

DOCKETED	
Docket Number:	26-OPT-02
Project Title:	Seahawk Battery Energy Storage System
TN #:	270252
Document Title:	Section 2 Appendices Part 2
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	5/27/2026 10:59:36 AM
Docketed Date:	5/27/2026

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IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

SEAHAWK ENERGY STORAGE
 90 MINTO ROAD
 WATSONVILLE CA, 95076

PROJECT NUMBER:
 110-5227

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	12/17/24	MRM		SUBSTATION/BESS UPDATE
	12/09/24	MRM		CUP SUBMISSION
	07/02/25	C2G		CIVIL UPDATE

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" x 36"

C-2.1
 LAYOUT AND MATERIALS



HATCH LEGEND

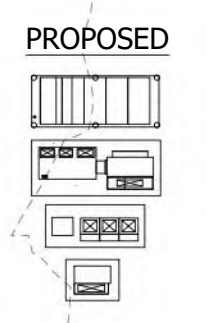
- MAIN DRIVE - COMPACTED BASEROCK
- CONCRETE PAD
- PEA GRAVEL WITH IMPERMEABLE LINER
- RIPRAP
- CONCRETE DRAINAGE STRUCTURE
- EXISTING AC

CURBING AND MISC ITEMS LEGEND

- PROPERTY LINE
- RETAINING WALL

LEGEND

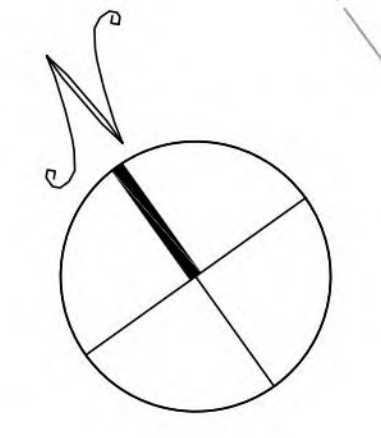
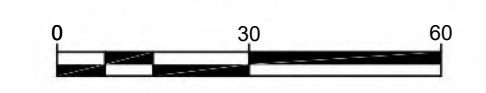
- DESCRIPTION
- BESS CONTAINER
- INVERTER
- SWITCHBOARD
- TRANSFORMER



NOISE LEVEL dBA
 N/A

LAYOUT AND MATERIALS

SCALE: 1"=30'



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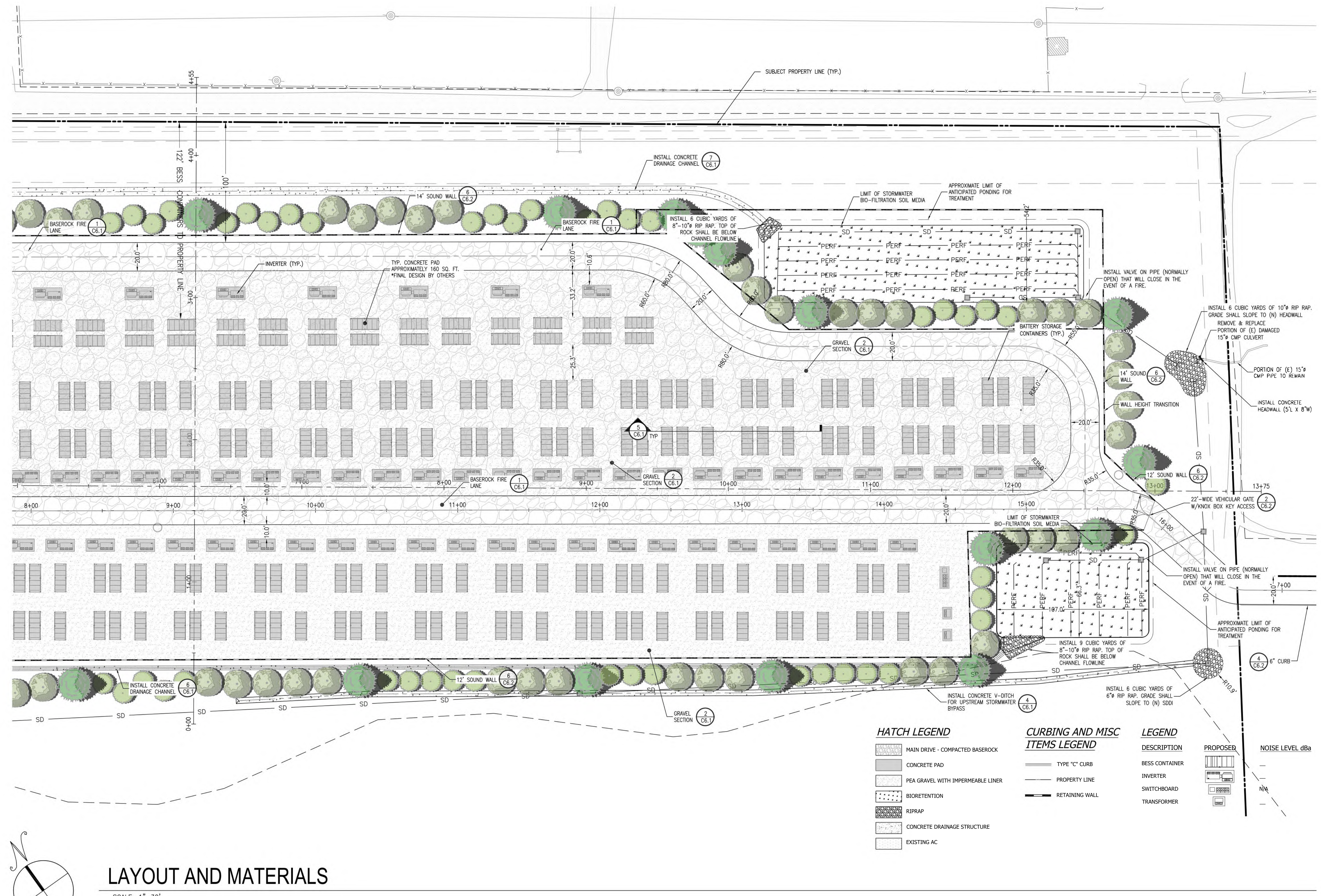


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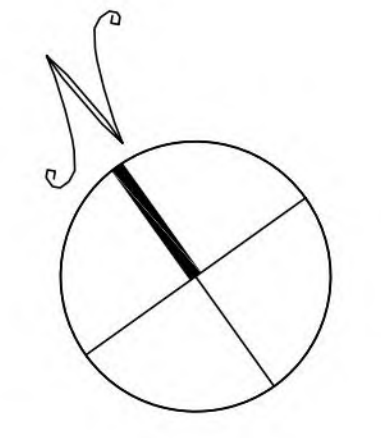
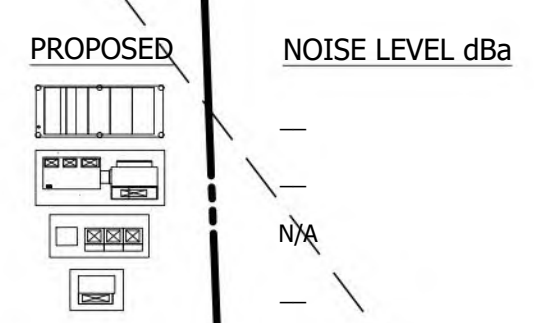
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CURBING AND MISC ITEMS LEGEND

- TYPE "C" CURB
- PROPERTY LINE
- RETAINING WALL

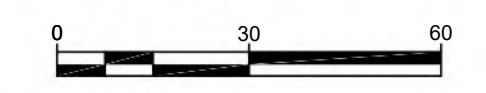
LEGEND

- BESS CONTAINER
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LAYOUT AND MATERIALS

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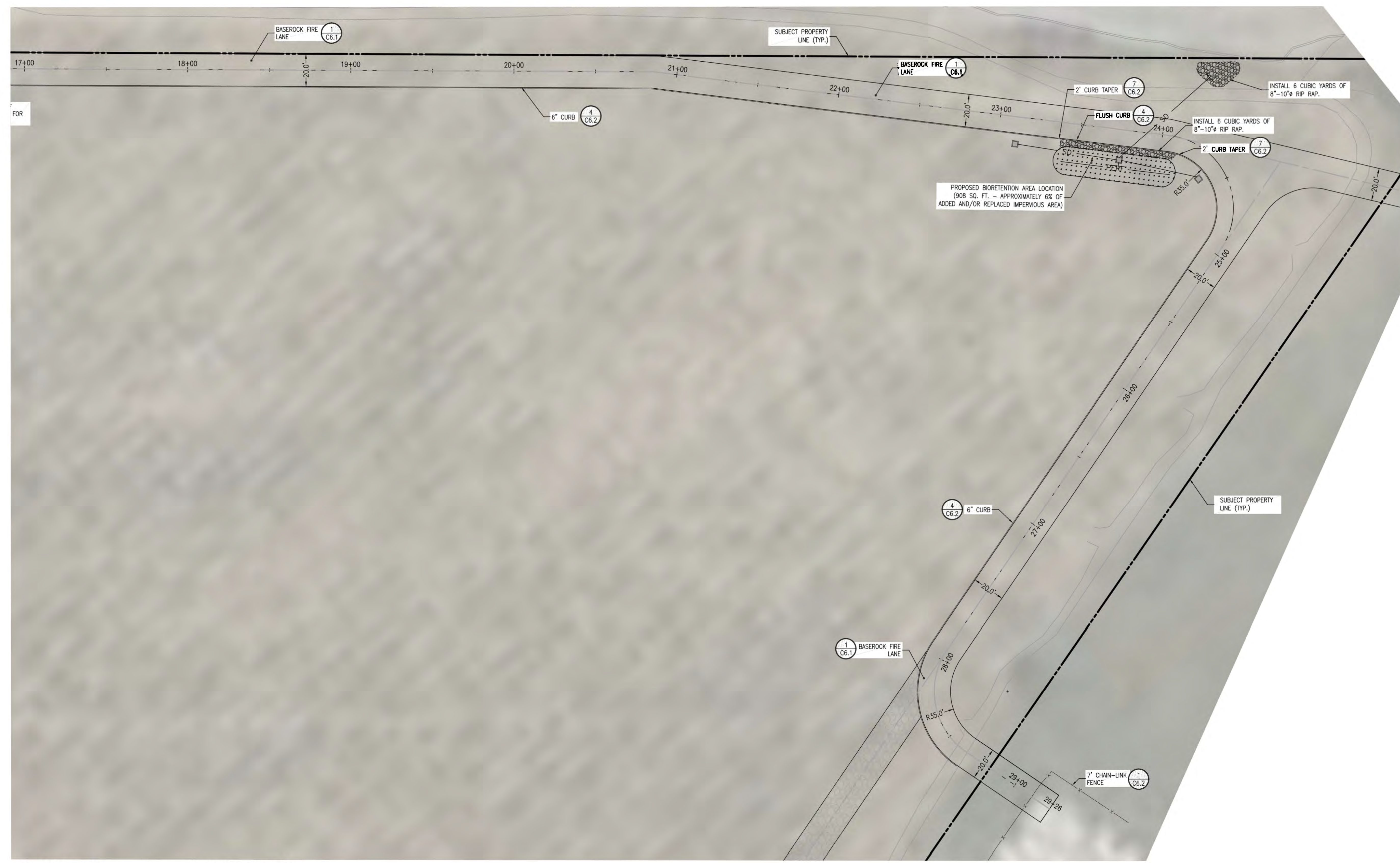
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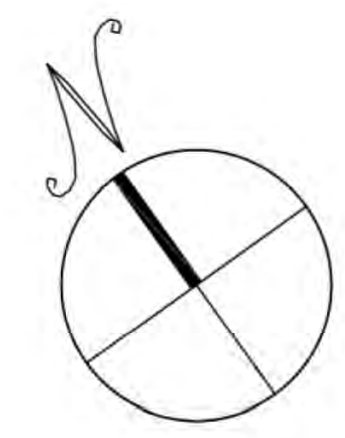
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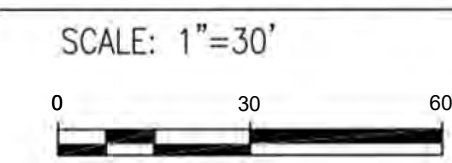
C-2.3



- HATCH LEGEND**
- MAIN DRIVE - COMPACTED BASEROCK
 - BIORETENTION
 - RIPRAP
 - EXISTING AC
- CURBING AND MISC ITEMS LEGEND**
- TYPE "C" CURB
 - PROPERTY LINE



LAYOUT AND MATERIALS



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REGISTERED PROFESSIONAL ENGINEER
 TODD R. CREAMER
 No. C 64561
 Exp. 6/30/25
 CIVIL
 STATE OF CALIFORNIA

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SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

C-2.4
 LAYOUT AND MATERIALS

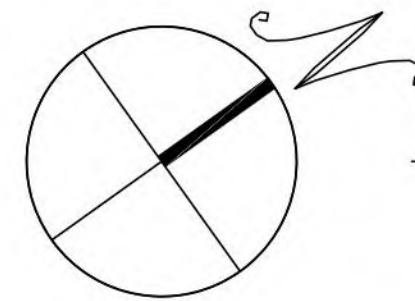


HATCH LEGEND


- MAIN DRIVE - COMPACTED BASEROCK
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- RIPRAP
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CURBING AND MISC ITEMS LEGEND

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ALTERNATIVE #1 EVA

SCALE: 1"=40'


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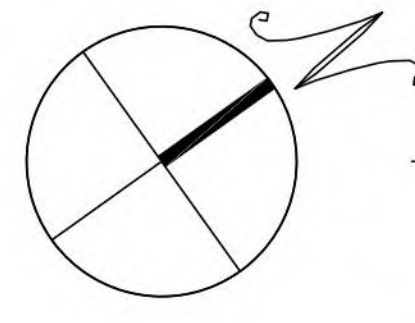
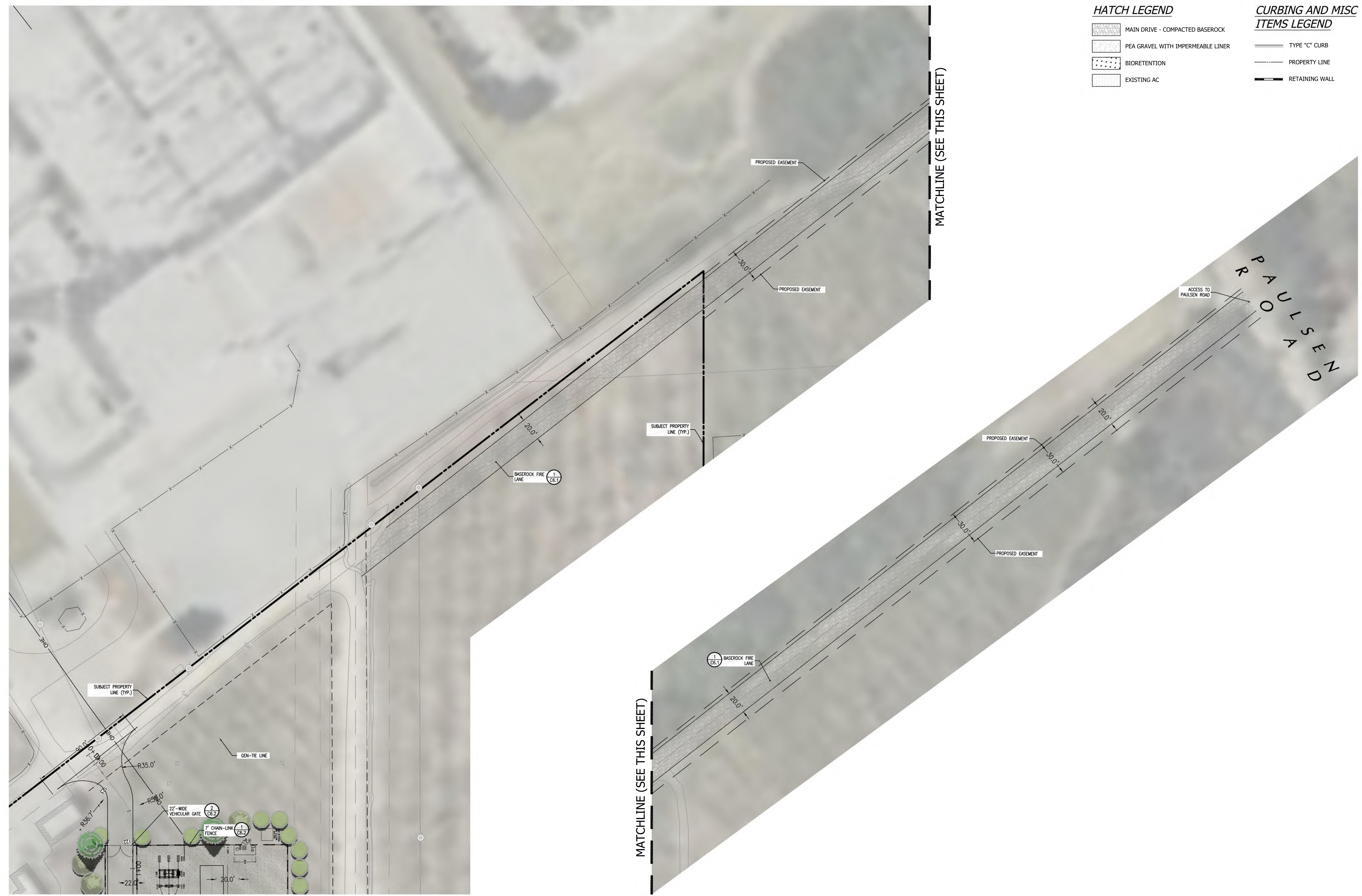
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SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" x 36"

C-2.5
 LAYOUT AND MATERIALS



ALTERNATIVE #2 EVA

SCALE: 1"=40'

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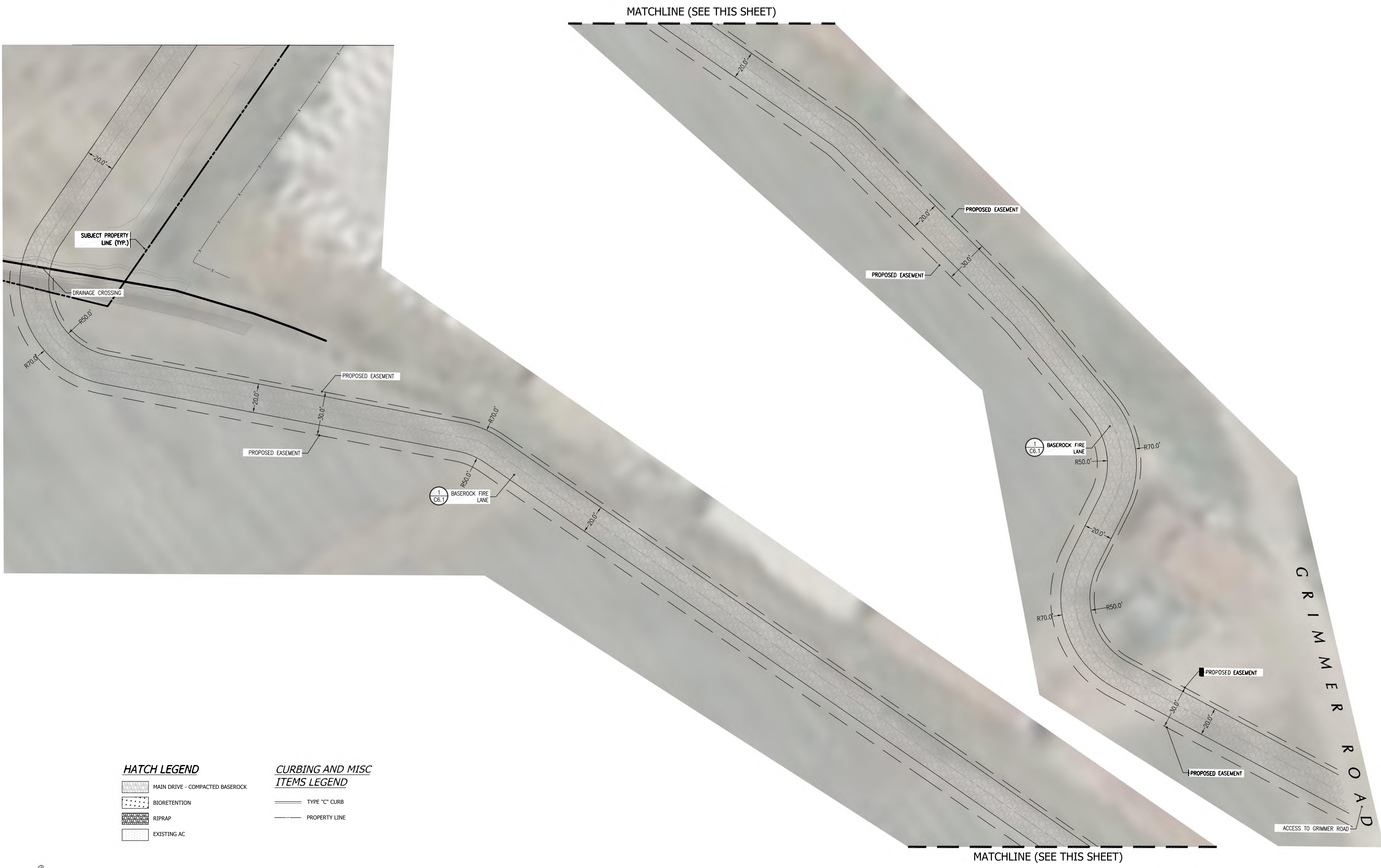
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 WATSONVILLE CA, 95076

PROJECT NUMBER:
110-5227

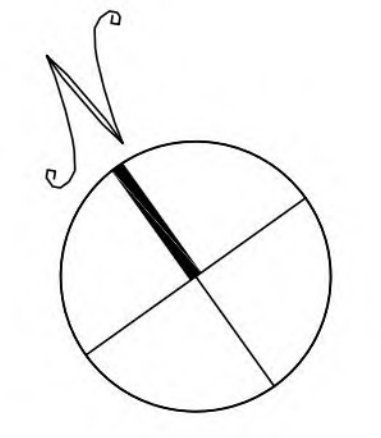
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SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH-D 24" x 36"

C2.6

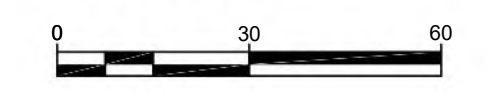


- HATCH LEGEND**
- MAIN DRIVE - COMPACTED BASEROCK
 - BIORETENTION
 - RIPRAP
 - EXISTING AC
- CURBING AND MISC ITEMS LEGEND**
- TYPE "C" CURB
 - PROPERTY LINE



LAYOUT AND MATERIALS

SCALE: 1"=30'



MATCHLINE (SEE THIS SHEET)

MATCHLINE (SEE THIS SHEET)

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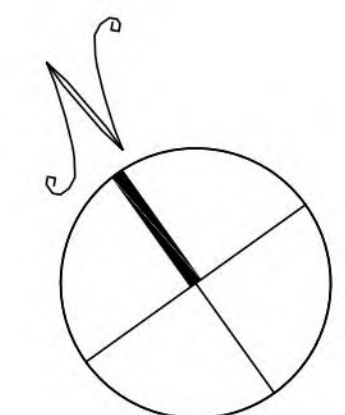
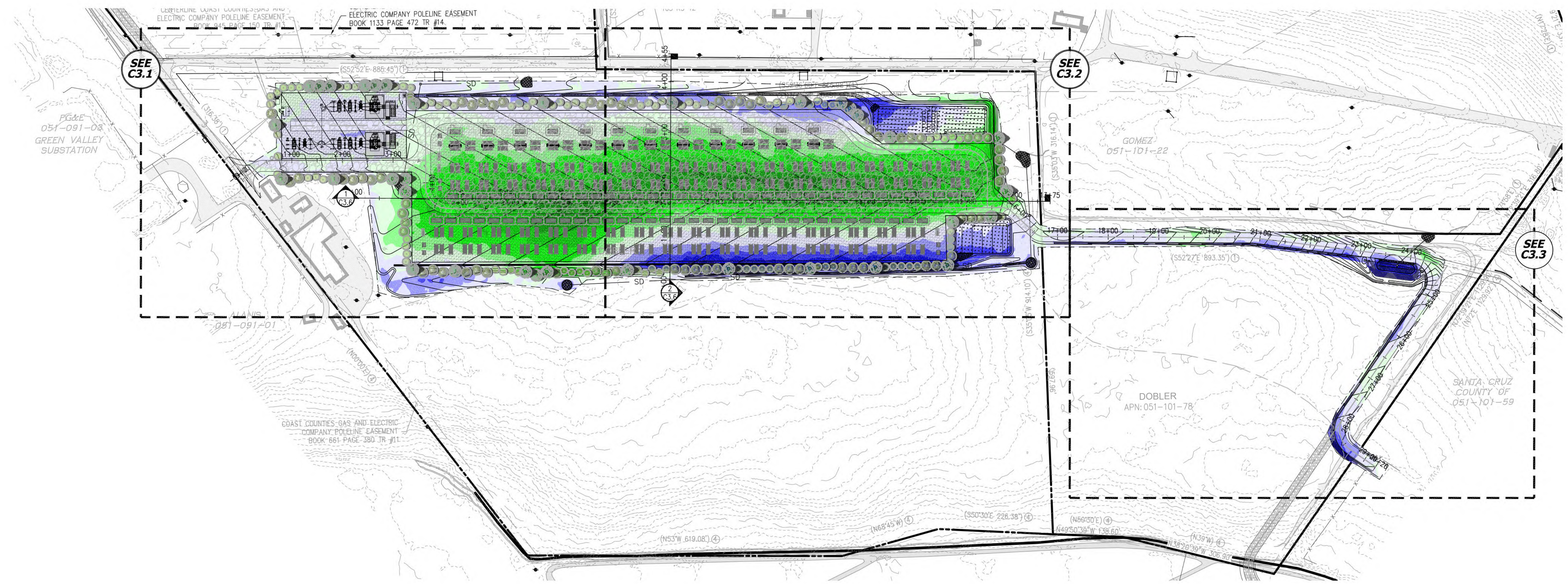
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C-3.0
 GRADING AND DRAINAGE SHEET INDEX



GRADING AND DRAINAGE SHEET INDEX

SCALE: 1"=100'

Number	MIN. ELV.	MAX. ELV.	VOL.	COLOR
1	-5.0	-4.0	81	Blue
2	-4.0	-3.0	315	Dark Blue
3	-3.0	-2.0	798	Light Blue
4	-2.0	-1.0	2021	Very Light Blue
5	-1.0	0.0	4513	White
6	0.0	1.0	10145	Light Green
7	1.0	2.0	7702	Medium Green
8	2.0	3.0	5498	Dark Green
9	3.0	4.0	3159	Very Dark Green
10	4.0	5.0	1172	Black
11	5.0	6.0	58	Black
12	6.0	7.0	0	Black

ITEM	DESCRIPTION	CUT (cu yds)	FILL (cu yds)
1	EG VS. FG	7,731	27,731
2	GRAVEL (@ 4")	2,422	
3	FIRE ACCESS (@ 12")	2,103	
4	CONC SLAB (@ 6" EXP.)	1,668	
5	BIO-RETENTION	1,787	

NET VOLUME = 15,711 CU.YDS. OF IMPORT

THE ABOVE QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE NECESSARY CUT AND FILL TO ACCOMPLISH FINISH GRADE SHOWN ON THESE PLANS.

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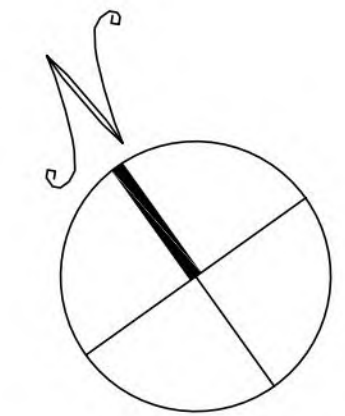
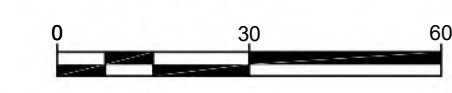
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GRADING AND DRAINAGE

SCALE: 1"=30'



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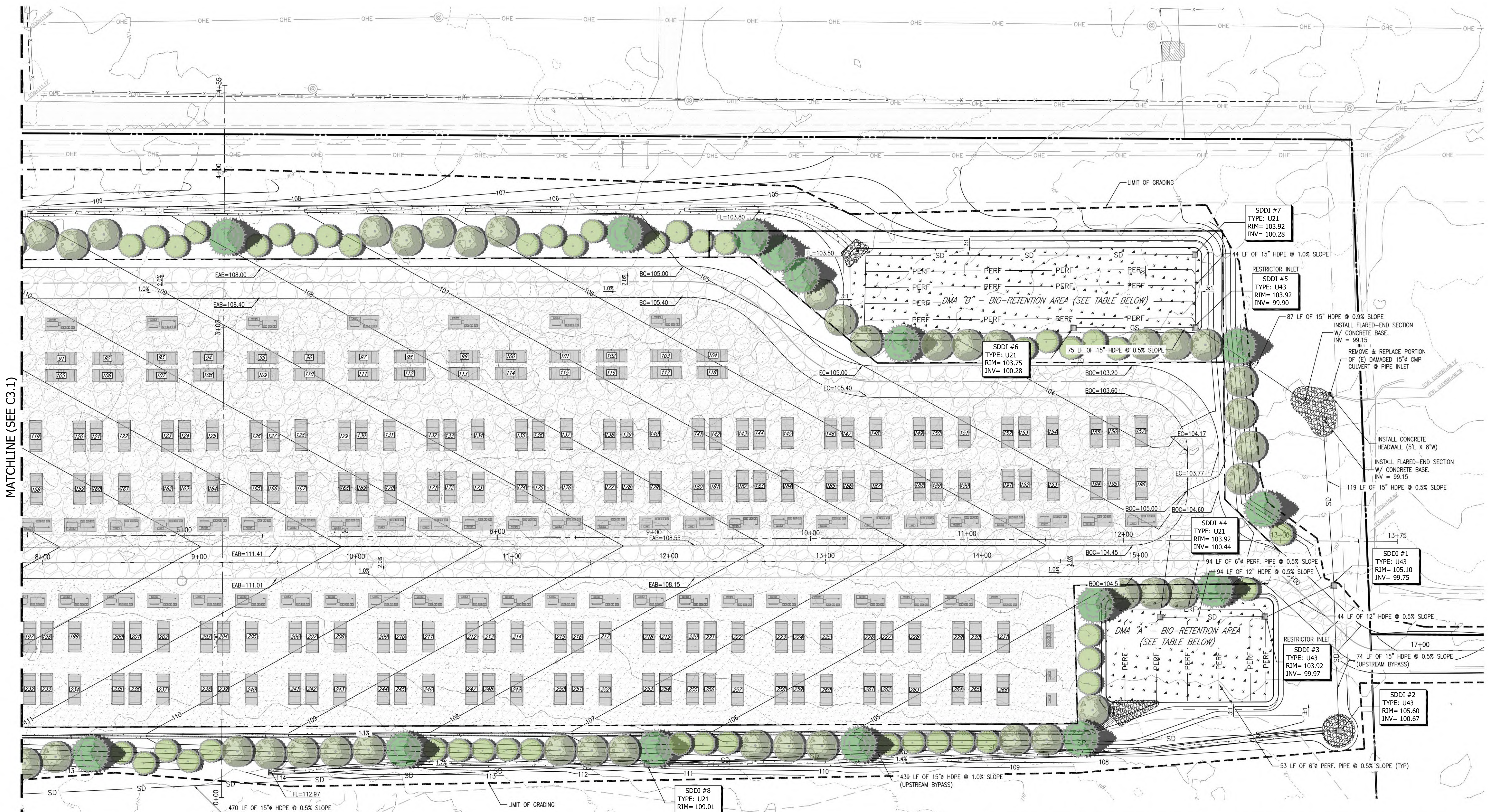
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C-3.2
GRADING AND DRAINAGE



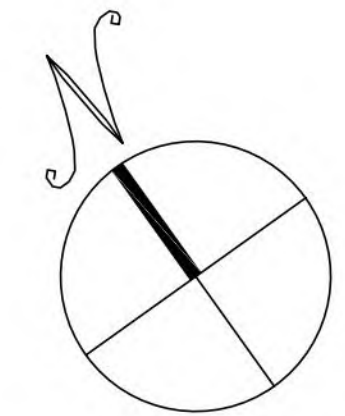
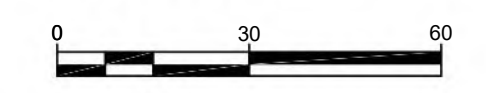
MATCHLINE (SEE C3.1)

BMP "A" - Bio-Retention Area Data	
Area (Sq. Ft.)	= 7069.00
Soil Media Elevation	= 103.00
Overflow Inlet Rim Elevation	= 103.75
Excavated Volume below T/Soil Media	= 28276.00
Void Space below Media(40% of Exc. Volume)	= 11310.40
Freeboard Height (in)	= 8.00
Freeboard Volume (cu.ft.)	= 4712.67
Total Volume for Stormwater Mitigation	= 16023.07
Bottom of Trench Elevation	= 99.00

BMP "B" - Bio-Retention Area Data	
Area (Sq. Ft.)	= 12154.00
Soil Media Elevation	= 103.25
Overflow Inlet Rim Elevation	= 103.75
Excavated Volume below T/Soil Media	= 48616.00
Void Space below Media(40% of Exc. Volume)	= 19446.40
Freeboard Height (in)	= 8.00
Freeboard Volume (cu.ft.)	= 12154.00
Total Volume for Stormwater Mitigation	= 31600.40
Bottom of Trench Elevation	= 99.25

GRADING AND DRAINAGE

SCALE: 1"=30'



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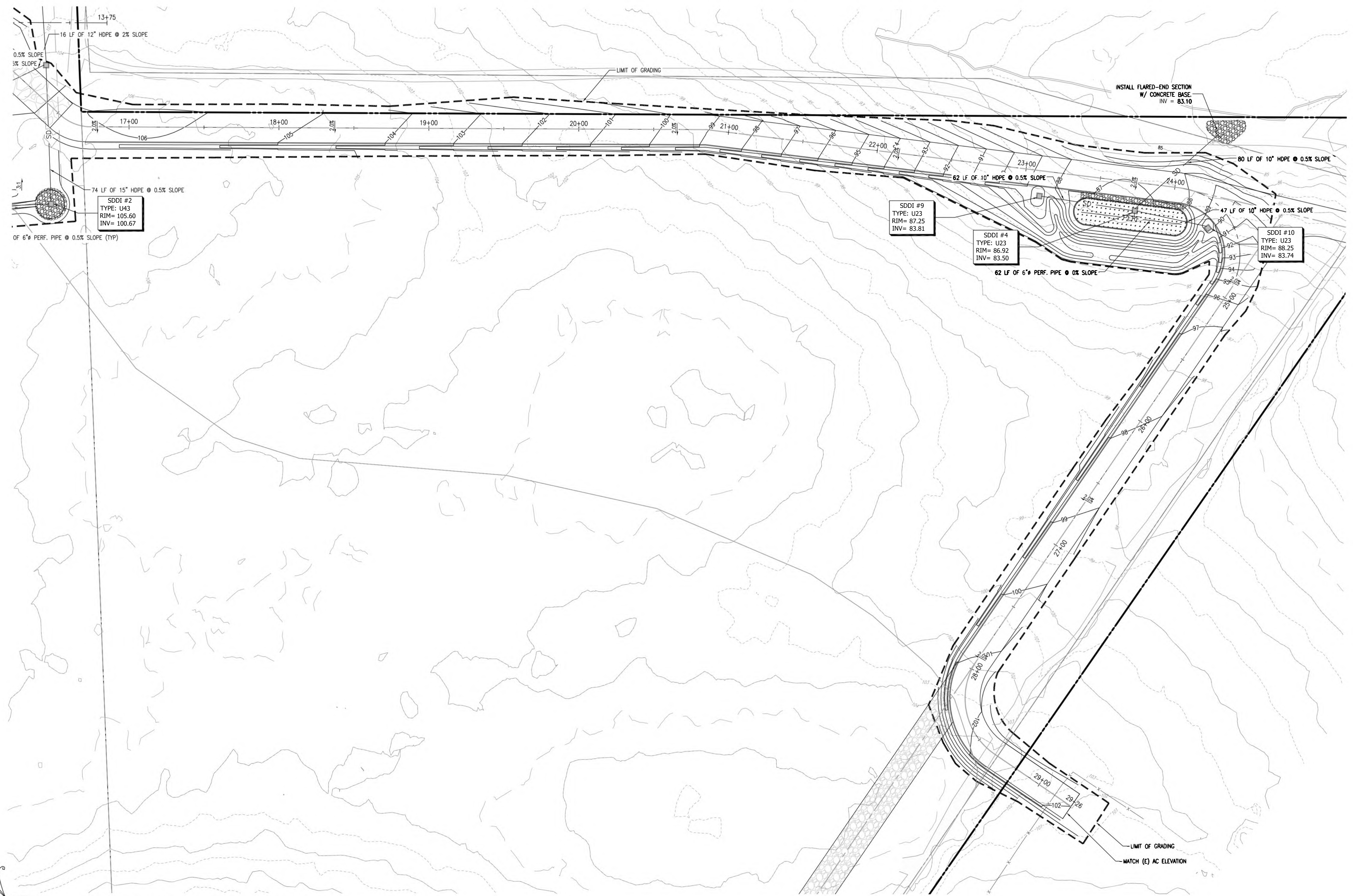
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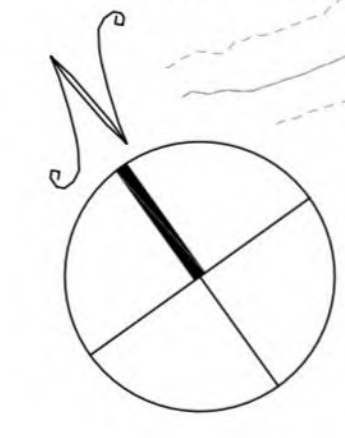
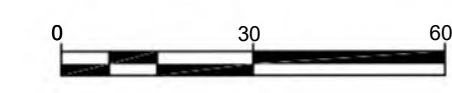
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C-3.3
 GRADING AND DRAINAGE



GRADING AND DRAINAGE

SCALE: 1"=30'



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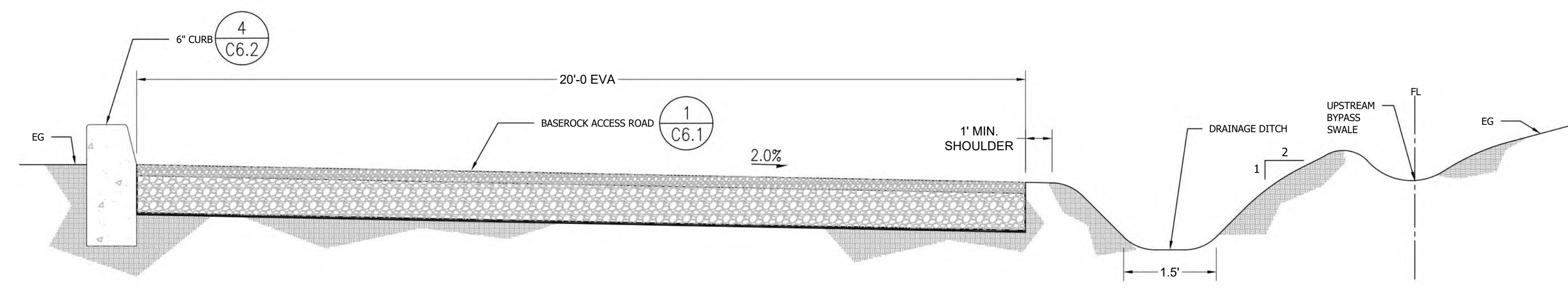
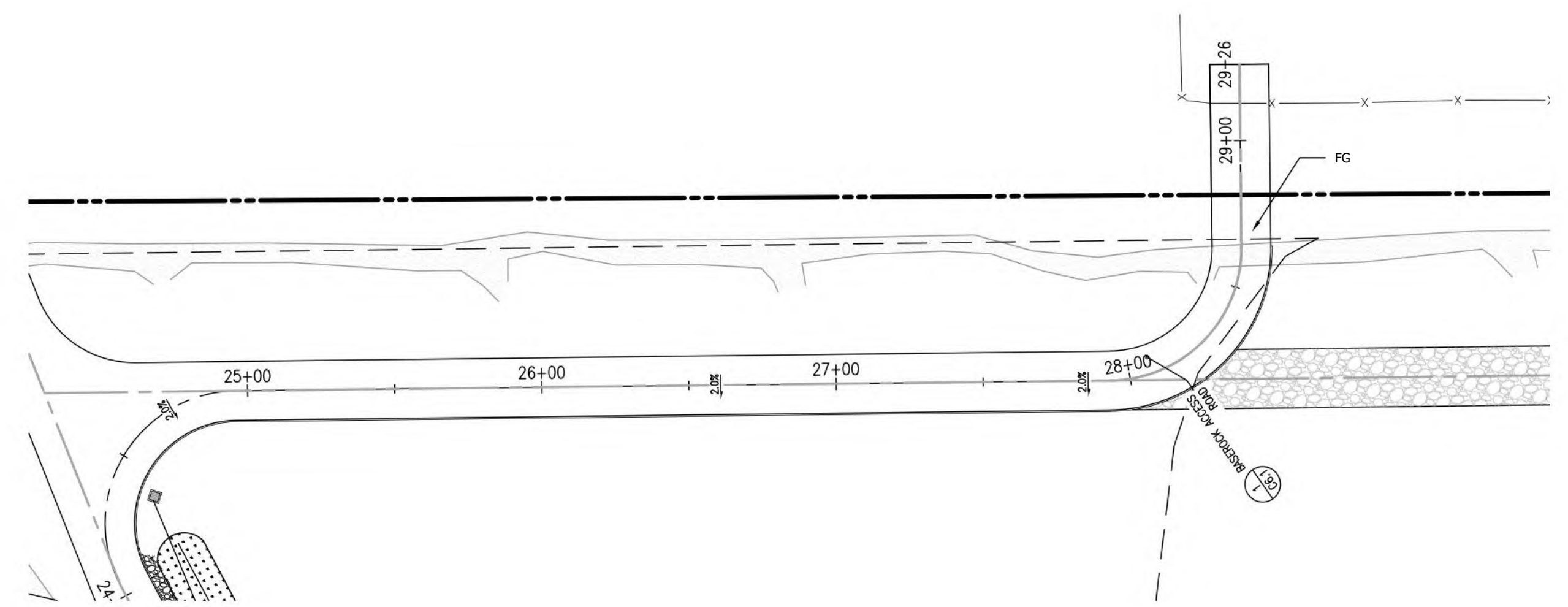
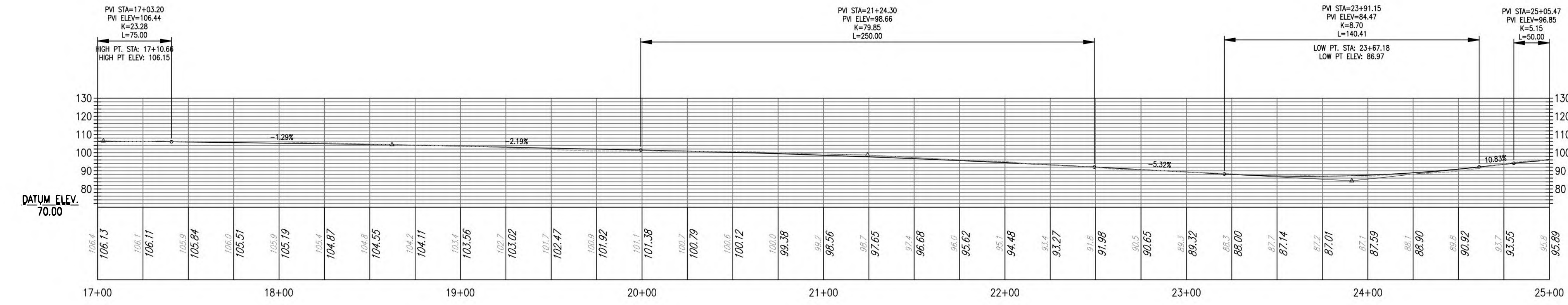
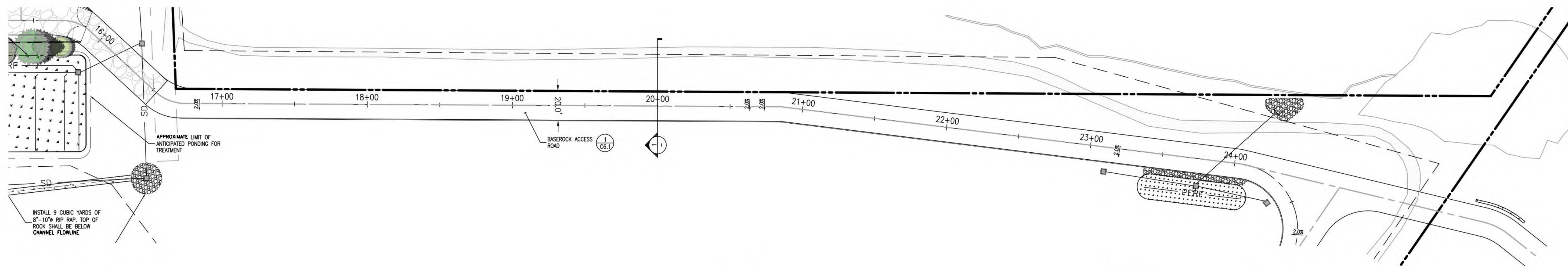
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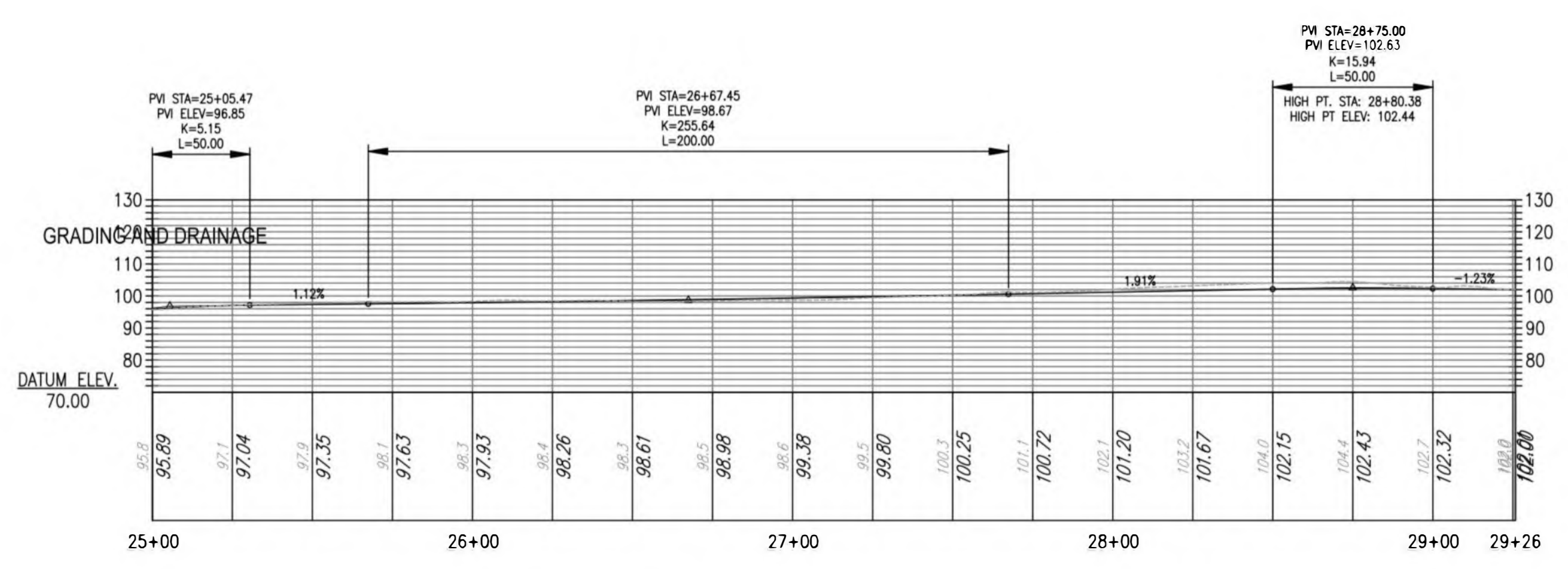
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C-3.4



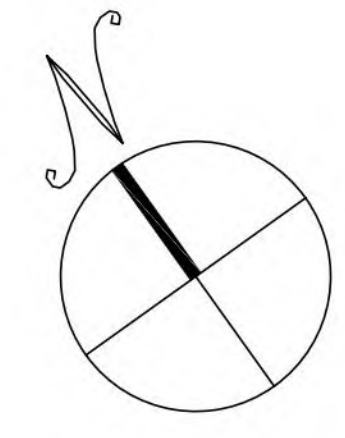
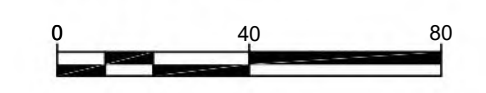
1 BASEROCK ACCESS ROAD SECTION

Scale: 1" = 2'



GRADING AND DRAINAGE

SCALE: 1" = 40'



CONCRETE PAD ELEVATIONS FOR SHEET C3.1

Container Slab ID	RG Elev. @ SLAB CENTER	Northerly Corner EC Elevation	Easterly Corner EC Elevation	Southerly Corner EC Elevation	Westerly Corner EC Elevation
1	114.16	114.37	114.17	114.29	114.49
2	113.83	114.04	113.84	113.96	114.16
3	113.45	113.66	113.46	113.58	113.78
4	113.13	113.34	113.14	113.26	113.46
5	112.75	112.96	112.76	112.88	113.08
6	112.4	112.61	112.41	112.53	112.73
7	112.03	112.24	112.04	112.16	112.36
8	111.69	111.90	111.70	111.82	112.02
9	111.31	111.52	111.32	111.44	111.64
10	110.96	111.17	110.97	111.09	111.29
11	114.39	114.60	114.40	114.52	114.72
12	114.04	114.25	114.05	114.17	114.37
13	113.67	113.88	113.68	113.80	114.00
14	113.34	113.55	113.35	113.47	113.67
15	112.95	113.16	112.96	113.08	113.28
16	112.63	112.84	112.64	112.76	112.96
17	112.24	112.45	112.25	112.37	112.57
18	111.9	112.11	111.91	112.03	112.23
19	111.52	111.73	111.53	111.65	111.85
20	111.19	111.40	111.20	111.32	111.52
21	115.23	115.29	115.21	115.51	115.59
22	115.1	115.16	115.08	115.38	115.46
23	114.9	114.96	114.88	115.18	115.26
24	114.59	114.65	114.57	114.87	114.95
25	114.47	114.53	114.45	114.75	114.83
26	114.26	114.32	114.24	114.54	114.62
27	113.96	114.02	113.94	114.24	114.32
28	113.84	113.90	113.82	114.12	114.20
29	113.63	113.69	113.61	113.91	113.99
30	113.33	113.39	113.31	113.61	113.69
31	113.25	113.31	113.23	113.53	113.61
32	113.01	113.07	112.99	113.29	113.37
33	112.71	112.77	112.69	112.99	113.07
34	112.59	112.65	112.57	112.87	112.95
35	112.38	112.44	112.36	112.66	112.74
36	112.08	112.14	112.06	112.36	112.44
37	111.95	112.01	111.93	112.23	112.31
38	115.89	115.95	115.87	116.17	116.25
39	115.77	115.83	115.75	116.05	116.13
40	115.57	115.63	115.55	115.85	115.93
41	115.26	115.32	115.24	115.54	115.62
42	115.13	115.19	115.11	115.41	115.49
43	114.94	115.00	114.92	115.22	115.30
44	114.63	114.69	114.61	114.91	114.99
45	114.51	114.57	114.49	114.79	114.87
46	114.31	114.37	114.29	114.59	114.67
47	114	114.06	113.98	114.28	114.36
48	113.87	113.93	113.85	114.15	114.23
49	113.68	113.74	113.66	113.96	114.04
50	113.37	113.43	113.35	113.65	113.73
51	113.25	113.31	113.23	113.53	113.61
52	113.05	113.11	113.03	113.33	113.41
53	112.74	112.80	112.72	113.02	113.10
54	112.62	112.68	112.60	112.90	112.98
55	115.85	115.91	115.83	116.13	116.21
56	115.72	115.78	115.70	116.00	116.08
57	115.53	115.59	115.51	115.81	115.89
58	115.21	115.27	115.19	115.49	115.57
59	115.09	115.15	115.07	115.37	115.45
60	114.9	114.96	114.88	115.18	115.26
61	114.58	114.64	114.56	114.86	114.94
62	114.46	114.52	114.44	114.74	114.82
63	114.26	114.32	114.24	114.54	114.62
64	113.96	114.02	113.94	114.24	114.32
65	113.83	113.89	113.81	114.11	114.19
66	113.64	113.70	113.62	113.92	114.00
67	113.33	113.39	113.31	113.61	113.69
68	113.2	113.26	113.18	113.48	113.56
69	113.01	113.07	112.99	113.29	113.37
70	112.7	112.76	112.68	112.98	113.06

71	112.57	112.63	112.55	112.85	112.93
72	112.38	112.44	112.36	112.66	112.74
73	115.18	115.24	115.16	115.46	115.54
74	115.06	115.12	115.04	115.34	115.42
75	114.85	114.91	114.83	115.13	115.21
76	114.55	114.61	114.53	114.83	114.91
77	114.43	114.49	114.41	114.71	114.79
78	114.22	114.28	114.20	114.50	114.58
79	113.92	113.98	113.90	114.20	114.28
80	113.8	113.86	113.78	114.08	114.16
81	113.59	113.65	113.57	113.87	113.95
82	113.29	113.35	113.27	113.57	113.65
83	113.17	113.23	113.15	113.45	113.53
84	112.97	113.03	112.95	113.25	113.33
85	112.66	112.72	112.64	112.94	113.02
86	112.54	112.60	112.52	112.82	112.90
87	112.33	112.39	112.31	112.61	112.69
88	112.03	112.09	112.01	112.31	112.39
89	111.91	112.19	112.11	111.81	111.89
90	111.71	111.99	111.91	111.61	111.69

CONCRETE PAD ELEVATIONS FOR SHEET C3.2

Container Slab ID	RG Elev. @ SLAB CENTER	Northerly Corner EC Elevation	Easterly Corner EC Elevation	Southerly Corner EC Elevation	Westerly Corner EC Elevation
91	110.58	110.79	110.59	110.71	110.91
92	110.25	110.46	110.26	110.38	110.58
93	109.86	110.07	109.87	109.99	110.19
94	109.53	109.74	109.54	109.66	109.86
95	109.14	109.35	109.15	109.27	109.47
96	108.81	109.02	108.82	108.94	109.14
97	108.42	108.63	108.43	108.55	108.75
98	108.09	108.30	108.10	108.22	108.42
99	107.7	107.91	107.71	107.83	108.03
100	107.37	107.58	107.38	107.50	107.70
101	106.98	107.19	106.99	107.11	107.31
102	106.65	106.86	106.66	106.78	106.98
103	106.27	106.48	106.28	106.40	106.60
104	105.93	106.14	105.94	106.06	106.26
105	110.8	111.01	110.81	110.93	111.13
106	110.47	110.68	110.48	110.60	110.80
107	110.08	110.29	110.09	110.21	110.41
108	109.75	109.96	109.76	109.88	110.08
109	109.36	109.57	109.37	109.49	109.69
110	109.03	109.24	109.04	109.16	109.36
111	108.64	108.85	108.65	108.77	108.97
112	108.31	108.52	108.32	108.44	108.64
113	107.92	108.13	107.93	108.05	108.25
114	107.59	107.80	107.60	107.72	107.92
115	107.2	107.41	107.21	107.33	107.53
116	106.87	107.08	106.88	107.00	107.20
117	106.48	106.69	106.49	106.61	106.81
118	106.15	106.36	106.16	106.28	106.48
119	111.75	112.03	111.95	111.65	111.73
120	111.45	111.73	111.65	111.35	111.43
121	111.33	111.61	111.53	111.23	111.31
122	111.12	111.40	111.32	111.02	111.10
123	110.82	111.10	111.02	110.72	110.80
124	110.69	110.97	110.89	110.59	110.67
125	110.49	110.77	110.69	110.39	110.47
126	110.19	110.47	110.39	110.09	110.17
127	110.06	110.34	110.26	109.96	110.04
128	109.86	110.14	110.06	109.76	109.84
129	109.56	109.84	109.76	109.46	109.54
130	109.44	109.72	109.64	109.34	109.42
131	109.23	109.51	109.43	109.13	109.21
132	108.93	109.21	109.13	108.83	108.91
133	108.81	108.87	108.79	108.99	109.17
134	108.6	108.66	108.58	108.88	108.96
135	108.3	108.36	108.28	108.58	108.66

136	108.17	108.23	108.15	108.45	108.53
137	107.97	108.03	107.95	108.25	108.33
138	107.67	107.73	107.65	107.95	108.03
139	107.55	107.61	107.53	107.83	107.91
140	107.34	107.40	107.32	107.62	107.70
141	107.04	107.10	107.02	107.32	107.40
142	106.92	106.98	106.90	107.20	107.28
143	106.72	106.78	106.70	107.00	107.08
144	106.6	106.66	106.58	106.88	106.96
145	106.4	106.46	106.38	106.68	106.76
146	106.09	106.15	106.07	106.37	106.45
147	105.97	106.03	105.95	106.25	106.33
148	105.77	105.83	105.75	106.05	106.13
149	105.47	105.53	105.45	105.75	105.83
150	105.34	105.40	105.32	105.62	105.70
151	105.13	105.19	105.11	105.41	105.49
152	104.83	104.89	104.81	105.11	105.19
153	104.71	104.77	104.69	104.99	105.07
154	104.5	104.56	104.48	104.78	104.86
155	104.19	104.25	104.17	104.47	104.55
156	104.07	104.13	104.05	104.35	104.43
157	103.97	104.03	103.95	104.25	104.33
158	112.42	112.48	112.40	112.70	112.78
159	112.11	112.17	112.09	112.39	112.47
160	111.99	112.05	111.97	112.27	112.35
161	111.8	111.86	111.78	112.08	112.16
162	111.48	111.54	111.46	111.76	111.84
163	111.36	111.42	111.34	111.64	111.72
164	111.17	111.23	111.15	111.45	111.53
165	110.85	110.91	110.83	111.13	111.21
166	110.73	110.79	110.71	111.01	111.09
167	110.53	110.59	110.51	110.81	110.89
168	110.23	110.29	110.21	110.51	110.59
169	110.1	110.16	110.08	110.38	110.46
170	109.9	109.96	109.88	110.18	110.26
171	109.59	109.65	109.57	109.87	109.95
172	109.47	109.53	109.45	109.75	109.83
173	109.27	109.33	109.25	109.55	109.63
174	108.96	109.02	108.94	109.24	109.32
175	108.84	108.90	108.82	109.12	109.20
176	108.65	108.71	108.63	108.93	109.01
177	108.33	108.39	108.31	108.61	108.69
178	108.21</				

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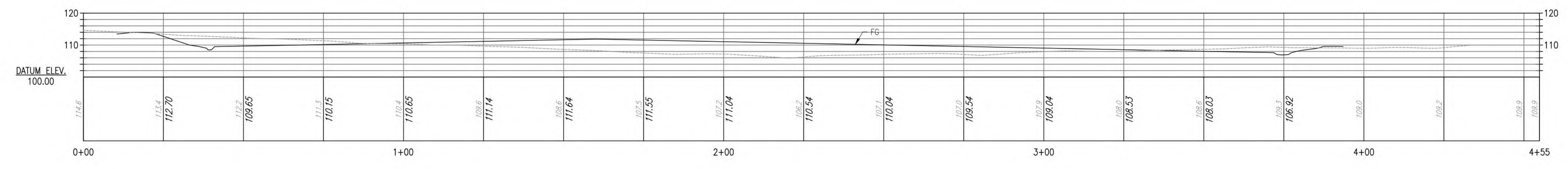
SEAHAWK ENERGY STORAGE
90 MINTO ROAD
WATSONVILLE CA, 95076

PROJECT NUMBER:
110-5227

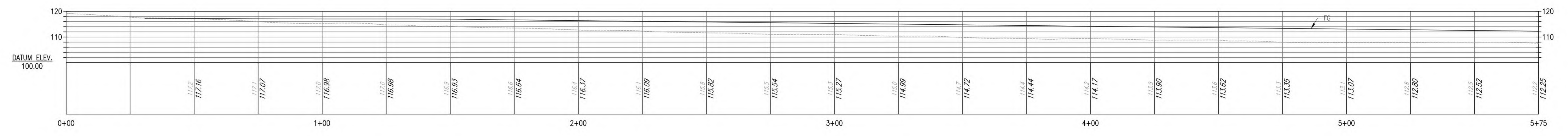
REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
				SUBSTATION/BESS UPDATE
				CUP SUBMISSION
				CIVIL UPDATE

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" x 36"

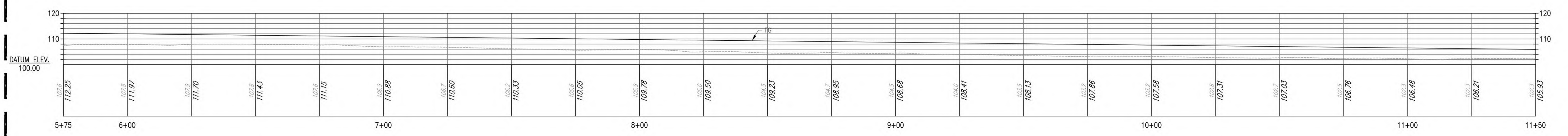
C-3.6
SITE SECTIONS



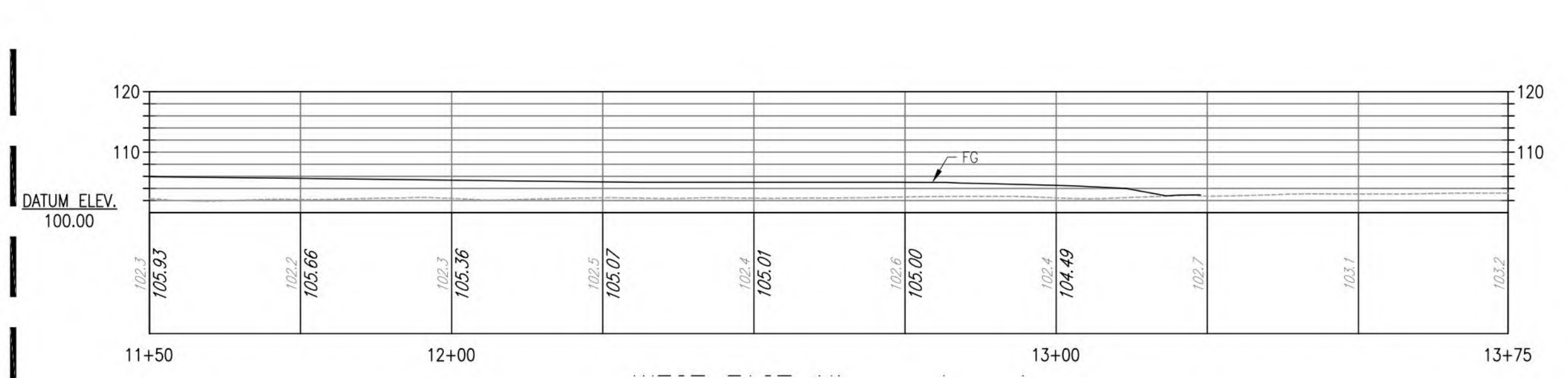
1 NORTH - SOUTH ALIGNMENT SECTION Scale: 1"=20'



2 WEST - EAST ALIGNMENT SECTION (STA. 0+00 TO 5+75) Scale: 1"=20'



3 WEST - EAST ALIGNMENT SECTION (STA. 5+75 TO 11+50) Scale: 1"=20'



4 WEST - EAST ALIGNMENT SECTION (STA. 11+50 TO 13+75) Scale: 1"=20'

MATCHLINE (SEE SECTION 2 ON THIS SHEET)

MATCHLINE (SEE SECTION 3 ON THIS SHEET)

MATCHLINE (SEE SECTION 4 ON THIS SHEET) MATCHLINE (SEE SECTION 3 ON THIS SHEET)

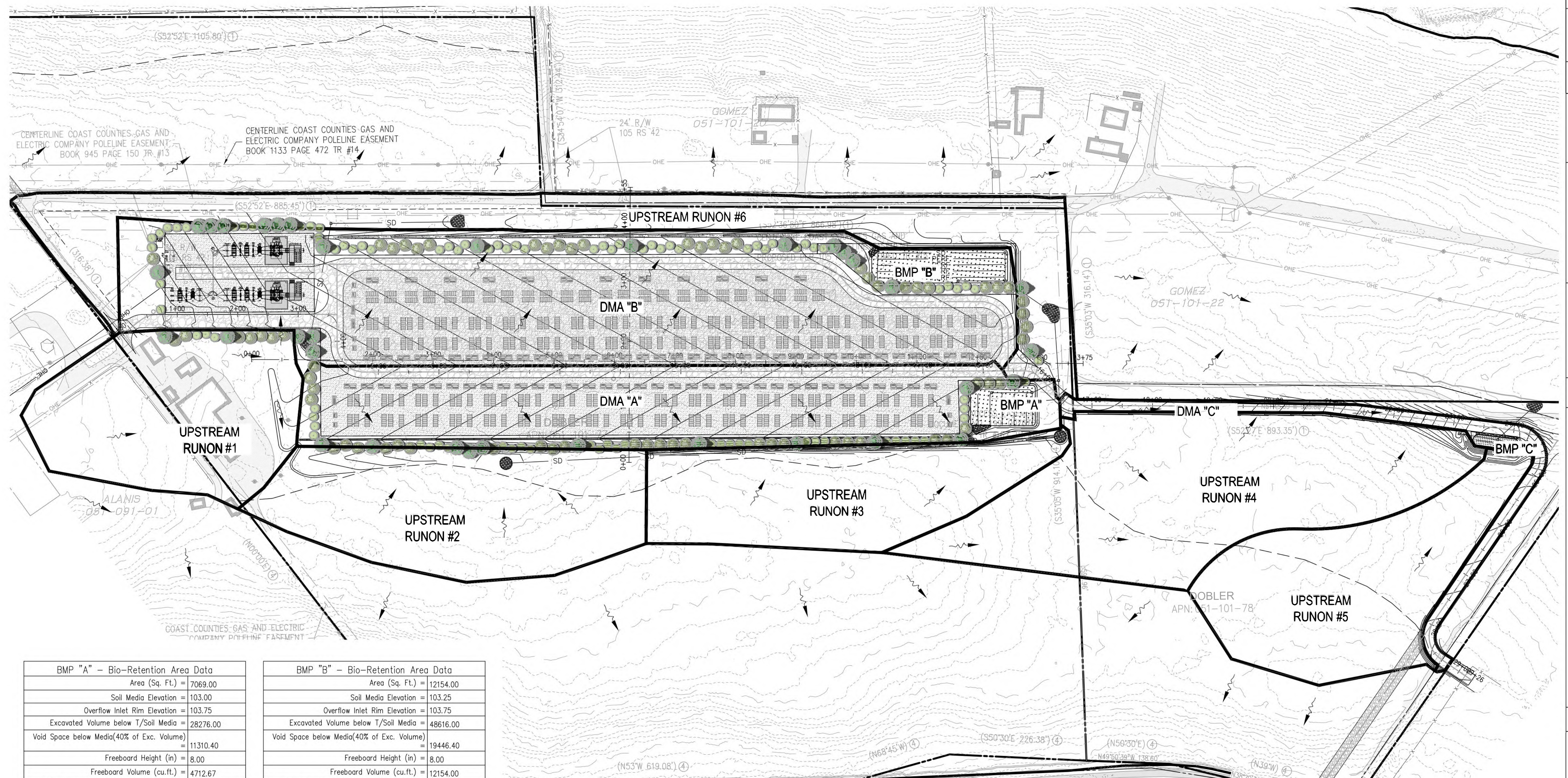
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SEAHAWK ENERGY STORAGE
 90 MINTO ROAD
 WATSONVILLE CA, 95076

PROJECT NUMBER:
 110-5227



BMP "A" - Bio-Retention Area Data

Area (Sq. Ft.)	= 7069.00
Soil Media Elevation	= 103.00
Overflow Inlet Rim Elevation	= 103.75
Excavated Volume below T/Soil Media	= 28276.00
Void Space below Media(40% of Exc. Volume)	= 11310.40
Freeboard Height (in)	= 8.00
Freeboard Volume (cu.ft.)	= 4712.67
Total Volume for Stormwater Mitigation	= 16023.07
Bottom of Trench Elevation	= 99.00

BMP "B" - Bio-Retention Area Data

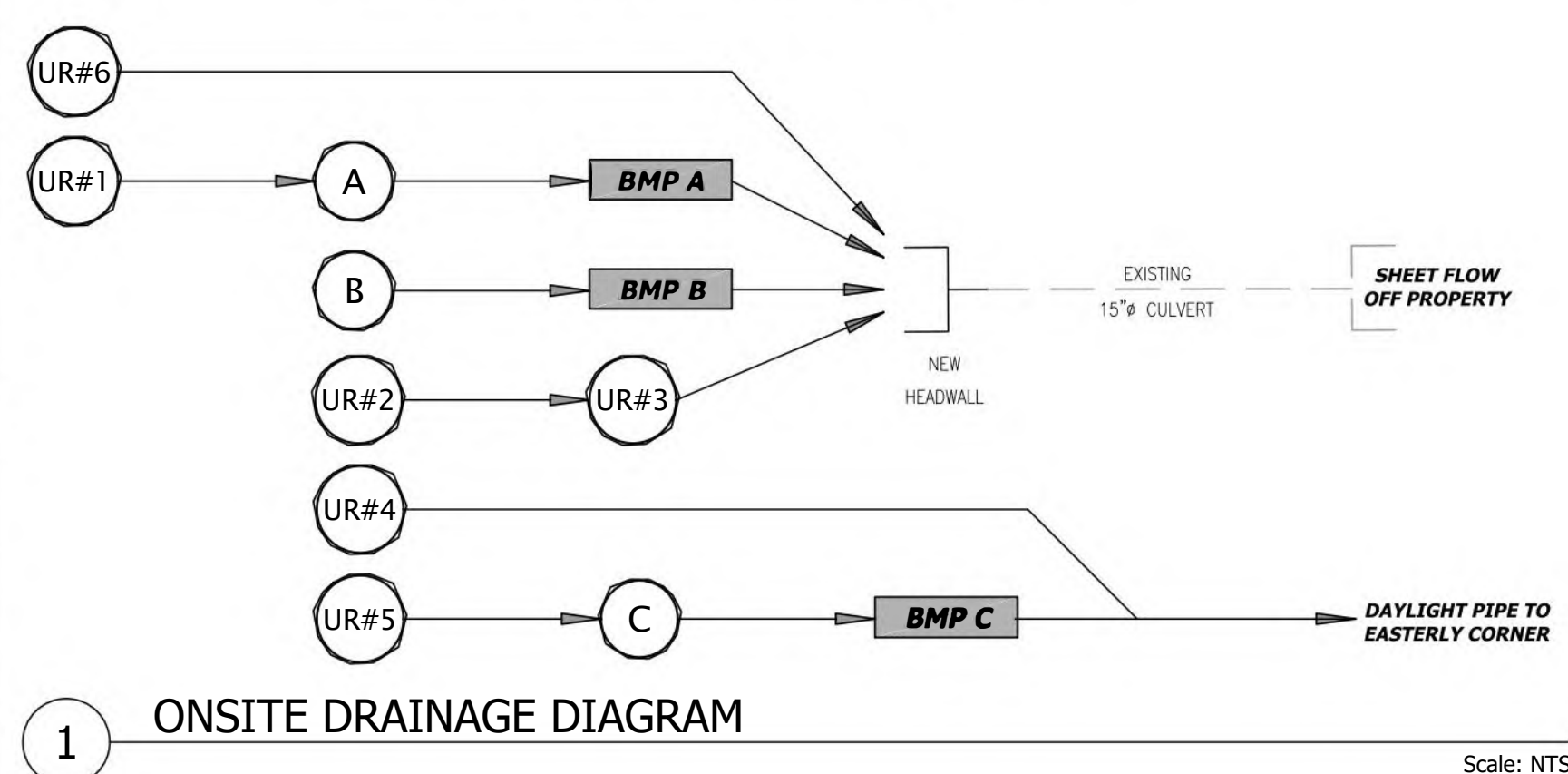
Area (Sq. Ft.)	= 12154.00
Soil Media Elevation	= 103.25
Overflow Inlet Rim Elevation	= 103.75
Excavated Volume below T/Soil Media	= 48616.00
Void Space below Media(40% of Exc. Volume)	= 19446.40
Freeboard Height (in)	= 8.00
Freeboard Volume (cu.ft.)	= 12154.00
Total Volume for Stormwater Mitigation	= 31600.40
Bottom of Trench Elevation	= 99.25

BMP "C" - Bio-Retention Area Data

Area (Sq. Ft.)	= 1250.00
Soil Media Elevation	= 86.00
Overflow Inlet Rim Elevation	= 86.50
Excavated Volume below T/Soil Media	= 5000.00
Void Space below Media(40% of Exc. Volume)	= 2000.00
Freeboard Height (in)	= 8.00
Freeboard Volume (cu.ft.)	= 1250.00
Total Volume for Stormwater Mitigation	= 3250.00
Bottom of Trench Elevation	= 82.00

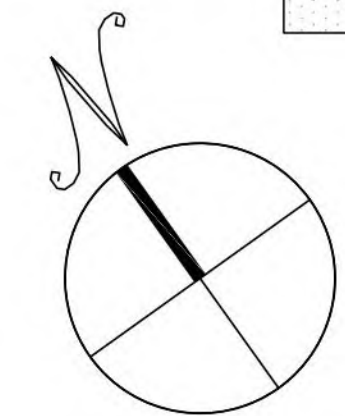
- HATCH LEGEND**
- MAIN DRIVE - COMPACTED BASEROCK
 - CONCRETE PAD
 - PEA GRAVEL WITH IMPERMEABLE LINER
 - BIORETENTION
 - RIPRAP
 - CONCRETE DRAINAGE STRUCTURE
 - EXISTING AC

	A	B	C	UR#1	UR#2	UR#3	UR#4	UR#5	UR#6	TOTAL
TOTAL AREA	164,350	310,744	27,019	104,596	119,037	98,814	169,376	108,237	143,960	1,246,133
IMPERVIOUS AREA	127,483	235,410	25,354	35,298	0	2,696	0	1,315	19,765	447,321
GRAVEL W/ IMPERMEABLE LINER	77,606	147,261	0	0	0	0	0	0	0	224,867
FIRE ACCESS - COMPACTED BASEROCK	22,206	41,989	24,760	307	0	0	0	1,315	0	90,577
AC	0	0	0	24,892	0	0	0	0	0	24,892
BUILDING	0	0	0	10,099	0	0	0	0	0	10,099
CONCRETE	27,671	46,160	594	0	0	2,696	0	0	0	77,121
*EXISTING GRAVEL ROAD	0	0	0	0	0	0	0	0	19,765	19,765
LANDSCAPE/NATURAL AREAS	36,867	75,334	1,665	69,298	119,037	96,118	169,376	106,922	124,195	798,812
*(E) GRAVEL ROAD ASSUMED 60% IMPERVIOUS										
RUNOFF COEFFICIENT	0.75	0.74	0.86	0.47	0.25	0.27	0.25	0.26	0.34	0.48
TIME OF CONCENTRATION	11	11	11	11	11	11	11	11	11	11
RAINFALL INTENSITY (10YR)	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
RUNOFF RATE (CFS)	5.264	9.798	0.987	2.085	1.264	1.124	1.798	1.186	2.074	25.579
(25 YR)	6.317	11.758	1.184	2.502	1.517	1.348	2.158	1.423	2.489	30.695
(50 YR)	7.107	13.227	1.332	2.815	1.706	1.517	2.428	1.600	2.800	34.532
(100 YR)	7.896	14.697	1.480	3.127	1.896	1.685	2.698	1.778	3.111	38.369



STORM WATER MANAGEMENT

SCALE: 1"=80'



REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
12/12/24	MRM			SUBSTATION/BESS UPDATE
12/09/24	MRM			CUP SUBMISSION
07/02/25	C2G			CIVIL UPDATE

NOT FOR CONSTRUCTION



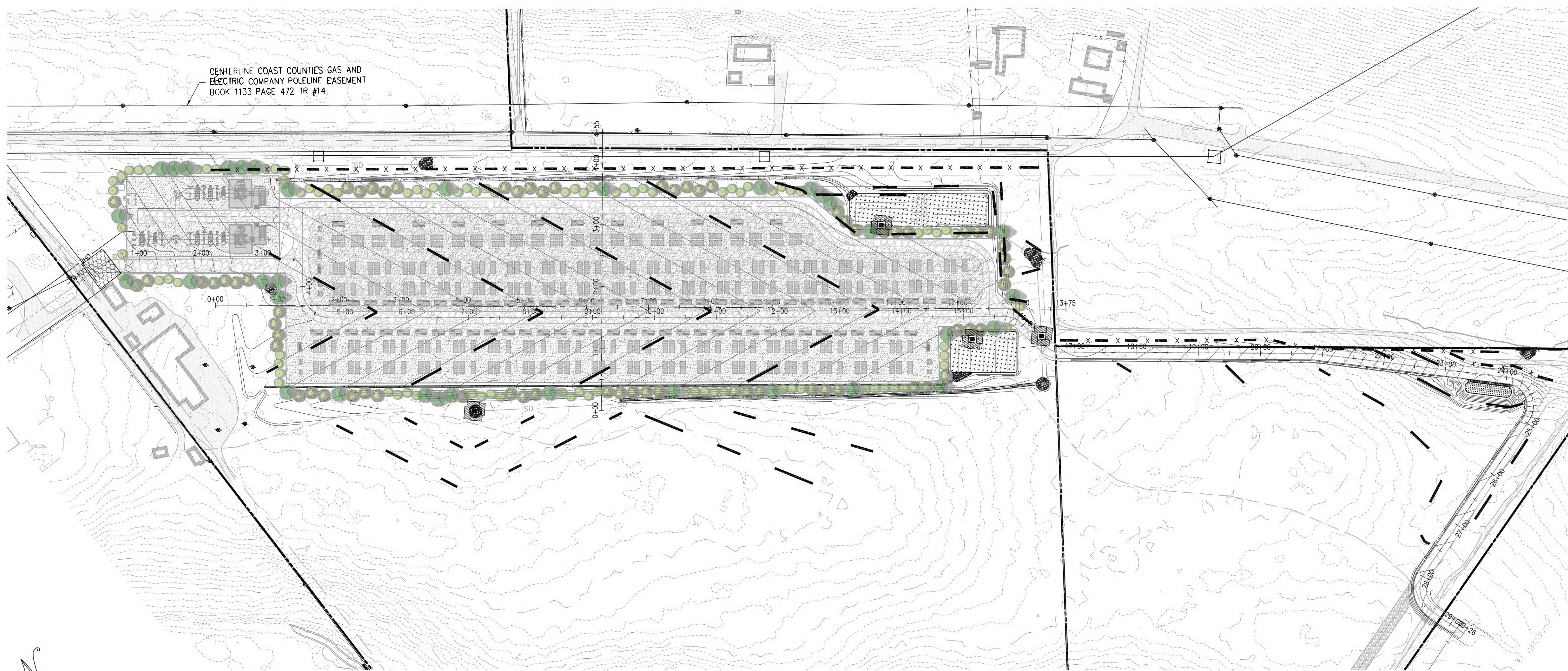
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SEAHAWK ENERGY STORAGE
90 MINTO ROAD
WATSONVILLE CA, 95076

PROJECT NUMBER:
110-5227

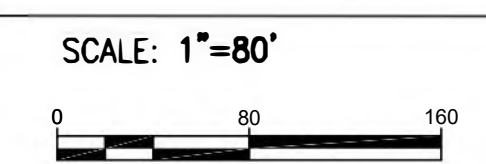
REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	12/12/24	MRM		SUBSTATION/BESS UPDATE
	12/09/24	MRM		CUP SUBMISSION
	07/02/25	C2G		CIVIL UPDATE

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" x 36"



CENTERLINE COAST COUNTIES GAS AND ELECTRIC COMPANY POLELINE EASEMENT BOOK 1133 PAGE 472 TR #14

EROSION CONTROL



EROSION CONTROL NOTES

CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs): PROJECT CONSTRUCTION AND DEMOLITION ACTIVITIES SHALL COMPLY WITH THE CITY'S STORM WATER BEST MANAGEMENT PRACTICES FOR CONSTRUCTION.

EROSION & SEDIMENT CONTROL BMPs, SUCH AS FIBER ROLLS OR WATTLES, SHALL BE INSPECTED REGULARLY DURING CONSTRUCTION AND AFTER EACH SIGNIFICANT RAIN EVENT. MAKE NEEDED REPAIRS IMMEDIATELY.

CHECK THE SIDEWALK AND STREET DAILY DURING DEMOLITION AND CONSTRUCTION FOR SOIL DRAG-OUT, AND SWEEP IF NEEDED. ROUTINELY MAINTAIN THE CONSTRUCTION ENTRANCE/EXIT TO ENSURE IT REMAINS EFFECTIVE AT PREVENTING DRAG-OUT.

STORE OPEN BAGS OF PARTICULATE, GRANULAR OR POWDER MATERIALS (SUCH AS PLASTER OR CONCRETE) INDOORS IF POSSIBLE. IF STORED OUTSIDE, THEY MUST BE KEPT COVERED OR CLOSED, AND DURING THE RAINY SEASON KEPT WITHIN SECONDARY CONTAINMENT.

DUMPSTER LIDS MUST BE KEPT CLOSED AND SECURED WHEN NOT IN USE.

SOIL & MATERIAL STOCKPILES: SOIL AND MATERIALS STOCKPILES MUST BE PROTECTED FROM RUNOFF/RUN-ON, WHEN NOT IN USE, BY BMPs SUCH AS SURROUNDED BY BERRS, FIBER ROLLS OR WATTLES AND COVERED WITH SHEETING OR TARPS. SOIL STOCKPILES SHOULD BE STORED ON A FLAT AREA.

DURING THE RAINY SEASON, ENSURE THAT SEDIMENT CONTROL MEASURES ARE IN PLACE AND EFFECTIVE AT PREVENTING SEDIMENT FROM LEAVING THE SITE.

PERVIOUS PAVERS OR PAVEMENT: PROTECT PERVIOUS PAVERS OR PAVEMENT, ONCE INSTALLED, SO THAT ANY REMAINING CONSTRUCTION ACTIVITIES WILL NOT DAMAGE OR CLOG THE PAVERS/PAVEMENT.

CONSTRUCTION ENTRANCE/EXIT: INSTALL THE STABILIZED CONSTRUCTION ENTRANCE/EXIT AT THE PROJECT'S COMMENCEMENT.

PORTA-POTTIES: DO NOT LOCATE PORTA-POTTIES ADJACENT TO WATERCOURSES OR STORM DRAIN INLETS.

LEGEND

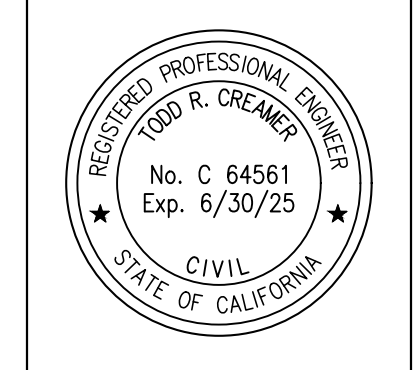
- X - X - SILT FENCE (4/25.7)
- [Square with X] INLET SEDIMENT BARRIER
- - - FIBER ROLL (3/25.7)
- [Wavy line] DIRECTION OF FLOW WITH STORM DRAIN INSTALLED
- [Grid pattern] STABILIZED CONSTRUCTION ENTRANCE/EXIT (1/25.7)
- [Horizontal line] SEDIMENT CATCHER (SAND BAGS) (2/25.7)

SWPPP MANAGER TO MARK KNOWN LOCATIONS

- [Cross-hatch pattern] MATERIALS & EQUIPMENT STORAGE AREA
- [Diagonal lines] SANITARY FACILITY
- [Square with C] CONCRETE/WASTE WASHOUT

NOTE: SEE SHEET C5.2 FOR BMP NOTES AND DETAILS

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SEAHAWK ENERGY STORAGE
 90 MINTO ROAD
 WATSONVILLE CA, 95076

PROJECT NUMBER:
110-5227

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	12/12/24	MRM		SUBSTANTIATION/BESS UPDATE
	17/09/24	MRM		CUP SUBMISSION
	07/02/25	C/C		CIVIL UPDATE

EROSION CONTROL BMP'S

- ALL CONSTRUCTION SITES**
 DELINEATE CLEARING LIMITS, SENSITIVE OR CRITICAL AREAS, TREES, DRAINAGE COURSES AND BUFFER ZONES TO PREVENT EXCESSIVE OR UNNECESSARY DISTURBANCE AND EXPOSURE OF SOIL.
1. IDENTIFY ALL STORM DRAINS, DRAINAGE SWALES AND CREEKS LOCATED NEAR THE CONSTRUCTION SITE AND MAKE SURE ALL SUBCONTRACTORS ARE AWARE OF THEIR LOCATIONS TO PREVENT POLLUTANTS FROM ENTERING THEM.
 2. PRESERVE EXISTING VEGETATION, WHERE REQUIRED AND WHEN FEASIBLE, TO THE MAXIMUM EXTENT PRACTICABLE.
 3. PHASE GRADING OPERATIONS, TO THE EXTENT POSSIBLE, TO LIMIT AREAS OF DISTURBANCE AND TIME OF EXPOSURE.
 4. AVOID AND/OR MINIMIZE IMPACTS OF EXCAVATION AND GRADING DURING WET WEATHER AND IMMEDIATELY PRECEDING EXPECTED WET WEATHER.
 5. MINIMIZE CUTS AND FILLS.
 6. IMPLEMENT MEASURES TO MINIMIZE EROSION, MANAGE STORM WATER RUNOFF, AND PREVENT POLLUTANTS FROM CONSTRUCTION ACTIVITIES FROM ENTERING STORM DRAINS.
 7. ALIGN TEMPORARY AND PERMANENT ROADS AND DRIVEWAYS ALONG SLOPE CONTOURS.
 8. WASH VEHICLES AT AN APPROPRIATE OFF-SITE FACILITY. IF EQUIPMENT MUST BE WASHED ON-SITE, USE WASH DOWN AREAS DEVELOPED FOR SPECIFIC SITE REQUIREMENTS AND APPROVED BY THE CITY REPRESENTATIVE. DO NOT USE SOAPS, SOLVENTS, DEGREASERS, OR STEAM CLEANING EQUIPMENT, AND PREVENT WASH WATER FROM ENTERING STORM DRAINS.

- MINIMIZE SOIL MOVEMENT**
1. STOCKPILED SOIL AND MATERIALS SHOULD BE COVERED AND STABILIZED WITH TARPS, GEOTEXTILE FABRIC, HYDROSEEDING AND/OR EROSION CONTROL BLANKETS.
 2. CREATE A BERM AND/OR INSTALL SILT FENCING AROUND STOCKPILED MATERIALS TO PREVENT STORM WATER RUNOFF FROM TRANSPORTING SEDIMENT OFFSITE.
 3. USE STANDARD EROSION CONTROL SEEDING, PLANTING, MULCHING, GEOTEXTILE FABRIC AND/OR EROSION CONTROL BLANKETS TO STABILIZE DISTURBED SOIL AND REDUCE THE POTENTIAL FOR EROSION.
 4. USE OTHER SOIL STABILIZERS AS APPROVED BY THE CITY OF CAPITOLA.

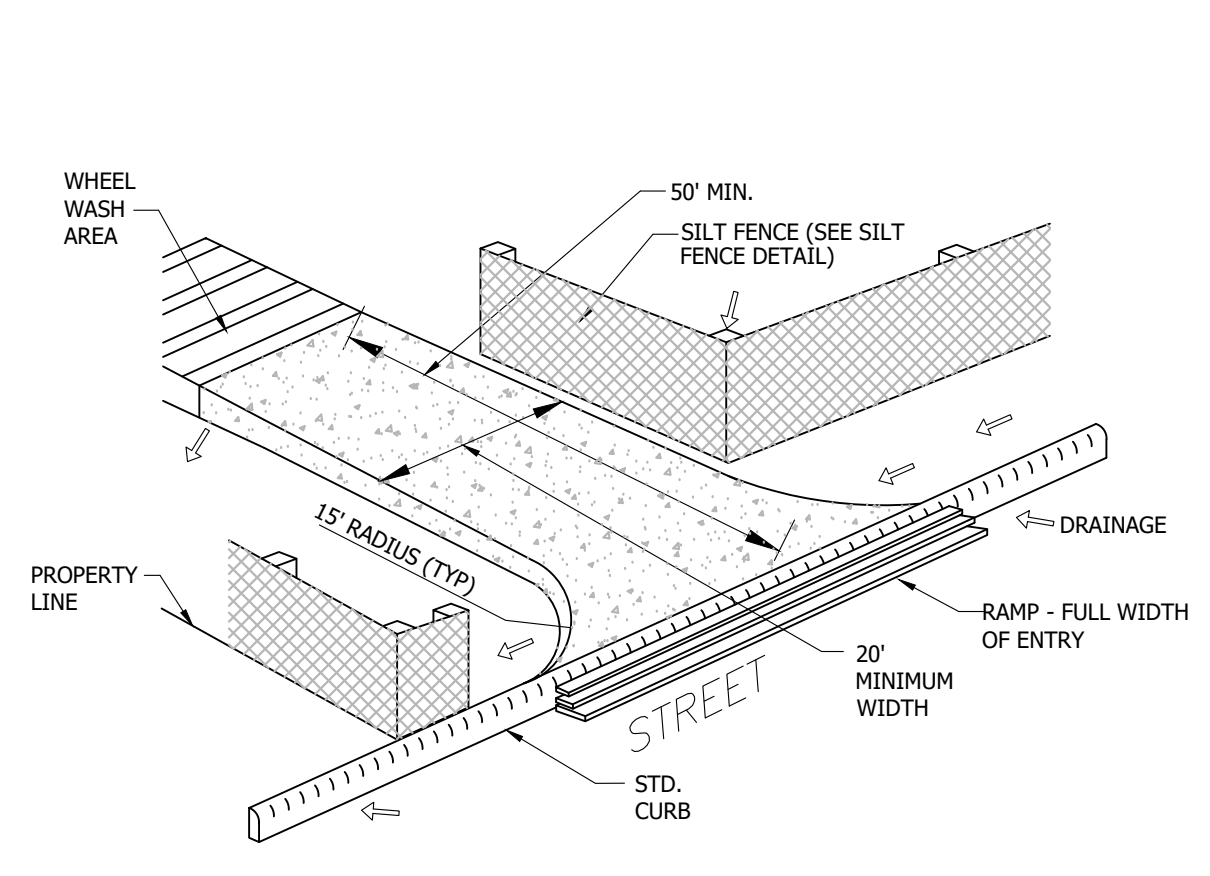
- STRUCTURES TO CONTROL AND CONVEY RUNOFF**
1. CONVEY RUNOFF BY USE OF EARTH DIKES, DRAINAGE SWALES AND/OR DITCHES WHEN FEASIBLE.
 2. USE SLOPE DRAINS TO COLLECT AND CONVEY WATER FOR DISCHARGE BELOW SLOPES WHEN FEASIBLE.
 3. USE VELOCITY DISSIPATION DEVICES, FLARED CULVERT END SECTIONS AND/OR CHECK DAMS TO REDUCE RUNOFF VELOCITY AND MITIGATE EROSION WHEN FEASIBLE.

- CAPTURE SEDIMENT**
1. USE TERRACING, RIPRAP, SAND BAGS, ROCKS, APPROVED TEMPORARY VEGETATION AND/OR OTHER APPROVED BMP'S ON SLOPES TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENTS. DO NOT USE ASPHALT RUBBLE OR OTHER DEMOLITION DEBRIS FOR THIS PURPOSE.
 2. PROTECT STORM DRAIN INLETS FROM SEDIMENT-LADEN RUNOFF. STORM DRAIN INLET PROTECTION DEVICES INCLUDE GRAVEL BAGS, FILTER FABRIC FENCES AND BLOCK AND GRAVEL FILTERS.

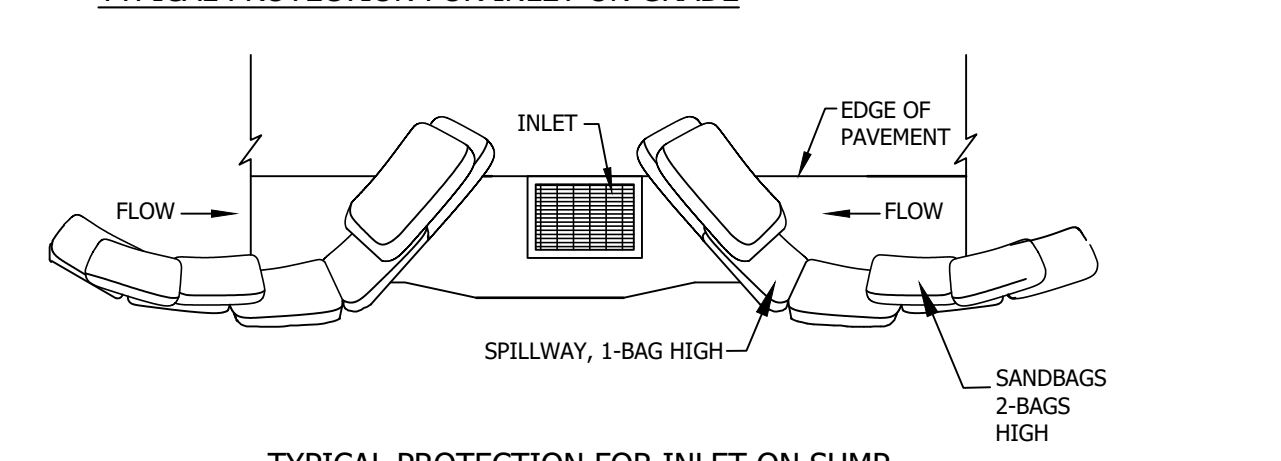
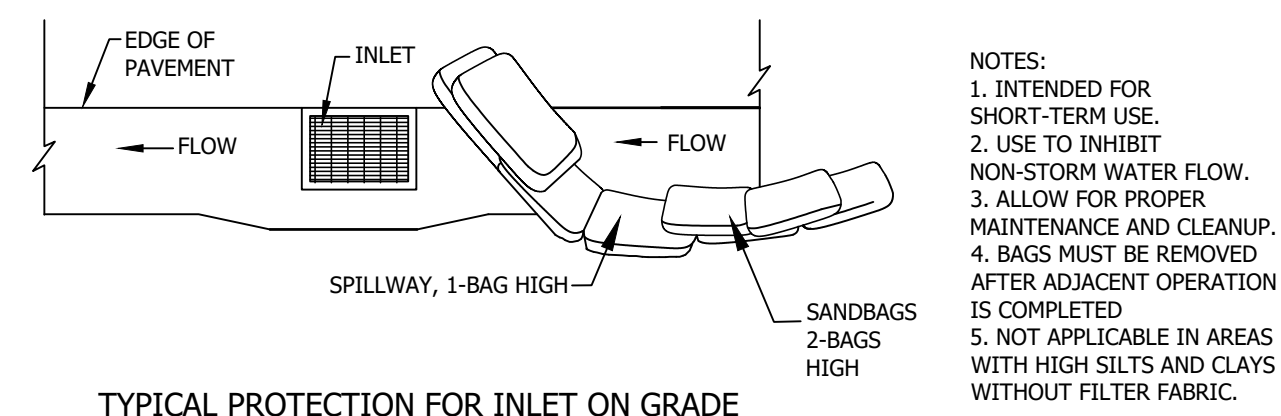
- OTHER RUNOFF CONTROLS**
1. TEMPORARY SEDIMENT BASIN
 2. SEDIMENT TRAP
 3. BRUSH OR ROCK FILTER
 4. SILT FENCE
 5. SAND OR GRAVEL BAG BARRIER

EROSION CONTROL NOTE

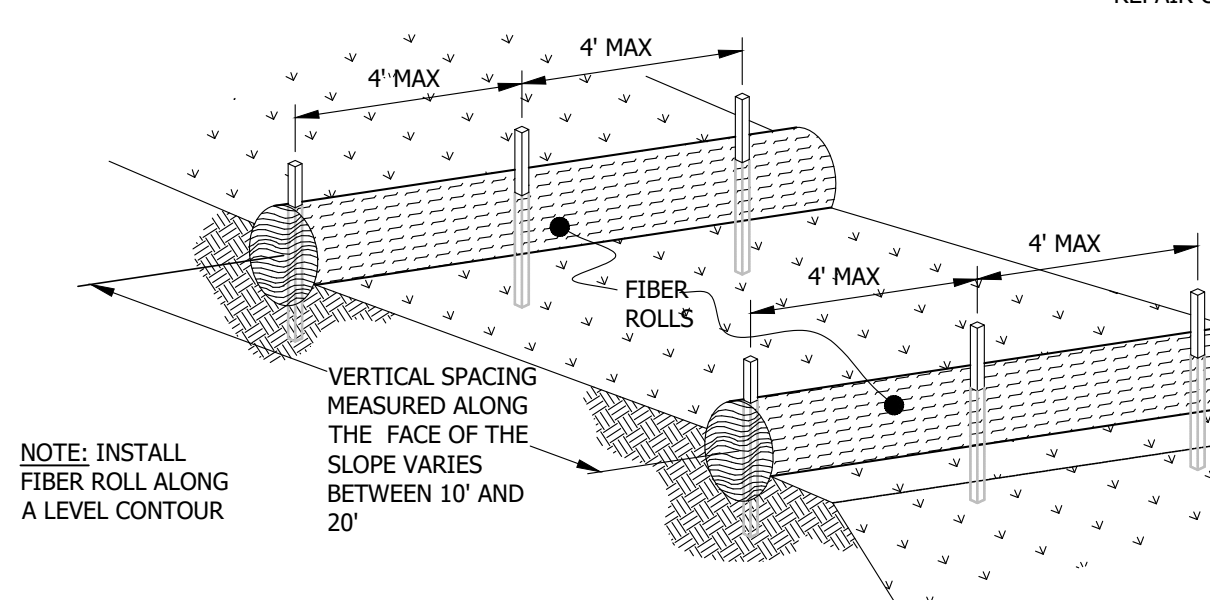
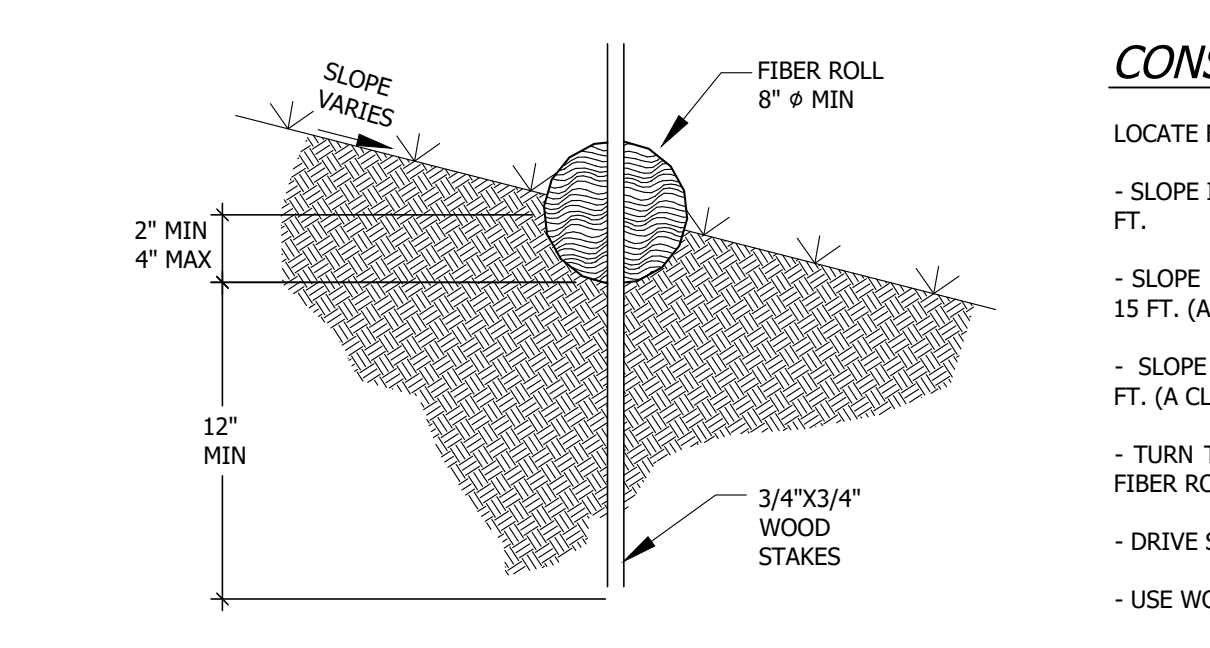
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN EROSION CONTROL MEASURES AS REQUIRED THROUGHOUT THE LIFE OF THE PROJECT IN CONFORMANCE WITH THE CITY OF SCOTTS VALLEY AND THE ASSOCIATION OF BAY AREA GOVERNMENTS
2. CONTRACTOR TO PROVIDE BACK-UP EROSION PREVENTION MEASURES (SOIL STABILIZATION) WITH SEDIMENT CONTROL MEASURES SUCH AS STRAW WATTLES, SILT FENCE, GRAVEL INLET FILTERS, AND/OR SEDIMENT TRAPS OR BASINS. ENSURE CONTROL MEASURES ARE ADEQUATE, IN PLACE, AND IN OPERABLE CONDITIONS. SEDIMENT CONTROLS, INCLUDING INLET PROTECTION, ARE NECESSARY BUT SHOULD BE A SECONDARY DEFENSE BEHIND GOOD EROSION CONTROL MEASURES.
3. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED THROUGHOUT THE SEASON. REPLACEMENT SUPPLIES SHOULD BE KEPT ON SITE.
4. SITE INSPECTIONS SHALL BE CONDUCTED BEFORE AND AFTER EACH STORM EVENT, AND EVERY 24 HOURS FOR EXTENDED STORM EVENTS, TO IDENTIFY AREAS THAT CONTRIBUTE TO EROSION AND SEDIMENT PROBLEMS OR ANY OTHER POLLUTANT DISCHARGES. IF ADDITIONAL MEASURES ARE NEEDED, REVISE THE EROSION CONTROL PLAN AND IMPLEMENT THE MEASURES IMMEDIATELY. DOCUMENT ALL INSPECTION FINDINGS AND ACTIONS TAKEN.
5. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES DURING CONSTRUCTION FOR CONTROL OF STORM WATER RUNOFF (E.G. GRAVEL BAGS AT CATCH BASIN INLETS).



1 ROCKED CONSTRUCTION ENTRANCE
 Scale: NTS

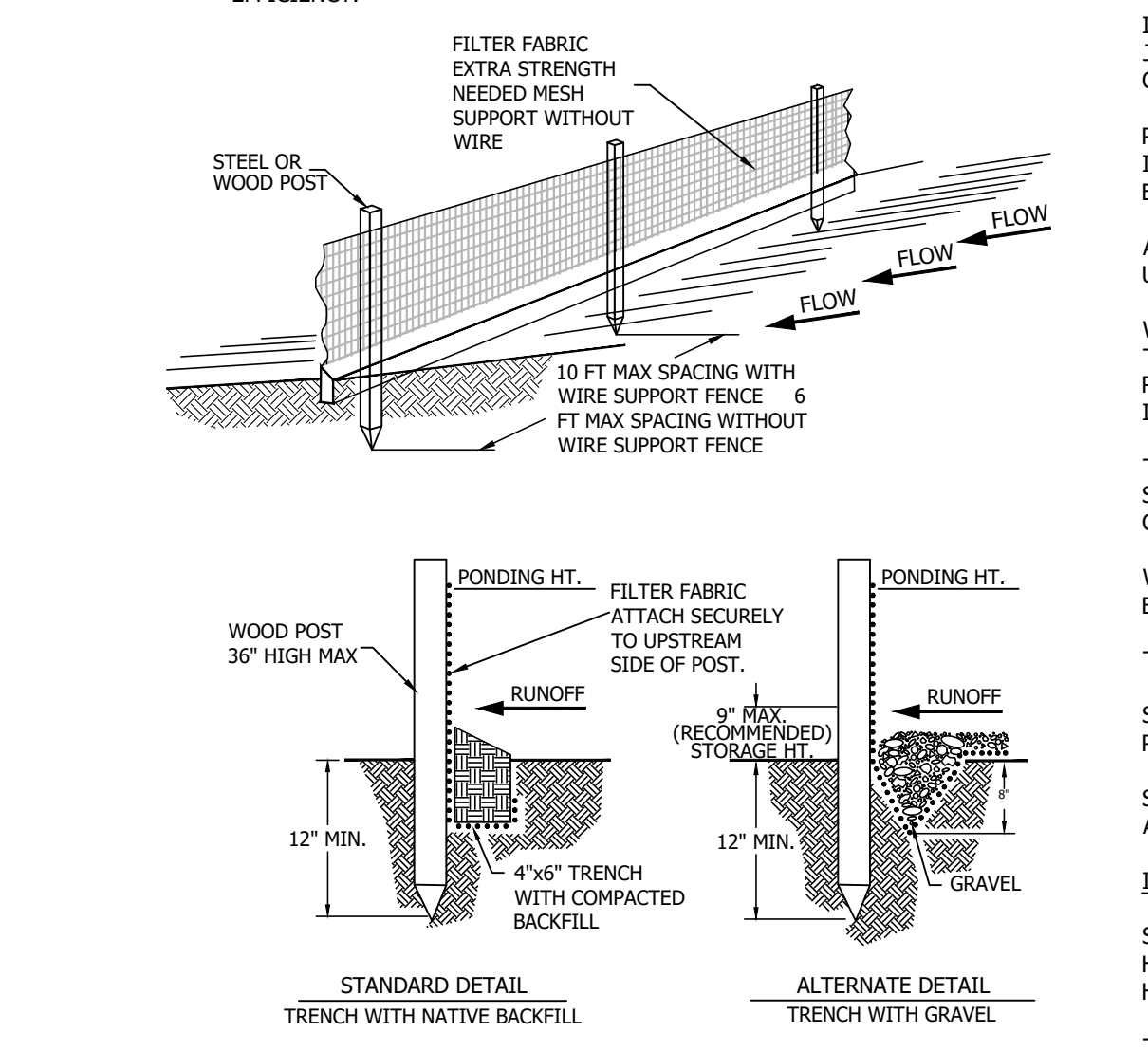


2 INLET PROTECTION DETAIL
 Scale: NTS



3 FIBER ROLLS
 Scale: NTS

- NOTE:**
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
 2. REMOVED SEDIMENT SHALL BE DEPOSITED AT AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 3. SILT FENCE SHALL BE REPLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.



4 SILT FENCE
 Scale: NTS

CONSTRUCTION SPECIFICATIONS

LOCATE FIBER ROLLS ON LEVEL CONTOURS SPACED AS FOLLOWS:

- SLOPE INCLINATION OF 4:1 (H:V) OR FLATTER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 20 FT.
- SLOPE INCLINATION BETWEEN 4:1 AND 2:1 (H:V) FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 15 FT. (A CLOSER SPACING IS MORE EFFECTIVE).
- SLOPE INCLINATION OF 2:1 (H:V) OR GREATER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 10 FT. (A CLOSER SPACING IS MORE EFFECTIVE).
- TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL. STAKE FIBER ROLLS INTO A 2 TO 4 IN. DEEP TRENCH WITH A WIDTH EQUAL TO THE DIAMETER OF THE FIBER ROLL.
- DRIVE STAKES AT THE END OF EACH FIBER ROLL AND SPACED 4 FT MAXIMUM ON CENTER.
- USE WOOD STAKES WITH A NOMINAL CLASSIFICATION OF 0.75 BY 0.75 IN. AND A MINIMUM LENGTH OF 24 IN.
- IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED, NOT ABUTTED. REPAIR OR REPLACE SPLIT, TORN, UNRAVELING OR SLUMPING FIBER ROLLS.

IF THE FIBER ROLL IS USED AS A SEDIMENT CAPTURE DEVICE, OR AS AN EROSION CONTROL DEVICE TO MAINTAIN SHEET FLOWS, SEDIMENT THAT ACCUMULATES IN THE BMP MUST BE PERIODICALLY REMOVED IN ORDER TO MAINTAIN BMP EFFECTIVENESS. SEDIMENT SHOULD BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-HALF THE DESIGNATED SEDIMENT STORAGE DEPTH, USUALLY ONE-HALF THE DISTANCE BETWEEN THE TOP OF THE FIBER ROLL AND THE ADJACENT GROUND SURFACE. SEDIMENT REMOVED DURING THE MAINTENANCE MAY BE INCORPORATED INTO EARTHWORK ON THE SITE OR DISPOSED AT AN APPROPRIATE LOCATION.

CONSTRUCTION SPECIFICATIONS

THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. STORAGE HEIGHT SHALL NEVER EXCEED 18". THE FENCE LINE SHALL FOLLOW THE CONTOUR AS CLOSELY AS POSSIBLE.

IF POSSIBLE, THE FILTER FABRIC SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.

POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET. TURN THE ENDS OF THE FENCE UPHILL.

A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.

WHEN STANDARD-STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, THE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

THE STANDARD-STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 6 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS.

THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE TOE OF THE FILTER FABRIC.

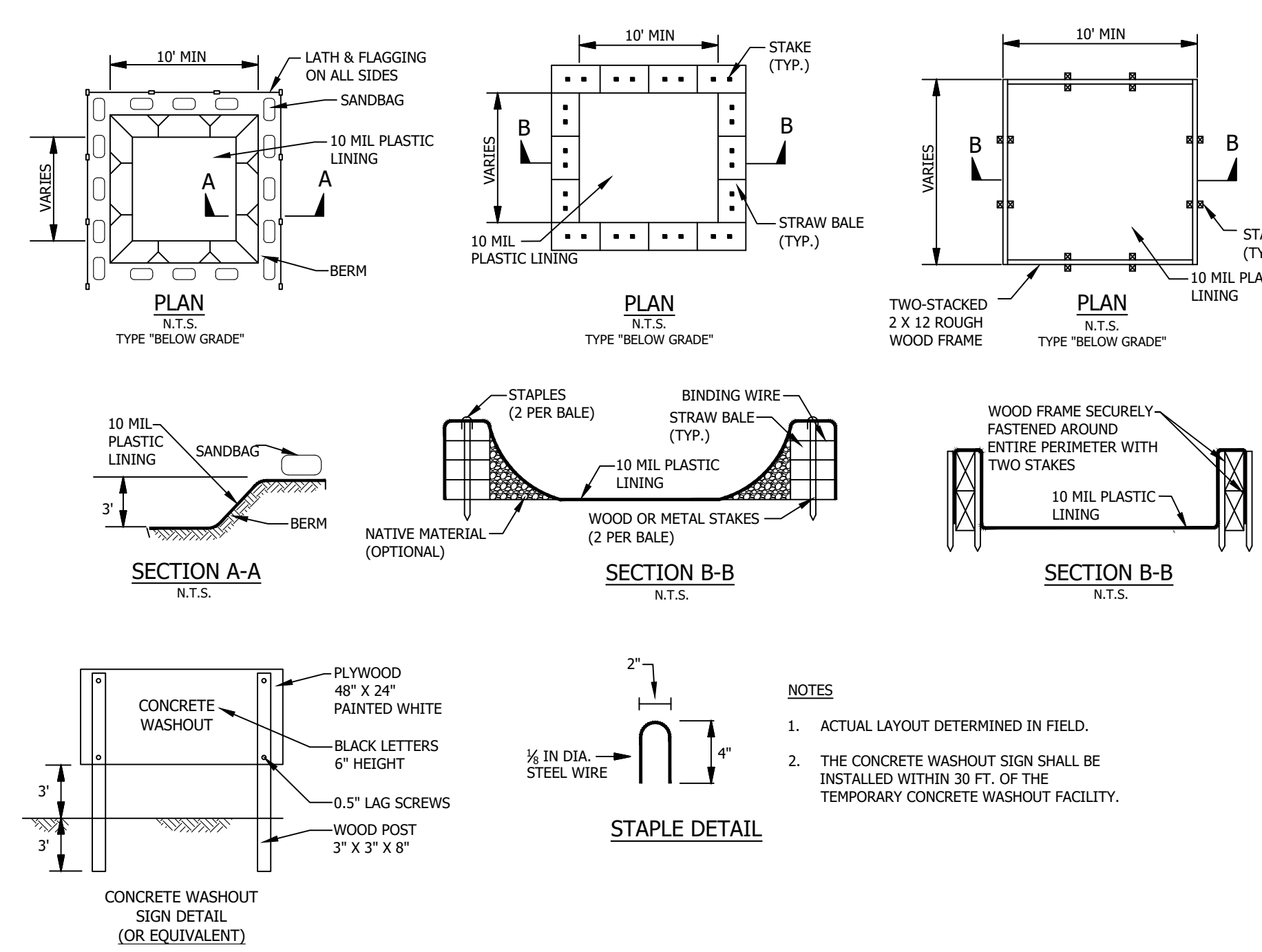
SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6 FEET FROM THE TOE IN ORDER TO INCREASE PONDING VOLUME.

SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED, AND ANY SEDIMENT STORED BEHIND THE SILT FENCE HAS BEEN REMOVED.

INSPECTION AND MAINTENANCE

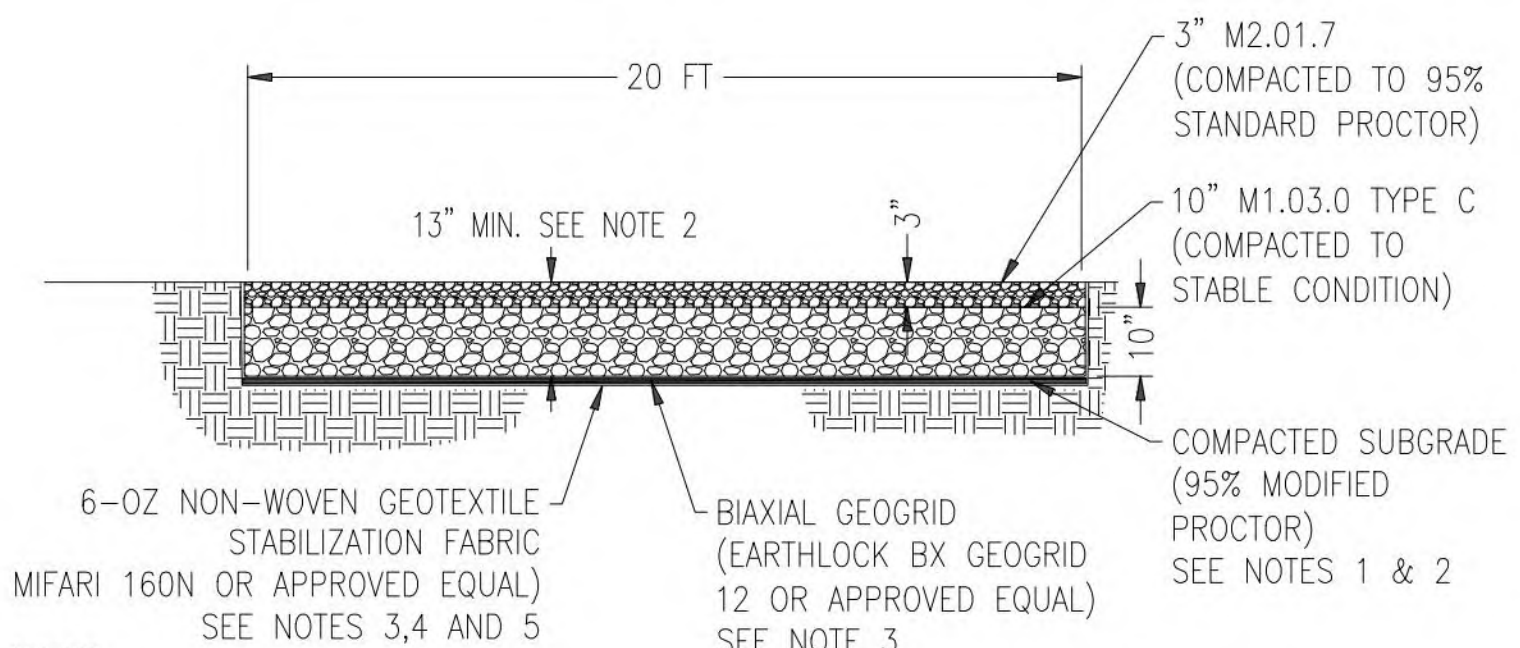
SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT STORM (1" IN 24 HR.). ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 HEIGHT OF THE FENCE OR 9 INCHES MAXIMUM.

THE REMOVED SEDIMENT SHALL VEGETATE OR OTHERWISE STABILIZED.



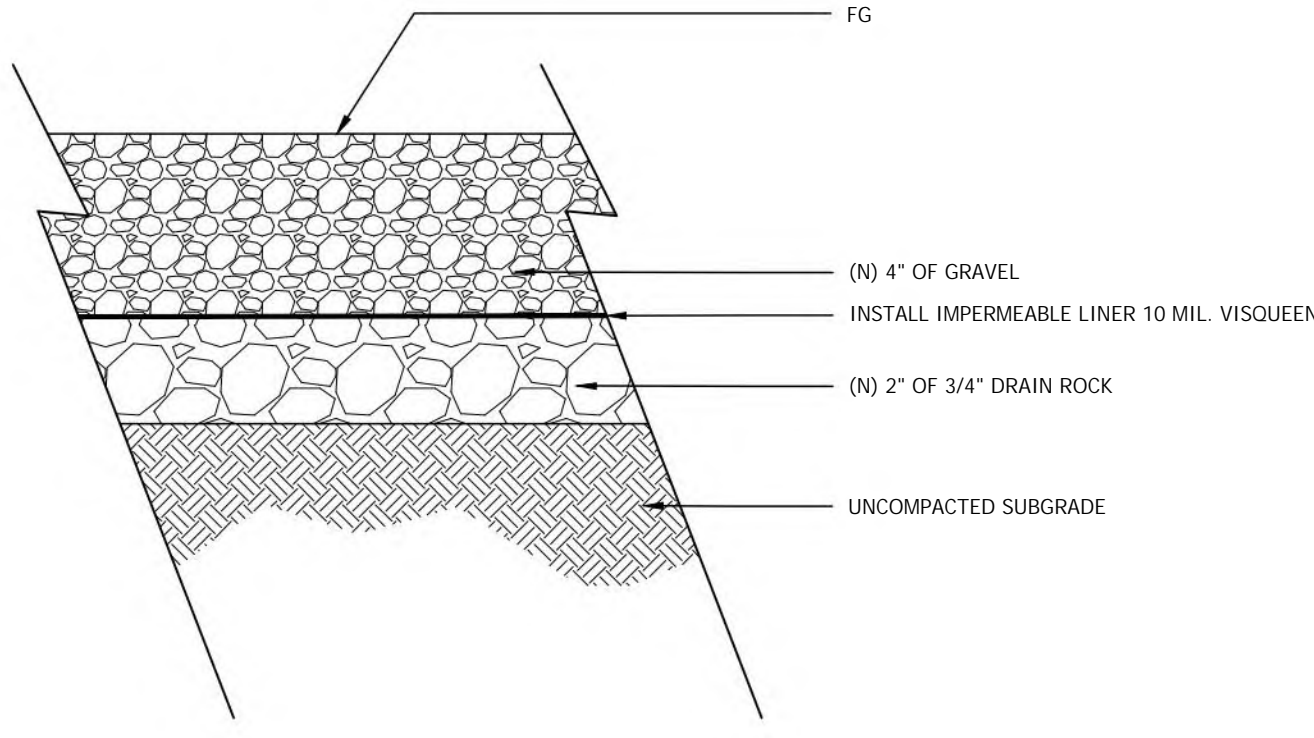
5 CONCRETE WASHOUT
 Scale: NTS

- NOTES**
1. ACTUAL LAYOUT DETERMINED IN FIELD.
 2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

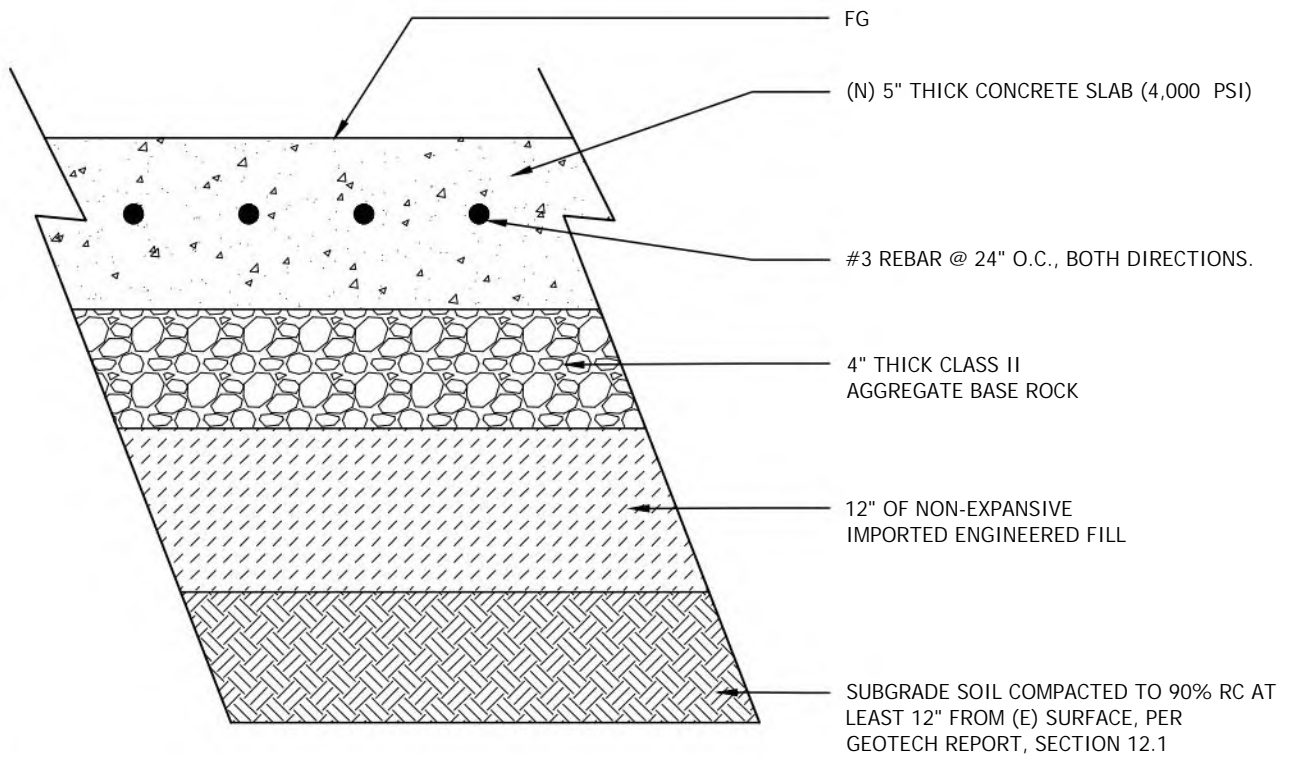
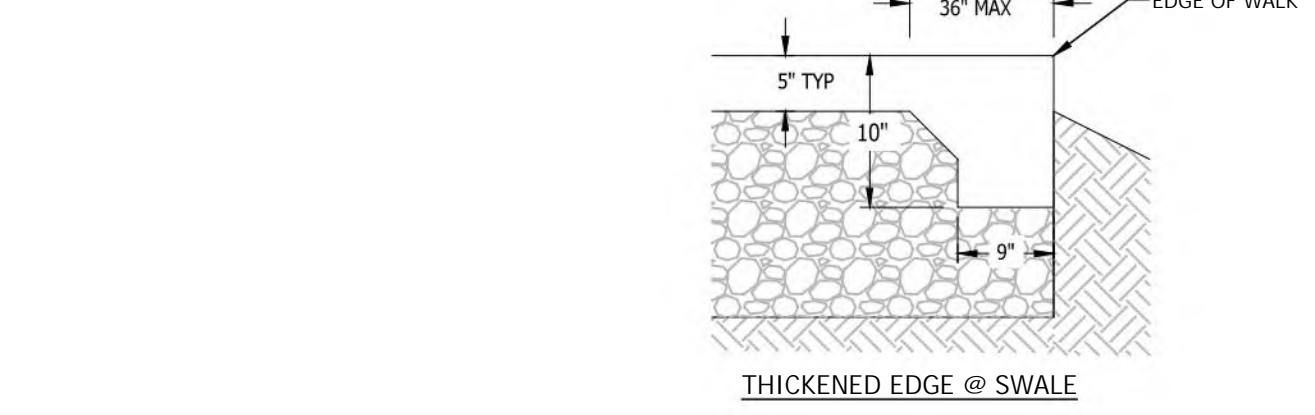


- NOTES:**
- SUBCONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
 - SUBCONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD. REFER TO GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION CRITERIA.
 - SUBCONTRACTOR SHALL FOLLOW MANUFACTURER INSTALLATION PROCEDURES.
 - WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
 - SUBCONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS, AND RESTORE TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CEOR AND THE GOVERNING AGENCIES.
 - SUBCONTRACTOR SHALL INSTALL CONDUITS FOR ALL ELECTRICAL CONDUIT CROSSINGS PRIOR TO INSTALLATION OF THE GEOGRID MATERIAL. THE GEOGRID SHALL NOT BE HORIZONTALLY CUT ONCE INSTALLED.

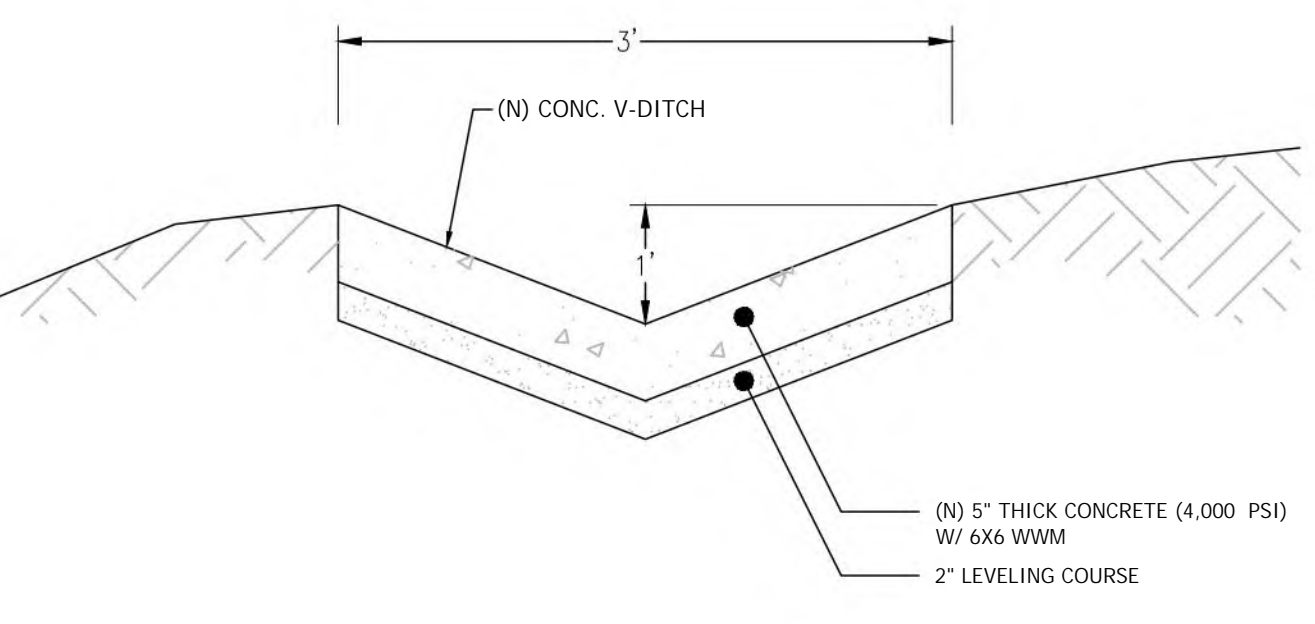
1 BASEROCK ACCESS ROAD Scale: NTS



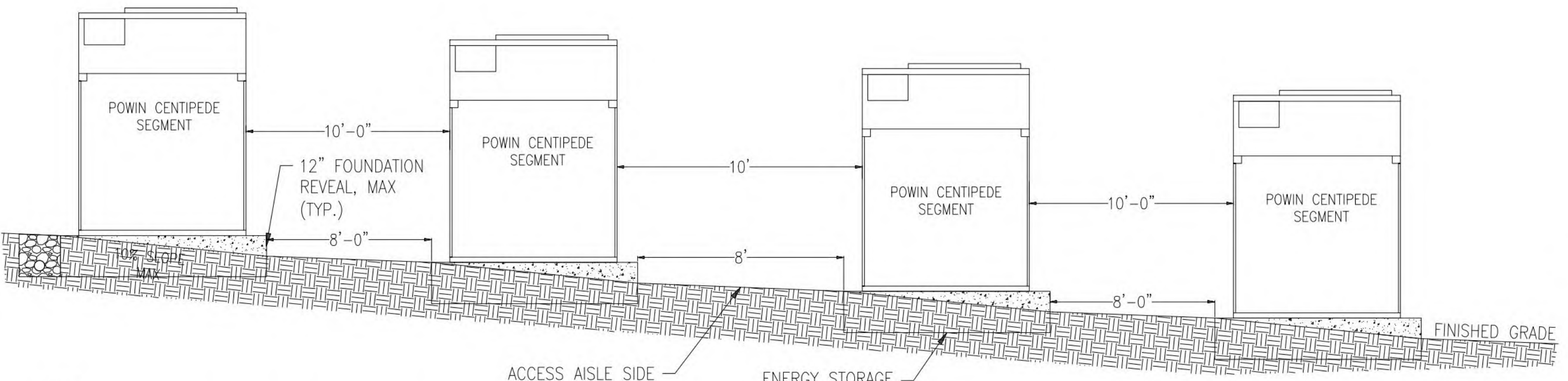
2 GRAVEL SECTION Scale: NTS



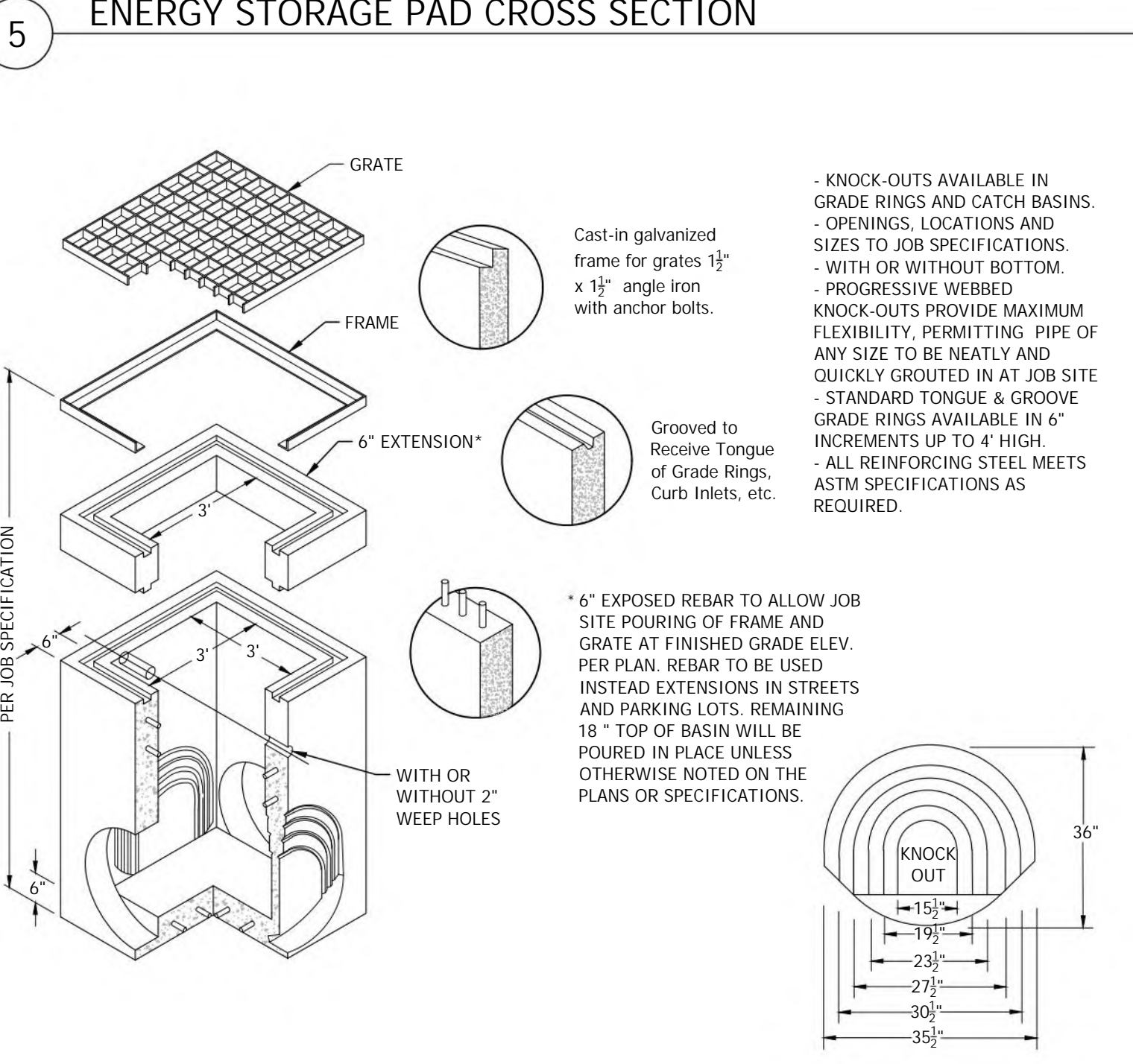
3 EQUIPMENT PAD Scale: NTS



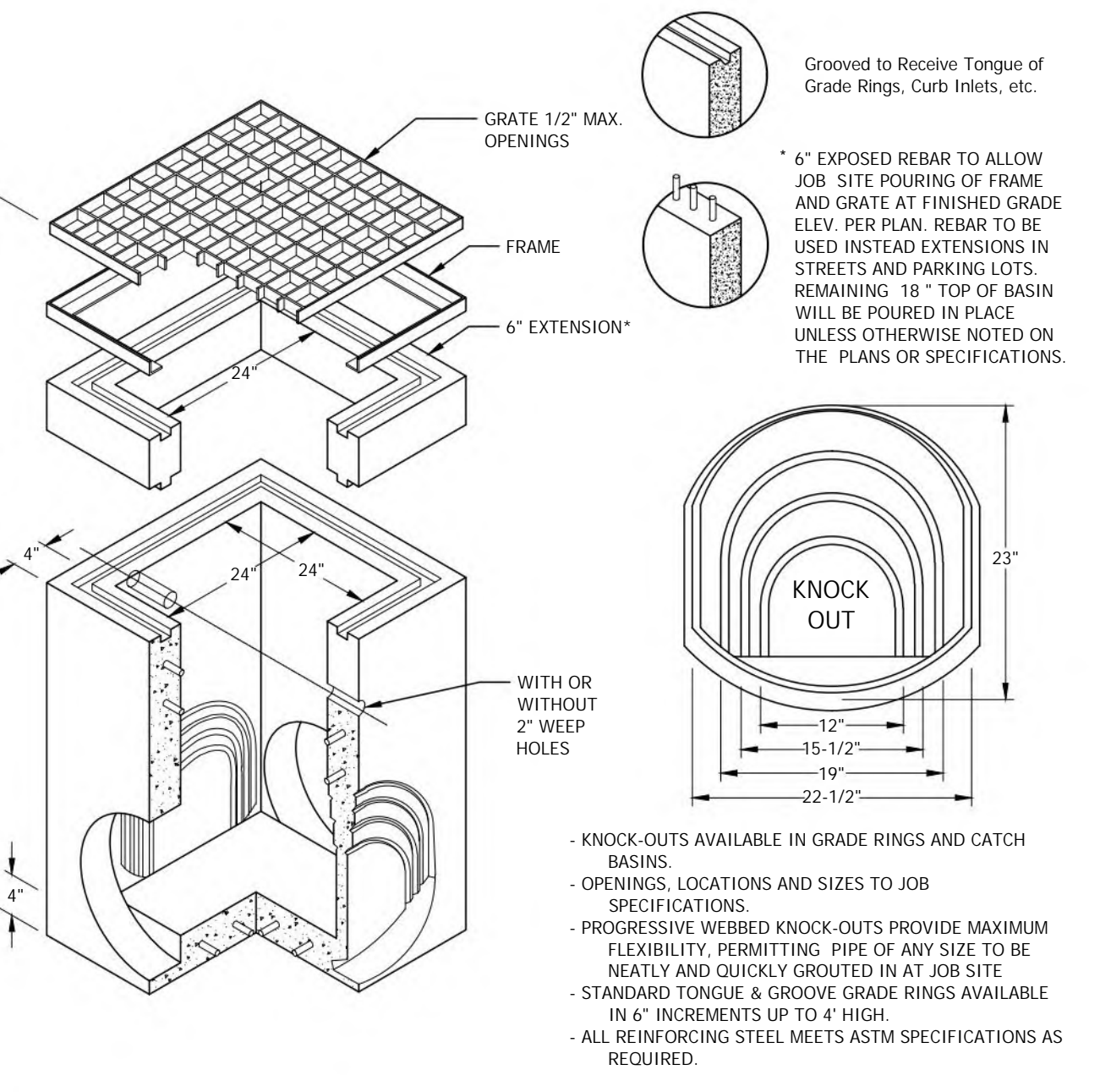
4 CONCRETE V-DITCH Scale: NTS



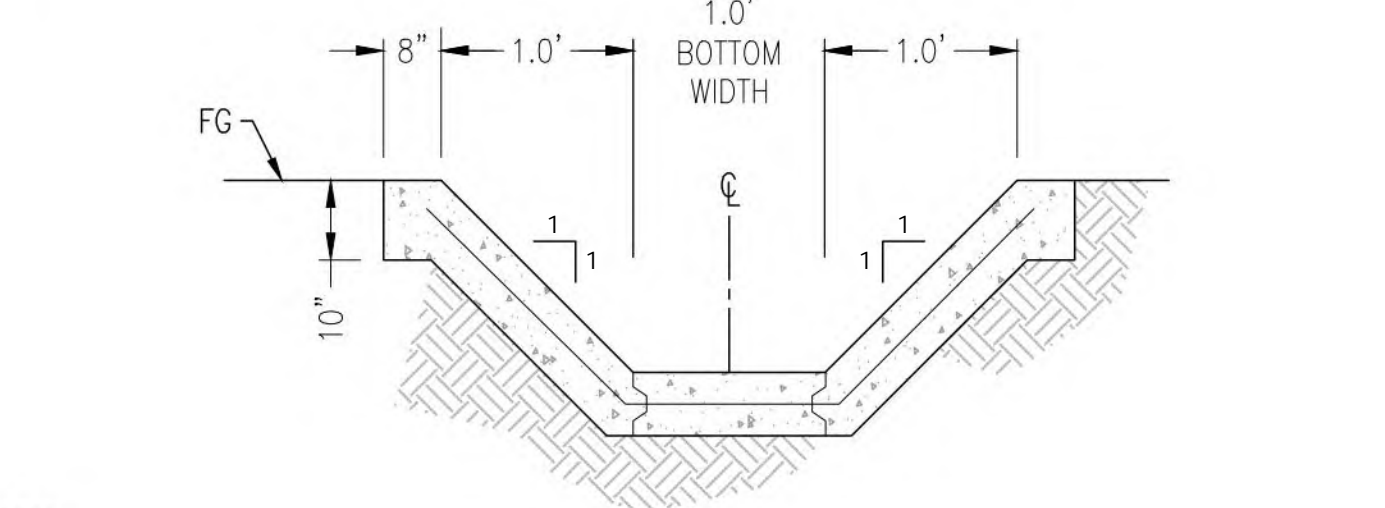
5 ENERGY STORAGE PAD CROSS SECTION Scale: NTS



8 STORM DRAIN INLET (U43 CHRISTY BOX) Scale: NTS

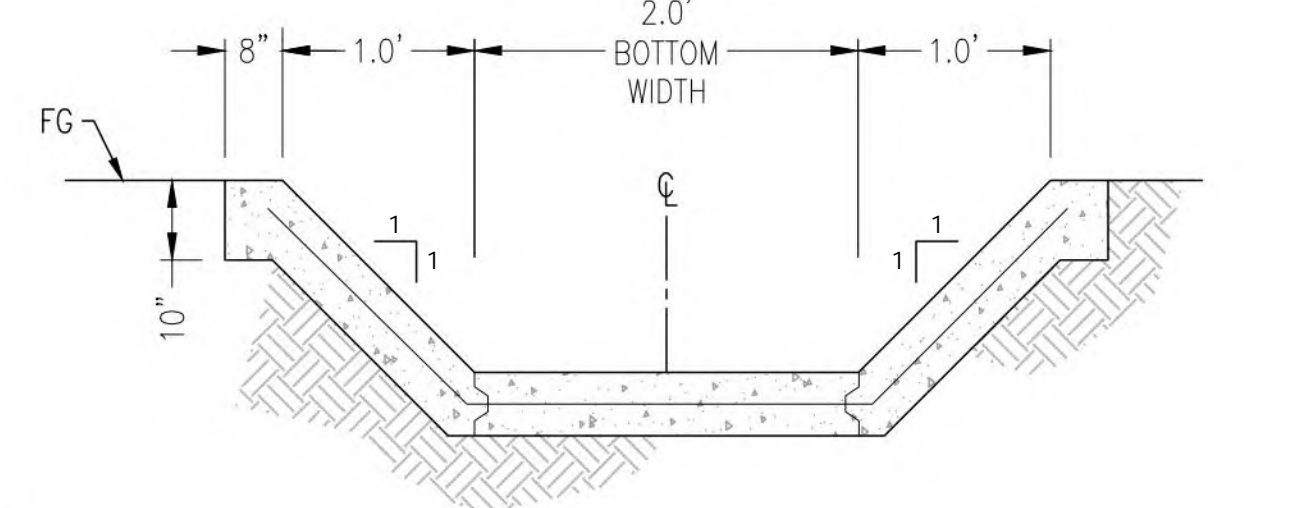


9 STORM DRAIN INLET (U21 CHRISTY BOX) Scale: NTS



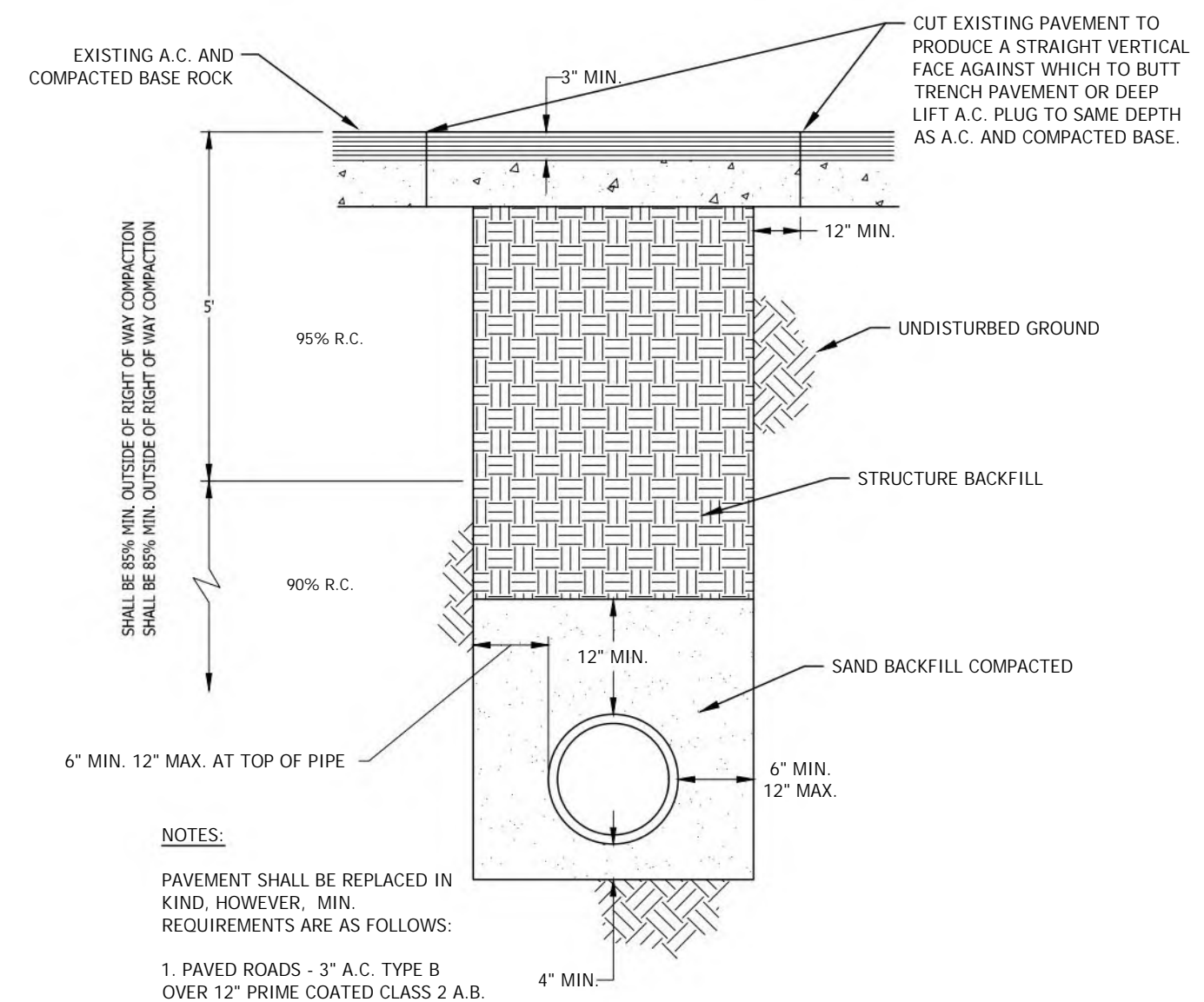
- NOTES:**
- IN HORIZONTAL CURVES, SLOPE BOTTOM TOWARD INSIDE CURVE.
 - CONSTRUCTION JOINTS SHOWN FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
 - ALL VISIBLE SURFACES SHALL HAVE A BROOM FINISH.
 - REINFORCING SHALL BE #4 BARS AT 12" O.C. EACH WAY, UNLESS OTHERWISE SPECIFIED. REINFORCING SHALL CONFORM TO ASTM A-615 AND BE A MINIMUM GRADE OF 60 PER ASTM-370. REINFORCING STEEL BAR LAPS TO BE 30 BAR DIAMETERS, AND 50% OF INTERSECTIONS TO BE SECURED WITH THE WIRE.
 - CONCRETE SHALL BE 3000 PSI, 28-DAY STRENGTH, 6 SACK CEMENT PER CU.YD. MINIMUM AND 3" TO 5" SLUMP FOR HAND POURS.
 - EXPANSION JOINTS SHALL BE PLACED EVERY 500' MAXIMUM

6 AREA A - CONCRETE CHANNEL Scale: NTS



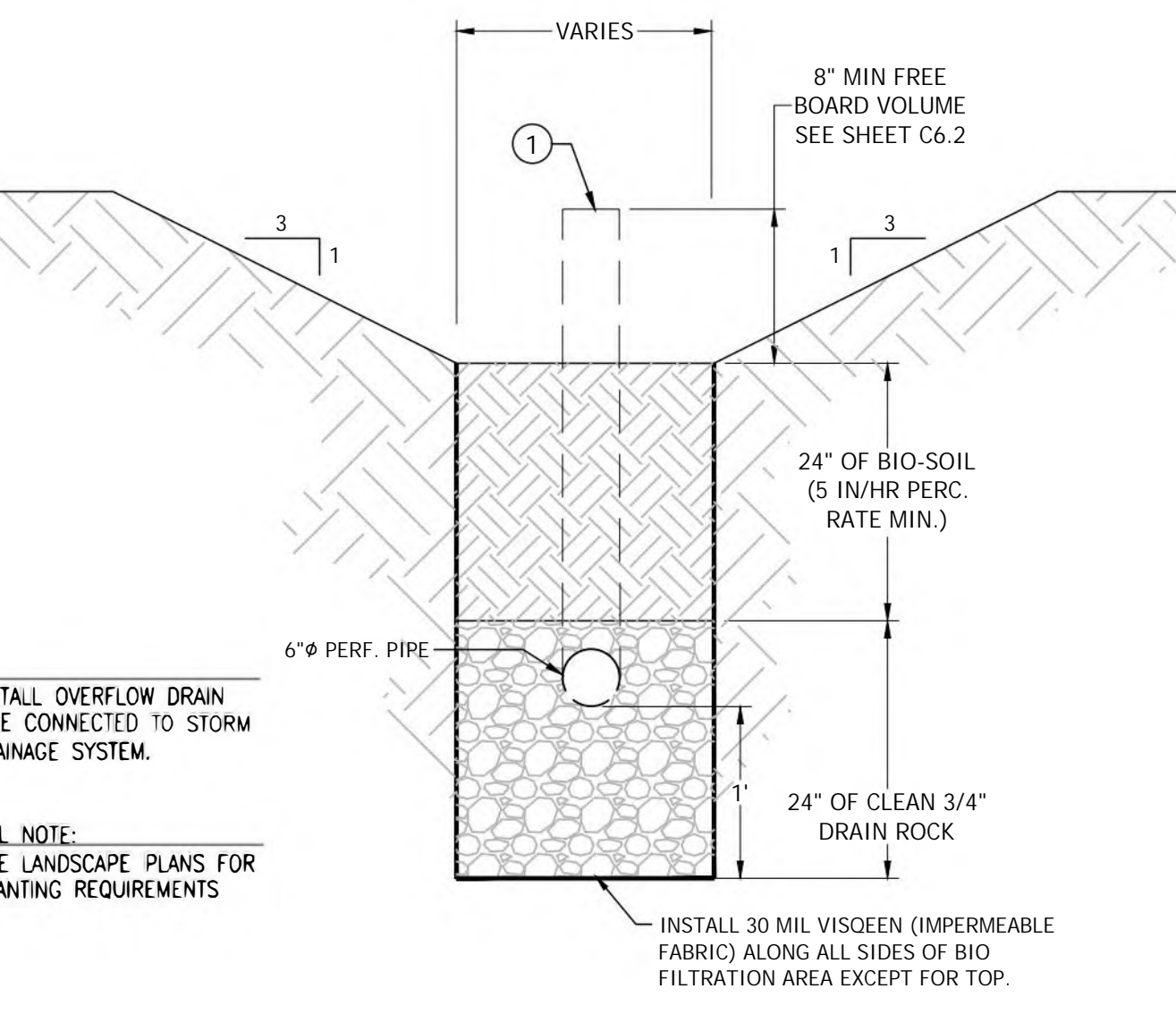
- NOTES:**
- IN HORIZONTAL CURVES, SLOPE BOTTOM TOWARD INSIDE CURVE.
 - CONSTRUCTION JOINTS SHOWN FOR CONVENIENCE ONLY, MONOLITHIC CONSTRUCTION MAY BE USED.
 - ALL VISIBLE SURFACES SHALL HAVE A BROOM FINISH.
 - REINFORCING SHALL BE #4 BARS AT 12" O.C. EACH WAY, UNLESS OTHERWISE SPECIFIED. REINFORCING SHALL CONFORM TO ASTM A-615 AND BE A MINIMUM GRADE OF 60 PER ASTM-370. REINFORCING STEEL BAR LAPS TO BE 30 BAR DIAMETERS, AND 50% OF INTERSECTIONS TO BE SECURED WITH THE WIRE.
 - CONCRETE SHALL BE 3000 PSI, 28-DAY STRENGTH, 6 SACK CEMENT PER CU.YD. MINIMUM AND 3" TO 5" SLUMP FOR HAND POURS.
 - EXPANSION JOINTS SHALL BE PLACED EVERY 500' MAXIMUM

7 AREA B - CONCRETE CHANNEL Scale: NTS



- NOTES:**
- PAVEMENT SHALL BE REPLACED IN KIND, HOWEVER, MIN. REQUIREMENTS ARE AS FOLLOWS:
- PAVED ROADS - 3" A.C. TYPE B OVER 12" PRIME COATED CLASS 2 A.B.

10 UTILITY TRENCH INSTALLATION Scale: NTS



- NOTES:**
- INSTALL OVERFLOW DRAIN PIPE CONNECTED TO STORM DRAINAGE SYSTEM.
- GENERAL NOTE:**
- SEE LANDSCAPE PLANS FOR PLANTING REQUIREMENTS

11 BIO RETENTION SECTION Scale: NTS

NOT FOR CONSTRUCTION



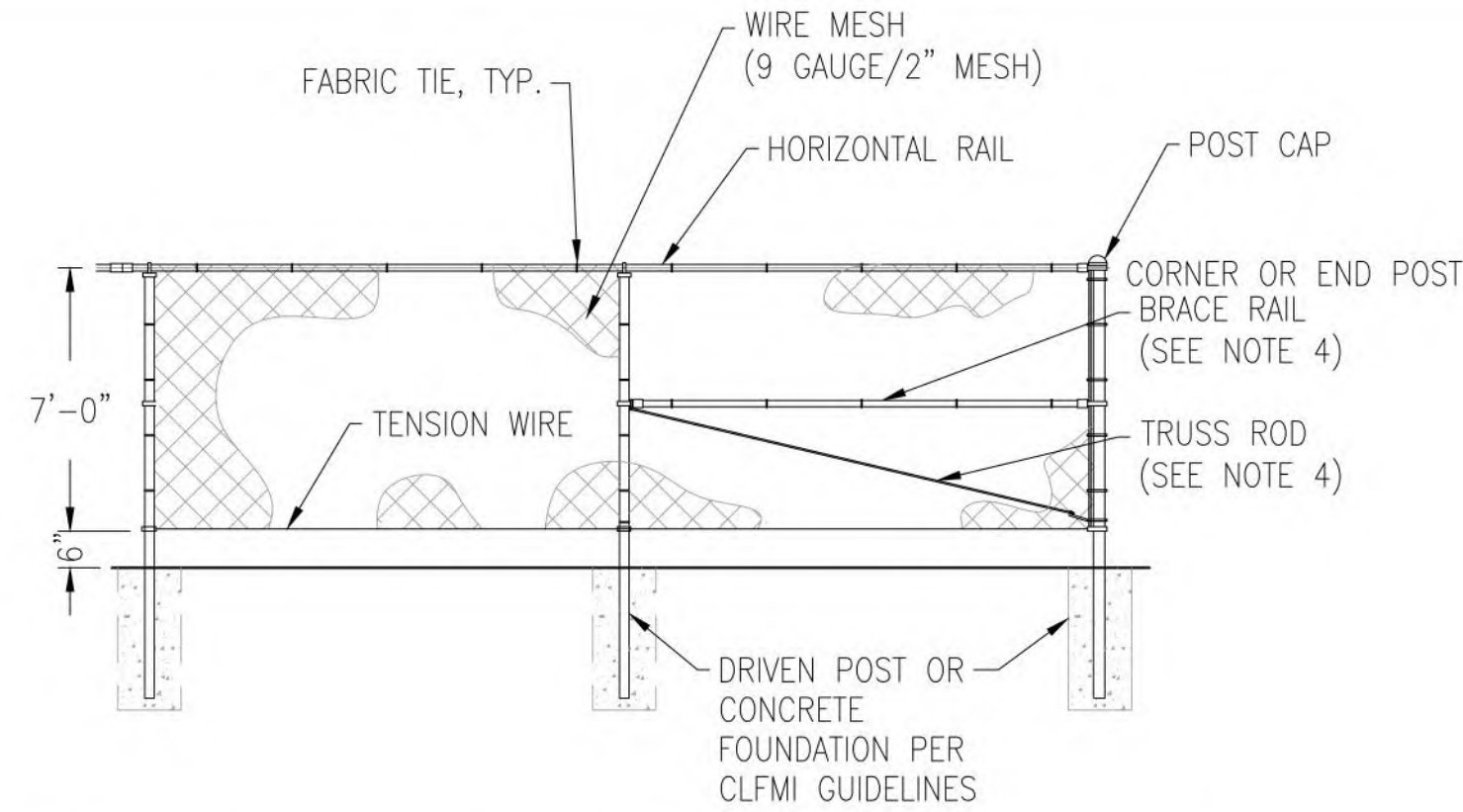
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

SEAHAWK ENERGY STORAGE
90 MINTO ROAD
WATSONVILLE CA, 95076

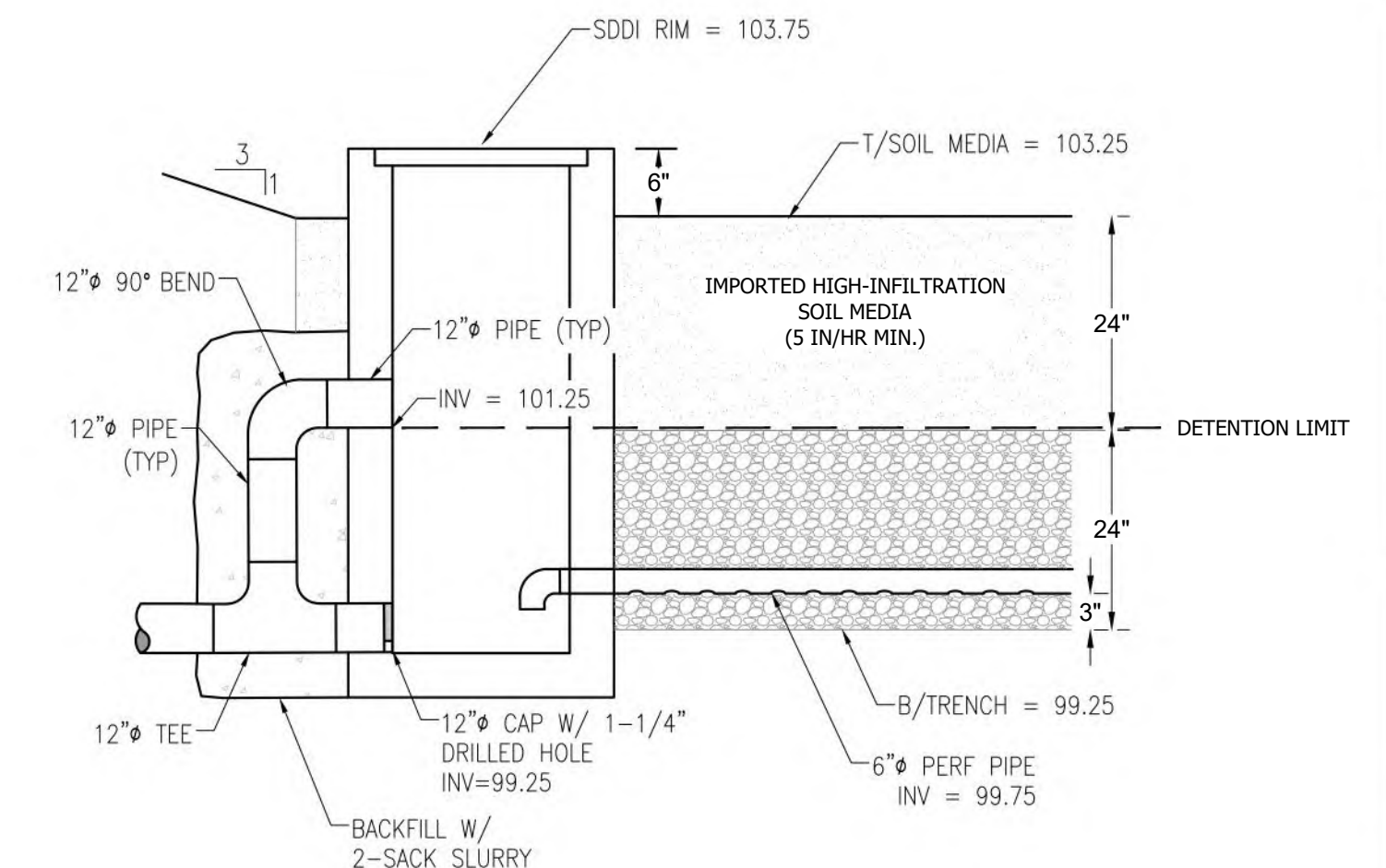
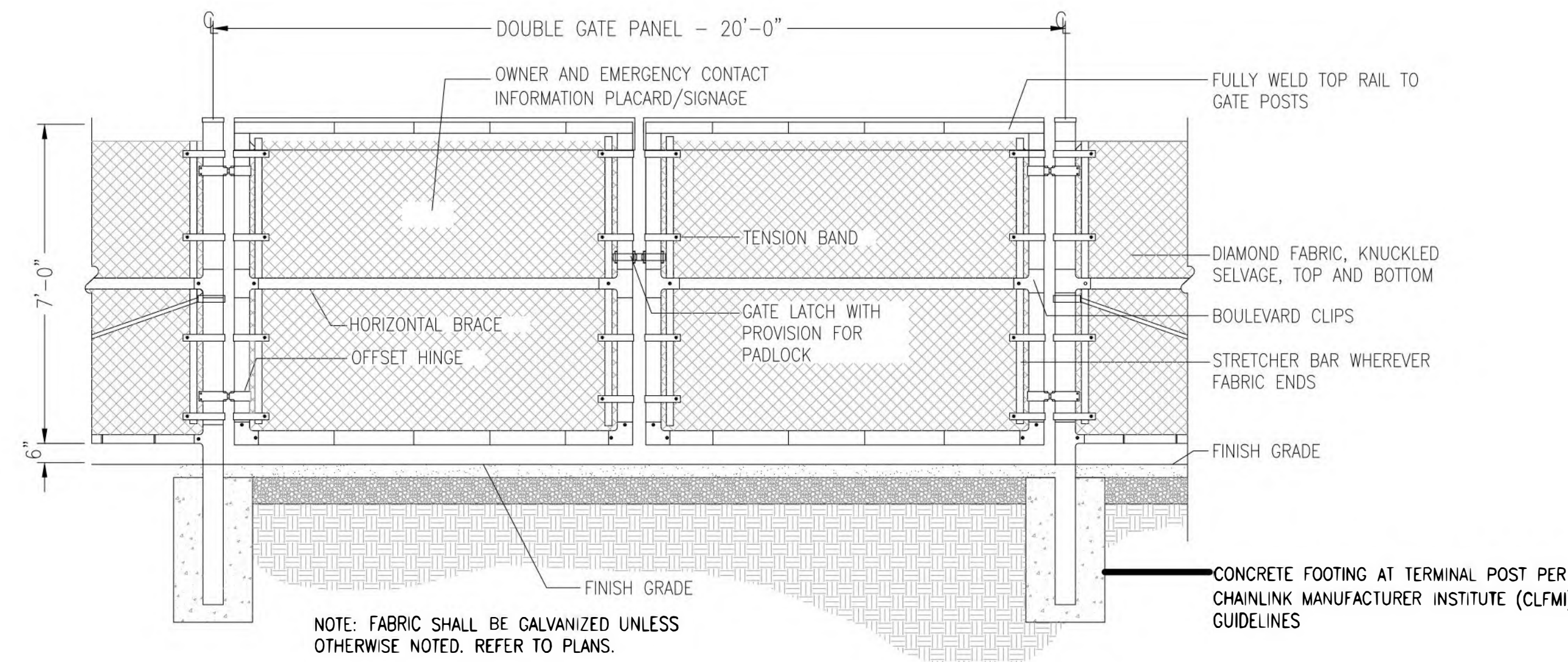
PROJECT NUMBER:
110-5227

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
03/25/25	MRM	GEN-TIE	UPDATE	
12/12/24	MRM	SUBSTATION/BESS	UPDATE	
12/09/24	MRM	CUP SUBMISSION		
07/02/25	C2G	CIVIL UPDATE		

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D, 24" x 36"



- NOTES:
1. THE FENCE SHALL MEET OR EXCEED THE CHAIN LINK FENCE MANUFACTURER INSTITUTE (CLFMI) GUIDELINES AND RELATED FEDERAL SPECIFICATIONS FOR SECURITY CHAIN LINK FENCE MATERIALS AND INSTALLATION.
 2. FENCE MATERIAL AND COMPONENTS SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.
 3. THIS DETAIL NOT APPLICABLE FOR PRIVACY FENCE OR FENCE WITH SLATS.
 4. ADJUSTABLE TRUSS ROD AND BRACE RAIL AT CORNER OR END POSTS ONLY, IF REQUIRED BY CLFMI GUIDELINES.



1 7' CHAIN LINK FENCE

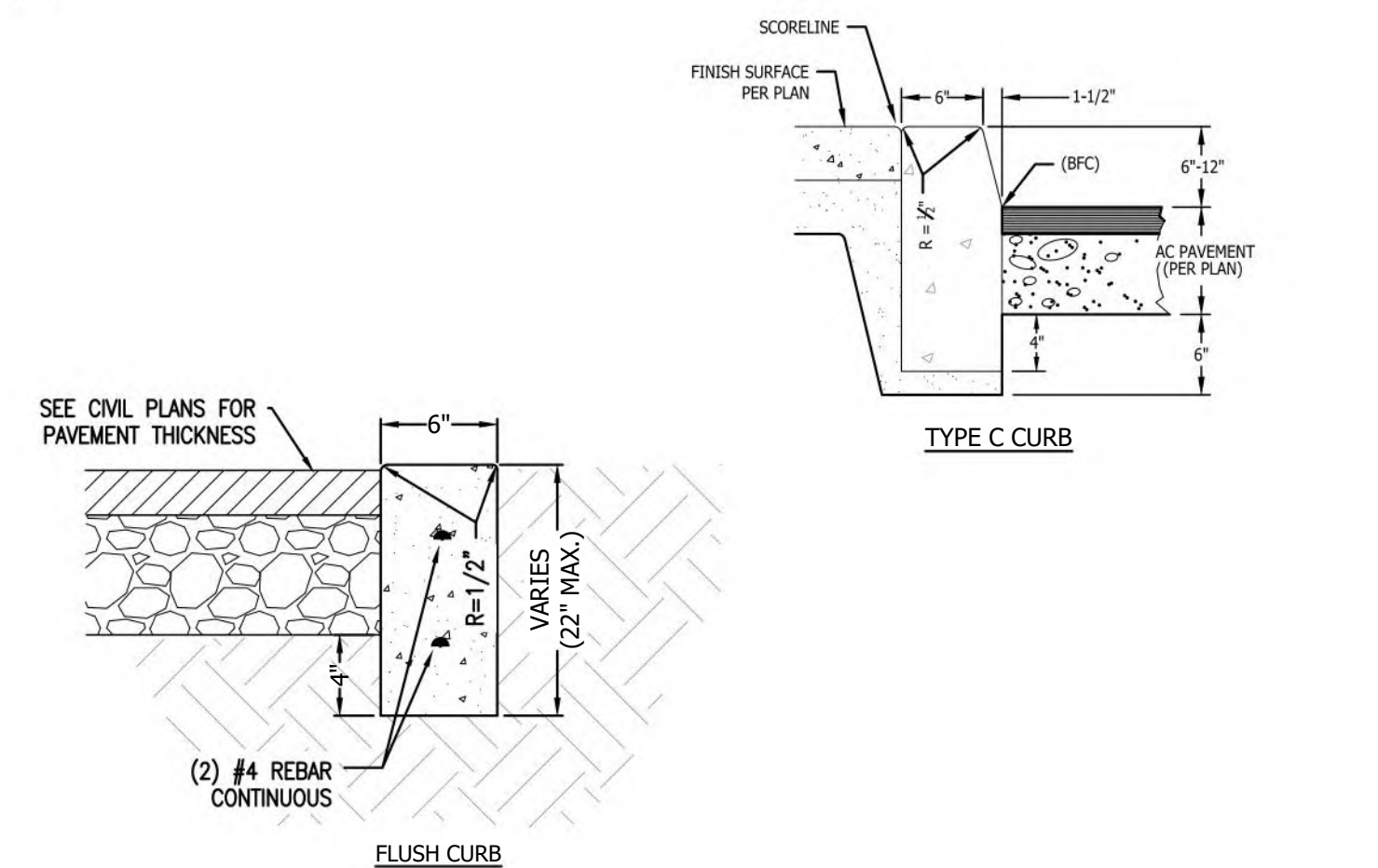
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2 20' VEHICLE ACCESS GATE

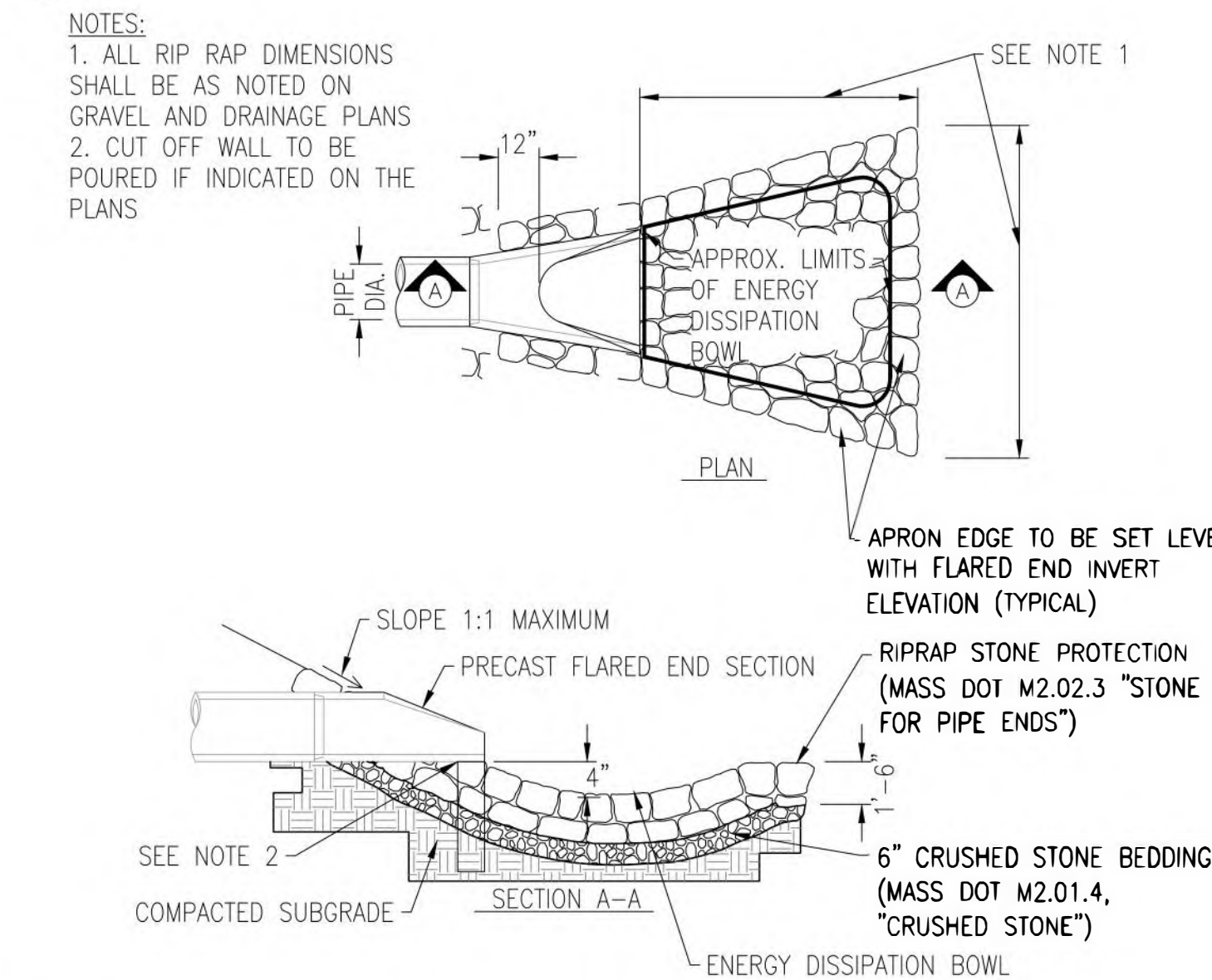
Scale: NTS

3 RESTRICTOR INLET W/ OVERFLOW

Scale: NTS

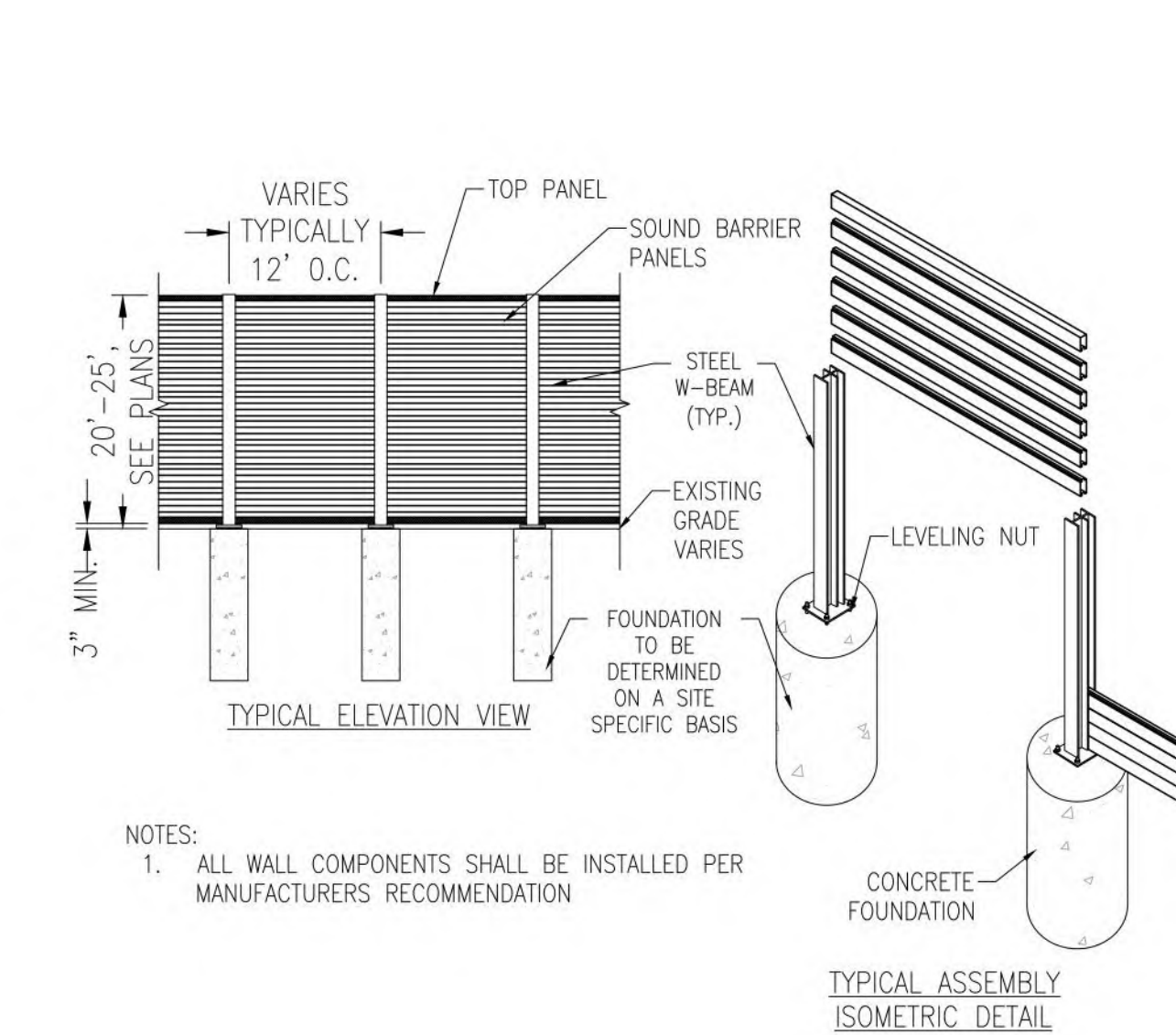


- NOTES:
1. TYPE C CURB ARE TO BE CONSTRUCTED OF CLASS B CONCRETE, 6 SACK MINIMUM.
 2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 20' INTERVALS, AND AT THE ENDS OF RETURNS. EXPANSION JOINTS SHALL BE AT MAXIMUM 60 FEET SPACING.



5 FLARED-END SECTION W/ RIP RAP APRON

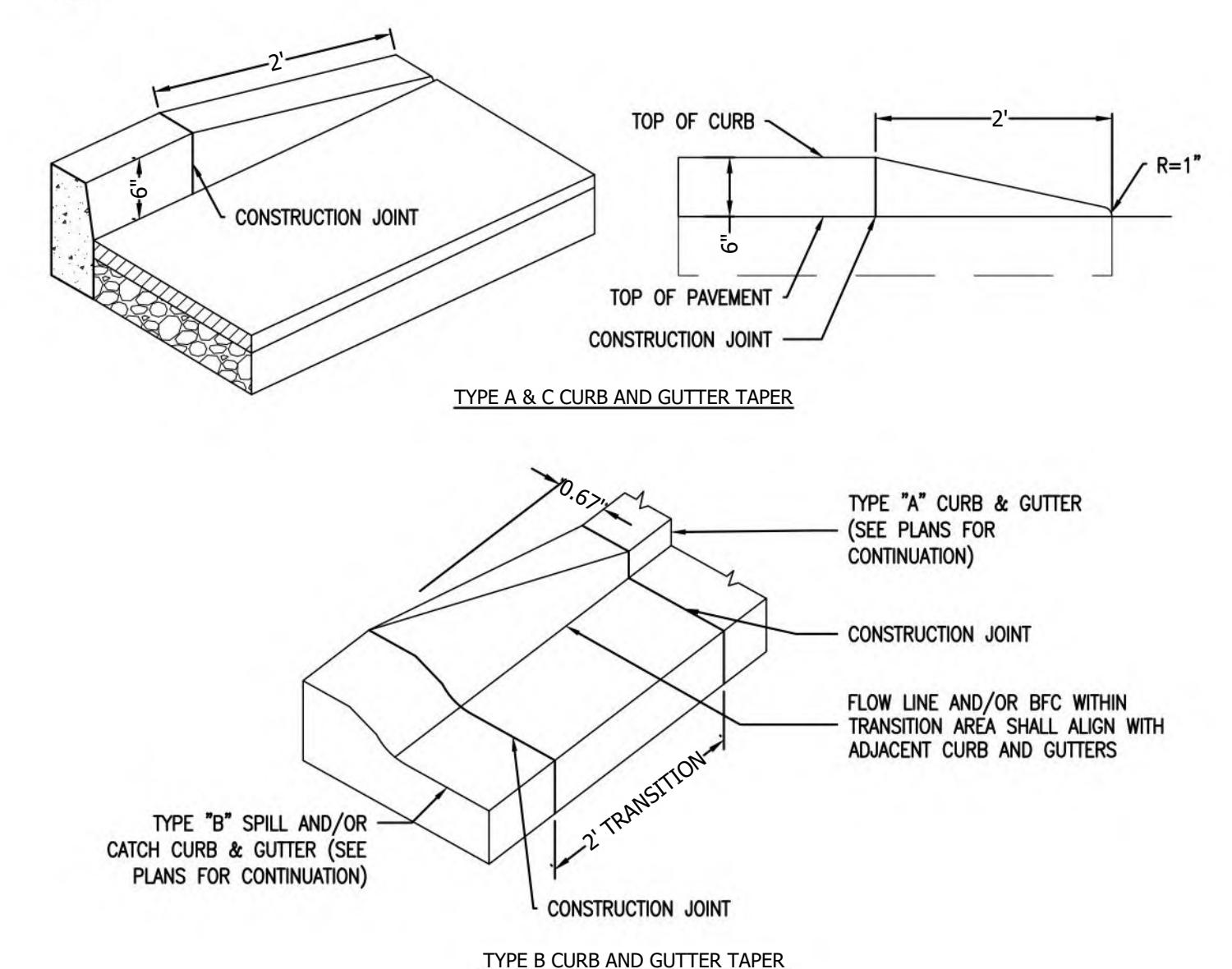
Scale: NTS



- NOTES:
1. ALL WALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATION

6 SOUND WALL

Scale: NTS



7 CURB TAPER DETAIL

Scale: NTS

4 CONCRETE CURB AND GUTTER TYPES

Scale: NTS

8 SUBSTATION PROFILE

Scale: NTS

NOT FOR CONSTRUCTION



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SEAHAWK ENERGY STORAGE
90 MINTO ROAD
WATSONVILLE CA, 95076

PROJECT NUMBER:
110-5227

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	12/12/24	MRM		SUBSTATION/BESS UPDATE
	12/09/24	MRM		CIP SUBMISSION
	07/02/25	C2G		CIVIL UPDATE

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

Appendix 2D

Lighting Plan



D-Series Size 0 LED Area Luminaire

TYPE: PA1

COFFMAN ENGINEERS
1101 2nd Ave., Suite 400 | Seattle, WA 98101

Introduction
The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficiency, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

Specifications

EPA: 0.44 ft² (0.041 m²)
Length: 26.18" (66.5 cm)
Width: 14.06" (35.7 cm)
Height H1: 2.26" (5.7 cm)
Height H2: 7.46" (18.9 cm)
Weight: 23 lbs (10.4 kg)

Ordering Information

EXAMPLE: DSXO LED P6 40K 70CR T3M MVOLT SPA NLTAR2 PIRHN DDBXD

Series	LEDs	Color temperature*	Color Rendering Index*	Distribution	Voltage	Mounting
DSXO LED						
Series	LEDs	Color temperature*	Color Rendering Index*	Distribution	Voltage	Mounting
DSXO LED						
Series	LEDs	Color temperature*	Color Rendering Index*	Distribution	Voltage	Mounting
DSXO LED						

Option	Description	Option	Description
NLTAR2 PIRHN	4-light AR151 2' x 2' with 3-level motion / ambient sensor, 8-4' mounting height, ambient sensor enabled at 2'.	PER7	Seven pin receptacle only (control ordered separately).
PIR	High flow, motion/ambient sensor, 8-4' mounting height, ambient sensor enabled at 2'.	BL30	Bi-level switched dimming, 50%.
PER	NEMA twist-lock receptacle only (control ordered separately).	DMG	0-10V dimming using pulsed outside fixture (for use with an external control, ordered separately).
PER5	Five pin receptacle only (control ordered separately).		

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1 Acuity Way • Decatur, Georgia 30035 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
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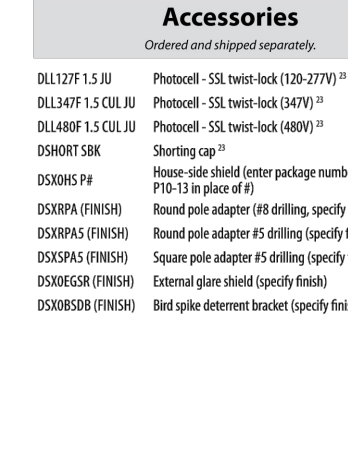
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Series	LEDs	Color temperature*	Color Rendering Index*	Distribution	Voltage	Mounting
DSXO LED						
Series <td>LEDs</td> <td>Color temperature*</td> <td>Color Rendering Index*</td> <td>Distribution</td> <td>Voltage</td> <td>Mounting</td>	LEDs	Color temperature*	Color Rendering Index*	Distribution	Voltage	Mounting
DSXO LED						
Series <td>LEDs</td> <td>Color temperature*</td> <td>Color Rendering Index*</td> <td>Distribution</td> <td>Voltage</td> <td>Mounting</td>	LEDs	Color temperature*	Color Rendering Index*	Distribution	Voltage	Mounting
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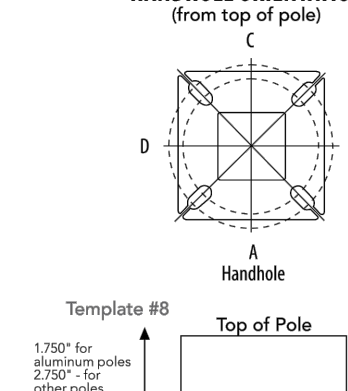
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Shield Accessories



External Glare Shield (EGSR)
House Side Shield (HS)

Drilling



Ordering Information

Accessories

DSXO LED P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31 P32 P33 P34 P35 P36 P37 P38 P39 P40 P41 P42 P43 P44 P45 P46 P47 P48 P49 P50 P51 P52 P53 P54 P55 P56 P57 P58 P59 P60 P61 P62 P63 P64 P65 P66 P67 P68 P69 P70 P71 P72 P73 P74 P75 P76 P77 P78 P79 P80 P81 P82 P83 P84 P85 P86 P87 P88 P89 P90 P91 P92 P93 P94 P95 P96 P97 P98 P99 P100

Tenon Mounting Slipfitter

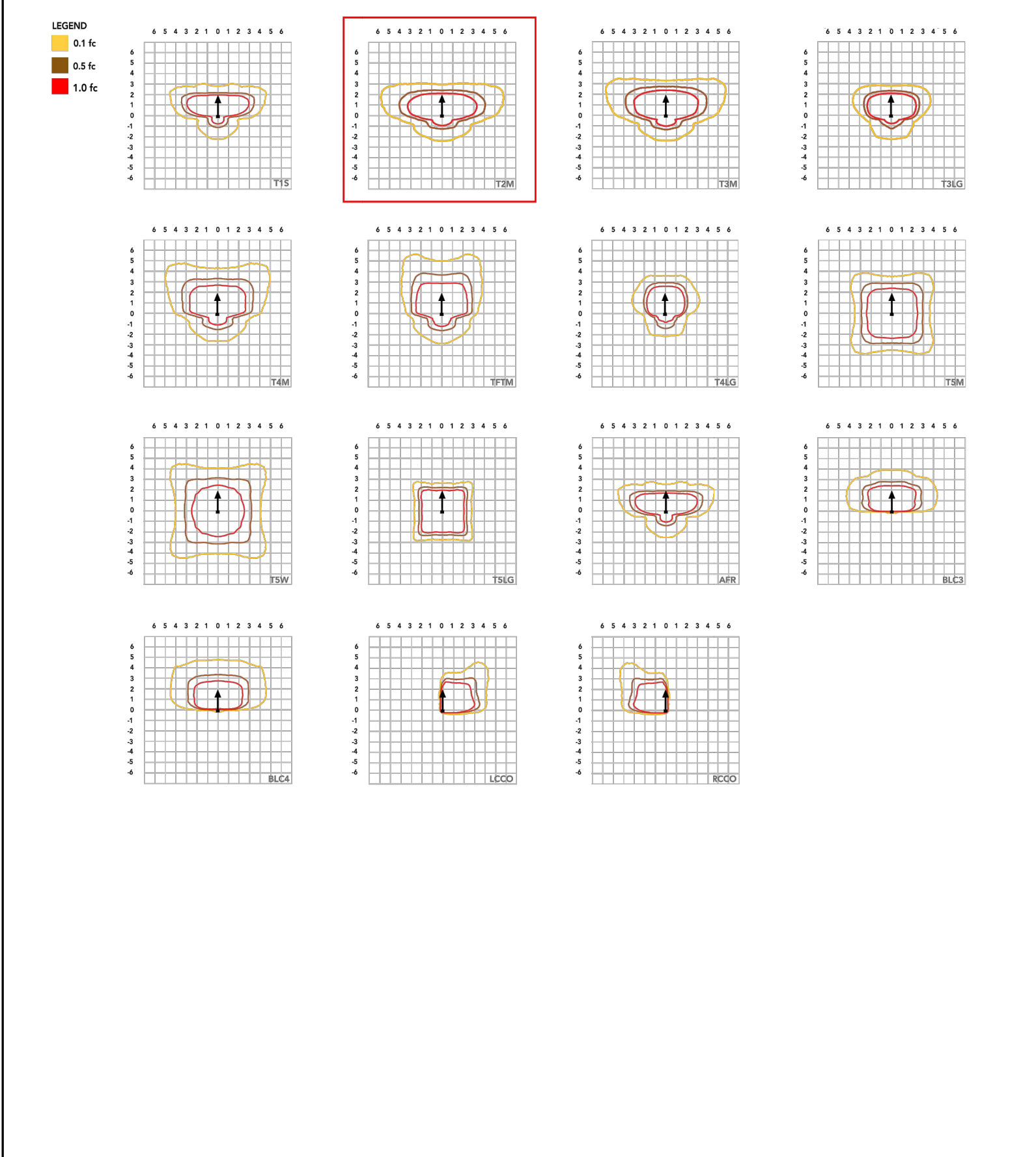
Head Location	Drilling	Single	2-1/8"	2-1/4"	2-1/2"	2-3/4"	3-1/8"	3-1/2"	3-3/4"
DSXO with SP6	0.44	0.88	0.96	1.18	---	1.16	---	---	---
DSXO with SP6, SP6RN	0.51	1.02	1.06	1.26	---	1.29	---	---	---
DSXO with RPA, RPA1	0.51	1.02	1.06	1.26	1.34	1.29	---	---	---
DSXO with MA	0.44	1.28	1.24	1.07	1.29	1.91	---	---	---

DSXO Area Luminaire - EPA

Mounting Type	2-1/8"	2-1/4"	2-1/2"	2-3/4"	3-1/8"	3-1/2"	3-3/4"
DSXO with SP6	0.44	0.88	0.96	1.18	---	1.16	---
DSXO with SP6, SP6RN	0.51	1.02	1.06	1.26	---	1.29	---
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DSXO with MA	0.44	1.28	1.24	1.07	1.29	1.91	---

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Photometric Diagrams



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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Ambient	100%	100%	100%
0°C	1.00	1.04	1.07
5°C	1.00	1.04	1.07
10°C	1.00	1.04	1.07
15°C	1.00	1.04	1.07
20°C	1.00	1.04	1.07
25°C	1.00	1.04	1.07
30°C	1.00	1.04	1.07
35°C	1.00	1.04	1.07
40°C	1.00	1.04	1.07

Projected LED Lumen Maintenance

Operating Hours	Lumen Maintenance Factor
0	1.00
25,000	0.98
50,000	0.99
100,000	0.90

FAO Dimming Settings

Dimmer	100%	50%	10%
1	100%	50%	10%
2	100%	50%	10%
3	100%	50%	10%
4	100%	50%	10%
5	100%	50%	10%
6	100%	50%	10%
7	100%	50%	10%
8	100%	50%	10%
9	100%	50%	10%
10	100%	50%	10%

Motion Sensor Default Settings

Option	Receivable Default	High Level	Photo Eye	Event Time	Range-up Time	Dimming Rate
PIR	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min
NLTAR2 PIRHN	30%	100%	Enabled @ 2FC	7.5 min	3 sec	5 min

Controls Options

Manufacturer	Description	Functionality	Primary Control Device	Notes
FAO	Field adjustable output device installed inside the luminaire, wired to the driver dimming loads.	Allows the luminaire to be manually dimmed, effectively dimming the light output.	HO Device	Cannot be used with other controls options that need the 0-10V loads.
DS (see available on DSXO)	Drivers wired independently for 50/50 luminaire operation.	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider slight ARI as more cost effective alternative.
PIR5 or PER7	Two-lock photocell receptacle	Compatible with standard two-lock photocells for dusk-to-dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Two-lock photocells such as BCL, DS or advanced control nodes such as BSM.	Plus 4-5 to dimming loads on drive. Plus 6 & 7 are capped inside luminaire. Cannot be used with other controls options that need the 0-10V loads.
PIR	Motion sensor with integral photocell. Sensor suitable for 4' or 8' mounting height.	Luminaires dim when no occupancy is detected.	Acuity Controls (CIG)	Cannot be used with other controls options that need the 0-10V loads.
NLTAR2 PIRHN	4-light AR151 receptacle for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wireless is connected to the eligible Edgeye.	4-light AR151	4-light AR151 can be programmed and commissioned from the ground using the CALIBY Pro app. Cannot be used with other controls options that need the 0-10V loads.
BL30 or BL50	Integrated bi-level device that allows a second control circuit to switch all light output in either 100% or 50% light output.	BCL device provides input to 0-10V dimming loads on all drivers providing either 100% or dimmed (50% or 50%) control by a secondary circuit.	BCL UV011	BCL device is powered off the 0-10V dimming loads, thus can be used with any input voltage from 120V to 480V.

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20°C	1.00	1.04	1.07
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30°C	1.00	1.04	1.07
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0	1.00
25,000	0.98
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Projected LED Lumen Maintenance

Operating Hours	Lumen Maintenance Factor
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9	100%	50%	10%
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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Ambient	100%
---------	------

PRELIMINARY
NOT FOR CONSTRUCTION

SEAHAWK ENERGY STORAGE

MW / MWh
90 Minto Road
Watsonville, CA 95076

REV	DATE	DESCRIPTION

PROJ. NO. 253464
DRAWN AV
CHECKED CJB
DATE 10/30/2025

© COFFMAN ENGINEERS INC.

SHEET TITLE:
SITE LIGHTING PLAN

SHEET NO:
E1.2

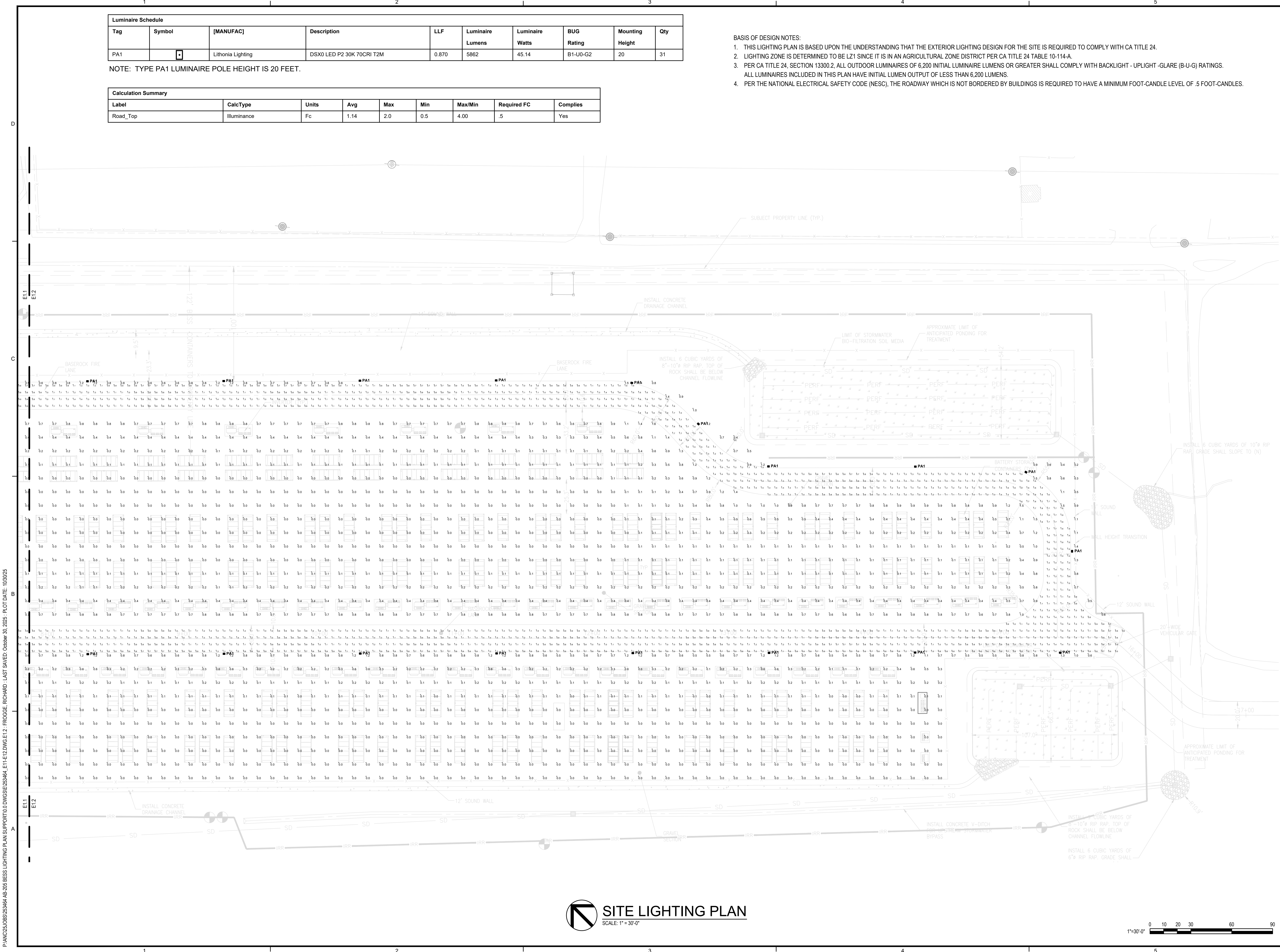
Luminaire Schedule										
Tag	Symbol	[MANUFAC]	Description	LLF	Luminaire Lumens	Luminaire Watts	BUG Rating	Mounting Height	Qty	
PA1	■	Lithonia Lighting	DSX0 LED P2 30K 70CRI T2M	0.870	5862	45.14	B1-U0-G2	20	31	

NOTE: TYPE PA1 LUMINAIRE POLE HEIGHT IS 20 FEET.

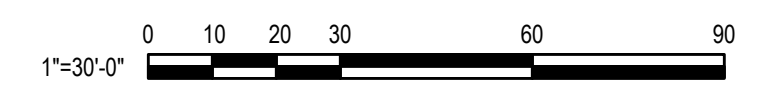
Calculation Summary									
Label	CalcType	Units	Avg	Max	Min	Max/Min	Required FC	Complies	
Road_Top	Illuminance	Fc	1.14	2.0	0.5	4.00	.5	Yes	

BASIS OF DESIGN NOTES:

- THIS LIGHTING PLAN IS BASED UPON THE UNDERSTANDING THAT THE EXTERIOR LIGHTING DESIGN FOR THE SITE IS REQUIRED TO COMPLY WITH CA TITLE 24.
- LIGHTING ZONE IS DETERMINED TO BE L21 SINCE IT IS IN AN AGRICULTURAL ZONE DISTRICT PER CA TITLE 24 TABLE 10-114-A.
- PER CA TITLE 24, SECTION 13300.2, ALL OUTDOOR LUMINAIRES OF 6,200 INITIAL LUMINAIRE LUMENS OR GREATER SHALL COMPLY WITH BACKLIGHT - UPLIGHT -GLARE (B-U-G) RATINGS. ALL LUMINAIRES INCLUDED IN THIS PLAN HAVE INITIAL LUMEN OUTPUT OF LESS THAN 6,200 LUMENS.
- PER THE NATIONAL ELECTRICAL SAFETY CODE (NEC), THE ROADWAY WHICH IS NOT BORDERED BY BUILDINGS IS REQUIRED TO HAVE A MINIMUM FOOT-CANDLE LEVEL OF .5 FOOT-CANDLES.



SITE LIGHTING PLAN
SCALE: 1" = 30'-0"



P:\ANC5\058253464-AB-205-BESS LIGHTING PLAN SUPPORT\0.DWG\SE253464-E1.1E\LDWG\E1.2 - FROGGE, RICHARD - LAST SAVED: October 30, 2025 - PLT DATE: 10/30/25

Appendix 2E

CAISO Studies (Confidential)

Appendix 2F

Electric & Magnetic Fields Study

Electric and Magnetic Field (EMF) Study Report

Seahawk Solar Project 115 kV Transmission Line

Prepared for:

DUDEK

Prepared by:

Maria Arechavaleta, marechavaleta@ceg-engineers.com
Darko Borovik, P.E., dborkovic@ceg-engineers.com

Revision 0

January 10, 2025

Consulting Engineers Group
21875 Grenada Ave
Lakeville, MN 55044



CONSULTING ENGINEERS GROUP



CONSULTING ENGINEERS GROUP
Engineering Powerful Solutions

Document History

Revision	Date	Author	Reviewer	Description
0	01/10/2025	MA		Initial EMF Study



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3.5. EMF Standard and Design Limits.....	6
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1. Introduction and Executive Summary

Consulting Engineers Group (CEG) is pleased to provide this EMF study for SeaHawk Solar project's 115kV Transmission Line. An evaluation was performed of the power-frequency (60-Hertz) electric and magnetic fields associated with the proposed SeaHawk Solar 115 kV overhead circuit. The purpose of this study was to perform computer modeling of the lines associated with the project and prepare a technical report of the calculation results, which are presented herein. The study took a cross-section at worst EMF case scenario locations which contain unique EMF characteristics, and then provided results for those sections which can be used as representative examples for the lines with similar framing or layout.

As demonstrated in the calculations to follow, Consulting Engineers Group (CEG) predicts the maximum magnetic field from the overhead circuit to be 83.31 mG. CEG predicts the maximum electric field from the overhead circuit to be 0.83 kV/m. Additionally, the transmission line right of way (ROW) is 100 ft. The magnetic field at the +/- 50 ft ROW edge is 28.95 mG and the electric field is 0.17 kV/m.

2. Site Description

The Seahawk Solar Project is in Santa Cruz County, California. The project's total output is 200 MW and interconnects to the transmission system through a 2,000 ft long, 115kV, 954 ACSR Cardinal transmission line.

3. General Description of Electric and Magnetic Fields

3.1. Background Information

The generation, delivery, and use of electricity produces both electric and magnetic fields. Electric and magnetic fields are created by electrical voltage and electrical current respectively. Electrical facilities, such as power lines associated with the Seahawk Solar Project, produce electric and magnetic fields during operation. The exposure to electric and magnetic fields is complex and comes from multiple sources in the home and workplace in addition to power lines.

3.2. Units of Measure

Electric field values are reported using units of Volts per meter (V/m). Often the electric field is reported using thousands of Volts per meter (or kV/m).

Magnetic field values are reported using units of gauss (G). However, it is usually more convenient to report magnetic field using milliGauss (mG) which is equal to one-thousandth of a gauss (i.e., 1 mG = 0.001 G). Some technical reports also use the unit Tesla (T) or microTesla (μT ; 1 μT = 0.000001 T) for magnetic fields. The conversion between these two units is 1 mG = 0.1 μT and 1 μT = 10mG.

3.3. Electric Fields

The potential or voltage (electrical pressure) on an object causes an electric field. Any object with an electric charge on it has a voltage (potential) at its surface caused by the accumulation of more electrons as compared with another object or surface. The voltage effect is not limited to the surface of the object but exists in the surrounding space in diminishing intensity. Electric fields can exert a force on the other

electric charges at a distance. The change in voltage over distance is known as the electric field. The electric field becomes stronger near a charged object and decreases with distance away from the object. Electric fields are found in everyday life with typical values of electric field measured 1-foot away from common appliances shown in Table 1:

Appliance	Electric Field (kV/m)
Electric Blanket	0.25*
Broiler	0.13
Refrigerator	0.06
Iron	0.06
Hand Mixer	0.05
Coffee Pot	0.03

* Note: 1 to 10 kV/m next to blanket wires
 Source: Carstensen 1985; Enertech Consultants 1985

Table 1. Typical Electric Field Values for Appliances, at 12 inches

In the United States, electric power transmission lines create 60 Hz electric fields. These fields result from the voltage of the transmission line phase conductors with respect to the ground.

Electric field strengths from a transmission line decrease with distance away from the outermost conductor, typically at a rate of approximately one divided by the distance squared (1/d²). For example, in an undisturbed field, if the electric strength is 10 kV/m at a distance of 1 meter away, it will be approximately 2.5 kV/m at 2 meters away, and 0.625 kV/m at 4 meters away. Electric field strengths for a transmission line remain relatively constant over time because the voltage of the line is kept within bounds of about ± 5 percent of its rated voltage.

Transmission line electric fields are affected by the presence of grounded and conductive objects as demonstrated by Figure 1. Trees and buildings, for example can significantly reduce ground level electric fields by shielding the area nearby.

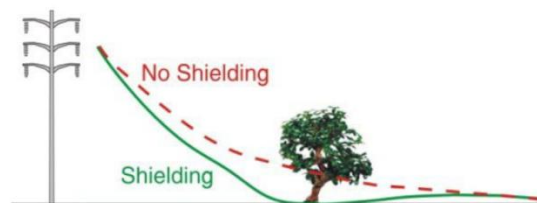


Figure 1. Electric Field Measurements Demonstrate Shielding Due to the Presence of a Tree

3.4. Magnetic Fields

An electric current flowing in a conductor (electric equipment, household appliance, power circuits, etc.) creates a magnetic field. The most commonly used magnetic field intensity unit of measure is the milligauss (mG).

Since the magnetic field is caused by the flow of an electric current, a device must be operated to create a magnetic field. Magnetic field strengths of many common household appliances were measured and typical magnetic field values for some appliances have been measured as low as 0.3 mG to as high as 20,000 mG. This is shown in Table 2:

Appliance	Magnetic Field at 12 inches Away (mG)	Maximum Magnetic Field (mG)
Electric Range	3 to 30	100 to 1,200
Electric Oven	2 to 25	10 to 50
Garbage Disposal	10 to 20	850 to 1,250
Refrigerator	0.3 to 3	4 to 15
Clothes Washer	2 to 30	10 to 400
Clothes Dryer	1 to 3	3 to 80
Coffee Maker	0.8 to 1	15 to 250
Toaster	0.6 to 8	70 to 150
Crock Pot	0.8 to 1	15 to 80
Iron	1 to 3	90 to 300
Can Opener	35 to 250	10,000 to 20,000
Blender, Popper, Processor	6 to 20	250 to 1,050
Vacuum Cleaner	20 to 200	2,000 to 8,000
Portable Heater	1 to 40	100 to 1,100
Fans/Blowers	0.4 to 40	20 to 300
Hair Dryer	1 to 70	60 to 20,000
Electric Shaver	1 to 100	150 to 15,000
Fluorescent Light Fixture	2 to 40	140 to 2,000
Fluorescent Desk Lamp	6 to 20	400 to 3,500
Circular Saws	10 to 250	2,000 to 10,000
Electric Drill	25 to 35	4,000 to 8,000

Source: IITRI 1984; Silva 1989

Table 2. Typical Magnetic Field Values from Household Appliances

Electric power transmission lines also create magnetic fields. These fields are typically generated by the current (amperes) flowing through the phase conductors. The magnetic field is a vector quantity having magnitude and direction.

Similar to the electric field, magnetic field strengths decrease with the inverse square of the distance away from the power line. Unlike electric fields that vary little over time, magnetic fields are not constant because the current on any power line changes in response to increasing and decreasing electrical load. Magnetic fields are not easily shielded.

3.5. EMF Standard and Design Limits

There are no federal standards limiting occupational or residential exposure to 60-Hz EMF in the United States. While some states do implement specific limits for new design, the state of California does not. This project will adhere to the California Public Service Commission Standards and Recommendations that have been set forth, stating that where practical, EMF reduction techniques are followed.

4. Project Overview and Calculations

The proposed SeaHawk Solar Project 115kV transmission circuit is broken up into a unique right-of-way section (100 ft) as defined below:

Calculation	Title
OH1	One conductor 954 kCMIL 54/7 ACSR 115kV 3-PH Overhead Transmission Circuit

4.1. Specific Parameters and Circuit Information for Calculations

Frequency	60 Hz
Additional Load	No expected change in max amperage for the following conditions: -Summer Normal -Summer Emergency -Winter Normal -Winter Emergency -Max average annual load initially -Max average annual load @ 10 yrs. out
Wire Location	30 ft above ground for Overhead, at G095 clearance requirements
Measurement Location	3.28 ft. (1m) above wire
Maximum wire distance	2000 ft
Cross Section Offset	+/- 250 ft
Software Used	PLS-CADD v17.22 x64

Table 3. EMF Study Modeling Parameters

4.2. General Parameters

ROW CALC #	Ckt. Numbers in ROW Segment	Voltage	Status	Conductors Modeled	100% Peak Current (Amps)
OH1	1-OverHead	115kV	Proposed	954 kCMIL 54/7 ACSR	1000A

The modeling and calculations of electric and magnetic fields were performed using the 3D EMF calculator within PLS-CADD, based on Electric Power Research Institute (EPRI) and Institute of Electrical and Electronics Engineers (IEEE) methods.

The calculations were performed on a 60 Hz frequency. OH1 115kV conductors were loaded with max operating current based on 200MW project size. The calculations were made, based on IEEE standards at 3.28 ft above ground, in 5ft increments +/- 250 ft from the center of the right-of-way.

The magnetic field produced by a 3-phase circuit is highly dependent on the orientation and geometry of the 3 cables that make up the circuit. The horizontal orientation of the overhead conductors represent a worst case scenario that produces the highest EMF values of any standard conductor orientation. The

circuit design used for the overhead section calculations, shown in Figure 2, is a worst EMF case scenario design that uses a horizontal orientation and minimum G.O. 95 clearance requirements to show that an overhead circuit with this load and voltage does not exceed any limits even with a worst EMF case scenario design.

5. Results

The maximum predicted magnetic field from the overhead circuit to be 83.31 mG. CEG predicts the maximum electric field from the overhead circuit to be 0.83 kV/m. Additionally, the transmission line right of way (ROW) is 100 ft. The magnetic field at the +/- 50 ft ROW edge is 28.95 mG and the electric field is 0.17 kV/m.

OH1 – 115KV CROSS SECTIONAL LAYOUT

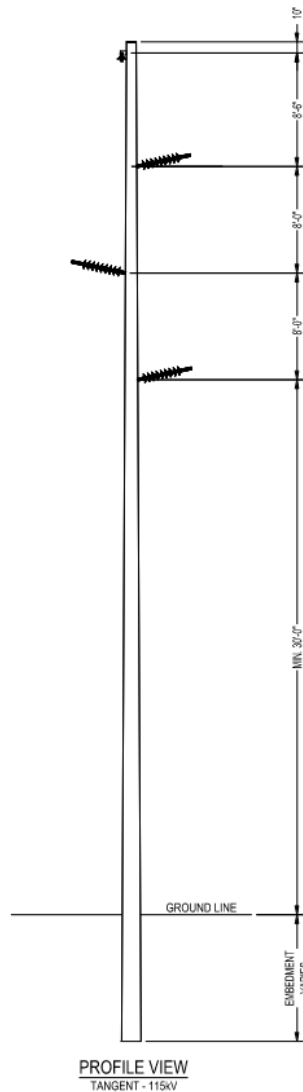
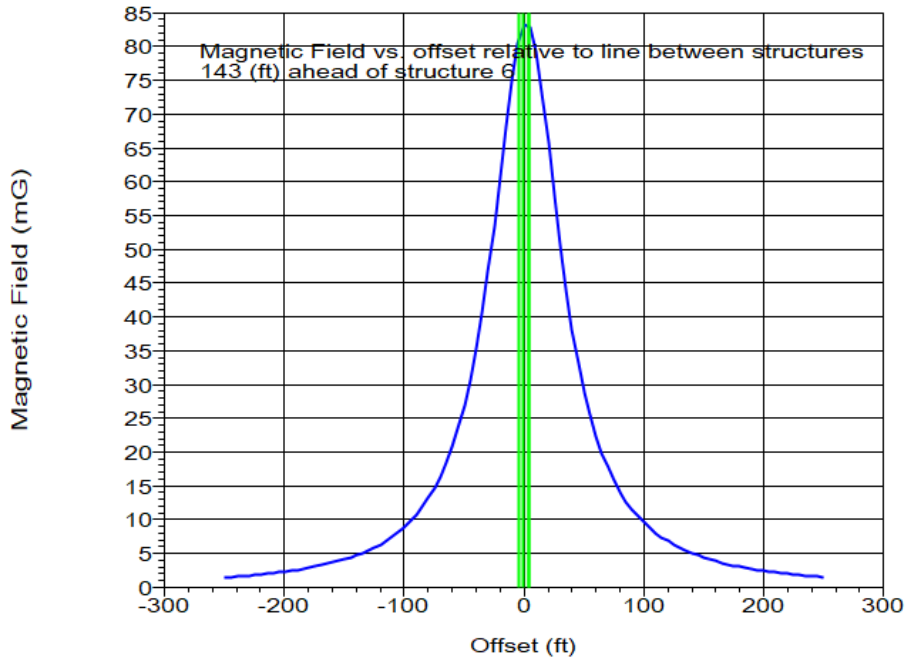
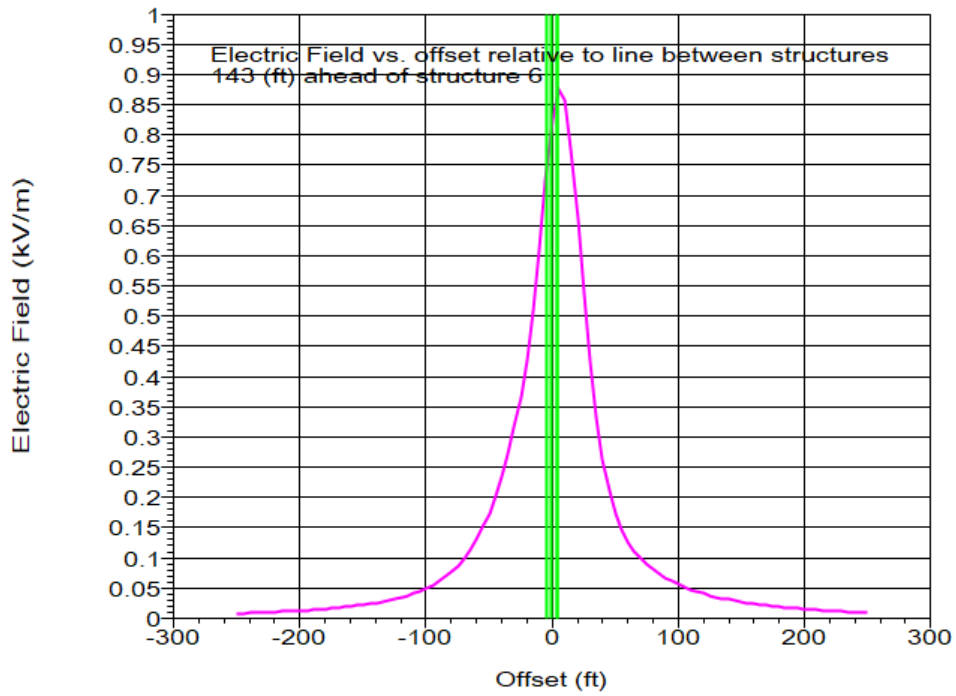


Figure 2. Proposed Tangent 115kV Overhead Transmission Line

OH1 - MAGNETIC-FIELD



OH1 - ELECTRIC-FIELD



Calculated field strengths are shown below at various distances from centerline.

Distance from Centerline (ft)	Magnetic Field (B) Magnitude (mG)	Electric Field Magnitude (kV/m)
250	1.472	0.008
150	4.174	0.022
100	8.927	0.05
75	14.674	0.087
70	16.404	0.099
65	18.426	0.113
60	20.799	0.13
55	23.598	0.15
50	26.876	0.174
45	30.74	0.202
40	35.294	0.235
35	40.633	0.272
30	46.722	0.316
25	53.492	0.367
20	60.79	0.429
15	68.175	0.51
10	75.041	0.612
5	80.46	0.727
0	83.314	0.826
-5	82.89	0.876
-10	79.239	0.857
-15	73.154	0.775
-20	65.761	0.658
-25	57.981	0.535
-30	50.579	0.423
-35	43.933	0.332
-40	38.14	0.263
-45	33.172	0.212
-50	28.949	0.174
-55	25.376	0.147
-60	22.352	0.127
-65	19.778	0.111
-70	17.582	0.099
-75	15.701	0.089
-100	9.643	0.056
-150	4.411	0.027
-250	1.523	0.009



CONSULTING ENGINEERS GROUP

8. Professional Engineer Approval of Report

Signed:

Sincerely,

Steve Peichel
Vice President
Consulting Engineers Group
Office 651-463-6350

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the state of:

California

P.E. License Number: 24302

Steve Peichel, P.E.

Consulting Engineers Group



Appendix 1 – Calculation Output Data

Criteria Notes:

Typical 2023 NESC Draft2_3.25.22 Criteria File for PLS-CADD Created June 6, 2022 Version 17.28

- Assumed NESC Heavy Combined Ice and Wind District Loading (Rule 250B)
- Assumed 90 MPH Extreme Wind Loading (Rule 250C); To be verified by the Engineer of Record
- Assumed 1" Extreme Ice with 40 MPH Concurrent Wind Loading (Rule 250D); To be verified by the Engineer of Record
- Assumed Maximum Operating Temperature of 212 F; To be verified by the Engineer of Record
- Assumed 1/2" Extreme Ice (Non-NESC); To be verified by the Engineer of Record
- Assumed Grade B Construction; To be verified by the Engineer of Record

<<Illustration of NESC provisions include>>

- > Combined Ice and Wind District Loading NESC Heavy per Rule 250B, Page 225
- > Extreme Wind Loading per Rule 250C, Page 225, Coefficients and Gust Response Factors per Equations in Tables 250-2, 250-3(a), and 250-3(b)
- > Assumed 90 MPH Basic Wind Speed, 3 second Gust Wind Speed, Figure 250-2(a) Beginning on Page 235
- **** PLEASE NOTE - NESC 2022 introduced a separate figure (250-2(b)) for Grade C, 3 second Gust Wind Speed, 50 year MRI. Engineering judgement should be used when choosing a wind speed for Rule 250C application.
- > Grade B Construction "Method A" per Table 253-1, Page 253 and Table 261-1, Page 265
- > Extreme Ice with Concurrent Wind Loading per Rule 250D, Page 225
- > Assumed 1" Basic Ice Diameter with Concurrent 40 MPH Basic Wind Speed, Figure 250-3 Beginning on Page 239
- > Cable Tension and Automatic Sagging Limits per Rule 261H1, Page 262
- **** NESC Rule 261H1c, Note 2 states that the 'Final' tension limit be applied under the creep condition only.
- **** PLEASE NOTE - Many experts consider these maximum limits to be high and could lead to severe aeolian vibration. As stated in NESC Rule 261H1b, PLS recommends checking with your cable manufacturer, damper manufacturer, and/or other standards for recommended values based on the actual vibration mitigation methods used ****
- > Insulator Mechanical Strengths per Rule 277, Page 272: Important Note for Strength Check:
- **** NESC Rule 277 specifically excludes Rule 253 Load Factors for checking the mechanical strength of insulators. This criteria checks insulators for all weather conditions, including load factors. This may be considered conservative by some and can be modified if desired. ****
- **** When specifying the insulator strength properties in Components/Insulators in TOWER and PLS-POLE, the manufacturer's recommended load capacities shall be used per NESC Table 277-1. This is normally the RTL and RCL values published by the non-ceramic insulator manufacturers. See IEEE Std 1572-2004 IEEE Guide for Application of Composite Line Post Insulators for further clarification. ****
- **** User may prefer to add other specific load cases utilizing alternative Strength Factors ****
- **** Coordination of Load Factors, Strength Factors, and Component strength properties is the responsibility of the Engineer of Record ****
- **** See Tech Note at http://www.powline.com/products/nesc_insulators.html for additional discussion ****
- > Structure Loads criteria includes typical Full Structure DE cases
- > Structure Loads criteria includes extreme wind check per Rule 261A1c (Page 257), Rule 261A2e (Page 258), and Rule 261A3d (Page 258)

POWER LINE SYSTEMS, INC. IS NOT RESPONSIBLE FOR THE ACCURACY OF THE CONTENT HEREIN OR RESULTS OBTAINED FROM ITS USE ON ANY PROJECT. THIS FILE IS PROVIDED FOR ILLUSTRATION ONLY. CRITERIA SHOULD BE CHECKED AND MODIFIED AS NECESSARY BY THE AN ENGINEER IN RESPONSIBLE CHARGE, FAMILIAR WITH THE NESC AND LOCAL REQUIREMENTS OF THE AREA IN WHICH THE PROJECT IS LOCATED, AND ITS APPLICATION. ENGINEER OF RECORD MUST VERIFY EXTREME WIND, CONCURRENT ICE AND WIND, AND EXTREME ICE PARAMETERS FOR THEIR APPLICABLE REGION. ENGINEER OF RECORD MUST VERIFY MAXIMUM OPERATING CONDITION FOR THEIR APPLICABLE PROJECT. ENGINEER OF RECORD MUST VERIFY CONDITIONS AND FACTORS USED FOR INSULATOR STRENGTH CHECKS. ENGINEER OF RECORD MUST ADD ANY ADDITIONAL CRITERIA THAT MAY BE REQUIRED BEYOND THE NESC. ENGINEER OF RECORD MUST REMOVE THIS DISCLAIMER AND MODIFY ALL NOTES ABOVE AS APPLICABLE WHEN ASSUMING CHARGE OF THIS CRITERIA

3D EMF Calculation Notes:

- 1) Calculations based on the EPRI Red Book methods (3rd Edition, 2005 - 7.4 Calculation of Magnetic Fields and Appendices 7.1 Calculation of Field Ellipse Parameters and 7.6 Electric Field Calculations for 3D Geometry).
- 2) All wire positions are modeled at the specified weather case and wind direction. Height above ground determined by the modeled ground TIN.
- 3) Only the effects of wires are being analyzed. The effects of structures are not included unless enabled as noted below.
- 4) Ground return is being ignored for magnetic field calculations.

Meter height above ground: 3.28 (ft)
 Maximum wire distance: 500.00 (ft)
 Maximum cable segment size: 9.80 (ft)
 Cross section offset +/-: 250.00 (ft)
 Result interval: 5.00 (ft)
 Electric field limit: 0.00 (kV/m)
 Magnetic field limit: 0.00 (mG)
 Space potential limit: 0.00 (kV)
 Contour Map Spacing: 15 (ft)
 Analyzing spans between these structures: 6 - 7

One or more sections have wind from both directions which is not supported. A wind direction of left is being used for those sections.

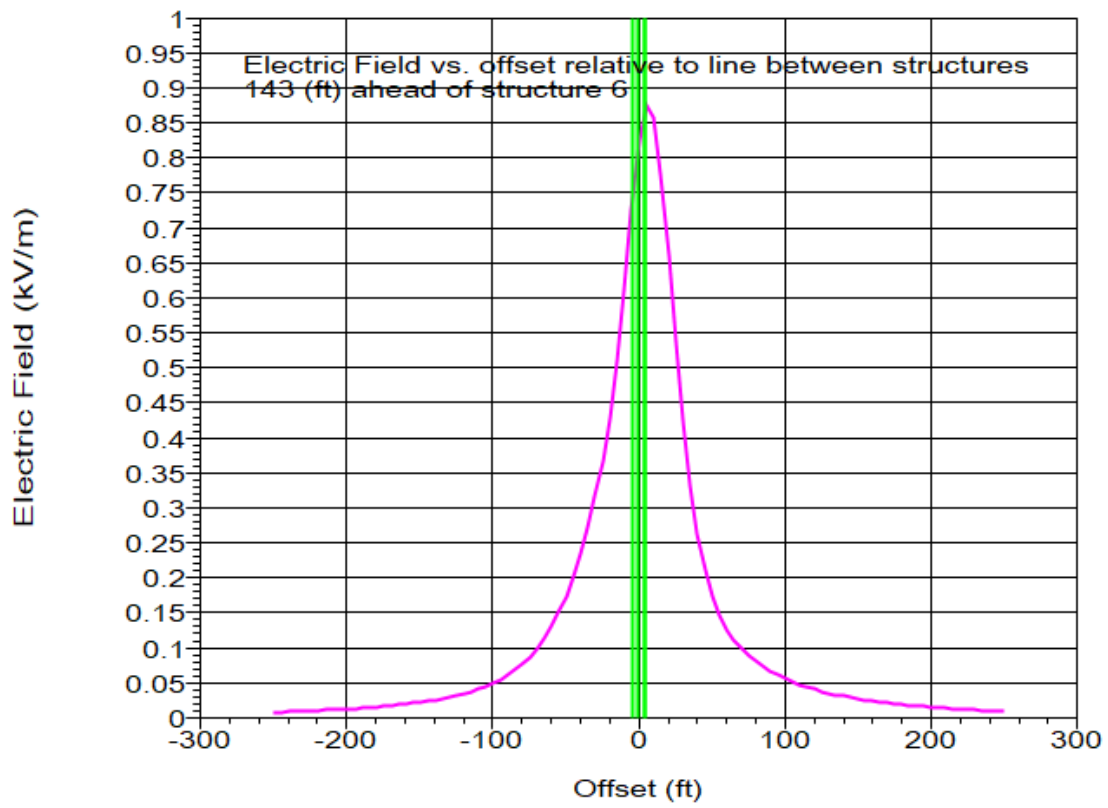
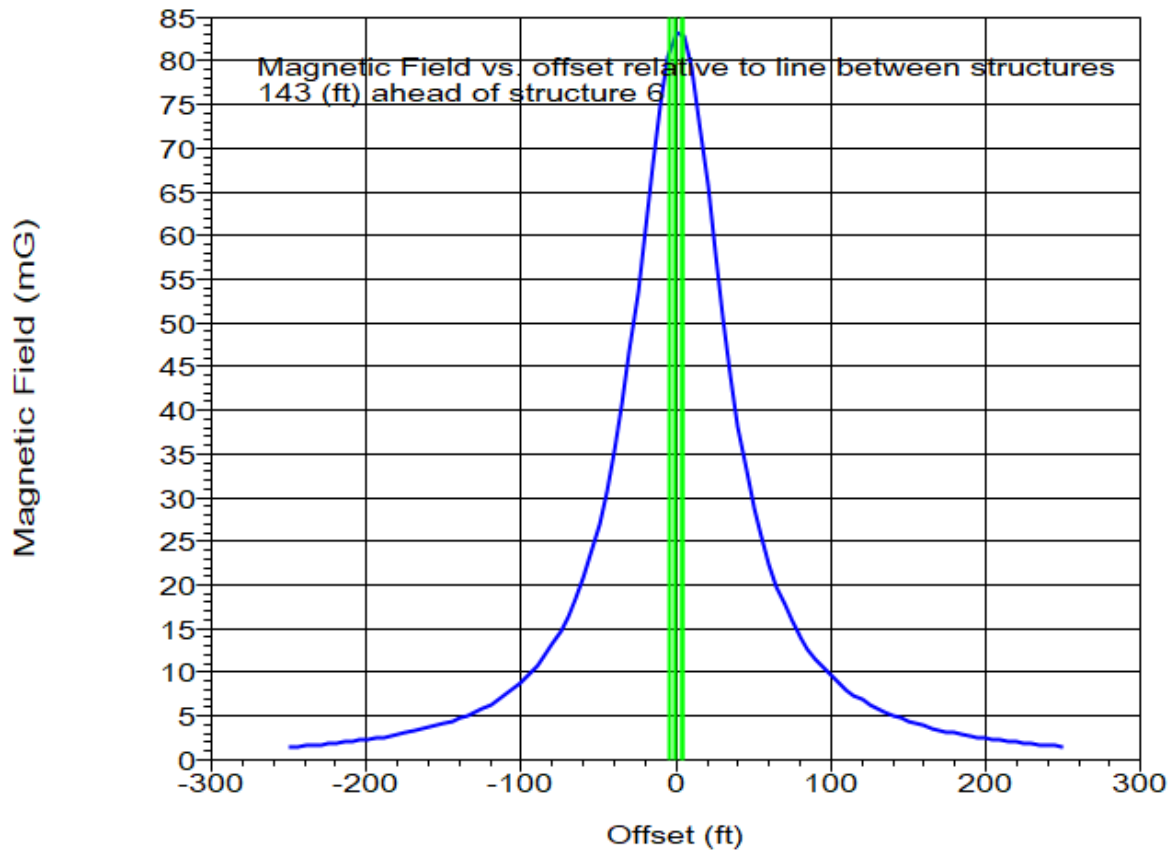
One or more sections are missing phase labels. Phase angles for these sections are assigned automatically (1 = 0°, 2 = 120°, 3 = -120°) ??

1, 2

Section Data for 3D EMF Results:

Section Number	Section Note	Section Voltage (kV)	Section Current (Amps)	Wind Dir.	Wind Temperature (deg F)	Effective Radius (in)	Cable Description	Conductors	Bundle Per Phase Diameter (in)
1	0 Deg F Initial RS Left	0.0	0.0	3.8-7	0.000	0.180	3/8 inch EHS 7 Strands Steel - Adapted from 1970's Publicly Available Data	1	0.000
2	115.0 1000.0 Creep RS Left	115.0	1000.0	CARDINAL_ACSR_GA2_GCC	954.0	0.598	954.0 kcmil 54/7 Cardinal/ACSR/GA2 - General Cable [Chart A7/G54/0.8853]	13	0.000

Mid-span cross section results between structures 6 and 7



3D EMF Point Results Span from 6 to 7:

Measurement			B					H	E					Space Potential			
X	Y	Z	Real	Imaginary	Angle	Magnitude	Polarization	Magnitude	Real	Imaginary	Angle	Magnitude	Polarization	Real	Imaginary	Angle	Magnitude
(ft)	(ft)	(ft)	(mG)	(mG)	(deg)	(mG)	Axial Ratio %	(A/m)	(kV/m)	(kV/m)	(deg)	(kV/m)	Axial Ratio %	(kV)	(kV)	(deg)	(kV)
6195052.3	1805958.0	109.5	0.829	1.217	55.7	1.472	68.1	0.117	0.003	0.007	70.2	0.008	0.3	0.002	0.007	77.6	0.008
6195048.1	1805955.4	109.5	0.865	1.270	55.7	1.537	68.1	0.122	0.003	0.006	69.6	0.008	0.3	0.002	0.008	77.2	0.008
6195043.8	1805952.8	109.5	0.904	1.326	55.7	1.605	68.1	0.128	0.003	0.008	69.1	0.009	0.3	0.002	0.008	76.8	0.008
6195039.5	1805950.1	109.5	0.945	1.386	55.7	1.678	68.2	0.134	0.003	0.008	68.5	0.009	0.3	0.002	0.008	76.4	0.009
6195035.3	1805947.5	109.5	0.989	1.450	55.7	1.755	68.2	0.140	0.004	0.009	67.9	0.009	0.3	0.002	0.009	75.9	0.009
6195031.0	1805944.9	109.5	1.036	1.518	55.7	1.838	68.2	0.146	0.004	0.009	67.3	0.010	0.3	0.002	0.009	75.4	0.009
6195026.7	1805942.3	109.5	1.086	1.591	55.7	1.926	68.3	0.153	0.004	0.009	66.6	0.010	0.3	0.003	0.009	74.9	0.010
6195022.5	1805939.7	109.5	1.140	1.668	55.7	2.020	68.3	0.161	0.004	0.010	65.9	0.011	0.3	0.003	0.010	74.3	0.010
6195018.2	1805937.1	109.5	1.198	1.751	55.6	2.121	68.4	0.169	0.005	0.010	65.2	0.011	0.4	0.003	0.010	73.8	0.011
6195013.9	1805934.5	109.5	1.259	1.840	55.6	2.229	68.5	0.177	0.005	0.011	64.4	0.012	0.4	0.003	0.011	73.1	0.011
6195009.7	1805931.9	109.5	1.326	1.935	55.6	2.345	68.5	0.187	0.006	0.011	63.6	0.013	0.4	0.004	0.011	72.5	0.012
6195005.4	1805929.3	109.5	1.398	2.037	55.5	2.470	68.6	0.197	0.006	0.012	62.8	0.013	0.4	0.004	0.012	71.8	0.012
6195001.1	1805926.7	109.5	1.475	2.147	55.5	2.605	68.7	0.207	0.007	0.012	61.9	0.014	0.4	0.004	0.012	71.0	0.013
6194996.9	1805924.1	109.5	1.559	2.265	55.5	2.750	68.8	0.219	0.007	0.013	61.0	0.015	0.5	0.005	0.013	70.3	0.014
6194992.6	1805921.5	109.5	1.649	2.393	55.4	2.906	68.9	0.231	0.008	0.013	60.0	0.016	0.5	0.005	0.013	69.4	0.014
6194988.3	1805918.9	109.5	1.747	2.531	55.4	3.076	69.0	0.245	0.008	0.014	59.0	0.016	0.5	0.006	0.014	68.5	0.015
6194984.1	1805916.2	109.5	1.854	2.680	55.3	3.259	69.1	0.259	0.009	0.015	57.9	0.017	0.6	0.006	0.014	67.6	0.016
6194979.8	1805913.6	109.5	1.970	2.843	55.3	3.459	69.3	0.275	0.010	0.015	56.8	0.018	0.6	0.007	0.016	66.5	0.017
6194975.5	1805911.0	109.5	2.098	3.020	55.2	3.677	69.4	0.293	0.011	0.016	55.6	0.020	0.7	0.007	0.016	65.4	0.018
6194971.3	1805908.4	109.5	2.237	3.213	55.2	3.914	69.6	0.312	0.012	0.017	54.3	0.021	0.7	0.008	0.017	64.2	0.019
6194967.0	1805905.8	109.5	2.389	3.423	55.1	4.174	69.8	0.332	0.013	0.018	53.0	0.022	0.8	0.009	0.018	62.9	0.020
6194962.8	1805903.2	109.5	2.557	3.654	55.0	4.457	69.9	0.355	0.014	0.019	51.7	0.023	0.9	0.010	0.019	61.6	0.022
6194958.5	1805900.6	109.5	2.742	3.907	54.9	4.773	70.2	0.380	0.016	0.020	50.1	0.026	0.9	0.011	0.020	60.1	0.023
6194954.2	1805898.0	109.5	2.946	4.186	54.9	5.119	70.4	0.407	0.018	0.021	48.5	0.028	1.0	0.013	0.021	58.5	0.025
6194950.0	1805895.4	109.5	3.173	4.493	54.8	5.501	70.6	0.438	0.020	0.022	46.8	0.030	1.2	0.014	0.022	56.7	0.026
6194945.7	1805892.8	109.5	3.426	4.834	54.7	5.925	70.8	0.471	0.023	0.023	45.0	0.032	1.3	0.016	0.023	54.9	0.028
6194941.4	1805890.2	109.5	3.704	5.212	54.6	6.397	71.1	0.509	0.025	0.024	43.1	0.034	1.4	0.018	0.024	53.0	0.030
6194937.2	1805887.5	109.5	4.024	5.634	54.5	6.923	71.3	0.551	0.029	0.025	41.1	0.038	1.6	0.021	0.025	50.6	0.033
6194932.9	1805884.9	109.5	4.379	6.106	54.4	7.514	71.6	0.598	0.032	0.026	38.9	0.041	1.7	0.024	0.027	48.2	0.036
6194928.6	1805882.3	109.5	4.780	6.635	54.2	8.178	71.9	0.651	0.036	0.027	36.7	0.045	1.9	0.027	0.028	45.6	0.039
6194924.3	1805879.7	109.5	5.235	7.231	54.1	8.927	72.2	0.710	0.041	0.028	34.2	0.050	2.1	0.031	0.029	42.8	0.042
6194920.1	1805877.1	110.2	5.738	7.934	53.9	9.770	72.5	0.778	0.047	0.030	31.7	0.055	2.3	0.034	0.030	39.9	0.045
6194915.8	1805874.5	110.1	6.376	8.706	53.8	10.791	73.0	0.859	0.054	0.030	28.9	0.062	3.2	0.051	0.036	35.1	0.062
6194911.5	1805871.9	110.1	7.062	9.586	53.6	11.907	73.3	0.947	0.062	0.030	26.0	0.069	3.5	0.059	0.036	31.6	0.069
6194907.3	1805869.3	110.1	7.856	10.595	53.4	13.190	73.7	1.050	0.071	0.030	22.9	0.077	3.9	0.068	0.036	27.8	0.077
6194903.0	1805866.7	110.1	8.779	11.758	53.3	14.674	74.0	1.168	0.082	0.029	19.6	0.087	4.3	0.080	0.035	23.8	0.087
6194898.8	1805864.1	110.2	9.831	13.050	53.1	16.359	74.3	1.305	0.095	0.027	16.3	0.099	4.8	0.094	0.035	19.3	0.100
6194894.5	1805861.5	110.2	11.130	14.484	52.8	18.246	74.6	1.466	0.111	0.024	12.4	0.113	5.4	0.112	0.029	14.6	0.116
6194890.2	1805858.9	110.3	12.629	16.027	52.6	20.399	74.9	1.655	0.129	0.019	8.6	0.130	6.1	0.133	0.022	9.5	0.135
6194886.0	1805856.3	110.3	14.404	18.693	52.4	23.598	75.0	1.878	0.149	0.014	5.2	0.150	6.9	0.157	0.011	4.0	0.158
6194881.7	1805853.6	110.3	16.488	21.225	52.2	26.876	74.9	2.139	0.173	0.014	4.7	0.174	7.8	0.182	0.006	-2.0	0.182
6194877.4	1805851.1	110.2	18.947	24.266	51.9	30.740	74.5	2.446	0.200	0.030	3.6	0.202	8.6	0.206	0.004	-6.6	0.210
6194873.2	1805848.4	110.2	21.841	27.724	51.8	35.294	73.8	2.809	0.227	0.058	14.4	0.235	10.2	0.233	0.068	-16.1	0.243
6194868.9	1805845.8	110.2	25.214	31.864	51.6	40.633	72.6	3.233	0.254	0.099	21.4	0.272	12.0	0.256	-0.118	-24.8	0.282
6194864.6	1805843.2	110.1	29.004	36.630	51.6	46.722	70.9	3.718	0.284	0.157	29.7	0.316	14.1	0.264	-0.185	-34.9	0.322
6194860.4	1805840.6	109.9	33.105	42.017	51.8	53.492	68.7	4.257	0.272	0.234	39.7	0.367	16.1	0.251	-0.288	-46.9	0.367
6194856.1	1805838.0	109.9	37.534	47.975	52.1	60.790	66.2	4.838	0.268	0.335	51.7	0.429	17.5	0.244	-0.404	-60.6	0.427
6194851.8	1805835.4	109.6	41.297	54.243	52.7	68.175	63.1	5.425	0.224	0.458	63.9	0.510	17.3	0.140	-0.487	-73.9	0.506
6194847.6	1805832.8	109.5	44.517	60.410	53.6	75.041	60.1	5.972	0.150	0.593	75.8	0.612	15.3	0.038	-0.611	-86.5	0.612
6194843.3	1805830.2	109.4	46.388	65.742	54.8	80.460	57.1	6.403	0.088	0.721	83.1	0.727	12.1	-0.088	-0.725	83.1	0.730
6194839.0	1805827.6	109.3	46.356	69.227	56.2	83.314	54.4	6.630	0.151	0.813	79.5	0.826	9.1	-0.216	-0.798	74.8	0.827
6194834.8	1805825.0	109.2	44.310	70.953	57.7	82.930	52.2	6.596	0.251	0.840	73.3	0.879	6.8	-0.321	-0.806	68.3	0.868
6194830.5	1805822.3	109.2	40.666	68.008	59.1	79.239	50.5	6.306	0.324	0.793	67.8	0.857	5.5	-0.383	-0.743	62.7	0.836
6194826.2	1805819.7	109.1	36.161	63.592	60.4	73.154	49.3	5.821	0.356	0.688	62.6	0.775	4.9	-0.401	-0.629	57.5	0.746
6194822.0	1805817.1	109.0	31.507	57.722	61.4	65.761	48.6	5.233	0.355	0.554	57.4	0.658	5.0	-0.384	-0.494	52.1	0.626
6194817.7	1805814.5	108.9	27.139	51.238	62.1	57.981	48.4	4.614	0.332	0.419	51.6	0.535	5.4	-0.344	-0.359	46.2	0.497
6194813.4	1805811.9	108.7	23.306	44.889	62.6	50.579	48.3	4.025	0.299	0.300	45.1	0.423	5.9	-0.296	-0.244	39.5	0.394
6194809.2	1805809.3	108.6	20.057	39.087	62.8	43.933	48.5	3.496	0.263	0.204	37.8	0.332	6.3	-0.249	-0.157	32.3	0.295
6194804.9	1805806.7	108.5	17.337	33.971	63.0	38.140	48.9	3.035	0.228	0.130	29.7	0.263	6.5	-0.207	-0.095	24.7	0.228
6194800.6	1805804.1	108.3	15.068	29.552	63.0	33.172	49.3	2.640	0.197	0.077	21.2	0.212	6.5	-0.171	-0.053	17.2	0.179
6194796.4	1805801.5	108.2	13.173	25.779	62.9	28.949	49.7	2.304	0.170	0.039	12.9	0.174	6.1	-0.140	-0.025	10.0	0.142
6194792.1	1805798.9	108.1	11.584	22.578	62.8	25.376	50.2	2.019	0.147	0.014	5.3	0.147	5.5	-0.116	-0.007	3.6	0.116
6194787.9	1805796.3	108.0	10.247	19.865	62.7	22.352	50.7	1.779	0.127	0.009	4.3	0.127	4.9	-0.096	0.004	-2.1	0.096
6194783.6	1805793.7	107.9	9.110	17.555	62.6	19.778											

Appendix 2G

Decommissioning Plan

Draft Decommissioning Plan

Seahawk Battery Energy Storage Project

APRIL 2026

Prepared for:

SEQUOIA ENERGY STORAGE 1, LLC

Project Applicant

55 Technology Drive, Suite 102

Lowell, Massachusetts 01851

CALIFORNIA ENERGY COMMISSION

Lead Agency

715 P Street

Sacramento, California 95814

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APN	Assessor’s Parcel Number
Applicant	Sequoia Energy Storage 1 LLC
BESS	Battery Energy Storage System
CEC	California Energy Commission
ERP	Emergency Response Plan
gen-tie	generation interconnection line
kV	kilovolt
LORS	Laws, Ordinances, Regulations, and Standards
O&M	Operations and Maintenance
PG&E	Pacific Gas and Electric Company
Plan	Draft Decommissioning Plan
SCADA	Supervisory Control and Data Acquisition
POCO	Point of Change of Ownership
POI	Point of Interconnection
Project	Seahawk Battery Energy Storage System Project
Project Substation	On-site collector substation
UL	Underwriters Laboratories

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1 Introduction

This Draft Decommissioning Plan (Plan) establishes the framework to conduct decommissioning activities for the permanent closure of all or a portion of the Seahawk Battery Energy Storage System (BESS) Project (Project). This Plan describes the approach for removal and/or proper abandonment of facilities and equipment associated with the Project and describes potential land restoration activities. In the event of unexpected, or planned, permanent cessation of operations, the Applicant will submit a Final Decommissioning Plan to the California Energy Commission (CEC) for approval prior to planned decommissioning activities that will incorporate then-applicable laws, ordinances, regulations, and standards (LORS).

1.1 Project Overview and Location

Sequoia Energy Storage 1 LLC (Applicant), a subsidiary of New Leaf Energy, proposes to construct, operate, and eventually repower or decommission the 200-megawatt Project located on an approximately 47-acre agricultural site (Assessor's Parcel Numbers [APNs] 051-101-77 and 051-101-78) in unincorporated Santa Cruz County, California. The Project would be constructed on approximately 16-acres (site plan area including setbacks and access roads) on the north-easterly portion of the property; a long-term land lease is proposed to accommodate development of the BESS. The Project BESS is located on a portion of APN 051-101-77 and the generation interconnection (gen-tie) line is located on portions of APNs 051-101-77 and 051-091-03. Development of the BESS facility would occur on an area of land that is currently an apple orchard. The remaining area within the parcel, as well as the adjacent APN 051-101-78, would be put under a long-term conservation easement. The Project is within the U.S. Geological Survey 7.5-minute Watsonville West quadrangle, Township 11S, Range 2E, and Section 28.

The primary components of the Project include battery storage containers, inverters and transformers, an on-site collector substation (Project Substation), a gen-tie line, an operations and maintenance (O&M) building, a fire protection system, access improvements, stormwater management, a noise wall, Supervisory Control and Data Acquisition (SCADA) system, and temporary construction laydown areas.

The Project would consist of lithium-iron phosphate batteries, or similar technology, installed in racks inside prefabricated energy storage containers, with integrated power conversion equipment and fire suppression systems, in compliance with all applicable standards. In addition, the Project would have on-site interconnection equipment including transformers. The Project would interconnect from the Project Substation to the adjacent Pacific Gas and Electric Company (PG&E) Green Valley Substation via a 115-kilovolt (kV) gen-tie line. The line would be installed underground from the Project Substation to the Point of Change of Ownership (POCO) at an overhead riser pole on the PG&E parcel, and an overhead line would connect to the Point of Interconnection (POI) at the PG&E Green Valley Substation.

The facility would be an outdoor BESS installation, containing 245 battery blocks that would house the energy storage batteries, all located on a concrete pad surrounded by gravel. No battery blocks would be located within an enclosed structure. There would be room for 21 additional battery blocks for future augmentation, for a total of 266 battery blocks. The Project would also include all required off-site improvements, including a secondary emergency access route and improvements necessary to provide water service as required to meet California Fire Code and emergency response requirements.

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2 Plan Purpose and Objectives

The purpose of this Plan is to provide an initial framework for decommissioning activities for the permanent closure of all or a portion of the Project. This Plan describes the approach for removal and/or proper abandonment of facilities and equipment associated with the Project and describes anticipated land restoration activities in accordance with applicable regulatory codes and mitigation commitments.

The decommissioning phase of the Project would include an Emergency Response Plan (ERP). The ERP includes the plan development in addition to regular training and updates. The ERP takes into account common items, including a description of the equipment; procedures on how to safely shutdown, de-energize, or isolate the equipment to reduce the risk of fire, electric shock, and personal injuries; emergency procedures to be followed in case of fire, explosion, release of vapors, or other emergency; safety data sheet procedures and schedules for on-site training; and any other procedures or critical safety issues specific to the BESS installation. The Applicant will submit a Final Plan to CEC for approval prior to planned decommissioning activities that will incorporate then-applicable LORS.

This Plan identifies the following:

1. Components involved with the construction of the Project.
2. Decommissioning activities for the Project, which may include removal of industrial facilities and compliance with then-applicable LORS, including recycling of equipment, hazardous waste, and sampling and cleanup issues; and disposal of all solid and hazardous waste.

Laws, Ordinances, Regulations, and Standards Related to Decommissioning

There are no federal, state, or local LORS specific to decommissioning standalone BESS. Decommissioning of the Project would be completed in conformance with the LORS that are in effect at the time of decommissioning, and/or conditions of compliance from CEC.

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3 Project Components

The Project would include construction, O&M, and eventual decommissioning of a 200-megawatt BESS. A 115-kV gen-tie, connecting the Project Substation to the POI within the existing PG&E Green Valley Substation, would facilitate charging and discharging to the electrical grid. The BESS facility would include the following primary components:

- Battery Storage Containers
- Inverters and Transformers
- Project Substation
- Gen-Tie Line
- Access Improvements
- Supervisory Control and Data Acquisition
- Temporary Construction Laydown Areas
- Stormwater Management
- Noise Wall, Lighting, and Landscaping
- Operations and Maintenance Building
- Fire Protection System

The Project's components that are anticipated to be subject to decommissioning are summarized below.

3.1 Battery Storage Containers

Energy storage containers would provide energy storage capacity and dispatch for the electrical grid. Approximately 266 energy storage containers are planned; each container would be approximately 160 square feet with an estimated height of 10 feet. The BESS facility will utilize lithium-iron phosphate batteries, or similar technology.

3.2 Inverters and Transformers

Power inverters to convert between alternative current and direct current would be included, along with transformers that would step up the voltage.

3.3 Project Substation

The Project substation would be located in the northwest corner of the Project site, directly east of the existing PG&E Green Valley Substation. The Project substation would step the electricity from the inverter-transformer to the voltage level of the transmission system.

3.4 Gen-Tie Line

The Project would interconnect from the Project Substation to the adjacent PG&E Green Valley Substation via a 115-kV gen-tie line. The line would be installed underground from the Project Substation to the POCO on the PG&E parcel, and an overhead line would connect to the POI at the PG&E Green Valley Substation.

3.5 Access Improvements

Access to the Project would be via Minto Road. A 20-foot-wide gravel access road would be constructed around and through the BESS facility and to the Project substation. An approximately 20-foot-wide access gate would be installed at the entrance of the access road to ensure security of the site.

Proposed secondary access roads include three options which will be evaluated as part of the Project. The three options being considered would extend the on-site access to the south, along the Project's south/southeastern boundaries. Options 1 and 2 would go through a County-owned property (APN 051-101-59) to the south along two different alignments, to connect to Grimmer Road. Option 1 would extend through undeveloped land and a parking area to connect to Grimmer Road that serves the County's parcel. Option 2 would extend from the Project property through an existing parking area on the County's parcel to extend to Grimmer Road. Option 3 would extend southwest within APN 051-101-78, cross into the southern adjoining parcel (APN 051-101-53), continue southeast before turning west, then continuing southeast and terminating where the Grimmer Road public right of way starts.

3.6 Supervisory Control and Data Acquisition

One control enclosure for the SCADA system would be located on site to allow off-site monitoring.

3.7 Temporary Construction Laydown Areas

Up to two designated areas for parking and equipment and material staging and storage would be located on site during construction. The laydown area(s) will be located in the western portion of the Project site, near the site entrance.

3.8 Stormwater Management

The BESS facility would include a gravel base, and concrete drainage channels along the northern and southern sides of the facility that would connect to bio-filtration ponds to collect and treat stormwater runoff.

3.9 Noise Wall, Lighting, and Landscaping

The Project BESS facility site will be enclosed within a noise mitigation wall ("noise wall"), which will double as a security wall to prevent unauthorized access. The noise wall would be 14 feet tall along the northern and northeastern sides of the facility and 12 feet high on the southeastern and southern sides of the facility. The drainage channels would be on the outside of the noise wall, and the wall would be surrounded by a landscaped perimeter with a mix of trees and primarily native shrubs. The Project would include minimal lighting for safety at night, consisting of motion-activated lighting.

3.10 Operations and Maintenance Building

An existing residential structure located near the northwestern side of the Project site along Minto Road will be utilized as an office space for the BESS. No additional O&M buildings are proposed for construction on-site. Additional structures adjacent to the proposed O&M building will remain in use for agricultural operations.

3.11 Fire Protection System

Fire protection systems will be incorporated within each individual BESS enclosure and will include remote monitoring. The Project's fire protection system would comply with all applicable standards including Underwriters Laboratories (UL) 9540A, UL 1973, UL 1741, and UL 9540; Institute of Electrical and Electronics Engineers C2; National Fire Protection Association 550; National Fire Protection Association 855; the International Fire Code and California Fire Code.

4 Construction, Operation, and Facility Decommissioning

4.1 Construction

Construction of the Project is expected to take approximately 12 to 18 months. Construction activities would include site preparation, grading, battery/container installation, substation installation, gen-tie installation, stormwater protection installation, and energization.

4.2 Operation

Upon completion of construction, the facility would operate continuously for approximately 30 to 35 years, charging from the electrical grid when demand is low and discharging when demand is high, providing additional capacity to the electrical grid. The facility would operate unstaffed and be monitored remotely through the SCADA system.

Routine maintenance and scheduled operation of the fully developed project is expected to require up to eight workers on a weekly basis. Typically, one major maintenance inspection would occur annually, requiring up to 20 workers for approximately one week. In addition, up to six workers would visit the site every two to three years to add or connect additional batteries to the facility using a crane and a forklift, within the proposed facility boundary.

Operational access and parking would be the same as construction. There would be no material storage on site during operation. The Project would include placards as required by the National Electric Code and nameplates identifying the equipment manufacturer and system owner.

4.3 Facility Decommissioning

The operational lifespan of the Project would be up to approximately 35 years, after which time the facility may be decommissioned. Following decommissioning, the use of the land would return to a use that is consistent with the County of Santa Cruz General Plan and Zoning Ordinance.

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5 Closure

Facility closure can be temporary or permanent. Temporary closure is defined as a shutdown for a period exceeding the time required for normal maintenance, with an intent to restart in the future. Causes for temporary closure may include equipment upgrades and repowering the Project or damage to the Project components from earthquake, fire, storm, or other natural acts. Permanent closure is defined as a cessation in operations with no intent to restart operations.

Temporary closures are not discussed in this Plan because it is assumed that the Project would be restarted once repairs are made or the condition causing the temporary closure is corrected. As used here, “closure” is synonymous with decommissioning and includes removal of the facilities and materials that were employed to support the operation of the facility.

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6 Decommissioning and Recycling

At the time of decommissioning, this Plan would be finalized and submitted to CEC for approval that describes the proposed equipment to be removed and equipment that would remain for future use, based on expected future use of the site. Decommissioning of BESS components involves dismantling the energy storage system and removing it from the site in compliance with applicable federal and local rules that govern the safe transport and disposition of used equipment or waste. Transmission interconnection facilities would remain in place for the life of the facility. At the time of full Project decommissioning, if the transmission interconnection and distribution lines and communications lines would not be further used by a public or private utility or power generator, the lines would be decommissioned. Decommissioning of the transmission and communications lines would take place only after the substation and lines are fully de-energized and made safe for removal. The aboveground portion of the line would entail removal of the overhead conductors, wiring, and poles. The belowground portion would entail removal of the lines and conduit, where possible. Decommissioning would attempt to maximize recycling of all facility components. All steel and concrete would be recycled to the maximum extent possible, and the foundations would be removed to a depth of at least 3 feet below the ground surface. Aluminum, copper, and other metals from the overhead conductors would be recycled to the maximum extent possible. The key Project components to be affected by decommissioning activities are discussed below. The general decommissioning approach would be the same whether a portion of the Project or the entire Project would be decommissioned.

6.1 Decommissioning Preparation

The first step in the decommissioning process would be to assess existing site conditions and prepare the site for demolition. All site decommissioning would occur within the existing noise wall; the noise wall would be the last component to be removed. Preparation activities may include electrical inspections in addition to inspections of access routes, security walls, and gates. Repairs or improvements may occur if inspections identify electrical, road, fencing, or gate improvements or repairs that must be made prior to decommissioning activities. Demolition debris would be placed in temporary on-site storage area(s) pending final transportation and disposal/recycling according to the procedures listed below.

6.2 BESS Removal and Recycling

During decommissioning, Project components that are no longer needed would be removed from the site and recycled. All underground cables would be excavated and removed or abandoned in-place 3 feet below grade for all underground conductors. Inverters and BESS containers would be removed from concrete foundations or piling, and the foundations would be removed or abandoned in place 3 feet below grade. All wiring, cables, heating, cooling, and ventilation equipment would be disconnected from the BESS containers and batteries. Demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried by the on-site equipment being used.

6.2.1 Battery Recycling

Batteries would be recycled at a specialized recycling plant, and the remaining BESS components would be recycled or disposed of in accordance with the procurement documents provided by the battery manufacturer.

6.2.1.1 Battery Recycling Technology

It is anticipated that the availability of end-of-life battery recycling centers will increase along with battery production. As of late 2021, there were 32 lithium battery recycling facilities globally, with the majority located in China and four in North America. Five additional plants are planned for the United States and Mexico (Baum et al. 2022). Strategic global demand for precious metals, along with the fledgling green-energy market, continue to drive technological advances in recycling (Gellerman 2022). Recycling enhancements and innovation are anticipated to continue and are anticipated to be in place by the projected end of life of the proposed BESS, estimated to be approximately 35 years after the start of operations.

The location and options for recycling lithium batteries associated with the Project will be determined during Final Plan preparation.

6.3 Access Roads and Wall

Access roads would be disked for decompaction purposes and the perimeter wall would be removed, if it will not be used for a future development, using rubber-tired dozers, tractors, loaders, and backhoes.

6.4 Hazardous Materials and Waste

During the decommissioning process, there is a chance that hazardous waste may be generated. In the event that decommissioning activities generate hazardous waste, it would be stored, handled, and disposed of according to local, state, and federal regulations.

7 Site Reclamation

The decommissioning process would remove BESS-related structures and infrastructure as described in the previous sections. The Project owner would contract with a qualified reclamation contractor to evaluate and prescribe specific reclamation measures. The reclamation contractor would coordinate with the Project owner to ensure that the prescriptions are implemented as written.

Reclamation may restore landform features, vegetative cover, and hydrologic function after closure of the facility. The process may involve either replacement of topsoil, brush, rocks, and natural debris over disturbed areas so that the site blends with the surrounding landscape or stabilizing the soil to prepare the site for a future use.

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8 References

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