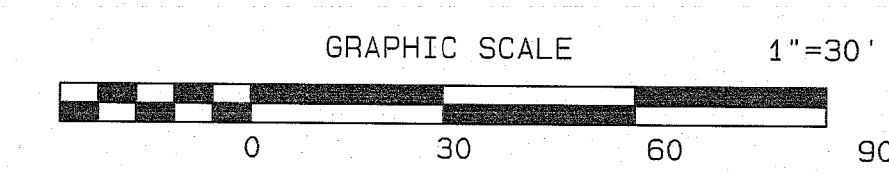


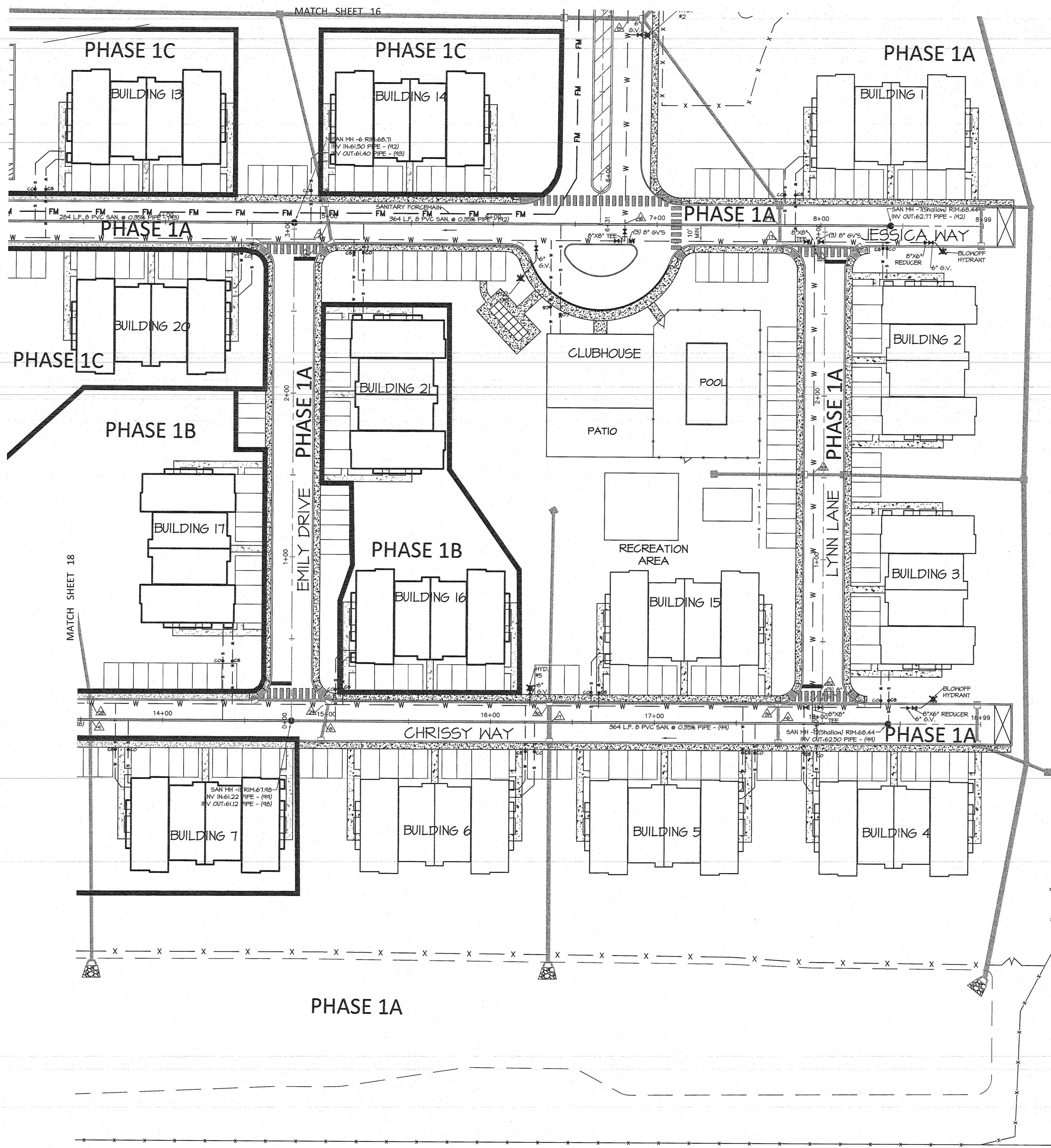
Crossing #	Sanitary	Water	Storm	Clearance	C.C.
1	Inv 62.53		Inv 64.58	1.25'	
2	Inv 61.57		Inv 65.35	2.68'	
3	Inv 60.49		Inv 64.81	3.42'	
4	Inv 59.82		Inv 62.4	1.61'	
5	Inv 59.38		Inv 64.27	3.92'	
6	Inv 62.25		Inv 64.49	2.71'	
7	Inv 61.77		Inv 63.23	0.50'	C.C.
8	Inv 61.28		Inv 64.49	2.31'	
9	Inv 60.59		Inv 63.84	2.25'	
10	Inv 60.20		Inv 64.49	3.39'	
11	Inv 59.60		Inv 62.00	1.44'	C.C.
12	Inv 58.90		Inv 62.78	2.98'	
13	Inv 58.42		Inv 64.36	5.04'	
14	Inv 65.01	Inv 68.43		2.71'	
15		Inv 59.79	Inv 61.57	0.82'	C.C.
16	Inv 62.21		Inv 64.42	1.50'	
17		Inv 62.84	Inv 64.72	1.00'	C.C.
18		Inv 63.24	Inv 65.12	1.00'	C.C.
19		Inv 62.90	Inv 64.78	1.00'	C.C.
20		Inv 60.45	Inv 62.42	1.00'	C.C.
21		Inv 60.23	Inv 64.19	3.00'	
22	Inv 57.89	Inv 63.08		4.48'	
23		Inv 62.51	Inv 64.39	1.00'	C.C.
24		Inv 60.95	Inv 62.81	1.00'	C.C.
25	Inv 58.89	Inv 61.95		2.35'	
26		Inv 60.06	Inv 62.00	1.00'	C.C.
27		Inv 62.65	Inv 64.52	1.00'	C.C.
28		Inv 62.00	Inv 63.88	1.00'	C.C.
29		Inv 62.00	Inv 64.45	1.57'	
30		Inv 61.35	Inv 63.29	1.00'	C.C.
31		Inv 62.58	Inv 64.46	1.00'	C.C.
32		Inv 62.72	Inv 64.60	1.14'	C.C.
33		Inv 62.43	Inv 64.69	1.38'	C.C.
34		Inv 62.43	Inv 64.81	1.5'	C.C.
35	Inv 65.87		Inv 62.08	1.5'	C.C.

- LEGEND**
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - ▲— PROPOSED WATER MAIN
 - X— PROPOSED WATER VALVE
 - *— PROPOSED FIRE HYDRANT
 - PROPOSED WATER SERVICE LATERAL
 - PROPOSED SANITARY SEWER LATERAL



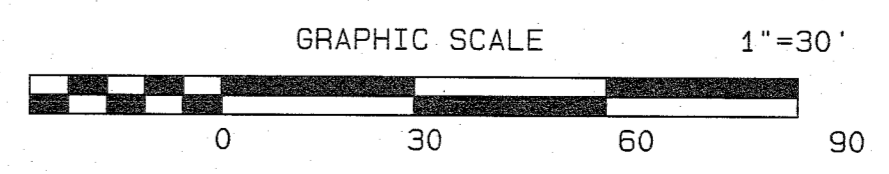
SEE SHEET 2 FOR ALL UTILITY NOTES

DATE	REVISION	DRAWN	CHECKED	RELEASED
UTILITY PLAN-PHASE 1A				
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION				
LOT 15.01 ~ BLOCK 44				
TAX MAP SHEET NO. 8				
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY				
FWH ASSOCIATES, P.A.		CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS RESERVE SPECIALISTS ARCHITECTS		
1856 Rt. 9, Toms River, NJ 08756 T: 732.797.3100 F: 732.797.3223		FWHASSOCIATES.COM PROJECT NO. 1423.0016 SHEET NO. 16A OF 49		
Brian P. Murphy PROFESSIONAL ENGINEER N.J. LIC. NO. 42000				



Crossing #	Sanitary	Water	Storm	Clearance	C.C.
1	Inv 62.53		Inv 64.68	1.25'	
2	Inv 61.57		Inv 65.15	2.68'	
3	Inv 60.49		Inv 64.81	3.42'	
4	Inv 59.82		Inv 62.4	1.61'	
5	Inv 59.38		Inv 64.27	3.92'	
6	Inv 62.25		Inv 64.49	2.71'	
7	Inv 61.77		Inv 63.23	0.50'	C.C.
8	Inv 61.28		Inv 64.49	2.31'	
9	Inv 60.69		Inv 63.94	2.25'	
10	Inv 60.20		Inv 64.49	3.39'	
11	Inv 59.60		Inv 62.00	1.44'	C.C.
12	Inv 58.90		Inv 62.78	2.98'	
13	Inv 58.42		Inv 64.36	5.04'	
14	Inv 65.01	Inv 68.43		2.71'	C.C.
15		Inv 59.79	Inv 61.57	0.82'	
16	Inv 62.21	Inv 64.42		1.50'	
17		Inv 62.84	Inv 64.72	1.00'	C.C.
18		Inv 63.34	Inv 65.12	1.00'	C.C.
19		Inv 62.90	Inv 64.78	1.00'	C.C.
20		Inv 60.45	Inv 62.42	1.00'	C.C.
21		Inv 60.23	Inv 64.19	3.06'	
22	Inv 57.89	Inv 63.08		4.48'	
23		Inv 62.51	Inv 64.39	1.00'	C.C.
24		Inv 60.95	Inv 62.81	1.00'	C.C.
25	Inv 58.89	Inv 61.95		2.35'	
26		Inv 60.06	Inv 62.00	1.00'	C.C.
27		Inv 62.65	Inv 64.52	1.00'	C.C.
28		Inv 62.00	Inv 63.88	1.00'	C.C.
29		Inv 62.00	Inv 64.45	1.57'	
30		Inv 61.35	Inv 63.29	1.00'	C.C.
31		Inv 62.58	Inv 64.46	1.00'	C.C.
32		Inv 62.72	Inv 64.60	1.14'	C.C.
33		Inv 62.43	Inv 64.69	1.38'	C.C.
34		Inv 62.43	Inv 64.81	1.5'	C.C.
35	Inv 65.87		Inv 62.08	1.5'	C.C.

- LEGEND**
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - ▲— PROPOSED WATER MAIN
 - PROPOSED WATER VALVE
 - PROPOSED FIRE HYDRANT
 - PROPOSED WATER SERVICE LATERAL
 - PROPOSED SANITARY SEWER LATERAL



SEE SHEET 2 FOR ALL UTILITY NOTES

DATE	REVISION	DRAWN	CHECKED	RELEASED
01/14/21	REV. PER PHASING LIMITS	CSM	JS	
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS	
5/20/20	REV. PER N.J.DOT LETTER 4-13-2020	CSM	JS	
9/24/19	REV. BUFFER FENCING PER N.J.DEP	CSM	JS	
3/18/19	REV. PER CAPRA MEETING 2/14/19	CSM	JS	

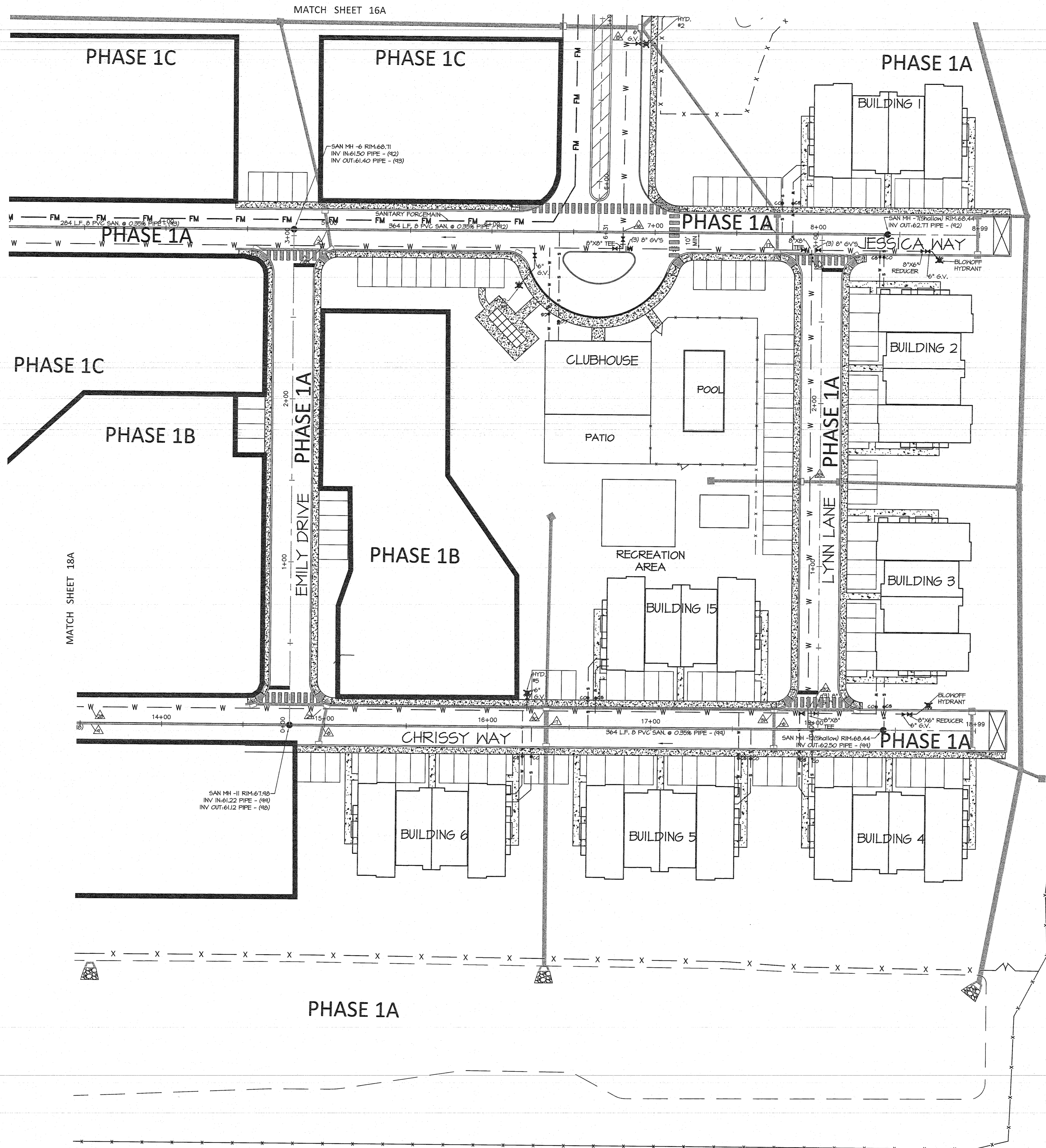
UTILITY PLAN
 PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

CIVIL ENGINEERS
 LAND SURVEYORS
 PLANNERS
 ARCHITECTS
 LANDSCAPE ARCHITECTS
 RESERVE SPECIALISTS
 ARCHITECTS

FWH ASSOCIATES, P.A.
 1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

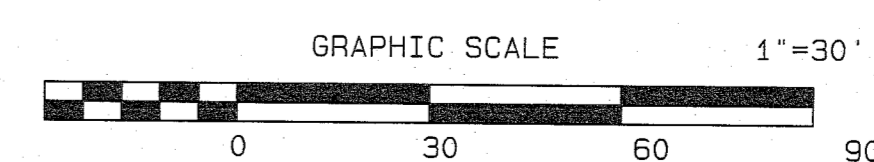
Brian P. Murphy
 PROFESSIONAL ENGINEER
 N.J. Lic. No. 42000

DESIGNED BY	CSM	DATE	8/10/18
CHECKED BY	JS	SCALE	1"=30'
DESIGNED BY	JS	DRAWER NO.	PP-170
RELEASED BY	BPM	PROJECT NO.	1423.0016
SHEET NO.	17	TOTAL SHEETS	49



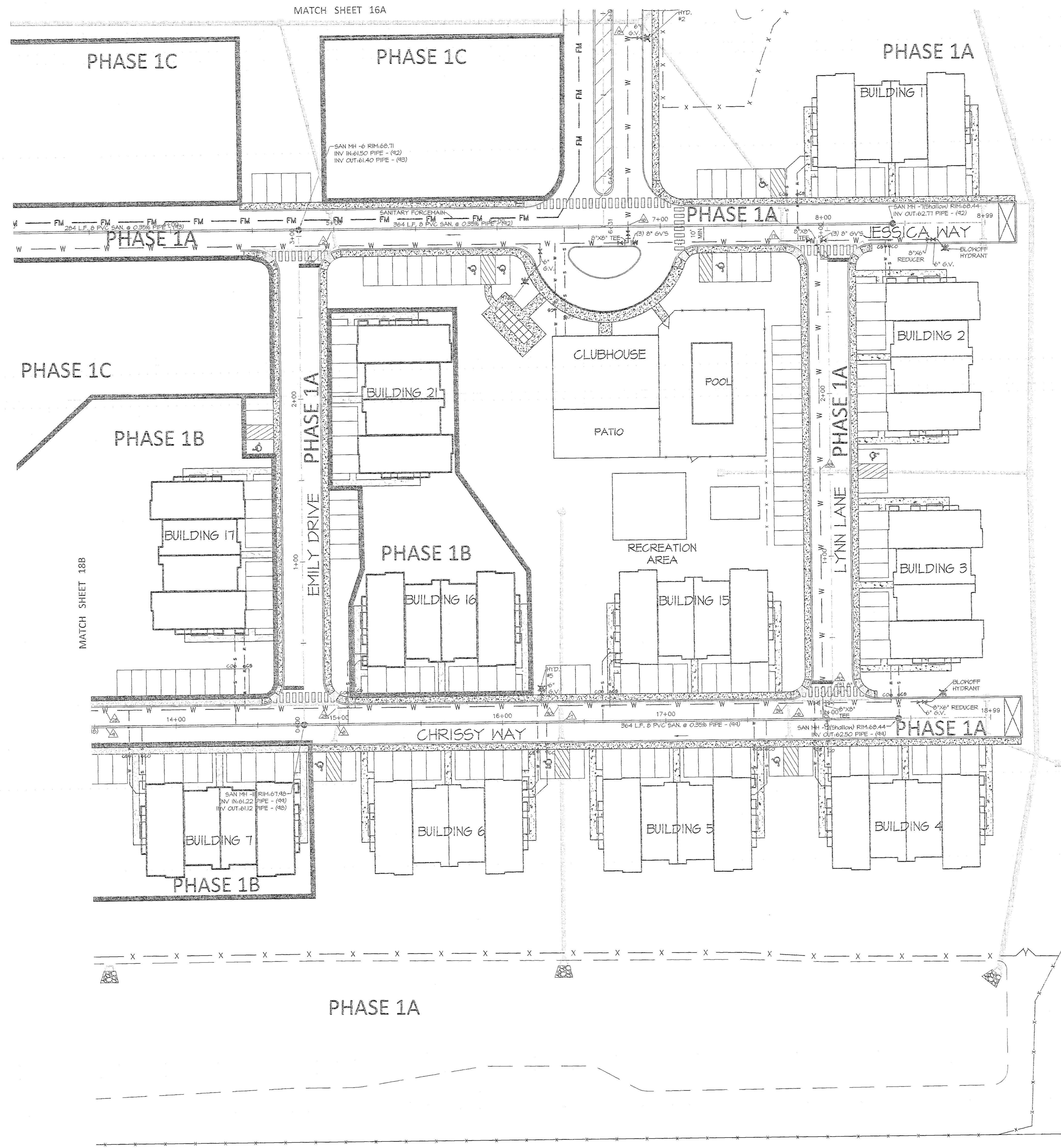
Crossing #	Sanitary	Water	Storm	Clearance	
1	Inv 62.53		Inv 64.68	1.25'	C.C.
2	Inv 61.57		Inv 65.15	2.68'	
3	Inv 60.49		Inv 64.81	3.42'	
4	Inv 59.82		Inv 62.4	1.61'	
5	Inv 59.38		Inv 64.27	3.92'	
6	Inv 62.25		Inv 64.49	2.71'	
7	Inv 61.77		Inv 63.23	0.50'	C.C.
8	Inv 61.28		Inv 64.49	2.31'	
9	Inv 60.69		Inv 63.94	2.25'	
10	Inv 60.20		Inv 64.49	3.39'	
11	Inv 59.60		Inv 62.00	1.44'	C.C.
12	Inv 58.90		Inv 62.78	2.98'	
13	Inv 58.42		Inv 64.36	5.04'	
14	Inv 65.01	Inv 68.43		2.71'	
15		Inv 59.79	Inv 61.57	0.82'	C.C.
16	Inv 62.21	Inv 64.42		1.50'	
17		Inv 62.94	Inv 64.72	1.00'	C.C.
18		Inv 63.24	Inv 65.12	1.00'	C.C.
19		Inv 62.90	Inv 64.78	1.00'	C.C.
20		Inv 60.45	Inv 62.42	1.00'	C.C.
21		Inv 60.23	Inv 64.19	3.06'	
22	Inv 57.89	Inv 63.08		4.48'	
23		Inv 62.51	Inv 64.39	1.00'	C.C.
24		Inv 60.95	Inv 62.81	1.00'	C.C.
25	Inv 58.89	Inv 61.95		2.35'	
26		Inv 60.06	Inv 62.00	1.00'	C.C.
27		Inv 62.65	Inv 64.52	1.00'	C.C.
28		Inv 62.00	Inv 63.88	1.00'	C.C.
29		Inv 62.00	Inv 64.45	1.57'	
30		Inv 61.35	Inv 63.29	1.00'	C.C.
31		Inv 62.58	Inv 64.46	1.00'	C.C.
32		Inv 62.72	Inv 64.60	1.14'	C.C.
33		Inv 62.43	Inv 64.69	1.38'	C.C.
34		Inv 62.43	Inv 64.81	1.5'	C.C.
35	Inv 65.87		Inv 62.08	1.5'	C.C.

- LEGEND**
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - PROPOSED WATER MAIN
 - ▲— PROPOSED WATER VALVE
 - X— PROPOSED FIRE HYDRANT
 - PROPOSED WATER SERVICE LATERAL
 - PROPOSED SANITARY SEWER LATERAL



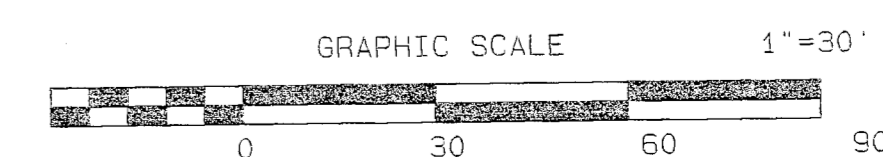
SEE SHEET 2 FOR ALL UTILITY NOTES

DATE	REVISION	DRAWN	CHECKED	RELEASED
UTILITY PLAN-PHASE 1A				
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION				
LOT 15.01 ~ BLOCK 44				
TAX MAP SHEET NO. 8				
SITUATED IN				
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY				
FWH ASSOCIATES, P.A.		CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS RESERVE SPECIALISTS ARCHITECTS		
FWHASSOCIATES.COM				
1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223				
DRAWN BY: CSM CHECKED BY: JS PROJECT NO.: PD-170		DATE: 01/14/21 SCALE: 1"=30' PROJECT NO.: 1423.0016		
PROJECTED BY: BPM PROJECT NO.: 1423.0016		SHEET NO.: 17A TOTAL SHEETS: 49		
Brian P. Murphy PROFESSIONAL ENGINEER N.J. LIC. NO. 42000				



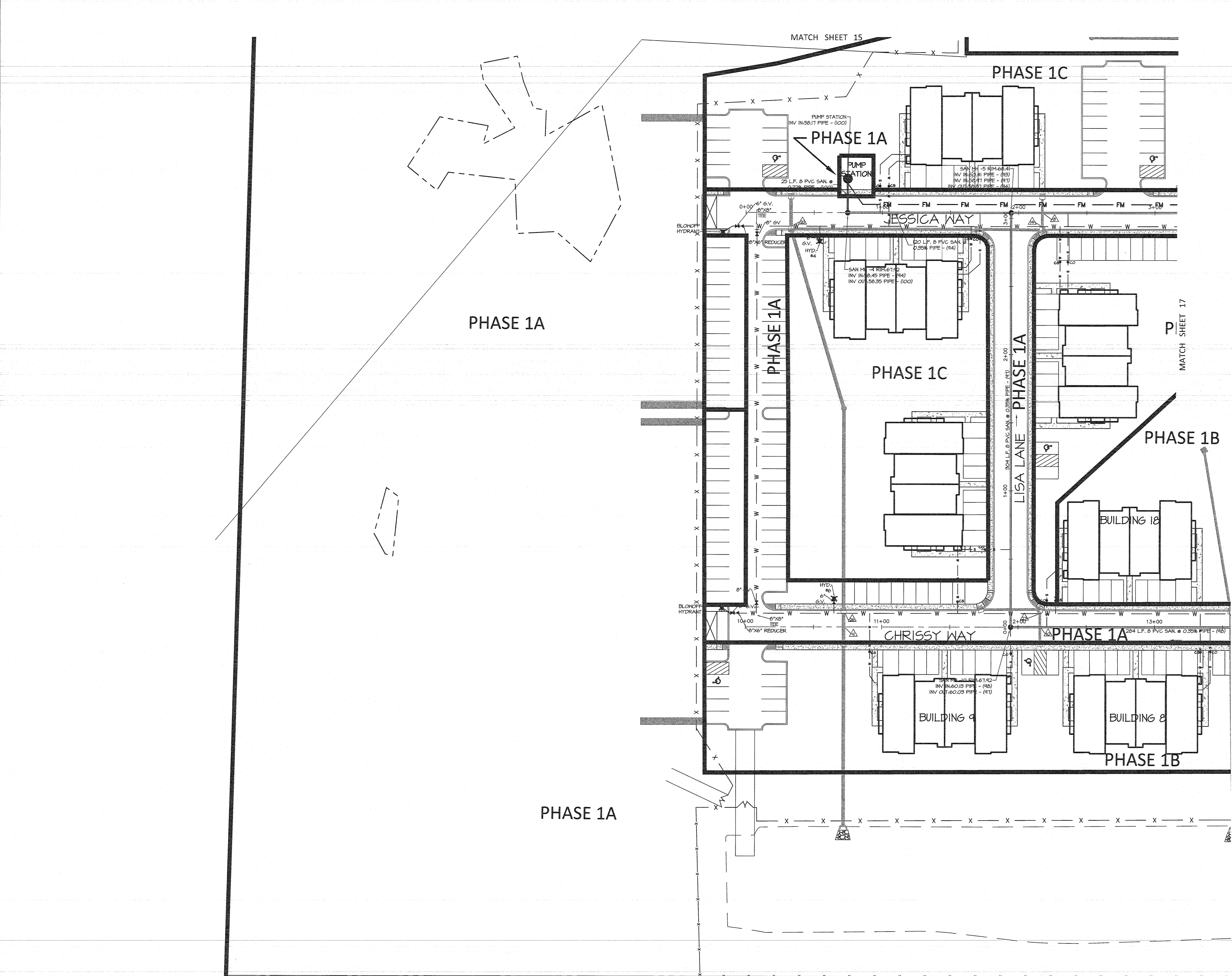
Crossing #	Sanitary	Water	Storm	Clearance	
1	inv 62.53		inv 64.68	1.25'	C.C.
2	inv 61.57		inv 65.15	2.68'	
3	inv 60.49		inv 64.81	3.42'	
4	inv 59.82		inv 62.4	1.61'	
5	inv 59.38		inv 64.27	3.92'	
6	inv 62.25		inv 64.49	2.71'	C.C.
7	inv 61.77		inv 63.23	0.50'	
8	inv 61.28		inv 64.49	2.31'	
9	inv 60.69		inv 63.84	2.25'	
10	inv 60.20		inv 64.49	3.29'	C.C.
11	inv 59.60		inv 62.00	1.44'	
12	inv 58.90		inv 62.78	2.98'	
13	inv 58.42		inv 64.36	5.04'	
14	inv 65.01	inv 68.43		2.71'	C.C.
15		inv 59.79	inv 61.57	0.82'	
16	inv 62.21		inv 64.42	1.50'	C.C.
17		inv 62.84	inv 64.72	1.00'	
18		inv 63.24	inv 65.12	1.00'	C.C.
19		inv 62.93	inv 64.78	1.00'	C.C.
20		inv 60.45	inv 62.42	1.00'	C.C.
21		inv 60.23	inv 64.19	3.06'	
22	inv 57.89	inv 63.08		4.48'	
23	inv 62.51	inv 64.39		1.00'	C.C.
24	inv 60.95	inv 62.81		1.00'	C.C.
25	inv 58.89	inv 61.95		2.35'	
26		inv 60.06	inv 62.00	1.00'	C.C.
27		inv 62.65	inv 64.52	1.00'	C.C.
28		inv 62.00	inv 63.88	1.00'	C.C.
29		inv 62.00	inv 64.45	1.57'	
30		inv 61.35	inv 63.29	1.00'	C.C.
31		inv 62.58	inv 64.46	1.00'	C.C.
32		inv 62.72	inv 64.60	1.14'	C.C.
33		inv 62.43	inv 64.69	1.38'	C.C.
34		inv 62.43	inv 64.81	1.5'	C.C.
35	inv 65.87		inv 62.08	1.5'	C.C.

- LEGEND
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - PROPOSED WATER MAIN
 - X— PROPOSED WATER VALVE
 - PROPOSED FIRE HYDRANT
 - CS— PROPOSED WATER SERVICE LATERAL
 - CO— PROPOSED SANITARY SEWER LATERAL



SEE SHEET 2 FOR ALL UTILITY NOTES

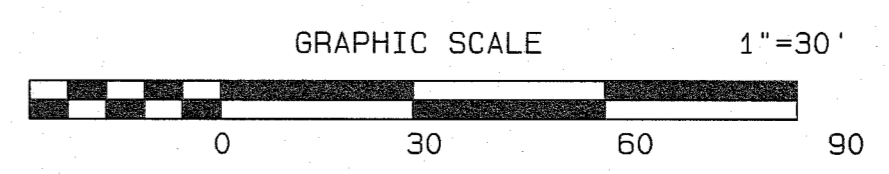
DATE	REVISION	DRAWN	CHECKED	RELEASED
UTILITY PLAN-PHASE 1B				
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION LOT 15.01 ~ BLOCK 44				
TAX MAP SHEET NO. 8 SITUATED IN MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY				
		CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS RESERVE SPECIALISTS ARCHITECTS FWHASSOCIATES.COM 1866 Rt. 9, Toms River, NJ 08755 T: 732.797.8100 F: 732.787.8233		
Brian P. Murphy 		DATE: 01/14/21 SCALE: 1"=30' SHEET NO.: 17B OF 170 PROJECT NO.: 1423.001B		
PROFESSIONAL ENGINEER N.J. LIC. NO. 42000		17B 49		



Crossing #	Sanitary	Water	Storm	Clearance	
1	inv 62.53		inv 64.68	1.25'	C.C.
2	inv 61.57		inv 65.15	2.68'	
3	inv 60.49		inv 64.81	3.42'	
4	inv 59.82		inv 62.4	1.51'	
5	inv 59.38		inv 64.27	3.92'	
6	inv 62.25		inv 64.49	2.71'	
7	inv 61.77		inv 63.23	0.50'	C.C.
8	inv 61.28		inv 64.49	2.31'	
9	inv 60.69		inv 63.84	2.25'	
10	inv 60.20		inv 64.49	3.39'	
11	inv 59.60		inv 62.00	1.44'	C.C.
12	inv 58.90		inv 62.78	2.98'	
13	inv 58.42		inv 64.36	5.04'	
14	inv 65.01	inv 68.43		2.71'	
15	inv 59.79	inv 61.57		0.82'	C.C.
16	inv 62.21	inv 64.42		1.50'	
17	inv 62.84	inv 64.72		1.00'	C.C.
18	inv 63.24	inv 65.12		1.00'	C.C.
19	inv 62.90	inv 64.78		1.00'	C.C.
20	inv 60.45	inv 62.42		1.00'	C.C.
21	inv 60.23	inv 64.19		3.06'	
22	inv 57.89	inv 63.08		4.48'	
23	inv 62.51	inv 64.39		1.00'	C.C.
24	inv 60.95	inv 62.81		1.00'	C.C.
25	inv 58.89	inv 61.95		2.35'	
26	inv 60.06	inv 62.00		1.00'	C.C.
27	inv 62.65	inv 64.52		1.00'	C.C.
28	inv 62.00	inv 63.88		1.00'	C.C.
29	inv 62.00	inv 64.45		1.57'	
30	inv 61.35	inv 63.29		1.00'	C.C.
31	inv 62.58	inv 64.46		1.00'	C.C.
32	inv 62.72	inv 64.60		1.14'	C.C.
33	inv 62.43	inv 64.69		1.38'	C.C.
34	inv 62.43	inv 64.81		1.5'	
35	inv 65.87		inv 62.08	1.5'	

DATE	REVISION	DRAWN	CHECKED	RELEASED
01/14/21	REV. PER PHASING LIMITS	CSM	JS	
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS	
5/20/20	REV. PER N.DOT LETTER 4-13-2020	CSM	JS	
9/24/19	REV. BUFFER FENCING PER N.DEP	CSM	JS	
3/18/19	REV PER CAIRA MEETING 2/14/19	CSM	JS	

- LEGEND**
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - ▲— PROPOSED WATER MAIN
 - +— PROPOSED WATER VALVE
 - X— PROPOSED FIRE HYDRANT
 - CS— PROPOSED WATER SERVICE LATERAL
 - CS— PROPOSED SANITARY SEWER LATERAL

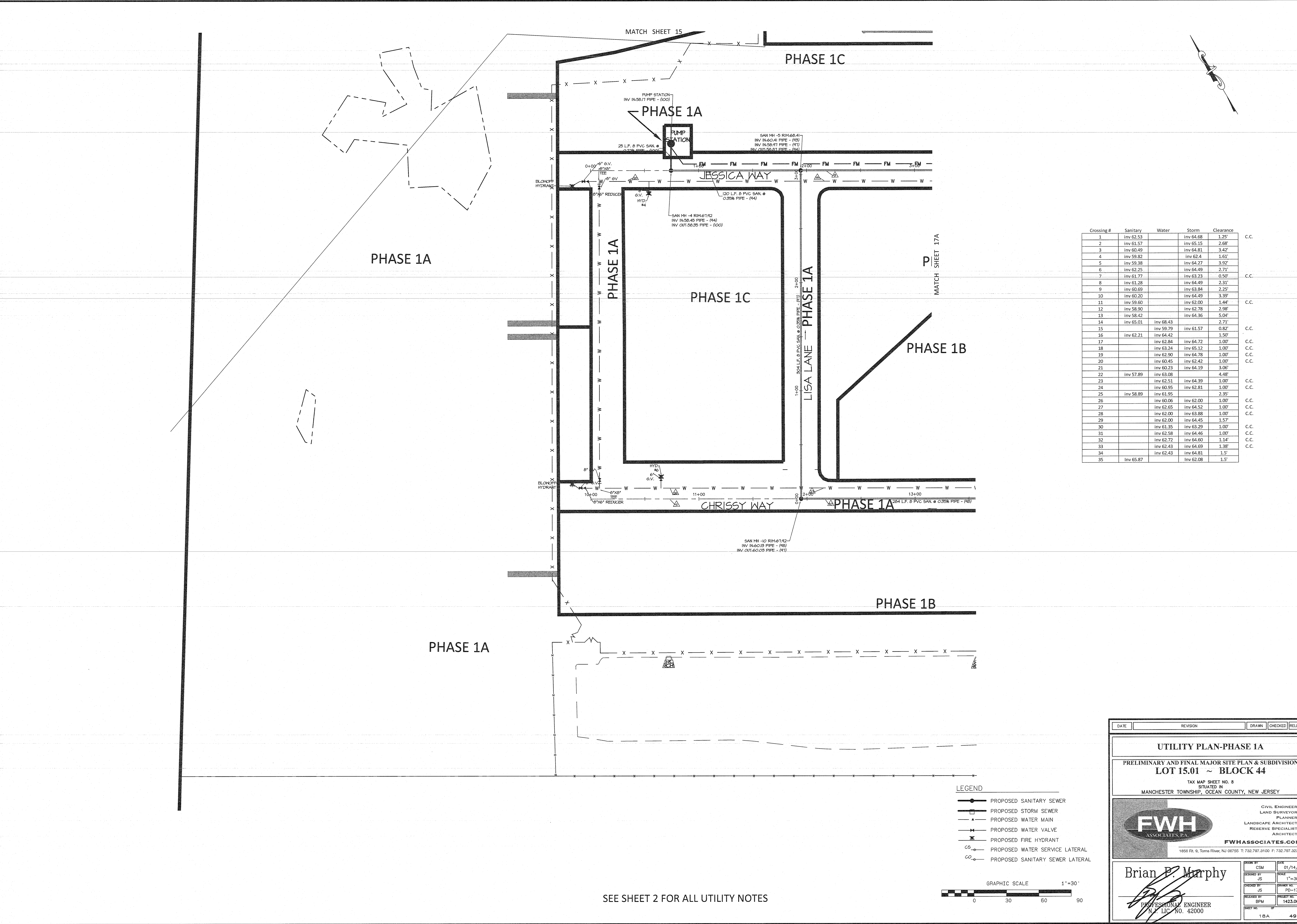


SEE SHEET 2 FOR ALL UTILITY NOTES

UTILITY PLAN
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

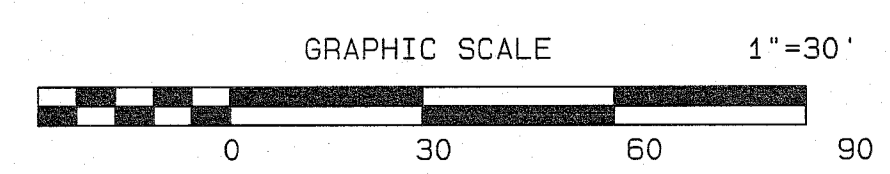
Brian P. Murphy
 PROFESSIONAL ENGINEER
 N.J. LIC. NO. 42000

DRAWN BY	CSM	DATE	8/10/18
DESIGNED BY	JS	SCALE	1"=30'
CHECKED BY	JS	DRAWING NO.	PD-170
RELEASED BY	BPM	PROJECT NO.	1423.0016
SHEET NO.	18	OF	49



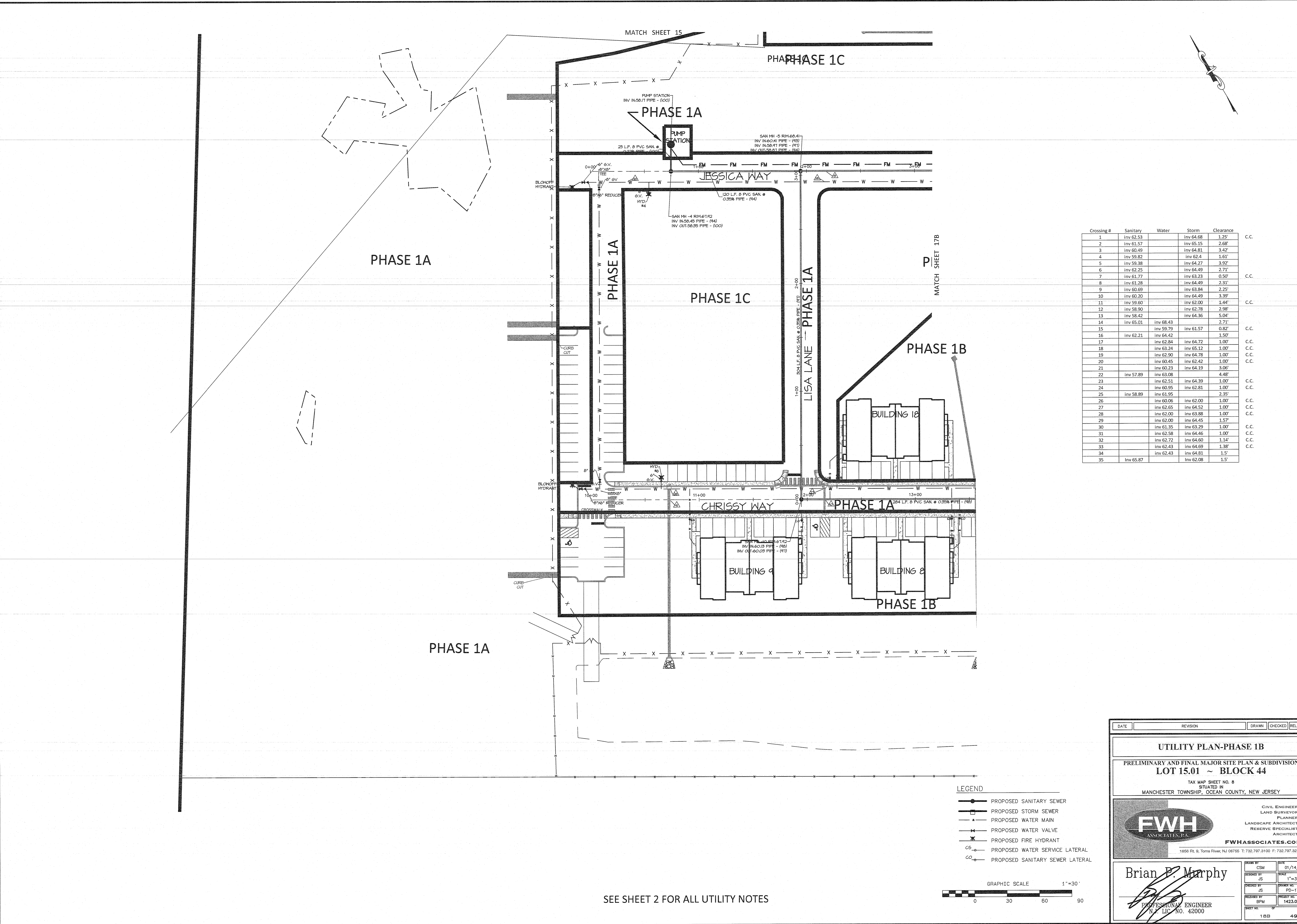
Crossing #	Sanitary	Water	Storm	Clearance	
1	inv 62.53		inv 64.68	1.25'	C.C.
2	inv 61.57		inv 65.15	2.68'	
3	inv 60.49		inv 64.81	3.42'	
4	inv 59.82		inv 62.4	1.61'	
5	inv 59.38		inv 64.27	3.92'	
6	inv 62.25		inv 64.49	2.21'	
7	inv 61.77		inv 63.23	0.50'	C.C.
8	inv 61.28		inv 64.49	2.31'	
9	inv 60.69		inv 63.84	2.25'	
10	inv 60.20		inv 64.49	3.39'	
11	inv 59.60		inv 62.00	1.44'	C.C.
12	inv 58.90		inv 62.78	2.98'	
13	inv 58.42		inv 64.36	5.04'	
14	inv 65.01	inv 68.43		2.71'	
15		inv 59.79	inv 61.57	0.82'	C.C.
16	inv 62.21	inv 64.42	inv 64.72	1.50'	
17		inv 62.84	inv 64.72	1.00'	C.C.
18		inv 63.24	inv 65.12	1.00'	C.C.
19		inv 62.90	inv 64.78	1.00'	C.C.
20		inv 60.45	inv 62.42	1.00'	C.C.
21		inv 60.23	inv 64.19	3.06'	
22	inv 57.89	inv 63.08	inv 64.48	4.48'	
23		inv 62.51	inv 64.39	1.00'	C.C.
24		inv 60.95	inv 62.81	1.00'	C.C.
25	inv 58.89	inv 61.95	inv 62.00	2.35'	
26		inv 60.06	inv 62.00	1.00'	C.C.
27		inv 62.65	inv 64.52	1.00'	C.C.
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30		inv 61.35	inv 63.29	1.00'	C.C.
31		inv 62.58	inv 64.46	1.00'	C.C.
32		inv 62.72	inv 64.60	1.14'	C.C.
33		inv 62.43	inv 64.69	1.38'	C.C.
34		inv 62.43	inv 64.81	1.5'	
35	inv 65.87		inv 62.08	1.5'	

- LEGEND**
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - ▲— PROPOSED WATER MAIN
 - *— PROPOSED WATER VALVE
 - X— PROPOSED FIRE HYDRANT
 - PROPOSED WATER SERVICE LATERAL
 - PROPOSED SANITARY SEWER LATERAL



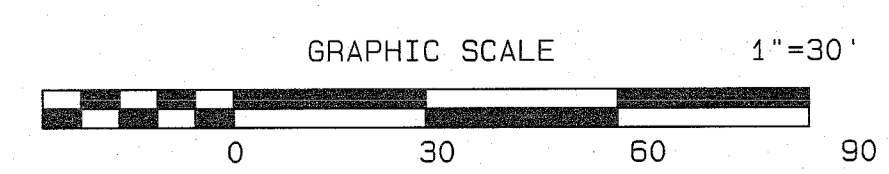
SEE SHEET 2 FOR ALL UTILITY NOTES

DATE	REVISION	DRAWN	CHECKED	RELEASED
UTILITY PLAN-PHASE 1A				
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION LOT 15.01 ~ BLOCK 44				
TAX MAP SHEET NO. 8 SITUATED IN MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY				
FWH ASSOCIATES, P.A.		CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS RESERVE SPECIALISTS ARCHITECTS		
1856 Rt. 9, Torus River, NJ 08756 T: 732.797.3100 F: 732.797.3223		FWHASSOCIATES.COM		
Brian P. Murphy		DESIGNED BY	CSM	DATE
PROFESSIONAL ENGINEER N.J. LIC. NO. 42000		CHECKED BY	JS	01/14/21
SEE SHEET 2 FOR ALL UTILITY NOTES		SCALE	1"=30'	
SEE SHEET 2 FOR ALL UTILITY NOTES		DESIGNED BY	JS	PD-170
SEE SHEET 2 FOR ALL UTILITY NOTES		CHECKED BY	BPM	PROJECT NO.
SEE SHEET 2 FOR ALL UTILITY NOTES		DATE	1423.0016	
SEE SHEET 2 FOR ALL UTILITY NOTES		DATE	18A 49	



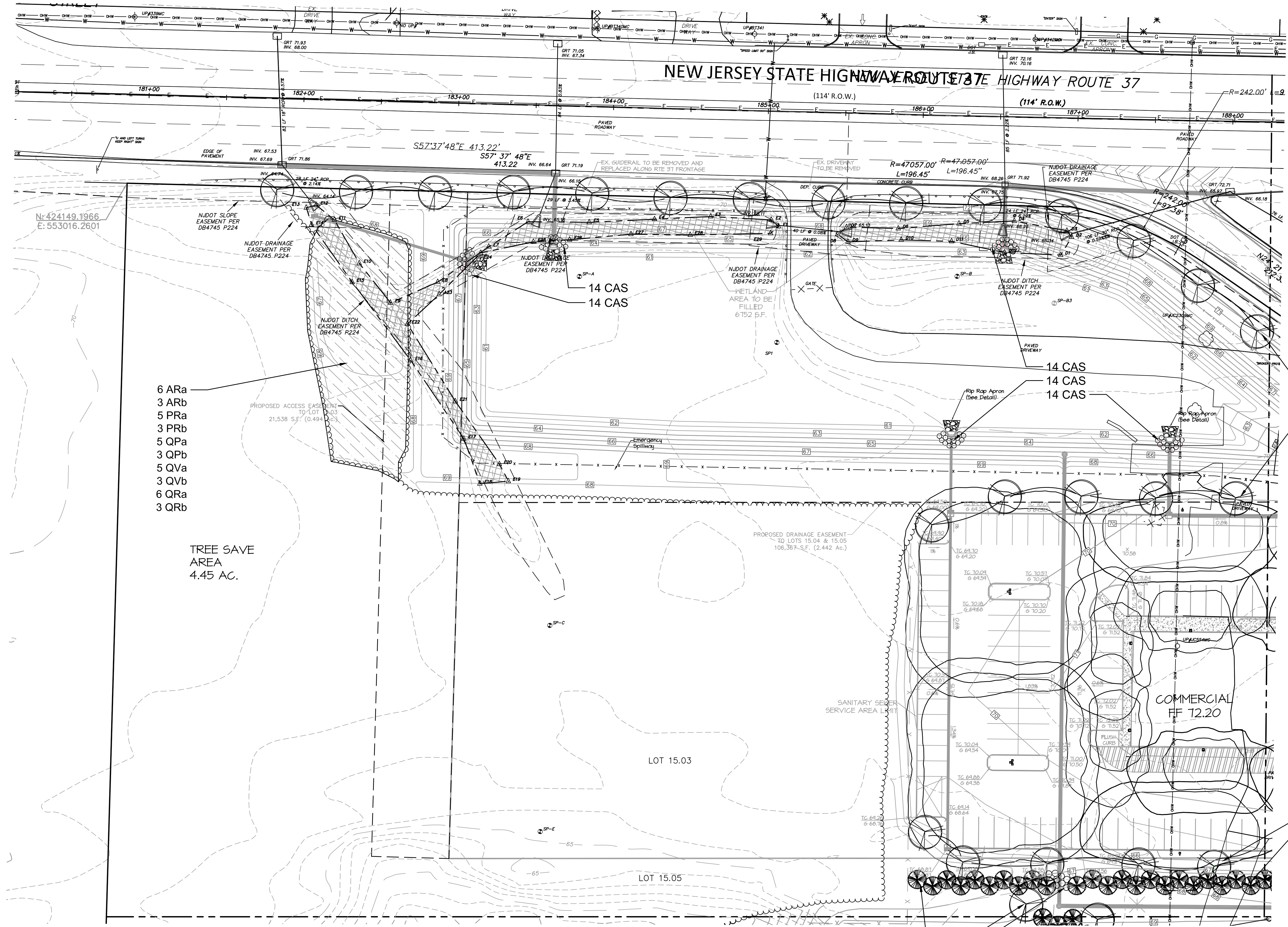
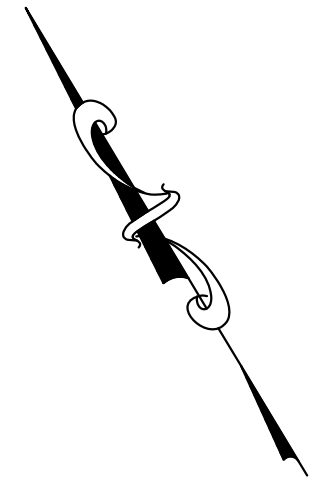
Crossing #	Sanitary	Water	Storm	Clearance	
1	inv 62.53		inv 64.68	1.25'	C.C.
2	inv 61.57		inv 65.15	2.68'	
3	inv 60.49		inv 64.81	3.42'	
4	inv 59.82		inv 62.4	1.61'	
5	inv 59.38		inv 64.27	3.92'	
6	inv 62.25		inv 64.49	2.71'	
7	inv 61.77		inv 63.23	0.50'	C.C.
8	inv 61.28		inv 64.49	2.31'	
9	inv 60.69		inv 63.84	2.25'	
10	inv 60.20		inv 64.49	3.39'	
11	inv 59.60		inv 62.00	1.44'	C.C.
12	inv 58.90		inv 62.78	2.98'	
13	inv 58.42		inv 64.36	5.04'	
14	inv 65.01	inv 68.43		2.71'	
15		inv 59.79	inv 61.57	0.82'	C.C.
16	inv 62.21	inv 64.42		1.50'	
17		inv 62.84	inv 64.72	1.00'	C.C.
18		inv 63.24	inv 65.12	1.00'	C.C.
19		inv 62.90	inv 64.78	1.00'	C.C.
20		inv 60.45	inv 62.42	1.00'	C.C.
21		inv 60.23	inv 64.19	3.06'	
22	inv 57.89	inv 63.08		4.48'	
23		inv 62.51	inv 64.39	1.00'	C.C.
24		inv 60.95	inv 62.81	1.00'	C.C.
25	inv 58.89	inv 61.95		2.35'	
26		inv 60.06	inv 62.00	1.00'	C.C.
27		inv 62.65	inv 64.52	1.00'	C.C.
28		inv 62.00	inv 63.88	1.00'	C.C.
29		inv 62.00	inv 64.45	1.57'	
30		inv 61.35	inv 63.29	1.00'	C.C.
31		inv 62.58	inv 64.46	1.00'	C.C.
32		inv 62.72	inv 64.60	1.14'	C.C.
33		inv 62.43	inv 64.69	1.38'	C.C.
34		inv 62.43	inv 64.81	1.5'	
35	inv 65.87		inv 62.08	1.5'	

- LEGEND**
- PROPOSED SANITARY SEWER
 - PROPOSED STORM SEWER
 - PROPOSED WATER MAIN
 - ▲— PROPOSED WATER VALVE
 - *— PROPOSED FIRE HYDRANT
 - PROPOSED WATER SERVICE LATERAL
 - PROPOSED SANITARY SEWER LATERAL



SEE SHEET 2 FOR ALL UTILITY NOTES

DATE	REVISION	DRAWN	CHECKED	RELEASED
UTILITY PLAN-PHASE 1B				
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION LOT 15.01 ~ BLOCK 44				
TAX MAP SHEET NO. 8 SITUATED IN MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY				
FWH ASSOCIATES, P.A.		CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS RESERVE SPECIALISTS ARCHITECTS		
FWHASSOCIATES.COM				
1856 Rt. 9, Torrs River, NJ 08755 T: 732.797.3100 F: 732.797.3223				
Brian P. Murphy		DATE	01/14/21	
PROFESSIONAL ENGINEER N.J. LIC. NO. 42000		CSM	1"=30'	
		JS	PD-170	
		JS	1423.0016	
		BPM		
		18B	49	



PLANTING SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	DESCRIPTION/COMMENTS
STREET TREES				
CO	10	Celtis x occidentalis 'Magnifica'	Magnifica Hackberry	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
QR	14	Quercus rubra	Northern Red Oak	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
SHADE TREES				
QP	1	Quercus palustris	Pin Oak	2 - 2 1/2" cal., 12'-14" ht., BB
EVERGREEN TREES				
PE	10	Pinus echinata	Short Leaf Pine	6'-8" ht., BB
PV	13	Pinus virginiana	Virginian Pine	6'-8" ht., BB
SHRUBS				
CAS	70	Cornus alba 'Siberica'	Red Twig Dogwood	30" - 36" ht., #5 cont.
IG	9	Ilex glabra	Inkberry Holly	24"-30" ht., #5 cont.

REFORESTATION PLANTING SCHEDULE

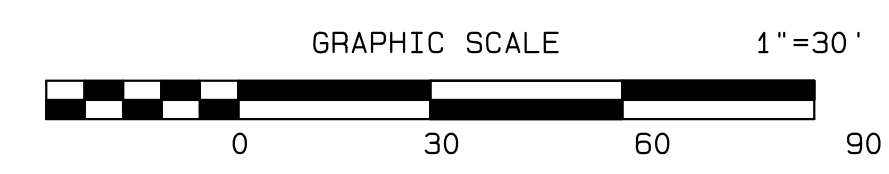
KEY	QTY.	BOTANICAL NAME	COMMON NAME	DESCRIPTION/COMMENTS
6	6	Acer rubrum	Red Maple	6' - 8' ht., BR
ARb	3	Acer rubrum	Red Maple	1 - 2" cal., 8' - 10' ht., BR
PRa	5	Pinus rigida	Pitch Pine	4'-6" ht., BB
PRb	3	Pinus rigida	Pitch Pine	6'-8" ht., BB
QPa	5	Quercus prinus	Chestnut Oak	6' - 8' ht., BR
QPb	3	Quercus prinus	Chestnut Oak	1 - 2" cal., 8' - 10' ht., BR
QVa	5	Quercus velutina	Black Oak	6' - 8' ht., BR
QVb	3	Quercus velutina	Black Oak	1 - 2" cal., 8' - 10' ht., BR
QRa	6	Quercus rubra	Red Oak	6' - 8' ht., BR
QRb	3	Quercus rubra	Red Oak	1 - 2" cal., 8' - 10' ht., BR

Tree species and sizes to be placed in a random haphazard manner. Tree spacing to be from 8' o.c. - 12' o.c. with an average spacing of 10' o.c.

- 10 PE
- 1 QP
- 9 IG

GENERAL NOTES

1. ALL DISTURBED AREAS (OPEN SPACE, LAWN AREAS AROUND BUILDINGS ETC.) SHALL BE SEEDED OR SOEDED.
2. LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE LANDSCAPE ARCHITECT'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
3. SUBSTITUTION AND FINAL LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO THE LANDSCAPE ARCHITECT AND TOWNSHIP'S APPROVAL.
4. IF DISCREPANCIES OCCUR IN THE PLANT SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
5. SEE SHEET NO. 27 OF 48 FOR PLANTING AND SEEDING SCHEDULES, NOTES, AND DETAILS.



THIS PLAN TO BE USED FOR LANDSCAPING PURPOSES ONLY.

DATE	REVISION	DRAWN	CHECKED	RELEASED
01/14/21	REV. PARKING	SA	JS	
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS	
5/20/20	REV. PER NJDOT LETTER 4-13-2020	CSM	JS	
2/07/20	ADD STREET LIGHTING	CSM	JS	
9/24/19	REV. BUFFER FENCING PER NJDEP	CSM	JS	
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS	

LANDSCAPE PLAN

PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

FWH
ASSOCIATES, P.A.

CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
RESERVE SPECIALISTS
ARCHITECTS

FWHASSOCIATES.COM

1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

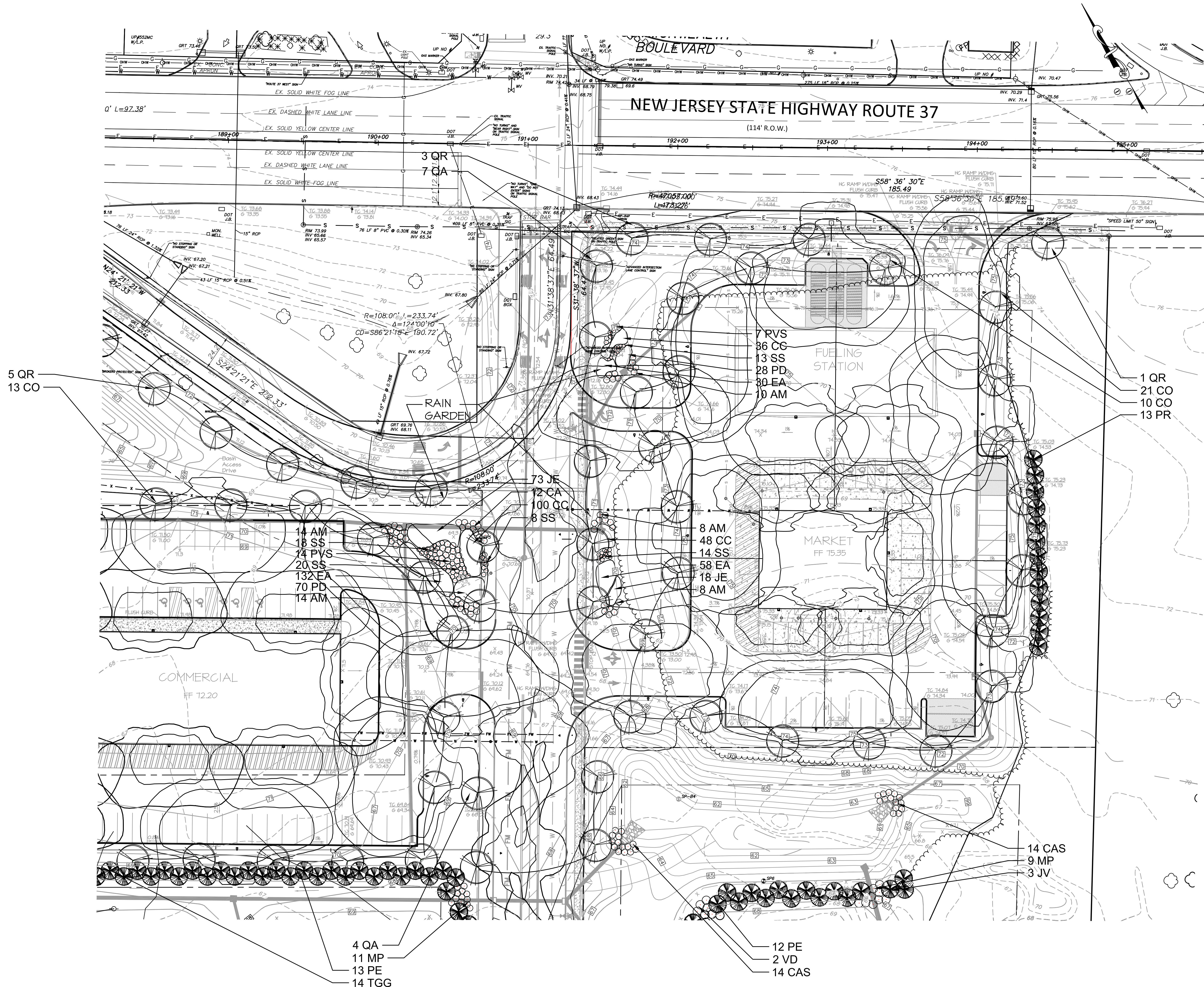
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 CHECKED BY: MWM SCALE: 1"=30'
 DESIGNED BY: MWM
 RELEASED BY: MWM
 PROJECT NO.: 1423.0016
 SHEET NO. OF: 19 OF 49

Leroy G. Webb Jr.
 Licensed Landscape Architect
 N.J. Lic. No. A500149
 Professional Planner N.J. Lic. No. 4006

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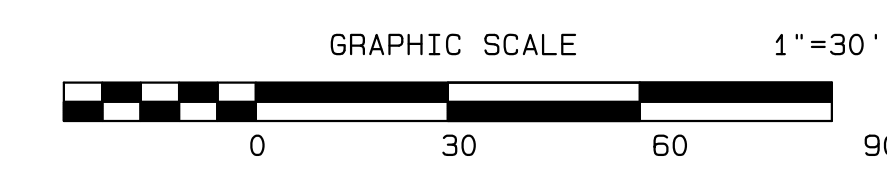
PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	DESCRIPTION/COMMENTS
STREET TREES				
CO	44	Celtis x occidentalis 'Magnifica'	Magnifica Hackberry	2 - 2 1/2" cal., 12-14' ht., BB, remove branches to 7' ht.
QA	11	Quercus alba	White Oak	2 - 2 1/2" cal., 12-14' ht., BB, remove branches to 7' ht.
QR	9	Quercus rubra	Northern Red Oak	2 - 2 1/2" cal., 12-14' ht., BB, remove branches to 7' ht.
EVERGREEN TREES				
JV	3	Juniperus virginiana	Eastern Red Cedar	4'-6" ht., BB.
PE	25	Pinus echinata	Short Leaf Pine	6'-8" ht., BB
FR	13	Pinus rigida	Pitch Pine	6'-8" ht., BB
TGG	14	Thuja standishii x plicata 'Green Giant'	Green Giant Arborvitae	6'-8" ht., BB
SHRUBS				
CAS	28	Cornus alba 'Siberica'	Red Twig Dogwood	30" - 36" ht., #5 cont.
MP	20	Myrica pensylvanica	Bayberry	24"-30" ht., #5 cont.
VD	2	Viburnum dentatum 'Northern Beauty'	Northern Beauty Arrowwood	30" - 36" ht., #5 cont.
RAIN GARDEN				
AM	54	Aronia melanocarpa 'Viking'	Viking Black Chokeberry	15" - 18" ht., #2 cont.
CA	12	Clethra alnifolia	Summersweet	24"-30" ht., #5 cont.
CC	184	Conoclinium coelestinum	Mist Flower	Pints, 2" o.c.
EA	220	Echinacea angustifolia	Purple Coneflower	Pints, 2" o.c.
JE	91	Juncus effusus	Soft Rush	Pints, 2.5" o.c.
PVS	21	Panicum virgatum	Switchgrass Thundercloud	Gallons
PD	98	Panisetum digitale	Tall White Beardtongue	Pints, 2" o.c.
SS	73	Solidago sempervirens	Seaside Goldenrod	Pints, 4" o.c.
VD		Viburnum dentatum 'Northern Beauty'	Northern Beauty Arrowwood	30" - 36" ht., #5 cont.
			Viburnum	



GENERAL NOTES

- ALL DISTURBED AREAS (OPEN SPACE, LAWN AREAS AROUND BUILDINGS ETC.) SHALL BE SEEDED OR SOODED.
- LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE LANDSCAPE ARCHITECT'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
- SUBSTITUTION AND FINAL LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO THE LANDSCAPE ARCHITECT AND TOWNSHIP'S APPROVAL.
- IF DISCREPANCIES OCCUR IN THE PLANT SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
- SEE SHEET NO. 27 OF 49 FOR PLANTING AND SEEDING SCHEDULES, NOTES, AND DETAILS.



THIS PLAN TO BE USED FOR LANDSCAPING PURPOSES ONLY

11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
5/20/20	REV. PER NJDOT LETTER 4-13-2020	CSM	JS
3/18/19	REV. PER CAFRA MEETING 2/14/19	CSM	JS

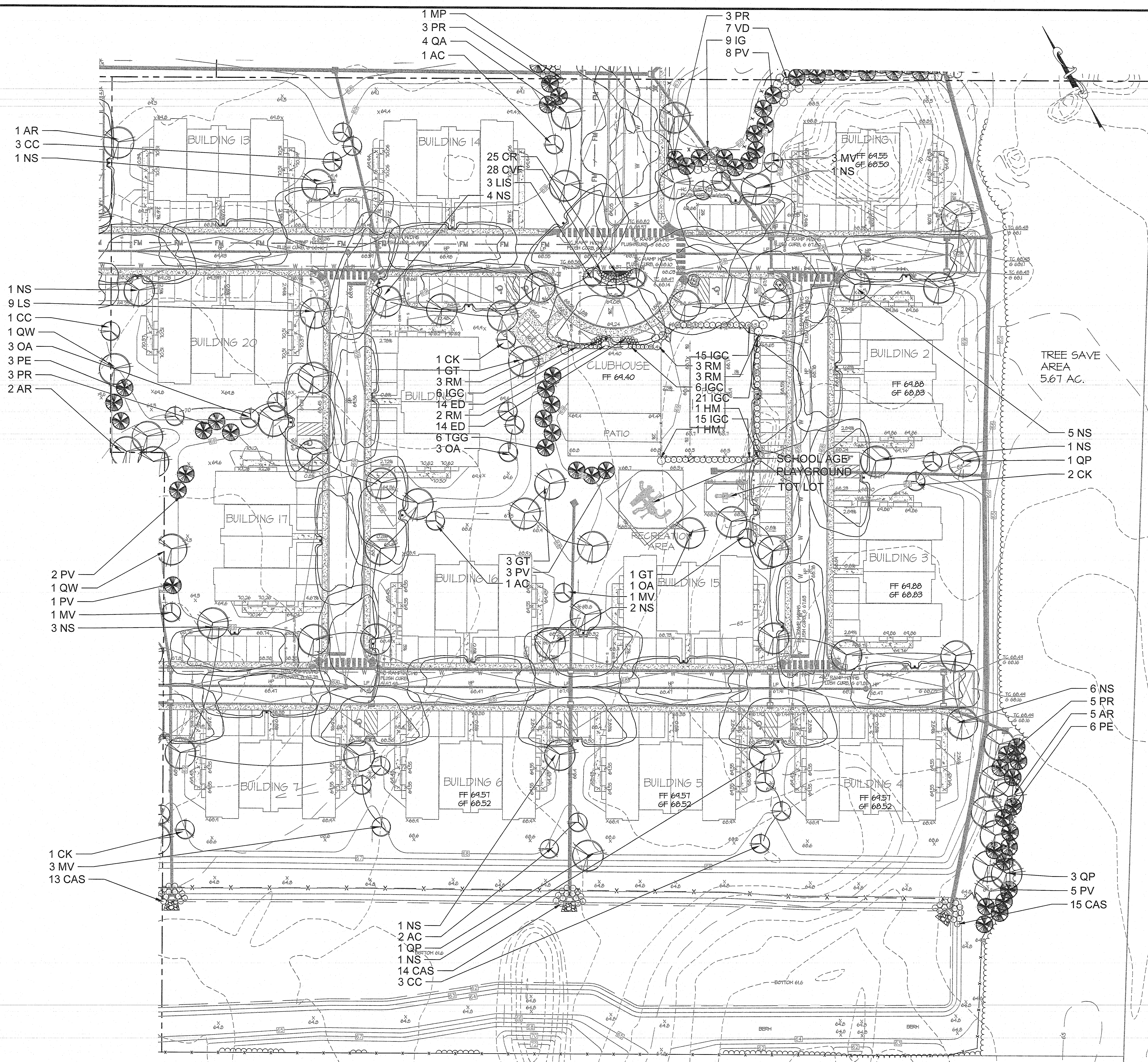
DATE	REVISION	DRAWN	CHECKED	RELEASED
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LANDSCAPE PLAN
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

CIVIL ENGINEERS
 LAND SURVEYORS
FWH
 ASSOCIATES, P.A.
 LANDSCAPE ARCHITECTS
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FWHASSOCIATES.COM
 1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

Leroy G. Webb Jr.
 Licensed Landscape Architect
 N.J. Lic. No. AS00149
 Professional Planner N.J. Lic. No. 4006

DRAWN BY	MVM	DATE	8/10/18
CHECKED BY	MVM	SCALE	1"=30'
DESIGNED BY	MVM	DRAWING NO.	
RELEASED BY	LOW	PROJECT NO.	1423.0016
SHEET NO.	49		



PLANTING SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	DESCRIPTION/COMMENTS
STREET TREES				
LS	9	Liquidambar styraciflua 'Rotundiloba'	Sweetgum	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
NS	26	Nyssa sylvatica	Blackgum	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
QA	4	Quercus alba	White Oak	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
SHADE TREES				
AR	8	Acer rubrum 'Red Sunset'	Red Sunset Maple	2 - 2 1/2" cal., 12'-14" ht., BB.
GT	5	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2 - 2 1/2" cal., 12'-14" ht., BB.
QP	5	Quercus palustris	Pin Oak	2 - 2 1/2" cal., 12'-14" ht., BB.
QW	2	Quercus phellos	Willow Oak	2 - 2 1/2" cal., 12'-14" ht., BB.
EVERGREEN TREES				
JV	9	Juniperus virginiana	Eastern Red Cedar	4'-6" ht., BB.
PE	14	Pinus echinata	Short Leaf Pine	6'-8" ht., BB.
PR	17	Pinus rigida	Pitch Pine	6'-8" ht., BB.
PV	6	Pinus virginiana	Virginian Pine	6'-8" ht., BB.
ORNAMENTAL TREES				
AC	4	Amelanchier canadensis	Serviceberry	6'-8" ht., BB.
CC	7	Cercis canadensis	Eastern Redbud	6'-8" ht., BB.
CK	4	Cornus kousa chinensis	Kousa Dogwood	6'-8" ht., BB.
LIS	3	Lagerstroemia indica x faurieri 'Sioux'	Sioux Crepe Myrtle	6'-8" ht., BB.
MV	8	Magnolia virginiana	Sweetbay Magnolia	6'-8" ht., BB.
OA	7	Oxydendrum arboreum	Sourwood	6'-8" ht., BB.
SHRUBS				
CVF	28	Calluna vulgaris Firefly	Firefly Scotch Heather	12" - 15" ht., #2 cont.
CAS	42	Cornus alba 'Siberica'	Red Twig Dogwood	30" - 36" ht., #5 cont.
ED	28	Erica x darleyensis 'Mediterranean Pink'	Mediterranean Pink Heath	18" - 24" ht., #3 cont.
HM	2	Hydrangea macrophylla 'Glowing Embers'	Glowing Embers Hydrangea	30" - 36" ht., #5 cont.
IG	9	Ilex glabra	Inkberry Holly	24" - 30" ht., #5 cont.
IGC	63	Ilex glabra 'compacta'	Compact Inkberry Holly	18" - 24" ht., #3 cont.
MP	1	Myrica pensylvanica	Bayberry	24" - 30" ht., #5 cont.
RM	11	Rhododendron maximum 'Roseum'	Rosebay Rhododendron	30" - 36" ht., BB.
VD	7	Viburnum dentatum 'Northern Beauty'	Northern Beauty Arrowwood	30" - 36" ht., #5 cont.
CR	25	Coreopsis lanceolata 'Garnet'	Garnet Coreopsis	#2, 15" O.C.

TREE SAVE AREA
567 AC.

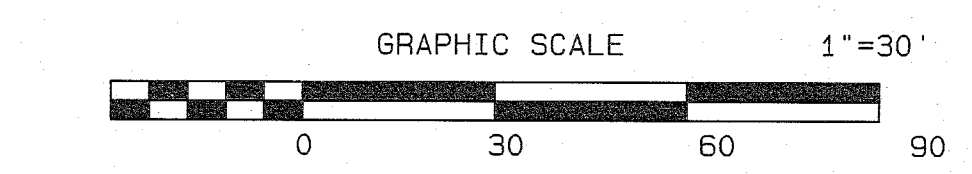
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- 2 CK
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- 5 AR
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- 1 NS
- 1 NS
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- 1 CC
- 1 QW
- 3 OA
- 3 PE
- 3 PR
- 2 AR
- 2 PV
- 1 QW
- 1 PV
- 1 MV
- 3 NS
- 1 CK
- 3 MV
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- 6 IGC
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- 14 ED
- 6 TGG
- 3 OA
- 3 GT
- 3 PV
- 1 AC
- 1 GT
- 1 OA
- 1 MV
- 2 NS
- 1 NS
- 2 AC
- 1 QP
- 1 NS
- 14 CAS
- 3 CC

GENERAL NOTES

- ALL DISTURBED AREAS (OPEN SPACE LAWN AREAS AROUND BUILDINGS ETC) SHALL BE SEEDED OR SOEDED.
- LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE LANDSCAPE ARCHITECT'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
- SUBSTITUTION AND FINAL LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO THE LANDSCAPE ARCHITECT AND TOWNSHIP'S APPROVAL.
- IF DISCREPANCIES OCCUR IN THE PLANT SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
- SEE SHEET NO. 27 OF 48 FOR PLANTING AND SEEDING SCHEDULES, NOTES, AND DETAILS.



THIS PLAN TO BE USED FOR LANDSCAPING PURPOSES ONLY

01/14/21	REV. STORM	SA	JS
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
9/24/19	REV. BUFFER FENCING PER NIDEP	CSM	JS
3/18/19	REV. PER CAFRA MEETING 2/14/19	CSM	JS

LANDSCAPE PLAN

PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44

TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

FWH ASSOCIATES, P.A.

1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

CIVIL ENGINEERS
LAND SURVEYORS
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LANDSCAPE ARCHITECTS
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FWHASSOCIATES.COM

Leroy G. Webb Jr.

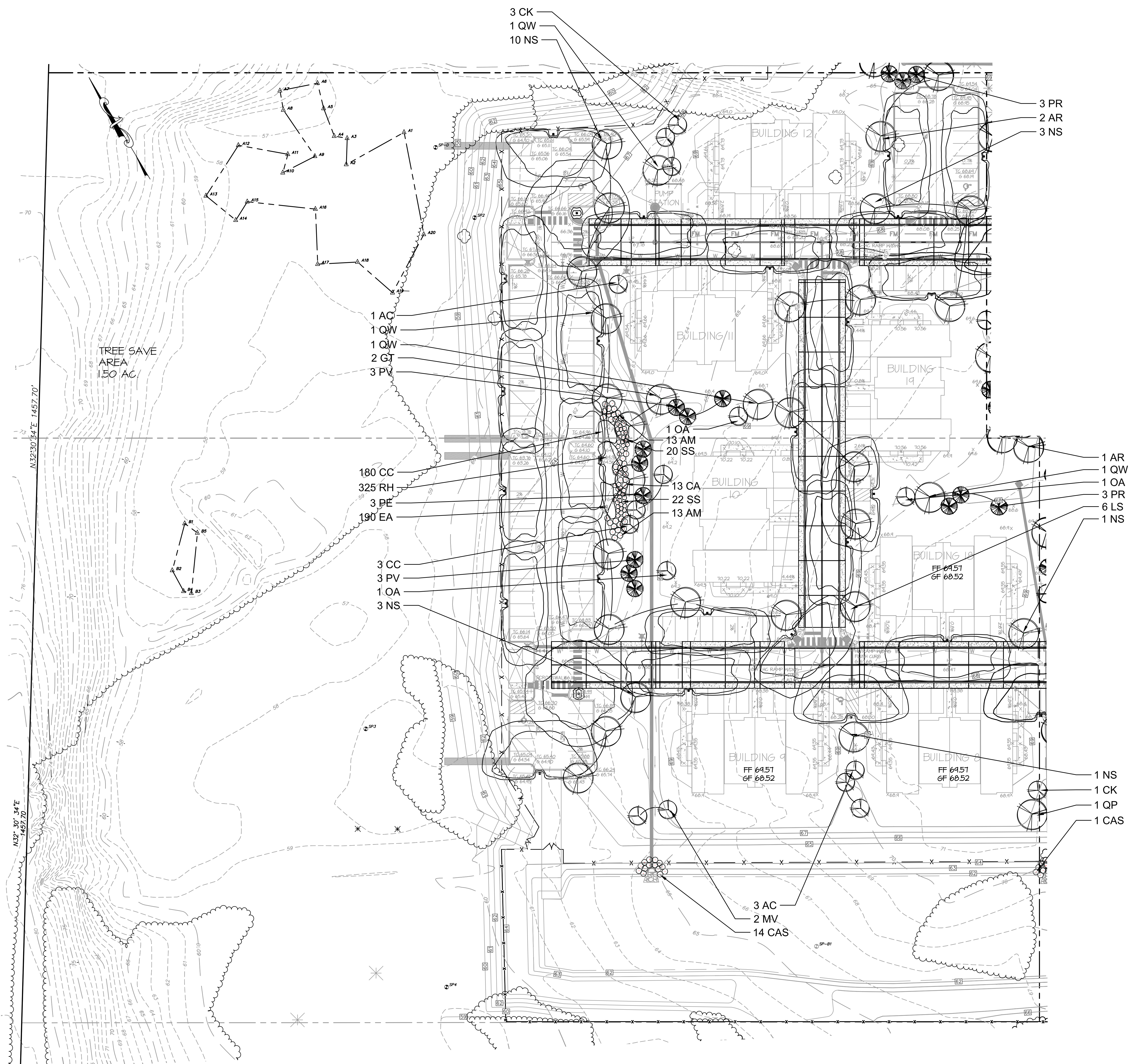
L.G.W.

Licensed Landscape Architect
N.J. Lic. No. AS00149
Professional Planner N.J. Lic. No. 4006

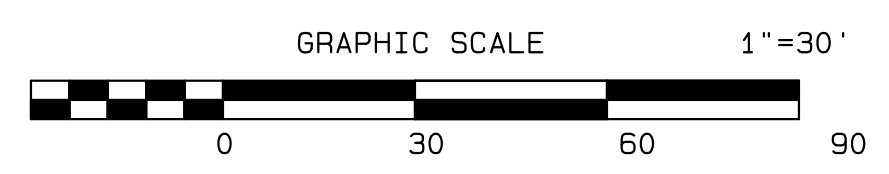
DESIGNED BY	MVM	DATE	8/10/18
PERFORMED BY	MVM	SCALE	1"=30'
CHECKED BY	MVM	DRAWN NO.	
RELEASED BY	LGW	PROJECT NO.	1423.0016
SHEET NO.	21	OF	49

PLANTING SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	DESCRIPTION/COMMENTS
STREET TREES				
LS	6	Liquidambar styraciflua 'Rotundiloba'	Sweetgum	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
NS	18	Nyssa sylvatica	Blackgum	2 - 2 1/2" cal., 12'-14" ht., BB, remove branches to 7' ht.
SHADE TREES				
AR	3	Acer rubrum 'Red Sunset'	Red Sunset Maple	2 - 2 1/2" cal., 12'-14" ht., BB
GT	2	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2 - 2 1/2" cal., 12'-14" ht., BB
QP	1	Quercus palustris	Pin Oak	2 - 2 1/2" cal., 12'-14" ht., BB
QW	3	Quercus phellos	Willow Oak	2 - 2 1/2" cal., 12'-14" ht., BB
EVERGREEN TREES				
PE	3	Pinus echinata	Short Leaf Pine	6'-8" ht., BB
PR	6	Pinus rigida	Pitch Pine	6'-8" ht., BB
PV	6	Pinus virginiana	Virginian Pine	6'-8" ht., BB
ORNAMENTAL TREES				
AC	4	Amelanchier canadensis	Serviceberry	6'-8" ht., BB
CC	3	Cercis canadensis	Eastern Redbud	6'-8" ht., BB
CK	4	Cornus kousa chinensis	Kousa Dogwood	6'-8" ht., BB
MV	2	Magnolia virginiana	Sweetbay Magnolia	6'-8" ht., BB
OA	3	Oxydendrum arboreum	Sourwood	6'-8" ht., BB
SHRUBS				
CAS	15	Cornus alba 'Siberica'	Red Twig Dogwood	30" - 36" ht., #5 cont.
RAIN GARDEN				
AM	26	Aronia melanocarpa 'Viking'	Viking Black Chokeberry	15" - 18" ht., #2 cont.
CA	13	Clethra alnifolia	Summersweet	24"-30" ht., #5 cont.
CC	180	Conoclinium coelestinum	Mist Flower	Pints, 2 o.c.
EA	190	Echinacea angustifolia	Purple Coneflower	Pints, 2 o.c.
RH	325	Rudbeckia hirta	Black-eyed Susan	Pints, 2 o.c.
SS	42	Solidago sempervirens	Seaside Goldenrod	Pints, 4 o.c.



- GENERAL NOTES**
- ALL DISTURBED AREAS (OPEN SPACE, LAWN AREAS AROUND BUILDINGS, ETC.) SHALL BE SEEDED OR SOPPED.
 - LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE LANDSCAPE ARCHITECT'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
 - SUBSTITUTION AND FINAL LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO THE LANDSCAPE ARCHITECT AND TOWNSHIP'S APPROVAL.
 - IF DISCREPANCIES OCCUR IN THE PLANT SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
 - SEE SHEET NO. 27 OF 49 FOR PLANTING AND SEEDING SCHEDULES, NOTES, AND DETAILS.



THIS PLAN TO BE USED FOR LANDSCAPING PURPOSES ONLY.

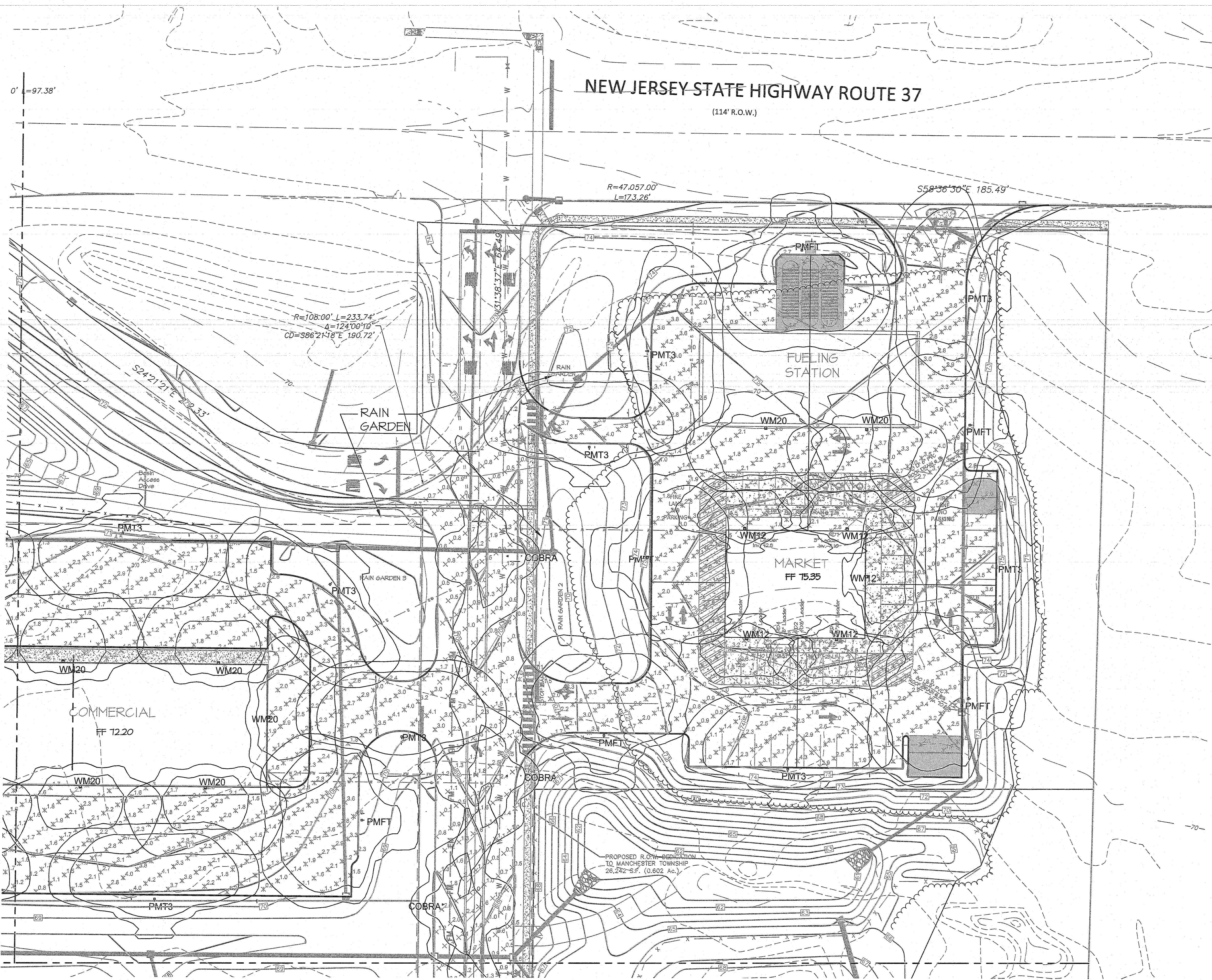
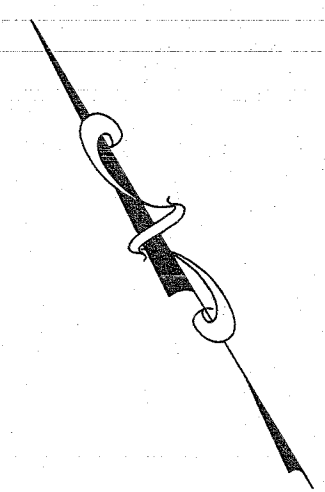
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
9/24/19	REV. BUFFER FENCING PER NUDEP	CSM	JS
3/18/19	REV. PER CAFRA MEETING 2/14/19	CSM	JS

LANDSCAPE PLAN
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY



Leroy G. Webb Jr.
 Licensed Landscape Architect
 N.J. Lic. No. AS00149
 Professional Planner N.J. Lic. No. 4006

DRAWN BY	MVM	DATE	8/10/18
CHECKED BY	MVM	SCALE	1"=30'
DESIGNED BY	MVM	DRAWING NO.	
RELEASED BY	LOW	PROJECT NO.	1423.0016
SHEET NO.	22	OF	49



POINT TO POINT LIGHTING CALCULATION
INDIVIDUAL LIGHT FIXTURE CONTOURS = 10 FC, 0.5 FC

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
COMMERCIAL BLDG.	X	1.3 fc	3.0 fc	0.5 fc	6.0:1	2.6:1
COMMERCIAL	X	2.4 fc	8.6 fc	0.8 fc	10.8:1	3.0:1
RESIDENTIAL	+	1.7 fc	4.3 fc	0.5 fc	8.6:1	3.4:1

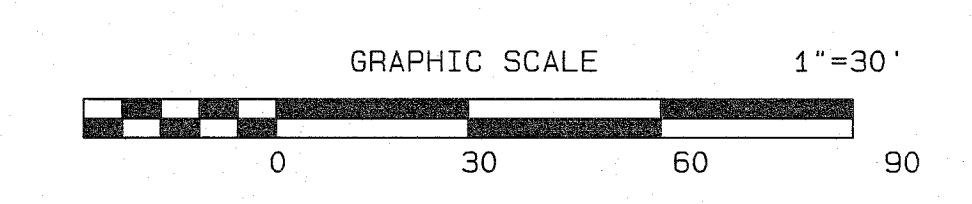
LIGHTING SCHEDULE

Key	Qty	Light Type	Wattage	Number of Fixtures per Poles	Mounting Height	Description
▲ PMT3	9	L.E.D.	138	1	20'	Light fixture as manufactured by Lithonia Lighting Systems, Catalog # DSX1 LED P5 40K T3M MVOLT SPA PER DDBXD w/ SSA 18 4G DM19AS FBC DDB or approved equal.
▲ PMFT	6	L.E.D.	138	1	20'	Light fixture as manufactured by Lithonia Lighting Systems, Catalog # DSX1 LED P5 40K T3M MVOLT SPA PER DDBXD w/ SSA 18 4G DM19AS FBC DDB or approved equal.
● WM12	5	L.E.D.	47	WALL MOUNTED	12'	Light fixture as manufactured by Lithonia Lighting Systems, Catalog # DSXW1 LED 20C 700 40K T3M MVOLT PER DDBXD or approved equal.
● WM20	7	L.E.D.	71	WALL MOUNTED	20'	Light fixture as manufactured by Lithonia Lighting Systems, Catalog # DSXW2 LED 30C 700 40K T3M MVOLT PER DDBXD or approved equal.
▲ CBRA	3	L.E.D.	150	1	20'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # M2RR15S1N2AMS3 w/ 8' BRACKET ARM or approved equal.

1. Installation of light fixtures shall be per manufacturer's recommendations.
2. Light poles shall be aluminum poles and installation shall be per manufacturer's recommendations.
3. Each fixture shall receive dusk to dawn photocells to control the daily operation of the outdoor lighting.
4. All fixtures with the suffix HS shall receive house side shields.

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE SEEDED OR SOEDED, SEED MIXTURES, SPECIFICATIONS, AND GRASS TYPES SHALL MEET TOWNSHIP REQUIREMENTS PRIOR TO INSTALLATION.
2. LIGHTING CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE ENGINEER'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
3. SUBSTITUTION AND FINAL LOCATION OF ALL LIGHTING IS SUBJECT TO TOWNSHIP'S APPROVAL.
4. IF DISCREPANCIES OCCUR IN THE SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
5. SEE SHEET 22 OF 49 FOR LIGHTING DETAILS



THIS PLAN TO BE USED FOR LIGHTING PURPOSES ONLY.

11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
5/20/20	REV. PER NDOT LETTER 4-13-2020	CSM	JS
2/07/20	ADD STREET LIGHTING	CSM	JS
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS

DATE	REVISION	DRAWN	CHECKED	RELEASED

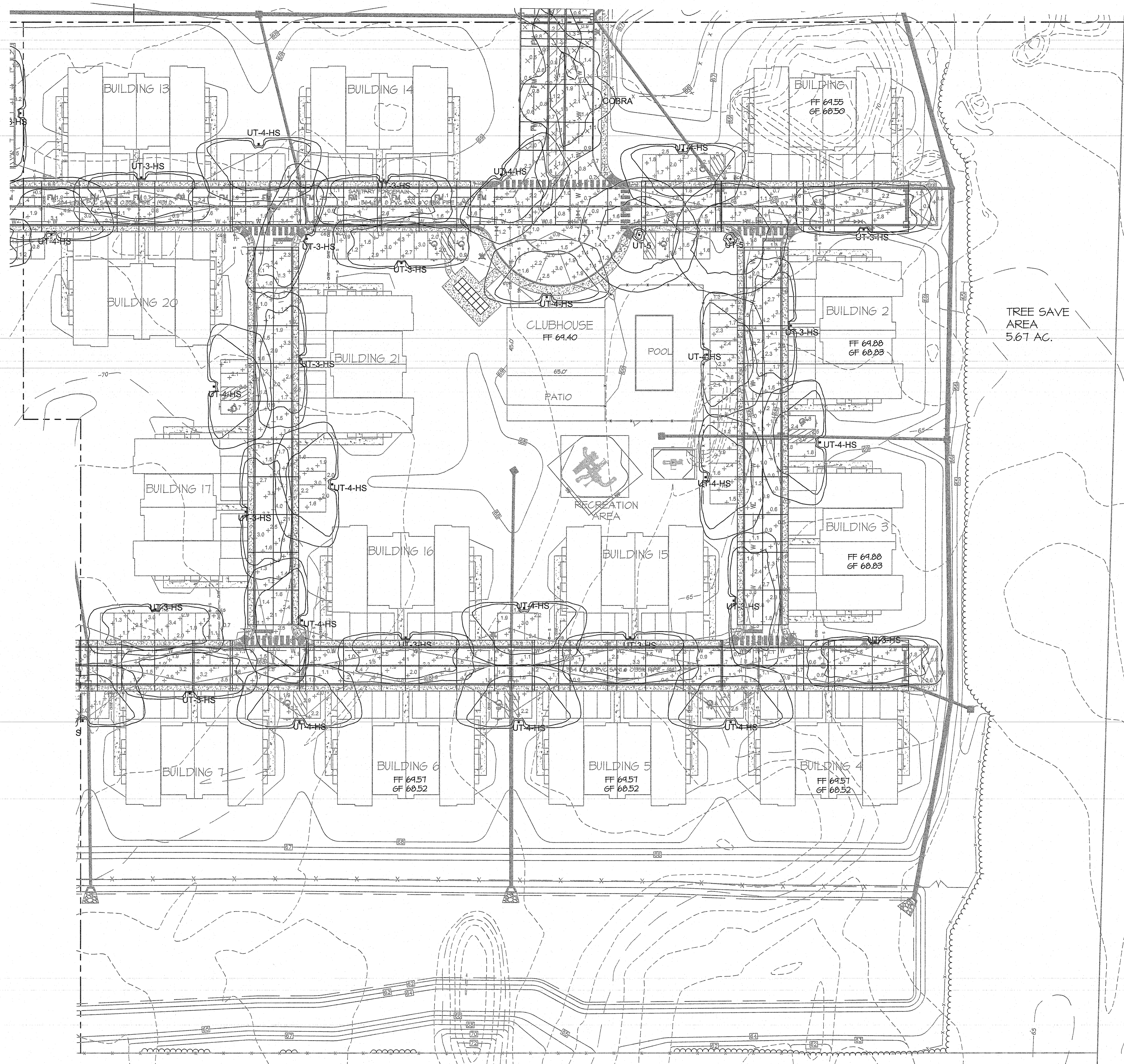
LIGHTING PLAN
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
RESERVE SPECIALISTS
ARCHITECTS
FWHASSOCIATES.COM
 1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

Leroy G. Webb Jr.

 Licensed Landscape Architect
 N.J. Lic. No. AS00149
 Professional Planner N.J. Lic. No. 4006

DESIGNED BY	MVM	DATE	8/10/18
DRAWN BY	MVM	SCALE	1"=30'
CHECKED BY	MVM	DRAWER NO.	
REVIEWED BY	LGW	PROJECT NO.	1423.0016
SHEET NO.	24	OF	49



POINT TO POINT LIGHTING CALCULATION
 INDIVIDUAL LIGHT FIXTURE CONTOURS = 10 FC, 0.5 FC.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
COMMONWEALTH	X	1.3 fc	3.0 fc	0.5 fc	6.0:1	2.6:1
COMMERCIAL	X	2.4 fc	8.6 fc	0.8 fc	10.8:1	3.0:1
RESIDENTIAL	+	1.7 fc	4.3 fc	0.5 fc	8.6:1	3.4:1

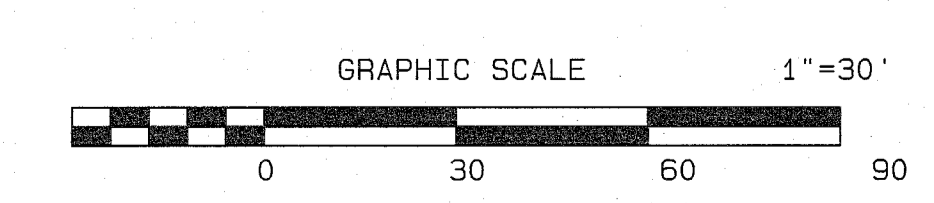
LIGHTING SCHEDULE

Key	Qty	Light Type	Wattage	Number of Fixtures per Poles	Mounting Height	Description
▲ CBRA	1	L.E.D.	150	1	20'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # M2RR15S1N2AMS3 w/ 8' BRACKET ARM or approved equal.
▲ UT4-HS	15	L.E.D.	74	1	14'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # UTLD-AF24-70-D-U-T4W-HSS-OA/RA w/ CO A 14 T6C 12 P05 ABG BK or approved equal.
▲ UT3-HS	15	L.E.D.	74	1	14'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # UTLD-AF24-70-D-U-SL3-HSS-OA/RA w/ CO A 14 T6C 12 P05 ABG BK or approved equal.
▲ UT5	2	L.E.D.	74	1	14'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # UTLD-AF24-70-D-U-SWQ-OA/RA w/ CO A 14 T6C 12 P05 ABG BK or approved equal.

1. Installation of light fixtures shall be per manufacturer's recommendations.
2. Light poles shall be aluminum poles and installation shall be per manufacturer's recommendations.
3. Each fixture shall receive dusk to dawn photocells to control the daily operation of the outdoor lighting.
4. All fixtures with the suffix HS shall receive house side shields.

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE SEEDED OR SODED, SEED MIXTURES, SPECIFICATIONS, AND GRASS TYPES SHALL MEET TOWNSHIP REQUIREMENTS PRIOR TO INSTALLATION.
2. LIGHTING CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE ENGINEER'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
3. SUBSTITUTION AND FINAL LOCATION OF ALL LIGHTING IS SUBJECT TO TOWNSHIP'S APPROVAL.
4. IF DISCREPANCIES OCCUR IN THE SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
5. SEE SHEET 25 OF 49 FOR LIGHTING DETAILS.



THIS PLAN TO BE USED FOR LIGHTING PURPOSES ONLY.

DATE	REVISION	DRAWN	CHECKED	RELEASED
01/14/21	REV. STORM	SA	JS	
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS	
2/07/20	ADD STREET LIGHTING	CSM	JS	
9/24/18	REV. BUFFER FENCING PER NJDEP	CSM	JS	
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS	

LIGHTING PLAN

PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

FWH
ASSOCIATES, P.A.

1858 Rt. 9, Toms River, NJ 08756 T: 732.797.3100 F: 732.797.3223

CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
RESERVE SPECIALISTS
ARCHITECTS

FWHASSOCIATES.COM

DATE: 8/10/18
 DRAWN BY: MVM
 CHECKED BY: MVM
 PROJECT NO.: 1423.0016
 SHEET NO. OF: 25 OF 49

Leroy G. Webb Jr.
 Licensed Landscape Architect
 N.J. Lic. No. AS00149
 Professional Planner N.J. Lic. No. 4006

POINT TO POINT LIGHTING CALCULATION

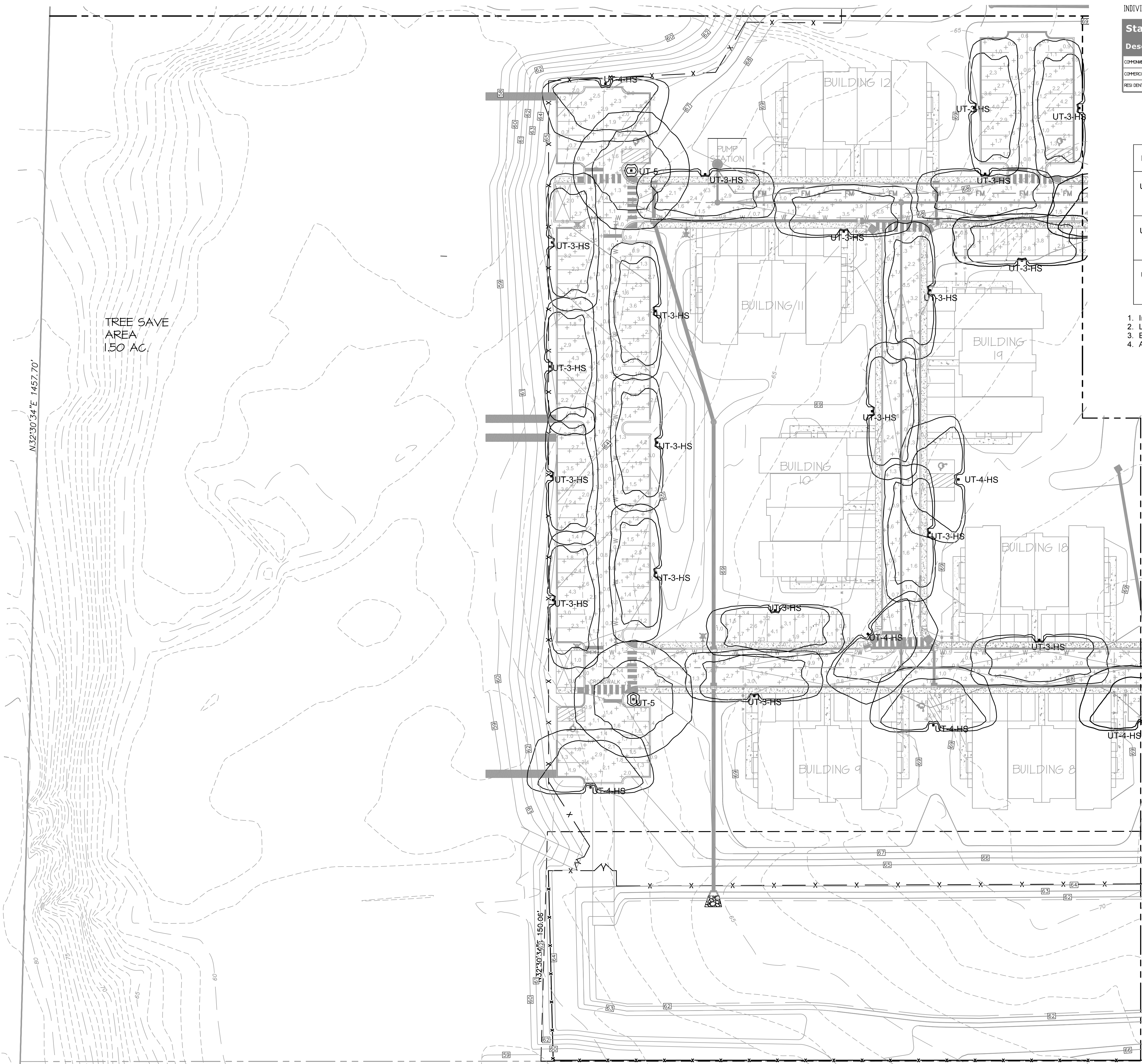
INDIVIDUAL LIGHT FIXTURE CONTOURS = 10 FC, 0.5 FC.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
COMMERCIAL BLDG	X	1.3 fc	3.0 fc	0.5 fc	6.0:1	2.6:1
COMMERCIAL	X	2.4 fc	8.6 fc	0.8 fc	10.8:1	3.0:1
RESIDENTIAL	+	1.7 fc	4.3 fc	0.5 fc	8.6:1	3.4:1

LIGHTING SCHEDULE

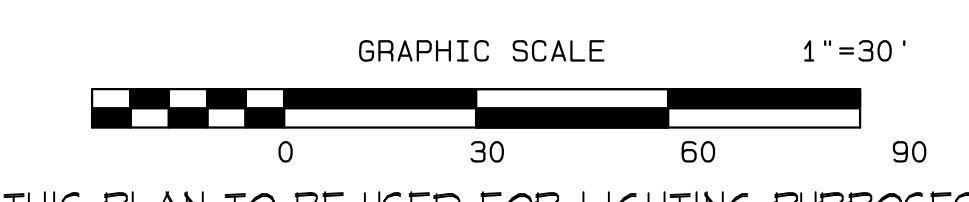
Key	Qty	Light Type	Wattage	Number of Fixtures per Poles	Mounting Height	Description
▲ UT4-HS	6	L.E.D.	74	1	14'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # UTLD-AF24-70-D-U-T4W-HSS-OA/RA w/ CO A 14 T6C 12 PO5 ABG BK or approved equal.
▲ UT3-HS	21	L.E.D.	74	1	14'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # UTLD-AF24-70-D-U-SL3-HSS-OA/RA w/ CO A 14 T6C 12 PO5 ABG BK or approved equal.
▲ UT5	2	L.E.D.	74	1	14'	Light fixture as manufactured by G.E. Lighting Systems, Catalog # UTLD-AF24-70-D-U-5WQ-OA/RA w/ CO A 14 T6C 12 PO5 ABG BK or approved equal.

1. Installation of light fixtures shall be per manufacturer's recommendations.
2. Light poles shall be aluminum poles and installation shall be per manufacturer's recommendations.
3. Each fixture shall receive dusk to dawn photocells to control the daily operation of the outdoor lighting.
4. All fixtures with the suffix HS shall receive house side shields.



GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE SEEDED OR SOOPEE. SEED MIXTURES, SPECIFICATIONS, AND GRASS TYPES SHALL MEET TOWNSHIP REQUIREMENTS PRIOR TO INSTALLATION.
2. LIGHTING CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE ENGINEER'S OFFICE SHALL BE NOTIFIED IMMEDIATELY.
3. SUBSTITUTION AND FINAL LOCATION OF ALL LIGHTING IS SUBJECT TO TOWNSHIP'S APPROVAL.
4. IF DISCREPANCIES OCCUR IN THE SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
5. SEE SHEET 25 OF 49 FOR LIGHTING DETAILS



THIS PLAN TO BE USED FOR LIGHTING PURPOSES ONLY.

11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS	
2/07/20	ADD STREET LIGHTING	CSM	JS	
9/24/19	REV. BUFFER FENCING PER NJDEP	CSM	JS	
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS	

DATE	REVISION	DRAWN	CHECKED	RELEASED
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LIGHTING PLAN
 PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

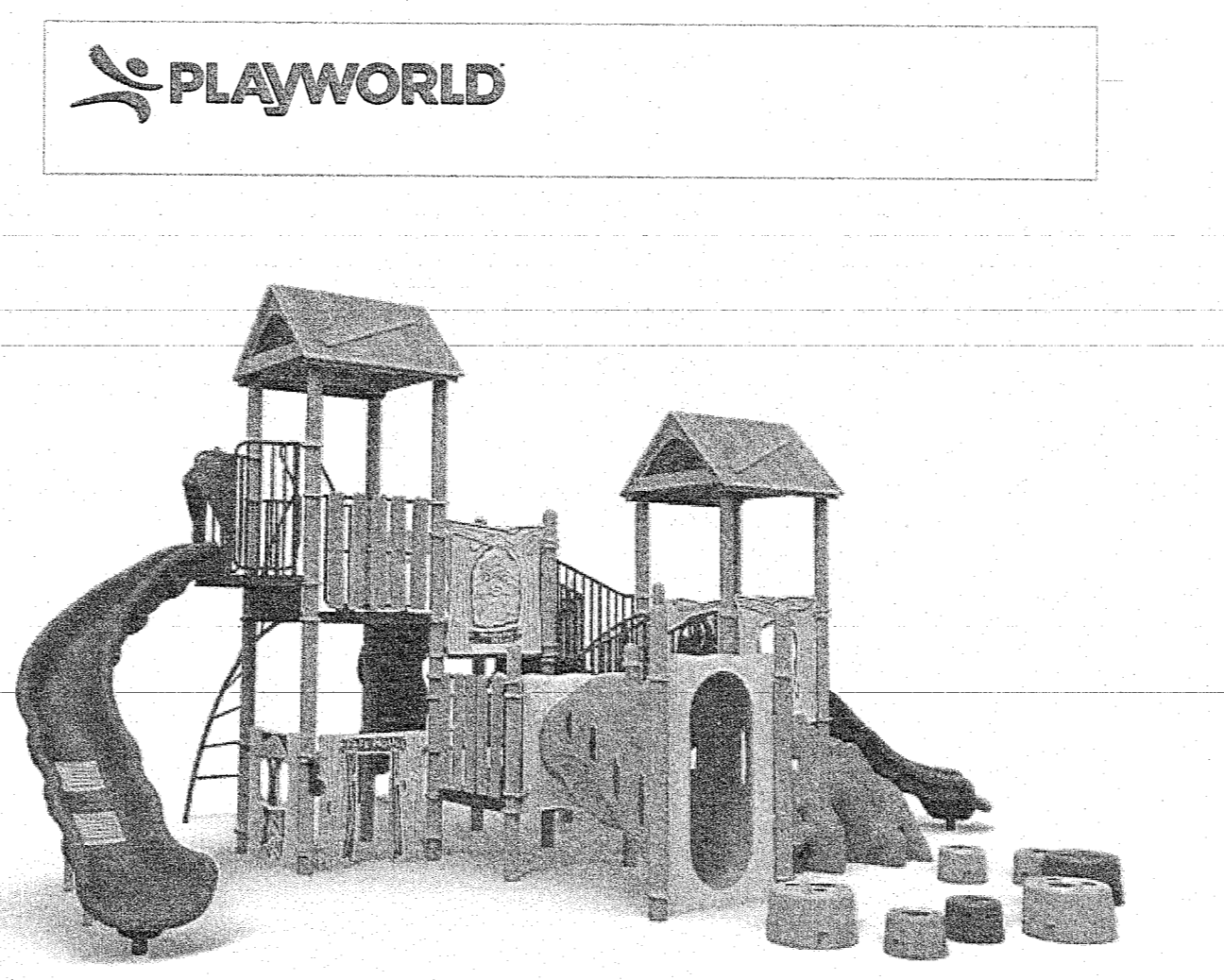
CIVIL ENGINEERS
 LAND SURVEYORS
 PLANNERS
 LANDSCAPE ARCHITECTS
 RESERVE SPECIALISTS
 ARCHITECTS

FWH ASSOCIATES, P.A.
 FWHASSOCIATES.COM
 1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

Leroy G. Webb Jr.
L.G. Webb Jr.
 Licensed Landscape Architect
 N.J. Lic. No. AS00149
 Professional Planner N.J. Lic. No. 4006

DRAWN BY	MVM	DATE	8/10/18
DESIGNED BY	MVM	SCALE	1"=30'
CHECKED BY	MVM	DRAWING NO.	
RELEASED BY	LOW	PROJECT NO.	1423.0016
SHEET NO.	26	TOTAL SHEETS	49

L:\Projects\1501\1501_SitePlan\1501_Lighting\1501_Lighting_Plan.dwg 2/2/2021 4:07:28 PM © 2021 FWH Associates, P.A.



Playmakers®
Clubhouse Junction
Product: 500-1609

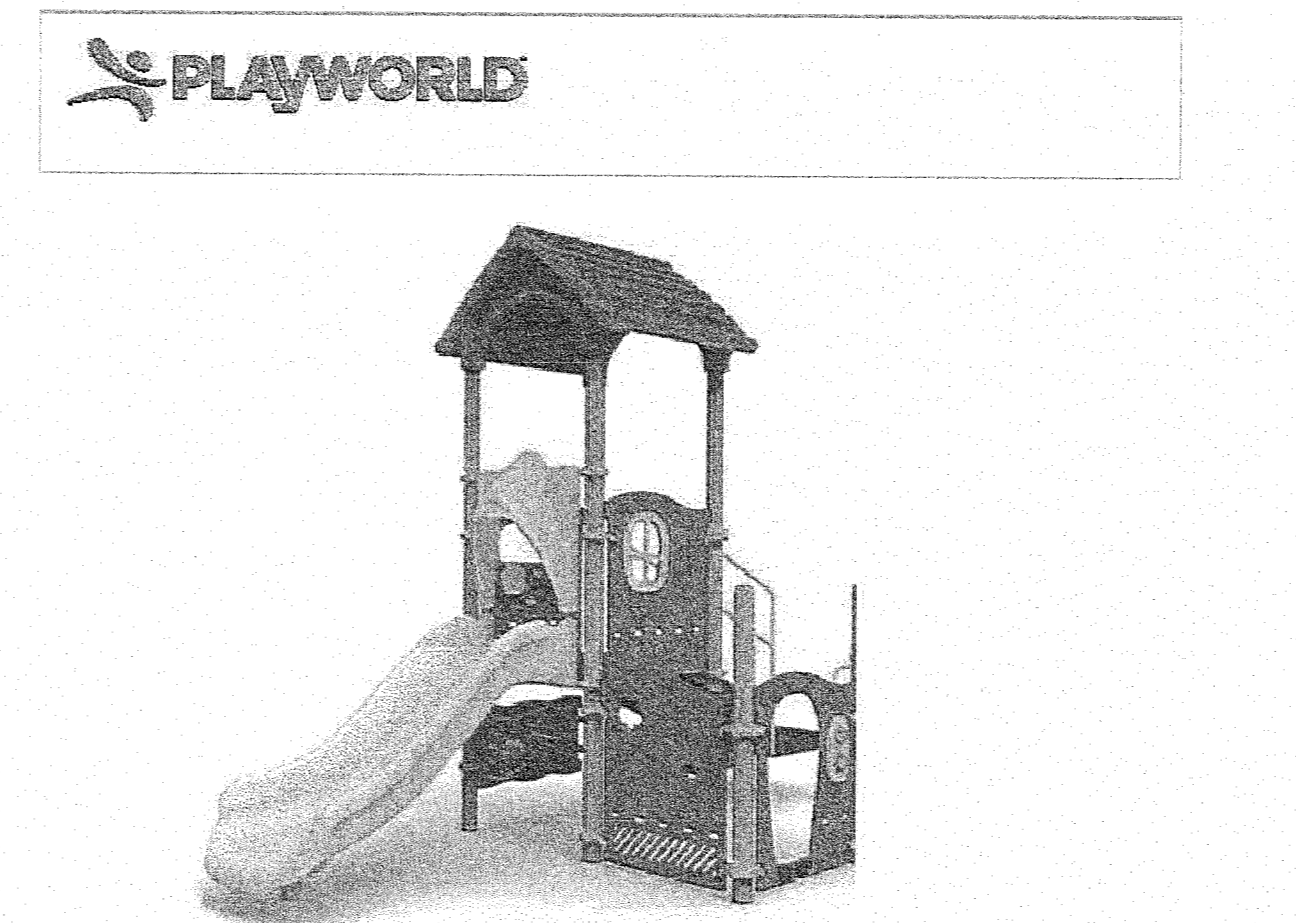
Product Details

Size: 30' 8" x 30' 9" x 16' 5"
Weight: 5078 lbs
Capacity: 60
Install Hours: 67
Color:

Certifications:

ASTM F1487
CPSA PUB.325
EN1176*

SCHOOL-AGE PLAYGROUND DETAIL



Play Fundamentals
Clubhouse
Product: FUN-1481

Play Fundamentals playgrounds offer a variety of physical, sensory and social activities that will keep kids engaged. Transfer station provides access to children of all abilities. Panels offer pretend opportunities, while the slide stimulates a child's vestibular and visual sensory systems. Roof provides shade. Made of durable steel and plastic.

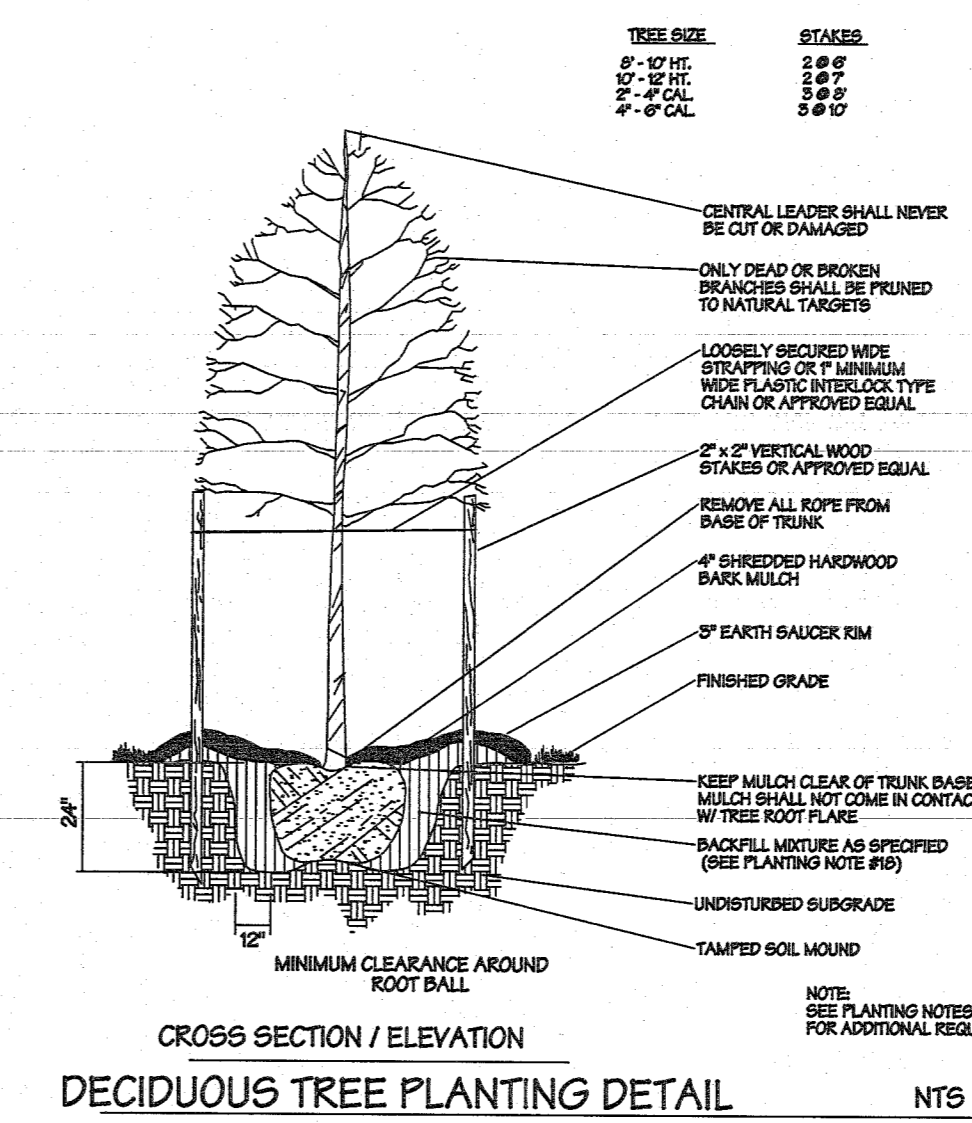
Product Details
Size: 13'6" x 6'11" x 10'4"
Weight: 777 lbs
Capacity: 17
Install Hours: 18

Certifications:
ASTM F1487
CPSA PUB.325
CAN/CSA-Z614
EN1176

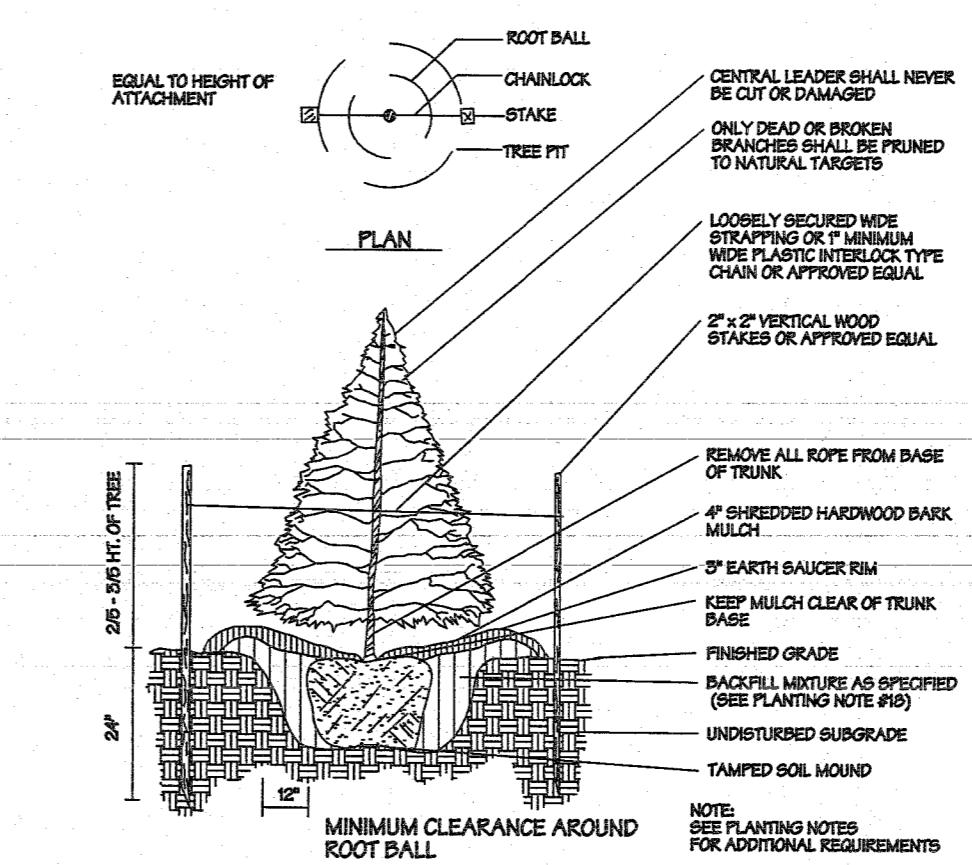
TOT LOT PLAYGROUND DETAIL

PLAYGROUND NOTES

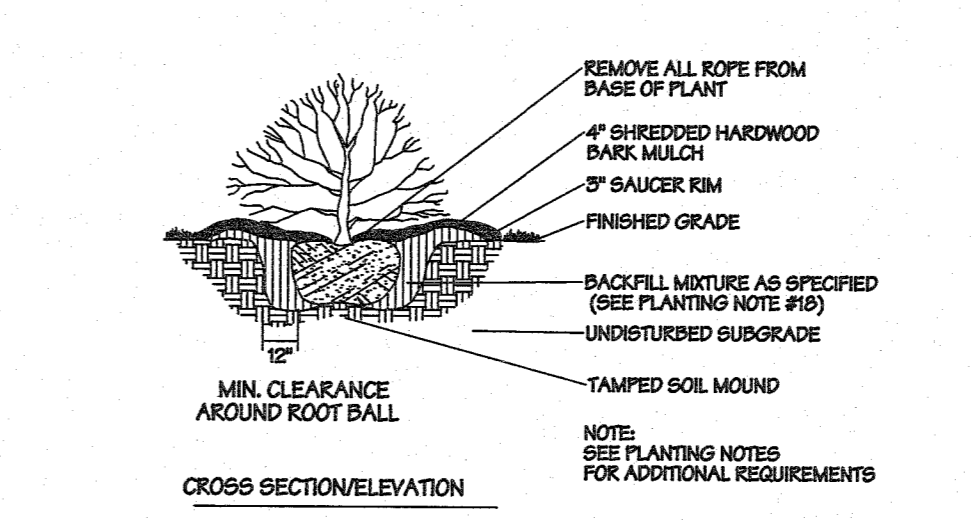
- All play structures and composites must carry durable warning labels and separate manufacturer's identification. Labels shall not be removable without tools.
- Installation and construction of all play structures and composites shall be per manufacturer specification.
- Safety surfaces material shall meet Consumer Product Safety Commission (CPSA) and ASTM F 1252 standards.
- Signs shall be provided to give adults guidance on age appropriateness of equipment.
- Annual safety audits should be conducted and a maintenance program should be established to ensure a safe environment.



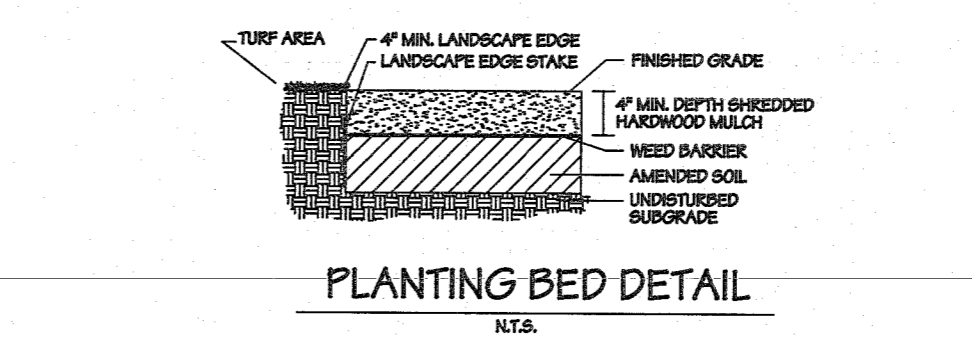
DECIDUOUS TREE PLANTING DETAIL N.T.S.
NOTE: WIRE BASKETS ARE TO BE REMOVED PRIOR TO BACKFILLING THE PLANTING PIT



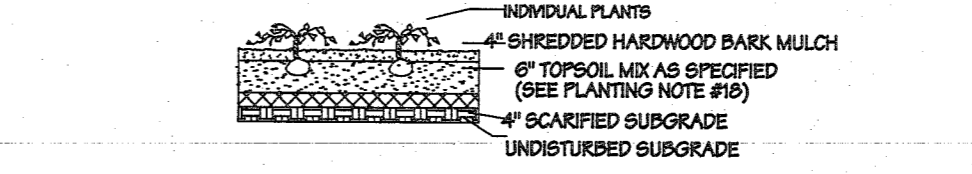
EVERGREEN TREE PLANTING DETAIL N.T.S.
NOTE: WIRE BASKETS ARE TO BE REMOVED PRIOR TO BACKFILLING THE PLANTING PIT



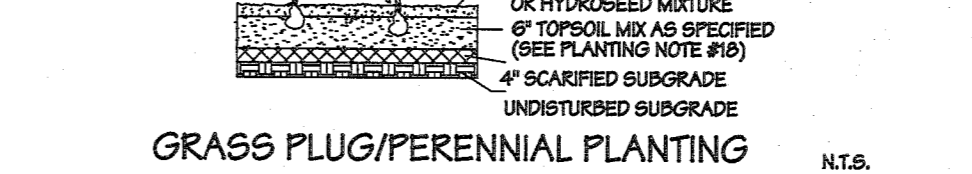
SHRUB PLANTING DETAIL N.T.S.



PLANTING BED DETAIL N.T.S.



GROUND COVER PLANTING N.T.S.



GRASS PLUG/PERENNIAL PLANTING N.T.S.

GENERAL NOTES

- ALL DISTURBED AREAS (OPEN SPACE, LAWN AREAS AROUND BUILDINGS ETC.) SHALL BE SEEDED OR SOEDED.
- LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES (PROPOSED AND EXISTING) PRIOR TO INSTALLATION. IF DISCREPANCIES OCCUR, THE LANDSCAPE ARCHITECTS OFFICE SHALL BE NOTIFIED IMMEDIATELY.
- SUBSTITUTION AND FINAL LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO THE LANDSCAPE ARCHITECT AND TOWNSHIP'S APPROVAL.
- IF DISCREPANCIES OCCUR IN THE PLANT SCHEDULE QUANTITIES, THE PLAN SHALL SUPERSEDE.
- SEE THIS SHEET FOR PLANTING AND SEEDING SCHEDULES, NOTES, AND DETAILS.

THIS PLAN TO BE USED FOR LIGHTING PURPOSES ONLY.

- PLANTING NOTES**
- Plant material shall be furnished and installed as indicated; including all labor, materials, plants, equipment, incidentals, and clean up.
 - The Contractor shall be responsible for planting at correct grades and alignment.
 - Plants shall be typical of their species and variety; have normal growth habits; well developed branches, densely foliated vigorous root systems and be free from defects and injuries.
 - Contractor shall report any soil or drainage conditions considered detrimental to the growth of plant material.
 - All plant material shall be guaranteed by the Contractor to be in vigorous growing condition. Provision shall be made for a growth guarantee of at least two (2) years for trees and shrubs. Replacements shall be made at the beginning of the first succeeding planting season. All replacements shall have a guarantee equal to that stated above.
 - Insofar as it is practical, plant material shall be planted on the day of delivery. In the event this is not possible, the Contractor shall protect shrubs not planted from drying. Plants shall not remain unplanted for longer than a three (3) day period after delivery.
 - Quality and size of plants, spread of roots, and size of balls shall be in accordance with ANSI Z60 (Rev. 1980) "American Standard for Nursery Stock" as published by the American Association of Nurserymen, Inc.
 - All plants shall be planted in topsoil that is thoroughly watered and tamped as backfilling progresses. Notching for suitable topsoil, tree of dry soil, stiff clay, litter, etc., shall be used for planting.
 - Plants shall not be bound with wire or ropes at any time so as to damage the bark or break branches. Plants shall be handled from the bottom of the ball only.
 - Planting operations shall be performed during periods within the planting seasons when weather and soil conditions are suitable and in accordance with accepted local practices. Planting seasons are defined as "Spring Planting Season" March 15 through May 15, "Fall Planting Season" Sept. 15 through Nov. 15. Planting is acceptable during other months if weather permits, the ground is not frozen and supplemental watering is provided in the summer.
 - No plant, except ground covers, shall be planted less than two (2) feet from existing structures and sidewalks.
 - Street trees shall be field adjusted to be a minimum distance of 15' from proposed street lighting.
 - Set all plants plumb and straight. Set at such level that, after settlement, a normal or natural relationship to the crown of the plant with the ground surface will be established. Loose plants in the center of the pit.
 - Top pruning should be restricted to removing broken and damaged branches and developing a good tree structure. Main leader of trees must not be cut back. All pruning shall be done at the nursery prior to transplanting or transporting.
 - Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve natural character of plant. Pruning shall be done with clean, sharp tools. All pruning cuts will be made so natural targets.
 - Trees shall be supported immediately after planting. All trees six (6) inches and over in caliper shall be guyed, unless otherwise noted. Smaller trees shall be staked and supported as indicated.
 - All planting beds shall receive 4" of shredded hardwood bark mulch treated with a pre-emergent herbicide. Mulch shall not be piled directly against the root collar.
 - Topsoil mixture for backfilling planted areas shall consist of 2 parts by volume loamy topsoil thoroughly mixed with one part peat moss. Fertilizer will not be used for one year after planting.
 - The following "Fall Hazard Planting", tree species (bare root or B&B) will be planted during the Spring planting season only.

Acer rubrum	Liriodendron tulipifera
Deltoia vars.	Malus in leaf
Cornus vars.	Nyssa sylvatica
Celastrus vars.	Ostrya
Cercidiphyllum vars.	Paratanus x acerifolia
Cornus vars.	Populus vars.
Fagus vars.	Prunus All stone fruits
Halesia vars.	Pyrus vars.
Ilex opaca var.	Quercus (All oaks except Q. palustris)
All treeform evergreen illex vars.	Salix weeping vars.
Koeleria vars.	Tilia tomentosa vars.
Liquidambar vars.	Zelkova vars.

SEEDING SCHEDULE

All areas not occupied by buildings, paving or other plant material shall be manually seeded.

The Seed Mixture shall be seed mixture #13 per the Standards for Soil Erosion and Sediment Control in New Jersey, Permanent Vegetation Mixtures, Planting Rates and Planting Dates Table by the NJ Soil Conservation District.

The seed mixture consist of the following:

Common Name	Proportion by Weight
Hard Fescue	175 lbs./acre
Perennial Ryegrass	45 lbs./acre
Kentucky Bluegrass	45 lbs./acre

Application Rates:

Hard Fescue	4 lbs./1000 sq ft
Perennial Ryegrass	1 lb./1000 sq ft
Kentucky Bluegrass	1 lb./1000 sq ft

Mulch

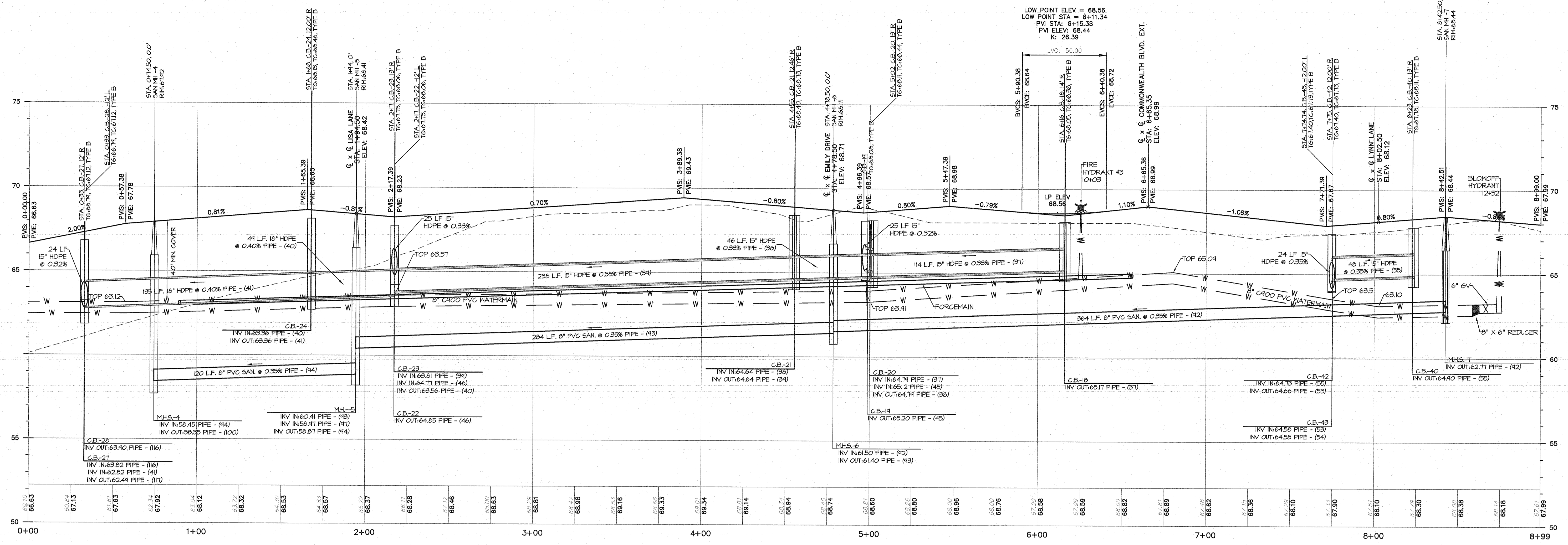
Straw/Hay Mixture: 1 1/2 - 2 tons/acre

Seeding dates:

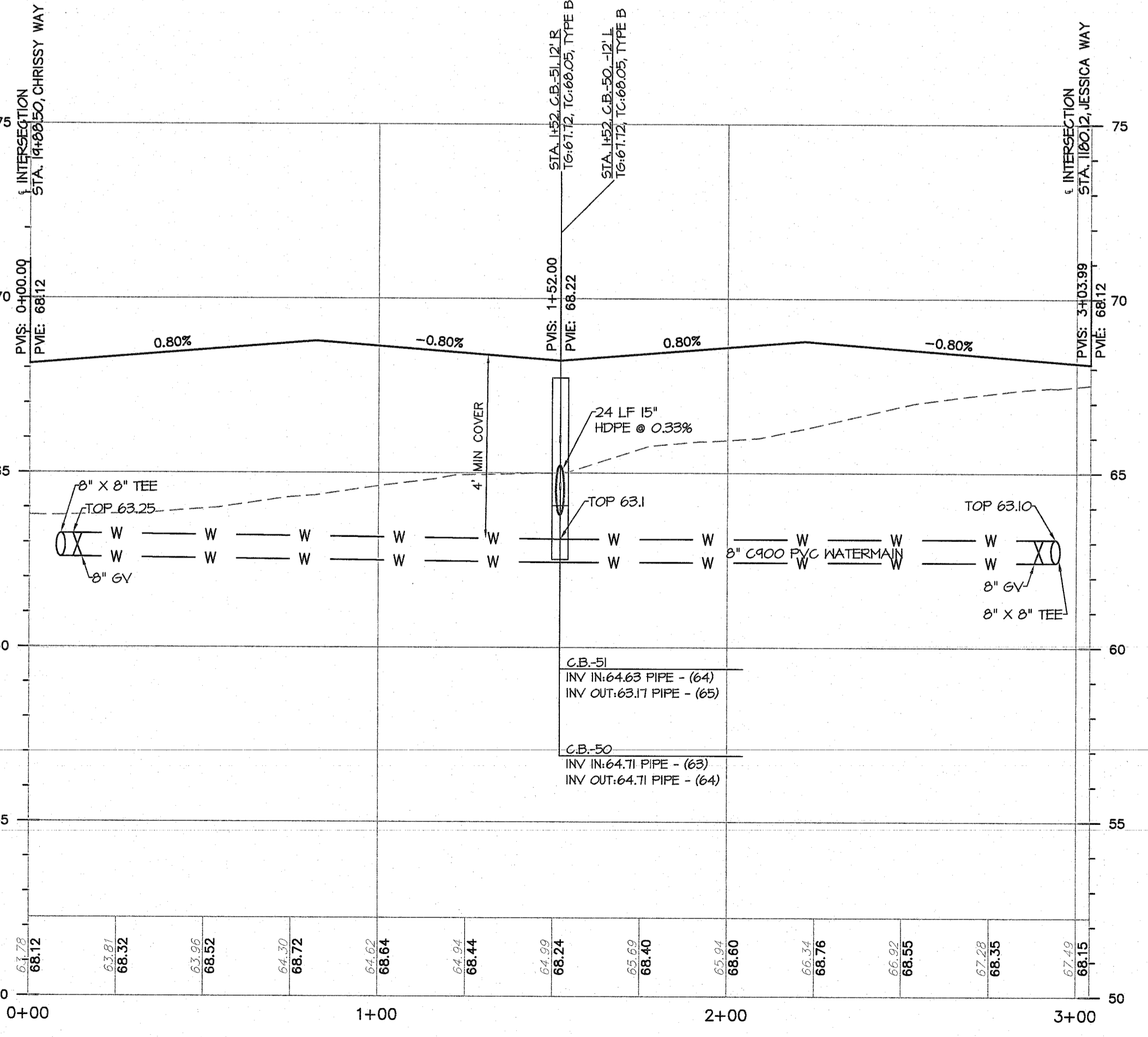
Optimal seeding dates: Aug. 15 - Oct. 30
Acceptable seeding dates: Feb. 1 - April 30
May 5 - Aug. 14

DATE	REVISION	DRAWN	CHECKED	RELEASED
LANDSCAPE DETAILS				
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION LOT 15.01 ~ BLOCK 44				
TAX MAP SHEET NO. 8 SITUATED IN MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY				
FWH ASSOCIATES, P.A.		CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS RESERVE SPECIALISTS ARCHITECTS		
FWHASSOCIATES.COM 1856 Rt. 9, Torrey River, NJ 08755 T: 732.797.5100 F: 732.797.3223				
DESIGN BY	DATE	SCALE		
MVM	8/10/18	1"=30'		
CHECKED BY	SCALE	PROJECT NO.		
MVM		1423.0016		
DESIGNED BY	PROJECT NO.	PROJECT NO.		
LOW	1423.0016			
DRAWN BY	DATE	BY		
27	49			

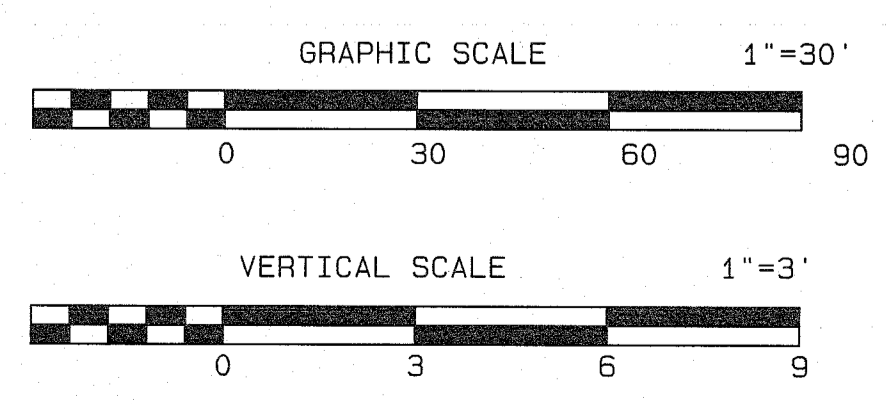
Leroy G. Webb Jr.
Licensed Landscape Architect
N.J. Lic. No. AS00149
Professional Planner N.J. Lic. No. 4006



PROFILE OF JESSICA WAY
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF LYNN LANE
1" = 30' HORIZ. / 1" = 3' VERT.



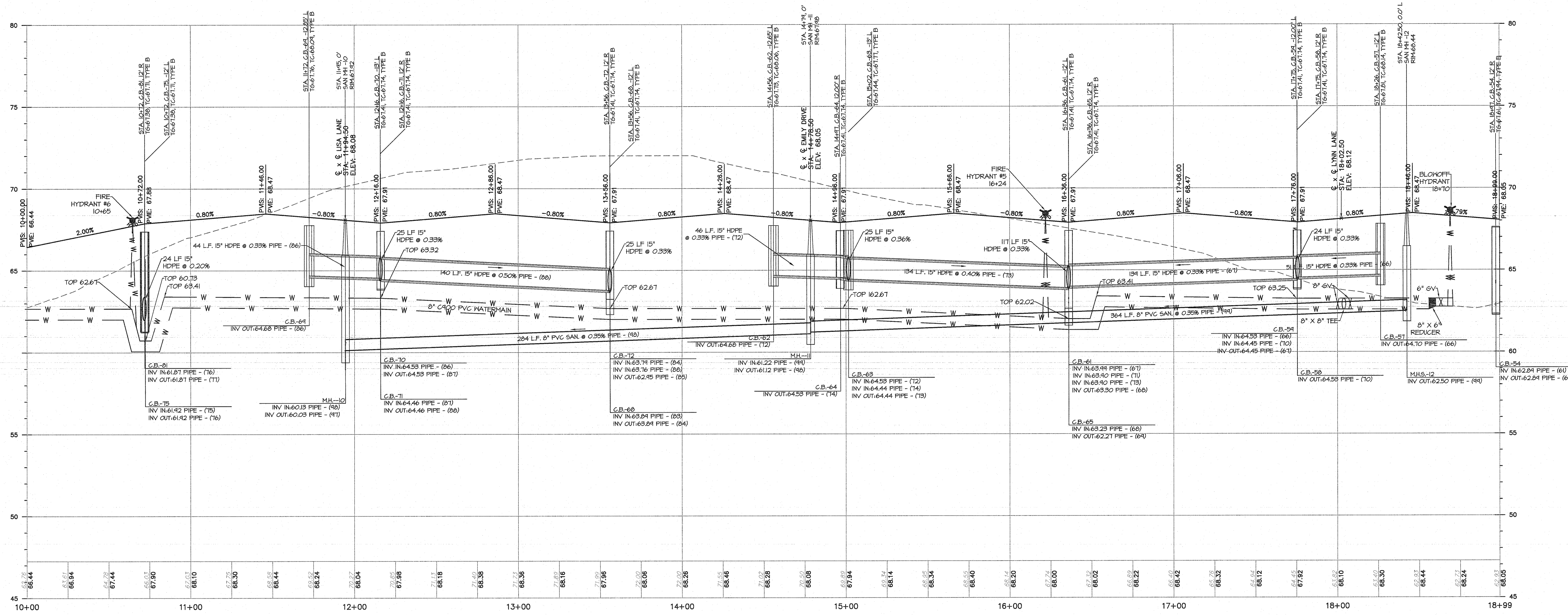
01/14/21	REV. STREET NAMES	SA	JS
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS

ROAD PROFILES
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

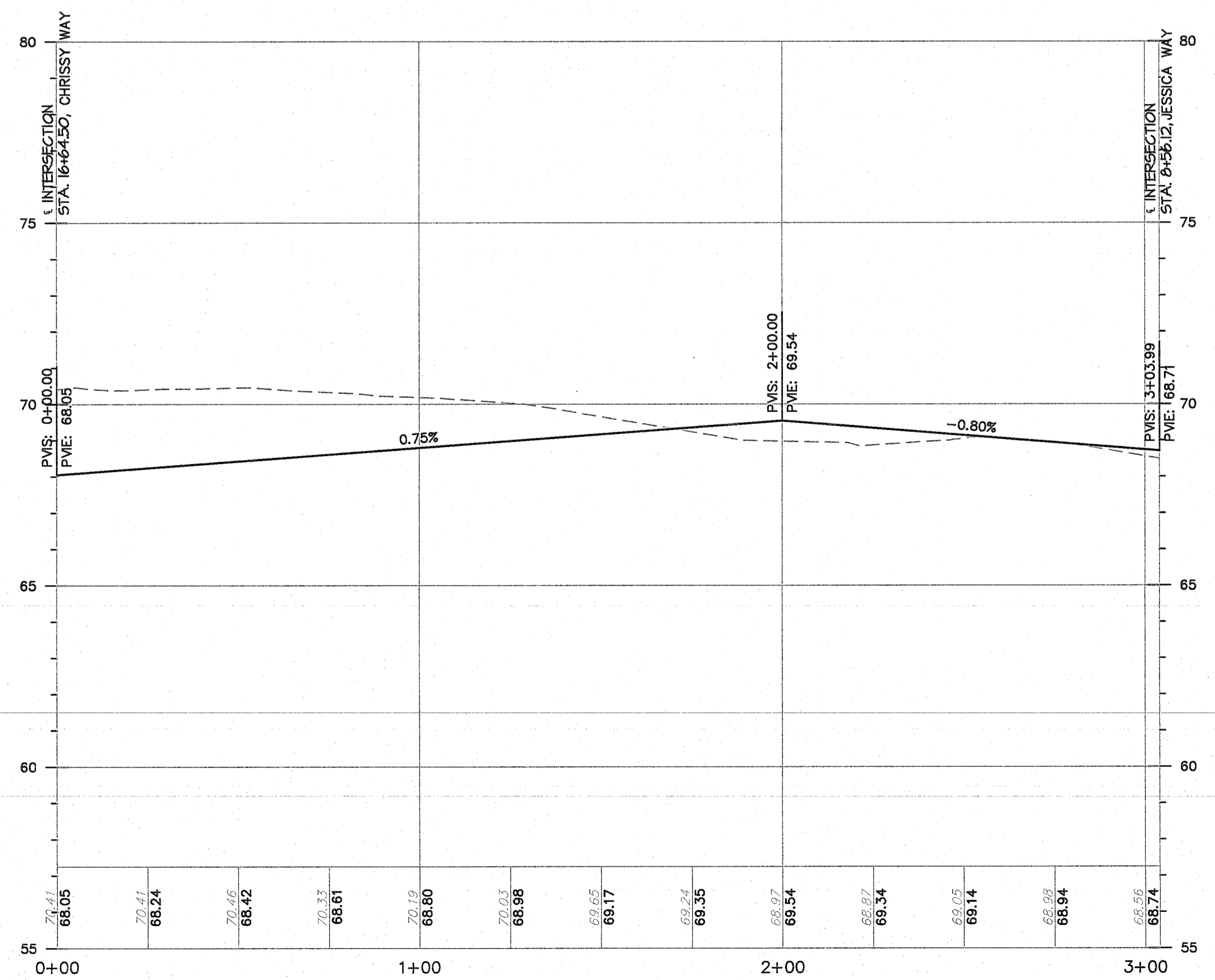
FWH ASSOCIATES, P.A.
CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
RESERVE SPECIALISTS
ARCHITECTS
FWHASSOCIATES.COM
1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

Brian P. Murphy
PROFESSIONAL ENGINEER
N.J. LIC. NO. 42000

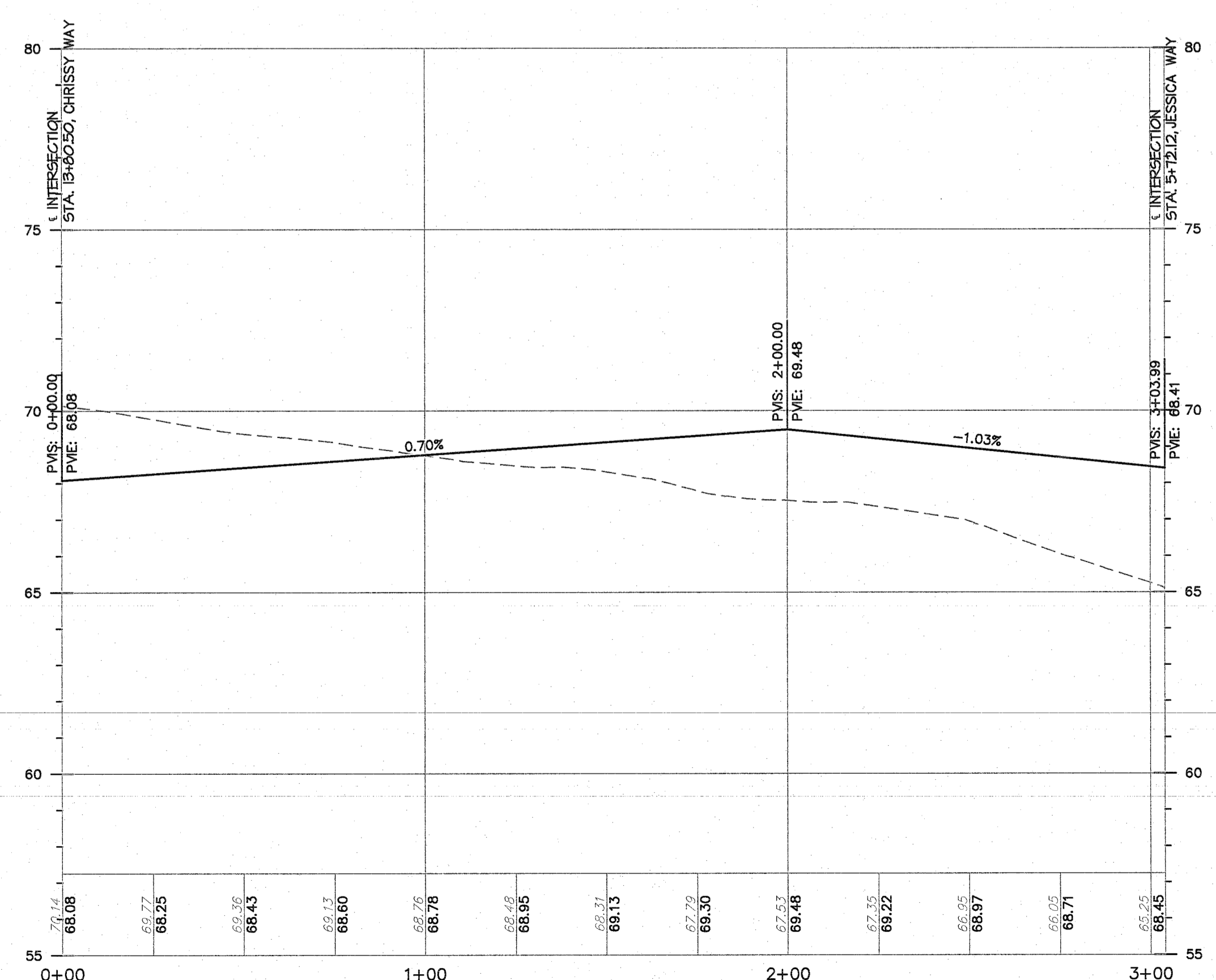
DATE	REVISION	DRAWN	CHECKED	RELEASED
CSM	8/10/18			
JS	1"=30'H; 1"=3'V			
JS	PD-170			
BPM	1423.0016			
SHEET NO.	29	OF	49	



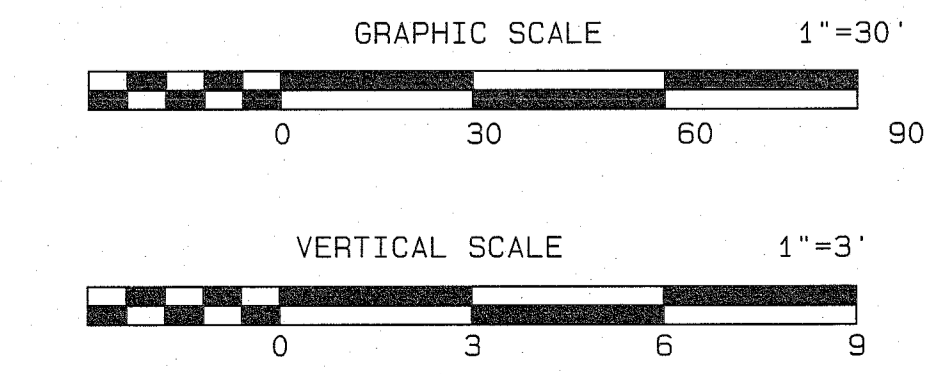
PROFILE OF CHRISSEY WAY
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF EMILY DRIVE
1" = 30' HORIZ. / 1" = 3' VERT.



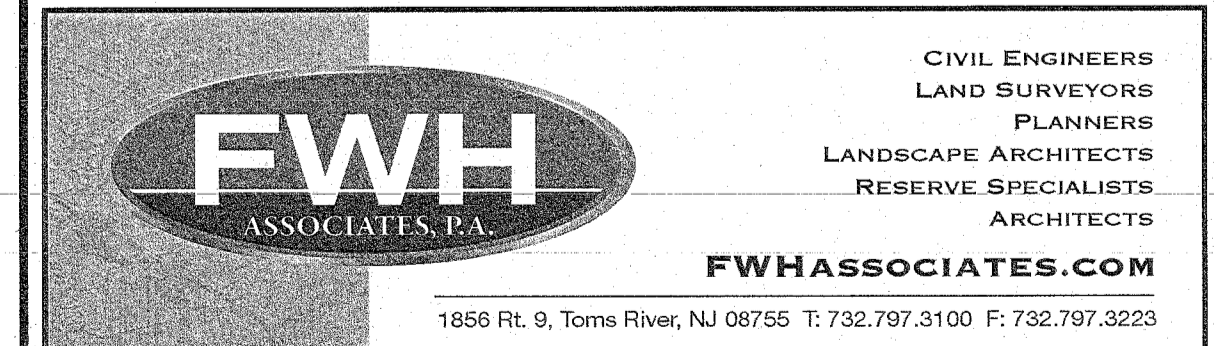
PROFILE OF LISA LANE
1" = 30' HORIZ. / 1" = 3' VERT.



01/14/21	REV. STREET NAMES	SA	JS
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
3/18/19	REV. PER CAPRA MEETING 2/14/19	CSM	JS

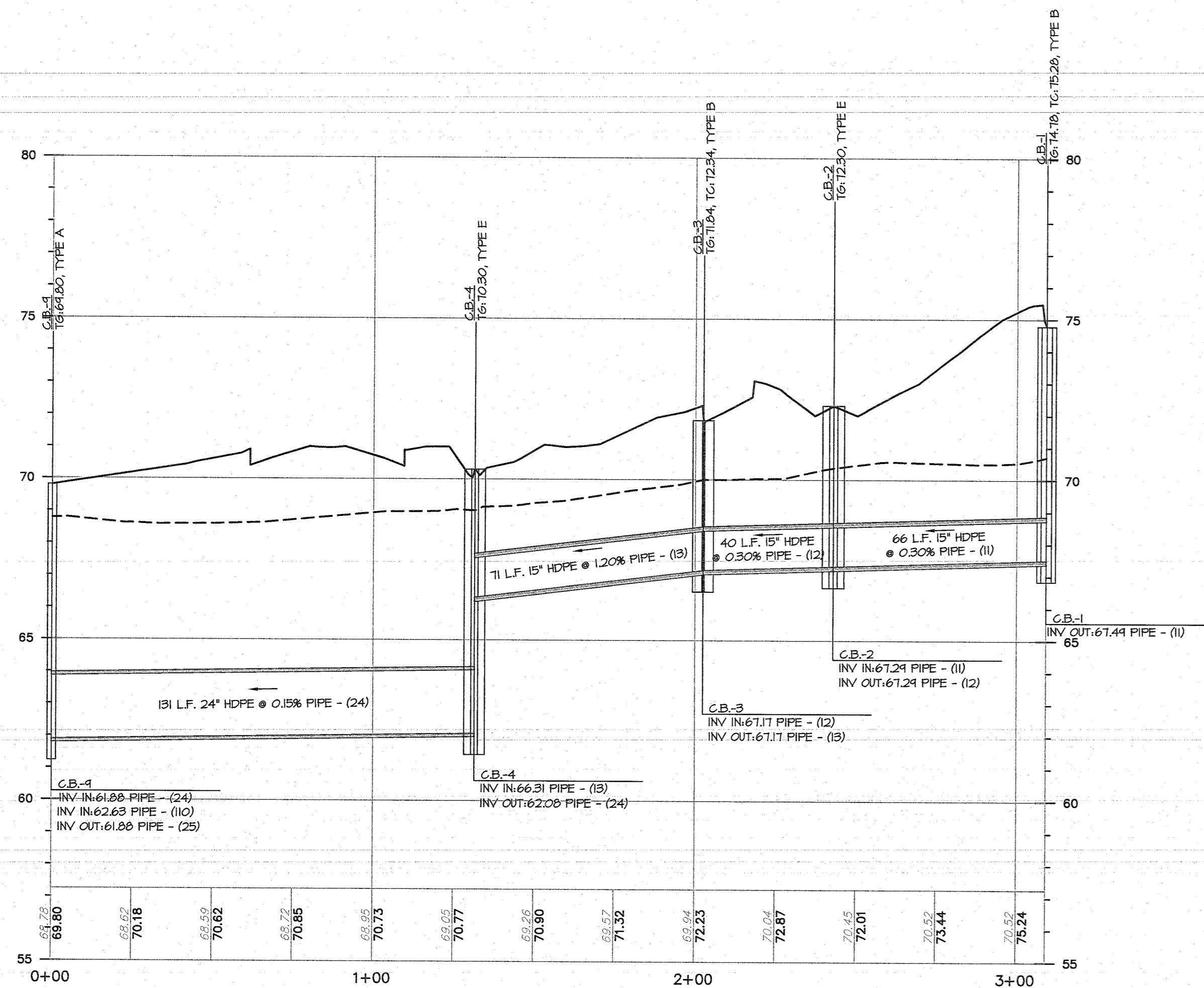
DATE	REVISION	DRAWN	CHECKED	RELEASED
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ROAD PROFILES
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

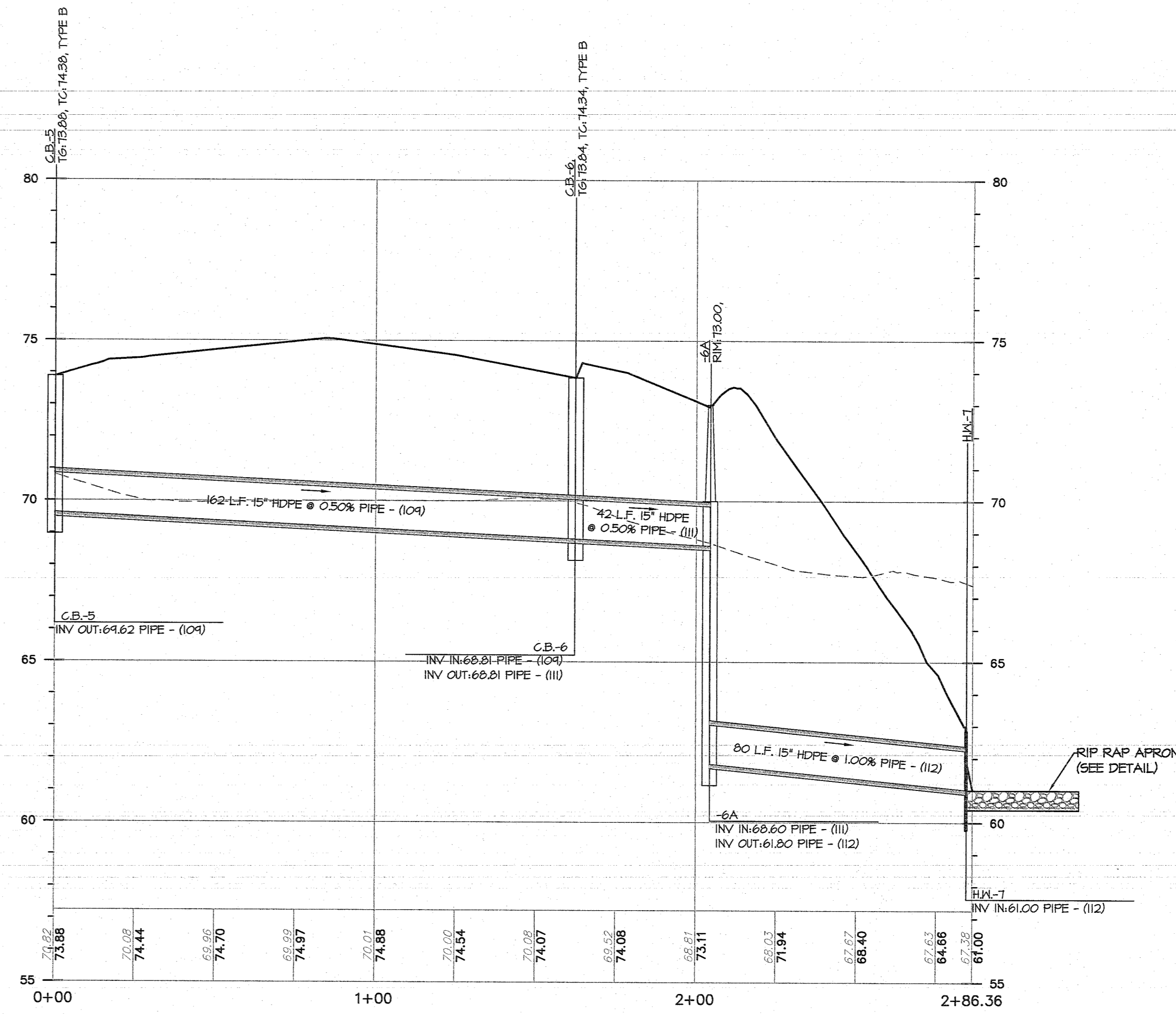


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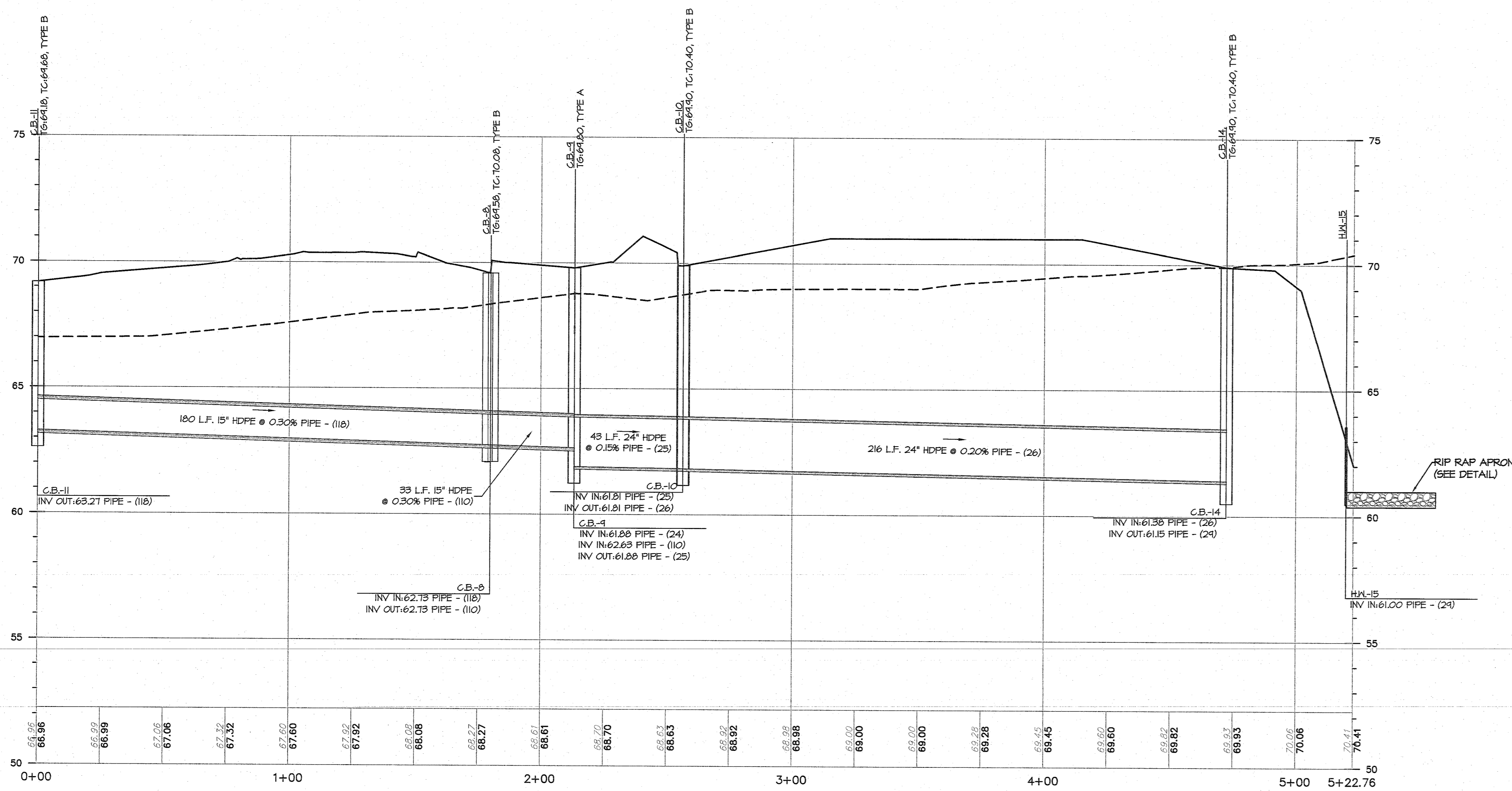
DATE	8/10/18
DESIGNED BY	CSM
CHECKED BY	JS
PROJECT NO.	PD-170
DATE	1423.0016
SHEET NO.	30
TOTAL SHEETS	49



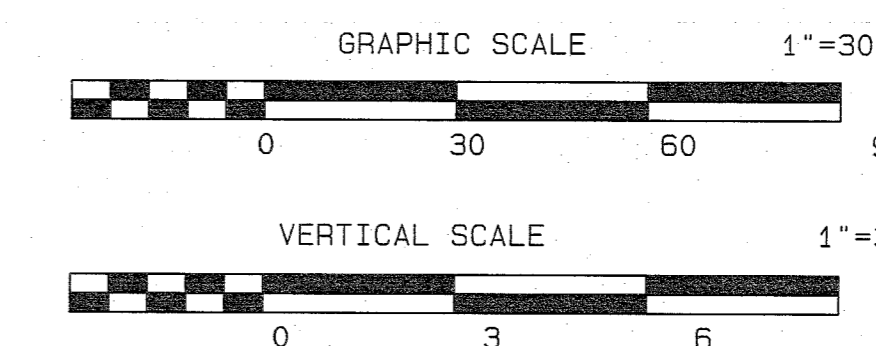
PROFILE OF C.B.-1 ~ C.B.-9
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-5 ~ H.W.-7
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-11 ~ H.W.-15
1" = 30' HORIZ. / 1" = 3' VERT.



11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
10/22/19	REV. PER WAWA REQUESTED REVISIONS	CSM	JS
3/19/19	REV. PER CAFRA MEETING 2/14/19	CSM	JS

DATE	REVISION	DRAWN	CHECKED	RELEASED
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OFFROAD PROFILES

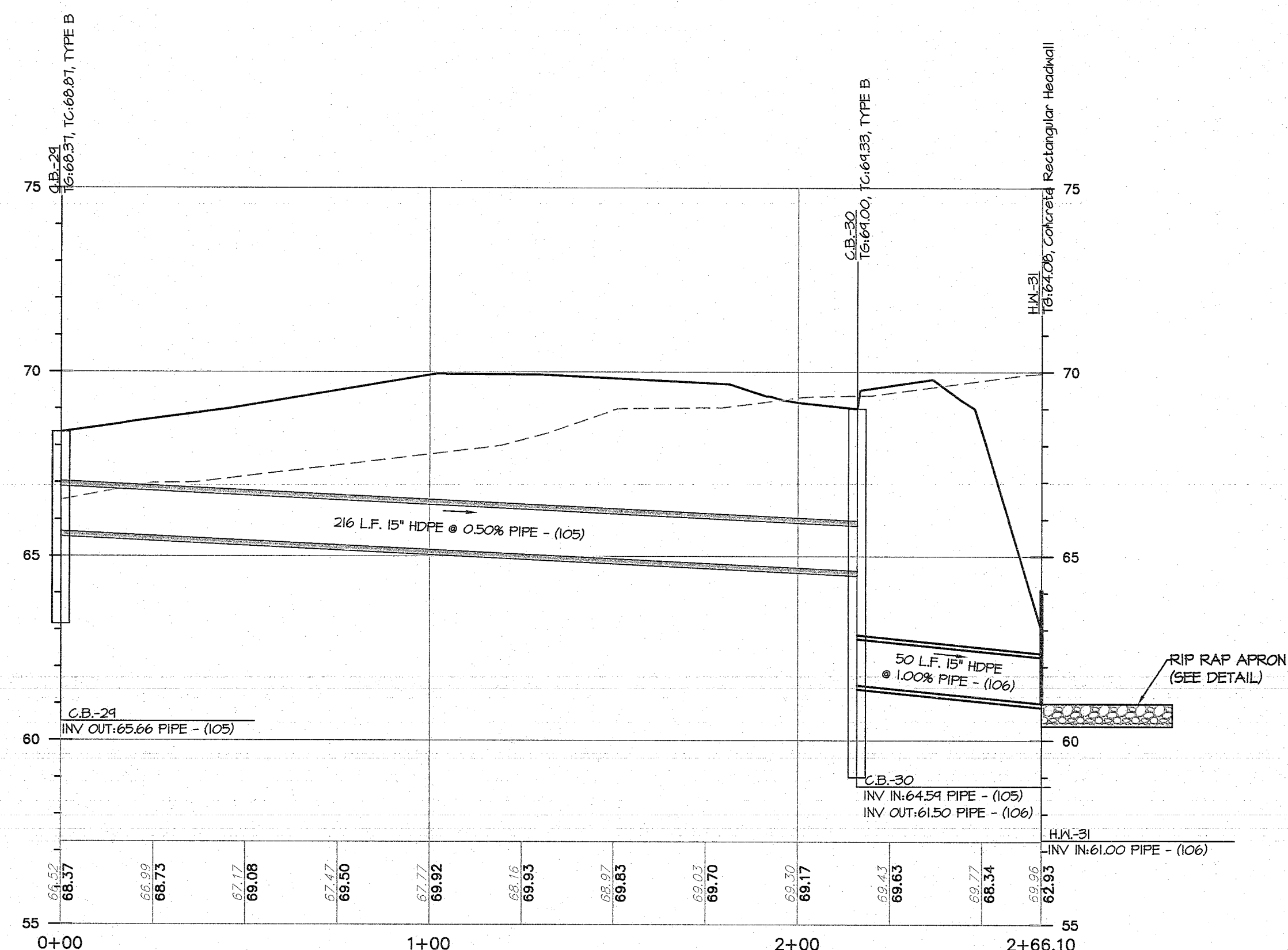
PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44

TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

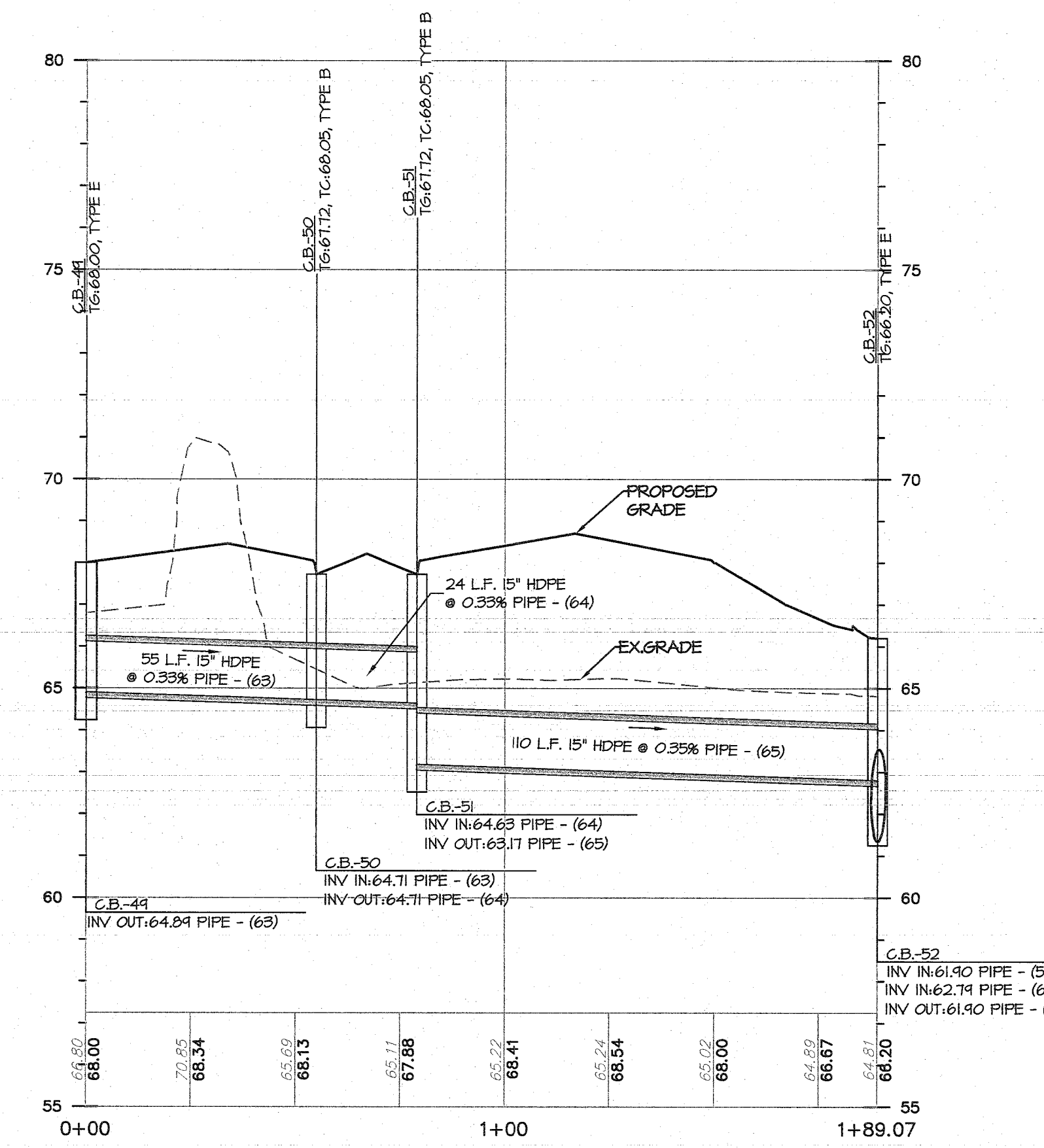
FWH ASSOCIATES, P.A.
CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS
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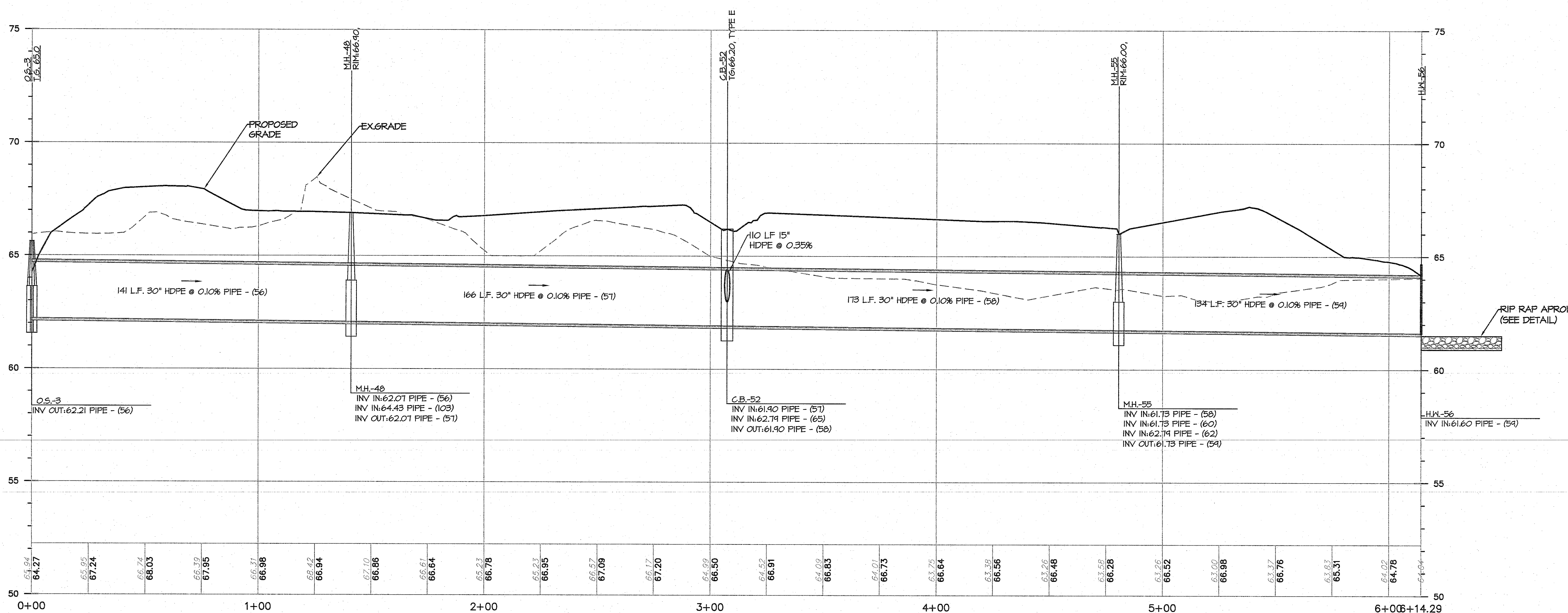
DESIGN BY	DATE
CSM	8/10/18
CHECKED BY	SCALE
JS	1" = 30' HORIZ. / 1" = 3' VERT.
DRAWN BY	PROJECT NO.
JS	PD-170
RELEASED BY	PROJECT NO.
BPM	1423.0016
DRAWN BY	DATE
CSM	8/10/18
CHECKED BY	SCALE
JS	1" = 30' HORIZ. / 1" = 3' VERT.
DRAWN BY	PROJECT NO.
JS	PD-170
RELEASED BY	PROJECT NO.
BPM	1423.0016
DRAWN BY	DATE
CSM	8/10/18
CHECKED BY	SCALE
JS	1" = 30' HORIZ. / 1" = 3' VERT.
DRAWN BY	PROJECT NO.
JS	PD-170
RELEASED BY	PROJECT NO.
BPM	1423.0016



PROFILE OF C.B.-29 ~ H.W.-31
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-49 ~ C.B.-52
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF O.S.-3 ~ H.W.-56
1" = 30' HORIZ. / 1" = 3' VERT.

11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS

DATE	REVISION	DRAWN	CHECKED	RELEASED
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OFFROAD PROFILES

PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44

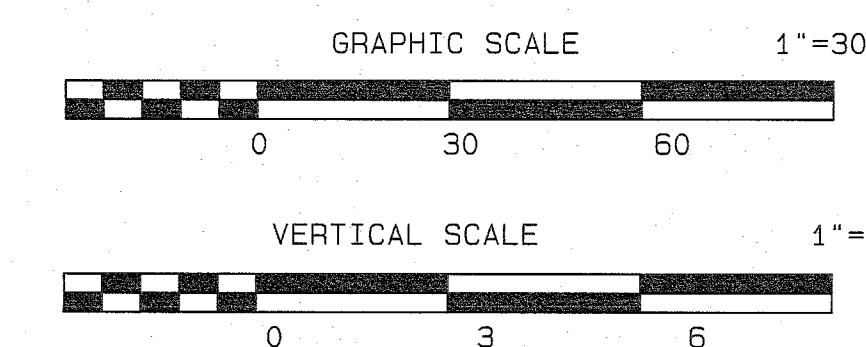
TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

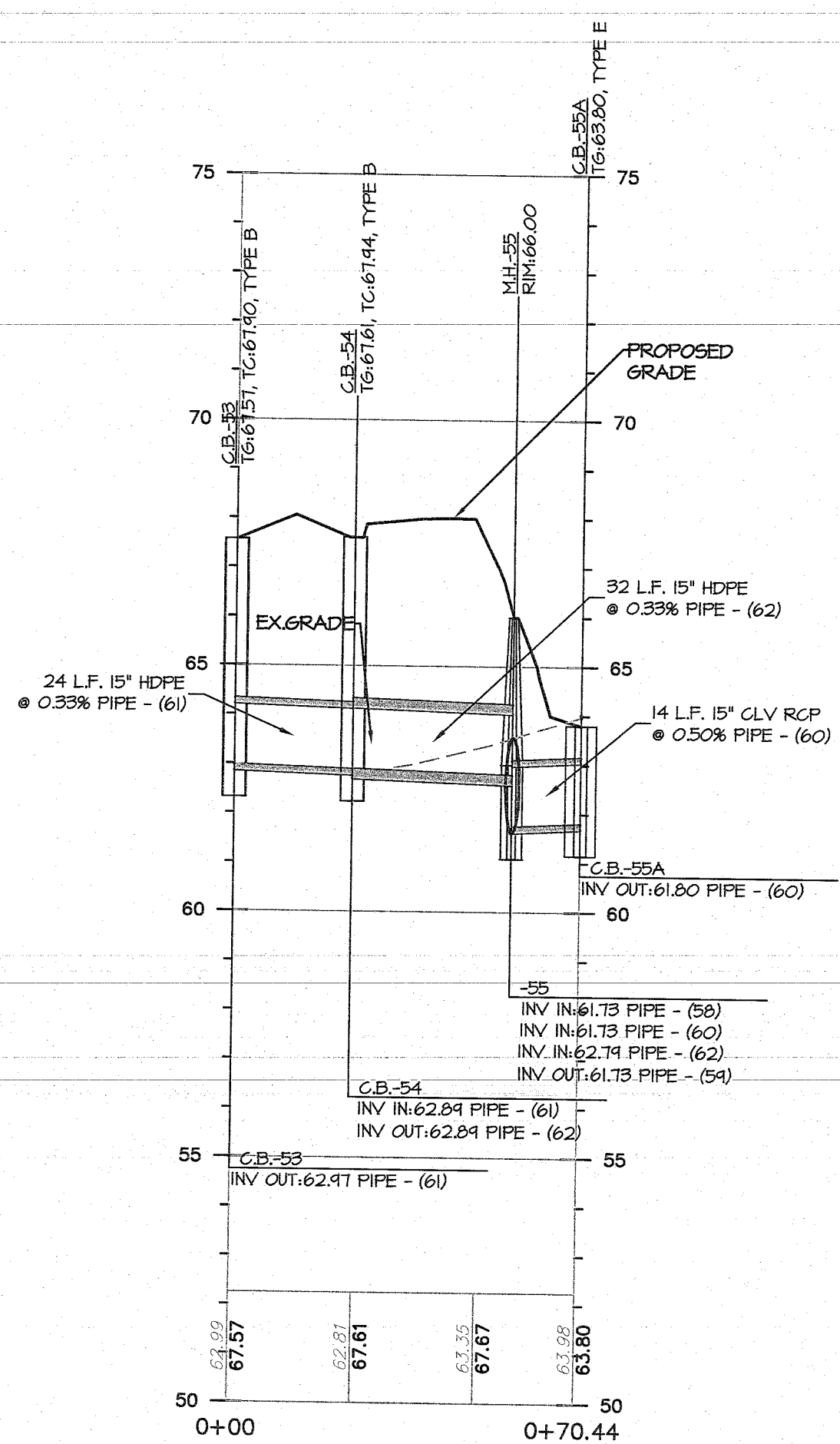
CIVIL ENGINEERS
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FWHASSOCIATES.COM
1656 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.797.3223

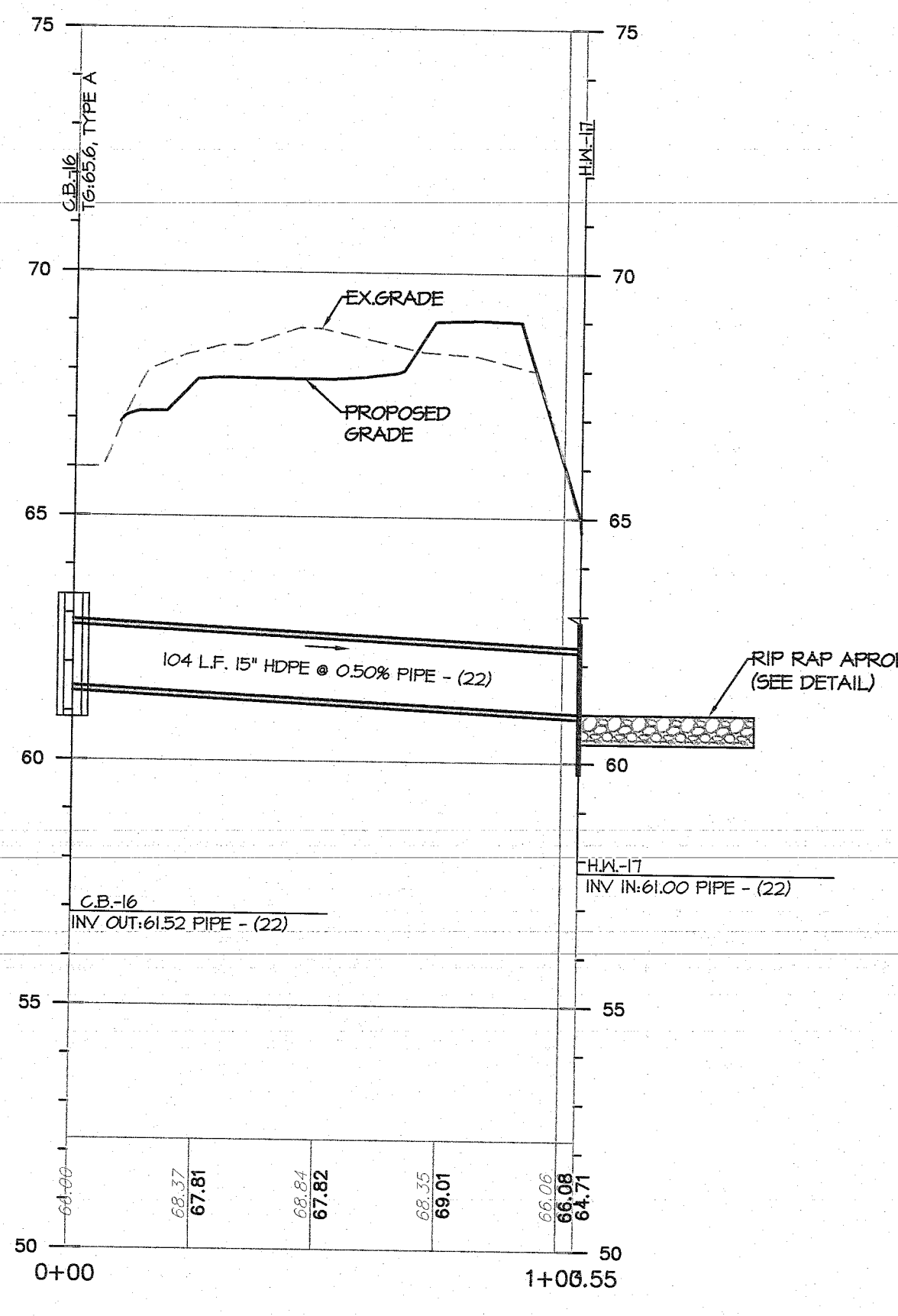
Brian P. Murphy
PROFESSIONAL ENGINEER
N.J. LIC. NO. 42000

DESIGNED BY	DATE
CSM	8/10/18
CHECKED BY	SCALE
JS	1"=30'H, 1"=3'V
DRAWN BY	DRAWING NO.
JS	PD-170
REVISION BY	PROJECT NO.
BPM	1423.0016
SHEET NO.	
32	49

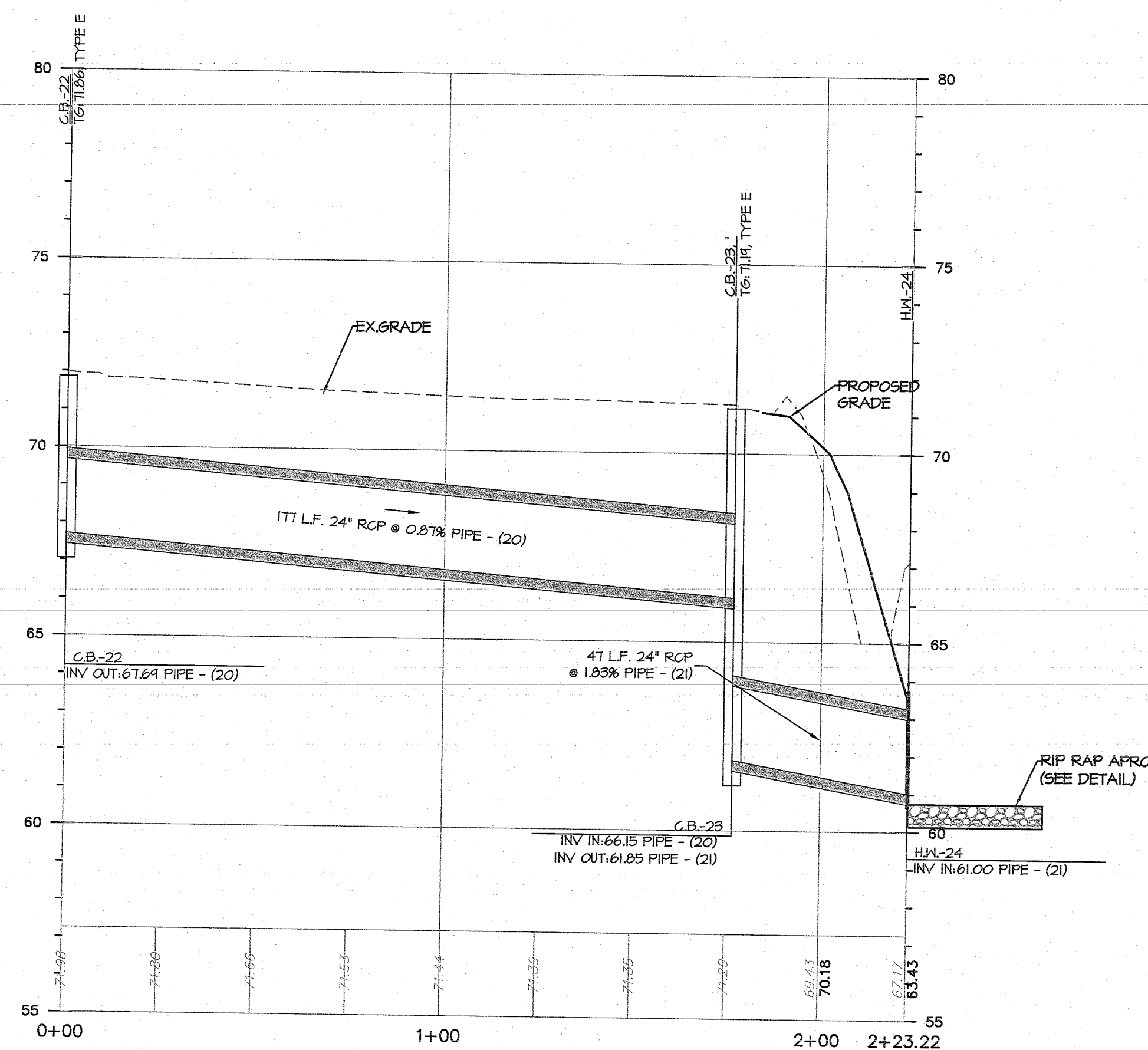




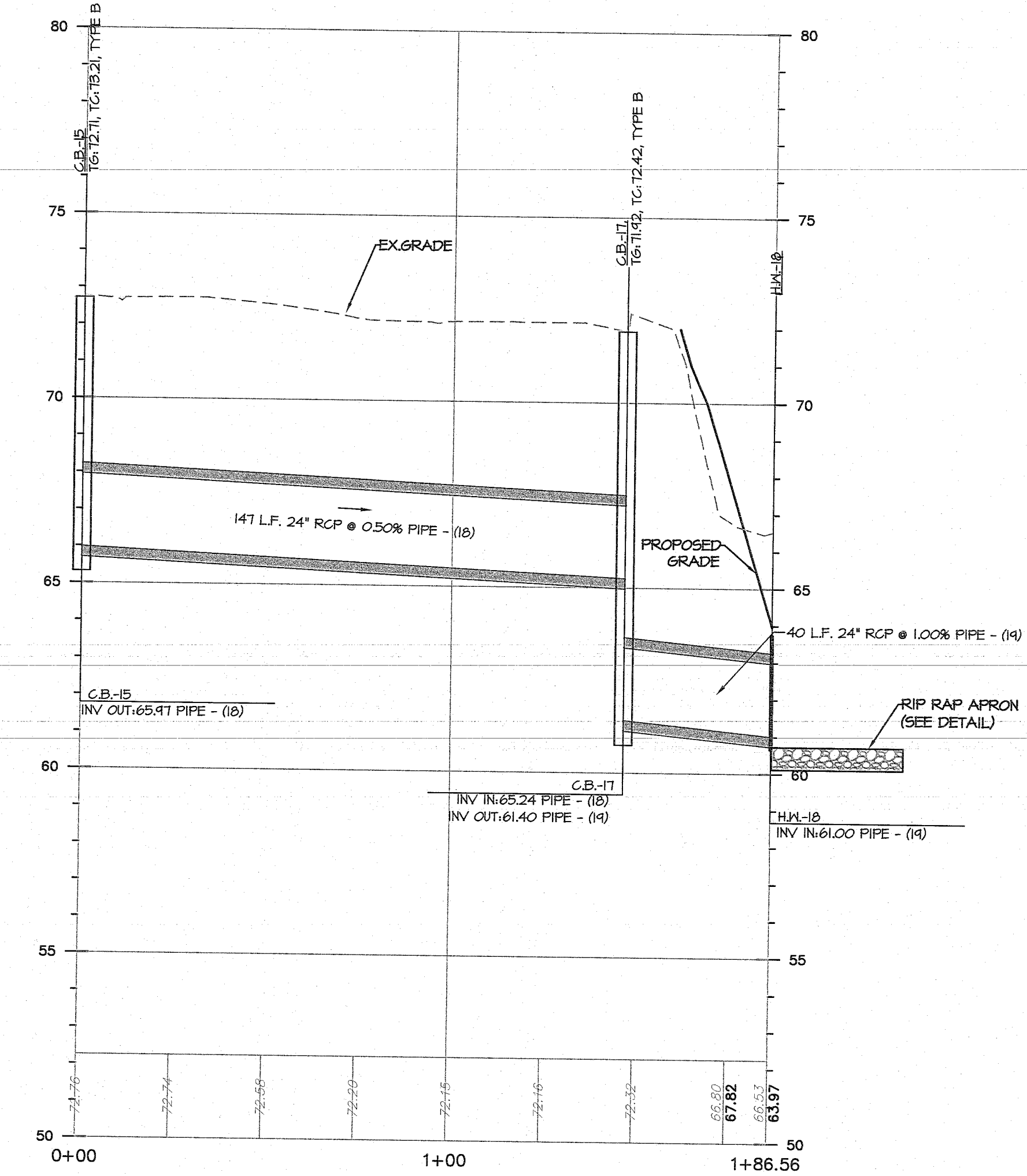
PROFILE OF C.B.-54 ~ C.B.-55A
1" = 30' HORIZ. / 1" = 3' VERT.



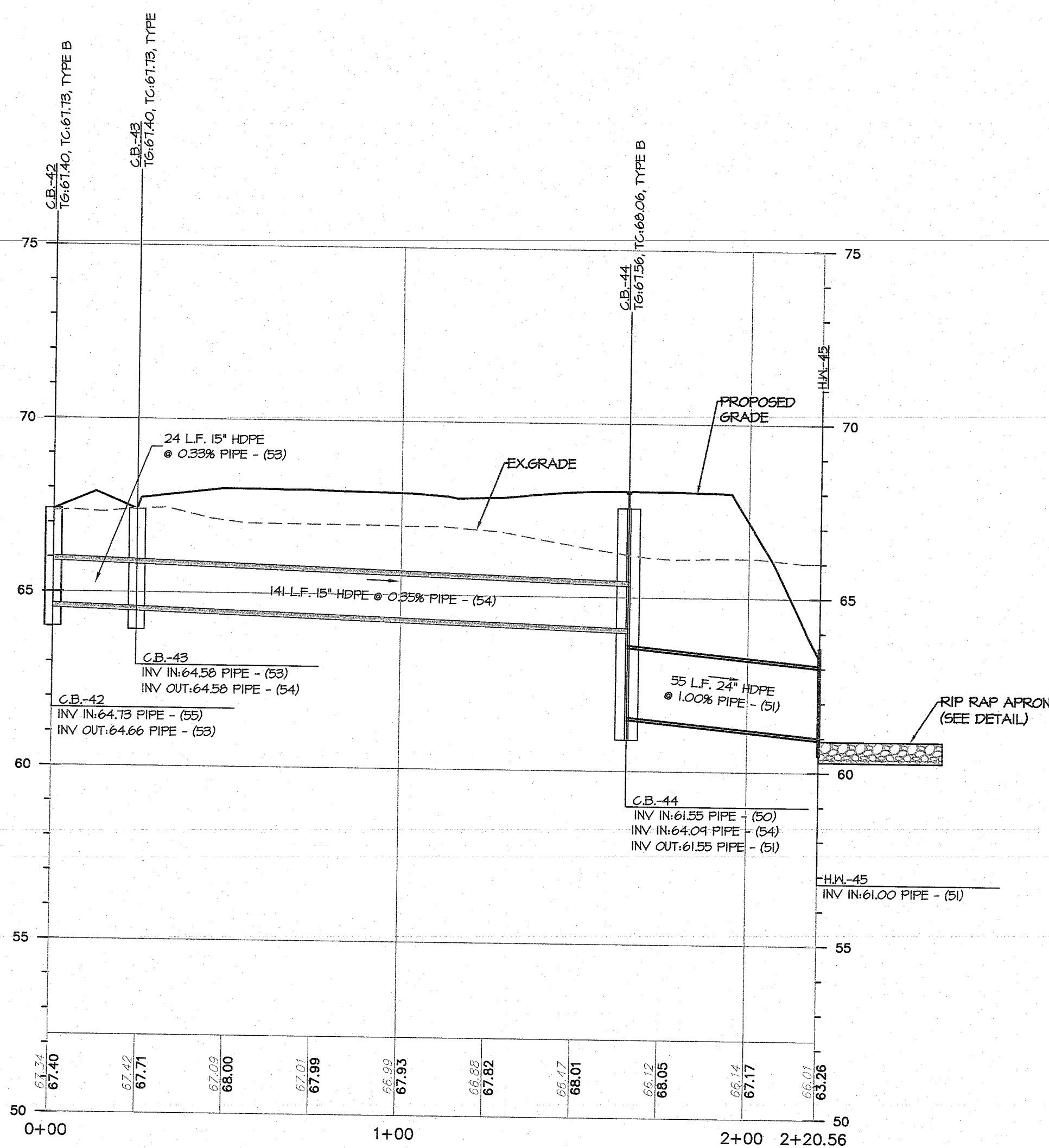
PROFILE OF C.B.-16 ~ H.W.-17
1" = 30' HORIZ. / 1" = 3' VERT.



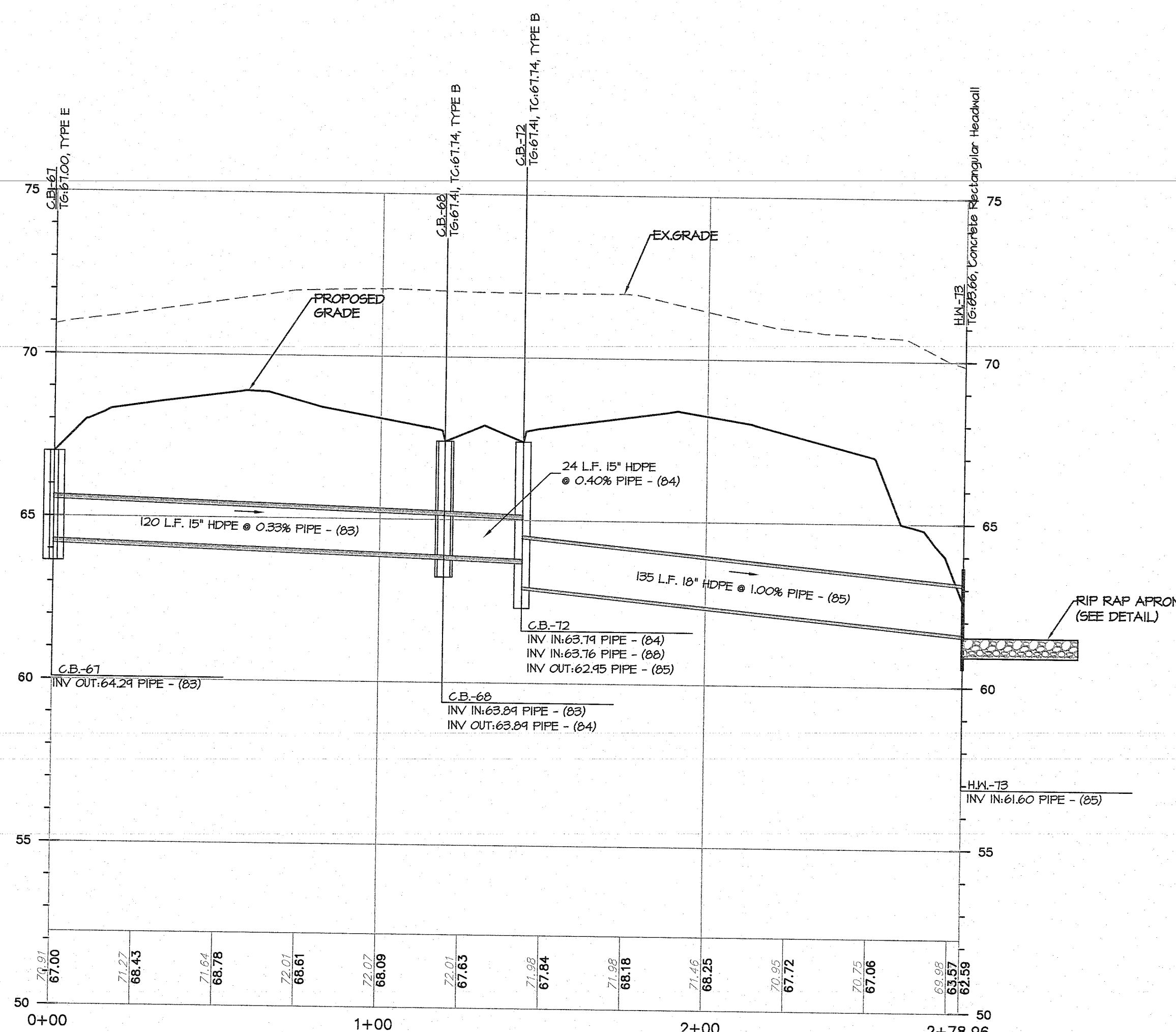
PROFILE OF DOT C.B.-22 ~ H.W.-24
1" = 30' HORIZ. / 1" = 3' VERT.



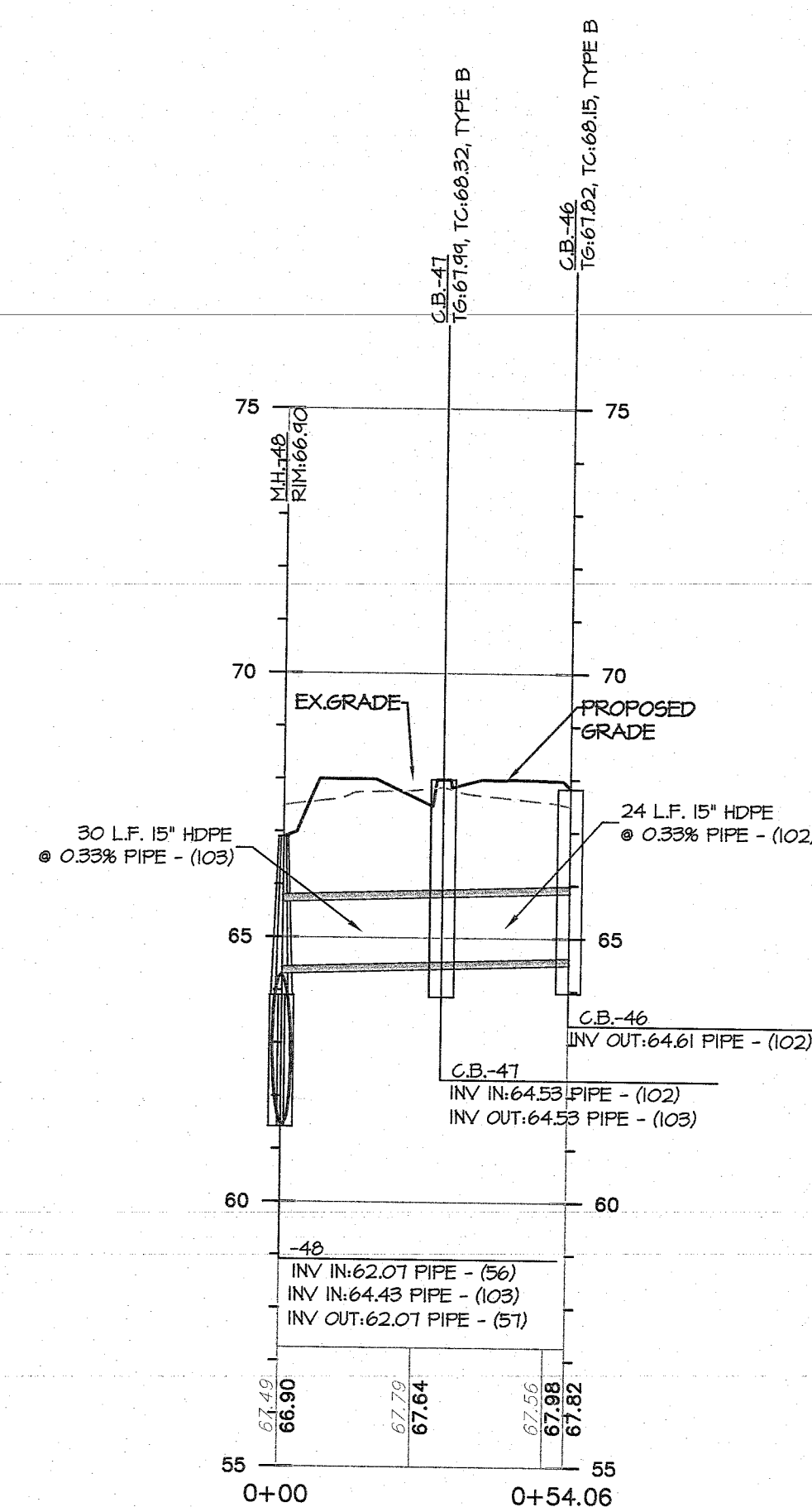
PROFILE OF DOT C.B.-15 ~ H.W.-18
1" = 30' HORIZ. / 1" = 3' VERT.



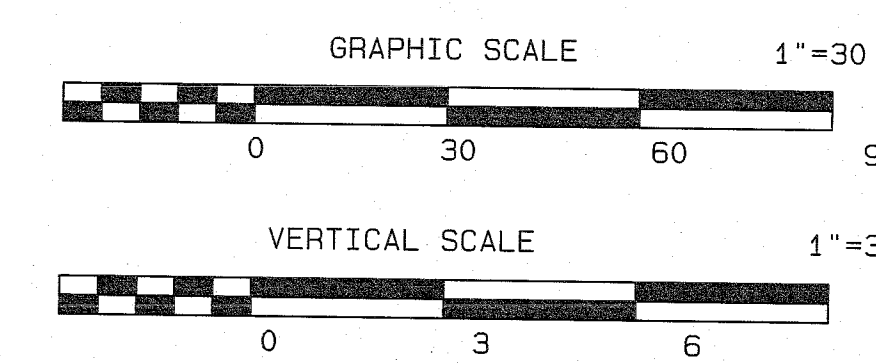
PROFILE OF C.B.-42 ~ H.W.-45
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-67 ~ H.W.-73
1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-46 ~ M.H.-48
1" = 30' HORIZ. / 1" = 3' VERT.



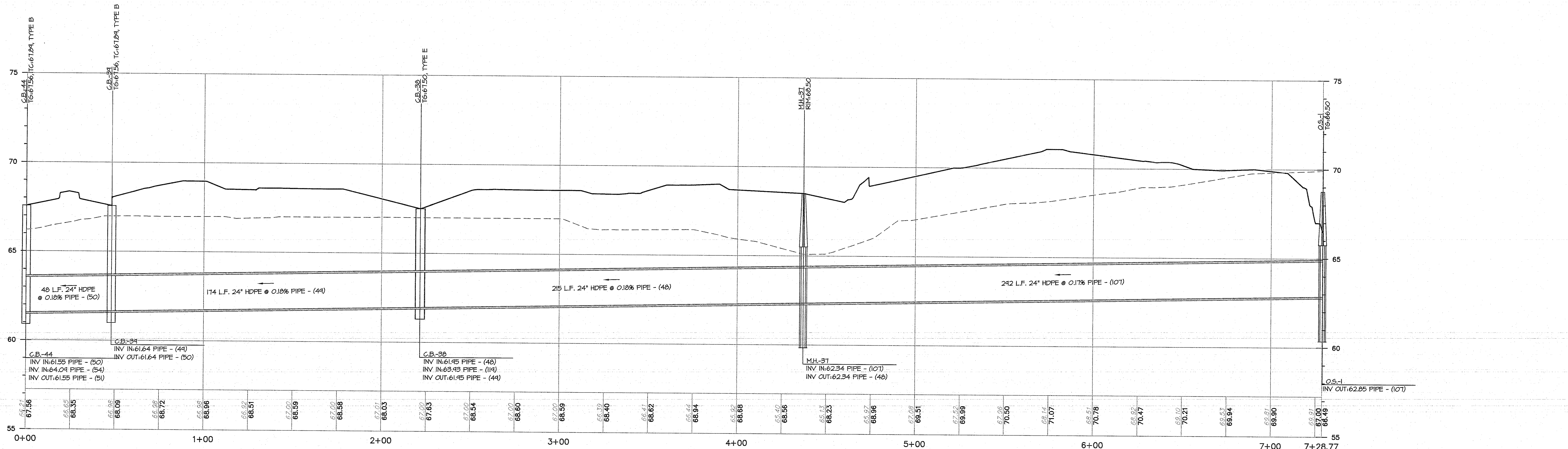
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
3/18/19	REV. PER CAFRA MEETING 2/14/19	CSM	JS
DATE	REVISION	DRAWN	CHECKED
		RELEASED	

OFFROAD PROFILES
 PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

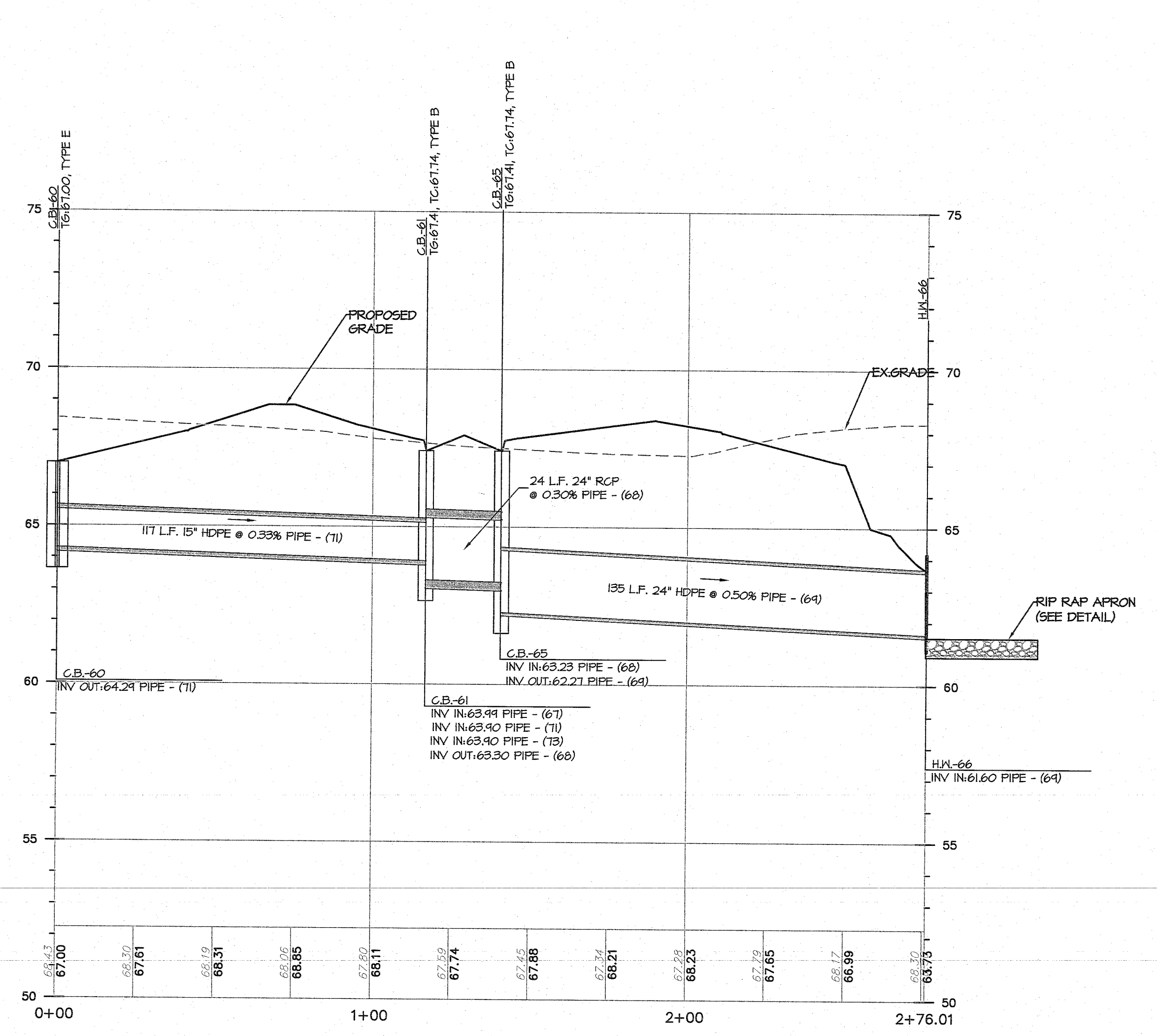
FWH ASSOCIATES, P.A.
 CIVIL ENGINEERS
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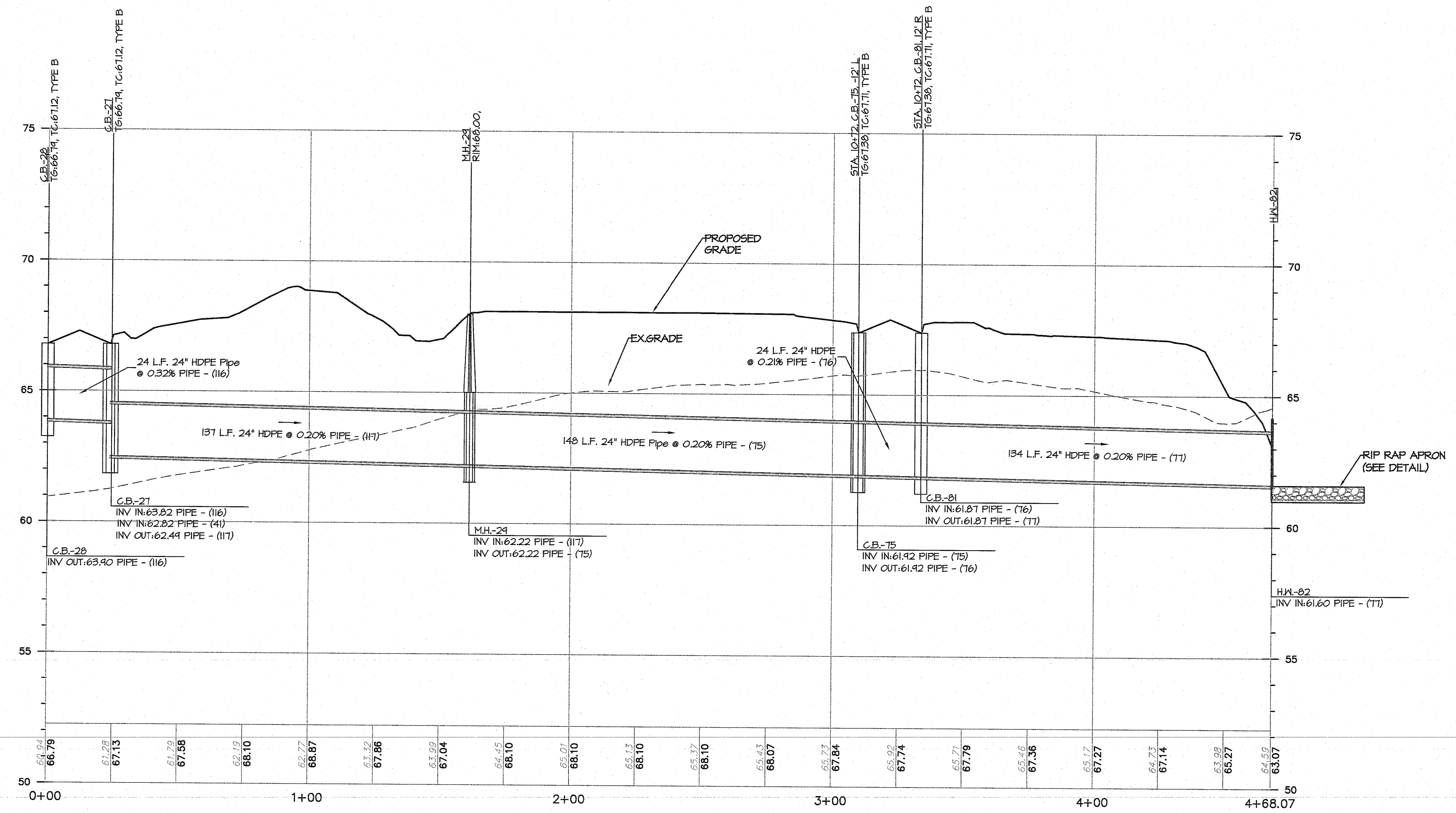
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11/30/20	8	CSM	JS
3/18/19	7	CSM	JS
08/08/18	6	CSM	JS
08/08/18	5	CSM	JS
08/08/18	4	CSM	JS
08/08/18	3	CSM	JS
08/08/18	2	CSM	JS
08/08/18	1	CSM	JS



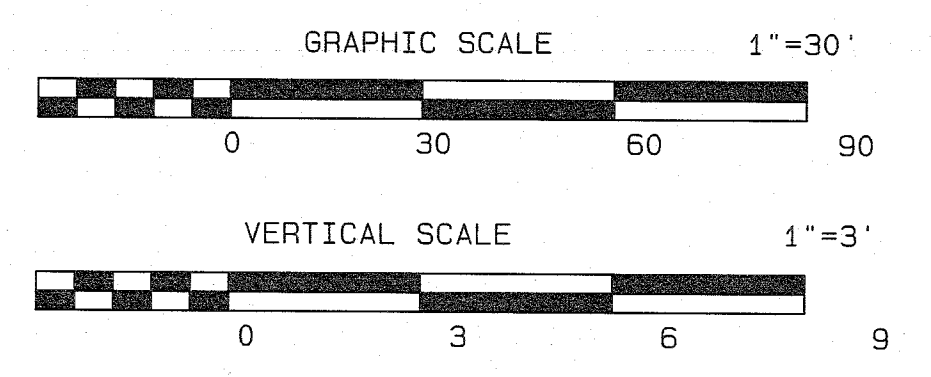
PROFILE OF C.B.-44 ~ O.S.-1
 1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-60 ~ H.W.-66
 1" = 30' HORIZ. / 1" = 3' VERT.



PROFILE OF C.B.-28 ~ H.W.-82
 1" = 30' HORIZ. / 1" = 3' VERT.



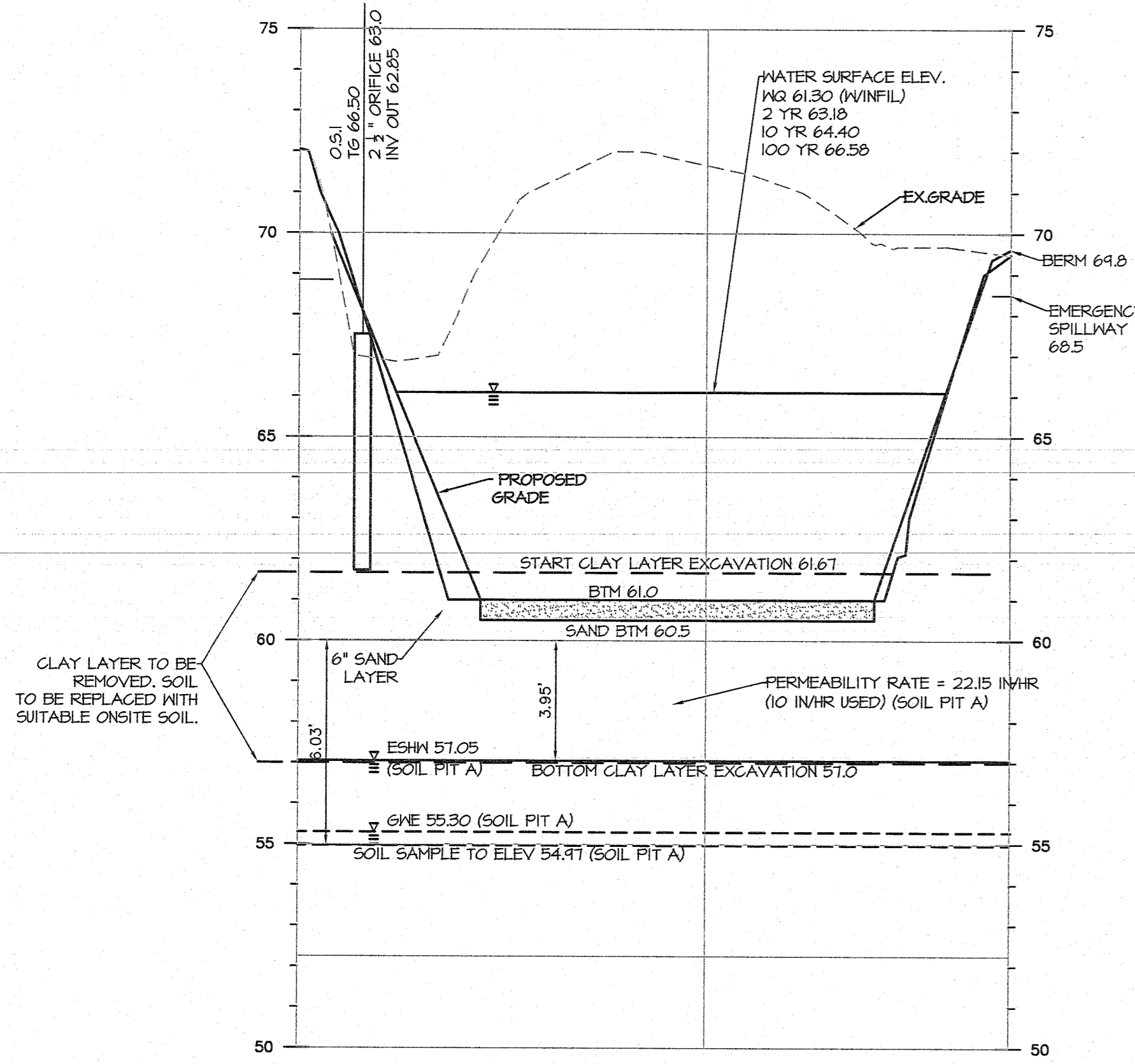
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
3/18/19	REV PER CAPRA MEETING 2/14/19	CSM	JS
DATE	REVISION	DRAWN	CHECKED
		RELEASED	

OFFROAD PROFILES
 PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44
 TAX MAP SHEET NO. 8
 SITUATED IN
 MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

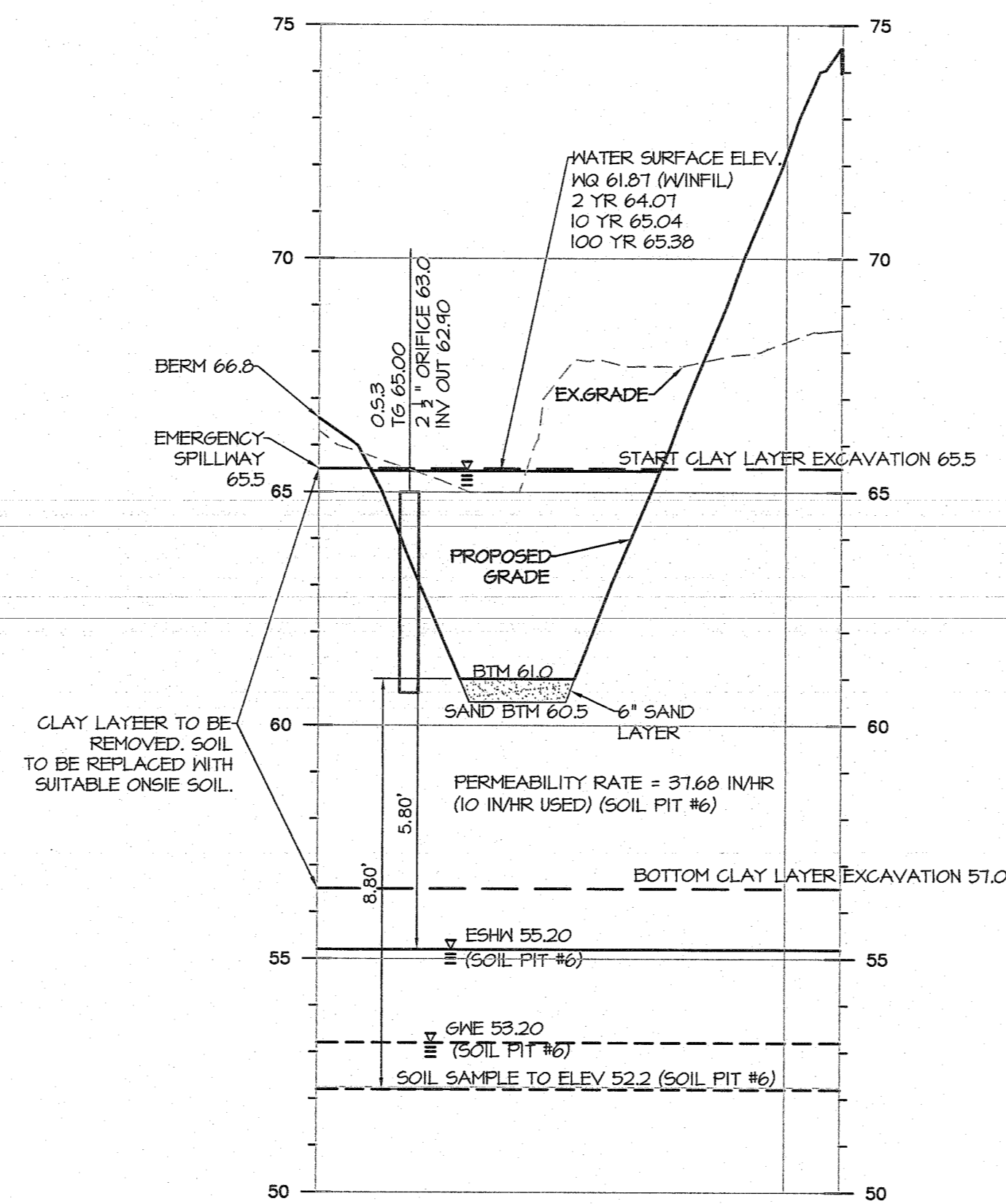
FWH ASSOCIATES, P.A.
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 LANDSCAPE ARCHITECTS
 RESERVE SPECIALISTS
 ARCHITECTS
FWH ASSOCIATES.COM
 1858 Rt. 9, Toms River, NJ 08756 T: 732.797.8100 F: 732.797.3223

Brian P. Murphy
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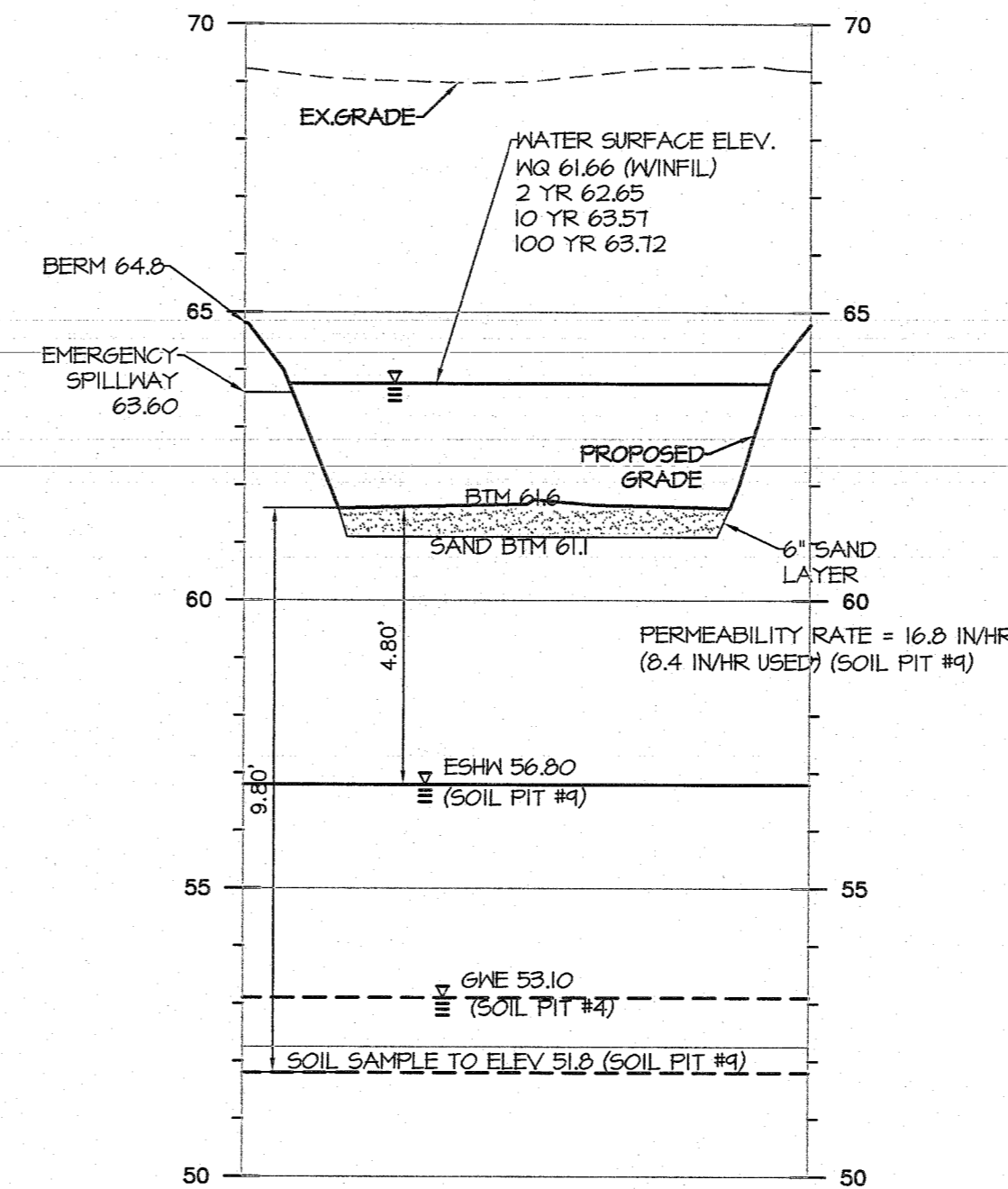
DESIGNED BY	DATE
CSM	8/10/18
DRAWN BY	SCALE
JS	1"=30'H, 1"=3'V
CHECKED BY	PROJECT NO.
JS	PD-170
REVISION BY	PROJECT IN
BPM	1423.0016
DATE	
3-4	4-9



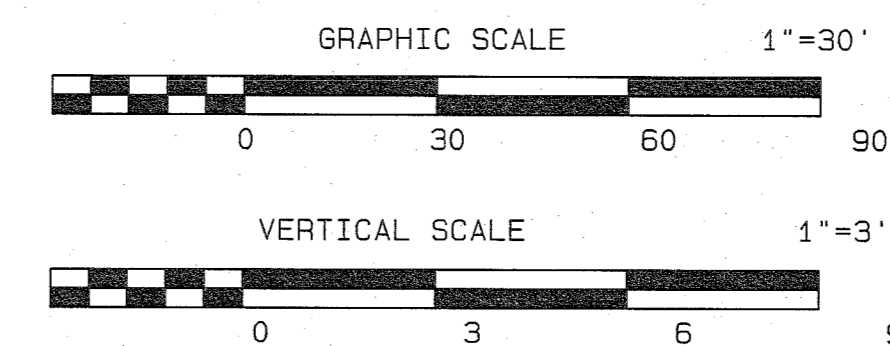
CROSS-SECTION OF INFILTRATION-DETECTION BASIN 1
1" = 30' HORIZ. / 1" = 3' VERT.



CROSS-SECTION OF INFILTRATION-DETECTION BASIN 3
1" = 30' HORIZ. / 1" = 3' VERT.



CROSS-SECTION OF INFILTRATION-DETECTION BASIN 4
1" = 30' HORIZ. / 1" = 3' VERT.



11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS
3/18/19	REV PER CAFRA MEETING 2/14/19	CSM	JS
11/7/18	REV PER CAFRA STORMWATER COMMENTS 10/31/18	SA	JS

DATE	REVISION	DRAWN	CHECKED	RELEASED
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BASIN CROSS SECTIONS

PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44

TAX MAP SHEET NO. 8
SITUATED IN
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

FWH ASSOCIATES, P.A.

1856 Rt. 9, Toms River, NJ 08755 T: 732.797.3100 F: 732.787.3223

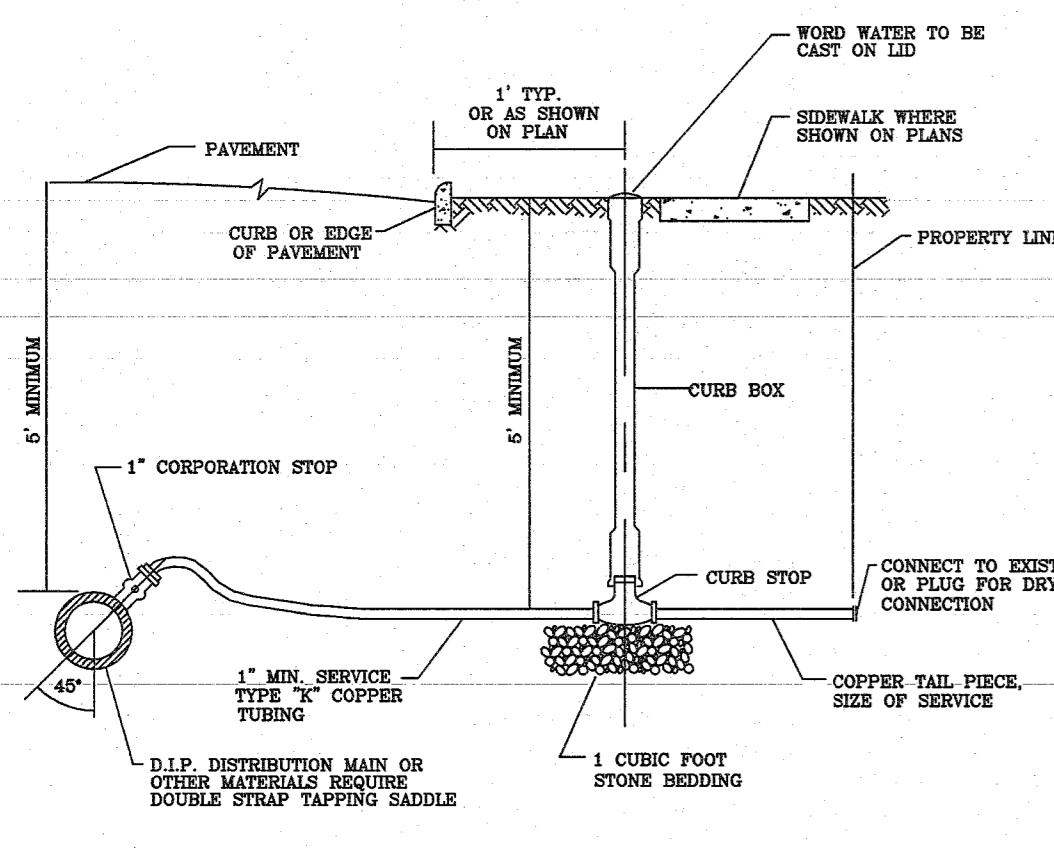
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ARCHITECTS

FWHASSOCIATES.COM

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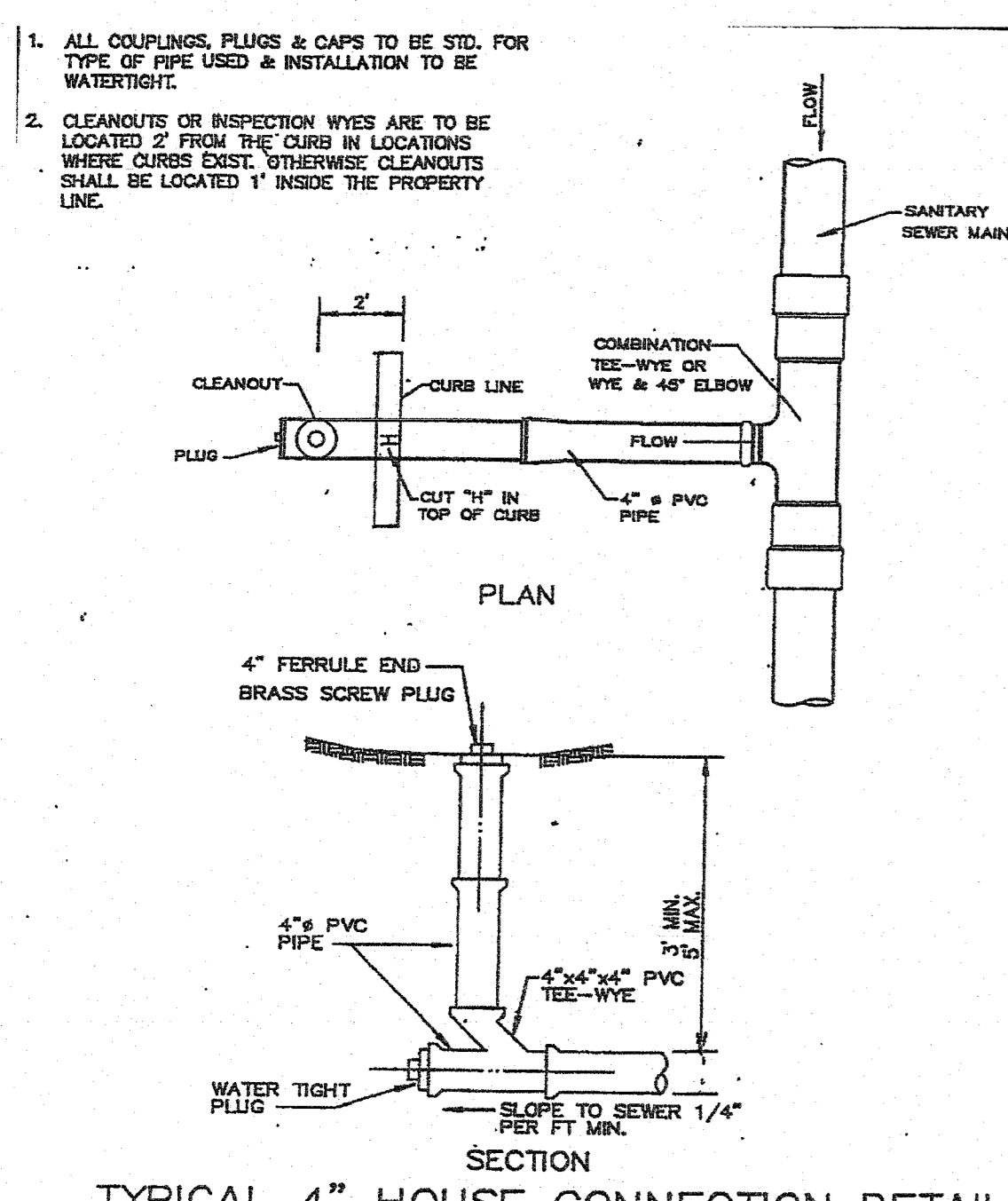
DESIGNED BY	CSM	DATE	8/10/18
DRAWN BY	JS	SCALE	1"=30'H, 1"=3'V
CHECKED BY	JS	PROJECT NO.	PD-170
RELEASED BY	BPM	PROJECT INC.	1423.0016
SHEET NO.	35	TOTAL SHEETS	49



LINE DIA.	CURB BOX	WITH STATIONARY ROD	LID
1"	MULLER M-10014	YES	MULLER M-10014
1 1/2"	MULLER M-10014	YES	MULLER M-10014
2"	MULLER M-10010	YES	MULLER M-10010

- NOTES:
1. CURB BOX SHALL NOT BE LOCATED IN THE SIDEWALK, ROADWAY OR CURB.
 2. CURB BOX SHALL BE LOCATED BEHIND THE SIDEWALK FOR INTERIOR CURBS AND SIDEWALK.
 3. IN GENERAL, THE CURB BOX SHOULD BE LOCATED BETWEEN THE CURB AND SIDEWALK.
 4. DESIGNER MUST RESEARCH ANY PROPOSED CHANGES TO EXISTING SIDEWALKS AND LOCATE BOXES TO COMPLY WITH NOTES 1, 2 & 3.
 5. THE AUTHORITY'S RESPONSIBILITY FOR MAINTENANCE SHALL BE LIMITED TO THE WATER MAIN, CONCRETE STOP, SERVICE LINE TO AND INCLUDING THE CURB STOP. THE MAINTENANCE OF THE CONNECTION OF THE SERVICE LINE TO THE CURB STOP TO THE BUILDING SHALL BE THE RESPONSIBILITY OF THE OWNER.
 6. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND NOTIFICATION OF ALL APPROPRIATE AGENCIES.
 7. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE AUTHORITY AND THE TOWNSHIP PLUMBING DEPARTMENT FOR INSPECTION AT LEAST 48 HOURS IN ADVANCE OF THE WORK BEING PERFORMED.
 8. SERVICE CONNECTION LARGER THAN 2 INCHES SHALL BE DUCTILE IRON PIPE WITH STANDARD GATE VALVE AND BOX.
 9. SERVICE LINE SHALL BE A MINIMUM OF 1/2 INCH TYPE "C" COPPER FROM THE WATER MAIN TO THE CURB STOP.

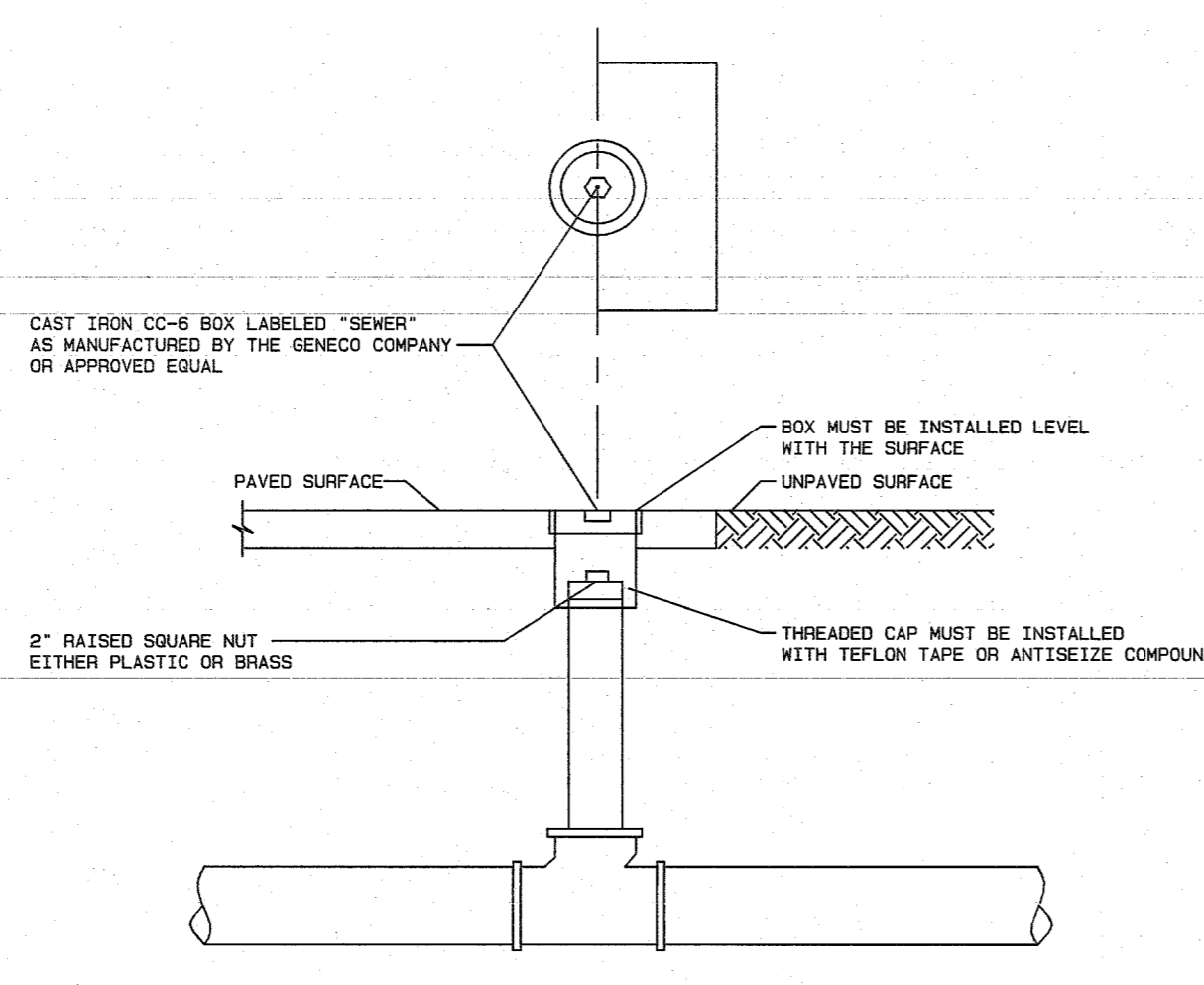
WATER SERVICE CONNECTION
NOT TO SCALE



TYPICAL 4" HOUSE CONNECTION DETAIL
NOT TO SCALE

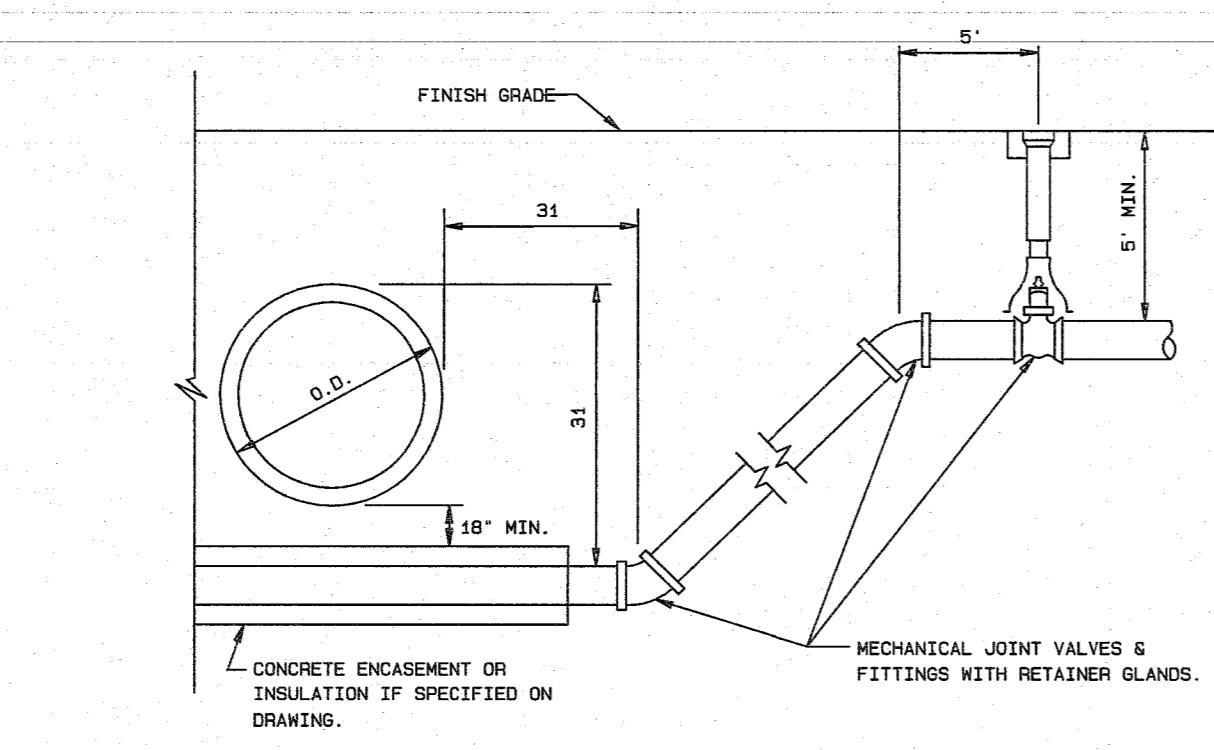
MANCHESTER TOWNSHIP
DEPARTMENT OF UTILITIES
DIVISION OF SEWER
MARCH, 1994

- NOTES:
1. INCLUDE PLAN VIEW OF EXISTING LADDER IN RELATION TO INSIDE DROP CONNECTION.
 2. NOMINAL DIAMETER OF PVC DROP SECTION TO BE EQUAL TO THE INFLUENT PIPE ID.
 3. ALL JOINTS ON THE DROP SECTION TO BE OF THE RUBBER GASKET OR PROTECTIVE TYPE (COLLECTOR JOINTS PROHIBITED) TO FACILITATE REMOVAL AND/OR REPLACEMENT.
 4. IN THE CONNECTION OF THE 90° ELBOW, THE CONTRACTOR SHALL HAVE THE OPTION OF EITHER COVERING THE BENCH TO PROVIDE A CHANNEL FOR THE 90° ELBOW, OR LEAVING THE ELBOW FLUSH ON TOP OF THE BENCH AND BULGING UP ALL AROUND IN THE MANHOLE TO THE SPRINGLINE OF THE ELBOW. IN EITHER CASE, THE TOP EDGE OF THE 90° ELBOW SHALL BE CUT OFF SO THAT THE SPRING LINE OF THE ELBOW IS AT THE SAME ELEVATION AS THE TOP OF CENTER, WITH A MINIMUM OF 3 STRIPS PER DROP.
 5. STAINLESS STEEL STRAPS ARE TO BE BOLTED TO THE MANHOLE WALL IN SUCH A MANNER AS TO ALLOW FOR FUTURE REMOVAL. THE FIRST STRAP IS TO BE PLACED WITH A MINIMUM DISTANCE OF 8 INCHES BELOW THE INLET PIPE INVERT. REMAINING STRAPS ARE TO BE 4 INCHES ON CENTER, WITH A MINIMUM OF 3 STRIPS PER DROP.
 6. THE CONNECTION MUST BE MADE WITH A CORING MACHINE AND A WATERPROOF RUBBER GASKET SUITABLE FOR USE WITH SANITARY SEWERAGE, USING A POWER SLEEVE AND TAKE-UP CLAMP. GASKET MATERIALS, CLAMPS, ETC. SHALL BE MANUFACTURED BY THE PRESS SEAL GASKET CORPORATION OR AN AUTHORITY-APPROVED EQUAL. THE USE OF PNEUMATIC HAMMERS, CHIPPING GRINDS, SLICE HAMMERS, OR OTHER MEANS OF PROVIDING A CONNECTION ARE NOT ACCEPTABLE TO THE TOWNSHIP ENGINEER.
 7. SANITARY SEWER LINE SHALL BE BULKHEAD AND REMAIN BULKHEAD UNTIL A PERMIT TO OPERATE IS ISSUED BY THE TOWNSHIP ENGINEER.
 8. THE MAXIMUM HEIGHT OF ANY INSIDE DROP FROM THE EXISTING INVERT SHALL BE 4 FEET.



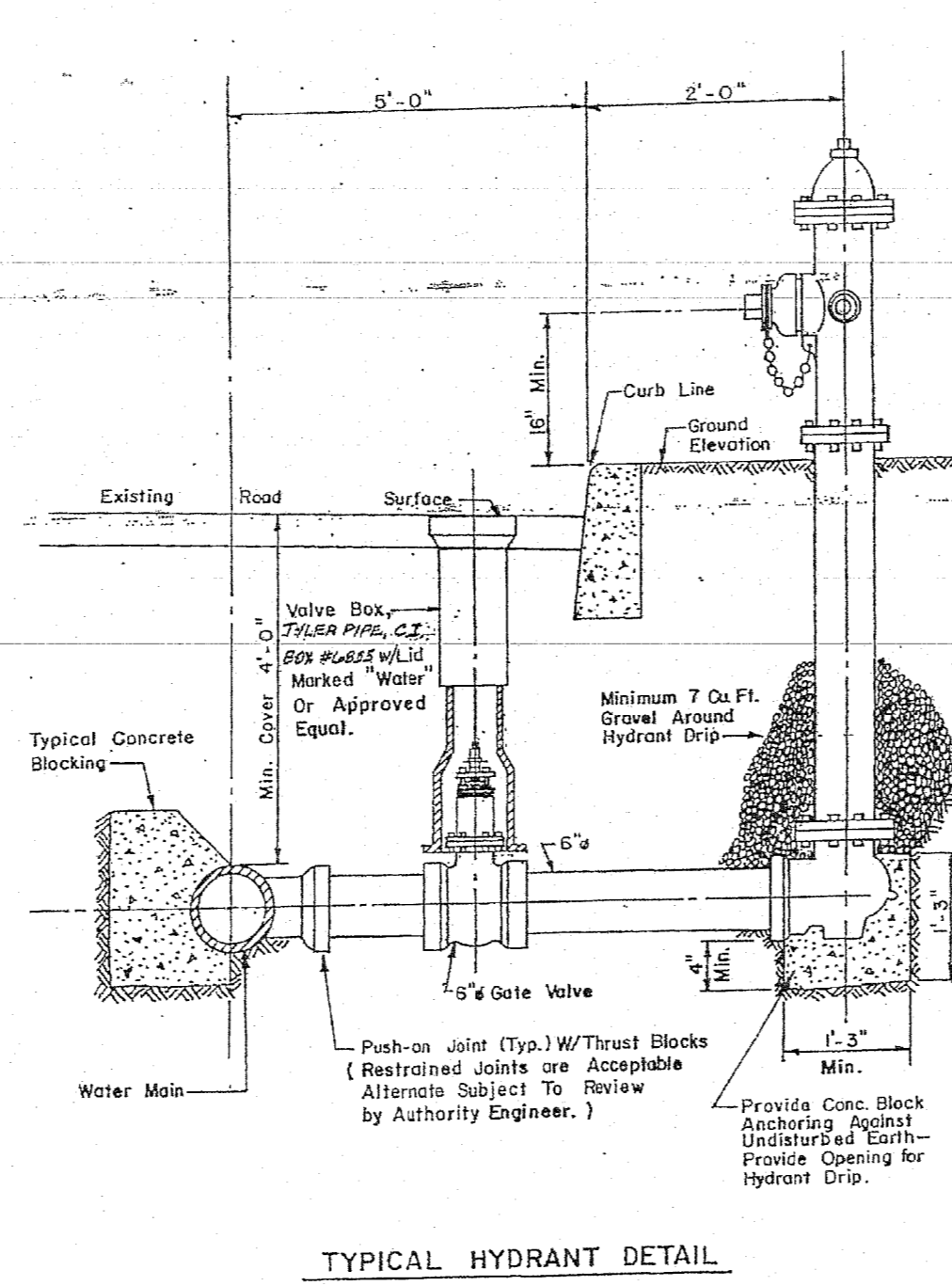
- NOTES:
1. AT LEAST ONE CLEANOUT MUST BE PROVIDED ON EACH LATERAL.
 2. A CLEANOUT WILL BE PROVIDED FOR EACH LATERAL BETWEEN THE CURB AND THE SIDEWALK.
 3. IN GENERAL, OWNERSHIP AND MAINTENANCE OF LATERALS AND CLEANOUTS WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
 4. THE LOCATION OF ALL CLEANOUTS MUST BE APPROVED BY THE TOWNSHIP PLUMBING DEPARTMENT.
 5. ALL CLEANOUTS LOCATED WITHIN PAVEMENT OR CONCRETE MUST BE PROTECTED WITH A CO-5 BOX.

STANDARD CLEANOUT
N.T.S.

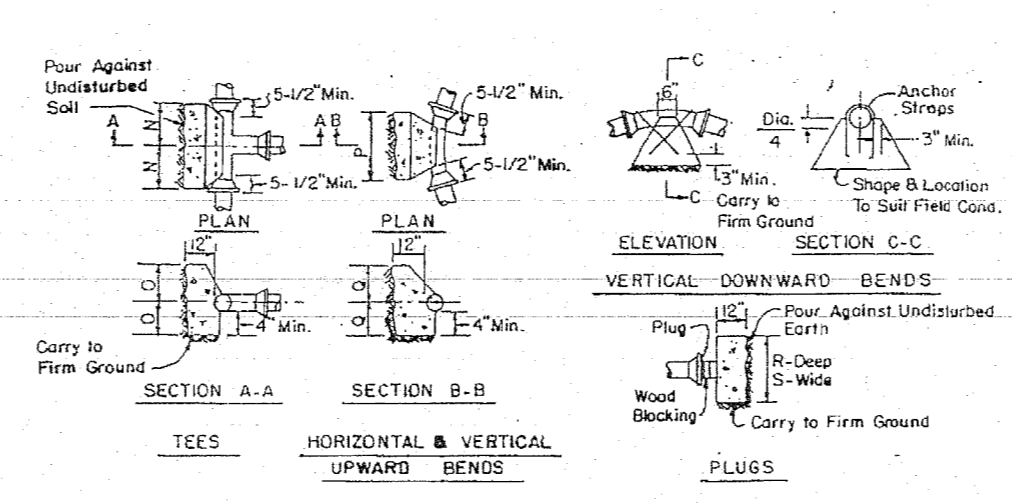


- NOTES:
1. CONCRETE ENCASMENT OR INSULATION WILL ONLY BE INSTALLED IF SPECIFICALLY REQUIRED ON THE CONSTRUCTION DRAWINGS.
 2. CONCRETE ENCASMENT WILL BE IN ACCORDANCE WITH THE STANDARD DETAIL FOR ENCASMENT UNLESS OTHERWISE SPECIFIED.
 3. IF PIPE IS ENCASED THE LOWER FITTINGS WILL BE ROADED TO RETAINER CLAMP 10 FEET INSIDE OF CONCRETE ENCASMENT.
 4. IF PIPE IS NOT ENCASED THE PIPE BETWEEN LOWER FITTINGS SHALL HAVE RESTRAINED JOINTS.
 5. ALL RETAINER CLAMPS OR RESTRAINED JOINTS SHALL BE WRAPPED IN POLYETHYLENE.
 6. ALL PIPE SHALL BE WRAPPED IN POLYETHYLENE IF CORROSIVE SOILS ARE ENCOUNTERED.
 7. THE MINIMUM DISTANCE FROM THE OUTSIDE WALL OF THE UTILITY BEING CROSSED TO THE CENTER OF THE LOWER BEND SHALL BE EQUAL TO THE DISTANCE FROM THE TOP OF THE UPPER UTILITY TO THE TOP OF THE WATER MAIN. THIS MINIMUM DISTANCE SHALL BE AS MEASURED PERPENDICULAR TO THE UPPER UTILITY.
 8. LOWER FITTINGS SHALL BE ROADED TO UPPER FITTING IF A PIPE JOINT EXISTS BETWEEN THESE FITTINGS.
 9. UPPER FITTINGS SHALL BE ROADED TO VALVE.
 10. VALVE SHALL BE ROADED A MINIMUM OF 20 FEET FROM THE CROSSING.

VERTICAL DEFLECTION
N.T.S.



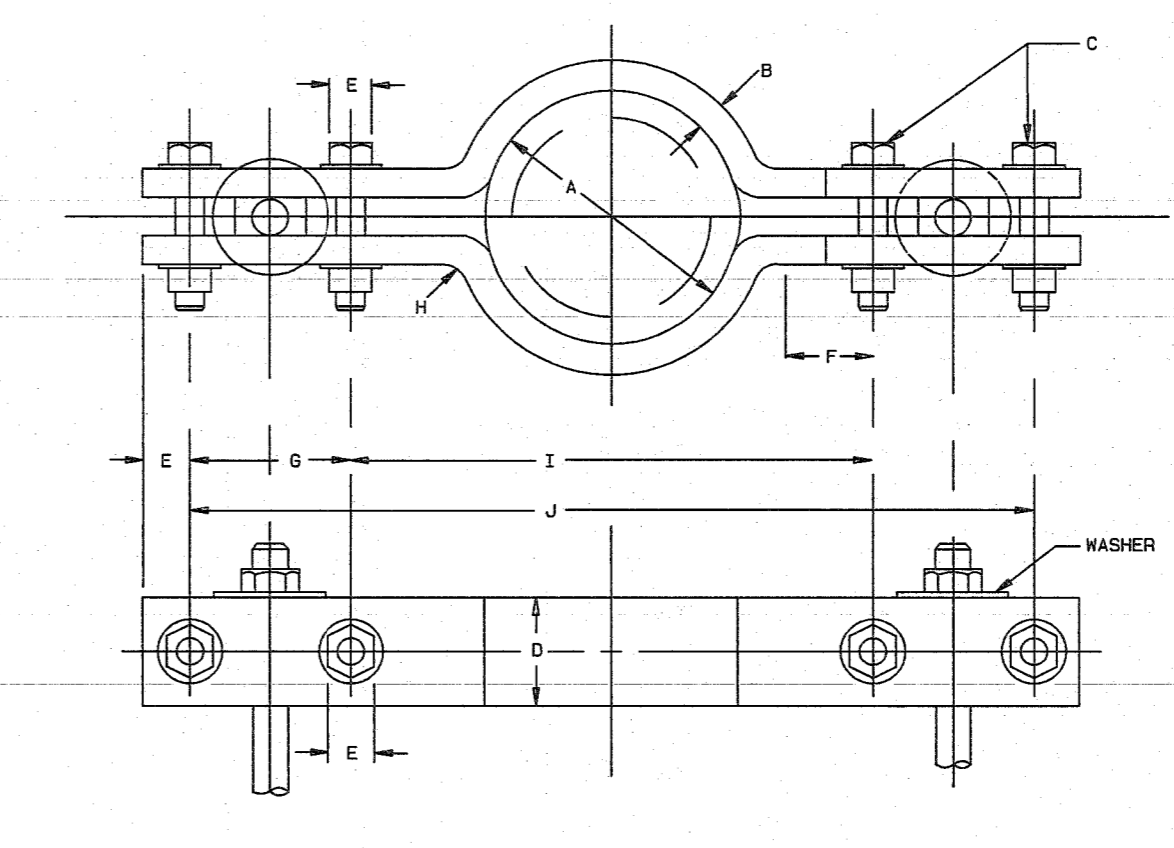
TYPICAL HYDRANT DETAIL



DESCRIPTION	TEE	HOR. BEND	VERT. BEND	PLUGS
1/2" Bends	1.0	1.0	1.0	1.0
3/4" Bends	1.0	1.0	1.0	1.0
1" Bends	1.0	1.0	1.0	1.0
1 1/2" Bends	1.0	1.0	1.0	1.0
2" Bends	1.0	1.0	1.0	1.0
3" Bends	1.0	1.0	1.0	1.0
4" Bends	1.0	1.0	1.0	1.0
6" Bends	1.0	1.0	1.0	1.0
8" Bends	1.0	1.0	1.0	1.0
10" Bends	1.0	1.0	1.0	1.0
12" Bends	1.0	1.0	1.0	1.0
14" Bends	1.0	1.0	1.0	1.0
16" Bends	1.0	1.0	1.0	1.0
18" Bends	1.0	1.0	1.0	1.0
20" Bends	1.0	1.0	1.0	1.0
24" Bends	1.0	1.0	1.0	1.0

TYPICAL BLOCKING DETAILS

SIZE	MIN. BEARING SURFACE AREA (SQ. FT.)
1/2"	1.0
3/4"	1.0
1"	1.0
1 1/2"	1.0
2"	1.0
3"	1.0
4"	1.0
6"	1.0
8"	1.0
10"	1.0
12"	1.0
14"	1.0
16"	1.0
18"	1.0
20"	1.0
24"	1.0



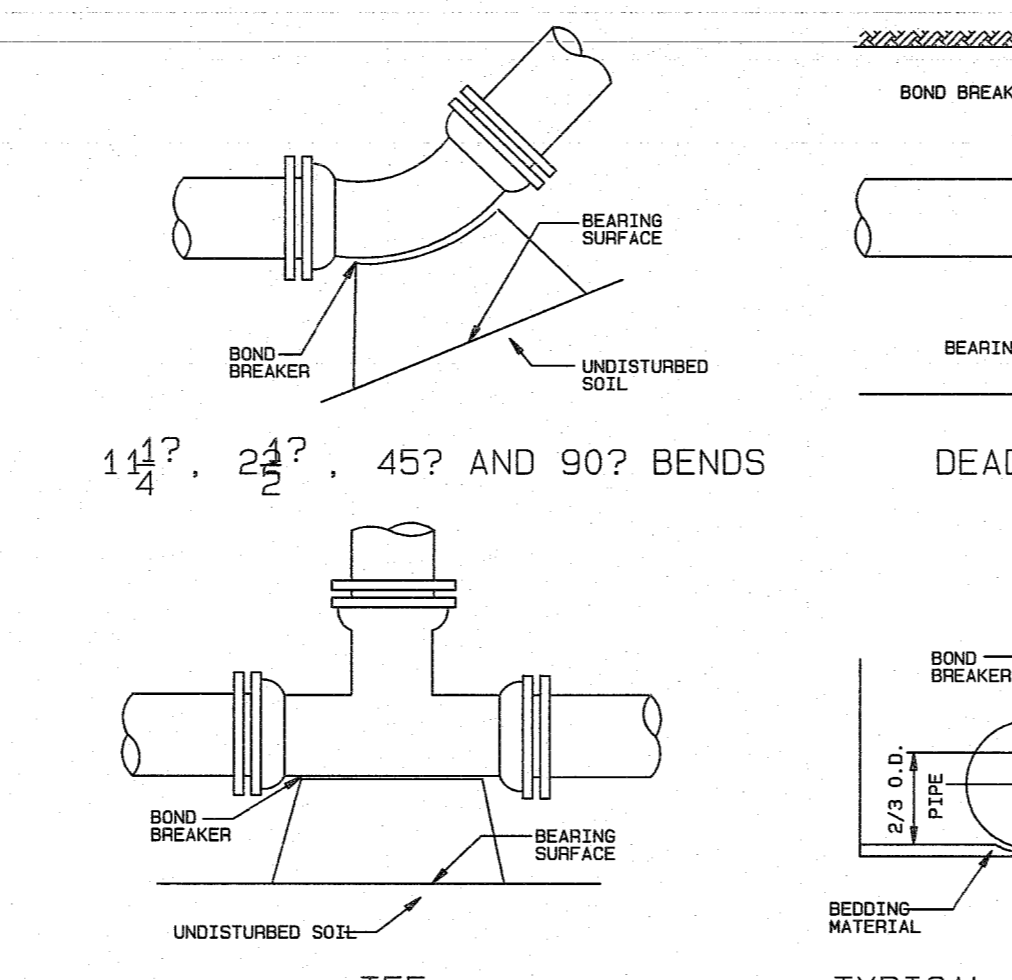
CLAMP DIMENSIONS (INCHES)

PIPE SIZE	ROD DIA.	D	B	C	D	E	F	G	H	I	J
6"	3/4"	7-1/8	1/2	1/2x3-1/2	2	.75	.650	3.1	1.13	10.64	19.24
8"	3/4"	9-3/8	1/2	1/2x3-1/2	2	.75	.650	3.1	1.13	12.78	20.48
10"	3/4"	11-3/8	1/2	1/2x3-1/2	2	.75	.650	3.1	1.13	14.98	22.66
12"	3/4"	13-1/2	1/2	1/2x3-1/2	2	.75	.650	3.1	1.13	17.08	24.78
16"	1"	17-7/8	3/4"	5/8x4-1/2	4	.938	.780	4.14	1.69	22.89	32.96
18"	1"	20	3/4"	3/4x5	4	1.125	.950	4.14	1.69	25.28	35.81
20"	1"	22-1/8	3/4"	3/4x5	4	1.125	.950	4.14	1.69	27.40	37.53
24"	1-1/4"	28-3/8	3/4"	3/4x5-1/2	5	1.125	.950	5.18	1.69	31.68	42.19

WASHERS

WIDTH	HOLE DIAMETER	LENGTH	THICKNESS
3"	7/8"	6"	3/8"
4"	1-1/8"	7"	1/2"
4"	1-3/8"	7"	5/8"

TIE ROD CLAMP
N.T.S.

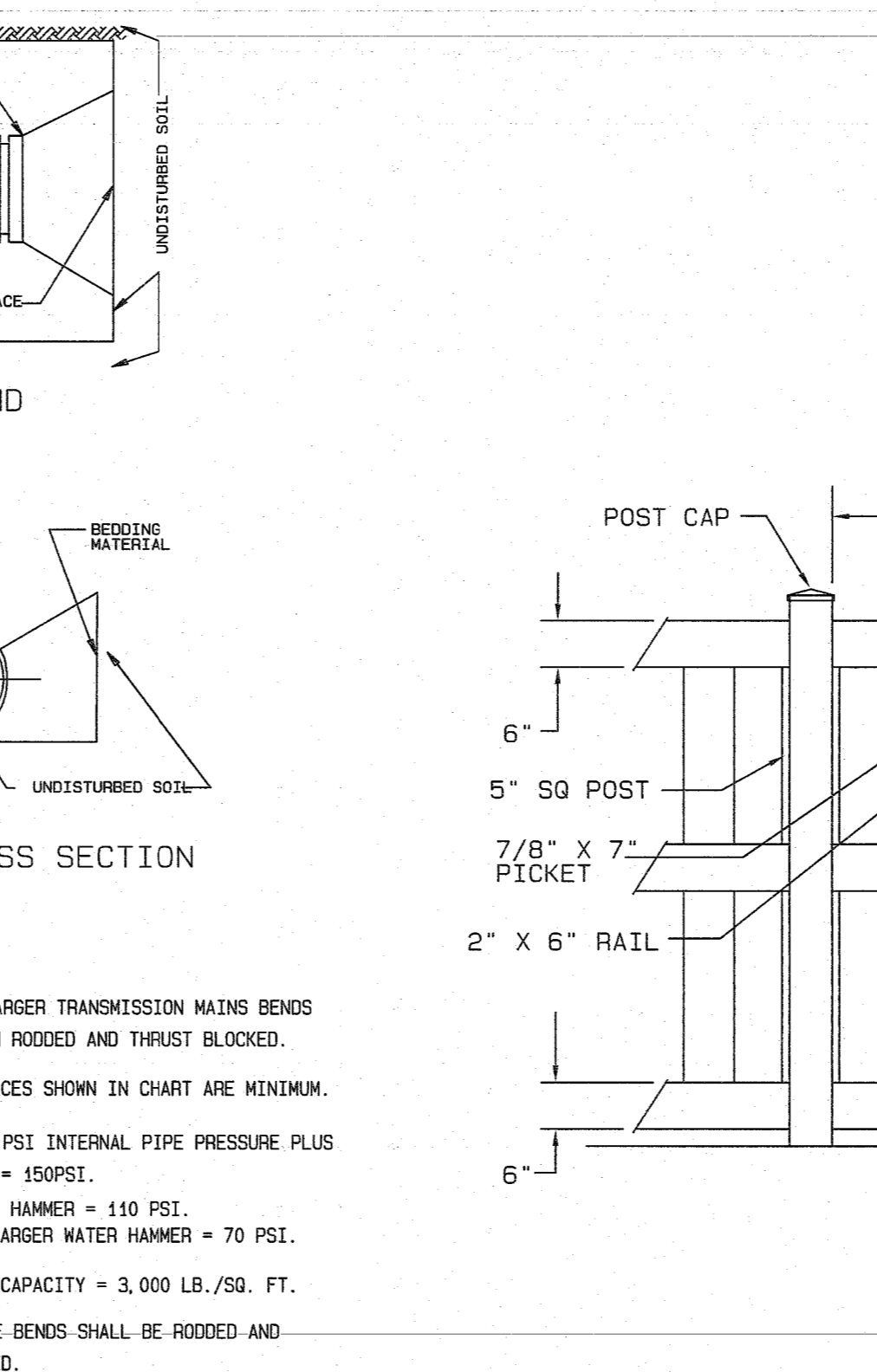


TEE

% MINIMUM BEARING SURFACE AREA (SQ. FT.)

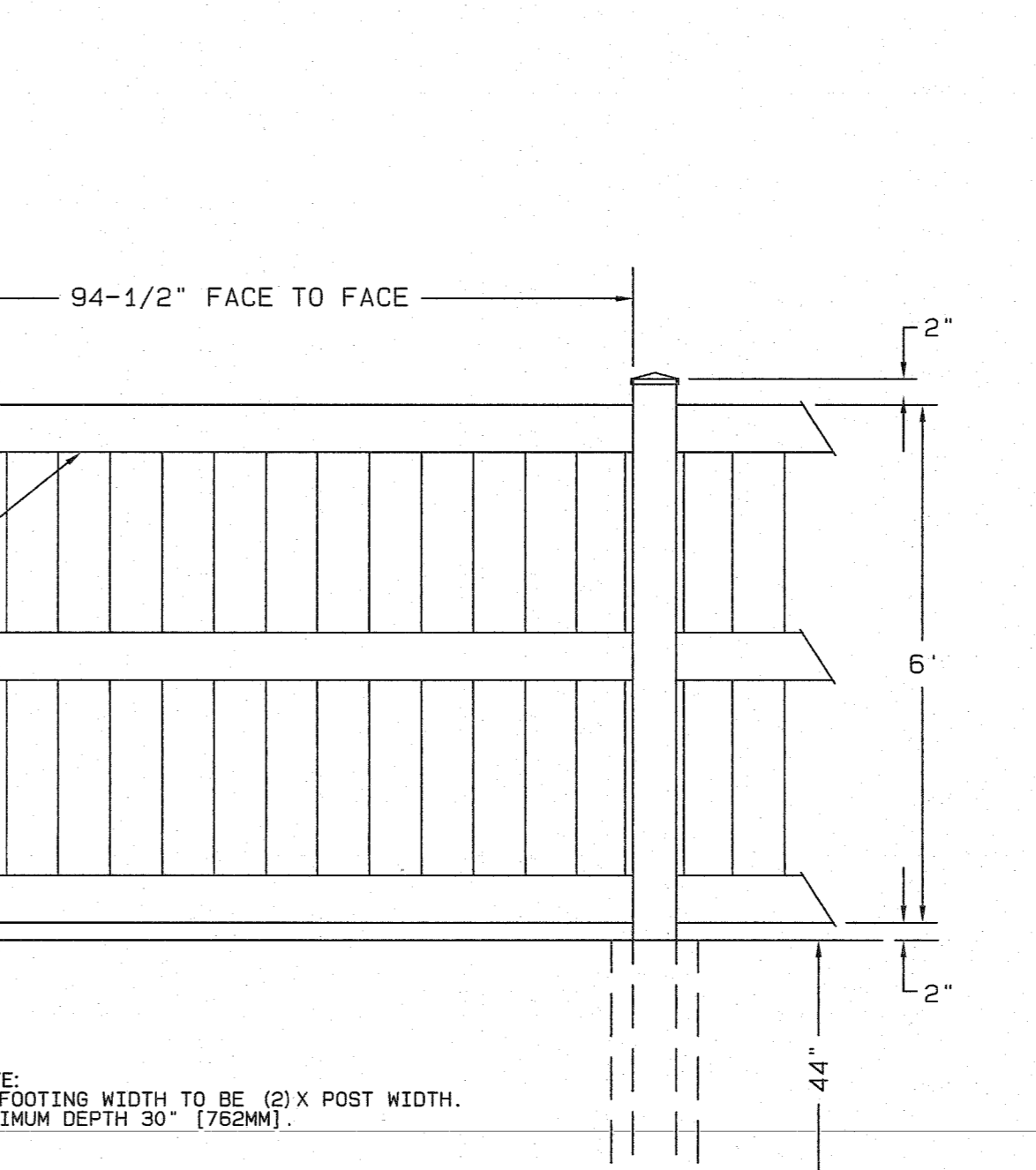
PIPE SIZE	B	E	N	D	S	TEE OR DEAD END
6"	1.0	1.5	2.5	4.5	3.5	
8"	1.0	2.5	4.5	8.0	5.5	
10"	2.0	3.5	7.0	12.5	9.0	
12"	2.5	5.0	9.5	17.5	12.5	
16"	4.5	8.5	17.0	31.0	22.5	
18"	5.5	11.0	21.5	39.5	28.5	
20"	7.0	13.5	27.0	48.0	35.0	
24"	10.0	19.5	38.5	70.5	50.0	

CONCRETE THRUST BLOCK DETAIL
N.T.S.

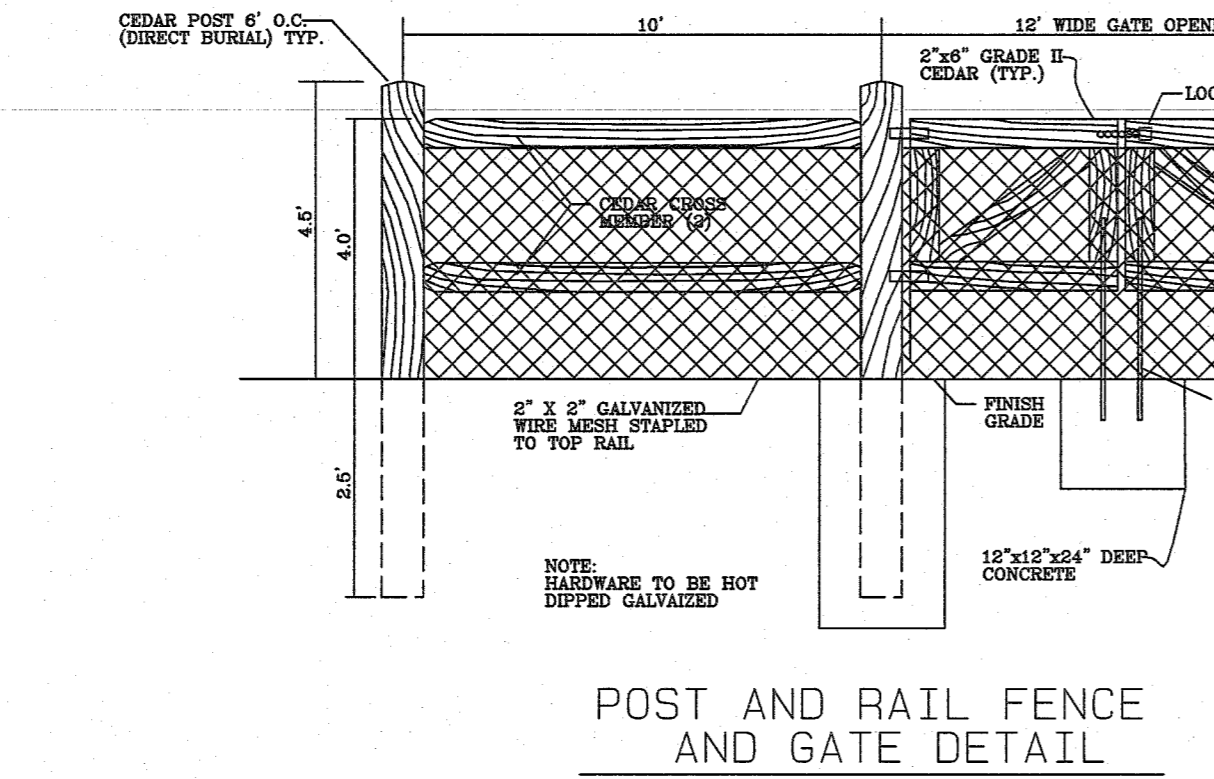


VINYL BUFFER FENCE DETAIL
N.T.S.

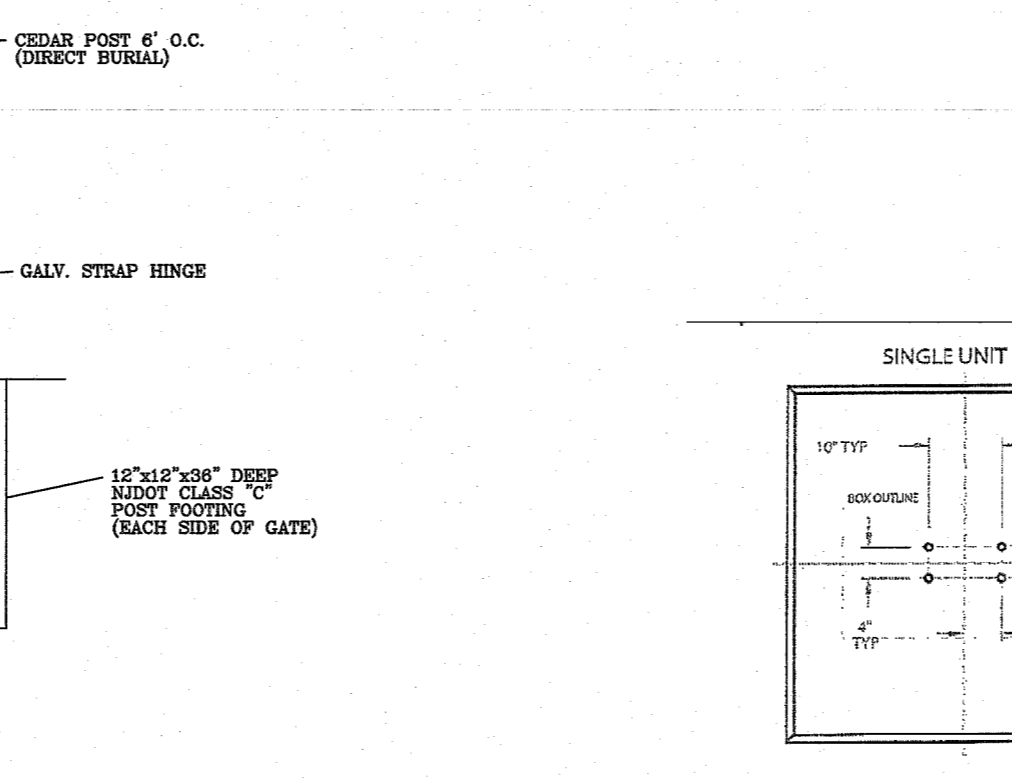
WASHERS



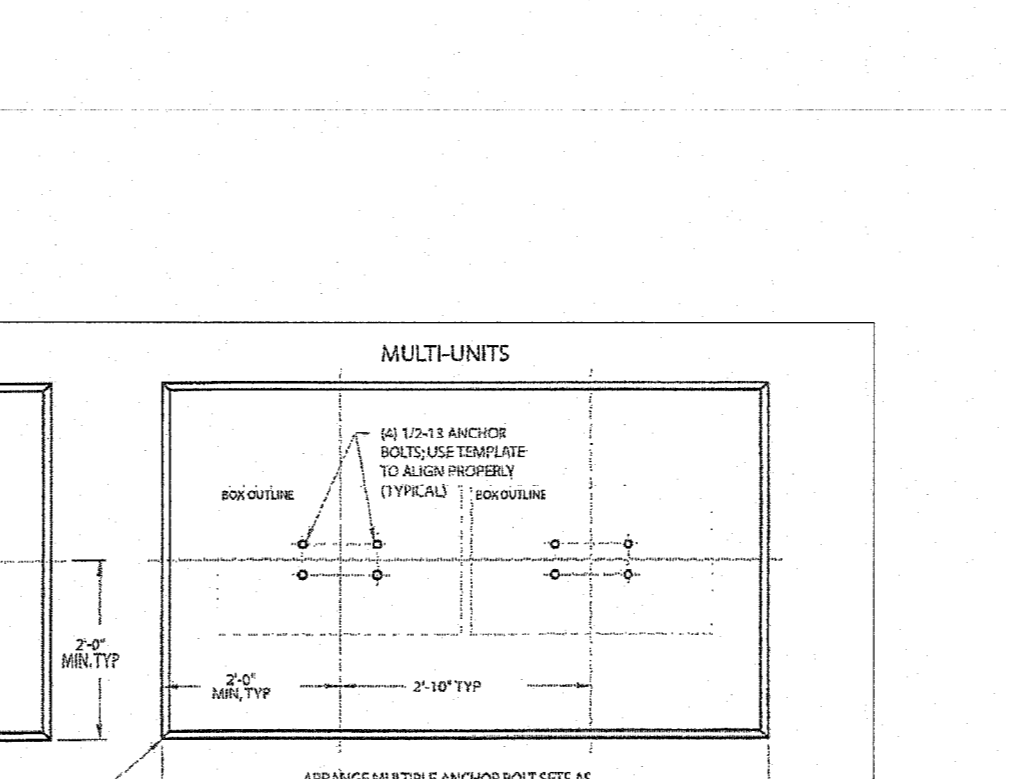
POST CAP



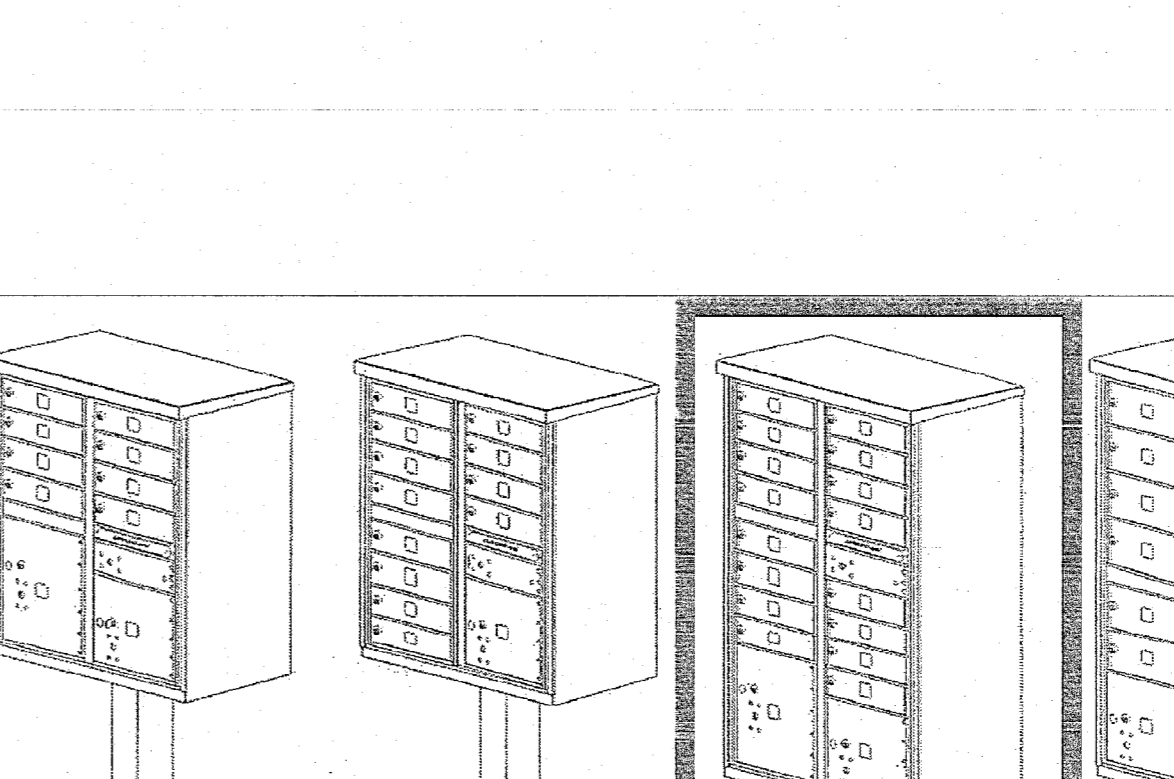
POST AND RAIL FENCE AND GATE DETAIL
N.T.S.



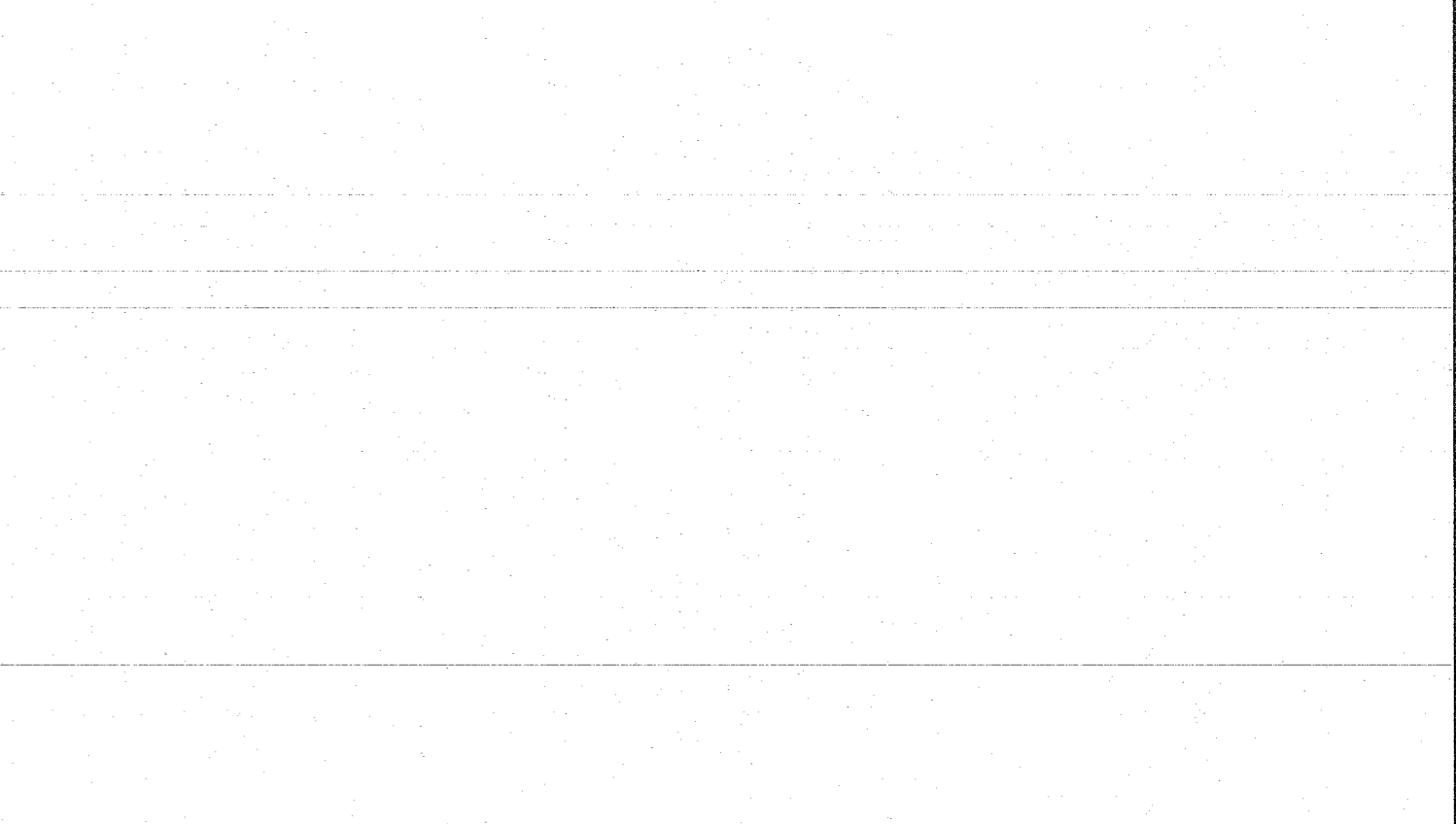
ROOF LEADER DROP
N.T.S.



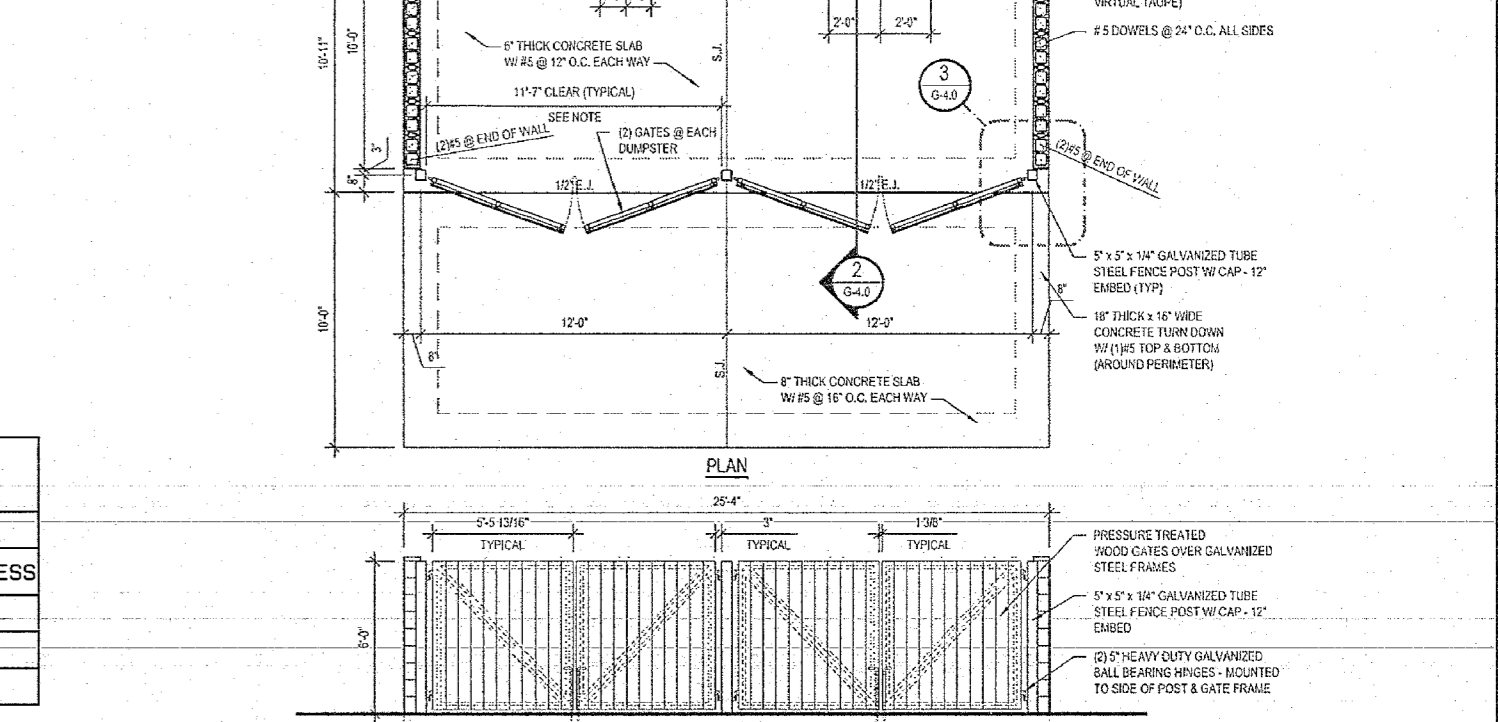
COMMUNITY MAILBOX DETAIL
N.T.S.



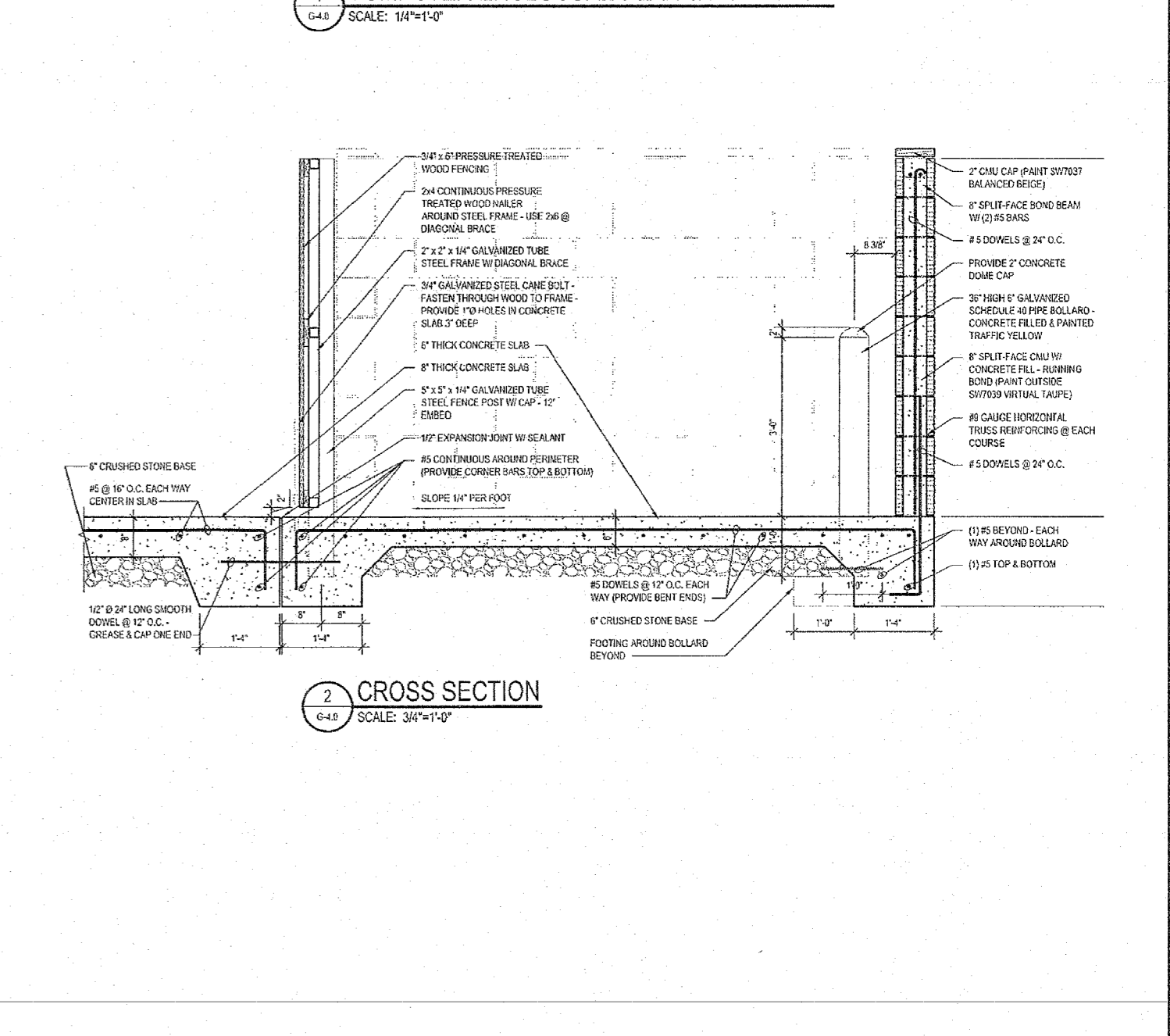
PEDESTAL INSTALLATION DETAILS
N.T.S.



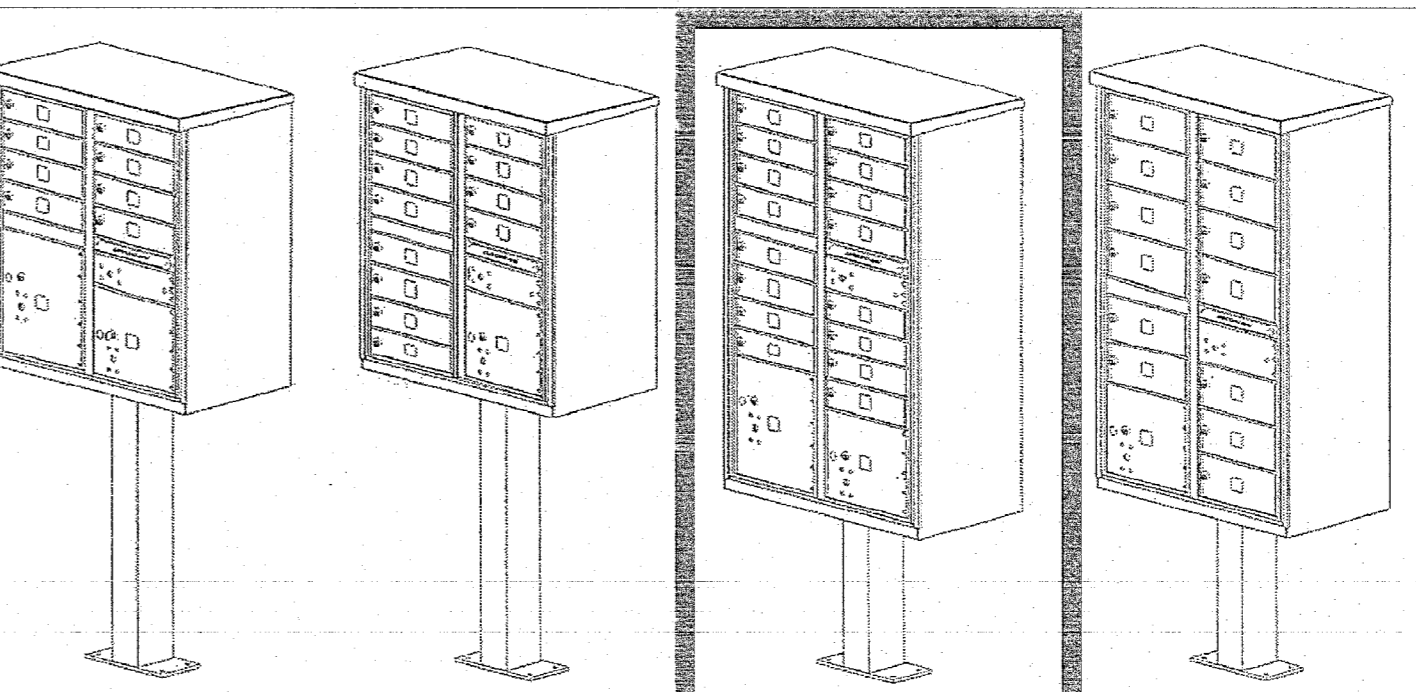
DUMPSTER ENCLOSURE PLAN & ELEVATION
SCALE: 1/4" = 1'-0"



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



VINYL BUFFER FENCE DETAIL
N.T.S.



COMMUNITY MAILBOX DETAIL
N.T.S.

	TYPE I	TYPE II	TYPE III	TYPE IV
INSTALLED HEIGHT	62"	62"	62"	62"
DEPTH	17-7/8"	17-7/8"	17-7/8"	17-7/8"
WIDTH	30-1/2"	30-1/2"	30-1/2"	30-1/2"
WEIGHT (WITHOUT PEDESTAL)	107 LBS	111 LBS	147 LBS	137 LBS
WEIGHT (WITH PEDESTAL)	125 LBS	129 LBS	162 LBS	152 LBS
QTY OF STANDARD COMPARTMENTS	8	12	16	13
QTY OF PARCEL COMPARTMENTS	2	1	2	1
PARCEL COMPARTMENT HEIGHT	10", 13"	10"	10", 13"	10"

DATE	REVISION	DRAWN	CHECKED	RELEASED
11/30/20	REV. PER 10 UNIT RESIDENTIAL BUILDINGS	CSM	JS	BPM
9/24/19	REV. BUFFER FENCING PER NADEP	CSM	JS	

CONSTRUCTION DETAILS

PRELIMINARY AND FINAL MAJOR SITE PLAN & SUBDIVISION
LOT 15.01 ~ BLOCK 44

TAX MAP SHEET NO. 8
MANCHESTER TOWNSHIP, OCEAN COUNTY, NEW JERSEY

FWH ASSOCIATES, P.A.
1856 Rt. 9, Toms River, NJ 08756 T: 732.797.8100 F: 732.797.3223

Brian P. Murphy
REGISTERED PROFESSIONAL ENGINEER
N.J. No. 42000

DATE	BY	SCALE
8/10/18	CSM	
	JS	N.T.S.
	BPM	PC-170
	BPM	PROJECT NO. 1423.0016
		SHEET NO. 36
		49