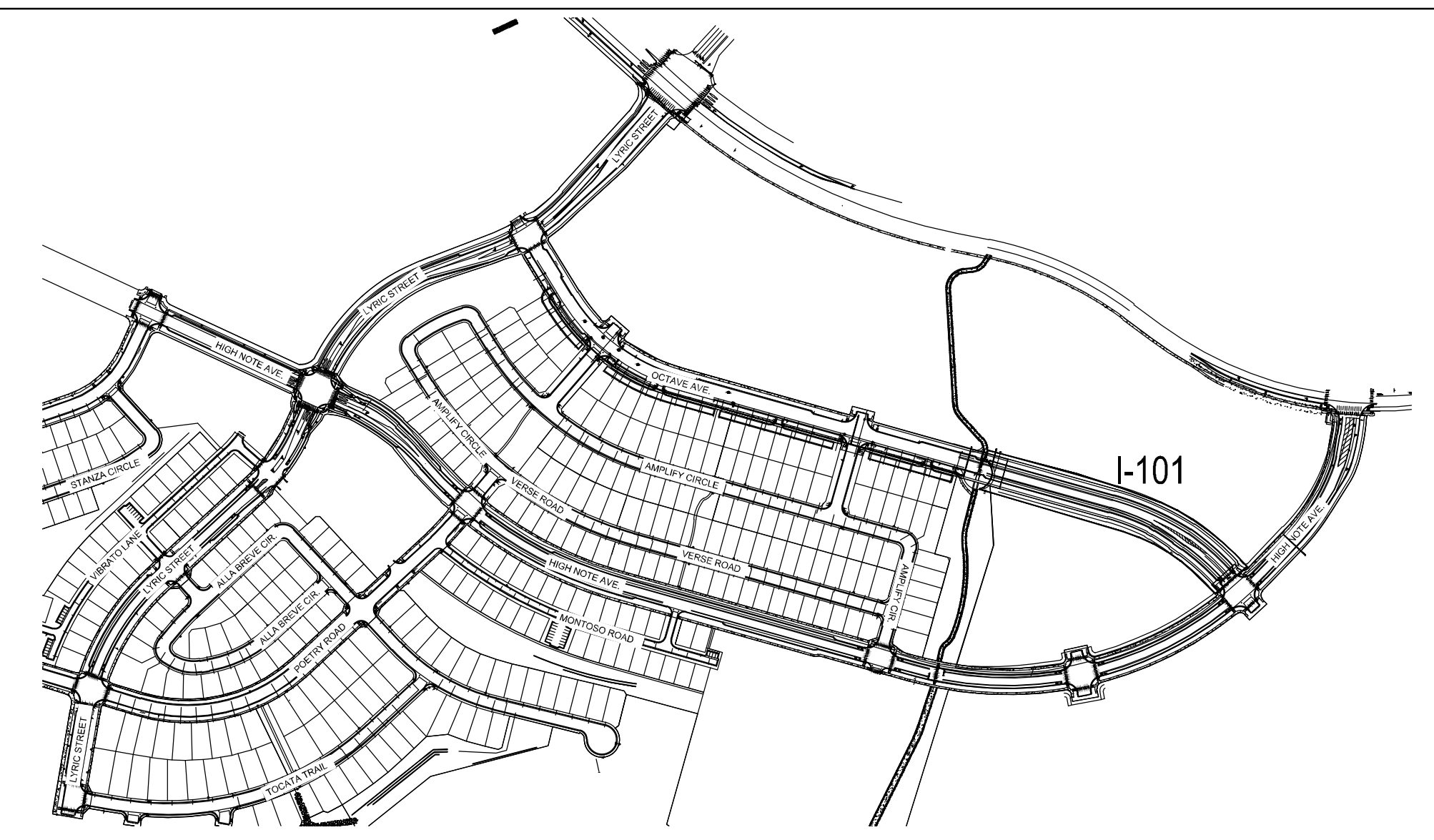
TIE ONTO 3" GASKETED MAINLINE INSTALLED AS PART OF PHASE 1. INSTALL 3" GATE VALVE, QUICK COUPLING VALVES, TWO-WIRE SURGE ARRESTORS AND EXTEND NEW MAINLINE AND TWO-WIRE CABLE AS SHOWN.

LIMIT OF WORK

SEE MATCHLINE "A", THIS SHEET

SEE MATCHLINE "A", THIS SHEET

KEY MAP



Irrigation Equipment and Materials Schedule

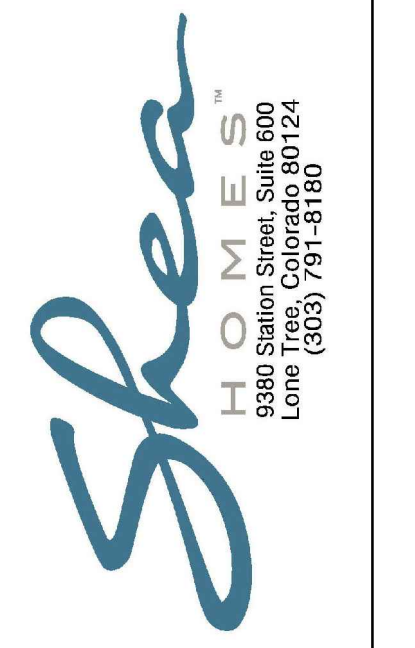
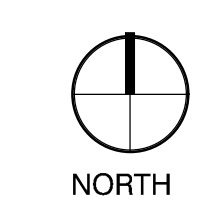
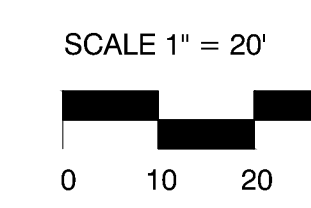
SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	DETAIL NO.	COMMENTS
● 10" ● 15" ● 12"	RAIN BIRD	1806 SAM PRS W/ SPECIFIED NOZZLE	POP-UP SPRAY HEAD	1	
○	MATCO-NORCA	10RT SERIES - LINE SIZE	GATE VALVE	8	
○	BERMAD	C30-P - 1" DIA.	AIR/VACUUM RELEASE VALVE	9	
○	RAIN BIRD	44 LRC	QUICK COUPLING VALVE	3	
○	RAIN BIRD	PEB-IVM SERIES	ELECTRIC CONTROL VALVE	2	
○	RAIN BIRD	LXIVMSD	SURGE ARRESTOR	7	
—		LINE SIZE	DRIP LINE BLOW-OUT STUB	5	
—		CLASS 200 SOLVENT WELD - 1" DIA. UNLESS NOTED OTHERWISE	PVC LATERAL	4	
—		CLASS 200 GASKETED - 3" DIA.	PVC MAINLINE	4 & 10	
—		CLASS 200 SOLVENT WELD	PVC SLEEVING	11	
—	CENTENNIAL PLASTICS	3/4" I.D.	POLY DRIP TUBING	6	

TERMINATE TWO-WIRE CABLE AT SURGE ARRESTOR LOCATION.

INSTALL 3" CLASS 200 SOLVENT WELD PVC MAINLINE THRU ALL SLEEVES UNDER ROADWAYS. TRANSITION TO 3" CLASS 200 GASKETED MAINLINE AT POINT 10 FT. FROM WHERE MAINLINE EXITS ENDS OF SLEEVES (TYPICAL ALL 3" MAINLINE LOCATIONS).

TERMINATE TWO-WIRE CABLE AT ELECTRIC VALVE LOCATION.

CONTROLLER & STATION NO.
CONTROL VALVE SIZE



RIDGEGATE SOUTHWEST VILLAGE FILING 1, OCTAVE AVE R.O.W. LANDSCAPE PLANS



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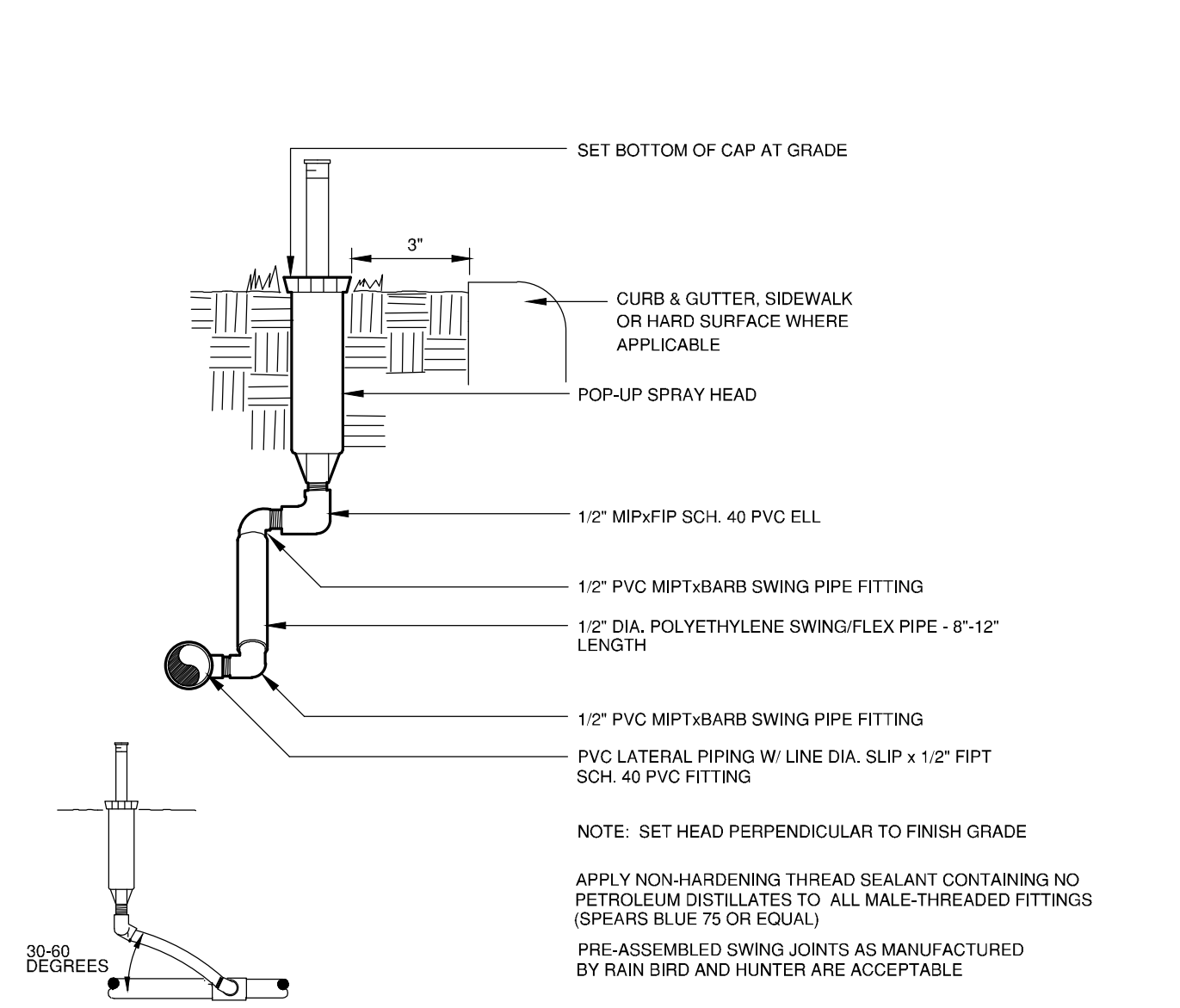
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2	RESUBMIT	01.27.23
3	RESUBMIT	03.10.23

DATE: 7.22.22

SHEET TITLE:
IRRIGATION PLAN

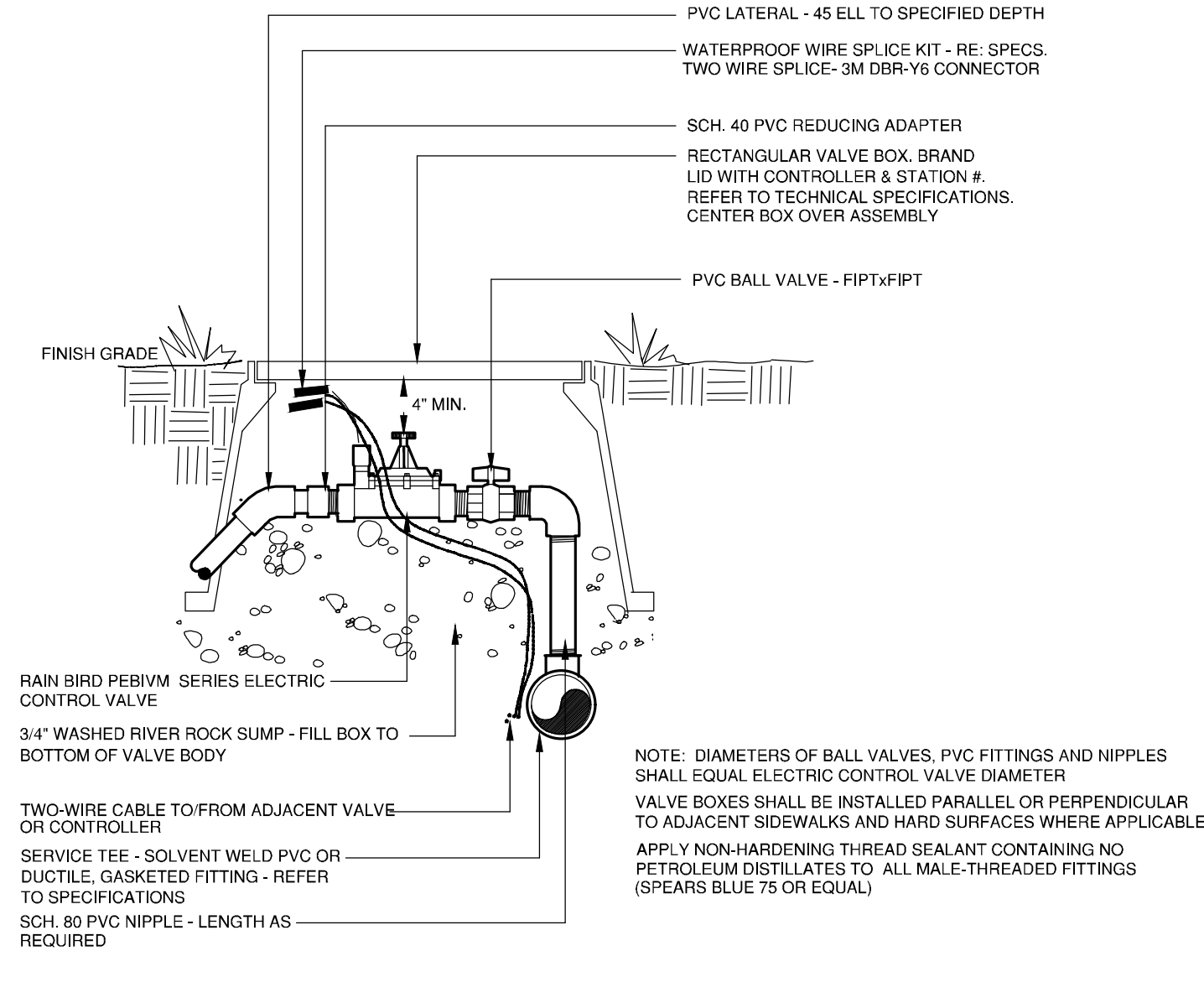
SHEET NO.:

I-101
RIDGEGATE SOUTHWEST VILLAGE PHASE 1



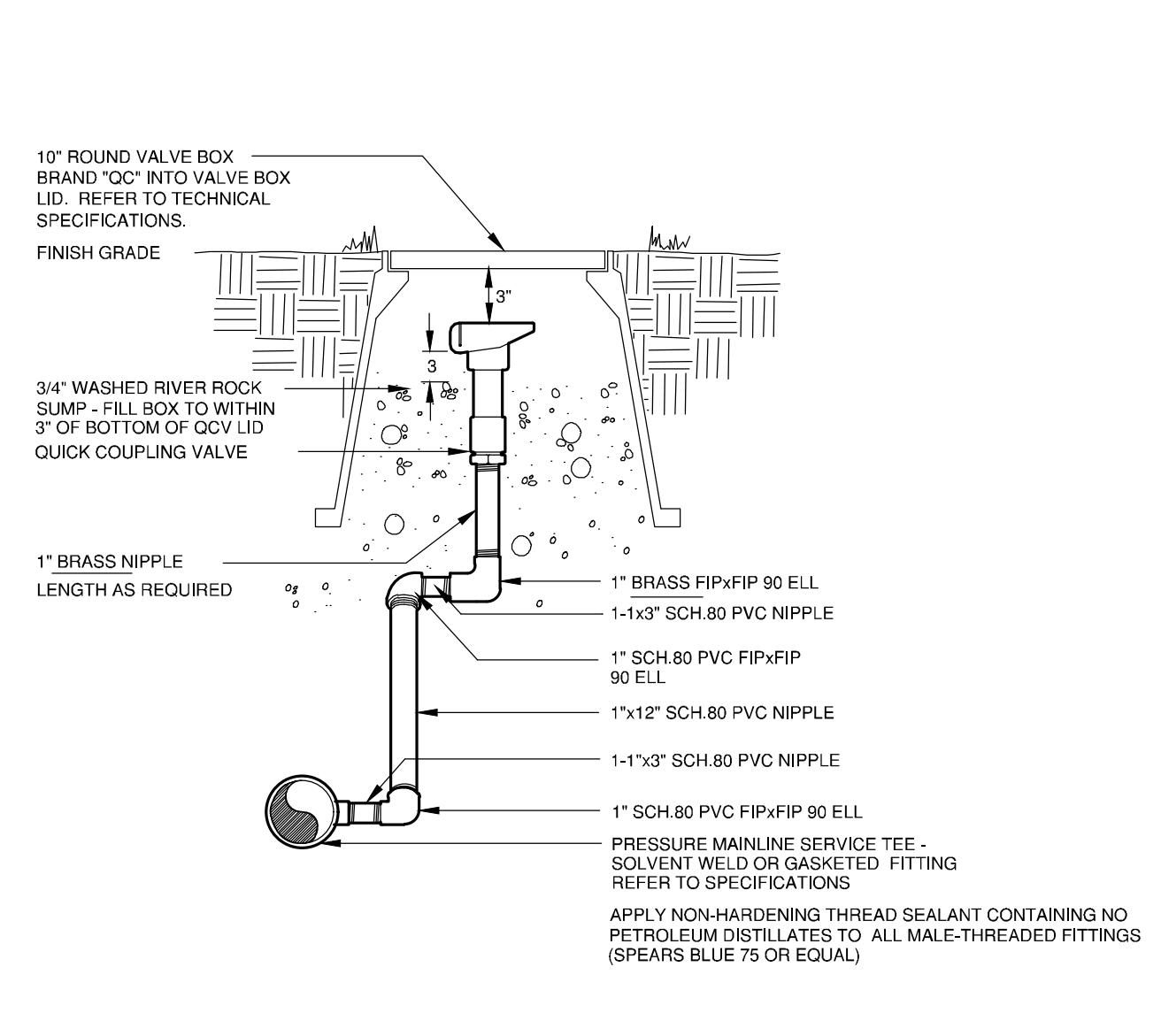
POP-UP SPRAY HEAD

1



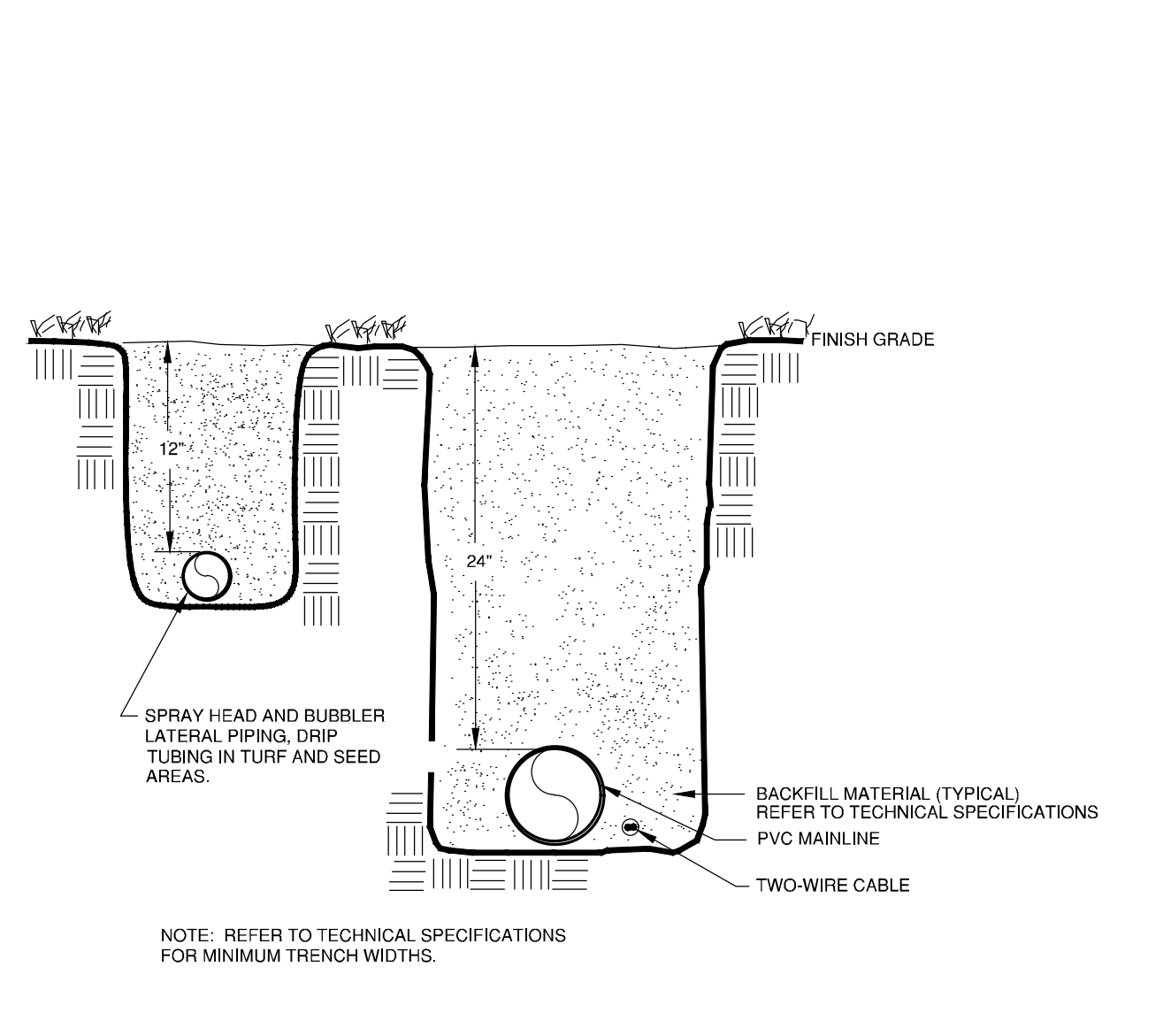
ELECTRIC CONTROL VALVE

2



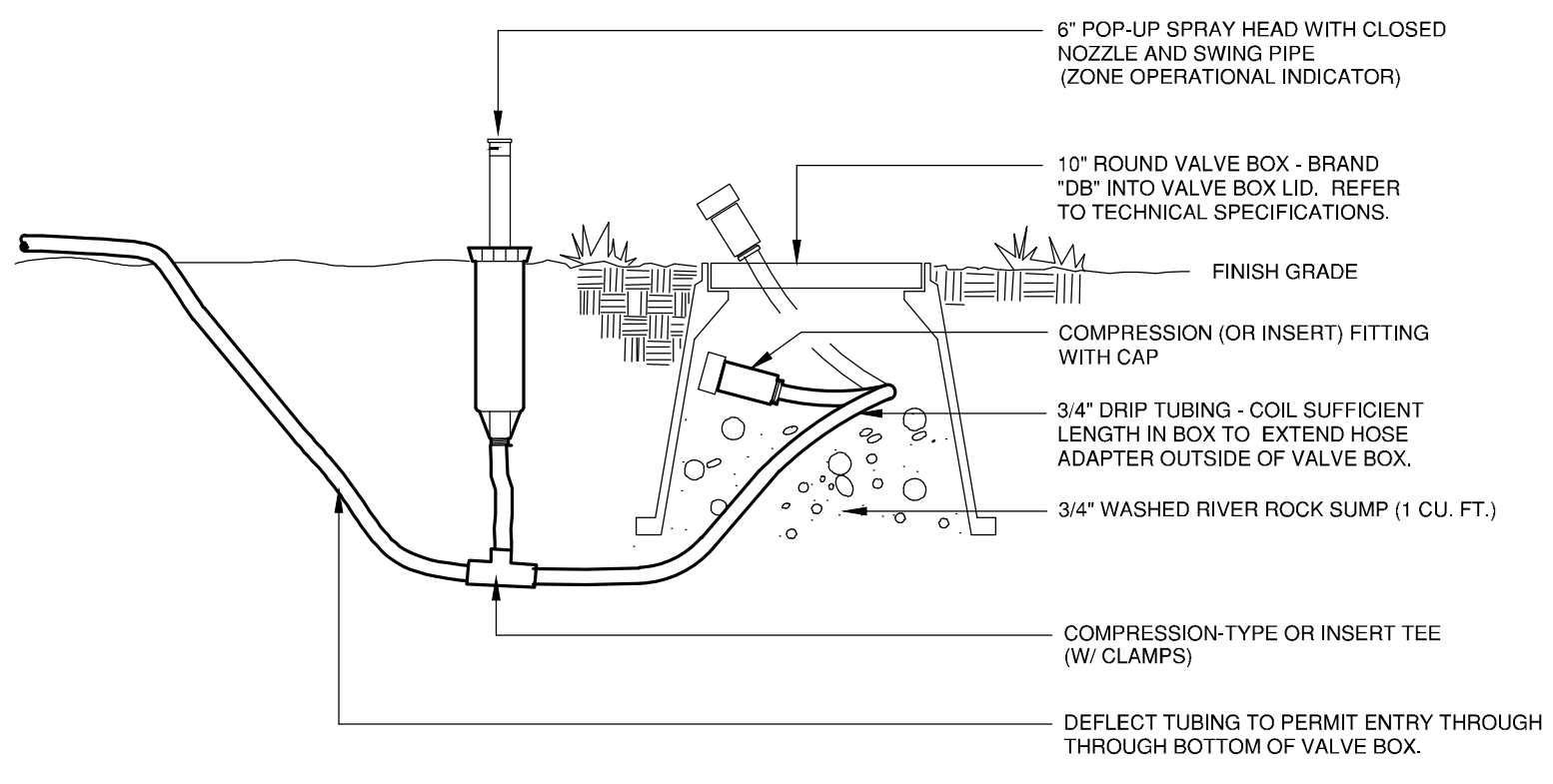
QUICK COUPLING VALVE

3



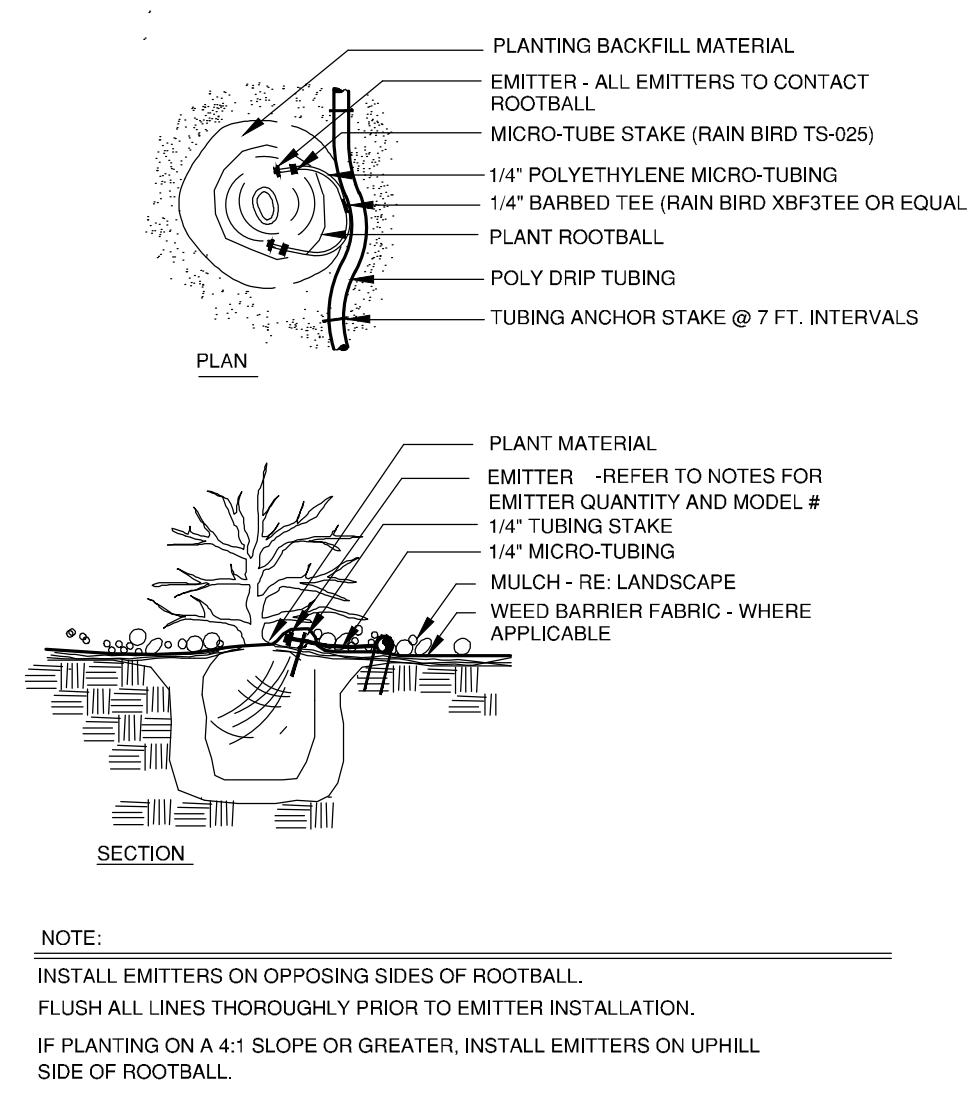
TRENCHES

4



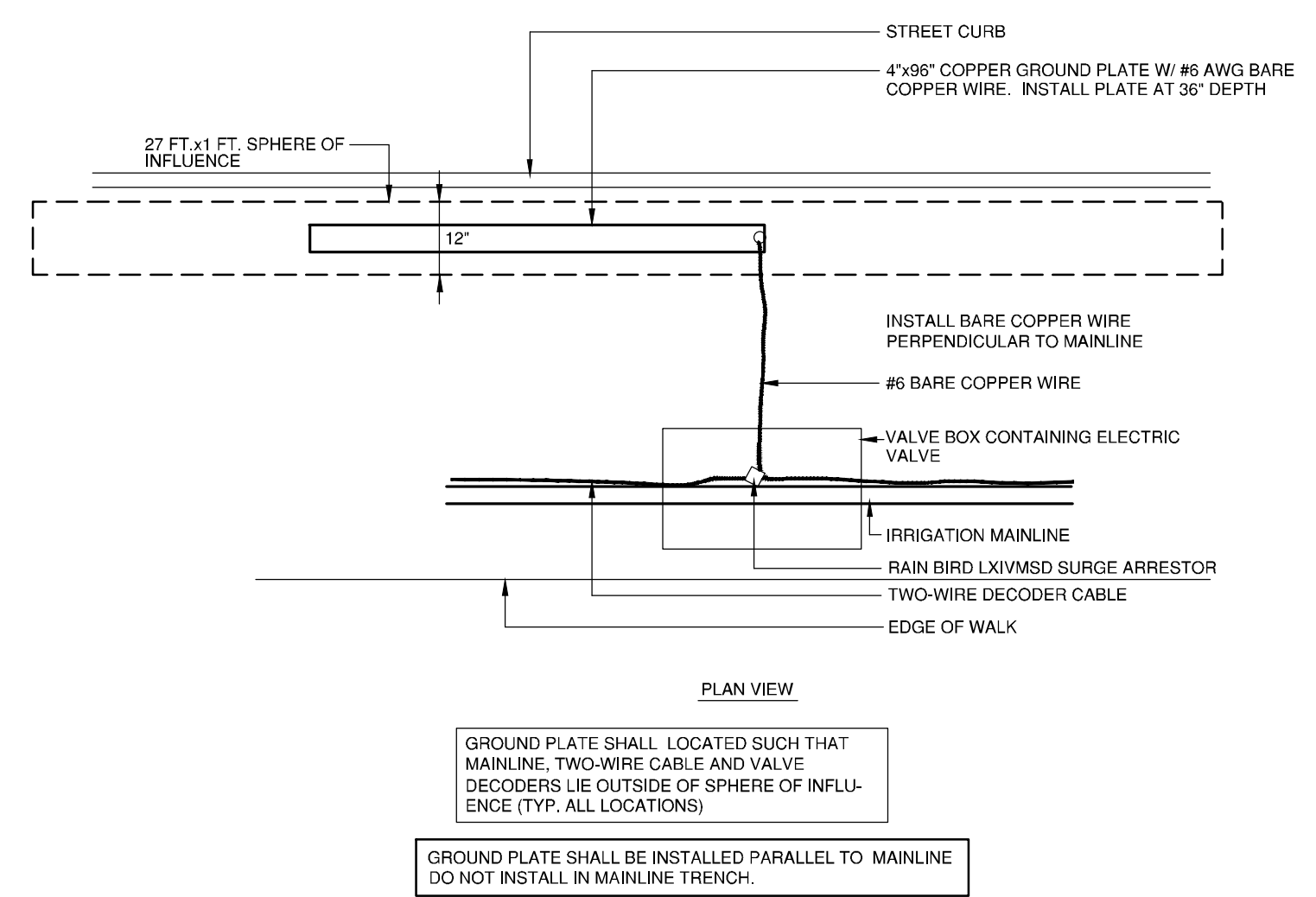
DRIP LINE FLUSH-OUT AND OPERATIONAL INDICATOR

5



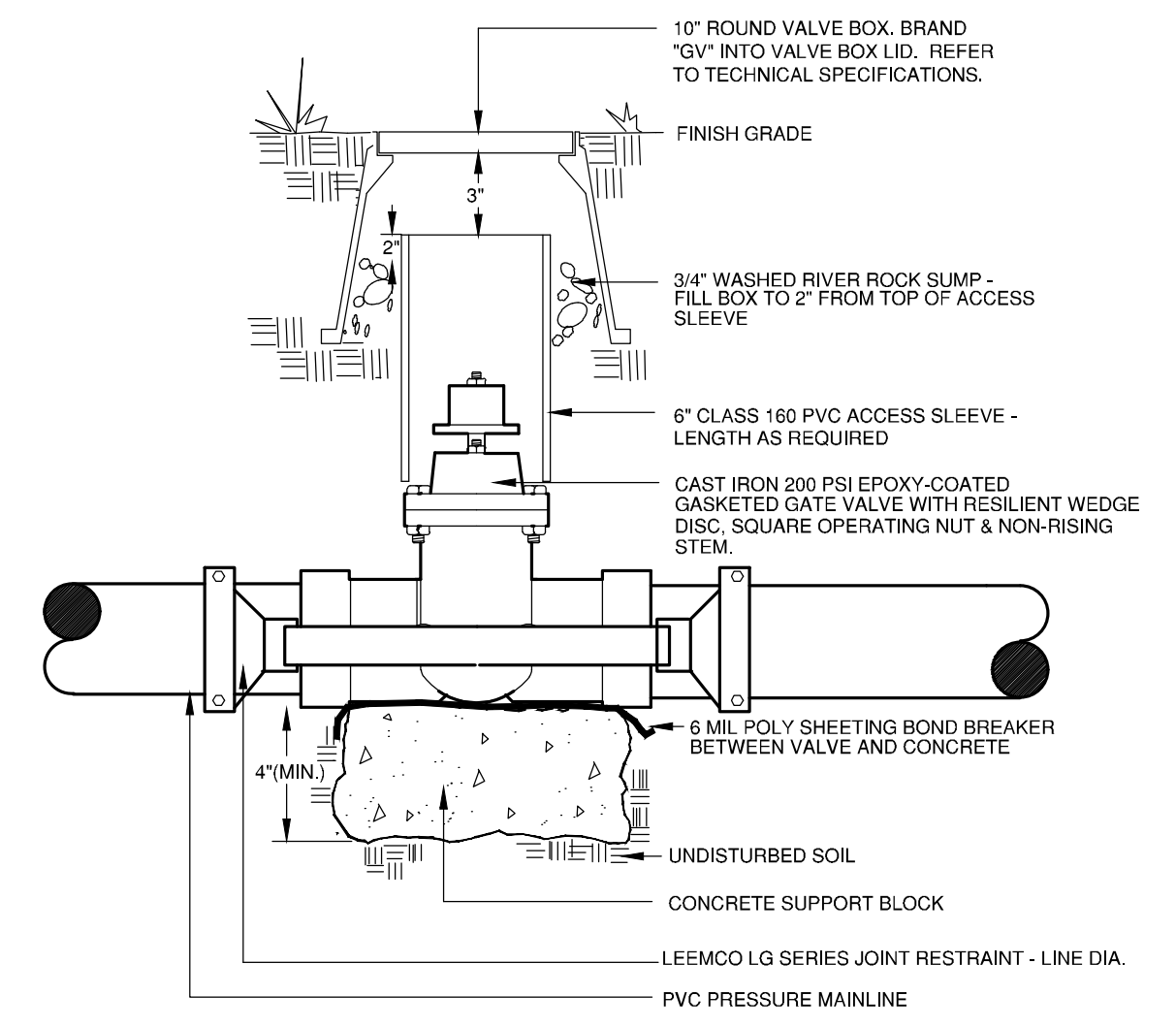
DRIP EMITTER

6



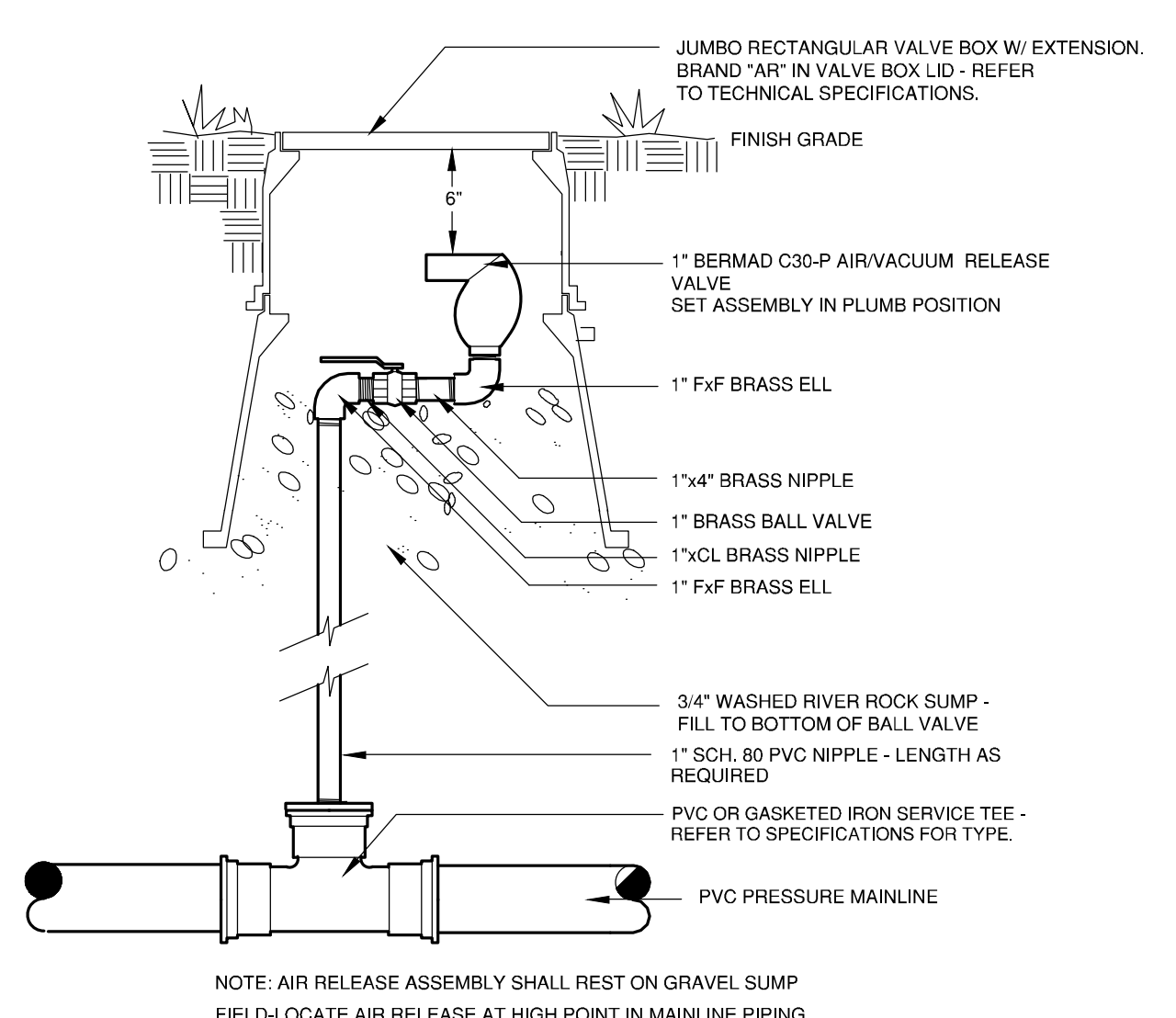
SURGE ARRESTOR

7



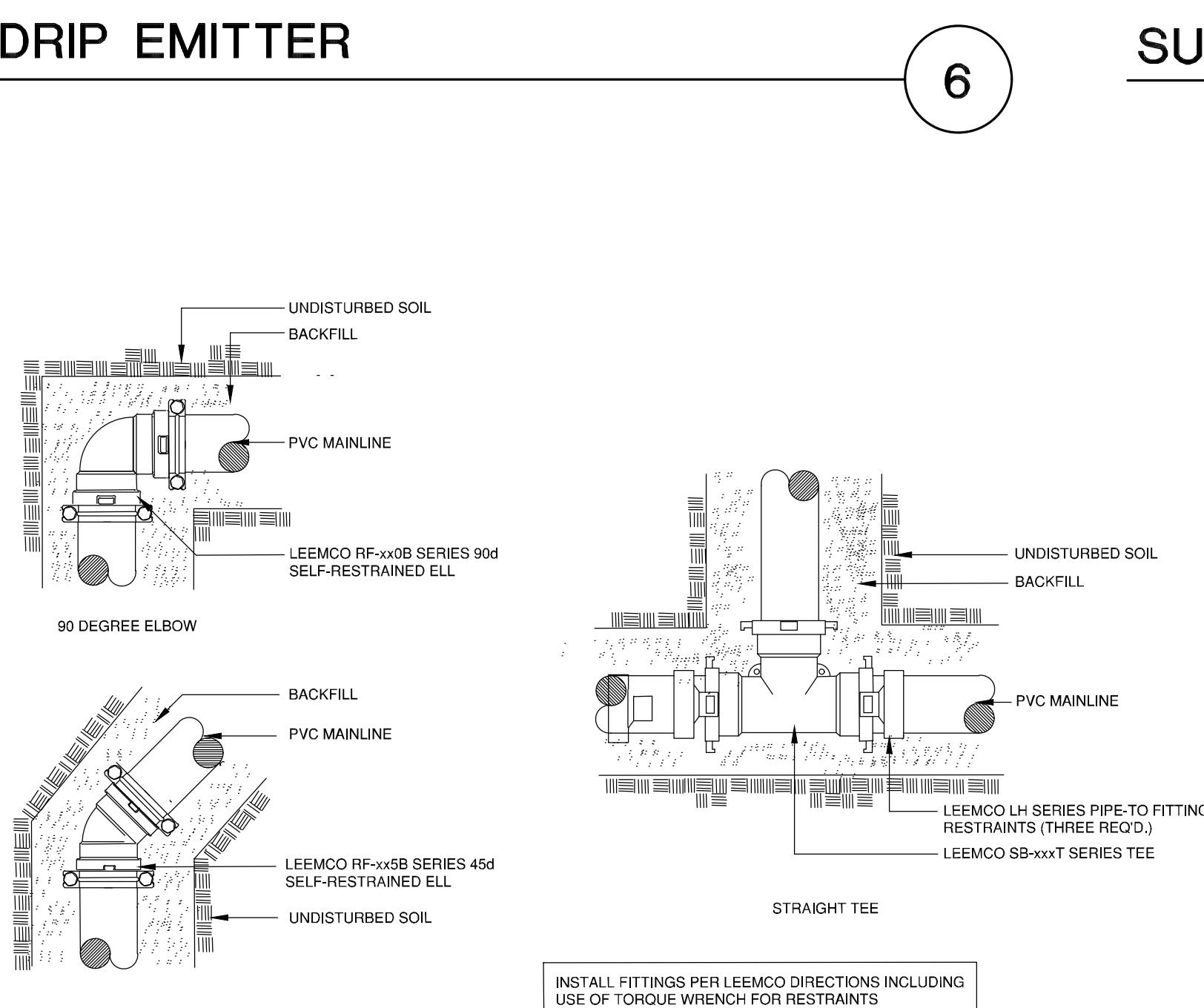
GATE VALVE - 3" and LARGER

8

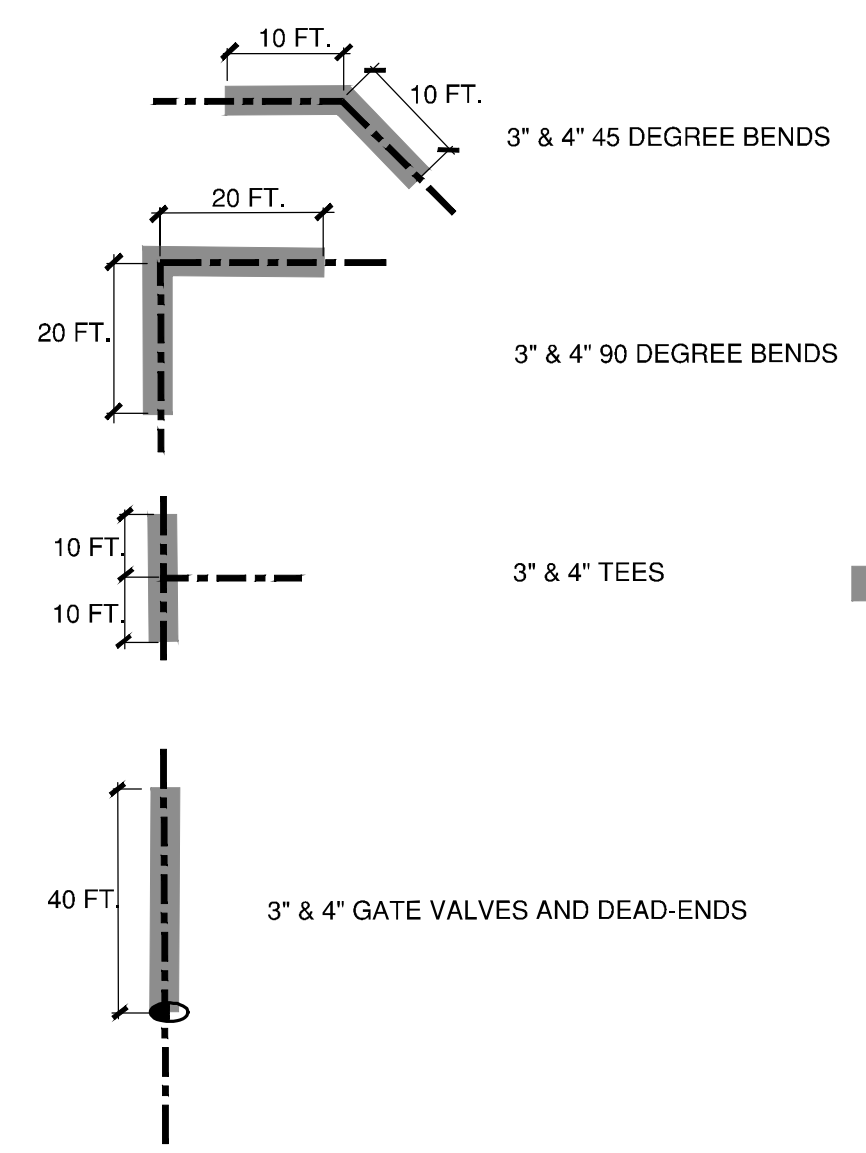


AIR/VACUUM RELEASE VALVE

9



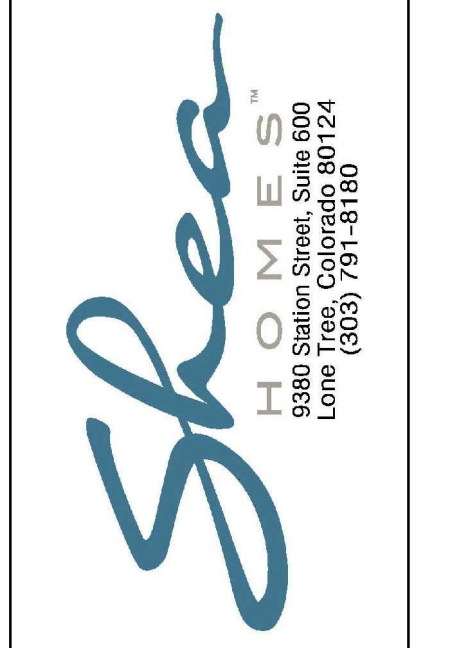
MAINLINE FITTINGS - 3" DIA. PIPE



MECHANICAL MAINLINE PIPE RESTRAINTS

INDICATES MAINLINE PIPING TO BE SECURED VIA MECHANICAL PIPE RESTRAINTS. ALL PIPE-TO-PIPE JOINTS, FITTINGS (I.E. CHANGES IN DIRECTION), SERVICES TEES AND/OR GATE VALVES THAT FALL WITHIN INDICATED DISTANCE SHALL BE RESTRAINED. REFER TO DETAILS. RESTRAINTS SHALL BE MANUFACTURED BY LEEMCO. ALL DISTANCES SHOWN BELOW ARE TYPICAL.

10



RIDGEGATE SOUTHWEST VILLAGE FILING 1, OCTAVE AVE R.O.W. LANDSCAPE PLANS

SAGE DESIGN GROUP

LANDSCAPE ARCHITECTURE SITE PLANNING ENTITLEMENT

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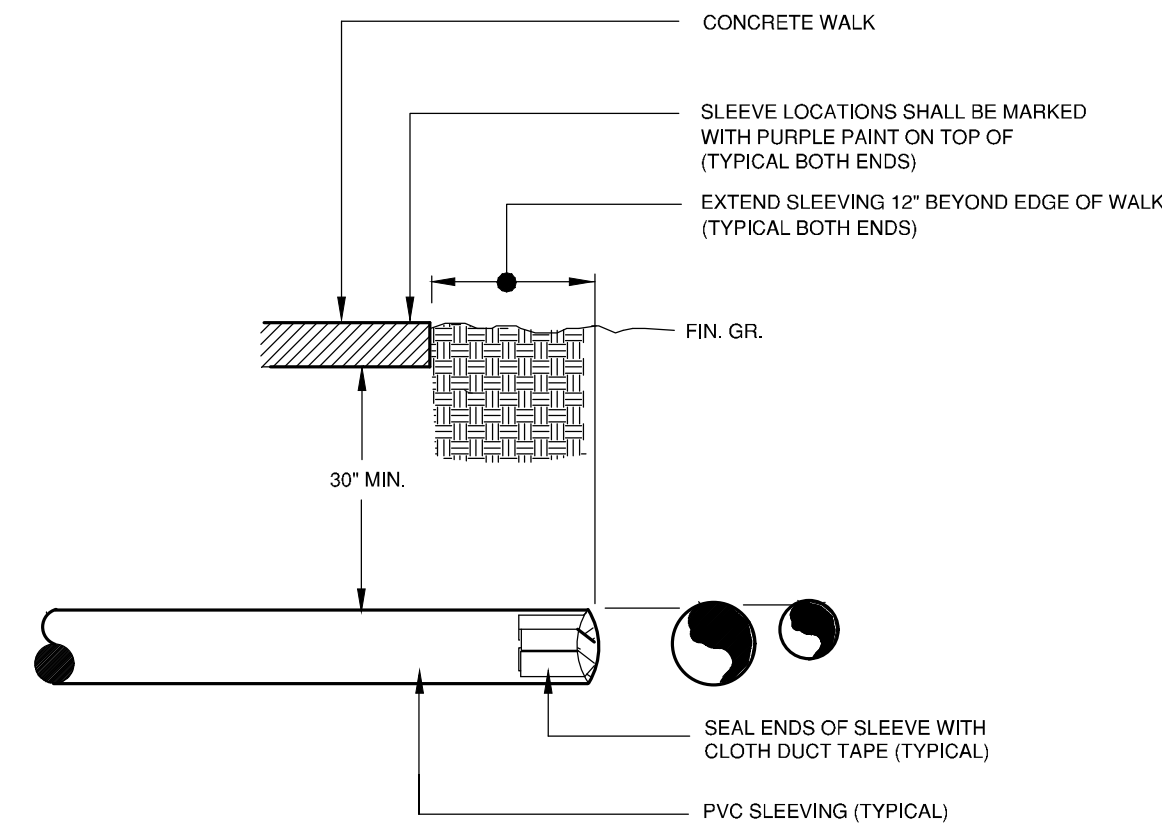
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3	RESUBMIT	03.10.23

DATE: 7.22.22

SHEET TITLE:
IRRIGATION DETAILS

SHEET NO.:

I-102



NOTE: ALL SLEEVING TO BE CLASS 200 SOLVENT WELD PVC, SIZE AS NOTED.
 INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION AT MULTIPLE SLEEVE LOCATIONS (DO NOT VERTICALLY STACK SLEEVING)
 COMPACT BACKFILL TO 95% STANDARD PROCTER DENSITY WITH OPTIMUM MOISTURE CONTENT. BACKFILL SHALL BE COMPACTED IN 6" LIFTS

IRRIGATION SLEEVING

11

SECTION 32 84 00 IRRIGATION SYSTEM

PART 1 - GENERAL

- 1.01 WORK INCLUDED** - Work of this Section generally includes provisions for the installation of an underground landscape irrigation system including the following:
- Static pressure verification and coordination of irrigation system installation with landscape material installation.
 - Trenching, stockpiling excavation materials, refilling and compacting trenches.
 - Complete irrigation system including but not limited to piping, valves, fittings, heads, wiring, and final adjustments to insure complete coverage.
 - Water connections.
 - Replacement of unsatisfactory materials.
 - Clean-up, Consultant Reviews, and Project Acceptance.
 - Testing of Irrigation System(s).

1.02 RELATED SECTIONS

- Examine all sections related to project work.

1.03 REFERENCES

- Perform Work in accordance with requirements of Conditions of the Contract and Division 01 - General requirements as well as provisions of all applicable laws, codes, ordinances, rules, and regulations.
- Conform to requirements of reference information listed below except where more stringent requirements are shown or specified in Contract Documents.
 - American Society for Testing and Materials (ASTM) - Specifications and Test Methods specifically referenced in this Section.
 - Underwriters Laboratories (UL) - UL Wires and Cables.

1.04 QUALITY ASSURANCE

- Installer Qualifications - Installer shall have had considerable experience and demonstrate ability in the installation of irrigation system(s) of specific type(s) in a neat orderly, and responsible manner in accordance with recognized standards of workmanship. To demonstrate ability and experience necessary for this Project, submit if requested by Consultant and/or Owner, prior to contract award the following:
 - List of 5 projects completed in the last 2 years of similar complexity to this Project. Description of projects shall include:
 - Name of project.
 - Location.
 - Owner.
 - Brief description of work and project budget.
 - Reference contact name & telephone number.
- Special Requirements:
 - Tolerances - Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, compaction, and repair of finish grade treatment.
 - Coordination with Other Contractors - Protect, maintain, and coordinate Work with Work under other Section.
 - Damage To Other Improvements - Contractor shall replace or repair damage to grading, soil preparation, seeding, sodding, or planting done under other Sections during Work associated with installation of irrigation system at no additional cost to Owner.
- Pre-Construction Conference - Contractor shall schedule and conduct a conference to review in detail quality control and construction requirements for equipment, materials, and systems used to perform the Work. Conference shall be scheduled not less than 10 days prior to commencement of Work. All parties required to be in attendance shall be notified no later than 7 days prior to date of conference. Contractor shall notify qualified representatives of each party concerned with that portion of Work to attend conference, including but not limited to Architect, Consultant, Contractor's Superintendent, and Installer.
 - Minutes of conference shall be recorded and distributed by Contractor to all parties in attendance within five days of conference.

1.05 SUBMITTALS - Prepare and make submittals in accordance with conditions of the Contract.

- Materials List - Submit PDF file of a complete materials list indicating manufacturer, model number, and description of all materials and equipment to be used. Show appropriate dimensions and adequate detail to accurately portray intent of construction.
- Record Drawings (As-Builts):
 - At onset of irrigation installation secure Autocad 2017 files of original irrigation design from Owner. At the end of every day, revise as-built prints for work accomplished that day in red ink. Irrigation system record/as-built field prints shall be brought up-to-date at the close of the working day every Friday by a qualified draftsman. A print of record plan(s) shall be available at Project Site. Indicate zoning changes on weekly record drawings. Indicate non-pressure piping changes on record drawings. Upon completion of Project, submit for review, prior to final acceptance, final set of irrigation systems record drawings plotted on bond paper, and a flash drive containing PDF and Autocad files of record drawings. Dimensions, from two permanent points of reference (building corners, sidewalk, road intersections or permanent structures), location of following items:
 - Connection to existing water lines.
 - Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).
 - Sprinkler control valves.
 - Quick coupling valves.
 - Drip line blow-out stubs.

- Control wire routing if not with pressure mainline.
- Gate valves.
- Two-wire cable splices
- Air Release valves
- Two-wire surge arrestors and ground rods/plates

- Owner's Representative will not certify any pay request submitted by the Contractor if the as-built drawings are not current, and processing of pay request will not occur until Record Drawings are updated.
- Contractor shall provide two bond copies of completed, approved record drawings and flash drive containing PDF and Autocad files of record drawings.

- Operation Instructions - Submit 3 written operating instructions including winterization procedures and start-up, with cut sheets of products, and coordinate controller/watering operation instruction with Owner maintenance personnel.

- Controller Charts
 - Do not prepare charts until Consultant has reviewed record (as-built) drawings.
 - Provide one controller chart for each automatic controller installed.
 - Chart may be reproduction of record drawing, if scale permits fitting of controller door. If reduction prints are required, keep reduction to maximum size possible to retain full legibility.
 - Chart shall be bond paper print of actual "as-built" system, showing area covered by that controller.
 - Identify area of coverage of each remote control valve, using a distinctly different pastel color drawing over entire area of coverage.
 - Following review of charts by Consultant, they shall be hermetically sealed between two layers of 20-mm thick plastic sheet
 - Charts shall be completed and reviewed prior to final review of irrigation system.

- Manufacturer Warranties - Contractor shall provide Owner with two copies of written manufacturer warranties that exceed one year as published by each equipment and material manufacturer for products installed on Project. Manufacturer warranty information shall be provided for controller(s), all valves, piping, heads, backflow preventer(s), enclosures and valve boxes.

- Operating instructions and manufacturer warranty information shall be contained within 1 inch, three ring binder (one binder per set).

- 1.06 DELIVERY, STORAGE, AND HANDLING** - Deliver, unload, store, and handle materials, packaging, bundling, products in dry, weatherproof, condition in manner to prevent damage, breakage, deterioration, intrusion, ignition, and vandalism. Deliver in original unopened packaging containers prominently displaying manufacturer's name, volume, quantity, contents, instructions and conformance to local, state, and federal law. Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, snow, ice, temperature extremes, fire, or jobsite damage.

- Handling of PVC Pipe - Exercise care in handling, loading and storing, of PVC pipe. All PVC pipe shall be transported in a vehicle which allows length of pipe to lie flat so as not to subject it to undue bending or concentrated external loads. All sections of pipe that have been dented or damaged shall be discarded, and if installed, shall be replaced with new piping.

1.07 JOBSITE CONDITIONS:

- Protection of Property:
 - Preserve and protect all trees, plants, monuments, structures, and paved areas from damage due to Work of this Section. In the event damage does occur, all damage to inanimate items shall be completely repaired or replaced to satisfaction of Owner, and all injury to living plants shall be repaired by Owner. All costs of such repairs shall be charged to and paid by Contractor. Protect buildings, walks, walls, and other property from damage. Flare and barricade open ditches. Damage caused to asphalt, concrete, or other building material surfaces shall be repaired or replaced at no cost to Owner. Restore disturbed areas to original condition.
- Protection and Repair of Underground Lines:
 - Request proper utility company to stake exact location (including depth) of all underground electric, gas, or telephone lines. Take whatever precautions are necessary to protect these underground lines from damage. If damage does occur, Utility Owner shall repair all damage. Contractor shall pay all costs of such repairs unless other arrangements have been made.
 - Request Owner, in writing, to locate all private utilities (i.e., electrical service to outside lighting) before proceeding with excavation. If, after such request and necessary staking, private utilities that were not staked are encountered and damaged by Installer, Owner shall repair them at no cost to Installer. If Contractor damages staked or located utilities, they shall be repaired by Utility Owner at Contractor's expense unless other arrangements have been made.
- Replacement of Paving and Curbs - Where trenches and lines cross existing roadways, paths, curbing, etc., damage to these shall be kept to a minimum and shall be restored to original condition.

1.08 WARRANTY/GUARANTY: - Contractor shall warrant materials, equipment and workmanship against defects for a period of one year from date of Substantial Completion.

- Settling of backfilled trenches that may occur during warranty period shall be repaired by Contractor at no expense to Owner, including complete restoration of damaged property.
- Expenses due to vandalism prior to substantial completion shall be borne by Contractor.
- Owner will maintain turf and planting areas during warranty period, so as not to hamper proper operation of irrigation system.

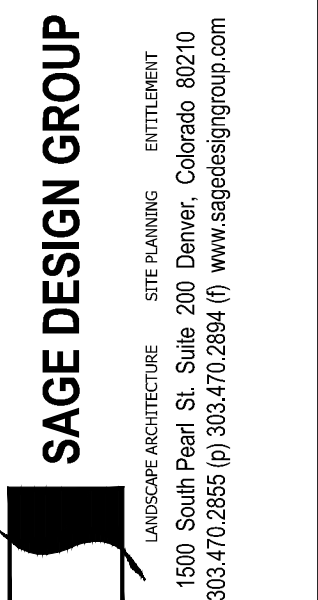
1.09 MAINTENANCE:

- Winterization - include cost in bid for winterizing complete system at conclusion of sprinkling season (in which system received final acceptance) within 3 days notification by the Owner. System shall be voided of water using compressed air or similar method reviewed by Consultant. Recopen, operate, and adjust and/or repair system accordingly during April of following season within 3 days of notification by Owner.

PART 2 - PRODUCTS

2.01 MATERIALS:

- General Piping:
 - Pressure Supply Lines (downstream of backflow prevention units) - Class 200 PVC Gasketed (3" and larger).
 - Non-pressure Lines - Class 200 PVC Solvent Weld - 1" minimum diameter.
 - PVC Sleeving - Class 200 PVC Solvent Weld.
 - Drip Tubing - Centennial Plastics low-density polyethylene with 3/4" inside diameter and .050 inch wall thickness.
 - Emitter Tubing - Rain Bird XQ series 1/4 inch polyethylene.
- Brass Pipe and Fittings:
 - Brass Pipe - 85% red brass, ANSI Schedule 40 screwed pipe.
 - Teflon Tape - All brass male threaded fittings and nipples shall receive wrapping of Teflon tape applied to threaded surfaces per pipe manufacturer's recommendations.
 - Fittings - Medium brass, screwed 125-pound class.
- Plastic Pipe and Fittings:
 - Identification Markings:
 - Identify all pipe with following indelible markings:
 - Manufacturer's name.
 - Nominal pipe size.
 - Schedule of class.
 - Pressure rating.
 - NSF (National Sanitation Foundation) seal of approval.
 - Date of extrusion.
 - Solvent Weld Pipe - Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12454-B, Type 1, Grade 1.
 - Fittings - Standard Wright, Schedule 40, injection molded PVC; complying with ASTM D1784 and D2466, cell classification 12454-B.
 - Threads - Injection molded type (where required).
 - Tees and elbs - Side gasket.
 - Threaded Nipples - ASTM D2464, Schedule 80 with molded threads.
 - Thread Sealant - All PVC male threaded fittings and nipples, excluding marlex fittings, shall receive non-hardening thread sealant/paste containing no petroleum distillates applied to threaded surfaces per pipe manufacturer's recommendations (Spears 75 Blue or equal). Joint Cement and Primer - Type as recommended by manufacturer of pipe and fittings.
 - Gasketed End Pipe - Manufactured from virgin Polyvinyl Chloride compound in accordance with ASTM D2241 and ASTM D1784; cell classification 1254-B, Type 1, Grade 1.
 - Fittings and Services Tees (3" and larger) - Ductile iron, grade 65-45-12 in accordance with ASTM A-536. Fittings shall have deep bell push-on joints with gaskets meeting ASTM F-477.
 - Gaskets - Factory installed in pipe and fittings, having a metal or plastic support within gasket.
 - Lubricant - As recommended by manufacturer of pipe.
- Drip Irrigation Systems:
 - Drip Tubing - Manufactured of flexible vinyl chloride compound conforming to ASTM D1248, Type 1, Class C, Category 4, P14 and ASTM D3350 for PE 122111C.
 - Fittings - Type and diameter recommended by tubing manufacturer.
 - Drip Valve Assembly - Type and size shown on Drawings.
 - Basket Strainer - Plastic construction with 200 mesh nylon screen and pre-set, non-adjustable pressure regulator (40 PSI)
 - Control Valve - 2 way, solenoid pilot operated type made of synthetic, non-corrosive material; diaphragm activated and slow closing. Include freely pivoted seat seal; retained (mounted) without attachment to diaphragm.
 - Pressure Reducing Valve - Plastic construction, non-adjustable pressure setting of 40 PSI, as detailed.
 - Emitters - Single port, pressure compensating, press on type by Rain Bird (XB series).
- Gate Valves:
 - Gate Valves for 3 Inch and Larger Pipe - Iron body, brass or bronze mounted AWWA gate valves with a clear waterway equal to full nominal diameter of valve; rubber gasket or mechanical joint-type only. Valves shall be able to withstand a continuous working pressure of 200 psi and be equipped with a square operating nut and resilient wedge (Matco-Norca 10RT series)
- Quick Coupling Valves - Brass two-piece body designed for working pressure of 125 PSI; operable with quick coupler. Equip quick coupler with locking rubber cover.
- Valve Boxes:
 - Gate Valves, Quick Coupling Valves, Drain Valves, Drip Line Blow-out Stubs, and Wire Splice or Stub Box - Carson #910-10 box with cover as detailed. 6" round valve boxes are not acceptable
 - 1 inch through 2 inch Control Valves, Two-Cable Splices, and Surge Arrestor - Carson Brooks #1419-12 box with cover as detailed.
 - Drip Valve Assemblies, Air/Vacuum Release Valves, Flow Sensors, 1 inch through 2 inch Master Valves - Carson Brooks #1220-12 box with cover as detailed.
 - Stop and Waste Valve - Cast iron stop box with adjustable barrel and cover with bolt - Tyler or equal.
 - All 10" round, standard rectangular and jumbo rectangular valve boxes installed on project shall be manufactured by one company. Mixing of these valve boxes from multiple manufacturer's is not acceptable.
- Electrical Control Wiring:
 - Two-Wire Cable:
 - Electrical Control Wire - Two parallel 14 gauge AWG UFUL single conductor, solid copper wires with polyethylene insulation encased in polyethylene jacket - Paige Electric P7072-D Cable - NO EQUALS.
 - Wire Colors:



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SHEET TITLE:
 IRRIGATION SPECIFICATIONS

SHEET NO.:

I-103

- 1) Controller "B" - Blue.
 - b. Cable connections and splices shall be made with 3M DBR/Y-6 watertight wires splices.
 - 2. High Voltage - Type required by local codes and ordinances, of proper size to accommodate needs of equipment serviced.
- I. Electric Control Valves - Size and type shown on Drawings having manual flow adjustment and manual operational nut with internal bleed.
 - J. Sprinkler Heads - As indicated on Drawings. Fabricated riser units in accordance with details on Drawings - with fittings and nipples of equal diameter as riser inlet in sprinkler body.

PART 3 - EXECUTION

3.01 SITE CONDITIONS, LANDSCAPE PLAN REVIEW AND COORDINATION

- A. Contractor will be held responsible for coordination between landscape and irrigation system installation. Landscape material locations shown on the Landscape Plan shall take precedence over the irrigation system equipment locations. If irrigation equipment is installed in conflict with the landscape material locations shown on the Landscape Plan, the Contractor will be required to relocate the irrigation equipment, as necessary, at Contractor's expense.
 - B. Contractor is responsible to notify Consultant of any field conditions that vary from the conditions shown on the Irrigation Construction Documents. If Contractor fails to notify Consultant of these conditions, Contractor will be held responsible for all costs associated with system adjustments required due to the change in field conditions.
- 3.02 STATIC PRESSURE VERIFICATION** - Contractor shall field verify the static pressure at the project site, prior to commencing work or ordering irrigation materials, and submit findings, in writing, to Consultant. If Contractor fails to verify static water pressure prior to commencing work or ordering irrigation materials, Contractor shall assume responsibility for all costs required to make system operational and the costs required to replace any damaged landscape material. Damage shall include all required material costs, design costs and plant replacement costs.
- 3.03 INSPECTION** - Examine areas and conditions under which Work of this Section is to be performed. Do not proceed with Work until unsatisfactory conditions have been corrected.
- A. Grading operations, with the exception of final grading, shall be completed and approved by Owner before staking or installation of any irrigation system begins.
 - B. Underground Utilities shall be installed prior to installation of irrigation system. If irrigation installation takes place prior to utility installation, Contractor shall notify Owner of this condition in writing prior to commencement of irrigation installation.

3.04 PREPARATION:

- A. Staking shall Occur as Follows:
Mark, with powdered lime, routing of pressure supply line and flag heads for first few zones. Contact Consultant 48 hours in advance and request review of staking. Proposed locations of all trees shall be field staked by Contractor and approved by Owner/Landscape Architect prior to Consultant review of irrigation staking. Consultant will advise installer as to the amount of staking to be prepared. Consultant will review staking and direct changes if required. Review does not relieve installer from coverage problems due to improper placement of heads after staking.
- 2. Contractor shall contact Consultant if field spacing varies by +/- 10% of the spacing shown on the irrigation plans. If Contractor fails to notify Consultant of variances exceeding 10%, Contractor assumes full responsibility for the costs associated with any required system modifications deemed necessary by the Consultant or Owner.
- 3. If Project has significant topography, freeform planting beds, or other amenities, which could require alteration of irrigation equipment layout as deemed necessary by Consultant, do not install irrigation equipment in these areas until Consultant has reviewed equipment staking.
- B. Install sleeving under asphalt paving and concrete walks, prior to concreting and paving operations, to accommodate piping and wiring. Compact backfill around sleeves to 95% Modified Proctor Density within 2% of optimum moisture content in accordance with STM D1557.
- C. Trenching - Trench excavation shall follow, as much as possible, layout shown on Drawing. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris removed.
 - 1. Clearances:
 - a. Piping 3 Inches and Larger - Make trenches of sufficient width (12 inches minimum) to properly assemble and position pipe in trench. Minimum clearance of piping 3 inches or larger shall be 4 inches horizontally on both sides of the trench.
 - b. Piping Smaller than 3 Inches - Trenches shall have a minimum width of 6 inches.
 - c. Line Clearance - Provide not less than 6 inches of horizontal clearance between each line and not less than 12 inches of clearance between lines of other trades. Vertical "stacking" of multiple runs of irrigation piping within common trench is not acceptable.
 - 2. Pipe and Wire Depth:
 - a. Pressure Supply Piping (Mainline) - 24 inches from top of pipe.
 - b. PVC Sleeving - Road/Street/Drive - 24 inches minimum/28 inches maximum depth of cover as measured from top of sleeve to bottom of road surfacing material. Pedestrian and Bicycle paths/walks - Depth shall equal depth of piping and/or wiring to be contained within sleeving as indicated on plan as measured from top of sleeving to top of path/walk.
 - c. Non-pressure Piping (pop-up) - 12 inches from top of pipe.
 - d. Two-Wire Cable - Side of pressure main or at 18 inch depth if installed in a separate trench containing no mainline piping.
 - e. Drip Tubing - Bed Areas - Install on soil surface except as noted on plans. Stake tubing at 6 ft. intervals. Turf areas - 12 inches from top of pipe
 - f. Emitter Tubing (Micro-tubing) - 4 to 6 inches from top of pipe.
- 3. Boring will be permitted only where pipe must pass under obstruction(s) which cannot be removed. In backfilling bore, final density of backfill shall match that of

surrounding soil. It is acceptable to use sleeves of suitable diameter installed first by jacking or boring, and pipe laid through sleeves. Observe same precautions as through pipe were installed in open trench.

- 4. Vibratory Plow - Not an acceptable method for installation of irrigation piping and/or wiring.

3.05 INSTALLATION - Locate equipment as near as possible to locations designated. Consultant shall review and approve deviations prior to installation.

- A. PVC Piping - Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40 degrees Fahrenheit. Install manual drain valves at low points and dead ends of pressure supply piping to insure complete drainage of system. Installation of multiple runs of piping in common (joint) trench is not permissible. When pipe installation is not in progress, or at end of each day, close pipe ends with tight plug or cap. Perform Work in accordance with good practices prevailing in piping trades.
 - 1. Solvent Weld PVC Pipe - Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations.
- B. Drip Tubing:
 - 1. Make all fitting connections as per manufacturer's recommendations.
 - 2. Use only manufacturer provided or recommended hole punch when making penetrations in drip tubing for micro-tubing barbed fittings. Use of any other hole punch shall be cause for immediate removal and replacement of all installed drip tubing.
 - 3. Install drip line blow-out stubs at all dead ends of drip tubing.
 - 4. Flushing - After tubing, barbed fittings and micro-tubing is place and connected, but prior to installation of emitters, thoroughly flush drip tubing under full head of water pressure through blow-out/flush-out stubs installed at ends of lines. Maintain flushing for 5 minutes through all blow-outs.
- C. Two-Wire Cable:
 - 1. Low Voltage Wiring:
 - a. Bury cable between controller and electric valves in pressure supply line trenches, strung as close as possible to main pipe lines with such wires to be consistently located below and to one side of pipe, or in separate trenches.
 - b. Provide an expansion loop at every pressure pipe angle fitting and every 500 feet. Form expansion loop by coiling wire bundle and lay formed coil in trench prior to backfilling.
 - c. Make all splices and electric control valve connections using 3M Company DBR/Y-6 waterproof wire splice connector kits.
 - d. Install all cable splices not occurring at control valve in a separate splice valve box.
 - D. Electric Control Valves - Install cross-handle four inches below finished grade where shown on Drawings as detailed. When grouped together, allow at least 12 inches between valve box sides. When installed adjacent to curbing and walks, allow 24 inches between valve box and walk/curb. Install each remote control valve in a separate valve box with box centered over valve assembly. Install individual valve box flush with grade.
 - E. Quick Coupling Valves - Install quick couplers on swing-joint assemblies as indicated on construction details; plumb and flush to grade. Angled nipple relative to pressure supply line shall be no more than 45 degrees and no less than 10 degrees.
 - F. Drip Emitters - Stake all surface emitters as detailed and staked with acceptable tubing stakes.
 - G. Valve Boxes:
 - 1. Install one valve box for each type of valve installed as detailed. Valve box extensions are not acceptable except for master valves, pressure regulating valves, flow sensors or other irrigation equipment installed at depth of pressure mainline. Install gravel sump after compaction of all trenches. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
 - 2. Brand controller letter and station number on lid of each valve box. Letter and number size shall be no smaller than 1 inch and no greater in size than 1 1/2 inches. Depth of branding shall be no more than 1/8 inch into valve box lid.
 - H. Gate Valves - Install where shown on Drawings as detailed.
 - I. Sprinkler Heads - Install sprinkler heads where designated on Drawings or where staked. Set to finish as detailed. Spacing of heads shall not exceed the maximum indicated on Drawing unless re-staked as directed by Consultant. In no case shall the spacing exceed maximum recommended by manufacturer. Install heads on swing joints or riser assemblies as detailed. Adjust part circle heads for proper coverage. Adjust heads to correct height after sod is installed. Plant placement shall not interfere with intended sprinkler head coverage, piping, or other equipment. Consultant may request nozzle changes or adjustments without additional cost to the Owner.
 - J. Backfilling - Do not begin backfilling operations until required system tests have been completed. Backfill shall not be done in freezing weather except with review by Consultant. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Trenches shall be finish graded prior to walk-through of system by Consultant.
 - 1. Materials - Excavated material is generally considered satisfactory for backfill purposes. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 1 inch in maximum dimension. Do not mix subsoil with topsoil. Material not suitable for backfill shall be hauled away. Contractor shall be responsible for providing suitable backfill if excavated material is unacceptable or not sufficient to meet backfill, compaction, and final grade requirements.
 - 2. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
 - 3. Compact backfill in 6 inch lifts to 90% maximum density, determined in accordance with ASTM D155-7 utilizing the following methods:
 - a. Mechanical tamping.
 - b. Puddling or ponding. Puddling or ponding and/or jetting is prohibited within 20'-0" of building or foundation walls.
 - K. Piping Under Paving:
 - 1. Provide for a minimum cover of 24 inches between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed

- under asphaltic concrete or concrete paving.
 - 2. Piping located under areas where asphalt or concrete paving will be installed shall be bedded with sand (a layer 6" below pipe and 6" above pipe).
 - 3. Compact backfill material in 6" lifts at 90% maximum density determined in accordance with ASTM D155-7 using manual or mechanical tamping devices.
 - 4. Piping under existing walks or concrete pavement shall be done by jacking, boring, or hydraulic diving, but where cutting or breaking of walks and/or concrete is necessary, it shall be done and replaced at cost to Owner. Obtain permission to cut or break walks and/or concrete from Owner.
- L. Water Supply and Point of Connection - Water supply shall be extended as shown from water supply lines.

3.06 FIELD QUALITY CONTROL:

- A. Flushing - After piping, risers, and valves are in place and connected, but prior to installation of sprinkler heads, quick coupler assemblies, and hose valves, thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthest valves. Cap risers after flushing.
 - B. Testing - Conduct tests in presence of Consultant. Arrange for presence of Consultant 48 hours in advance of testing. Supply force pump and all other test equipment.
 - 1. After backfilling, and installation of all control valves, fill pressure supply line with water, and pressurize to 40 PSI over the designated static pressure or 120 PSI, whichever is greater, for a period of 2 hours. Pressure testing of pressure supply line utilizing compressed air is not acceptable.
 - 2. Leakage, Pressure Loss - Test is acceptable if no loss of pressure is evident during the test period.
 - 3. Leaks - Detect and repair leaks.
 - 4. Retest system until test pressure can be maintained for duration of test.
 - 5. Before final acceptance, pressure supply line shall remain under pressure for a period of 48 hours.
 - C. Walk-Through for Substantial Completion:
 - 1. Arrange for Consultant's presence 48 hours in advance of walk-through.
 - 2. Entire system shall be completely installed and fully operational prior to scheduling of walk-through. This shall include all control valves capable of being operated via irrigation controller.
 - 3. Electrically operate each zone in its entirety for Consultant at time of walk-through and additionally, open all valve boxes if directed.
 - 4. Consultant shall generate a list of items to be corrected prior to Final Completion. Furnish all materials and perform all work required to correct all inadequacies of coverage due to deviations from Contract Documents.
 - 5. During walk-through, expose all drip emitters under operation for observation by Consultant to demonstrate that they are performing and installed as designed, prior to placing of all mulch material. Schedule separate walk-through if necessary.
 - 6. Supply Consultant with one set of full-size prints (not original drawings) of completed contractor-prepared irrigation-as-built field drawings prior to start of substantial completion walk-through.
 - D. Walk-Through for Final Completion:
 - 1. Arrange for Consultant's presence 48 hours in advance of walk-through.
 - 2. Show evidence to Consultant that Owner has received all accessories, charts, record drawings, and equipment as required before Final Completion walk-through is scheduled.
 - 3. Electrically operate each zone, in its entirety for Consultant at time of walk-through to insure correction of all incomplete items.
 - 4. Items deemed not acceptable by Consultant shall be reworked to complete satisfaction of Consultant.
 - 5. If after request to Consultant for walk-through for Final Completion of irrigation system, Consultant finds items during walk-through which have not been properly adjusted, reworked, or replaced as indicated on list of incomplete items from previous walk-through, Contractor shall be charged for all subsequent walk-throughs. Funds will be withheld from final payment and/or retained to Contractor, in amount equal to additional time and expenses required by Consultant to conduct and document further walk-throughs as deemed necessary to insure compliance with Contract Documents.
 - 3.07 ADJUSTING** - Upon completion of installation, "fine-tune" entire system by regulating valves, adjusting patterns and break-up arms, and setting pressure reducing valves at proper and similar pressure to provide optimum and efficient coverage. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways, and buildings as much as possible. Heads of same type shall be operating at same pressure +/- .7%.
 - A. If it is determined that irrigation adjustments will provide proper coverage, and improved water distribution as determined by Consultant, contractor shall make such adjustments prior to Final Acceptance, as directed, at no additional cost to Owner. Adjustments may also include changes in nozzle sizes, degrees of arc, and control valve throttling.
 - B. All sprinkler heads shall be set perpendicular to finish grade unless otherwise noted on Construction Plans or directed by Consultant.
 - C. Areas which do not conform to designated operation requirements due to unauthorized changes or poor installation practices shall be immediately corrected at no additional cost to the Owner.
- 3.08 CLEANING** - Maintain continuous cleaning operation throughout duration of work. Dispose of, off-site at no additional cost to Owner, all trash, debris and excess soil generated by installation of irrigation system.

END OF SECTION

Irrigation Construction Notes

- 1. ALL BASE INFORMATION HAS BEEN TAKEN FROM DRAWINGS PREPARED BY SAGE DESIGN GROUP.
 - 2. REFER TO TECHNICAL SPECIFICATIONS AND CONSTRUCTION DETAILS FOR INSTALLATION PROCEDURES.
 - 3. CONTRACTOR SHALL FIELD VERIFY PRESSURE AT BACKFLOW PREVENTER LOCATION FOR EACH TAP PRIOR TO ORDERING MATERIALS OR STARTING ANY IRRIGATION INSTALLATION AND NOTIFY CONSULTANT OF ANY DIFFERENCES FROM STATED PRESSURE. IF CONTRACTOR FAILS TO NOTIFY CONSULTANT HE ASSUMES FULL RESPONSIBILITY FOR ANY SYSTEM ALTERATIONS. EACH SYSTEM HAS BEEN DESIGNED FOR STATIC PRESSURES AS SHOWN (AS TAKEN FROM UTILITY REPORT).
- | TAP LOCATION/NUMBER | AVAIL. PRESSURE | REQUIRED PRESSURE |
|---------------------|------------------|-------------------|
| 1 | 113 PSI/95 W/PRV | 77 PSI |
- 4. CONTRACTOR SHALL COORDINATE INSTALLATION OF SLEEVING WITH INSTALLATION OF CONCRETE FLATWORK AND PAVING. ALL SLEEVING IS BY CONTRACTOR UNLESS OTHERWISE NOTED. UNLESS NOTED OTHERWISE ON IRRIGATION PLANS INSTALL SLEEVING BASED ON SLEEVE SIZING GUIDE BELOW.

PIPE SIZE OR WIRE QUANTITY	REQUIRED SLEEVE
3/4" - 1" PIPING	1-2" PVC SLEEVE
1-1/2" - 2" PIPING	1-4" PVC SLEEVE
2-1/2" - 3" PIPING	1-6" PVC SLEEVE
TWO-WIRE CABLE	1-2" PVC SLEEVE

NOTE: EACH LENGTH OF SLEEVED PIPE SHOWN SHALL BE ROUTED THROUGH SEPARATE SLEEVE. IRRIGATION WIRE BUNDLE SHALL BE ROUTED IN SEPARATE SLEEVE/CONDUIT WITHOUT IRRIGATION PIPING
 - 5. WHERE NOT NOTED ON IRRIGATION PLANS CONTRACTOR TO INSTALL PLASTIC 15 SERIES NOZZLES ON POP-UP SPRAY HEADS SPACED GREATER THAN 12 FEET. INSTALL 12 SERIES NOZZLES ON POP-UP SPRAY HEADS SPACED 8-10 FEET. INSTALL 10 SERIES NOZZLES ON ALL POP-UP SPRAY HEADS SPACED 8-10 FEET. INSTALL 8 SERIES NOZZLES ON POP-UP SPRAY HEADS SPACED 8 FEET AND LESS.
 - 6. REFER TO PLANTING PLAN FOR EXACT TREE LOCATIONS AND QUANTITIES, TREES SHOWN ON IRRIGATION PLANS ARE APPROXIMATE.
 - 7. CONTRACTOR SHALL REPAIR OR REPLACE ANY EXISTING IRRIGATION EQUIPMENT, TURF, PLANT MATERIAL OR SITE FEATURES DAMAGED DURING NEW INSTALLATION. REPLACEMENT OR REPAIR OF DAMAGED EQUIPMENT OR MATERIAL SHALL BE DETERMINED BY THE OWNER AND THE CONSULTANT.
 - 8. VALVE BOXES SHALL BE LOCATED 36" MINIMUM FROM CENTERLINE OF ALL SWALES, 24" MINIMUM FROM EDGES OF ALL WALKS, CURBS, DRIVES AND OTHER HARD SURFACE AREAS.
 - 9. REFER TO IRRIGATION TECHNICAL SPECIFICATIONS FOR PLANTING AND IRRIGATION LAY-OUT REQUIREMENTS, COORDINATION AND PRIORITIES.
 - 10. LATERAL PIPING DIAMETERS SHALL INCLUDE 1", 1 1/2" AND 2". 3/4" AND 1 1/4" DIAMETER LATERAL PIPE IS NOT ACCEPTABLE.



RIDGEGATE SOUTH WEST VILLAGE FILING 1, OCTAVE AVE R.O.W. LANDSCAPE PLANS

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ALL DRAWINGS AND WRITTEN INFORMATION REFERENCED HEREIN SHALL NOT BE DISSEMINATED, REPRODUCED OR OTHERWISE USED WITHOUT THE WRITTEN CONSENT OF SAGE DESIGN GROUP, LLC.

DRAWN BY: DZ
 CHECKED BY: DZ

REVISION RECORD		
NO.	CHANGE	DATE
1	RESUBMIT	10.21.22
2	RESUBMIT	01.27.23
3	RESUBMIT	03.10.23

DATE: 7.22.22

SHEET TITLE:
 IRRIGATION SPECIFICATIONS

SHEET NO. :

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