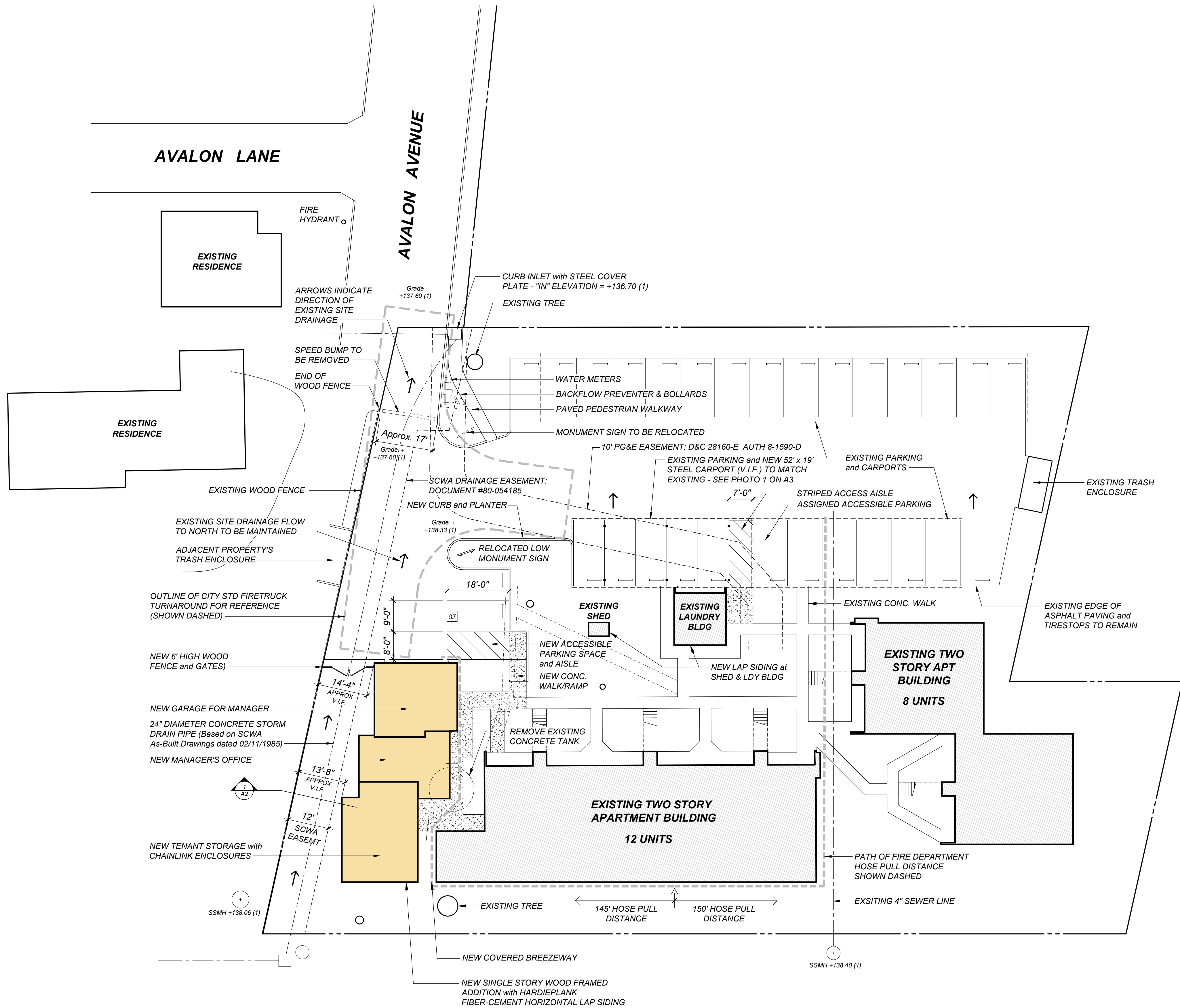




PROJECT DATA

PROJECT LOCATION:	624 Avalon Avenue, Santa Rosa, California
ASSESSOR PARCEL #:	125-231-032
GENERAL PLAN:	Medium Density Residential
ZONING:	PD 96-002
SITE AREA:	Approx. 0.89 acres
NEW GARAGE:	500 Square Feet
NEW OFFICE:	330 Square Feet
NEW STORAGE:	680 Square Feet
NUMBER OF UNITS:	20 (Existing - No new units proposed) 19 one-bedroom units 1 two-bedroom unit
PARKING:	31 (2 Garage + 25 Carport + 4 Uncovered) 31 Required (19 x 1.5 + 1 x 2.5)

NOTES

- (1) Grade elevations based on SCWA As-Built Drawings and City of Santa Rosa Sewer & Water Improvement Record Plans (City of Santa Rosa file numbers 87-58, 91-20 and 2002-0023)

VICINITY MAP



AVALON AVENUE APARTMENTS

624 Avalon Avenue, Santa Rosa, California

CONCEPTUAL SITE PLAN

0' 8' 16' 32'
SCALE: 1/16" = 1'-0"

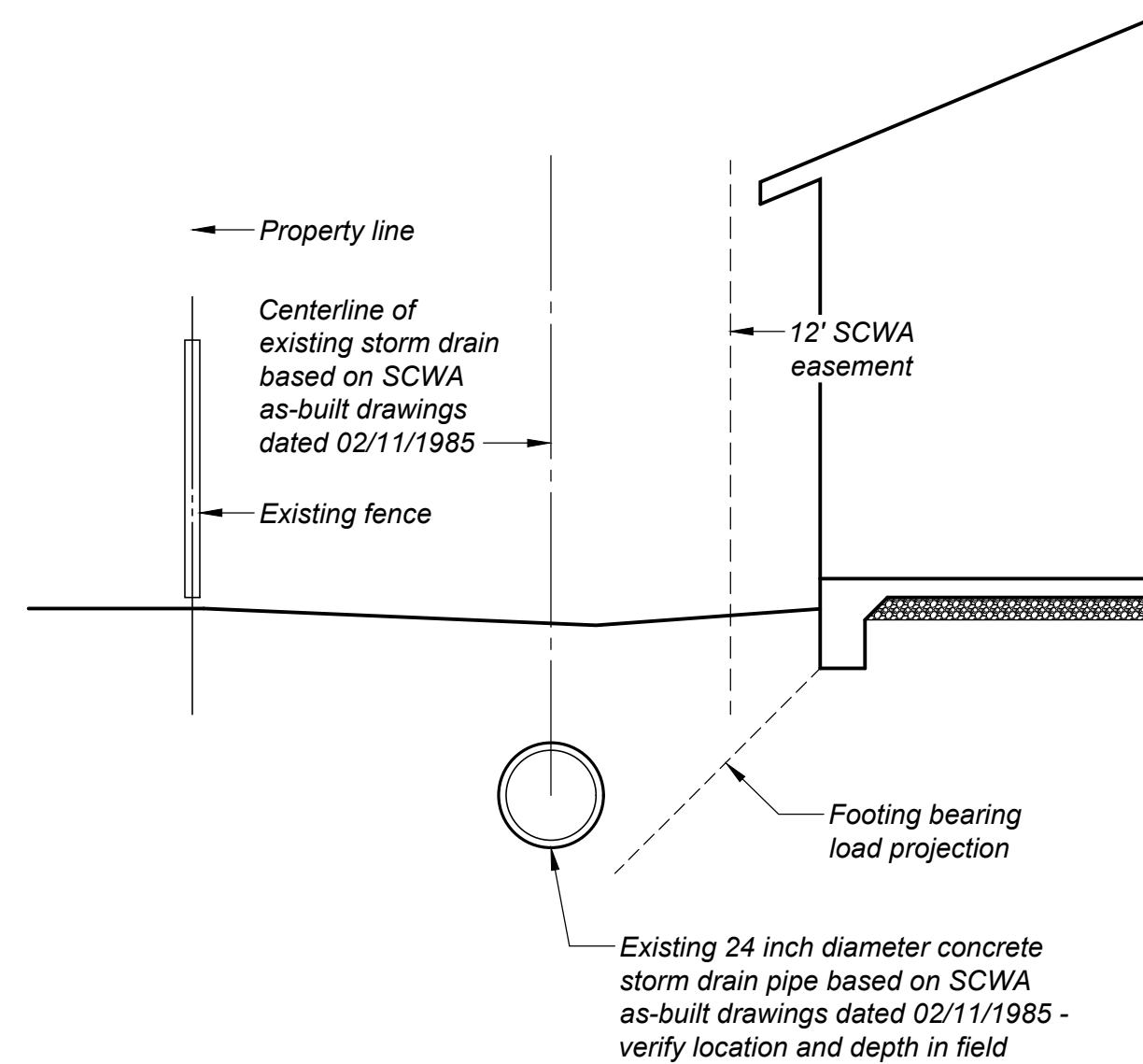


TIERNEY / FIGUEIREDO
TFA
ARCHITECTS AIA

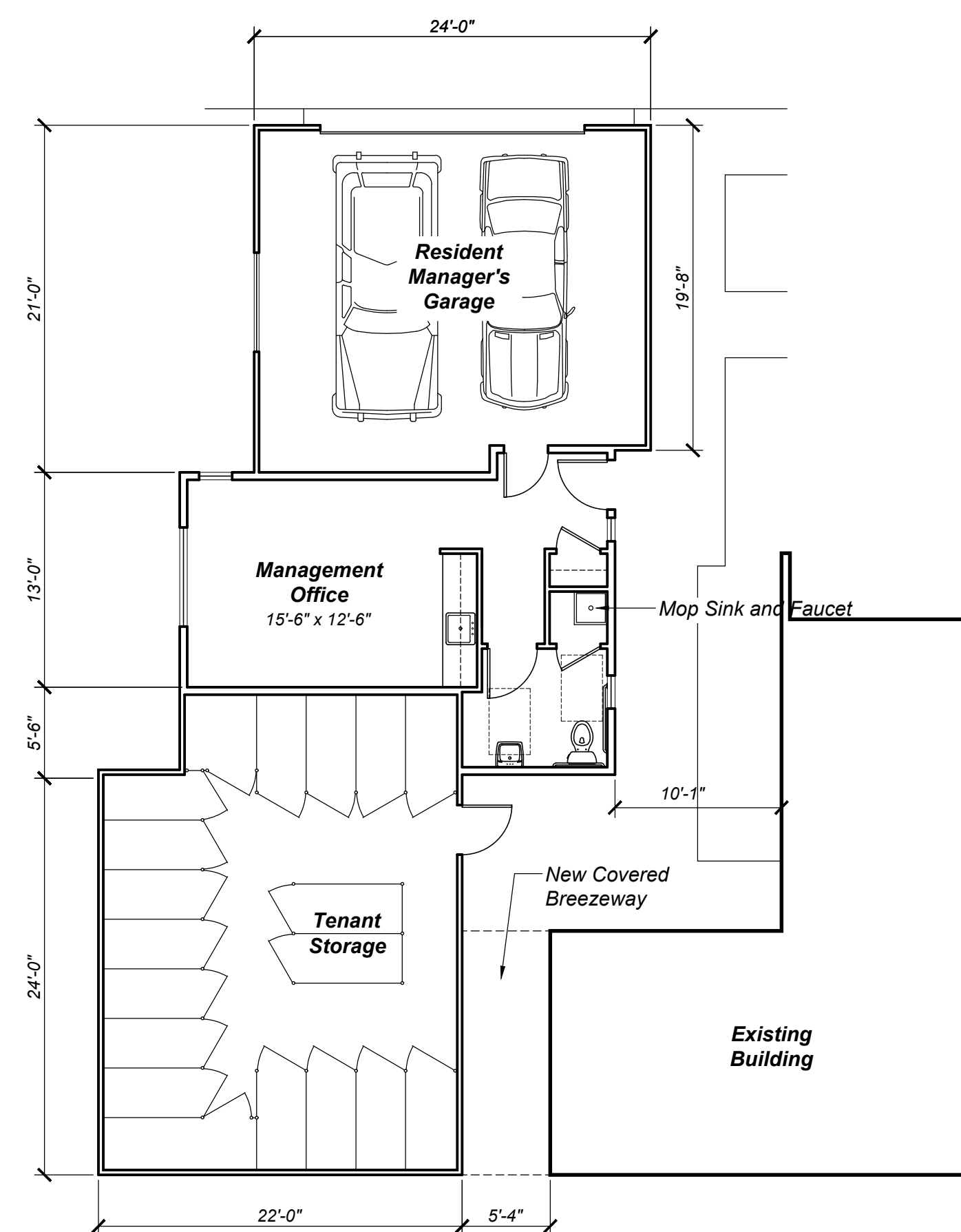
817 Russell Ave., Suite H Santa Rosa, CA 95403 707.576.1557 info@tfarch.com

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05/12/2020
TFA #1619



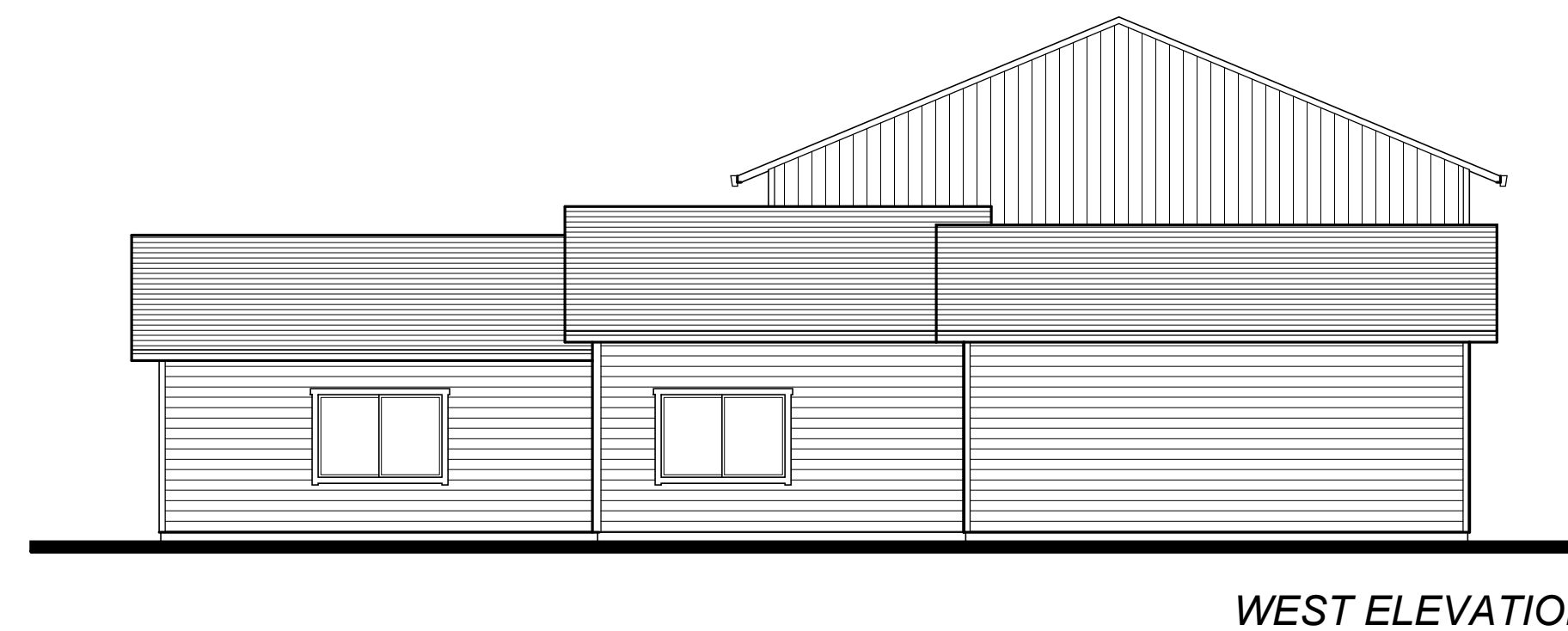
1
A2 SECTION AT SCWA STORM DRAIN EASEMENT



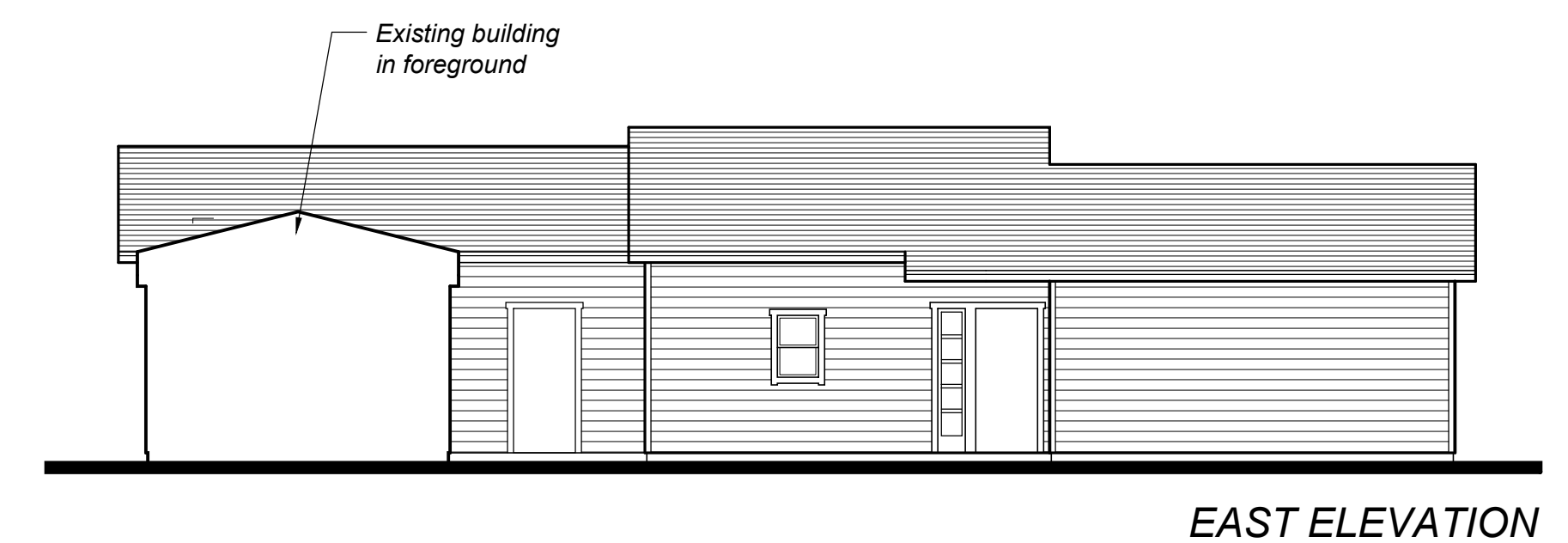
FLOOR PLAN



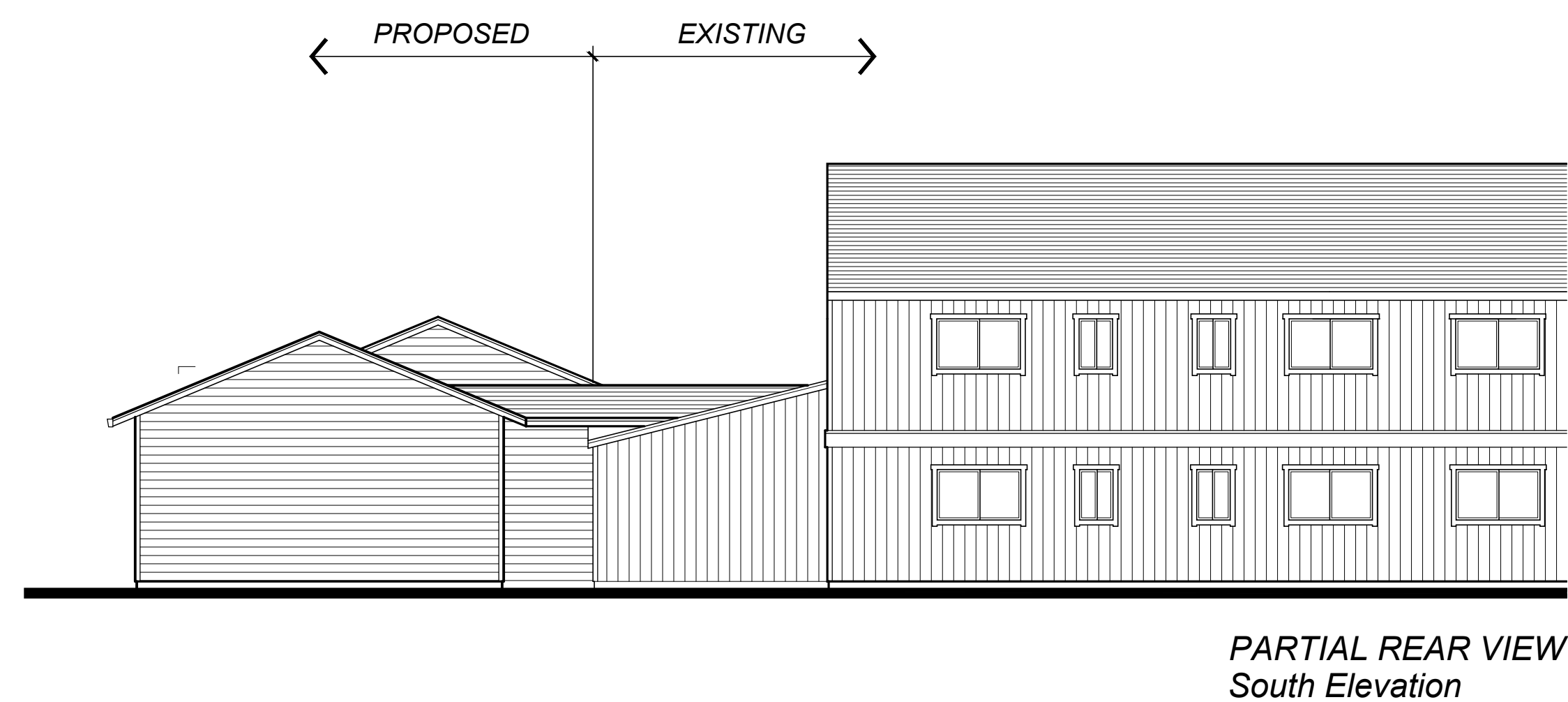
GARAGE FRONT VIEW
North Elevation



WEST ELEVATION

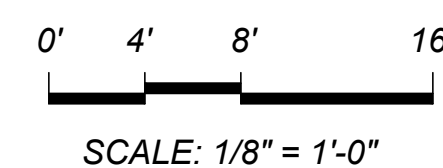


EAST ELEVATION



PARTIAL REAR VIEW
South Elevation

CONCEPTUAL FLOOR PLAN and ELEVATIONS



AVALON AVENUE APARTMENTS

624 Avalon Avenue, Santa Rosa, California

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A2

04/15/2020
TFA #1619



PHOTO 1 - COVERED PARKING



PHOTO 2 - FRONT STAIRS



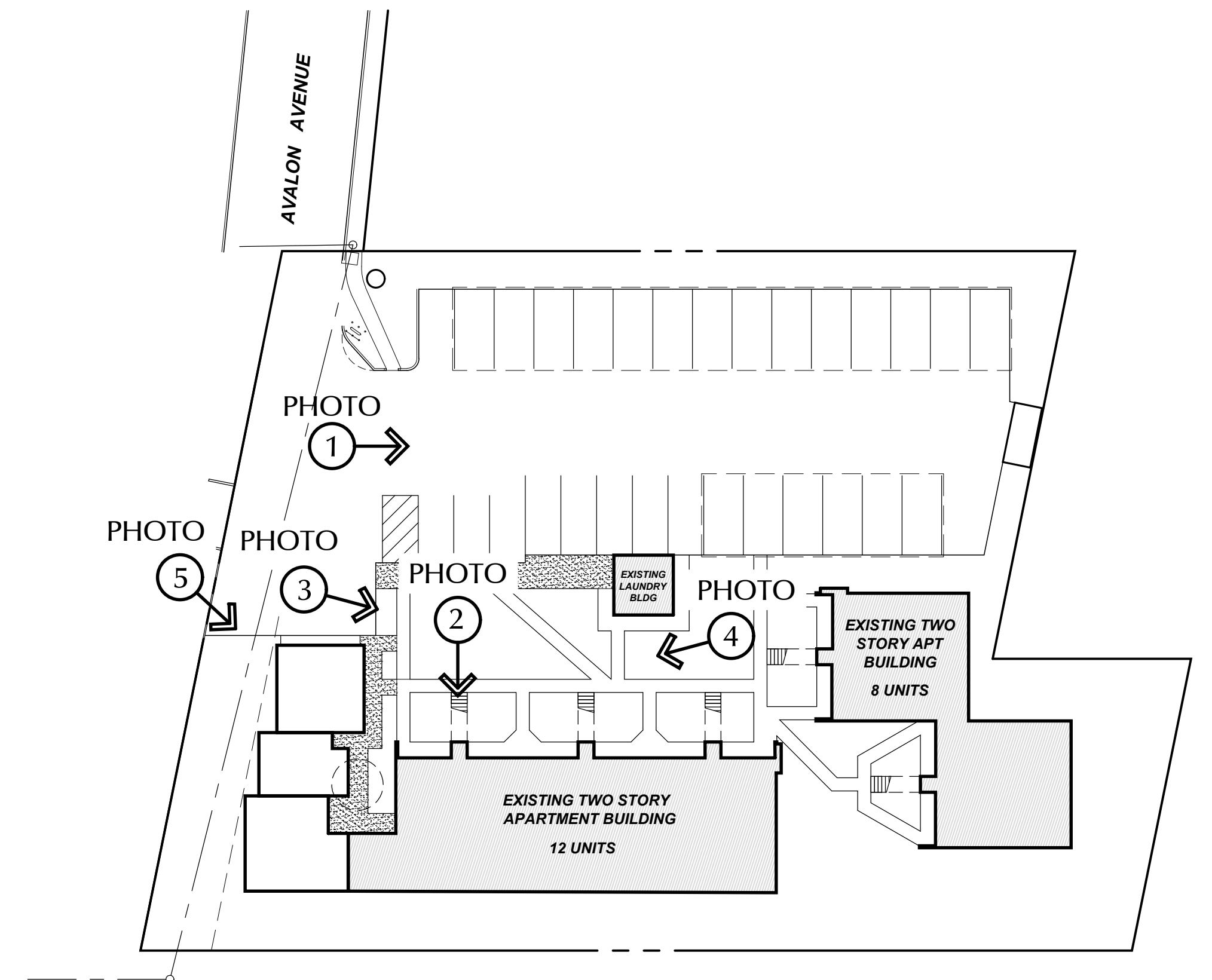
PHOTO 3 - FRONT LOOKING EAST



PHOTO 5 - LOOKING EAST



PHOTO 4 - FRONT LOOKING WEST



AVALON AVENUE APARTMENTS

624 Avalon Avenue, Santa Rosa, California

SITE PLAN & SITE PHOTOS

TIERNEY / FIGUEIREDO
TFA
ARCHITECTS AIA

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A3

04/15/2020
TFA #1619

U.S.A NOTE

IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE, AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 OR 1-800-227-2600 TO FIELD LOCATE ALL EXISTING UTILITIES.

- NOTES FOR TYPICAL IRRIGATION SYSTEM:
IRRIGATION LATERAL PIPE SIZING TO BE DETERMINED BASED ON THE FOLLOWING CRITERIA.
1. ALL LATERALS TO BE SCH 40 PVC.
 2. FLOW SHALL NOT EXCEED 5' PER SECOND.
 3. MAXIMUM FRICTION LOSS THROUGH ANY SECTION OF PIPE SHALL NOT EXCEED 3.00 PSI PER 100' OF PIPE.
 4. NO LATERAL SHALL BE SMALLER THAN 3/4" DIAMETER.
 5. MINIMUM OPERATING PRESSURE SHALL BE 25 PSI AT THE SPRINKLER HEAD AND 50 PSI FOR ROTORS.
 6. MAX FLOW THROUGH LATERALS, AS FOLLOWS:
3/4" SCH 40 PVC: 5.5 GPM
1" SCH 40 PVC: 10.5 GPM
1-1/4" SCH 40 PVC: 17.5 GPM
1-1/2" SCH 40 PVC: 27 GPM
2" SCH 40 PVC: 45 GPM
 7. ALL MAINLINE TO BE 1-1/2" IN SIZE UNLESS OTHERWISE INDICATED.
 8. INSTALL SUPPLEMENTAL CHECK VALVES IN LATERALS AT 15' VERTICAL ELEVATION CHANGE, AS REQUIRED.

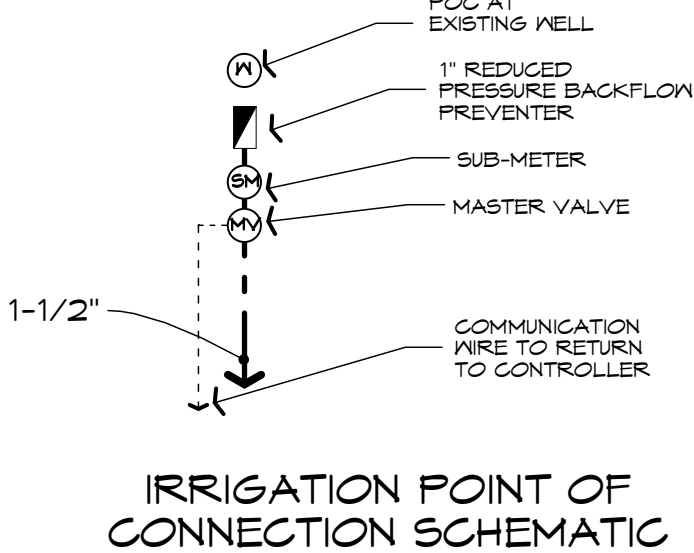
IRRIGATION NOTES

1. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE PLANS.
2. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM STATIC PRESSURE OF 25 PSI AT THE VALVES AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT THE POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION OF THE IRRIGATION SYSTEM. IF THE WATER PRESSURE SHOWN ON THE DRAWINGS DIFFERS FROM THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO THE START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
3. THE LOCATION OF THE CONTROLLER TO BE VERIFIED BY OWNER. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING ALL PROPOSED STATIONS TO THE CONTROLLER. CONTROLLER TO BE CONFIGURED TO OPERATE 6 STATIONS. CONTROLLER SHALL BE HUNTER IC-600M.
4. ONE IRRIGATION CONTROLLER STATION SHALL BE DEDICATED FOR MANUAL OPERATION TO PRESSURIZE THE MAIN LINE FOR QUICK COUPLER AND HOSE BIB USE.
5. ALL CONSTRUCTION IS TO BE PER THE LATEST EDITION OF THE UNIFORM BUILDING CODE.
6. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ROOT BARRIERS, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY. INSTALL PIPING AND VALVES IN PLANTING AREAS WHERE POSSIBLE, AND LOCATE ELECTRIC CONTROL AND QUICK COUPLING VALVES IN GROUND COVER/SHRUB AREAS, 6" TO 12" AWAY FROM HARDSCAPE OR TURF AREA FOR EASY ACCESS.
7. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER SPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND THROTTLING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
8. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE, AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 TO FIELD LOCATE ALL EXISTING UTILITIES.
9. FIELD ADJUSTMENTS MAY BE REQUIRED TO PROVIDE OPTIMUM OPERATING EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LANDSCAPE ARCHITECT TO REVIEW FIELD ADJUSTMENTS PRIOR TO INSTALLATION. IN THE EVENT THAT NO CONTACT IS MADE WITH THE LANDSCAPE ARCHITECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS.
10. SLEEVE ALL IRRIGATION PIPE AND CONTROL WIRES UNDER STREETS AND CONCRETE WALKWAYS WITH THE PROPER SIZE CLASS 200 PVC PIPE TO DEPTH AS SPECIFIED.
11. FOR ADDITIONAL INFORMATION, SEE PROJECT DETAILS AND SPECIFICATIONS.
12. ALL WORK SHALL CONFORM TO ALL APPLICABLE CITY OF SANTA ROSA CONSTRUCTION STANDARDS.
13. NO GALVANIZED IRON PIPE OR FITTINGS SHALL BE ALLOWED.
14. A BALL VALVE IN A SEPARATE ROUND VALVE BOX IS TO BE INSTALLED IMMEDIATELY UPSTREAM FROM EACH REMOTE CONTROL VALVE. VALVE SHALL BE SIZED TO MAINLINE SUPPLY AT THE RC VALVE. SEE DETAIL.
15. INSTALL 3" WIDE DETECTABLE TAPE (#3" DTP, AS MANUFACTURED BY T. CHRISTY). TAPE SHALL BE INSTALLED 6" ABOVE THE IRRIGATION MAIN.
16. INSTALL ALL LANDSCAPE DRIPLINE 3" BENEATH GRADE AND ALL LINES PARALLEL AT THE SPACING INDICATED. USE LANDSCAPE STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO SECURE TO TUBING TO GROUND.
17. A SIGNED CERTIFICATE OF COMPLETION IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE CITY OF SANTA ROSA. IF THE INSTALLATION OF THE LANDSCAPE DOES MEET OR SUBSTANTIALLY COMPLY WITH THE APPROVED LANDSCAPE CONSTRUCTION DOCUMENTS, THE CERTIFICATE OF COMPLETION WILL NOT BE SIGNED OR APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	MANUFACTURER	MODEL	REMARKS
	STREAM BUBBLER: 6" POP-UP	HUNTER	PROS-06-PRS30-MSBN-25Q	TREE WELL BUBBLER: AIM AT ROOT BALL; 1 PER TREE
	ROOT WATERING SYSTEM	HUNTER	RZWS-10-25-CV	1 PER TREE. INSTALL ADJACENT TO & UPHILL FROM TREE
	REMOTE CONTROL VALVE: TREE BUBBLER CIRCUIT	HUNTER	ICV-101G-AS-ADJ	TREE BUBBLER CIRCUIT VALVE
	REMOTE CONTROL VALVE: DRIP CIRCUIT	HUNTER	ICZ-101-LF-40	DRIP CIRCUIT VALVE
	6 STATION BASE CONTROLLER	HUNTER	IC-600-M	MOUNT ON PANEL AT EYE LEVEL
	SOLAR SYNC SENSOR	HUNTER	WSS-SENS	ROOF MOUNT ABOVE CONTROLLER LOCATION PER MANUF. SPEC
	BALL VALVE IN VALVE BOX	KBI	BTU-XXXX-V	MATCH MAINLINE SIZE. SEE DETAIL
	PIPE AND WIRE CHASE	PVC	CL 200	SEE PLAN FOR SIZE
	LINE FLUSHING VALVE	NETAFIM	TL050MFV	INST. IN VALVE BOX @ END OF CIRCUIT
	AIR/VACUUM RELIEF VALVE	NETAFIM	TLAVRV	INST. IN VALVE BOX @ HIGH POINT
	LANDSCAPE DRIPLINE	RAINBIRD	XFS-06-12-XX	INSTALL 3" BELOW GRADE @ SPACING SHOWN
	POLY TO PVC CONNECTOR W/ COMPRESSION FITTING		SEE DETAIL HL3	
	MAINLINE	PVC	SCH 40	SEE PLAN FOR SIZE
	LATERAL	PVC	SCH 40	SEE PLAN FOR SIZE
	R.P. BACKFLOW PREVENTER : 1" SIZE	WATTS	U090QT SERIES	INSTALL AT POINT OF CONNECTION
	1" NORMALLY CLOSED MASTER VALVE	HUNTER	ICV101-G	INSTALL DOWNSTREAM FROM BACKFLOW PREVENTER
	VALVE STATION AND SEQUENCE			
	ELECTRIC CONTROL VALVE SIZE			
	FLOW RATE IN GALLONS PER MINUTE			

WATER SOURCE IS A PRIVATE WELL.
MINIMUM OPERATING PRESSURE AT THE VALVES SHALL BE 25 PSI. PUMP SHALL BE SET AT 45 PSI/65 PSI MINIMUM (VERIFY FOR ACTUAL CONDITIONS)



CITY REQUIRED NOTES
(W.E.L.O. COMPLIANCE)

1. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL SUBMIT TO THE ENGINEERING DEVELOPMENT SERVICES INSPECTOR A COMPLETED AND SIGNED "CERTIFICATE OF COMPLETION" STATING THE PROJECT HAS BEEN INSTALLED AS DESIGNED.
2. THE CERTIFICATE OF COMPLETION SHALL BE ACCOMPANIED BY AN IRRIGATION AUDIT, IRRIGATION SCHEDULE AND A MAINTENANCE SCHEDULE, AS DESCRIBED IN THE CITY ORDINANCE.
3. A FINAL CITY INSPECTION SHALL BE PERFORMED. THE INSTALLATION CONTRACTOR SHALL ATTEND THIS INSPECTION AND MAKE ALL REQUIRED REPAIRS AND ADJUSTMENTS TO ACHIEVE APPROVAL AND COMPLETION FROM THE CITY TO SCHEDULE AN INSPECTION, CONTACT ENGINEERING DEVELOPMENT SERVICES AT (707) 543-4611.
4. PURSUANT TO CITY OF SANTA ROSA POLICY, ALL SUBSTITUTIONS SHALL BE APPROVED BY THE CITY INSPECTOR.

CITY REQUIRED NOTES

1. A MINIMUM OF 8" OF NON-MECHANICALLY COMPACTED SOIL SHALL BE AVAILABLE FOR WATER ABSORPTION AND ROOT GROWTH IN PLANTED AREAS.
2. INCORPORATE COMPOST OR NATURAL FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 8" AT A MINIMUM RATE OF 8 CUBIC YARDS PER 1000 SQUARE FEET OR PER SPECIFIC AMENDMENT RECOMMENDATIONS FROM A SOILS LABORATORY REPORT.
3. A MINIMUM 3" LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT IN TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS OR DIRECT SEEDING APPLICATIONS.

MAWA AND ETWU CALCULATIONS

1.) Maximum Applied Water Allowance (MAWA)										
A.)		Net Evapotranspiration Calculation								
		Annual Eto								
		43.90								
		Annual Rainfall								
		27.20	X	0.25	=	Effective Rainfall	6.8			
		Net Evapotranspiration Calculation = Annual Eto - Effective Rainfall = 37.10								
B.)		Adjusted Landscape Area Calculation								
		Landscape Area								
		1,533	X	Adjustment Factor	=	689.75				
		Special Landscape Area	0	X	Adjustment Factor	=	0			
						0.4	=	0		
		Sum of Adjusted Landscape Area				=	689.75			
MAWA =		37.10	X	0.62	X	689.75	=	15,866 Gallons		
2.) Estimated Total Water Use (ETWU)										
A.)		Net Evapotranspiration Calculation								
		Net Evapotranspiration Calculation								
		= Annual Eto - Effective Rainfall = 37.10								
		Very Low Water Plant Use SF								
		0	X	0.10	=	0.00				
		Low Water Plant Use SF								
		1,295	X	0.30	=	388.51				
		Moderate Water Plant Use SF								
		238	X	0.60	=	142.65				
		High Water Plant Use SF								
		-	X	1.00	=	0.00				
		Sum of Adjusted Landscape Area = 531.16								
ETWU =		37.10	X	0.62	X	531.16	/	0.81	= 15,084 Gallons	

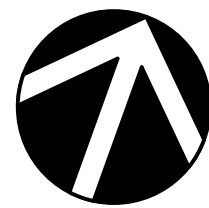
AREA CALCULATION NOTE:

WATER USE CALCULATIONS ARE BASED ON ACTUAL AND DUPLICATED LANDSCAPE AREAS. ACTUAL LANDSCAPE AREAS INCLUDE ALL SITE AREAS OCCUPIED WITH LANDSCAPE TREATMENT. DUPLICATED LANDSCAPE AREAS ARE THOSE AREAS WHERE A PROPOSED TREE CANOPY OVERLAPS AN ACTUAL LANDSCAPE AREA. ACTUAL LANDSCAPE AREAS PLUS DUPLICATE LANDSCAPE AREAS ARE INCLUDED IN THE OVERALL LANDSCAPE AREA AS REQUIRED BY THE CITY OF SANTA ROSA FOR MAWA CALCULATIONS.

FOR MAWA AND HYDROZONE CALCULATIONS (PER CITY OF SANTA ROSA POLICY), SQUARE FOOTAGE BENEATH THE DRIP LINE OF A TREE IS CONSIDERED A SEPARATE HYDROZONE. THIS SQUARE FOOTAGE IS ALSO INCLUDED AS PART OF THE LANDSCAPE HYDROZONE FOR NON-TREE LANDSCAPE AREAS WHICH RESULTS IN CALCULATED LANDSCAPE AREAS GREATER THAN ACTUAL SQUARE FOOTAGE.

FOR ALL TREES, THE AREA OF THE MATURE TREE CANOPY HAS BEEN USED IN THE WATER USE CALCULATIONS.

IRRIGATION PLAN



DATE: 6/28/19
JOB: 2019-03
SCALE: 1/16" = 1'-0"
DRAWN: DM

L-1

PRELIMINARY
IRRIGATION PLAN

AVALON AVENUE APARTMENTS
624 AVALON AVENUE
SANTA ROSA, CALIFORNIA
APN 125-231-032

U.S.A NOTE

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SOIL ANALYSIS REPORT
(REQUIRED BY CITY OF SANTA ROSA):

IN ORDER TO REDUCE RUNOFF AND ENCOURAGE HEALTHY PLANT GROWTH, A SOIL ANALYSIS REPORT SHALL BE COMPLETED BY THE PROJECT APPLICANT, OR THEIR DESIGNEE, AS FOLLOWS:

- (1) SUBMIT SOIL SAMPLES TO A LABORATORY FOR ANALYSIS AND RECOMMENDATIONS.
(A) SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS.
2) THE SOIL ANALYSIS SHALL INCLUDE:

- (A) SOIL TEXTURE;
(B) INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE;
(C) PH;
(D) TOTAL SOLUBLE SALTS;
(E) SODIUM;
(F) PERCENT ORGANIC MATTER; AND
(G) RECOMMENDATIONS.

- (3) IN PROJECTS WITH MULTIPLE LANDSCAPE INSTALLATIONS (I.E. PRODUCTION HOME DEVELOPMENTS) A SOIL SAMPLING RATE OF 1 IN 7 LOTS OR APPROXIMATELY 15% WILL SATISFY THIS REQUIREMENT. LARGE LANDSCAPE PROJECTS SHALL SAMPLE AT A RATE EQUIVALENT TO 1 IN 1 LOTS.
(4) THE SOIL ANALYSIS REPORT SHALL BE MADE AVAILABLE, IN A TIMELY MANNER, TO THE PROFESSIONALS PREPARING THE LANDSCAPE DESIGN PLANS AND IRRIGATION DESIGN PLANS TO MAKE ANY NECESSARY ADJUSTMENTS TO THE DESIGN PLANS.

- (5) IF A GRADING PERMIT IS REQUIRED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE CITY WITH THE CERTIFICATE OF COMPLETION. IF A GRADING PERMIT IS NOT REQUIRED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE CITY WITH THE LANDSCAPE DOCUMENTATION PACKAGE.

- (6) THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, SHALL SUBMIT DOCUMENTATION VERIFYING IMPLEMENTATION OF SOIL ANALYSIS REPORT RECOMMENDATIONS TO THE CITY WITH CERTIFICATE OF COMPLETION.

PLANTING NOTES

1. ALL GROUND COVER TO BE SPACED IN A TRIANGULAR PATTERN. CONTRACTOR RESPONSIBLE FOR COMPLETE COVERAGE.
2. SUPPLY AGRIFORM 21 GRAM TABLETS AS FOLLOWS: 5-15 GAL., 3-5 GAL., 1-1 GAL.
3. DIG PLANTING PITS 2 TIMES THE DIAMETER AND EQUAL THE HEIGHT OF ROOTBALL.
4. BACKFILL PITS WITH 2/3 EXISTING SOIL, 1/3 ORGANIC AMENDMENT
5. ALL PLANTS TO BE SPOTTED IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
6. WHEN LANDSCAPING IN EXISTING PLANTED AREAS, CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE OR DESTROY ANY EXISTING PLANT MATERIAL OR IRRIGATION. EXISTING PLANT MATERIAL AND IRRIGATION THAT IS DAMAGED SHALL BE REPLACED WITH LIKE, SIZE, QUALITY, ETC. BY THE CONTRACTOR AT HIS EXPENSE.
7. SPECIAL ATTENTION IS TO BE PAID TO THE PLANTING AREAS SURROUNDING THE BUILDINGS. COMPACTED SOIL IS TO BE SUFFICIENTLY EXCAVATED TO ALLOW FOR PROPER ROOT GROWTH AND DRAINAGE OF ALL AREAS. CHECK SOIL FOR PROPER DRAINAGE PRIOR TO PLANTING. AUGER THROUGH COMPACTED SOIL WHERE NECESSARY. DO NOT PLANT IN THE DRAINAGE SWALES.
8. ALL CONSTRUCTION IS TO BE PER ALL APPLICABLE AND PREVAILING CITY OF SANTA ROSA CONSTRUCTION STANDARDS.
9. A SIGNED CERTIFICATE OF COMPLETION IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE CITY OF SANTA ROSA. IF THE INSTALLATION OF THE LANDSCAPE DOES MEET OR SUBSTANTIALLY COMPLY WITH THE APPROVED LANDSCAPE CONSTRUCTION DOCUMENTS, THE CERTIFICATE OF COMPLETION WILL NOT BE SIGNED OR APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.

PLANT LEGEND

SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	REMARKS	WATER USE PER WUCOLS IV
TREES					
ARA	24	ACER RUBRUM 'ARMSTRONG'	SCARLET MAPLE		M
SHRUBS					
LIP	5	LAVANDULA INTERMEDIA 'PHENOMENAL'	LAVENDER		L
LCR	5	LOROPETALUM CHINENSE 'RUBY'	CHINESE FRINGE FLOWER		L
NDC	5	NANDINA DOMESTICA 'COMPACTA'	COMPACT HEAVENLY BAMBOO		L
PTW	5	PITTOSPORUM TOBIRA 'WHEELER'S DWARF'	DWARF MOCK ORANGE	3' O.C. TRI. SPACING	L
GROUNDCOVER					
	1	COTONEASTER DAMMERI 'CORAL BEAUTY'	COTONEASTER	6' O.C. TRI. SPACING	L
PERENNIALS					
ALM		ACHILLEA 'LITTLE MOONSHINE'	YARROW		L
NFW	1	NEPETA FAASSENII 'WALKER'S LOW'	CATMINT	2' O.C. TRI. SPACING	L
SCA	1	SALVIA CLEVELANDII 'CELESTIAL BLUE'	SAGE		L
GRASSES					
BGB	1	BOUTELOUA GRACILLIS 'BLONDE AMBITION'	BLONDE AMBITION BLUE GRAMA	2' OC. TRI. SPACING	L
MDU	1	MUHLENBERGIA DUBIA	PINE MUHLY	36" OC. TRI. SPACING	L
OTHER					
		MULCH: FIR BARK, 1/2" MINUS		3" DEPTH; ALL LANDSCAPE AREAS	
SEE DETAIL		LINEAR ROOT BARRIER	ROOT SOLUTIONS, OR EQUAL	24" DEPTH; INSTALL WHERE TREE IS CLOSER THAN 7' TO EDGE	

CITY REQUIRED NOTES
(W.E.L.O. COMPLIANCE)

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2. THE CERTIFICATE OF COMPLETION SHALL BE ACCOMPANIED BY AN IRRIGATION AUDIT, IRRIGATION SCHEDULE AND A MAINTENANCE SCHEDULE, AS DESCRIBED IN THE CITY ORDINANCE.
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4. PURSUANT TO CITY OF SANTA ROSA POLICY, ALL SUBSTITUTIONS SHALL BE APPROVED BY THE CITY INSPECTOR.

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3. A MINIMUM 3" LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT IN TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS OR DIRECT SEEDING APPLICATIONS.

CITY REQUIREMENT OF DOCUMENT OF COMPLIANCE

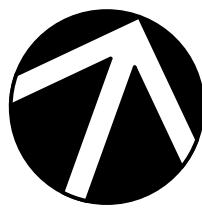
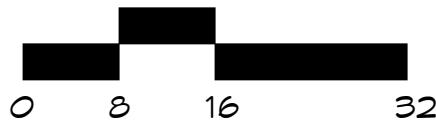
(ITEMS TO BE INCLUDED WITH CERTIFICATE OF COMPLETION)

- A. PROJECT APPLICANT MUST SUBMIT DOCUMENTATION VERIFYING IMPLEMENTATION OF SOIL ANALYSIS REPORT RECOMMENDATIONS TO THE CITY WITH CERTIFICATE OF COMPLETION
B. THE CERTIFICATE OF COMPLETION MUST BE ACCOMPANIED BY AN IRRIGATION AUDIT THAT CONTAINS THE FOLLOWING:

- OPERATING PRESSURE OF THE IRRIGATION SYSTEM
- DISTRIBUTION UNIFORMITY OF OVERHEAD IRRIGATION
- PRECIPITATION RATE OF OVERHEAD IRRIGATION
- REPORT OF ANY OVERSPRAY OR BROKEN IRRIGATION EQUIPMENT
- IRRIGATION SCHEDULE INCLUDING:
 - PLANT ESTABLISHMENT IRRIGATION SCHEDULE
 - REGULAR IRRIGATION SCHEDULE BY MONTH (SEE ORDINANCE FOR DETAILS)
 - VERIFICATION THAT A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES IS KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.
- ALL LANDSCAPE IRRIGATION AUDITS MUST BE CONDUCTED BY A CITY CERTIFIED LANDSCAPE IRRIGATION AUDITOR OR A THIRD PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.
- AN IRRIGATION MAINTENANCE SCHEDULE TIMELINE MUST BE ATTACHED TO THE CERTIFICATE OF COMPLETION (SEE ORDINANCE FOR DETAILS)

C. IRRIGATION AUDIT: AN IN-DEPTH EVALUATION OF THE PERFORMANCE OF AN IRRIGATION SYSTEM CONDUCTED BY A CERTIFIED LANDSCAPE IRRIGATION AUDITOR. (SEE ORDINANCE FOR DETAILS). THE AUDIT MUST BE CONDUCTED IN A MANNER CONSISTENT WITH THE IRRIGATION ASSOCIATION'S LANDSCAPE IRRIGATION AUDITOR CERTIFICATION PROGRAM OR OTHER U.S. EPA "WATERSENSE" LABELED AUDITING PROGRAM.

PLANTING PLAN



DATE: 6/28/19
JOB: 2019-03
SCALE: 1/16" = 1'-0"
DRAWN: DM

L-2

SHEET 2 OF 4

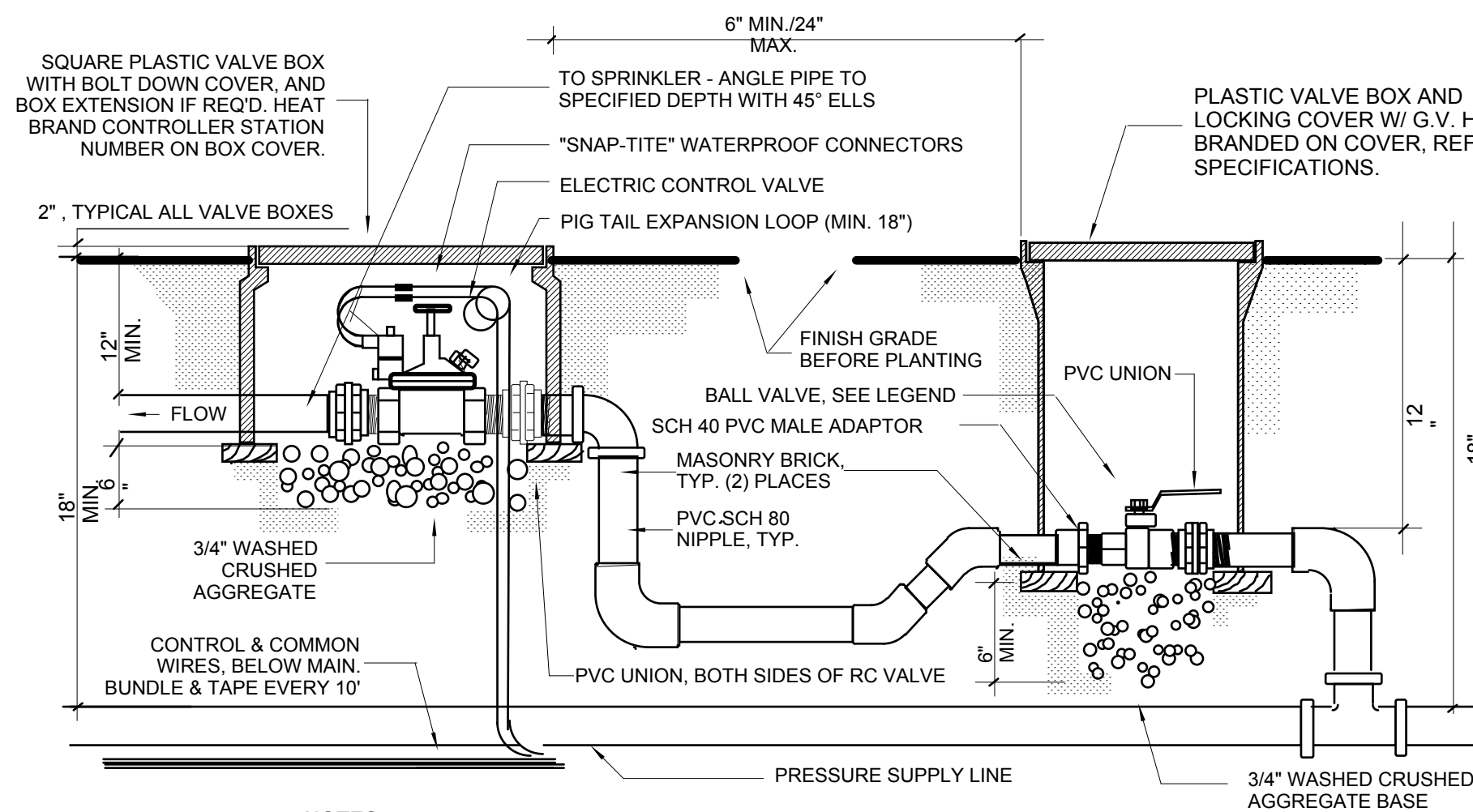
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PLANTING PLAN

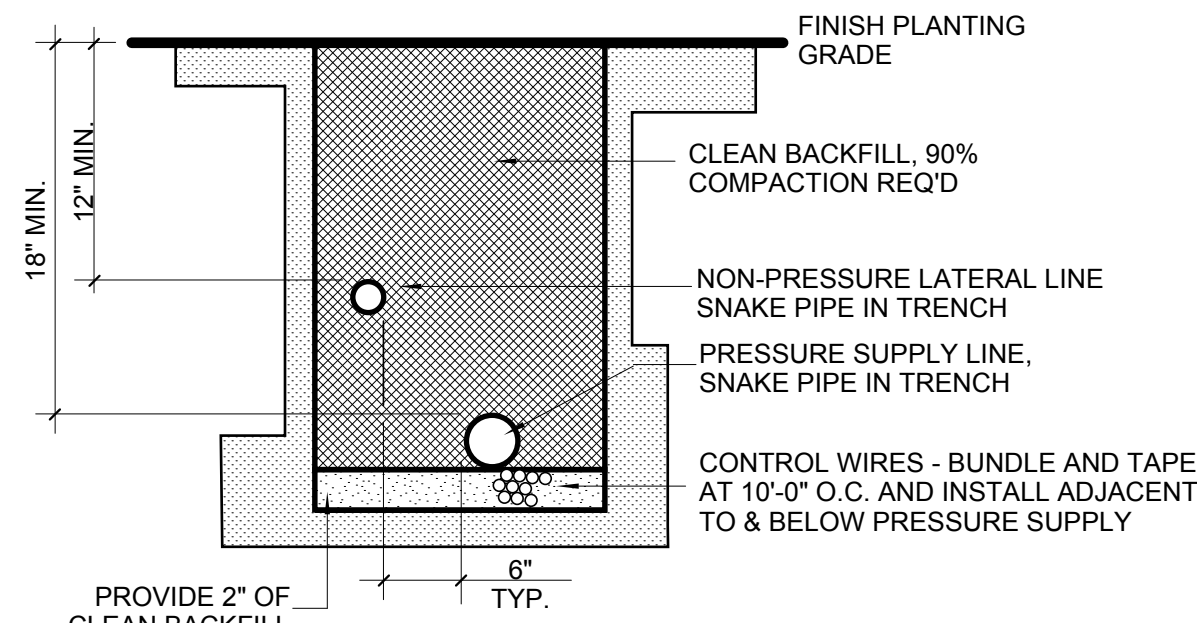
AVALON AVENUE APARTMENTS
624 AVALON AVENUE
SANTA ROSA, CALIFORNIA
APN 125-231-032



- NOTES:**
- 1) INSTALL CONTROL VALVES A MINIMUM OF 18" FROM STRUCTURES OR HARDSCAPING.
 - 2) INSTALL VALVES IN PLANT BEDS WHEREVER POSSIBLE.
 - 3) PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
 - 4) INSTALL VALVE BOX SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPING.
 - 5) PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.
 - 6) INSTALL VALVE BOXES SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPE.
 - 7) INSTALL ONE BALL VALVE IN BOX IMMEDIATELY UPSTREAM FROM EACH REMOTE CONTROL VALVE.

A L-3 ELECTRIC CONTROL VALVE WITH SHUT OFF

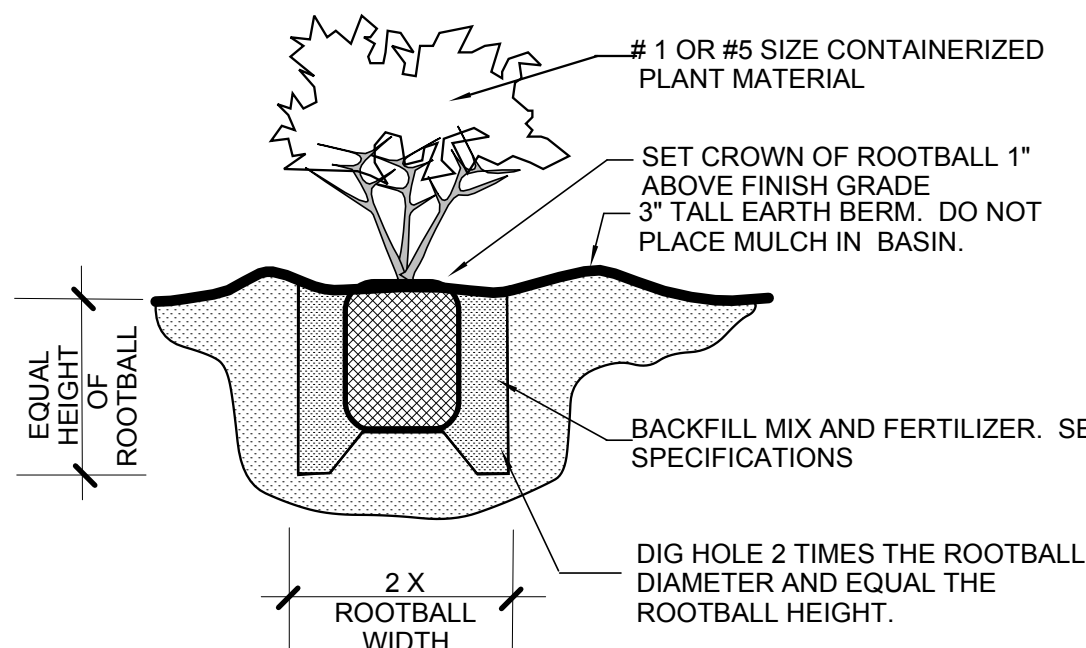
NTS



- NOTE:**
- 1) PIGTAIL AND LOOP CONTROL WIRE AT ALL CHANGES IN DIRECTION.
 - 2) PROVIDE 18" EXPANSION LOOP AT ALL 90° ANGLES, AND EVERY 100' OF STRAIGHT CURVE RUN.

E L-3 PIPE INSTALLATION UNDER PLANTED AREA

NTS



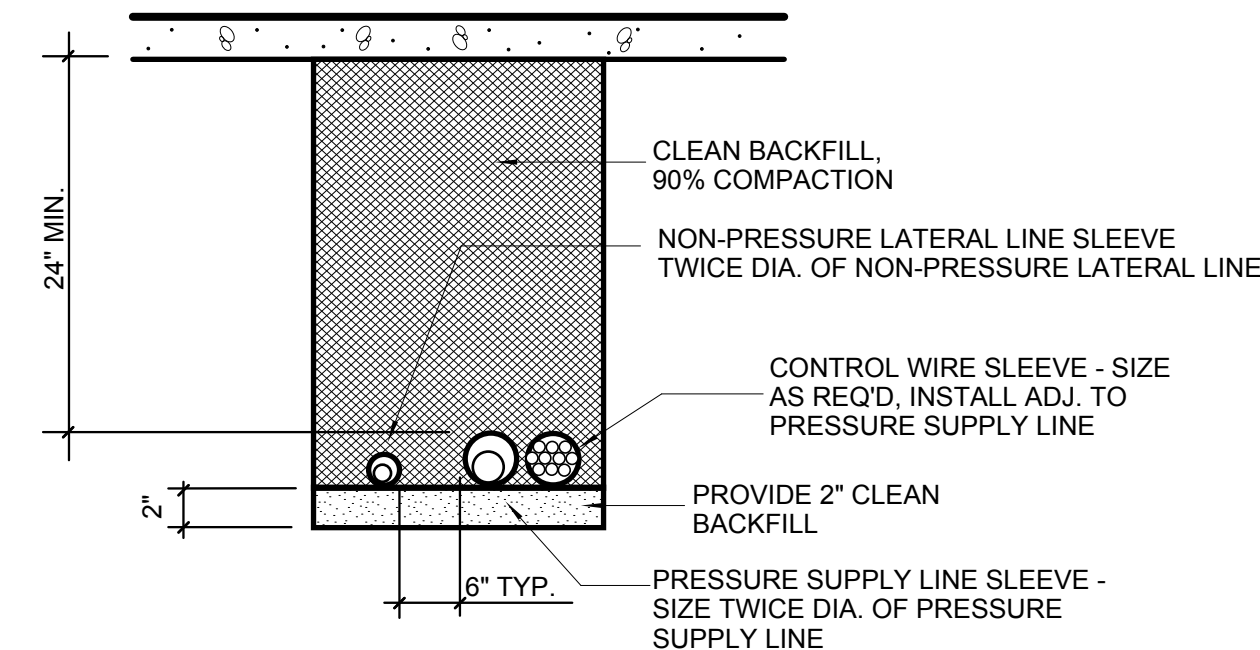
H L-3 SHRUB PLANTING DETAIL

NTS

B L-3 POP-UP SPRINKLER DETAIL

INCLUDES 4", 6" AND 12"

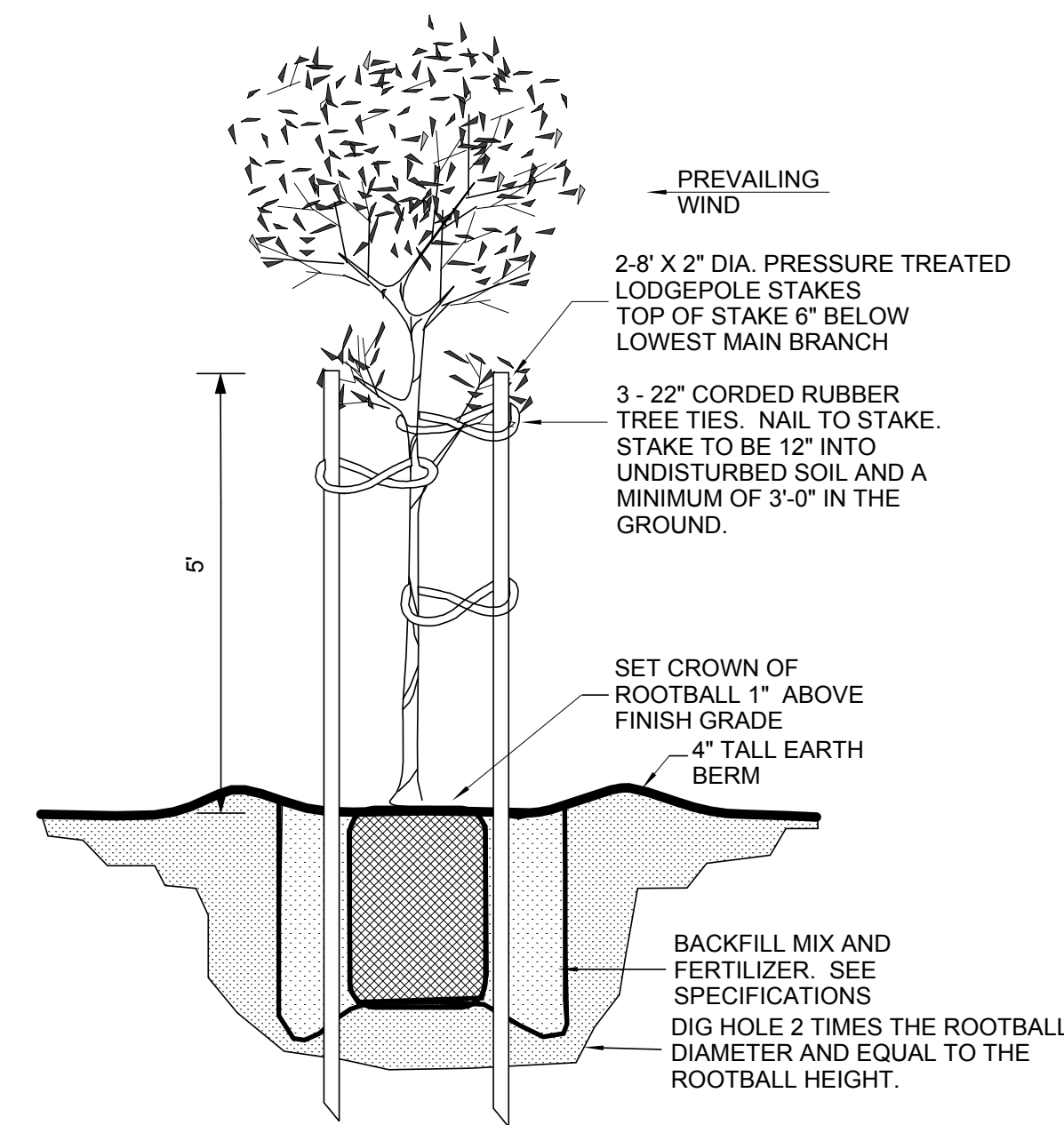
NTS



- NOTES:**
- 1) ALL SLEEVES TO BE SCH 40 PVC.
 - 2) EXTEND ALL SLEEVES 12" BEYOND EDGE OF HARDSCAPING AT BOTH ENDS.

F L-3 PIPE INSTALLATION UNDER PAVING

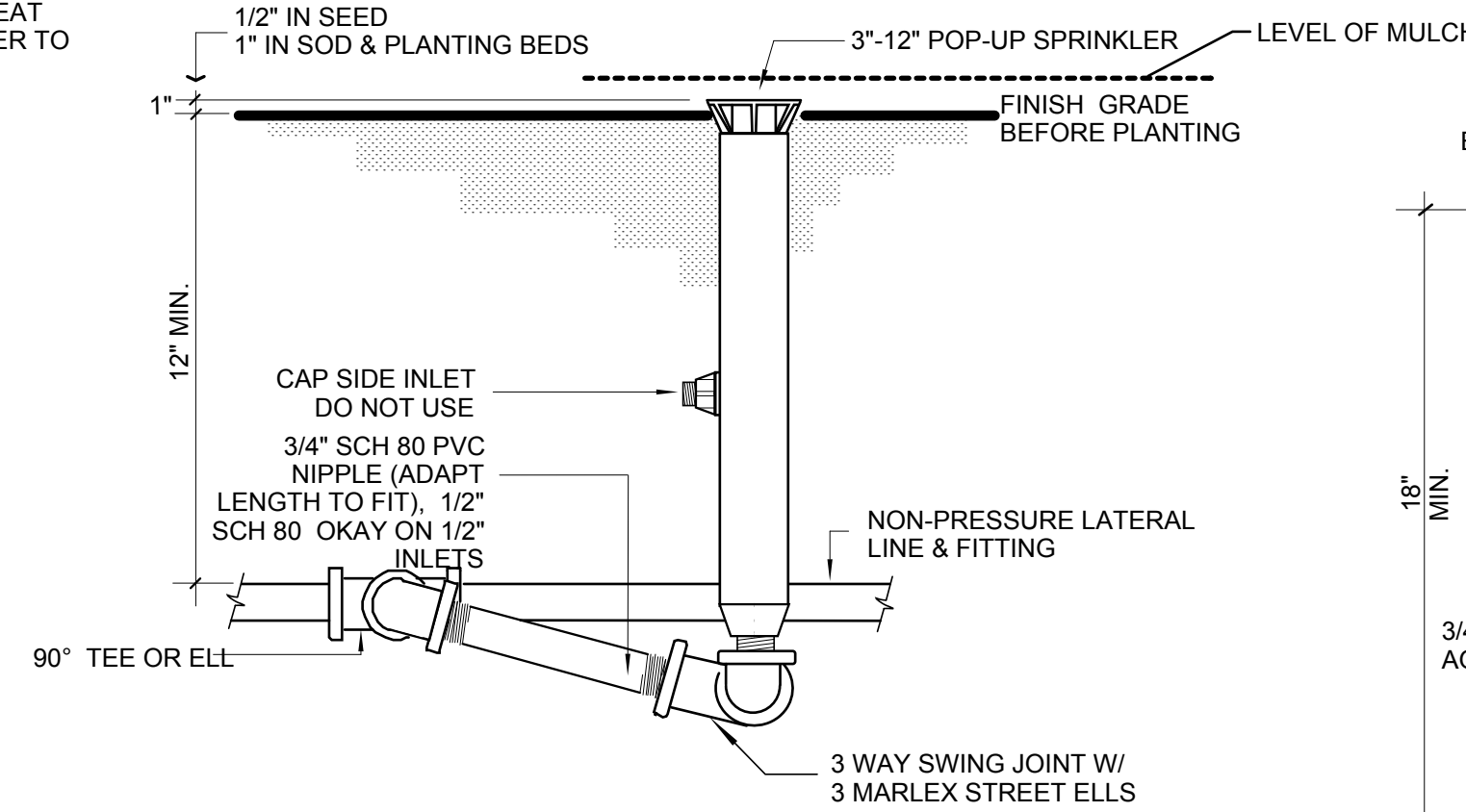
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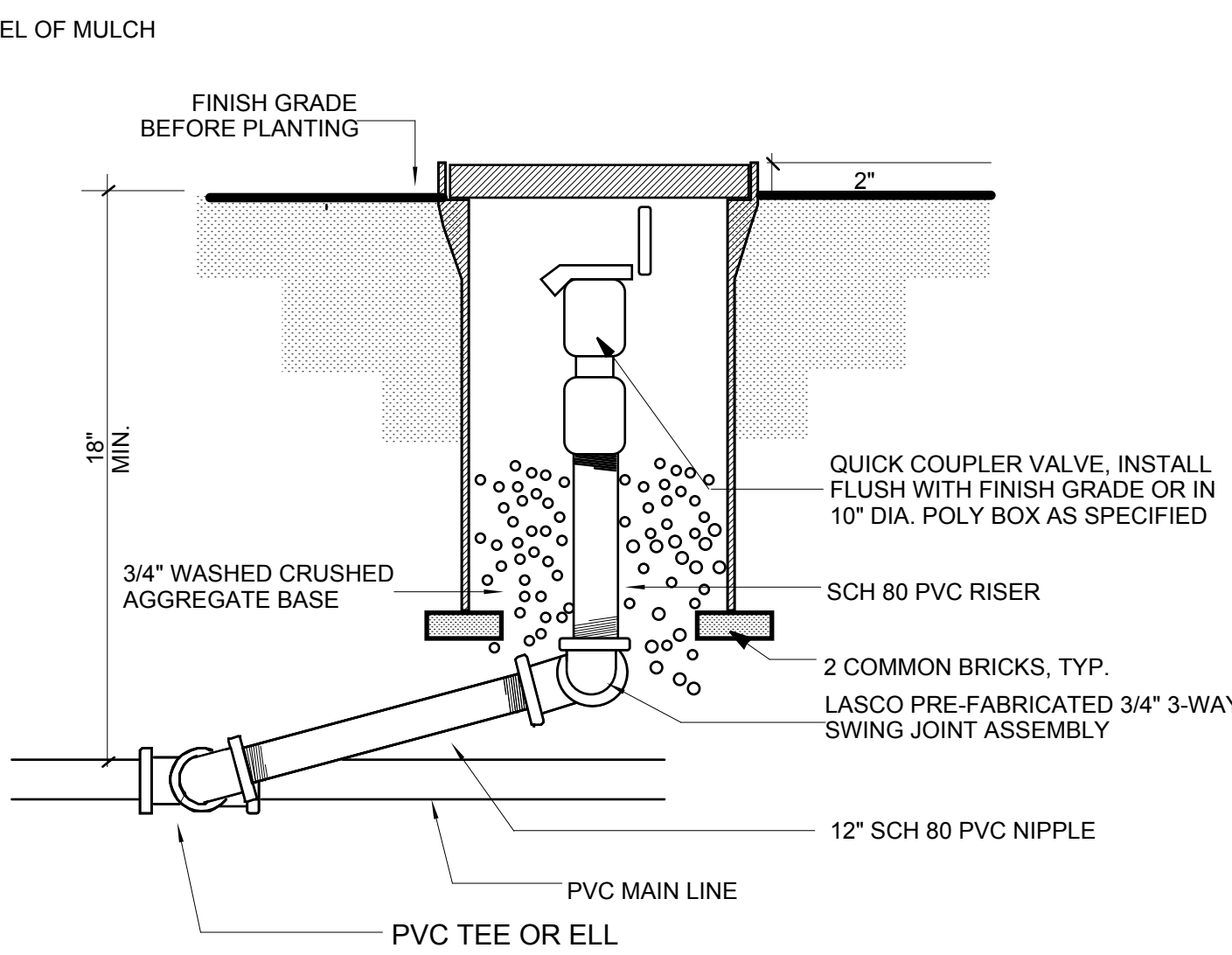
- NOTE:**
- 1) DO NOT PLACE MULCH IN TREE BASIN.
 - 2) DETAIL NOT TO SCALE.

I L-3 TREE PLANTING DETAIL

NTS

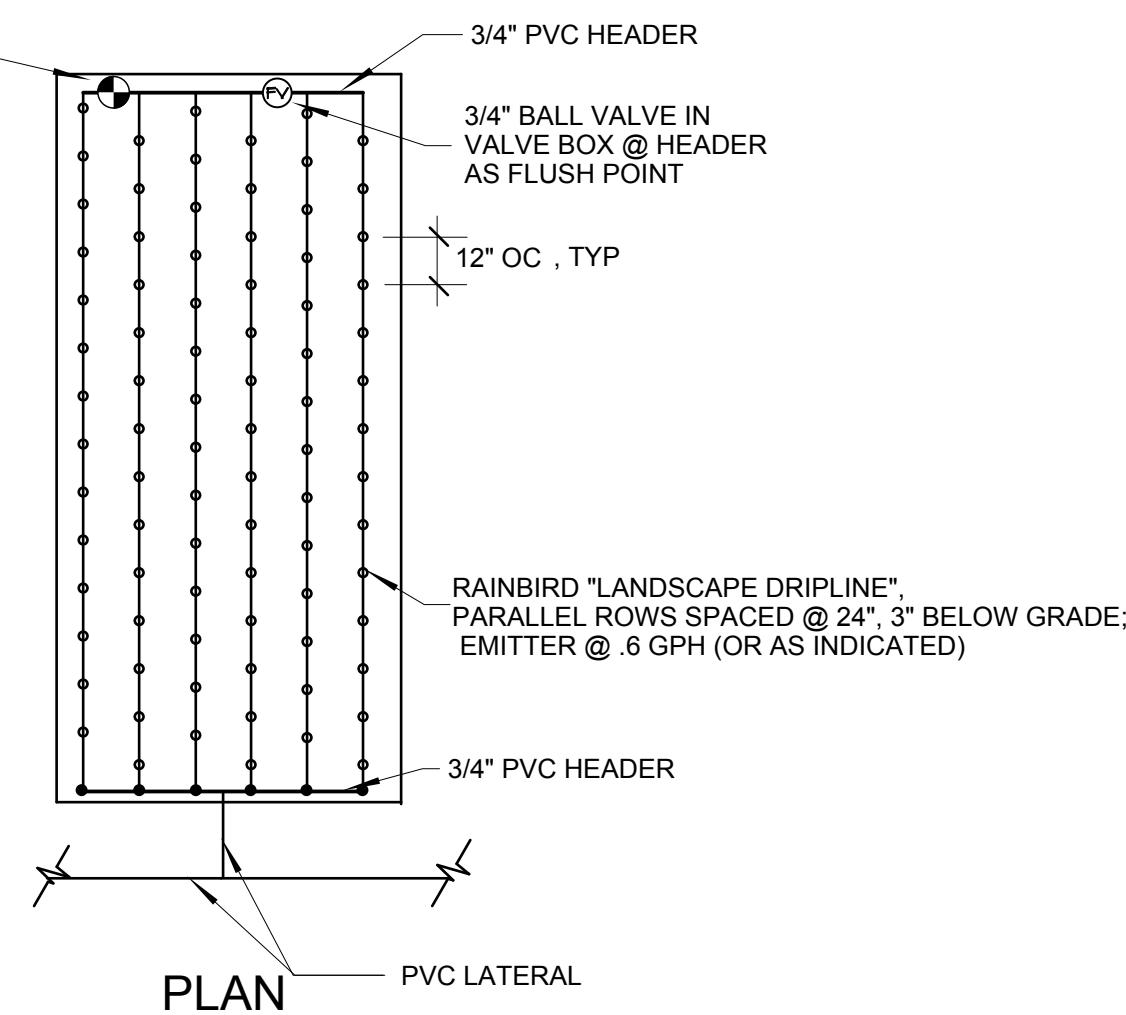


- NOTES:**
- 1) LOCATE HEAD 6" FROM ALL EDGES IN LAWN AREAS. LOCATE HEAD 12" FROM ALL EDGES IN SHRUB AREAS.
 - 2) LOCATE STREAM SPRAY AND BUBBLERS HEADS 6" FROM ALL EDGES.
 - 3) USE TEFLON PASTE ON ALL MALE THREADS.



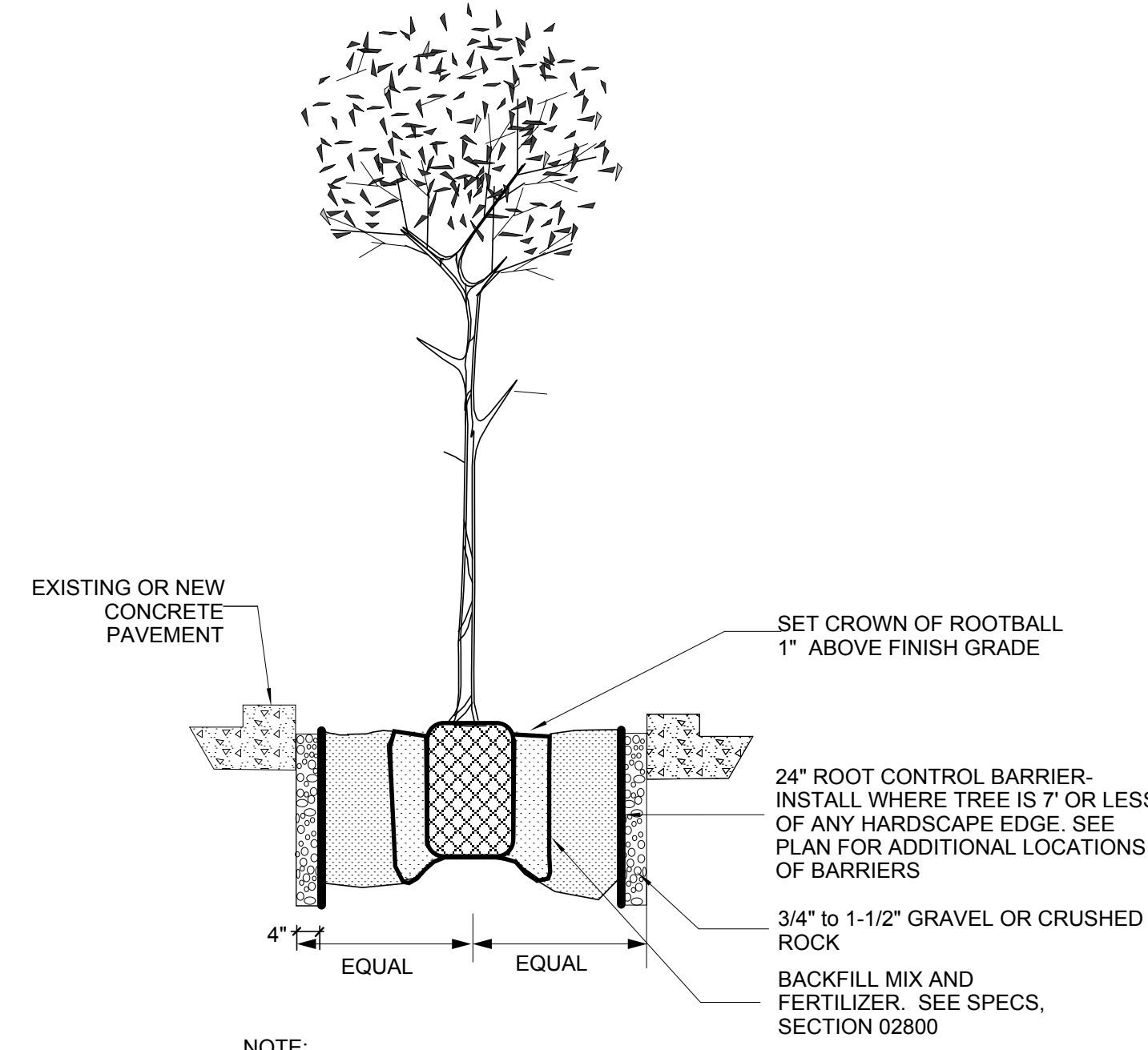
C L-3 QUICK COUPLER DETAIL

NTS



G L-3 DRIP CIRCUIT LAYOUT

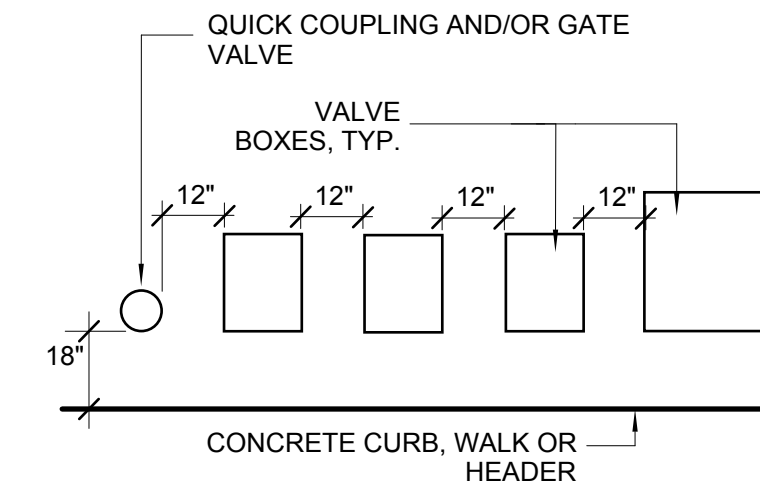
NTS



- NOTE:**
- 1) DO NOT PLACE MULCH IN TREE BASIN.
 - 2) PLANTING HOLE TO BE TESTED FOR DRAINAGE PRIOR TO PLANTING. IF HOLE'S DO NOT DRAIN WITHIN 4 HOURS CONTACT LANDSCAPE ARCHITECT.
 - 3) INSTALL ROOT BARRIER ON ALL FOUR SIDES OF PLANTER.

J L-3 TREE WELL WITH ROOT BARRIER

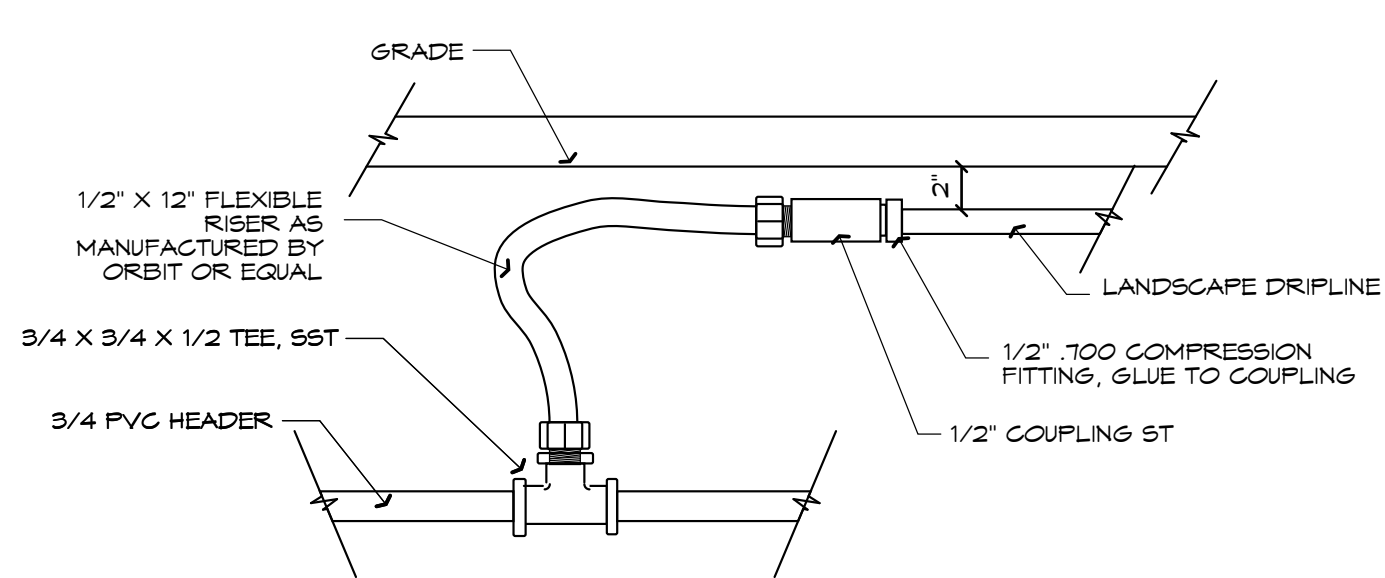
NTS



- NOTES:**
- 1) CENTER VALVE BOX OVER VALVE ASSEMBLY.
 - 2) LOCATE VALVE BOXES IN GROUND COVER/ SHRUB AREAS WHEN POSSIBLE.
 - 3) SET VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.

D L-3 VALVE BOX LAYOUT

NTS



H L-3 POLY TO PVC COMPRESSION FITTING DETAIL

NTS

LANDSCAPE DETAILS

DATE: 6/28/19
JOB: 2019-03
SCALE:
DRAWN: DM

L-3
SHEET 3 OF 4

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DETAILS

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APN 125-231-032

**DIVISION 2 SITEWORK
SECTION 02750**

UNDERGROUND IRRIGATION SYSTEM

PART 1 GENERAL

1.01 SCOPE

A. Work Included: perform all work necessary and required for the construction of the project as indicated. Such work includes but is not limited to the following:

1. Furnish and install complete irrigation system.
 2. Trenching and backfilling.
 3. Sleeves for irrigation piping and remote control valve wiring under pavements and walls as noted.
- B. Related Work in Other Sections: The following items of associated work are included in other sections of these specifications:

1. Landscaping, Section 02800

C. By Others: The following items of work will be performed by others and are not included in the contract.

1. Electrical submittal for irrigation controller.
2. Irrigation water meter.
3. Water submittal for irrigation system.

1.02 INSPECTION OF CONDITIONS: Examine related work and surfaces before starting work of this section. Report to the landscape architect, in writing, conditions which will prevent the proper provision of this work. Beginning the work of this section without reporting unsuitable conditions to the landscape architect constitutes acceptance of conditions by the contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions to be done at no additional cost to the owner.

1.03 CODES, RULES AND SAFETY ORDERS

A. All work and materials to be in full accordance with the latest rules and regulations of safety orders of Division of Industrial Safety; the Uniform Plumbing Code published by the Western Plumbing Officials' Association; and other applicable laws or regulations, including the presiding local plumbing code. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes. Should the construction documents, or instructions, be at variance with the aforementioned rules and regulations, notify the landscape architect and get instructions before proceeding with the work affected.

B. Furnish and maintain all warning signs, shoring, barricades, red lanterns, etc., as required by the Safety Orders of the Division of Industrial Safety and local ordinances.

C. Contact U.S.A. for location of underground utilities.

1.04 STANDARDS: American Society of Testing and Materials (ASTM).

1.05 PERMITS AND FEES: Obtain all permits and pay required fees to any governmental agency having jurisdiction over the work. Arrange inspections required by local agencies and ordinances during the course of construction as required.

1.06 APPROVAL: Whenever the terms "approve", "approval", or "approved" are used in the specifications, they mean approval of landscape architect in writing.

1.07 WORK SCHEDULE: Submit a proposed work schedule to landscape architect at least 5 days prior to start of work under this Section. After approval, no modification shall be made to this schedule with out written authorization by the landscape architect.

1.08 OBSERVATION SCHEDULE: Schedule a job start meeting with the landscape architect at least 5 days before beginning work under this Section. All requests for observation must be made 72 hours in advance.

A. Job start meeting
The purpose of this conference is to review questions the contractor may have regarding the work, administrative procedures during construction and project work schedule.

B. Irrigation installation and hydrostatic tests
Observation of installation and hydrostatic test results to be made by the landscape architect prior to backfilling of trenches.

C. Pre-maintenance
When all work has been completed a pre-maintenance walk-through will be conducted. If approved, the 90 calendar day maintenance period will begin.

D. Final Observation
Final Observation will be after the 90 calendar day maintenance period and all required work is completed. Please give 1 week notice for this observation meeting.

1.09 SUBSTITUTIONS

A. Specific reference to manufacturer's names and products specified in this Section are used as standards, but this implies no right to substitute other material or methods without written approval of the landscape architect.

B. Installation of any approved substitution is contractor's responsibility. Any changes required for installation of any approved substitution must be made to the satisfaction of the landscape architect and without additional cost to the owner.

1.10 PROTECTION OF EXISTING CONDITIONS

A. Contractor shall acquaint himself with all site conditions. Should utilities or other work not shown on the plans be found during excavations, contractor shall promptly notify landscape architect for instructions as to further action. Failure to do so will make contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities not shown on plans.

1.11 COORDINATION: Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and efficiently as possible.

1.12 PRODUCT HANDLING: Protect work and materials under this Section from damage during construction and storage. Protect polyvinyl chloride (PVC) pipe and fittings from direct sunlight. Beds on which PVC is stored must be full length of pipe. Do not use any pipe or fitting that has been damaged or dented.

1.13 SAMPLES: Landscape architect reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by the landscape architect. Rejected material shall be removed from the site immediately and replaced at the contractors expense. Cost of testing materials not meeting specifications shall be paid by contractor.

1.14 HYDROSTATIC TESTS

A. Make hydrostatic tests when welded PVC joints have cured at least 24 hours. Apply continuous static water pressure of 100 psi as follows:

1. All piping on the pressure side of control valves shall be tested for 2 hours.
2. At completion of hydrostatic test, mainline shall be opened at farthest most point from the location of the pump to verify continuity of mainline.

B. Leaks resulting from tests shall be repaired and tests repeated until system passes tests.

1.15 "AS-BUILT" IRRIGATION DRAWINGS: Contractor shall furnish Record Drawings of the complete irrigation system. Procure from the landscape architect full sized copies of Contract Drawings. Construction drawings shall be on the construction site at all times while the irrigation system is being installed. Actual location of valves and all irrigation and drainage piping shall be shown on the prints by dimensions from easily identified permanent features, such as buildings, curbs, fences, walks or property lines. Drawings shall show approved substitutions. If any of material including manufacturer's name and catalog number. The drawings shall be to scale and all indications shall be neat. All information noted on the print shall be transferred to the prints by contractor and all indications shall be recorded in a neat, orderly way. The record drawings shall be turned over to the landscape architect at or before the Final Acceptance of the project.

1.16 CONTROLLER CHARTS

1. As-built drawings shall be approved by the landscape architect before charts are prepared.
 2. Provide one controller chart for each controller supplied.
 3. The chart shall show the area controlled by automatic controller and shall be the maximum size controller door will allow.
 4. The chart is to be reduced drawing of the actual as-built system. However, in the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced.
- B. Should utilities not shown on the plans be found during excavations, contractor shall promptly notify landscape architect for instructions as to further action. Failure to do so will make contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities.

5. Chart shall be blackline print and a different color shall be used to show area of coverage for each station.

6. The chart shall be mounted using Velcro, or an approved equal type of tape.

7. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils. thick.

8. These charts shall be completed and approved prior to final inspection of the irrigation system.

1.17 MATERIALS TO BE FURNISHED

A. Prior to final inspection the contractor shall furnish the following materials to the owner:

1. Two wrenches for disassembling and adjusting each type of sprinkler head supplied.
2. Two keys for each automatic controller.
3. Four keys for loose key hose bibbs.
4. Twelve 12 inch pop-up sprinkler bodies.

1.18 CLEAN-UP: Keep all areas of work clean, neat and orderly at all times. Keep paved areas clean during construction. Clean up and remove all debris from the entire work area prior to Final Acceptance to satisfaction of landscape architect.

1.19 FINAL ACCEPTANCE: Work under this Section will be accepted by landscape architect upon satisfactory completion of all work. Upon Final Acceptance, owner will assume responsibility for maintenance of the work. Said assumption does not relieve contractor of obligations under Warranty.

1.20 WARRANTY: In addition to manufacturer's guarantees or warranties, all work shall be warranted for one year from the date of Final Acceptance against defects in material, equipment and workmanship by contractor. Warranty shall also cover repair of damage to any part of the premises resulting from leaks or other defects in materials, equipment and workmanship to the satisfaction of the owner.

PART 2 MATERIALS

2.01 GENERAL: Materials throughout the system shall be new and in perfect condition. At least 14 days prior to beginning work, submit for approval 2 copies of manufacturer's catalog cuts, specifications, and operating instructions of the complete list of materials and assemblies to be installed. Quantities of materials and equipment need not be included. No deviations from the specifications shall be allowed. The decision of the landscape architect shall be final in the determination of the quality of materials and equipment.

2.02 WATER METERS: Shall be provided by others.

2.03 PIPE

A. Mainline piping on pressure side of irrigation control valves:

1. 2" size and greater to be Polyvinyl Chloride (P.V.C.) 1120-1220, Class 315 and shall conform to ASTM D 2241-73 and D 2627-73.

2. Up to and including 1-1/2" size to be Polyvinyl Chloride (P.V.C.) 1120-1220, Schedule 40 and shall conform to ASTM D 1785-73.

3. Galvanized Steel: Standard wall, Schedule 40, capable of working pressure up to 600 psi shall run from point of connection to backflow preventer device.

4. Piping from the point of connection to the backflow prevention device shall be as approved by local code.

B. Lateral line piping on non-pressure side of irrigation control valves:

1. 2" size and greater to be Polyvinyl Chloride (P.V.C.) 1120-1220, Class 315 and shall conform to ASTM D 2241-73 and D 2627-73.

2. Up to and including 1-1/2" size to be Polyvinyl Chloride (P.V.C.) 1120-1220, Schedule 40 and shall conform to ASTM D 1785-73.

2.04 FITTINGS

A. PVC Fittings: Schedule 40, Polyvinyl Chloride, high impact weight, as manufactured by Sloane, Lasco, medium or approved equal.

B. Fittings for Galvanized Steel Pipe: Schedule 40, standard weight as manufactured by Galvalint, or approved equal.

C. Connections between main and valves shall be PVC Schedule 80 nipples and fittings.

2.05 SLEEVE MATERIALS

A. For Control Wires: PVC 1120-1220, Class 200 pipe or heavy wall galvanized steel conduit.

B. For Water Lines: PVC 1120-1220, Class 200 pipe or heavy wall galvanized steel conduit.

2.06 IRRIGATION CONTROLLERS

A. Controller to be as shown on plans and is to be installed as per detail and manufacturer's specifications.

2.07 IRRIGATION CONTROL VALVES

A. Remote Control Valves:

1. Valves to be as shown on plans and installed per details and manufacturer's specifications.

2.08 CONTROL WIRE

A. Wire: Solid copper wire, U.L. approved for direct burial in ground. Minimum gauge: #14. Common ground wire shall be white.

B. Splicing Materials: Wire connectors shall be Pentite or snap connectors.

C. All wires shall be labeled with the valve number at the controller and valve.

D. 120 wiring shall be as required by local code and installed by an electrician. It shall not be on a switched circuit.

E. Common wire shall be white. Control wires shall be other than white. Use a different color control wire for each controller.

2.09 VALVE BOXES

A. Remote Control Valves: To be Brooks, Green or approved equal, one per valve.

B. Gate Valves and Control Wire Stub-out Locations: To be Brooks, Green or approved equal, one per valve or stub-out location

2.10 QUICK-COUPLING VALVES

A. Quick coupling valves to be as per plans and details.

B. Furnish 2 valve keys fitted with hose valve assembly.

2.11 LANDSCAPE DRIPLINE

- A. Install in parallel and consistent rows at spacing indicated in all specified areas.
- B. Install 3" below grade.

2.12 SPRINKLER HEADS

A. Heads as shown in legend and drawings.

2.13 BACKFLOW PREVENTION ASSEMBLIES

A. Backflow prevention device as shown in legend and drawings.

PART 3 EXECUTION

3.01 LAYOUT

A. Layout work as accurately as possible to drawings. Drawings are diagrammatic to the extent that swing joints, offsets and all fittings are not shown.

B. Full and complete coverage is required. Contractor shall make any necessary minor adjustments to layout required to achieve full coverage of irrigated areas at no additional cost to owner.

C. Where connections to existing stubouts are required, make necessary adjustments in layout to connect stubouts not be located exactly as shown. Adjust layout as necessary to install around existing work.

3.02 EXCAVATING AND TRENCHING

A. Perform all excavations as required for installation of work included under this Section, including shoring of earth banks. If necessary, Restore all surfaces, existing underground installations, etc., damaged or cut as a result of the excavations, to their original condition.

B. Should utilities not shown on the plans be found during excavations, contractor shall promptly notify landscape architect for instructions as to further action. Failure to do so will make contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities.

C. Dig trenches wide enough to allow a minimum of 6 in. between parallel pipe lines. Trenching, restaking, tightening and repairing of guys, resetting plants to proper grade or upright position, restoration of the plant saucer, and furnishing and applying such sprays and fertilizers as are necessary to keep the plants free of insects and disease and in thriving condition.

1. Over PVC pipe on pressure side of irrigation control valve, control wires and quick coupling valves: 18 inches.

2. Over pipe on non-pressure side of irrigation control valve: 12 inches.

3.03 BACKFLOW PREVENTION DEVICE INSTALLATION

A. Install according to local code and manufacturer's instructions.

B. Install with union on discharge side for servicing, or with flanges, as required.

3.04 SLEEVING

A. Where pipes or wires must be installed under paving plane them in sleeves with a 24" minimum depth and sufficient size to accommodate irrigation lines and/or wires.

B. Lack of pipe chase coordination does not relieve the contractor from installing the pipes and control wire shown on the drawing. In the event pipe chases were not installed prior to paving the contractor shall bore under the paving to accommodate pipes and wires.

C. All control wire shall be in Schedule 40 conduit from trench to controller. When valves are recommended by the manufacturer, except where boxes, each valve in a separate box, (not to be placed in drainage swales, but kept in groundcover areas.)

3.05 PIPE LINE ASSEMBLY

A. Install pipe in accordance with manufacturer's instructions.

B. Solvent weld all PVC pipe and fittings using solvents (including primer) and methods as recommended by the manufacturer, except where screw connections are required. Clean pipe and fittings of dirt and moisture before assembly. PVC pipe may be assembled on ground surface beside trench. Snake pipe side to side of trench and bottom allow for expansion and contraction. Make all connections between PVC pipe and metal valves or pipe with threaded fittings using PVC male casters.

C. Use Teflon tape on all threaded fittings.

D. Thrust blocks shall be installed where the irrigation main changes direction as at alleys and tees and where the irrigation main terminates. Pressure tests shall not be made for a period of 36-48 hours following the completion of pouring of the thrust blocks. Concrete thrust blocks for supply mains shall be sized and placed in strict accordance with the pipe manufacturer's specifications and shall be of an adequate size and so placed as to take all thrust created by the maximum internal water pressure.

E. Install control valves in valve boxes where shown and group together where practical. Place no closer than 18 in. to walk edges, buildings and walls and other valves. Valve boxes shall be placed in relation to finish grade as follows:

1. 1" above grade when no mulch is used
2. 1/2" with seeded lawn
3. 1 1/2" with soil lawn
4. 2" with plant beds

F. The contractor shall paint on the cover of each valve box in 2" white stenciled letters with the valve number as designated on the plan.

G. Clearance between the highest part of the valve and the bottom of the valve box lid shall be 2" minimum and 4" maximum. (Lid must not rest on any part of valve and valves must not be buried too deep for convenient access.)

H. Clearance between the top of the piping and the bottom of the valve box and/or the valve box knock outs, shall be a minimum of 2". (The box must not rest on the piping.)

I. Clearance between the valve and the sides of the valve box shall be a minimum of 3".

3.07 SPRINKLER HEADS

A. Install heads as per details.

B. Nozzles may be changed to control precipitation rate and G.P.M. with approval from the landscape architect.

3.08 QUICK COUPLING VALVES: Quick coupling valves to be installed as per detail.

3.09 AUTOMATIC CONTROLLER

A. Install per local code and manufacturer's instructions.

B. Grounding of irrigation controller shall be as per manufacturer's recommendations and as per local code.

3.10 CONTROL WIRING

A. Install control wires with sprinkler mains and laterals in common trenches wherever possible. Lay to the surface of the trench. Provide looped slack at valves of 18" and snake wires in trench to allow for contraction of wires. The wires in bundles at 10 ft. intervals. Provide expansion loop at all 90 degree angles, and every 100' of straight wire run.

B. Control wire splices at remote control valves to be crimped and sealed with specified wire splicing materials. Line splices will be allowed only on runs of more than 500 ft. All line splices to be in separate valve box.

3.11 CLOSING OF PIPE AND FLUSHING OF LINES

A. Thoroughly flush out all water lines before installing heads, valves and other hydrants.

B. Test as specified.

3.12 PRESSURE TESTS

A. The contractor shall partially backfill, leaving all fittings exposed before testing.

B. Cap all valve openings and test the mainline pipe at full line working pressure and visually check all fittings.

3.13 BACKFILL AND COMPACTING

A. After system is operating and required tests and inspections have been made, backfill excavations and trenches with clean soil, free of rubbish. All pipe shall have a bedding of 2" under and 4" over of select, rock free backfill.

B. Backfill for all trenches, regardless of the type of pipe covered, shall be compacted to minimum 95% density under pavements, 85% under planted areas.

C. Compact trenches in areas to be planted by thoroughly flooding the backfill. Jetting process may be used in those areas.

D. Dress off all areas to finish grades.

E. Any settling of more than 1" which may occur during the guarantee period shall be brought to finish grade by the contractor at his expense.

END OF SECTION 02750

**SECTION 02800
LANDSCAPING**

PART 1 GENERAL

1.01 SCOPE

A. Work Included: Perform all work necessary and required for the construction of the project as indicated. Such work includes but is not limited to the following:

1. Site preparation including weed and rubble removal.
 2. Laboratory soil analysis.
 3. Furnishing and installing topsoil.
 4. Finish grading of planted areas.
 5. Soil amendment.
 6. Planting.
- B. Related Work: The following items of associated work are included in other sections of these specifications.

1. Section 02750: Underground Irrigation System.

C. By Others: The following items of work will be performed by others and are not included in the contract.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. Perform work in accordance with all applicable laws, codes, and regulations required by authorities having jurisdiction over such work and provide for all inspections and permits required by federal, state, and local authorities in furnishing, transporting and installing materials.

B. Certificates of inspection required by law for transportation shall accompany the invoice for each shipment of plants. File copies of certificates with landscape architect after acceptance of material. Inspections of federal and state governments at place of growth does not preclude rejection of plants at project site.

1.03 SELECTION, TAGGING AND ORDERING OF PLANT MATERIAL

A. Submit documentation to landscape architect at least 7 days prior to start of work under this section that all plant material has been ordered. Arrange procedure for observation with landscape architect at time of submission.

B. Plants shall be subject to observation and approval by landscape architect at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of observation and rejection during progress of the work. Submit written request for observation of plant material at place of growth to landscape architect. Written request shall state the place of growth and the quantity and variety of plants to be observed. Landscape architect reserves the right to refuse observation at this time if, in his judgment, a sufficient number of plants are not available for observation or not in the landscape architect's control.

C. Substitution of plant material will not be permitted unless authorized in writing by landscape architect. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of contract price.

1.04 COORDINATION: Contractor shall coordinate and cooperate with other contractors to enable the work to proceed as rapidly and efficiently as possible.

1.05 INSPECTION OF SITE: Contractor shall visit site and inspect conditions as they exist prior to submitting bid. Site dimensions, water pressure and general conditions shall be verified prior to beginning of any work.

1.06 INTENT OF DRAWINGS AND SPECIFICATIONS: It is the intent of the drawings and specifications to provide planting with plants in vigorous condition and ready for owner's use. Any items not specifically shown on the drawings or called for in the specifications, but normally required to conform with such intent, are to be considered as part of the work. Written dimensions take precedence over scale dimensions.

1.07 APPROVAL: Whenever the terms "approve", "approval" or "approved" are used herein, they mean approval of landscape architect in writing.

1.08 PRODUCT HANDLING

A. Furnish standard products in manufacturer's standard containers bearing original labels showing quantity, analysis and name of manufacturer.

B. Store products with protection from weather or other conditions which would damage or impair the effectiveness of the product.

1.09 PROTECTION OF EXISTING PLANTS TO REMAIN

A. Do not store materials or equipment, permit burning, or operate or park equipment within designated plant protection zones as specified on the plans.

B. Notify landscape architect in any case where contractor feels grading or other construction called for by Contract Documents may damage existing plants to remain. Do not proceed with such work until directed by landscape architect.

C. If existing plants are damaged during construction, contractor shall replace such plants of the same species and size as those damaged at no cost to owner. Determination of extent of damage and value of damaged plant shall rest solely with landscape architect.

1.10 GRADING

A. Prior to planting grading will be brought to within .10 +/- foot of finish grade with soil suitable for planting by the landscape contractor. It is the responsibility of the landscape contractor to verify that no conflict exists with the grading plan. Fine finish grading will be done by the landscape contractor.

B. Finish grade in ground cover areas shall be 2 inches below subsoil surface or as shown on the plans. In lawn areas, sodded areas shall be 2 inches and seeded areas shall be 1 inch below sidewalks, header boards, or mow strips and examined by the landscape architect, owner, or his representative.

1.11 CLEAN-UP: Keep all areas of work clean, neat and orderly at all times. Keep all paved areas clean during planting and maintenance operations. Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance to the satisfaction of landscape architect. The landscape contractor shall bear final responsibility for proper surface drainage of planted areas. Any prior work done by another party or obstructions on the site which the contractor feels precludes establishing proper drainage shall be brought to the attention of the landscape architect, owner or his representative for correction or the relief of responsibility.

1.12 SAMPLES, TESTS AND SUBMITTALS: Landscape architect reserves the right to take and analyze samples of materials for conformity with specifications at any time. Contractor shall furnish samples and/or manufacturer's specification sheets for any construction material or item upon request by the landscape architect. Rejected materials shall be promptly removed from the site at contractor's expense. The cost of testing materials not meeting specifications shall be paid by the contractor.

1.13 PROJECT SCHEDULE: Contractor shall submit for approval a complete work schedule indicating tentative dates for inspections. This schedule is to be submitted prior to the job start meeting.

1.14 OBSERVATION SCHEDULE: Schedule a job start meeting with the landscape architect at least 5 days before beginning work under this Section. All requests for observation must be made 72 hours in advance.

A. Job Start Meeting
The purpose of this conference is to review questions the contractor may have regarding the work, administrative procedures during construction and project work schedule.

B. Planting - Fine Grading and Soil Preparation
The fine grading and soil preparation of all planting areas must be observed prior to installation of plant material.

C. Plant Material
Landscape architect shall observe plant material for quality prior to planting. Plants shall be subject to observation and approval at place of growth or upon delivery for quality, size and variety; such approval shall not impair the right of inspection and condition of ball and roots, latent defects or injuries. Rejected plants shall be removed immediately from site.

D. Plant Layout
Layout plans (in containers) in locations shown on drawings. Landscape architect will check location of plants in the field and adjust to exact position before planting begins. Landscape architect reserves the right to refuse inspection if, in his opinion, an insufficient quantity of plants is available for layout check.

E. Pre-maintenance
When all work has been completed a pre-maintenance walk-through will be conducted. If approved, the 90 calendar day maintenance period will begin.

F. Final Observation
Final Observation will be after the 90 calendar day maintenance period and all required work is completed. Please give 1 week notice for this observation meeting.

1.15 MAINTENANCE

A. All landscape areas shall be substantially weed free at beginning of maintenance period and at final acceptance.

B. Begin maintenance after each plant and each portion of lawn or ground cover is installed and continue until Final Acceptance.

C. Maintenance Period shall begin upon inspection and approval by landscape architect and shall be for 90 calendar days.

A. Pre-plant fertilizer for soil incorporation shall consist of the following percent by weight

B. Post Planting/Surface Application Fertilizer:

C. Fertilizer requirement is subject to change based on soil testing for horticultural suitability.