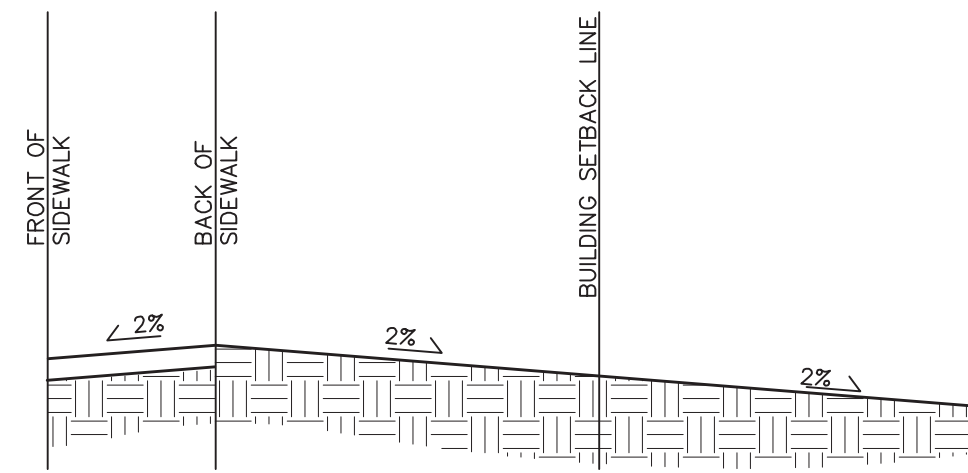


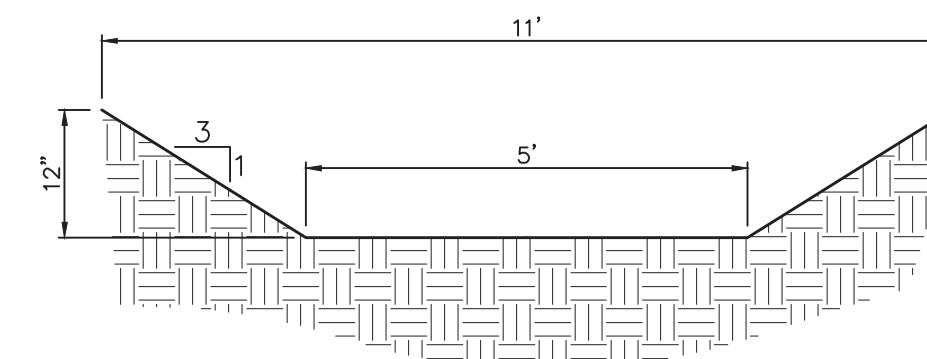
Location	100 YR FLOW	Top of Foundation	Type	Lowest Sill	X-section Location	Flow Line	Slope	Highwater	Freeboard
Behind Lot #10	2.43 cfs	613.80 ft	W/O	605.10 ft	Swale	603.45 ft	2.40%	604.00 ft	1.10 ft
Behind Lot #11	2.09 cfs	614.80 ft	W/O	606.10 ft	Swale	604.50 ft	2.40%	605.02 ft	1.08 ft
Behind Lot #12	2.09 cfs	616.10 ft	W/O	607.40 ft	Swale	605.80 ft	2.40%	606.32 ft	1.08 ft
Behind Lot #13	2.09 cfs	617.60 ft	W/O	608.90 ft	Swale	607.30 ft	2.00%	607.84 ft	1.06 ft
Behind Lot #14	1.08 cfs	619.00 ft	W/O	610.30 ft	Swale	608.85 ft	2.10%	609.27 ft	1.03 ft
Behind Lot #15	1.08 cfs	620.40 ft	L/O	615.40 ft	Swale	612.30 ft	8.30%	612.63 ft	2.77 ft
Behind Lot #16	1.08 cfs	621.90 ft	STD	620.40 ft	Swale	615.05 ft	8.30%	615.38 ft	5.02 ft
Behind Lot #17	1.08 cfs	623.30 ft	STD	621.80 ft	Swale	618.80 ft	2.00%	618.62 ft	3.18 ft
Behind Lot #18	1.06 cfs	624.60 ft	L/O	619.60 ft	Swale	617.30 ft	4.90%	617.66 ft	1.94 ft
Behind Lot #19	1.06 cfs	626.10 ft	W/O	617.40 ft	Swale	614.20 ft	4.90%	614.56 ft	2.84 ft
Behind Lot #20	2.04 cfs	627.30 ft	W/O	618.60 ft	Swale	612.00 ft	2.40%	612.52 ft	6.08 ft
Behind Lot #21	2.56 cfs	627.80 ft	W/O	619.10 ft	Swale	608.70 ft	2.00%	609.28 ft	9.82 ft
Behind Lot #22	3.33 cfs	628.10 ft	W/O	619.40 ft	Swale	606.00 ft	2.30%	606.63 ft	12.77 ft
Behind Lot #23	3.10 cfs	628.00 ft	W/O	619.30 ft	Swale	604.00 ft	5.50%	604.52 ft	14.78 ft
Behind Lot #24	3.10 cfs	627.20 ft	W/O	618.50 ft	Swale	610.50 ft	3.20%	611.08 ft	7.42 ft
Behind Lot #25	3.07 cfs	626.10 ft	W/O	617.40 ft	Swale	615.00 ft	4.00%	615.55 ft	1.85 ft
Behind Lot #26	0.32 cfs	620.40 ft	STD	618.90 ft	Swale	617.60 ft	2.00%	617.87 ft	1.03 ft
Behind Lot #27	1.40 cfs	620.00 ft	STD	618.50 ft	Swale	616.00 ft	4.00%	616.41 ft	2.09 ft
Behind Lot #28	1.40 cfs	618.80 ft	STD	617.30 ft	Swale	617.30 ft	4.00%	614.11 ft	3.19 ft
Behind Lot #29	2.79 cfs	617.50 ft	STD	616.00 ft	Weir	616.20 ft	---	610.50 ft	5.50 ft
Behind Lot #30	2.79 cfs	616.30 ft	STD	614.80 ft	Weir	614.80 ft	---	610.52 ft	4.28 ft
Behind Lot #31	2.79 cfs	613.10 ft	STD	611.60 ft	Weir	610.20 ft	---	610.50 ft	1.10 ft
Behind Lot #32	3.20 cfs	614.10 ft	STD	612.60 ft	Swale	608.25 ft	2.00%	608.89 ft	3.71 ft
Behind Lot #33	4.12 cfs	615.31 ft	STD	613.81 ft	Swale	609.70 ft	3.20%	610.34 ft	3.47 ft
Behind Lot #34	5.55 cfs	615.80 ft	L/O	610.80 ft	Swale	607.10 ft	5.80%	607.74 ft	3.06 ft
Behind Lot #35	9.53 cfs	616.40 ft	W/O	607.70 ft	Swale	604.40 ft	2.90%	605.29 ft	2.41 ft
Behind Lot #39	6.70 cfs	609.70 ft	STD	608.20 ft	Swale	606.00 ft	2.00%	606.84 ft	1.36 ft
Behind Lot #40	7.45 cfs	608.90 ft	L/O	603.90 ft	Swale	600.00 ft	6.00%	600.71 ft	3.19 ft
Between Lot #41 & #42	2.89 cfs	608.10 ft	side	606.60 ft	Swale	599.70 ft	2.00%	600.31 ft	6.29 ft
Behind Lot #43	1.48 cfs	608.70 ft	W/O	600.00 ft	Swale	598.50 ft	2.00%	598.48 ft	1.52 ft
Behind Lot #44	1.48 cfs	609.40 ft	W/O	600.70 ft	Swale	596.00 ft	4.20%	596.42 ft	4.28 ft
Behind Lot #45	2.95 cfs	610.10 ft	W/O	601.40 ft	Swale	595.50 ft	2.50%	596.09 ft	5.31 ft
Behind Lot #46	2.95 cfs	611.00 ft	W/O	602.30 ft	Swale	597.25 ft	2.50%	597.84 ft	4.46 ft
Behind Lot #47	2.95 cfs	612.10 ft	W/O	603.40 ft	Swale	599.00 ft	2.50%	599.59 ft	3.81 ft
Behind Lot #48	1.19 cfs	613.10 ft	W/O	604.40 ft	Swale	601.40 ft	2.50%	601.80 ft	2.60 ft
Behind Lot #49	5.60 cfs	614.00 ft	W/O	605.30 ft	Weir	600.78 ft	---	601.24 ft	4.06 ft
Behind Lot #50	5.60 cfs	615.00 ft	W/O	606.30 ft	Weir	600.78 ft	---	601.24 ft	5.06 ft
Behind Lot #51	3.50 cfs	616.10 ft	W/O	607.40 ft	Swale	601.30 ft	2.50%	601.90 ft	5.50 ft
Behind Lot #52	2.85 cfs	617.20 ft	W/O	608.50 ft	Swale	602.40 ft	2.50%	602.95 ft	5.55 ft
Behind Lot #53	2.16 cfs	618.20 ft	W/O	609.50 ft	Swale	604.10 ft	2.50%	604.60 ft	4.90 ft
Behind Lot #54	1.83 cfs	619.30 ft	W/O	610.60 ft	Swale	605.50 ft	4.00%	605.93 ft	4.67 ft
Behind Lot #56	1.83 cfs	616.60 ft	STD	615.10 ft	Swale	612.00 ft	8.00%	612.38 ft	2.72 ft
Behind Lot #57	1.83 cfs	612.50 ft	STD	611.00 ft	Swale	606.30 ft	8.00%	606.68 ft	4.32 ft
Behind Lot #58	1.83 cfs	608.70 ft	STD	607.20 ft	Swale	605.50 ft	4.00%	605.93 ft	1.27 ft
Behind Lot #59	2.16 cfs	607.10 ft	STD	605.60 ft	Swale	604.10 ft	2.50%	604.60 ft	1.00 ft
Behind Lot #60	2.85 cfs	605.50 ft	STD	604.00 ft	Swale	602.15 ft	2.50%	602.70 ft	1.30 ft
Behind Lot #61	3.50 cfs	603.90 ft	STD	602.40 ft	Swale	600.75 ft	2.50%	601.35 ft	1.05 ft
Behind Lot #62	5.60 cfs	603.55 ft	STD	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Between Lot #62 & #63	5.60 cfs	603.55 ft	side	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Behind Lot #63	5.60 cfs	603.55 ft	STD	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Behind Lot #64	5.60 cfs	603.55 ft	STD	602.35 ft	Weir	600.78 ft	---	601.24 ft	1.11 ft
Behind Lot #65	2.95 cfs	603.90 ft	STD	602.65 ft	Swale	600.70 ft	2.50%	601.29 ft	1.36 ft
Behind Lot #66	2.95 cfs	602.40 ft	STD	600.90 ft	Swale	599.00 ft	2.50%	599.59 ft	1.31 ft
Behind Lot #67	2.95 cfs	601.50 ft	STD	600.00 ft	Swale	596.50 ft	2.50%	597.09 ft	2.91 ft
Behind Lot #68	2.95 cfs	600.80 ft	STD	599.30 ft	Weir	596.00 ft	---	596.41 ft	2.89 ft
Behind Lot #69	4.62 cfs	599.40 ft	STD	597.90 ft	Weir	596.00 ft	---	596.41 ft	1.49 ft

Location	100 YR FLOW	X-section Location	Flow Line	Bottom Width	Highwater	Depth in Street
CI14	7.34 cfs	Weir	611.11 ft	10.00 ft	611.48 ft	0.98 ft
CI22	3.90 cfs	Weir	605.57 ft	5.00 ft	606.30 ft	0.98 ft
CI33	13.38 cfs	Weir	600.85 ft	20.00 ft	601.21 ft	0.97 ft

OVERLAND FLOW CALCULATIONS
NOT TO SCALE



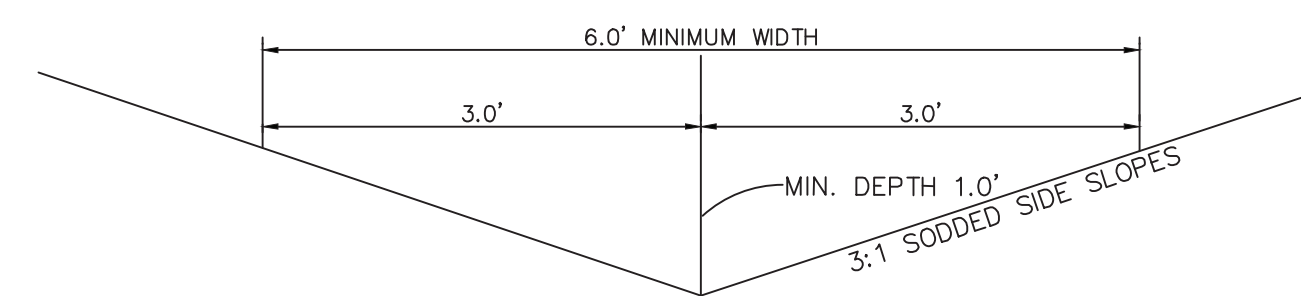
TYPICAL SWALE PROFILE
NOT TO SCALE



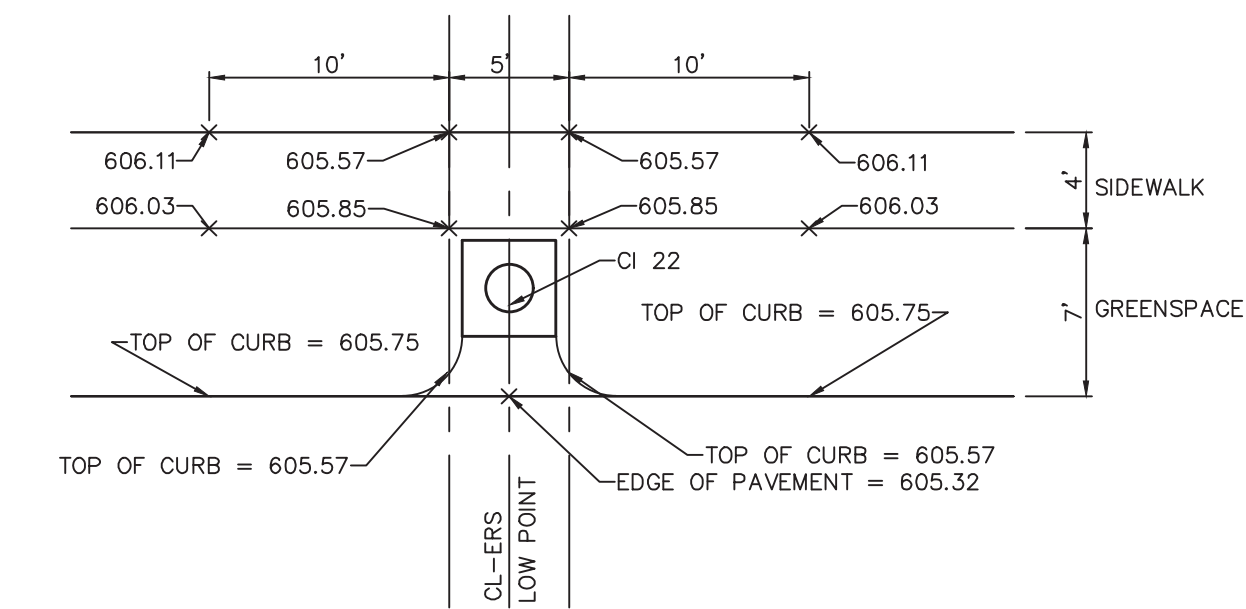
TYPICAL EMERGENCY RELIEF BETWEEN HOUSES
NOT TO SCALE

Minimum Slope of Swale = 2.00%
Maximum Discharge (Q) = 3.00 cfs
Maximum Velocity (v) = 3.00 ft/sec
N = 0.030 (grass)
Maximum side slopes = 3 (horizontal) : 1 (vertical)

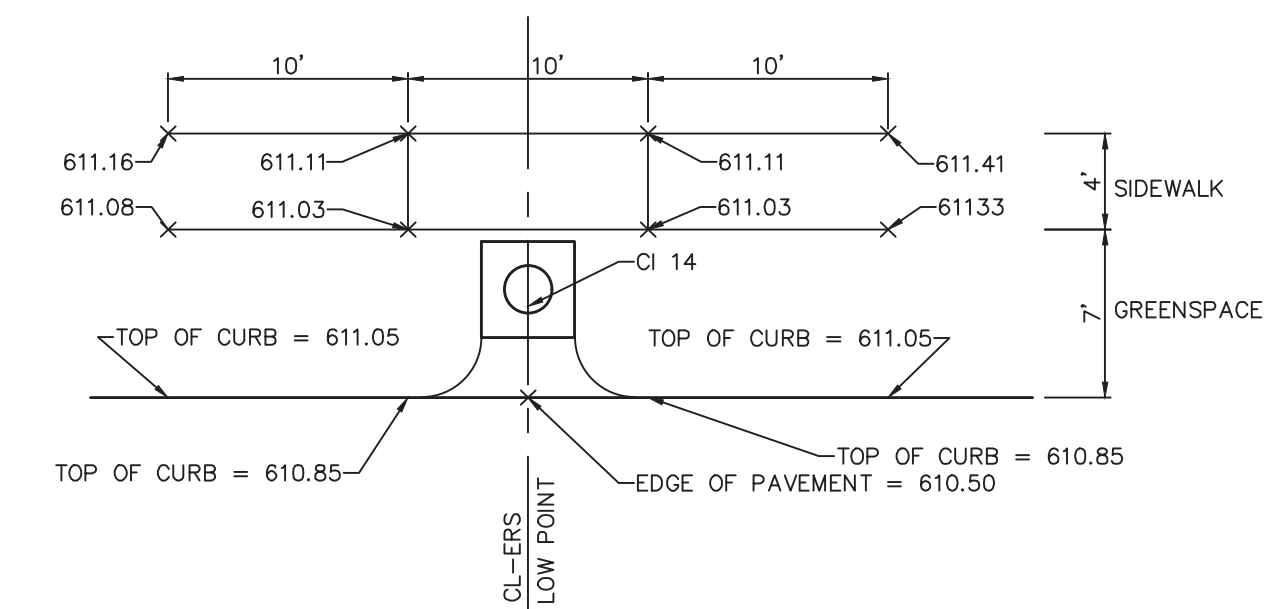
Longitudinal Slope (%)	Discharge (cfs)	Velocity (ft/sec)	Depth (ft)
0.5	3	1.73	0.76
1.0	3	2.23	0.67
2.0	3	2.87	0.59
3.0	1.90	2.99	0.46
4.0	1.23	2.99	0.37
5.0	0.92	2.99	0.32
6.0	0.70	2.98	0.28
7.0	0.60	2.96	0.26
8.0	0.43	2.96	0.22
9.0	0.39	2.95	0.21
10.0	0.36	3	0.20



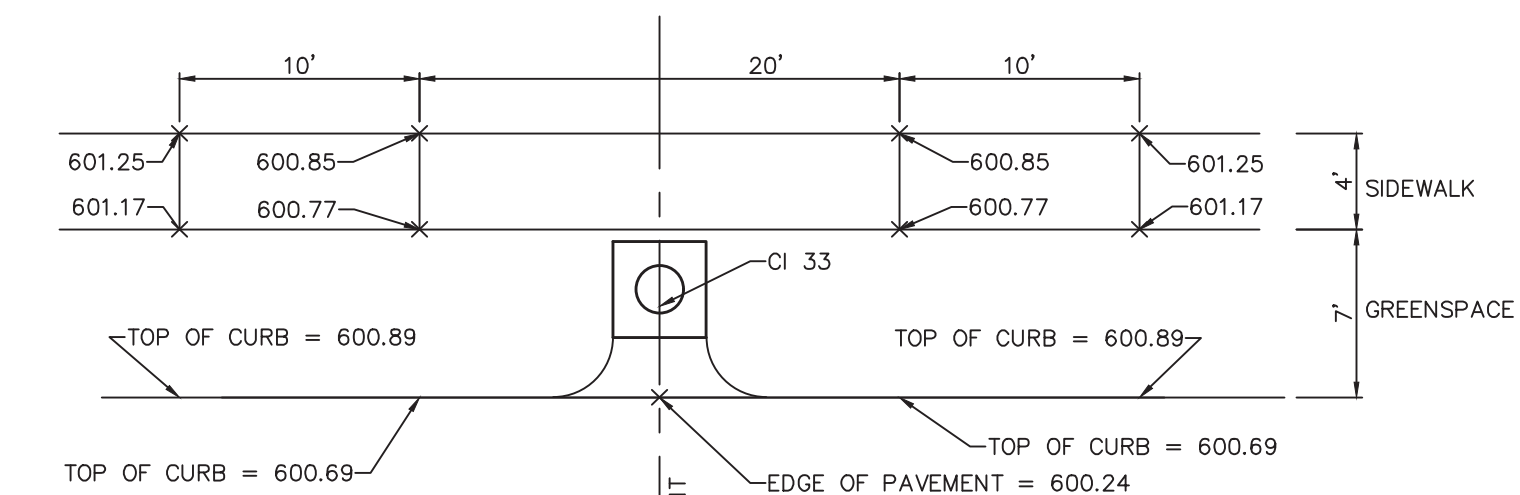
YARD SWALE DETAIL
NO SCALE



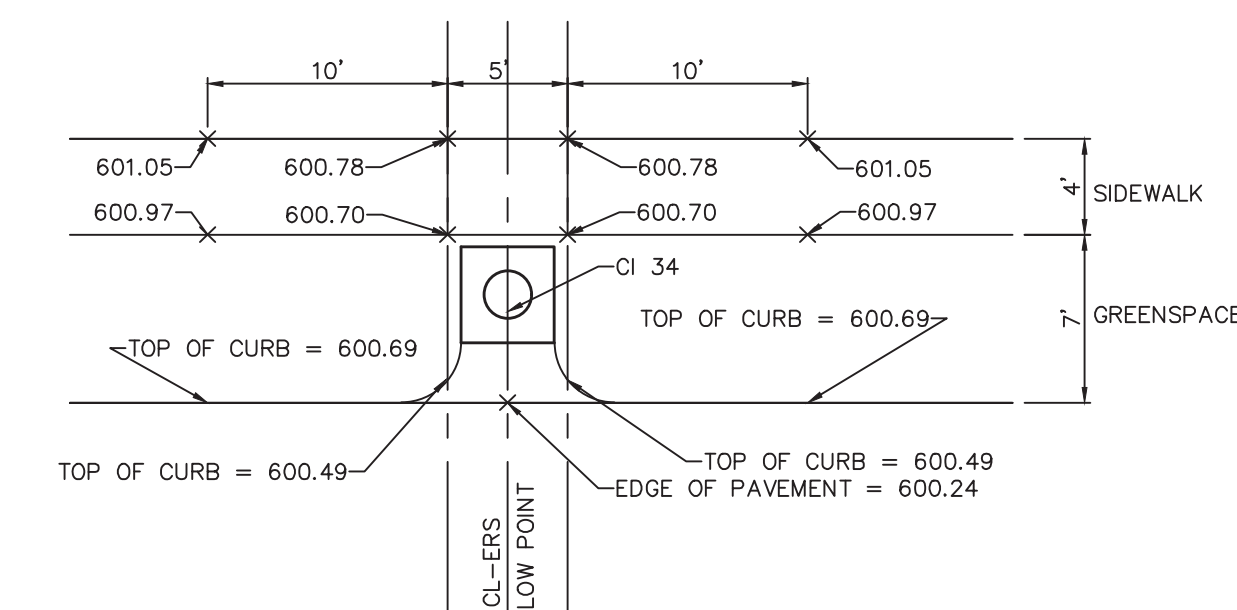
CI 22 SIDEWALK DETAIL
NOT TO SCALE



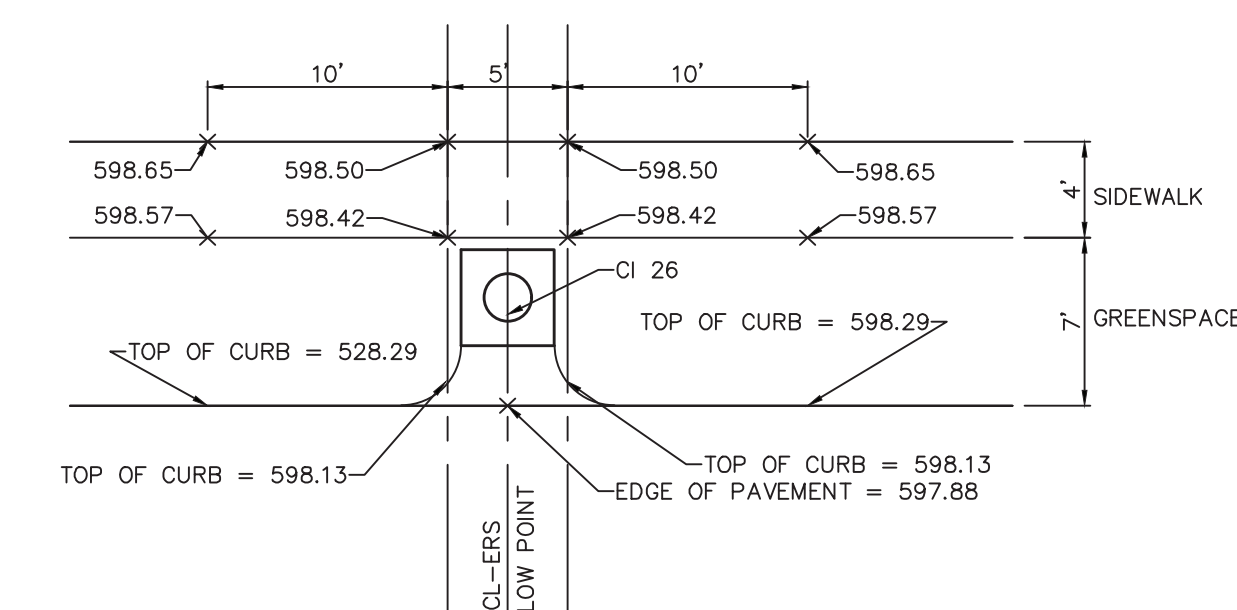
CI 14 SIDEWALK DETAIL
NOT TO SCALE



CI 33 SIDEWALK DETAIL
NOT TO SCALE



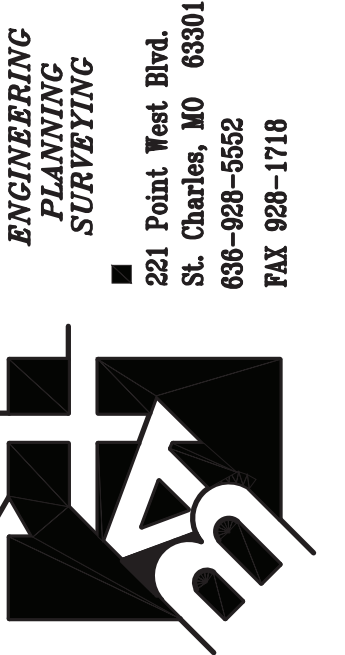
CI 34 SIDEWALK DETAIL
NOT TO SCALE



CI 26 SIDEWALK DETAIL
NOT TO SCALE

PROJECT TITLE:

COLUMBIA MEADOWS



DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or projects.



JEFFREY B. SIMMONS
2007030831
Civil Engineer
Copyright © 2020
Box Engineering Company, Inc.
Authority No. 000655
All Rights Reserved

REVISIONS	CITY COMMENTS
10/13/20	CITY COMMENTS
01/08/21	CITY COMMENTS
02/10/21	CITY COMMENTS
02/23/21	CITY COMMENTS

Developer / Owner:
Alpha Land Development Two, L.L.C.
612 Trade Center Boulevard
Chesterfield, MO 63005
314-721-7779

CONSTRUCTION DETAILS

P+Z No. #19-004868

Approval Date: 07/23/2020

City No. #?

Page No.

36 of 38