1650 West Steele Lane Apartments

APPLICABLE CODES

1. The Work shall comply with the California Building Standards Code (Title 24), 2019

Part 1 - California Building Standards Administrative Code
Part 2 - California Building Code
Part 3 - California Electrical Code
Part 4 - California Mechanical Code
Part 5 - California Plumbing Code
Part 6 - California Energy Code
Part 9 - California Fire Code
Part 11 - California Green Building Standards Code (CALGreen Code)
Part 12 - California Referenced Standards Code

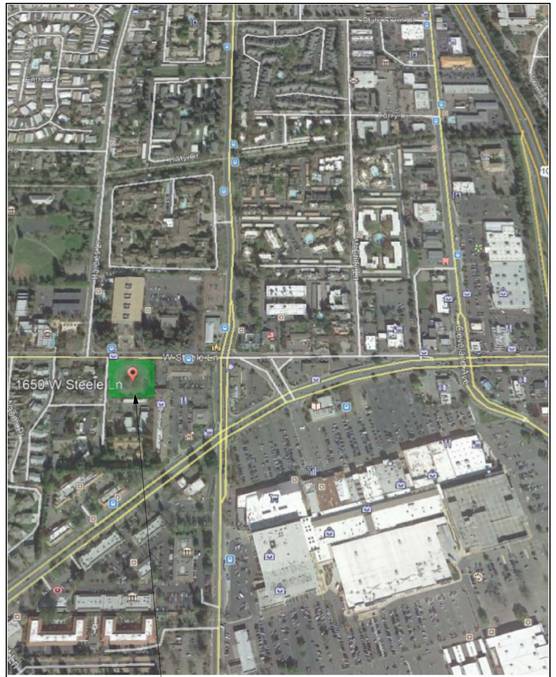
2. The Work shall comply with the applicable Codes, Ordinances and Regulations of the City of Santa Rosa

3. The designs depicted in these construction documents comply substantially with the requirements set forth in Part 6 of Title 24, the California Energy Code. Mandatory energy savings features for this project, whether or not they are shown or stated in these documents, must be incorporated into the project as outlined in the Title 24 Energy Compliance documentation prepared for this project.

RECEIVED
By Conor McKay at 12:00 pm, Dec 22, 2022

SHEET INDEX

VICINITY MAP



PROJECT TEAM

OWNER

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JKAPOLCHOK@SBCGLOBAL.NET

PROJECT DATA

LEVEL 1-

(9) UNITS- HEATED SPACE	12,224 SF
LOBBY/ LAUNDRY- HEATED SPACE	942 SF
OFFICE- HEATED SPACE	420 SF
COVERED BREEZEWAY	1,992 SF
GARAGE Building II - tuck under	1,470 SF
GARAGE Building III - tuck under	890 SF
GARAGE Building IV- automated parking	2,282 SF
TOTAL SF	16,866 SF

LEVEL 2-

(14) UNITS- HEATED SPACE	12, 418 SF

LEVEL 3-

(13) UNITS- HEATED SPACE	11, 586 SF
TOTAL BUILDING CONSTRUCTION AREA:	**43,742 SF**

State Density Bonus: Gov. Code 65915

Base density: .98 acre x 18 units/ acre = 17.6 units; round up to 18
(9) bonus density market rate units are desired
150% state density bonus is requested: 1.5 x 18 = 27 units
9 + 18 = 27 units
(3) very low income units are proposed for density bonus of 9 units
15% x 18 = 2.70, round up to 3 units
2 development incentives are requested:
- For reduction of rear yard setback to from 15' to 5' at parking structure
- For increase in height from 35' to 45'

15 market rate units + 3 below market rate units = 18 base density units
18 base density units + 9 density bonus market rate units = 27 units
3 affordable units +
15 base density market rate units +
9 state bonus density units
= 27 total units

Supplemental Density Bonus: Santa Rosa City Code 20-31.070

36 units desired - 27 units available with state density bonus = 9 units
50% x 18 (base density) = 9 units
27 units + 9 units = 36 units
50% supplemental density bonus requested(100% -50% = 50%)
Table 3.2 - Eligible for 100% density bonus over base density of 18 units = 36 units

20-31.070, E Eligibility Points 50% x 100 = 100 points
50%

Propose 100 points from (1) very low income unit to add 8 supplemental density bonus units
Table 3.3 3.7% x18 =.67, round up to 1 unit

Unit Mix (1) 3 bedroom - very low income unit (per Gov. Code 65915)
(1) 1 bedroom - very low income unit (per Gov. Code 65915)
(1) 1 bedroom - very low income unit (per Gov. Code 65915)
(1) 1 bedroom - very low income unit (per City Code 20-31.070)
(15) market rate base density units
(17) Density Bonus Units
TOTAL (36) units

PARKING REQUIRED -
TABLE 3-6 DENSITY BONUSHOUSING DEVELOPMENT MAXIMUM PARKING RATIOS:

MARKET RATE UNITS			
(5) 1 BEDROOM UNITS	1.5/UNIT	= 7.5	STALLS
(25) 2 BEDROOM UNITS	1.5/UNIT	= 37.5	STALLS
(2) 3 BEDROOM UNITS	1.5/UNIT	= 3	STALLS
32 UNITS TOTAL		= 48	STALLS
AFFORDABLE UNITS			
(2) 1 BEDROOM UNITS	1/UNIT	= 2	STALLS
(1) 2 BEDROOM UNIT	1/UNIT	= 1	STALLS
(1) 3 BEDROOM UNIT	1/UNIT	= 1	STALLS
4 UNITS TOTAL REQUIRED		= 4	STALLS
PARKING REQUIRED		= 52	STALLS

PARKING PROVIDED:

MARKET RATE UNITS			
(4) 1 BEDROOM UNITS	1.0 COVERED	= 4	STALLS
(26) 2 BEDROOM UNITS	1.0 COVERED	= 26	STALLS
(2) 3 BEDROOM UNITS	1.0 COVERED	= 2	STALLS
30 UNITS TOTAL		= 32.0	STALLS
AFFORDABLE UNITS:			
(3) 1 BEDROOM UNITS	1.0	= 3	STALLS
(1) 3 BEDROOM UNIT	1.0	= 1	STALL
4 UNITS PROVIDED		= 4	STALLS
TOTAL PROVIDED		= 36	STALLS

PARKING RATIO REQUIRED = 1.3 STALLS PER UNIT
PARKING RATIO PROVIDED = 1 STALL/ UNIT

BICYCLE STORAGE: 9 SECURE + 9 IN RACKS = 18 BICYCLE STALLS

ASSESSOR'S PARCEL #:	041-042-012
GENERAL PLAN:	MEDIUM RESIDENTIAL
ZONING:	R-3-15-SA NORTH STATION AREA SPECIFIC PLAN
LOT AREA:	0.98 ACRES (42,688.80 SF)
BUILDING COVERAGE:	16,866 SF (40% BUILDING COVERAGE)
PAVING & TRASH ENCLOSURE:	8,100 SF (19% DRIVEWAY AND SURFACE PARKING COVERAGE)
OPEN - LANDSCAPED AREA:	17,722 SF (41% LANDSCAPING AND PAVED WALKWAY COVERAGE)
MAX. ALLOWABLE BLDG.HT.	35'
PROPOSED BLDG. HT.	45'

UNIT MIX

LEVEL 1		**BUILDING "I"**	
1 BEDROOM -	1	1 BEDROOM - 2	
2 BEDROOM -	7	2 BEDROOM - 14	
3 BEDROOM -	1	3 BEDROOM - 3	
9 UNITS	9		19 UNITS
LEVEL 2		**BUILDDING "II"**	
1 BEDROOM -	4	1 BEDROOM - 5	
2 BEDROOM -	9	2 BEDROOM - 5	
3 BEDROOM -	1	3 BEDROOM - 0	
14 UNITS			10 UNITS
LEVEL 3		**BUILDING "III"**	
1 BEDROOM - 3		1 BEDROOM - 1	
2 BEDROOM - 9		2 BEDROOM - 6	
3 BEDROOM - 1		3 BEDROOM - 0	
13 UNITS			- 7 UNITS
TOTAL	36 UNITS	TOTAL	36 UNITS

PROJECT DESCRIPTION

The proposed multi-family residential project is located on a parcel in a Transit Oriented Priority Development Area, the North Station Area Specific Plan district. A public library, museums, ice skating arena, the City's largest shopping center, two major grocery stores, local small businesses and services, public transit, including the SMART line, bike and pedestrian paths, neighborhood parks parks, and schools are all located within one half mile of the project.
The multi-family apartment building comprises 36 dwellings and proposes a 100% increase in allowable density from 18 units to 36 units, as permitted by Supplemental Bonus Density Ordinance 20-31.070, of 50% over the State Density Bonus of 50%.
4 of the 36 units are proposed as below market rate, very low income units.
The dwellings are in (3) separate three story buildings, with massing organized around a central community open space - interior courtyard. Semi-private open space is provided in walled garden patios at the ground floor units, and balconies at upper level units. A common use open area is in the courtyard on the ground floor, at the entry garden plaza and in the covered passage located at the intersection of West Steele Lane and Meadowbrook Court. There is a common Laundry facility at the ground floor as well as a Lobby and Leasing Office.
Covered parking for 25 cars is provided in a 2 level automated parking structure at the east side yard. 11 surface parking stalls are provided at the south (rear) yard. A parking ratio of 1 stall per unit is proposed in this transit-oriented development. On-site short-term and long-term bicycle secure storage is provided for 18 bicycles.
As permitted by the Density Bonus Law, Gov. Code 65915, A waiver of development standard to allow an increase of maximum building height from 35' to 45' is requested. A concession to allow a parking reduction from 52 stalls required to 36 stalls provided is requested. A concession for a reduction of side yard setback at the east property boundary from 10' to 5' is requested.

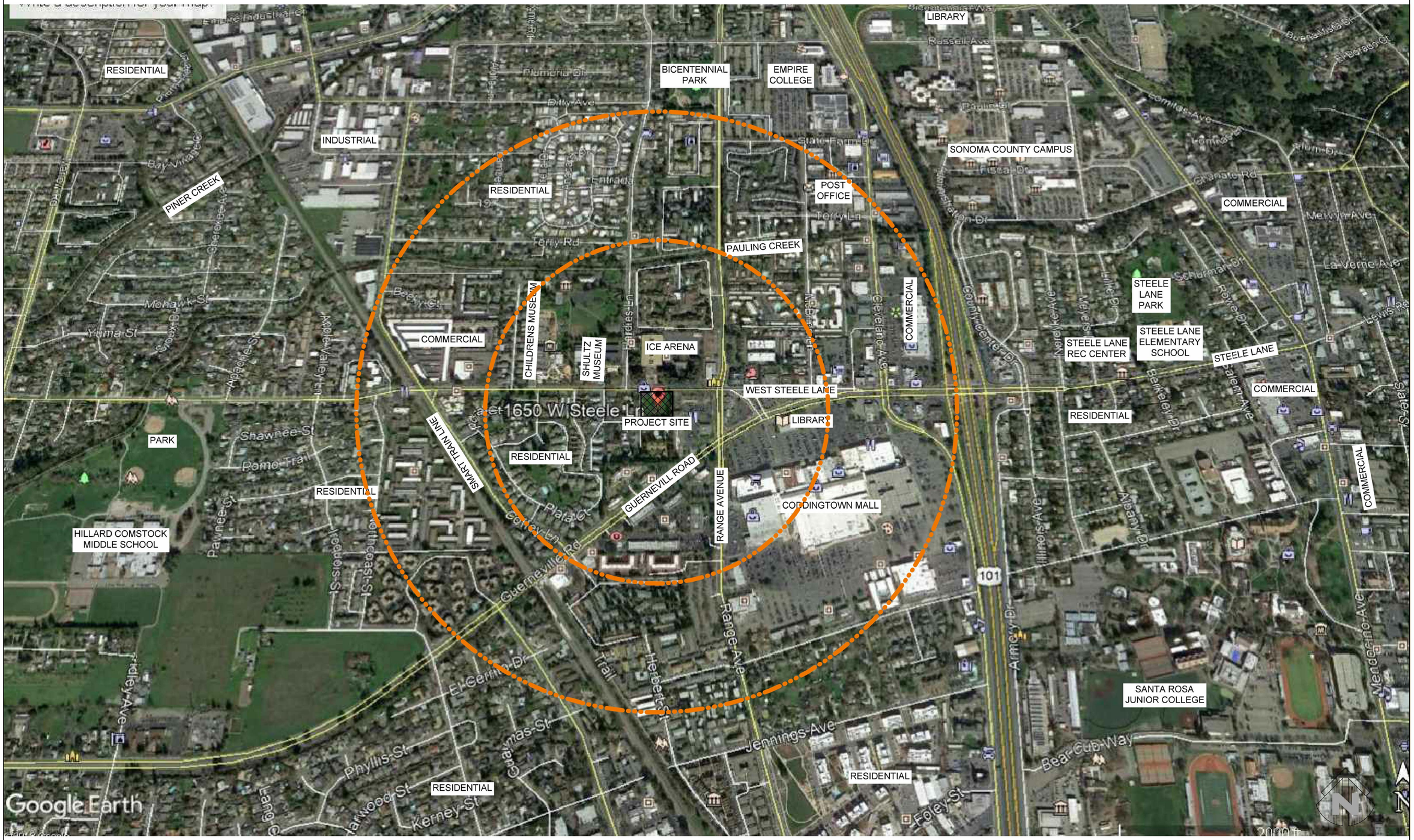
FIRE DEPT. NOTES

Notes:

1. Provide KNOX box as required by Fire Department at secured points of access to the project.
2. Provide address identification visible from West Steele Lane and at driveway entry on Meadowbrook Court. Location and design to be approved by Fire Dept.
3. Buildings I, II, III, IV are 30'-0" or less from Grade Plane to top of structural plate. Per, CFC D105, aerial access is not required.
4. See Sheet A1.2 for diagram of hose pull and emergency vehicle access, perCFC Appendix D 103. Hose pull and fire apparatus access is provided within 150' of all portiions of exterior walls at the ground floor and an emergency vehicle turn-around is not required.

Fire Department Plan Submittals

1. Gates and Barricades across fire apparatus access roads
2. Wayfaring and accessible signage
3. NFPA 13 sprinklers
4. NFPA 14 standpipe system
5. NFPA 24 private fire underground system
6. NFPA 72 fire alarm system



Site Context Map

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Phone 707 523 7010
Fax 707 542 2328

1650 West Steele Lane Apartments

1650 W. Steele Ln.
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A.P.N. 041-042-012

Site Context Map

Revisions

Job Number
Project Number

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Author

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1/20/20

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Looking South at North Boundary of Parcel

Looking North to Ice Arena from Parcel boundary

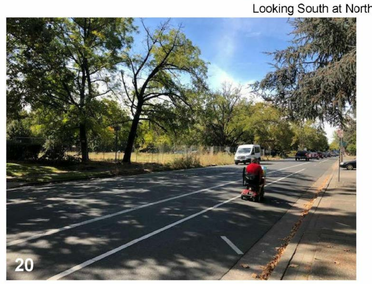
Looking North to Ice Arena from interior of Parcel

Looking East from interior of Parcel

East Boundary of Parcel; looking at rear of retail center

West Steele Lane Elevation of adjacent Retail

Pair of Red Tail Hawks nesting in one of the sycamore trees on the site



North Boundary of parcel from West Steele Lane

North Boundary of parcel from West Steele Lane

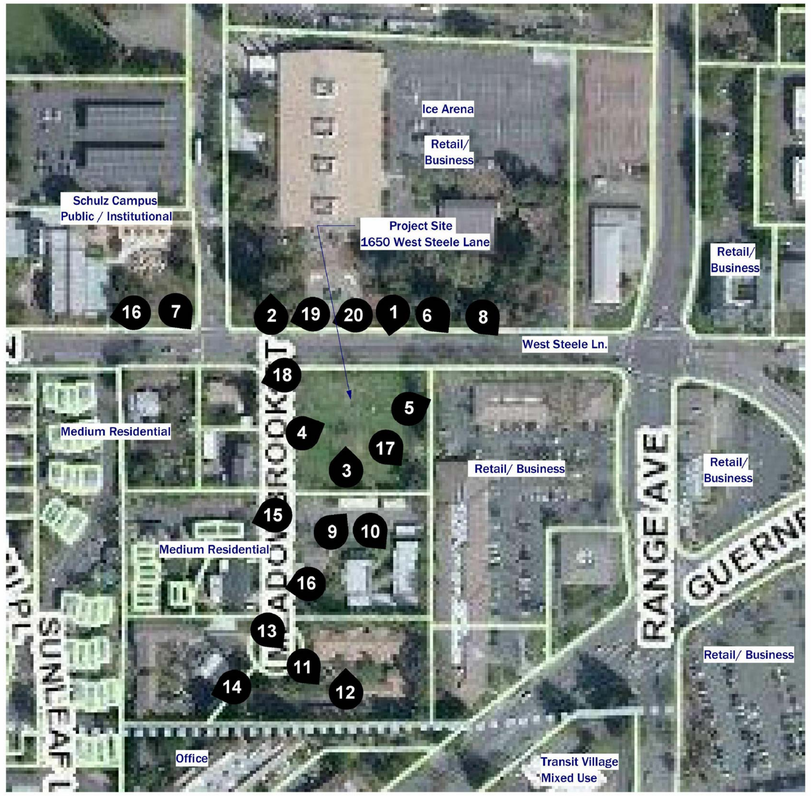
Single Family Residence at west side of Meadowbrook Court

West Boundary of parcel from Meadowbrook Court

Single Family Residence at west side of Meadowbrook Court

Apartment Buildings at west side of Meadowbrook Court

Apartment Buildings at southwest end of Meadowbrook Court



Apartment Buildings at southwest end of Meadowbrook Court

N

Apartment Buildings at southeast end of Meadowbrook Court

Apartment Buildings at southeast end of Meadowbrook Court

Looking at northwest corner of site

Looking east to corner of Range Ave. and West Steele Ln.

Carports at adjacent parcel at south boundary of project

Apartment building at parcel south of project site

Existing and Surrounding Land Uses

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Existing and Surrounding Land Uses

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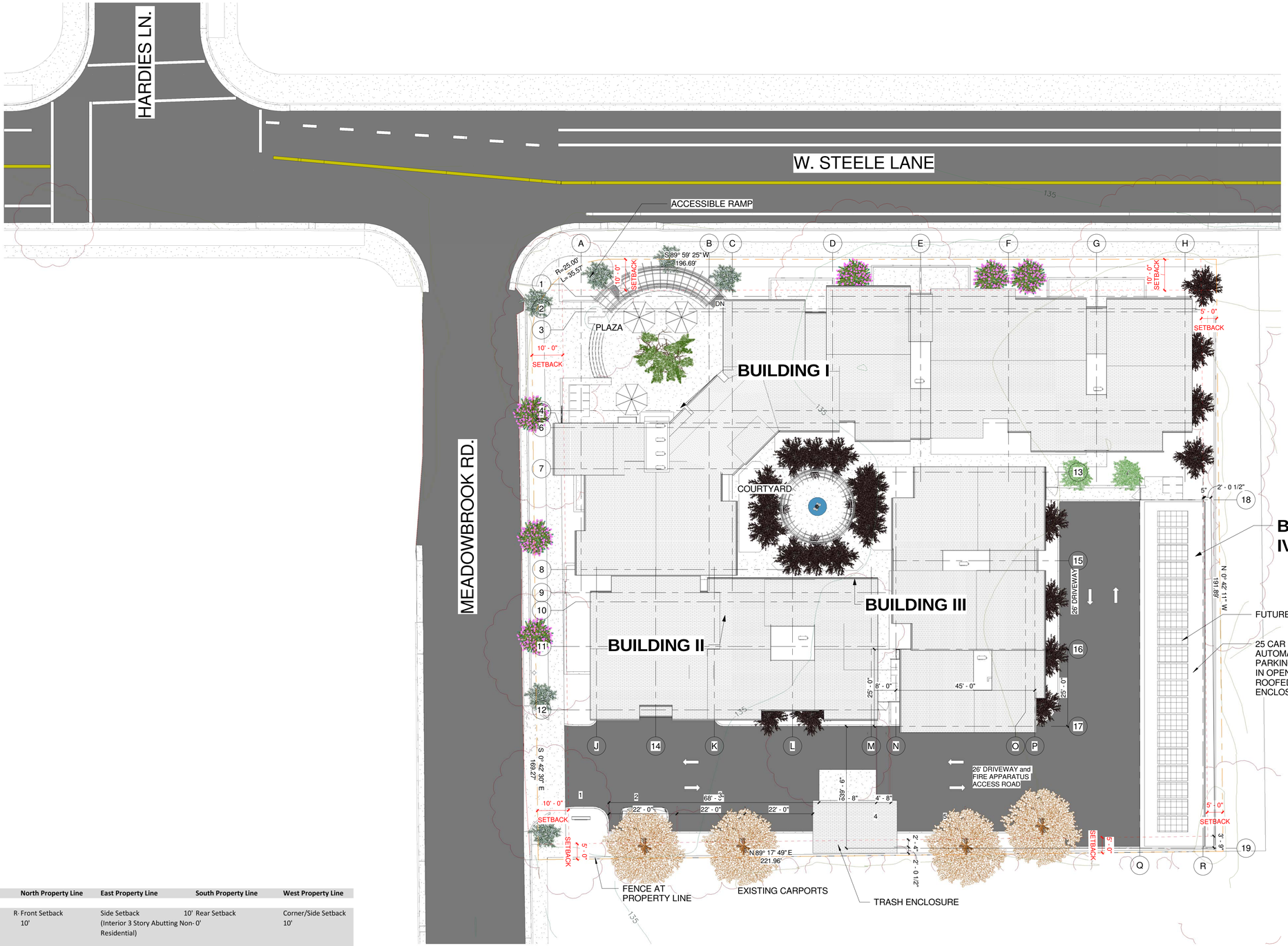

APN/Address	Land Use/Zoning		North Property Line	East Property Line	South Property Line	West Property Line
041-042-012 1650 West Steele Ln. (project site)	Medium Residential 3-15-SA	R-	Front Setback 10'	Side Setback (Interior 3 Story Abutting Non-Residential)	Rear Setback 0'	Corner/Side Setback 10'
041-042-031 2158 Meadowbrooke Ct.	Medium Residential 0170-SA	PD	Side Setback 0' (1 Story Abutting R3)	Rear Setback N/A	Side Setback N/A	Front Setback N/A
041-042-027 1311 Guerneville Rd.	Retail and Business Services SA	CG-	Rear/ Corner Setback N/A	Side/Corner Setback N/A	Front Setback N/A	Side Setback 5' (Interior Adjacent to Residential Use)

1 **Architectural Site Plan**
1/16" = 1'-0"

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

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1650 West Steele Lane Apartments

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A.P.N. 041-042-012

Architectural Site Plan

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JA

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1/20/20

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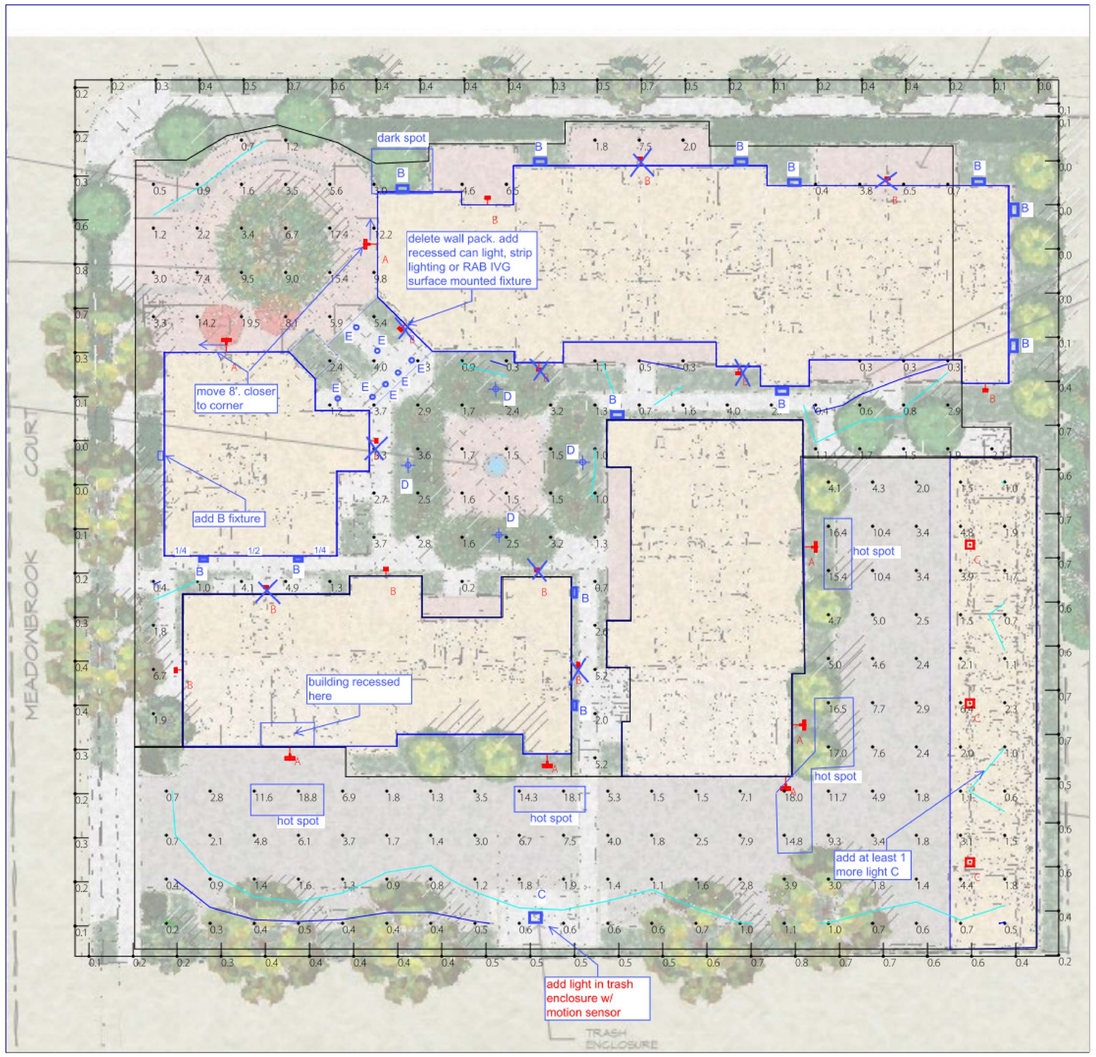
Calculation Summary											
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Description	PtSpcLr	PtSpcTb	Meter Type
Light Trespass	Illuminance	Fc	0.38	0.8	0.0	N.A.	N.A.	Vertical Readings at 5FT at Perimeter	10	N.A.	Vert-PerpCCW
Parking Area	Illuminance	Fc	3.90	18.8	0.2	19.50	94.00	Readings at 0 FT AFG	10	10	Horizontal
Pedestrian Paths	Illuminance	Fc	3.42	19.5	0.2	17.10	97.50	Readings at 0 FT AFG	10	10	Horizontal

Luminaire Schedule										
Symbol	Qty	Tag	Label	Lum. Lumens	LLF	Description	Lum. Watts	Total Watts	Filename	BUG Rating
	7	A	WPLEDFC80Y	9207	1.000	Wallpack 80W Full Cutoff 3000K	83	581	WPLEDFC80Y - RAB02588.IES	B2-U0-G1
	13	B	SLIM12Y	1915	1.000	Wallpack 12W Full cutoff 3000K	15.9	206.7	SLIM12Y-RAB04264.IES	B1-U0-G0
	3	C	VANLED10YFFR	1450	1.000	Canopy 10W Full Cutoff 3000K	13.1	39.3	VANLED10YFFR - Warm - RAB02997.IES	B1-U0-G0



Scale: 1 inch= 16 Ft.

Expanded Luminaire Location Summary					
LumNo	Tag	X	Y	MTG HT	Orient
1	B	143.65	310.45	10	90
2	B	199.75	305.95	10	90
3	B	109.1	301.5	10	90
4	A	82.65	291.775	14	180
5	B	89.834	273.134	14	225
6	A	49.95	268.875	14	90
7	B	120.675	264.2	14	270
8	B	165.85	263.35	14	270
9	B	221.85	259.5	10	270
10	B	83.1	247.225	14	0
11	C	218.35	223.75	10	0
12	A	182.15	223.225	14	0
13	B	86.05	217.45	14	90
14	B	120.25	217.25	14	90
15	B	58.925	213.35	14	90
16	B	128.8	196.4	14	0
17	B	39.25	195.3	10	180
18	C	218.35	187.75	10	0
19	A	179.5	182.85	14	0
20	A	64.3	176.55	14	270
21	A	122.55	174.85	14	270
22	A	176.55	169.7	14	270
23	C	218.35	151.75	10	0
Total Quantity: 23					

NOTES:

* The light loss factor (LLF) is a product of many variables, only lamp lumen depreciation (LLD) has been applied to the calculated results unless otherwise noted. The LLD is the result (quotient) of mean lumens / initial lumens per lamp manufacturers' specifications.

* Illumination values shown (in footcandles) are the predicted results for planes of calculation either horizontal, vertical or inclined as designated in the calculation summary. Meter orientation is normal to the plane of calculation.

* The calculated results of this lighting simulation represent an anticipated prediction of system performance. Actual measured results may vary from the anticipated performance and are subject to means and methods which are beyond the control of RAB Lighting Inc.

* Mounting height determination is job site specific, our lighting simulations assume a mounting height (insertion point of the luminaire symbol) to be taken at the top of the symbol for ceiling mounted luminaires and at the bottom of the symbol for all other luminaire mounting configurations.

* It is the Owner's responsibility to confirm the suitability of the existing or proposed poles and bases to support the proposed fixtures, based on the weight and EPA of the proposed fixtures and the owner's site soil conditions and wind zone. It is recommended that a professional engineer licensed to practice in the state the site is located be engaged to assist in this determination.

* The landscape material shown hereon is conceptual, and is not intended to be an accurate representation of any particular plant, shrub, bush, or tree, as these materials are living objects, and subject to constant change. The conceptual objects shown are for illustrative purposes only. The actual illumination values measured in the field will vary.

* Photometric model elements such as buildings, rooms, plants, furnishings or any architectural details which impact the dispersion of light must be detailed by the customer documents for inclusion in the RAB lighting design model. RAB is not responsible for any inaccuracies caused by incomplete information on the part of the customer, and reserves the right to use best judgement when translating customer requests into photometric studies.

* RAB Lighting Inc. luminaire and product designs are protected under U.S. and International intellectual property laws. Patents issued or pending apply.

Scale: as noted	PROJECT #162961	
Date:11/9/2020	CASE #529889	
Filename: 1650 West Steele Lane 529889A.AGI		
Drawn By: Shaun Fillion, LC		

Job Name:
1650 West Steele Lane
Santa Rosa, CA

Lighting Layout
Version A

Prepared For:
ElectroRep
2015 Bridgeway # 201
Sausalito, CA 94965

Filename: C:\Users\shaun.fillion\Desktop\1650 West Steele Lane 529889A.AGI

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Photometric Plan

Revisions

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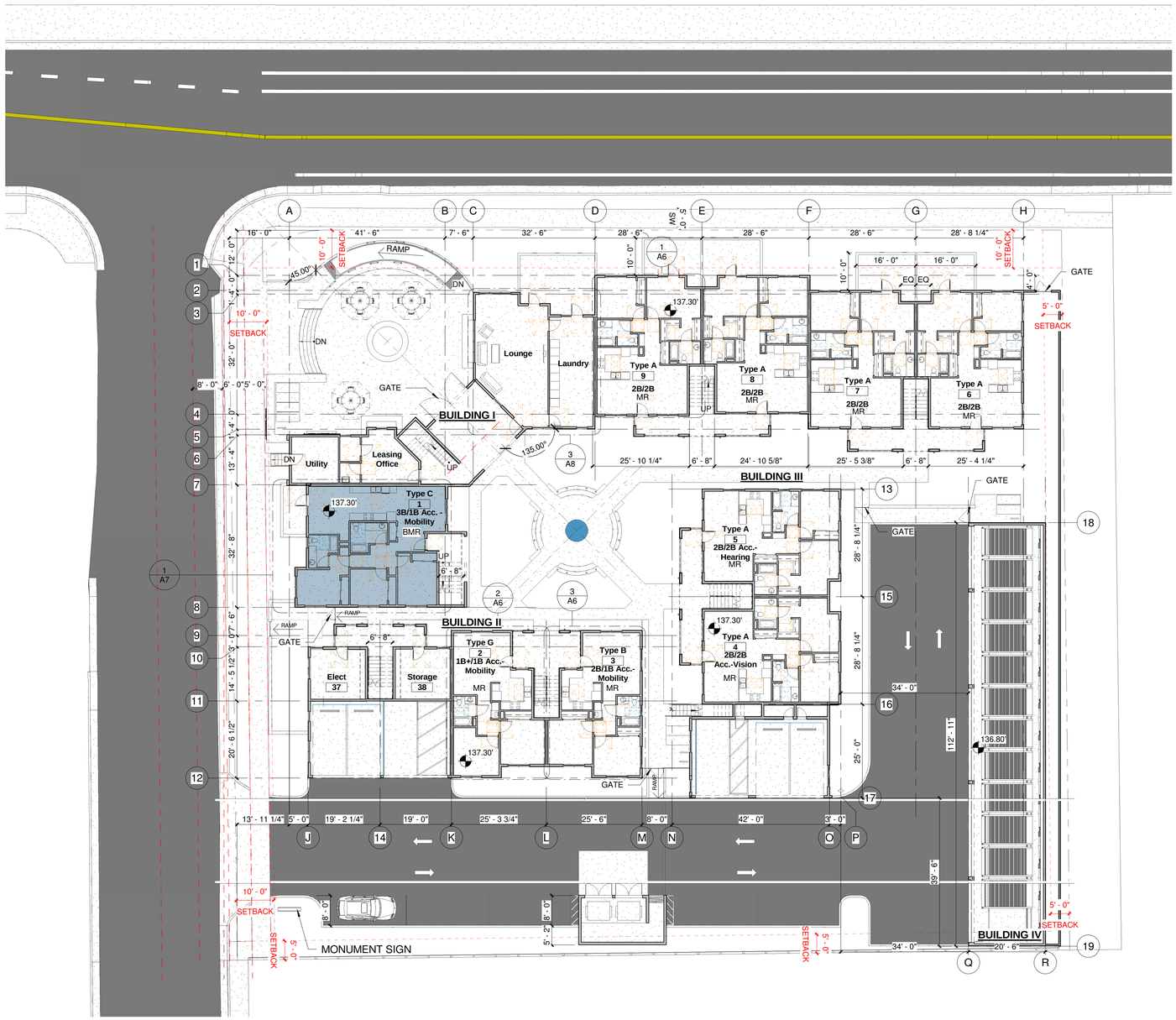
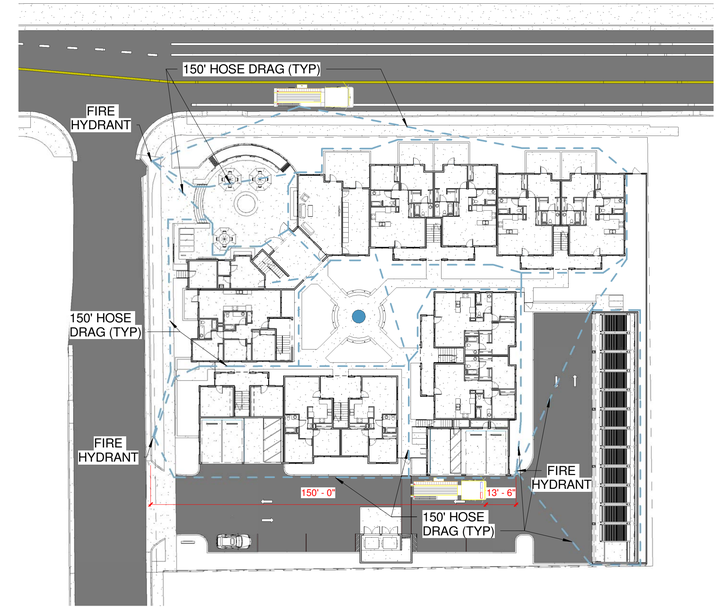


1 **First Floor Plan**
1/16" = 1'-0"



2 **Fire Access Plan**
1/32" = 1'-0"

Density Bonus Key

- MR- Market Rate
- BMR- Below Market Rate

Density Bonus Unit Map- Table of Units

Number	Name	Unit Type	Notes
Level 1			
1	Type C	3B/1B Acc. - Mobility	Affordable, Mobility Impaired
2	Type G	1B+/1B Acc.- Mobility	Mobility Impaired
3	Type B	2B/1B Acc.- Mobility	Mobility Impaired
4	Type A	2B/2B Acc.-Vision	Vision Impaired
5	Type A	2B/2B Acc.- Hearing	Hearing Impaired
6	Type A	2B/2B	Adaptable
7	Type A	2B/2B	Adaptable
8	Type A	2B/2B	Adaptable
9	Type A	2B/2B	Adaptable
37	Elect		
38	Storage		
39	Utility		
40	Leasing Office		
41	Lounge		
42	Laundry		
Level 2			
10	Type E	1B/1B	Affordable
11	Type C	3B/2B	
12	Type F	1B/1B	Affordable
13	Type F	1B/1B	
14	Type B	2B/1B	
15	Type B	2B/1B	
16	Type B	2B/1B	
17	Type A	2B/2B	
18	Type A	2B/2B	
19	Type A	2B/2B	
20	Type A	2B/2B	
21	Type A	2B/2B	
22	Type A	2B/2B	
23	Type D	2B/2B	
Level 3			
24	Type E	1B/1B	Affordable
25	Type C	3B/2B	
26	Type F	1B/1B	
27	Type F	1B/1B	
28	Type B	2B/1B	
29	Type B	2B/1B	
30	Type A	2B/2B	
31	Type A	2B/2B	
32	Type A	2B/2B	
33	Type A	2B/2B	
34	Type A	2B/2B	
35	Type A	2B/2B	
36	Type D	2B/2B	

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

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First Floor Plan

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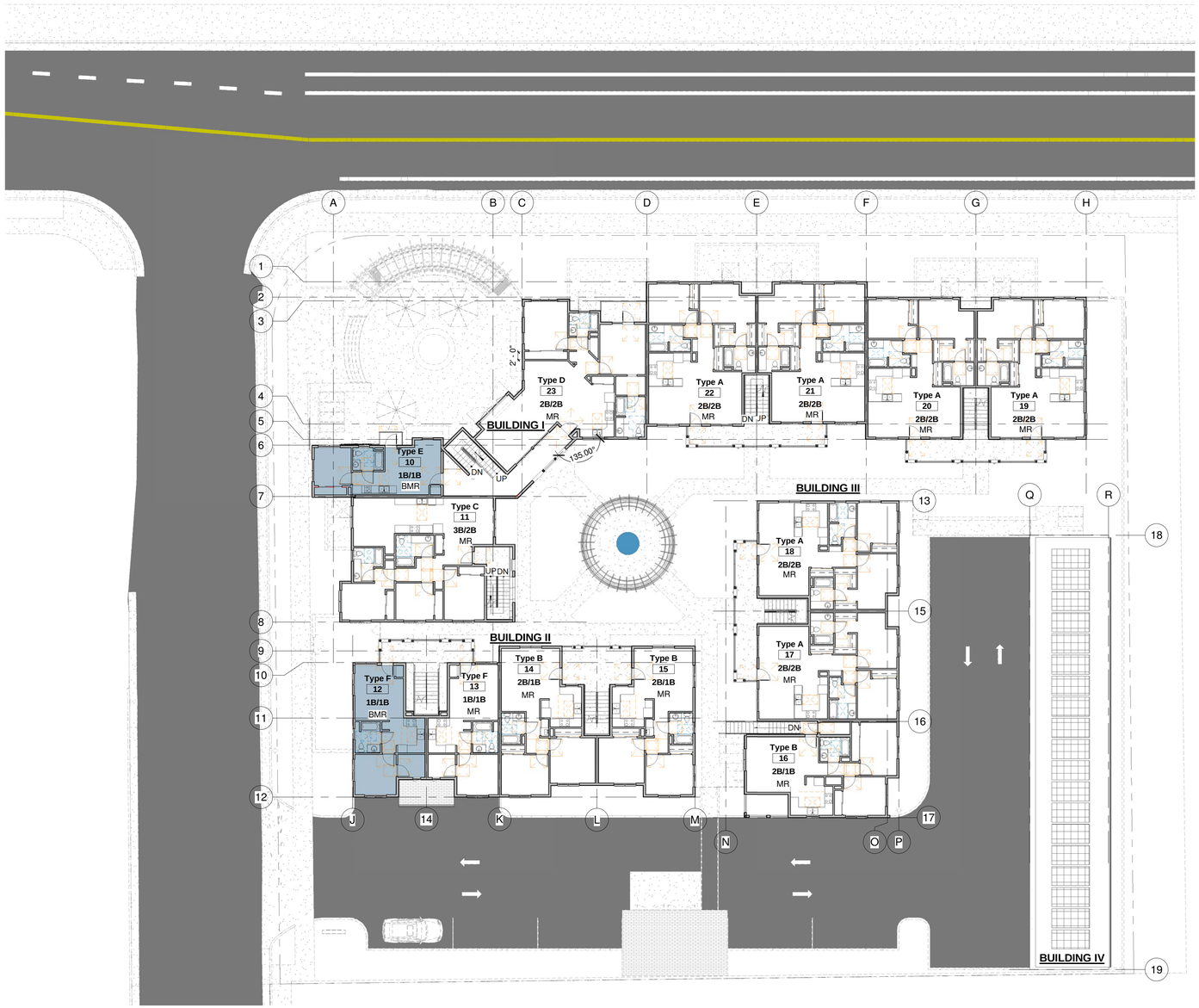

1 **Second Floor Plan**
1/16" = 1'-0"

Density Bonus Key

MR- Market Rate

BMR- Below Market Rate

Density Bonus Unit Map- Table of Units

Number	Name	Unit Type	Notes
Level 1			
1	Type C	3B/1B Acc. - Mobility	Affordable, Mobility Impaired
2	Type G	1B+/1B Acc.- Mobility	Mobility Impaired
3	Type B	2B/1B Acc.- Mobility	Mobility Impaired
4	Type A	2B/2B Acc.-Vision	Vision Impaired
5	Type A	2B/2B Acc.- Hearing	Hearing Impaired
6	Type A	2B/2B	Adaptable
7	Type A	2B/2B	Adaptable
8	Type A	2B/2B	Adaptable
9	Type A	2B/2B	Adaptable
37	Elect		
38	Storage		
39	Utility		
40	Leasing Office		
41	Lounge		
42	Laundry		
Level 2			
10	Type E	1B/1B	Affordable
11	Type C	3B/2B	
12	Type F	1B/1B	Affordable
13	Type F	1B/1B	
14	Type B	2B/1B	
15	Type B	2B/1B	
16	Type B	2B/1B	
17	Type A	2B/2B	
18	Type A	2B/2B	
19	Type A	2B/2B	
20	Type A	2B/2B	
21	Type A	2B/2B	
22	Type A	2B/2B	
23	Type D	2B/2B	
Level 3			
24	Type E	1B/1B	Affordable
25	Type C	3B/2B	
26	Type F	1B/1B	
27	Type F	1B/1B	
28	Type B	2B/1B	
29	Type B	2B/1B	
30	Type A	2B/2B	
31	Type A	2B/2B	
32	Type A	2B/2B	
33	Type A	2B/2B	
34	Type A	2B/2B	
35	Type A	2B/2B	
36	Type D	2B/2B	

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

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1650 West Steele Lane Apartments

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A.P.N. 041-042-012

Second Floor Plan

Revisions

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Project Number

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Sheet
A3

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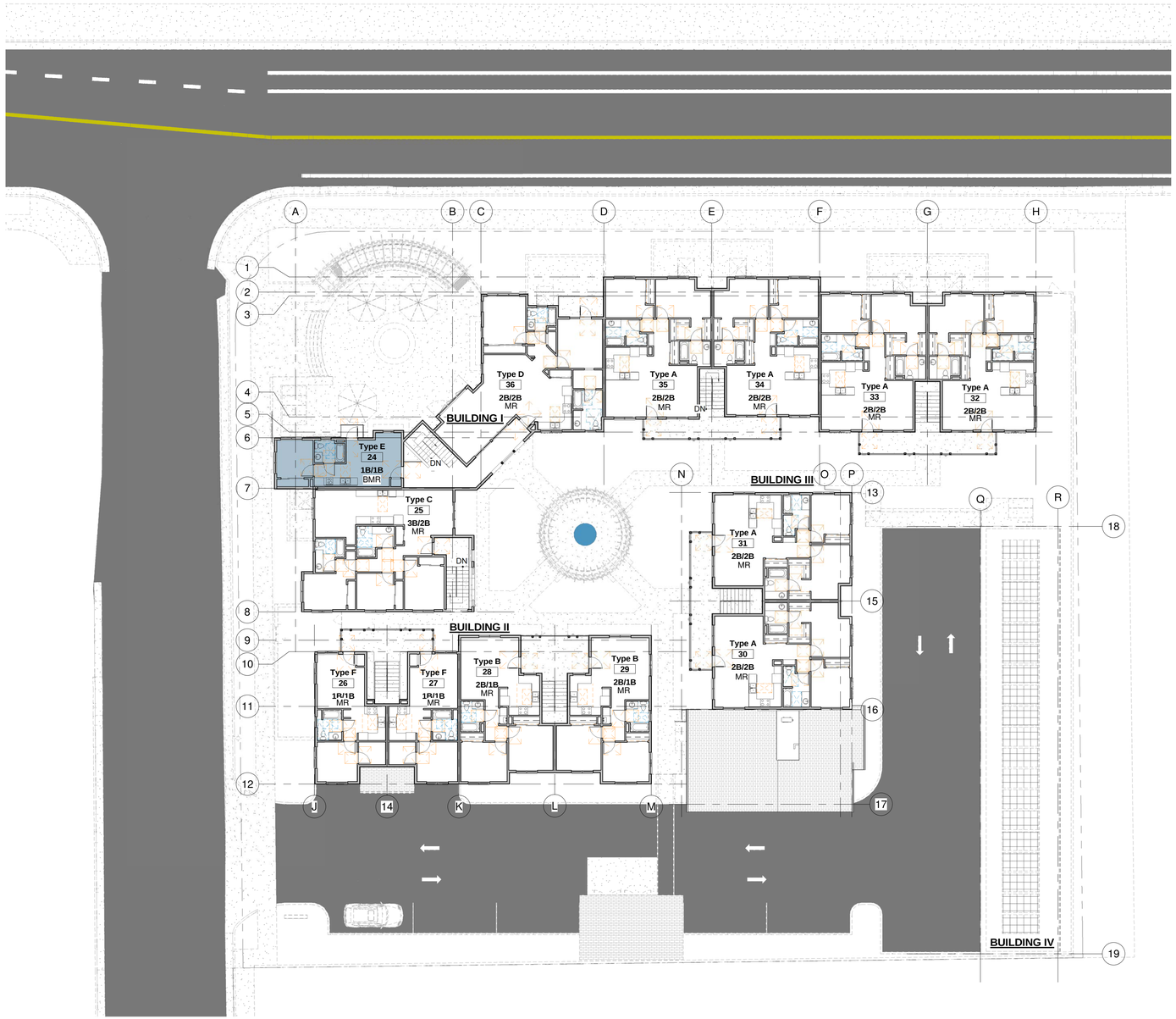

1 **Level 3**
1/16" = 1'-0"

Density Bonus Key

- MR- Market Rate
- BMR- Below Market Rate

Density Bonus Unit Map- Table of Units

Number	Name	Unit Type	Notes
Level 1			
1	Type C	3B/1B Acc. - Mobility	Affordable, Mobility Impaired
2	Type G	1B+/1B Acc.- Mobility	Mobility Impaired
3	Type B	2B/1B Acc.- Mobility	Mobility Impaired
4	Type A	2B/2B Acc.-Vision	Vision Impaired
5	Type A	2B/2B Acc.- Hearing	Hearing Impaired
6	Type A	2B/2B	Adaptable
7	Type A	2B/2B	Adaptable
8	Type A	2B/2B	Adaptable
9	Type A	2B/2B	Adaptable
37	Elect		
38	Storage		
39	Utility		
40	Leasing Office		
41	Lounge		
42	Laundry		
Level 2			
10	Type E	1B/1B	Affordable
11	Type C	3B/2B	
12	Type F	1B/1B	Affordable
13	Type F	1B/1B	
14	Type B	2B/1B	
15	Type B	2B/1B	
16	Type B	2B/1B	
17	Type A	2B/2B	
18	Type A	2B/2B	
19	Type A	2B/2B	
20	Type A	2B/2B	
21	Type A	2B/2B	
22	Type A	2B/2B	
23	Type D	2B/2B	
Level 3			
24	Type E	1B/1B	Affordable
25	Type C	3B/2B	
26	Type F	1B/1B	
27	Type F	1B/1B	
28	Type B	2B/1B	
29	Type B	2B/1B	
30	Type A	2B/2B	
31	Type A	2B/2B	
32	Type A	2B/2B	
33	Type A	2B/2B	
34	Type A	2B/2B	
35	Type A	2B/2B	
36	Type D	2B/2B	

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

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Third Floor Plan

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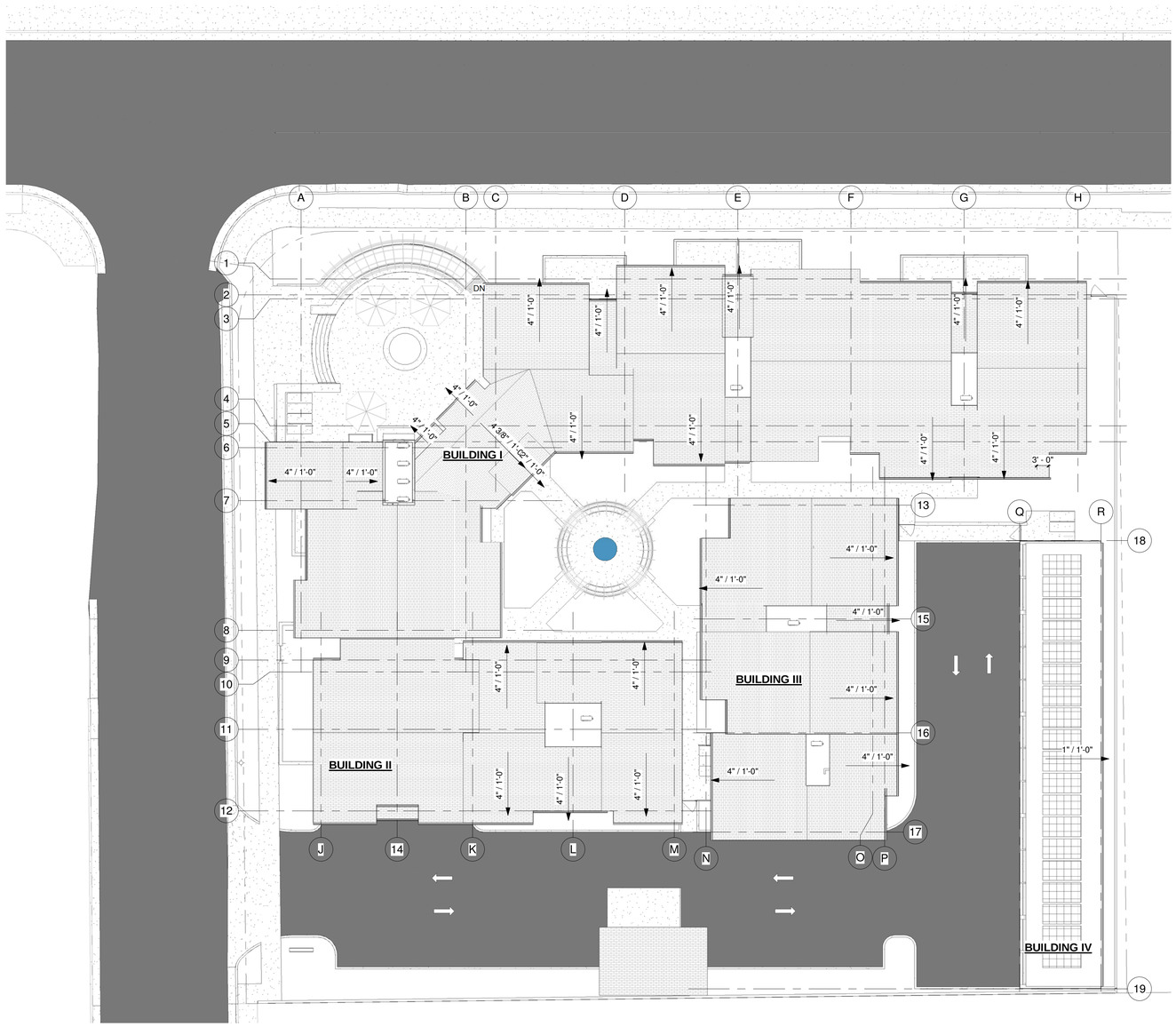

1 **Roof Plan**
1/16" = 1'-0"

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

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Roof Plan

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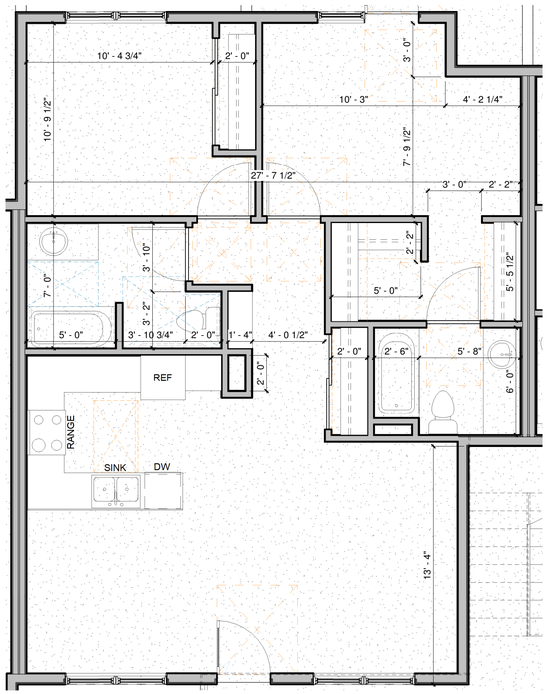
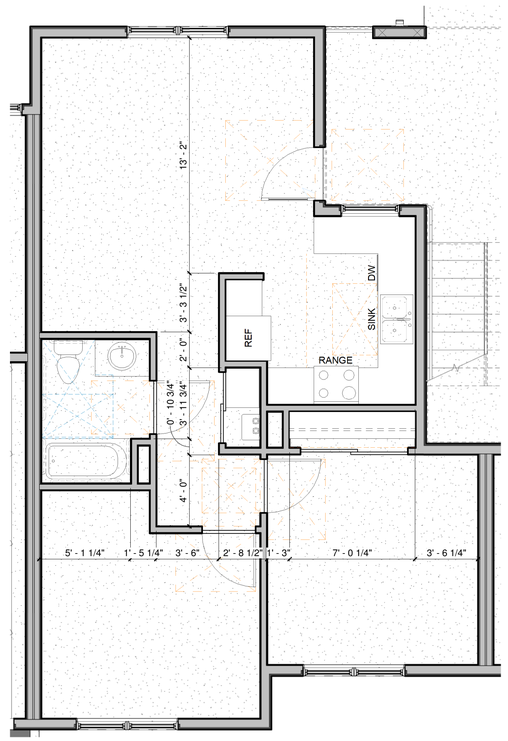
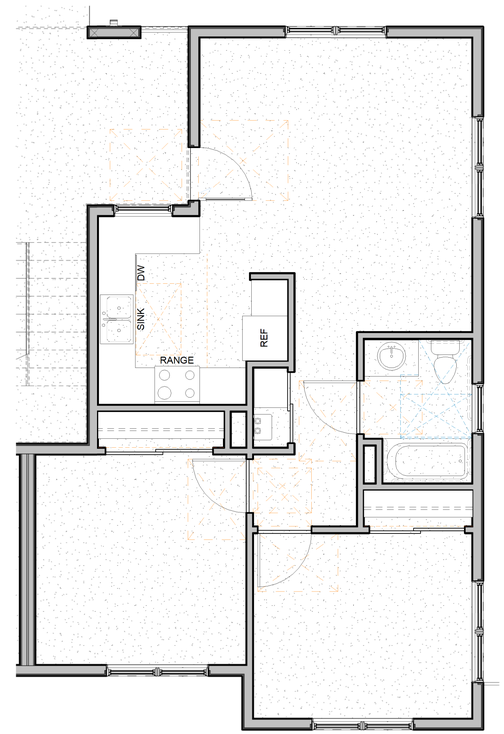


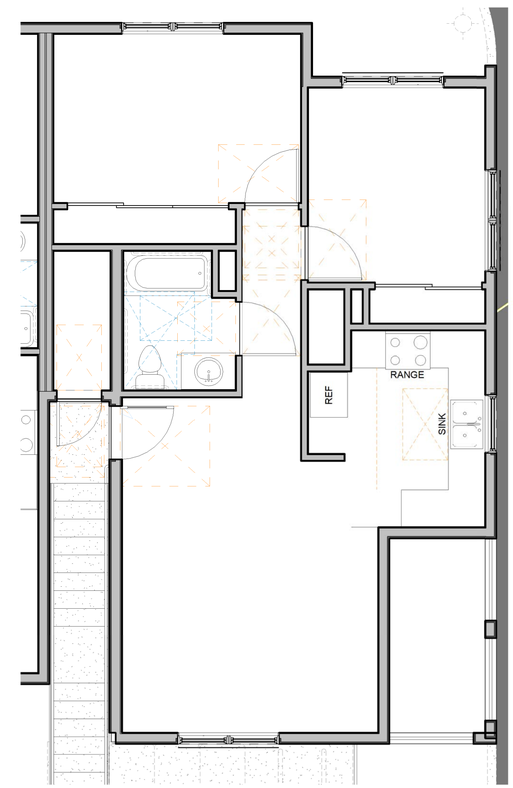
1 **Level 1 - Unit Type A - 952 SF**
1/4" = 1'-0"



2 **Level 1 - Unit Type G - 777 SF**
1/4" = 1'-0"



3 **Level 1 - Unit Type B1 & B2 - 777 SF**
1/4" = 1'-0"



4 **Level 2- Unit B3 - 779 SF**
1/4" = 1'-0"

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Unit Plans

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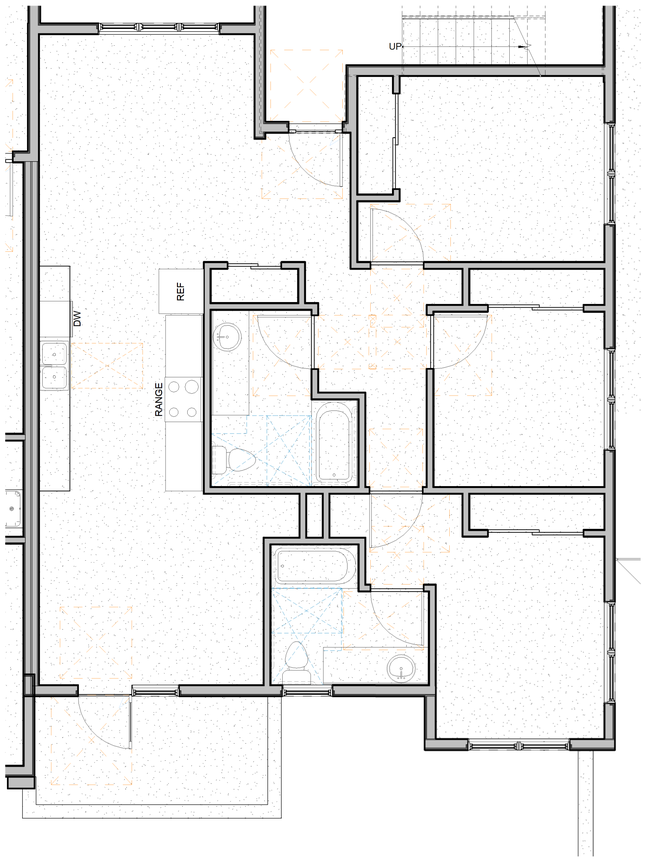
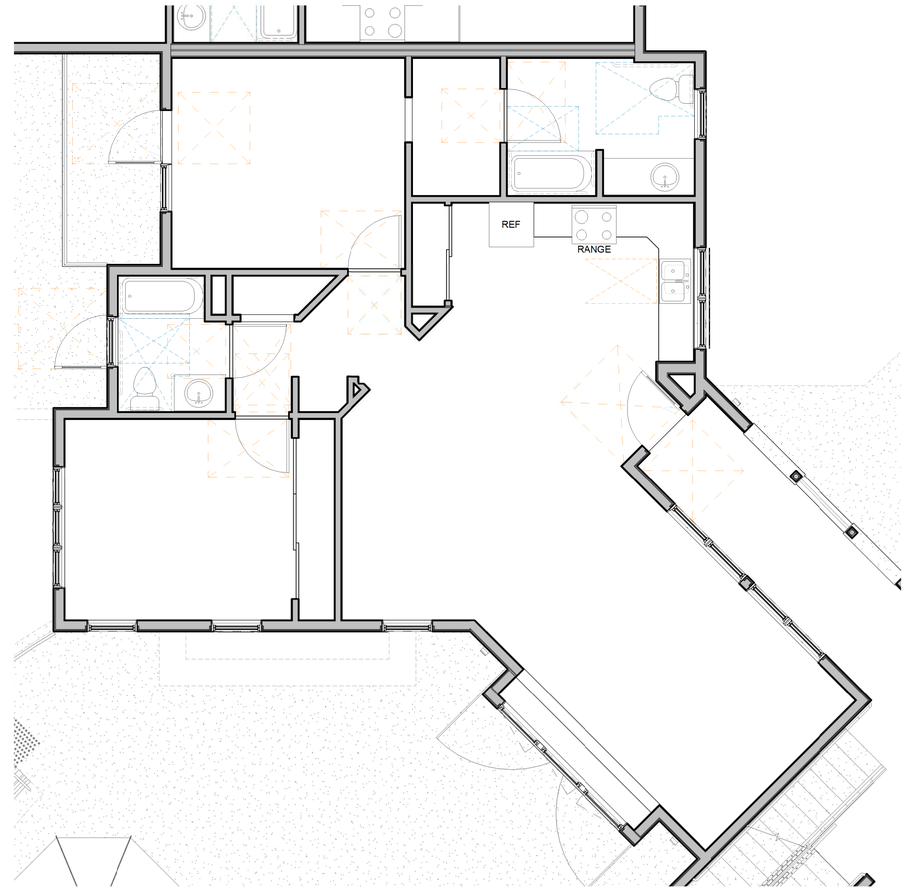


1 **Level 1 - Unit Type C1 - 1110 SF**
1/4" = 1'-0"



2 **Level 2- Unit D1 - 1185**
1/4" = 1'-0"

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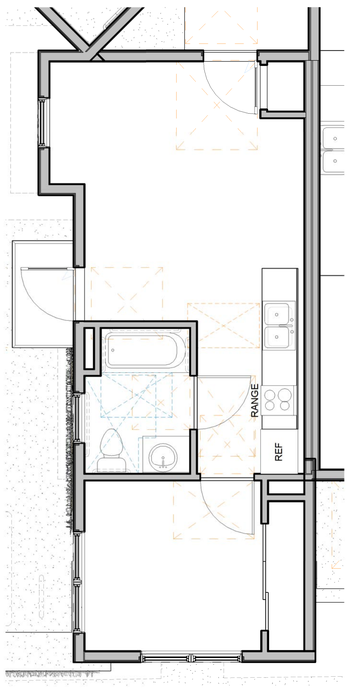
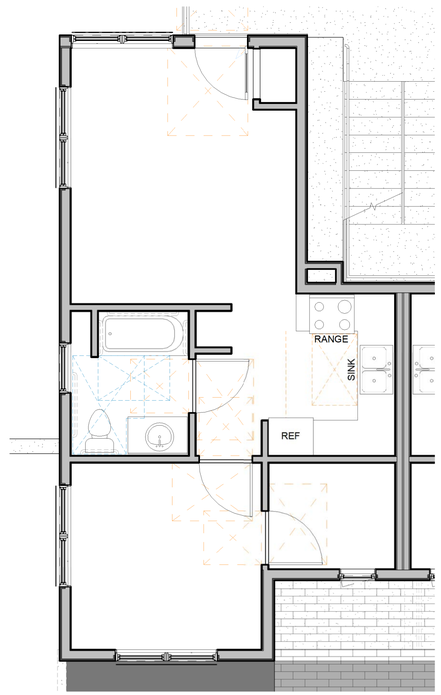
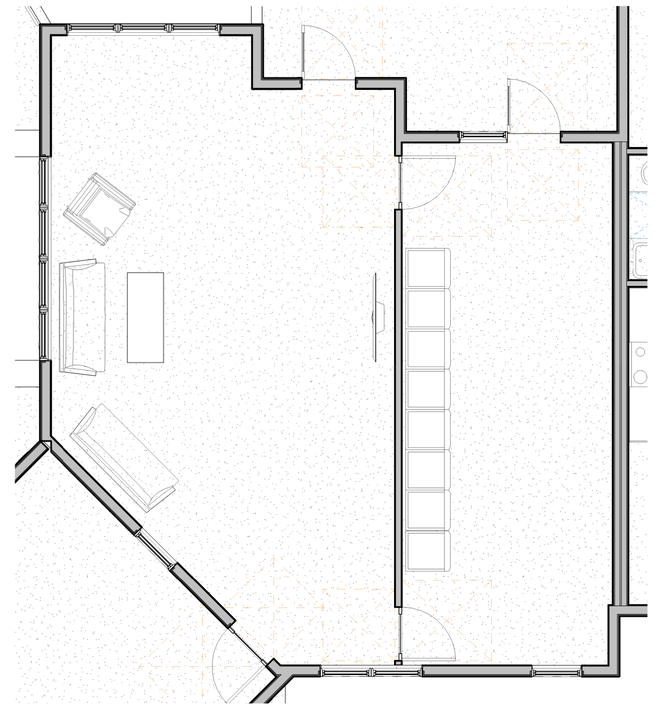


1 **Level 2- Unit E1 - 433 SF**
1/4" = 1'-0"



2 **Level 2- Unit F1 - 507 SF**
1/4" = 1'-0"



3 **Level 1 - Community Room and Laundry - 942 SF**
1/4" = 1'-0"

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Unit Plans

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1 **BLDG 'I' - North**
1/8" = 1'-0"

Address Identification per CFC 505.1 on Site Wall, visible from West Steel Lane

3 **BLDG 'I' - West**
1/8" = 1'-0"

4 **BLDG 'I' - East**
1/8" = 1'-0"

6 **BLDG 'I' - South**
1/8" = 1'-0"

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Elevations - BLDG 'I'

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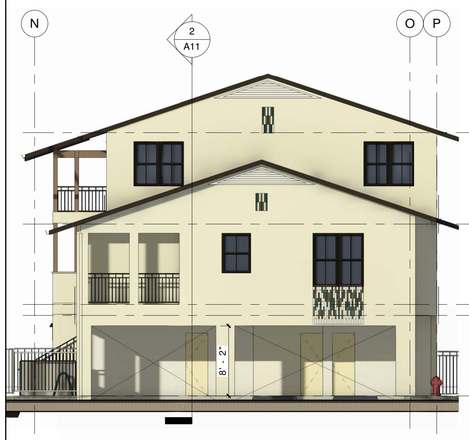
1 **BLDG 'III' - North**
1/8" = 1'-0"

2 **BLDG 'III' - East**
1/8" = 1'-0"

9 **BLDG 'II' - North**
1/8" = 1'-0"

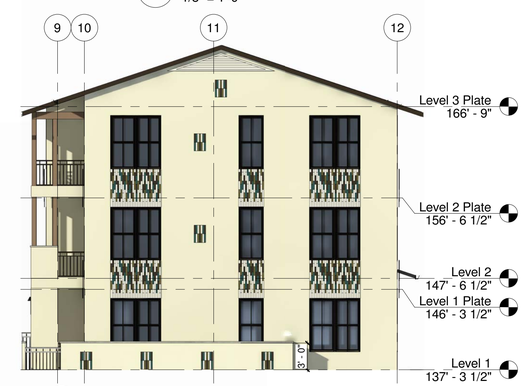


3 **BLDG 'III' - South**
1/8" = 1'-0"

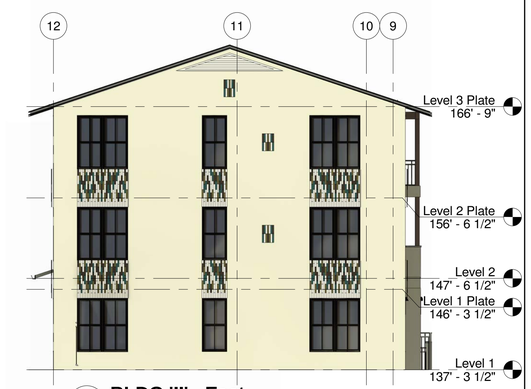
4 **BLDG 'III' - West**
1/8" = 1'-0"

11 **BLDG 'II' - South**
1/8" = 1'-0"

5 **BLDG 'IV' - East**
1/8" = 1'-0"

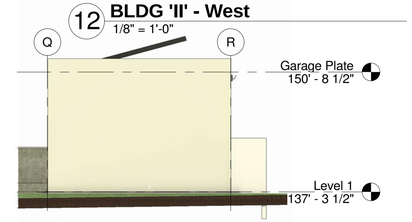


12 **BLDG 'II' - West**
1/8" = 1'-0"

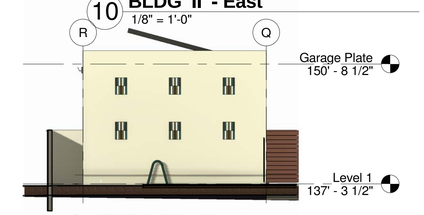


10 **BLDG 'II' - East**
1/8" = 1'-0"

8 **BLDG 'IV' - West**
1/8" = 1'-0"



7 **BLDG 'IV' - South**
1/8" = 1'-0"



6 **BLDG 'IV' - North**
1/8" = 1'-0"

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Elevations - BLDG 'II', 'III' & 'IV'

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Lithonia LED ADA
D Series Area Light

Lithonia LED ADA
D Series Bollard

Luminis SQ500.Syrios Square LED Wall Down Light

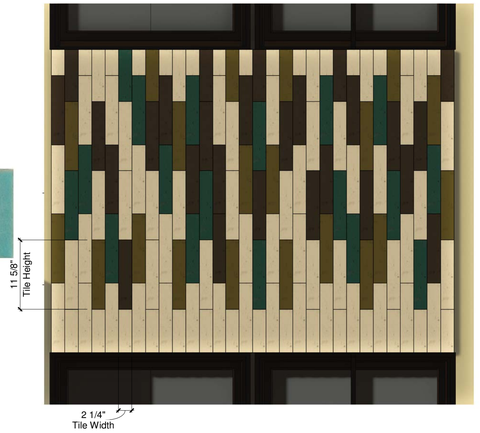
SANTA BARBARA FINISH AT EXTERIOR
CEMENT PLASTER STUCCO

TRIKEENAN- BONEYARD BRICK
GLAZED CERAMIC BRICK TILE
COLOR - DIAMOND SPRINGS
SIZE - NORMAN 2.25" X 11 5/8"

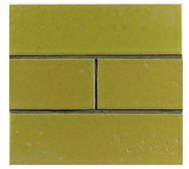
Lithonia LED ADA
D Series Wall Pack Light

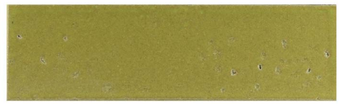
Luminis Scirocco Wall Sconce SR115T

CEMENT PLASTER STUCCO
LA HABRA - FALLBROOK



THIN BRICK CERAMIC TILE





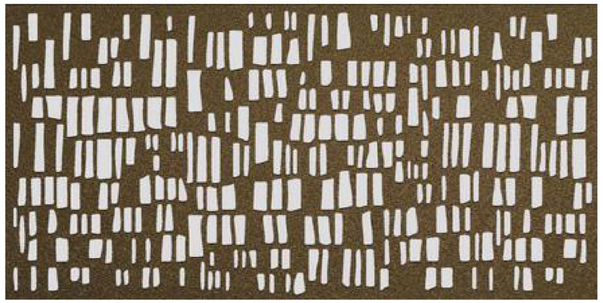
TRIKEENAN- BONEYARD BRICK
GLAZED CERAMIC BRICK TILE
COLOR - PARAKEET
SIZE - NORMAN 2.25" X 11 5/8"

BUILDING "1" INTERIOR OF COURTYARD AT ARCHED ENTRYWAY

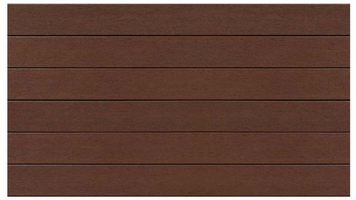
BUILDING "1" ENTRY PLAZA ARCHED ENTRY INTO RESIDENTIAL COURTYARD

TRIKEENAN- BONEYARD BRICK
GLAZED CERAMIC BRICK TILE
COLOR - MOREL
SIZE - NORMAN 2.25" X 11 5/8"

TRIKEENAN- BONEYARD BRICK
GLAZED CERAMIC BRICK TILE
COLOR - JUS WHITE
SIZE - NORMAN 2.25" X 11 5/8"



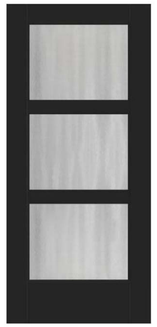
GARAGE ACCESSORY BUILDING - LASER CUT ALUMINUM SCREEN PANEL AT LEVEL 2
MOZ DESIGNS ARCHITECTURAL METALS
PATTERN - LIMESTONE, COLOR - BRONZE SAND



COMPOSITE CLADDING WOOD TONED SIDING,
FIBERON - COLOR "MERGANTI" OR EQUAL

BUILDING "A" WEST ELEVATION ON MEADOWBROOK COURT

ALUMINUM RAILING
ANODIZED BRONZE



THERMA TRU FULL LITE
FLUSH-GLAZED
STYLE NO. S5700XJ-SDLF2
ONYX

MARVIN 4-LITE
DOUBLE HUNG WINDOW
BLACK VINYL

CERTAINTEED COMPOSITION SHINGLE
COLOR - WEATHERED WOOD

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Colors and Materials

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Sheet
A10.1

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1 **Site Section 'A'**
1/8" = 1'-0"

2 **Site Section 'B'**
1/8" = 1'-0"

6/29/2022 10:59:54 AM

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Sections

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1 View from Steele Ln & Hardies Ln

5 View from Meadowbrooke

4 Perspective from Courtyard Ground

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Perspective Views

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Perspective at Entry

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Perspective at Entry

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Perspective from Courtyard

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Perspective at Courtyard

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Perspective Rendering from Steele Lane

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Perspective Rendering from Steele Lane

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Perspective Rendering from Meadowbrook Court

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Perspective Rendering from
Meadowbrook Court

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A12.5

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BENCHMARK

CITY OF SANTA ROSA BENCHMARK D–146, BEING A BRASS DISK IN WELL MONUMENT NEAR THE CENTERLINE INTERSECTION OF WEST STEELE LANE AND HARDIES LANE. ELEVATION = 132.40.

OWNER

PATRICK O'NEIL
STAGECOACH DEVELOPMENT COMPANY, INC.
19 LEONA DRIVE
SAN RAFAEL, CA 94903
(415) 491–4091

ARCHITECT

HEDGPETH ARCHITECTS
INGRID ANDERSON
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ENGINEER

CIVIL DESIGN CONSULTANTS, INC.
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(707) 542–4820

SURVEYOR

MIKE FORD LAND SURVEYING
8910 SONOMA HWY, SUITE 12B
KENWOOD, CA 95452
(707) 833–6468

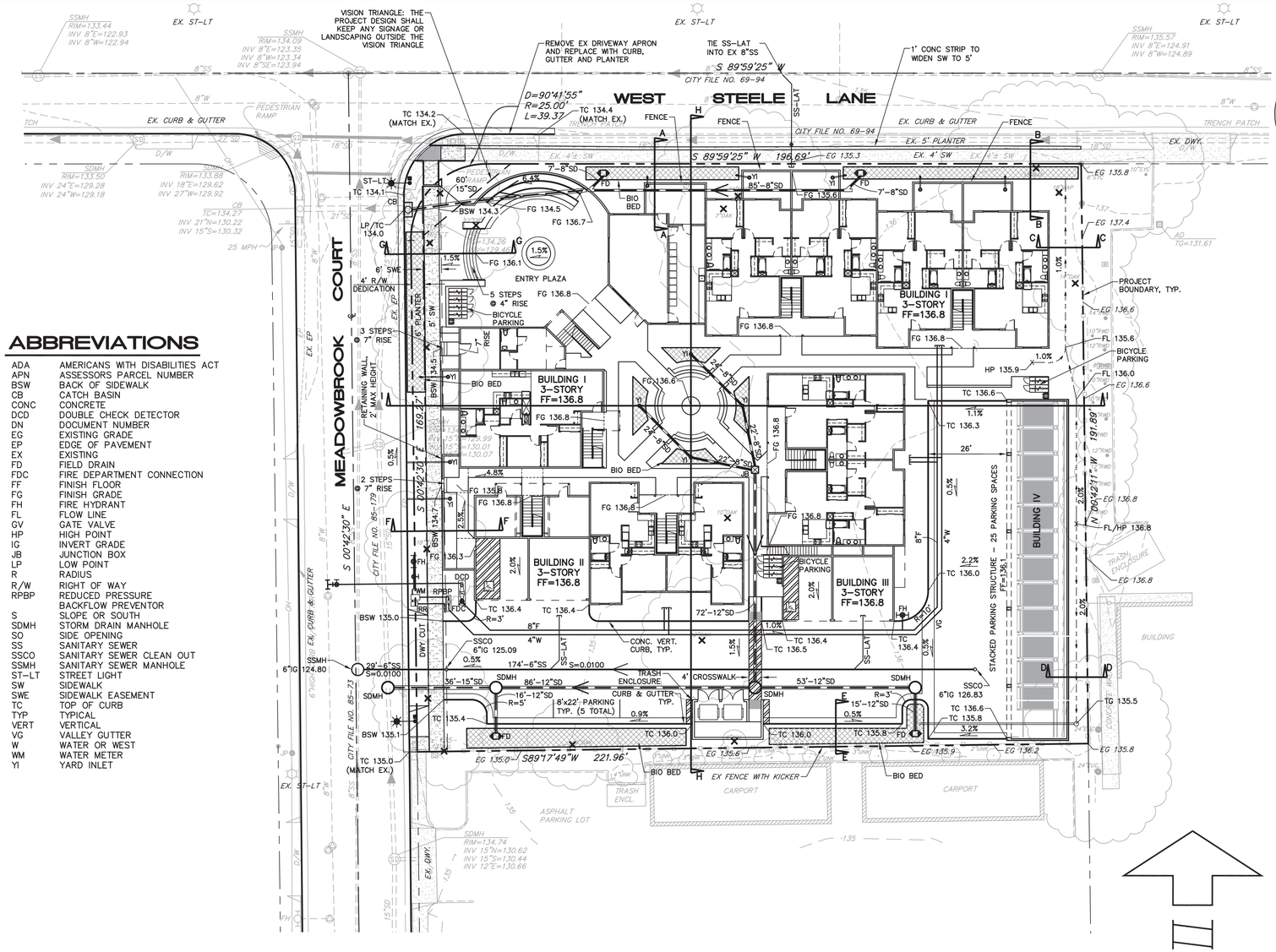
LEGEND

EXISTING / NEW

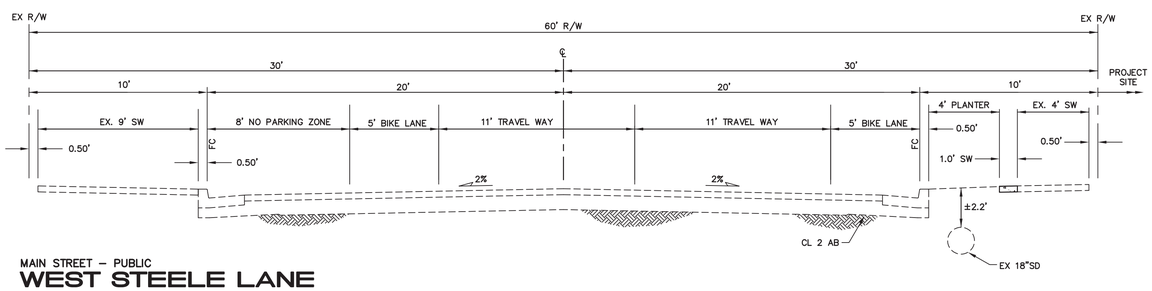
STREET LIGHT
SEWER MAIN, MANHOLE & CLEANOUT
WATER MAIN, GATE VALVE, METERS AND FIRE HYDRANT
STORM DRAIN, MANHOLE, CATCH BASIN & FIELD DRAIN
CURB, GUTTER & SIDEWALK
DRIVEWAY CUT
PERMEABLE PAVEMENT
CONCRETE VERTICAL CURB
DIRECTION OF FLOW WITH GRADE
RIGHT OF WAY
CENTERLINE
PROJECT BOUNDARY
SIGN
UTILITY BOXES
FLOWLINE
EXISTING CONTOURS (1' INTERVAL)
FENCE
GAS LINE
OVERHEAD UTILITIES
TREE TO BE REMOVED
SWALE
GRADING SECTION

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
APN	ASSESSORS PARCEL NUMBER
BSW	BACK OF SIDEWALK
CB	CATCH BASIN
CONC	CONCRETE
DCD	DOUBLE CHECK DETECTOR
DN	DOCUMENT NUMBER
EG	EXISTING GRADE
EP	EDGE OF PAVEMENT
EX	EXISTING
FD	FIELD DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
GV	GATE VALVE
HP	HIGH POINT
IG	INVERT GRADE
JB	JUNCTION BOX
LP	LOW POINT
R	RADIUS
R/W	RIGHT OF WAY
RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
S	SLOPE OR SOUTH
SDMH	STORM DRAIN MANHOLE
SO	SIDE OPENING
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
ST–LT	STREET LIGHT
SW	SIDEWALK
SWE	SIDEWALK EASEMENT
TC	TOP OF CURB
TYP	TYPICAL
VERT	VERTICAL
VG	VALLEY GUTTER
W	WATER OR WEST
WM	WATER METER
YI	YARD INLET

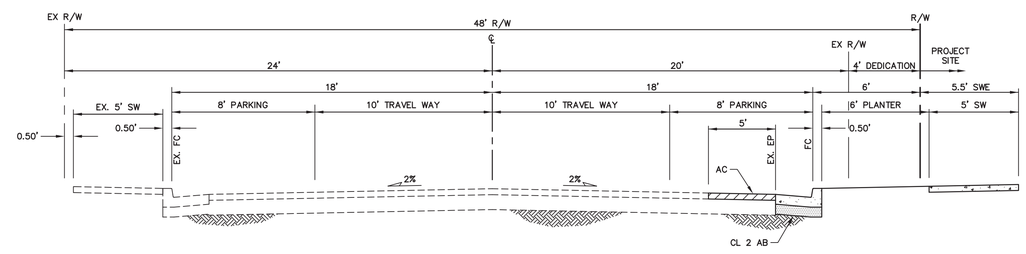


SCALE: 1" = 20'



MAIN STREET – PUBLIC
WEST STEELE LANE

NO SCALE



MINOR STREET – PUBLIC
MEADOWBROOK COURT

NO SCALE

DENNIS D. DALBY
RCE 44511
DATE 6/9/22

CIVIL DESIGN CONSULTANTS, INC.
2200 Range Avenue, Suite 204
Santa Rosa, CA 95403
(707) 542–4820

SITE GRADING AND UTILITY PLAN

STEELE LANE APARTMENTS

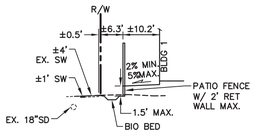
1650 WEST STEELE LANE
SANTA ROSA, CA

APN: 041–042–012
DOC. NO. 2017–076633

JUNE 2022

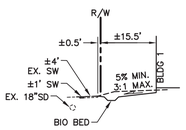
JOB NO. 19–107

SHEET NO. C1 OF 2 SHEETS



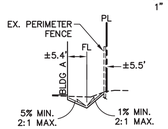
SECTION A-A

1" = 20' HORZ.
1" = 10' VERT.



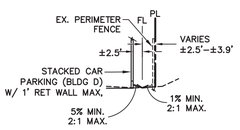
SECTION B-B

1" = 20' HORZ.
1" = 10' VERT.



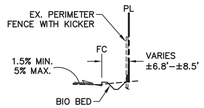
SECTION C-C

1" = 20' HORZ.
1" = 10' VERT.



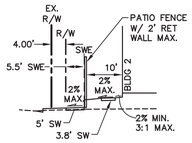
SECTION D-D

1" = 20' HORZ.
1" = 10' VERT.



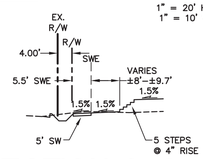
SECTION E-E

1" = 20' HORZ.
1" = 10' VERT.



SECTION F-F

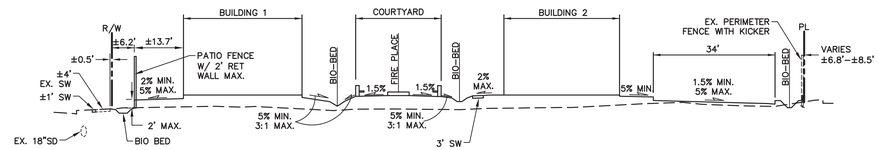
1" = 20' HORZ.
1" = 10' VERT.



SECTION G-G

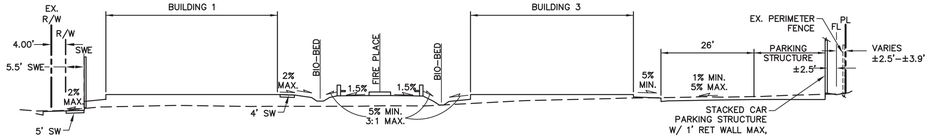
1" = 20' HORZ.
1" = 10' VERT.

GRADING SECTIONS



SECTION H-H

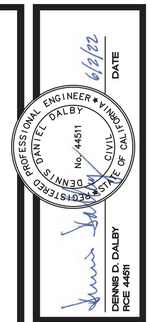
1" = 20' HORZ.
1" = 10' VERT.



SECTION I-I

1" = 20' HORZ.
1" = 10' VERT.

SITE/BUILDING SECTIONS



DATE 6/9/22

DENNIS D. DALBY
RCE 44511

CIVIL DESIGN CONSULTANTS, INC.
2200 Range Avenue, Suite 204
Santa Rosa, CA 95403
(707) 542-4820

GRADING SECTIONS AND SITE BULDING SECTIONS

STEELE LANE APARTMENTS

1650 WEST STEELE LANE
SANTA ROSA, CA

APN: 041-042-012
DOC. NO. 2017-076633

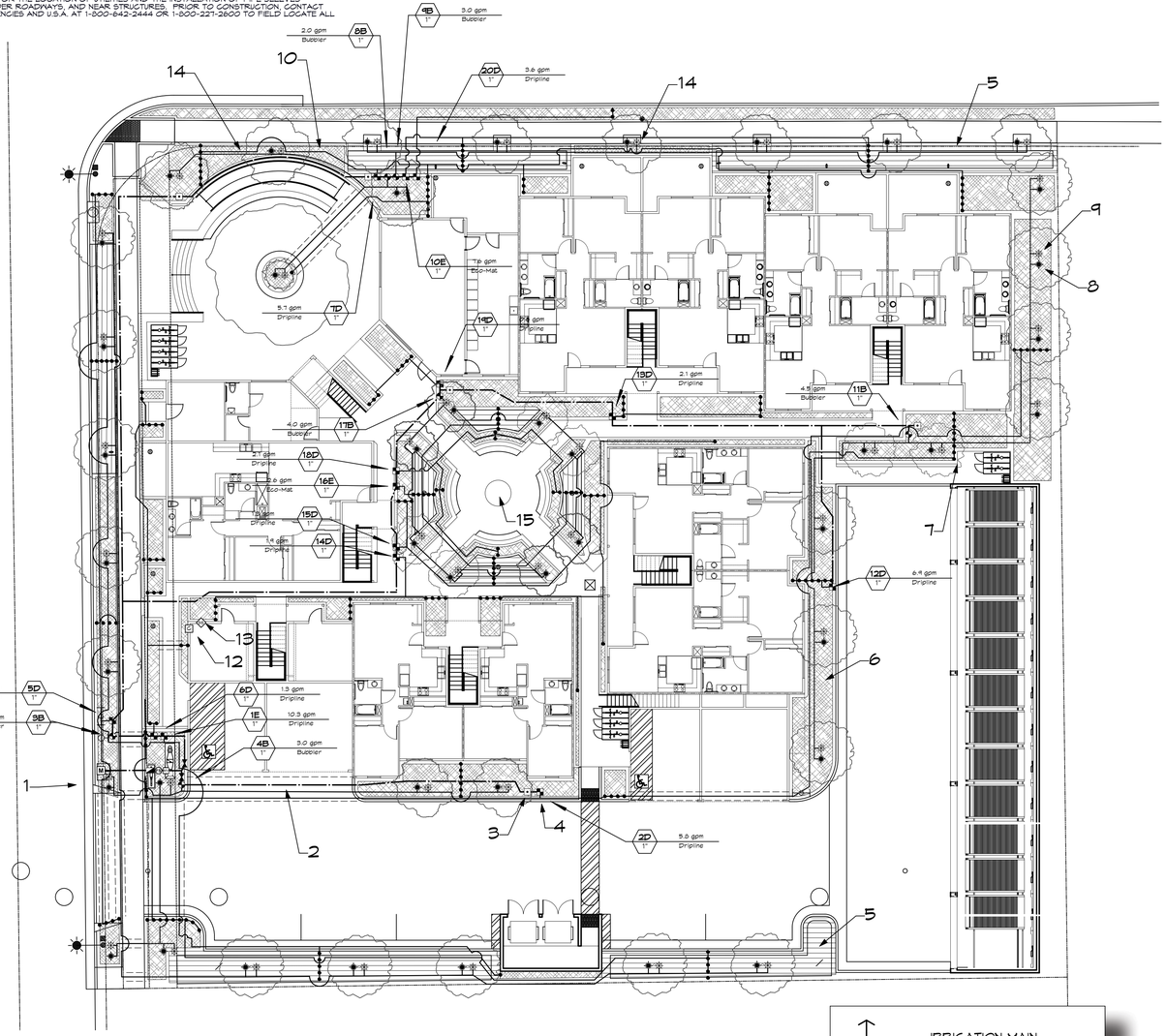
JUNE 2022

JOB NO.
19-107

SHEET NO.
C2
OF 2 SHEETS

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

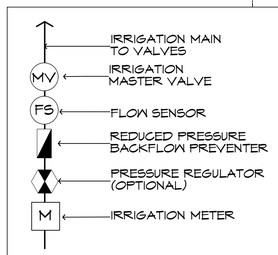
THESE DRAWINGS COMPLY WITH THE CRITERIA OF THE ORDINANCE. ORDINANCE REQUIREMENTS HAVE BEEN APPLIED FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE LANDSCAPE DESIGN PLAN.



IRRIGATION PLAN
Scale: 1/16" = 1'-0"

IRRIGATION KEYNOTES

1. POC AT DEDICATED IRRIGATION WATER METER; REFER TO SCHEMATIC DRAWING THIS SHEET AND CIVIL DRAWINGS
2. TYPICAL IRRIGATION SLEEVE BENEATH PAVEMENT; SIZE SLEEVE TO CONTAIN PIPE AND WIRE PER DETAIL; MINIMUM SIZE NO LESS THAN 2" DIAMETER
3. QUICK COUPLER, TYPICAL
4. DRIPLINE VALVE, TYP.
5. PARALLEL LINE HATCH INDICATES ECO-MAT
6. CROSS LINE HATCH INDICATE LANDSCAPE DRIPLINE ZONES
7. POLY TUBING TO PVC CONNECTION, TYPICAL
8. TREE BUBBLERS, TWO PER TREE , TYPICAL. ONE ABOVE GRADE STREAM BUBBLER AND ONE SUB-SUFACE BUBBLER
9. TREE AREA IS CALCULATED AT A WETTED DIAMETER OF 6 FT. OR EQUIVALENT AREA. THE SAME AREA IS REMOVED FROM THE HYDROZONE BELOW THE TREE AND THE HIGHER WATER USE IS APPLIED IN THE ETWU CALCULATION.
10. INSTALL DRIPLINE 3" BELOW GRADE IN ALL PLANTING AREAS AT 18" OC TYPICAL; ALL DRIPLINE SHALL BE INSTALLED PARALLEL. GENERALLY FOLLOWING CONTOURS. HOLD DRIPLINE BACK FROM EDGE 1/2 THE ROW SPACING. MINIMUM OF ONE DRIP IN NARROW SPACES.
11. TREE BUBBLER VALVE, TYP.
12. CONTROLLER LOCATION: MOUNT AT EYE LEVEL; SUBJECT TO OWNER APPROVAL
13. SOLAR SYNC SENSOR, ROOF MOUNT WITH CLEAR ACCESS TO SKY
14. IRRIGATION LAYOUT IS DIAGRAMMATIC. INSTALL ALL MAIN LINE, LATERALS AND CONTROL WIRE IN LANDSCAPE AREAS. DO NOT INSTALL IN PUBLIC RIGHT OF WAY. WHEN LAYOUT REQUIRES INSTALLATION UNDER PAVING, USE IRRIGATION SLEEVES PER DETAIL SHEET L-3.
15. WATER FEATURE



IRRIGATION POC SCHEMATIC

BIORETENTION AREAS
SUPPLEMENTAL TEMPORARY IRRIGATION

CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SUPPLEMENTAL IRRIGATION OF ALL BIO-RETENTION AREAS THROUGH THE SOD OR PLANT ESTABLISHMENT PERIOD. METHOD OF IRRIGATION APPLICATION IS DISCRETIONARY AND MAY INCLUDE HAND WATERING OR INSTALLATION OF A TEMPORARY, ABOVE GRADE OVERHEAD SPRAY CIRCUIT. ANY REPLACEMENT NECESSARY FOR LOSS OR DAMAGE TO SOD OR PLANTS DUE TO LACK OF WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT CONTRACTOR'S EXPENSE.

IRRIGATION LEGEND

SYMBOL	EQUIPMENT	MANUFACTURER	MODEL	REMARKS
	Root Zone Watering System	Hunter	RZWS-18-25-CV	One per tree, typical
	Hunter Stream Bubbler	Hunter	MSBN-25Q	One per tree, typical
	Landscape Dripline	Rain Bird	XFS-06-12	
	Eco-Mat	Hunter	ECO-MAT 17MM	
SEE DETAIL	Automatic Line Flush Valve	Hunter	AFV-T	INSTALL IN 6" VALVE BOX @ END OF CIRCUIT
SEE DETAIL	Air Relief Valve	Hunter	AVR-075	INSTALL IN 6" VALVE BOX @ HIGH POINT OF CIRCUIT
SEE DETAIL	Continuous Acting Air Vent	Netafim	65ARI51	INSTALL UPSTREAM FROM SUBMETER
	Bubbler	Hunter Industries(R)	ICV-101G-AS-ADJ	
	Dripline	Hunter Industries(R)	ICZ-101-LF-25	
	Eco-Mat	Hunter Industries(R)	ICZ-101-LF-25	
	Isolation Valve - Ball Valve	KBI	CPVC 075	
MV	Master Valve	Hunter Industries(R)	ICV-101G	
	Backflow Preventer Enclosure	Le Muer	BF 18" X 30" X 30"	Install Per Manufacturer's Specs
	1" Reduced Pressure Backflow Preventer	Watts	LF009M2-PC-QT 1	Required
	3/4" Quick Coupling Valve	Rainbird	33-DNP	Use with non-potable water
FS	Flow Sensor	CST	ELF-T10-N01	
SS	Solar Sync Sensor - Wireless	Hunter	WSS-SEN	Mount at roof eave with clear view of sky.
C	Irrigation Controller - 6 Station	Hunter	IC-600-M	
	6 Station Plug-in Expansion Module	Hunter	ICM-600	(4 TOTAL)
	Main Line		PVC Schedule 40	
	Lateral		PVC Schedule 40	
	Poly to PVC Header			
	Backflow Preventer Enclosue			
	Pipe and Wire Sleeve		PVC Schedule 40	Size by pipe load; 2" PVC minimum
8.9 1D 1"	VALVE STATION AND SEQUENCE			
	ELECTRIC CONTROL VALVE			
	GALLONS PER MINUTE			

REFER TO SHEET L3 FOR LANDSCAPE WATER USE CALCULATIONS

IRRIGATION NOTES

1. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE PLANS.
2. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM STATIC PRESSURE OF 35 PSI AT THE VALVES AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT THE POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION OF THE IRRIGATION SYSTEM. IF THE WATER PRESSURE SHOWN ON THE DRAWINGS DIFFERS FROM THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO THE START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
3. THE LOCATION OF THE CONTROLLER TO BE VERIFIED BY OWNER. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTING ALL PROPOSED STATIONS TO THE CONTROLLER. CONTROLLER TO BE CONFIGURED TO OPERATE 20 STATIONS. CONTROLLER SHALL BE HUNTER IC-600-M WITH THREE ICM-600 EXPANSION MODULES.
4. ALL CONSTRUCTION IS TO BE PER THE LATEST EDITION OF THE UNIFORM BUILDING CODE.
5. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ROOT BARRIERS, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY. INSTALL PIPING AND VALVES IN PLANTING AREAS WHERE POSSIBLE, AND LOCATE ELECTRIC CONTROL AND QUICK COUPLING VALVES IN GROUND COVER/SHRUB AREAS, 6" TO 12" AWAY FROM HARDSCAPE OR TURF AREA FOR EASY ACCESS.
6. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER SPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND THROTTLING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
7. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE THEMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL EXERCISE EXTREME CARE, AND BE RESPONSIBLE FOR ANY DAMAGE IN EXCAVATING AND WORKING NEAR UTILITIES. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-642-2444 TO FIELD LOCATE ALL EXISTING UTILITIES.
8. FIELD ADJUSTMENTS MAY BE REQUIRED TO PROVIDE OPTIMUM OPERATING EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LANDSCAPE ARCHITECT TO REVIEW FIELD ADJUSTMENTS PRIOR TO INSTALLATION. IN THE EVENT THAT NO CONTACT IS MADE WITH THE LANDSCAPE ARCHITECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS.
9. SLEEVE ALL IRRIGATION PIPE AND CONTROL WIRES UNDER STREETS AND CONCRETE WALKWAYS WITH THE PROPER SIZE CLASS 200 PVC PIPE TO DEPTH AS SPECIFIED.
10. FOR ADDITIONAL INFORMATION, SEE PROJECT DETAILS AND SPECIFICATIONS.
11. ALL WORK SHALL CONFORM TO ALL APPLICABLE CITY OF SANTA ROSA CONSTRUCTION STANDARDS.
12. NO GALVANIZED IRON PIPE OR FITTINGS SHALL BE ALLOWED.
13. A BALL VALVE IN A SEPARATE ROUND VALVE BOX IS TO BE INSTALLED IMMEDIATELY UPSTREAM FROM EACH REMOTE CONTROL VALVE OR GHROUP OF VALVES. VALVE SHALL BE SIZED TO MAINLINE SUPPLY AT THE RC VALVE. SEE DETAIL.
14. INSTALL 3" WIDE DETECTABLE TAPE (#3" DTP, AS MANUFACTURED BY T. CHRISTY). TAPE SHALL BE INSTALLED 6" ABOVE THE IRRIGATION MAIN.
15. INSTALL ALL LANDSCAPE DRIPLINE BENEATH MULCH. INSTALL ALL TUBING 3" BELOW GRADE, PARALLEL AT SPACING INDICATED. USE LANDSCAPE STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO SECURE TUBING TO GROUND.
16. A SIGNED CERTIFICATE OF COMPLETION IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE CITY OF SANTA ROSA. IF THE INSTALLATION OF THE LANDSCAPE DOES MEET OR SUBSTANTIALLY COMPLY WITH THE APPROVED LANDSCAPE CONSTRUCTION DOCUMENTS, THE CERTIFICATE OF COMPLETION WILL NOT BE SIGNED OR APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.

REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
NO. 2800
EXP. 8/31/23
STATE OF CALIFORNIA

MACNAIR
LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CALIFORNIA 95452
TEL (707) 833-2288
ELA #2800
don@macnairlandscapes.com

IRRIGATION PLAN

WEST STEEL LANE APARTMENTS
1650 WEST STEEL LANE
SANTA ROSA, CA

REVISIONS

5/18/22	SITE PLAN COORDINATION BASED ON CITY COMMENTS	DM

DATE: 12/18/21
MLA JOB #: 2019-14
SCALE: 1" = 16'
DRAWN: DM

L1

U.S.A NOTE
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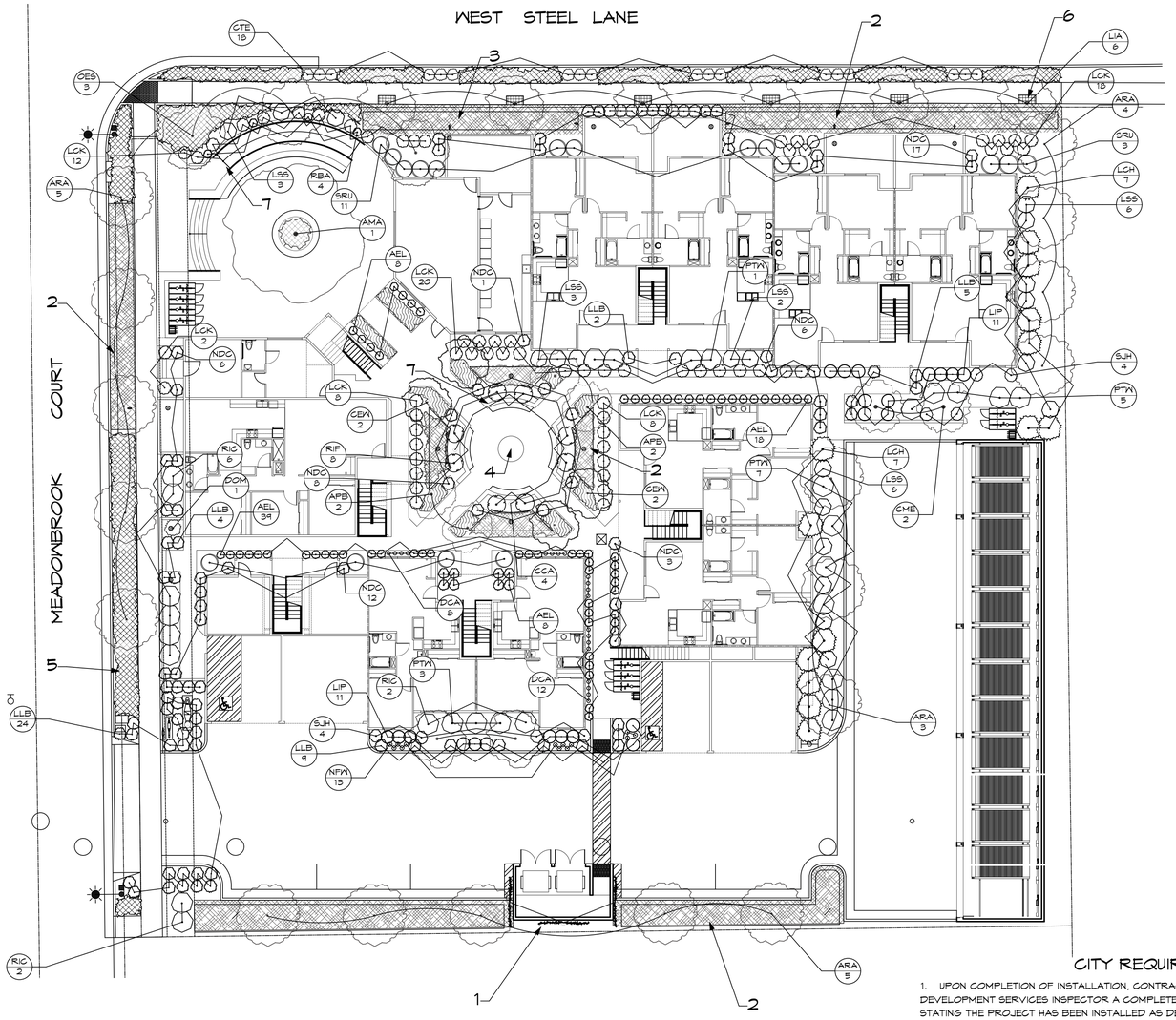


PLANTING PLAN
Scale: 1/16" = 1'-0"

THESE DRAWINGS COMPLY WITH THE CRITERIA OF THE ORDINANCE. ORDINANCE REQUIREMENTS HAVE BEEN APPLIED FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE LANDSCAPE DESIGN PLAN."

PLANT LEGEND

SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	WATER USE PER WUCOLS IV	QUANTITY	COMMENTS
Trees						
APB	#24	Acer palmatum var. atropurpureum 'Bloodgood'	Bloodgood Japanese Maple	.6	4	Multi-Trunk
ARA	#24	Acer rubrum 'Armstrong'	Armstrong Maple	.6	17	
AMA	#24	Arbutus x 'Marina'	Marina Strawberry Tree	.3	1	
CME	#24	Citrus limon 'Meyer Improved'	Improved Meyer Lemon	.6	2	
CEN	#24	Cornus florida X nuttallii 'Eddies White Wonder'	Eddies White Wonder Dogwood	.6	4	
LIA	#24	Lagerstroemia indica x faueri 'Arapaho'	Arapaho Crape Myrtle	.3	8	
OES	#24	Olea europaea ' Swan Hill'	Fruitless Olive	.1	3	
Shrubs						
DOM	#5	Daphne odora 'Aureo-marginata'	Variegated Winter Daphne	.3	1	
LSS	#5	Ligustrum sinense 'Sunshine'	Sunshine Chinese Privet	.3	20	
LCK	#5	Loropetalum chinense 'Kurenai'	Jazz Hands® Dwarf Pink Chinese Fringe-flower	.3	68	
LCH	#5	Loropetalum chinense 'Razzleberri'	Razzleberri Fringe Flower	.3	14	
NDG	#5	Nandina domestica 'Compacta'	Dwarf Heavenly Bamboo	.3	53	
RIC	#5	Rhaphiolepis indica 'Clara'	Clara Indian Hawthorn	.3	10	
RIF	#5	Rosa x 'Iceberg' Floribunda Rose	Iceberg Rose	.6	8	
SRU	#5	Sarcococca ruscifolia	Fragrant Sweet Box	.3	18	
Perennials						
AEL	#1	Aspidistra elatior	Cast Iron Plant	.3	74	
LIP	#5	Lavandula x intermedia 'Phenomenal'	Phenomenal French Lavender	.3	22	
NFW	#1	Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint	.3	13	
SJH	#5	Salvia x jamensis 'Hot Lips'	Hot Lips Autumn Sage	.3	8	
Vines						
PTG	#5	Parthenocissus tricuspidata 'Green Showers'	Green Showers Boston Ivy	.3	1	
RBA	#5	Rosa banksiae 'Alba Plena'	White Lady Banks Rose	.3	4	Train on Arbor
CCA	#5	Clytostoma callistegioides	Lavender Trumpet Vine	.6	4	Train on Arbor
Groundcover						
CDG	#1	Cotoneaster dammeri 'Coral Beauty'	Coral Beauty Cotoneaster	.3	30	6' OC, Triangular Spacing
	#1	Ophiopogon formosanum	Taiwan Mondo Grass	.6	35	
Ornamental Grass						
CTE	#1	Chondropetalum tectorum	Cape Rush	.3	18	
DCA	#1	Deschampsia caespitosa	Tufted Hair Grass	.3	20	
LLB	#1	Lomandra longifolia 'Breeze'	Breeze™ Dwarf Mat Rush	.3	44	
Bioretention Areas						
	Sod	Biofiltration Sod	"Biofiltration Sod"	0.3		Delta Bluegrass (CA Natives)
Other						
		Mulch: Fir Bark 1-1/2" Minus	Medium Walk-On Bark			3" Depth, All Landscape Areas
See Detail		Linear Root Barrier	Root Solutions , or Equal			24" Depth, Continuous

PLANTING NOTES

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

PLANTING KEYNOTES

1. TRAIN VINES UP WALL
2. BIO-FILTRATION SOD, TYPICAL
3. NO MULCH IN BIOSWALES
4. WATER FEATURE
5. 3" DEEP MULCH, ALL LANDSCAPE AREAS
6. 2' X 4' RECTANGULAR TREE GRATES AT BACK OF SIDEWALK
7. TRAIN VINES ON ARBOR

CITY REQUIRED NOTES

1. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL SUBMIT TO THE ENGINEERING DEVELOPMENT SERVICES INSPECTOR A COMPLETED AND SIGNED "CERTIFICATE OF COMPLETION" STATING THE PROJECT HAS BEEN INSTALLED AS DESIGNED.

2. THE CERTIFICATE OF COMPLETION SHALL BE ACCOMPANIED BY AN IRRIGATION AUDIT, IRRIGATION SCHEDULE AND A MAINTENANCE SCHEDULE, AS DESCRIBED IN THE CITY ORDINANCE.

3. A FINAL CITY INSPECTION SHALL BE PERFORMED. THE INSTALLATION CONTRACTOR SHALL ATTEND THIS INSPECTION AND MAKE ALL REQUIRED REPAIRS AND ADJUSTMENTS TO ACHIEVE APPROVAL AND COMPLETION FROM THE CITY. TO SCHEDULE AN INSPECTION, CONTACT ENGINEERING DEVELOPMENT SERVICES AT (707) 543-4611.

4. A MINIMUM OF 8" OF NON-MECHANICALLY COMPACTED SOIL SHALL BE AVAILABLE FOR WATER ABSORPTION AND ROOT GROWTH IN PLANTED AREAS.

5. INCORPORATE COMPOST OR NATURAL FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 8" AT A MINIMUM RATE OF 8 CUBIC YARDS PER 1000 SQUARE FEET OR PER SPECIFIC AMENDMENT RECOMMENDATIONS FROM A SOILS LABORATORY REPORT.

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

CITY REQUIREMENT OF DOCUMENT OF COMPLIANCE
(ITEMS TO BE INCLUDED WITH CERTIFICATE OF COMPLETION)

A. PROJECT APPLICANT MUST SUBMIT DOCUMENTATION VERIFYING IMPLEMENTATION OF SOIL ANALYSIS REPORT RECOMMENDATIONS TO THE CITY WITH CERTIFICATE OF COMPLETION
B. THE CERTIFICATE OF COMPLETION MUST BE ACCOMPANIED BY AN IRRIGATION AUDIT THAT CONTAINS THE FOLLOWING:
- OPERATING PRESSURE OF THE IRRIGATION SYSTEM
- DISTRIBUTION UNIFORMITY OF OVERHEAD IRRIGATION
- PRECIPITATION RATE OF OVERHEAD IRRIGATION
- REPORT OF ANY OVERSPRAY OR BROKEN IRRIGATION EQUIPMENT
- IRRIGATION SCHEDULE INCLUDING:
  1. PLANT ESTABLISHMENT IRRIGATION SCHEDULE
  2. REGULAR IRRIGATION SCHEDULE BY MONTH (SEE ORDINANCE FOR DETAILS)
  3. VERIFICATION THAT A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES IS KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES .
- ALL LANDSCAPE IRRIGATION AUDITS MUST BE CONDUCTED BY A CITY CERTIFIED LANDSCAPE IRRIGATION AUDITOR OR A THIRD PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.
- AN IRRIGATION MAINTENANCE SCHEDULE TIMELINE MUST BE ATTACHED TO THE CERTIFICATE OF COMPLETION (SEE ORDINANCE FOR DETAILS)

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

REVISIONS

5/18/22	SITE PLAN COORDINATION BASED ON CITY COMMENTS	DM

REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
NO. 2800
EXP. 8/31/23
STATE OF CALIFORNIA

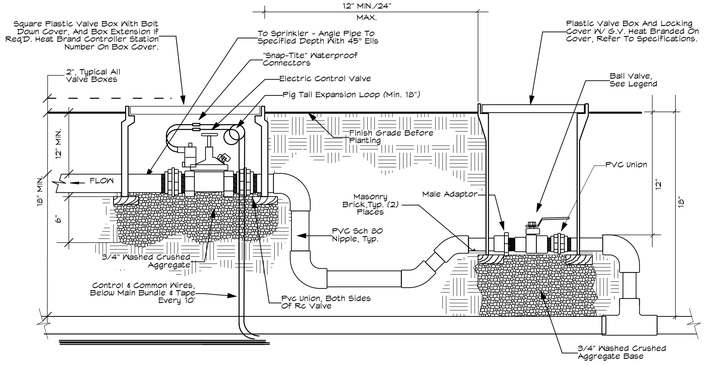
MACNAIR
LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CALIFORNIA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

PLANTING PLAN

WEST STEEL LANE APARTMENTS
1650 WEST STEEL LANE
SANTA ROSA, CA

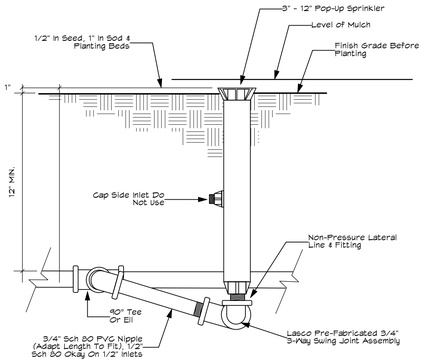
DATE: 12/18/21
MLA JOB #: 2019-14
SCALE: 1" = 20'
DRAWN: DM

L2



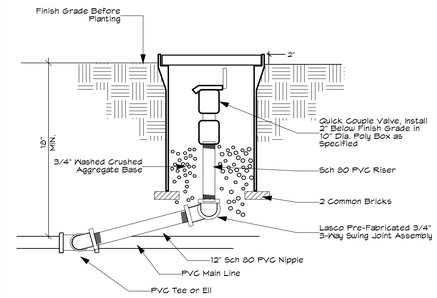
NOTES:
1) INSTALL CONTROL VALVES A MINIMUM OF 18" FROM STRUCTURES OR HARDSCAPING.
2) INSTALL VALVES IN PLANT BEDS WHEREVER POSSIBLE.
3) PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
4) INSTALL VALVE BOX SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPING.
5) PLACE AGGREGATE PRIOR TO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

A/L3 ELECTRIC CONTROL VALVE WITH SHUT OFF
NTS

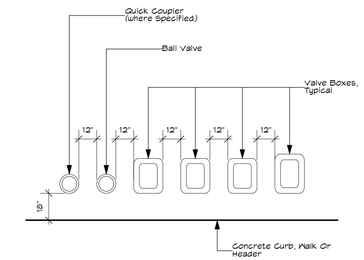


NOTES
1) LOCATE HEAD 6" FROM ALL EDGES IN LAWN AREAS. LOCATE HEAD 12" FROM ALL EDGES IN SHRUB AREAS.
2) LOCATE STREAM SPRAY AND BUBBLERS HEADS 6" FROM ALL EDGES.
3) USE TEFLON PASTE ON ALL MALE THREADS.

B/L3 POP-UP SPRINKLER DETAIL
INCLUDES 4", 6" AND 12"
NTS



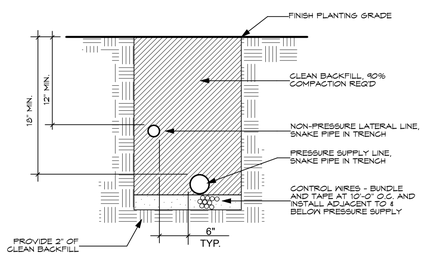
C/L3 QUICK COUPLER DETAIL
NTS



PLAN VIEW

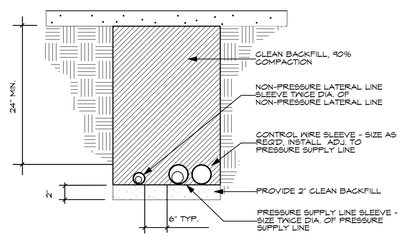
NOTES:
1) CENTER VALVE BOX OVER VALVE ASSEMBLY.
2) LOCATE VALVE BOXES IN GROUND COVER/SHRUB AREAS WHEN POSSIBLE.
3) SET VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.

D/L3 VALVE BOX LAYOUT
NTS



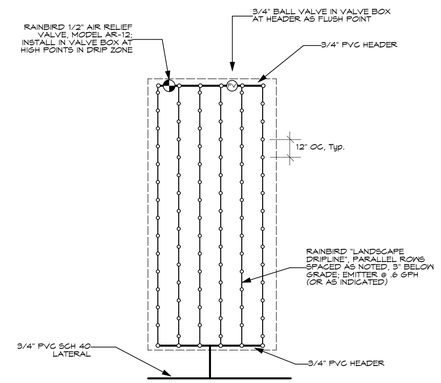
NOTE:
1) PIGTAIL AND LOOP CONTROL WIRE AT ALL CHANGES IN DIRECTION.
2) PROVIDE 18" EXPANSION LOOP AT ALL 90° ANGLES, AND EVERY 100' OF STRAIGHT CURVE RUN.

E/L3 PIPE INSTALLATION IN PLANTED AREA
NTS



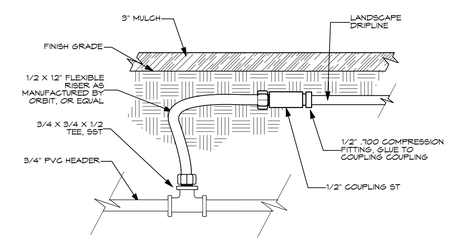
NOTES:
1) ALL SLEEVES TO BE SCH 40 PVC.
2) EXTEND ALL SLEEVES 12" BEYOND EDGE OF HARDSCAPING AT BOTH ENDS.

F/L3 PIPE INSTALLATION UNDER PAVING
NTS



PLAN

G/L3 DRIP CIRCUIT LAYOUT
NTS



H/L3 POLY TO PVC COMPRESSION FITTING DETAIL
NTS

MAWA AND ETWU CALCULATIONS

1) Maximum Applied Water Allowance (MAWA)

MAWA = (ETo) (0.62) ((0.55 X LA) + (0.45 X SLA))

Where:
ETo = Annual Net Reference Evapotranspiration (inches)
0.45 = ET Adjustment Factor (Commercial)
0.55 = ET Adjustment Factor (Residential)
LA = Landscaped Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.45 = the additional ET adjustment factor for Special Landscape Area (1.0 - 0.55 = 0.45) (Commercial)
0.55 = the additional ET adjustment factor for Special Landscape Area (1.0 - 0.45 = 0.55) (Residential)

Commercial (C) or Residential (R) C

A) Net Evapotranspiration Calculation

Local Reference ETo 46.03

27.22"/yr (Annual Rainfall) X .25 = 6.81 (Effective Rainfall)

Net Evapotranspiration Calculation = Annual ETo - Effective Rainf. = 39.23

B) Adjusted Landscape Area Calculation

9,614 sf (Landscape Area) X 0.45 (Adjustment Factor) = 4,326.15 sf

0.00 sf (Special Landscape Are. X 0.55 (Adjustment Factor) = 0.00 sf

Sum of Adjusted Landscape Area = 4,326.15 sf

MAWA: 39.225 X .62 X 4,326 sf = 105,210 gal/yr

2) Estimated Total Water Use (ETWU)

A) Net Evapotranspiration Calculation = 39.23 sf

Net Evapotranspiration Calculation = Annual ETo - Effective Rainfall

B) Adjusted Landscape Area Calculation

0.00 sf Very Low Water Use X.01 = 0.00 sf

8,456 sf Low Water Use X .03 = 2,536.87 sf

1,138 sf Moderate Water Use X.06 = 682.88 sf

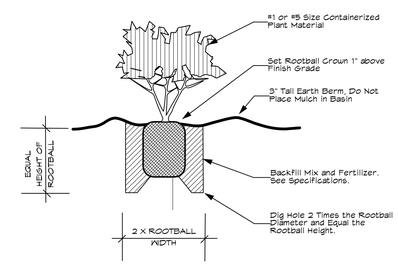
19.63 sf High Water Use X .3 = 19.63 sf

Sum of Adjusted Landscape Area = 3,239.19 sf

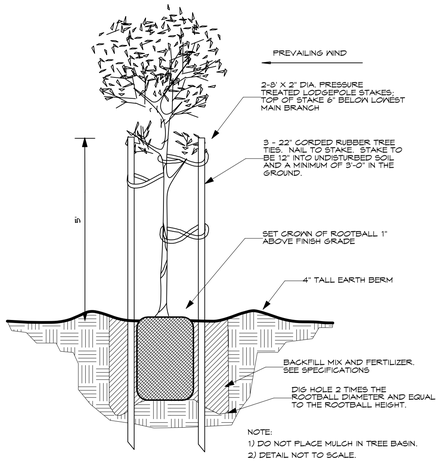
ETWU = 39.23 X .62 X 3,239 sf / 0.81 = 98,469 gal/yr

Irrigation Efficiency Factor

Square Footage of Landscape on Drip	9,613.67 sf
Square Footage of Landscape on Spray	0.00 sf
Total Square Footage of Landscape	9,613.67 sf
Adjusted Irrigation Efficiency Factor	0.81

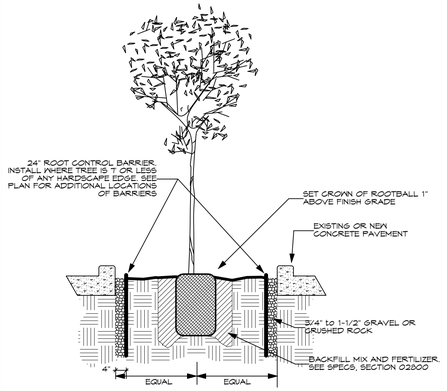


I/L3 SHRUB PLANTING DETAIL
NTS



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

J/L3 TREE PLANTING DETAIL
NTS



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

K/L3 TREE WELL WITH ROOT BARRIER
NTS

DETAIL HYDROZONE TABLE

Name	Method	Water Use	Water Use Value	Hydrozone Area in SF	% of Landscape
1E	Eco-Mat	Low	0.3	1,012.12 sf	10.5%
2D	Sub-Surface Dripline	Low	0.3	998.13 sf	10.4%
3B	Root Watering System	Moderate	0.6	282.74 sf	2.9%
4B	Root Watering System	Low	0.3	169.64 sf	1.8%
5D	Sub-Surface Dripline	Low	0.3	477.43 sf	5.0%
6D	Sub-Surface Dripline	Low	0.3	321.92 sf	3.3%
7D	Sub-Surface Dripline	Low	0.3	970.22 sf	10.1%
8B	Root Watering System	Low	0.3	113.10 sf	1.2%
9B	Root Watering System	Low	0.3	98.00 sf	1.0%
10E	Eco-Mat	Low	0.3	593.94 sf	6.3%
11B	Root Watering System	Moderate	0.3	254.47 sf	2.6%
12D	Sub-Surface Dripline	Low	0.3	1,095.54 sf	11.4%
13D	Sub-Surface Dripline	Low	0.3	481.13 sf	5.0%
14D	Sub-Surface Dripline	Low	0.3	486.82 sf	5.1%
15D	Sub-Surface Dripline	Low	0.3	280.70 sf	2.9%
16E	Eco-Mat	Low	0.3	301.95 sf	3.1%
17B	Root Watering System	Moderate	0.6	226.19 sf	2.4%
18D	Sub-Surface Dripline	Moderate	0.6	237.01 sf	2.5%
19D	Sub-Surface Dripline	Moderate	0.6	137.40 sf	1.4%
20D	Sub-Surface Dripline	Low	0.3	757.54 sf	7.9%
21	Water Feature	High	1	19.63 sf	0.2%
				9,614 sf	100%

PLANT TYPE	AREA	% OF LANDSCAPE
Very Low	0.00	0%
Low	8,456.23	88%
Moderate	1,137.81	12%
High	19.63	0%
Total	9,613.67	100%

PRECIPITATION RATES BY VALVE

VALVE ID	FLOW IN GPM	PRECIPITATION RATE IN INCHES PER HOUR
1E	10.3 GPM	0.48
2D	5.8 GPM	0.56
3B	5.0 GPM	1.70
4B	3.0 GPM	1.70
5D	2.9 GPM	0.58
6D	1.3 GPM	0.38
7D	5.7 GPM	0.56
8B	2.0 GPM	1.70
9B	3.0 GPM	3.01
10E	7.6 GPM	0.82
11B	4.5 GPM	1.70
12D	6.9 GPM	0.61
13D	2.1 GPM	0.42
14D	1.9 GPM	0.37
15D	1.3 GPM	0.44
16E	2.8 GPM	0.83
17B	4.0 GPM	1.70
18D	2.1 GPM	0.84
19D	0.6 GPM	0.41
20D	3.6 GPM	0.46

REVISIONS

5/18/22	SITE PLAN COORDINATION BASED ON CITY COMMENTS	DM

REGISTERED LANDSCAPE ARCHITECT
DONALD G. MACNAIR
NO. 2800
EXP. 8/31/23
STATE OF CALIFORNIA

MACNAIR
LANDSCAPE ARCHITECTURE
POST OFFICE BOX 251
KENWOOD, CALIFORNIA 95452
TEL (707) 833-2288
RLA #2800
don@macnairlandscapes.com

LANDSCAPE DETAILS

WEST STEEL LANE APARTMENTS
1650 WEST STEEL LANE
SANTA ROSA, CA

DATE: 12/18/21
MLA JOB #: 2019-14
SCALE: As Shown
DRAWN: DM

L3

DIVISION 2 SITE WORK
SECTION 02750

UNDERGROUND IRRIGATION SYSTEM

PART 1 GENERAL

1.01 SCOPE

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

1. Furnish and install complete irrigation system.
2. Trenching and backfilling.
3. Sleeves for irrigation piping and remote control valve wiring under pavements and walls as noted.

B. Related Work in Other Sections: The following items of associated work are included in other sections of these specifications:

1. Landscaping, Section 02800

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

1. Electrical stub-out for irrigation controller.
2. Irrigation water meter.
3. Water stub-out(s) for irrigation system.

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

1.03 CODES, RULES AND SAFETY ORDERS

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

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

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

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

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

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

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

1.08 OBSERVATION SCHEDULE

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

A. Job start meeting

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

B. Irrigation installation and hydrostatic tests

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

C. Pre-maintenance

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

D. Final Observation

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

1.09 SUBSTITUTIONS

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

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

1.10 PROTECTION OF EXISTING CONDITIONS

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

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

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

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

1.14 HYDROSTATIC TESTS

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

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

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

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

1.16 CONTROLLER CHARTS

1. As-built drawings shall be approved by the landscape architect before charts are prepared.
2. Provide one controller chart for each controller supplied.
3. The chart shall show the area controlled by automatic controller and shall be the maximum size controller door will allow.
4. The chart is to be reduced drawing of the actual as-built system. However, in the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced.
5. Chart shall be black line print and a different color shall be used to show area of coverage for each station.
6. The chart shall be mounted using Velcro, or an approved equal.
7.When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils. thick.
8. These charts shall be completed and approved prior to final inspection of the irrigation system.

1.17 MATERIALS TO BE FURNISHED

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

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

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

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

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

PART 2 MATERIALS

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

2.02 WATER METERS: Shall be provided by others.

2.03 PIPE

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

1. 2" size and greater to be Polyvinyl Chloride (P.V.C.) 1120-1220, Class 315 and shall conform to ASTM D 2241-73 and D 2672-73.
2. Up to and including 1-1/2" size to be Polyvinyl Chloride (P.V.C.) 1120-1220, Schedule 40 and shall conform to ASTM D 1785-73.
3. Galvanized Steel: Standard wall, Schedule 40, capable of working pressure up to 600 psi shall run from the point of connection to back flow prevention device.
4. Piping from the point of connection to the back flow prevention device shall be as approved by local code.

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

1. 2" size and greater to be Polyvinyl Chloride (P.V.C.) 1120-1220, Class 315 and shall conform to ASTM D 2241-73 and D 2672-73.
2. Up to and including 1-1/2" size to be Polyvinyl Chloride (P.V.C.) 1120-1220, Schedule 40 and shall conform to ASTM D 1785-73.

2.04 FITTINGS

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

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

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

2.05 SLEEVE MATERIALS

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

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

2.06 IRRIGATION CONTROLLERS

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

2.07 IRRIGATION CONTROL VALVES

A. Remote Control Valves: Valves to be as shown on plans and installed per details and manufacturer's specifications.

2.08 CONTROL WIRE

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

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

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

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

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

2.09 VALVE BOXES

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

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

2.10 QUICK-COUPLING VALVES

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

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

C. All valve boxes shall be purple in color or clearly labeled by the manufacturer to designate reclaimed water.

2.11 LANDSCAPE DRIP-LINE: Tubing as shown in legend and drawings.

A. Install in parallel and consistent rows at spacing indicated in all specified areas.

B. Install 3" below grade.

2.12 SPRINKLER HEADS

A. Heads as shown in legend and drawings.

2.13 BACK-FLOW PREVENTION ASSEMBLIES

A. Back-flow prevention device as shown in legend and drawings.

PART 3 EXECUTION

3.01 LAYOUT

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

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

C. Dig trenches wide enough to allow a minimum of 6 in. between parallel pipe lines. Trenches shall be of sufficient depth to provide minimum cover from finish grade as follows:

1. Over PVC pipe on pressure side of irrigation control valve, control wires and quick coupling valves: 18 inches.
2. Over pipe on non-pressure side of irrigation control valve: 12 inches.

3.03 BACK FLOW PREVENTION DEVICE INSTALLATION

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

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

3.04 SLEEVING

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

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

C. All control wire shall be in Schedule 40 conduit from trench to controller. When valves are grouped together allow 12" between valve boxes, each valve in a separate box, (not to be placed in drainage swales, but kept in ground cover areas.)

3.05 PIPE LINE ASSEMBLY

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

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

C. Use Teflon tape on all threaded fittings.

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

3.06 IRRIGATION CONTROL VALVES:

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

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

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

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

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

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

3.07 SPRINKLER HEADS

A. Install heads as per details.

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

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

3.09 AUTOMATIC CONTROLLER

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

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

3.10 CONTROL WIRING

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

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

C. Install one continuous ground wire and one extra wire to all valves.

3.11 CLOSING OF PIPE AND FLUSHING OF LINES

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

B. Test as specified.

3.12 PRESSURE TESTS

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

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

3.13 BACKFILL AND COMPACTING

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

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

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

D. Dress off all areas to finish grades.

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

END OF SECTION 02750

SECTION 02800
LANDSCAPING

PART 1 GENERAL

1.01 SCOPE

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

1. Site preparation including weed and rubble removal.
2. Laboratory soil analysis.
3. Furnishing and spreading topsoil.
4. Finish grading of planted areas.
5. Soil amendment.
6. Planting.

B. Related Work: The following items of associated work are included in other sections of these specifications.

1. Section 02750: Underground Irrigation System.

C. Use Teflon tape on all threaded fittings.

D. Thrust blocks shall be installed where the irrigation main changes direction as at ells and tees and where the irrigation main terminates. Pressure tests shall not be made for a period of 36-48 hours following the completion of pouring of the thrust blocks. Concrete thrust blocks for supply mains shall be sized and placed in strict accordance with the pipe manufacturer's specifications and shall be of an adequate size and so placed as to take all thrust created by the maximum internal B. Related Work: The following items of associated work are included in other sections of these specifications.

1. Section 02750: Underground Irrigation System.

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

1.02 REQUIREMENTS OF REGULATORY AGENCIES

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

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

1.03 SELECTION, TAGGING AND ORDERING OF PLANT MATERIAL

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

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

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

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

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

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

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

1.08 PRODUCT HANDLING

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

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

1.09 PROTECTION OF EXISTING PLANTS TO REMAIN

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

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

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

1.10 GRADING

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

B. Finish grade in ground cover areas shall be 2 inches below surrounding concrete or asphalt. In lawn areas, sodded areas shall be 2 inches and seeded areas shall be 1 inch below sidewalks, header boards, or mow strips and examined by the landscape architect, owner, or his representative.

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

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

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

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

A. Job Start Meeting
The purpose of this conference is to review questions the contractor may have regarding the work, administrative procedures during construction and project work schedule.
B. Planting - Fine Grading and Soil Preparation
The fine grading and soil preparation of all planting areas must be observed prior to installation of plant material.
C. Plant Material
Landscape architect shall observe plant material for quality prior to planting. Plants shall be subject to observation and approval at place of growth or upon delivery for quality, size and variety; such approval shall not impair the right of inspection and condition of ball and roots, latent defects or injuries. Rejected plants shall be removed immediately from site.
D. Plant Layout
Layout plants (in containers) in locations shown on drawings. Landscape architect will check location of plants in the field and adjust to exact position before planting begins. Landscape architect reserves the right to refuse inspection if, in his opinion, an insufficient quantity of plants is available for layout check.
E. Pre-maintenance
When all work has been completed a pre-maintenance walk-through will be conducted. If approved, the 90 calendar day maintenance period will begin.
F. Final Observation
Final Observation will be after the 90 calendar day maintenance period and all required work is completed. Please give 1 week notice for this observation meeting.

1.15 MAINTENANCE

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

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

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

D. Maintenance of new planting shall consist of watering, cultivating, weeding, fertilizing, mulching, re-staking, tightening and repairing of guys, resetting plants to proper grades or upright position, restoration of the plant saucer, and furnishing and applying such sprays and fertilizers as are necessary to keep the plants free of insects and disease and in thriving condition.

E. Protect planting areas and plants at all times against damage of all kinds for duration of maintenance period. Maintenance includes temporary protection fences, barriers and signs as required for protection. If any plants become damaged or injured, treat or replace as directed by landscape architect at no additional cost to owner.

1.16 FINAL ACCEPTANCE: Work under this Section will be accepted by landscape architect upon satisfactory completion of all work, including maintenance, but exclusive of replacement of plant materials under the Warranty Period. Upon Final Acceptance, the owner will assume responsibility for maintenance of the work.

1.17 WARRANTY PERIOD AND REPLACEMENTS

A. Contractor shall warrant that all plant material except annual color planted under this contract will be healthy and in flourishing condition of active growth one year from date of Final Acceptance.

B. Any delay in completion of planting operations which extends the planting period shall extend the Maintenance and Warranty Periods correspondingly.

C. Replace, without cost to owner, and as soon as weather conditions permit, all dead plants and all plants not in vigorous, thriving condition, as determined by landscape architect during and at the end of Warranty Period. Plants shall be free of dead or dying branches and branch tips, and shall bear foliage of a normal density, size and color. Replacements shall closely match adjacent specimens of the same species and shall be subject to all requirements of this specification.

D. Contractor shall not be held responsible for failures due to neglect by owner, vandalism, or acts of god, etc., during Warranty Period. Report such conditions to landscape architect in writing.

PART 2 MATERIALS

2.01 PLANTS

A. Plant Quality: Plants shall be fresh, well established, vigorous, of normal habit of growth, free of disease, insects, insect eggs and larvae. Roots shall be healthy and extend to the bottom and sides of the container, and rooting shall be extensive enough to hold the rood ball together during planting, but not so dense as to discourage root establishment into surrounding soils. Roots shall not show any signs of restriction due to kinked, circular, or distorted growth. No trees will be accepted that will not stand on their own trunks after the nursery stakes have been removed. All plants will be inspected prior to planting and may be rejected if noted quality standards are not met.

B. Plant Quantity: Plant materials shall be furnished in size, quantities, species and at the spacing indicated or as noted on the plans. Ground cover material shall be provided in quantity adequate to fill the entire ground cover areas at the spacing shown.

C. Plant Spacing: No planting, except for ground covers, espaliers and vines shall be placed closer than two feet to pavement, structures or other landscape edges. Ground covers adjacent to pavement, structures or landscape edges shall be no closer to these than 75% of their spacing. No plants that would obstruct the sprinkler coverage shall be placed closer than 30% of the radius of the sprinkler throw as specified by the sprinkler manufacturer at the optimum operating pressure unless approved by the landscape architect.

2.02 LANDSCAPE AREA PLANTING SOILS

A. Soil to be tested by testing agency as per specifications.

B. All landscape area planting soils shall be equal or coarser in texture to the original on-site topsoil. All landscape area soils shall be free from stones larger than 1 in. in size, sub-soil, refuse, plants or roots, clods, weeds, sticks, or other extraneous material. All landscape area soils shall be tested by an approved soils laboratory for horticultural suitability and verified to be capable of sustaining healthy plant life. Landscape area planting soils may be obtained through stockpiling of existing topsoil or imported soil of equal texture and quality as determined by approved soil laboratory analysis.

C. Soil Chemistry: All planting soils shall meet the following soil chemistry parameters.

1. Reaction - pH of saturated paste = 5.5 to 7.5
2. Salinity (Electrical conductivity in mmho/cm) = <4.0
3. Sodium Adsorption Ratio (SAR) = <6.0
4. Sodium = <5.0 milliequivalents per liter
5. Chloride = <5.0 milliequivalents per liter
6. Boron (Parts Per Million in extract) = <1.0

D. Soil Fertility: Adequate amounts of nitrogen, potassium, phosphorus, calcium, and magnesium shall be available to support healthy plant growth. Soil shall be analyzed for fertility and any deficiencies shall be treated with inorganic fertilizer amendments prior to planting.

E. Lime Treated Soil: If lime is used for soil compaction in landscape areas, all lime treated soil shall be removed to a depth equal or more to the depth of the treated soil. Soil shall be replaced with import soil as described in the landscape specifications.

2.03 PREPARATION OF LANDSCAPE AREA PLANTING SOILS

A. Prior to any work in planting areas all construction debris shall be removed.

B. Structural fill and/or compacted engineered fill and/or any other soil deemed unsuitable for horticultural use as defined by Sections 2.2-A, 2.2-B and 2.2-C, shall be excavated and removed to a depth of 12 inches in landscape planting areas by the landscape contractor. Replacement planting soil shall be equal or coarser to the on-site soil in texture. This may be obtained through stockpiling of existing topsoil or imported soil of equal quality as determined by approved soil laboratory analysis. It shall be free from stones larger than 1 in. in size, sub-soil, refuse, plants or roots, clods, weeds, sticks, or other extraneous material. It shall be capable of sustaining healthy plant life.

C. All landscape area soils shall be ripped in two directions to a depth of 12 inches. In areas not accessible by large equipment, ripping shall be accomplished by small backhoe or manually to thoroughly cultivate the soil to a depth of 12 inches.

D. Landscape area planting soil, imported or otherwise, shall be spread evenly over the site. Minimum depth of friable soil shall be 12 inches deep in all landscape planting areas and finish surface shall be within one inch of finish grade. Import topsoil shall be supplied by the landscape contractor to meet this requirement and shall meet all specifications as defined Sections 2.2-A, 2.2-B and 2.2-C. Imported landscape area planting soils shall be compacted to 85%± relative compaction. Never apply the topsoil when the site or the topsoil is wet.

2.04 COMMERCIAL FERTILIZER

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

6% Nitrogen
20% Phosphoric Acid
20% Potash

B. Post Planting/Surface Application Fertilizer:

16% Nitrogen
8% Phosphoric Acid
8% Potash

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

2.05 SOIL AMENDMENTS

A. Organic Amendment: Shall be nitrolized and derived from fir wood residuals.

B. Physical Properties: 1/2" minus fir bark, nitrolized fortified or entranced.

C. Chemical Amendments: As required by soil analysis with approval of landscape architect.

2.06 STAKING MATERIALS

A. Contractor shall use staking materials necessary to meet requirements of specifications, subject to approval of landscape architect.

B. Tree Stakes: 2" x 2" X 8' lodgepole pine pressure treated stakes. Construction heart grade. (Do not drive stakes through the rootball). Use 2 stakes per tree.

C. Tree Ties: Corded rubber tree ties, 18" without wire.

2.07 ROOT BARRIERS

A. "Root Solutions" control planter, or equal. Install according to local code and manufacturer's instructions. Use in all areas where tree is within 7 feet of any walkway, wall, building or other structural edge. Linear type barrier shall be used in all cases. Linear barriers shall be installed a minimum of 7 feet to either side of tree's relative position to sidewalk or structural edge.

B. All root barriers to be 24" deep, interlocking linear panels.

C. All root barriers shall be installed 4" from the back of curb or other hardscape edge with 4" of 3/4" gravel drain rock 24" deep on the root barrier side away from the tree.

2.08 WATER: Furnished by owner. Transport as required.

2.09 MULCH: Fir bark 1" to 2", free of sticks, dirt, dust and other debris, as approved, to a depth of 3" to be placed in all landscaped areas except where flats have been planted or annual beds and drainage swales. Fir bark, 1/2" minus, free of sticks, dirt, dust and other debris, as approved, to a depth of 1" to be placed in all landscaped areas where flats have been planted or in annual beds. Shredded bark mulch shall be used in conjunction with jute netting on all slopes greater than 6:1.

2.10 PRE-EMERGENT WEED CONTROL: All herbicides used to control weeds shall comply with all governmental regulations and shall be appropriate to weed species. Contact the local county agricultural agent or pest control advisor for proper herbicide recommendations. Follow manufacturers instructions carefully

PART 3 EXECUTION

3.01 HANDLING OF PLANT MATERIAL

A. Canned stock shall be removed carefully after cans have been cut on two sides. Do not use spade to cut cans. Do not lift or handle container plants by tops, stems, or trunks at any time.

3.02 PREPARATION OF SUB-GRADE AND/OR EXISTING SOILS

A. Prior to any work in planting areas by landscape contractor, the general contractor shall clear all construction debris from planting areas.

B. Soil shall be ripped in two directions to a depth of 12". In areas not accessible by large equipment, ripping shall be accomplished by small backhoe or manually.

3.03 SPREADING OF TOPSOIL

A. After sub-grade has been prepared, the landscape contractor shall be responsible for furnishing and installing topsoil to within (1) inches of finish grade.

B. Topsoil should be spread evenly over the site. Minimum depth of friable to be 12 inches within five feet of all structures and 24 inches deep in all other areas. If this condition does not exist on the site, the balance of topsoil shall be imported by the landscape contractor to meet this requirement. Import soil shall be compacted to 85% relative compaction. Never apply the topsoil when the site or the topsoil is wet.

3.04 AMENDMENT OF SOIL

A. Apply amendments to all planting and lawn areas at the following rates per 1,000 sq.ft. at zero to eight inches depth:

8 cubic yards organic amendment as specified.
20 pounds pre-plant fertilizer
Additional amendments as determined from soil test

B. Incorporate thoroughly with top 8 in. soil layer and remove stones over 1 in. in diameter, roots, clods, weeds, and other extraneous material. Bring amended soil to finish grades and elevations shown on Contract Documents. Do not work soils under frozen or muddy conditions.

3.05 SURFACE DRAINAGE OF PLANTED AREAS: Landscape Contractor shall bear final responsibility for proper surface drainage of planted areas. Any discrepancy in the drawings or specifications, obstructions on the site, or prior work done by another party, which contractor feels precludes establishing proper drainage shall be bought to the attention of landscape architect in writing for correction or relief of said responsibility.

3.06 EXCAVATION OF PLANTING AREAS

A. Excavate container grown tree, shrub, and vine pits to the following dimensions:

1. Two times as large in diameter as the original growing container (Rhododendron and azaleas 3 times the diameter)
2. The depth should be equal to the root ball height.

B. Scarify all sides of planting hole. Auger through structural fill, compacted soil or hardpan if encountered or as directed by landscape architect.

3.07 DRAINAGE, DETRIMENTAL SOIL AND OBSTRUCTIONS

A. Notify landscape architect in writing of all soil or drainage conditions contractor considers detrimental to growth of plant material. State condition and submit proposal and cost estimate for correcting condition.

3.08 PLANTING OPERATIONS

A. Protect plants at all times from sun or drying winds. Plants that cannot be planted immediately on delivery shall be kept in the shade, well protected, and shall be kept well watered.

B. Planting Soil (excluding trees):

2/3 Existing Soil
1/3 Organic Amendments

C. Prior to planting test hole for drainage by filling with water, if hole does not drain within four hours, do not plant. Contact landscape architect.

D. Use planting soil to backfill plant pits. Crown of root ball shall be 1" above finished grade. Set plant plumb and brace rigidly in position until planting soil has been tamped solidly around the ball and roots. When plant pits have been backfilled approximately 2/3 full, water thoroughly, saturating rootball, before installing remainder of the planting soil to top of pit, eliminating all air pockets.

E. Smooth planting areas to conform to specified grades after full settlement has occurred.

F. Form saucer with 4 in. high berm around tree and shrub pits 12 inches wider that the root ball diameter.

G. Water all plants immediately after planting.

3.09 STAKING

A. Staking shall be completed immediately after planting. Plants shall stand plumb after staking.

B. Locate stakes in position relative to the prevailing wind as shown on detail.

C. Attach tree straps as per details.

D. Need for auxiliary stake shall be determined in the field by the landscape architect and shall only be used when trees are exceptionally spindly. If necessary, place auxiliary stake adjacent to tree leader and tie with polyethylene nursery tape at 10 inch intervals. Auxiliary stake to be bamboo or equal.

3.10 PRUNING: Prune plants only at the time of planting and according to standard horticultural practices to preserve the natural character of the plant. Trees shall be pruned at the direction of the landscape architect in accordance with current I.S.A. Standards. Remove all dead wood, suckers and broken or badly bruised branches. Use only clean sharp tools. Do not prune to compensate for root loss. Landscape contractor is responsible for replacement of all improperly pruned plant material.

3.11 GROUND COVER PLANTING

A. Plant ground cover plant at optimum depth for proper growth. Do not bury deeper than the original soil level which was established in the nursery can. Avoid air pockets.

B. Apply post plant or surface application fertilizer at the rate of 5 lbs. per 1000 sq.ft. Water bed thoroughly after fertilizer application. Wash all fertilizer from leaves of plant materials.

3.11 BIOSWALE SOD

A. To be “Biofiltration Sod” as produced by Delta Bluegrass Company, or approved equal.

3.12 SOD BED PREPARATION

A. Roll amended soil with 200 lb. water ballast roller.

B. Sod immediately thereafter, provided the sod bed has remained in a friable condition.

3.13 SODDING OPERATIONS

A. Sod must be delivered to site within 24 hours of cutting. Lay sod so that adjacent strips butt tightly with no spaces between strips. Lay sod on slopes and mounds with strips parallel to contours. Stagger joints and do not overlap seams. Sodded areas shall be flush with adjoining seeded areas.

B. Tamp and roll sod thoroughly to make contact with sod bed.

C. Apply post planting fertilizer at a rate of 5 lbs. per 1000 s.f.

D. Water sod thoroughly.

E. No portion of the sod lawn will be allowed to dry out until the sod is well rooted.

F. Supplemental Temporary Irrigation: Contractor shall be responsible for temporary supplemental irrigation of all bio-retention areas through the sod establishment period. Method of irrigation application is discretionary and may include hand watering or installation of a temporary, above grade overhead spray circuit. Any replacement of sod necessary for loss or damage to sod due to lack of water shall be the responsibility of the contractor at contractor's expense.

PART 4 TREE PRESERVATION

4.01 CONSTRUCTION IMPACT: The impact of construction within the project area will be minimal when appropriate protection measures are implemented. The following specifications have been developed to minimize impact on the area.

A. The landscape architect shall be called to inspect and verify staked location of trenches within the project zone. No trenching, pruning or tree removal shall take place without the approval of the landscape architect.

B. The smallest possible equipment shall be used for all construction work to minimize damage to the existing trees.

C. If the installation of storm drains or irrigation lines is to occur within the drip line of any major tree, a professional arborist shall be called upon to inspect the tree and determine whether head pruning will be necessary to balance the projected loss of roots.

D. Following completion of grading, all soil shall be brought back to original grade. No additional soil shall be allowed to remain at the base of any shrub or tree, and grade shall not be changed to allow collection of surface drainage at the base of any shrub or tree.

E. Minimal disturbance to the natural setting is to occur during trenching and installation of pipe lines. The mainlines are to be set 18" below grade.

F. Trenches shall be the minimum width possible to accommodate the specified diameter of pipe.

G. Existing foliage shall be preserved wherever possible. When it becomes necessary to remove any limbs from remaining trees the following guidelines shall be followed:

1. No branches shall be damaged or broken.
2. Prior to installation of lines it shall be determined what foliage needs to be removed and pruning shall be done using a sharp saw.
3. Limbs shall be removed back to the nearest lateral branch or trunk, using a flush cut.
4. All cuts shall be painted with a commercial asphaltic compound designed specifically for covering pruning wounds.

H. No roots over 2" in diameter shall be torn or damaged. When it becomes necessary to remove any major roots over 2" in diameter, a sharp saw shall be used and the wound treated as described in G-4 above.

I. Following the installation of the pipelines all soil from the trenches shall be brought back to the original grade. No soil shall be allowed to remain at the base of any tree or shrub, and grade shall not be changed to allow collection of surface drainage at the base of any tree or shrub.

J. All pruning and plant debris associated with the installation shall be removed from the site and disposed in an appropriate manner.

4.02 IMPACT OF GRADING :Protection of all existing trees within the construction zone is to be given the highest priority. As described in the following section, the trees within the project area will be protected by a temporary construction fence during all construction phases, including rough and final grading. Grade changes will be prevented around the base of these trees by this fence, and the impact of grading will be negligible as it will occur outside the drip line of all trees.

4.03 MEASURES TO PROTECT VEGETATION FROM CONSTRUCTION ACTIVITIES: A minimum six foot cyclone fence shall be erected aRound the drip line of all trees located within the project area prior to the beginning of any construction activities, including grading. General Contractor shall direct all equipment, subcontractors and personnel to remain outside the fenced area. Warning signs shall be posted on the fence indicating a protected area. As shown on the irrigation plan the cyclone fence will be placed around all existing trees to be saved. The purpose of this fence is to discourage the parking of vehicles under the trees and prevent grading or storage of material too close to the tree trunks.

END OF SECTION 02800

REVISIONS

5/18/22	SITE PLAN COORDINATION BASED ON CITY COMMENTS	DM

DONALD G. MACNAIR
NO. 2800
EXP 8/31/23

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LANDSCAPE ARCHITECTURE
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LANDSCAPE SPECIFICATIONS

WEST STEEL LANE APARTMENTS
1650 WEST STEEL LANE
SANTA ROSA, CA

DATE: 12/18/21
MLA JOB #: 2019-14
SCALE: N/A
DRAWN: DM

L4

SHEET L4 OF 4