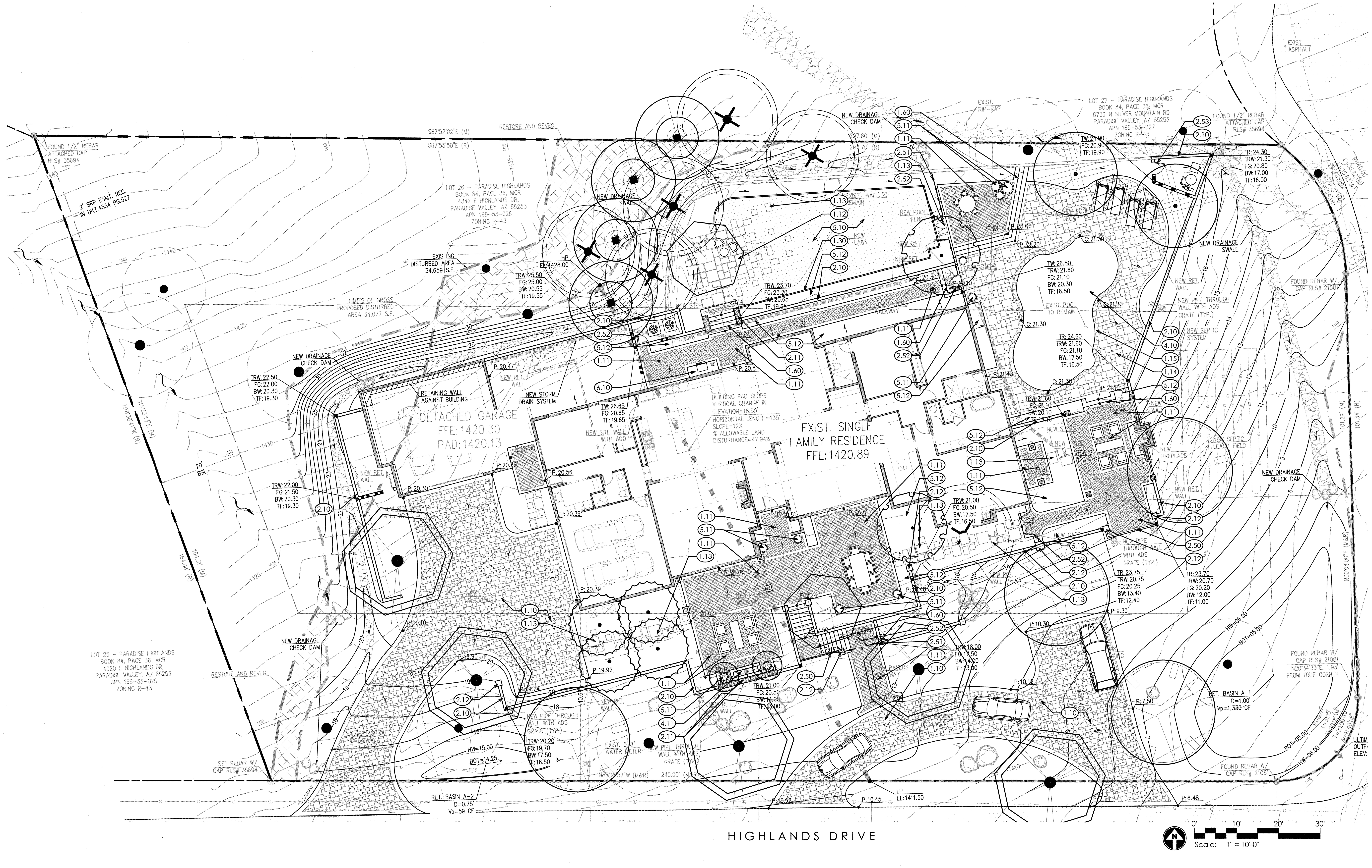

KEY NOTES

(1.10) NEW CONCRETE PAVERS AT DRIVEWAY. BELGARD DUBLIN COBBLE PAVER, 3-PIECE ASHLAR PATTERN. COLOR: SIERRA BLEND. (LRV: 13%)

(1.11) OLD CHICAGO CLAY BRICK, SAND SET. PATTERN PER PLAN. STACK SIDE BY SIDE BORDER COURSE, MORTAR SET. (LRV: 25%)

(1.12) FLAGSTONE PAVING, COLOR OAK, MORTAR SET. SNAP CUT IN RANDOM LARGE SIZE SQUARES AND RECTANGLES. (LRV: 32%)

(1.13) FLAGSTONE STEPPING STONES, COLOR OAK, MORTAR SET. SNAP CUT IN RANDOM LARGE SIZE SQUARES AND RECTANGLES. (LRV: 32%)

(1.14) 3-PIECE TRAVERTINE TILE POOL DECK TO BE INSTALLED OVER EXISTING COOL DECK. COLOR WALNUT. ADDITIONAL AREAS TO BE SET ON CONCRETE, LAYOUT PER PLAN. (LRV: 36%)

(1.15) POOL COPING. 12" x 12" TRAVERTINE TILE TO MATCH POOL DECK. COLOR WALNUT. TRAVERTINE TILE TO TURN DOWN EDGE OVER EXISTING COPING. (LRV: 36%)

(1.30) MORTAR SET OLD CHICAGO CLAY BRICK LANDSCAPE HEADER. (LRV: 25%)

(1.60) OLD CHICAGO CLAY BRICK STEPS. 6" RISERS, 12" TREAD. (LRV: 25%)

(2.10) MASONRY WALL WITH BRICK CAP. STUCCO AND PAINT TO MATCH HOUSE. SEE PLAN FOR HEIGHT. (LRV: 25%)

(2.11) MASONRY WALL CLAD WITH DC RANCH STONE COBBLE TO WRAP OVER TOP, NO CAP. (LRV: 22%)

(2.12) 16"SQ. x 36" HIGH MASONRY COLUMN WITH BRICK CAP. STUCCO AND PAINT TO MATCH HOUSE. (LRV: 25%)

(2.50) WROUGHT IRON RAILING.

(2.51) WROUGHT IRON FENCING.

(2.52) DECORATIVE WROUGHT IRON GATE.

(4.10) EXISTING POOL TO REMAIN.

(4.11) STONE RELIC WATER FEATURE TROUGH.

(5.10) MIDIRON SOD.

(5.11) PLANTER POTS SELECTED BY LANDSCAPE ARCHITECT AND OWNER.

(5.12) LANDSCAPE PLANTER.

(6.10) BARBECUE COUNTER. MASONRY STRUCTURE STUCCO AND PAINT TO MATCH HOUSE. OLD CHICAGO CLAY BRICK CAP.

NOTES:

1. WALLS: IF RETAINING DAMP PROOF AND GROUT ALL CELLS BELOW GRADE. SEE PLAN FOR HEIGHT.
2. ALL GATES AND FENCING TO MEET POOL BARRIER STANDARDS.
3. ALL MATERIALS TO MEET TOWN OF PARADISE VALLEY HILLSIDE LRV REQUIREMENTS. MAX 38%

EXISTING TREE TO REMAIN.

EXISTING TREE TO BE REMOVED.

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REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 28448
RUSSELL E. GREEY
Date Signed 10-22-18
ARIZONA, U.S.A.
Expires 12/31/18

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1-800-STAKE-IT
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CORPSTEIN RESIDENCE

4342 E. Highlands Dr.
Paradise Valley, AZ 85253

revisions:

project #: JBD001
scale: 1" = 10'-0"
issued for:
drawn by: TEAM
date: 10/22/2018
drawing: Layout Plan

L2.1
of

NOTES:

1. ALL PLANTS SHALL BE WATERED WITH AUTOMATIC DRIP IRRIGATION SYSTEM.
2. ALL LANDSCAPE AREAS EXCLUDING TURF TO BE COVERED WITH CRUSHED ROCK.
3. LANDSCAPE ARCHITECT TO APPROVE FINAL GRADING. PLANTING SHALL NOT OCCUR UNTIL FINAL GRADING IS APPROVED.
4. LOCATIONS OF PLANTS SHOWN ON DRAWING ARE APPROXIMATE. LANDSCAPE ARCHITECT TO FIELD APPROVE ALL FINAL LOCATIONS PRIOR TO INSTALLATION.
5. DUE TO SEASONAL AND OR UNFORESEEN CONSTRAINTS SOME PLANT MATERIAL WILL POSSIBLY NOT BE AVAILABLE AT TIME OF INSTALLATION. LANDSCAPE CONTRACTOR TO SUBMIT LIST OF ANY NON-AVAILABLE MATERIAL TO LANDSCAPE ARCHITECT FOR REPLACEMENTS TO BE SELECTED.
6. PLANT MATERIAL SHALL BE ADJUSTED IN FIELD TO AVOID TREE ROOT BALLS.
7. ALL PLANT MATERIAL IS TO BE RETAIL QUALITY.
8. LANDSCAPE CONTRACTOR TO PROVIDE PICTURES OR SAMPLES OF ALL PLANT MATERIAL PRIOR TO INSTALLATION FOR APPROVAL.
9. ALL PLANT MATERIAL SOURCED FROM OUTSIDE OF ARIZONA TO BE PROPERLY ACCLIMATED TO ARIZONA CLIMATE DEPENDING ON TIME OF YEAR OF INSTALLATION.
   METHODS: SUN-SCREEN CLOTH/FABRIC TO BE INSTALLED ABOVE PLANT MATERIAL.

Vines

Plant Name	Size	Qty
Bougainvillea 'Barbara Karst' Bougainvillea	15 gal.	5
Rosa banksiae Lady Banks Rose	15 gal.	2

MASS PLANTING

MID IRON SOD 985 S.F. (TURF PER SPEC.)

INERTS

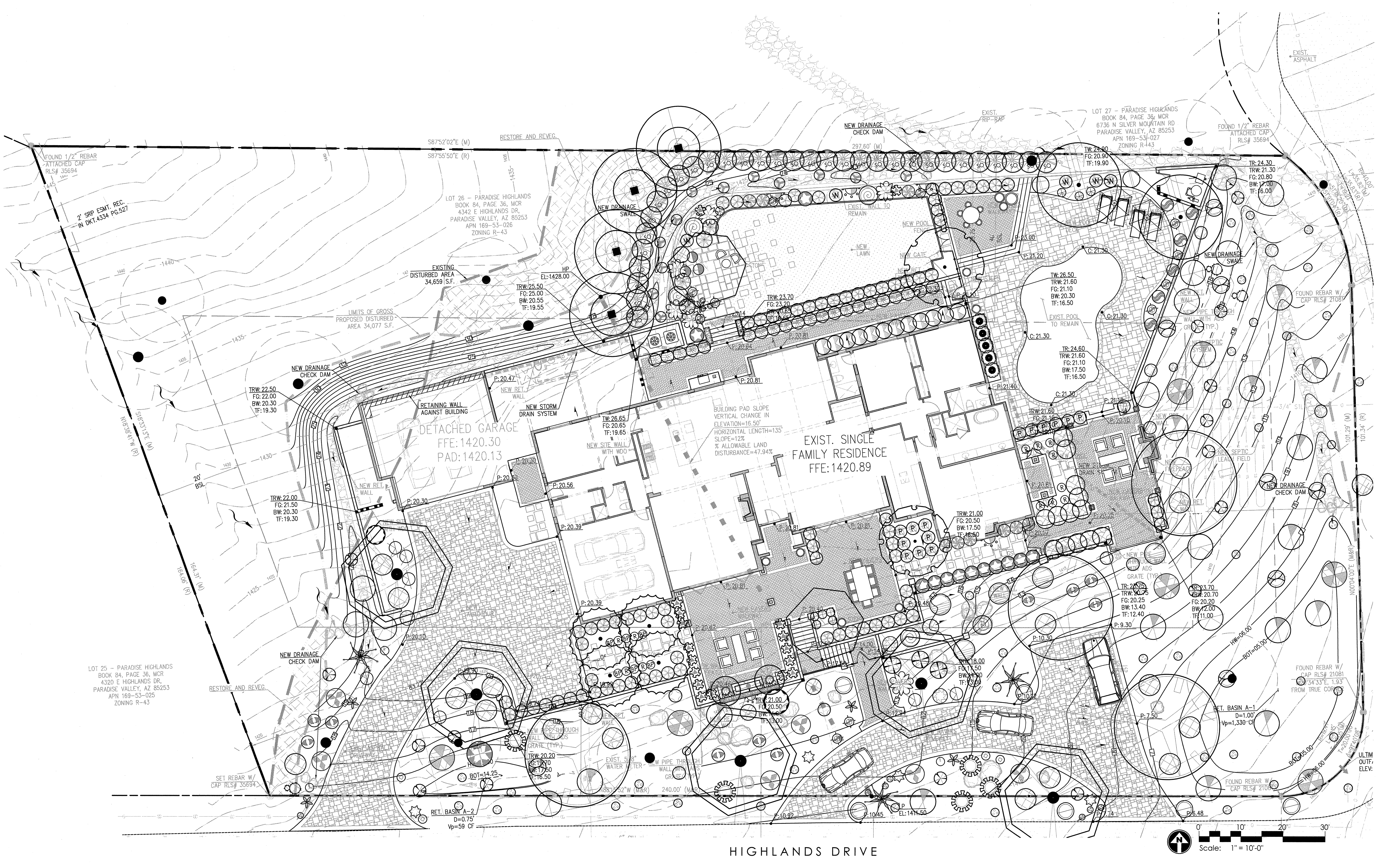
Sym.	Description
	1/2" SCREENED DECOMPOSED GRANITE. COLOR MADISON GOLD.

Accents Cactus

Plant Name	Size	Qty
Agave deserti Desert Agave	5 gal.	4
Agave parryi Parry's Agave	5 gal.	6
Agave weberi Blue Agave	5 gal.	6
Asclepias subulata Desert Milkweed	5 gal.	3
Carnegiea gigantea Saguaro	8' min.	3
Euphorbia antisyphilitica Candelilla	5 gal.	3
Fouquieria splendens Ocotillo	bare root	3
Opuntia basilaris Beavertail Prickley Pear	5 gal.	6
Opuntia engelmannii Engelmann's Prickley Pear	5 gal.	6
Pedilanthus macrocarpus Lady's Slipper	5 gal.	9
Rosa hybrid White Hybrid Tea Rose	5 Gal.	12
Rosa x 'PRObril' Brilliant Pink Iceberg Rose	5 Gal.	6

PLANT MATERIALS LEGEND

Sym.	Plant Name	Size	Qty	Remarks
Trees				
	Acacia aneura Mulga Acacia	36" box	4	standard
	Chitalpa tashkentensis Chitalpa	36" box	2	Multi-trunk
	Ebanopsis ebano Texas Ebony	24" box	4	-
KMQT	*Nagami Kumquat* Fortunella margarita 'Nagami'	15 gal.	2	-
	Olea europaea 'Swan Hill' Swan Hill Olive	48" box	2	-
	Olneya tesota Ironwood	60" box	2	Multi-trunk
	Parkinsonia hybrid 'Desert Museum' Desert Museum Palo Verde	36" box	5	Multi-trunk
	Prosopis velutina Native Mesquite	36" box	4	Multi-trunk
Shrubs				
	Alyogyne hueglii Blue Hibiscus	5 gal.	2	-
	Ambrosia deltoidea Triangle Leaf Bursage	1 gal.	49	-
	Bougainvillea 'Rosenka' Bougainvillea	5 gal.	5	-
	Buddleia marrubiifolia Wooly Butterfly Bush	5 gal.	4	-
	Buxus microphylla japonica Boxwood	5 gal.	4	-
	Calliandra eriophylla Pink Fairy Duster	5 gal.	8	-
	Carissa grandiflora Natal Plum	5 gal.	21	-
SO	*Citrus aurantium* Sour Orange Hedge	5 gal.	32	-
	Dodonaea viscosa Hop Bush	5 gal.	2	-
	Ericameria laricifolia Turpentine Bush	1 gal.	17	-
	Ilex vomitoria nana Dwarf Yaupon Holly	5 gal.	13	-
	Justicia californica Chuparosa	5 gal.	18	-
	Larrea tridentata Creosote	5 gal.	17	-
	Leucophyllum frutescens 'Compacta' Compact Texas Sage	5 gal.	5	-
	Leucophyllum zygophyllum Blue Ranger	5 gal.	17	-
	Lonicera japonica Hall's Honeysuckle	5 gal.	12	-
	Olea europaea 'Montra' Little Ollie Dwarf Ollie	5 gal.	79	-
	Perovskia atriplicifolia Russian Sage	5 gal.	5	-
	Pittosporum tobira 'variegata' Variegated Mock Orange	5 gal.	5	-
	Rhaphiolepis indica 'White Clara' Indian Hawthorne	5 gal.	12	-
	Rosmarinus officinalis 'Tuscan Blue' Upright Rosemary	5 gal.	12	-
P	*Ruellia brittoniana* Ruellia	5 gal.	15	purple
W	*Ruellia brittoniana* Ruellia	5 gal.	5	white
	Salvia clevelandii Chaparral Sage	5 gal.	1	-
	Salvia greggii Autumn Sage	5 gal.	3	-
	Salvia leucantha Mexican Bush Sage	5 gal.	5	-
	Simmondsia chinensis Jojoba	5 gal.	10	-
	Sphaeralcea ambigua Globe Mallow	1 gal.	10	-
Groundcovers				
	Baileya multiradiata Desert Marigold	1 gal.	4	-
	Chrysactinia mexicana Damianita	1 gal.	9	-
	Erigeron 'Profusion' Profusion Fleabane Daisy	1 gal.	3	-
	Gazania x 'Copper King' Copper King Gazania	1 gal.	3	-
	Glandularia gooddingii Gooding Verbena	1 gal.	6	-
	Lantana montevidensis 'White' White Lantana	1 gal.	11	-
	Lantana montevidensis Purple Trailing Lantana	1 gal.	6	-
	Melampodium leucanthum Blackfoot Daisy	1 gal.	7	-
	Teucrium chamaedrys Germander	1 gal.	4	-
	Viguiera deltoidea Goldeneye	5 gal.	10	-



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drawing: Planting Plan

L3.1

of

SLEEVING SCHEDULE

PIPE OR WIRE BUNDLE	REQUIRED SLEEVE
3/4", 1", 1-1/4" PIPE	1-2" PVC SLEEVE PER PIPE
1-1/2", 2" PIPE	1-4" PVC SLEEVE PER PIPE
1-25 CONTROL WIRES	1-2" PVC SLEEVE
26-55 CONTROL WIRES	2-3" PVC SLEEVE

EMITTER SCHEDULE

INSTALL BOWSMITH "ML-220" SERIES PRESSURE COMPENSATING EMITTERS AS FOLLOWS:

Plant type	Plant size	Emitters per Plant	GPH Outlet	# of Outlets	Total GPH/Plant
TREES	15 gal.	1 Multi-Outlet	2 GPH	3	6 GPH
	24" Box	1 Multi-Outlet	2 GPH	4	8 GPH
	36" Box	1 Multi-Outlet	2 GPH	5	10 GPH
	48" Box	1 Multi-	2 GPH	6	12 GPH

INSTALL BOWSMITH "S" SERIES PRESSURE COMPENSATING EMITTERS AS FOLLOWS:

SHRUBS	1 gallon	2 Single per Plant	1/2 GPH	2	1 GPH
	5 gallon	2 Single per Plant	2 GPH	2	4 GPH

NOTES:
ALL SHRUBS SPACED 18 INCHES OR CLOSER SHALL RECEIVE ONLY ONE DRIP EMITTER. SHRUBS SPACED GREATER THAN 18 INCHES TO RECEIVE EMITTERS PER THE ABOVE SCHEDULE.

ALL EMISSION POINTS TO BE LOCATED ON THE UPHILL SIDE OF PLANT MATERIAL. ONE EMISSION POINT TO BE LOCATED AT THE PLANT BALL, WITH THE ADDITIONAL POINTS WITHIN PLANT PIT PERIMETER.

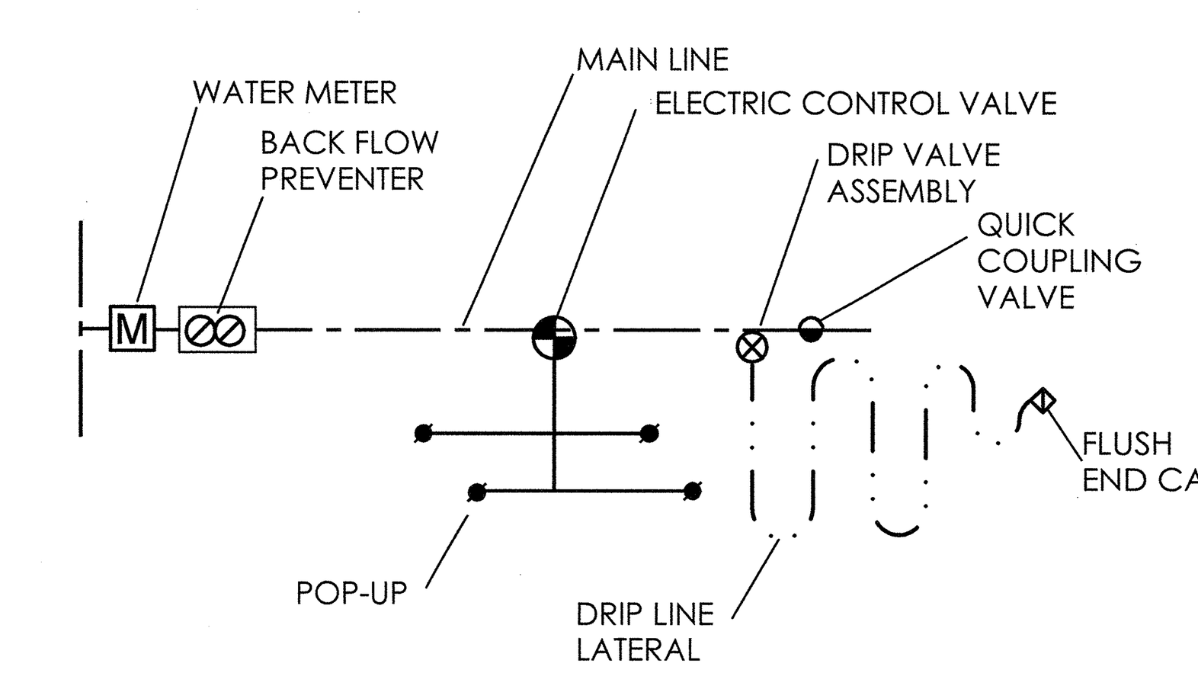
IRRIGATION LEGEND

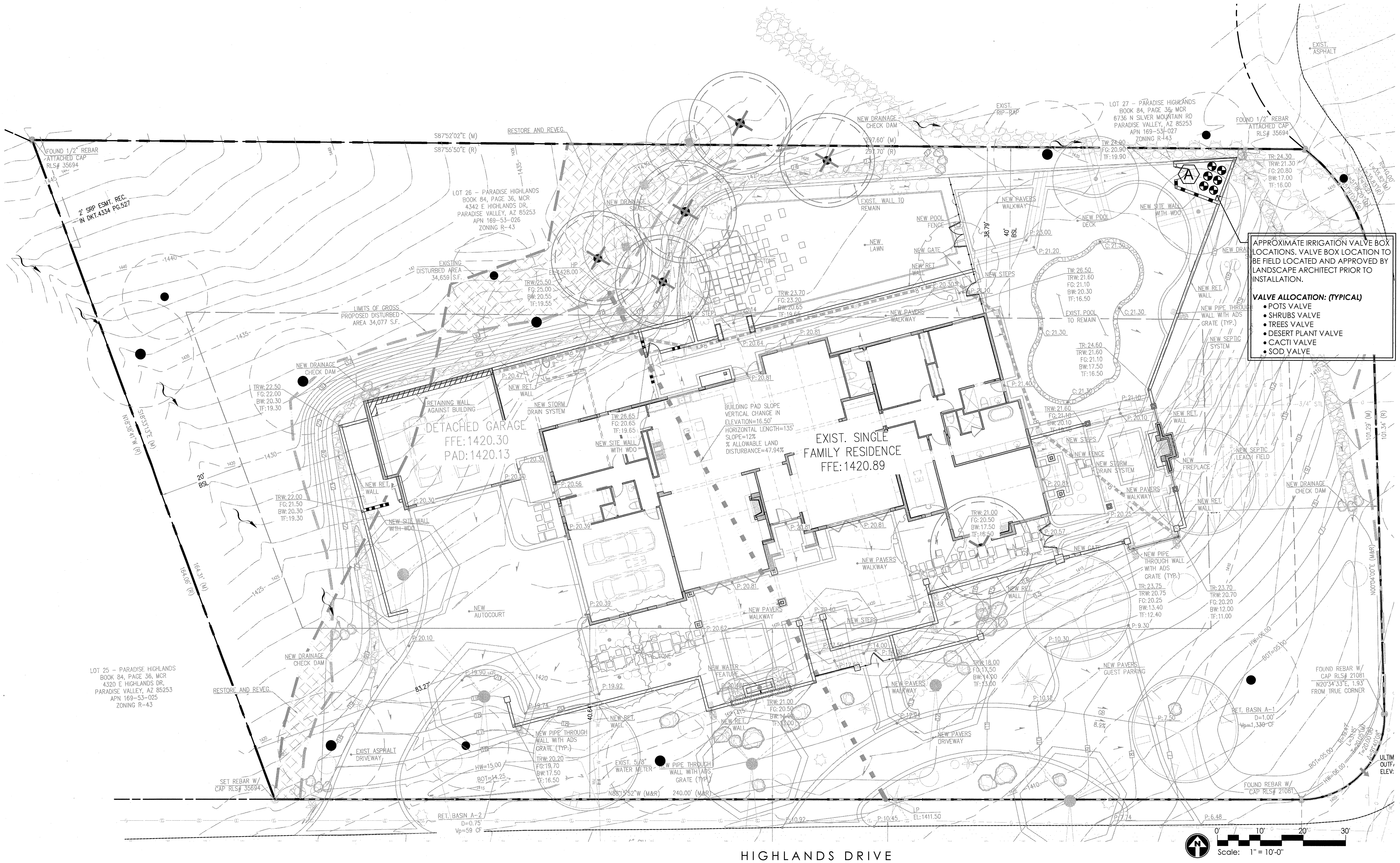
SYMBOL	DESCRIPTION	NOTES
M	WATER METER. ALSO PROVIDE REDUCED PRESSURE BACKFLOW PREVENTOR TO MATCH METER	
A	CONTROLLER	WALL-MOUNTED, PAINT TO MATCH WALL. **SPEC HUNTER 'I-CORE' CONTROLLER OR EQUIVALENT.**
◐	CONTROL VALVE QTY. TBD	FLUSH MOUNTED, BOX COLOR TO MATCH GROUND PLANE
NOT SHOWN	MAINLINE	CLASS 200 PVC

THE INSTALLATION CONTRACTOR SHALL PROGRAM THE CONTROLLER, IN ORDER TO MANAGE THE DURATION OF THE IRRIGATION CYCLE TO AVOID RUNOFF CONDITIONS

IRRIGATION GENERAL NOTES

1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 55 PSI, AT A MINIMUM DISCHARGE OF 50 GPM AT MAINLINE POINT-OF-CONNECTION. VERIFY PRESSURE AND FLOW ON SITE AND NOTIFY LANDSCAPE ARCHITECT OF ANY DIFFERENCES PRIOR TO INSTALLATION OR ORDERING OF ANY MATERIALS OR STARTING CONSTRUCTION. IF CONTRACTOR FAILS TO NOTIFY LANDSCAPE ARCHITECT, HE ASSUMES FULL RESPONSIBILITY FOR ANY NECESSARY SYSTEM ALTERATIONS AND ADDITIONAL COST THAT RESULT. FIELD MODIFICATIONS MAY OCCUR IN ORDER TO FULFILL THE DESIGN INTENT OF THE DRAWINGS. CONTRACTOR SHALL CONSULT WITH IRRIGATION DESIGNER AND PREPARE AS-BUILT PLANS SHOULD FIELD MODIFICATIONS BE NECESSARY.
2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
3. COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
4. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
5. THESE IRRIGATION CONSTRUCTION DOCUMENTS, INCLUDING ALL PLANS, NOTES, DETAILS AND SPECIFICATIONS ARE INTENDED TO FACILITATE THE INSTALLATION CONTRACTOR BY PROVIDING GENERAL GUIDELINES FOR DESIGN INTENT. THEREFORE, ALL IRRIGATION ELEMENTS GRAPHICALLY REPRESENTED IN THESE CONSTRUCTION DOCUMENTS ARE SCHEMATIC.
   A. ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE. PROVIDE 18" DEEP, ROCK FREE COVER OVER MAINLINE AND WIRE, AND COVER 12" DEEP OVER LATERALS, 6" OVER POLY PIPE AND 1/4" PIPE, BASED ON FINISHED GRADE.
   B. TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.
   C. USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
6. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
   A. TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.
   B. TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
7. SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.
8. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. ALL PIPE AND WIRING UNDER PAVED SURFACES SHALL BE IN CLASS 200 MINIMUM PVC SLEEVES. WHETHER OR NOT SHOWN. PIPING IN SLEEVES UNDER ROADWAYS SHALL BE A MINIMUM DEPTH OF 24'. PIPING IN SLEEVES UNDER SIDEWALKS SHALL BE A MINIMUM DEPTH OF 18". EXTEND SLEEVES 12" BEYOND EDGE OF PAVEMENT.
9. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR.
10. INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES. ALL 24-VOLT WIRING SHALL BE #14 UFUL DIRECT-BURIAL, SOLID COPPER.
11. THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN THE IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
12. INSTALL TWO (2) #14 AWG CONTROL WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE FOR USE AS SPARES IN CASE OF CONTROL WIRE FAILURE. COIL 3 FEET OF WIRE IN VALVE BOX.
13. SYSTEM SCHEMATIC SHALL BE AS FOLLOWS:





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L4.1
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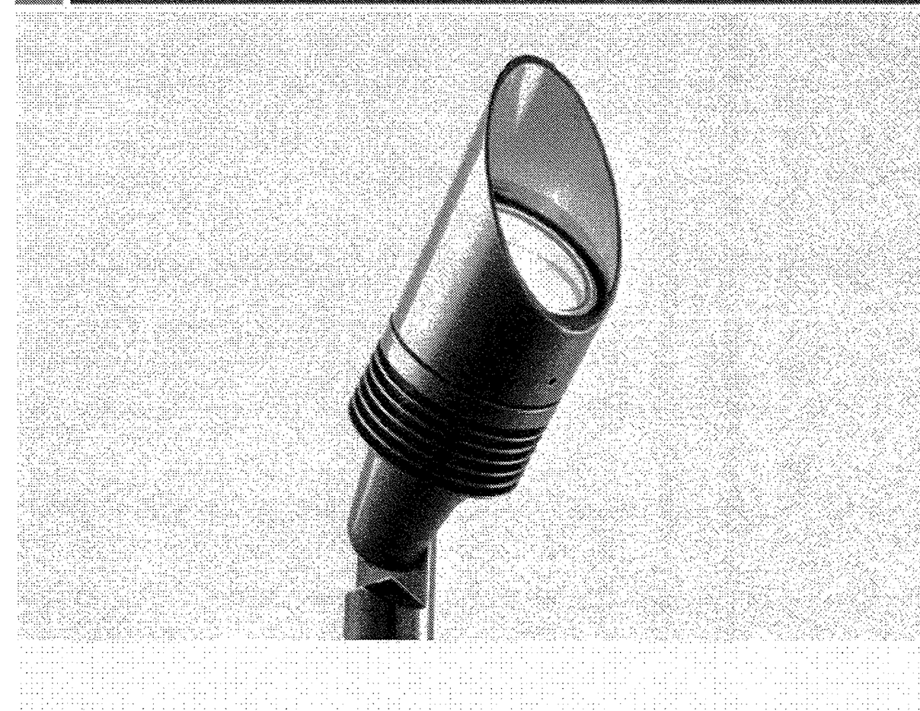
FXLuminaire.

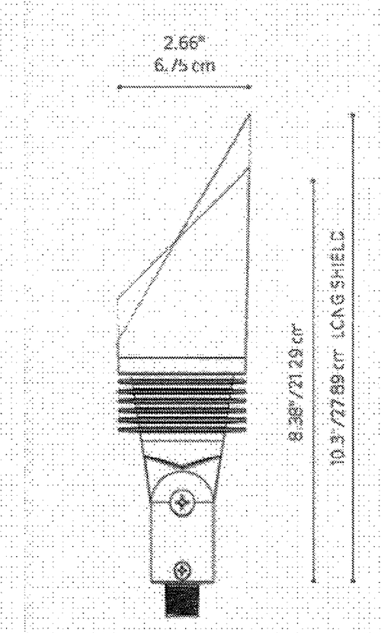
LED Up Lights



The NP is our most versatile LED up light, and is engineered to accommodate all aspects of your up lighting needs. By coupling the proper light intensity with one of the provided color filters, your designer can fine-tune the NP to beautifully enhance every landscape feature.

NP: Up Light

NUMBER OF LEDS:	1	3	6	9
HALOGEN LUMEN OUTPUT EQUIVALENT:	10 Watt	20 Watt	35 Watt	50 Watt
USEFUL LED LIFE (L70):	50,000 hrs avg	50,000 hrs avg	50,000 hrs avg	50,000 hrs avg
INPUT VOLTAGE:	10 to 15V	10 to 15V	10 to 15V	10 to 15V
VA TOTAL: (Use this number to size the transformer)	2.4	4.5	13.5	13.5
WATTS USED:	2.0	4.2	10.1	11.2
LUMENS PER WATT (EFFICACY)	25.4	31	31.8	31.1
MAX LUMENS:	52	135	279	357
CCT (Ra)	68.5	67.9	80.2	67.5



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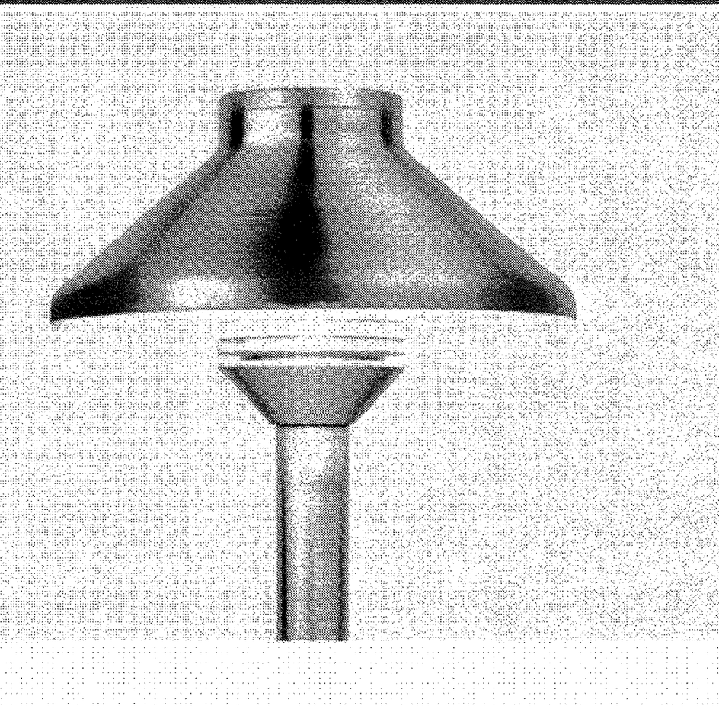
FXLuminaire.

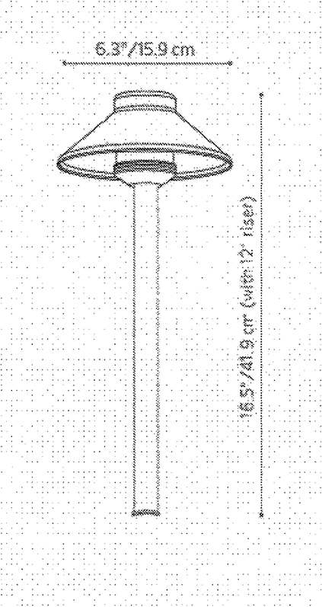
LED Path Lights



The JS is a solid path light built-to-last in the harshest environments and provide efficient illumination. Available in both 1 and 3 LED with the ability to emmit soft light that works for both function and facade, the JS can be the choice path light for a number of applications.

JS: Path Light

NUMBER OF LEDS:	1	3
HALOGEN LUMEN OUTPUT EQUIVALENT:	10 Watt	20 Watt
USEFUL LED LIFE (L70):	50,000 hrs avg	50,000 hrs avg
INPUT VOLTAGE:	10 to 15V	10 to 15V
VA TOTAL: (Use this number to size the transformer)	2.4	4.5
WATTS USED:	2.0	4.2
LUMENS PER WATT (EFFICACY)	19.4	25
MAX LUMENS:	39	103
CCT (Ra)	86	66.6



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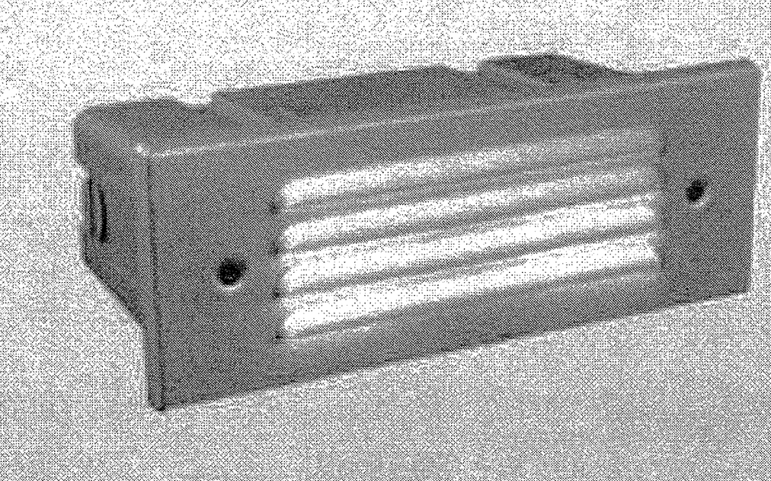
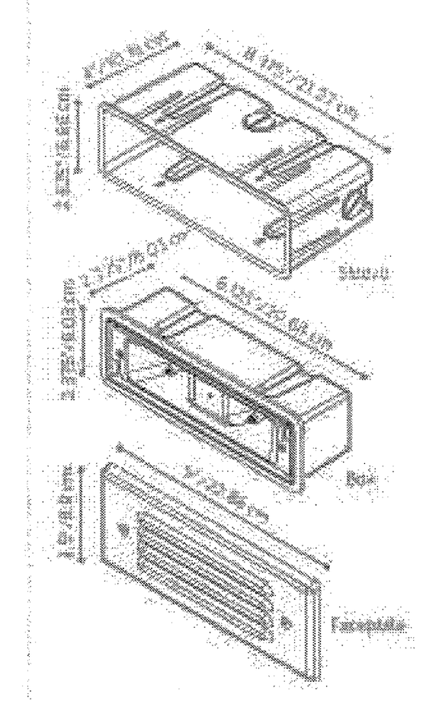
LED Wall Lights



When a lighting project calls for a higher level of LED illumination the LM is here in a 2 LED configuration. To achieve the best effect and utility, install the LM fixture in the wall adjacent to a stairway.

LM: Wall Light

NUMBER OF LEDS:	2
HALOGEN LUMEN OUTPUT EQUIVALENT:	20 Watt
USEFUL LED LIFE (L70):	50,000 hrs avg
INPUT VOLTAGE:	10 to 15V
VA TOTAL: (Use this number to size the transformer)	4.8
WATTS USED:	4.0
LUMENS PER WATT (EFFICACY)	1.6
MAX LUMENS:	6
CCT (Ra)	81.8



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LIGHTING FIXTURE SCHEDULE

SYMBOL	QTY	MANUFACTURER	MODEL #	COLOR	DESCRIPTION	LAMP	LED	WATAGE	LUMENS
▽	18	FX LUMINAIRE	NP-3LED-BZ	BRONZE METALLIC	LOW VOLTAGE UP LIGHT	FX LED	3 LED	4.2W	135
◎	37	FX LUMINAIRE	JSLEDTA-BZ G-3LED-12RA-BZ	BRONZE METALLIC	LOW VOLTAGE PATH LIGHT	FX LED	3 LED	4.2W	90
◓	10	FX LUMINAIRE	LM-2LED-BZ	BRONZE METALLIC	LOW VOLTAGE WALL LIGHT	FX LED	3 LED	4.2W	14
ʃ	1	FX LUMINAIRE	BQ-1LED-SS	STAINLESS STEEL	LOW VOLTAGE BBQ LIGHT	FX LED	1 LED	2.0W	81.5
T	-		-	-	LOW VOLTAGE TRANSFORMER (CONTRACTOR TO SPECIFY QUANTITY NEEDED)	-	-	-	-

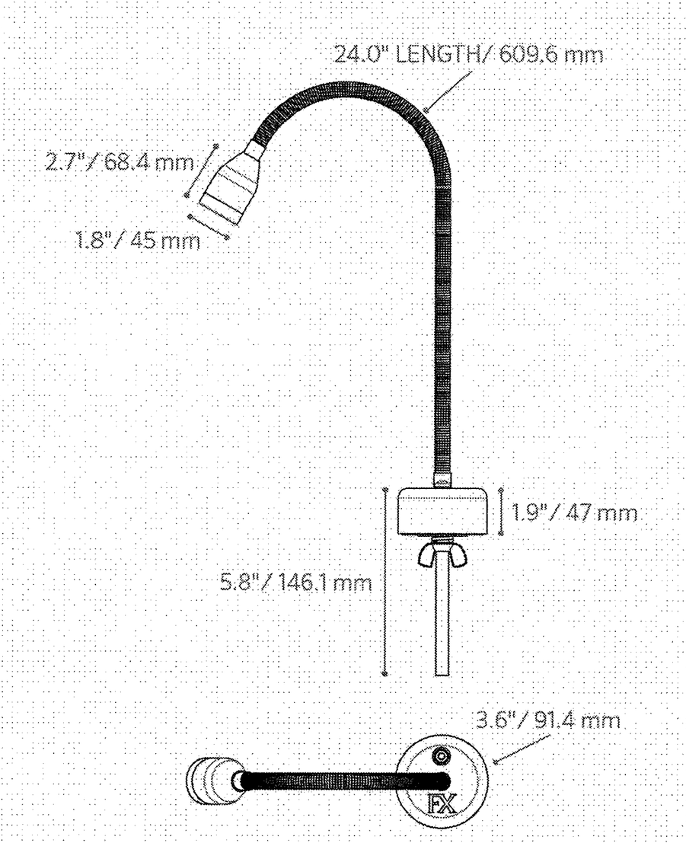
FXLuminaire.

LED Specialty Lights

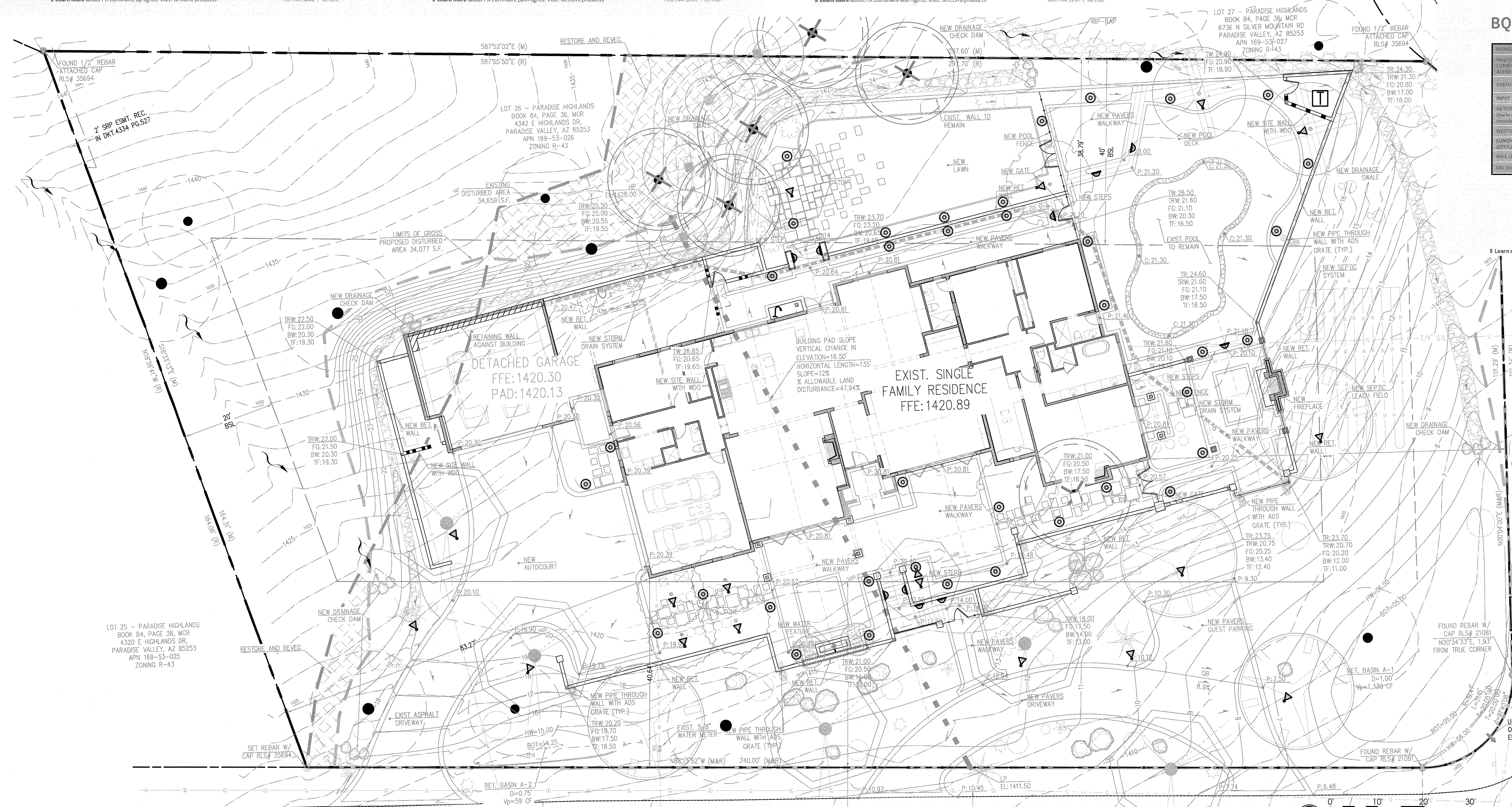
The BQ 1 LED stainless steel light illuminates grilling areas. It is designed to work with the Luxor® system, or it can be operated independently with an optional plug-in transformer.

BQ: Barbeque Light

NUMBER OF LEDS:	1
HALOGEN LUMEN OUTPUT EQUIVALENT:	10 Watt
USEFUL LED LIFE (L70):	50,000 hrs avg
INPUT VOLTAGE:	10 to 15V
VA TOTAL: (Use to size the lighting controller)	2.4
WATTS USED:	2.0
LUMENS PER WATT (EFFICACY)	42
MAX LUMENS:	81.5
CRI (Ra)	82



Learn more about FX Luminaire specialty lights. Visit: fxl.com/products



FOUND 1/2" REBAR ATTACHED CAP RLS# 35694
S87°52'02"E (M)
S87°55'50"E (R)
RESTORE AND REVEG.
2' SRP ESMT. REC. IN DKT.4334 PG.527
LOT 26 – PARADISE HIGHLANDS BOOK 84, PAGE 36, MCR 4342 E HIGHLANDS DR, PARADISE VALLEY, AZ 85253 APN 169–53–026 ZONING R–43
EXISTING DISTURBED AREA 34,659 S.F.
LIMITS OF GROSS PROPOSED DISTURBED AREA 34,077 S.F.
NEW DRAINAGE CHECK DAM
297.60' (M)
297.70' (R)
LOT 27 – PARADISE HIGHLANDS BOOK 84, PAGE 36, MCR 6736 N SILVER MOUNTAIN RD PARADISE VALLEY, AZ 85253 APN 169–53–027 ZONING R–43
RIP–RAP
FOUND 1/2" REBAR ATTACHED CAP RLS# 35694
EXIST. WALL TO REMAIN
NEW POOL FENCE
NEW LAWN
NEW GATE
NEW RET. WALL
NEW STEPS
NEW PAVERS WALKWAY
NEW POOL DECK
NEW SITE WALL WITH WDO
NEW DRAINAGE SWALE
EXIST. POOL TO REMAIN
NEW PIPE THROUGH WALL WITH ADS GRATE (TYP.)
NEW SEPTIC SYSTEM
NEW SEPTIC LEACH FIELD
NEW FIREPLACE
DETACHED GARAGE FFE:1420.30 PAD:1420.13
RETAINING WALL AGAINST BUILDING
NEW STORM DRAIN SYSTEM
BUILDING PAD SLOPE VERTICAL CHANGE IN ELEVATION=16.50' HORIZONTAL LENGTH=135' SLOPE=12% % ALLOWABLE LAND DISTURBANCE=47.94%
EXIST. SINGLE FAMILY RESIDENCE FFE:1420.89
NEW AUTOCOURT
NEW WATER FEATURE
NEW PAVERS DRIVEWAY
NEW PAVERS GUEST PARKING
EXIST ASPHALT DRIVEWAY
EXIST. 5/8" WATER METER
LOT 25 – PARADISE HIGHLANDS BOOK 84, PAGE 36, MCR 4320 E HIGHLANDS DR, PARADISE VALLEY, AZ 85253 APN 169–53–025 ZONING R–43
SET REBAR W/ CAP RLS# 35694
N18°38'41"W (R)
S18°33'13"E (M)
164.31' (M)
164.06' (R)
20' BSL
40' BSL
N88°15'52"W (M&R) 240.00' (M&R)
N00°04'00"E (M&R)
101.29' (M)
101.34' (R)
RET. BASIN A–2 D=0.75' Vp=59 CF
RET. BASIN A–1 D=1.00' Vp=1,330 CF
FOUND REBAR W/ CAP RLS# 21081 N20°34'33"E, 1.93' FROM TRUE CORNER
FOUND REBAR W/ CAP RLS# 21081
LP EL:1411.50
HP EL:1428.00
Scale: 1" = 10'-0"
0' 10' 20' 30'

HIGHLANDS DRIVE

HILLSIDE OUTDOOR LIGHTING REQUIREMENTS:

AREA OF LOT:	1.0 ACRES, OR 43,559 S.F.
ALLOWABLE DISTURBED AREA: (47.94%)	20,882 S.F.
LANDSCAPE UP-LIGHTING: LIMITED TO ONE (1) FIXTURE PER 1000 S.F. OF ALLOWABLE DISTURBED AREA.	
UP-LIGHTS PERMITTED:	20
UP-LIGHTS PROVIDED:	18

NOTE: ALL OTHER LIGHTING (LUMINAIRE) IS CONSIDERED 'SAFETY LIGHTING' USED TO ILLUMINATE VEHICULAR AND PEDESTRIAN CIRCULATION. AND DOES NOT EMIT LIGHT RAYS ABOVE A HORIZONTAL PLANE.

GREEY | PICKETT
landscape architecture | community design
7144 e stetson drive, suite 205
scottsdale, arizona 85251
480.609.0009p 480.609.0068f

REGISTERED LANDSCAPE ARCHITECT CERTIFICATE NO. 28448 RUSSELL E. GREEY Date Signed 10-22-18 ARIZONA, U.S.A. Expires 12/31/18

CALL TWO WORKING DAYS BEFORE YOU DIG (602) 263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

CORPSTEIN RESIDENCE

4342 E. Highlands Dr.
Paradise Valley, AZ 85253

revisions:

△
△
△
△
△
△

project #: JBD001

scale: 1" = 10'-0"

issued for:

drawn by: TEAM

date: 10/22/2018

drawing: *Lighting Plan*

L5.1

of

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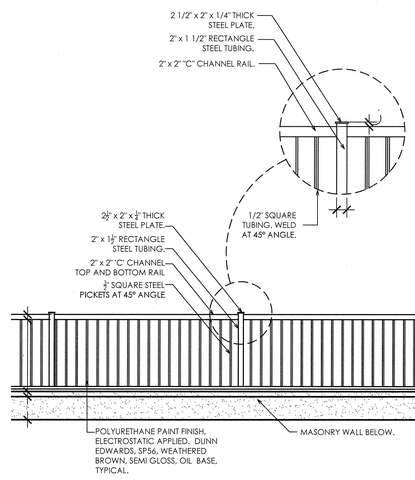
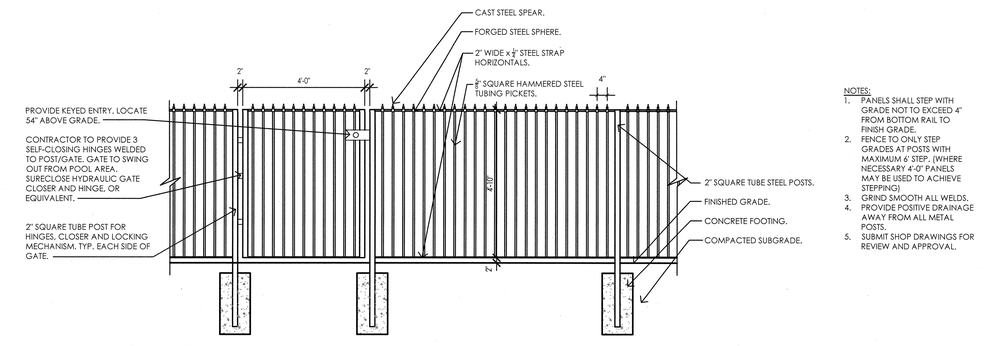
landscape architecture | community design
7144 e stetson drive, suite 265
scottsdale, arizona 85251
480 609 0009 p 480 609 0068f



2.50 *Wrout Iron Railing*
Scale: 1/2" = 1'-0"



NOTES:
1. PANELS SHALL STEP WITH GRADE NOT TO EXCEED 4" FROM BOTTOM RAIL TO FINISH GRADE.
2. FENCE TO ONLY STEP GRADES AT POSTS WITH MAXIMUM 6' STEP. (WHERE NECESSARY 4'-0" PANELS MAY BE USED TO ACHIEVE STEPPING)
3. GRIND SMOOTH ALL WELDS.
4. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL METAL POSTS.
5. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL.

2.51 2.52 *Wrout Iron Fence and Gate*
Scale: 1/2" = 1'-0"

CORPSTEIN RESIDENCE

4342 E. Highlands Dr.
Paradise Valley, AZ 85253

revisions:

project #: JBD001
scale: As Noted
issued for:
drawn by: TEAM
date: 10/22/2018

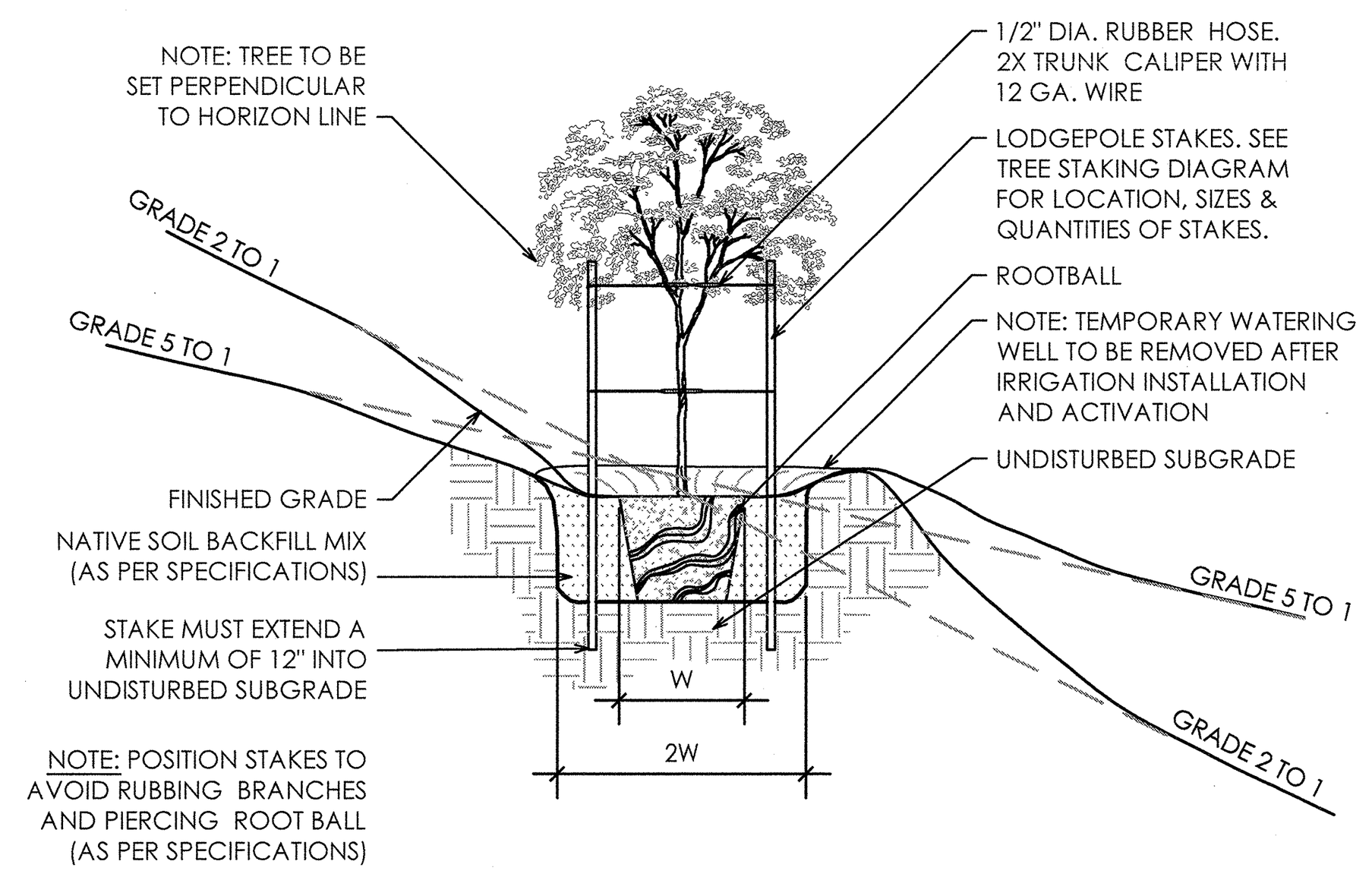
drawing: *Hardscape Details*

L6.1

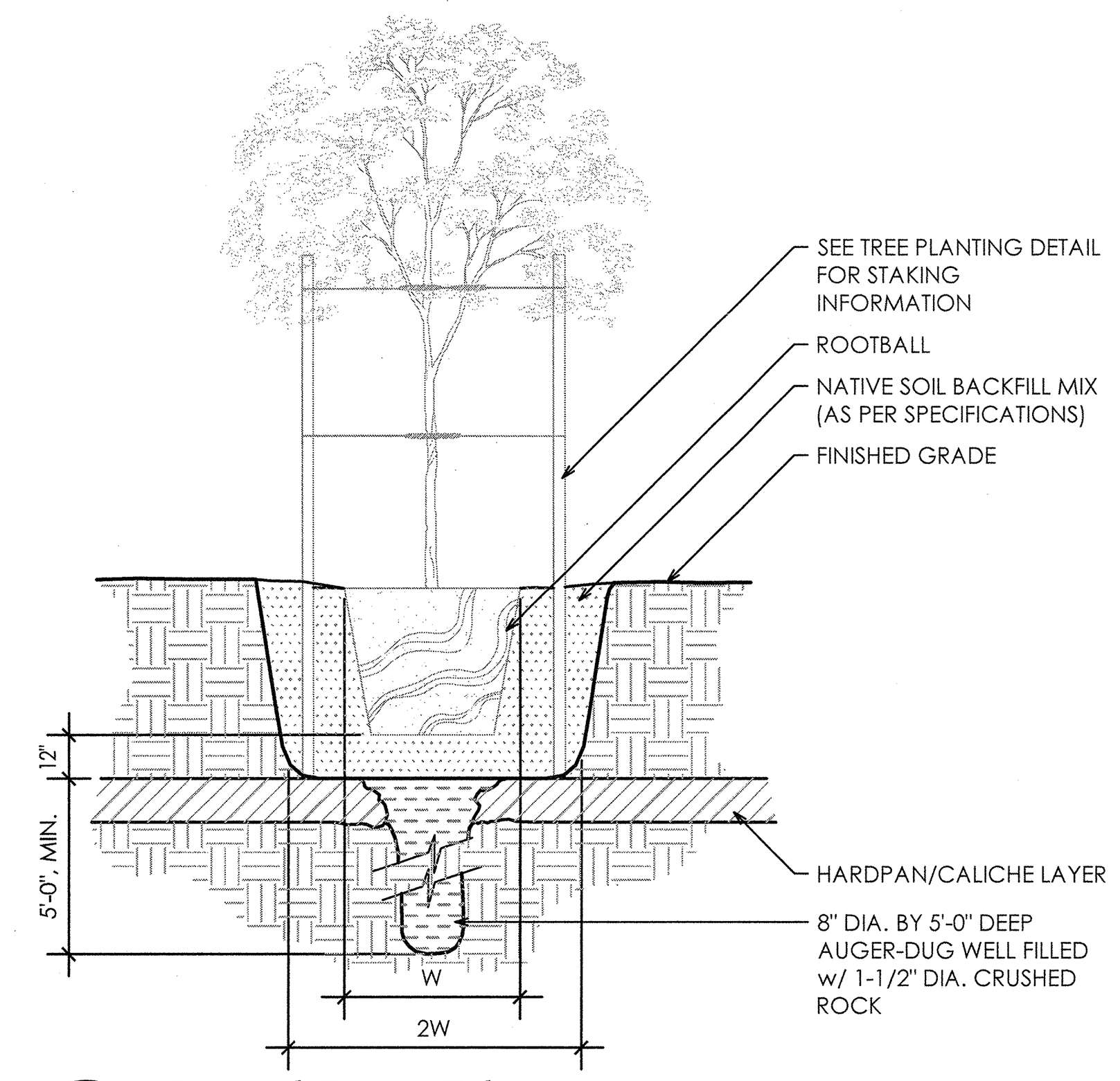
of

GREEY | PICKETT
landscape architecture | community design
7144 e stetson drive, suite 205
scottsdale, arizona 85251
480.609.0009p 480.609.0068f

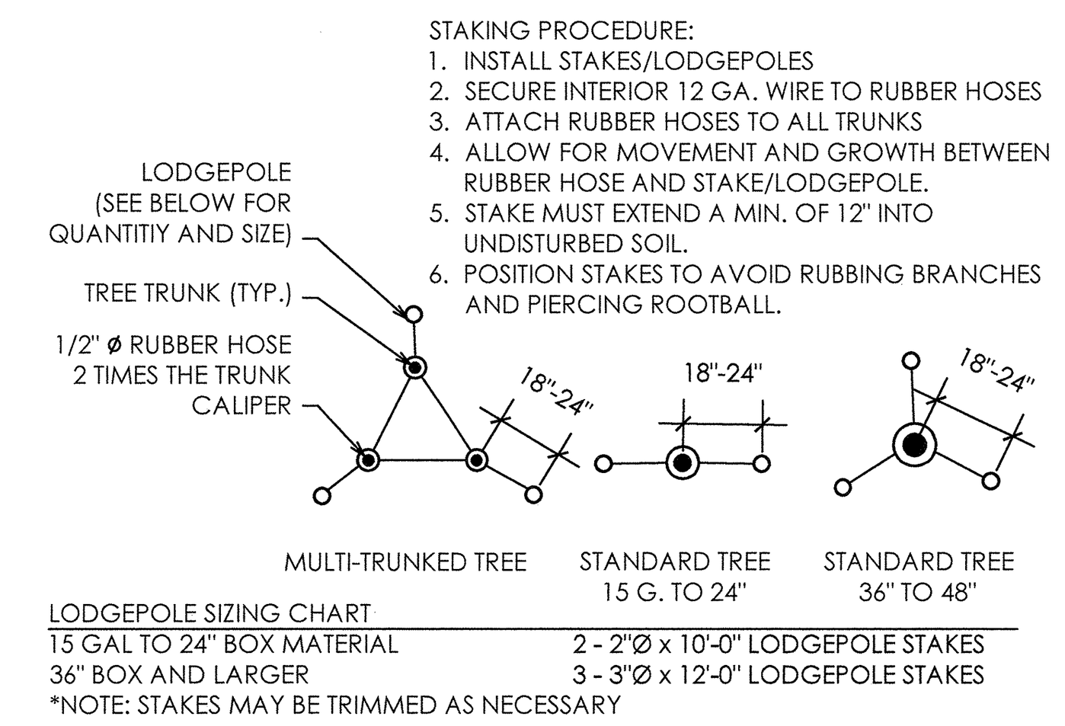
REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 28448
RUSSELL E. GREEY
Date Signed 10-22-18
ARIZONA, U.S.A.
Expires 12/31/18



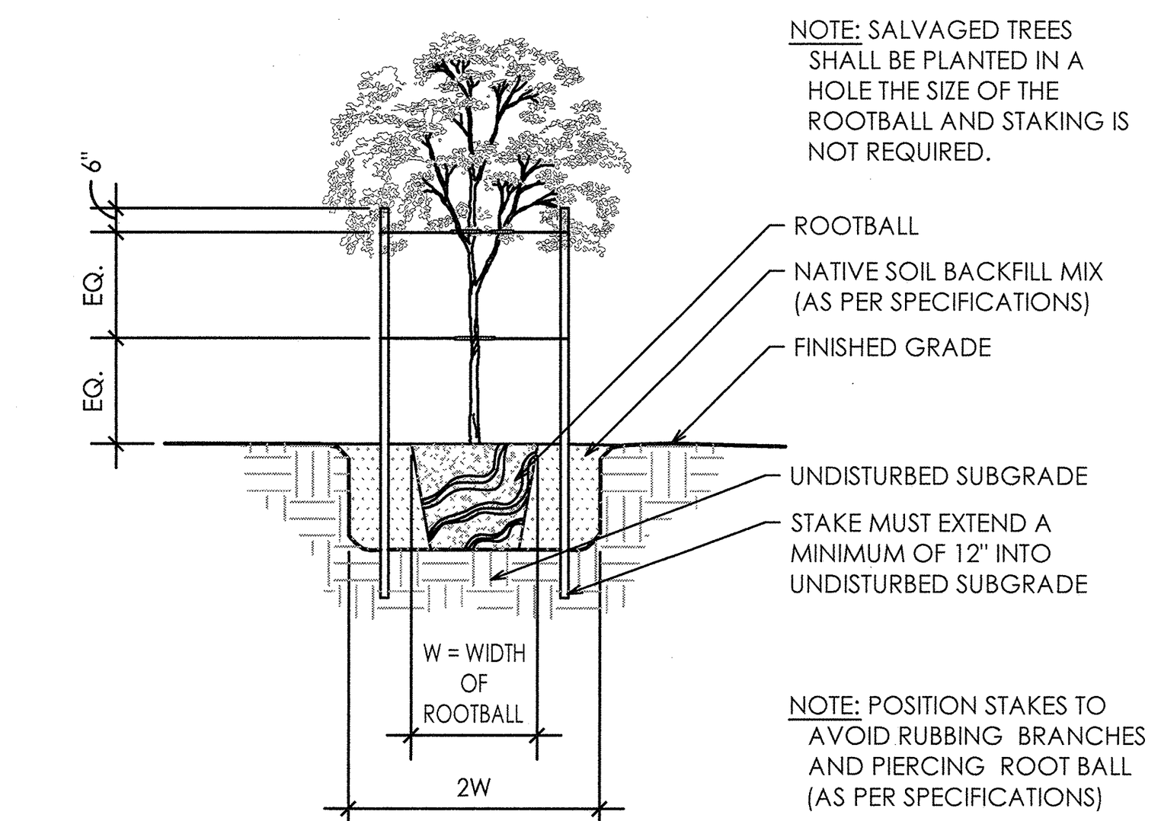
1 *Tree Planting on Slope Detail*
Scale: *NTS*



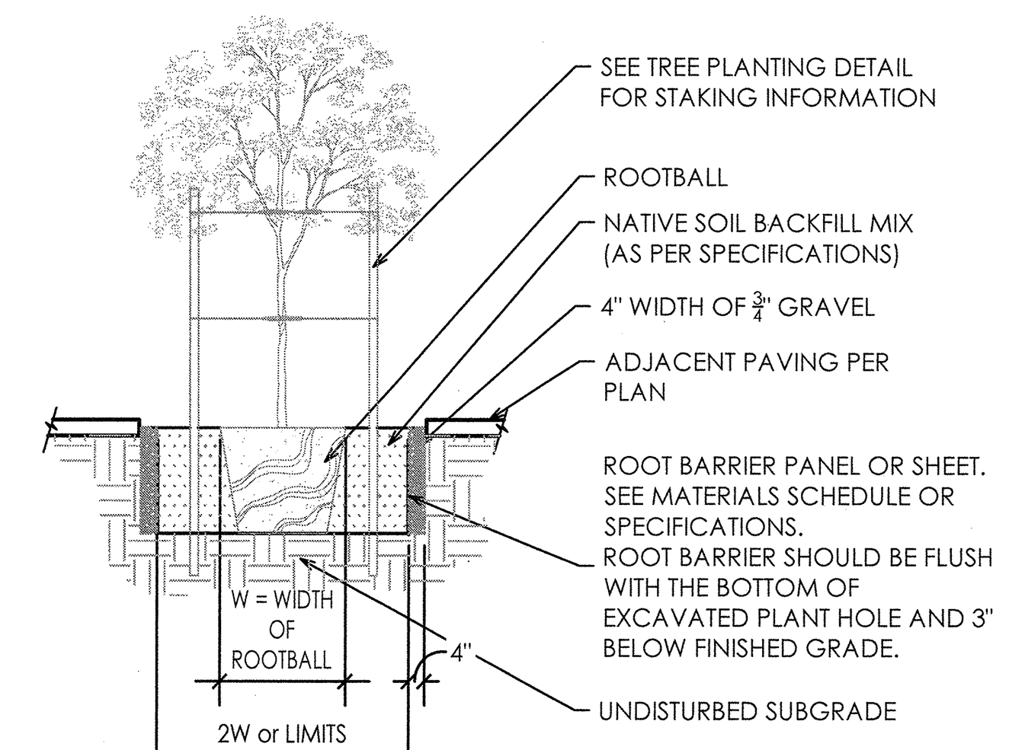
2 *Hard Pan Planting*
Scale: *NTS*



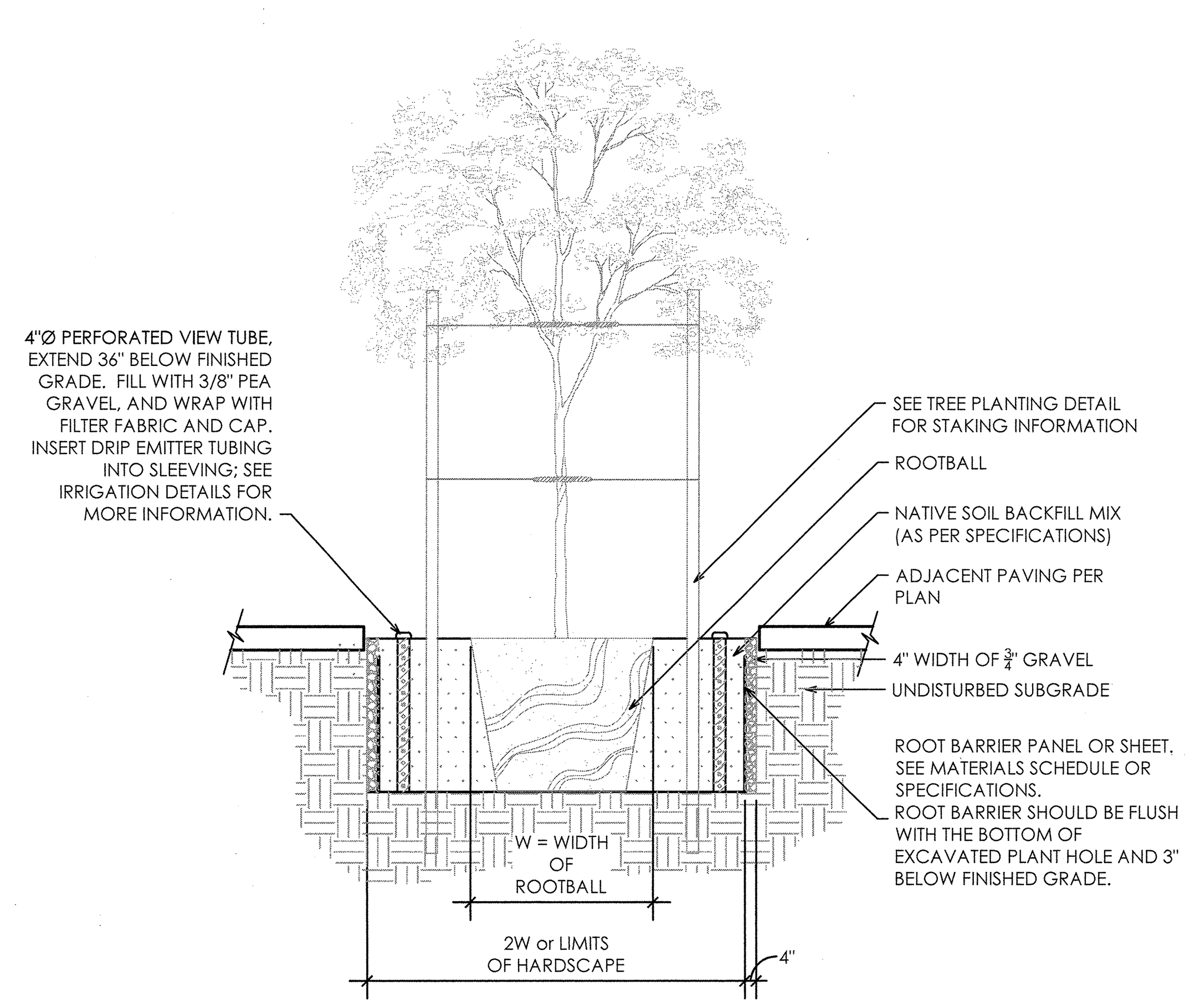
3 *Tree Staking Diagram*
Scale: *NTS*



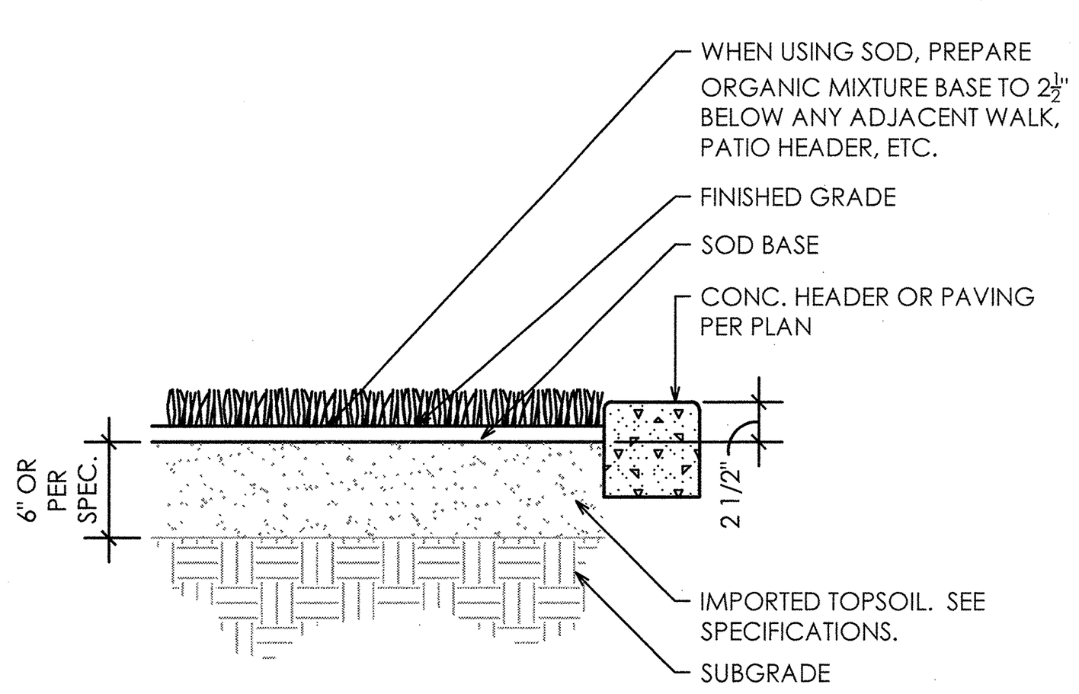
4 *Tree Planting Detail*
Scale: *NTS*



5 *Root Barrier Detail*
Scale: *NTS*



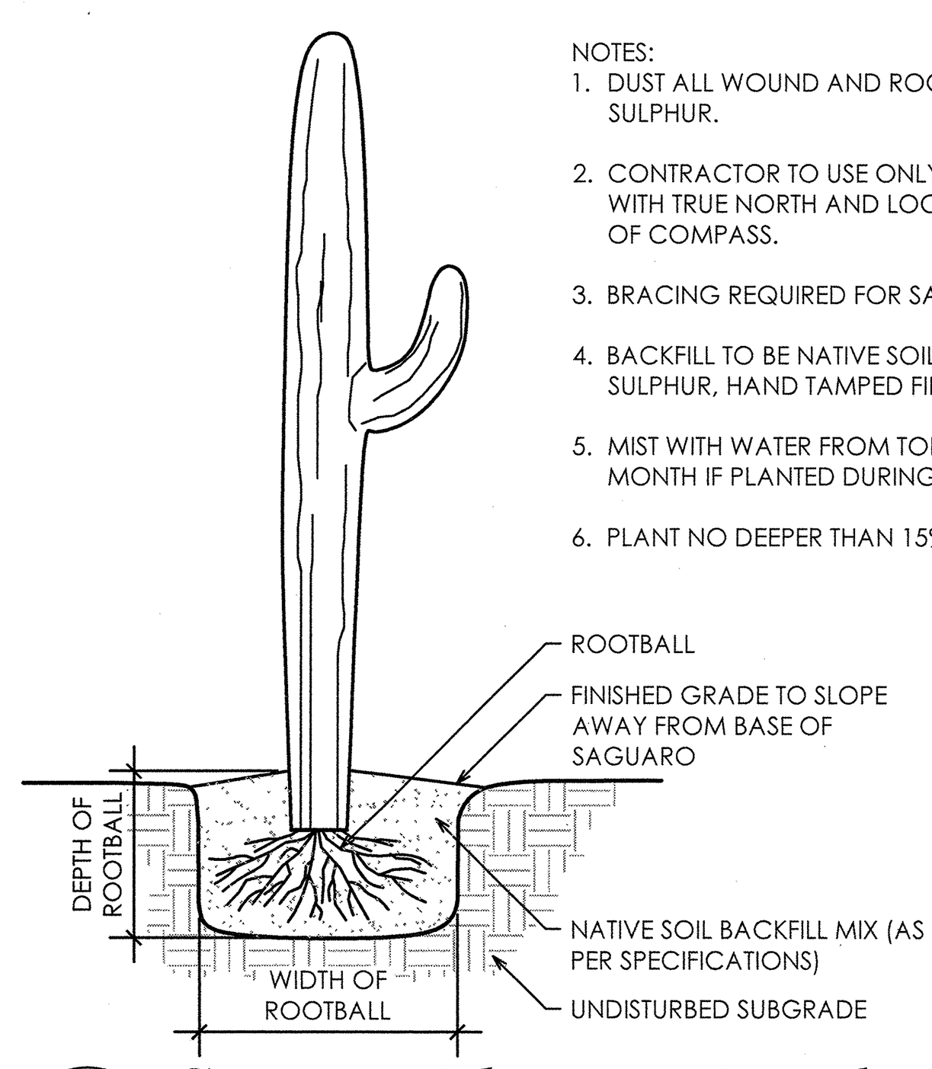
6 *Deep Watering Detail*
Scale: *NTS*



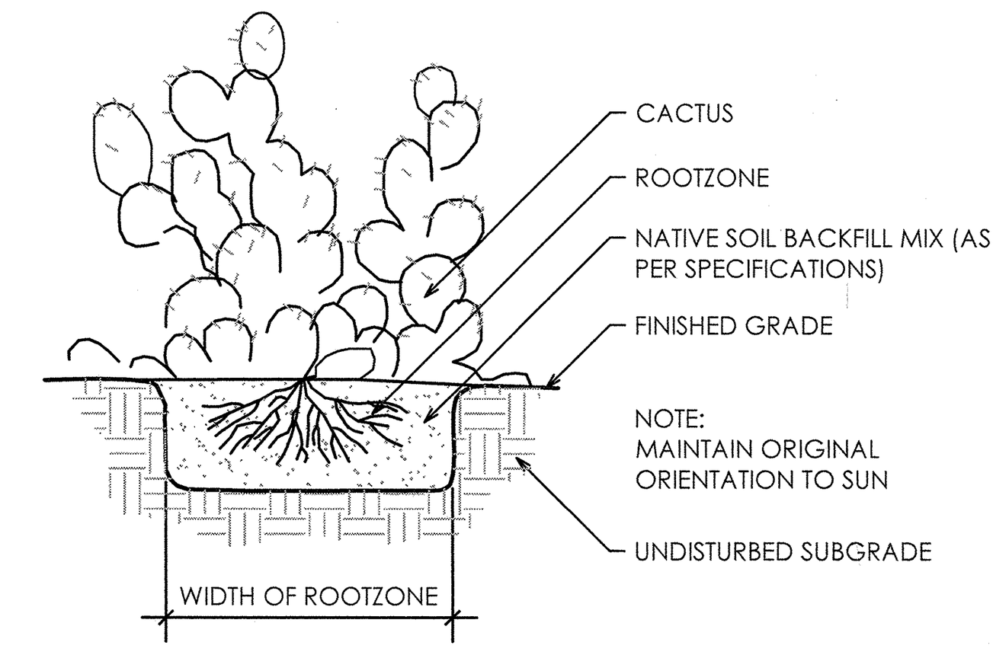
*OWNER'S REPRESENTATIVE TO PROVIDE LANDSCAPE ARCHITECT AND / OR OWNER'S REPRESENTATIVE WITH AGRONOMY TEST RESULTS. IF RESULTS PROVE THAT THERE ARE SUFFICIENT NUTRIENTS IT IS AT THE OWNER'S DISCRETION ON THE PREPARATION AND APPLICATION OF TOP SOIL.

7 *Sod Turf Prep Detail*
Scale: *NTS*

NOTES:
1. DUST ALL WOUND AND ROOT CUTS WITH SOIL SULPHUR.
2. CONTRACTOR TO USE ONLY SAGUAROS ORIENTED WITH TRUE NORTH AND LOCATE IN HOLE WITH USE OF COMPASS.
3. BRACING REQUIRED FOR SAGUAROS OVER 8'-10'.
4. BACKFILL TO BE NATIVE SOIL TREATED WITH SOIL SULPHUR, HAND TAMPED FIRMLY INTO PLACE.
5. MIST WITH WATER FROM TOP DOWN ONCE A MONTH IF PLANTED DURING HOT SEASON.
6. PLANT NO DEEPER THAN 15% OF TRUNK HEIGHT.



8 *Saguaro Planting Detail*
Scale: *NTS*



9 *Cactus Planting Detail*
Scale: *NTS*

CORPSTEIN RESIDENCE

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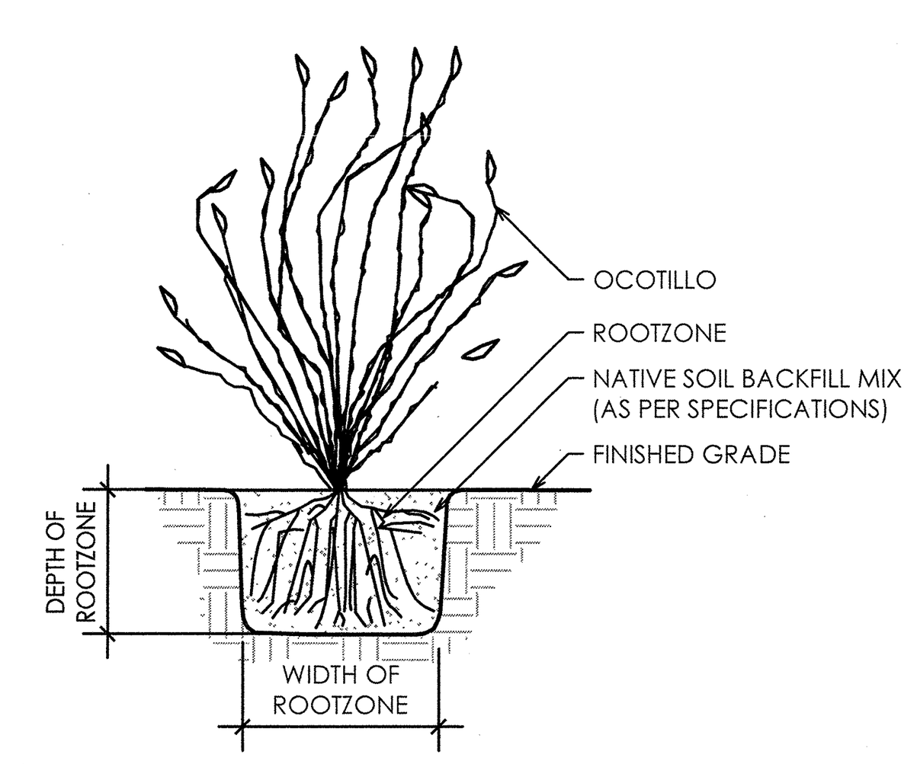
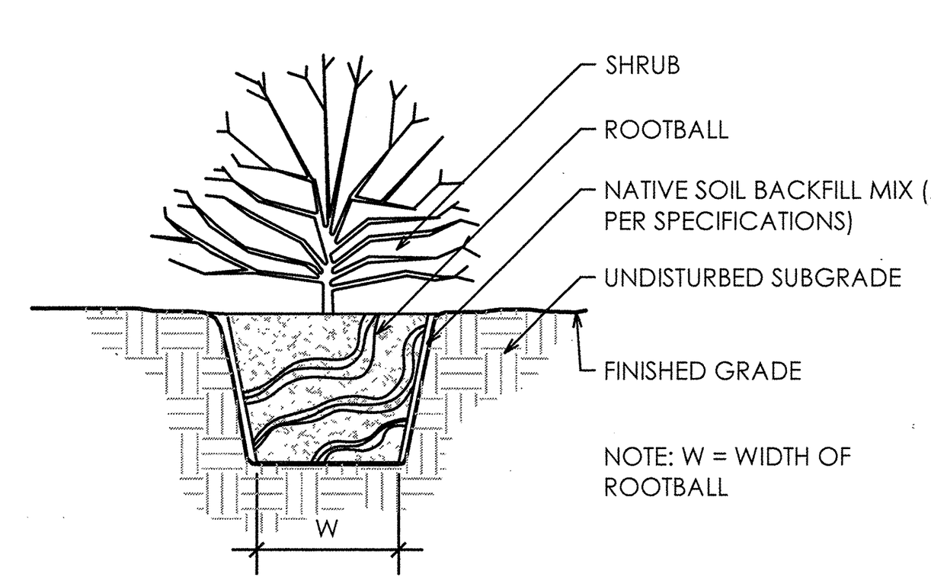
Paradise Valley, AZ 85253

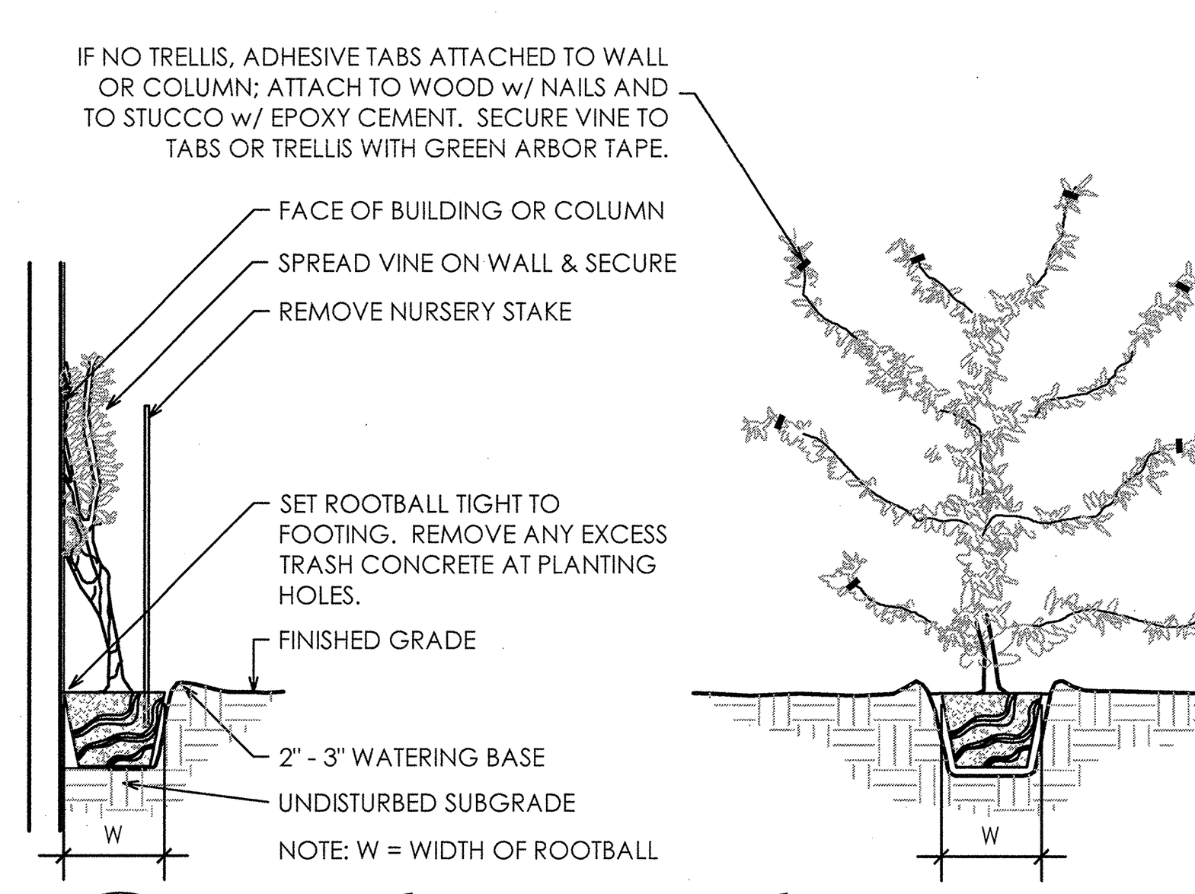


NOTE:
ONLY USE 1-1/2 GAL. EMITTER ON SHRUB VALVE OR AS NOTED ON IRRIGATION PLAN (FOR BOXED SPECIMENS).

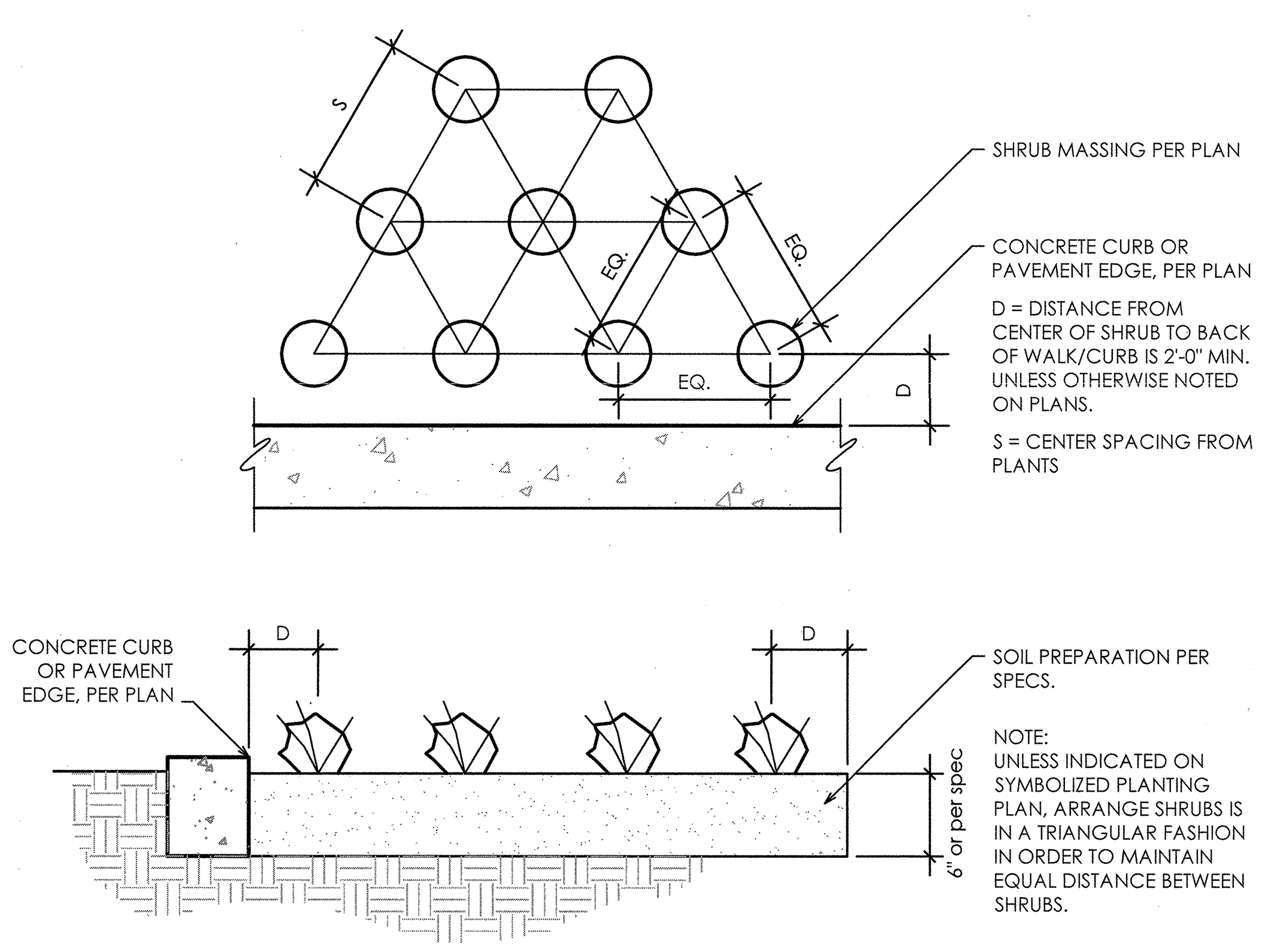
10 *Ocotillo Planting Detail*
Scale: *NTS*



11 *Shrub Planting Detail*
Scale: *NTS*



12 *Vine Planting Detail*
Scale: *NTS*



13 *Plant Spacing Detail*
Scale: *NTS*

revisions:
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project #: JBD001	scale: As Noted
	issued for:
drawn by: TEAM	date: 10/22/2018

drawing:
Planting Details

L7.1

of

SECTION - 02900 LANDSCAPE

PART 1 - GENERAL

1.01 WORK INCLUDED

✱Landscape finish grading.

✱ Soil preparation

✱Tree supports

✱Planting

✱Watering

✱Maintenance

Definitions:

Owner's representative - an authorized agent determined by owner to act on their behalf, in some cases the Landscape Architect may be the owner representative as outlined in these specs.

Plants - all shrubs and cacti other than trees, saguaros, ocotillos, palms and turf.

Plant Material - all trees, saguaros, ocotillos, palms, shrubs, cacti, ground cover, and other plants.

1.02 RELATED WORK

Contractor : Minimum 5 years experience in supply and installation of landscape materials. A Foreman with a minimum of 5 years experience in related work shall be on site at all times.

1.03 SOURCE QUALITY CONTROL

Provide certificates of inspection for all materials as required by law or regulation.

Package standard materials with manufacturers certified analysis. Provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Chemists for all other material.

Provide trees and shrubs grown in a recognized nursery in accordance with good horticultural practice. Provide healthy, undamaged, vigorous stock grown under climatic conditions similar to conditions at project site and free of disease, insects, eggs, larvae and defects such as sun-scald, knots, injuries, abrasions or disfigurements. Provide trees and shrubs of the sizes indicated. Trees and shrubs of sizes larger than those indicated may be used provided roots, root ball, staking and planting pits are increased proportionately.

1.04 REFERENCE STANDARDS

ANSI 60.1 - American Standards for Nursery Stock.

1.05 SAMPLES

Submit the following material samples to Owner's Representative a minimum of 48 hours prior to start of work.

a. Topsoil for backfill mix (trees and shrubs).
b. Wood Shavings/Mulch.
c. Tree supports.
d. Decomposed granite.
e. Boulders.

The Owner's Representative reserves the right to take and analyze samples of materials for conformity to Specification at any time. Furnish samples upon request by Owner's Representative. Rejected materials shall be immediately removed from the site and replaced at the contractors additional expense.

Submit samples of decomposed granite for approval of graduation and color. Sample shall be representative of variations within size and color to be provided.

1.06 PRODUCT DATA

Submit to Owner's Representative a minimum of 48 hours prior to start of work manufacturers comprehensive product description, including specifications and installation instructions.

1.07 CERTIFICATES AND TEST REPORTS

Provide and pay for all materials testing. Testing agency shall be acceptable to the Landscape Architect. Submit to Owner's Representative a minimum of 48 hours prior to start of work 2 copies of certificates of inspection as required by governmental authorities, and manufacturers' vendors certified analysis for soil amendments, fertilizer materials, and chemicals. Submit other data substantiation that materials comply with specified requirements. Certificates are required to determine the quality and quantity of all specified soil amendments.

Materials certification to be submitted include, but are not limited to: Topsoil source and nutrient analysis, mulch, fertilizer/soil amendments/chemicals. Test representative material samples proposed for use. Provide the following data:

a. Topsoil and planting backfill.
b. Soil PH.
c. Particle size, percentage soil texture.
d. Percentage organic material.
e. Percolation rate.
f. Nutrient level analysis.
g. All macro, secondary and micro nutrient salinity.
h, ESP.
i. Free lime.

Recommendations on type and quantity of amendments required to bring levels into acceptable ranges as detailed in Part 2 - Products of Materials of these specifications.

Separate recommendations to be submitted for each crop. Crop to be identified as:

a. Irrigated trees and shrubs.
b. Turf.

1.08 MAINTENANCE DATA

Submit to Owner's Representative 2 copies of typewritten instructions, prior to expiration of the initial maintenance period, recommending procedures to be followed by the Owner for the maintenance of landscape work for one full year.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

Deliver packaged material in containers showing weight, analysis and identification of manufacturer. Protect materials from deterioration at all times.

Provide protective covers to plant life and trees during delivery. Do not prune trees prior to delivery. Do not bend-tie trees or shrubs in such a manner as to cause damage or destroy shape. Deliver materials after preparation for planting have been completed. Plant immediately. If planting is delayed for more than 6 hours after delivery, set plant material in shade, protect from weather and mechanical damage and keep roots moist.

Do not remove container grown stock including ground cover, from containers until planting time.

1.10 SITE CONDITIONS

Determine location of underground utilities. Execute work as required to prevent damage.

Maintain grade stakes set by others until directed otherwise.

Protect all existing plant life not scheduled for removal. If any plant material that is to remain is damaged, the Contractor, at his expense, will pay for a replacement plant of the same size and species (to be approved by Owner's Representative).

Protect existing utilities, paving and other facilities from damage during landscaping operation.

Coordinate with other contractors.

1.11 WARRANTY

Submit warranty to Owner's Representative.

Trees, Palm Trees, Saguaros and Ocotillos:
Warrant that trees, palm trees, saguaros and ocotillos will be alive and in good health for a period of 1 year after acceptance except for defects resulting from neglect by Owner, abuse or damage by others.

Owner must follow Contractors maintenance schedule and provide current maintenance log to Owner's Representative.

Remove and replace dead, unhealthy or girdled trees, palm trees, saguaros and ocotillos that lose original form and size during warranty period with material equal to that specified. Replace any material which does not meet requirements within fifteen days of notification. All replacement trees, palm trees, saguaros and ocotillos shall be subject to an additional one year maintenance period.

Shrubs and Other Plantings:
Guarantee all other planting will be alive and in satisfactory condition for a period of 90 days from date of acceptance or will be replaced at no additional cost to the Owner. All plant material shall be maintained in a healthy, sturdy condition during the warranty period by the Contractor.

All replacement plants, including shrubs, cacti, groundcovers, vines and perennials shall be subject to an additional 90 day maintenance period.

PART 2 - PRODUCTS AND MATERIALS

2.01 FILL MATERIALS

Provide dry, loose material for fill, backfill, planting backfill and topsoil for planter beds. Frozen or muddy soils are not acceptable. Salts not to exceed 1500 ppm, and material shall be free of debris, noxious weeds, ingredients or objects detrimental to healthy plant growth. Topsoil: Screened, fertile, friable, from well drained arable land, free of nut grass, refuse, roots, heavy clay, noxious weeds or any material toxic to plant growth; contents as follows:

a. Silt: 20-45 %
b. Clay: 15-20 %
c. Sand: 30-60 %
d. Organic Material (natural or otherwise): 2 % minimum
e. pH: 7.0-8.3
f. Soluble salts: 1,500 ppm.
g. Nutrients: enough to bring levels up to acceptable plant growth.

Percolation rate shall be between 3 to 4 inches per hour.
Existing top soil may be used provided it meets these requirements.

2.02 COMMERCIAL GRADE FERTILIZERS

Agri-Sul, Dispersul - use only for sulfur
Agriculture grade gypsum

2.03 SOIL AMENDMENTS

Wood shavings: nitrogen stabilized fir or pine shavings containing 0.75% total nitrogen and 0.1 to 0.15% total iron, and under 60 ppm total manganese; composted, leached and aged for a minimum of 10 to 12 months: ph factor, 4.0 to 4.5, no soil amendments are required for salvaged plant material and cacti unless otherwise specified.

2.04 TREE SUPPORTS

Tree Stakes: Copper napthenate impregnated lodge pole 10 feet in length for 5 gallon and 15 gallon, and 12 feet in length for 24 inch box and larger. No tree stakes are required for salvaged plant material.

Tree Ties: Provide a minimum of two per tree; No. 10 gauge, pliable, zinc coated iron wire. Cover wire with hose, cover as specified, where it contacts tree.

Hose Covering: 1/2 inch minimum diameter; 2-ply reinforced rubber, new garden hose.

Tree Guards: 'ArborGard+' by Deep Root, or equal.

Tree Guys: Minimum 3 per tree; No. 10 galvanized wire. Cover wire with hose where it contacts tree for 24, 30 and 36 box tree.

Anchors (Deadmen): 2 inch x 4 inch x 3 feet long; construction grade redwood.

Signals (Flags): For guy wires, 1/2 inch diameter, white or orange plastic tubing 5 feet long over each guy used.

2.05 HERBICIDES

Pre-emergent and contact Herbicides:

Pre-emergent herbicide shall be Surflan as manufactured by Dow/Elanco Chemical Company.

Contact herbicide shall be Round-up as manufactured by Monsanto.

2.06 PLANTING MATERIAL

Plant Material: Healthy, shapely and well rooted. Roots shall show no evidence of having been restricted or deformed at any time. All plants shall be representative of their normal species and variety. They shall have normally developed branch systems. Plants shall be free from disfiguring knots, sun scald injuries and abrasions of bark. Plants not meeting these requirements shall be considered defective and shall be replaced immediately. All plants shall be true to name and shall be tagged, one of each variety. All plant material shall be grown in nurseries inspected by the State Department of Agriculture unless otherwise approved by the Owner's Representative.

Provide "Specimen" plants with a special height, shape or character. Tag at the source of supply prior to notifying Landscape Architect for inspection. The Landscape Architect shall inspect selections at source of supply for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of proposed material for approval.

Plants may be inspected and approved at place of growth for compliance with specification requirements for quality, size, and variety. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

2.07 TURF SOD

As noted on plans.

2.08 DECOMPOSED GRANITE

Decomposed granite coverage shall be a minimum 2-inch thickness unless noted otherwise on plans. Decomposed granite shall be the size and color as specified on plans, and shall be taken from a single quarry.

2.09 BOULDERS

Boulders are to be Surface Select or as noted on the plans. Boulder size as noted on the plans and approved by the Owner's Representative. Boulders are to be harvested, delivered and placed in a manner to avoid marking, scraping or damaging the natural condition of the boulder. All scarred boulders are to be treated with Permeon (or equal) to provide a natural appearance of the desert varnish.

2.09 SEED MIXTURE

As noted on plans.

PART 3 - EXECUTION

3.01 GENERAL

Install in accordance with the methods, techniques and specifications of each representative manufacturer. If a conflict occurs between manufacturers and these specifications, consult with Owner's Representative for a decision.

Do not begin planting until the irrigation system is completely installed, is adjusted for full coverage and is completely operational.

3.02 BACKFILL, IMPORTED FILL OR ARTIFICIAL SOIL AND GRAVEL

Inspect the integrity of all damp-proofing and water-proofing membranes which occur over, on or against any construction to be fully or partially concealed by earthwork prior to the placement of any imported soil, backfill, gravel fill or sub-base.

Correct defects prior to proceeding with the work.

3.03 TOPSOIL

Import additional topsoil only as required to bring planting areas up to finish grade. Spread and cultivate soil so that no settling takes place at any time.

3.04 LANDSCAPE FINE GRADING

Allow for the addition of soil amendments, conditioners and any specified top dressing when determining and executing finish grade.

Set finish grade 1-1/2 inches below adjacent paving, curb and headers for shrubs and ground cover beds and areas or as required for installation of decomposed granite or turf sod.

At all planting areas, make entire area smooth and even to finish grade. Cultivate all areas so that there are no bumps or hollows, and the area drains as indicated. Grade and maintain all flow lines, designated or not, to allow free flow of surface water. Cultivate entire area to a depth of 6 inches minimum and remove all rock in excess of 1-1/2 inches diameter, all building rubble, building construction material, waste and any other material that will impair satisfactory growth.

3.05 DECOMPOSED GRANITE

Place 2-inches unless otherwise noted, in all planting areas. Decomposed granite shall extend below all plant material, trees, and cactus. Decomposed granite finish grade 1-1/-inch below adjacent paving, curbs, and headers.

3.06 HERBICIDE APPLICATION

Apply pre-emergent herbicides in accordance with manufacturer's instructions.

Apply contact herbicides in accordance with manufacturer's recommendations. Prior to application, moisten areas for fourteen days to encourage weed germination and growth. Apply before weeds attain a height of 6 inches. Remove taller weeds manually.

Areas to be landscaped shall be maintained in a weed-free condition at all times during construction and maintenance period.

Do not apply pre-emergent herbicides at locations of revegetation seeding. The contractor shall manually remove invasive weeds within these areas.

3.07 TREE SUPPORT

Guyed Trees: Guy trees as shown immediately after planting as shown on the drawings.
Staked Trees: Stake trees as shown on the drawings within 48-hours of planting.

Tree supports shall be installed to prevent lodging, yet allow for trunk movement. Hoses that encircle trunks shall be large enough to allow for normal growth of the trunk during the first year without girdling.

3.08 TREES, SHRUBS, AND VINES

Layout locations with stakes or gypsum. Coordinate with Owner's Representative to assure appropriate location, prior to installation.

Test drainage of plant beds and pits by filling with water. Notify Owner's Representative of areas where water is retained more than 24 hours.

Where rock, underground construction or other detrimental conditions are encountered at plant pits, Owner's Representative may select alternate location.

Do not expose roots to air except during transplanting. Set up of plants at same level when planted as in the container. Cut plant containers on 2 sides without injuring root ball and carefully remove plant. Do not cut container with spade. Damaged plants will be rejected.

Dig pits with perpendicular sides to a minimum of 2 to 3 times the width (see details) of the root ball for containerized trees and shrubs. Dig pits only as deep as the root ball to prevent settling of the tree or shrub.

Place rootball of vines as close to structure or support system as possible. If rootball can't be placed closer than 12" notify Owner's Representative of situation for inspection and remedy.

Tie vines to trellis supports if applicable with green plant tape and remove any staking supplied with plant material.

Planting Mixture: One part wood shavings Two parts excavated soil amended to meet standards in Part 2.

Mix thoroughly outside the hole before start of backfilling.

Tree Guard: Install tree guard on all trees located in turf areas per manufacturer's recommendations.

3.09 BACKFILLING

Backfill plant pits and form shallow basin around the plant to hold enough water to saturate the root ball and backfill (only form basins if specified on detail). Water plants immediately after planting and allow backfill to settle in plant pit. Do not water saguaros after planting. Do not raise basin rim above surrounding grade.

Puddle planting mixture when pit is 2/3 full of plant mix. Continue back filling to within 1 inch of surrounding grade.

Finish grade to 2 inches below headers or concrete work.

Top dress planting areas with 2 inches of top dressing after planting.

Treat all planting areas with a pre-emergent.

3.10 GROUND COVER

At time of transplanting, soil in flats shall be sufficient so as not to fall apart when lifting plants. Plant each plant with its proportionate amount of the flat soil in a manner that will ensure a minimum disturbance to the root structure.

Plant flat material sufficiently deep to cover all roots. Firmly tamp the earth around each plant to force out large air pockets.

3.11 TURF SOD

Soil Preparation: Provide soil with an organic matter content of 25-percent to 30-percent. Cultivate entire area to a depth of 6" minimum and remove all rock in excess of 1 1/2", all building rubble, building construction material waste and any other material that will impair satisfactory growth. This top 6" must meet the topsoil requirements noted in Section 2.01.

Soil Amendments: Prior to rototilling, apply gypsum at a rate of 100 lbs per 1,000 sf, phosphate at a rate of 2 lbs per 1,000 sf, , and soil sulfur at 5 lbs per 1,000 sf. Rototill into soil.

Install sod along the straightest edge of turf area. Stagger joints in a brick-like pattern. Avoid gaps and overlapping. Place sod diagonally across, to avoid sliding. Water sod at least every 30 min. during installation. Finish by watering lightly and roll in two directions w/sod roller.

3.11b TURF ARTIFICIAL

1.1 SUMMARY

A. Provide all labor, materials, equipment, and tools necesary for the complete installation of synthetic grass surface. The system shall consist of, but not necessarily be limited to, the following:
   a) Synthetic grass consisting of fibers that are a minimum of 1.54 inch long. Turf fiber construction consisting of polyethylene monofilament and either texturized monofilament fibers tufted to a 3-layer stabilized woven polypropylene fabric (primary backing), with a non-urethane, 100% recyclable secondary backing.
   b) Synthetic Grass Infill, consisting of anti-microbial acrylic coated round silica particles, designed to provide the look, feel, and performance of optimally maintained natural grass. Envirofill or equivalent.

1.3 SUBMITTALS

A. Comply with Section 01 33 00, Submittals Procedures.
B. Product Data: Submit manufacturer's product data, including installation instructions and subsurface instructions.
C. Warranty: Submit manufacturer's standard 10 year warranty.

PART 2 - PRODUCTS

2.1 SYNTHETIC GRASS SURFACE

A. Aggregate Base - Crushed angular hard stone, ¼" minus compactible stone (not clean). (Refer to Section 3.2-B)
B. Synthetic grass: 1.6" Pioneer Turfscapes Jade, Pioneer, 310 N. Pasasena St., Gilbert, AZ 85233 Phone (480) 926-8200.
   a) Face Weight Minimum 61 oz/sy
   b) Face Yarn Type: Polyethylene
   c) Pile Height: 1.6
   d) Color: Olive bi-color with green & brown thatch
   e) Tufting Gauge: 3/8"
   f) Backing: Stabilized triple layered woven polypropylene
   g) Total Product Weight 69.7 oz/sy
   h) Finished Roll Width 180" untrimmed
   i) Warranty: 10 year fade

C. Synthetic Grass Infill: Envirofill from Pioneer, 310 N. Pasadena St., Gilbert, AZ 85233 Phone (480) 926-8200 or approved equal. Coating: Priority acrylic, iron oxide and chromium oxide.
D. Splicing Material: 1000 denier coated nylon (Cordura®) 12" wide minimum. E. Adhesive: Synthetic Turf Adhesive

PART 3 - EXECUTION

3.1 GROUND PREPARATION

A. General: The ground area to receive synthetic grass surface is indicated on the Drawings.
B. Leveling and Site Preparation: All organic material and organic debris to be removed. Soil to be graded level and stabilized (compacted). Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.

3.2 BASE AND SYNTHETIC GRASS CONSTRUCTION

A. General: The area to be smooth and graded to allow proper drainage. Refer to grading plan.
B. Compacted Aggregate Base: Place 4 inches of aggregate base as leveling layer compacted to 90% of max density per AASHTO T99. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers. Aggregate size should be 1/4" minus (compactible).
C. Synthetic Grass: Place turf and cut to fit configuration as shown on Drawings. Splice seams. All seams must be attached with splicing film/fabric and adhesive as approved by the manufacturer for this type of installation of their product.
D. Infill: Apply layers of synthetic grass infill evenly with a spreader and broom the turf fibers with stiff bristle broom to stand fibers up and allow infill to settle into the bottom. Broom in infill round quartz silica sand approximately 5 pounds per square foot.
E. Anchoring/Edging: Edges of turf will be secured to ground with mechanical fasteners, stakes or edging.

3.12 WATERING

Water all plants immediately after planting, except for saguaros, with hose in planting hole until material about the roots is completely saturated from the bottom of the hole to the top of the ground to avoid drying out until the entire planted area is thoroughly watered and the soil soaked to the full depth of each plant hole. Water stream shall not cause damage to planting hole or plant. Keep exposed roots wet by means of moist sawdust, peat moss or burlap at all times during planting operation. Repeat watering as often as necessary to keep the ground moist but not soaked, well below the root system of the plants.

3.13 CLEAN UP

Keep all areas clean and orderly during and after execution of work. Burning of trash is not permitted.

3.14 ADJUSTMENT

Prune each tree and shrub to preserve the natural character of the plant per American Standards for Nursery stock, as published by the American Association of Nurserymen. Prune only as directed by Owner's Representative and Landscape Architect to remove deadwood, suckers, or broken or badly bruised branches. Replace all plants damaged by excessive pruning, planting operations or construction damage.

3.15 MAINTENANCE PERIOD

When the Owner's Representative and Landscape Architect determine the work to be substantially complete in accordance with the Conditions of the Contract, Contractor will be advised, in writing, that the maintenance period is to begin.

Landscape contractor shall be responsible for maintenance of landscaped areas for a period of 90 days. Maintenance includes watering, trimming, weeding and cultivating of beds.

Landscape contractor, in order to protect his guarantee, shall give typewritten to Owner, a complete maintenance instruction booklet on the care and feeding of the landscape.

Contractor shall request, in writing, a Final Inspection with Landscape Architect at the completion of the maintenance period. If the Owner's Representative determines the work is satisfactory, the maintenance period will end on the date of the Final Inspection. If the maintenance is unsatisfactory, the maintenance period will be extended, at the Contractors expense, until such time as all corrections are made and the work is inspected and approved by the Owner's Representative and Landscape Architect. Retention will not be released until Final Inspection is made and approval issued by the Owner's Representative.

3.16 FIELD QUALITY CONTROL

Notify Owner's Representative of the requirement for inspection at least 48 hours in advance. Inspections are required, but not limited to, the following:

- Inspection and acceptance of plant material prior to shipping.
- At completion of rough grade and boulder placement
- At completion of landscape finish grading and soil preparation, prior to planting.
- At installation of irrigation system, prior to backfilling trenches and planting.
- During installation of specimen tree, or other specimen plant material.
- After staking locations for plant holes, but prior to planting; for approval.
- During the planting process.
- During the placement and aiming of all light fixtures.
- At Substantial Completion of the Work.
- During warranty period to observe maintenance procedures.
- At final Completion of the Work.

GREEY | PICKETT
landscape architecture | community design
7144 e stetson drive, suite 265
scottsdale, arizona 85251
480 609 0009p 480 609 0068f

CORPSTEIN RESIDENCE
4342 E. Highlands Dr.
Paradise Valley, AZ 85253

revisions:

project #: JBD001
scale: NA
issued for:
drawn by: TEAM
date: 10/22/2018

drawing: Planting Specifications

L8.1

of

SECTION - 02810 IRRIGATION

PART I - GENERAL

1.01 WORK INCLUDED

Work of this Section generally includes a provision of an underground irrigation system including the following:

*Trenching, stockpiling excavation materials, and refilling trenches.

*Complete systems including but not limited to piping, backflow preventer assemblies, valves, fittings, heads, controller wiring and final adjustments to ensure efficient coverage as determined by Consultant.

*Water connections.

*Replacements of unsatisfactory materials.

*Clean-up, inspection, and approval.

*Tests.

1.02 REFERENCES

Perform Work in accordance with requirement 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.

1. American Society for Testing and Materials (ASTM) - Specifications and Test Methods specifically referenced in this Section.
2. Underwriters Laboratories (UL) - UL Wires and Cables.

1.03 QUALITY ASSURANCE

Installer Qualifications - Installer shall have had considerable experience and demonstrated ability in the installation of irrigation system(s) of specified type(s) in a neat, orderly and responsible manner in accordance with recognized standards of workmanship. To demonstrate ability, experience and financial stability necessary for this Project, submit if requested by Consultant, prior to contract award the following:

1. List of 3 projects completed in the last 2 years of similar complexity to this Project. Description of projects shall include:
   a. Name of project.
   b. Location.
   c. Owner.
   d. Brief description of work and project budget.
2. Current company financial statement.

Special Requirements:

1. Tolerances - Specified depths of pressure supply lines and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, recompaction, and repair of finish grade treatment.
2. Coordination with Other Contracts - Protect, maintain, and coordinate Work with Work under other Sections.
3. 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.
4. Work involving substantial plumbing for installation of backflow preventers, copper service and related work shall be executed by licensed and bonded plumber(s), performed in accordance with prevailing codes and regulations.
5. Work involving connection to, installation, or extension of 120 volt or greater electrical service, shall be executed by a licensed and bonded electrician, performed in accordance with prevailing codes and regulations.

1.04 SUBMITTALS

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

Records Drawings (As-Builts):

1. At onset of irrigation installation contractor shall secure mylar sepias of site plan from Landscape Architect. Make blue-line or black-line prints for every week on Project. At end of every day, revise prints for Work accomplished that day in red ink. As- built sepias shall be brought up-to-date at close of working day on every Friday by a qualified draftsperson. One up-to-date print shall be mailed to Consultant on Monday of each week. An additional print of record plan(s) shall be available at Project Site. Upon completion of Project submit for review, prior to final acceptance, final set of as-built mylar sepias. Dimension from two permanent points of reference (building corners, sidewalk, road intersections or permanent structures), location of the following items:
   a. Connection to existing water lines.
   b. Routing of pressure supply lines (dimension every 100 feet along routing).
   c. Electric control valves.
   d. Quick coupling valves.
   e. Drip line blow-out stubs.
   f. Control wire routing (if not with pressure supply line).
   g. Other related equipment as directed by Consultant.
2. Consultant 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 as-builts are updated.
3. Prior to scheduling walk-through for substantial completion, contractor to submit all as-builts information to consultant for approval.

Controller Drawings - Do not prepare controller drawings until record (as- built) drawings have been approved by Consultant.

1. Provide controller drawing, automatic controller.
   a. Controller drawing may be same size reproduction of record drawing, if scale permits fitting inside controller door without folding drawing. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.
   b. Controller drawing shall be blue-line print of actual as-built system, showing area covered by that controller.
   c. Identify area of coverage of each remote control valve, using a distinctly different pastel color for each zone. Highlight heads, lateral piping, and control valves.
   d. Following review of controller drawings by Consultant, hermetically seal each drawing between two layers of 20 mm thick clear plastic.
   e. Controller drawing shall be completed and approved by Consultant prior to final completion walk-through of irrigation system.
   f. Attach approved controller drawing to inside of each controller door using self adhesive Velcro strips.

Operation Manual:
Submit 3 sets of operations manual to Consultant for approval or prior to scheduling final completion walk-through. Manual to include the following in 1 x 3 ring binder:

1. Index sheet stating project name, and listing contractor name, address, phone number and contract person including Primary Sub-Contractors.
2. Manufacturer cut sheets for all material components of irrigation system. Highlight or circle specific model or item.

1.05 DELIVERY, STORAGE & 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 is original unopened packaging containers prominently displaying manufacturer name, volume, quantity, contents, instructions, and conformance to local, state and federal law.

1.05 DELIVERY, STORAGE & HANDLING (CONT.)

Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, snow, ice, temperature extremes, fire or job site 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 removed and replaced with new piping.

1.06 JOBSITE CONDITIONS

Protection of Property:

1. 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. All injury to living plants shall be repaired by Owner, and all costs of such repairs shall be charged to and paid by Contractor.
2. 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.

Existing Trees:

1. All trenching or other Work under limb spread of any and all evergreens or low branching deciduous material shall be done by hand or by other methods so as to prevent damage to limbs or branches.
2. Where it is necessary to excavate adjacent to existing trees, use all possible care to avoid injury to tress and tree roots. Excavation, in areas where 2 inches and larger roots occur, shall be done by hand. Roots 2 inches or larger in diameter, except directly in the path of pipe conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a trenching machine is operated close to trees having roots smaller than 2 inches in diameter, wall of trench adjacent to tree shall be hand rimmed, making clean cuts through roots. Roots 1 inch and larger in diameter shall be painted with two coats of Tree Seal. Trenches adjacent to trees shall be closed within 24 hours, and when this is not possible, side of trench adjacent to tree shall be kept shaded with moistened burlap or canvas.

Protection and Repair of Underground Lines:

1. 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. In the event damage does occur, all damage shall be repaired by Contractor unless other arrangements have been made.
2. 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.

1.07 WARRANTY / GUARANTY

Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, snow, ice, temperature extremes, fire or job site 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 removed and replaced with new piping.

1.08 MAINTENANCE

Furnish the following maintenance items to Owner prior to final Acceptance:

1. 2 sets of special tools required for moving, disassembling, and adjusting each type of sprinkler head and valve supplied on this Project.
2. 2 keys for each automatic controller.
3. 1 quick coupler key and matching hose swivel.

1.09 EXTRA STOCK

In addition to the installed system, furnish the following items to Owner: A 4 per 100 installed drip emitters of each type used.

PART II - PRODUCTS

2.01 MATERIALS

General Piping:

1. Pressure Supply Lines (downstream of backflow prevention units) - Class 200 BE (1)
2. Non-pressure lines - Class 200 BE - .
3. Drip Tubing - Hardie EHD 2057-050 DURA-POL Blue Stripe Hose.
4. Emitter Tubing - by emitter manufacturer.

Plastic pipe and Fittings:

1. Identification Markings:
   a. All pipe to be identified with following indelible markings:
      1) Manufacturers Name.
      2) Nominal pipe size.
      3) Schedule of class.
      4) Pressure Rating.
      5) NSF (National Sanitation Foundation) seal of approval.
      6) Date of extrusion.
2. Solvent Weld Pipe - Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12245-B, Type 1, Grade 1.
   a. Fittings - Standard weight, Schedule 40, injection molded PVC; complying with ASTM D1784 and D2466, cell classification 12454-B.
      1) Threads - Injection molded type (where required).
      2) Tees and ells - Side gated.
   b. Threaded Nipples - ASTM D2464, Schedule 80 with molded threads.
   c. Joint Cement and Primer - Type as recommended by manufacturer of pipe and fittings.

Low Pressure/Volume Systems:

1. Emitters as indicated on drawings.
2. Drip Tubing - manufactured of flexible vinyl chloride compound conforming to ASTM D1248, Type 1, Class C, Category 4, P14 and ASTM D3350 for PE 1221110.
3. Fittings - As recommended by tubing manufacturer.
4. Drip Valve Assembly - Type and size shown on drawings.
   a. Wye Strainer - Plastic/Fiberglass construction with 150 mesh nylon screen and blow out assembly,

2.01 MATERIALS (CONT.)

   b. 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.
   c. Pressure Reducing Valve - Plastic/Fiberglass construction with adjusting nut.

Copper Pipe and Fittings:

1. Copper Pipe - Type K hard tempered.
2. Fittings - Wrought copper, solder joint type.
3. Joints - Soldered with solder, 45% silver, 15% copper, 16% zinc, and 24% cadmium and solids at 1125 F and liquids at 1145F.

Brass Pipe and Fittings:

1. Brass Pipe - 85% red brass, AMSI Schedule 40 screwed pipe.
2. Fittings - Medium brass, screwed 125 pound class.

Quick Coupling Valves - Brass two-piece body designed for working pressure of 150 psi; operable with quick coupler. Equip quick coupler with locking rubber cover.

Valve Boxes:

1. Drip Line Blow-out Stubs, and Wire Stub Box - Carson #910-12.
2. 3/4 inch through 2 inch Control Valves - Carson #1419-13B.
3. Drip Valve Assemblies - Carson #1419-13B.
4. Control Wiring Splices - Carson #910-12.

Electrical Control Wiring:

1. Low Voltage:
   a. Electrical Control Wire - AWG UF UL approved No.14 gauge direct burial copper wire for all control wires, and No.12 gauge direct burial copper wire for all common wires.
   b. Wire Colors:
      1) Control Wires - Red.
      2) Common Wires - White.
      3) Master Valve Wires - Blue.
      4) Future Wires - Same as control and common wire (labeled at terminations).
   c. If multiple controllers are utilized, and wire paths of different controllers cross each other, both common and control wires from each controller shall be different colors approved by Consultant.
   d. Control wire connections and splices shall be made with 3M direct bury splice, Rain Bird Pentite connectors, or similar dry splice method.
2. High Voltage - Type required by local codes and ordinances, of proper size to accommodate needs of equipment serviced.

Electric Control Valves - As noted on drawings

Pipe bedding material - Construction grade sand approved by Consultant.

Automatic Controller - As shown on drawings.

Backflow Preventer - As shown on drawings.

PART III - EXECUTION

3.01 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.

Grading operations, with the exception of final grading, shall be completed and approved by Owner prior to staking or installation of any portion of irrigation system except sleeving.

3.02 PREPARATION

Staking shall Occur as Follows:

1. Mark with powdered lime or marking paint, routing of pressure supply line and flag heads and control valve locations for first series of zones as directed by Consultant. Contact Consultant 48 hours in advance and request review of staking. Consultant will review staking and direct changes if required. Staking review does not relieve installer from coverage problems due to improper placement of heads after staking.

Install sleeving under all asphalt paving and concrete walks, prior to concreting and paving operations, to accommodate piping and wiring. Compact backfill around sleeves to 95% Standard Proctor Density within 2% of optimum moisture content in accordance with ASTM D1557.

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. Pressure supply line trenches shall be over-excavated as required to allow for bedding material. Trench depth shall be uniform as required to meet minimum depth requirements for type of piping.

1. Clearances:
   a. Piping smaller than 3 inches - Trenches shall have a minimum width of 7 inches.
   b. Line clearance - Provide not less than 6 inches of clearance between each line, and not less than 12 inches of clearance between lines of other trades.
2. Pipe and Wire Depth:
   a. Pressure Supply Piping - 24 inches from top of pipe.
   b. Non-pressure piping (pop-up) - 18 inches from top of pipe.
   c. Control Wiring - Side and bottom of pressure supply line.
   d. Drip tubing - 12 inches from top of pipe.
   e. Emitter tubing - 12 inches from top of pipe (non slope plantings). 4 inches from top of pipe (slopes 2:1 or greater).
3. Boring will be permitted only where pipe must pass under obstruction(s) which cannot be removed, and must be approved by consultant if not specifically indicated on construction drawings. Final density of backfill shall match that of surrounding soil. Use of sleeves of suitable diameter is acceptable if installed first by jacking or boring, and pipe laid through sleeves. Observe same precautions as though pipe were installed in open trench.

3.03 INSTALLATION

Locate other equipment as near as possible to location designated on construction drawings. Deviations shall be approved by Consultant prior to installation.

PVC Piping:

1. Snake pipe in trench as much as possible to allow for expansion and contraction.
2. When pipe laying 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).
3. Coordinate pressure supply line installation with required bedding operations.
4. Stake all above grade PVC piping per details.

3.03 INSTALLATION (CONT.)

5. Use 45 degree ells when making perpendicular crossings of above grade PVC piping, to depress bottom pipe.
6. Lay pipe and make all plastic to plastic joints in accordance with manufacturers recommendations.

Drip Tubing:

1. Install fitting connections per manufacturers recommendations.
2. Use only manufacturer provided or recommended hole punch when making penetrations in drip tubing for insert fittings. Use of 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. Any deviations from drip tube routing shown on drawings must be approved by consultant prior to installation.

Control Wiring:

1. Low Voltage Wiring:
   a. Bury control wiring between controller and electric valves in pressure supply line trenches, with wires consistently located below and to one side of pipe, on top of initial pipe bedding, or in separate trenches.
   b. Bundle all 24 volt wires at 10 foot intervals with electrical or duct tape.
   c. Provide an expansion loop at pressure supply line angle fittings, every electric control valve location (in valve box), and at minimum 500 feet intervals. From expansion loop by wrapping wire at least 8 times around an inch pipe and with drawing pipe.
   d. Make splices and electric control valve connections using Rainbird Pentite connectors or similar dry splice method.
   e. Install control wire splices not occurring at control valve in a separate splice valve box.
   f. Install one control wire for each control valve.
   g. Run 2 spare #14-1 control wires from controller pedestal to last electric control valve operated by controller on each and every leg of pressure supply line. Label spare wires at controller and wire stub box. Loop a minimum of 24 inches from all spare wires inside every control valve box operated by controller.
   h. Run all future control wires from controller pedestal to point indicated on drawings. Coil a minimum of ten (10) feet at termination and install in 10 inch round valve box. Label all wires at termination.
2. High Voltage Wiring for Automatic Controller:
   a. Provide 120 volt power connection to automatic controller.

Automatic Controller:

1. Install controller in accordance with manufacturers instructions as detailed and where shown on Drawings.
2. Connect remote control valves to controller in numerical sequence as shown on Drawings.
3. Final location of controller shall be approved by Consultant prior to installation.
4. Each controller shall have a dedicated separate ground wire.
5. Above ground conduit shall be rigid galvanized with appropriate fittings. Below ground conduit shall be Schedule 40 PVC.

Quick Coupling Valves:

Install quick couplers on double swing-joint assemblies of Schedule 80 PVC pipe; flush to grade. Angled nipple relative to pressure supply line shall be no more than 45 degrees and no less than 10 degrees. Install quick coupling as detailed.

Drip Valve Assemblies - Install drip valve assembly as detailed.

Drip Emitters - Install drip emitters as detailed.

Valve Boxes:

1. Install one valve box for each type of valve installed as detailed, flush with grade for all sodded areas and above grade for all planted areas.
2. Valve box extensions are not acceptable except for master valve.
3. Install gravel sump after compaction of all trenches. Valve box to rest on gravel sump. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
4. Brand all valve box lids. Letter and number size shall be no smaller than 1 inch and no greater in size than 1- inches. Depth of branding shall be no more than 1/8 inch into valve box lid as follows:
   a. Control valves - Brand controller letter and station number on lid of each control valve box.
   b. Quick Coupling Valves - Brand quick coupling valve box lids with letter Q.C..
   c. Wire Splices - Brand all wire splice box lids with letters W.S.
   d. Drip Tubing Blow-out Stubs - Brand controller letter and station number on lid of each drip tubing blow-out box lid.

Backflow Preventer - Install as detailed Drawings.

Control Wiring:

1. All control wiring to be laid to bottom and side of pressure supply line trench. Separate wire trenches will not be allowed unless approved by Consultant prior to installation.

Backfilling - Do not begin backfilling operation until required system tests have been completed. Backfill shall not be done in freezing weather except with prior approval 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. All pressure supply lines shall be bedded with construction grade sand 4 inches below invert of pipe, to 6 inches above top of pipe and width of trench when site conditions are rocky or otherwise unfavorable.
2. Materials - Excavated material is generally considered satisfactory for backfill purposes after completing bedding requirements. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 2 inches 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.
3. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
4. Compact backfill to 90% maximum density in 6 lifts, determined in accordance with ASTM D155-7 utilizing the following methods:
   a. Mechanical tampering.
   b. Puddling or ponding. Puddling or ponding and/or jetting is prohibited within 10'-0" of building or foundation walls.

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 asphalt concrete or concrete paving.
2. Piping shall be bedded with construction grade sand or squeegee - 6 inches below pipe to 6 inches above pipe and width of excavation.

3.03 INSTALLATION (CONT.)

3. Compact backfill material in 6 inch lifts at 95% maximum density determined in accordance with ASTM D1557 using manual or mechanical tamping devices.
4. Set in place, cap, and pressure test all piping under paving, in presence of Consultant or Owner prior to backfilling and paving operations.
5. Piping under existing walk or concrete pavement shall be done by jacking, boring, or hydraulic driving, but where cutting or breaking of walks and/or concrete is necessary, it shall be done and replaced at no cost to Owner. Obtain permission and prior approval to cut or break walks and/or concrete from Owner.

3.04 FIELD QUALITY CONTROL

Flushing - After piping, risers, and valves are in place and connected, but prior to installation of sprinkler heads, quick coupling valves, and air release valves, thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthermost valves. Cap riser after flushing.

Testing - Conduct tests in presence of Consultant. Arrange for presence of Consultant a minimum of 48 hours in advance of testing. Supply force pump and all other test equipment.

1. After backfilling, and installation of all control valves, quick coupling 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.
2. Leakage, Pressure Loss - Test is acceptable if no leakage or loss of pressure is evident during test period.
3. Leaks - Detect and repair leaks.
4. Retest system until 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.

Walk Through for Substantial Completion:

1. Arrange for Consultants presence a minimum of 48 hours in advance of walk-through.
2. Entire System shall be completely installed and operational prior to scheduling of walk-through. All sodded areas are to be complete with head height and valve boxes adjusted accordingly.
3. Operate each zone in its entirety for Consultant at time of walk through and open all valve boxes.
4. Consultant shall generate a list of items to be corrected prior to Final Completion.
5. Furnish all materials and perform all Work required to correct all inadequacies due to deviations from Contract Documents, and as directed by Consultant.
6. During walk-through, expose all drip emitters under operations 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.

Walk-Through for Final Completion:

1. Arrange for Consultants presence a minimum of 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. Operate each zone identified as deficient at substantial completion walk-through for Consultant at time of final completion walk-through to ensure 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, Contractor shall be charged for all subsequent walkthroughs. Funds will be withheld from final payment and/or retainage to Contractor, in amount equal to additional time and expenses required by Consultant to conduct and document further walk-through as deemed necessary to ensure compliance with Contract Documents.

3.05 ADJUSTING

Upon substantial completion of installation, fine-tune entire system by regulating valves, adjusting patterns and break-up arms/screws, and setting pressure reducing valves or throttling control valve flow controls at proper 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%.

If it is determined that irrigation adjustments will provide proper and more adequate coverage, 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.

All sprinkler heads shall be set perpendicular to finish grade unless otherwise designated.

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.

3.06 CLEANING

Maintaining continuous cleaning operation throughout duration of Work. Dispose of off-site at no additional cost to Owner, all trash or debris generated by installation of irrigation system.

GREEY | PICKETT
landscape architecture | community design

CORPSTEIN RESIDENCE
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