

MOYER RESIDENCE

NEW SINGLE FAMILY DWELLING

516 LAKEMEAD WAY, EMERALD HILLS, CA

hrh
ARCHITECTURE



Hamid Hekmat, AIA
LEED AP

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Project
516 LAKEMEAD WAY
EMERALD HILLS, CA 94062
NEW SINGLE FAMILY DWELLING

APN: 057-262-240 AND 068-071-190

OWNER:
JOHN & CAROLYN MOYER RESIDENCE

Sheet Title
Rendering

Job No 23-12
Drawn **
Date 8-15-2023

Revisions
-- 05.02.24 - Planning Response 1

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Scale: AS SHOWN

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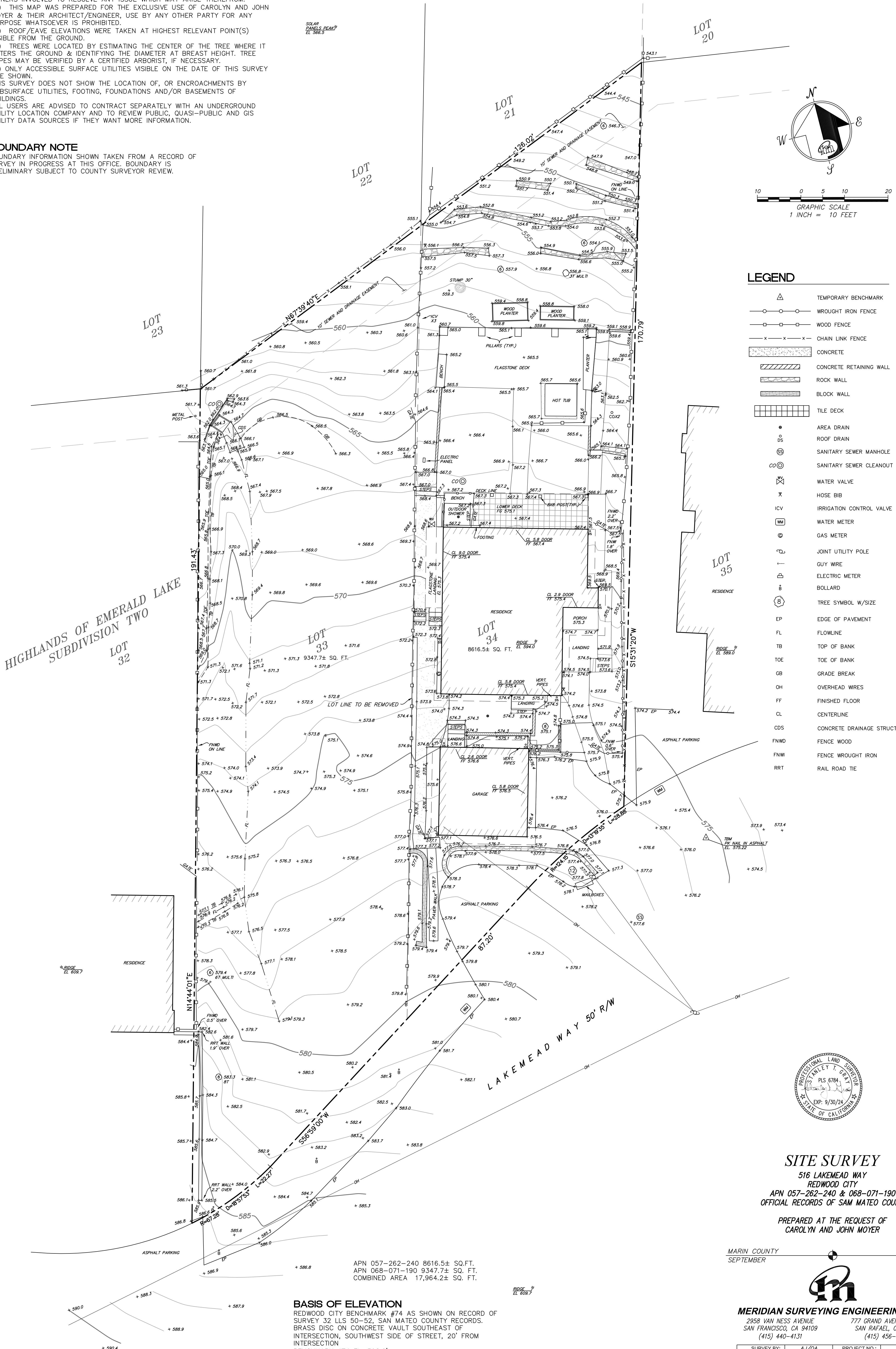
C:\Users\hhrh\OneDrive\516 Lakemead Way - SFTV\DWG\Site Sheets\00_1 Title_SFTV.dwg, 00_01 - Rendering, 5/23/2024 9:04:19 AM, ARCH\export 02 (36.00 x 24.00 Inches), 1:1

GENERAL NOTES

- (1) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL THE UTILITIES MARKED BY THE RESPECTIVE UTILITY COMPANY PRIOR TO CONSTRUCTION.
 - (2) PRIOR TO ANY DIGGING, CALL U.S.A. (1-800-642-2444) AT LEAST 48 HOURS IN ADVANCE TO HAVE EXISTING UNDERGROUND UTILITIES MARKED.
 - (3) GROUND CONDITIONS SHOWN HEREON REFLECT CONDITIONS ON THE DATE OF THE SURVEY.
 - (4) ENCROACHMENT UPON AND BY THE ADJOINING PRIVATE PROPERTY(IES) ARE HEREBY NOTED AND IT SHALL BE THE RESPONSIBILITY SOLELY OF THE PROPERTY OWNERS INVOLVED TO RESOLVE ANY ISSUE WHICH MAY ARISE THEREFROM.
 - (5) THIS MAP WAS PREPARED FOR THE EXCLUSIVE USE OF CAROLYN AND JOHN MOYER & THEIR ARCHITECT/ENGINEER, USE BY ANY OTHER PARTY FOR ANY PURPOSE WHATSOEVER IS PROHIBITED.
 - (6) ROOF/EAVE ELEVATIONS WERE TAKEN AT HIGHEST RELEVANT POINT(S) VISIBLE FROM THE GROUND.
 - (7) TREES WERE LOCATED BY ESTIMATING THE CENTER OF THE TREE WHERE IT ENTERS THE GROUND & IDENTIFYING THE DIAMETER AT BREST HEIGHT. TREE TYPES MAY BE VERIFIED BY A CERTIFIED ARBORIST, IF NECESSARY.
 - (8) ONLY ACCESSIBLE SURFACE UTILITIES VISIBLE ON THE DATE OF THIS SURVEY ARE SHOWN.
- THIS SURVEY DOES NOT SHOW THE LOCATION OF, OR ENCROACHMENTS BY SUBSURFACE UTILITIES, FOOTING, FOUNDATIONS AND/OR BASEMENTS OF BUILDINGS.
ALL USERS ARE ADVISED TO CONTRACT SEPARATELY WITH AN UNDERGROUND UTILITY LOCATION COMPANY AND TO REVIEW PUBLIC, QUASI-PUBLIC AND GIS UTILITY DATA SOURCES IF THEY WANT MORE INFORMATION.

BOUNDARY NOTE

BOUNDARY INFORMATION SHOWN TAKEN FROM A RECORD OF SURVEY IN PROGRESS AT THIS OFFICE. BOUNDARY IS PRELIMINARY SUBJECT TO COUNTY SURVEYOR REVIEW.



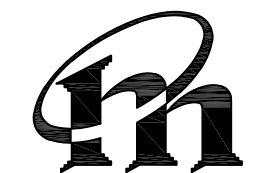
LEGEND

- △ TEMPORARY BENCHMARK
- WROUGHT IRON FENCE
- WOOD FENCE
- x-x-x-x CHAIN LINK FENCE
- ▨ CONCRETE
- ▨ CONCRETE RETAINING WALL
- ▨ ROCK WALL
- ▨ BLOCK WALL
- ▨ TILE DECK
- AREA DRAIN
- ROOF DRAIN
- ⊙ SANITARY SEWER MANHOLE
- ⊙ SANITARY SEWER CLEANOUT
- ⊙ WATER VALVE
- x HOSE BIB
- ICV IRRIGATION CONTROL VALVE
- WM WATER METER
- ⊙ GAS METER
- ⊙ JOINT UTILITY POLE
- ⋯ GUY WIRE
- ⊙ ELECTRIC METER
- ⊙ BOLLARD
- ⊙ TREE SYMBOL W/SIZE
- EP EDGE OF PAVEMENT
- FL FLOWLINE
- TB TOP OF BANK
- TOE TOE OF BANK
- GB GRADE BREAK
- OH OVERHEAD WIRES
- FF FINISHED FLOOR
- CL CENTERLINE
- CDS CONCRETE DRAINAGE STRUCTURE
- FNWD FENCE WOOD
- FNWI FENCE WROUGHT IRON
- RRT RAIL ROAD TIE



SITE SURVEY
 516 LAKEMEAD WAY
 REDWOOD CITY
 APN 057-262-240 & 068-071-190
 OFFICIAL RECORDS OF SAN MATEO COUNTY
 PREPARED AT THE REQUEST OF
 CAROLYN AND JOHN MOYER

MARIN COUNTY SEPTEMBER CALIFORNIA 2023



MERIDIAN SURVEYING ENGINEERING, INC.
 2958 VAN NESS AVENUE 777 GRAND AVENUE, #202
 SAN FRANCISCO, CA 94109 SAN RAFAEL, CA 94901
 (415) 440-4131 (415) 456-5450

SURVEY BY:	AJ/OA	PROJECT NO.:	99079
DRAWN:	AJ	REVISION DATE:	9/1/2023
APPROVED:	STG	SHEET	1 OF 1
FILE NAME:	99079-2023		
SURVEY DATE:	8/2023		

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 surveyrequest@meridiansurvey.com

BASIS OF ELEVATION

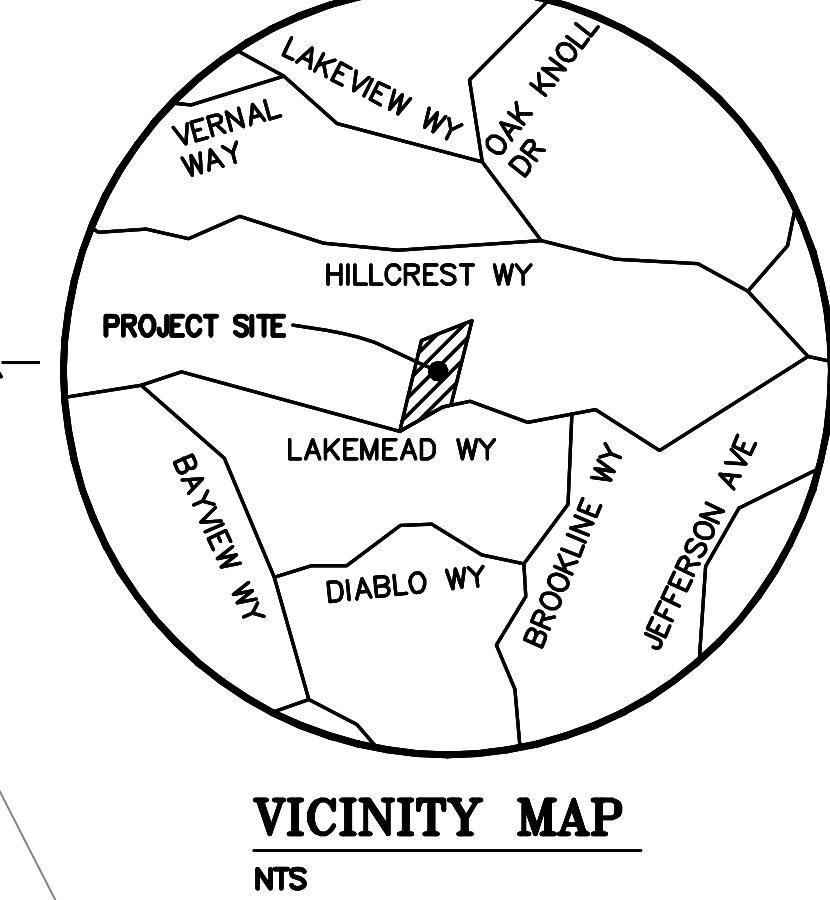
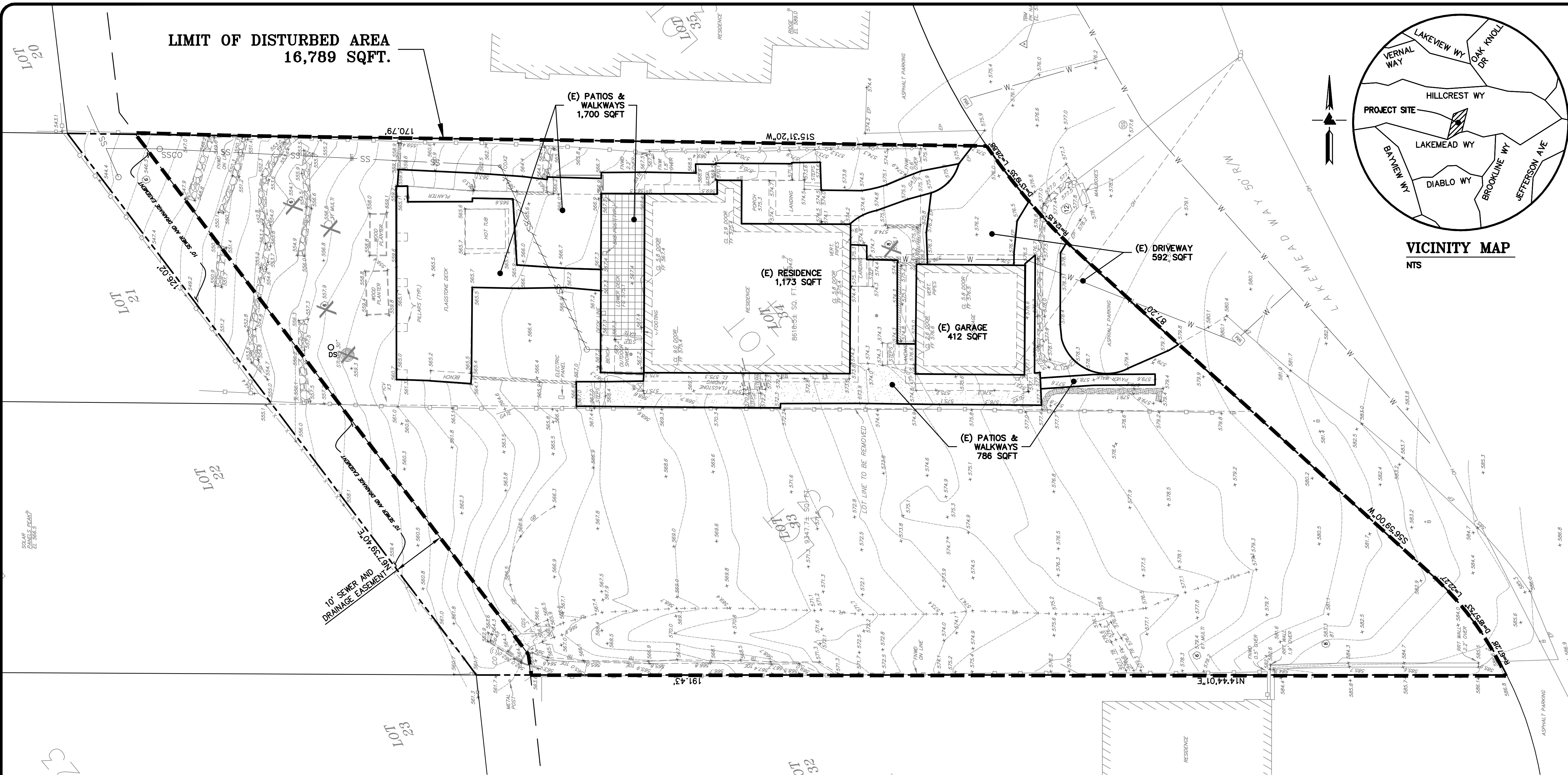
REDWOOD CITY BENCHMARK #74 AS SHOWN ON RECORD OF SURVEY 32 LLS 50-52; SAN MATEO COUNTY RECORDS. BRASS DISC ON CONCRETE VAULT SOUTHEAST OF INTERSECTION, SOUTHWEST SIDE OF STREET, 20' FROM INTERSECTION
 BENCHMARK #74 EL. 592.6'

BASIS OF SURVEY

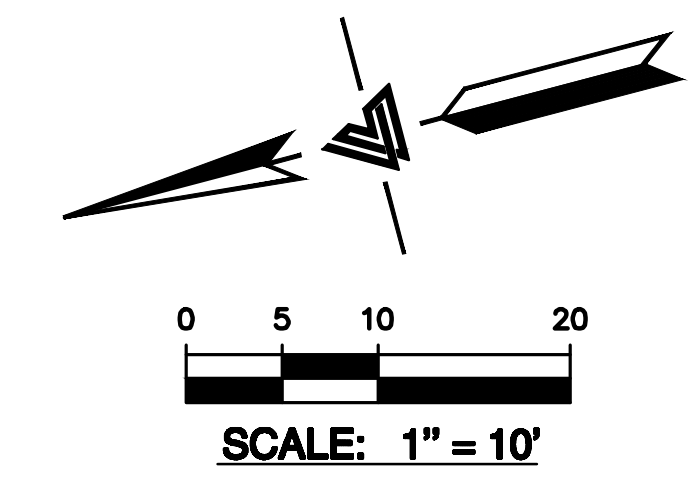
FIRST AMERICAN TITLE COMPANY PRELIMINARY REPORTS ORDER NO. 0714-7009366, DATED JUNE 16, 2023 AND ORDER NO. 0714-7027278, DATED JULY 31, 2023.
 191 SAND CREEK ROAD, BRENTWOOD, CA. 94513. (TEL: 925-240-9901, FAX: 866-407-2081)

APN 057-262-240 8616.5± SQ. FT.
 APN 068-071-190 9347.7± SQ. FT.
 COMBINED AREA 17,964.2± SQ. FT.

**LIMIT OF DISTURBED AREA
16,789 SQFT.**



VICINITY MAP
NTS



SITE DEVELOPMENT INFORMATION

TOTAL SITE AREA	17,964 SQUARE FEET (0.412 ACRES)			
TOTAL DISTURBED AREA	16,789 SQUARE FEET (0.385 ACRES)			
IMPERVIOUS AREAS	TOTAL S.F. EXISTING	TOTAL S.F. REMOVED	TOTAL S.F. NEW	TOTAL S.F. PROPOSED
RESIDENCE	1,173	1,173	3,856	3,856
GARAGE	412	412	0	0
ADU	0	0	796	796
DRIVEWAY & PARKING	592	592	2,306	2,306
PATIOS, WALKWAYS & PADS	2,486	2,486	2,286	2,286
POOL	0	0	240	240
WATER FEATURE	0	0	157	157
TOTAL IMPERVIOUS AREA	4,663	4,663	9,641	9,641
NET CHANGE IN IMPERVIOUS AREA	+4,978 SQFT (NET INCREASE)			
PERVIOUS AREA	13,301			8,323



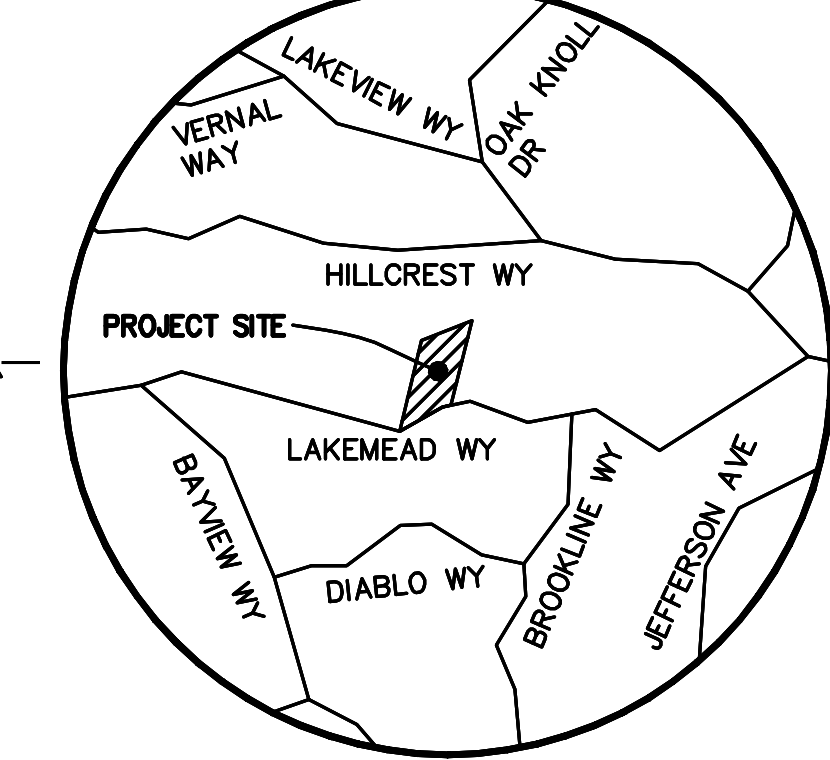
LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
 REGIONAL OFFICES:
 MAIN OFFICE: 10000 PLYMOUTH
 DUBLIN, CALIFORNIA 94568
 (510) 887-4086
 WWW.LEABRAZE.COM

MOYER RESIDENCE
516 LAKEMEAD WAY
REDWOOD CITY, CALIFORNIA
 UNINCORPORATED SAN MATEO COUNTY APN: 057-262-240 & 068-071-190

EXISTING IMPERVIOUS AREA

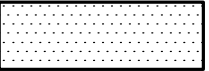
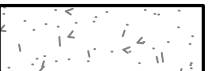
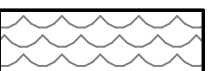
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-			
-			
-			
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	REVISIONS		BY
	JOB NO:	2231711	PH2
	DATE:	12-18-23	
	SCALE:	AS NOTED	
	DESIGN BY:	VF	
	CHECKED BY:	RB	
	SHEET NO:		

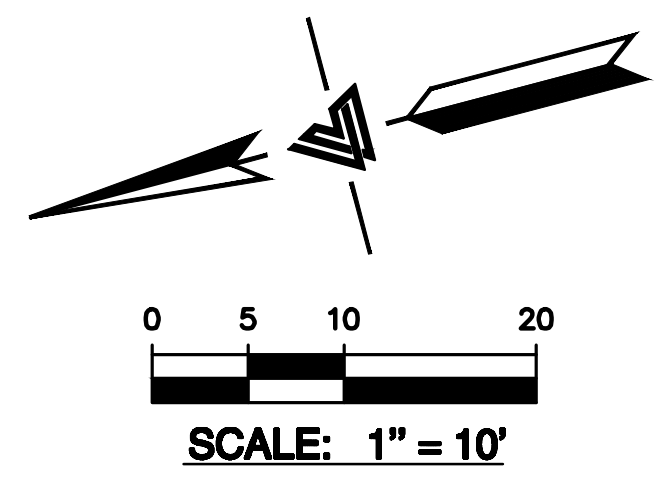
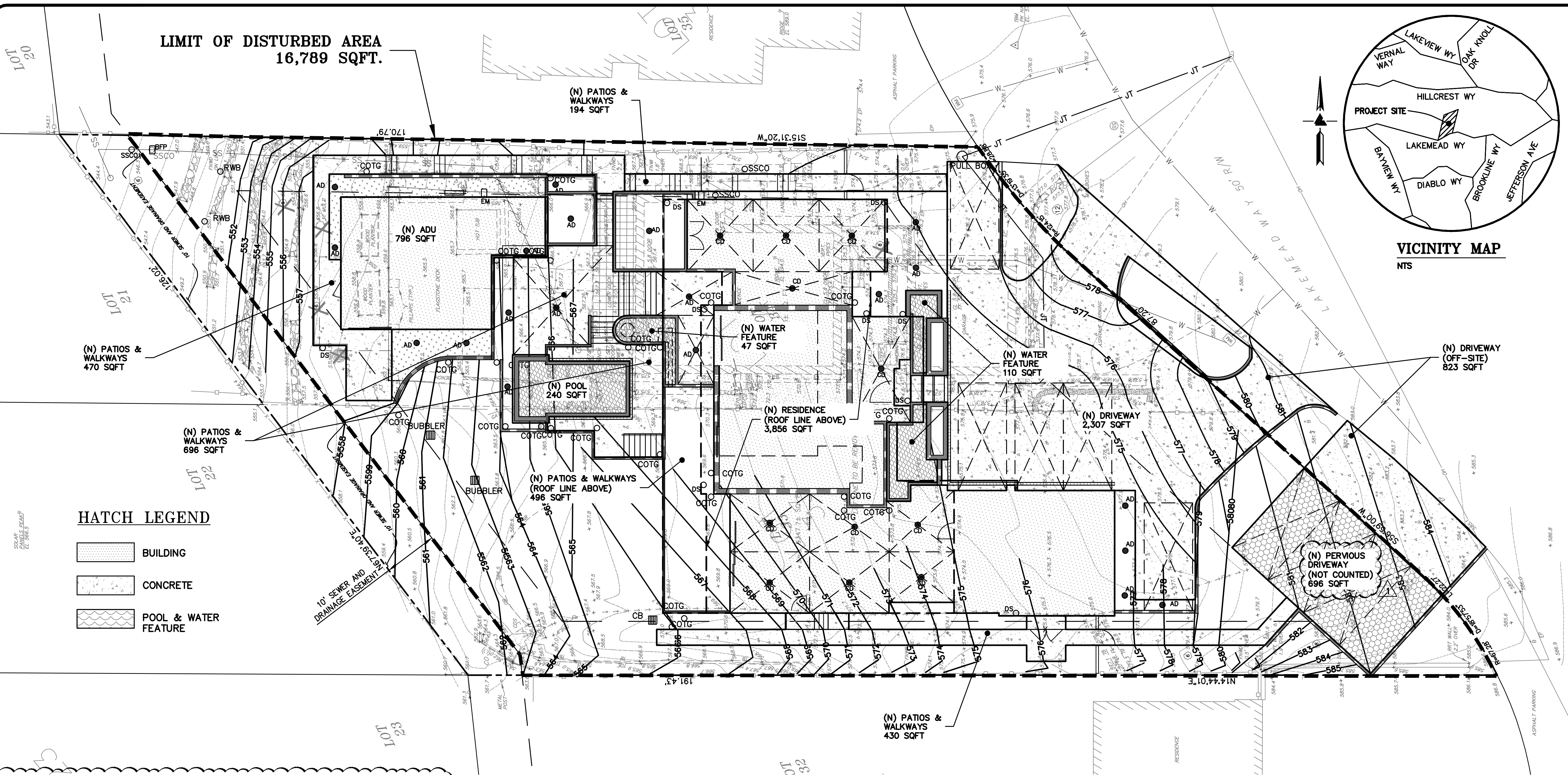
**LIMIT OF DISTURBED AREA
16,789 SQFT.**



VICINITY MAP
NTS

HATCH LEGEND

-  BUILDING
-  CONCRETE
-  POOL & WATER FEATURE



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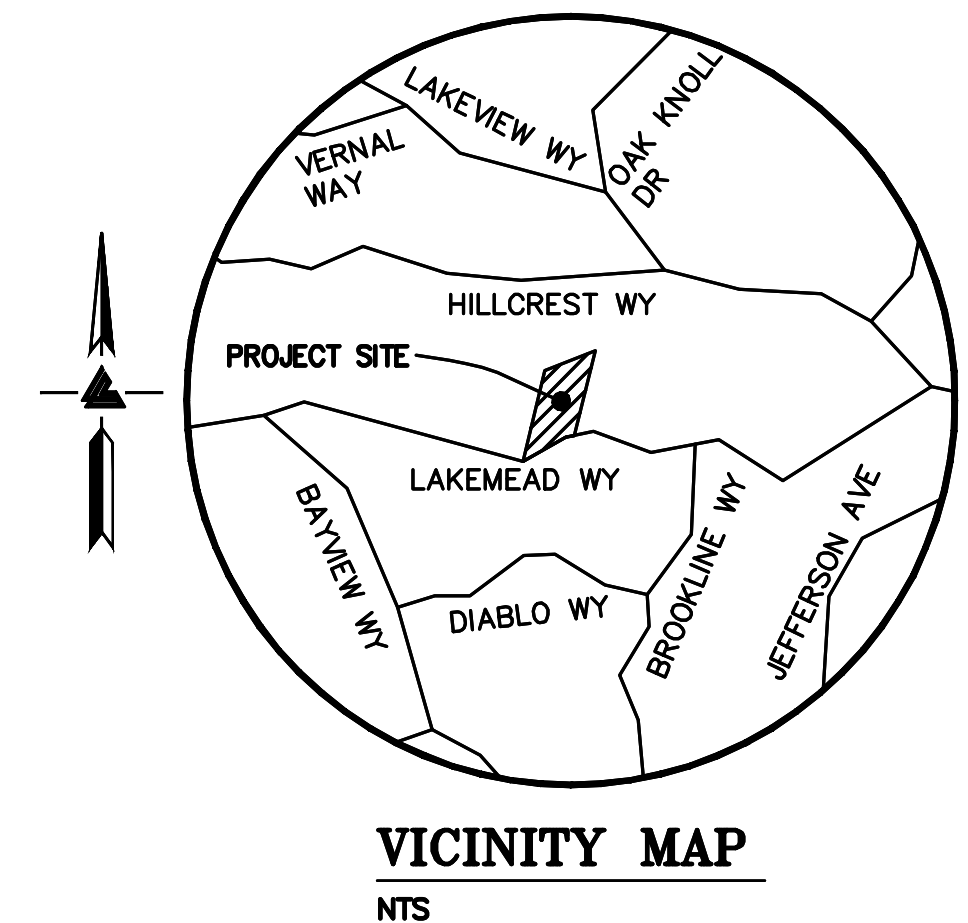
LEA & BRAZE ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
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 HAYWARD, CALIFORNIA 94545
 SAN JOSE, CALIFORNIA 95128
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MOYER RESIDENCE
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REDWOOD CITY, CALIFORNIA
 UNINCORPORATED SAN MATEO COUNTY APN: 057-262-240 & 068-071-190

PROPOSED IMPERVIOUS AREA

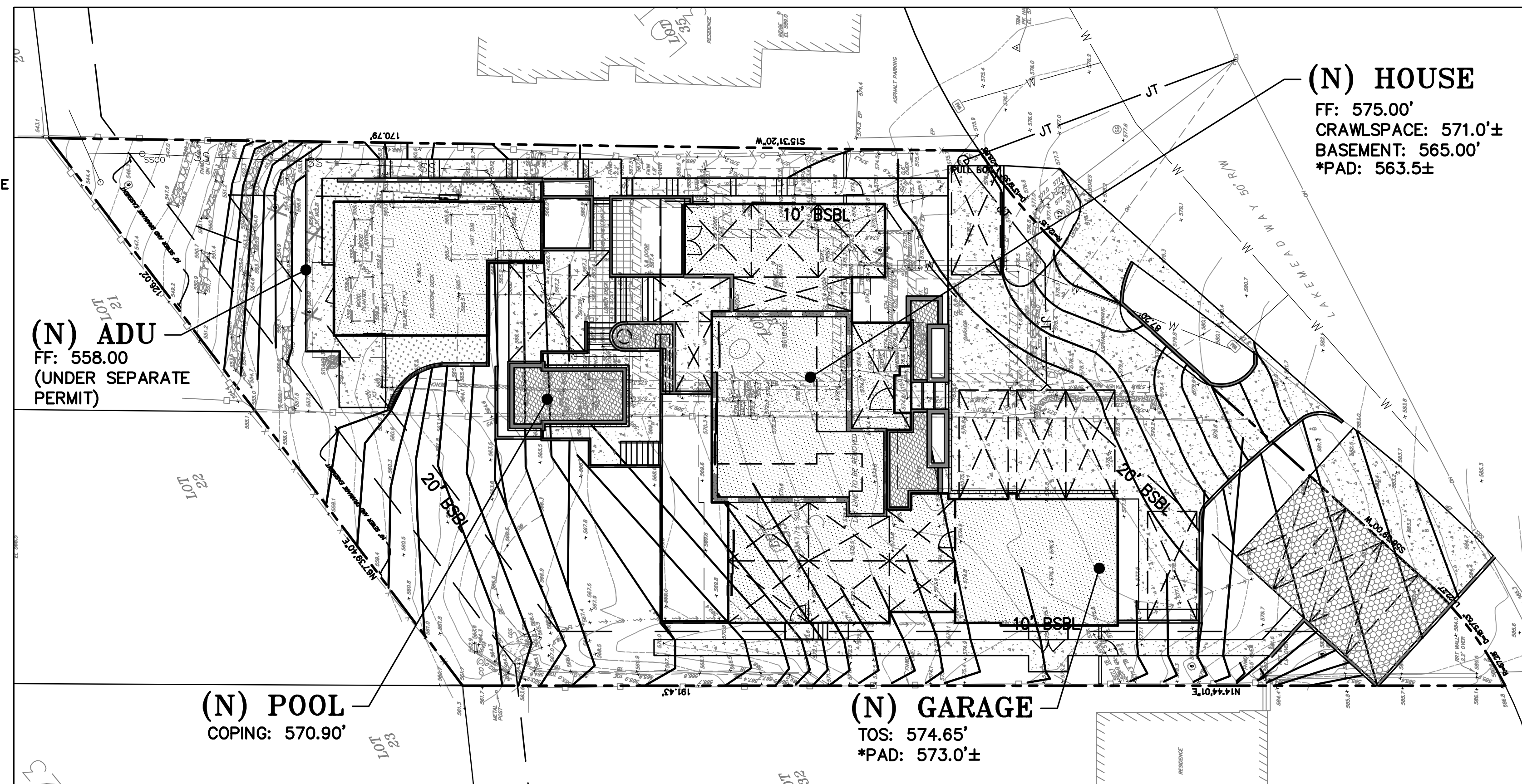
PLAN CHECK	04-24-2024	WA
REVISIONS	BY	
JOB NO:	2231711 PH2	
DATE:	12-18-23	
SCALE:	AS NOTED	
DESIGN BY:	VF	
CHECKED BY:	RB	
SHEET NO:		

MAIN HOUSE PLANS 516 LAKEMEAD WAY REDWOOD CITY, CALIFORNIA



LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
REGIONAL OFFICES:
SAN JOSE OFFICE: 1800 W. BERRY AVE., SUITE 100, SAN JOSE, CA 95131
SAN FRANCISCO OFFICE: 100 CALIFORNIA ST., SUITE 100, SAN FRANCISCO, CA 94111
(415) 435-4086
WWW.LEABRAZE.COM

EXISTING	PROPOSED	DESCRIPTION
---	---	BOUNDARY
---	---	PROPERTY LINE
---	---	RETAINING WALL
---	---	LANDSCAPE RETAINING WALL
---	---	RAINWATER TIGHTLINE
---	---	SUBDRAIN LINE
---	---	TIGHTLINE
---	---	STORM DRAIN LINE
---	---	SANITARY SEWER LINE
---	---	WATER LINE
---	---	GAS LINE
---	---	STORM DRAIN PRESSURE LINE
---	---	SANITARY SEWER PRESSURE LINE
---	---	JOINT TRENCH
---	---	SET BACK LINE
---	---	CONCRETE VALLEY GUTTER
---	---	EARTHEN SWALE
---	---	CATCH BASIN
---	---	JUNCTION BOX
---	---	AREA DRAIN
---	---	CURB INLET
---	---	STORM DRAIN MANHOLE
---	---	FIRE HYDRANT
---	---	SANITARY SEWER MANHOLE
---	---	STREET SIGN
---	---	SPOT ELEVATION
---	---	FLOW DIRECTION
---	---	DEMOLISH/REMOVE
---	---	BENCHMARK
---	---	CONTOURS
---	---	TREE TO BE REMOVED
---	---	TREE PROTECTION FENCING



OWNER'S INFORMATION

OWNER:
JOHN & CARALYN MOYER
516 LAKEMEAD WAY
REDWOOD CITY, CA 94062

APN: 057-262-240 & 068-071-190

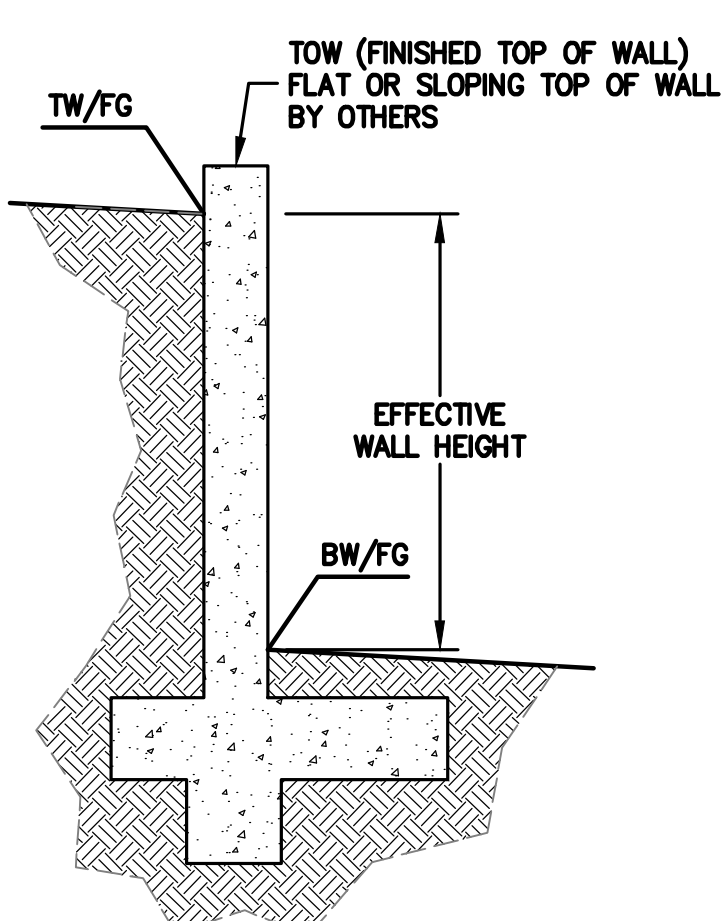
REFERENCES

- THIS GRADING AND DRAINAGE PLAN IS SUPPLEMENTAL TO:
- TOPOGRAPHIC SURVEY BY MERIDIAN SURVEYING ENGINEERING, INC., ENTITLED: "SITE SURVEY" 516 LAKEMEAD WAY REDWOOD CITY, CA DATED: 08/2023 JOB# 99079
 - SITE PLAN BY HRH ARCHITECTURE, ENTITLED: "516 LAKEMEAD WAY" 516 LAKEMEAD WAY REDWOOD CITY, CA
 - SOIL REPORT BY ADVANCE SOIL TECHNOLOGY, INC. ENTITLED: "PRELIMINARY GEOTECHNICAL RECOMMENDATIONS" 516 LAKEMEAD WAY REDWOOD CITY, CA

THE CONTRACTOR SHALL REFER TO THE ABOVE NOTED SURVEY AND PLAN, AND SHALL VERIFY BOTH EXISTING AND PROPOSED ITEMS ACCORDING TO THEM.

KEY MAP

1" = 16'



RETAINING WALL NOTES

- TW/FG REPRESENTS FINISHED EARTHEN GRADE OR PAVEMENT ELEVATION AT TOP OF WALL, NOT ACTUAL TOP OF WALL MATERIAL. BW/FG REPRESENTS FINISH EARTHEN GRADE OR PAVEMENT ELEVATION AT BOTTOM OF WALL NOT INCLUDING FILL FOUNDATION. GRADES INDICATED ON THESE PLANS REFER TO THE FINISHED GRADES ADJACENT TO THE RETAINING WALL, NOT INCLUDING FOOTING, FREEBOARD, ETC.
- DIMENSIONS SHOWN IN BRACKETS SHOWN AS [X.X'] DENOTE THE EFFECTIVE WALL HEIGHT ONLY. THE ACTUAL WALL HEIGHT AND DEPTH MAY DIFFER DUE TO CONSTRUCTION REQUIREMENTS.
- REFER TO SPECIFIC WALL CONSTRUCTION DETAIL FOR STRUCTURAL ELEMENTS, FREEBOARD, AND EMBEDMENT.
- REFER TO ARCHITECTURAL LANDSCAPE ARCHITECTURE, AND/OR STRUCTURAL PLANS FOR DETAILS, WALL ELEVATIONS, SUBDRAINAGE, WATERPROOFING, FINISHES, COLORS, STEEL REINFORCING, MATERIALS, ETC. PROVIDE CLIPS OR OTHER MEANS OF SECURING FINISH MATERIALS AS NECESSARY (WET SET INTO THE WALL).
- ALL RETAINING WALLS SHOULD HAVE A BACK-OF-WALL SUB-SURFACE DRAINAGE SYSTEM INCLUDING WEEPHOLES TO PREVENT HYDROSTATIC PRESSURE.
- SEE DETAIL SHEET FOR SPECIFIC INFORMATION.
- PROVIDE GUARDRAIL (WHERE APPLICABLE AND DESIGNED BY OTHERS) AS REQUIRED FOR GRADE SEPARATION OF 30 INCHES OR MORE MEASURED 5' HORIZONTALLY FROM FACE OF WALL, PER CBC.

APN 057-262-240 8616.5± SQ. FT.
APN 068-071-190 9347.7± SQ. FT.
COMBINED AREA 17,964.2± SQ. FT.

BOUNDARY NOTE
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BASIS OF ELEVATION
REDWOOD CITY BENCHMARK #74 AS SHOWN ON RECORD OF SURVEY 32 ULS 50-52, SAN MATEO COUNTY RECORDS. BRASS DISC ON CONCRETE VAULT SOUTHEAST OF INTERSECTION, SOUTHWEST SIDE OF STREET, 20' FROM INTERSECTION. BENCHMARK #74 EL. 592.6'

BASIS OF SURVEY
FIRST AMERICAN TITLE COMPANY PRELIMINARY REPORTS ORDER NO. 0714-7009366, DATED JUNE 16, 2023 AND ORDER NO. 0714-7027278, DATED JULY 31, 2023.
191 SAND CREEK ROAD, BRENTWOOD, CA. 94513. (TEL: 925-240-9901, FAX: 866-407-2081)

ABBREVIATIONS

AB	AGGREGATE BASE	LF	LINEAR FEET
AC	ASPHALT CONCRETE	MAX	MAXIMUM
ACC	ACCESSIBLE	MH	MANHOLE
AD	AREA DRAIN	MIN	MINIMUM
BC	BEGINNING OF CURVE	MON.	MONUMENT
B & D	BEARING & DISTANCE	MRO	METERED RELEASE OUTLET
BM	BENCHMARK	(N)	NEW
BUB	BUBBLER BOX	NO.	NUMBER
BW/FG	BOTTOM OF WALL/FINISH GRADE	NTS	NOT TO SCALE
CB	CATCH BASIN	O.C.	ON CENTER
C & G	CURB AND GUTTER	O/	OVER
CL	CENTER LINE	(PA)	PLANTING AREA
CPP	CORRUGATED PLASTIC PIPE (SMOOTH INTERIOR)	PED	PEDESTRIAN
CO	CLEANOUT	PIV	POST INDICATOR VALVE
COTG	CLEANOUT TO GRADE	PSS	PUBLIC SERVICES EASEMENT
CONC	CONCRETE	P	PROPERTY LINE
CONST	CONSTRUCT or -TION	PP	POWER POLE
CONC COR	CONCRETE CORNER	PUE	PUBLIC UTILITY EASEMENT
CY	CUBIC YARD	PVC	POLYVINYL CHLORIDE
D	DIAMETER	R	RADIUS
DI	DROP INLET	RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE	RIM	RIM ELEVATION
EA	EACH	RW	RAINWATER
EC	END OF CURVE	R/W	RIGHT OF WAY
EG	EXISTING GRADE	S	SLOPE
EL	ELEVATIONS	S.A.D.	SEE ARCHITECTURAL DRAWINGS
EP	EDGE OF PAVEMENT	SAN	SANITARY
EQ	EQUIPMENT	SD	STORM DRAIN
EW	EACH WAY	SDMH	STORM DRAIN MANHOLE
(E)	EXISTING	SHT	SHEET
FC	FACE OF CURB	S.L.D.	SEE LANDSCAPE DRAWINGS
FF	FINISHED FLOOR	SPEC	SPECIFICATION
FG	FINISHED GRADE	SS	SANITARY SEWER
FH	FIRE HYDRANT	SSCO	SANITARY SEWER CLEANOUT
FL	FLOW LINE	SSMH	SANITARY SEWER MANHOLE
FS	FINISHED SURFACE	ST.	STREET
GA	GAGE OR GAUGE	STA	STATION
GB	GRADE BREAK	STD	STANDARD
HDPE	HIGH DENSITY CORRUGATED POLYETHYLENE PIPE	STRUCT	STRUCTURAL
HORIZ	HORIZONTAL	T	TELEPHONE
HI PT	HIGH POINT	TC	TOP OF CURB
H&T	HUB & TACK	TOW	TOP OF WALL
ID	INSIDE DIAMETER	TEMP	TEMPORARY
INV	INVERT ELEVATION	TP	TOP OF PAVEMENT
JB	JUNCTION BOX	TW/FG	TOP OF WALL/FINISH GRADE
JT	JOINT TRENCH	TYP	TYPICAL
JP	JOINT UTILITY POLE	V	VERTICAL CURVE
L	LENGTH	VCP	VITRIFIED CLAY PIPE
LNDG	LANDING	VERT	VERTICAL
		W/	WATER LINE
		WL	WATER METER
		WM	WATER METER
		WWF	WELDED WIRE FABRIC

ESTIMATED EARTHWORK QUANTITIES						
CUBIC YARDS	WITHIN BUILDING FOOTPRINT	DRIVEWAY	LANDSCAPE	RETENTION	POOL	TOTAL CUBIC YARDS
CUT	600	265	10	60	0	935
FILL	0	0	40	0	80	120
EXPORT						815

NOTE:
GRADING QUANTITIES REPRESENT BANK YARDAGE. IT DOES NOT INCLUDE ANY SWELLING OR SHRINKAGE FACTORS AND IS INTENDED TO REPRESENT IN-SITU CONDITIONS. ESTIMATED QUANTITIES FOR OVER-EXCAVATION, TRENCHING, STRUCTURAL FOUNDATIONS OR PIERS, AND POOL EXCAVATION ARE SHOWN HERE FOR INFORMATIONAL PURPOSES ONLY. NOTE ADDITIONAL EARTHWORKS, SUCH AS KEYWAYS OR BENCHING MAY BE REQUIRED BY THE GEOTECHNICAL ENGINEER IN THE FIELD AT TIME OF CONSTRUCTION. CONTRACTOR TO VERIFY QUANTITIES.

* BUILDING PAD NOTE:
ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.



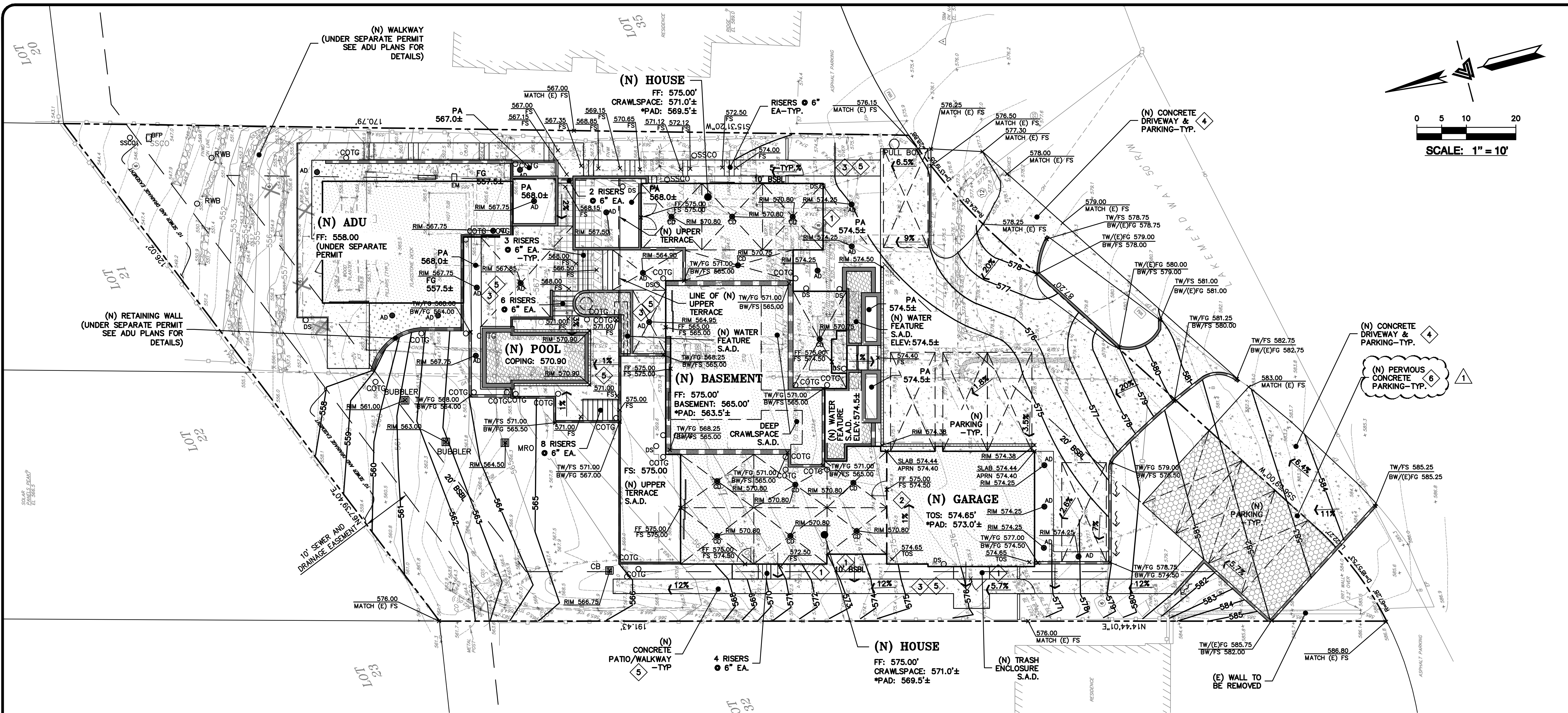
NOTE:
FOR CONSTRUCTION STAKING SCHEDULING OR QUOTATIONS PLEASE CONTACT ALEX ABAYA AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 116. aabaya@leabraze.com

SHEET INDEX

- C-1.0 TITLE SHEET
- C-2.0 GRADING & DRAINAGE PLAN
- C-3.0 UTILITY PLAN
- C-4.0 DETAILS
- C-5.0 GRADING SPECIFICATIONS
- ER-1 EROSION CONTROL
- ER-2 EROSION CONTROL DETAILS
- SW-1 STORMWATER POLLUTION PREVENTION PLAN

TITLE SHEET

PLAN CHECK	DATE	BY
1	04-24-2024	WA
-	-	-
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-	-	-
-	-	-
-	-	-
REVISIONS	BY	
JOB NO: 2231711 PH2		
DATE: 01-19-24		
SCALE: AS NOTED		
DESIGN BY: VF		
CHECKED BY: RB		
SHEET NO:		
C-1.0		
01 OF 06 SHEETS		



LEA & BRAZE ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 REGIONAL OFFICES:
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 HAYWARD OFFICE: 15000 HAYWARD AVENUE, HAYWARD, CA 94541
 SAN JOSE: (510) 887-4086
 WWW.LEABRAZE.COM

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516 LAKEMead WAY
REDWOOD CITY, CALIFORNIA
 UNINCORPORATED SAN MATEO COUNTY APN: 057-262-240 & 068-071-190

GRADING & DRAINAGE PLAN

- FLATWORK KEYNOTES 1 TO 6**
- 1 FINISHED GRADES AT BUILDING PERIMETER SHALL BE SLOPED AT A MINIMUM OF 5% FOR THE FIRST 10' AWAY FROM THE BUILDING PER CBC 1804.4 OR TO AN APPROVED DRAINAGE SWALE OR STRUCTURE. GRADES SHALL CONTINUE TO SLOPE TOWARDS POSITIVE DRAINAGE AND A POSITIVE OUTFALL. MAINTAIN 8" CLEARANCE BETWEEN FINISH EARTHEN GRADE AND BOTTOM OF MUD SILL AT ALL TIMES PER CBC 2304.12.1.2 UNLESS STRUCTURAL DETAILING ALLOWS LESS. REFER TO STRUCTURAL PLANS FOR FOUNDATION DESIGN AND DETAILS.
 - 2 SLOPE GARAGE SLAB 1% MINIMUM (1/8" PER FOOT) FROM BACK TO FRONT TO ALLOW FOR ADEQUATE DRAINAGE. MAINTAIN 1/2 TO 1 LIP BETWEEN GARAGE SLAB AND DRIVEWAY. SEE PLANS FOR SPECIFIC DROP
 - 3 PROVIDE 2% SLOPE ACROSS FLAT WORK AND/OR PAVING PER CBC 1804.4. SLOPE TOWARDS POSITIVE DRAINAGE AS SHOWN ON PLAN.
 - 4 (N) CONCRETE DRIVEWAY.
 - 5 (N) CONCRETE PATIOS/WALKWAYS.
 - 6 (N) PERVIOUS CONCRETE PARKING

- DEMOLITION KEYNOTES 41 TO 43**
- 41 DEMOLISH (E) IMPROVEMENTS AS NECESSARY TO ACCOMMODATE (N) CONSTRUCTION. NO DEMOLITION SHALL COMMENCE WITHOUT REQUIRED DEMOLITION PERMITS.
 - 42 REMOVE (E) TREE. CONTRACTOR SHALL OBTAIN THE PROPER TREE REMOVAL PERMITS AS REQUIRED.
 - 43 PROVIDE TREE PROTECTION AROUND TREES TO REMAIN. SEE DETAIL 6 ON SHEET ER-2.

ENCROACHMENT PERMIT FOR CONSTRUCTION IN THE STREET REQUIRED
 CONSTRUCTION CONDUCTED IN THE COUNTY OF SAN MATEO RIGHT-OF-WAY MUST HAVE A "PERMIT FOR CONSTRUCTION IN THE STREET" THAT MUST BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO COMMENCEMENT OF WORK. ANY CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY, EASEMENTS, OR OTHER PROPERTY CONTROLLED BY THE CITY/TOWN/COUNTY MUST CONFORM TO STANDARDS ESTABLISHED IN THE COUNTY OF SAN MATEO STANDARD SPECIFICATIONS FOR THE UTILITIES DEPT. AND THE PUBLIC WORKS DEPT.

CONTRACTOR TO CONTACT USA 48 HOURS PRIOR TO CONSTRUCTION/ EXCAVATION IN THE RIGHT-OF-WAY.

ANY/ALL PUBLIC IMPROVEMENTS THAT ARE DAMAGED BY THE OWNER OR HIS/HER CONTRACTOR WHILE WORKING ON THIS PROJECT WILL BE THE RESPONSIBILITY OF THE OWNER TO REPAIR, RESTORE, OR REPLACE IN KIND. REPLACEMENT, REPAIR, OR RESTORATION WORK MUST BE IN COMPLIANCE WITH THE COUNTY OF SAN MATEO STANDARD SPECIFICATIONS FOR CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY.

NOTE:
 ALL EARTHWORK AND SITE DRAINAGE, INCLUDING EXCAVATION FOR THE BASEMENT, EXCAVATIONS FOR DRILLED PIER FOUNDATIONS, PLACEMENT OF ENGINEER FILL, PREPARATION OF SUBGRADE BENEATH THE BASEMENT MAT AND ANY AT GRADE SLAB, BASEMENT RETAINING WALL BACKFILL, AND FINAL SURFACE DRAINAGE INSTALLATION SHOULD BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY ADVANCE SOIL TECHNOLOGY, INC. DATED NOVEMBER 15, 2023. ADVANCE SOIL TECHNOLOGY, INC. SHOULD BE PROVIDED AT LEAST 48 HOURS ADVANCE NOTIFICATION (408) 261-1155 OF ANY EARTHWORK OPERATIONS AND SHOULD BE PRESENT TO OBSERVE AND TEST, AS NECESSARY, THE EARTHWORK AND FOUNDATION INSTALLATION PHASES OF THE PROJECT.

REQUIRED DRAINAGE INSPECTIONS
 THE COUNTY OF SAN MATEO REQUIRES LEA & BRAZE ENGINEERING, INC. TO INSPECT ALL STORM DRAINAGE AS IT IS INSTALLED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT LEA & BRAZE ENGINEERING, INC. PRIOR TO START OF CONSTRUCTION TO SET UP A PRE-CONSTRUCTION MEETING, AND TO CALL AT LEAST 48 HOURS IN ADVANCE OF ANY INSPECTIONS. PIPES ARE TO REMAIN UNCOVERED UNTIL AN INSPECTION OCCURS.

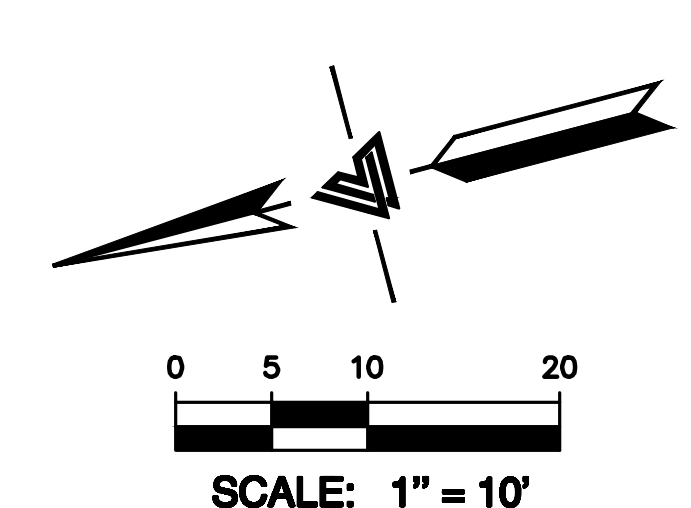
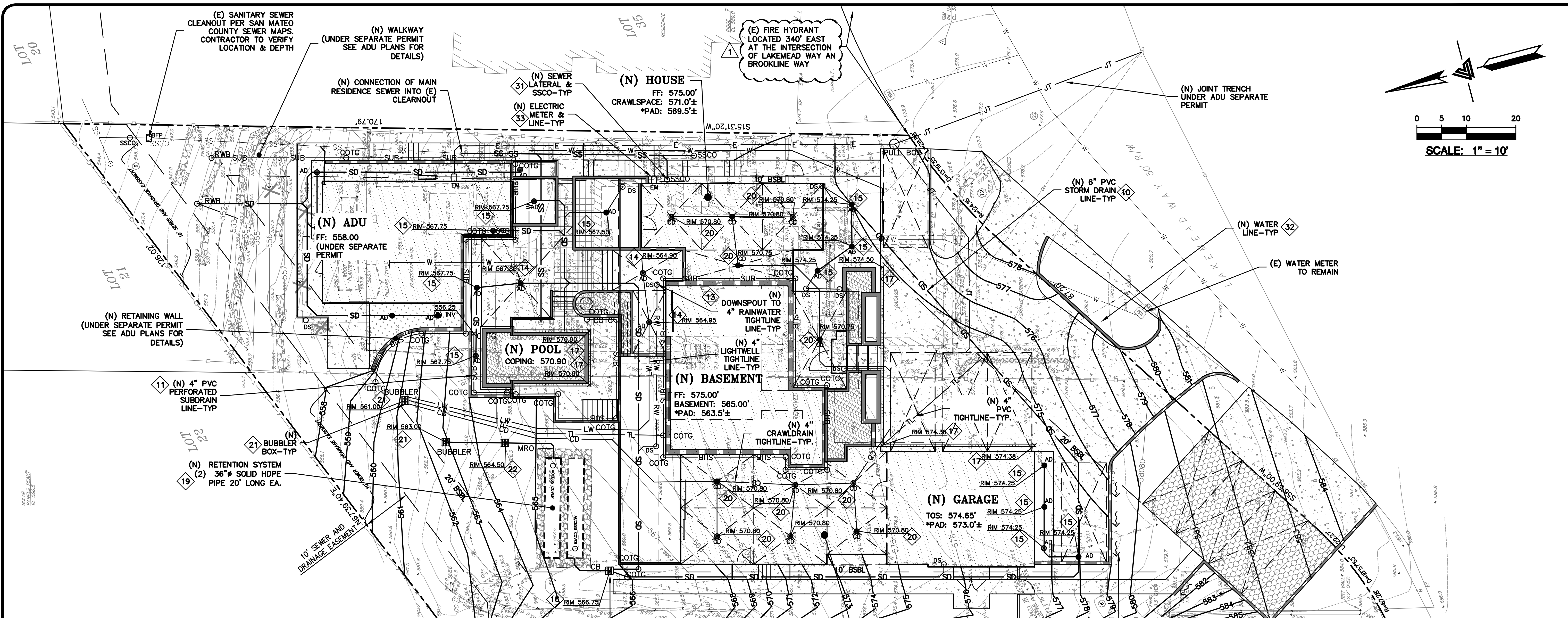
POINT OF CONTACT:
 PETER CARLINO
 LEA & BRAZE ENGINEERING, INC.
 (510)887-4086 pcarlino@leabraze.com

NOTE:
 FOR CONSTRUCTION STAKING SCHEDULING OR QUOTATIONS PLEASE CONTACT ALEX ABAYA AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 116. aabaya@leabraze.com

*** BUILDING PAD NOTE:**
 ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.



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LEA & BRAZE ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 REGIONAL OFFICES:
 SAN JOSE
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MOYER RESIDENCE
516 LAKEMEAD WAY
REDWOOD CITY, CALIFORNIA
 UNINCORPORATED SAN MATEO COUNTY APN: 057-262-240 & 068-071-190

UTILITY PLAN

STORM DRAIN KEYNOTES 10 TO 22
 INSTALL (N) ON-SITE STORM DRAIN SYSTEM. USE MINIMUM 6" PVC (SDR 35) OR HDPE (ADS N-12 W/ SMOOTH INTERIOR WALLS). MAINTAIN 24 MINIMUM COVER AND SLOPED AT 1% MINIMUM AT ALL TIMES UNLESS OTHERWISE NOTED. PROVIDE CLEANOUT TO GRADE AT MAJOR CHANGES IN DIRECTION. AVOID USING 90° BENDS AND INSTEAD USE (2) 45° BENDS AND WYE CONNECTIONS.

11 INSTALL (N) SUBDRAIN. USE PERFORATED 4" PVC (SDR-35) WITH HOLES DOWN AND SLOPED AT 1% MINIMUM SURROUND WITH 3/4" DRAIN ROCK WRAPPED IN FILTER FABRIC (MIRAFI 140N). MIRADRAIN OR OTHER LEA & BRAZE PREAPPROVED DRAINAGE SYSTEM MAY ALSO BE USED. AVOID USING 90° BENDS AND INSTEAD USE (2) 45° BENDS AND WYE CONNECTIONS. PROVIDE CLEANOUT TO GRADE AT MAJOR CHANGES IN DIRECTION AND AT 100' MAXIMUM INTERVALS. SUBDRAIN SHALL REMAIN A DEDICATED SEPARATE SYSTEM UNTIL IT CONNECTS TO STORM DRAIN SYSTEM OR OUTFALL AS SHOWN.

12 CONSTRUCT (N) EARTHEN SWALE SLOPED AT 1% MINIMUM TOWARDS POSITIVE OUTFALL.

13 CONNECT RAIN WATER DOWNSPOUTS TO 4" PVC (SDR-35) TIGHTLINE, SLOPED AT 1% MINIMUM. DIRECT TO NEAREST STORM DRAIN LINE AS SHOWN ON PLANS. PROVIDE CLEANOUT TO GRADE AT MAJOR CHANGES IN DIRECTION. AVOID USING 90° BENDS AND INSTEAD USE (2) 45° BENDS. TIGHTLINE MAY BE PLACED IN COMMON TRENCH WITH SUBDRAIN LINES, HOWEVER, DO NOT CONNECT TO SUBDRAIN LINES.

14 INSTALL (N) 4" DIAMETER BRASS AREA DRAIN (AD) IN HARDSCAPE AREAS (NDS PART 906 PB).

15 INSTALL (N) 4" DIAMETER HEAVY DUTY PLASTIC BLACK GRATE IN LANDSCAPE OR PLANTER AREAS (NDS PART 78 OR 90 FOR 6" DIAMETER HEAVY DUTY PLASTIC BLACK GRATE).

16 INSTALL (N) CHRISTY V-24 CATCH BASIN W/ CONCRETE BOTTOM FLUSH W/ LOWEST OUTGOING INVERT. PLACE BOX ON 6" CLASS 2 AGGREGATE BASE MATERIAL.

17 TRENCH DRAINS SHALL BE 6" NDS "DURA-SLOPE" PRESLOPED TRENCH DRAINS W/ TRAFFIC RATED GRATE OR APPROVED EQUAL. CONNECT TO NEAREST STORM DRAIN LINE VIA 4" PVC TIGHTLINE.

18 INSTALL (N) LIGHTWELL OVERFLOW DRAIN.

19 INSTALL (N) RETENTION SYSTEM.

20 INSTALL (N) CRAWL SPACE AREA DRAINS AND PROVIDE 2 MINIMUM CONCRETE RAT SLAB.

21 INSTALL (N) BUBBLER BOX.

22 INSTALL (N) METERED RELEASE OUTLET.

UTILITIES KEYNOTES 31 TO 33
 INSTALL (N) SANITARY SEWER LATERALS. USE 4" PVC (SDR-26) SLOPED AT 2% MINIMUM. CONNECT TO (E) SEWER MAIN AS SHOWN. PROVIDE CLEANOUT TO GRADE AT BUILDING AND BEHIND PROPERTY LINE AND AT MAJOR CHANGES IN DIRECTION AS SHOWN. REUSE (E) LATERAL IF POSSIBLE. CONNECT PER DISTRICT STANDARDS.

32 CONNECT (N) WATER SERVICE PER WATER DISTRICT STANDARDS. UPGRADE (E) WATER METER PER WATER DISTRICT STANDARDS AS APPLICABLE. INSTALL (N) 2" MINIMUM SERVICE LINE TO (N) RESIDENCE OR AS DIRECTED BY FIRE SPRINKLER DESIGNER.

33 INSTALL (N) TRENCH FOR ELECTRIC SERVICES FROM NEAREST POINT OF CONNECTION. DESIGN BY OTHERS.

NOTE:
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NOTE:
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PURPOSE:

THE PURPOSE OF THIS PLAN IS TO STABILIZE THE SITE TO PREVENT EROSION OF GRADED AREAS AND TO PREVENT SEDIMENTATION FROM LEAVING THE CONSTRUCTION AREA AND AFFECTING NEIGHBORING SITES, NATURAL AREAS, PUBLIC FACILITIES OR ANY OTHER AREA THAT MIGHT BE AFFECTED BY SEDIMENTATION. ALL MEASURES SHOWN ON THIS PLAN SHOULD BE CONSIDERED THE MINIMUM REQUIREMENTS NECESSARY. SHOULD FIELD CONDITIONS DICTATE ADDITIONAL MEASURES, SUCH MEASURES SHALL BE PER CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL AND THE CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION. LEA & BRAZE ENGINEERING SHOULD BE NOTIFIED IMMEDIATELY SHOULD CONDITIONS CHANGE.

EROSION CONTROL NOTES:

- IT SHALL BE THE OWNER'S/CONTRACTOR'S RESPONSIBILITY TO MAINTAIN CONTROL OF THE ENTIRE CONSTRUCTION OPERATION AND TO KEEP THE ENTIRE SITE IN COMPLIANCE WITH THIS EROSION CONTROL PLAN.
- THE INTENTION OF THIS PLAN IS FOR INTERIM EROSION AND SEDIMENT CONTROL ONLY. ALL EROSION CONTROL MEASURES SHALL CONFORM TO CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL, THE CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION, AND THE LOCAL GOVERNING AGENCY FOR THIS PROJECT.
- OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO, DURING, AND AFTER STORM EVENTS. PERSON IN CHARGE OF MAINTAINING EROSION CONTROL MEASURES SHOULD WATCH LOCAL WEATHER REPORTS AND ACT APPROPRIATELY TO MAKE SURE ALL NECESSARY MEASURES ARE IN PLACE.
- SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT RUNOFF TO ANY STORM DRAINAGE SYSTEM, INCLUDING EXISTING DRAINAGE SWALES AND WATERCOURSES.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS CONCERNING POLLUTION SHALL BE MAINTAINED AT ALL TIMES.
- CONTRACTOR SHALL PROVIDE DUST CONTROL AS REQUIRED BY THE APPROPRIATE FEDERAL, STATE AND LOCAL AGENCY REQUIREMENTS.
- ALL MATERIALS NECESSARY FOR THE APPROVED EROSION CONTROL MEASURES SHALL BE IN PLACE BY OCTOBER 15TH.
- EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE RAINY SEASON, OR FROM OCTOBER 15TH THROUGH APRIL 15TH, WHICHEVER IS LONGER.
- IN THE EVENT OF RAIN, ALL GRADING WORK IS TO CEASE IMMEDIATELY AND THE SITE IS TO BE SEALED IN ACCORDANCE WITH THE APPROVAL EROSION CONTROL MEASURES AND APPROVED EROSION CONTROL PLAN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND REPAIRING EROSION CONTROL SYSTEMS AFTER EACH STORM.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY LOCAL JURISDICTION'S ENGINEERING DEPARTMENT OR BUILDING OFFICIALS.
- MEASURES SHALL BE TAKEN TO COLLECT OR CLEAN ANY ACCUMULATION OR DEPOSIT OF DIRT, MUD, SAND, ROCKS, GRAVEL OR DEBRIS ON THE SURFACE OF ANY STREET, ALLEY OR PUBLIC PLACE OR IN ANY PUBLIC STORM DRAIN SYSTEMS. THE REMOVAL OF AFORESAID SHALL BE DONE BY STREET SWEEPING OR HAND SWEEPING. WATER SHALL NOT BE USED TO WASH SEDIMENTS INTO PUBLIC OR PRIVATE DRAINAGE FACILITIES.
- EROSION CONTROL MEASURES SHALL BE ON-SITE FROM SEPTEMBER 15TH THRU APRIL 15TH.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE RAINY SEASON OR FROM OCTOBER 1ST THROUGH APRIL 30TH, WHICHEVER IS GREATER.
- PLANS SHALL BE DESIGNED TO MEET C3 REQUIREMENTS OF THE MUNICIPAL STORMWATER REGIONAL PERMIT("MRP") NPDES PERMIT CAS 612008.
- THE CONTRACTOR TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES (BMP) FOR SEDIMENTATION PREVENTION AND EROSION CONTROL TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE TOWN OR COUNTY STORM DRAIN SYSTEMS.
- THE CONTRACTOR MUST INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE INCEPTION OF ANY WORK ONSITE AND MAINTAIN THE MEASURES UNTIL THE COMPLETION OF ALL LANDSCAPING.
- THE CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, CLEAN DUST FREE AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE TOWN INSPECTOR. THE ADJACENT STREET SHALL AT ALL TIMES BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THE BY THEIR CONSTRUCTION, METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE TOWN RIGHT-OF-WAY.
- SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONTRACTOR SHALL INSTALL A STABILIZED CONSTRUCTION ENTRANCE PRIOR TO THE INSPECTION OF ANY WORK ONSITE AND MAINTAIN IT FOR THE DURATION OF THE CONSTRUCTION PROCESS SO AS TO NOT INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY UNTIL THE COMPLETION OF ALL LANDSCAPING.
- THE CONTRACTOR SHALL PROTECT DOWN SLOPE DRAINAGE COURSES, STREAMS AND STORM DRAINS WITH ROCK FILLED SAND BAGS, TEMPORARY SWALES, SILT FENCES, AND EARTH PERMS IN CONJUNCTION OF ALL LANDSCAPING.
- STOCKPILED MATERIALS SHALL BE COVERED WITH VISQUEEN OR A TARPULIN UNTIL THE MATERIAL IS REMOVED FROM THE SITE. ANY REMAINING BARE SOIL THAT EXISTS AFTER THE STOCKPILE HAS BEEN REMOVED SHALL BE COVERED UNTIL A NATURAL GROUND COVER IS ESTABLISHED OR IT IS SEEDED OR PLANTED TO PROVIDE GROUND COVER PRIOR TO THE FALL RAINY SEASON.
- EXCESS OR WASTE CONCRETE MUST NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
- TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND

EROSION CONTROL NOTES CONTINUED:

- FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MUST NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- DUST CONTROL SHALL BE DONE BY WATERING AND AS OFTEN AS REQUIRED BY THE TOWN INSPECTOR.
- SILT FENCE(S) AND/OR FIBER ROLL(S) SHALL BE INSTALLED PRIOR TO SEPTEMBER 15TH AND SHALL REMAIN IN PLACE UNTIL THE LANDSCAPING GROUND COVER IS INSTALLED. CONTRACTOR SHALL CONTINUOUSLY MONITOR THESE MEASURES, FOLLOWING AND DURING ALL RAIN EVENTS, TO PUBLIC OWNED FACILITIES.

EROSION CONTROL MEASURES:

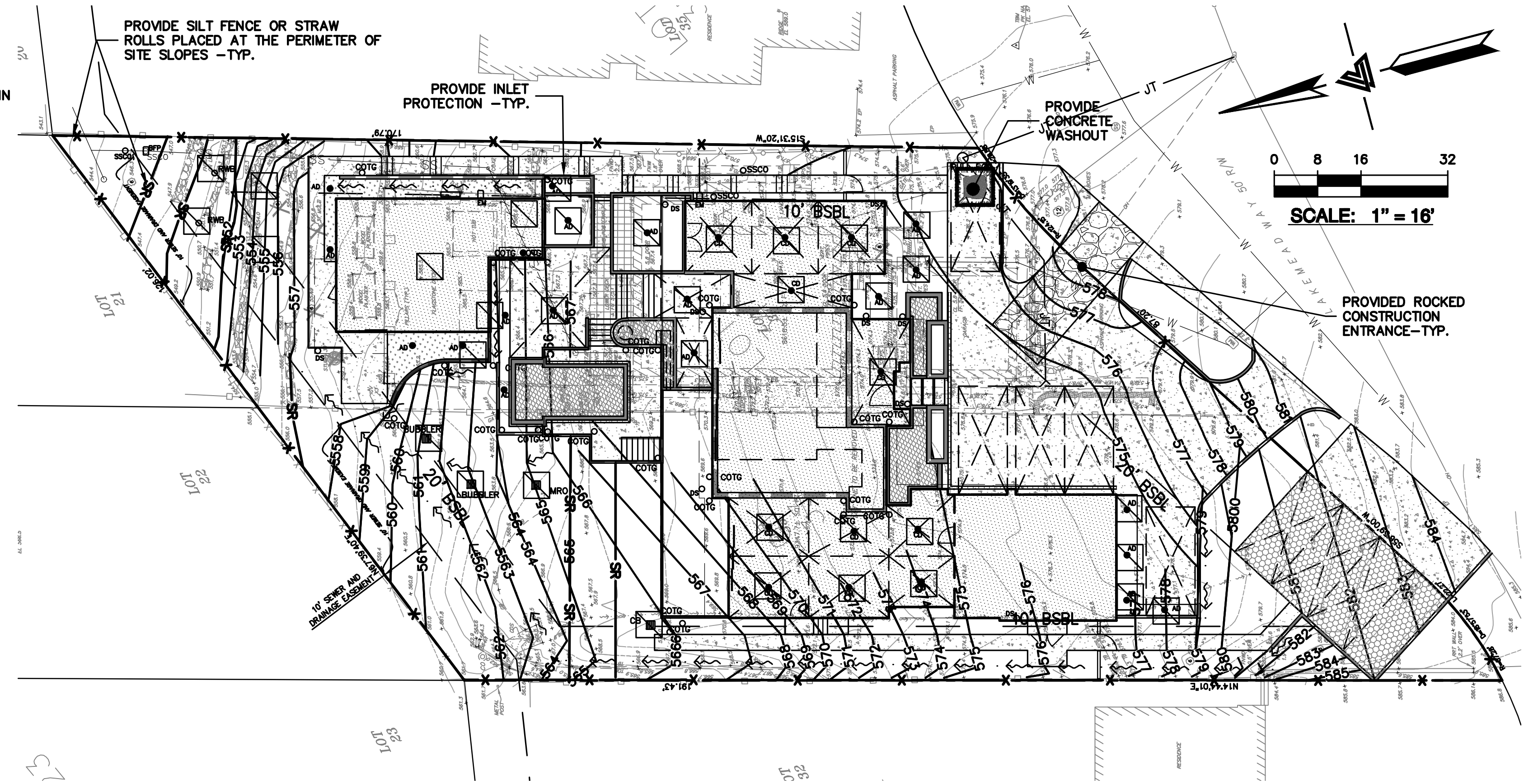
- THE FACILITIES SHOWN ON THIS PLAN ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, OCTOBER 15TH TO APRIL 15. EROSION CONTROL FACILITIES SHALL BE IN PLACE PRIOR TO OCTOBER 15TH OF ANY YEAR. GRADING OPERATIONS DURING THE RAINY SEASON WHICH LEAVE DENUDED SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES IMMEDIATELY FOLLOWING GRADING ON THE SLOPES.
- SITE CONDITIONS AT TIME OF PLACEMENT OF EROSION CONTROL MEASURES WILL VARY. APPROPRIATE ACTION INCLUDING TEMPORARY SWALES, INLETS, HYDROSEEDING, STRAW BALES, ROCK SACKS, ETC. SHALL BE TAKEN TO PREVENT EROSION AND SEDIMENTATION FROM LEAVING SITE. EROSION CONTROL MEASURES SHALL BE ADJUSTED AS THE CONDITIONS CHANGE AND THE NEED OF CONSTRUCTION SHIFT.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ENTERING ONTO THE PAVED ROADS MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCES. CONTRACTOR SHALL MAINTAIN STABILIZED ENTRANCE AT EACH VEHICLE ACCESS POINT TO EXISTING PAVED STREETS. ANY MUD OR DEBRIS TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED DAILY AND AS REQUIRED BY THE GOVERNING AGENCY.
- ALL EXPOSED SLOPES THAT ARE NOT VEGETATED SHALL BE HYDROSEEDDED. IF HYDROSEEDING IS NOT USED OR IS NOT EFFECTIVE BY OCTOBER 15, THEN OTHER IMMEDIATE METHODS SHALL BE IMPLEMENTED, SUCH AS EROSION CONTROL BLANKETS, OR A THREE-STEP APPLICATION OF 1) SEED, MULCH, FERTILIZER 2) BLOWN STRAW 3) TACKIFIER AND MULCH. HYDROSEEDING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 20" EROSION CONTROL AND HIGHWAY PLANTING" OF THE STANDARD SPECIFICATION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED. REFER TO THE EROSION CONTROL SECTION OF THE GRADING SPECIFICATIONS THAT ARE A PART OF THIS PLAN SET FOR FURTHER INFORMATION.
- INLET PROTECTION SHALL BE INSTALLED AT OPEN INLETS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. INLETS NOT USED IN CONJUNCTION WITH EROSION CONTROL ARE TO BE BLOCKED TO PREVENT ENTRY OF SEDIMENT. MINIMUM INLET PROTECTION SHALL CONSIST OF A ROCK SACKS OR AS SHOWN ON THIS PLAN
- THIS EROSION AND SEDIMENT CONTROL PLAN MAY NOT COVER ALL THE SITUATIONS THAT MAY ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS AND ADDITIONS MAY BE MADE TO THIS PLAN IN THE FIELD. A REPRESENTATIVE OF LEA & BRAZE ENGINEERING SHALL PERFORM A FIELD REVIEW AND MAKE RECOMMENDATIONS AS NEEDED. CONTRACTOR IS RESPONSIBLE TO NOTIFY LEA & BRAZE ENGINEERING AND THE GOVERNING AGENCY OF ANY CHANGES.
- THE EROSION CONTROL MEASURES SHALL CONFORM TO THE LOCAL JURISDICTION'S STANDARDS AND THE APPROVAL OF THE LOCAL JURISDICTION'S ENGINEERING DEPARTMENT.
- STRAW ROLLS SHALL BE PLACED AT THE TOE OF SLOPES AND ALONG THE DOWN SLOPE PERIMETER OF THE PROJECT. THEY SHALL BE PLACED AT 25 FOOT INTERVALS ON GRADED SLOPES. PLACEMENT SHALL RUN WITH THE CONTOURS AND ROLLS SHALL BE TIGHTLY END BUTTED. CONTRACTOR SHALL REFER TO MANUFACTURERS SPECIFICATIONS FOR PLACEMENT AND INSTALLATION INSTRUCTIONS.

REFERENCES:

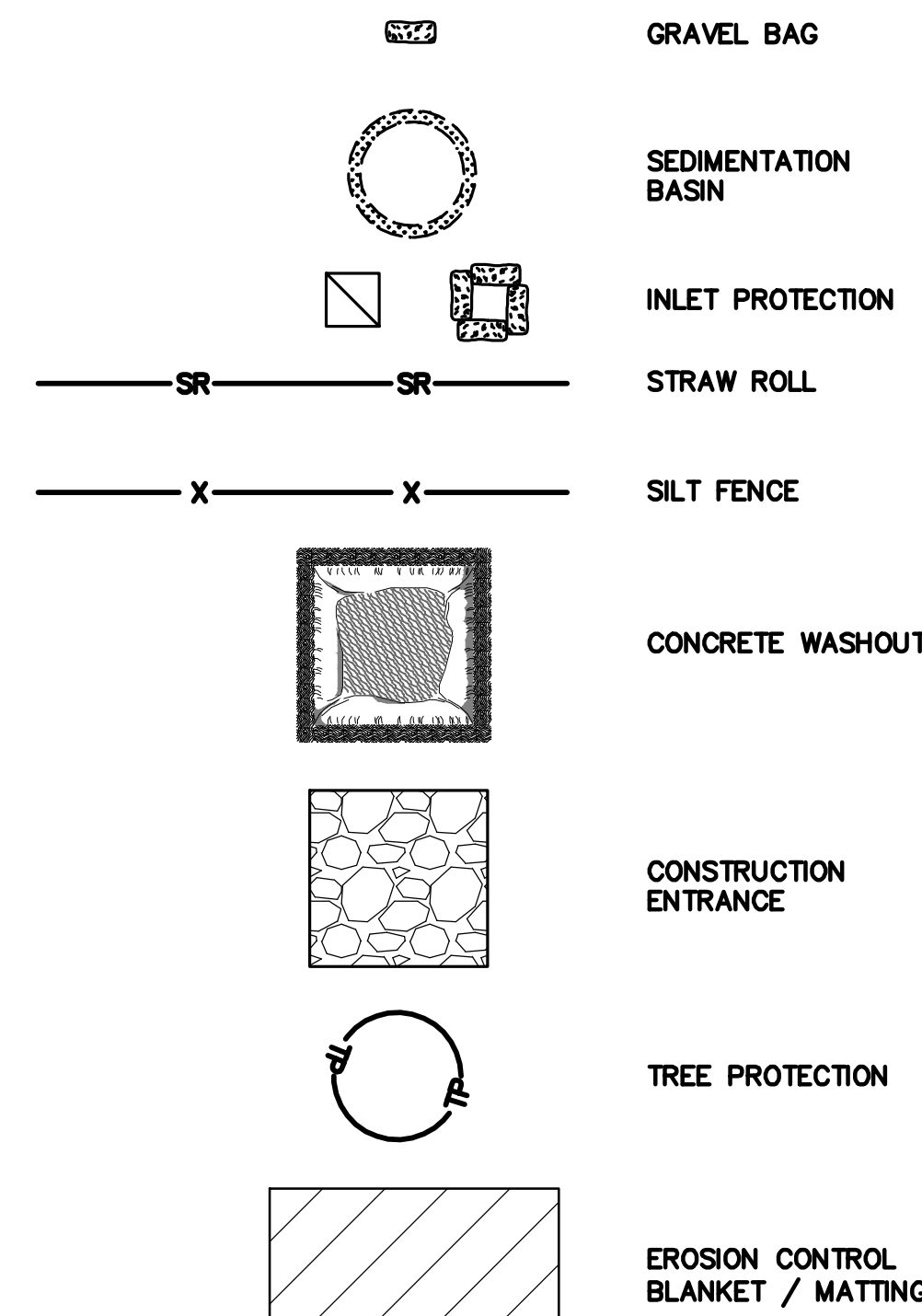
- CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL
- CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION

PERIODIC MAINTENANCE:

- MAINTENANCE IS TO BE PERFORMED AS FOLLOWS:
 - DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION SHALL BE REPAIRED AT THE END OF EACH WORKING DAY.
 - SWALES SHALL BE INSPECTED PERIODICALLY AND MAINTAINED AS NEEDED.
 - SEDIMENT TRAPS, BERMS, AND SWALES ARE TO BE INSPECTED AFTER EACH STORM AND REPAIRS MADE AS NEEDED.
 - SEDIMENT SHALL BE REMOVED AND SEDIMENT TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 1' FOOT.
 - SEDIMENT REMOVED FROM TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
 - RILLS AND GULLIES MUST BE REPAIRED.
- GRAVEL BAG INLET PROTECTION SHALL BE CLEANED OUT WHENEVER SEDIMENT DEPTH IS ONE HALF THE HEIGHT OF ONE GRAVEL BAG.
- STRAW ROLLS SHALL BE PERIODICALLY CHECKED TO ASSURE PROPER FUNCTION AND CLEANED OUT WHENEVER THE SEDIMENT DEPTH REACHED HALF THE HEIGHT OF THE ROLL.
- SILT FENCE SHALL BE PERIODICALLY CHECKED TO ASSURE PROPER FUNCTION AND CLEANED OUT WHENEVER THE SEDIMENT DEPTH REACHES ONE FOOT IN HEIGHT.
- CONSTRUCTION ENTRANCE SHALL BE REGRAVELLED AS NECESSARY FOLLOWING SILT/SOIL BUILDUP.
- ANY OTHER EROSION CONTROL MEASURES SHOULD BE CHECKED AT REGULAR INTERVALS TO ASSURE PROPER FUNCTION



EROSION CONTROL LEGEND



NOTE:
SEAL ALL OTHER INLETS NOT INTENDED TO ACCEPT STORM WATER AND DIRECT FLOWS TEMPORARILY TO FUNCTIONAL SEDIMENTATION BASIN INLETS. -TYP



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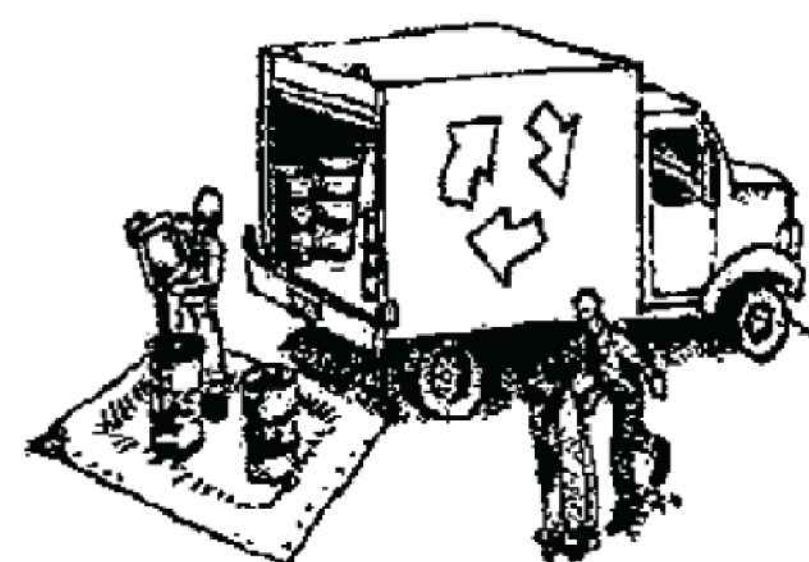
EROSION CONTROL PLAN

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Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



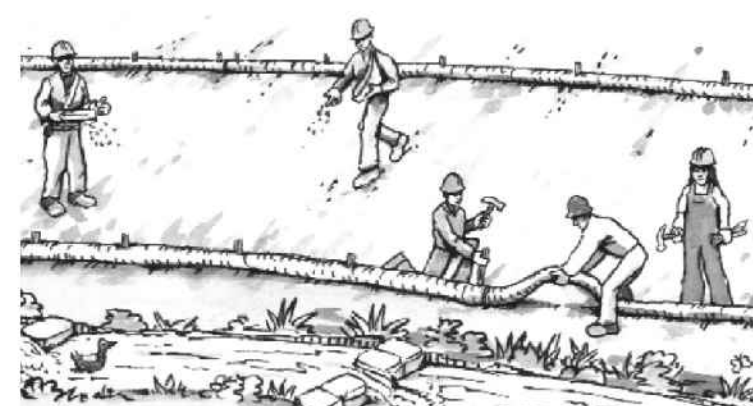
Maintenance and Parking

- Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- Clean up spills or leaks immediately and dispose of cleanup materials properly.
- Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- Schedule grading and excavation work during dry weather.
- Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
 - Unusual soil conditions, discoloration, or odor.
 - Abandoned underground tanks.
 - Abandoned wells
 - Buried barrels, debris, or trash.

Paving/Asphalt Work



- Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

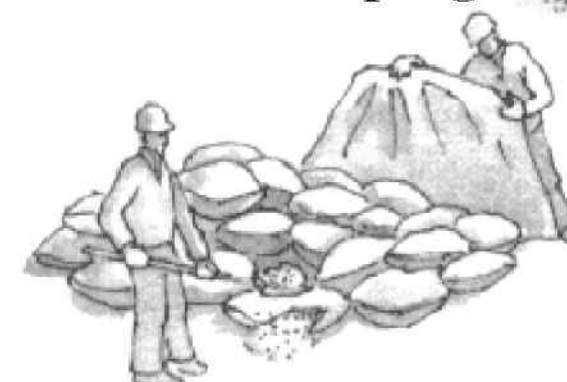
- Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- Shovel, absorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



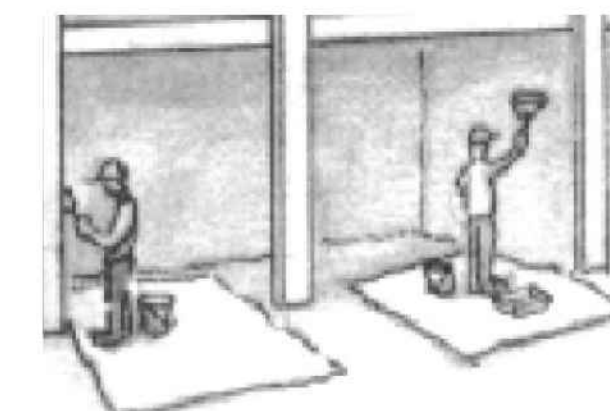
- Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- Stack bagged material on pallets and under cover.
- Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

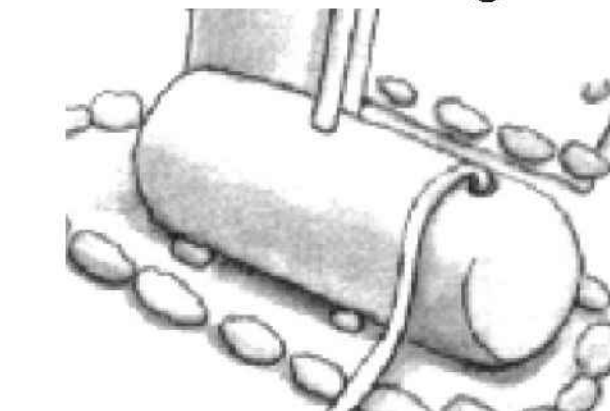
Painting & Paint Removal



Painting Cleanup and Removal

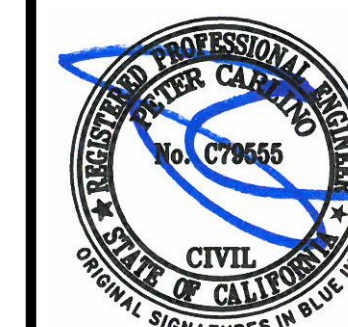
- Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

Dewatering



- Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- Divert run-on water from offsite away from all disturbed areas.
- When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to \$10,000 per day!



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WWW.LEABRAZE.COM

MOYER RESIDENCE
516 LAKEMead Way
REDWOOD CITY, CALIFORNIA
UNINCORPORATED SAN MATEO COUNTY APN: 057-262-240 & 068-071-190

STORMWATER
POLLUTION
PREVENTION PLAN

1	PLAN CHECK	04-24-2024	WA
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REVISIONS		BY	
JOB NO:		2231711	PH2
DATE:		01-19-24	
SCALE:		AS NOTED	
DESIGN BY:		VF	
CHECKED BY:		RB	
SHEET NO:			

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APN: 057-262-240 AND 068-071-190

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Sheet Title

SITE DEMOLITION PLAN

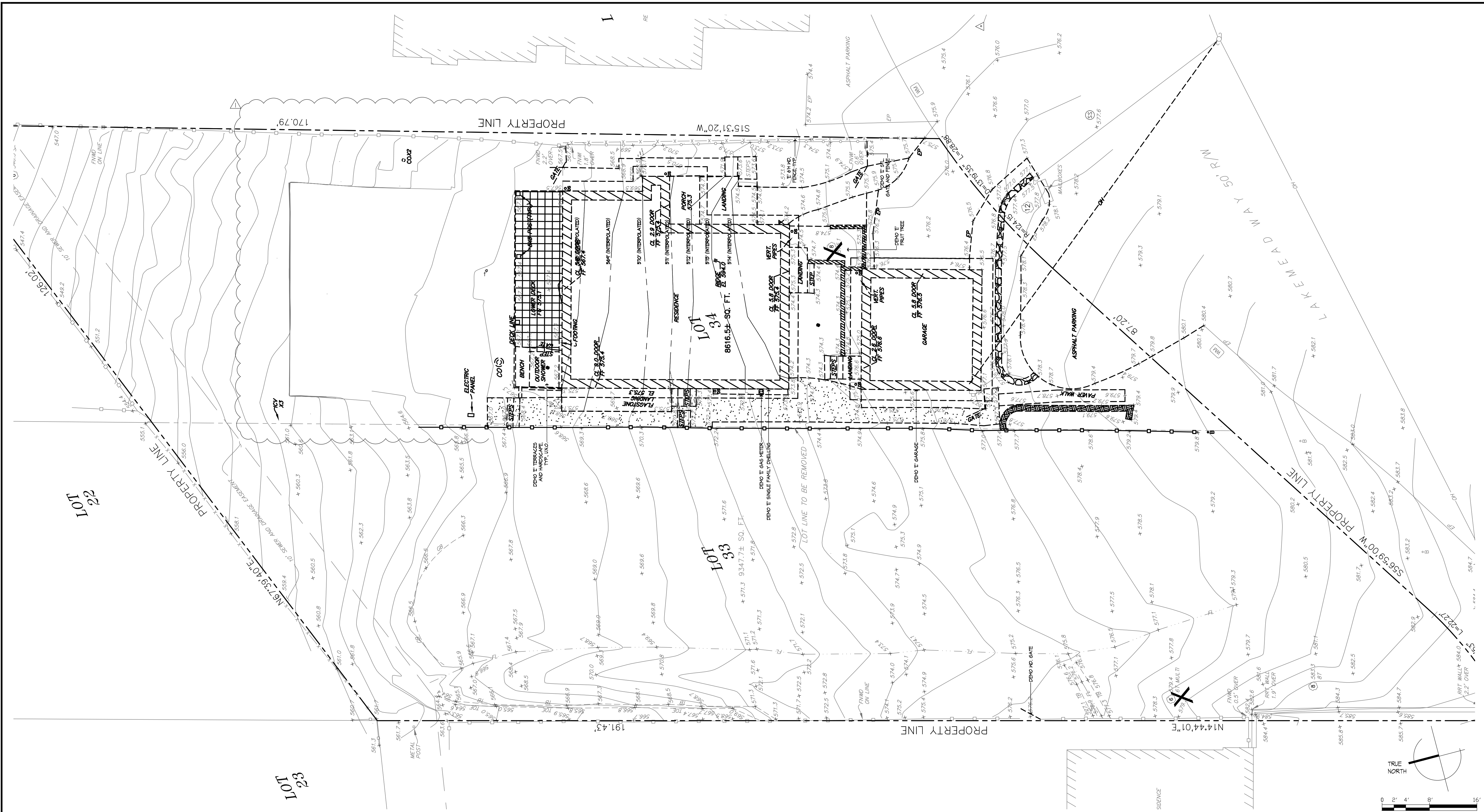
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Date 8-15-2023

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-- 05.02.24 - Planning Response 1

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SITE DEMOLITION PLAN

1. REFER TO MERIDIAN SURVEYING ENGINEERING, INC. SHEET 1 OF 1 FOR INFORMATION NOT SHOWN.
2. ALL TREES TO BE REMOVED OR RELOCATED ARE NOT HERITAGE FRUIT TREES, TYP.

ALL SITE WALLS SHALL BE BOARD FORMED WITH 4" BOARDS

SITE DEMOLITION PLAN NOTES

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Sheet Title
**BASEMENT LEVEL
CONSTRUCTION
FLOOR PLAN**

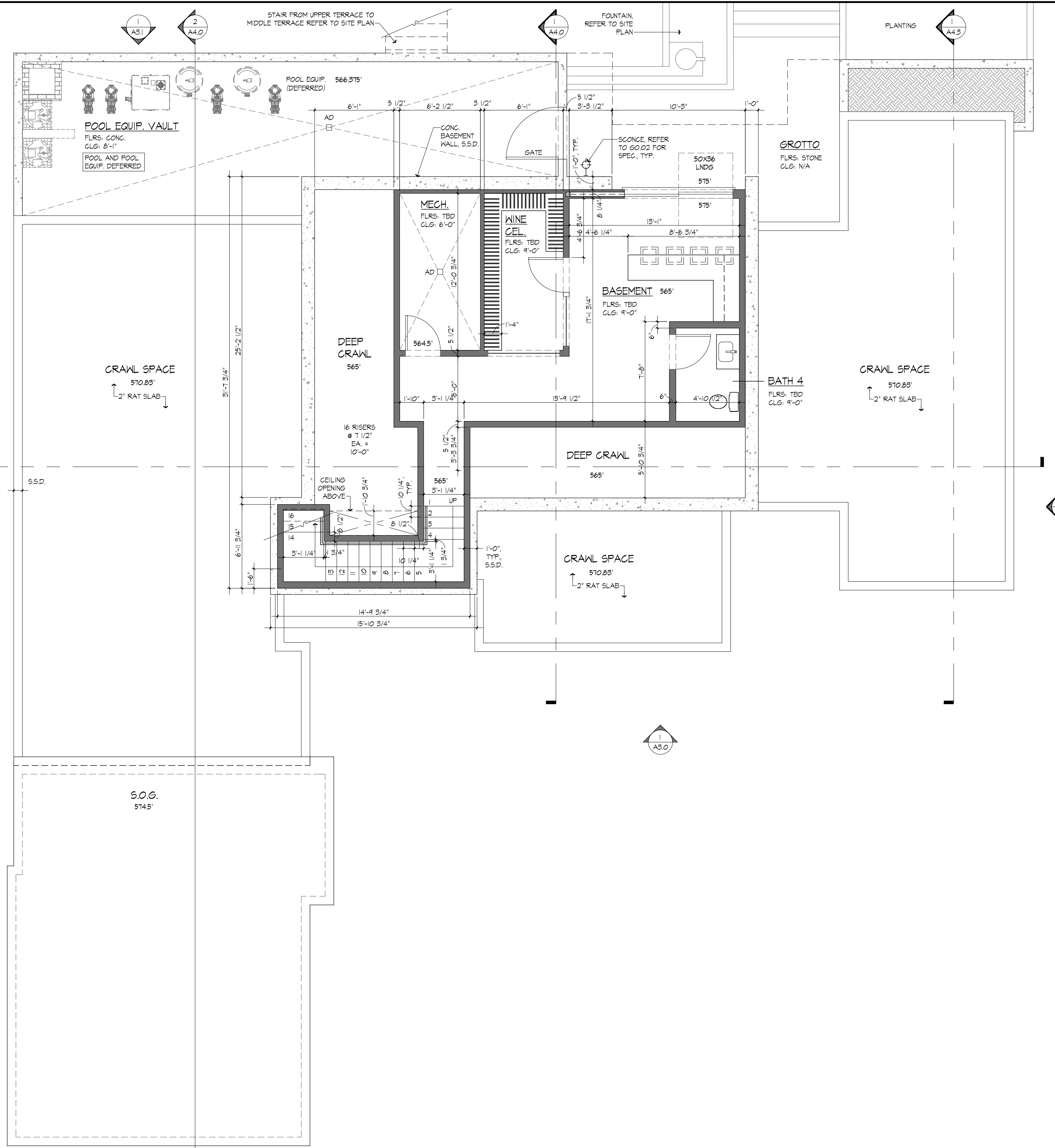
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Sheet Title
**FIRST LEVEL
CONSTRUCTION
FLOOR PLAN**

Job No 23-12
Drawn **
Date 8-15-2023

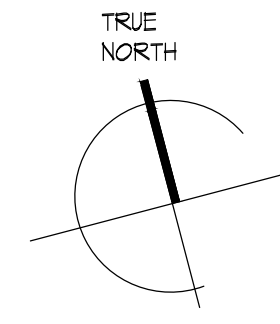
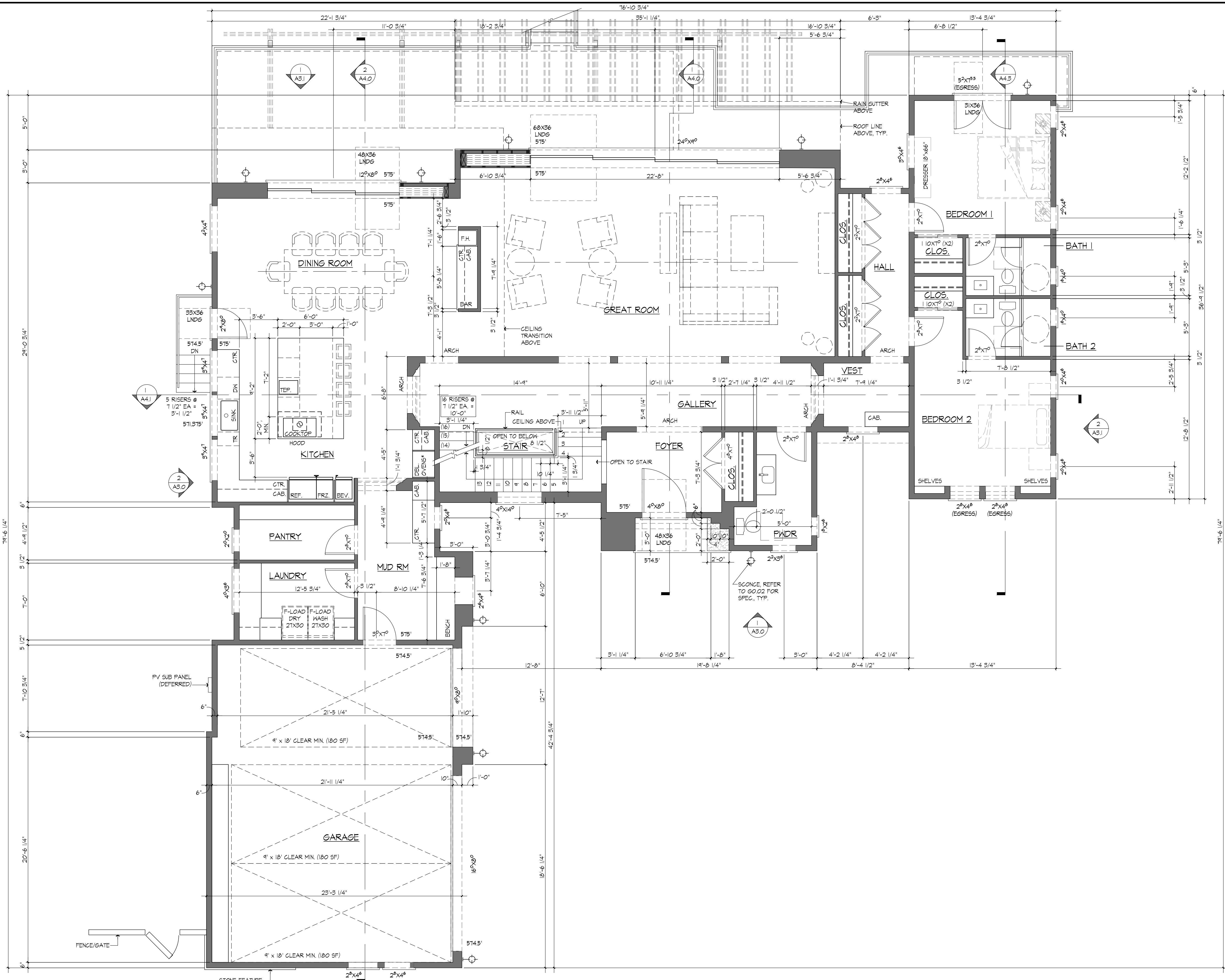
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FIRST LEVEL CONSTRUCTION FLOOR PLAN

SCALE: 1/4" = 1'-0"

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Sheet Title
**SECOND LEVEL
CONSTRUCTION
FLOOR PLAN**

Job No 23-12
Drawn **
Date 8-15-2023

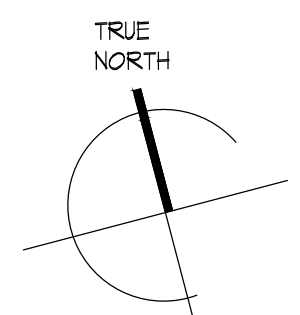
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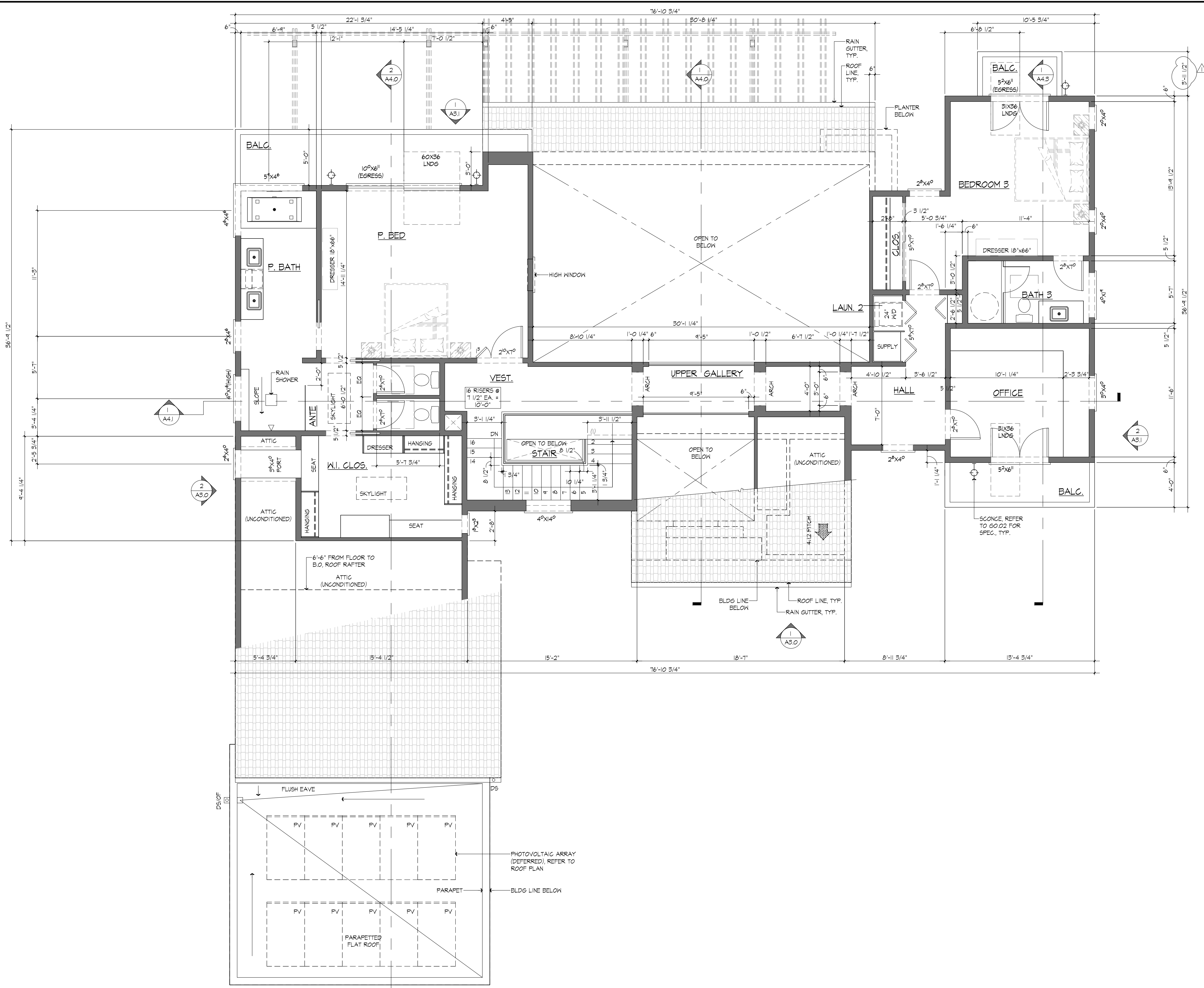
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A2.2



SCALE: 1/4" = 1'-0"

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A2.2





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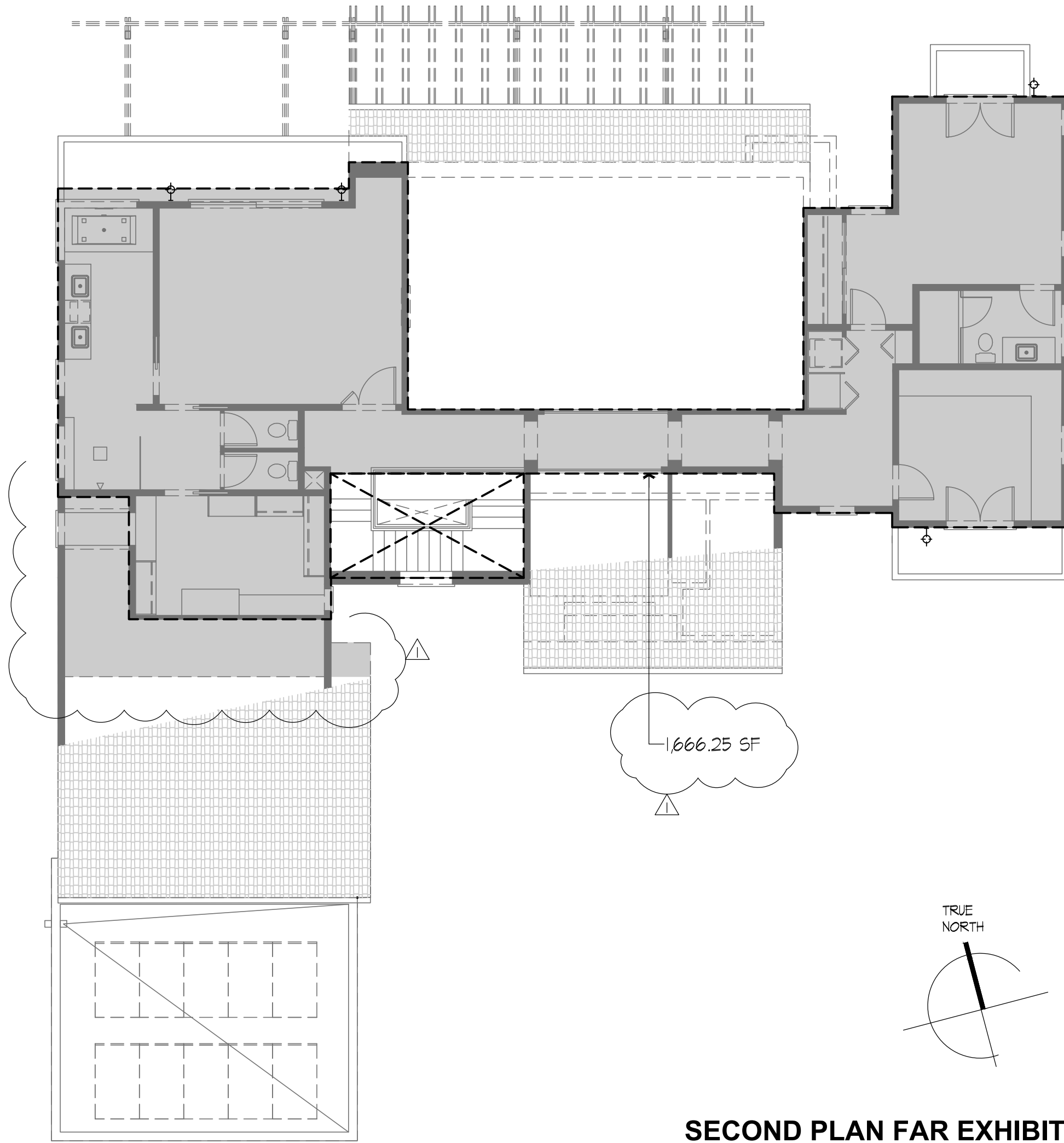
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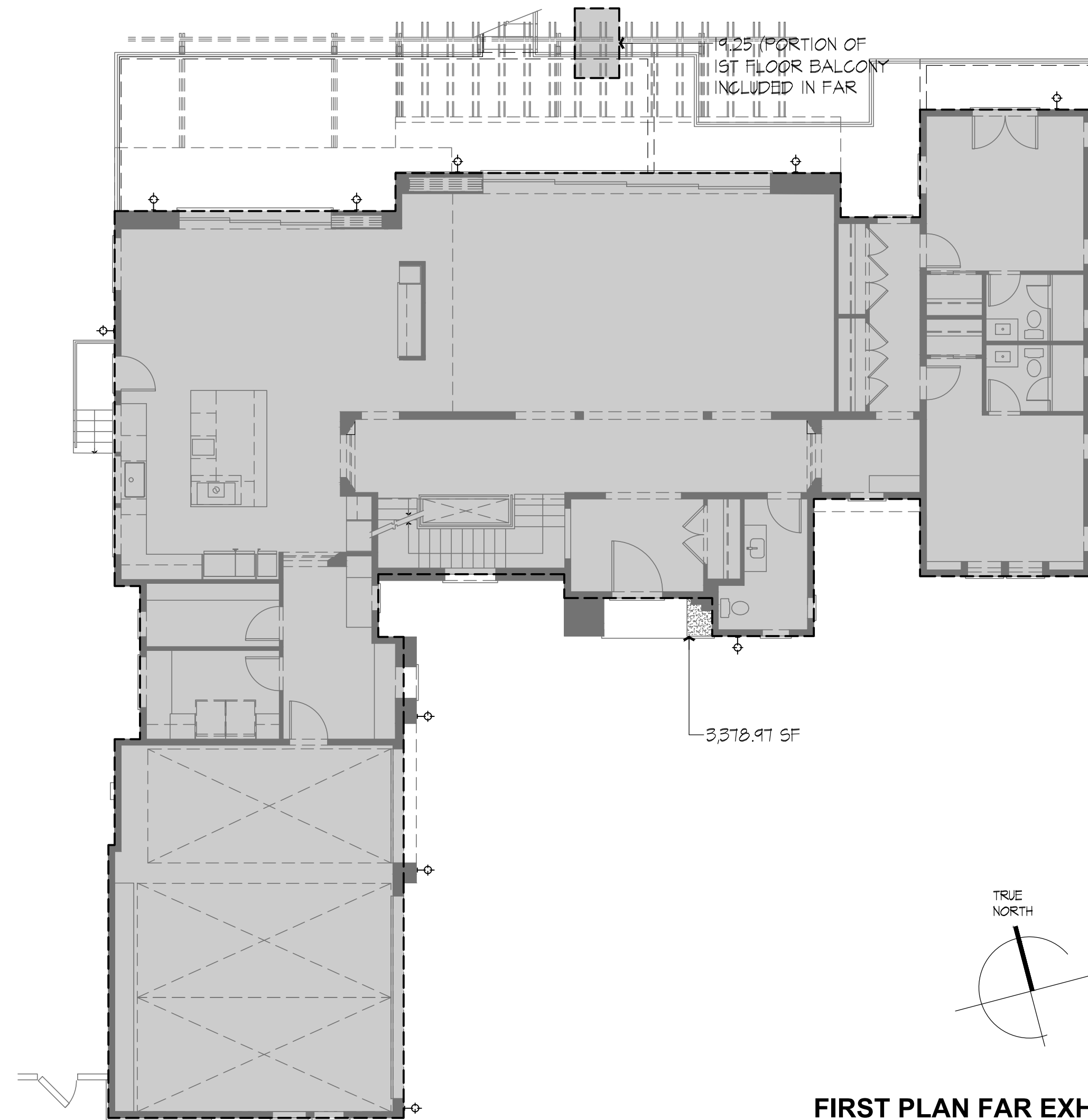
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FLOOR AREA CALCULATION

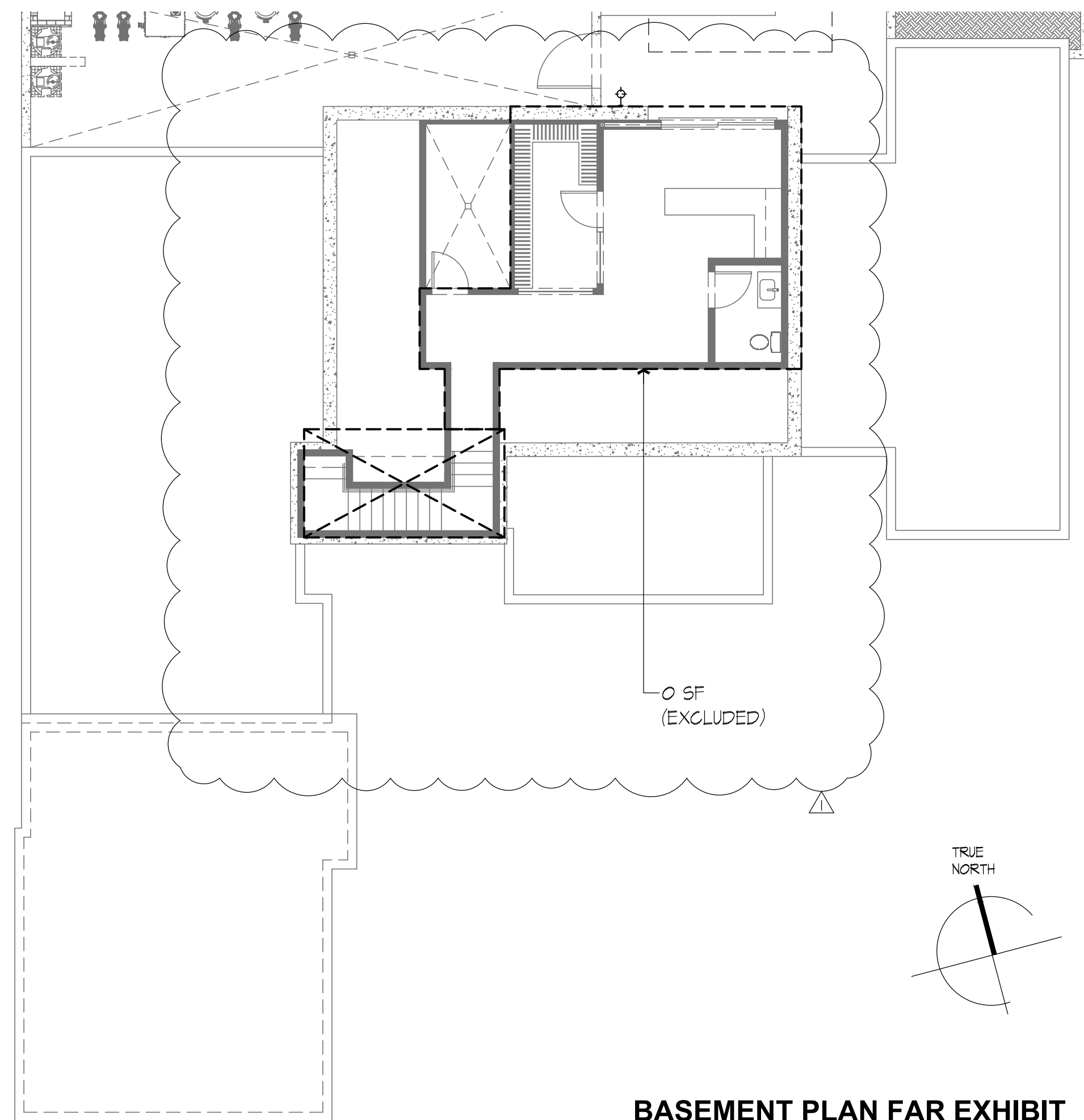
I, REFER TO TITLE SHEET 60.01 FOR FLOOR AREA AND LOT COVERAGE CALCULATIONS.



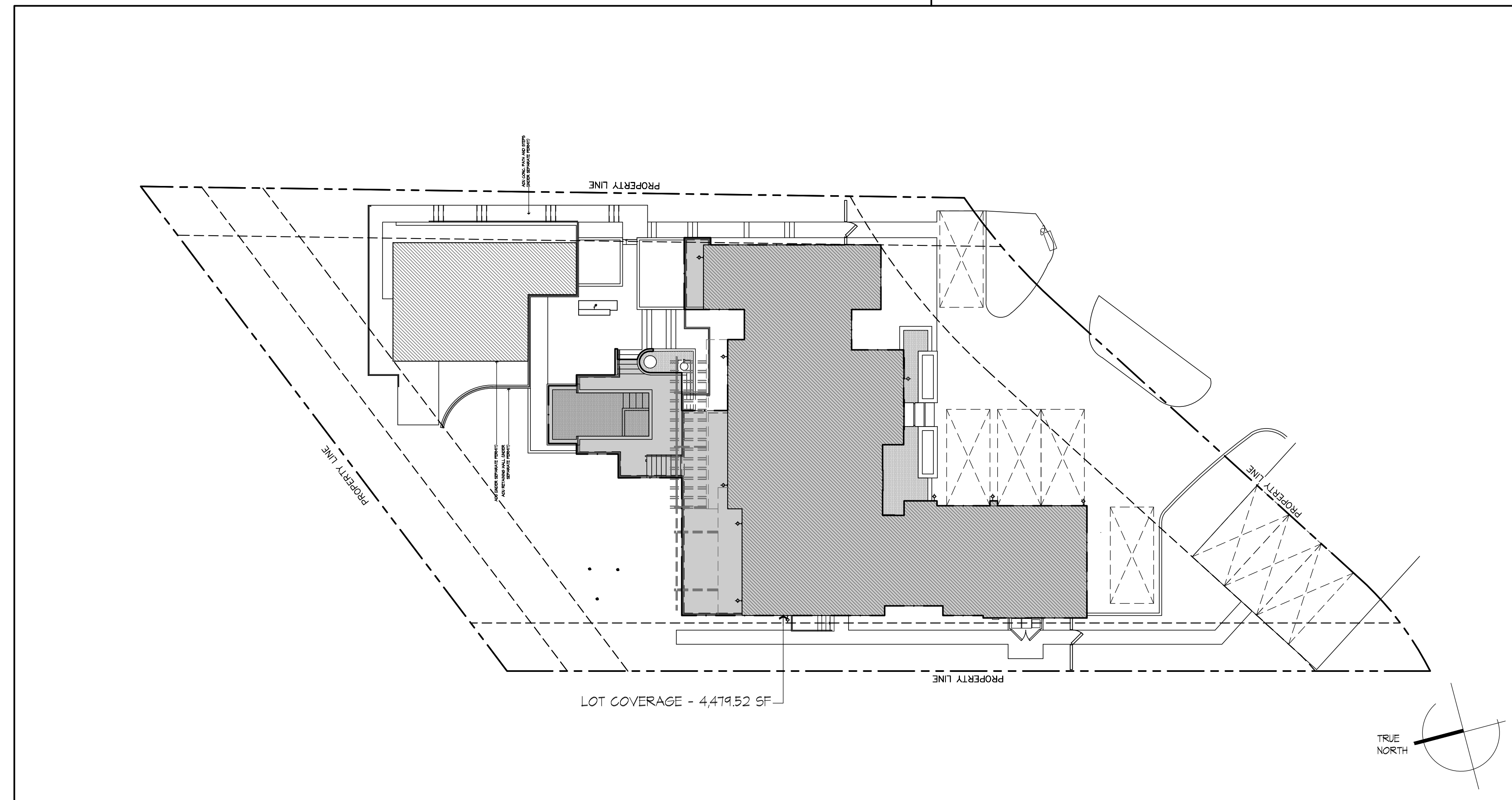
SECOND PLAN FAR EXHIBIT



FIRST PLAN FAR EXHIBIT



BASEMENT PLAN FAR EXHIBIT



LOT COVERAGE EXHIBIT

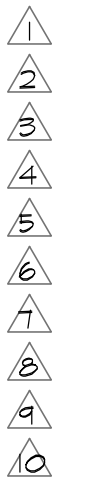
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**FLOOR AREA
RATIO AND LOT
COVERAGE
EXHIBITS AND
CALCULATIONS**

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Sheet Title
ROOF PLAN

Job No 23-12
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Date 8-15-2023

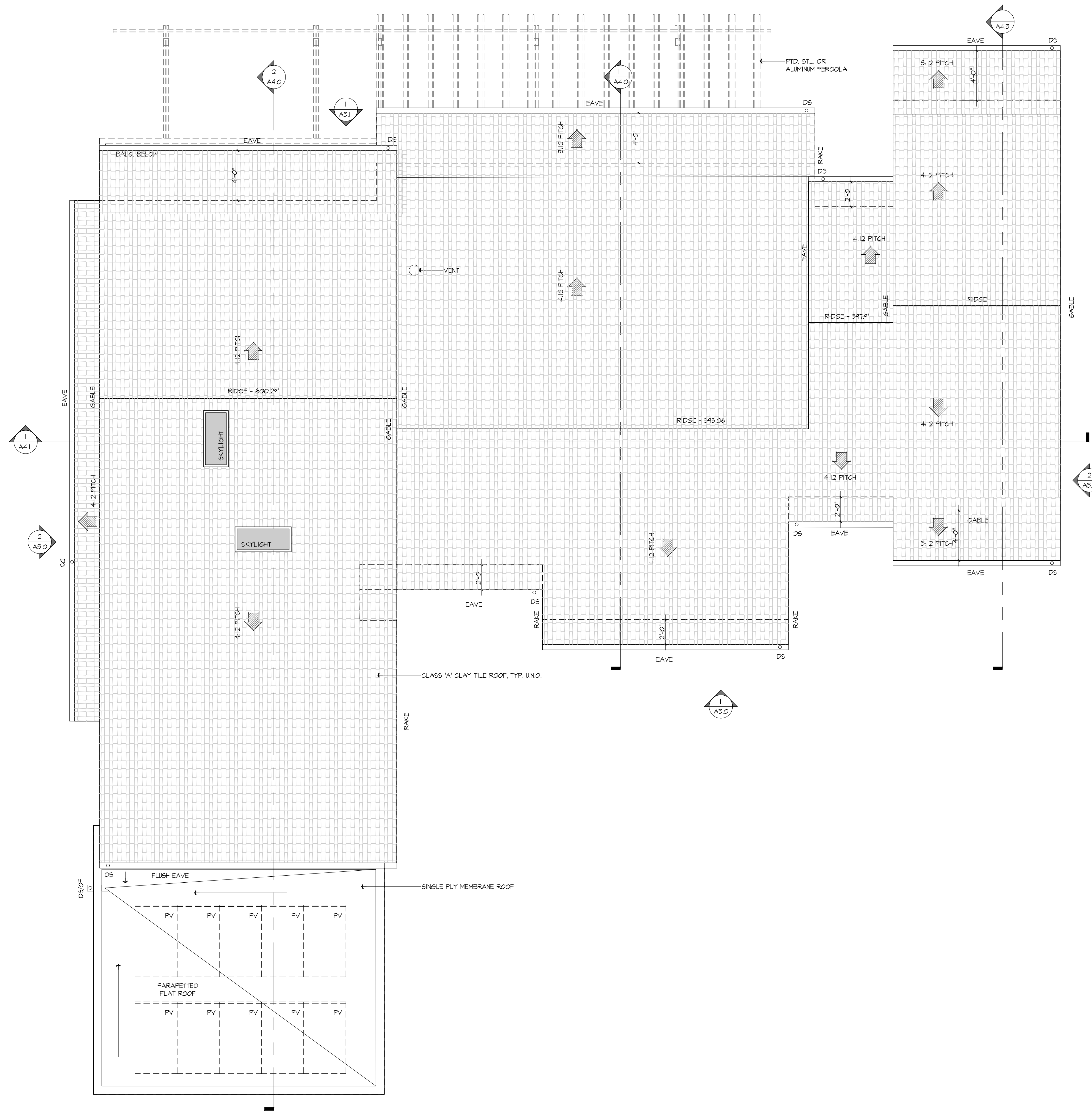
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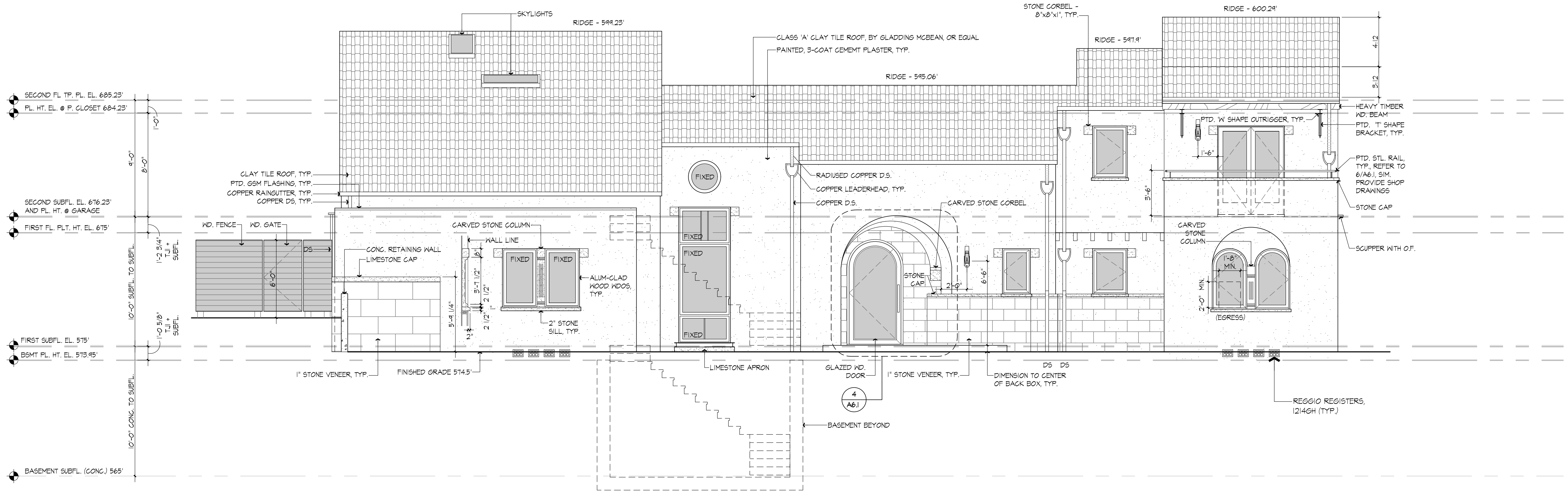
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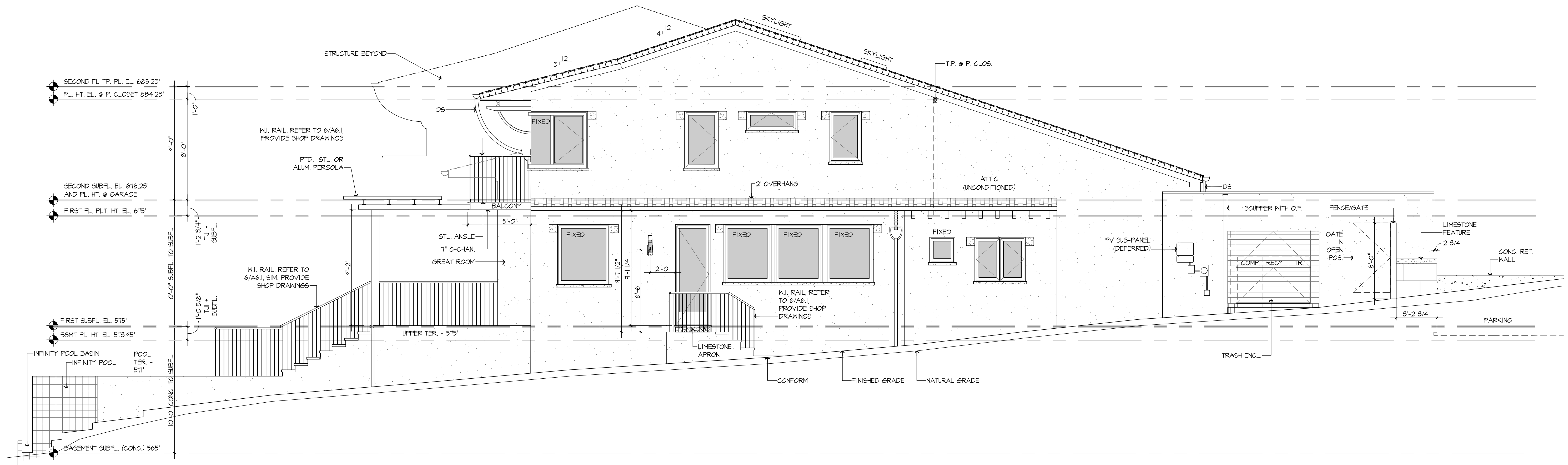
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FRONT EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0" (A3.0)



SIDE EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0" (A3.0)

Sheet Title
EXTERIOR ELEVATIONS

Job No 23-12
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Date 8-15-2023

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NOTE:
1. ALL SITE WALLS SHALL BE BOARD FORMED WITH 4" BOARDS

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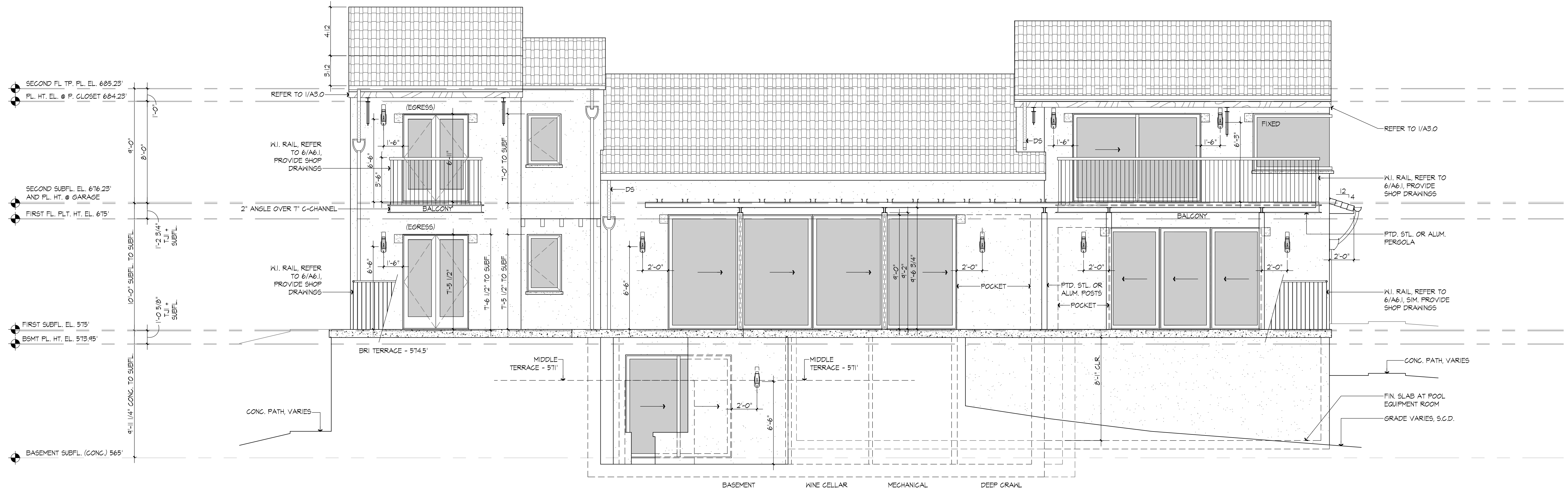
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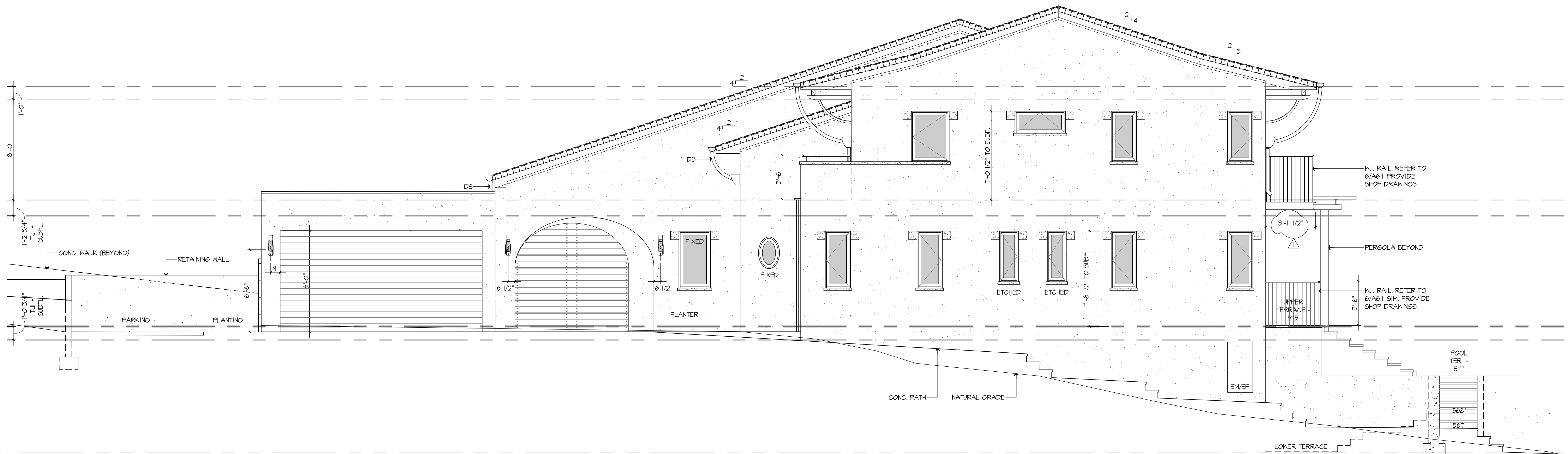
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REAR EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0" (A3.1)



SIDE EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0" (A3.1)

Sheet Title
EXTERIOR ELEVATIONS

Job No 23-12
Drawn **
Date 8-15-2023

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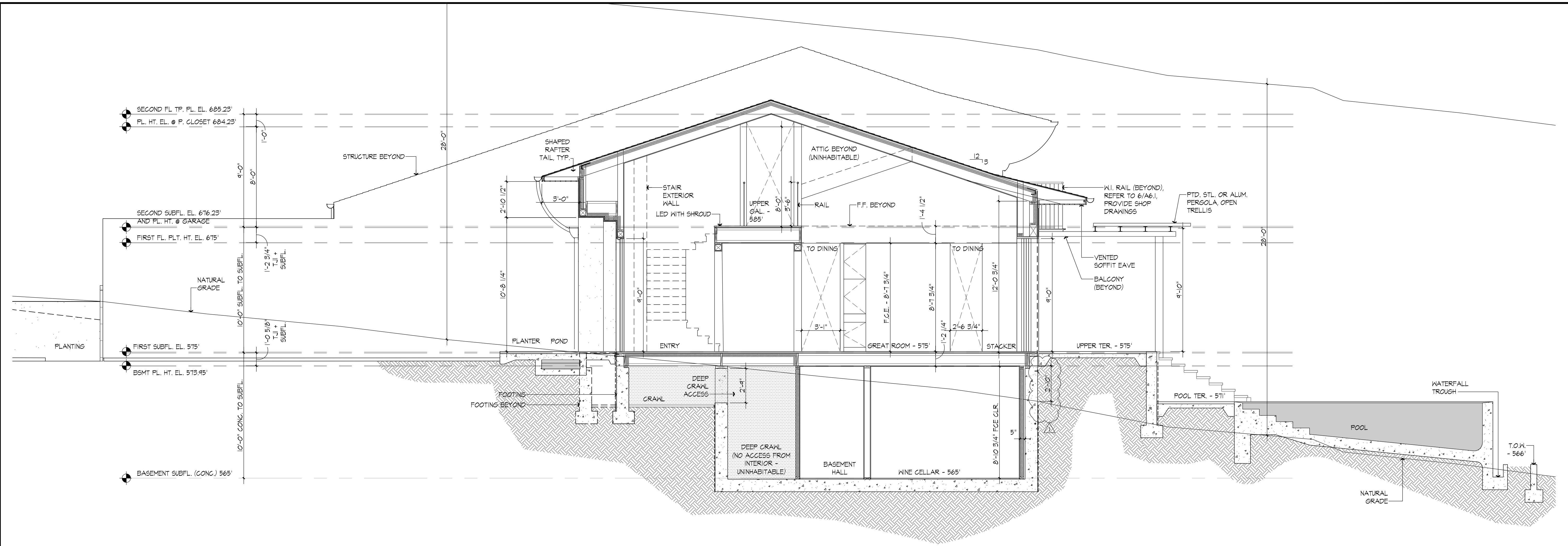
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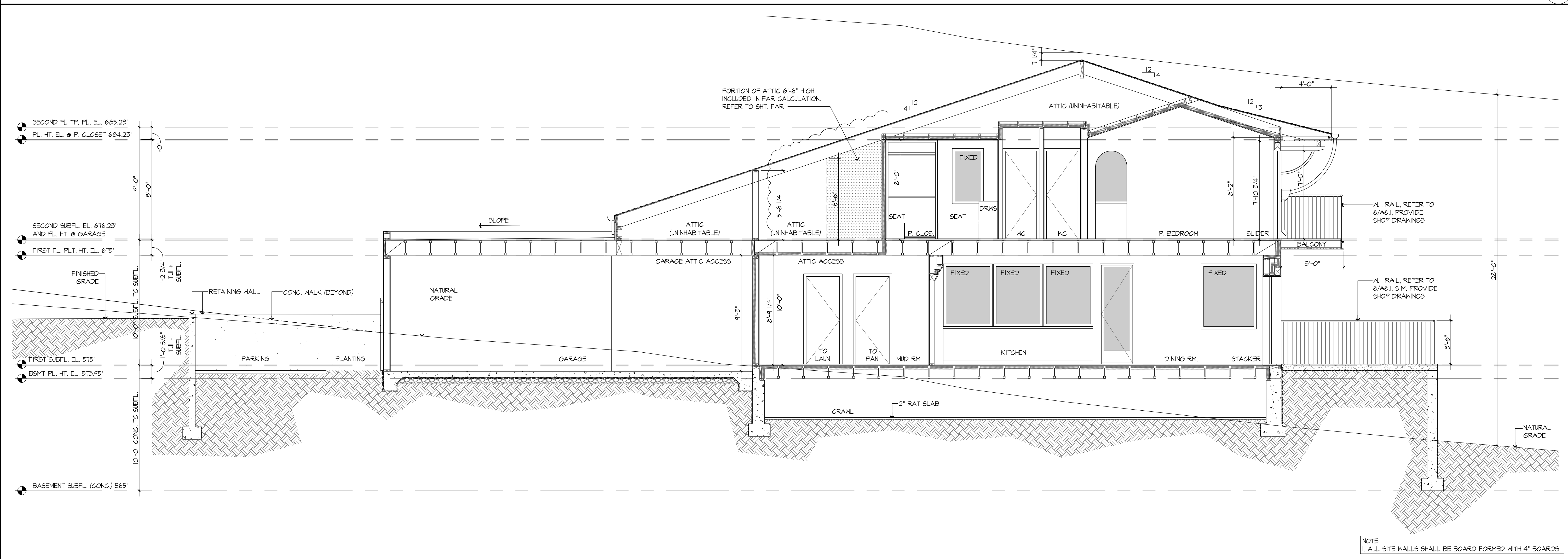
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BUILDING SECTION

SCALE: 1/4" = 1'-0" 1
A4.0



BUILDING SECTION

SCALE: 1/4" = 1'-0" 2
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Sheet Title
BUILDING SECTIONS

Job No 23-12
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Date 8-15-2023

Revisions
-- 05.02.24 - Planning Response 1

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NOTE:
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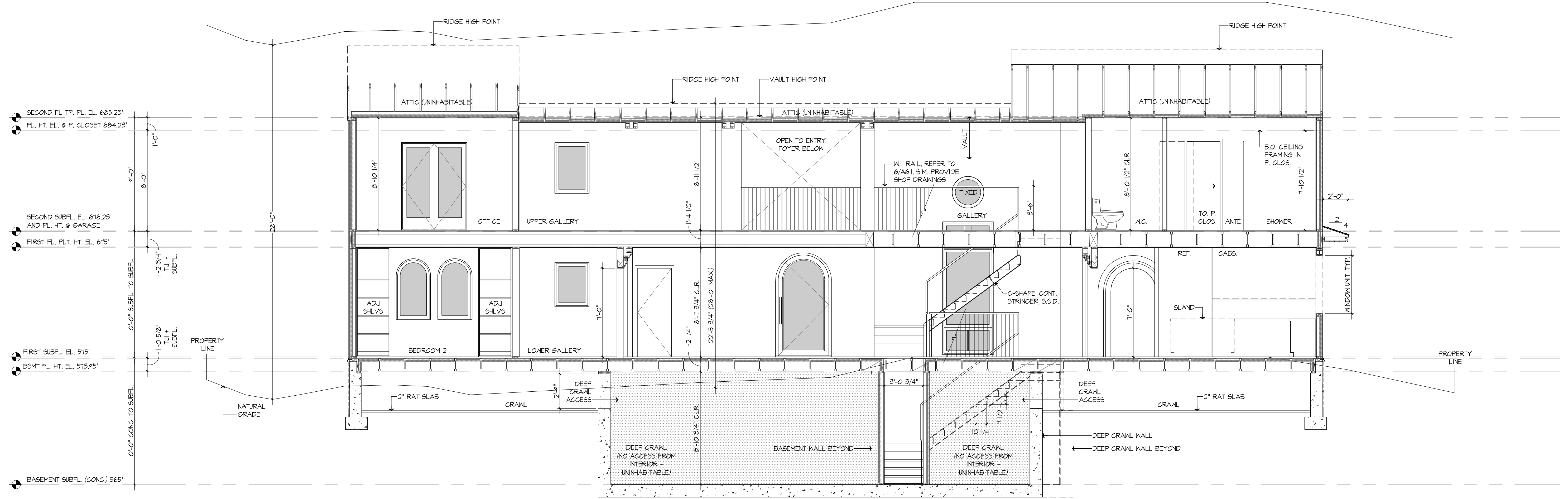
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NOTE:
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BUILDING SECTION

SCALE: 1/4" = 1'-0"
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Sheet Title
BUILDING SECTIONS

Job No 23-12
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Date 8-15-2023

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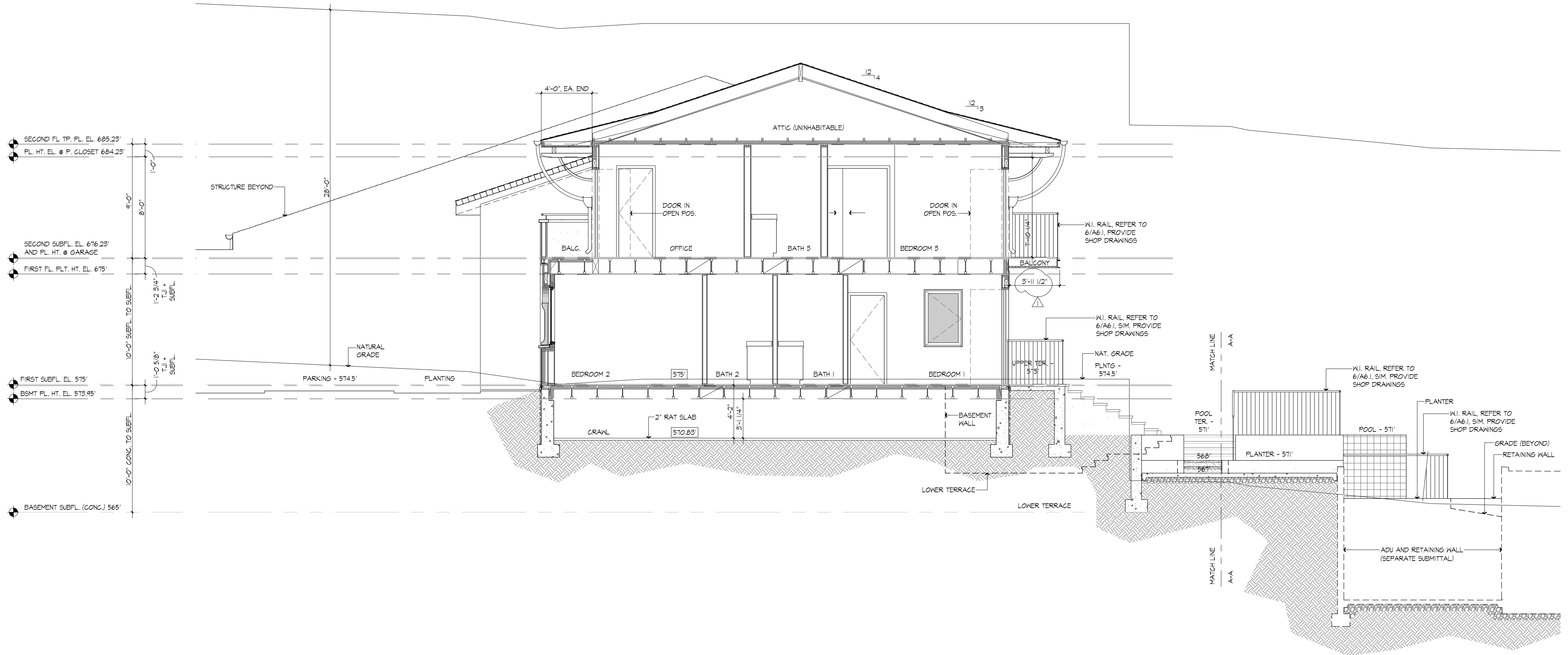
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BUILDING SECTION

SCALE: 1/4" = 1'-0"
A4.3

Sheet Title
BUILDING SECTIONS

Job No 23-12
Drawn **
Date 8-15-2023

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-- 05.02.24 - Planning Response 1

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Sheet Title
**EXTERIOR
DETAILS**

Job No 23-12
Drawn **
Date 8-15-2023

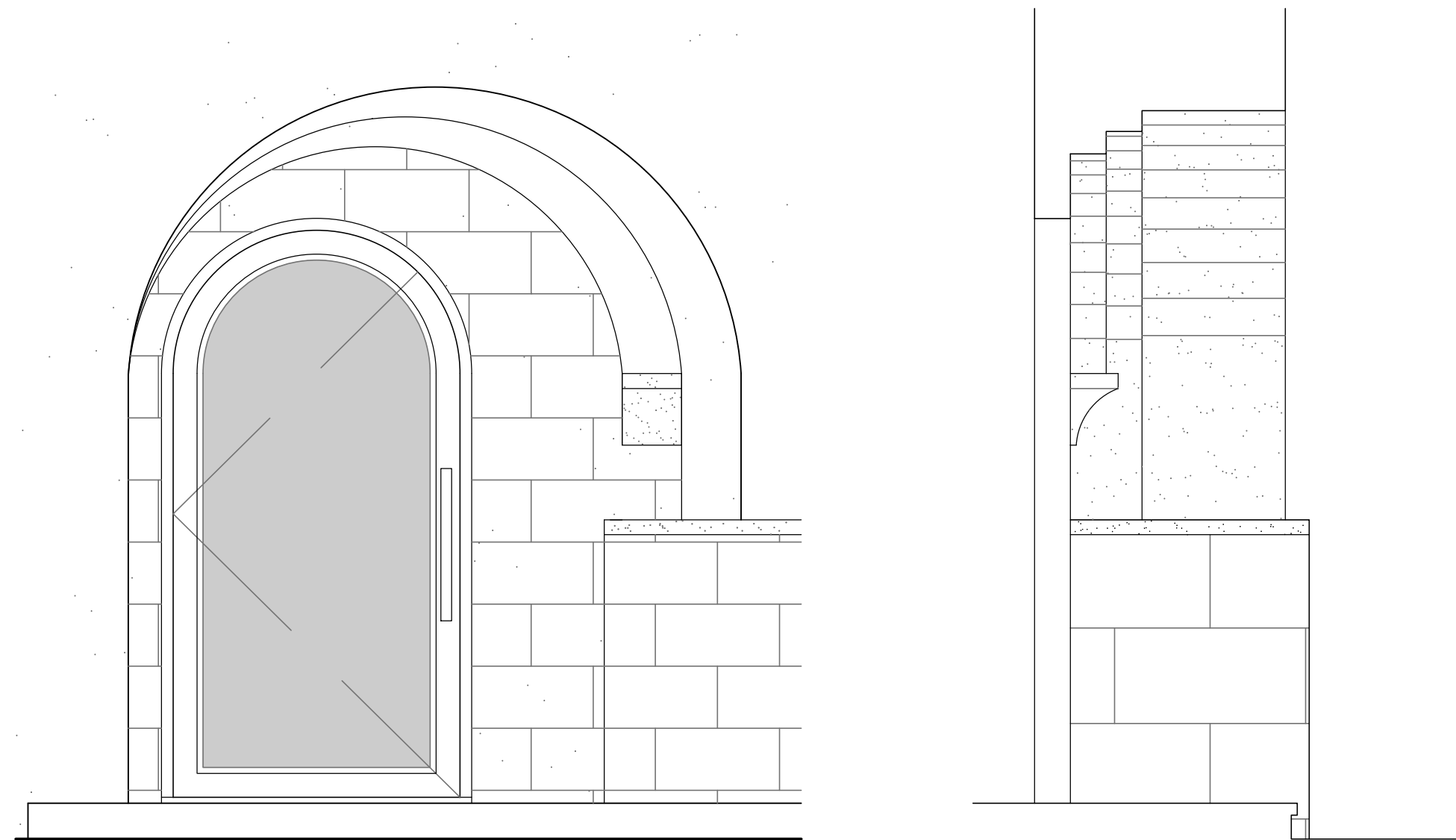
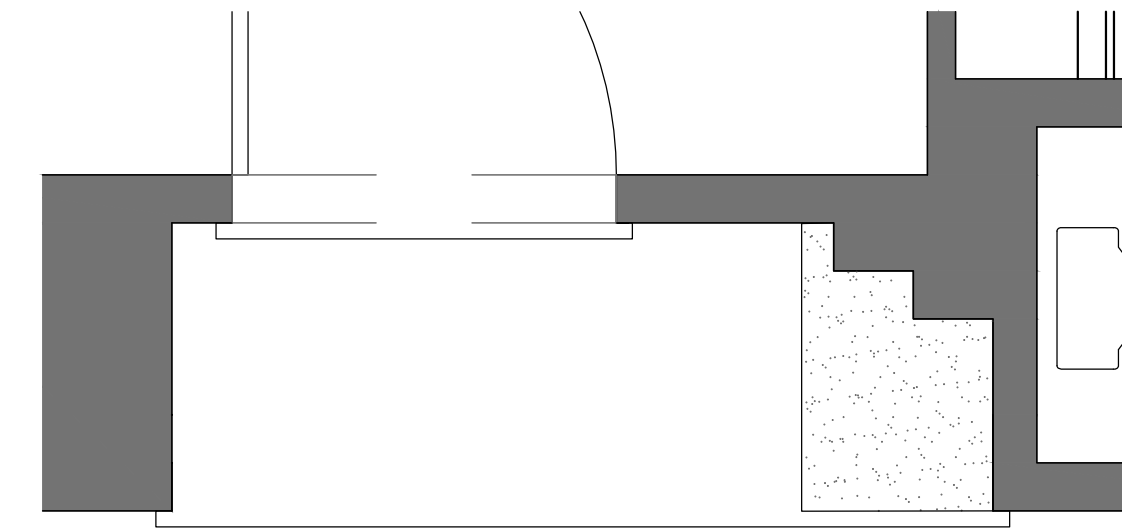
Revisions
-- 05.02.24 - Planning Response I

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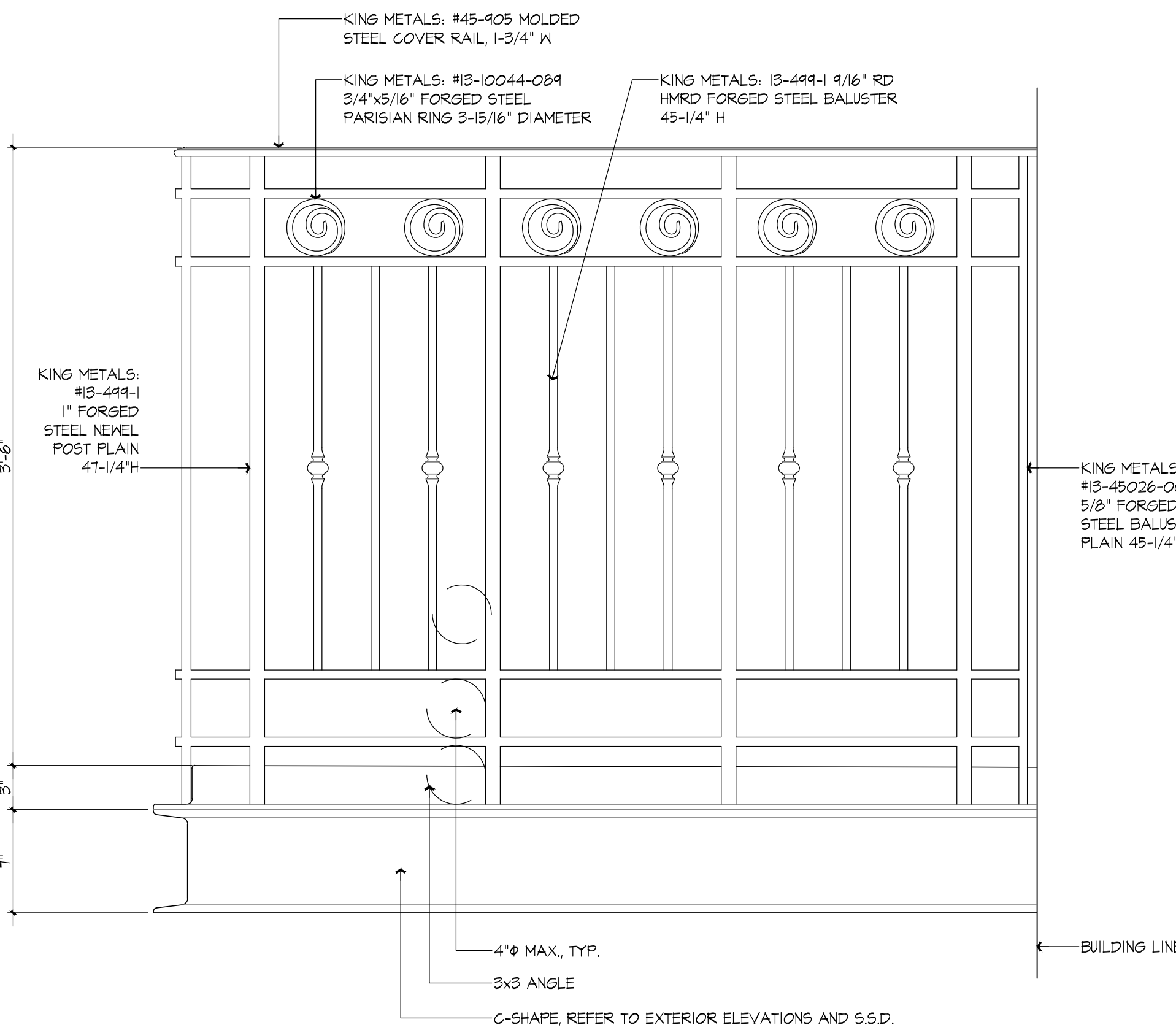
Sheet

A6.1



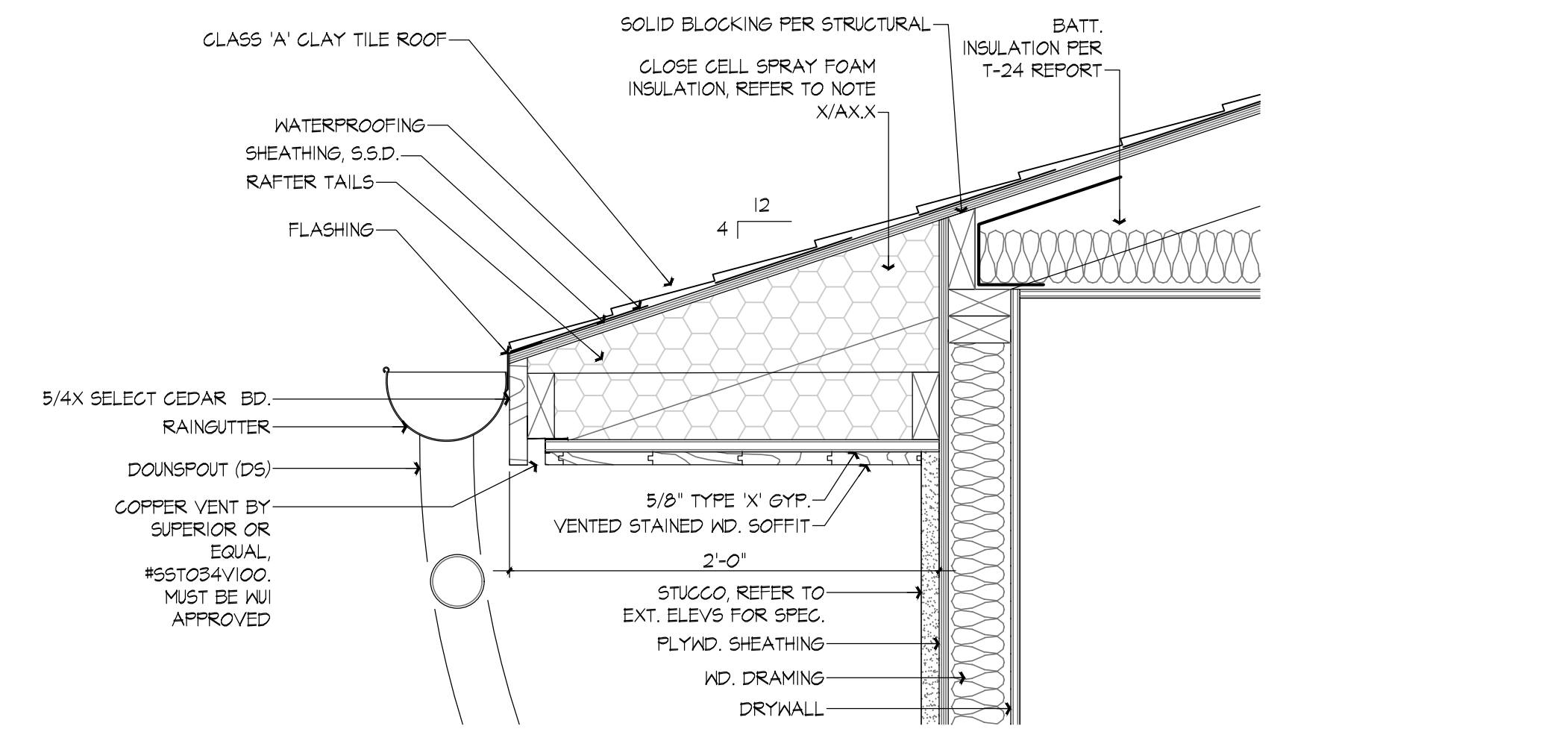
ENTRY DOOR DETAIL

SCALE: 1/2" = 1'-0"
4
A6.1



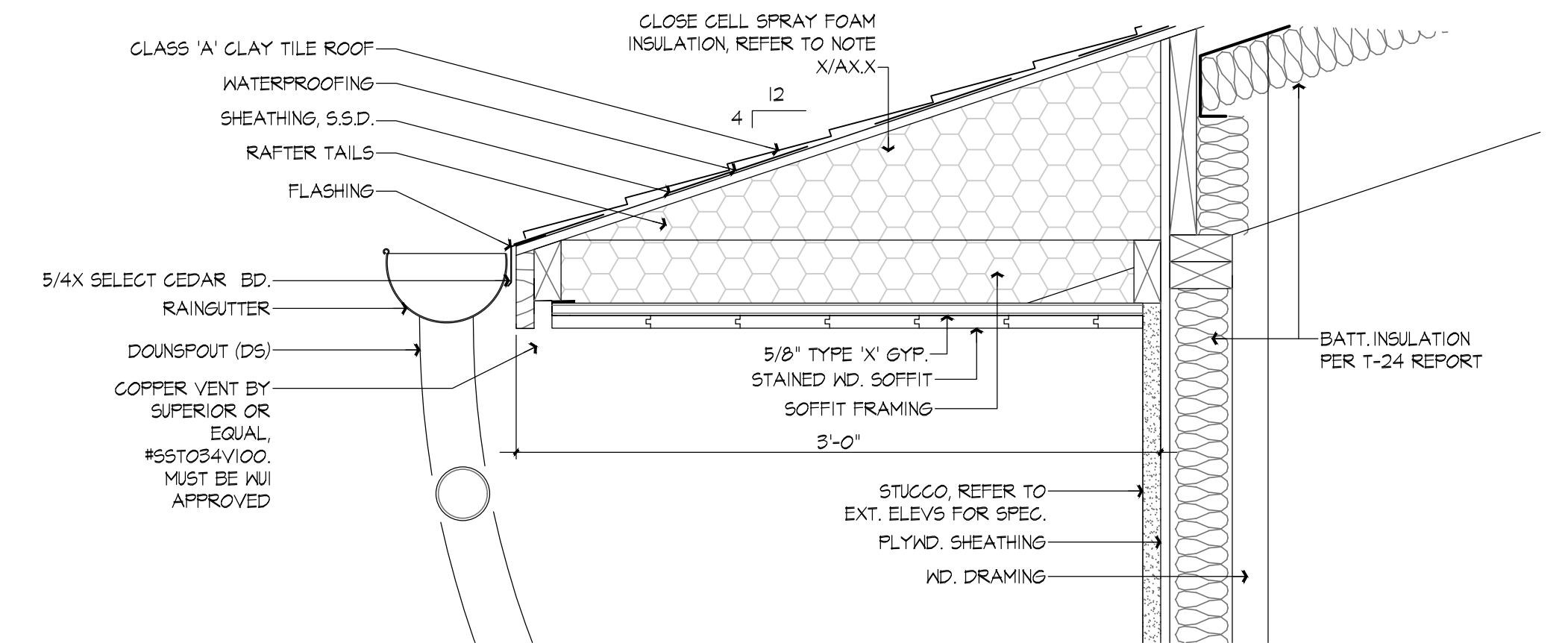
TYP. HANDRAIL DETAIL

SCALE: 1/2" = 1'-0"
6
A6.1



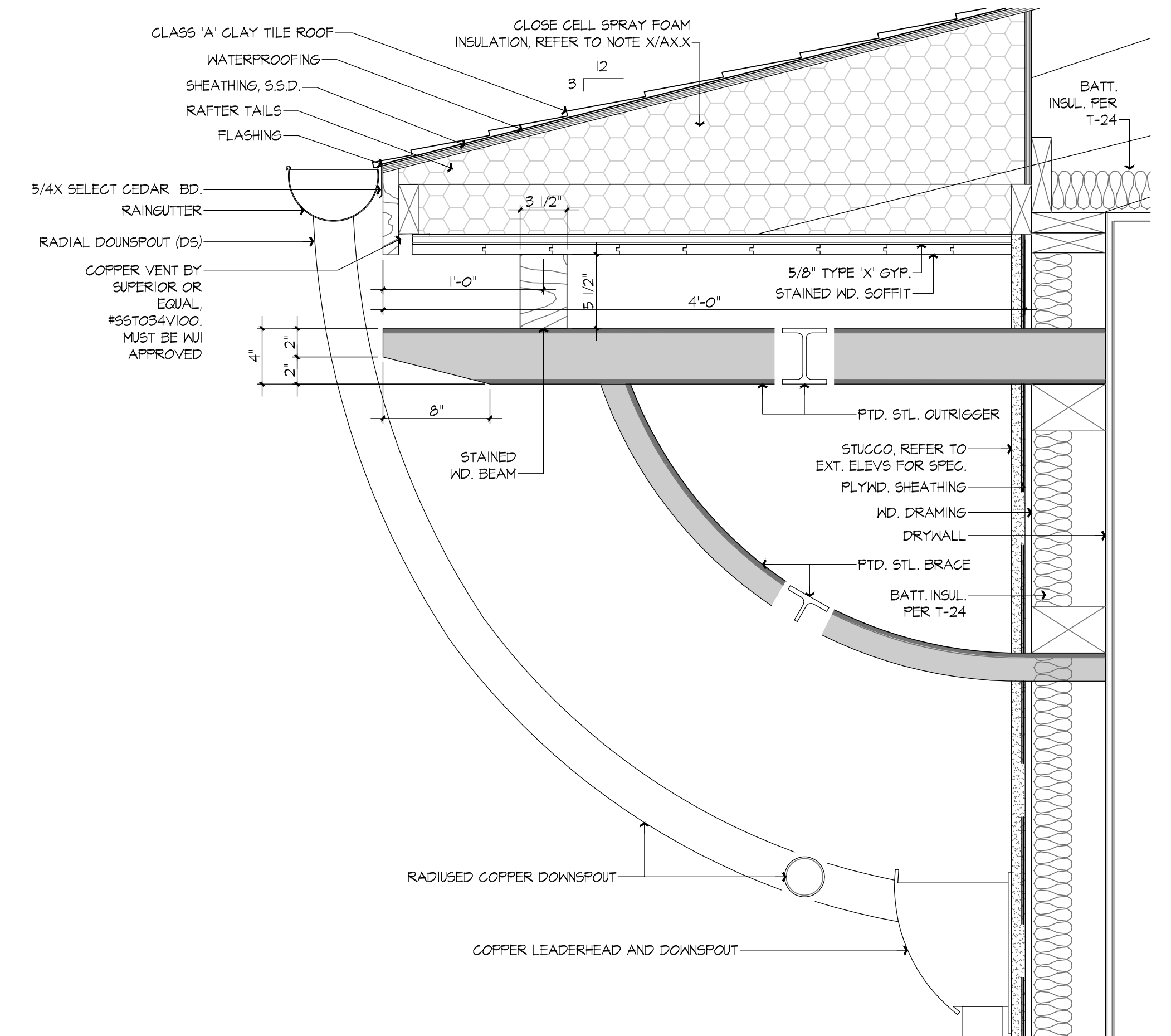
TYPICAL EAVE DETAIL AT 2'-0" OVERHANG

SCALE: 1 1/2" = 1'-0"
1
A6.1



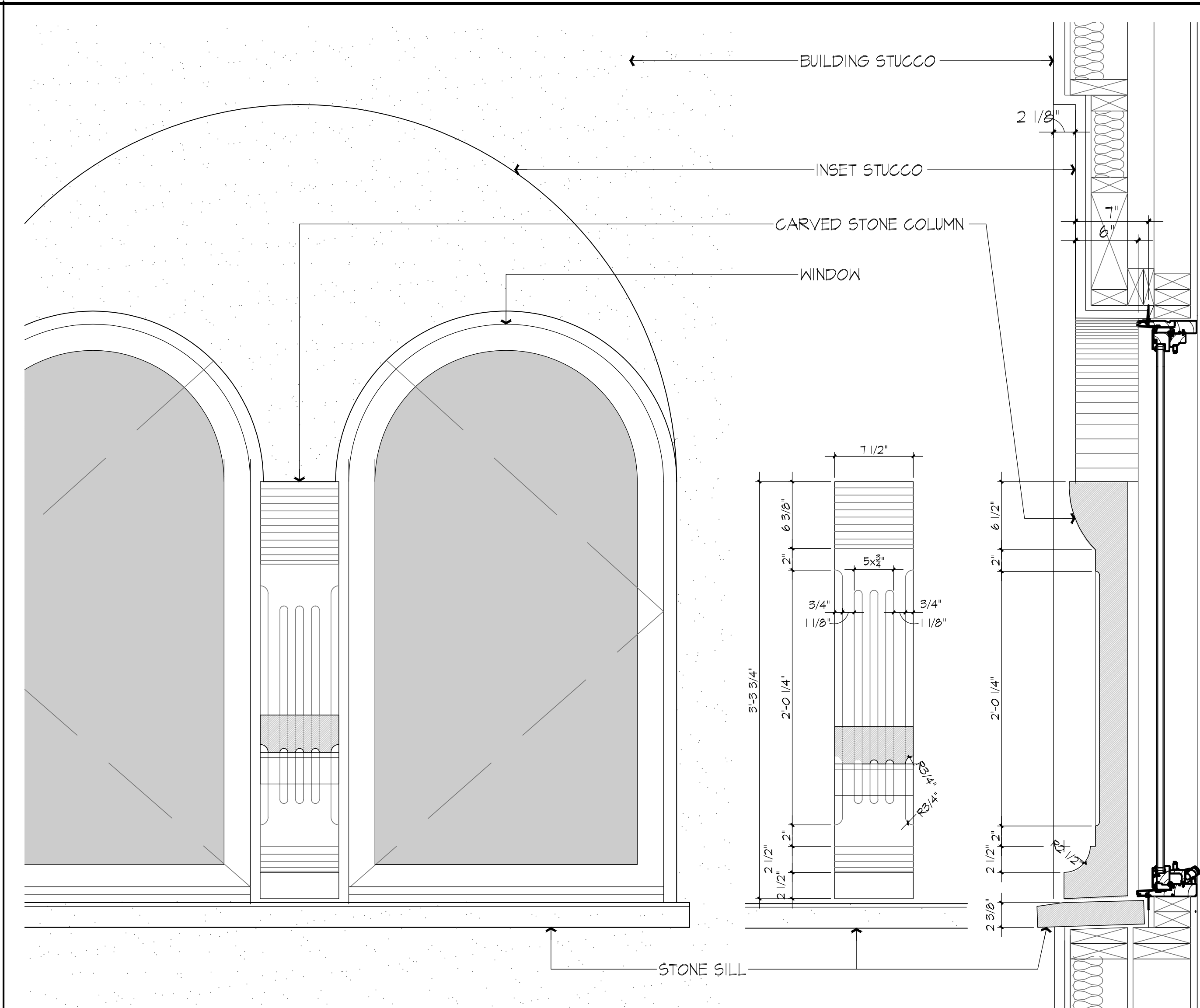
EAVE DETAIL AT 3'-0" OVERHANG

SCALE: 1 1/2" = 1'-0"
2
A6.1



EAVE DETAIL AT 4'-0" OVERHANG WITH OUTRIGGER

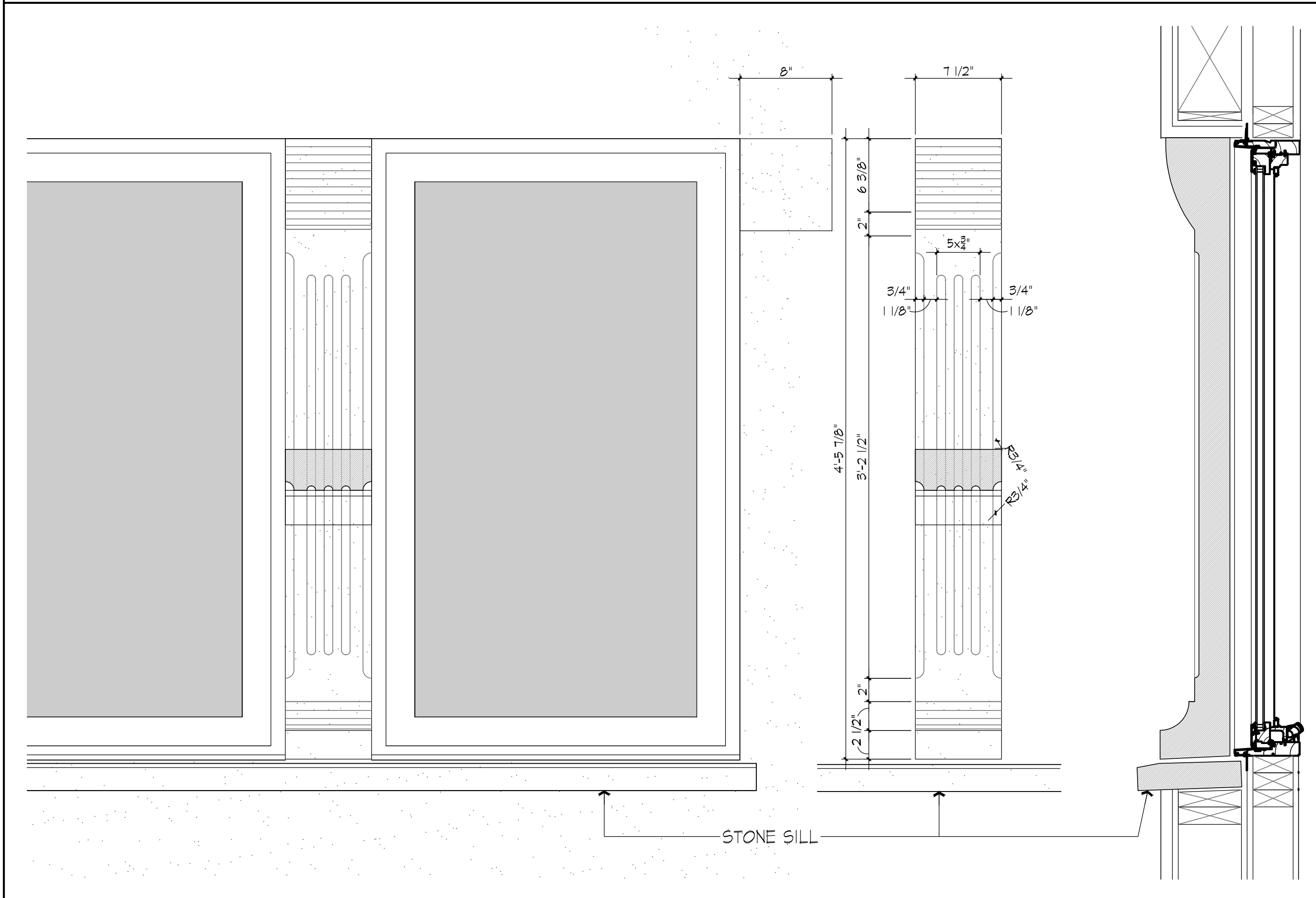
SCALE: 1 1/2" = 1'-0"
3
A6.1



WINDOW DETAIL

SCALE: 1" = 1'-0"

1
A4.3



TYP. WINDOW WEATHERIZATION DETAIL

SCALE: 1" = 1'-0"

2
A4.3

Sheet Title
EXTERIOR DETAILS

Job No 23-12
Drawn **
Date 8-15-2023

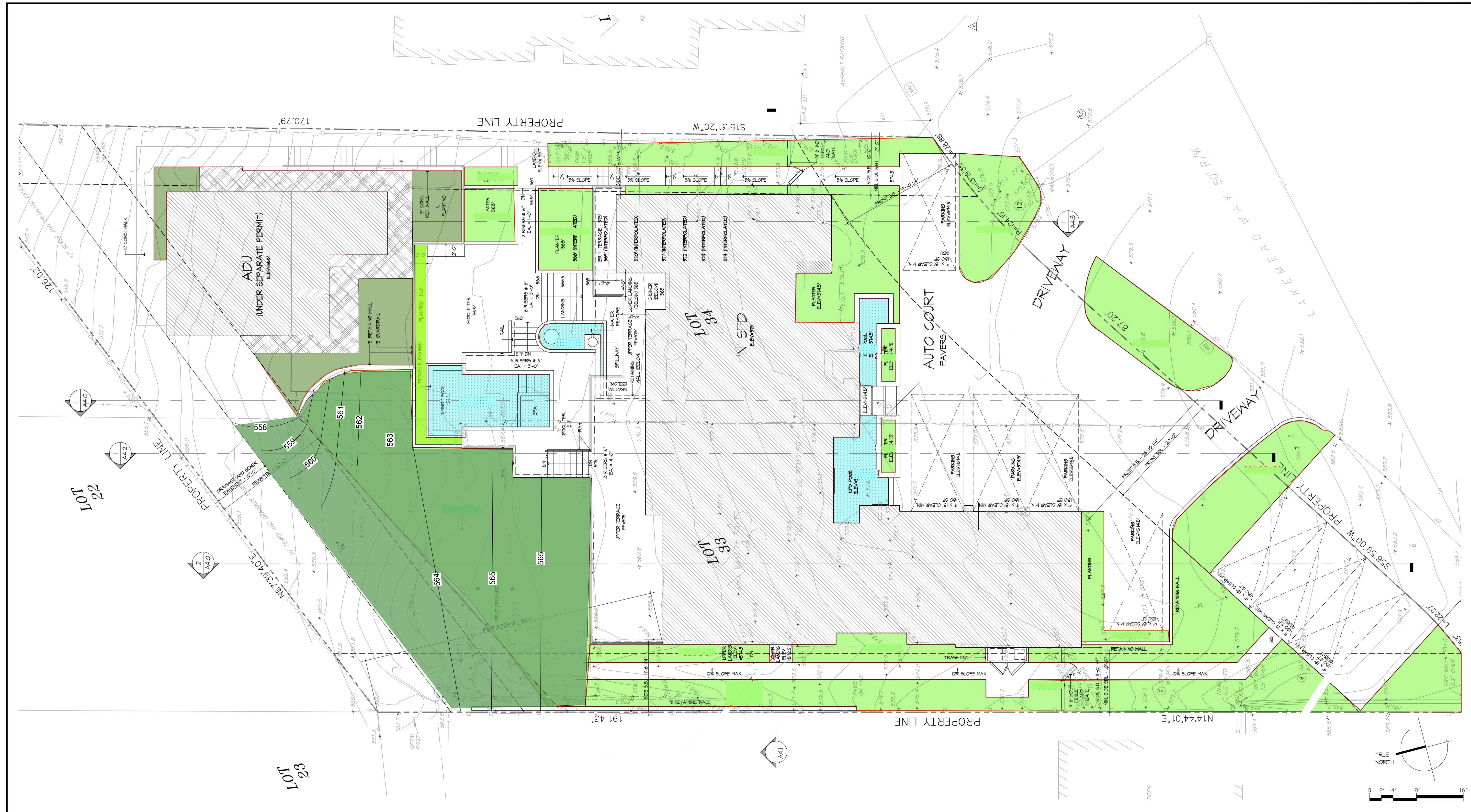
Revisions
-- 05.02.24 - Planning Response 1

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Scale: AS SHOWN

Sheet

A6.2



Project
 516 LAKEMead WAY
 EMERALD HILLS, CA 94062
 NEW SINGLE FAMILY DWELLING
 APN: 057-262-240 AND 068-071-190
 OWNER:
 JOHN & CAROLYN MOYER RESIDENCE

Sheet Title
LANDSCAPE AREA OVERVIEW

SITE PLAN

LANDSCAPE AREA OVERVIEW

	Rehabilitated Landscape	370 sf
	Regular Landscape Areas	2254 sf
	Water	420 sf
	Total	3044 sf
	Special Landscape Area	539 sf

1

1. REFER TO TITLE SHEET 60.01 FOR LOT COVERAGE CALCULATIONS.
2. REFER TO MERIDIAN SURVEYING ENGINEERING, INC. SHEET 1 OF 1 FOR INFORMATION NOT SHOWN.
3. REFER TO CIVIL DWGS FOR GRADING AND DRAINAGE INFORMATION.
4. EXISTING GRADE LINE ADJUSTMENTS NOT SHOWN ON THIS PLAN. REFER TO CIVIL DRAWINGS FOR GRADING AND QUANTITIES.

	EXISTING STRUCTURE
	PROPOSED STRUCTURE
	POOL/FOUNTAIN
	LOT COVERAGE BOUNDARY

SITE PLAN NOTES

LEGEND

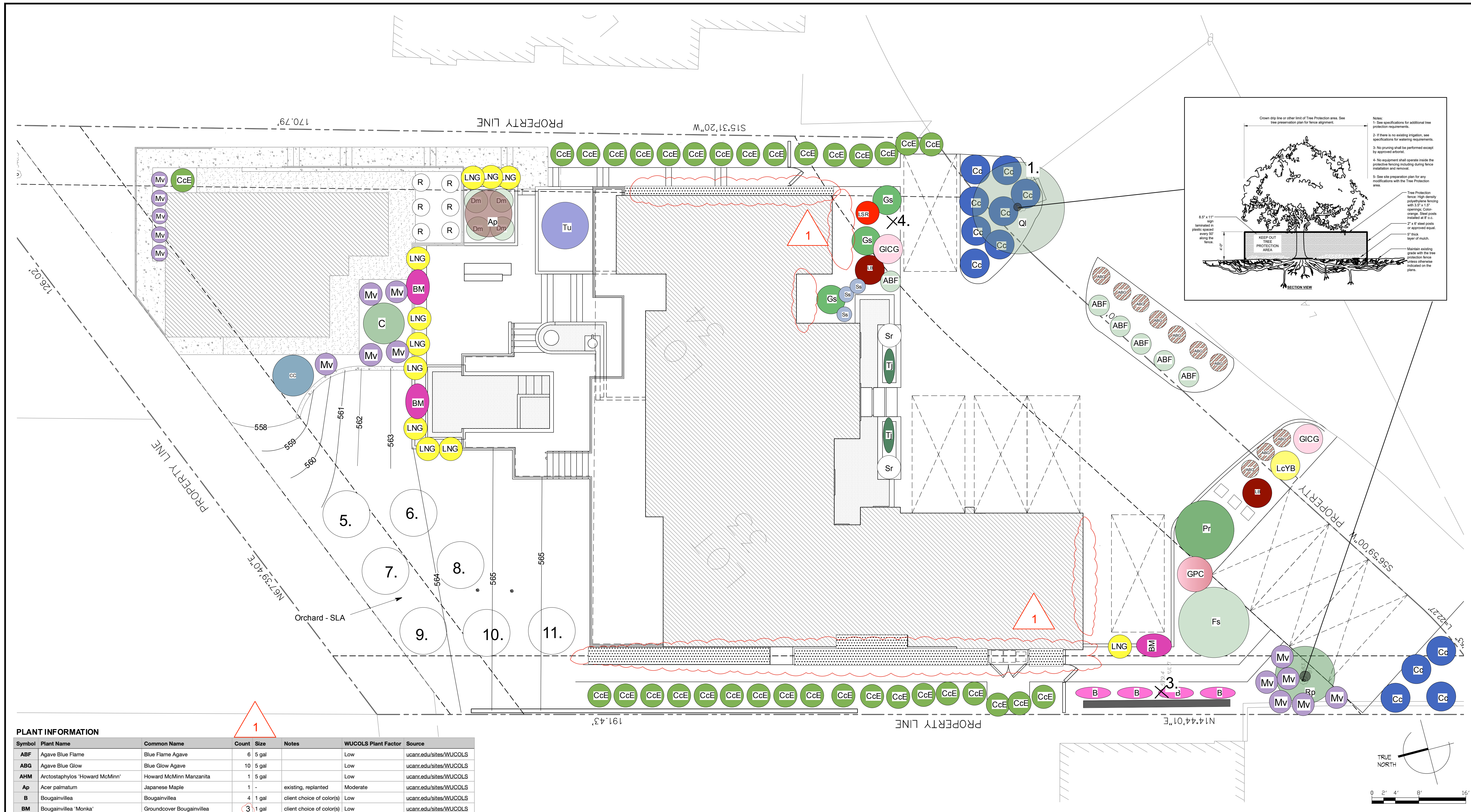
SCALE: 1/8" = 1'-0"

- Revisions
- 11.13.23 - CONSULTANTS
 - △ 4/24/24 - Revised landscape area calculations

Scale: AS SHOWN

Sheet

L1.0



Project
516 LAKEMead Way
EMERALD HILLS, CA 94062
NEW SINGLE FAMILY DWELLING

APN: 057-262-240 AND 068-071-190

OWNER:
JOHN & CAROLYN MOYER RESIDENCE

Sheet Title
LANDSCAPE DESIGN PLAN

PLANT INFORMATION

Symbol	Plant Name	Common Name	Count	Size	Notes	WUCOLS Plant Factor	Source
ABF	Agave Blue Flame	Blue Flame Agave	6	5 gal		Low	ucan.edu/sites/WUCOLS
ABG	Agave Blue Glow	Blue Glow Agave	10	5 gal		Low	ucan.edu/sites/WUCOLS
AHM	Arctostaphylos 'Howard McMinn'	Howard McMinn Manzanita	1	5 gal		Low	ucan.edu/sites/WUCOLS
Ap	Acer palmatum	Japanese Maple	1	-	existing, replanted	Moderate	ucan.edu/sites/WUCOLS
B	Bougainvillea	Bougainvillea	4	1 gal	client choice of color(s)	Low	ucan.edu/sites/WUCOLS
BM	Bougainvillea 'Monka'	Groundcover Bougainvillea	3	1 gal	client choice of color(s)	Low	ucan.edu/sites/WUCOLS
C	Citrus x meyeri	Meyer Lemon	1	5 gal		Moderate	ucan.edu/sites/WUCOLS
CC	Ceanothus 'Centennial'	Centennial Ceanothus	12	5 gal		Low	ucan.edu/sites/WUCOLS
Cc	Ceanothus Concha	Concha Ceanothus	1	5 gal		Low	ucan.edu/sites/WUCOLS
CcE	Carpenteria californica 'Elizabeth'	Elizabeth Bush Anemone	34	5 gal		Moderate	ucan.edu/sites/WUCOLS
Dm	Dymondia margaretae	Silver Carpet	1	flat		Low	ucan.edu/sites/WUCOLS
Fs	Feijoa sellowiana	Pineapple Guava	1	5 gal		Moderate	ucan.edu/sites/WUCOLS
GICG	Grevillea lanigera 'Coastal Gem'	Coastal Gem Grevillea	2	5 gal		Low	ucan.edu/sites/WUCOLS
GPC	Grevillea Peaches and Cream	Peaches and Cream Grevillea	1	5 gal		Low	ucan.edu/sites/WUCOLS
GS	Grevillea 'Superb'	Superb Grevillea	3	5 gal		Low	ucan.edu/sites/WUCOLS
LB	Leucadendron 'Blush'	Blush Cone Bush	2	5 gal		Low	ucan.edu/sites/WUCOLS
LYB	Leucospermum cordifolium 'Yellow Bird'	Yellow Bird Nodding Pincushion	1	5 gal		Low	ucan.edu/sites/WUCOLS
LNG	Lantana 'New Gold'	New Gold Lantana	11	1 gal	trailing variety	Very Low	WUCOLS - 2015 South Coastal Region Plant List
LSR	Leucospermum 'Scarlet Ribbon'	Scarlet Ribbon Nodding Pincushion	1	5 gal		Low	ucan.edu/sites/WUCOLS
Mv	Monardella villosa	Coyote Mint	1	1 gal		Very Low	ucan.edu/sites/WUCOLS
Pr	Phoenix roebelenii	Pygmy Date Palm	1	24" box	multi-trunk	Low	ucan.edu/sites/WUCOLS
Ql	Quercus lobata	Valley Oak	1	-	existing (1. on Tree List)	Low	ucan.edu/sites/WUCOLS
R	Rosa, Hybrid	Rose	6	-	existing, replanted	Moderate	ucan.edu/sites/WUCOLS
RcMSB	Rhamnus californica 'Mound San Bruno'	Mound San Bruno Coffeeberry	4	5 gal		Low	ucan.edu/sites/WUCOLS
Rp	Robinia pseudoacacia	Black Locust	1	-	existing (2. on Tree List)	Very Low	ucan.edu/sites/WUCOLS
Sr	Streptocarpus	Bird of Paradise	2	1 gal		Moderate	ucan.edu/sites/WUCOLS
Ss	Senecio serpens	Blue Chalksticks	6	1 gal		Low	ucan.edu/sites/WUCOLS
Tj	Trachelospermum jasminoides	Star Jasmine	2	1 gal		Moderate	ucan.edu/sites/WUCOLS
Tu	Tibouchina urvilleana	Princess Flower	1	5 gal		Moderate	ucan.edu/sites/WUCOLS

TREE INFORMATION

Tree Number	Plant Name	Common Name	Trunk Size (diameter)	Status
1	Quercus lobata	Valley Oak	12"	long term survival /longevity - good
2	Robinia pseudoacacia	Black Locust	8"	long term survival /longevity - good
3	Yucca aloifolia	Spanish Dagger	6" multi	remove
4	Lagerstroemia	Crape Myrtle	8"	removed
5	Citrus sinensis 'Valencia'	Valencia Orange	5"	relocated from ADU area - See Site Demo Plan A1.0 for original location
6	Citrus sinensis 'Cara Cara'	Cara Cara Orange	5"	relocated from ADU area - See Site Demo Plan A1.0 for original location
7	Citrus aurantifolia	Key Lime	4"	relocated from ADU area - See Site Demo Plan A1.0 for original location
8	Citrus x meyeri	Meyer Lemon	4"	relocated from ADU area - See Site Demo Plan A1.0 for original location
9	Malus domestica 'Gala'	Gala Apple	4"	relocated from ADU area - See Site Demo Plan A1.0 for original location
10	Prunus persica	White Peach	4"	relocated from ADU area - See Site Demo Plan A1.0 for original location
11	Pyrus pyrifolia	Asian Pear	4"	relocated from ADU area - See Site Demo Plan A1.0 for original location

NOTES

- REFER TO TITLE SHEET 50.01 FOR LOT COVERAGE CALCULATIONS.
- REFER TO MERIDIAN SURVEYING ENGINEERING, INC. SHEET 1 OF 1 FOR INFORMATION NOT SHOWN.
- REFER TO CIVIL DWGS FOR GRADING AND DRAINAGE INFORMATION.
- EXISTING GRADE LINE ADJUSTMENTS NOT SHOWN ON THIS PLAN. REFER TO CIVIL DRAWINGS FOR GRADING AND QUANTITIES.
- Refer to sheet IR-1.8 for Hydrozones and their water usage levels.
- Recirculating water systems shall be used for water features.
- Minimum 3-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
- For soils less than 6% organic matter in the top six inches of soil, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil.

REQUIRED STATEMENTS AND CERTIFICATION

- I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plans.
- A diagram of irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.
- Certificate of Completion shall be filled out and certified by either the designer of the landscape plans, irrigation plans, or the licensed landscape contractor for the project.
- An irrigation audit report shall be completed at the time of final inspection.

LEGEND

- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- POOL/FOUNTAIN
- LOT COVERAGE BOUNDARY

Date: 1/18/2024
By: [Signature]

Date
Revisions

- 12.11.23 - CONSULTANTS
- 4/24/24 Planning 1

Scale: AS SHOWN

Sheet
L2.0

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Project
 516 LAKEMEAD WAY
 EMERALD HILLS, CA 94062
 NEW SINGLE FAMILY DWELLING

APN: 057-262-240 AND 068-071-190

OWNER:
 JOHN & CAROLYN MOYER RESIDENCE

Sheet Title

LANDSCAPE LIGHTING PLAN

Job No 23-12
 Drawn **
 Date 8-15-2023

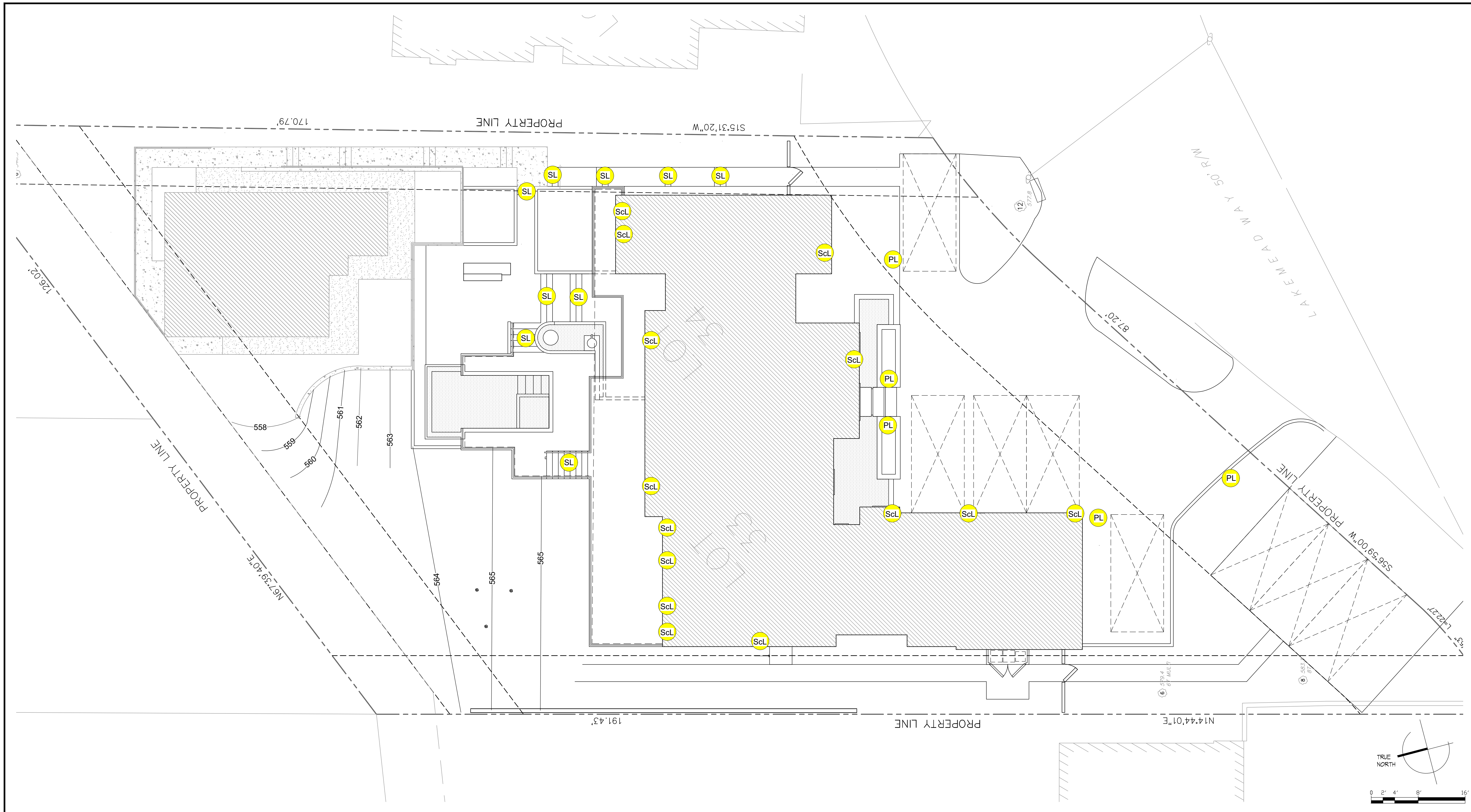
Revisions

- 12.11.23 - CONSULTANTS
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Scale: AS SHOWN

Sheet

L3.0



SITE PLAN

SL Stair Light
 Low Voltage LED Under lip installation, shown sheet A6.1 Exterior Details

TYP. TERRACE STEP DETAIL SCALE: 1" = 1'-0"

PL Path Light
 Low Voltage LED Volt Max Spread Brass Path and Area Light BDL-330-BBZ

Material	Photometrics
Construction: Cast Brass	Light Source: LED G4 B-Pin Bulb
Finish: Antique Bronze	Light Output (Lumen): See spec for G4 B-Pin bulb
Lead Wire: 4' or 25' UL Certified TANKS, SP72 premium listed copper wire	Beam Spread: Approximately 10' diameter beam spread
Lens: Clear polycarbonate polycarbonate lens	Color Temperature (CCT): See spec for G4 B-Pin bulb
Mounting: Includes 1/2" hex head screw with nut for wire exit	Color Rendering Index (CRI): See spec for G4 B-Pin bulb
Dimensions: Outer Fixture: 20" x 9" Stake: 10" x 1"	Lamp Life (L70): See spec for G4 B-Pin bulb

Certifications	Electrical
Dark Sky Approved: Complies with ICA guidelines to conserve energy, prevent light pollution, and minimize light trespass	Energy Consumption (watts): See spec for G4 B-Pin bulb
Certifications: UL & CSA Listed	Power Factor: See spec for G4 B-Pin bulb
Warranty: Lifetime	Operating Voltage Range: See spec for G4 B-Pin bulb
	Power Supply: VOLT Low Voltage Transformer (sold separately)

SCL Sconce Light
 Hubbardton Forge, Model 304220

Sea Coast Large Outdoor Sconce
 Item No: 304220

Dimensions	Lamping Information
Height: 24.2"	Socket Type: Medium
Depth: 4.2"	Base: 4.8" x 4.8" x 1.5"
Weight: 8.8 lbs	Number of Bulbs: 1 Low Voltage
Material: Cast Brass	Location Rating: UL Listed
Mounting Height: Vertical 5.0"	Safety Rating: UL/CSA Listed

1. REFER TO TITLE SHEET GO-01 FOR LOT COVERAGE CALCULATIONS.
 2. REFER TO MERIDIAN SURVEYING ENGINEERING, INC. SHEET 1 OF 1 FOR INFORMATION NOT SHOWN.
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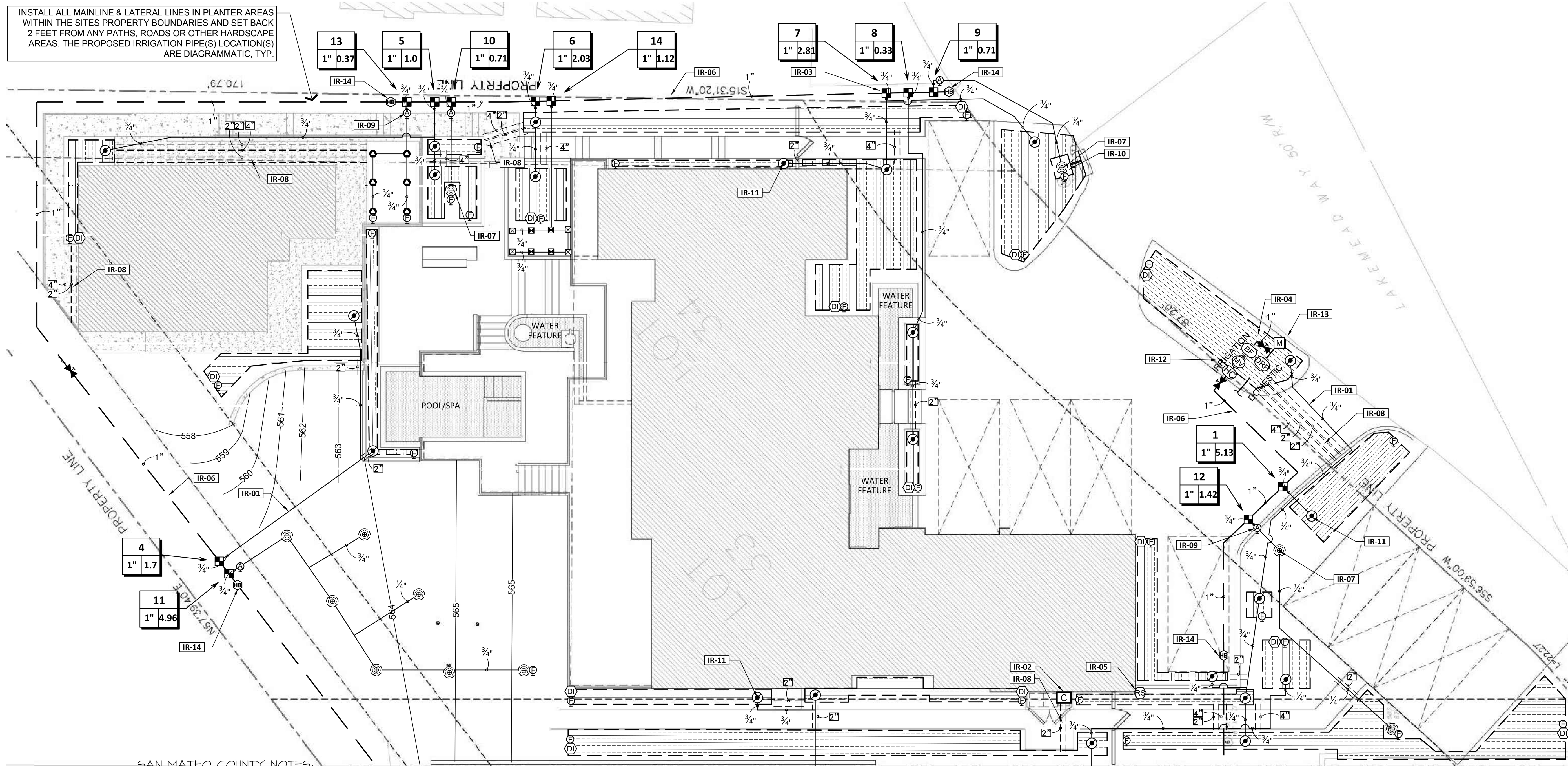
LEGEND

- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- POOL/FOUNTAIN
- LOT COVERAGE BOUNDARY

SITE PLAN NOTES

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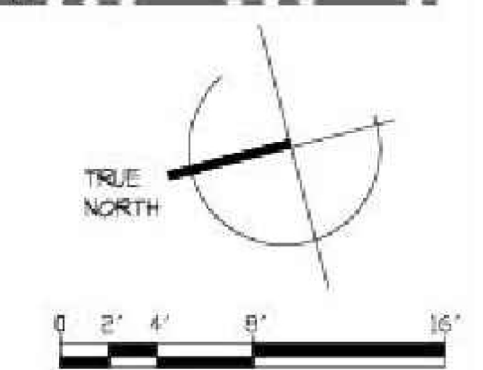
INSTALL ALL MAINLINE & LATERAL LINES IN PLANTER AREAS WITHIN THE SITES PROPERTY BOUNDARIES AND SET BACK 2 FEET FROM ANY PATHS, ROADS OR OTHER HARDSCAPE AREAS. THE PROPOSED IRRIGATION PIPE(S) LOCATION(S) ARE DIAGRAMMATIC, TYP.



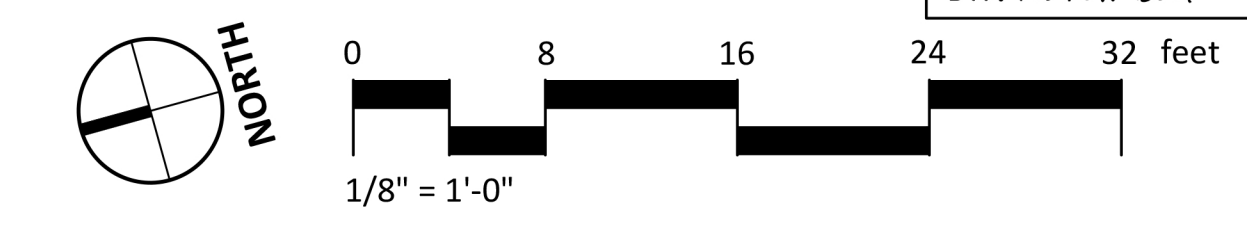
SAN MATEO COUNTY NOTES:

- "Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur."
- "A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes."
- "A Certificate of Completion shall be filled out and certified by either the designer of the landscape plans, irrigation plans or the licensed landscape contractor."
- "An irrigation audit report shall be completed at the time of final inspection."
- "Recirculating water systems shall be used for water features."
- "A minimum 3-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated."
- "For soils less than 6% organic matter in the top 6" of soil, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil."
- "Pressure regulating devices are required if water pressure is below or exceeds the recommended pressure of the specified irrigation devices."

INSTALL ALL MAINLINE & LATERAL LINES IN PLANTER AREAS WITHIN THE SITES PROPERTY BOUNDARIES AND SET BACK 2 FEET FROM ANY PATHS, ROADS OR OTHER HARDSCAPE AREAS. THE PROPOSED IRRIGATION PIPE(S) LOCATION(S) ARE DIAGRAMMATIC, TYP.



"I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Document Package."
 "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plans."
 DATED: 01/19/24
 BY: Andrew Bolt



General Notes

No.	Revision/Issue	Date

Firm Name and Address

4Binc Select Certified ASIC
 IRRIGATION ASSOCIATION
 PROFESSIONAL MEMBER
 LIC# 1012730-IA CERTIFICATION # 57436

Project Name and Address

JOHN & CAROLYN MOYER RESIDENCE
 516 LAKEMEAD WAY
 EMERALD HILLS, CA 94062

Project Number 515-2024	Sheet # IR-1.0
Date 01/18/2024	Of Total 9 Sheets
Scale 1/8" = 1'-0"	
Drafted By 4Binc	

LANDSCAPE IRRIGATION PLAN

IRRIGATION NOTES:

POINT OF CONNECTION (P.O.C):

- CONNECT IRRIGATION MAINLINE TO MAIN WATER SUPPLY (SEE CIVIL OR ARCHITECTURAL DRAWINGS FOR LOCATION), LANDSCAPE CONTRACTOR TO VERIFY LOCATION, SIZE, FLOW AND PRESSURES AVAILABLE AND TO NOTIFY LANDSCAPE ARCHITECT OF ANY NECESSARY CHANGES NEEDED TO BE MADE SO THAT THE IRRIGATION SYSTEM PERFORMS TO AN IRRIGATION EFFICIENCY OF A MINIMUM OF 81 PERCENT.
- SYSTEM MAXIMUM OPERATING PRESSURE: 80 PSI (AT P.O.C) INSTALL PRESSURE REDUCER IF PRESSURES EXCEED EQUIPMENT MANUFACTURERS SUGGESTED MAXIMUM OPERATING PRESSURES.
- SYSTEM MINIMUM OPERATING PRESSURE: 53 PSI (AT P.O.C)

IRRIGATING AROUND EXISTING TREES:

ANY IRRIGATION (MAINLINE OR LATERALS) WITH IN DRIP LINES OF EXISTING TREES SHALL BE FIELD APPROVED BY CONSULTING ARBORIST AND OR LANDSCAPE ARCHITECT PRIOR TO ANY TRENCHING WORK COMMENCES. HAND TRENCH AND OR FOLLOW ALL ARBORISTS/LANDSCAPE ARCHITECTS RECOMMENDATIONS.


DO NOT STACK OR STORE ANY MATERIALS, EQUIPMENT OR MACHINERY UNDER DRIP LINE OF EXISTING TREES.

MWELo (MODEL WATER EFFICIENT LANDSCAPE ORDINANCE) NOTES:

CERTIFICATION OF COMPLETION REQUIREMENTS:

- UPON COMPLETION OF LANDSCAPE AND IRRIGATION INSTALLATION THE LANDSCAPE CONTRACTOR SHALL SUBMIT THE FOLLOWING AS REQUIRED BY CALIFORNIA MODEL CERTIFICATION FROM LANDSCAPE ARCHITECT FOR INSTALLATION ACCORDING TO THE APPROVED LANDSCAPE DOCUMENTATION PACKAGE.
- SOIL MANAGEMENT REPORT AND RECEIPTS FOR SOIL IMPROVEMENT PRODUCTS.
- LANDSCAPE MAINTENANCE MANAGEMENT REPORT.
- IRRIGATION MAINTENANCE MANAGEMENT REPORT.
- IRRIGATION SCHEDULE FOR NEW AND ESTABLISHED PLANT MATERIALS
- IRRIGATION AUDIT REPORT INDICATING SITE IRRIGATION EFFICIENCY.
- IRRIGATION DISTRIBUTION UNIFORMITY, ALL INSTALLED EQUIPMENT COMPLIES WITH APPROVED MWELo GUIDELINES.
- CERTIFICATE OF COMPLETION (COC) FORM.
- CONTACT LOCAL ENFORCING AGENCY FOR APPROVED SUBMITTAL FORMS AND PROCEDURES.

"A LANDSCAPE IRRIGATION AUDIT IS REQUIRED. THIS AUDIT MUST BE COMPLETED BY A CERTIFIED LANDSCAPE IRRIGATION AUDITOR, NOT THE DESIGNER OR INSTALLER. THE AUDIT MUST BE SUBMITTED TO THE BUILDING DEPARTMENT, WITH A CERTIFICATE OF COMPLETION (APPENDIX C) AS REQUIRED BY THE DEPARTMENT OF WATER RESOURCES, PRIOR TO SCHEDULING A FINAL INSPECTION OF THE WATER EFFICIENT LANDSCAPE PERMIT."



WATER EFFICIENT LANDSCAPE ORDINANCE
NOTIFICATION OF COMPLIANCE
REQUIRED OF IRRIGATION CONTRACTORS

THE IRRIGATION CONTRACTOR IS REQUIRED TO FULLY COMPLY WITH THE IRRIGATION PLANS DURING INSTALLATION OF THE IRRIGATION SYSTEM. ALL FIELD CHANGES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT/LANDSCAPE IRRIGATION AUDITOR. ANY WORK NOT INSTALLED IN STRICT CONFORMANCE WITH THE LANDSCAPE IRRIGATION AUDITORS REQUIREMENTS SHALL BE REMOVED AND REINSTALLED AT THE CONTRACTORS EXPENSE. THE CONTRACTOR AND OWNER SHALL REFER TO THE IRRIGATION NOTES SHEET FOR IRRIGATION CONTRACTORS WORK RESPONSIBILITIES AND THE LANDSCAPE ARCHITECT'S REQUIRED FIELD OBSERVATION SCHEDULE.

MWELo GENERAL NOTES:

- A CERTIFICATE OF COMPLETION SHALL BE COMPLETED BY EITHER THE OWNER, THE DESIGNER OF THE LANDSCAPE PLANS OR BY THE LICENSED INSTALLING CONTRACTOR.
- AN AS BUILT DIAGRAM OF THE INSTALLED IRRIGATION SHOWING NUMBERED ZONES, VALVE LOCATION, MAINLINE LOCATION, IRRIGATION CONTROLLER AND P.O.C LOCATION SHALL BE KEPT WITH THE CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.
- CHECK VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW HEAD DRAINAGE COULD OCCUR.
- PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER OPTIMUM PRESSURE OF THE SPECIFIED IRRIGATION DEVICE PRESSURE EXCEEDS THE OPERATING RECOMMENDATIONS.
- NO OVERHEAD IRRIGATION IS PERMITTED IN LANDSCAPE AREAS THAT ARE LESS THAN 10' WIDE. DRIP OR LOW FLOW BUBBLER IRRIGATION MUST BE USED AS AN ALTERNATIVE.
- INSTALLING CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND PROGRAMMING ALL SELF ADJUSTING WEATHER/SOIL MOISTURE SENSING BASED CONTROLLERS. RAIN SENSORS ARE TO BE INSTALLED WITH ANY CONTROLLER WHERE AN OFFSITE WEATHER STATION IS USED.
- ALL SPECIFIED FLOW SENSORS AND MASTER VALVES MUST BE INSTALLED AND PROGRAMMED AS PER MANUFACTURERS REQUIREMENTS.
- AN IRRIGATION AUDIT AND COMMISSIONING IS REQUIRED ON ALL PROJECTS. CONTACT ANDREW BOLT 209-404-1746 TO SET UP.
- THESE PLANS HAVE BEEN PREPARED BY A CERTIFIED PROFESSIONAL AND ARE MEANT AS A GUIDE ONLY. PIPING AND VALVE PLACEMENT ARE DIAGRAMATIC ONLY. ALL PIPING UNDER HARDSCAPES MUST BE SLEEVED WITH SPECIFIED SLEEVEING MATERIALS.
- PROTECT ALL EXISTING TREES DURING IRRIGATION TRENCHING AND PIPE INSTALLATION. CONSULT WITH LANDSCAPE ARCHITECT BEFORE CUTTING ANY ROOTS.
- NOTE TO CONTRACTOR:** ALL IRRIGATION ZONES HAVE BEEN LAYED OUT AND APPROVED BY THE CITY OR COUNTY BASED ON PLANT WATER USE. SHOULD THE INSTALLING CONTRACTOR CHANGE OR MODIFY THE APPROVED IRRIGATION LAYOUT IN ANYWAY WITHOUT PRIOR AUTHORIZATION THE CONTRACTOR WILL ASSUME ALL LIABILITY AND COST OF ALL CHANGES TO THE IRRIGATION LAYOUT AND ALL ADDITIONAL WATER USAGE OVER AND ABOVE FOR THE LIFE OF THE IRRIGATION SYSTEM(S) AND ALL COSTS THAT ARE ASSOCIATED WITH OVER WATER USAGE.

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
	TORO DZK-700 LOW FLOW DRIP CONTROL VALVE KIT. WITH 1" IRRITROL 700 ULTRAFLOW INLINE VALVE, TORO Y-FILTER, PRESSURE REGULATOR AND FITTINGS. .10 GPM-30 GPM. REGULATED PRESSURE AT 40PSI, INSTALL IN CARSON SPEC VALVE BOX RECTANGLE 17 IN. X 30 IN. X 18 IN.H GREEN BOX/GREEN LID DROP-IN ICV W/BOLT	
	PIPE TRANSITION POINT PVC-PLOY PIPE TRANSITION POINT.	
	NETAFIM TlSOV NETAFIM TlSOV- 1/2IN. MANUAL FLUSH VALVE, BARBED INSERT. INSTALL IN 10IN. BOX, WITH ADEQUATE BLANK OR IN. COBRAIN. TUBING TO EXTEND VALVE OUT OF VALVE BOX. 2/3 IN FITS TECHLINE HCVR, HCVR-RW/RWP, CV, DL, RW AND RWP DRIPLINES, AND PE IRRIGATION HOSE	
	TORO T-YD-500-34 1/2IN. AIR VENT- MIPT AIR RELEASE AND VACUUM RELIEF VALVE	
	RAIN BIRD OPERIND DRIP SYSTEM OPERATION INDICATOR, STEM RISES 6" FOR CLEAR VISIBILITY WHEN DRIP SYSTEM IS CHARGED TO A MINIMUM OF 20PSI. INCLUDES 16" OF 1/4" DISTRIBUTION TUBING WITH CONNECTION FITTING PRE-INSTALLED. INSTALL MINIMUM TWO PER DRIP ZONE, PLACE NEXT TO FLUSH VALVE.	
	RAIN BIRD XP-0600X SQ SERIES LOW-VOLUME, LOW-PRESSURE, DRIP 6.0IN. POP-UP SPRAY, 1/4IN. BARBED INLET. NOZZLE OPTIONS: SQ SERIES, 5 MPR SERIES, 8 MPR SERIES, AND 5 SERIES PLASTIC BUBBLER. *NOTE* ALWAYS INSTALL A PRESSURE COMPENSATING SCREEN W/PLASTIC BUBBLER 5 SERIES.	20
	SHRUB DRIP RING 0.53 GPH SHRUB DRIP RING TORO RGP-212 / 0.53 GPH	30
	TREE DRIP RING 1.0 GPH TREE DRIP RING TORO RGP-212 / 1.0 GPH. INSTALL PER DETAIL. 3 RINGS = 42.5 GPH, 4 RINGS = 69.5 GPH. INSTALL (2) ROOTWELL 318-C EVENLY AROUND THE ROOT BALL OF EVERY PROPOSED TREE	30
	AREA TO RECEIVE DRIPLINE NETAFIM DLHCVXR-CS-053-18 TECHLINE HCVR-CS PRESSURE COMPENSATING LANDSCAPE DRIPLINE WITH COPPER STRIPE, CHECK VALVE AND ANTI-SIPHON FEATURE. 0.53 GPH EMITTERS AT 18" O.C. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. 17MM.	30
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	BUCKNER-SUPERIOR HB1F 3/4" X 1/2" FEMALE NPT RED BRASS HOSE BIBB.	
	MATCO-NORCA 759 BRASS SHUT OFF BALL VALVE, 1/2" TO 4". TWO PIECE BODY, BLOW-OUT PROOF SEAM. CHROME PLATED SOLID BRASS BALL, THREADED, WITH PTFE SEATS. SAME SIZE AS MAINLINE PIPE.	
	BUCKNER-SUPERIOR 3200 1" NORMALLY CLOSED BRASS MASTER VALVE THAT PROVIDES DIRTY WATER PROTECTION AND NO MINIMUM FLOW FEATURE, WHICH ENSURES RELIABLE OPENING AND CLOSING OF THE VALVE IN EXTREME HIGH OR LOW FLOW SCENARIOS. AVAILABLE IN 3/4IN., 1IN., 1-1/2IN., 2IN., 2-1/2IN. AND 3IN..	
	FEBCO 825YA 1" REDUCED PRESSURE BACKFLOW PREVENTER	
	HUNTER PHC-1600 WI-FI ENABLED, FULL-FUNCTIONING CONTROLLER WITH TOUCHSCREEN, 16-STATION FIXED CONTROLLER, 120 VAC, OUTDOOR MODEL.	
	HUNTER WSS WIRELESS SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER PCC, PRO-C, AND I-CORE CONTROLLERS, INSTALL AS NOTED. INCLUDES 10 YEAR LITHIUM BATTERY AND RUBBER MODULE COVER, AND GUTTER MOUNT BRACKET.	
	HUNTER HC-075-FLOW 3/4IN. FLOW METER FOR USE WITH HYDRAWISE ENABLED CONTROLLER TO MONITOR FLOW AND PROVIDE SYSTEM ALERTS. ALSO FUNCTIONS AS STAND ALONE FLOW TOTALIZER/SUB METER ON ANY RESIDENTIAL OR COMMERCIAL IRRIGATION SYSTEM.	
	WATER METER 3/4" POC LOCATED FOR CLARITY ONLY. EXISTING CITY INSTALLED WATER METER. VERIFY LOCATION IN FIELD	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 INSTALL ALL LATERAL LINES TO A DEPTH OF 12" BELOW FINISH GRADE. BACKFILL WITH CLEAN FILL, NO ROCKS OVER 1/2" IN SIZE.	
	IRRIGATION MAINLINE: PVC SCHEDULE 40 INSTALL ALL MAINLINE TO A DEPTH OF 18" UNLESS OTHERWISE NOTED. BACKFILL WITH CLEAN FILL, NO ROCKS OVER 1/2" IN SIZE. NOTE ALL MAINLINE LOCATION ON AS-BUILT PLANS.	
	PIPE SLEEVE: PVC SCHEDULE 40 INSTALL 2 EACH 2" SLEEVES 12" PAST EDGE OF HARDSCAPE TO A DEPTH OF 24" FOR MAINLINE AND 18" FOR LATERAL LINES. ALL OTHER SLEEVEING INSTALL TO A DEPTH OF 12".	
	Valve Callout # Valve Number # Valve Flow # Valve Size	

CRITICAL ANALYSIS

Generated: 2024-01-16 20:25

P.O.C. NUMBER: 01
Water Source Information: POC located for clarity only.
Existing City installed Water Meter. verify Location in field

FLOW AVAILABLE
Water Meter Size: 3/4"
Flow Available: 12.06 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 65 PSI
Elevation Change: 5.00 ft
Service Line Size: 3/4"
Length of Service Line: 20 ft
Pressure Available: 60 PSI

DESIGN ANALYSIS
Maximum Station Flow: 5.13 GPM
Flow Available at POC: 12.06 GPM
Residual Flow Available: 6.93 GPM

Critical Station:
Design Pressure: 11
Friction Loss: 30 PSI
Fittings Loss: 0.29 PSI
Elevation Loss: 0.03 PSI
Loss through Valve: 0 PSI
Pressure Req. at Critical Station: 8.57 PSI
Loss for Fittings: 38.9 PSI
Loss for Main Line: 0.17 PSI
Loss for POC to Valve Elevation: 1.72 PSI
Loss for Backflow: 0 PSI
Loss for Master Valve: 11 PSI
Loss for Water Meter: 0.16 PSI
Critical Station Pressure at POC: 52.6 PSI
Pressure Available: 60 PSI
Residual Pressure Available: 7.43 PSI

REFERENCE NOTES

SYMBOL	IRRIGATION DESCRIPTION
IR-01	LATERAL LINES- ALL LATERALS ARE SIZED 3/4" UNLESS OTHERWISE NOTED.
IR-02	CONTROLLER LOCATION- INSTALL CONTROLLER ON EXTERIOR WALL, CONNECT TO OWNER WIFI AND SET UP WEATHER BASED SCHEDULING VIA HUNTER WEB SITE.
IR-03	SCHEMATIC VALVE LOCATION- INSTALL ALL VALVES IN PLANTER AREAS AND SET BACK 5 FEET FROM ANY PATHS, PATIO OR OTHER HARDSCAPE AREAS.
IR-04	POINT OF CONNECTION- CONTRACTOR TO CONFIRM POC LOCATION, SIZE OF CONNECTION, STATIC PRESSURE AND FLOWS AVAILABLE. IF LOCATION IS DIFFERENT INDICATE ON AS BUILT PLANS.
IR-05	WEATHER BASED SENSOR LOCATION- INSTALL WEATHER SENSOR ON SW SIDE OF BUILDING WITH NO OVERHANG OBSTRUCTIONS.
IR-06	MAIN LINE- INSTALL MAIN LINE IN PLANTER AREAS WITHIN THE SITES PROPERTY BOUNDARIES AND SET BACK 2 FEET FROM ANY PATHS, ROADS OR OTHER HARDSCAPE AREAS. THE PROPOSED MAIN LINE LOCATION(S) IS DIAGRAMMATIC.
IR-07	TREE DRIP RING- FOR ALL TREES
IR-08	CONDUIT- FOR CONTROL VALVE WIRE RUN(S) TO CONTROLLER, SIZE PER PLAN
IR-09	AIR RELIEF VALVE- FOR ALL SHRUB AND TREE RINGS INSTALL IN HIGHEST LOCATION IN DRIP ZONE.
IR-10	(E) TREES- NEAR ALL EXISTING TREES TO REMAIN ON THIS SITE, CONTRACTOR CANNOT USE ANY MECHANICAL EQUIPMENT FOR IRRIGATION PIPE(S) INSTALLATION, ETC. CONTRACTOR CAN ONLY HAND DIG NEAR ALL (E) TREES. REFER TO ARBORIST REPORT FOR ADDITIONAL INFORMATION.
IR-11	INLINE DRIP SUPPLY AND EXHAUST HEADERS- CONTRACTOR MUST INSTALL PVC SUPPLY AND EXHAUST HEADERS ON ALL DRIP SYSTEMS PER DETAILS ON THE IRRIGATION DETAIL SHEET(S). ALL SUBSURFACE DRIP MUST TERMINATE IN A PVC EXHAUST HEADER. PLANS ONLY SHOW SUPPLY TAP-IN LOCATIONS.
IR-12	MASTER CONTROL VALVE & HUNTER HC FLOW METER- INSTALLING CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND PROGRAMMING MASTER VALVE AND FLOW METER AT THE IRRIGATION CONTROLLER. CONTACT MANUFACTURER FOR ASSISTANCE WITH SET UP.
IR-13	EXISTING HOME WATER METER- PER CIVIL ENGINEER'S PLANS - CONTRACTOR TO VERIFY SIZE AND LOCATION
IR-14	HOSE BIB - INSTALL ON POST, REFER TO DETAIL WITHIN THIS PLAN SET.

General Notes

LANDSCAPE IRRIGATION LEGEND

No.	Revision/Issue	Date

Firm Name and Address



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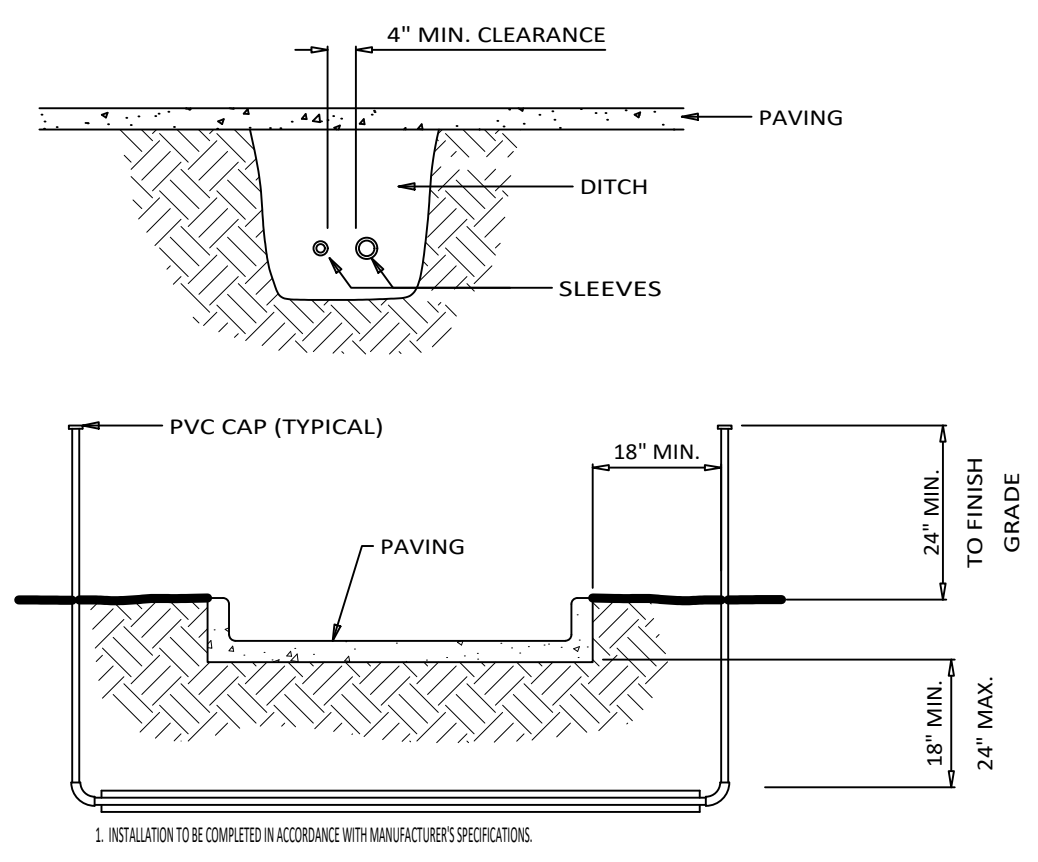
Project Name and Address

JOHN & CAROLYN MOYER RESIDENCE
516 LAKEMEAD WAY
EMERALD HILLS, CA 94062

Project Number 515-2024	Sheet # IR-1.1
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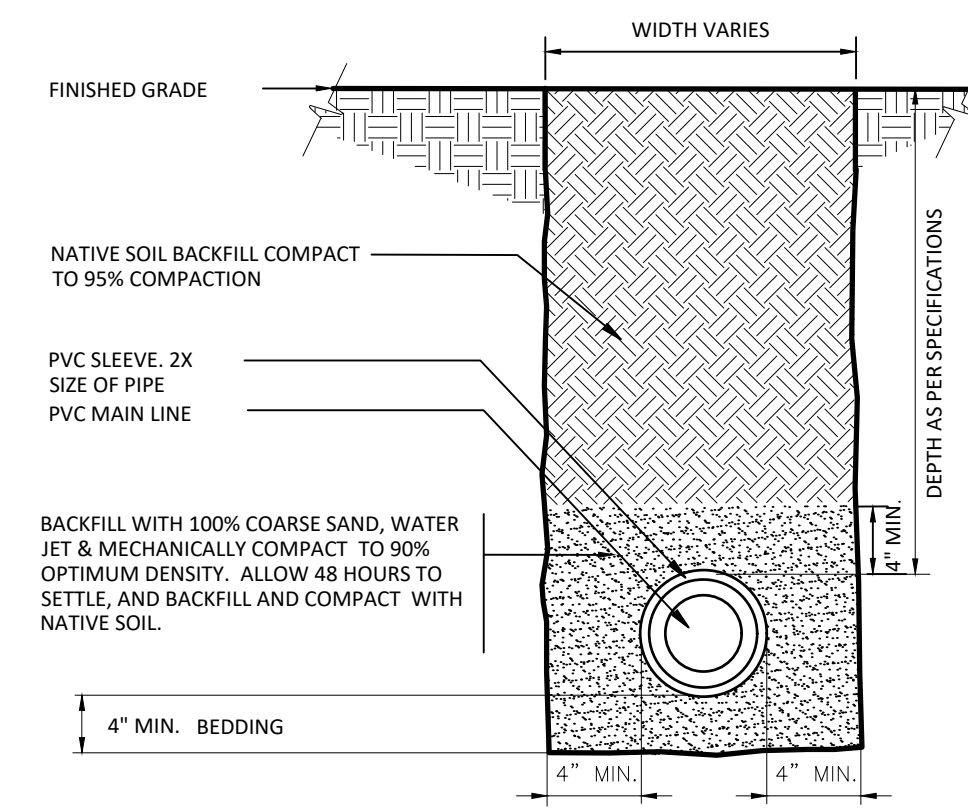


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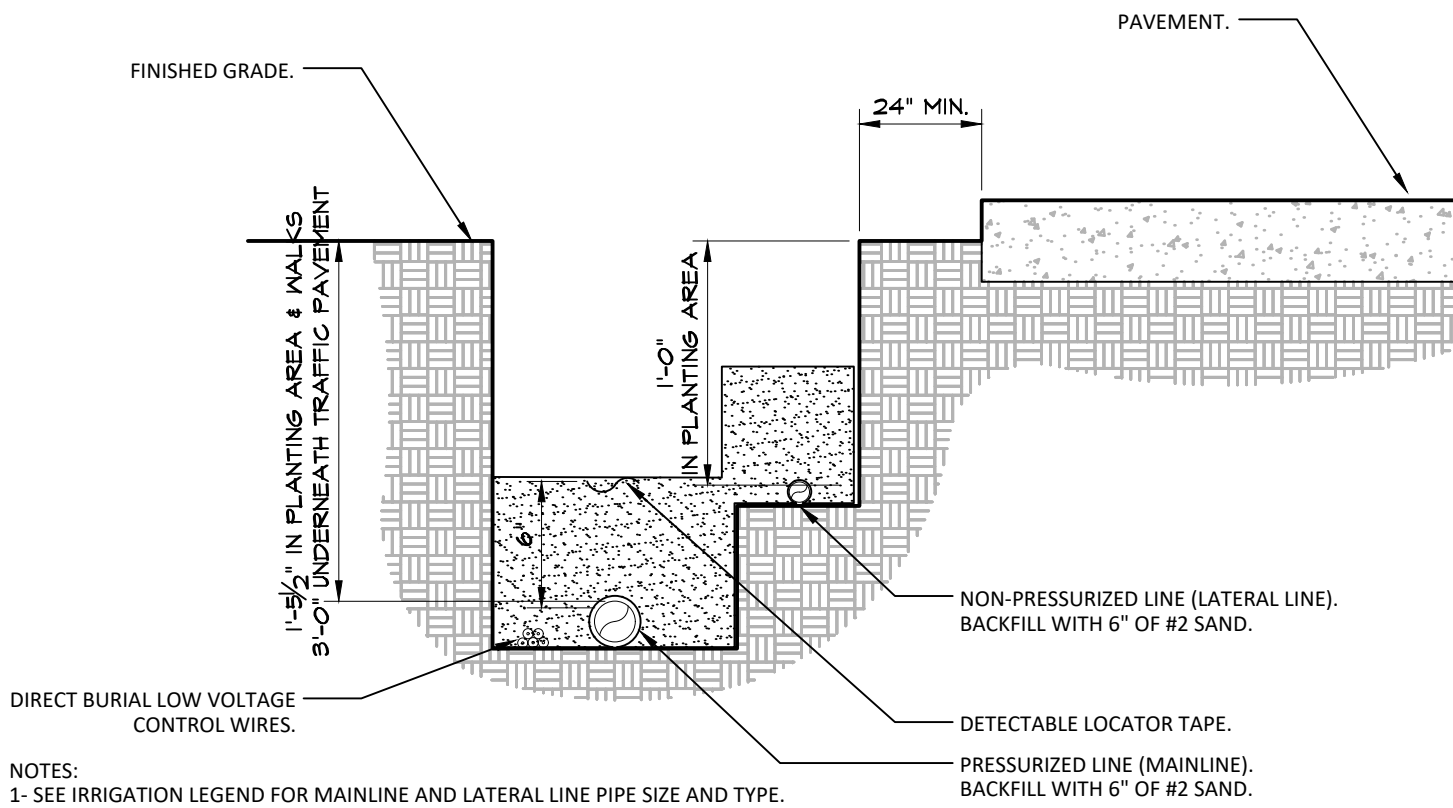


1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. ALL PVC IRRIGATION SYSTEMS TO BE CLASS 200 PIPE.
4. ALL CONDUITS TO BE EXPOSED, WEATHERED AND WATER TIGHT.
5. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SLEEVE SIZE TO 2" MINIMUM ABOVE FINISH GRADE.
6. MECHANICALLY TIGHT TO SOIL PROTECT.

4 SLEEVING DETAIL
NTS AB-IR-MAI-328409-06

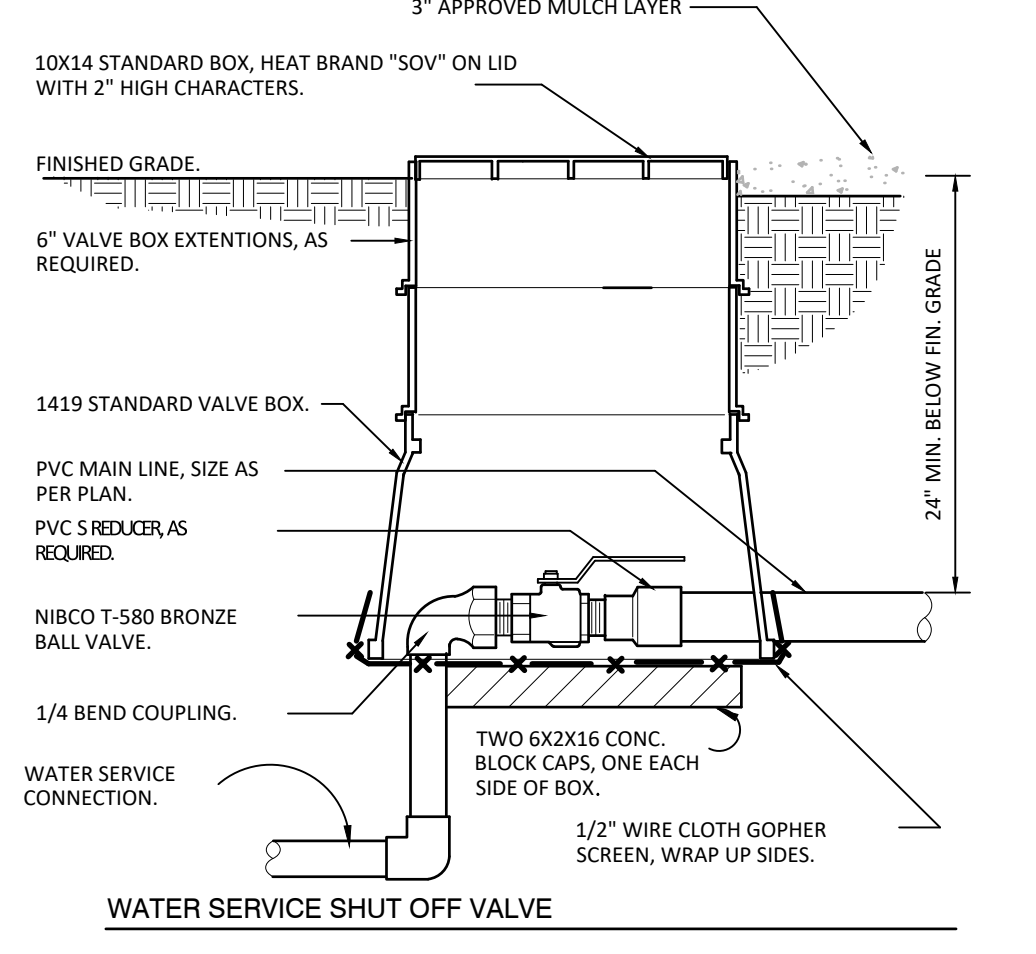


3 MAINLINE & SLEEVING
1 1/2" = 1'-0"

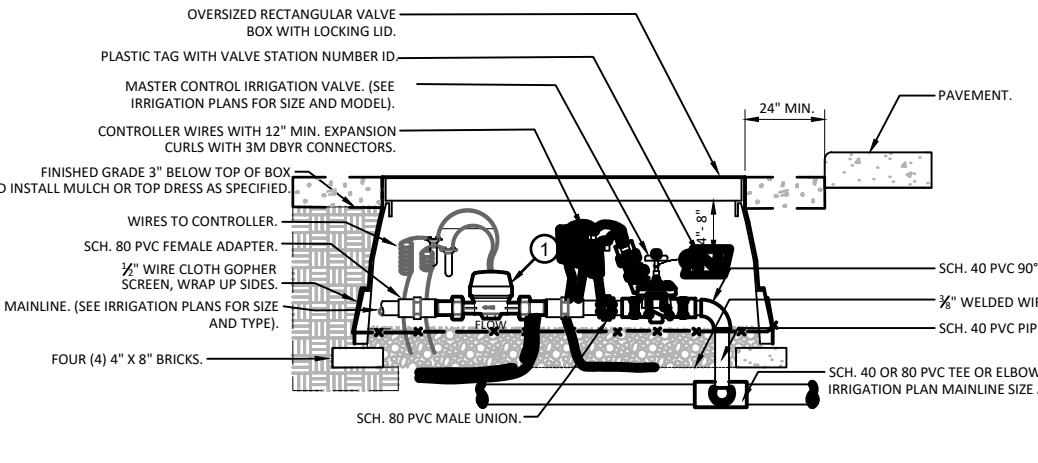


1. SEE IRRIGATION LEGEND FOR MAINLINE AND LATERAL LINE PIPE SIZE AND TYPE.
2. DIRECT BURIAL CONTROL WIRES SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT IF REQUIRED.
3. 2-WIRE IRRIGATION WIRE SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT.
4. DETECTABLE LOCATOR TAPE SHALL BE LOCATED SIX INCHES (6") ABOVE THE ENTIRE MAINLINE RUN.

2 IRRIGATION TRENCHING
NTS

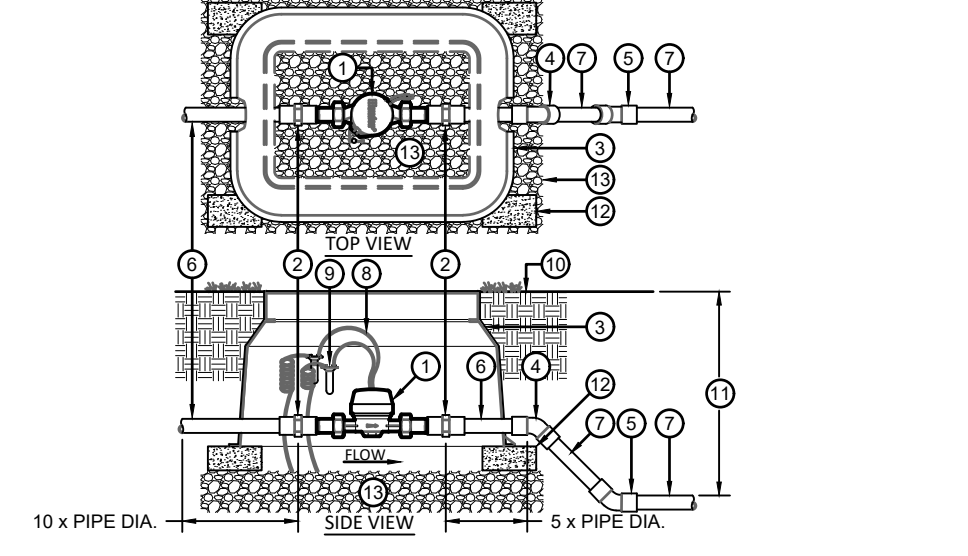


1 WATER SERVICE CONNECTION
NTS AB-IR-POC-10

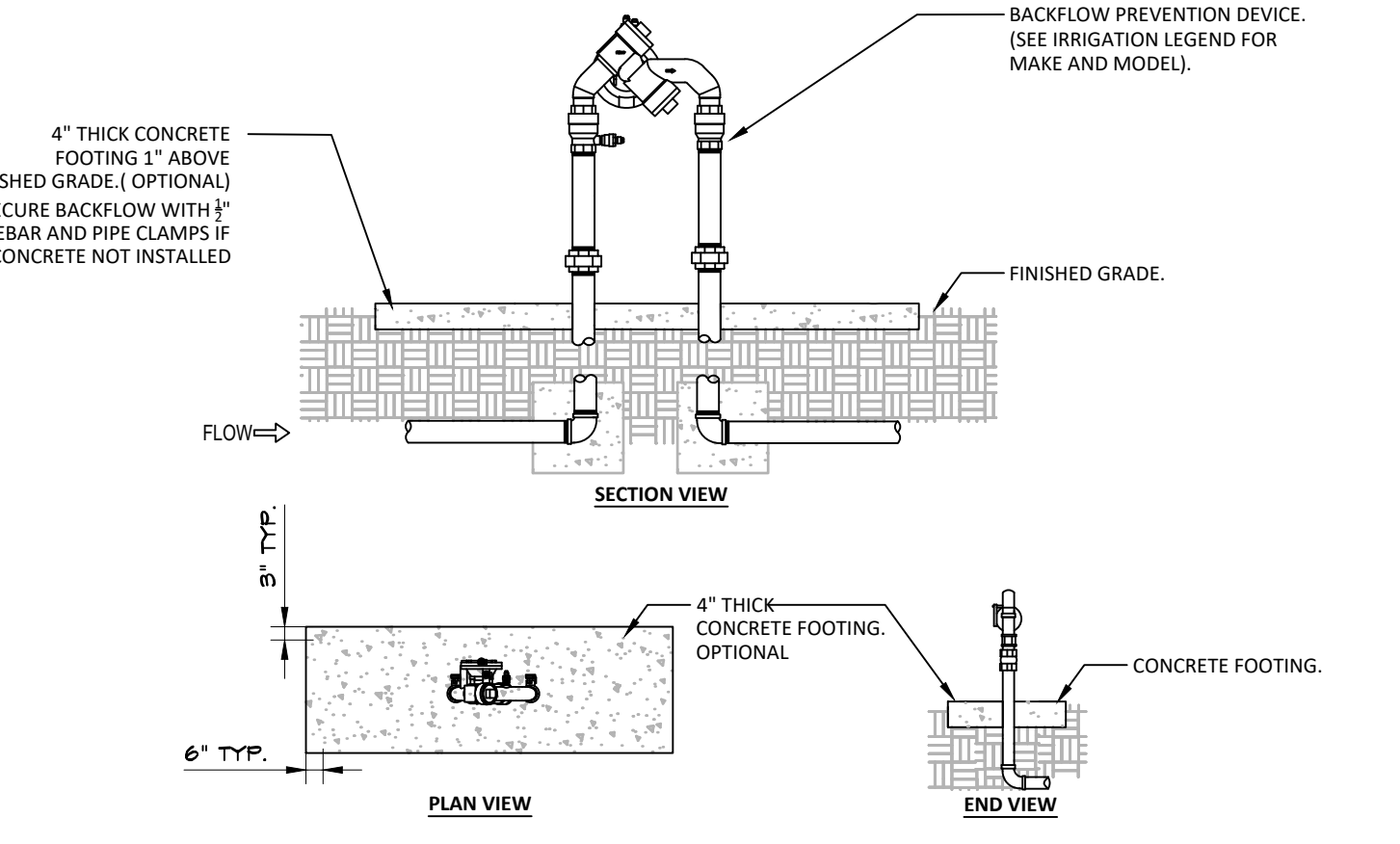


1. LOCATE VALVE BOX WITHIN 24" OF PAVEMENT EDGE IN PLANTING AREA WHERE EASILY ACCESSIBLE WHENEVER POSSIBLE.
2. COMMON WIRE AND CONTROLLER WIRE SHALL BE DIRECT BURIAL, 24" ABOVE OR LARGER, COLOR: COMMON (WHITE), CONTROLLER WIRE FOR TURF (BLUE), AND CONTROLLER WIRE FOR SHRUBS (RED). (SEE SPECIFICATIONS FOR 2-WIRE CONTROLLER).
3. ALL WIRE RUNS SHALL BE CONTINUOUS WITHOUT ANY SPLICES UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE. SEE SPLICE BOX DETAIL. WIRE CONNECTIONS SHALL BE MADE USING 08877-6 CONNECTORS OR APPROVED EQUAL.
4. VALVE BOX SHALL BE WRAPPED WITH MIN. 3 MIL THICK PLASTIC AND SECURE IT USING DUCT TAPE OR ELECTRICAL TAPE.
5. MAINLINES 4" OR LARGER SHALL USE SADDLES AT THE CONNECTIONS POINTS TO THE IRRIGATION VALVE. (SEE SPECIFICATIONS FOR IRRIGATIONS SADDLES).
6. ALL SCH. 80 PVC TO SCH. 40 PVC THREADED CONNECTIONS SHALL BE MADE USING TEFLON TAPE.
7. VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.
8. FLOW METER CONNECTS TO HUNTER HC CONTROLLER SERIES ONLY.

8 MASTER CONTROL VALVE & HUNTER HC FLOW METER
1" = 1'-0"

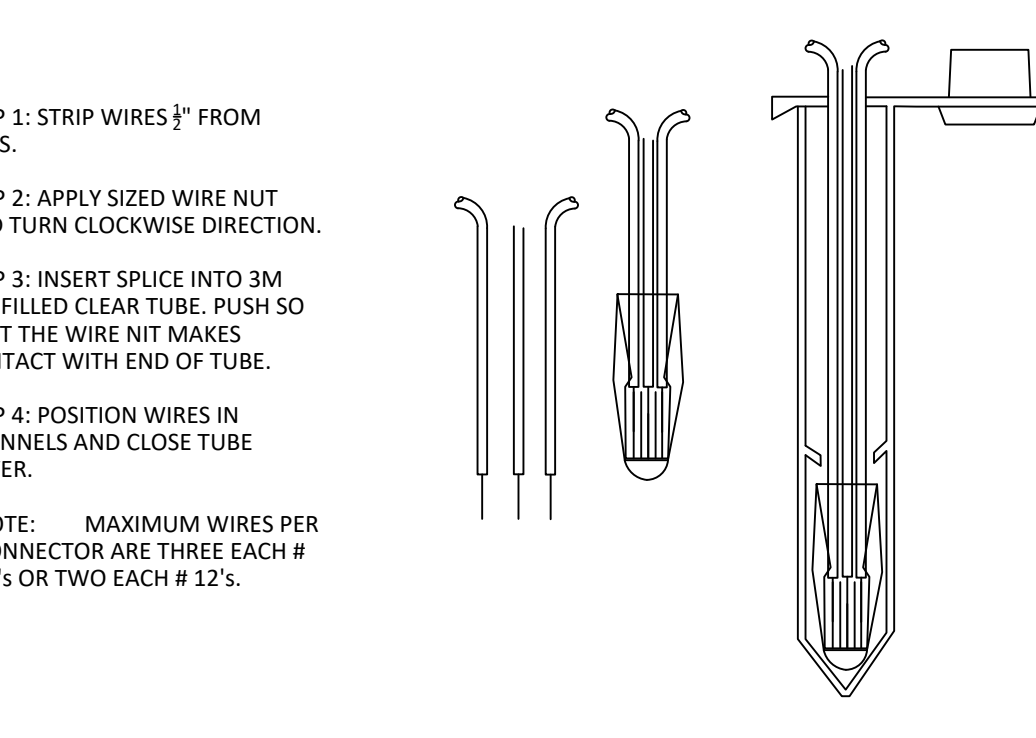


7 HC-075 FLOW METER
1" = 1'-0" DETAIL-FIELD

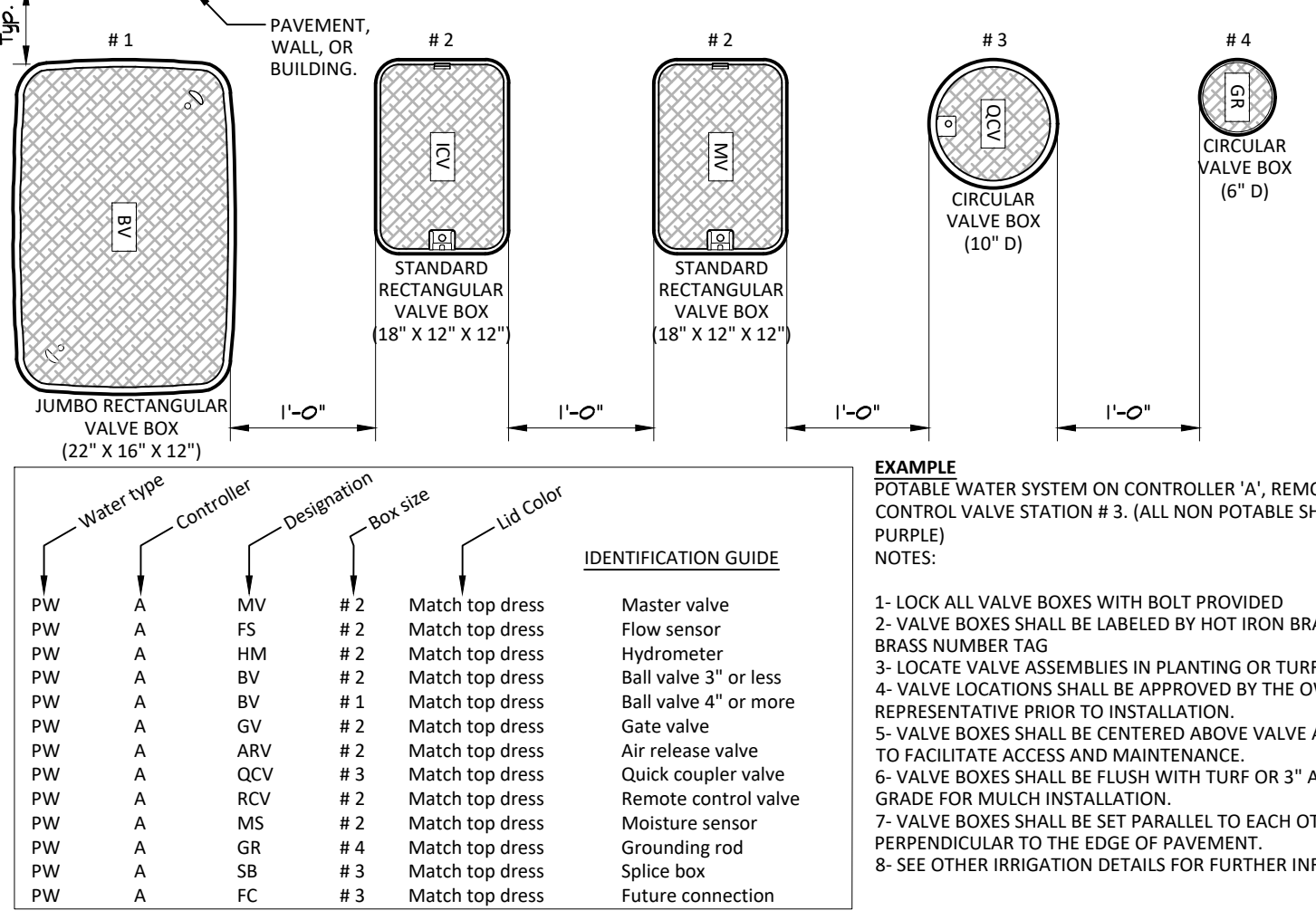


1. INSTALL BACKFLOW FREEZE BLANKET PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. SEE BACKFLOW PREVENTION DEVICE DETAIL FOR REFERENCE.

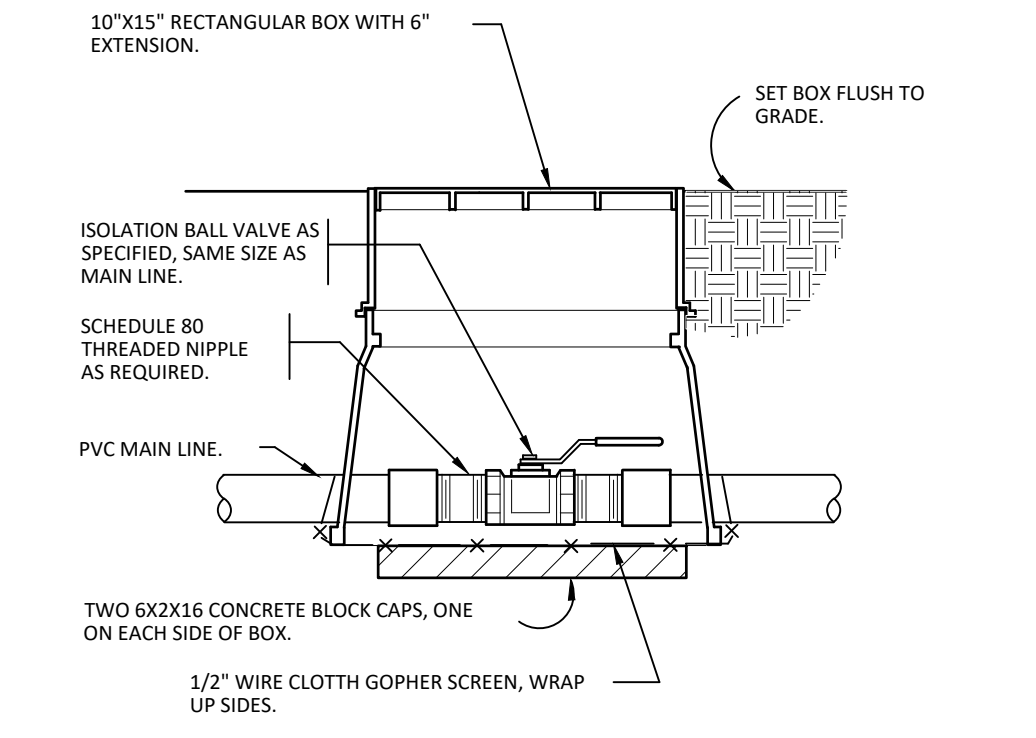
6 BACKFLOW FEBCO 825YA PREVENTER
NTS AB-IR-BAC-02



5 3M-DBYR WIRE SPLICES
NTS AB-IR-VAL-16



10 RESIDENTIAL VALVE BOX LAYOUT
DO NOT SCALE AB-IR-VAL-VAL-10



9 BRASS BALL ISOLATION VALVE
NTS AB-IR-VAL-ISOL-328406-67

General Notes

LANDSCAPE IRRIGATION DETAILS

No.	Revision/Issue	Date

Firm Name and Address

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Project Name and Address

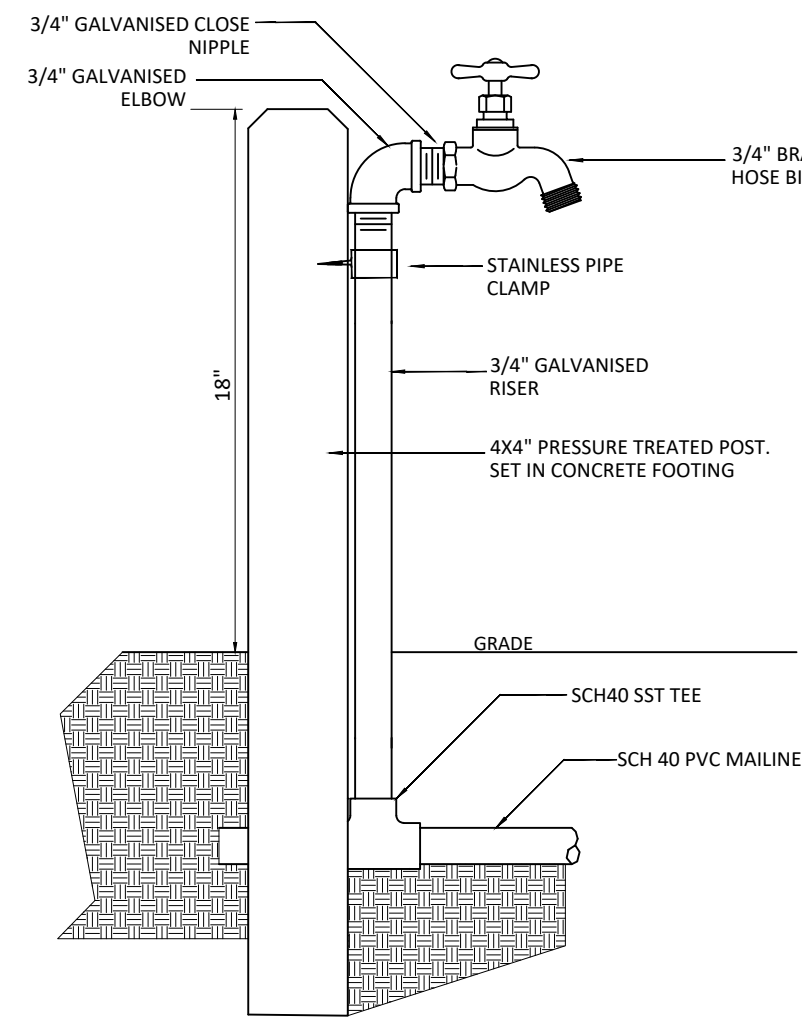
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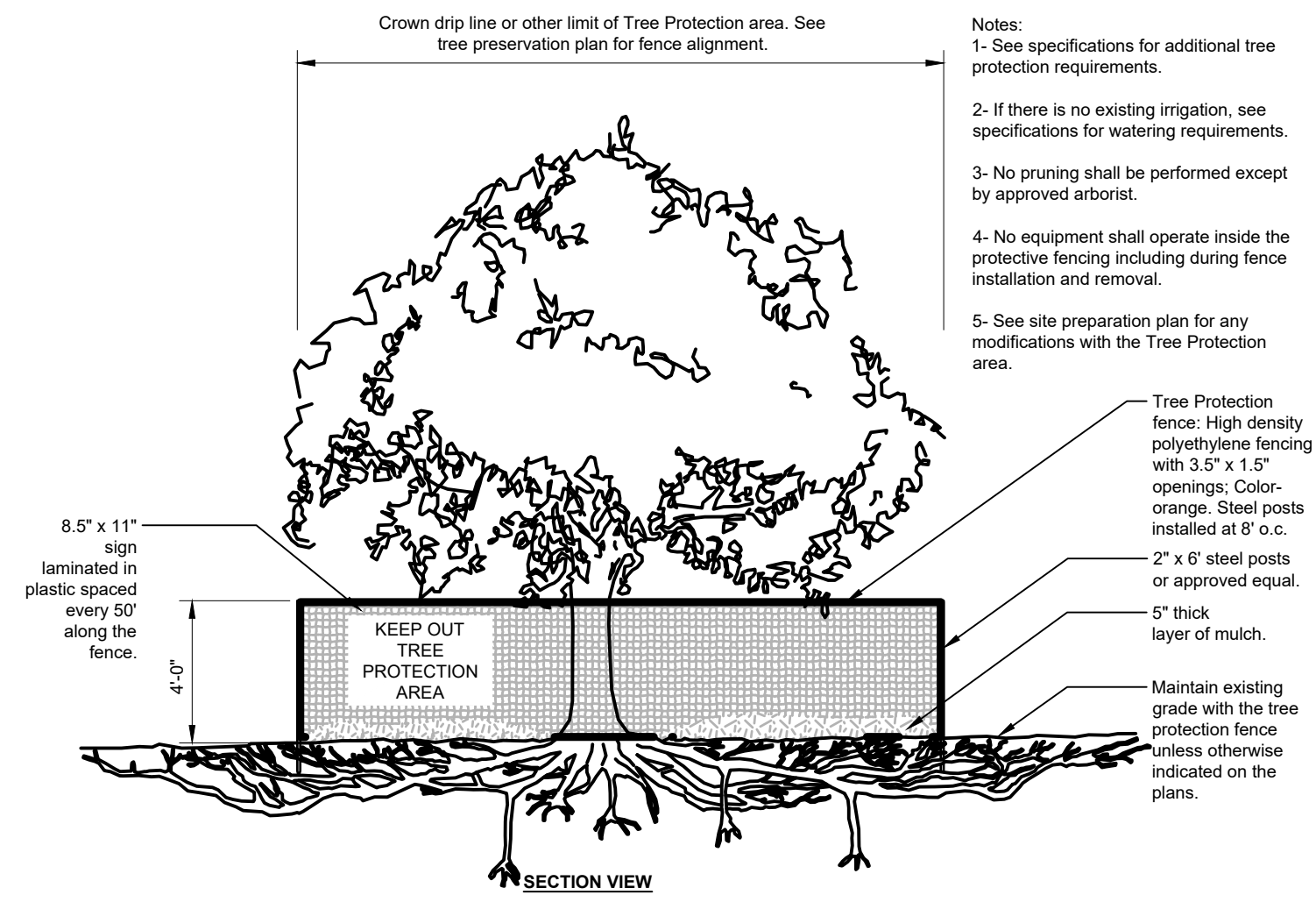


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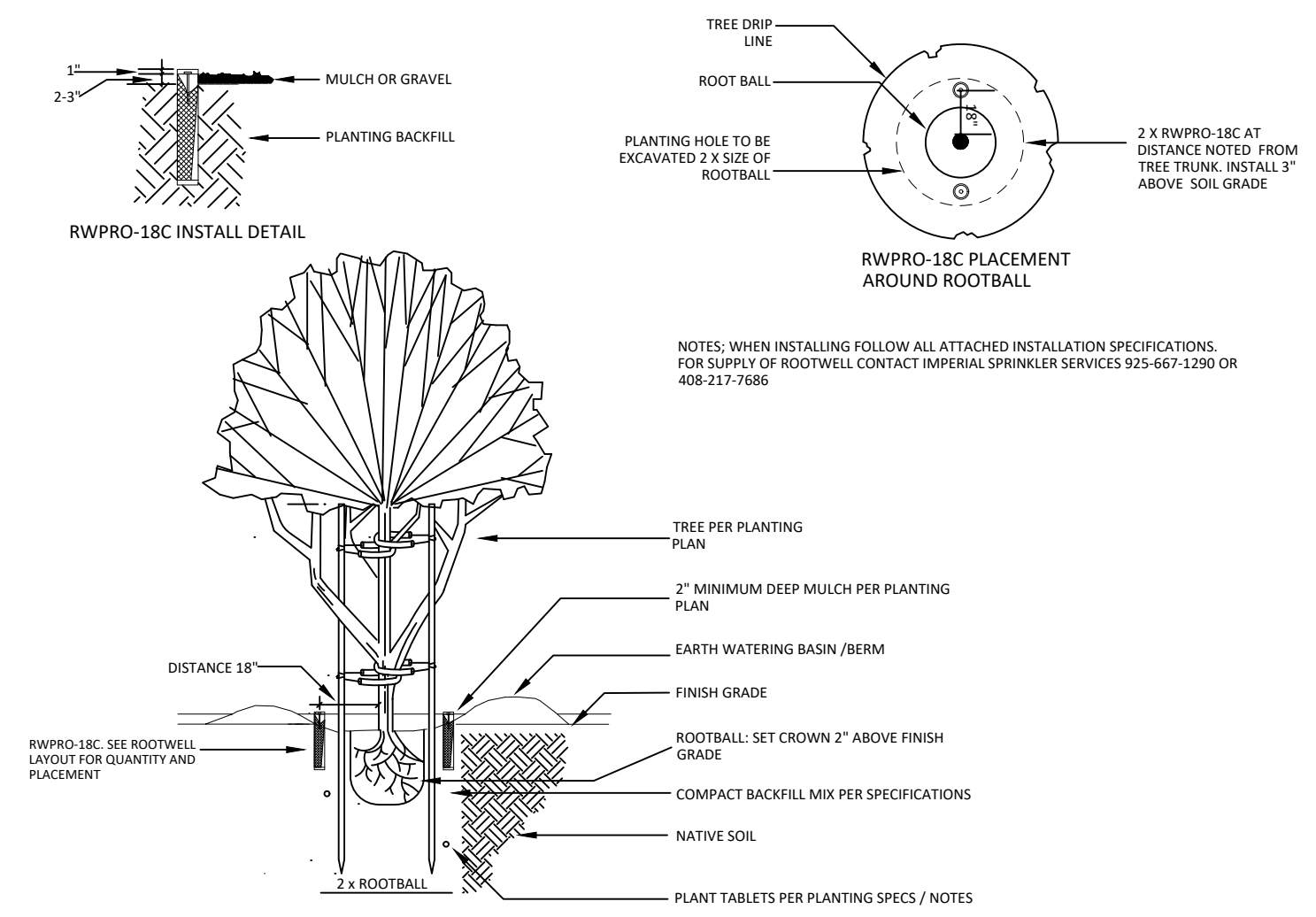
LANDSCAPE IRRIGATION DETAILS



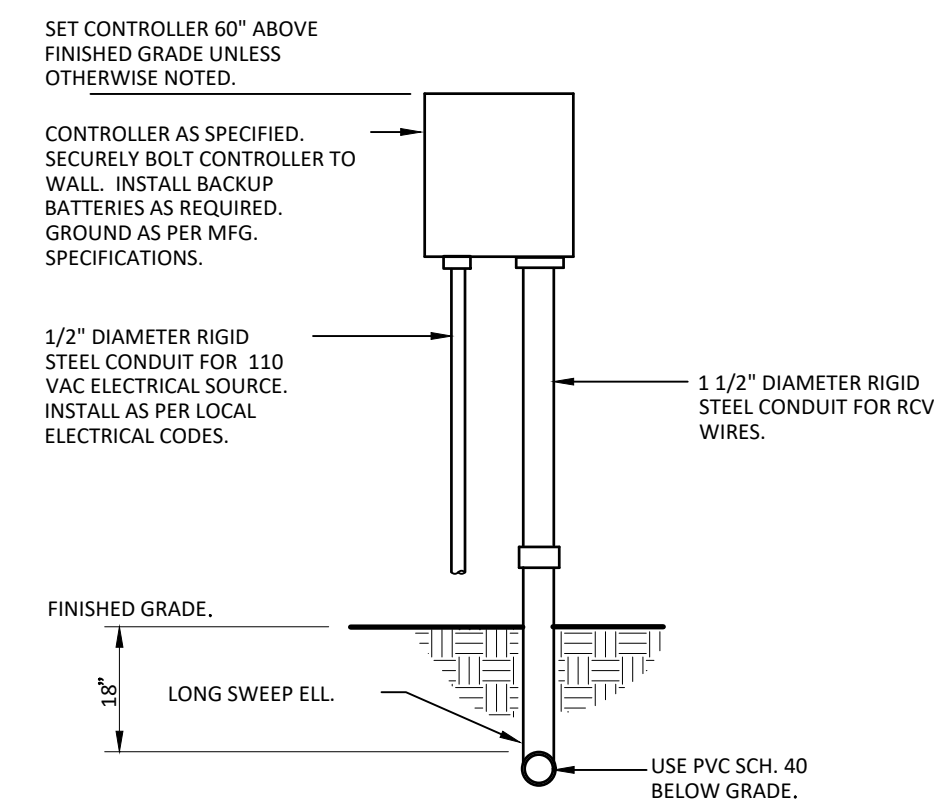
3 HOSE BIB INSTALLATION POST
NTS



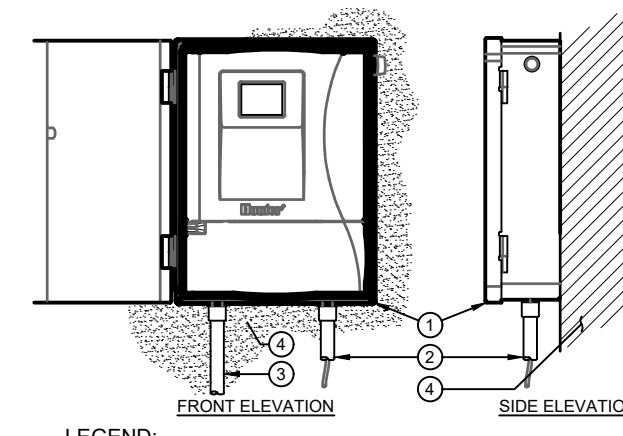
2 TREE PROTECTION
NTS



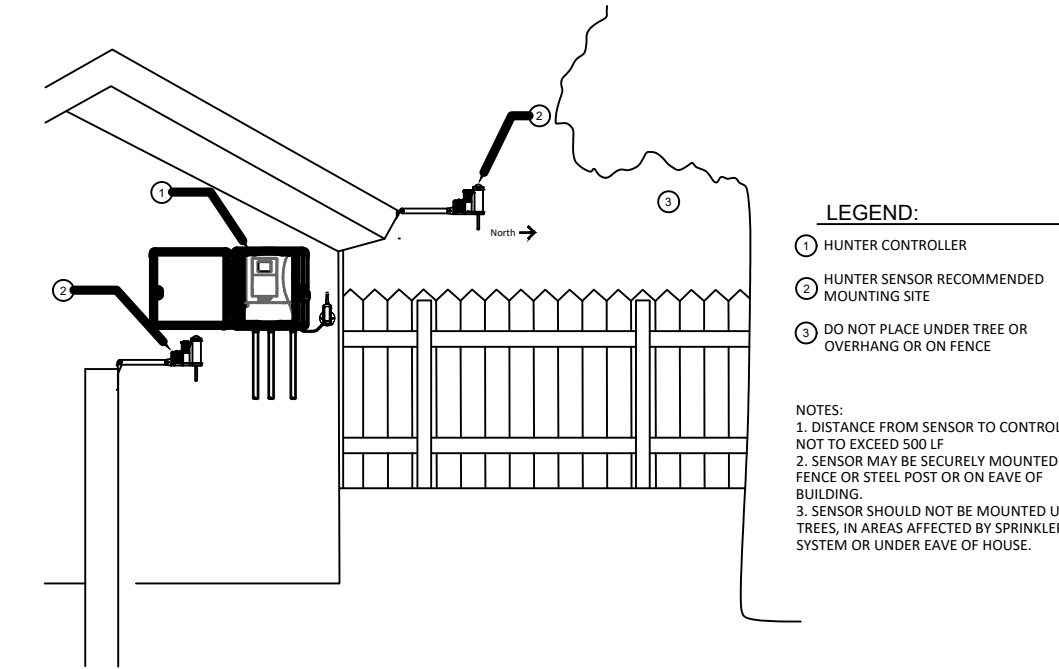
1 ROOTWELL PLACEMENT - 15 GALLON TREE
NTS



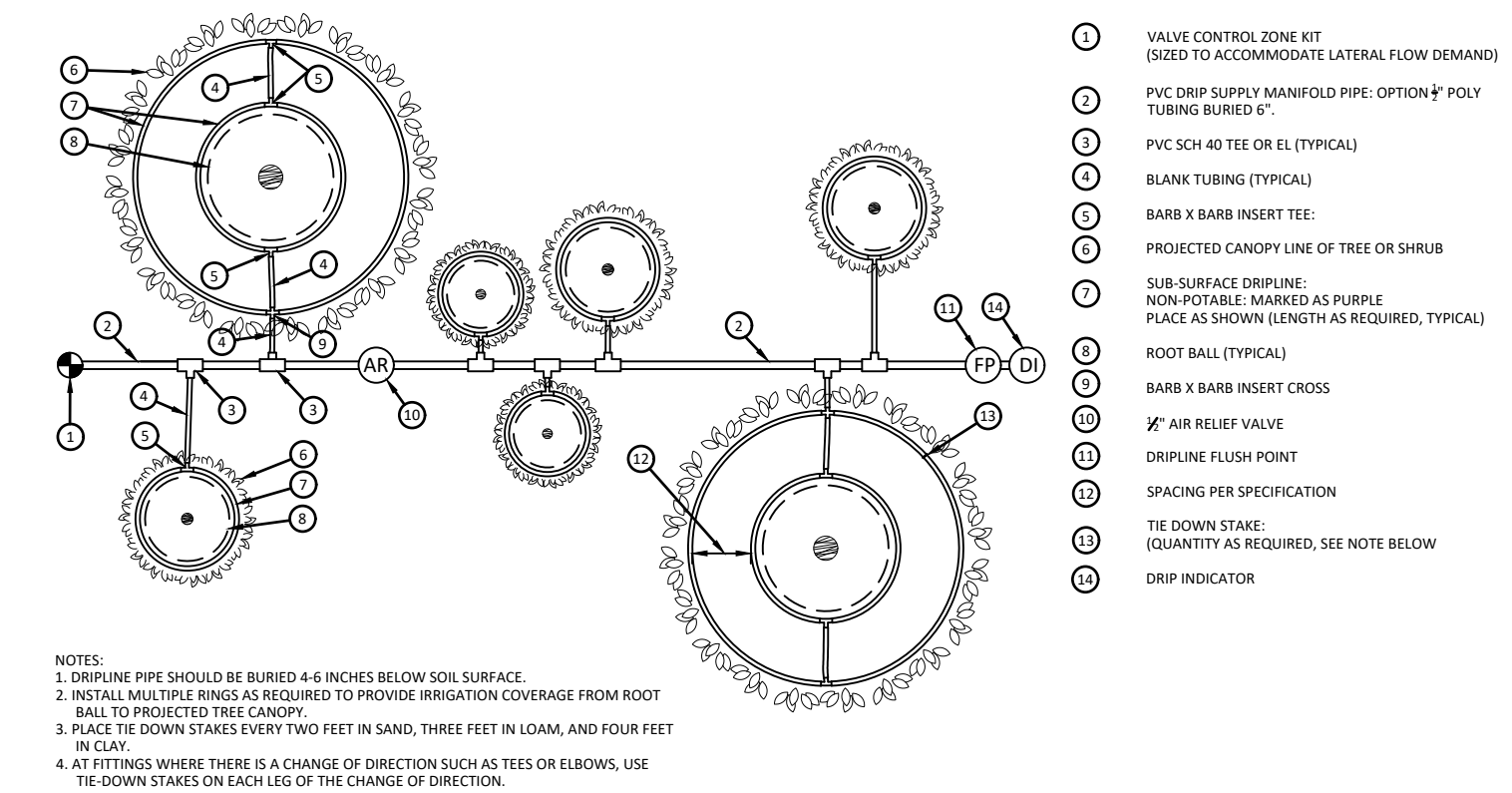
6 WALL MOUNT CONTROLLER
1" = 1'-0"



5 HUNTER PRO-HC w Wi-Fi CONTROLLER & RAIN CLIK
NTS



4 HUNTER PRO-HC CONTROLLER
NTS



7 SPARSE PLANTING DRIP RINGS
NTS

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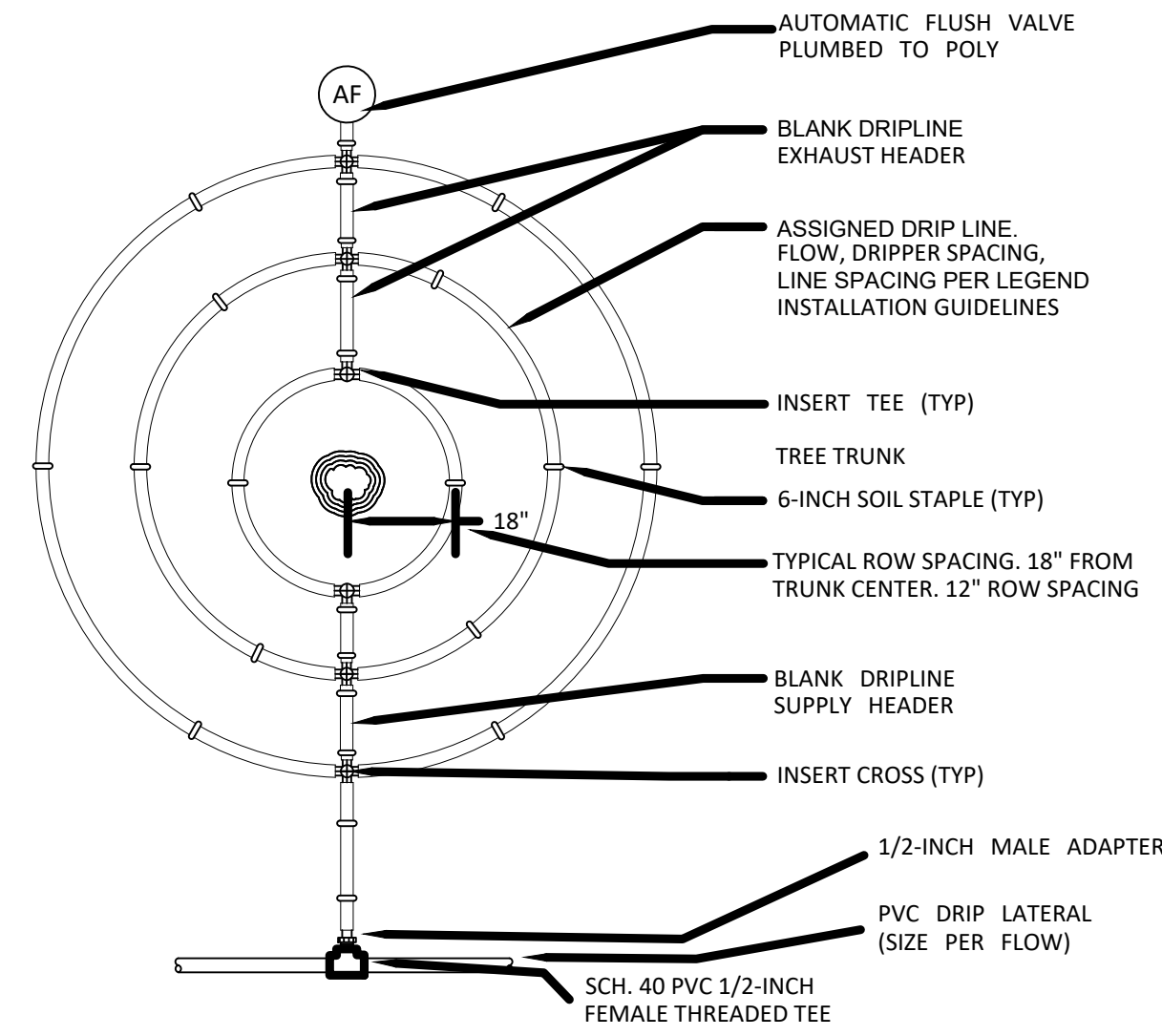
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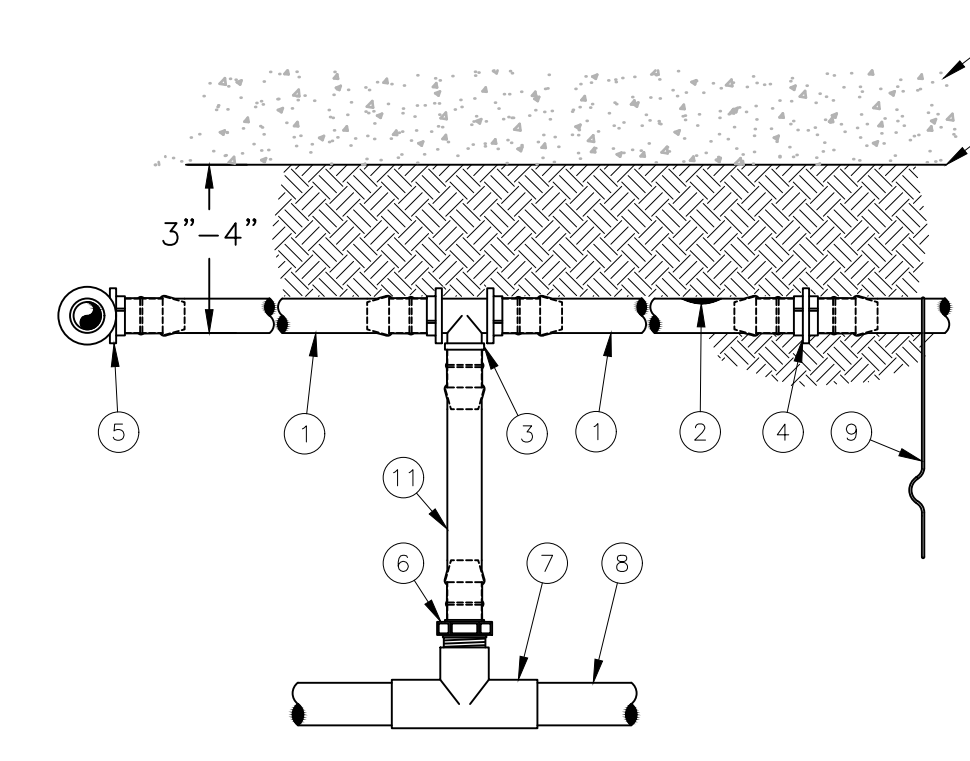
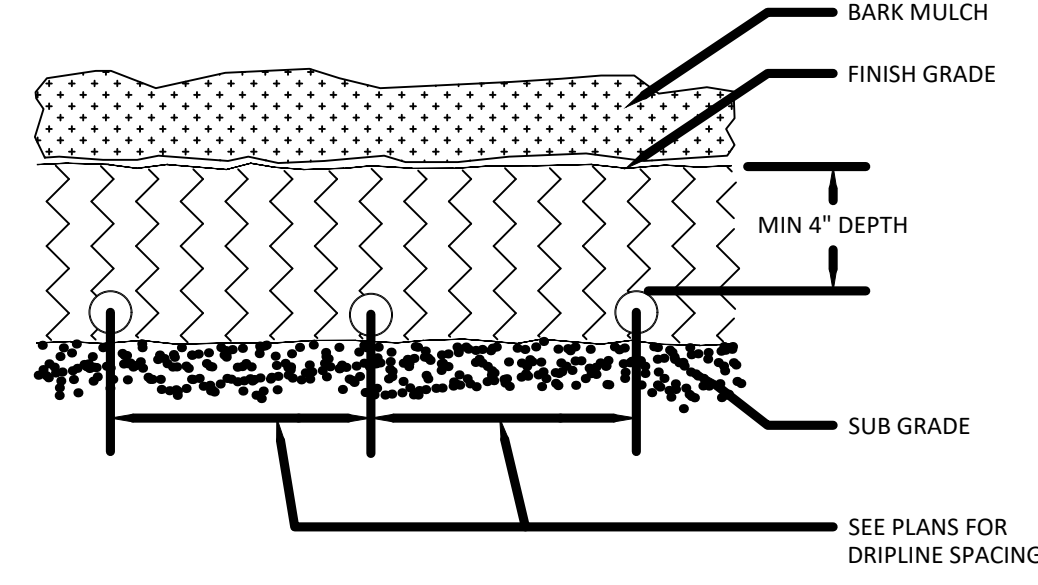
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NOTES TO INSTALLER:
 1. INSTALL FIRST DRIP LINE LOOP 18-INCHES FROM CENTER OF TREE TRUNK. INSTALL EACH ADDITIONAL LOOP 12\"/>



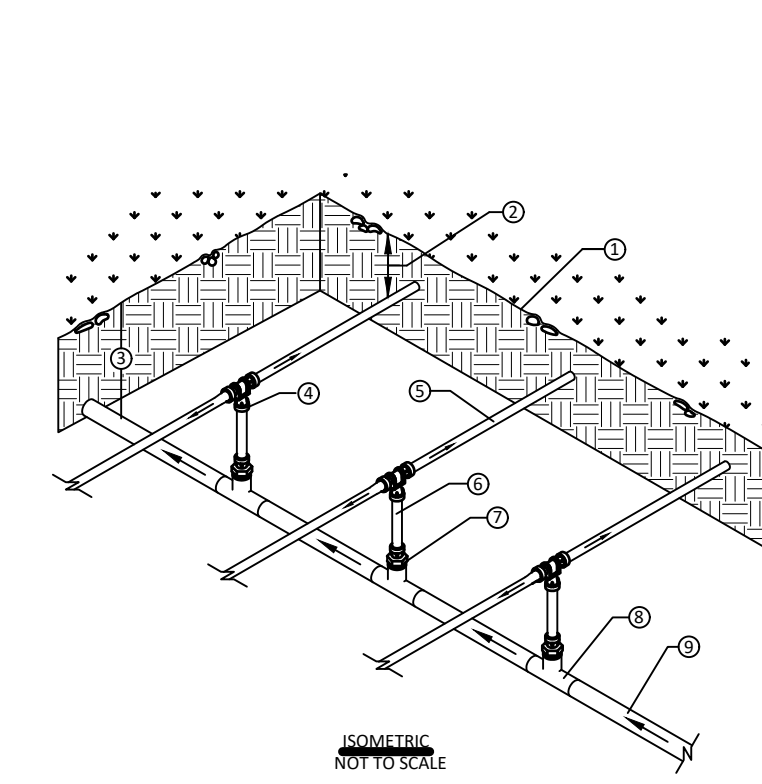
① ON-SURFACE DRIP LINE:
 ② IN-LINE DRIP EMITTER OUTLET. SEE IRRIGATION LEGEND FOR DRIP LINE OUTLET SPACING.
 ③ BARB OR TWIST TEE
 ④ BARB OR TWIST LOCK COUPLING
 ⑤ BARB OR TWIST LOCK ELBOW
 ⑥ BARB OR TWIST LOCK MALE ADAPTER
 ⑦ PVC TEE SxSxT
 ⑧ PVC LATERAL SUPPLY HEADER
 ⑨ TIE DOWN STAKE:
 ⑩ FINISH GRADE
 ⑪ BLANK TUBING LENGTH AS REQUIRED
 ⑫ 3\"/>

NOTES:
 1. PLACE TIE DOWN STAKES EVERY TWO FEET IN SAND, THREE FEET IN LOAM, AND FOUR FEET IN CLAY.
 2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

3 DRIP LINE TREE RING DETAIL
 1\"/>

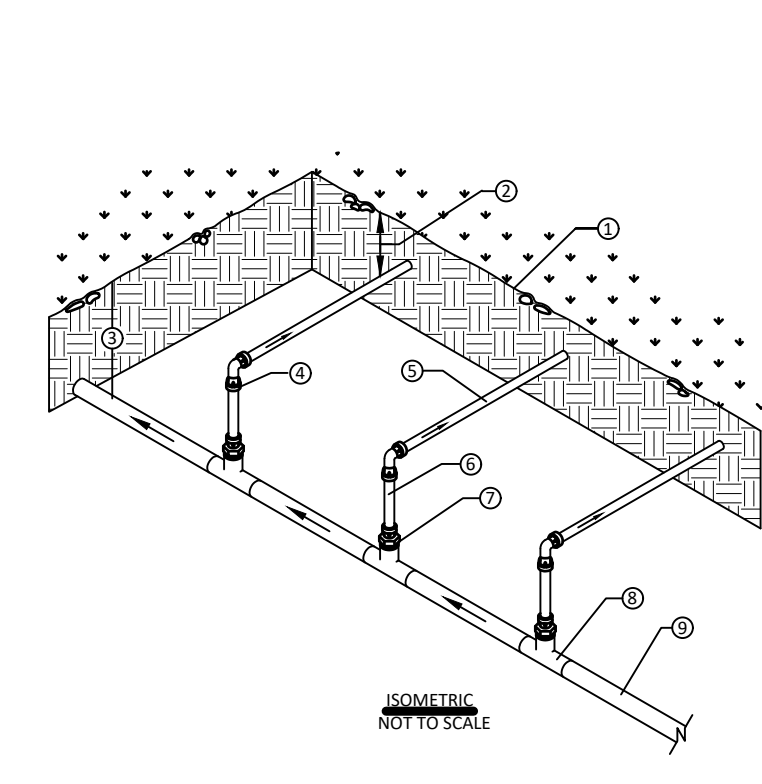
4 DRIP LINE GRID BELOW GRADE
 NTS

1 PVC SUPPLY LINE TO DRIP LINE TRANSITION DETAIL
 NTS



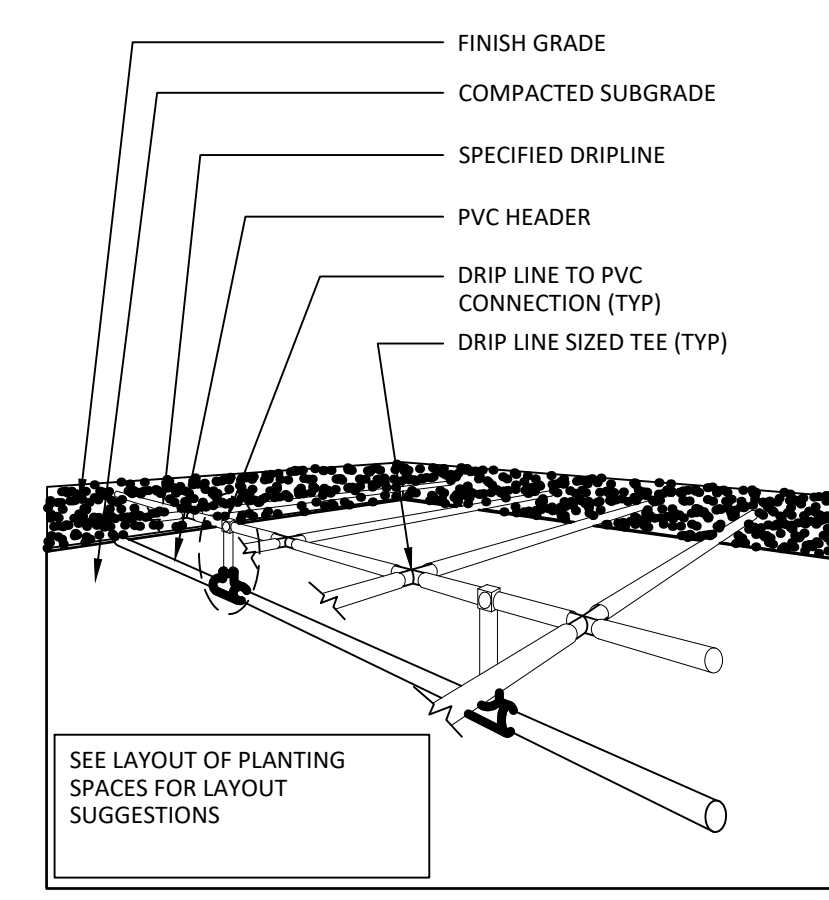
① FINISH GRADE.
 ② DEPTH OF TUBING PER SPECIFICATIONS.
 ③ DEPTH OF PVC SUPPLY MANIFOLD -12\"/>

NOTES:
 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. DO NOT SCALE DRAWINGS.
 3. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
 4. CONTRACTOR'S NOTE: CONSULT MANUFACTURER FOR INSTALLATION RECOMMENDATIONS



① FINISH GRADE.
 ② DEPTH OF TUBING PER SPECIFICATIONS
 ③ DEPTH OF PVC SUPPLY MANIFOLD PER - 12\"/>

NOTES:
 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
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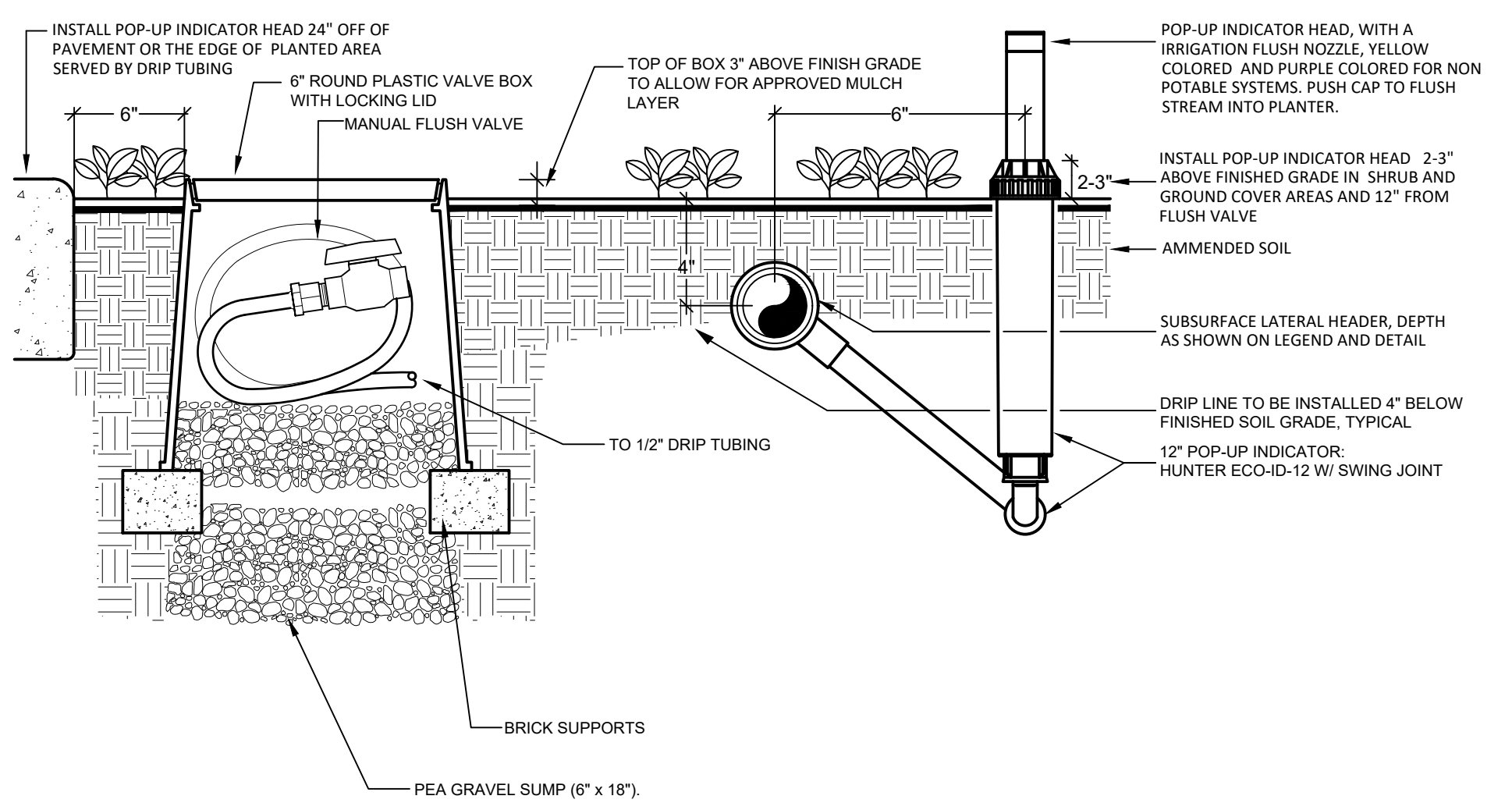


NOTE:
 1. SEE PLANS AND LEGEND FOR ALL DIMENSIONS AND DRIP LINE SPACING.
 2. RATIO OF DRIP LINES TO START CONNECTIONS IS SHOWN AT 2:1, BUT MAY VARY PER HYDRAULIC DEMAND ON START CONNECTIONS. SEE PLANS AND LEGEND.

6 CENTER FEED DRIP HEADER
 MANIFOLD CENTER FEED
 NTS

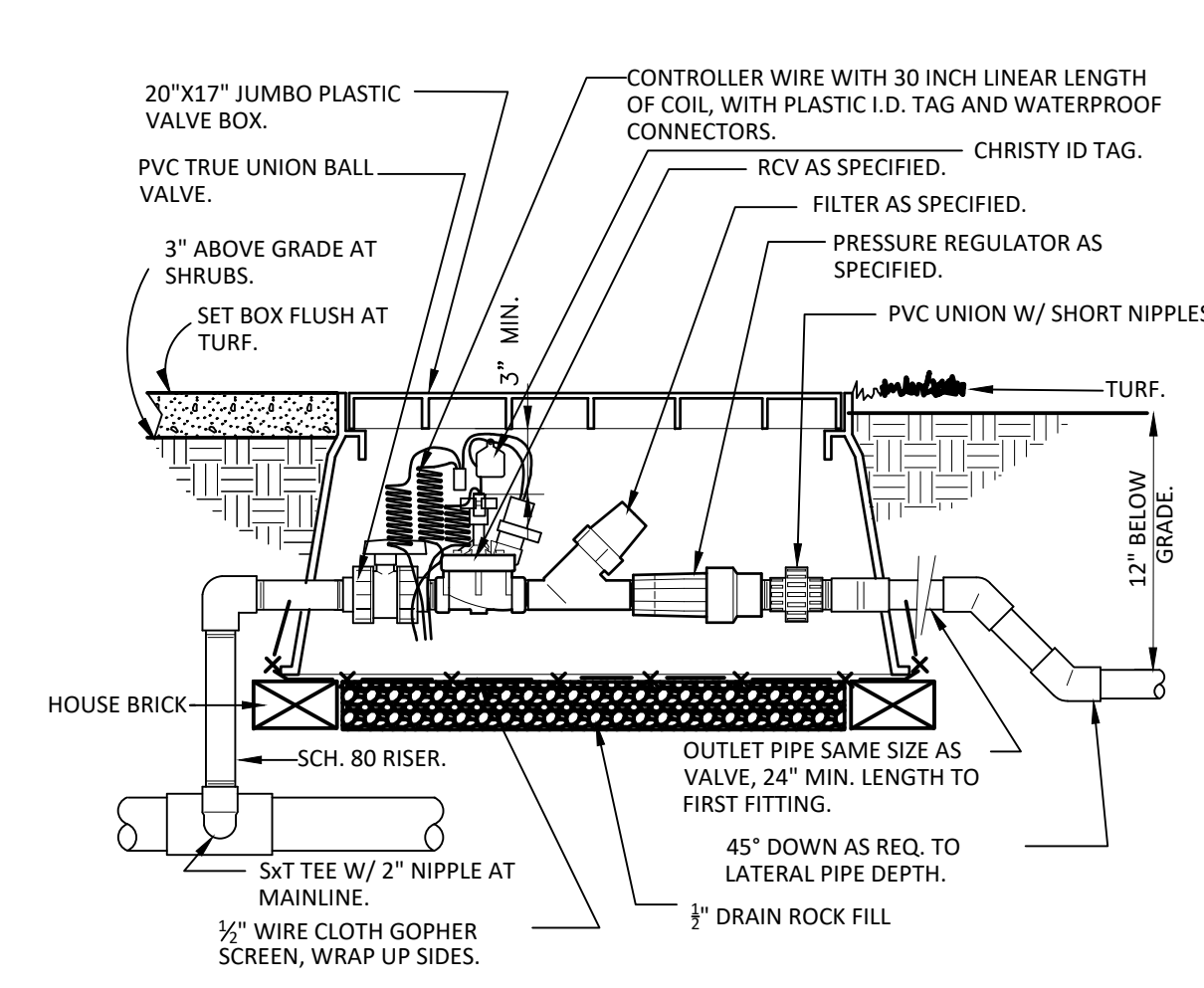
5 DRIP END FEED HEADER
 MANIFOLD END FEED
 NTS

1 SUB SURFACE HEADER INSTALLATION
 NTS

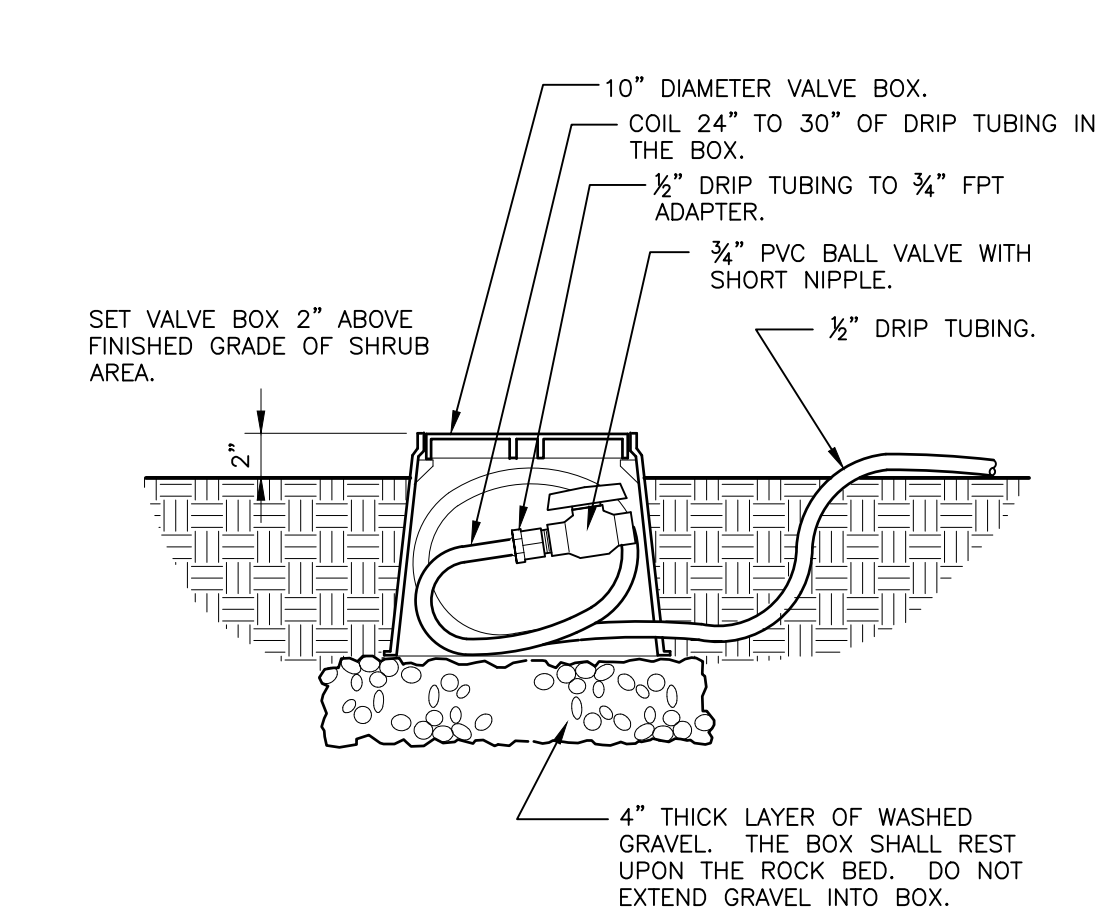


NOTE: INSTALL INDICATOR HEAD 24\"/>

9 HUNTER ECO-ID-12 DRIP INDICATOR OFF OF DRIP LINE
 NTS



8 1\"/>



7 DRIP FLUSH VALVE
 1 1/2\"/>

LANDSCAPE IRRIGATION DETAILS

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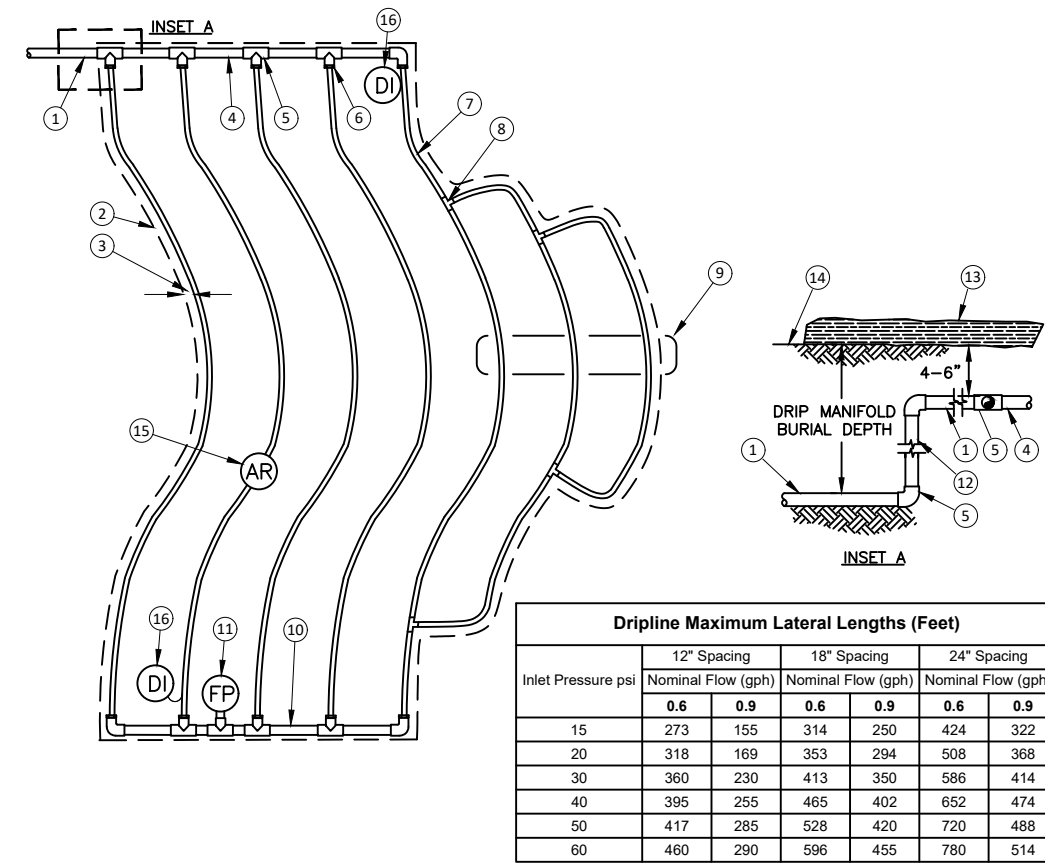
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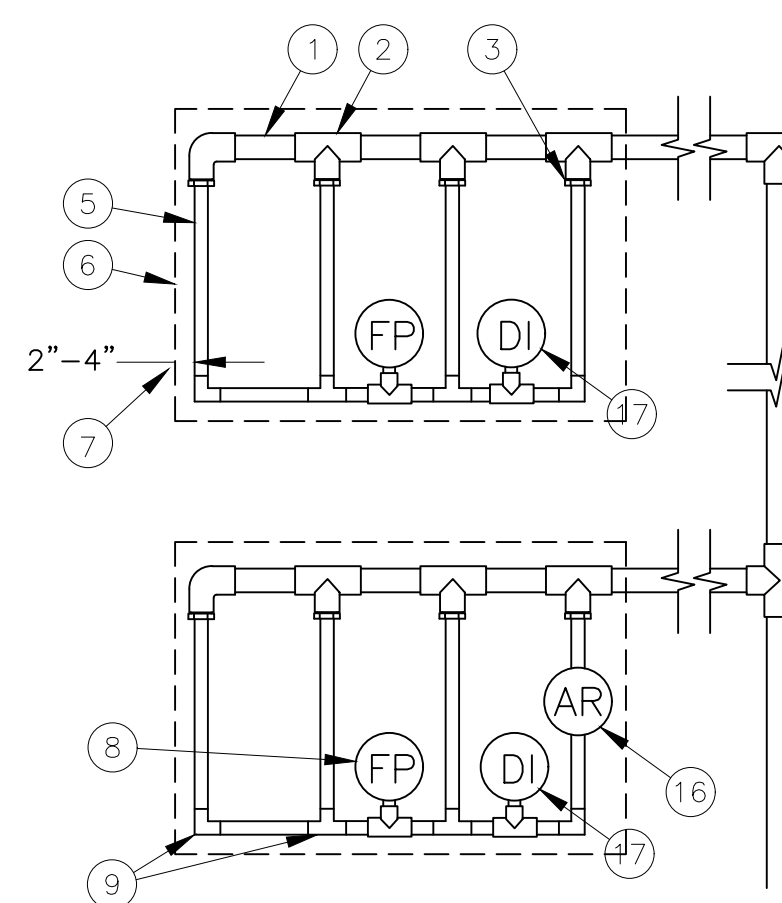


Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514

- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
 - INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIPLINE LATERAL.
 - WHEN USING BARBED INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

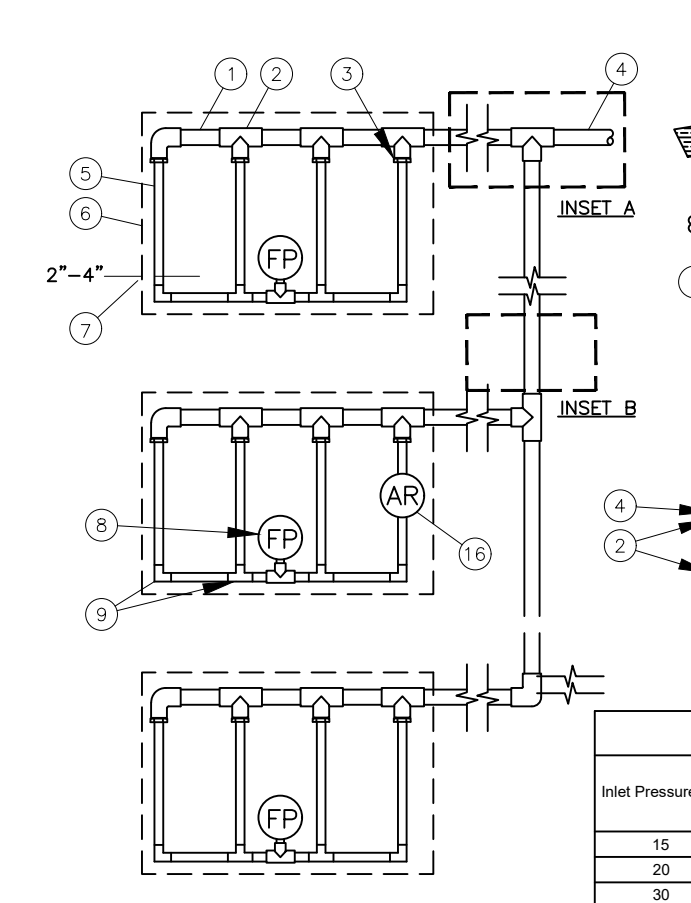
3 DRIP LAYOUT IN ODD SHAPED PLANTER
NTS AB-IR-DRI-DRIIP-09

- PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- PERIMETER OF AREA
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- PVC SUPPLY MANIFOLD
- PVC SCH 40 TEE OR EL (TYPICAL)
- BARB X MALE FITTING
- SUB-SURFACE DRIPLINE: SEE IRRIGATION LEGEND FOR SPECIFICATION
- BARB X BARB INSERT TEE
- TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE
- PVC FLUSH HEADER
- FLUSH POINT: SEE DETAILS FOR FLUSH POINT INSTALLATION
- PVC RISER PIPE
- TURF OR MULCH
- FINISH GRADE
- 1/2" AIR RELIEF VALVE: RAIN BIRD MODEL: SEE DETAILS FOR AIR RELIEF INSTALLATION
- DRIPLINE INDICATOR



- PVC SUPPLY HEADER
- PVC SCH 40 TEE OR EL (TYPICAL)
- BARB X MALE FITTING
- PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- SUB-SURFACE DRIPLINE: SEE IRRIGATION LEGEND FOR SPECIFICATIONS
- PERIMETER OF AREA
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- FLUSH POINT (TYPICAL) - SEE DETAILS FOR FLUSH POINT INSTALLATION
- BARB X BARB INSERT TEE OR ELBOW
- PVC RISER PIPE
- PVC SUPPLY MANIFOLD
- PVC SCH 40 SLEEVE PIPE SIZED TWICE THE SIZE OF MANIFOLD PIPE SIZE
- PAVEMENT AND CURB
- TURF OR MULCH
- FINISH GRADE
- 1/2" AIR RELIEF VALVE
- DRIPLINE INDICATOR

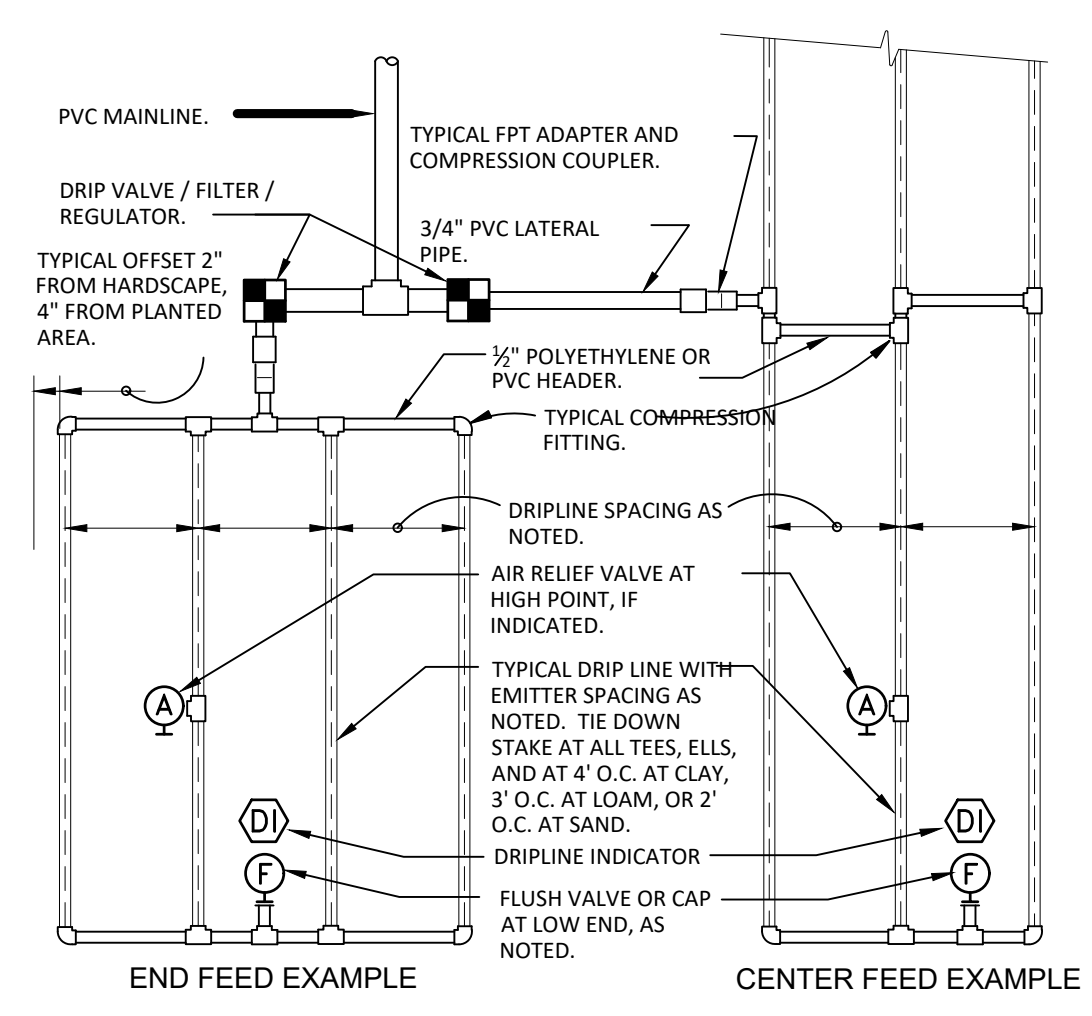
2 DRIP HEADER DETAIL
NTS AB-IR-DRI-DRIIP-15



Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514

1 DRIP IRRIGATION IN PLANTER LAYOUT
NTS AB-IR-DRI-DRIIP-08

- PVC SUPPLY HEADER
- PVC SCH 40 TEE OR EL (TYPICAL)
- BARB X MALE FITTING
- PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- SUB-SURFACE DRIPLINE: SEE IRRIGATION LEGEND FOR SPECIFICATIONS
- PERIMETER OF AREA
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- FLUSH POINT (TYPICAL) - SEE DETAILS FOR FLUSH POINT INSTALLATION
- BARB X BARB INSERT TEE OR ELBOW
- PVC RISER PIPE
- PVC SUPPLY MANIFOLD
- PVC SCH 40 SLEEVE PIPE SIZED TWICE THE SIZE OF MANIFOLD PIPE SIZE
- PAVEMENT AND CURB
- TURF OR MULCH
- FINISH GRADE
- 1/2" AIR RELIEF VALVE



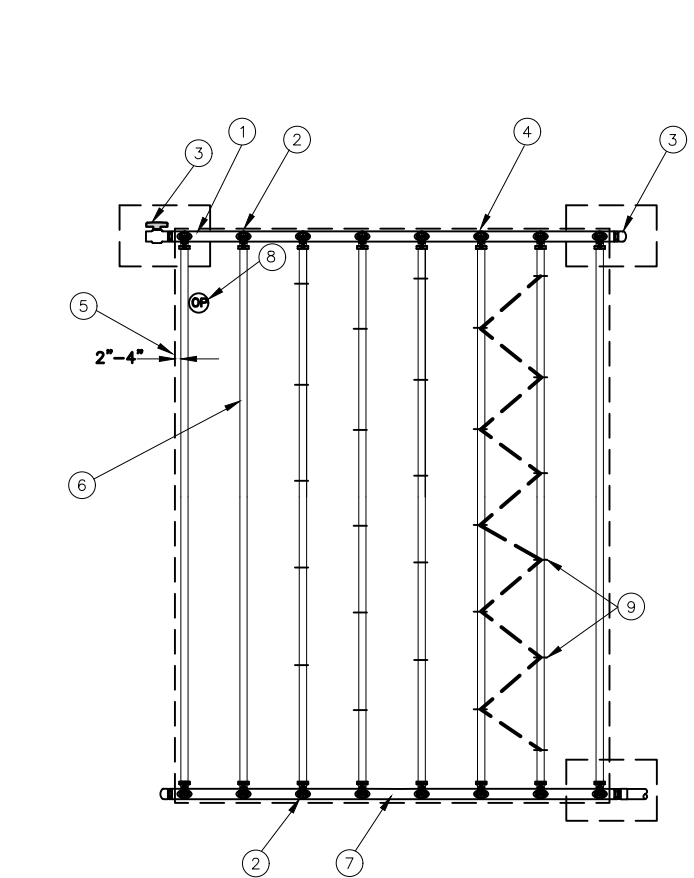
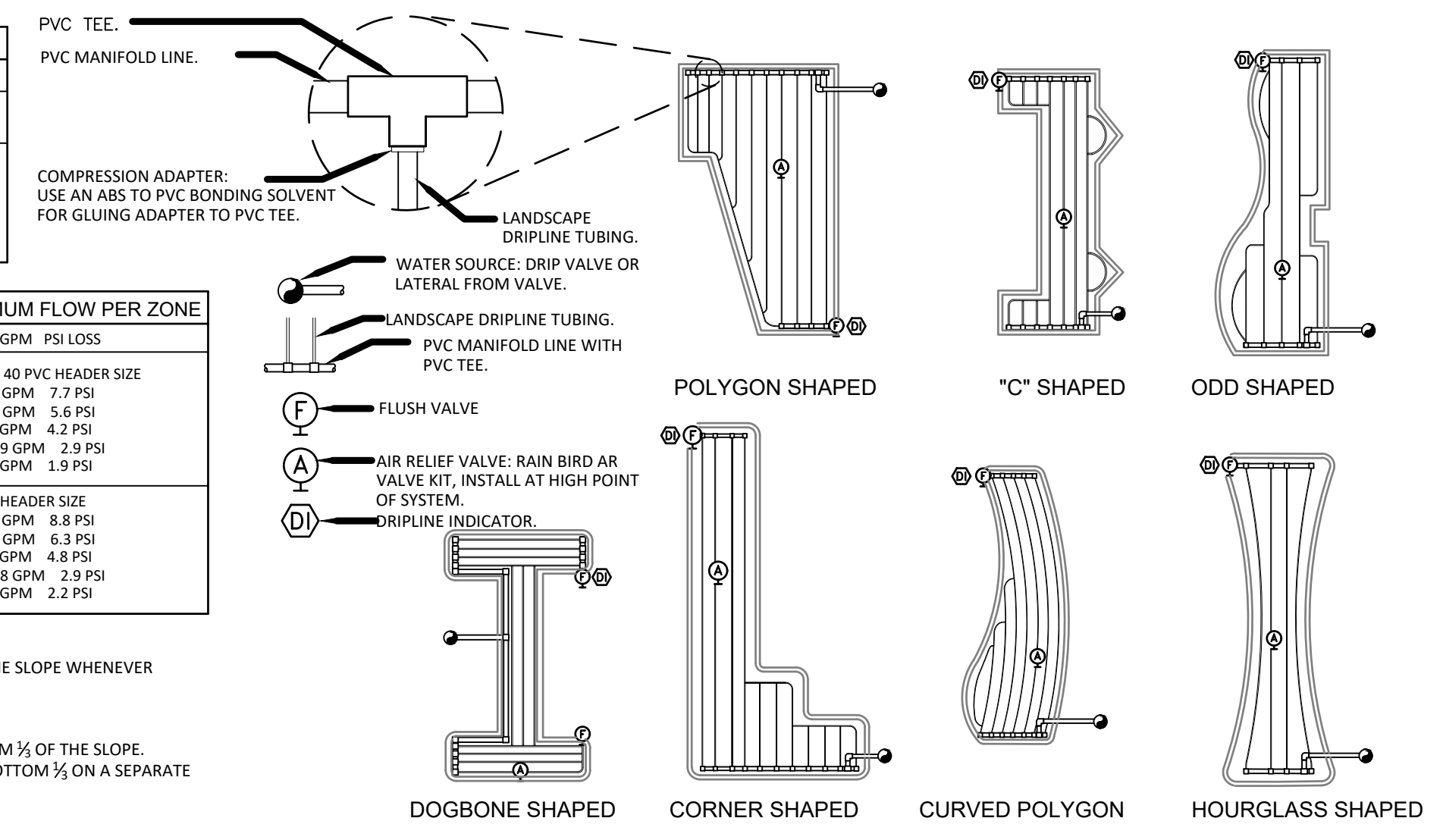
PSI	EMITTER FLOW RATE GPM		
	12" SPACING 0.6 0.9	18" SPACING 0.6 0.9	24" SPACING 0.6 0.9
10	125 96	175 135	218 171
20	249 191	350 171	442 340
30	307 236	434 333	550 422
40	350 268	495 380	627 171
50	125 96	175 135	218 171
60	125 96	175 135	218 171

EMITTER SPACING	EMITTER FLOW RATE	
	0.6	0.9
12	0.96	1.44
18	0.69	1.03
24	0.28	0.41

EMITTER FLOW	SPACING		
	12"	18"	24"
0.6 GPH	1.0 GPM	0.67 GPM	0.50 GPM
0.9 GPH	1.5 GPM	1.0 GPM	0.75 GPM

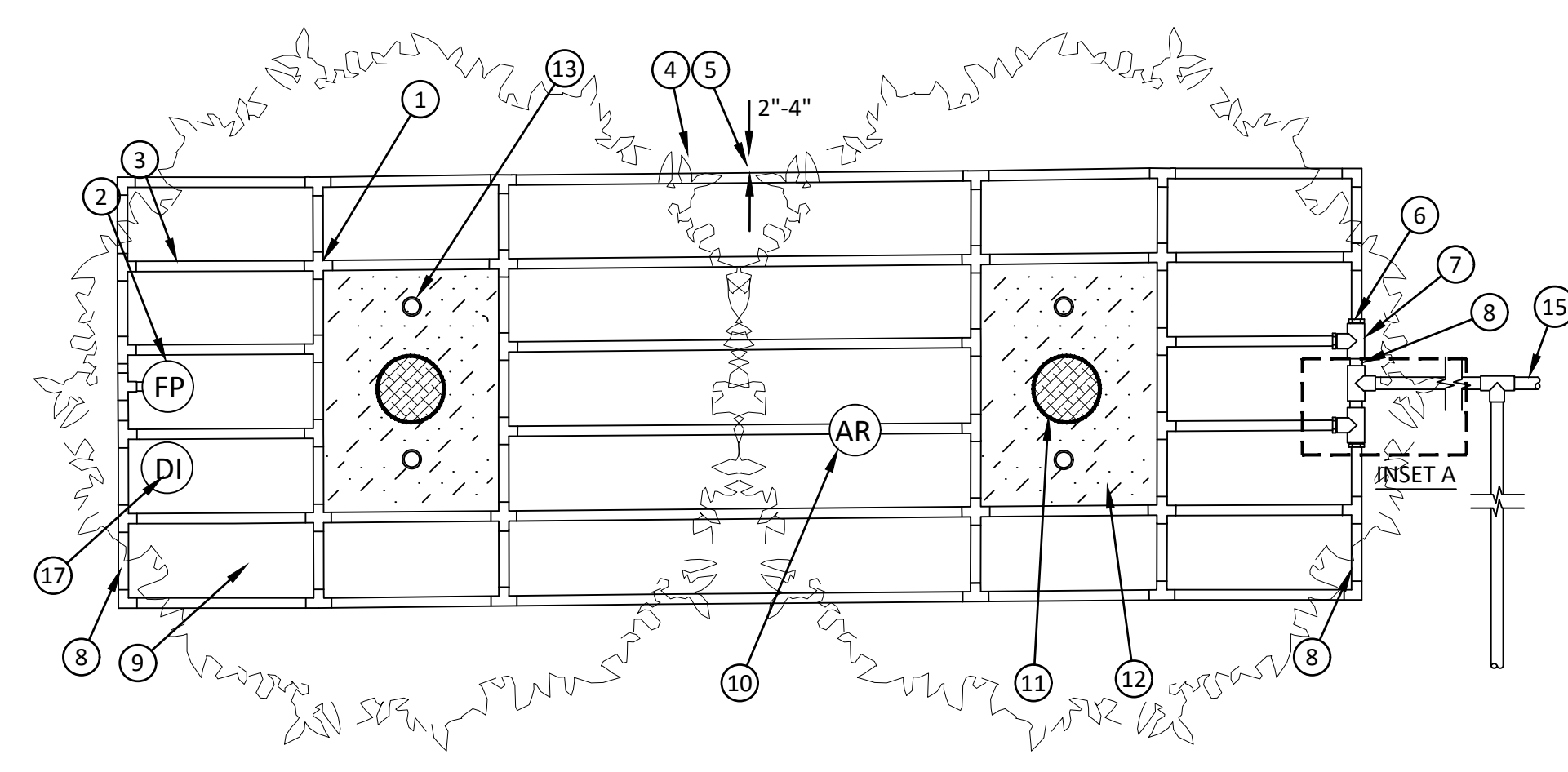
- SLOPED CONDITION NOTE:
- DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
 - INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
 - NORMAL SPACING WITHIN THE TOP 1/2 OF SLOPE.
 - INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM 1/2 OF THE SLOPE.
 - WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM 1/2 ON A SEPARATE VALVE.

5 TYPICAL DRIPLINE REQUIREMENTS
NTS AB-IR-DRI-DRIIP-19



- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION.

4 STAGGERED DRIPLINE EMITTER PATTERN
NTS AB-IR-DRI-DRIIP-21



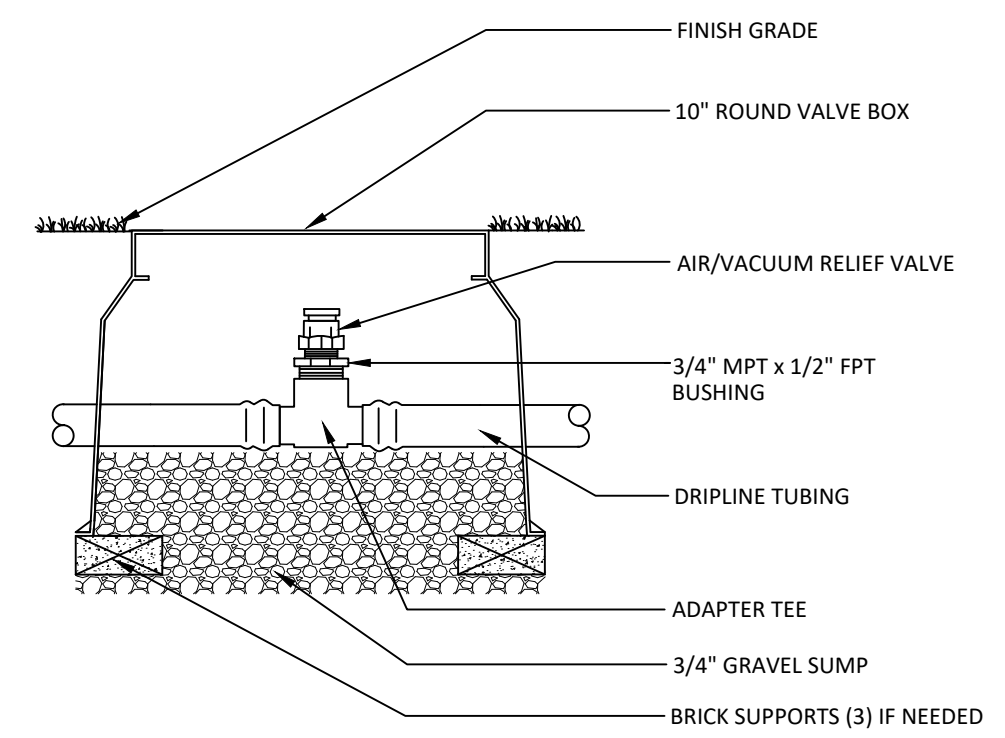
- NOTES:
- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION.
 - LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
 - INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIPLINE ZONE.
 - WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)	Nominal Flow (gph)
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514

- BARB X BARB INSERT EL, TEE OR CROSS
- FLUSH POINT (TYPICAL) SEE DETAILS FOR FLUSH POINT INSTALLATION
- SUB-SURFACE DRIPLINE PIPE:
- PARKING ISLAND CURB
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PARKING ISLAND CURB
- BARB X MALE FITTING
- PVC SCH 40 TEE OR EL (TYPICAL)
- PVC SUPPLY MANIFOLD
- PLANTER
- 1/2" AIR RELIEF VALVE: SEE DETAILS FOR AIR RELIEF INSTALLATION
- TREE (TYPICAL) SEE IRRIGATION LEGEND FOR TREE IRRIGATION SPECIFICATIONS
- MULCH BED FOR TREE
- TREE BUBBLER(S) OR TREE RINGS - REFER TO LAYOUT PLANS
- FINISH GRADE
- PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- PVC RISER PIPE
- DRIPLINE INDICATOR

7 DRIP LINE LAYOUT AROUND TREE
1" = 1'-0"

6 AIR RELIEF VALVE
1 1/2" = 1'-0"



General Notes

LANDSCAPE IRRIGATION DETAILS

No.	Revision/Issue	Date
Firm Name and Address		
Project Name and Address		
JOHN & CAROLYN MOYER RESIDENCE 516 LAKEMEAD WAY EMERALD HILLS, CA 94062		
Project Number 515-2024	Sheet # IR-1.5	
Date 01/18/2024		
Scale NTS		
Drafted By 4Binc	Of Total 9 Sheets	



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GENERAL IRRIGATION NOTES

EQUIPMENT

1. ALL POP-UP TYPE SPRINKLER HEADS INSTALLED IN SHRUB OR GROUNDCOVER AREAS SHALL BE INSTALLED SO THAT THE TOP OF THE SPRINKLER HEAD IS 2" ABOVE FINISH GRADE.
2. ALL POP-UP TYPE SPRINKLER HEADS INSTALLED IN TURF AREAS SHALL BE INSTALLED SO THAT THE TOP OF THE SPRINKLER HEAD IS FLUSH WITH ADJACENT SIDEWALK OR CURB.
3. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE DESIGNATED ON THE PLANS.
4. ALL SPRINKLERS SHALL BE INSTALLED WITH A 'CHECK VALVE' TO PREVENT DRAINAGE FROM SPRINKLER HEAD WHEN THE SPRINKLER IS OFF. DRAINAGE OF IRRIGATION WATER THROUGH SPRINKLER HEADS WILL NOT BE ALLOWED.
5. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM EQUIPMENT OPERATING PRESSURE OF 53.0 PSI AND THE MAXIMUM FLOW OF 5.13 GPM AS SHOWN ON THE IRRIGATION DRAWINGS AT THE METER OR POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO THE START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
6. 120 VOLT ELECTRICAL POWER OUTLET AT THE AUTOMATIC CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL OUTLET TO THE AUTOMATIC CONTROLLER.
7. WHERE APPLICABLE-TWO WIRE SYSTEM - ALL TWO WIRE DECODERS TO BE INSTALLED PER MANUFACTURERS REQUIREMENTS AND GROUNDED AS PER MANUFACTURER REQUIREMENTS. CONTACT MANUFACTURER REPRESENTATIVE FOR APPROVAL OF GROUNDING AND DECODER INSTALLATION AND SIGN OFF.
- a. WHERE APPLICABLE-INSTALL ADDITIONAL TWO WIRE IN EACH VALVE BOX SO THAT WIRE CAN BE PULLED OUT OF VALVE BOX (A MINIMUM OF 24") FOR SPLICE AND DECODER SERVICING.
8. ALL MASTER VALVES/FLOW SENSORS MUST BE SET UP PRIOR TO IRRIGATION CONTROLLER CERTIFICATION.
9. BOOSTER PUMP - CONTACT BARRETT ENGINEERED PUMP REPRESENTATIVE FOR PUMP START UP AND CERTIFICATION. DURING START UP TESTING PUMP MUST BE RAN AT MAXIMUM FLOW AND PRESSURES AS REPRESENTED ON THE APPROVED IRRIGATION PLANS FOR A MINIMUM OF 30 MINUTES AND MUST BE OPERATIONAL FROM THE CONTROLLER VIA PUMP START AND NOT FLOW START.
10. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS. AVOID ANY CONFLICTS BETWEEN THE SPRINKLER SYSTEM, PLANTING AND ARCHITECTURAL FEATURES.
11. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER-SPRAY ONTO WALKS, ROADWAYS AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
12. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
13. INSTALL ALL DRIP FLUSH VALVES AND DRIP INDICATORS AT HIGHEST POINT IN DRIP SYSTEM TO AVOID LOW HEAD DRAINAGE.
14. INSTALL ALL PIPE MATERIALS AND EQUIPMENT AS SHOWN IN THE DETAILS. USE TEFLON TAPE OR TEFLON PIPE DOPE ON ALL PVC MALE PIPE THREADS ON ALL SPRINKLER SWING JOINT AND VALVE ASSEMBLIES.
15. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, ETC. HE SHALL COORDINATE HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB- CONTRACTORS FOR THE LOCATION AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, PAVING, STRUCTURES, ETC.
16. IN ADDITION TO THE CONTROL WIRE SLEEVES SHOWN ON THE DRAWINGS, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF CONTROL WIRE SLEEVES OF SUFFICIENT SIZE UNDER ALL OTHER PAVED AREAS.
17. CONTRACTOR SHALL PROGRAM IRRIGATION CONTROLLER TO OPERATE AS FOLLOWS
POST-CONSTRUCTION: SPRAY VALVES SHALL ONLY BE TURNED ON BETWEEN THE HOURS OF 08:00 P.M. AND 6:00 A.M. BUBBLER AND DRIP VALVES CAN OPERATE AT ANY TIME.

SYSTEM PERFORMANCE VERIFICATION

1. PRE SOD/SEED INSTALLATION - CONTRACTOR TO HIRE AN IRRIGATION AUDITOR TO CONDUCT A CATCH CAN TEST OF ALL ROTOR ZONES OF SPORTSFIELD/PARK AREAS. TEST RESULTS TO BE NOTED AND RECORDED AT EACH CATCH CAN. BASED ON IRRIGATION AUDITORS REPORT, ADJUSTMENTS TO HEAD LAYOUT OR NOZZLING MUST BE MADE PRIOR TO THE INSTALLATION OF SOD OR SEED. ALL FINDINGS MUST BE SENT TO THE LANDSCAPE ARCHITECT.
2. PER MWELO, IRRIGATION HEADS MUST BE PLACED SO THAT HARDSCAPED AREAS DRAIN TOWARD LANDSCAPED AREAS, AND WITH NO OVERSPRAY. OTHERWISE A SETBACK FROM HARDSCAPE OF 24" MINIMUM IS REQUIRED.
3. ALL LANDSCAPE AUDITS SHALL BE CONDUCTED BY A THIRD PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.
4. THE PROJECT APPLICANT SHALL SUBMIT AN IRRIGATION AUDIT REPORT WITH THE CERTIFICATE OF COMPLETION TO THE RESPONSIBLE LOCAL AGENCY PER MWELO REQUIREMENTS.

SUBMITTALS

- A. SEE THE CONTRACT GENERAL CONDITIONS FOR POLICY AND PROCEDURES RELATED TO SUBMITTALS.
- B. PRODUCT DATA
1. SUBMIT A MINIMUM OF (3) COMPLETE LISTS OF ALL IRRIGATION EQUIPMENT TO BE USED, MANUFACTURER'S BROCHURES, MAINTENANCE MANUALS, WARRANTIES AND OPERATING INSTRUCTIONS, WITHIN 15 DAYS AFTER THE NOTICE TO PROCEED.
 - A. THIS SUBMISSION MAY BE DONE DIGITALLY AND ALL DOCUMENTS SHALL BE SUBMITTED IN ONE PDF DOCUMENT.
 2. THE SUBMITTALS SHALL BE PACKAGED AND PRESENTED IN AN ORGANIZED MANNER, IN THE QUANTITY DESCRIBED IN DIVISION 1 OF THE SPECIFICATIONS. PROVIDE A TABLE OF CONTENTS OF ALL SUBMITTED ITEMS.
 3. CLEARLY IDENTIFY ON EACH SUBMITTED SHEET BY UNDERLINING OR HIGHLIGHTING (ON EACH COPY) THE SPECIFIC PRODUCT BEING SUBMITTED FOR APPROVAL. FAILURE TO CLEARLY IDENTIFY THE SPECIFIC PRODUCT BEING SUBMITTED WILL RESULT IN A REJECTION FOR THE ENTIRE SUBMITTAL. NO SUBSTITUTIONS OF MATERIAL OR PROCEDURES SHALL BE MADE CONCERNING THESE DOCUMENTS WITHOUT THE WRITTEN CONSENT OF AN ACCEPTED EQUIVALENT BY THE OWNER'S REPRESENTATIVE.
 4. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE, MAY BE REJECTED BY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR SHALL BE REQUIRED TO REMOVE SUCH MATERIALS FROM THE SITE AT THEIR OWN EXPENSE.

AS BUILT RECORD SET OF DRAWINGS

- A. IMMEDIATELY UPON THE INSTALLATION OF ANY BURIED PIPE OR EQUIPMENT, THE CONTRACTOR SHALL INDICATE ON THE PROGRESS RECORD DRAWINGS THE LOCATIONS OF SAID PIPE OR EQUIPMENT. THE PROGRESS RECORD DRAWINGS SHALL BE MADE AVAILABLE AT ANY TIME FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
- B. BEFORE FINAL ACCEPTANCE OF WORK, THE CONTRACTOR SHALL PROVIDE AN AS BUILT RECORD SET OF DRAWINGS SHOWING THE IRRIGATION SYSTEM WORK AS BUILT. THE DRAWINGS SHALL BE TRANSMITTED TO THE OWNER'S REPRESENTATIVE IN PAPER FORMAT AND AS A PDF FILE OF EACH DOCUMENT ON COMPACT DISK OR FLASH DRIVE. THE DRAWINGS SHALL INCLUDE ALL INFORMATION SHOWN ON THE ORIGINAL CONTRACT DOCUMENT AND REVISED TO REFLECT ALL CHANGES IN THE WORK. THE DRAWINGS SHALL INCLUDE THE FOLLOWING ADDITIONAL INFORMATION
 1. ALL VALVES SHALL BE NUMBERED BY STATION AND CORRESPONDING NUMBERS SHALL BE SHOWN ON THE AS BUILT RECORD SET OF DRAWINGS.
 2. ALL MAIN LINE PIPE OR IRRIGATION EQUIPMENT INCLUDING SLEEVES, VALVES, CONTROLLERS, IRRIGATION WIRE RUNS WHICH DEVIATE FROM THE MAINLINE LOCATION, BACKFLOW PREVENTERS, REMOTE CONTROL VALVES, GROUNDING RODS, SHUT-OFF VALVES, RAIN SENSORS, WIRE SPLICE LOCATIONS, AND QUICK COUPLING VALVES SHALL BE LOCATED BY TWO (2) MEASURED DIMENSIONS, TO THE NEAREST ONE-HALF FOOT. DIMENSIONS SHALL BE GIVEN FROM PERMANENT OBJECTS SUCH AS BUILDINGS, SIDEWALKS, CURBS, WALLS, STRUCTURES AND DRIVEWAYS. ALL CHANGES IN DIRECTION AND DEPTH OF MAIN LINE PIPE SHALL BE NOTED EXACTLY AS INSTALLED. DIMENSIONS FOR PIPES SHALL BE SHOWN AT NO GREATER THAN A 50 FT. MAXIMUM INTERVAL.
 3. AS BUILT RECORD SET OF DRAWINGS SHALL BE SIGNED AND DATED BY THE CONTRACTOR ATTESTING TO AND CERTIFYING THE ACCURACY OF THE AS BUILT RECORD SET OF DRAWINGS. AS BUILT RECORD SET OF DRAWINGS SHALL HAVE "AS BUILT RECORD SET OF DRAWINGS", COMPANY NAME, ADDRESS, PHONE NUMBER AND THE NAME OF THE PERSON WHO CREATED THE DRAWING AND THE CONTACT NAME (IF DIFFERENT).
- C. THE OWNER SHALL MAKE THE ORIGINAL CONTRACT DRAWING FILES AVAILABLE TO THE CONTRACTOR.

CONTROLLER CHARTS:

- A. PROVIDE ONE CONTROLLER CHART FOR EACH AUTOMATIC CONTROLLER INSTALLED.
 1. ON THE INSIDE SURFACE OF THE COVER OF EACH AUTOMATIC CONTROLLER, PREPARE AND MOUNT A COLOR-CODED CHART SHOWING THE VALVES, MAIN LINE, AND SYSTEMS SERVICED BY THAT PARTICULAR CONTROLLER. ALL VALVES SHALL BE NUMBERED TO MATCH THE OPERATION SCHEDULE AND THE DRAWINGS. ONLY THOSE AREAS CONTROLLED BY THAT CONTROLLER SHALL BE SHOWN. THIS CHART SHALL BE A PLOT PLAN, ENTIRE OR PARTIAL, SHOWING BUILDING, WALKS, ROADS AND WALLS. THE PLAN, REDUCED AS NECESSARY AND LEGIBLE IN ALL DETAILS, SHALL BE MADE TO A SIZE THAT WILL FIT INTO THE CONTROLLER COVER. THIS PRINT SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE AND SHALL BE PROTECTED IN LAMINATED IN A PLASTIC COVER AND BE SECURED TO THE INSIDE BACK OF THE CONTROLLER CABINET DOOR.
 2. THE CONTROLLER CHART SHALL BE COMPLETED AND APPROVED PRIOR TO ACCEPTANCE OF THE WORK.

IRRIGATION/WATERING RESPONSIBILITY

1. IT IS THE RESPONSIBILITY OF THE MAINTENANCE CONTRACTOR TO OPERATE THE IRRIGATION SYSTEM IN AN EFFICIENT MANNER AND TO MINIMIZE WATER WASTE. IT IS THE MAINTENANCE CONTRACTOR'S RESPONSIBILITY TO ADJUST THE SYSTEM TO APPLY WATER IN ACCORDANCE WITH PLANT REQUIREMENTS BASED ON WEATHER, SOIL, AND SITE CONDITIONS. THE IRRIGATION PROGRAM SHALL BE SCHEDULED TO MINIMIZE WATER WASTE THROUGH RUNOFF, EXCESSIVE IRRIGATION RUN TIMES, UTILIZE CYCLE SOAK SCHEDULING WHEN APPLICABLE. IT IS THE RESPONSIBILITY OF THE MAINTENANCE CONTRACTOR TO OPERATE THE IRRIGATION SYSTEM BASED ON LOCAL MUNICIPAL GUIDELINES.

IRRIGATION ACTIVATION

1. ACTIVATE IRRIGATION SYSTEM IN SPRING (OR WHEN WEATHER PERMITS). CHARGE MAINLINE IN FEBRUARY OR MARCH TO CHECK FOR LEAKS AND/OR MALFUNCTIONING VALVES.
2. TURN ON BACKFLOW PREVENTERS, OPEN GATE VALVES AND ACTIVATE BOOSTER PUMPS IF INSTALLED.
3. THE IRRIGATION CONTROLLER TO RUN MODE AND VERIFY THAT ALL PROGRAMS ARE ACTIVATED AND SET UP TO BE RUN IN SELF ADJUSTED MODE.
4. VERIFICATION AND ADJUSTMENTS. THIS INCLUDES TURNING ON EACH ZONE, MONITORING FOR LEAKS OR MALFUNCTIONING PARTS, CUTTING GRASS AWAY FROM SPRINKLER HEADS AND ADJUSTING SPRINKLERS FOR PROPER ARC AND MAXIMUM EFFICIENCY.
5. VERIFY THAT DRIP IRRIGATION IS FUNCTIONAL AND THAT DISTRIBUTION TUBING HAS NOT BEEN CUT OR BROKEN DURING NON OPERATIONAL PERIOD.
6. SERVICE, CLEAN AND ADJUST AND WEATHER SENSOR SYSTEM. THIS IS CRITICAL FOR ALL SELF ADJUSTING CONTROLLERS.
7. IF APPLICABLE SERVICE IRRIGATION BOOSTER PUMP, THIS NEED TO BE COMPLETED BY THE MANUFACTURERS CERTIFIED TECHNICIAN.
8. IRRIGATION MONITORING/LANDSCAPE WATERING
9. CHECK THE ET/WEATHER BASED SELF ADJUSTING SYSTEM PROGRAMMING, FLOW SENSOR AND MASTER VALVE OPERATION AND PROGRAMMING; ADJUST AS REQUIRED TO ENSURE PROPER OPERATION.
10. ALL BACKFLOW PREVENTION DEVICES ARE TO BE MAINTAINED AS PER LOCAL CITY OR COUNTY CODES.
11. ALL TURF AREAS SHALL BE MONITORED TO DETERMINE THE NEED FOR SUPPLEMENTAL IRRIGATION. FREQUENCY AND DURATION OF EACH WATERING WILL BE DEPENDENT ON LOCAL WEATHER CONDITIONS. TO DETERMINE THE NEED FOR WATERING, LANDSCAPE MAINTENANCE CONTRACTOR SHALL USE A SOIL PROBE TO EXAMINE THE FIRST 6-12" OF THE SOIL PROFILE. IF THE SOIL IS COOL, DAMP AND HOLDS ITS SHAPE, WATERING IS NOT NECESSARY. PLANT MATERIAL ROOTS SHOULD BE ENCOURAGE TO ROOT AS DEEP AS POSSIBLE, THIS IS ACCOMPLISHED BY DEEP ROOT WATERING, LONGER IRRIGATION RUN TIMES AND UTILIZING CYCLE SOAK METHOD. FREQUENT SHALLOW IRRIGATION SCHEDULING IS INEFFECTIVE AND WILL ONLY PROMOTE SHALLOW ROOTING AND REQUIRE EXCESSIVE WATER WASTE.
12. GROUNDCOVER AND SHRUB BEDS SHALL BE WATERED USING AN AUTOMATIC IRRIGATION SYSTEM. THE ENTIRE GROUNDCOVER/SHRUB BED SHALL BE SOAKED TO A DEPTH TO MAXIMIZE HEALTHY PLANT ROOT GROWTH. IRRIGATION RUN TIME TO BE BASED ON IRRIGATION DEVICE PRECIPITATION RATE (NOT FLOW RATE) AND PLANT MATERIAL IRRIGATION DEMAND. (USE WUCOLS REFERENCE FOR PLANT WATERING NEEDS). IN THE EVENT OF ESTABLISHING PLANTS, OR COMPROMISED SOIL PROFILE, WATERING FREQUENCIES MAY BE ADJUSTED.
13. ESTABLISH TIME SETTINGS AND INTERVALS OF IRRIGATION WATER APPLICATION FOR EACH VALVE OF ALL IRRIGATION ZONES. MAKE ADJUSTMENTS WHEN NECESSARY TO CORRESPOND TO VARIABLE WATERING REQUIREMENTS. CHECK FOR COVERAGE AND PLUGGED EMISSION/NOZZLE DEVICES. CLEAN DEVICES AND ADJUST DEVICES WHILE MAINTAINING THE SYSTEM IN PROPER WORKING ORDER.
14. ALL AUTOMATIC CONTROLLERS WILL BE PROGRAMMED TO APPLY WATER DURING HOURS AS PERMITTED BY LOCAL TOWN, CITY OR COUNTY ORDINANCES.

IRRIGATION SYSTEM REPAIR

1. CLEANING AND ADJUSTING THE SPRINKLERS HEADS ARE THE MAINTENANCE CONTRACTOR'S RESPONSIBILITY. REPAIR AND/OR REPLACEMENT OF ANY VANDALIZED OR MALFUNCTIONING COMPONENT BEYOND MAINTENANCE CONTRACTOR'S CONTROL IS THE RESPONSIBILITY OF THE OWNER/AGENT. ANY DAMAGE CAUSED BY MAINTENANCE CONTRACTOR WILL BE REPAIRED BY MAINTENANCE CONTRACTOR AT NO COST TO THE OWNER/AGENT.
2. ALL IRRIGATION REPAIRED OR REPLACED MUST BE IN ACCORDANCE WITH THE ORIGINAL IRRIGATION DESIGN, LOCAL CITY OR COUNTY GUIDELINES AND MUST PROVIDE THE MAXIMUM EFFICIENCY AS POSSIBLE SO AS NOT TO WASTE WATER.
3. ALL DRIP SYSTEMS ARE TO BE MANUALLY FLUSHED A MINIMUM ONE TIME PER YEAR AND FILTERS TO BE CLEANED ON A REGULAR BASIS.
4. ALL DAMAGED AND REPAIRED PIPE MUST BE FLUSHED OF ALL DEBRIS. MAINTENANCE CONTRACTOR TO GUARANTEE FULL OPERATIONAL AND EFFICIENT PERFORMANCE OF REPAIRED SYSTEMS.
5. REPAIRS TO BACKFLOW PREVENTION DEVICES MUST BE CONDUCTED BY A TRAINED CERTIFIED BACKFLOW TECHNICIAN.
6. IT IS RECOMMENDED THAT ALL IRRIGATION MAINTENANCE AND REPAIR BE PERFORMED BY CALIFORNIA LICENSED AND/OR CERTIFIED CONTRACTOR. NOT MAINTAINING IRRIGATION SYSTEMS IN AN EFFICIENT MANNER WILL RESULT IN PLANT AND LANDSCAPE DEGRADATION AND ADDITIONAL MAINTENANCE COSTS.
7. IRRIGATION SYSTEM WINTERIZATION
8. WHERE APPLICABLE, SHUT OFF AND DRAIN IRRIGATION SYSTEM(S) AT THE END OF THE IRRIGATION SEASON. TURN OFF ALL MAIN SUPPLY VALVES, OPEN ALL MANUAL DRAIN VALVES, AND BLEED VALVES ON BACKFLOW PREVENTION DEVICES. PERFORM WINTERIZATION PRIOR TO NOVEMBER 1ST.
9. IRRIGATION START UP
10. FLUSH ALL DRIP LINES AT FLUSH POINTS.
11. REMOVE AND CLEAN ALL FILTERS AND REPLACE ANY DAMAGED FILTERS.
12. CHECK THAT ALL WEATHERS SENSORS ARE FUNCTIONING AND REPLACE BATTERIES AS NEEDED.

LANDSCAPE IRRIGATION NOTES

No.	Revision/Issue	Date

Firm Name and Address



4Binc Select Certified ASIC
IRRIGATION ASSOCIATION
 Government Contractors - Efficient Solutions
 LIC# 1012730-IA CERTIFICATION # 57436 PROFESSIONAL MEMBER

Project Name and Address

JOHN & CAROLYN MOYER RESIDENCE
 516 LAKEMEAD WAY
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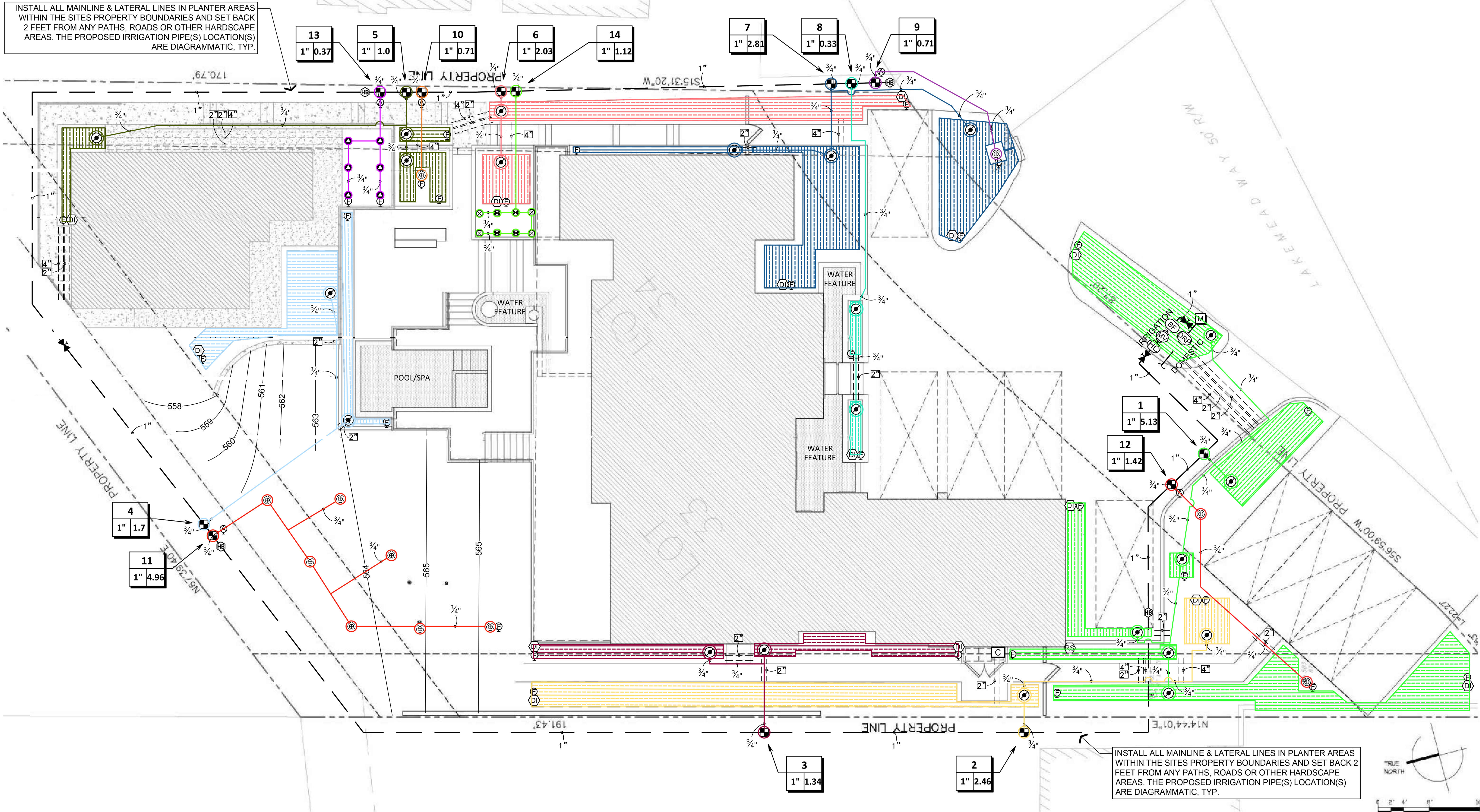
Project Number 515-2024	Sheet # IR-1.6
Date 01/18/2024	
Scale NTS	
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LANDSCAPE HYDROZONE PLAN

INSTALL ALL MAINLINE & LATERAL LINES IN PLANTER AREAS WITHIN THE SITES PROPERTY BOUNDARIES AND SET BACK 2 FEET FROM ANY PATHS, ROADS OR OTHER HARDSCAPE AREAS. THE PROPOSED IRRIGATION PIPE(S) LOCATION(S) ARE DIAGRAMMATIC, TYP.



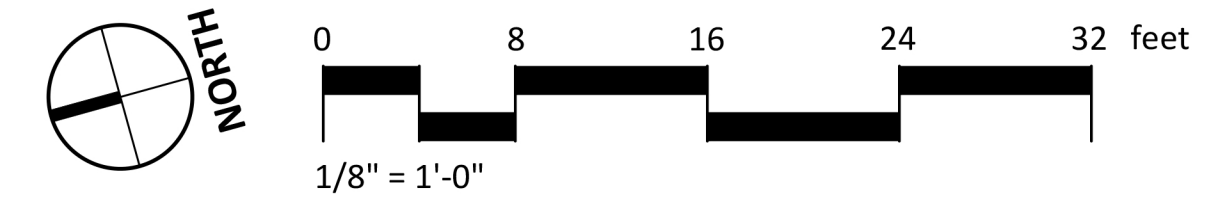
VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP	HYDROZONE
1	TORO DZK-700	1"	AREA FOR DRIPLINE	5.13	30	0.25	8.65	38.9	51	0.71 in/h	LOW
2	TORO DZK-700	1"	AREA FOR DRIPLINE	2.46	30	0.02	7.08	37.1	48.9	0.73 in/h	MEDIUM
3	TORO DZK-700	1"	AREA FOR DRIPLINE	1.34	30	0.02	6.07	36.1	47.7	0.95 in/h	LOW
4	TORO DZK-700	1"	AREA FOR DRIPLINE	1.7	30	0.07	6.47	36.5	48.3	0.97 in/h	LOW
5	TORO DZK-700	1"	AREA FOR DRIPLINE	1.0	30	0.01	5.7	35.7	47.4	1.02 in/h	LOW
6	TORO DZK-700	1"	AREA FOR DRIPLINE	2.03	30	0.01	6.82	36.8	49.0	0.75 in/h	MEDIUM
7	TORO DZK-700	1"	AREA FOR DRIPLINE	2.81	30	0.03	7.28	37.3	50.1	0.62 in/h	LOW
8	TORO DZK-700	1"	AREA FOR DRIPLINE	0.33	30		4.64	34.6	46.2	1.15 in/h	MEDIUM
9	TORO DZK-700	1"	DRIP EMITTER	0.71	30	0.01	5.23	35.2	46.9	1.36 in/h	LOW
10	TORO DZK-700	1"	DRIP EMITTER	0.71	30		5.23	35.2	46.9	1.36 in/h	MEDIUM
11	TORO DZK-700	1"	DRIP EMITTER	4.96	30	0.32	8.57	38.9	52.6	1.36 in/h	SLA / HIGH
12	TORO DZK-700	1"	DRIP EMITTER	1.42	30	0.02	6.16	36.2	47.8	1.36 in/h	LOW
13	TORO DZK-700	1"	DRIP EMITTER	0.37	30		4.69	34.7	46.3	0.18 in/h	LOW
14	TORO DZK-700	1"	DRIP EMITTER	1.12	20	0.02	5.83	25.9	37.6	2.92 in/h	SLA / HIGH

COLOR ZONE LAYOUT

WATER USE CLASSIFICATION	IRRIGATION ZONE	AREA IN SQUARE FEET
HIGH WATER USE	POOL/SPA & WATER FEATURES, 11 & 14	959 SF
MEDIUM WATER USE	2, 6, 8, & 10	717 SF
LOW WATER USE	1, 3 - 5, 7, 9, 12, & 13	1,907 SF
SLA	11 & 14	(539 SF)
		3,583 SF = TOTAL

SEE SHEET IR-1.7 FOR WATER USE CALCULATIONS



No.	Revision/Issue	Date

Firm Name and Address

IRRIGATION ASSOCIATION
LICENSED PROFESSIONAL MEMBER
LIC# 1012730—IA CERTIFICATION # 57436

Project Name and Address

JOHN & CAROLYN MOYER RESIDENCE
516 LAKEMEAD WAY
EMERALD HILLS, CA 94062

Project Number 515-2024	Sheet # IR-1.8
Date 01/18/2024	
Scale 1/8" = 1'-0"	
Drafted By 4Binc.	Of Total 9 Sheets

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