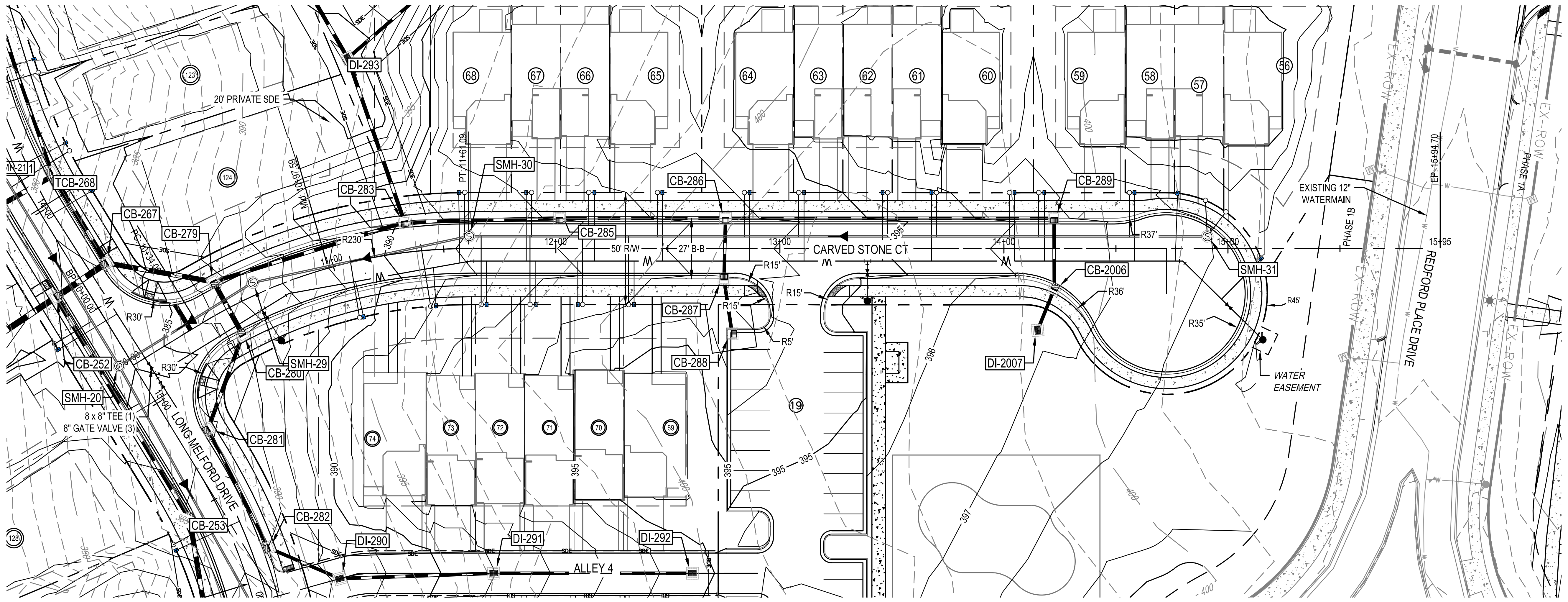
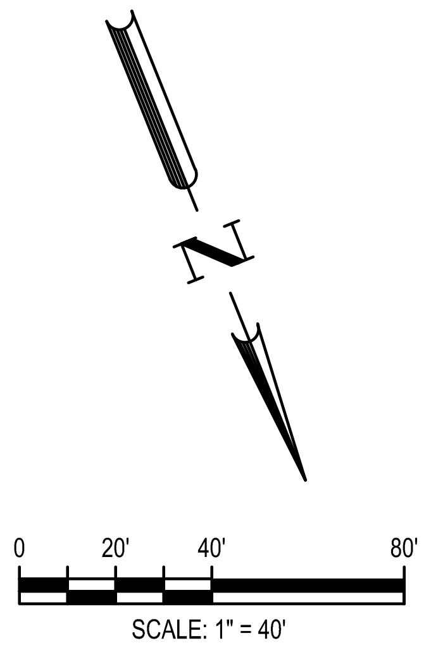
V4 - CID-23-06 - part 3 of 4

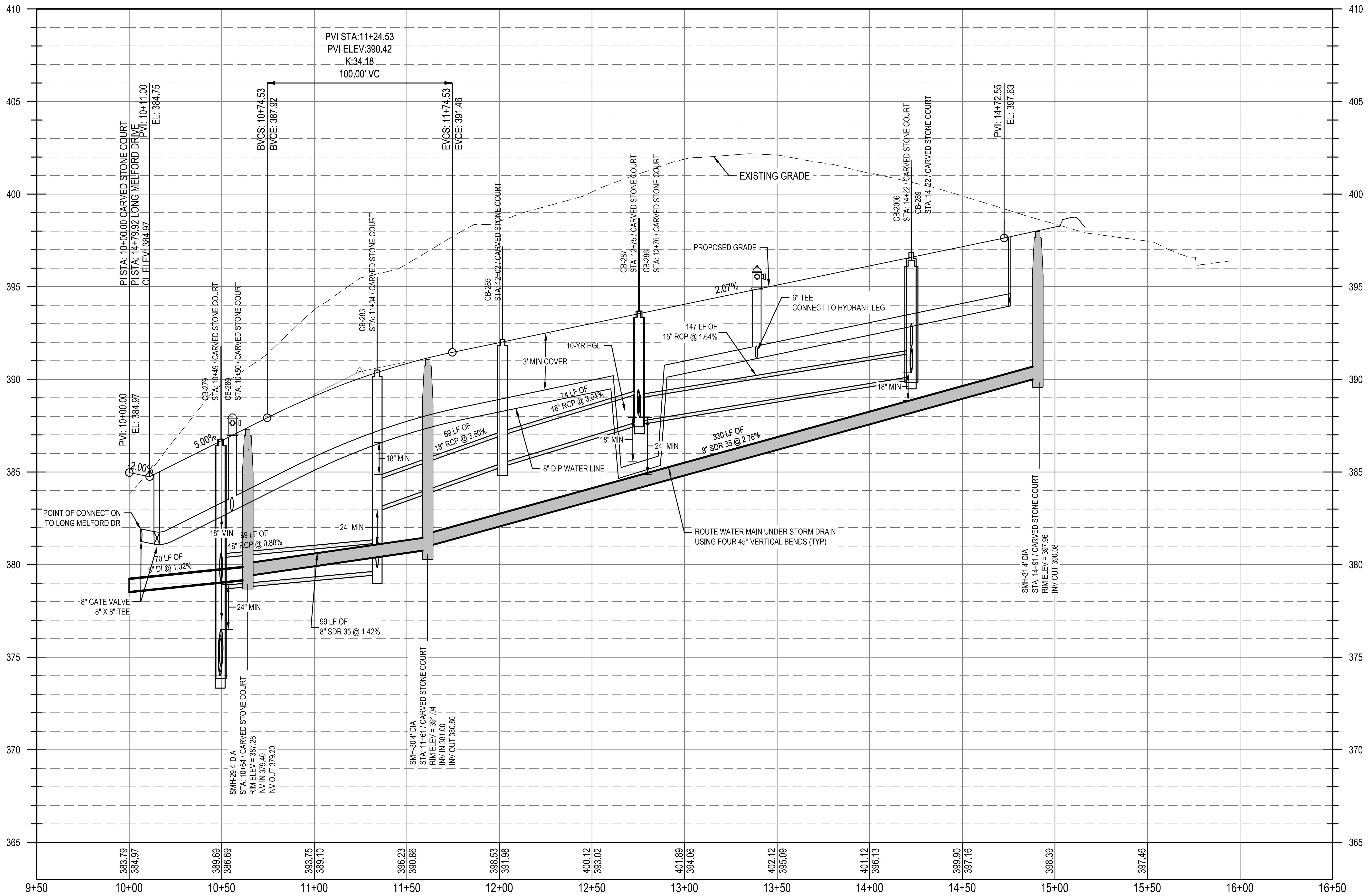


DI-293
20' PRIVATE SDE
SMH-30
CB-286
CB-289
TCB-268
CB-267
CB-279
CB-283
CB-285
50' R/W
27' B-B
CARVED STONE CT
R15'
R37'
CB-2006
SMH-31
EXISTING 12" WATERMAIN
PHASE 1B
R30'
R230'
CB-287
R5'
R36'
R35'
R45'
DI-2007
WATER EASEMENT
REDFORD PLACE DRIVE
CB-252
SMH-20
8 x 8" TEE (1)
8" GATE VALVE (3)
SMH-29
CB-280
CB-288
LONG MELFORD DRIVE
CB-281
CB-282
CB-253
DI-290
DI-291
DI-292
ALLEY 4



N
0
20'
40'
80'
SCALE: 1" = 40'

CARVED STONE COURT
STA: 9+50.00 TO STA:16+50.00



410
405
400
395
390
385
380
375
370
365
PVI STA:11+24.53
PVI ELEV:390.42
K:34.18
100.00' VC
PI STA: 10+00.00 CARVED STONE COURT
PI STA: 14+79.92 LONG MELFORD DRIVE
CL ELEV: 384.97
PVI: 10+11.00
EL: 384.75
BVCS: 10+74.53
BVCE: 387.92
EVCS: 11+74.53
EVCE: 391.46
PVI: 14+72.55
EL: 397.63
PVI: 10+00.00
EL: 384.97
EXISTING GRADE
PROPOSED GRADE
2.07%
5.00%
2.00%
6" TEE
CONNECT TO HYDRANT LEG
147 LF OF 15" RCP @ 1.64%
10-YR HGL
3' MIN COVER
74 LF OF 18" RCP @ 3.64%
89 LF OF 15" RCP @ 3.92%
330 LF OF 8" SDR 35 @ 2.78%
18" MIN
24" MIN
8" DIP WATER LINE
ROUTE WATER MAIN UNDER STORM DRAIN USING FOUR 45° VERTICAL BENDS (TYP)
POINT OF CONNECTION TO LONG MELFORD DR
70 LF OF 8" DI @ 1.02%
89 LF OF 18" RCP @ 0.88%
8" GATE VALVE
8" X 8" TEE
99 LF OF 8" SDR 35 @ 1.42%
SMH-29 4' DIA
STA. 10+64 / CARVED STONE COURT
RIM ELEV = 387.28
INV IN 379.40
INV OUT 379.20
SMH-30 4' DIA
STA. 11+61 / CARVED STONE COURT
RIM ELEV = 391.04
INV IN 381.00
INV OUT 380.80
SMH-31 4' DIA
STA. 14+91 / CARVED STONE COURT
RIM ELEV = 397.96
INV OUT 390.08
383.79
384.97
388.69
386.69
393.75
389.10
396.23
390.86
398.53
391.98
400.12
393.02
401.89
394.06
402.12
395.09
401.12
396.13
399.90
397.16
398.39
397.46
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50
16+00
16+50

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

CARVED STONE CT PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL
PRELIMINARY
ENGINEER
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03
DATE: 11/21/2023
C6-0

811
Know what's below.
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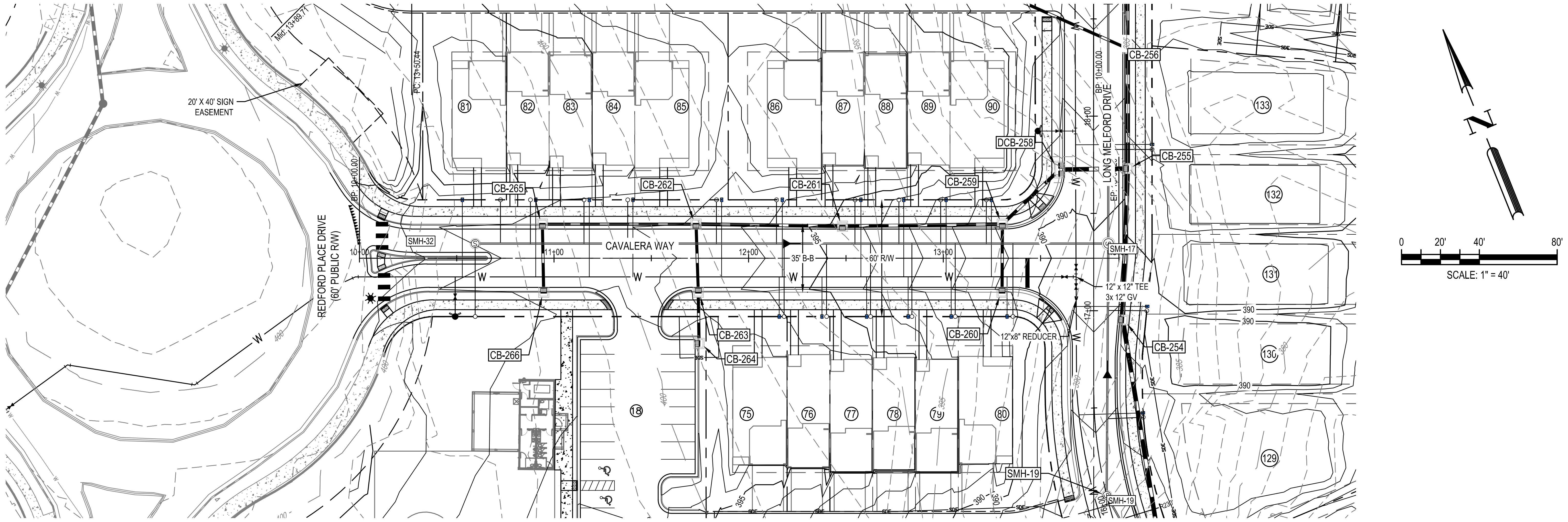
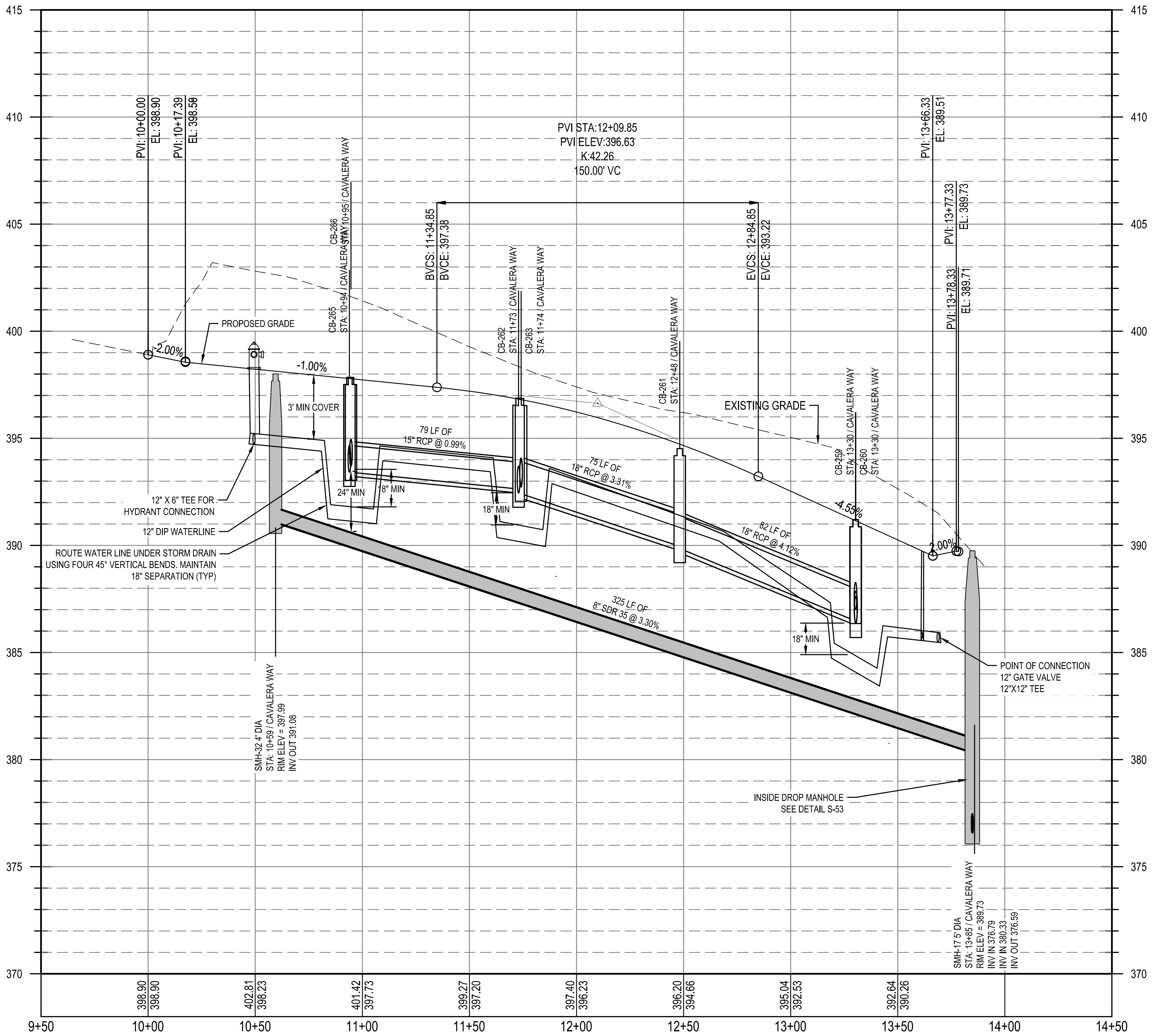
\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-0 ROAD PLAN AND PROFILE.dwg   Layout: C6-0 STREET A PLAN AND PROFILE   Plotted: 12/1/2023 2:42:25 PM


20' X 40' SIGN EASEMENT
Mid: 13+89.71
PC: 13+50.44
BP: 10+00.00
REDFORD PLACE DRIVE
(60' PUBLIC R/W)
SMH-32
10+00
11+00
12+00
13+00
CAVALERA WAY
35' B-B
60' R/W
W
CB-265
CB-262
CB-261
CB-259
DCB-258
CB-256
CB-255
CB-254
CB-266
CB-263
CB-264
CB-260
12"x8" REDUCER
12" x 12" TEE
3x 12" GV
SMH-17
SMH-19
LONG MELFORD DRIVE
BP: 10+00.00
18+00
17+00
16+00
81
82
83
84
85
86
87
88
89
90
75
76
77
78
79
80
18
133
132
131
130
129
390
395
400
N
0
20'
40'
80'
SCALE: 1" = 40'

CAVALERA WAY
STA: 9+50.00 TO STA:14+50.00


415
410
405
400
395
390
385
380
375
370
PVI: 10+00.00
EL: 398.90
PVI: 10+17.39
EL: 398.56
PVI STA:12+09.85
PVI ELEV:396.63
K:42.26
150.00' VC
BVCS: 11+34.85
BVCE: 397.38
EVCS: 12+84.85
EVCE: 393.22
PVI: 13+66.33
EL: 389.51
PVI: 13+77.33
EL: 389.73
PVI: 13+78.33
EL: 389.71
CB-265
STA: 10+94 / CAVALERA WAY
CB-266
STA: 10+95 / CAVALERA WAY
CB-262
STA: 11+73 / CAVALERA WAY
CB-263
STA: 11+74 / CAVALERA WAY
CB-261
STA: 12+48 / CAVALERA WAY
CB-259
STA: 13+30 / CAVALERA WAY
CB-260
STA: 13+30 / CAVALERA WAY
PROPOSED GRADE
EXISTING GRADE
-2.00%
-1.00%
-4.55%
2.00%
3' MIN COVER
79 LF OF
15" RCP @ 0.99%
75 LF OF
18" RCP @ 3.31%
82 LF OF
18" RCP @ 4.12%
325 LF OF
8" SDR 35 @ 3.30%
24" MIN
18" MIN
18" MIN
18" MIN
18" MIN
12" X 6" TEE FOR
HYDRANT CONNECTION
12" DIP WATERLINE
ROUTE WATER LINE UNDER STORM DRAIN
USING FOUR 45° VERTICAL BENDS. MAINTAIN
18" SEPARATION (TYP)
POINT OF CONNECTION
12" GATE VALVE
12"X12" TEE
INSIDE DROP MANHOLE
SEE DETAIL S-53
SMH-32 4' DIA
STA: 10+59 / CAVALERA WAY
RIM ELEV = 397.99
INV OUT 391.08
SMH-17 5' DIA
STA: 13+85 / CAVALERA WAY
RIM ELEV = 389.73
INV IN 376.79
INV IN 380.33
INV OUT 376.59
398.90
398.90
402.81
398.23
401.42
397.73
399.27
397.20
397.40
396.23
396.20
394.66
395.04
392.53
392.64
390.26
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50

REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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CAVALERA WAY PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C6-1

811
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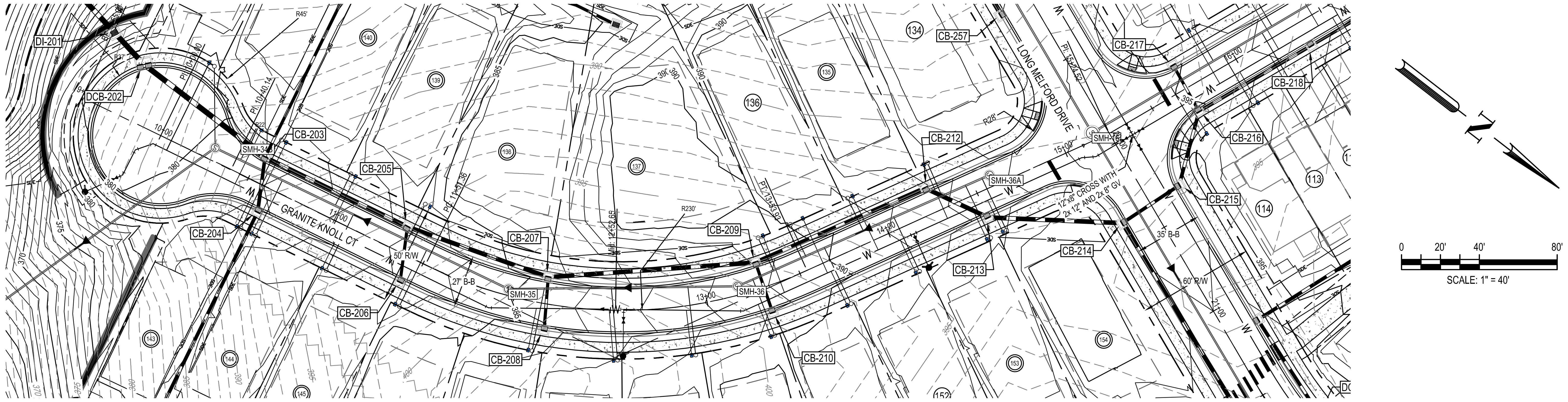
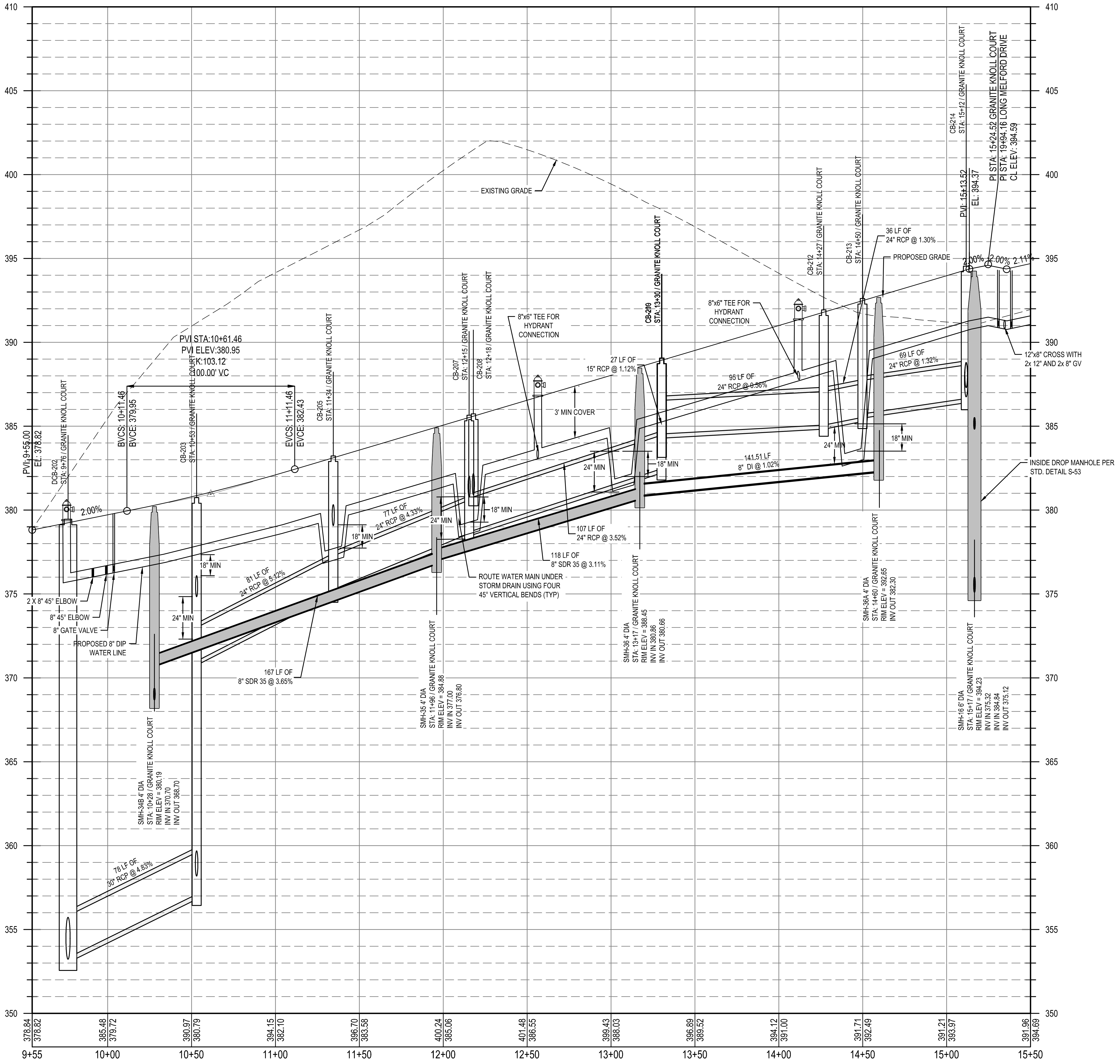
\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-0 ROAD PLAN AND PROFILE.dwg   Layout: C6-1 STREET B PLAN AND PROFILE   Plotted: 12/1/2023 12:20:33 PM


DI-201
DCB-202
CB-203
CB-204
CB-205
CB-206
CB-207
CB-208
CB-209
CB-210
CB-212
CB-213
CB-214
CB-215
CB-216
CB-217
CB-218
CB-257
SMH-35
SMH-36
SMH-36A
SMH-16
GRANITE KNOLL CT
LONG MELFORD DRIVE
50' R/W
27' B-B
35' B-B
60' R/W
W
0
20'
40'
80'
SCALE: 1" = 40'

GRANITE KNOLL COURT
STA: 9+55.00 TO STA:15+50.00


410
405
400
395
390
385
380
375
370
365
360
355
350
PVI: 9+55.00
EL: 378.82
DCB-202
STA: 9+76 / GRANITE KNOLL COURT
2.00%
BVCS: 10+11.46
BVCE: 379.95
PVI STA:10+61.46
PVI ELEV:380.95
K:103.12
100.00' VC
CB-203
STA: 10+53 / GRANITE KNOLL COURT
EVCS: 11+11.46
EVCE: 382.43
CB-205
STA: 11+34 / GRANITE KNOLL COURT
2 X 8" 45° ELBOW
8" 45° ELBOW
8" GATE VALVE
PROPOSED 8" DIP WATER LINE
18" MIN
24" MIN
81 LF OF 24" RCP @ 5.12%
77 LF OF 24" RCP @ 4.33%
167 LF OF 8" SDR 35 @ 3.65%
SMH-34B 4' DIA
STA: 10+28 / GRANITE KNOLL COURT
RIM ELEV = 380.19
INV IN 370.70
INV OUT 368.70
78 LF OF 30" RCP @ 4.83%
EXISTING GRADE
CB-207
STA: 12+15 / GRANITE KNOLL COURT
CB-208
STA: 12+18 / GRANITE KNOLL COURT
8"x6" TEE FOR HYDRANT CONNECTION
3' MIN COVER
27 LF OF 15" RCP @ 1.12%
CB-209
STA: 13+30 / GRANITE KNOLL COURT
24" MIN
18" MIN
107 LF OF 24" RCP @ 3.52%
118 LF OF 8" SDR 35 @ 3.11%
ROUTE WATER MAIN UNDER STORM DRAIN USING FOUR 45° VERTICAL BENDS (TYP)
SMH-35 4' DIA
STA: 11+96 / GRANITE KNOLL COURT
RIM ELEV = 384.88
INV IN 377.00
INV OUT 376.80
SMH-36 4' DIA
STA: 13+17 / GRANITE KNOLL COURT
RIM ELEV = 388.45
INV IN 380.86
INV OUT 380.66
95 LF OF 24" RCP @ 0.56%
141.51 LF 8" DI @ 1.02%
8"x6" TEE FOR HYDRANT CONNECTION
CB-212
STA: 14+27 / GRANITE KNOLL COURT
CB-213
STA: 14+50 / GRANITE KNOLL COURT
36 LF OF 24" RCP @ 1.30%
PROPOSED GRADE
69 LF OF 24" RCP @ 1.32%
24" MIN
18" MIN
SMH-36A 4' DIA
STA: 14+60 / GRANITE KNOLL COURT
RIM ELEV = 392.65
INV OUT 382.30
CB-214
STA: 15+12 / GRANITE KNOLL COURT
PVI: 15+13.52
EL: 394.37
PI STA: 15+24.52 GRANITE KNOLL COURT
PI STA: 19+94.16 LONG MELFORD DRIVE
CL ELEV: 394.59
2.00%
2.00%
2.11%
12"x8" CROSS WITH 2x 12" AND 2x 8" GV
INSIDE DROP MANHOLE PER STD. DETAIL S-53
SMH-16 6' DIA
STA: 15+17 / GRANITE KNOLL COURT
RIM ELEV = 394.23
INV IN 375.32
INV IN 384.84
INV OUT 375.12
378.84 378.82
385.48 379.72
390.97 380.79
394.15 382.10
396.70 383.58
400.24 385.06
401.48 386.55
399.43 388.03
396.89 389.52
394.12 391.00
391.71 392.49
391.21 393.97
391.96 394.69
9+55
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50

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REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GRANITE KNOLL CT PLAN AND PROFILE (1 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C6-2

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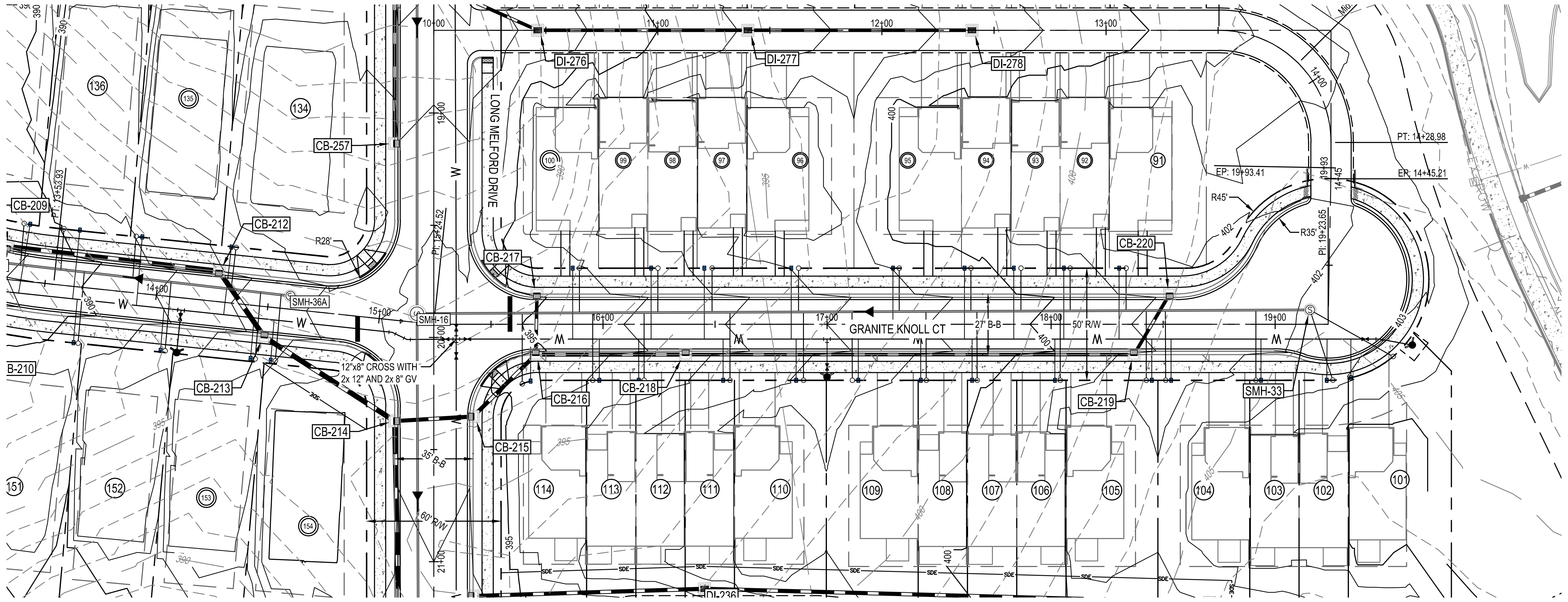
LONG MELFORD DRIVE
GRANITE KNOLL CT
50' R/W
27' B-B
DI-276
DI-277
DI-278
CB-257
CB-212
CB-209
CB-210
CB-213
CB-214
CB-215
CB-216
CB-217
CB-218
CB-219
CB-220
SMH-16
SMH-33
12"x8" CROSS WITH 2x 12" AND 2x 8" GV
EP: 19+93.41
PT: 14+28.98
EP: 14+45.21
R45'
R35'
R28'
136
134
151
152
153
154
114
113
112
111
110
109
108
107
106
105
104
103
102
101
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11+00
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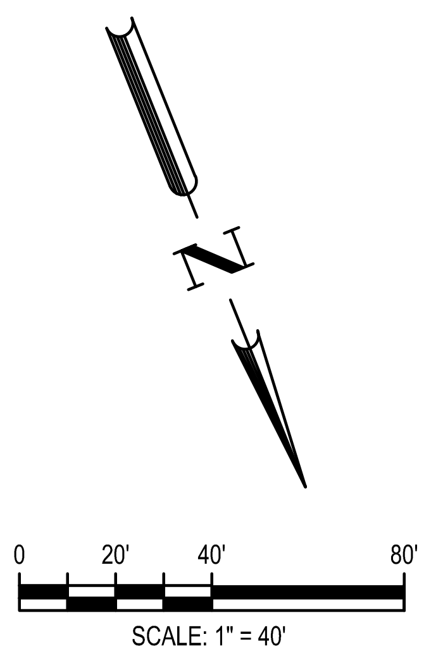
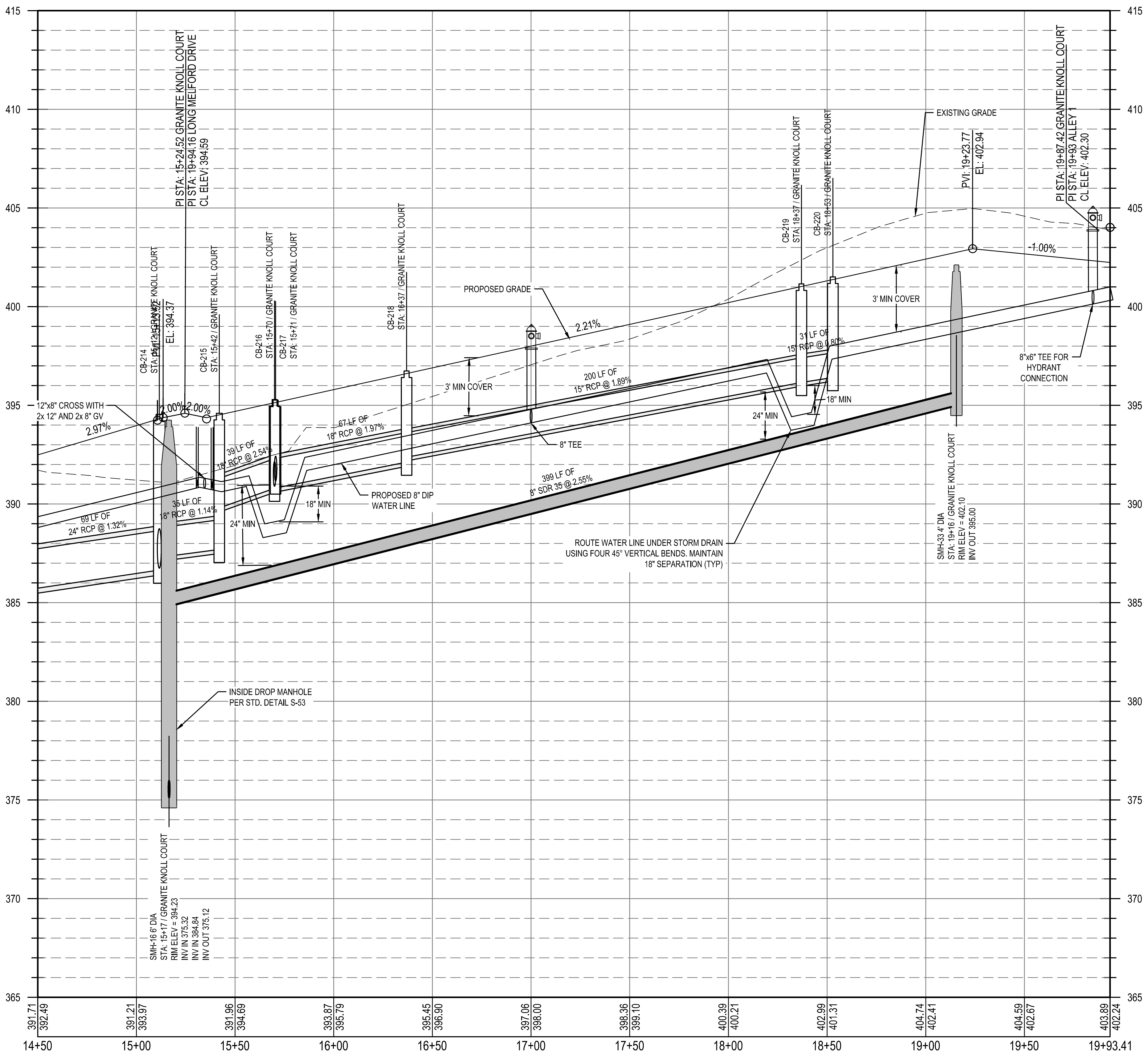
15+00
16+00
17+00
18+00
19+00


N
0
20'
40'
80'
SCALE: 1" = 40'

GRANITE KNOLL COURT

STA: 14+50.00 TO STA:19+93.41


415
410
405
400
395
390
385
380
375
370
365
PI STA: 15+24.52 GRANITE KNOLL COURT
PI STA: 19+94.16 LONG MELFORD DRIVE
CL ELEV: 394.59
PI STA: 19+87.42 GRANITE KNOLL COURT
PI STA: 19+93 ALLEY 1
CL ELEV: 402.30
PVI: 19+23.77
EL: 402.94
-1.00%
EXISTING GRADE
PROPOSED GRADE
2.21%
2.97%
-1.00%
2.00%
3' MIN COVER
3' MIN COVER
12"x8" CROSS WITH 2x 12" AND 2x 8" GV
69 LF OF 24" RCP @ 1.32%
35 LF OF 18" RCP @ 1.14%
39 LF OF 18" RCP @ 2.54%
67 LF OF 18" RCP @ 1.97%
200 LF OF 15" RCP @ 1.89%
31 LF OF 15" RCP @ 1.60%
399 LF OF 8" SDR 35 @ 2.55%
PROPOSED 8" DIP WATER LINE
8" TEE
18" MIN
24" MIN
18" MIN
24" MIN
8"x6" TEE FOR HYDRANT CONNECTION
ROUTE WATER LINE UNDER STORM DRAIN USING FOUR 45° VERTICAL BENDS. MAINTAIN 18" SEPARATION (TYP)
INSIDE DROP MANHOLE PER STD. DETAIL S-53
CB-214 STA: 15+12 GRANITE KNOLL COURT
CB-215 STA: 15+42 / GRANITE KNOLL COURT
CB-216 STA: 15+70 / GRANITE KNOLL COURT
CB-217 STA: 15+71 / GRANITE KNOLL COURT
CB-218 STA: 16+37 / GRANITE KNOLL COURT
CB-219 STA: 18+37 / GRANITE KNOLL COURT
CB-220 STA: 18+53 GRANITE KNOLL COURT
SMH-16 6' DIA STA: 15+17 / GRANITE KNOLL COURT RIM ELEV = 394.23 INV IN 375.32 INV IN 384.84 INV OUT 375.12
SMH-33 4' DIA STA: 19+16 / GRANITE KNOLL COURT RIM ELEV = 402.10 INV OUT 395.60
EL: 394.37
391.71
392.49
391.21
393.97
391.96
394.69
393.87
395.79
395.45
396.90
397.06
398.00
398.36
399.10
400.39
400.21
402.99
401.31
404.74
402.41
404.59
402.67
403.89
402.24
14+50
15+00
15+50
16+00
16+50
17+00
17+50
18+00
18+50
19+00
19+50
19+93.41

Know what's below.
Call before you dig.

△5		
△4		
△3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
△2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
△1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

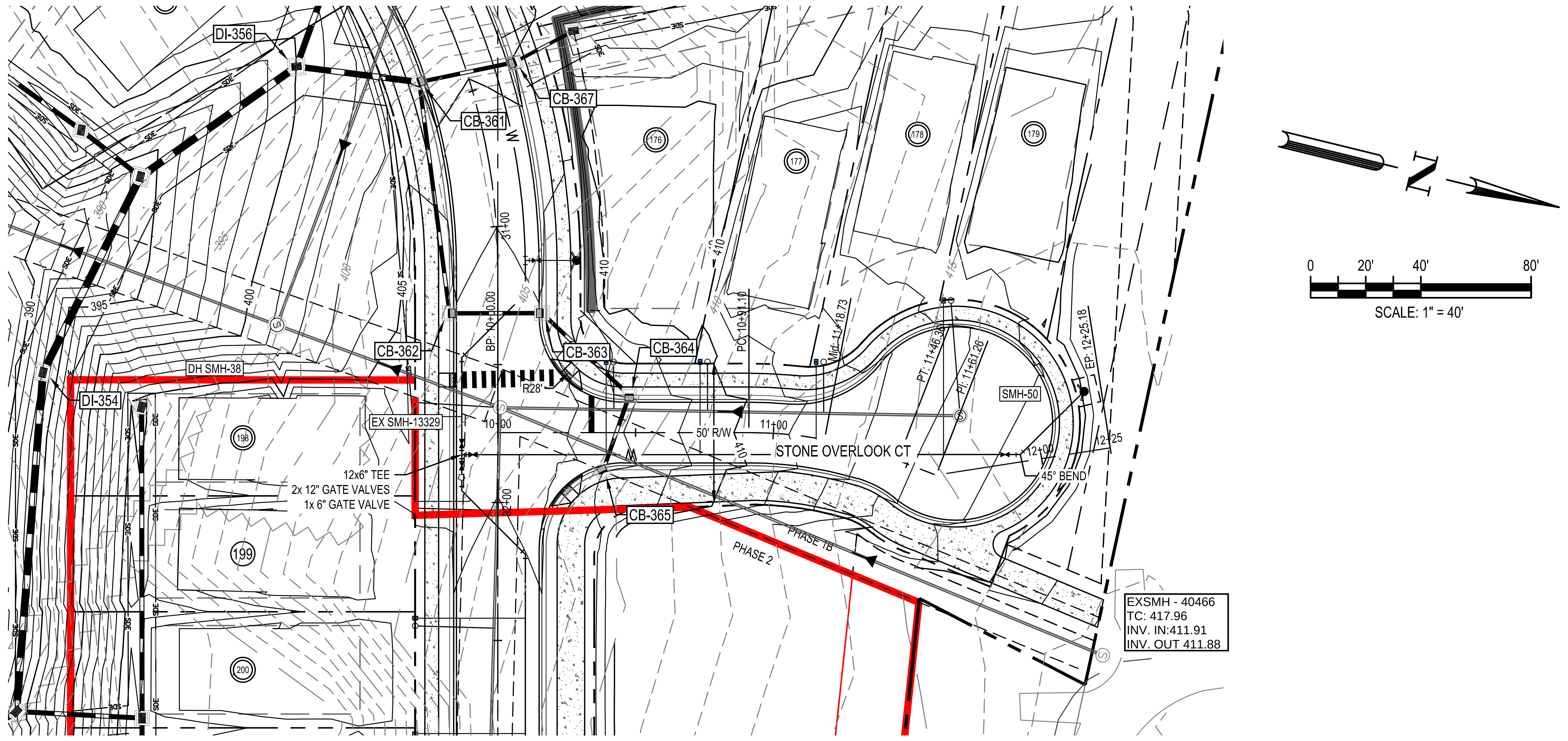
GRANITE KNOLL CT PLAN AND PROFILE (2 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

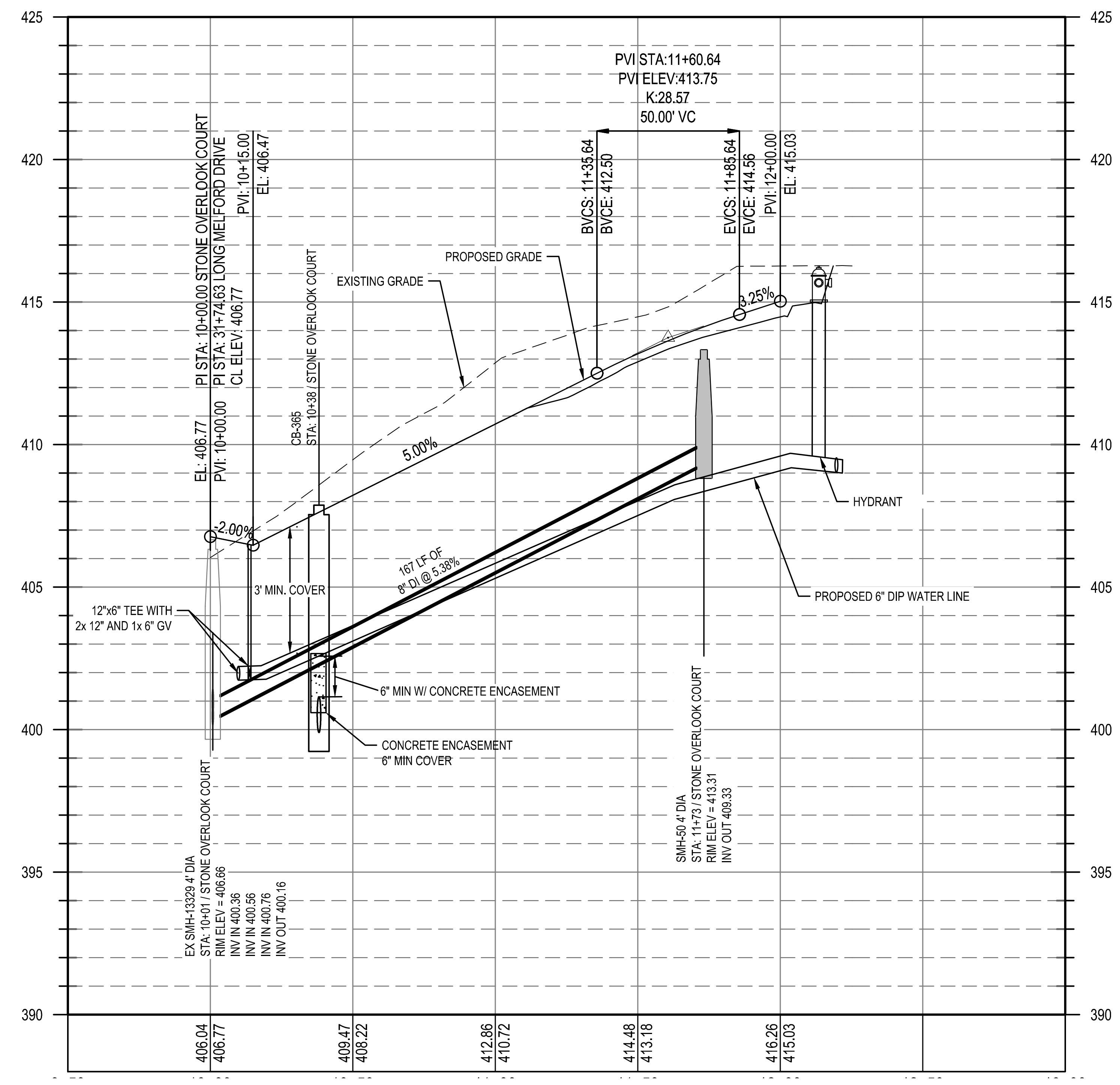
FILE NUMBER: 8430-03

DATE: 11/21/2023

C6-3


DI-356
CB-367
CB-361
SDE
390
395
400
405
410
415
31+00
BP: 10+00.00
CB-362
CB-363
CB-364
DH SMH-38
DI-354
EX SMH-13329
R28'
10+00
11+00
12+00
12+25
32+00
12x6" TEE
2x 12" GATE VALVES
1x 6" GATE VALVE
CB-365
176
177
178
179
198
199
200
PC: 10+91.10
Mid: 11+18.73
PT: 11+46.36
PI: 11+61.26
EP: 12+25.18
SMH-50
50' R/W
STONE OVERLOOK CT
45° BEND
PHASE 1B
PHASE 2
EXSMH - 40466
TC: 417.96
INV. IN:411.91
INV. OUT 411.88
N
0
20'
40'
80'
SCALE: 1" = 40'

STONE OVERLOOK COURT
STA: 9+50.00 TO STA:13+00.00


425
420
415
410
405
400
395
390
PVI STA:11+60.64
PVI ELEV:413.75
K:28.57
50.00' VC
PI STA: 10+00.00 STONE OVERLOOK COURT
PI STA: 31+74.63 LONG MELFORD DRIVE
CL ELEV: 406.77
PVI: 10+15.00
EL: 406.47
EL: 406.77
PVI: 10+00.00
CB-365
STA: 10+38 / STONE OVERLOOK COURT
BVCS: 11+35.64
BVCE: 412.50
EVCS: 11+85.64
EVCE: 414.56
PVI: 12+00.00
EL: 415.03
PROPOSED GRADE
EXISTING GRADE
-2.00%
5.00%
3.25%
3' MIN. COVER
167 LF OF
8" DI @ 5.38%
12"x6" TEE WITH
2x 12" AND 1x 6" GV
6" MIN W/ CONCRETE ENCASEMENT
CONCRETE ENCASEMENT
6" MIN COVER
HYDRANT
PROPOSED 6" DIP WATER LINE
EX SMH-13329 4' DIA
STA: 10+01 / STONE OVERLOOK COURT
RIM ELEV = 406.66
INV IN 400.36
INV IN 400.56
INV IN 400.76
INV OUT 400.16
SMH-50 4' DIA
STA: 11+73 / STONE OVERLOOK COURT
RIM ELEV = 413.31
INV OUT 409.33
406.04
406.77
409.47
408.22
412.86
410.72
414.48
413.18
416.26
415.03

Know what's below.
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REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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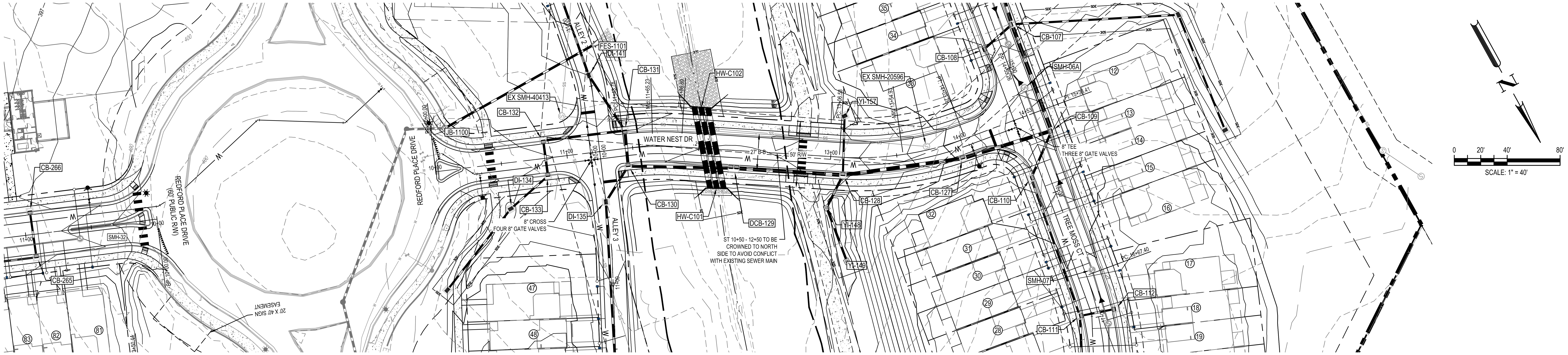
STONE OVERLOOK CT PLAN AND PROFILE

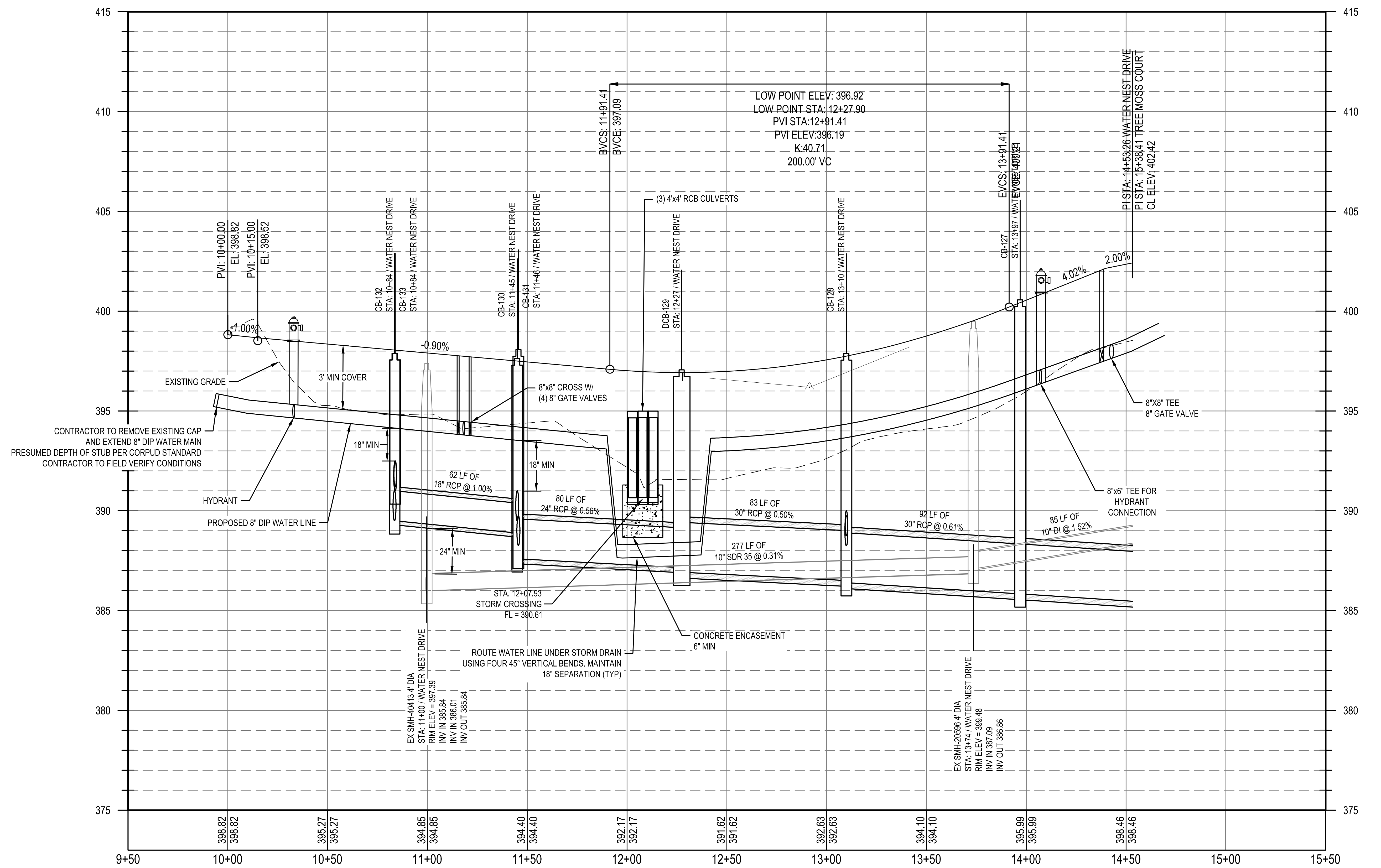
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023

C6-4


FES-1101
DI-141
CB-131
HW-C102
EX SMH-40413
CB-132
JB-1100
CB-266
REDFORD PLACE DRIVE
REDFORD PLACE DRIVE (60' PUBLIC R/W)
WATER NEST DR
50' R/W
ALLEY 2
ALLEY 3
DI-134
CB-133
8" CROSS
FOUR 8" GATE VALVES
DI-135
CB-130
HW-C101
DCB-129
ST 10+50 - 12+50 TO BE CROWNED TO NORTH SIDE TO AVOID CONFLICT WITH EXISTING SEWER MAIN
SMH-32
CB-265
20' X 40' SIGN EASEMENT
EX SMH-20596
YI-157
CB-108
CB-107
SMH-06A
CB-109
8" TEE
THREE 8" GATE VALVES
CB-128
CB-127
CB-110
YI-148
YI-149
TREE MOSS CT
SMH-07
CB-112
CB-111
SCALE: 1" = 40'
0
20'
40'
80'
N

WATER NEST DRIVE
STA: 9+50.00 TO STA:15+50.00


415
410
405
400
395
390
385
380
375
PVI: 10+00.00
EL: 398.82
PVI: 10+15.00
EL: 398.52
-1.00%
-0.90%
CB-132
STA: 10+84 / WATER NEST DRIVE
CB-133
STA: 10+84 / WATER NEST DRIVE
CB-130
STA: 11+45 / WATER NEST DRIVE
CB-131
STA: 11+46 / WATER NEST DRIVE
BVCS: 11+91.41
BVCE: 397.09
(3) 4'x4' RCB CULVERTS
DCB-129
STA: 12+27 / WATER NEST DRIVE
LOW POINT ELEV: 396.92
LOW POINT STA: 12+27.90
PVI STA:12+91.41
PVI ELEV:396.19
K:40.71
200.00' VC
CB-128
STA: 13+10 / WATER NEST DRIVE
EVCS: 13+91.41
EVCE: 400.21
CB-127
STA: 13+97 / WATER NEST DRIVE
PI STA: 14+53.26 WATER NEST DRIVE
PI STA: 15+38.41 TREE MOSS COURT
CL ELEV: 402.42
4.02%
2.00%
EXISTING GRADE
3' MIN COVER
8"x8" CROSS W/
(4) 8" GATE VALVES
CONTRACTOR TO REMOVE EXISTING CAP
AND EXTEND 8" DIP WATER MAIN
PRESUMED DEPTH OF STUB PER CORPUD STANDARD
CONTRACTOR TO FIELD VERIFY CONDITIONS
18" MIN
18" MIN
HYDRANT
PROPOSED 8" DIP WATER LINE
62 LF OF
18" RCP @ 1.00%
80 LF OF
24" RCP @ 0.56%
83 LF OF
30" RCP @ 0.50%
92 LF OF
30" RCP @ 0.61%
85 LF OF
10" DI @ 1.52%
277 LF OF
10" SDR 35 @ 0.31%
24" MIN
STA. 12+07.93
STORM CROSSING
FL = 390.61
CONCRETE ENCASEMENT
6" MIN
ROUTE WATER LINE UNDER STORM DRAIN
USING FOUR 45° VERTICAL BENDS. MAINTAIN
18" SEPARATION (TYP)
8"X8" TEE
8" GATE VALVE
8"x6" TEE FOR
HYDRANT
CONNECTION
EX SMH-40413 4' DIA
STA: 11+00 / WATER NEST DRIVE
RIM ELEV = 397.39
INV IN 385.84
INV IN 386.01
INV OUT 385.84
EX SMH-20596 4' DIA
STA: 13+74 / WATER NEST DRIVE
RIM ELEV = 399.48
INV IN 387.09
INV OUT 386.86
398.82
398.82
395.27
395.27
394.85
394.85
394.40
394.40
392.17
392.17
391.62
391.62
392.63
392.63
394.10
394.10
395.99
395.99
398.46
398.46
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50

\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-0 ROAD PLAN AND PROFILE.dwg   Layout: C6-5 STREET E PLAN AND PROFILE   Plotted: 12/1/2023 12:34:45 PM

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
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WATER NEST DR PLAN AND PROFILE

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 11/21/2023

C6-5

811
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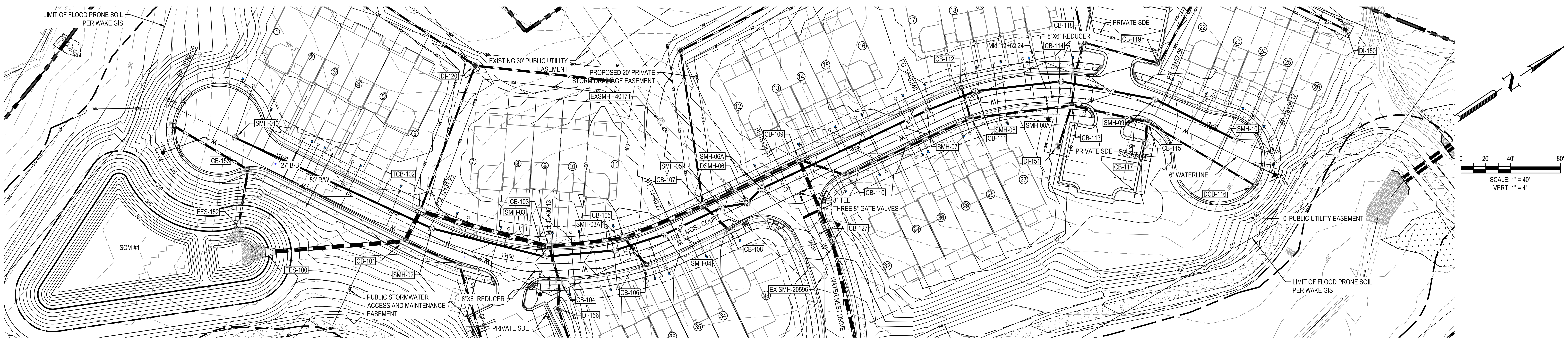
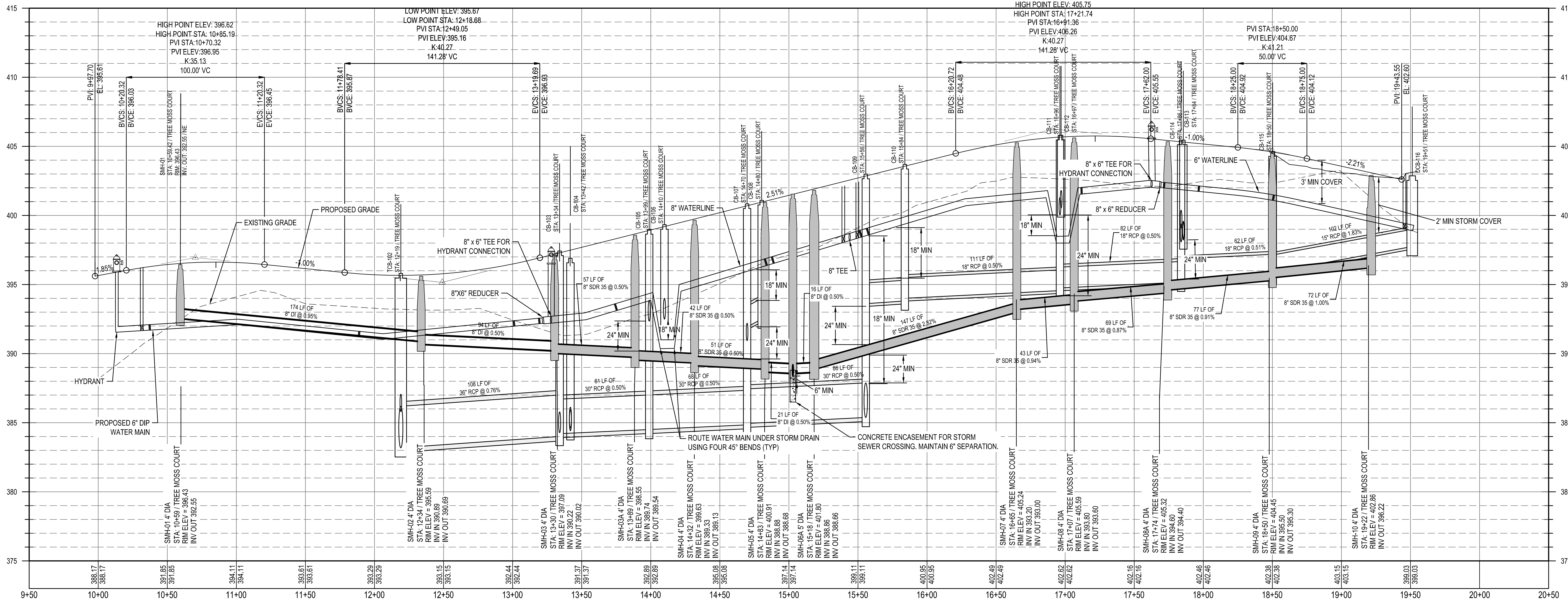

LIMIT OF FLOOD PRONE SOIL PER WAKE GIS
EXISTING 30' PUBLIC UTILITY EASEMENT
PROPOSED 20' PRIVATE STORM DRAINAGE EASEMENT
EXSMH - 40171
SMH-01
CB-153
27' B-B
50' R/W
TCB-102
DI-120
FES-152
SCM #1
FES-100
CB-101
SMH-02
PUBLIC STORMWATER ACCESS AND MAINTENANCE EASEMENT
8"X6" REDUCER
PRIVATE SDE
CB-103
SMH-03
SMH-03A
CB-105
CB-104
DI-156
CB-106
CB-107
SMH-05
SMH-06A
DSMH-06
SMH-04
TREE MOSS COURT
CB-108
EX SMH-20596
WATER NEST DRIVE
CB-109
8" TEE
THREE 8" GATE VALVES
CB-110
CB-127
SMH-07
CB-111
SMH-08
SMH-08A
CB-112
CB-113
CB-114
CB-118
8"X6" REDUCER
CB-119
PRIVATE SDE
DI-151
CB-117
CB-115
SMH-09
SMH-10
DI-150
6" WATERLINE
DCB-116
10' PUBLIC UTILITY EASEMENT
LIMIT OF FLOOD PRONE SOIL PER WAKE GIS
Mid: 17+62.24
N
0 20' 40' 80'
SCALE: 1" = 40'
VERT: 1" = 4'

TREE MOSS COURT
STA: 9+50.00 TO STA:20+50.00


415
410
405
400
395
390
385
380
375
HIGH POINT ELEV: 396.62
HIGH POINT STA: 10+85.19
PVI STA:10+70.32
PVI ELEV:396.95
K:35.13
100.00' VC
LOW POINT ELEV: 395.67
LOW POINT STA: 12+18.68
PVI STA:12+49.05
PVI ELEV:395.16
K:40.27
141.28' VC
HIGH POINT ELEV: 405.75
HIGH POINT STA: 17+21.74
PVI STA:16+91.36
PVI ELEV:406.26
K:40.27
141.28' VC
PVI STA:18+50.00
PVI ELEV:404.67
K:41.21
50.00' VC
PVI: 9+97.70 EL: 395.61
BVCS: 10+20.32 BVCE: 396.03
EVCS: 11+20.32 EVCE: 396.45
BVCS: 11+78.41 BVCE: 395.87
EVCS: 13+19.69 EVCE: 396.93
BVCS: 16+20.72 BVCE: 404.48
EVCS: 17+62.00 EVCE: 405.55
BVCS: 18+25.00 BVCE: 404.92
EVCS: 18+75.00 EVCE: 404.12
PVI: 19+43.55 EL: 402.60
1.85%
-1.00%
2.51%
-1.00%
-2.21%
PROPOSED GRADE
EXISTING GRADE
8" x 6" TEE FOR HYDRANT CONNECTION
8"X6" REDUCER
8" WATERLINE
6" WATERLINE
8" x 6" REDUCER
8" TEE
3' MIN COVER
2' MIN STORM COVER
18" MIN
24" MIN
6" MIN
HYDRANT
PROPOSED 6" DIP WATER MAIN
ROUTE WATER MAIN UNDER STORM DRAIN USING FOUR 45° BENDS (TYP)
CONCRETE ENCASEMENT FOR STORM SEWER CROSSING. MAINTAIN 6" SEPARATION.
174 LF OF 8" DI @ 0.95%
94 LF OF 8" DI @ 0.50%
108 LF OF 36" RCP @ 0.76%
57 LF OF 8" SDR 35 @ 0.50%
61 LF OF 30" RCP @ 0.50%
42 LF OF 8" SDR 35 @ 0.50%
51 LF OF 8" SDR 35 @ 0.50%
66 LF OF 30" RCP @ 0.50%
16 LF OF 8" DI @ 0.50%
21 LF OF 8" DI @ 0.50%
86 LF OF 30" RCP @ 0.50%
147 LF OF 8" SDR 35 @ 2.82%
111 LF OF 18" RCP @ 0.50%
43 LF OF 8" SDR 35 @ 0.94%
69 LF OF 8" SDR 35 @ 0.87%
82 LF OF 18" RCP @ 0.50%
77 LF OF 8" SDR 35 @ 0.91%
62 LF OF 18" RCP @ 0.51%
72 LF OF 8" SDR 35 @ 1.00%
102 LF OF 15" RCP @ 1.83%
SMH-01 4' DIA STA: 10+59 / TREE MOSS COURT RIM ELEV = 396.43 INV OUT 392.55
SMH-02 4' DIA STA: 12+34 / TREE MOSS COURT RIM ELEV = 395.59 INV IN 390.89 INV OUT 390.69
SMH-03 4' DIA STA: 13+30 / TREE MOSS COURT RIM ELEV = 397.09 INV IN 390.22 INV OUT 390.02
SMH-03A 4' DIA STA: 13+89 / TREE MOSS COURT RIM ELEV = 398.55 INV IN 389.74 INV OUT 389.54
SMH-04 4' DIA STA: 14+32 / TREE MOSS COURT RIM ELEV = 399.63 INV IN 389.33 INV OUT 389.13
SMH-05 4' DIA STA: 14+83 / TREE MOSS COURT RIM ELEV = 400.91 INV IN 388.88 INV OUT 388.68
SMH-06A 5' DIA STA: 15+18 / TREE MOSS COURT RIM ELEV = 401.80 INV IN 388.86 INV OUT 388.66
SMH-07 4' DIA STA: 16+65 / TREE MOSS COURT RIM ELEV = 405.24 INV IN 393.20 INV OUT 393.00
SMH-08 4' DIA STA: 17+07 / TREE MOSS COURT RIM ELEV = 405.59 INV IN 393.80 INV OUT 393.60
SMH-08A 4' DIA STA: 17+74 / TREE MOSS COURT RIM ELEV = 405.32 INV IN 394.60 INV OUT 394.40
SMH-09 4' DIA STA: 18+50 / TREE MOSS COURT RIM ELEV = 404.45 INV IN 395.50 INV OUT 395.30
SMH-10 4' DIA STA: 19+42 / TREE MOSS COURT RIM ELEV = 402.86 INV OUT 396.22
388.17
391.85
394.11
393.61
393.29
393.15
392.44
391.37
392.89
395.08
397.14
399.11
400.95
402.49
402.62
402.16
402.46
402.38
403.15
399.03
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50
16+00
16+50
17+00
17+50
18+00
18+50
19+00
19+50
20+00
20+50

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
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TREE MOSS CT PLAN AND PROFILE

DEBRA M. FERM
PRELIMINARY
12-01-23

NOT FOR CONSTRUCTION

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DATE: 11/21/2023

C6-6

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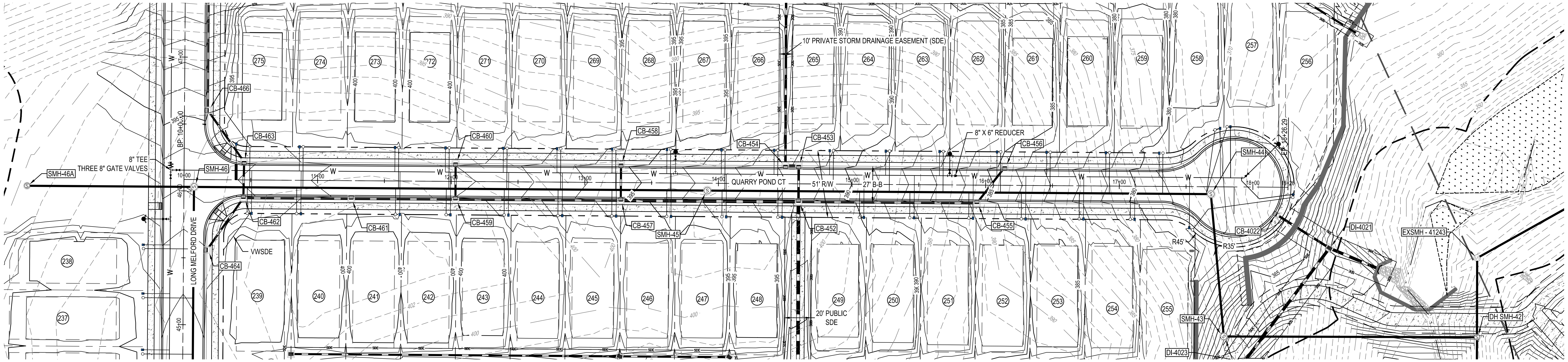
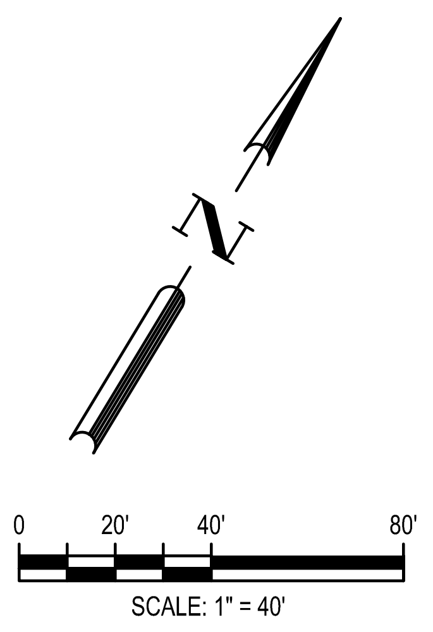
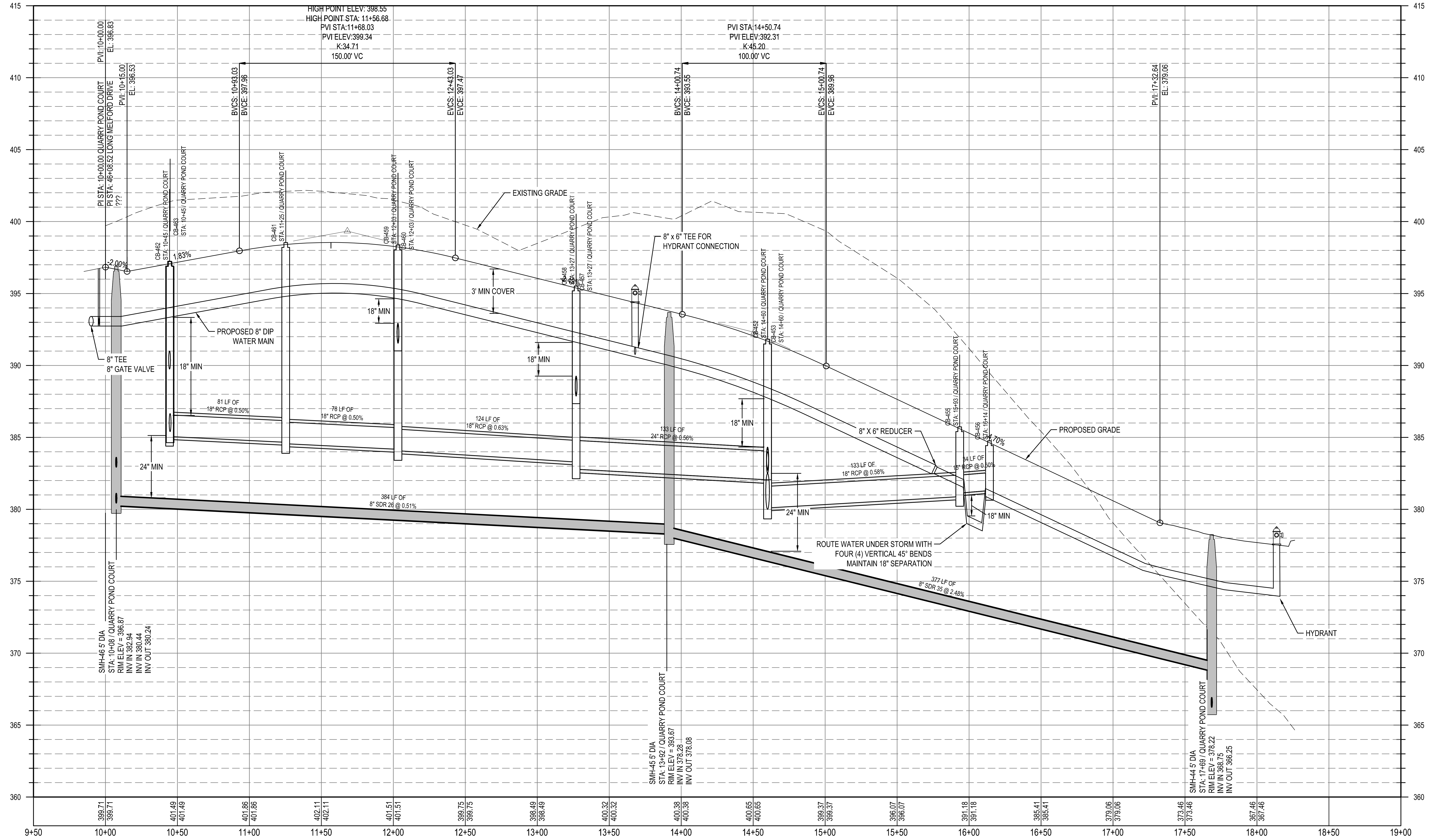

10' PRIVATE STORM DRAINAGE EASEMENT (SDE)
275
274
273
272
271
270
269
268
267
266
265
264
263
262
261
260
259
258
257
256
CB-466
CB-463
CB-460
CB-458
CB-454
CB-453
8" X 6" REDUCER
CB-456
SMH-44
8" TEE
THREE 8" GATE VALVES
SMH-46A
SMH-46
BP: 10+00.00
QUARRY POND CT
51' R/W
27' B-B
W
CB-462
CB-461
CB-459
CB-457
SMH-45
CB-452
CB-455
CB-4022
DI-4021
EXSMH - 41243
R45'
R35'
LONG MELFORD DRIVE
VWSDE
CB-464
238
237
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
20' PUBLIC SDE
SMH-43
DH SMH-42
DI-4023



SCALE: 1" = 40'

QUARRY POND COURT
STA: 9+50.00 TO STA:19+00.00


HIGH POINT ELEV: 398.55
HIGH POINT STA: 11+56.68
PVI STA:11+68.03
PVI ELEV:399.34
K:34.71
150.00' VC
PVI STA:14+50.74
PVI ELEV:392.31
K:45.20
100.00' VC
PVI: 10+00.00 EL: 396.83
PI STA: 10+00.00 QUARRY POND COURT
PI STA: 46+08.52 LONG MELFORD DRIVE
???
PVI: 10+15.00 EL: 396.53
BVCS: 10+93.03 BVCE: 397.96
EVCS: 12+43.03 EVCE: 397.47
BVCS: 14+00.74 BVCE: 393.55
EVCS: 15+00.74 EVCE: 389.96
PVI: 17+32.64 EL: 379.06
CB-462 STA: 10+45 / QUARRY POND COURT
CB-463 STA: 10+45 / QUARRY POND COURT
CB-461 STA: 11+25 / QUARRY POND COURT
CB-459 STA: 12+03 / QUARRY POND COURT
CB-460 STA: 12+03 / QUARRY POND COURT
CB-458 STA: 13+27 / QUARRY POND COURT
CB-457 STA: 13+27 / QUARRY POND COURT
CB-452 STA: 14+60 / QUARRY POND COURT
CB-453 STA: 14+60 / QUARRY POND COURT
CB-455 STA: 15+93 / QUARRY POND COURT
CB-456 STA: 16+14 / QUARRY POND COURT
EXISTING GRADE
PROPOSED GRADE
-2.00%
1.83%
-4.70%
3' MIN COVER
18" MIN
24" MIN
PROPOSED 8" DIP WATER MAIN
8" TEE
8" GATE VALVE
8" x 6" TEE FOR HYDRANT CONNECTION
8" X 6" REDUCER
ROUTE WATER UNDER STORM WITH FOUR (4) VERTICAL 45° BENDS MAINTAIN 18" SEPARATION
HYDRANT
81 LF OF 18" RCP @ 0.50%
78 LF OF 18" RCP @ 0.50%
124 LF OF 18" RCP @ 0.63%
133 LF OF 24" RCP @ 0.56%
133 LF OF 18" RCP @ 0.58%
34 LF OF 15" RCP @ 0.50%
384 LF OF 8" SDR 26 @ 0.51%
377 LF OF 8" SDR 35 @ 2.48%
SMH-46 5' DIA
STA: 10+08 / QUARRY POND COURT
RIM ELEV = 396.87
INV IN 382.94
INV IN 380.44
INV OUT 380.24
SMH-45 5' DIA
STA: 13+92 / QUARRY POND COURT
RIM ELEV = 393.67
INV IN 378.28
INV OUT 378.08
SMH-44 5' DIA
STA: 17+69 / QUARRY POND COURT
RIM ELEV = 378.22
INV IN 368.75
INV OUT 366.25
415
410
405
400
395
390
385
380
375
370
365
360
399.71
401.49
401.86
402.11
401.51
399.75
398.49
400.32
400.38
400.65
399.37
396.07
391.18
385.41
379.06
373.46
367.46
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50
16+00
16+50
17+00
17+50
18+00
18+50
19+00

Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
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2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
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DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
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ROLESVILLE / NORTH CAROLINA / 27571

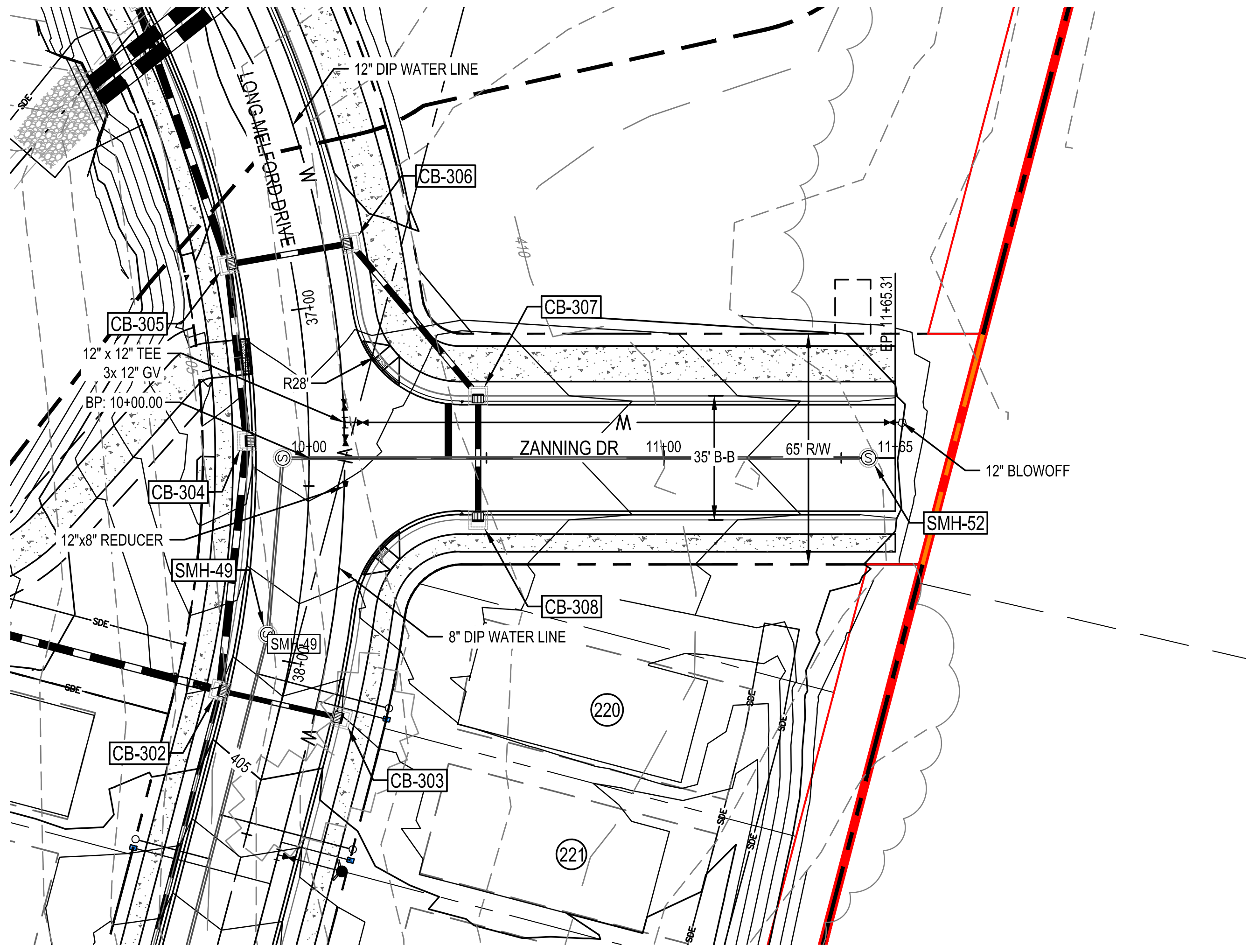
QUARRY POND CT PLAN AND PROFILE

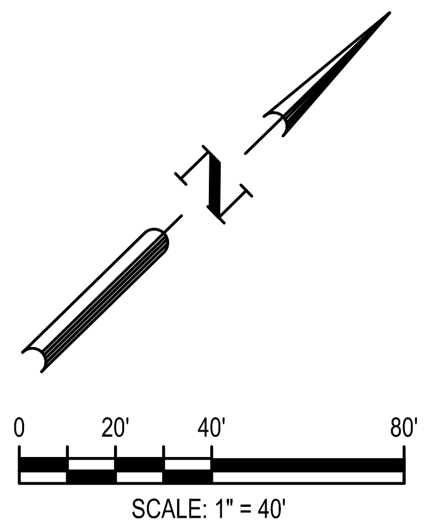
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023

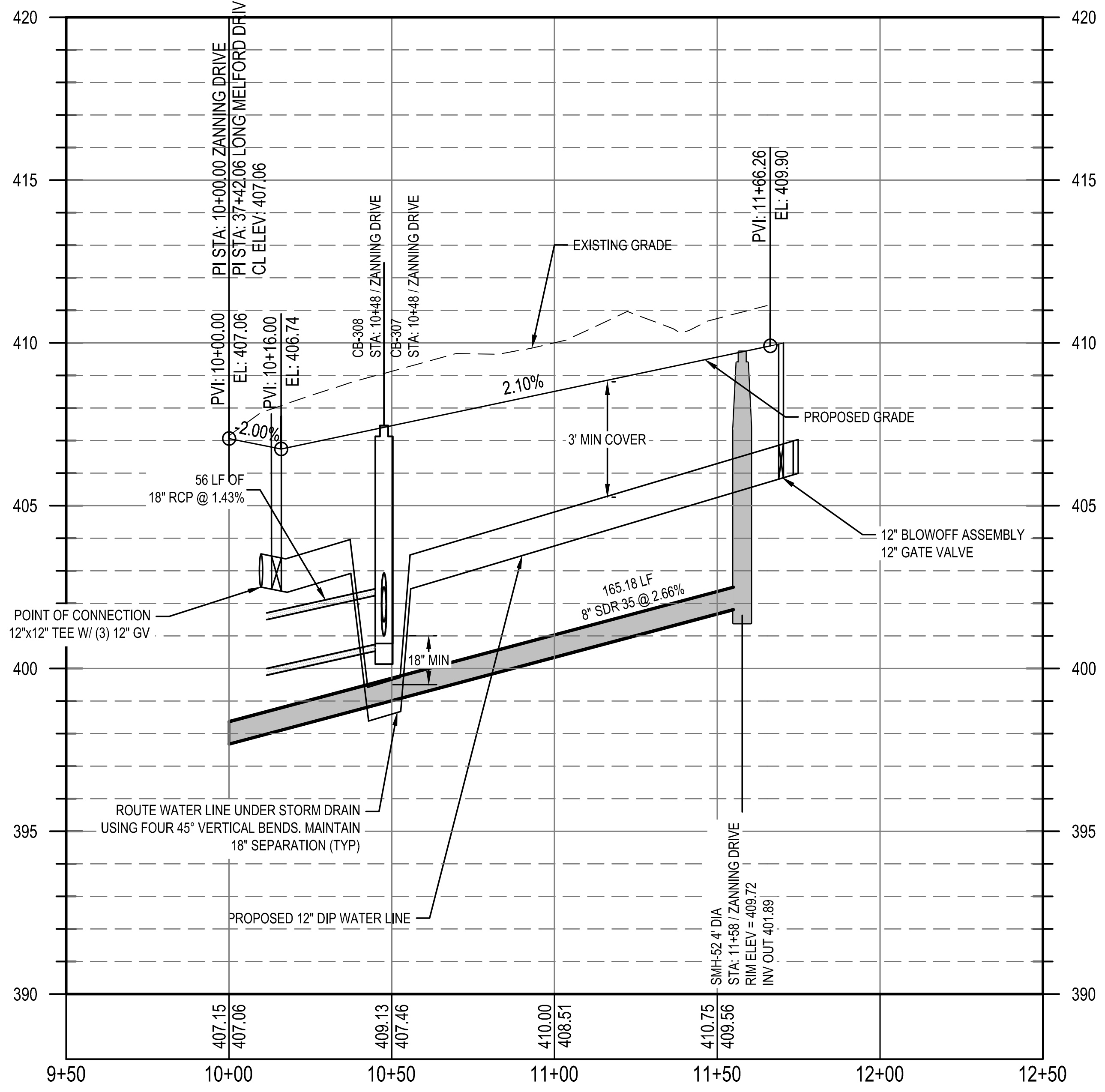
C6-7

\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-0 ROAD PLAN AND PROFILE.dwg Layout: C6-8 STREET H PLAN AND PROFILE Plotted: 12/1/2023 1:03:30 PM


12" DIP WATER LINE
LONG MELFORD DRIVE
CB-306
CB-305
12" x 12" TEE
3x 12" GV
BP: 10+00.00
37+00
R28'
CB-307
EP 11+65.31
410
10+00
ZANNING DR
11+00
35' B-B
65' R/W
11+65
12" BLOWOFF
CB-304
12"x8" REDUCER
SMH-52
SMH-49
CB-308
8" DIP WATER LINE
SMH-49
38+00
220
CB-302
405
CB-303
221
SDE


N
0
20'
40'
80'
SCALE: 1" = 40'

ZANNING DRIVE
STA: 9+50.00 TO STA:12+50.00


420
415
410
405
400
395
390
PI STA: 10+00.00 ZANNING DRIVE
PI STA: 37+42.06 LONG MELFORD DRIVE
CL ELEV: 407.06
PVI: 10+00.00
EL: 407.06
PVI: 10+16.00
EL: 406.74
CB-308
STA: 10+48 / ZANNING DRIVE
CB-307
STA: 10+48 / ZANNING DRIVE
EXISTING GRADE
PVI: 11+66.26
EL: 409.90
-2.00%
2.10%
3' MIN COVER
PROPOSED GRADE
56 LF OF
18" RCP @ 1.43%
12" BLOWOFF ASSEMBLY
12" GATE VALVE
POINT OF CONNECTION
12"x12" TEE W/ (3) 12" GV
165.18 LF
8" SDR 35 @ 2.66%
18" MIN
ROUTE WATER LINE UNDER STORM DRAIN
USING FOUR 45° VERTICAL BENDS. MAINTAIN
18" SEPARATION (TYP)
PROPOSED 12" DIP WATER LINE
SMH-52 4' DIA
STA: 11+58 / ZANNING DRIVE
RIM ELEV = 409.72
INV OUT 401.89
407.15
407.06
409.13
407.46
410.00
408.51
410.75
409.56
9+50
10+00
10+50
11+00
11+50
12+00
12+50

Know what's below.
Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
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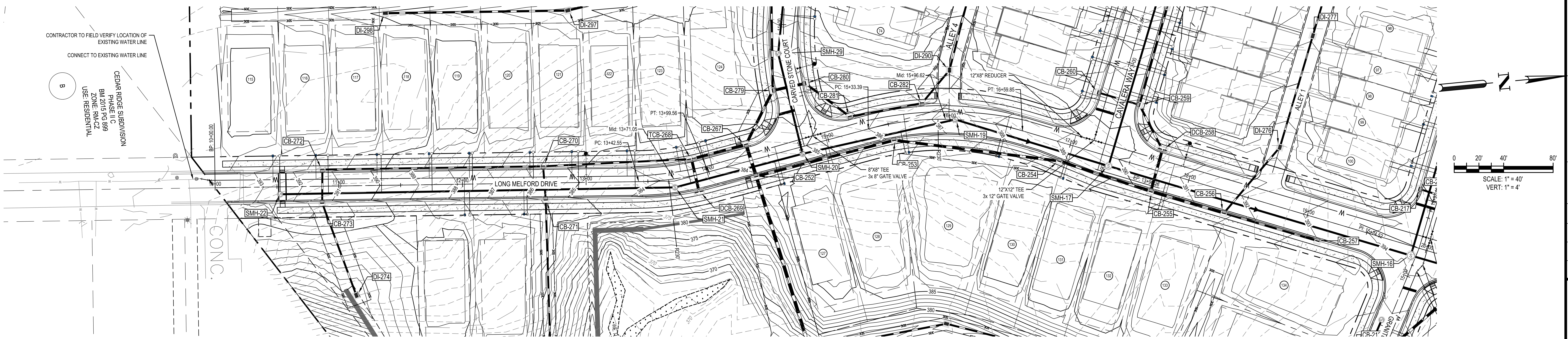
ROLESVILLE / NORTH CAROLINA / 27571

ZANNING DR PLAN AND PROFILE

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

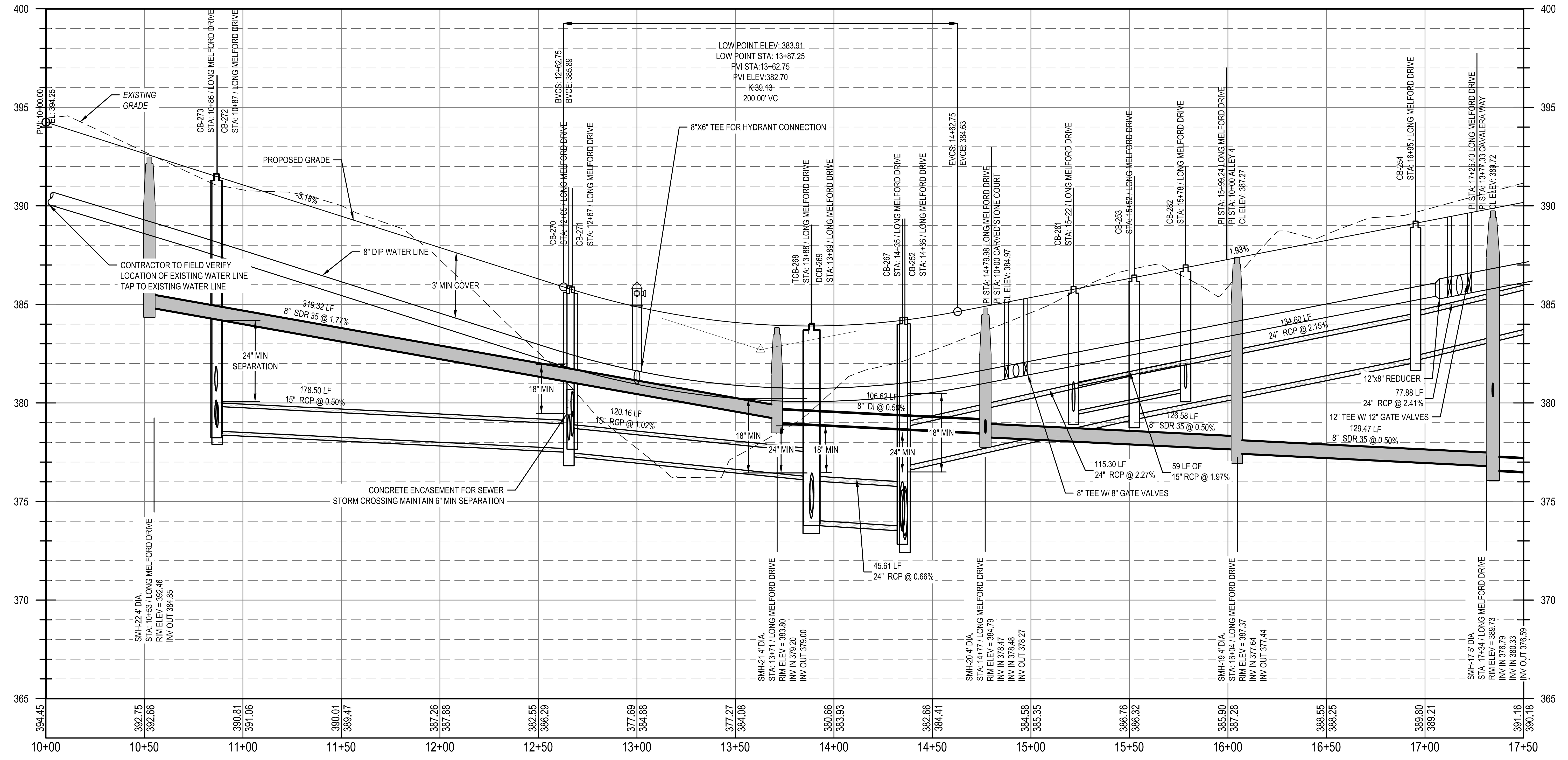
FILE NUMBER:
8430-03
DATE: 11/21/2023

C6-8


CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING WATER LINE
CONNECT TO EXISTING WATER LINE
B
CEDAR RIDGE SUBDIVISION
PHASE I C
BM 2015 PG 699
ZONE: RM-CZ
USE: RESIDENTIAL
DI-298
DI-297
CB-272
CB-273
SMH-22
CB-270
CB-271
DI-274
TCB-268
CB-267
CB-279
SMH-29
CB-280
CB-281
CB-282
DI-290
SMH-20
SMH-21
DCB-269
CB-252
CB-253
SMH-19
CB-254
SMH-17
CB-255
CB-256
CB-257
CB-259
CB-260
DCB-258
DI-276
DI-277
SMH-16
CB-217
LONG MELFORD DRIVE
CARVED STONE COURT
ALLEY 4
CAVALERA WAY
ALLEY 1
PT: 13+99.56
Mid: 13+71.05
PC: 13+42.55
PC: 15+33.39
Mid: 15+96.62
PT: 16+59.85
8"X8" TEE
3x 8" GATE VALVE
12"X8" REDUCER
12"X12" TEE
3x 12" GATE VALVE
CONC.
N

0 20' 40' 80'
SCALE: 1" = 40'
VERT: 1" = 4'

LONG MELFORD DRIVE
STA: 10+00.00 TO STA:17+50.00


400
395
390
385
380
375
370
365
PVI: 10+00.00
EL: 394.25
EXISTING GRADE
PROPOSED GRADE
-3.18%
CB-273 STA: 10+86 / LONG MELFORD DRIVE
CB-272 STA: 10+87 / LONG MELFORD DRIVE
8" DIP WATER LINE
CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING WATER LINE TAP TO EXISTING WATER LINE
3' MIN COVER
319.32 LF
8" SDR 35 @ 1.77%
24" MIN SEPARATION
178.50 LF
15" RCP @ 0.50%
BVCS: 12+62.75
BVCE: 385.89
CB-270 STA: 12+65 / LONG MELFORD DRIVE
CB-271 STA: 12+67 / LONG MELFORD DRIVE
18" MIN
120.16 LF
15" RCP @ 1.02%
CONCRETE ENCASEMENT FOR SEWER STORM CROSSING MAINTAIN 6" MIN SEPARATION
LOW POINT ELEV: 383.91
LOW POINT STA: 13+87.25
PVI STA:13+62.75
PVI ELEV:382.70
K:39.13
200.00' VC
8"X6" TEE FOR HYDRANT CONNECTION
TCB-268 STA: 13+88 / LONG MELFORD DRIVE
DCB-269 STA: 13+89 / LONG MELFORD DRIVE
CB-267 STA: 14+35 / LONG MELFORD DRIVE
CB-252 STA: 14+36 / LONG MELFORD DRIVE
106.62 LF
8" DI @ 0.50%
18" MIN
24" MIN
18" MIN
24" MIN
18" MIN
45.61 LF
24" RCP @ 0.66%
EVCS: 14+62.75
EVCE: 384.63
PI STA: 14+79.98 LONG MELFORD DRIVE
PI STA: 10+00 CARVED STONE COURT
CL ELEV: 384.97
CB-281 STA: 15+22 / LONG MELFORD DRIVE
CB-253 STA: 15+52 / LONG MELFORD DRIVE
CB-282 STA: 15+78 / LONG MELFORD DRIVE
PI STA: 15+99.24 LONG MELFORD DRIVE
PI STA: 10+00 ALLEY 4
CL ELEV: 387.27
1.93%
115.30 LF
24" RCP @ 2.27%
59 LF OF
15" RCP @ 1.97%
126.58 LF
8" SDR 35 @ 0.50%
8" TEE W/ 8" GATE VALVES
134.60 LF
24" RCP @ 2.15%
CB-254 STA: 16+95 / LONG MELFORD DRIVE
PI STA: 17+26.40 LONG MELFORD DRIVE
PI STA: 13+77.33 CAVALERA WAY
CL ELEV: 389.72
12"x8" REDUCER
77.88 LF
24" RCP @ 2.41%
12" TEE W/ 12" GATE VALVES
129.47 LF
8" SDR 35 @ 0.50%
SMH-22 4' DIA. STA: 10+53 / LONG MELFORD DRIVE RIM ELEV = 392.46 INV OUT 384.85
SMH-21 4' DIA. STA: 13+71 / LONG MELFORD DRIVE RIM ELEV = 383.80 INV IN 379.20 INV OUT 379.00
SMH-20 4' DIA. STA: 14+77 / LONG MELFORD DRIVE RIM ELEV = 384.79 INV IN 378.47 INV IN 378.48 INV OUT 378.27
SMH-19 4' DIA. STA: 16+04 / LONG MELFORD DRIVE RIM ELEV = 387.37 INV IN 377.64 INV OUT 377.44
SMH-17 5' DIA. STA: 17+34 / LONG MELFORD DRIVE RIM ELEV = 389.73 INV IN 376.79 INV IN 380.33 INV OUT 376.59
394.45
392.75 392.66
390.81 391.06
390.01 389.47
387.26 387.88
382.55 386.29
377.69 384.88
377.27 384.08
380.66 383.93
382.66 384.41
384.58 385.35
386.76 386.32
385.90 387.28
388.55 388.25
389.80 389.21
391.16 390.18
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50
16+00
16+50
17+00
17+50

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-9 LONG MELFORD DRIVE PLAN AND PROFILE.dwg Layout: C6-9 LONG MELFORD DRIVE PLAN AND PROFILE (1 OF 5) Plotted: 12/1/2023 12:25:41 PM

Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

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DRAWN BY: DF/JWM
REVIEWED BY: DF

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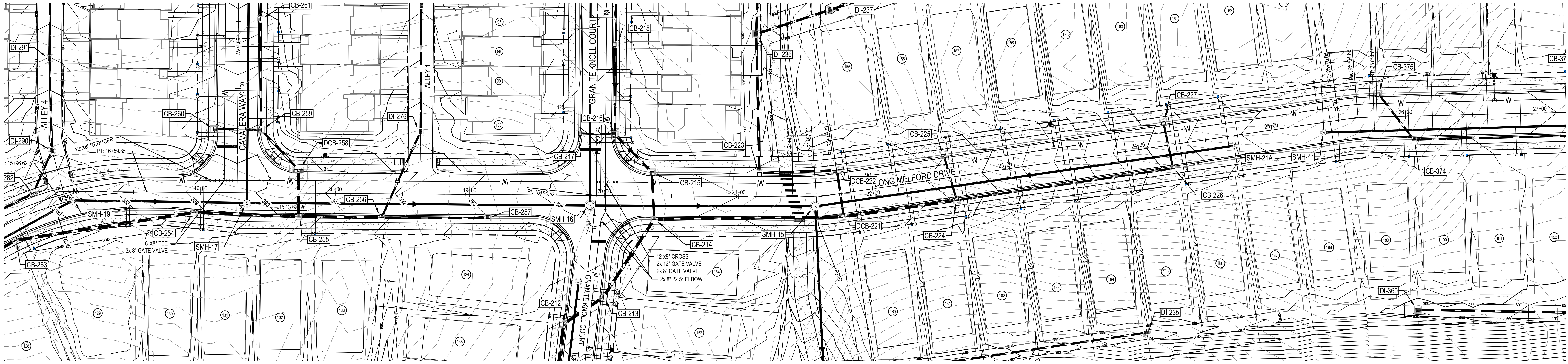
LONG MELFORD DRIVE PLAN AND PROFILE (1 OF 5)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C6-9


DI-291
DI-290
282
15+96.62
ALLEY 4
12"X8" REDUCER
PT: 16+59.85
CB-260
CAVALERA WAY
3+00
60' R/W
CB-261
CB-259
DCB-258
DI-276
ALLEY 1
CB-216
CB-217
GRANITE KNOLL COURT
15+97.40
CB-218
DI-236
CB-223
PC: 21+40.02
Mid: 21+57.71
PT: 21+75.39
DI-237
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
27+00
387
388
389
390
391
392
393
394
SMH-19
EP: 13+96.26
CB-256
CB-257
PI: 15+24.52
SMH-16
CB-215
CB-254
8"X8" TEE
3x 8" GATE VALVE
SMH-17
CB-255
CB-253
R230'
15+00
SMH-15
CB-214
12"x8" CROSS
2x 12" GATE VALVE
2x 8" GATE VALVE
2x 8" 22.5° ELBOW
CB-212
CB-213
GRANITE KNOLL COURT
CB-225
DCB-222
LONG MELFORD DRIVE
DCB-221
CB-224
CB-227
CB-226
SMH-21A
SMH-41
PC: 25+50.58
Mid: 25+64.68
PT: 25+78.77
CB-375
CB-374
CB-37
DI-235
DI-360
W
SDE
97
98
99
100
128
129
130
131
132
133
134
135
153
154
155
156
157
158
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188
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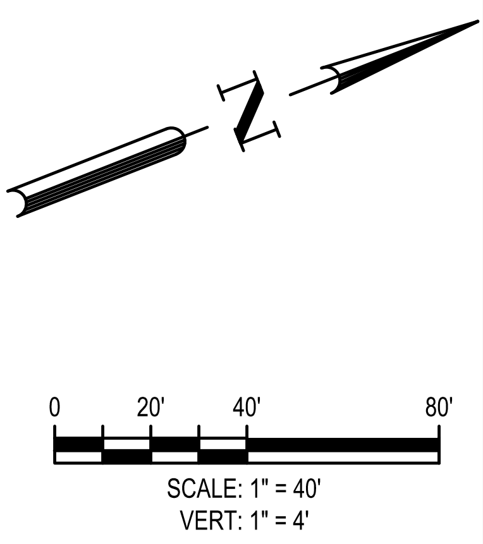
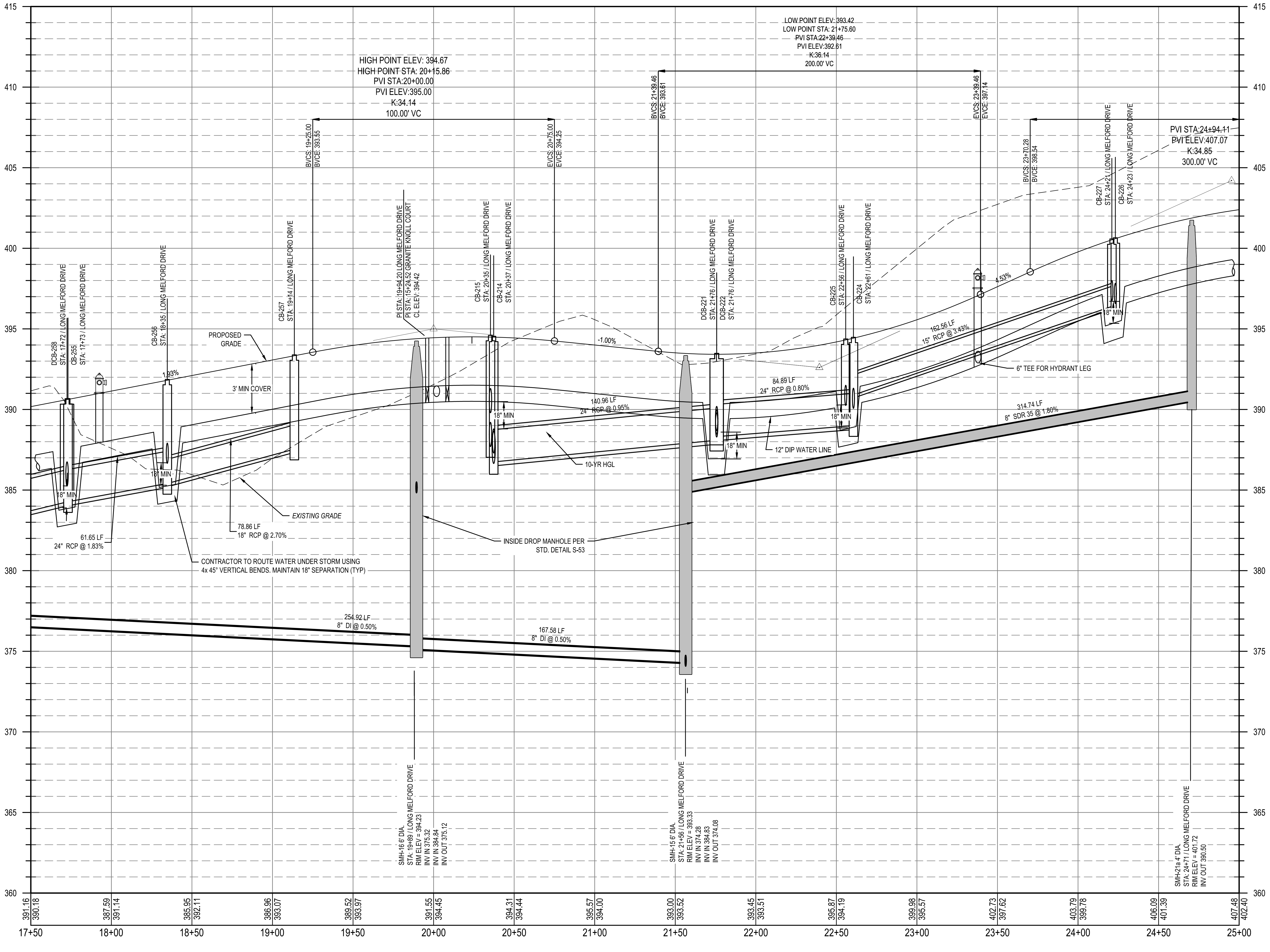
190
191
192


N
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'

LONG MELFORD DRIVE
STA: 17+50.00 TO STA:25+00.00


415
410
405
400
395
390
385
380
375
370
365
360
HIGH POINT ELEV: 394.67
HIGH POINT STA: 20+15.86
PVI STA:20+00.00
PVI ELEV:395.00
K:34.14
100.00' VC
BVCS: 19+25.00
BVCE: 393.55
EVCS: 20+75.00
EVCE: 394.25
LOW POINT ELEV: 393.42
LOW POINT STA: 21+75.60
PVI STA:22+39.46
PVI ELEV:392.61
K:36.14
200.00' VC
BVCS: 21+39.46
BVCE: 393.61
EVCS: 23+39.46
EVCE: 397.14
BVCS: 23+70.28
BVCE: 398.54
PVI STA:24+94.11
PVI ELEV:407.07
K:34.85
300.00' VC
DCB-258
STA: 17+72 / LONG MELFORD DRIVE
CB-255
STA: 17+73 / LONG MELFORD DRIVE
CB-256
STA: 18+35 / LONG MELFORD DRIVE
CB-257
STA: 19+14 / LONG MELFORD DRIVE
PI STA: 19+94.20 LONG MELFORD DRIVE
PI STA: 15+24.52 GRANITE KNOLL COURT
CL ELEV: 394.42
CB-215
STA: 20+35 / LONG MELFORD DRIVE
CB-214
STA: 20+37 / LONG MELFORD DRIVE
DCB-221
STA: 21+76 / LONG MELFORD DRIVE
DCB-222
STA: 21+76 / LONG MELFORD DRIVE
CB-225
STA: 22+56 / LONG MELFORD DRIVE
CB-224
STA: 22+61 / LONG MELFORD DRIVE
CB-227
STA: 24+21 / LONG MELFORD DRIVE
CB-226
STA: 24+23 / LONG MELFORD DRIVE
PROPOSED GRADE
1.93%
-1.00%
4.53%
3' MIN COVER
18" MIN
140.96 LF
24" RCP @ 0.95%
84.89 LF
24" RCP @ 0.80%
162.56 LF
15" RCP @ 3.43%
6" TEE FOR HYDRANT LEG
314.74 LF
8" SDR 35 @ 1.80%
12" DIP WATER LINE
10-YR HGL
EXISTING GRADE
61.65 LF
24" RCP @ 1.83%
78.86 LF
18" RCP @ 2.70%
CONTRACTOR TO ROUTE WATER UNDER STORM USING
4x 45° VERTICAL BENDS. MAINTAIN 18" SEPARATION (TYP)
INSIDE DROP MANHOLE PER
STD. DETAIL S-53
254.92 LF
8" DI @ 0.50%
167.58 LF
8" DI @ 0.50%
SMH-16 6' DIA.
STA: 19+89 / LONG MELFORD DRIVE
RIM ELEV = 394.23
INV IN 375.32
INV IN 384.84
INV OUT 375.12
SMH-15 6' DIA.
STA: 21+56 / LONG MELFORD DRIVE
RIM ELEV = 393.33
INV IN 374.28
INV IN 384.83
INV OUT 374.08
SMH-21a 4' DIA.
STA: 24+71 / LONG MELFORD DRIVE
RIM ELEV = 401.72
INV OUT 390.50
391.16
390.18
387.59
391.14
385.95
392.11
386.96
393.07
389.52
393.97
391.55
394.45
394.31
394.44
395.57
394.00
393.00
393.52
393.45
393.51
395.87
394.19
399.98
395.57
402.73
397.62
403.79
399.78
406.09
401.39
407.48
402.40
17+50
18+00
18+50
19+00
19+50
20+00
20+50
21+00
21+50
22+00
22+50
23+00
23+50
24+00
24+50
25+00

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-9 LONG MELFORD DRIVE PLAN AND PROFILE.dwg   Layout: C6-10 LONG MELFORD DRIVE PLAN AND PROFILE (2 OF 5)   Plotted: 12/1/2023 12:25:47 PM

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

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LONG MELFORD DRIVE PLAN AND PROFILE (2 OF 5)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C6-10

811
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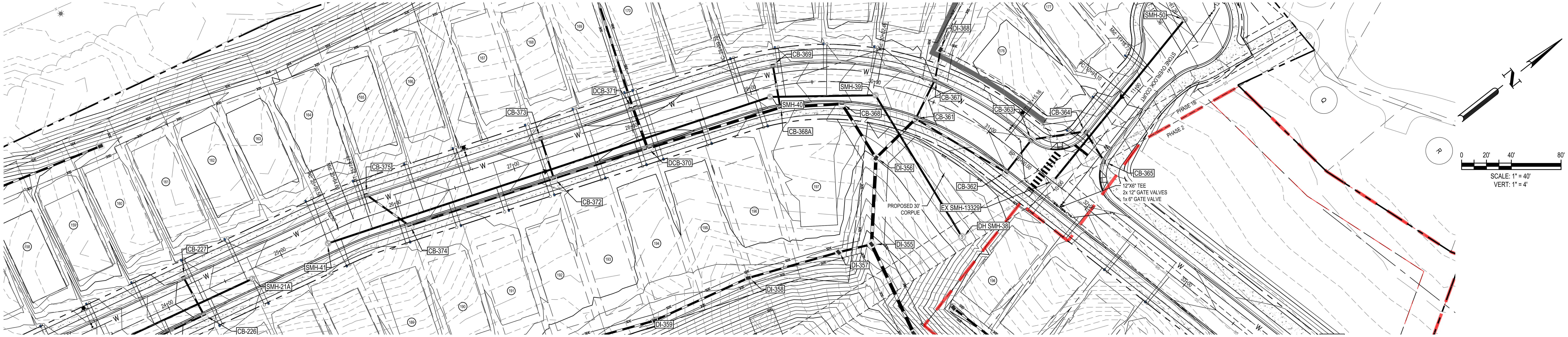
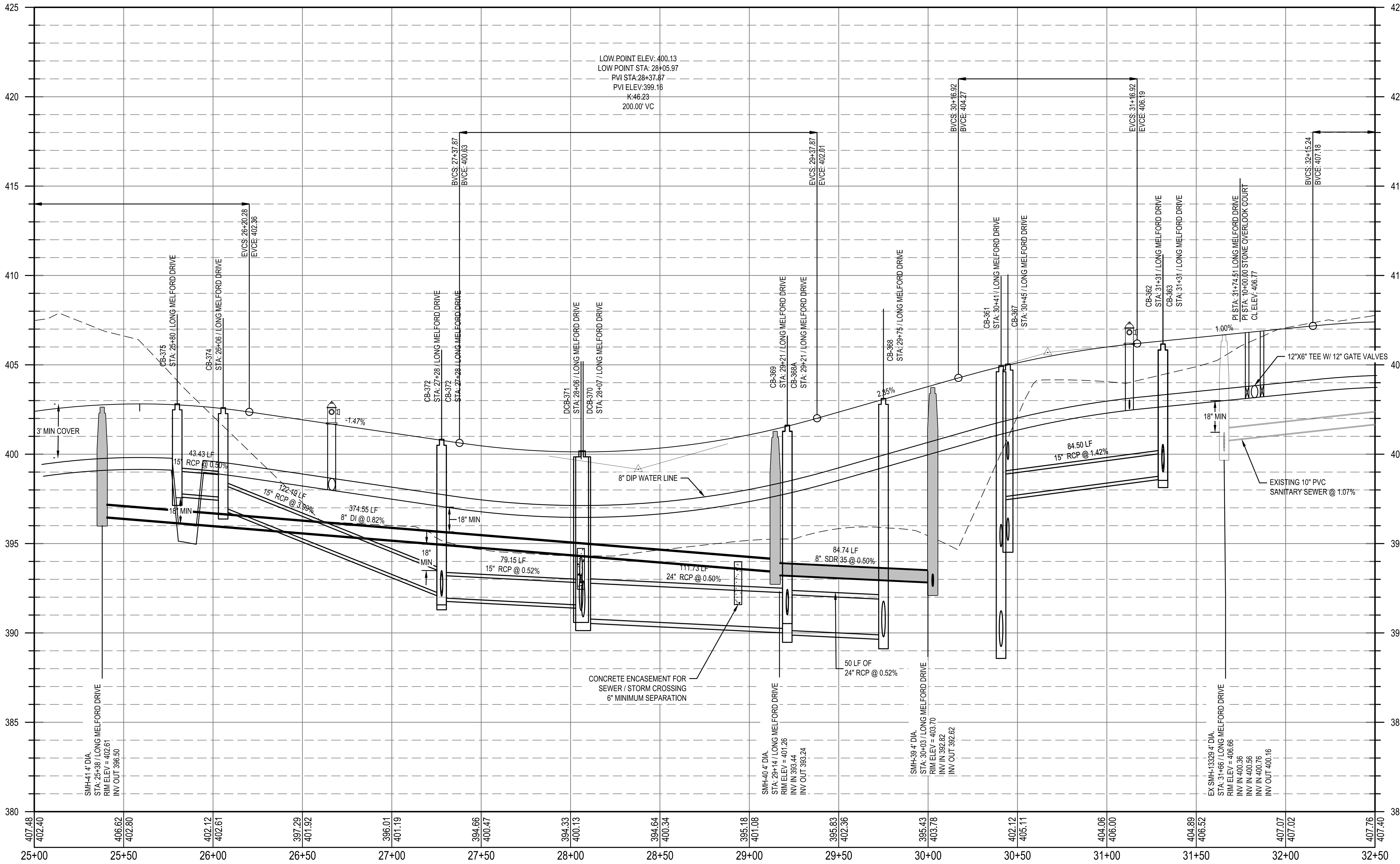

CB-369
DI-368
SMH-50
SMH-39
SMH-40
CB-367
CB-363
CB-364
CB-368
CB-361
CB-368A
DCB-371
CB-373
DCB-370
DI-356
CB-375
CB-372
CB-362
PROPOSED 30' CORPUE
EX SMH-13329
CB-365
12"X6" TEE
2x 12" GATE VALVES
1x 6" GATE VALVE
PHASE 1B
PHASE 2
DH SMH-38
CB-227
CB-374
DI-355
SMH-41
DI-357
SMH-21A
DI-358
CB-226
DI-359
W
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'

LONG MELFORD DRIVE
STA: 25+00.00 TO STA:32+50.00


425
420
415
410
405
400
395
390
385
380
LOW POINT ELEV: 400.13
LOW POINT STA: 28+05.97
PVI STA:28+37.87
PVI ELEV:399.16
K:46.23
200.00' VC
EVCS: 26+20.28
EVCE: 402.36
BVCS: 27+37.87
BVCE: 400.63
EVCS: 29+37.87
EVCE: 402.01
BVCS: 30+16.92
BVCE: 404.27
EVCS: 31+16.92
EVCE: 406.19
BVCS: 32+15.24
BVCE: 407.18
CB-375
STA: 25+80 / LONG MELFORD DRIVE
CB-374
STA: 26+06 / LONG MELFORD DRIVE
CB-372
STA: 27+28 / LONG MELFORD DRIVE
CB-372
STA: 27+28 / LONG MELFORD DRIVE
DCB-371
STA: 28+06 / LONG MELFORD DRIVE
DCB-370
STA: 28+07 / LONG MELFORD DRIVE
CB-369
STA: 29+21 / LONG MELFORD DRIVE
CB-368A
STA: 29+21 / LONG MELFORD DRIVE
CB-368
STA: 29+75 / LONG MELFORD DRIVE
CB-361
STA: 30+41 / LONG MELFORD DRIVE
CB-367
STA: 30+45 / LONG MELFORD DRIVE
CB-362
STA: 31+31 / LONG MELFORD DRIVE
CB-363
STA: 31+31 / LONG MELFORD DRIVE
PI STA: 31+74.51 LONG MELFORD DRIVE
PI STA: 10+00.00 STONE OVERLOOK COURT
CL ELEV: 406.77
3' MIN COVER
-1.47%
2.85%
1.00%
43.43 LF
15" RCP @ 0.50%
18" MIN
122.19 LF
15" RCP @ 3.99%
374.55 LF
8" DI @ 0.82%
18" MIN
18" MIN
79.15 LF
15" RCP @ 0.52%
111.73 LF
24" RCP @ 0.50%
8" DIP WATER LINE
84.74 LF
8" SDR 35 @ 0.50%
50 LF OF
24" RCP @ 0.52%
84.50 LF
15" RCP @ 1.42%
18" MIN
12"X6" TEE W/ 12" GATE VALVES
EXISTING 10" PVC
SANITARY SEWER @ 1.07%
CONCRETE ENCASEMENT FOR
SEWER / STORM CROSSING
6" MINIMUM SEPARATION
SMH-41 4' DIA.
STA: 25+38 / LONG MELFORD DRIVE
RIM ELEV = 402.61
INV OUT 396.50
SMH-40 4' DIA.
STA: 29+14 / LONG MELFORD DRIVE
RIM ELEV = 401.26
INV IN 393.44
INV OUT 393.24
SMH-39 4' DIA.
STA: 30+03 / LONG MELFORD DRIVE
RIM ELEV = 403.70
INV IN 392.82
INV OUT 392.62
EX SMH-13329 4' DIA.
STA: 31+66 / LONG MELFORD DRIVE
RIM ELEV = 406.66
INV IN 400.36
INV IN 400.56
INV IN 400.76
INV OUT 400.16
407.48
402.40
406.62
402.80
402.12
402.61
397.29
401.92
396.01
401.19
394.66
400.47
394.33
400.13
394.64
400.34
395.18
401.08
395.83
402.36
395.43
403.78
402.12
405.11
404.06
406.00
404.89
406.52
407.07
407.02
407.76
407.40
25+00
25+50
26+00
26+50
27+00
27+50
28+00
28+50
29+00
29+50
30+00
30+50
31+00
31+50
32+00
32+50

811

Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

LONG MELFORD DRIVE PLAN AND PROFILE (3 OF 5)

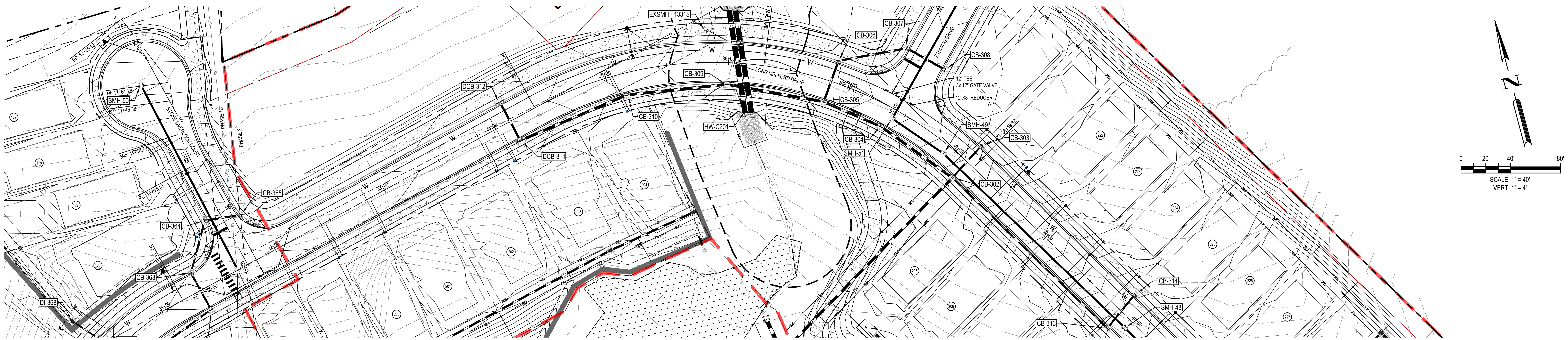
PRELIMINARY
DEBRA M. FERM
12-01-23

NOT FOR CONSTRUCTION

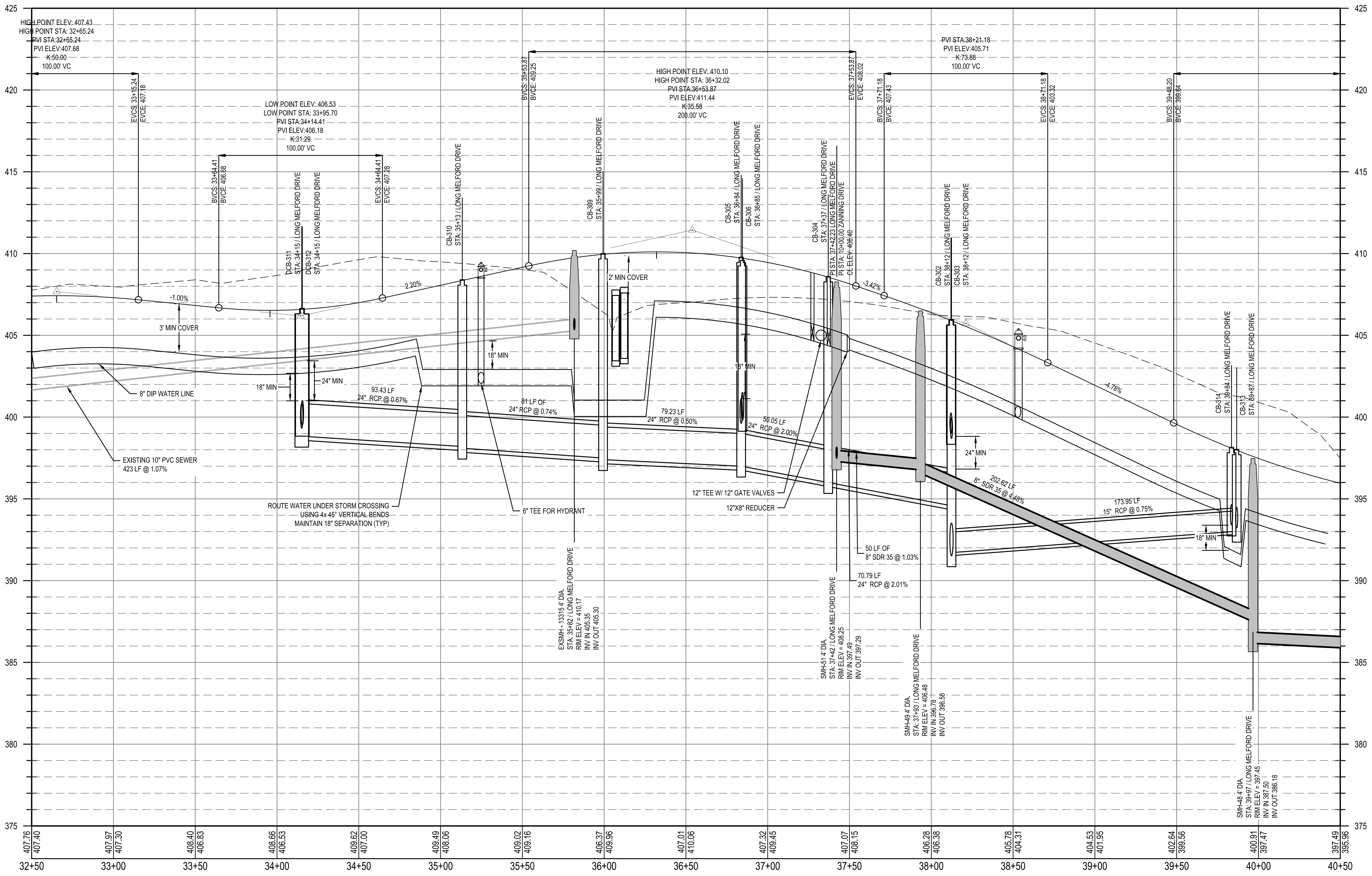
FILE NUMBER: 8430-03

DATE: 11/21/2023

C6-11


EXSMH - 13315
CB-307
CB-306
CB-308
CB-309
DCB-312
CB-305
CB-310
HW-C201
SMH-49
CB-303
CB-304
SMH-51
DCB-311
CB-302
CB-365
CB-364
CB-363
DI-368
CB-314
SMH-48
CB-313
SMH-50
LONG MELFORD DRIVE
ZANNING DRIVE
STONE OVERLOOK COURT
PHASE 1B
PHASE 2
12" TEE
3x 12" GATE VALVE
12"X8" REDUCER
N
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'

LONG MELFORD DRIVE
STA: 32+50.00 TO STA:40+50.00


425
420
415
410
405
400
395
390
385
380
375
HIGH POINT ELEV: 407.43
HIGH POINT STA: 32+65.24
PVI STA:32+65.24
PVI ELEV:407.68
K:50.00
100.00' VC
LOW POINT ELEV: 406.53
LOW POINT STA: 33+95.70
PVI STA:34+14.41
PVI ELEV:406.18
K:31.29
100.00' VC
HIGH POINT ELEV: 410.10
HIGH POINT STA: 36+32.02
PVI STA:36+53.87
PVI ELEV:411.44
K:35.58
200.00' VC
PVI STA:38+21.18
PVI ELEV:405.71
K:73.88
100.00' VC
-1.00%
2.20%
-3.42%
-1.76%
3' MIN COVER
2' MIN COVER
8" DIP WATER LINE
18" MIN
24" MIN
93.43 LF
24" RCP @ 0.67%
81 LF OF
24" RCP @ 0.74%
79.23 LF
24" RCP @ 0.50%
56.05 LF
24" RCP @ 2.00%
202.82 LF
8" SDR 35 @ 4.46%
173.99 LF
15" RCP @ 0.75%
50 LF OF
8" SDR 35 @ 1.03%
70.79 LF
24" RCP @ 2.01%
EXISTING 10" PVC SEWER
423 LF @ 1.07%
ROUTE WATER UNDER STORM CROSSING
USING 4x 45° VERTICAL BENDS
MAINTAIN 18" SEPARATION (TYP)
6" TEE FOR HYDRANT
12" TEE W/ 12" GATE VALVES
12"X8" REDUCER
EXSMH - 13315 4' DIA.
SMH-51 4' DIA.
SMH-49 4' DIA.
SMH-48 4' DIA.
32+50
33+00
33+50
34+00
34+50
35+00
35+50
36+00
36+50
37+00
37+50
38+00
38+50
39+00
39+50
40+00
40+50

811
Know what's below.
Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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LENNAR
CORPORTAION
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MORRISVILLE / NORTH CAROLINA / 27560

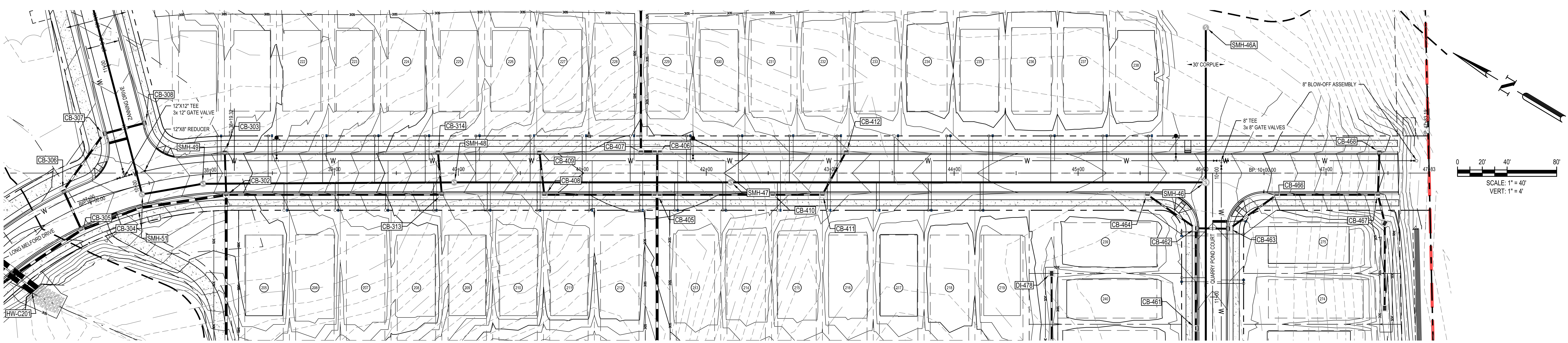
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

LONG MELFORD DRIVE PLAN AND PROFILE (4 OF 5)

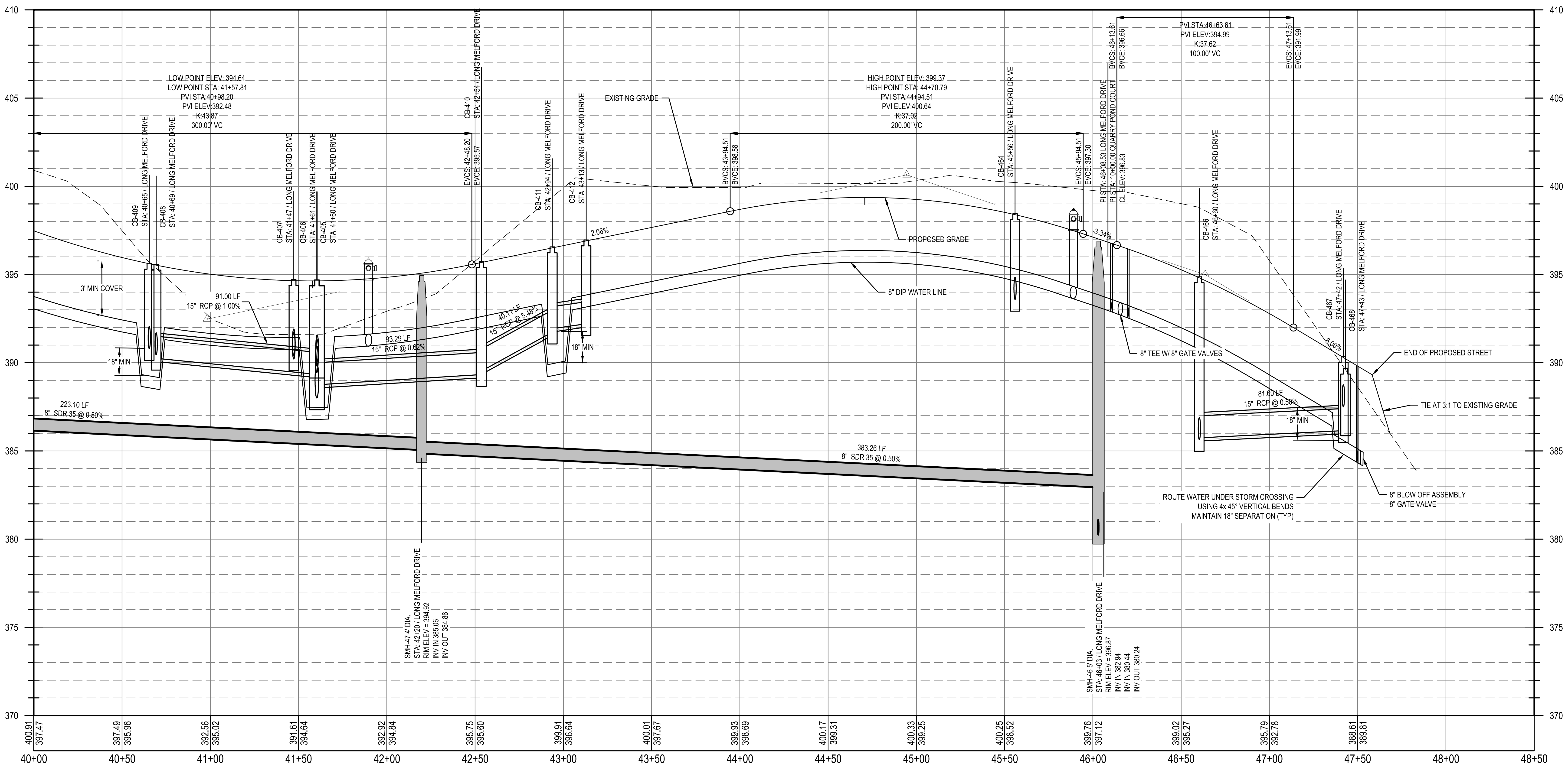
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023

C6-12


CB-308
CB-307
CB-306
CB-305
CB-304
CB-303
CB-302
SMH-49
SMH-51
HW-C201
12"X12" TEE
3x 12" GATE VALVE
12"X8" REDUCER
ZANNING DRIVE
LONG MELFORD DRIVE
CB-314
SMH-48
CB-313
CB-409
CB-408
CB-407
CB-406
CB-405
CB-410
CB-411
CB-412
SMH-47
CB-464
CB-462
CB-461
DI-478
SMH-46
SMH-46A
CB-466
CB-463
CB-467
CB-468
30' CORPUS
8" BLOW-OFF ASSEMBLY
8" TEE
3x 8" GATE VALVES
QUARRY POND COURT
BP: 10+00.00
38+00
39+00
40+00
41+00
42+00
43+00
44+00
45+00
46+00
47+00
47+83
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'

LONG MELFORD DRIVE
STA: 40+00.00 TO STA:48+50.00


410
405
400
395
390
385
380
375
370
LOW POINT ELEV: 394.64
LOW POINT STA: 41+57.81
PVI STA:40+98.20
PVI ELEV:392.48
K:43.87
300.00' VC
HIGH POINT ELEV: 399.37
HIGH POINT STA: 44+70.79
PVI STA:44+94.51
PVI ELEV:400.64
K:37.02
200.00' VC
PVI STA:46+63.61
PVI ELEV:394.99
K:37.62
100.00' VC
CB-409 STA: 40+65 / LONG MELFORD DRIVE
CB-408 STA: 40+69 / LONG MELFORD DRIVE
CB-407 STA: 41+47 / LONG MELFORD DRIVE
CB-406 STA: 41+61 / LONG MELFORD DRIVE
CB-405 STA: 41+60 / LONG MELFORD DRIVE
CB-410 STA: 42+54 / LONG MELFORD DRIVE
EVCS: 42+48.20
EVCE: 395.57
CB-411 STA: 42+94 / LONG MELFORD DRIVE
CB-412 STA: 43+13 / LONG MELFORD DRIVE
EXISTING GRADE
BVCS: 43+94.51
BVCE: 398.58
PROPOSED GRADE
8" DIP WATER LINE
CB-464 STA: 45+56 / LONG MELFORD DRIVE
EVCS: 45+94.51
EVCE: 397.30
PI STA: 46+08.53 LONG MELFORD DRIVE
PI STA: 10+00.00 QUARRY POND COURT
CL ELEV: 396.83
BVCS: 46+13.61
BVCE: 396.66
EVCS: 47+13.61
EVCE: 391.99
CB-466 STA: 46+60 / LONG MELFORD DRIVE
CB-467 STA: 47+42 / LONG MELFORD DRIVE
CB-468 STA: 47+43 / LONG MELFORD DRIVE
3' MIN COVER
18" MIN
91.00 LF
15" RCP @ 1.00%
93.29 LF
15" RCP @ 0.62%
40.11 LF
15" RCP @ 5.48%
2.06%
-3.34%
-6.00%
18" MIN
8" TEE W/ 8" GATE VALVES
END OF PROPOSED STREET
TIE AT 3:1 TO EXISTING GRADE
81.60 LF
15" RCP @ 0.50%
18" MIN
223.10 LF
8" SDR 35 @ 0.50%
383.26 LF
8" SDR 35 @ 0.50%
ROUTE WATER UNDER STORM CROSSING
USING 4x 45° VERTICAL BENDS
MAINTAIN 18" SEPARATION (TYP)
8" BLOW OFF ASSEMBLY
8" GATE VALVE
SMH-47 4' DIA.
STA: 42+20 / LONG MELFORD DRIVE
RIM ELEV = 394.92
INV IN 385.06
INV OUT 384.86
SMH-46 5' DIA.
STA: 46+03 / LONG MELFORD DRIVE
RIM ELEV = 396.87
INV IN 382.94
INV IN 380.44
INV OUT 380.24
400.91 397.47
397.49 395.96
392.56 395.02
391.61 394.64
392.92 394.84
395.75 395.60
399.91 396.64
400.01 397.67
399.93 398.69
400.17 399.31
400.33 399.25
400.25 398.52
399.76 397.12
399.02 395.27
395.79 392.78
388.61 389.81
40+00
40+50
41+00
41+50
42+00
42+50
43+00
43+50
44+00
44+50
45+00
45+50
46+00
46+50
47+00
47+50
48+00
48+50

Know what's below.
Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

LONG MELFORD DRIVE PLAN AND PROFILE (5 OF 5)

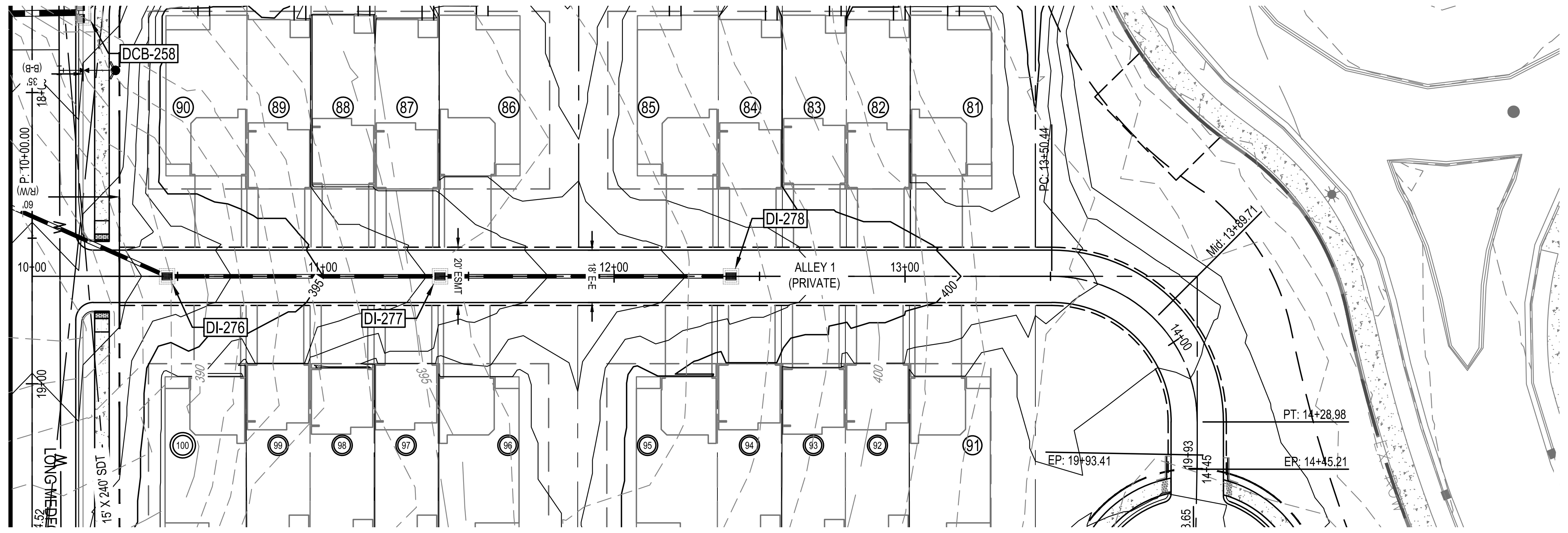
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

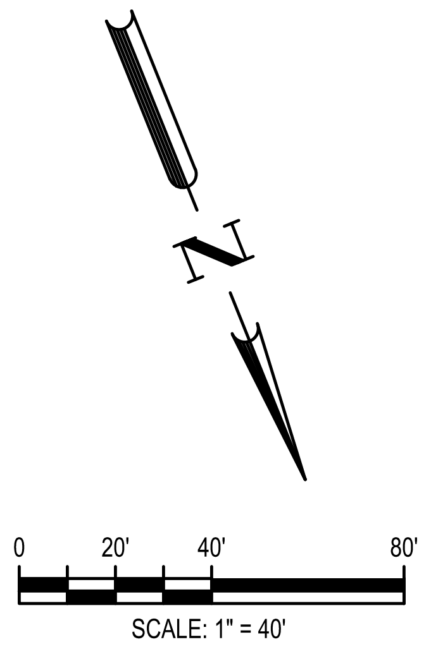
DATE: 11/21/2023

C6-13

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-9 LONG MELFORD PLAN AND PROFILE.dwg Layout: C6-13 LONG MELFORD DRIVE PLAN AND PROFILE (5 OF 5) Plotted: 12/1/2023 12:28:06 PM

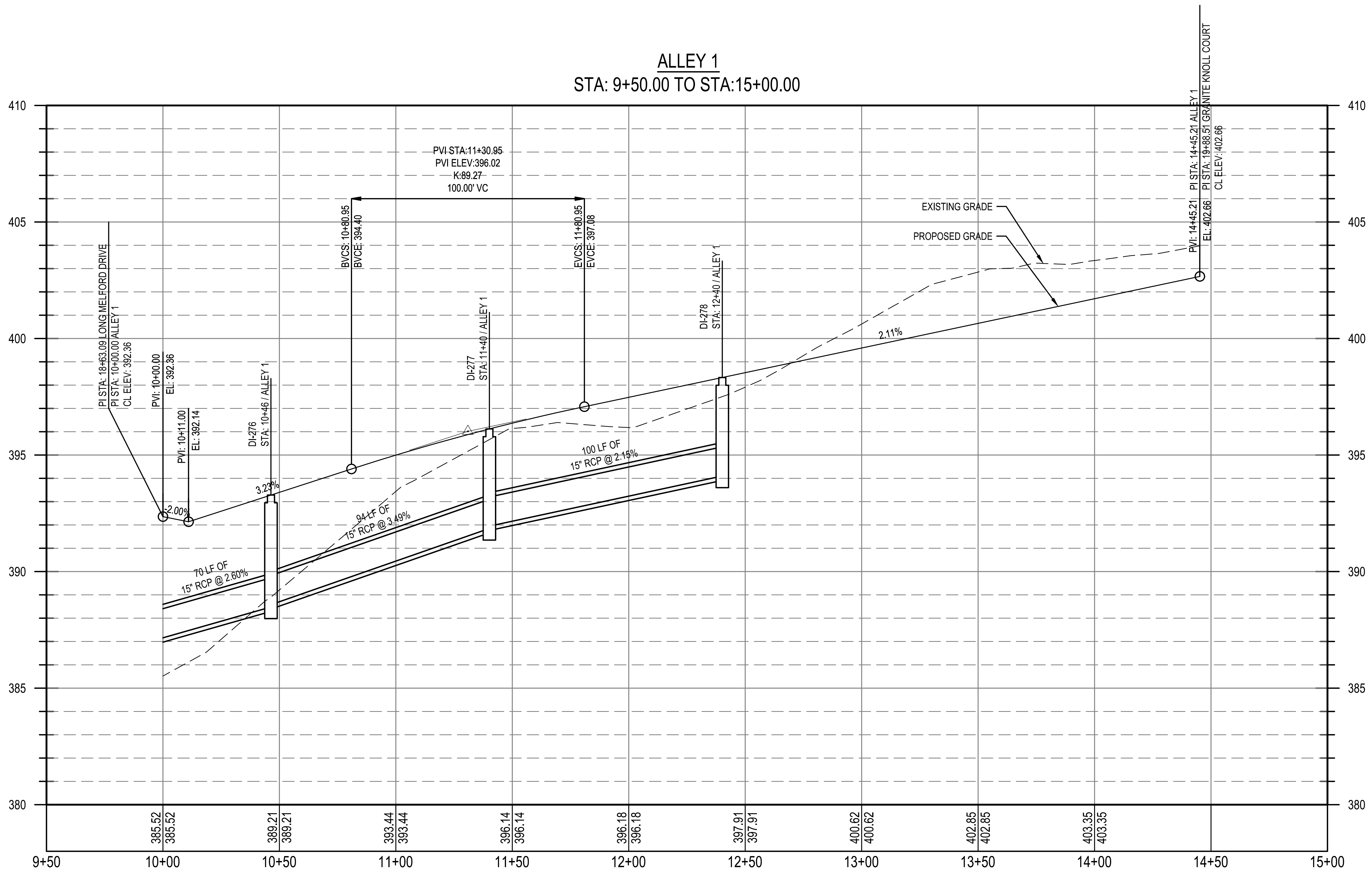


DCB-258
DI-278
DI-276
DI-277
ALLEY 1
(PRIVATE)
10+00
11+00
12+00
13+00
14+00
90
89
88
87
86
85
84
83
82
81
91
PT: 14+28.98
EP: 14+45.21
EP: 19+93.41



N
0
20'
40'
80'
SCALE: 1" = 40'

ALLEY 1
STA: 9+50.00 TO STA:15+00.00



PVI STA:11+30.95
PVI ELEV:396.02
K:89.27
100.00' VC
BVCS: 10+80.95
BVCE: 394.40
EVCS: 11+80.95
EVCE: 397.08
PI STA: 18+63.09 LONG MELFORD DRIVE
PI STA: 10+00.00 ALLEY 1
CL ELEV: 392.36
PVI: 10+00.00
EL: 392.36
PVI: 10+11.00
EL: 392.14
-2.00%
3.23%
2.11%
DI-276
STA: 10+46 / ALLEY 1
DI-277
STA: 11+40 / ALLEY 1
DI-278
STA: 12+40 / ALLEY 1
70 LF OF
15" RCP @ 2.60%
94 LF OF
15" RCP @ 3.49%
100 LF OF
15" RCP @ 2.15%
EXISTING GRADE
PROPOSED GRADE
PVI: 14+45.21
EL: 402.66
PI STA: 14+45.21 ALLEY 1
PI STA: 19+88.51 GRANITE KNOLL COURT
CL ELEV: 402.66
410
405
400
395
390
385
380
385.52
385.52
389.21
389.21
393.44
393.44
396.14
396.14
396.18
396.18
397.91
397.91
400.62
400.62
402.85
402.85
403.35
403.35
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-10 ALLEY PLAN AND PROFILE.dwg Layout: C6-14 ALLEY 1 PLAN AND PROFILE Plotted: 12/1/2023 12:30:02 PM

Know what's **below.**
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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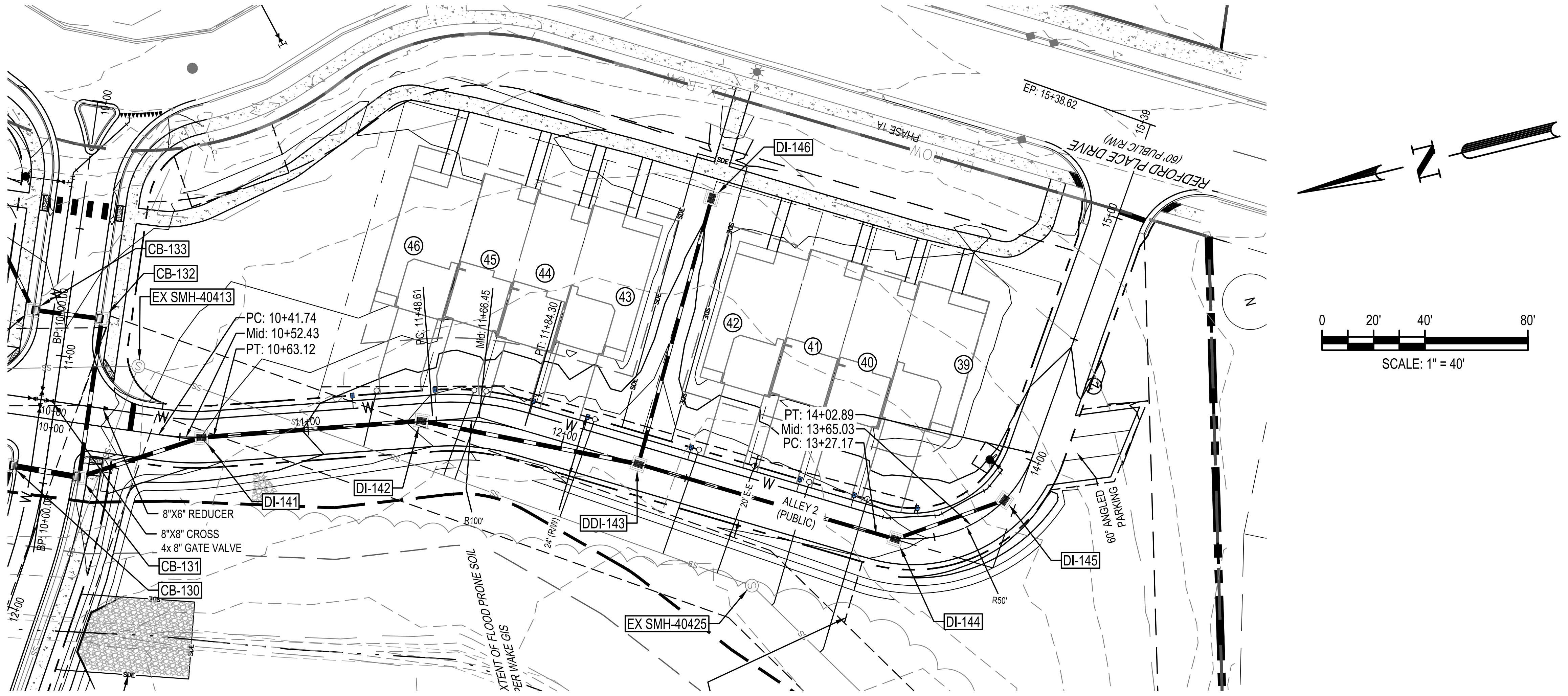
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

ALLEY 1 PLAN AND PROFILE

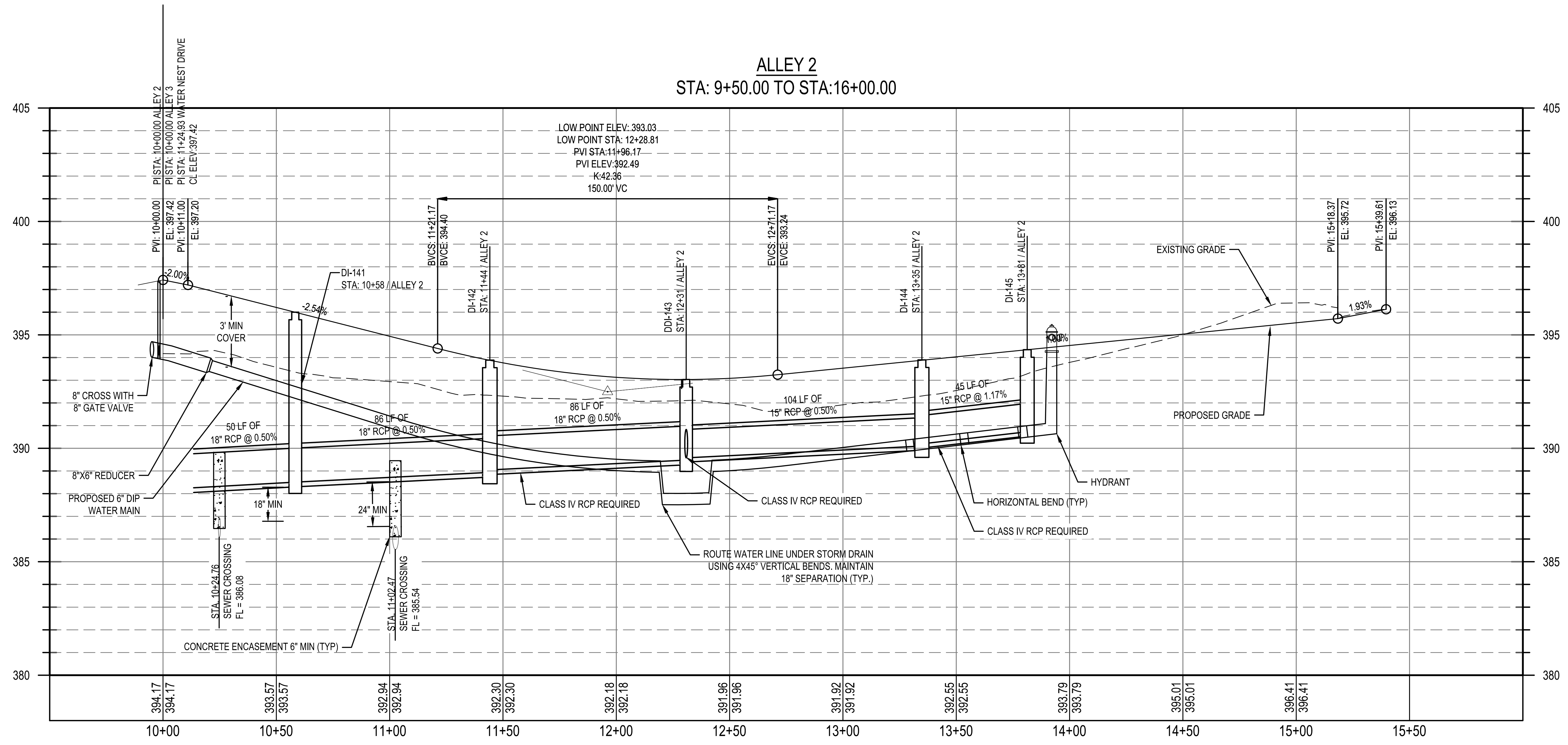
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR
CONSTRUCTION

FILE NUMBER:
8430-03
DATE: 11/21/2023

C6-14


CB-133
CB-132
EX SMH-40413
PC: 10+41.74
Mid: 10+52.43
PT: 10+63.12
DI-146
EP: 15+38.62
REDFORD PLACE DRIVE
(60' PUBLIC R/W)
PHASE 1A
46
45
44
43
42
41
40
39
PT: 11+48.81
Mid: 11+66.45
PT: 11+48.30
PT: 14+02.89
Mid: 13+65.03
PC: 13+27.17
ALLEY 2
(PUBLIC)
DI-141
DI-142
DDI-143
DI-144
DI-145
8"X6" REDUCER
8"X8" CROSS
4x 8" GATE VALVE
CB-131
CB-130
EX SMH-40425
EXTENT OF FLOOD PRONE SOIL PER WAKE GIS
60' ANGLED PARKING
N
0
20'
40'
80'
SCALE: 1" = 40'

ALLEY 2
STA: 9+50.00 TO STA:16+00.00


405
400
395
390
385
380
PI STA: 10+00.00 ALLEY 2
PI STA: 10+00.00 ALLEY 3
PI STA: 11+24.93 WATER NEST DRIVE
CL ELEV:397.42
PVI: 10+00.00
EL: 397.42
PVI: 10+11.00
EL: 397.20
-2.00%
-2.54%
LOW POINT ELEV: 393.03
LOW POINT STA: 12+28.81
PVI STA:11+96.17
PVI ELEV:392.49
K:42.36
150.00' VC
BVCS: 11+21.17
BVCE: 394.40
EVCS: 12+71.17
EVCE: 393.24
DI-141
STA: 10+58 / ALLEY 2
DI-142
STA: 11+44 / ALLEY 2
DDI-143
STA: 12+31 / ALLEY 2
DI-144
STA: 13+35 / ALLEY 2
DI-145
STA: 13+81 / ALLEY 2
3' MIN
COVER
8" CROSS WITH
8" GATE VALVE
8"X6" REDUCER
PROPOSED 6" DIP
WATER MAIN
50 LF OF
18" RCP @ 0.50%
86 LF OF
18" RCP @ 0.50%
86 LF OF
18" RCP @ 0.50%
104 LF OF
15" RCP @ 0.50%
45 LF OF
15" RCP @ 1.17%
18" MIN
24" MIN
STA. 10+24.76
SEWER CROSSING
FL = 386.08
STA. 11+02.47
SEWER CROSSING
FL = 385.54
CONCRETE ENCASEMENT 6" MIN (TYP)
CLASS IV RCP REQUIRED
CLASS IV RCP REQUIRED
ROUTE WATER LINE UNDER STORM DRAIN
USING 4X45° VERTICAL BENDS. MAINTAIN
18" SEPARATION (TYP.)
HORIZONTAL BEND (TYP)
CLASS IV RCP REQUIRED
HYDRANT
EXISTING GRADE
PROPOSED GRADE
PVI: 15+18.37
EL: 395.72
PVI: 15+39.61
EL: 396.13
1.93%
394.17
393.57
392.94
392.30
392.18
391.96
391.92
392.55
393.79
395.01
396.41
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50

Know what's **below.**
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

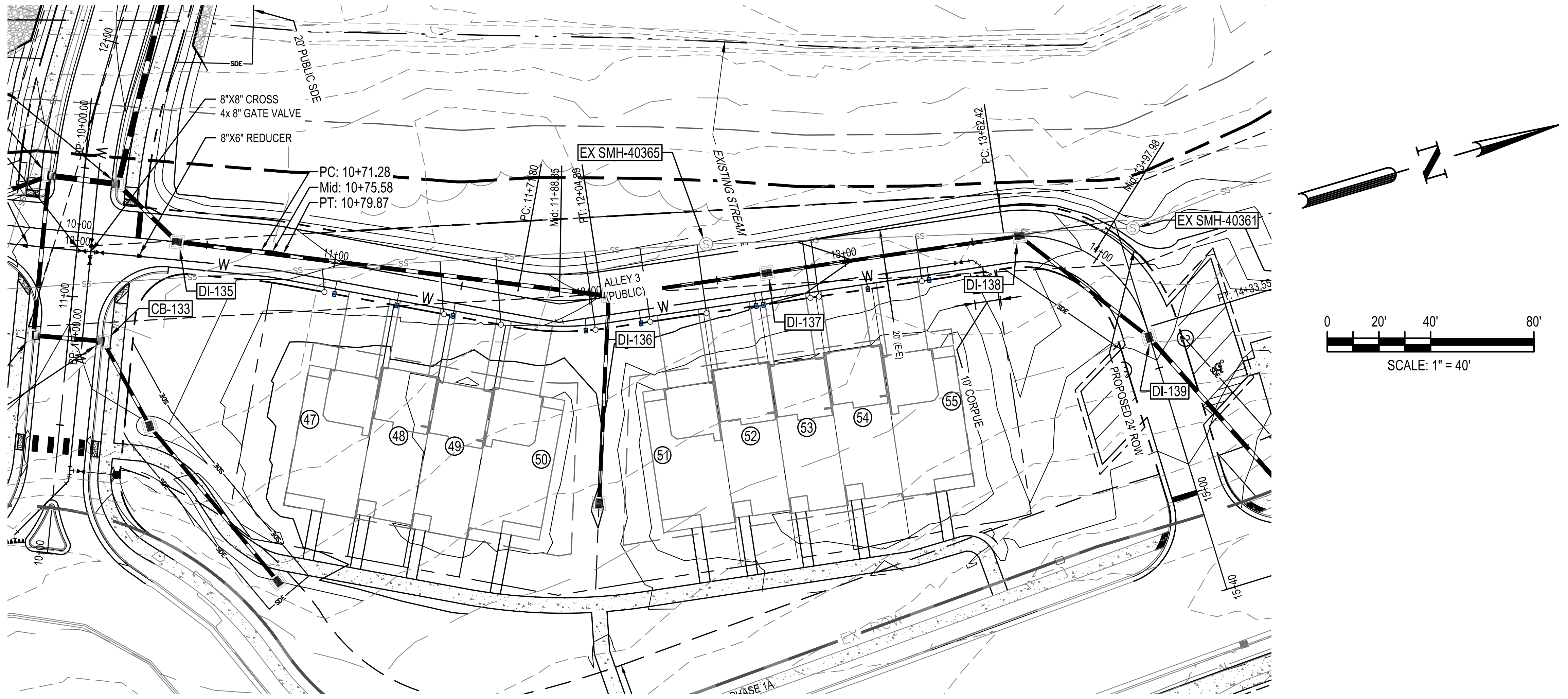
ALLEY 2 PLAN AND PROFILE

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR
CONSTRUCTION

FILE NUMBER:
8430-03

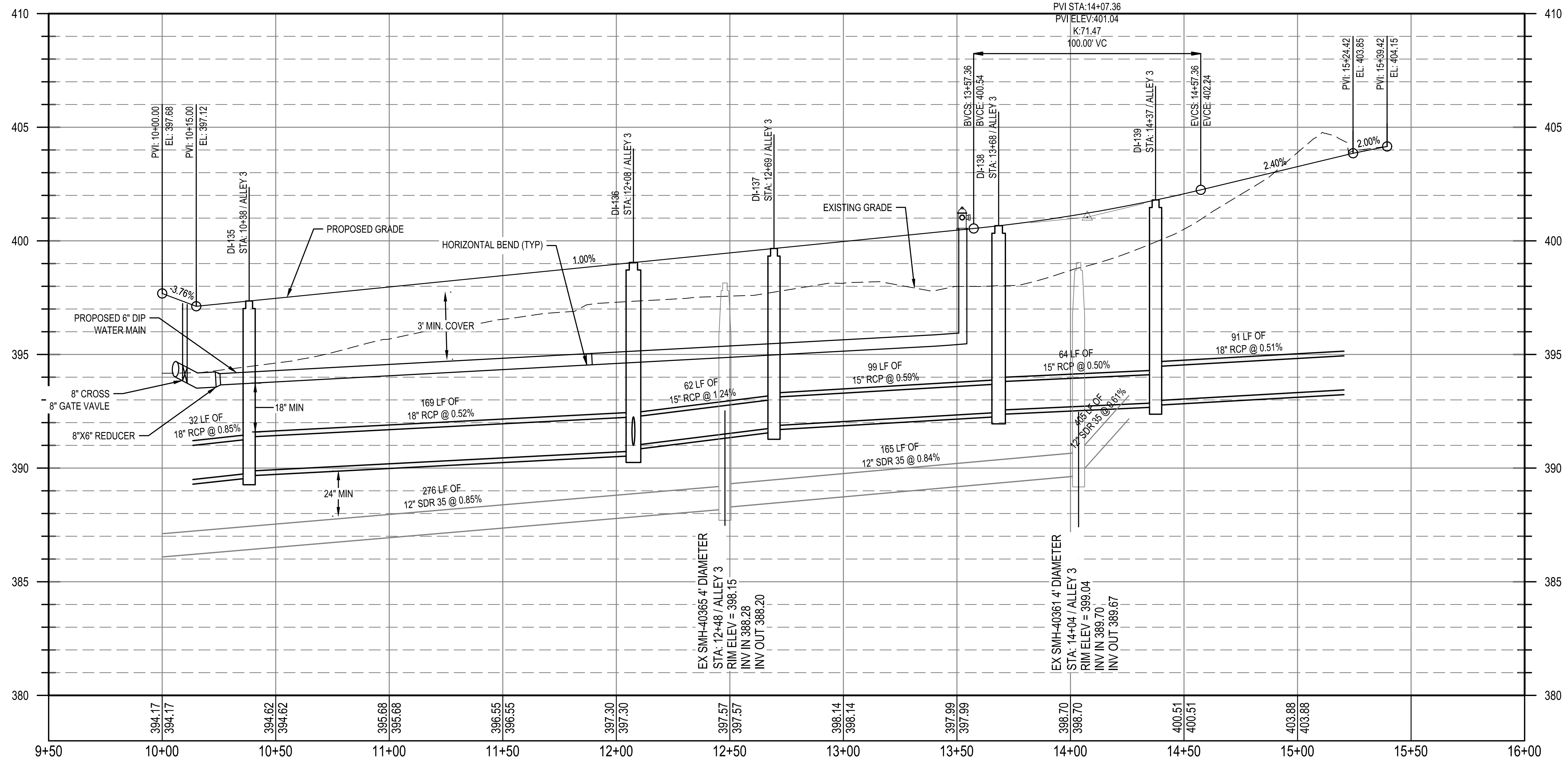
DATE: 11/21/2023

C6-15


20' PUBLIC SDE
8"X8" CROSS
4x 8" GATE VALVE
8"X6" REDUCER
PC: 10+71.28
Mid: 10+75.58
PT: 10+79.87
EX SMH-40365
PC: 11+71.80
Mid: 11+88.35
PT: 12+04.89
EXISTING STREAM
PC: 13+62.42
Mid: 13+97.98
PT: 14+33.55
EX SMH-40361
ALLEY 3 (PUBLIC)
DI-135
CB-133
DI-136
DI-137
DI-138
DI-139
BP: 10+00.00
BP: 11+00.00
10+00
11+00
12+00
13+00
14+00
15+00
15+40
W
SS
SDE
20' (E-E)
10' CORPUE
PROPOSED 24' ROW
EX ROW
PHASE 1A
47
48
49
50
51
52
53
54
55
N
0
20'
40'
80'
SCALE: 1" = 40'

ALLEY 3

STA: 9+50.00 TO STA:16+00.00


410
405
400
395
390
385
380
PVI: 10+00.00 EL: 397.68
PVI: 10+15.00 EL: 397.12
-3.76%
DI-135 STA: 10+38 / ALLEY 3
PROPOSED GRADE
HORIZONTAL BEND (TYP)
1.00%
DI-136 STA: 12+08 / ALLEY 3
DI-137 STA: 12+69 / ALLEY 3
EXISTING GRADE
3' MIN. COVER
PROPOSED 6" DIP WATER MAIN
8" CROSS
8" GATE VAVLE
8"X6" REDUCER
18" MIN
32 LF OF 18" RCP @ 0.85%
169 LF OF 18" RCP @ 0.52%
62 LF OF 15" RCP @ 1.24%
99 LF OF 15" RCP @ 0.59%
64 LF OF 15" RCP @ 0.50%
91 LF OF 18" RCP @ 0.51%
24" MIN
276 LF OF 12" SDR 35 @ 0.85%
165 LF OF 12" SDR 35 @ 0.84%
405 LF OF 12" SDR 35 @ 0.61%
EX SMH-40365 4' DIAMETER
STA: 12+48 / ALLEY 3
RIM ELEV = 398.15
INV IN 388.28
INV OUT 388.20
EX SMH-40361 4' DIAMETER
STA: 14+04 / ALLEY 3
RIM ELEV = 399.04
INV IN 389.70
INV OUT 389.67
PVI STA:14+07.36
PVI ELEV:401.04
K:71.47
100.00' VC
BVCS: 13+57.36
BVCE: 400.54
DI-138 STA: 13+68 / ALLEY 3
DI-139 STA: 14+37 / ALLEY 3
EVCS: 14+57.36
EVCE: 402.24
2.40%
2.00%
PVI: 15+24.42 EL: 403.85
PVI: 15+39.42 EL: 404.15
394.17 394.17
394.62 394.62
395.68 395.68
396.55 396.55
397.30 397.30
397.57 397.57
398.14 398.14
397.99 397.99
398.70 398.70
400.51 400.51
403.88 403.88
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50
16+00

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-10 ALLEY PLAN AND PROFILE.dwg Layout: C6-16 ALLEY 3 PLAN AND PROFILE Plotted: 12/1/2023 12:30:14 PM

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD

DRAWN BY: DF/JWM

REVIEWED BY: DF

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ALLEY 3 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER
PRELIMINARY
DEBRA M. FERM
12-01-23

NOT FOR CONSTRUCTION

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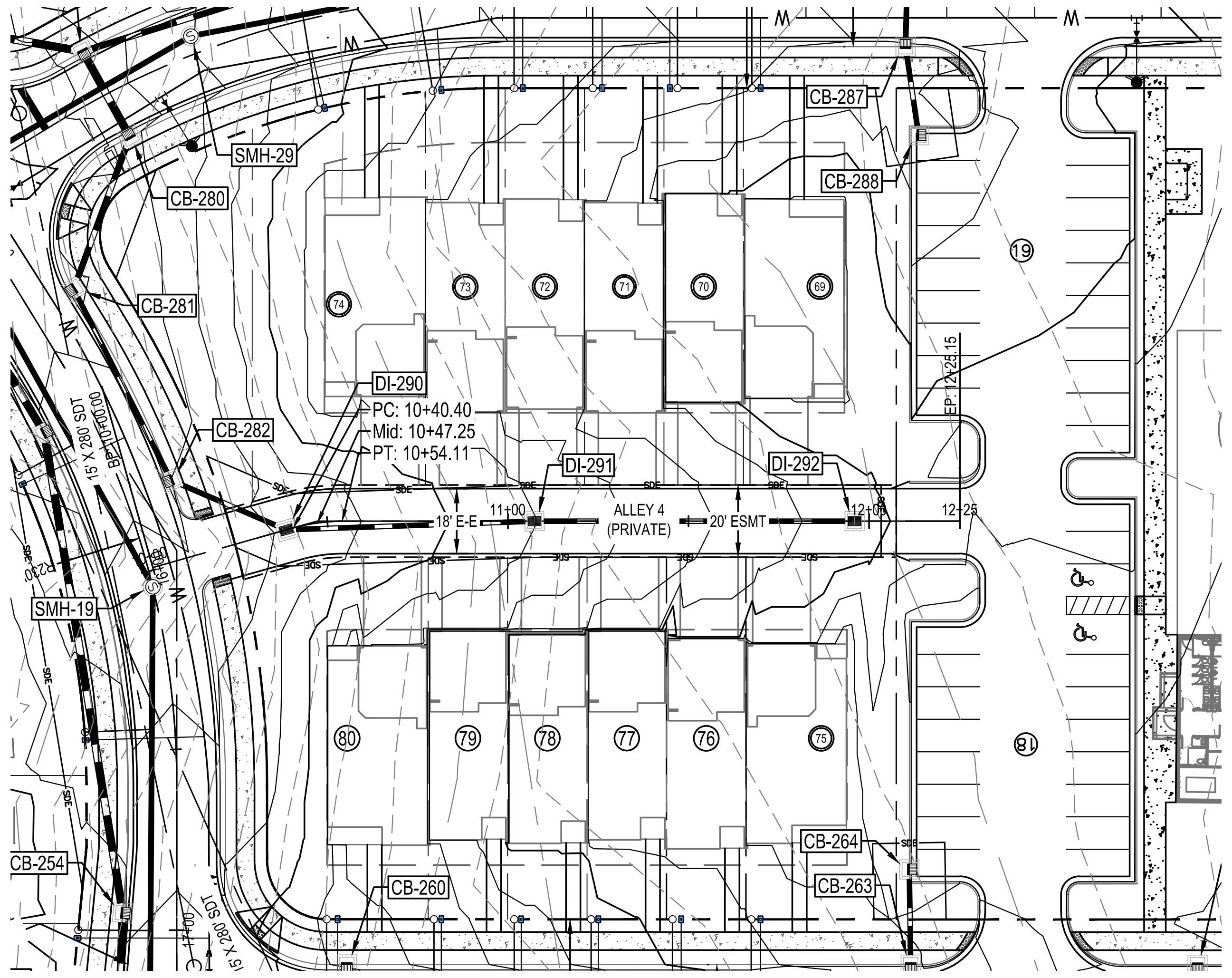
FILE NUMBER: 8430-03

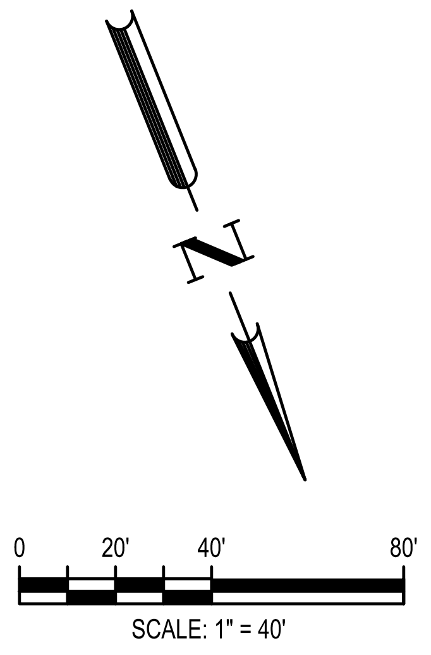
DATE: 11/21/2023

C6-16

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-10 ALLEY PLAN AND PROFILE.dwg Layout: C6-17 ALLEY 4 PLAN AND PROFILE Plotted: 12/1/2023 12:30:19 PM



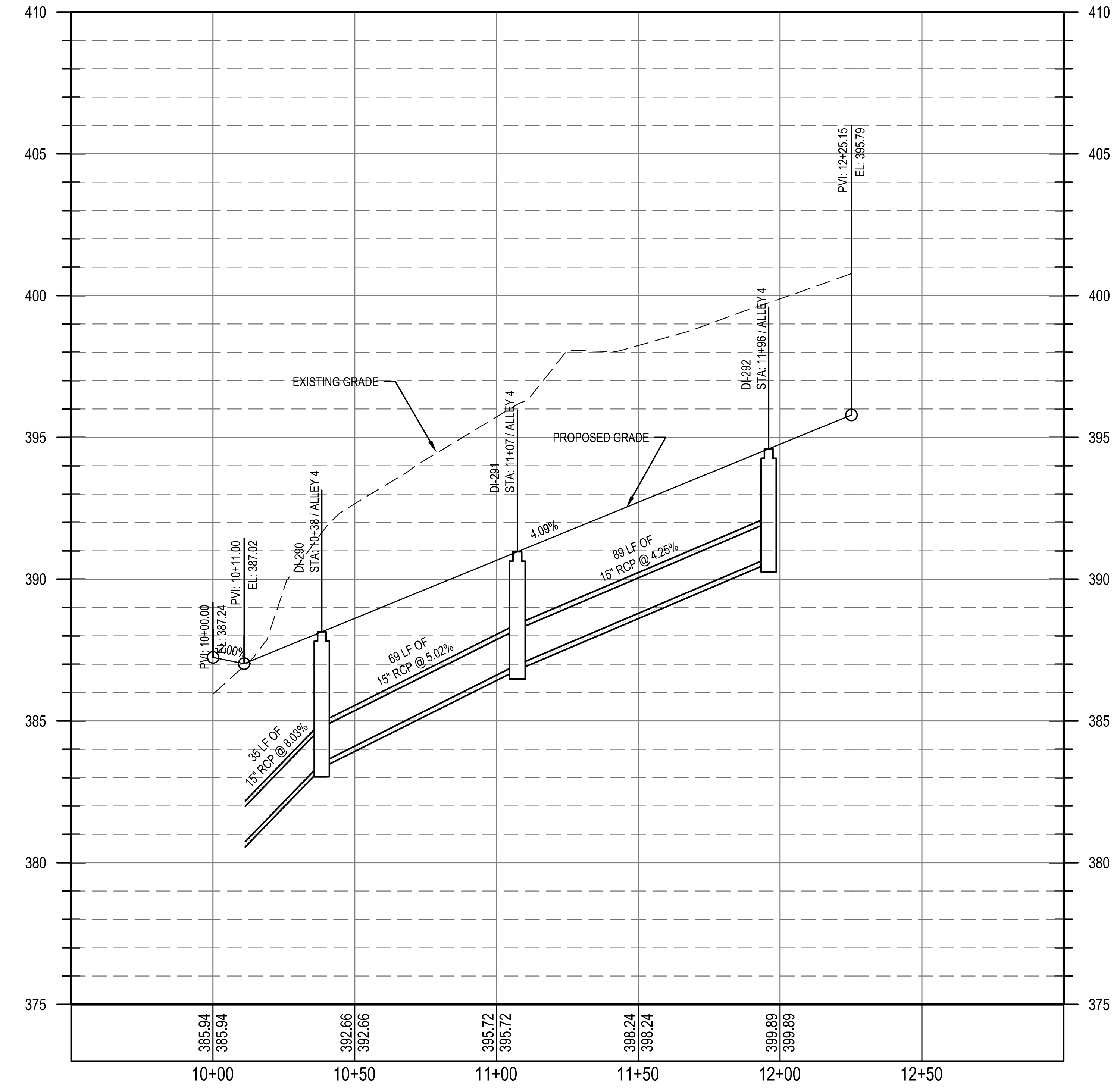
SMH-29
CB-280
CB-281
CB-282
SMH-19
CB-254
CB-260
CB-287
CB-288
CB-264
CB-263
DI-290
PC: 10+40.40
Mid: 10+47.25
PT: 10+54.11
DI-291
DI-292
11+00
12+00
12+25
18' E-E
ALLEY 4
(PRIVATE)
20' ESMT
EP: 12+25.15
15' X 280' SDT
BP: 10+00.00
R230'
SDE
74
73
72
71
70
69
80
79
78
77
76
75
19
18



N
0
20'
40'
80'
SCALE: 1" = 40'

ALLEY 4

STA: 9+50.00 TO STA:13+00.00



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REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY:	DF/CD
DRAWN BY:	DF/JWM
REVIEWED BY:	DF

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ALLEY 4 PLAN AND PROFILE

PRELIMINARY
DEBRA M. FERM
12-01-23

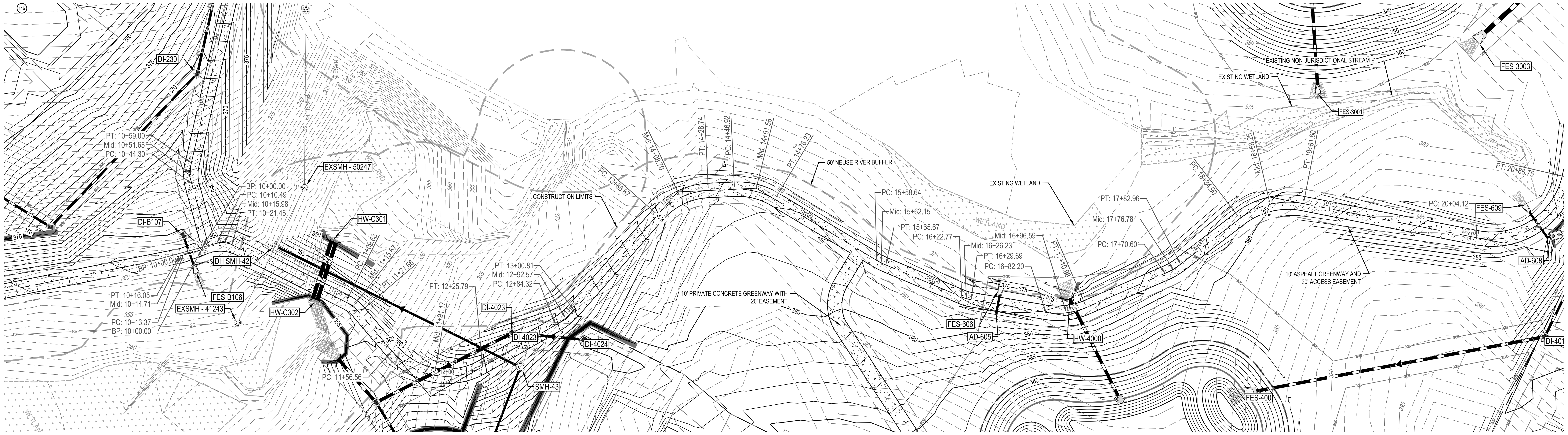
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C6-17

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-18 GREENWAY PLAN AND PROFILE.dwg Layout: GW1A GREENWAY PLAN AND PROFILE (1 OF 2) Plotted: 12/1/2023 2:45:23 PM

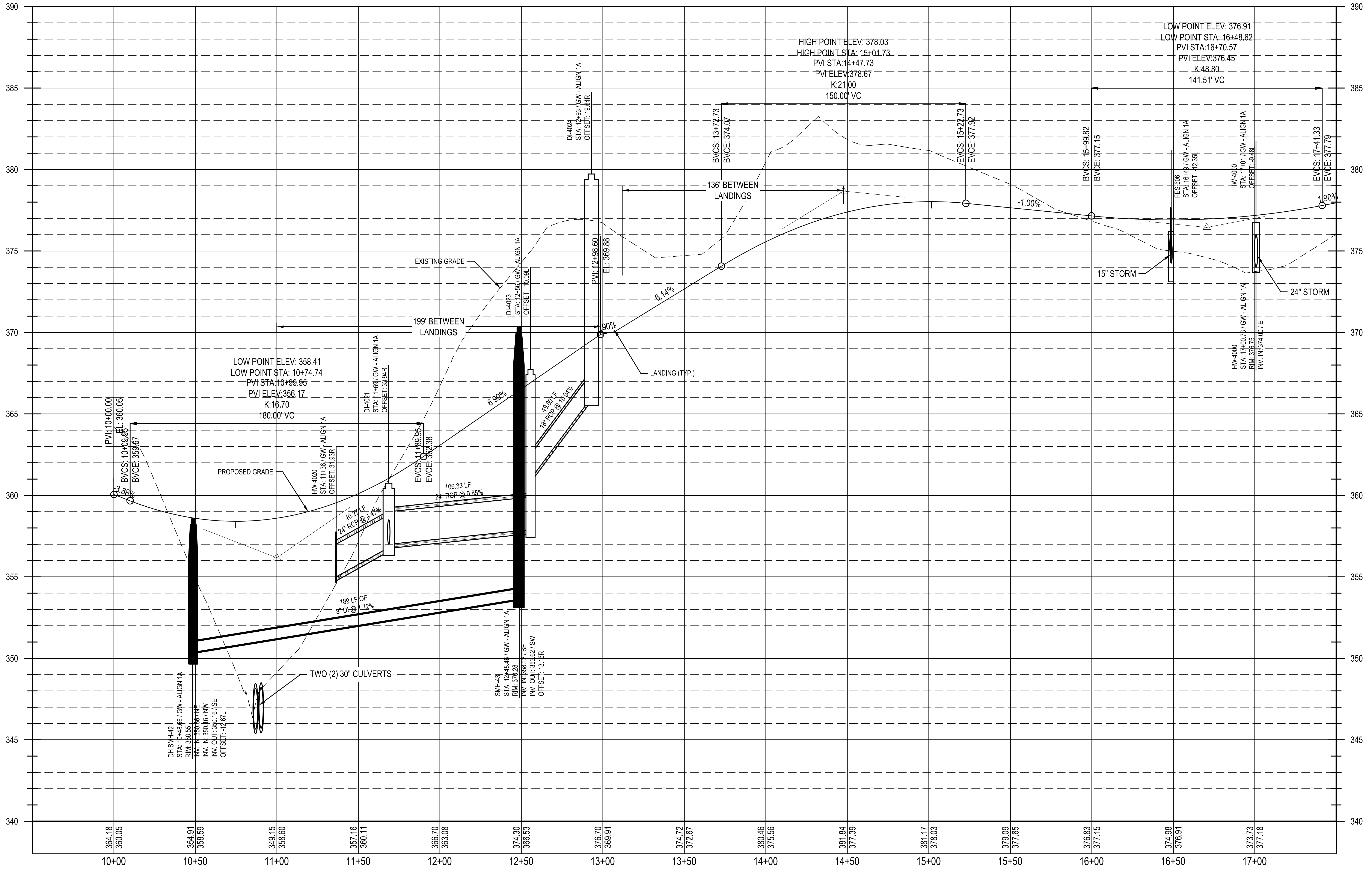

DI-230
PT: 10+59.00
Mid: 10+51.65
PC: 10+44.30
EXSMH - 50247
BP: 10+00.00
PC: 10+10.49
Mid: 10+15.98
PT: 10+21.46
DI-B107
HW-C301
DH SMH-42
BP: 10+00.00
PT: 10+16.05
Mid: 10+14.71
FES-B106
EXSMH - 41243
HW-C302
PC: 10+13.37
BP: 10+00.00
PC: 11+56.56
PT: 12+25.79
PT: 13+00.81
Mid: 12+92.57
PC: 12+84.32
DI-4023
DI-4023
DI-4024
SMH-43
CONSTRUCTION LIMITS
PC: 13+68.61
Mid: 14+08.10
PT: 14+28.74
PC: 14+46.92
Mid: 14+61.58
PT: 14+76.23
50' NEUSE RIVER BUFFER
10' PRIVATE CONCRETE GREENWAY WITH 20' EASEMENT
PC: 15+58.64
Mid: 15+62.15
PT: 15+65.67
PC: 16+22.77
Mid: 16+26.23
PT: 16+29.69
PC: 16+82.20
Mid: 16+96.59
PT: 17+10.98
EXISTING WETLAND
WETLAND
FES-606
AD-605
HW-4000
PT: 17+82.96
Mid: 17+76.78
PC: 17+70.60
PC: 18+34.90
Mid: 18+58.25
PT: 18+81.60
EXISTING NON-JURISDICTIONAL STREAM
EXISTING WETLAND
FES-3003
FES-3001
PT: 20+88.75
PC: 20+04.12
FES-609
AD-608
10' ASPHALT GREENWAY AND 20' ACCESS EASEMENT
DI-401
FES-400

N

SCALE: 1" = 40'
VERT: 1" = 4'

0 20' 40' 80'

GW - ALIGN 1A
STA: 9+50.00 TO STA:17+50.00



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5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW1A GREENWAY PLAN AND PROFILE (1 OF 2)

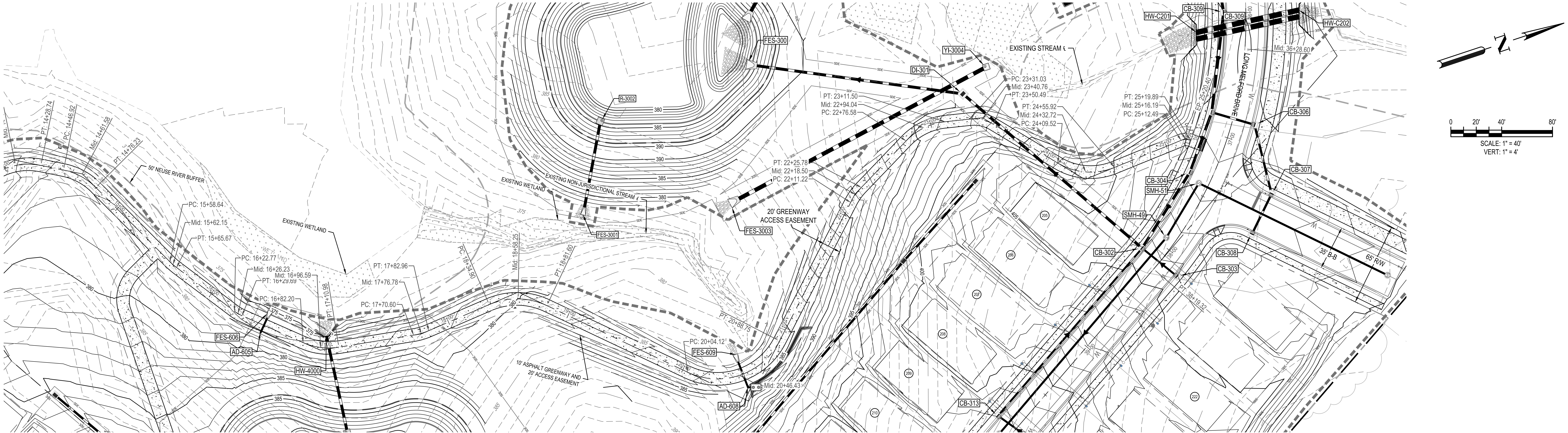
PRELIMINARY
DEBRA M. FERM
12-01-23

NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

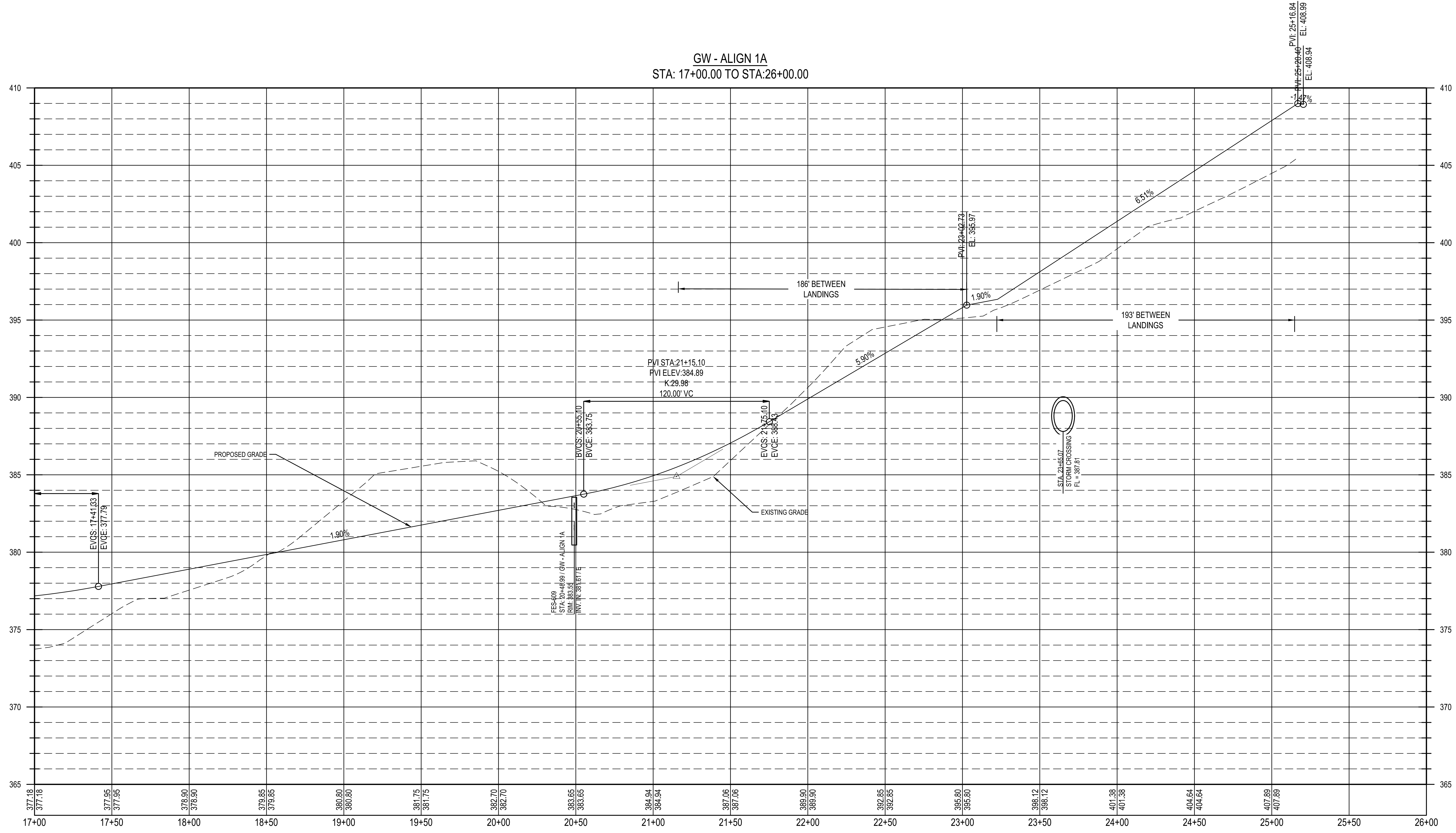
DATE: 11/21/2023

C6-18



FES-300
R-3002
DI-301
YI-3004
EXISTING STREAM
HW-C201
CB-309
CB-309
HW-C202
Mid: 36+28.60
PC: 23+31.03
Mid: 23+40.76
PT: 23+50.49
PT: 23+11.50
Mid: 22+94.04
PC: 22+76.58
PT: 24+55.92
Mid: 24+32.72
PC: 24+09.52
PT: 25+19.89
Mid: 25+16.19
PC: 25+12.49
LONGLEAF POND DRIVE
CB-306
CB-307
CB-304
SMH-51
SMH-49
CB-302
CB-308
CB-303
35' B-B
65' R/W
PT: 22+25.78
Mid: 22+18.50
PC: 22+11.22
20' GREENWAY ACCESS EASEMENT
FES-3003
FES-3001
EXISTING NON-JURISDICTIONAL STREAM
EXISTING WETLAND
EXISTING WETLAND
50' NEUSE RIVER BUFFER
PT: 14+28.74
PC: 14+46.92
Mid: 14+51.50
PT: 14+76.23
PC: 15+58.64
Mid: 15+62.15
PT: 15+65.67
PC: 16+22.77
Mid: 16+26.23
Mid: 16+96.59
PT: 16+29.69
PC: 16+82.20
PT: 17+10.98
PT: 17+82.96
Mid: 17+76.78
PC: 17+70.60
PC: 18+34.80
Mid: 18+58.25
PT: 18+81.60
PT: 20+09.75
PC: 20+04.12
FES-609
Mid: 20+46.43
AD-608
FES-606
AD-605
HW-4000
10' ASPHALT GREENWAY AND 20' ACCESS EASEMENT
CB-313
380
385
390
375
N
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'

GW - ALIGN 1A
STA: 17+00.00 TO STA:26+00.00



5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW1A GREENWAY PLAN AND PROFILE (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER
PRELIMINARY
DEBRA M. FERM
12-01-23
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FILE NUMBER: 8430-03
DATE: 11/21/2023

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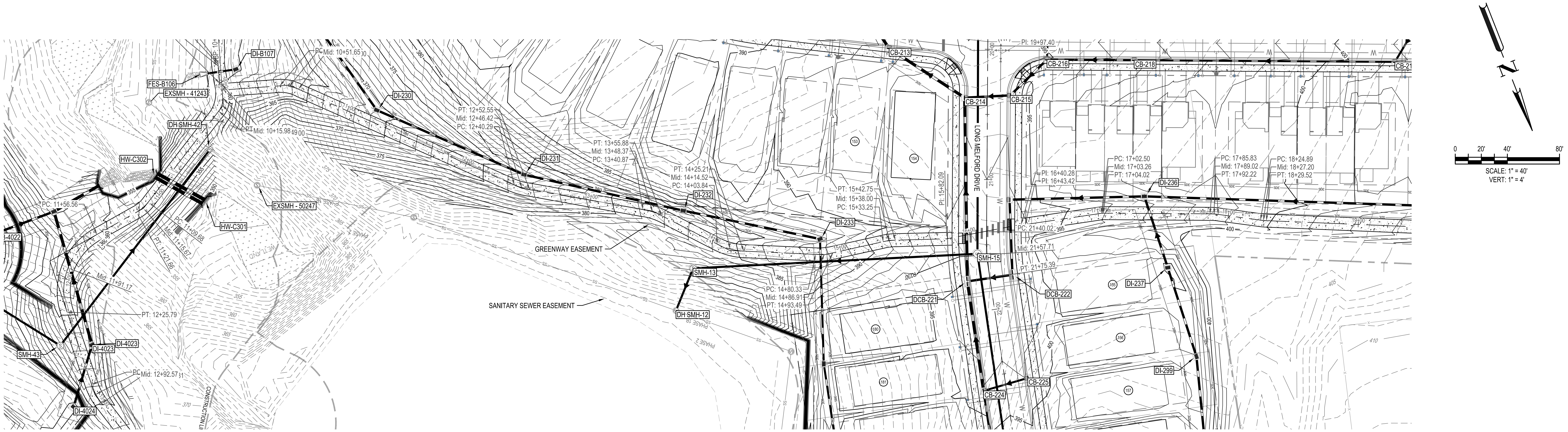
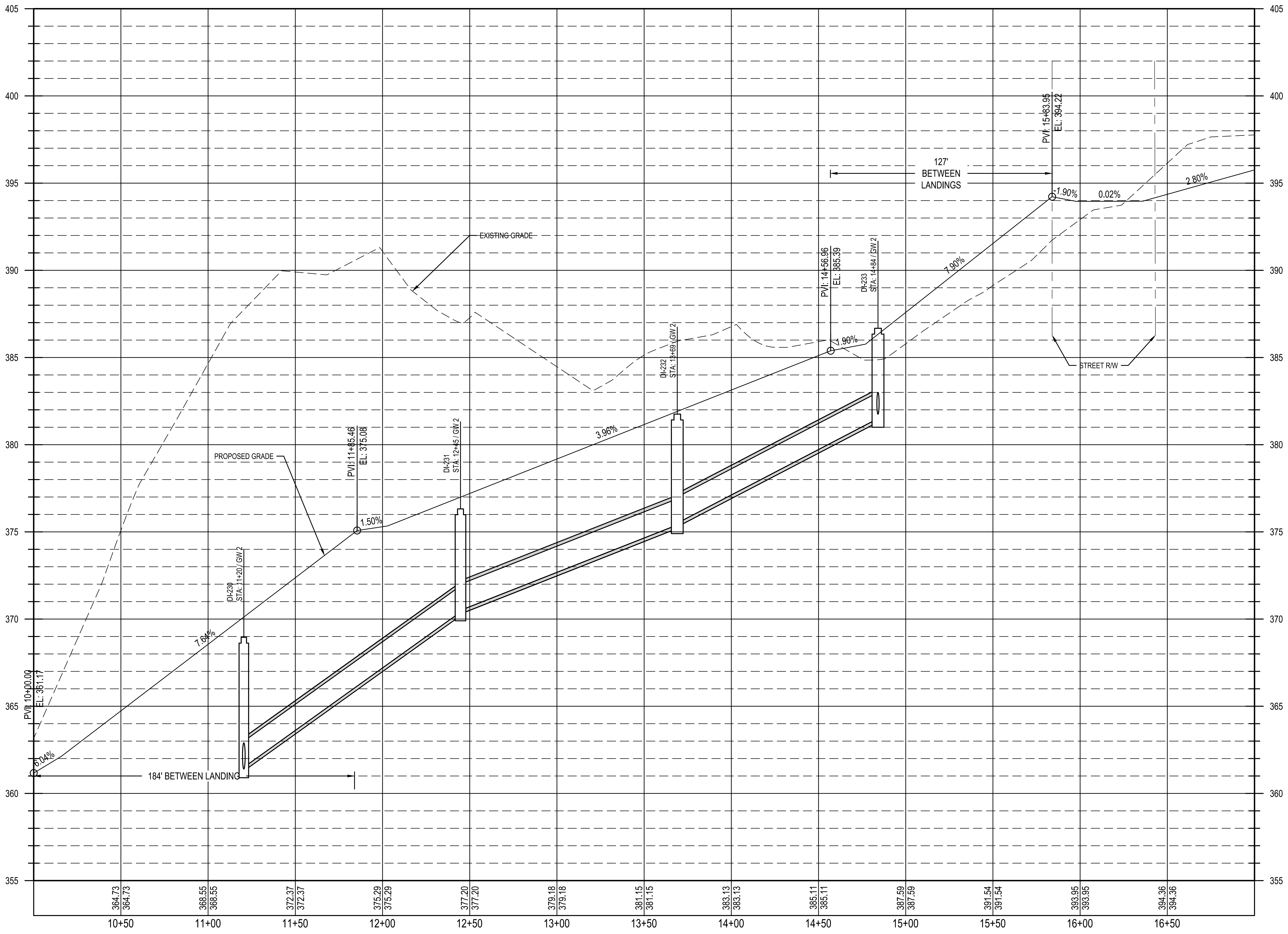


N
0 20' 40' 80'
SCALE: 1" = 40'
VERT: 1" = 4'
DI-B107
FES-B106
EXSMH - 41243
DH SMH-42
HW-C302
HW-C301
EXSMH - 50247
DI-230
DI-231
DI-232
DI-233
SMH-13
DH SMH-12
SMH-15
SMH-43
DI-4023
DI-4024
CB-213
CB-214
CB-215
CB-216
CB-218
DCB-221
DCB-222
CB-224
CB-225
DI-236
DI-237
DI-299
LONG MELFORD DRIVE
GREENWAY EASEMENT
SANITARY SEWER EASEMENT
PI: 19+97.40
PC: 11+56.56
Mid: 10+51.65
Mid: 10+15.98
PT: 12+52.55
Mid: 12+46.42
PC: 12+40.29
PT: 13+55.88
Mid: 13+48.37
PC: 13+40.87
PT: 14+25.21
Mid: 14+14.52
PC: 14+03.84
PT: 15+42.75
Mid: 15+38.00
PC: 15+33.25
PI: 15+82.09
PC: 14+80.33
Mid: 14+86.91
PT: 14+93.49
Mid: 11+91.17
PT: 12+25.79
Mid: 12+92.57
PI: 16+40.28
PI: 16+43.42
PC: 17+02.50
Mid: 17+03.26
PT: 17+04.02
PC: 17+85.83
Mid: 17+89.02
PT: 17+92.22
PC: 18+24.89
Mid: 18+27.20
PT: 18+29.52
PC: 21+40.02
Mid: 21+57.71
PT: 21+75.39

GW 2
STA: 10+00.00 TO STA:17+00.00



Know what's below. Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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GW2 GREENWAY PLAN AND PROFILE (1 OF 2)

DEBRA M. FERM
PRELIMINARY
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023

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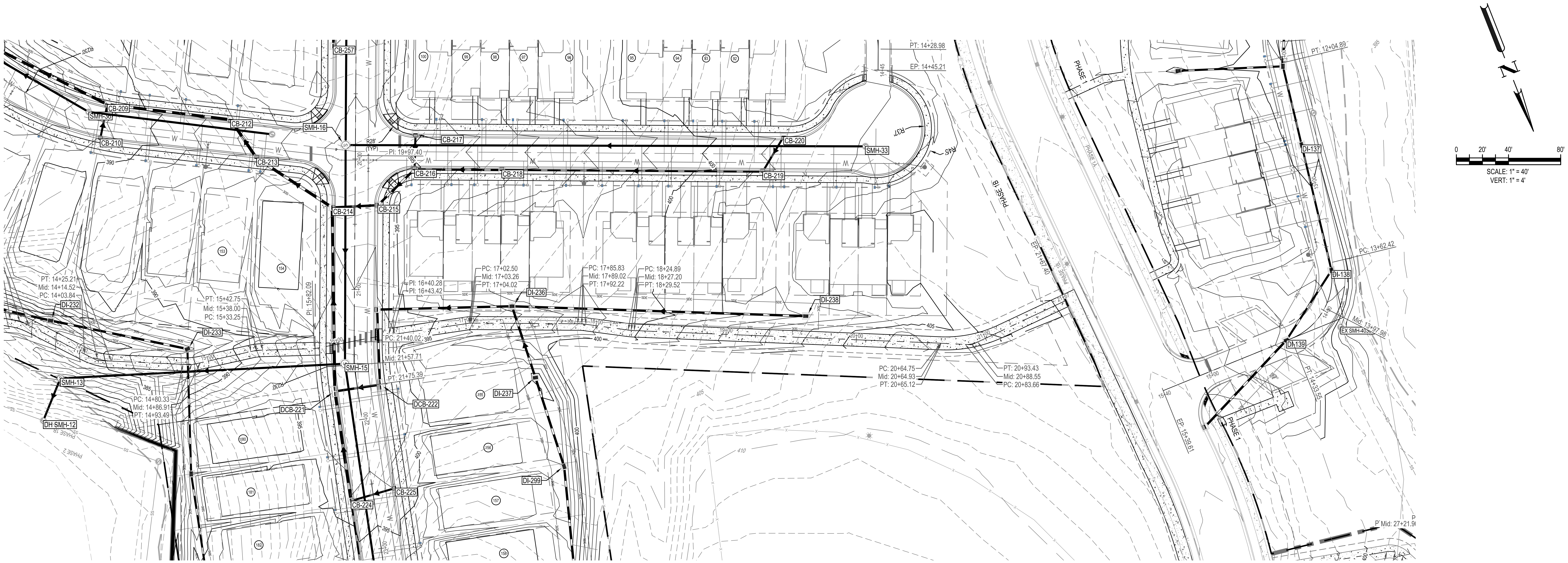
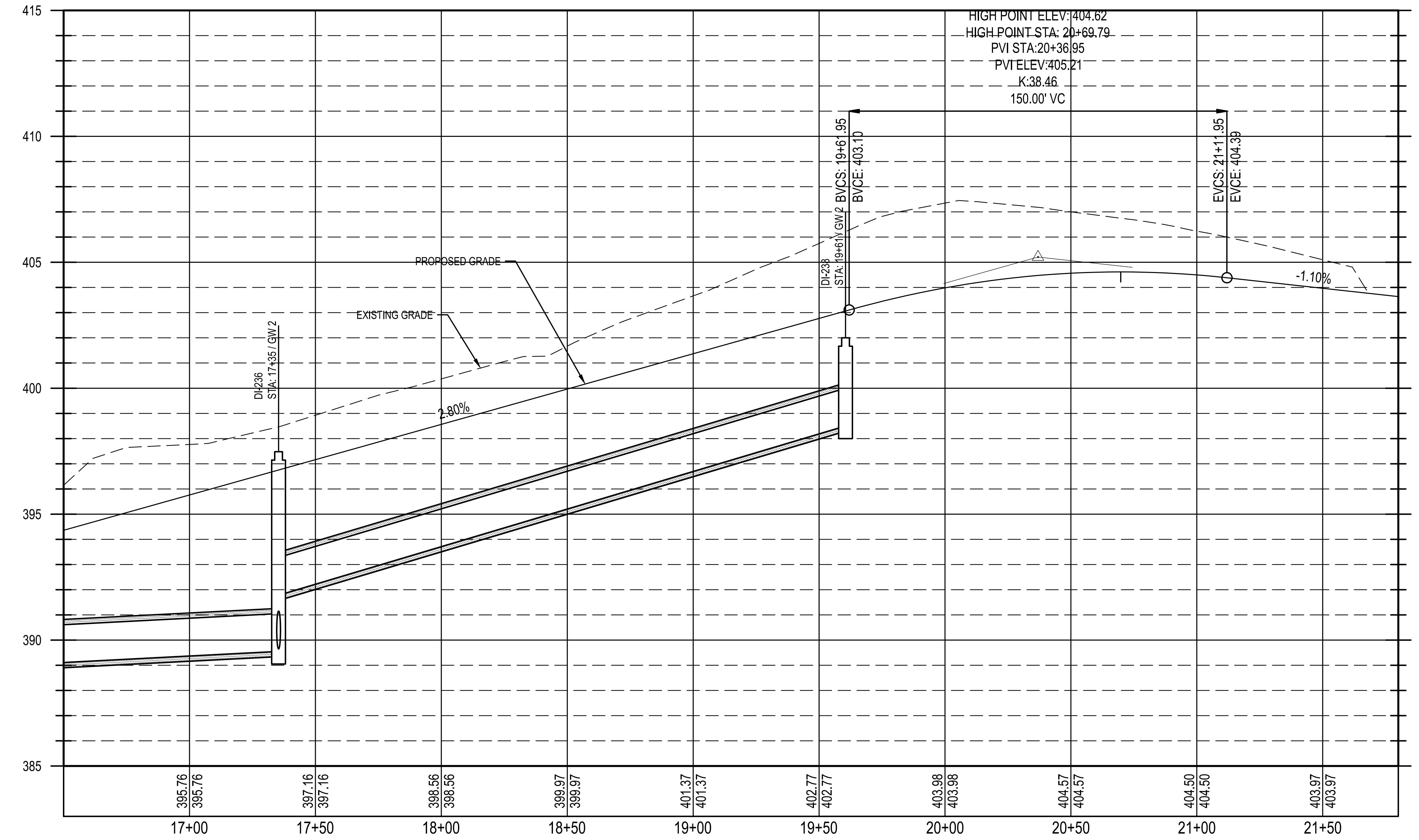


N
0 20' 40' 80'
SCALE: 1" = 40'
VERT.: 1" = 4'
CB-257
CB-209
SMH-36
CB-212
SMH-16
CB-210
CB-213
CB-217
CB-220
SMH-33
CB-216
CB-218
CB-219
CB-214
CB-215
R28' (TYP)
PI: 19+97.40
PT: 14+28.98
EP: 14+45.21
R37'
R45'
PHASE 1
PHASE IB
DI-137
PT: 12+04.89
PC: 13+62.42
DI-138
EX SMH-40
Mid: 13+97.98
DI-139
PT: 14+33.55
EP: 15+38.61
PHASE 1
PT: 14+25.21
Mid: 14+14.52
PC: 14+03.84
DI-232
PT: 15+42.75
Mid: 15+38.00
PC: 15+33.25
PI: 15+82.09
PI: 16+40.28
PI: 16+43.42
PC: 17+02.50
Mid: 17+03.26
PT: 17+04.02
DI-236
PC: 17+85.83
Mid: 17+89.02
PT: 17+92.22
PC: 18+24.89
Mid: 18+27.20
PT: 18+29.52
DI-238
EP: 21+67.40
DI-233
PC: 21+40.02
Mid: 21+57.71
PT: 21+75.39
SMH-15
SMH-13
PC: 14+80.33
Mid: 14+86.91
PT: 14+93.49
DH SMH-12
DCB-221
DCB-222
DI-237
PC: 20+64.75
Mid: 20+64.93
PT: 20+65.12
PT: 20+93.43
Mid: 20+88.55
PC: 20+83.66
DI-299
CB-225
CB-224
P' Mid: 27+21.9

GW 2
STA: 16+50.00 TO STA:21+80.02



415
410
405
400
395
390
385
HIGH POINT ELEV: 404.62
HIGH POINT STA: 20+69.79
PVI STA:20+36.95
PVI ELEV:405.21
K:38.46
150.00' VC
BVCS: 19+61.95
BVCE: 403.10
EVCS: 21+11.95
EVCE: 404.39
DI-238
STA: 19+61 / GW 2
DI-236
STA: 17+35 / GW 2
PROPOSED GRADE
EXISTING GRADE
2.80%
-1.10%
395.76 395.76
397.16 397.16
398.56 398.56
399.97 399.97
401.37 401.37
402.77 402.77
403.98 403.98
404.57 404.57
404.50 404.50
403.97 403.97
17+00
17+50
18+00
18+50
19+00
19+50
20+00
20+50
21+00
21+50

811

Know what's **below.**
Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

GW2 GREENWAY PLAN AND PROFILE (2 OF 2)

NORTH CAROLINA PROFESSIONAL ENGINEER
PRELIMINARY
DEBRA M. FERM
12-01-23

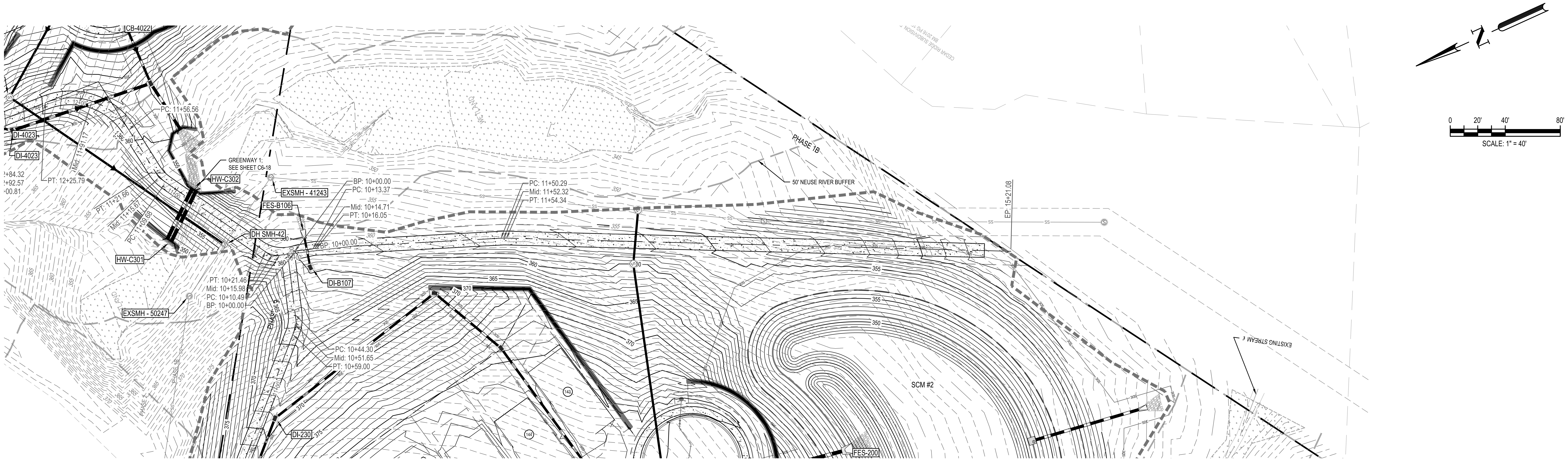
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

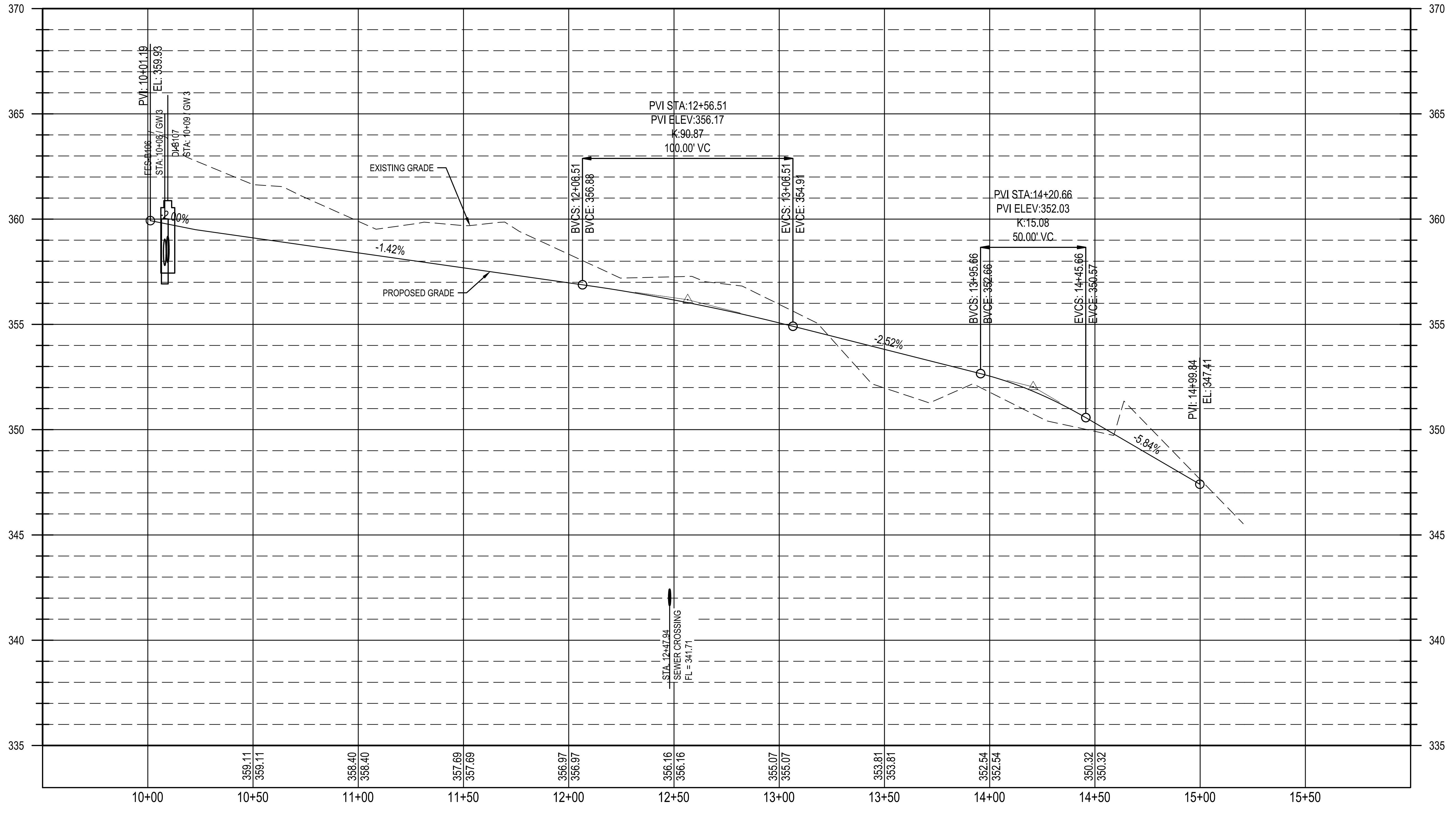
DATE: 11/21/2023

C6-21

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-18 GREENWAY PLAN AND PROFILE.dwg Layout: C6-22 GW3 GREENWAY PLAN AND PROFILE (1 OF 1) Plotted: 12/1/2023 2:46:03 PM


N
0
20'
40'
80'
SCALE: 1" = 40'
CB-4022
DI-4023
DI-4023
PC: 11+56.56
GREENWAY 1;
SEE SHEET C6-18
HW-C302
HW-C301
PT: 12+25.79
Mid: 11+91.17
PT: 11+21.66
Mid: 11+15.67
PC: 11+09.68
EXSMH - 41243
FES-B106
DH SMH-42
BP: 10+00.00
PC: 10+13.37
Mid: 10+14.71
PT: 10+16.05
BP: 10+00.00
DI-B107
PT: 10+21.46
Mid: 10+15.98
PC: 10+10.49
BP: 10+00.00
EXSMH - 50247
PC: 10+44.30
Mid: 10+51.65
PT: 10+59.00
DI-230
PC: 11+50.29
Mid: 11+52.32
PT: 11+54.34
PHASE 1B
50' NEUSE RIVER BUFFER
EP: 15+21.08
EXISTING STREAM
SCM #2
FES-200
WETLAND
CEDAR RIDGE SUBDIVISION
BM 2016 PG 1
PHASE 2
PHASE 1B
143
144

GW 3
STA: 9+50.00 TO STA:16+00.00



REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

GW3 GREENWAY PLAN AND PROFILE (1 OF 1)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

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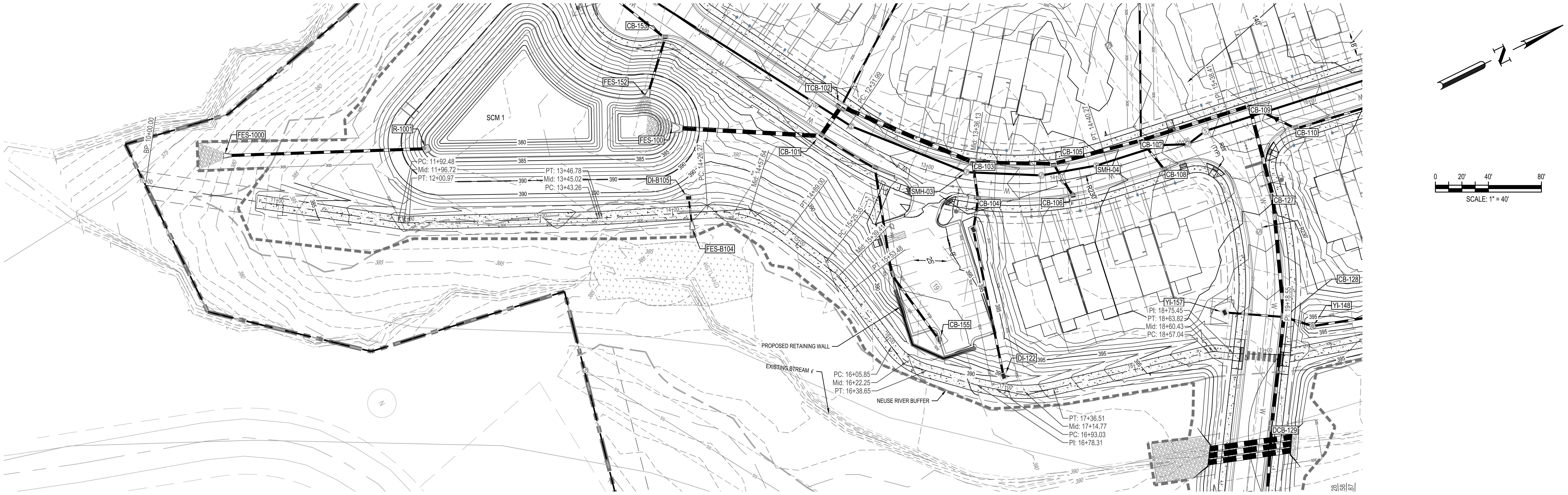
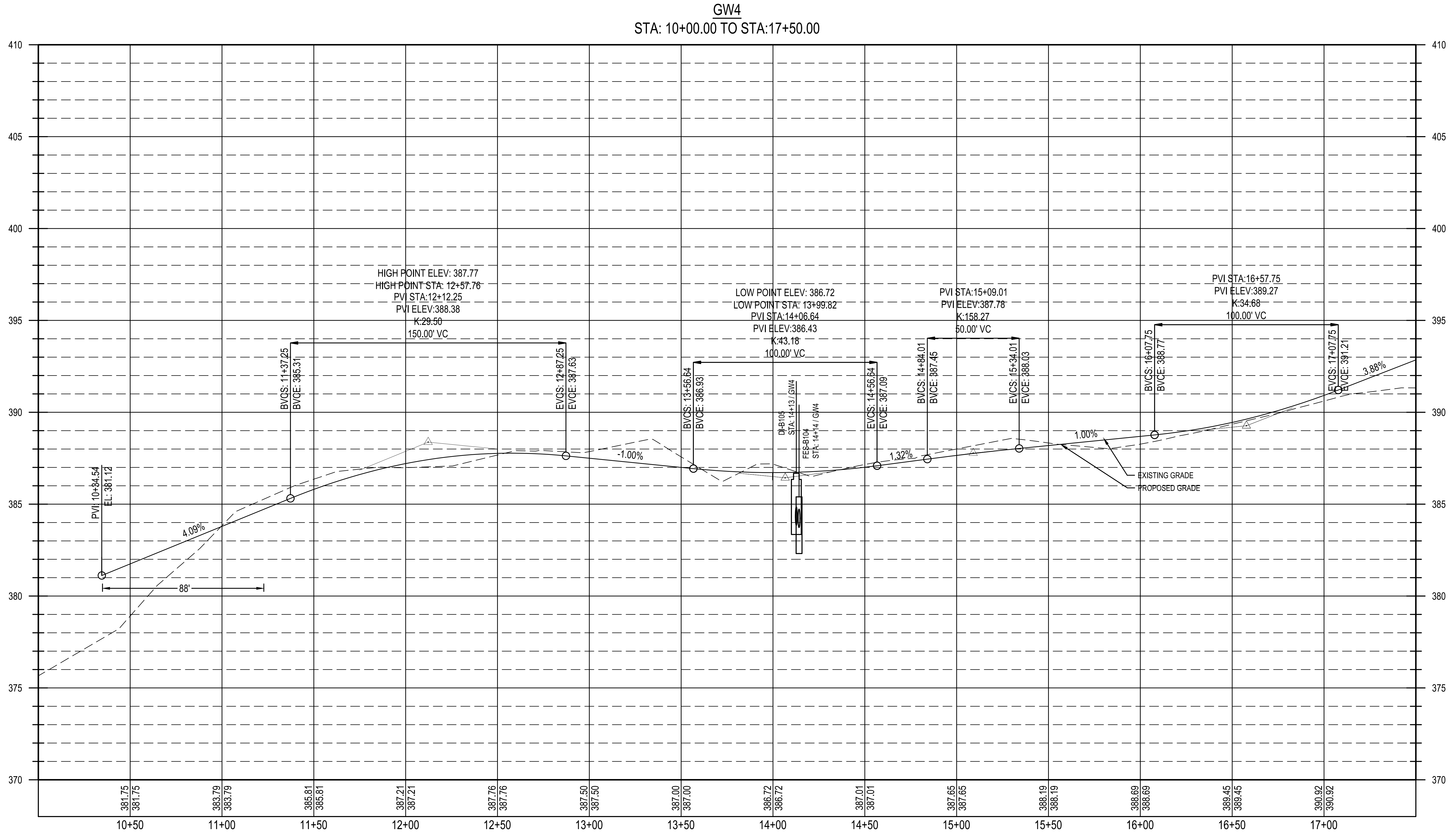
Know what's below.
Call before you dig.

FILE NUMBER: 8430-03
DATE: 11/21/2023

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-18 GREENWAY PLAN AND PROFILE.dwg Layout: C6-23 GW4 GREENWAY PLAN AND PROFILE (1 OF 2) Plotted: 12/1/2023 2:46:12 PM


CB-153
FES-152
SCM 1
IR-1001
FES-100
FES-1000
BP: 10+00.00
PC: 11+92.48
Mid: 11+96.72
PT: 12+00.97
PT: 13+46.78
Mid: 13+45.02
PC: 13+43.26
DI-B105
FES-B104
TCB-102
CB-101
CB-103
SMH-03
CB-104
CB-105
CB-106
SMH-04
CB-107
CB-108
CB-109
CB-110
CB-127
CB-128
YI-148
YI-157
PI: 18+75.45
PT: 18+63.82
Mid: 18+60.43
PC: 18+57.04
CB-155
DI-122
DCB-129
PROPOSED RETAINING WALL
EXISTING STREAM
PC: 16+05.85
Mid: 16+22.25
PT: 16+38.65
NEUSE RIVER BUFFER
PT: 17+36.51
Mid: 17+14.77
PC: 16+93.03
PI: 16+78.31
N
0
20'
40'
80'
SCALE: 1" = 40'

GW4
STA: 10+00.00 TO STA:17+50.00


410
405
400
395
390
385
380
375
370
HIGH POINT ELEV: 387.77
HIGH POINT STA: 12+57.76
PVI STA:12+12.25
PVI ELEV:388.38
K:29.50
150.00' VC
LOW POINT ELEV: 386.72
LOW POINT STA: 13+99.82
PVI STA:14+06.64
PVI ELEV:386.43
K:43.18
100.00' VC
PVI STA:15+09.01
PVI ELEV:387.78
K:158.27
50.00' VC
PVI STA:16+57.75
PVI ELEV:389.27
K:34.68
100.00' VC
PVI: 10+84.54
EL: 381.12
88'
4.09%
BVCS: 11+37.25
BVCE: 385.31
EVCS: 12+87.25
EVCE: 387.63
-1.00%
BVCS: 13+56.64
BVCE: 386.93
DI-B105
STA: 14+13 / GW4
FES-B104
STA: 14+14 / GW4
EVCS: 14+56.64
EVCE: 387.09
1.32%
BVCS: 14+84.01
BVCE: 387.45
EVCS: 15+34.01
EVCE: 388.03
1.00%
EXISTING GRADE
PROPOSED GRADE
BVCS: 16+07.75
BVCE: 388.77
EVCS: 17+07.75
EVCE: 391.21
3.88%
381.75
381.75
383.79
383.79
385.81
385.81
387.21
387.21
387.76
387.76
387.50
387.50
387.00
387.00
386.72
386.72
387.01
387.01
387.65
387.65
388.19
388.19
388.69
388.69
389.45
389.45
390.82
390.82
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50
15+00
15+50
16+00
16+50
17+00

Know what's **below.**
Call before you dig.

REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

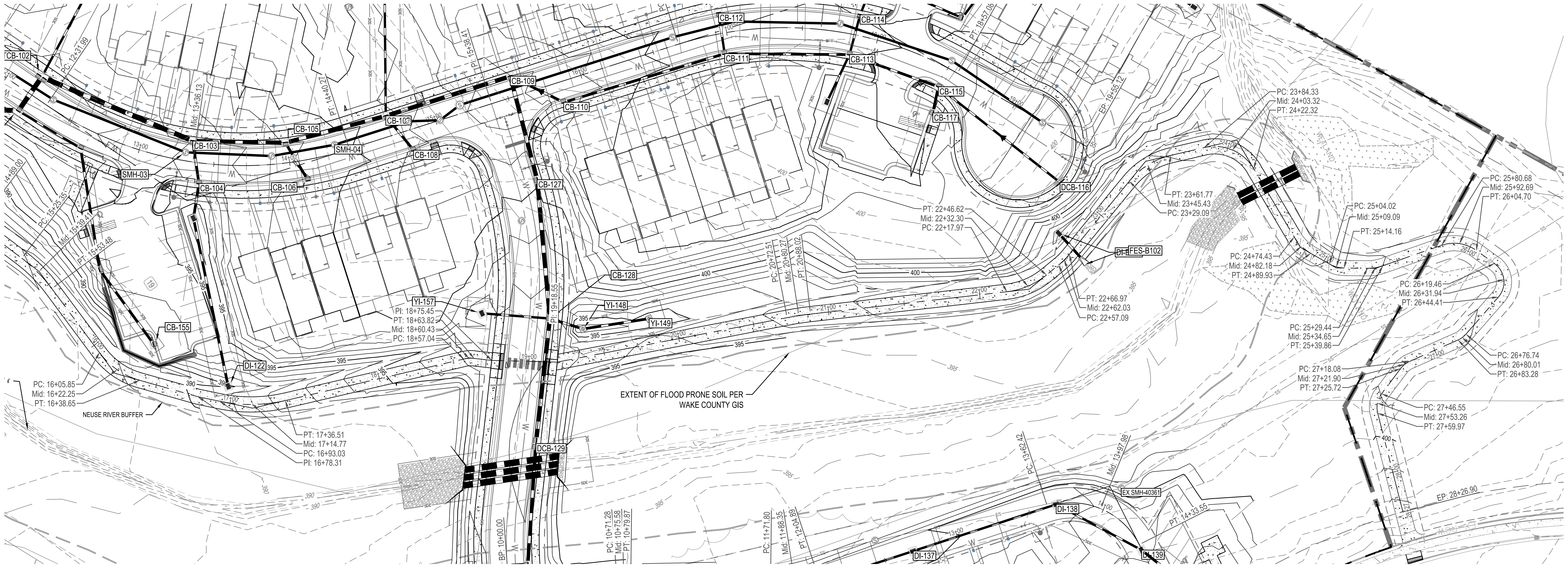
GW4 GREENWAY PLAN AND PROFILE (1 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C6-23

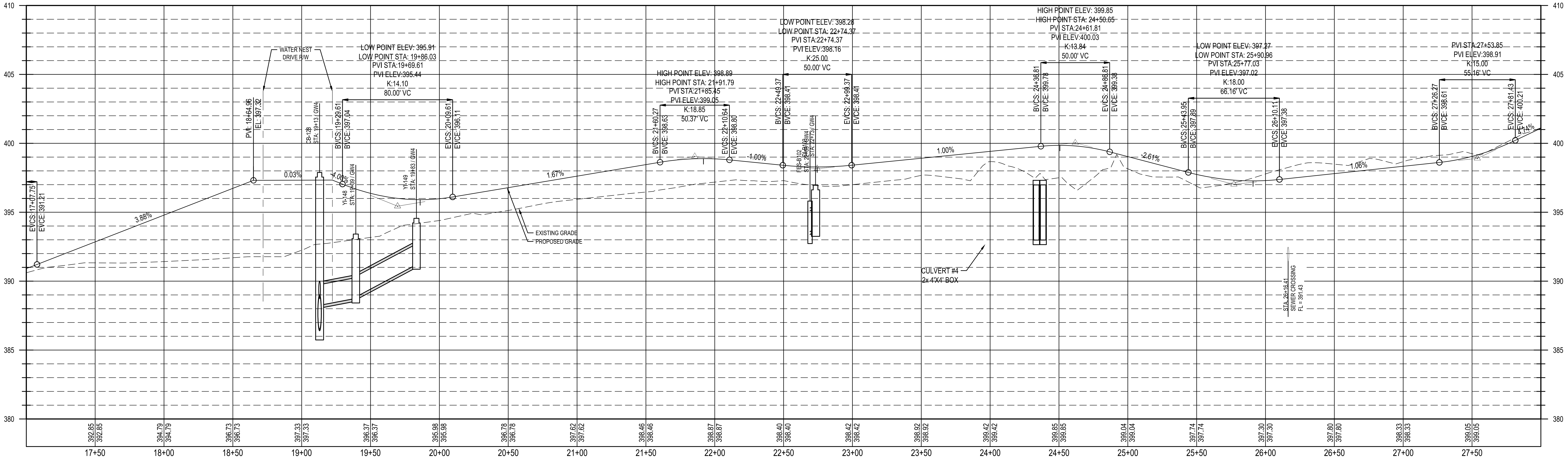

CB-102
CB-103
CB-104
CB-105
CB-106
CB-107
CB-108
CB-109
CB-110
CB-111
CB-112
CB-113
CB-114
CB-115
CB-117
CB-127
CB-128
CB-155
SMH-03
SMH-04
DCB-116
DCB-129
DI-122
DI-137
DI-138
DI-139
YI-148
YI-149
YI-157
FES-B102
EX SMH-40361
PC: 16+05.85
Mid: 16+22.25
PT: 16+38.65
NEUSE RIVER BUFFER
PT: 17+36.51
Mid: 17+14.77
PC: 16+93.03
PI: 16+78.31
PI: 18+75.45
PT: 18+63.82
Mid: 18+60.43
PC: 18+57.04
EXTENT OF FLOOD PRONE SOIL PER
WAKE COUNTY GIS
PT: 22+46.62
Mid: 22+32.30
PC: 22+17.97
PT: 22+66.97
Mid: 22+62.03
PC: 22+57.09
PC: 23+84.33
Mid: 24+03.32
PT: 24+22.32
PT: 23+61.77
Mid: 23+45.43
PC: 23+29.09
PC: 24+74.43
Mid: 24+82.18
PT: 24+89.93
PC: 25+04.02
Mid: 25+09.09
PT: 25+14.16
PC: 25+29.44
Mid: 25+34.65
PT: 25+39.86
PC: 25+80.68
Mid: 25+92.69
PT: 26+04.70
PC: 26+19.46
Mid: 26+31.94
PT: 26+44.41
PC: 26+76.74
Mid: 26+80.01
PT: 26+83.28
PC: 27+18.08
Mid: 27+21.90
PT: 27+25.72
PC: 27+46.55
Mid: 27+53.26
PT: 27+59.97
EP: 28+26.90
BP: 10+00.00
PC: 10+71.28
Mid: 10+75.58
PT: 10+79.87
PC: 11+71.80
Mid: 11+88.35
PT: 12+04.89
PC: 13+62.42
Mid: 13+97.98
PT: 14+33.55
395
400

N

0 20' 40' 80'

SCALE: 1" = 40'

GW4
STA: 17+00.00 TO STA:28+00.00



G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C6-18 GREENWAY PLAN AND PROFILE.dwg Layout: C6-24 GW4 GREENWAY PLAN AND PROFILE (2 OF 2) Plotted: 12/1/2023 2:46:22 PM

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY:	DF/CD
DRAWN BY:	DF/JWM
REVIEWED BY:	DF

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GW4 GREENWAY PLAN AND PROFILE (2 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23

NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C6-24

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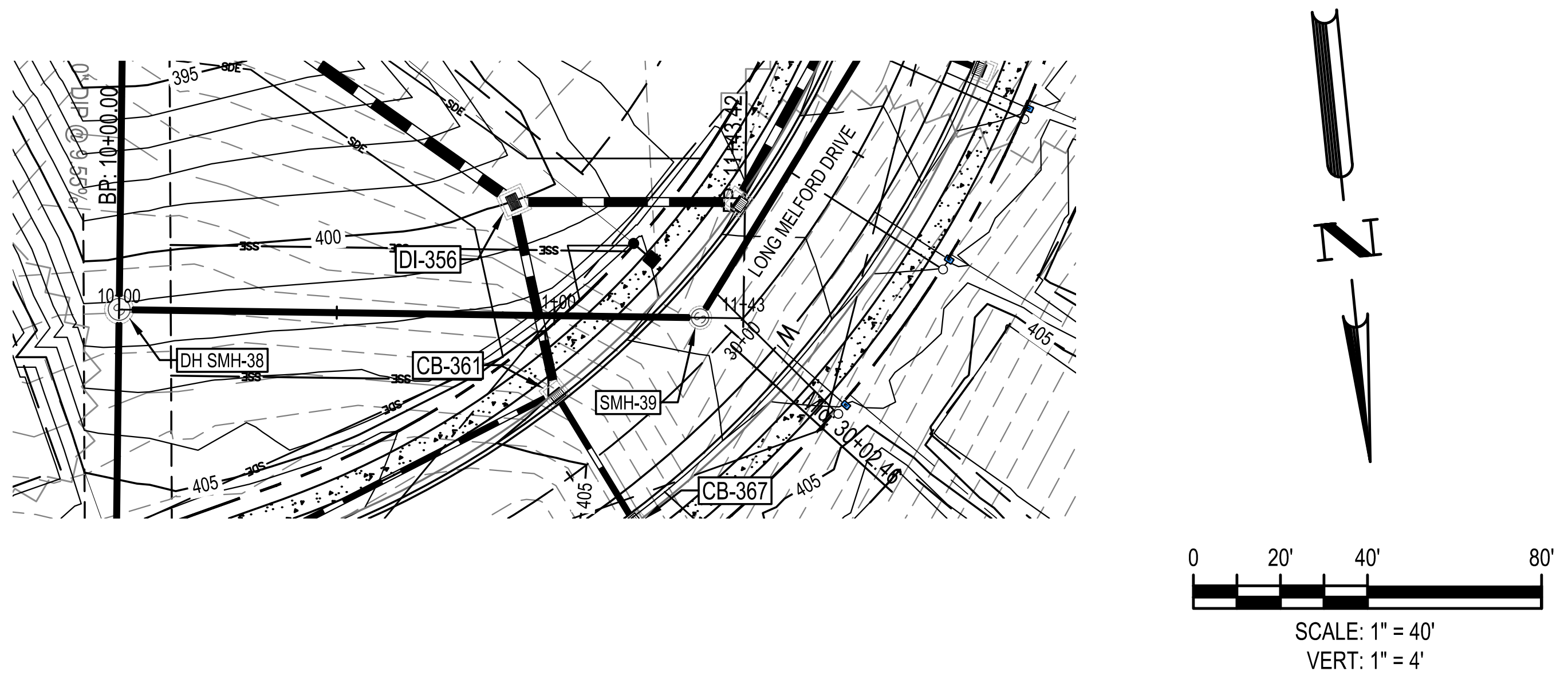
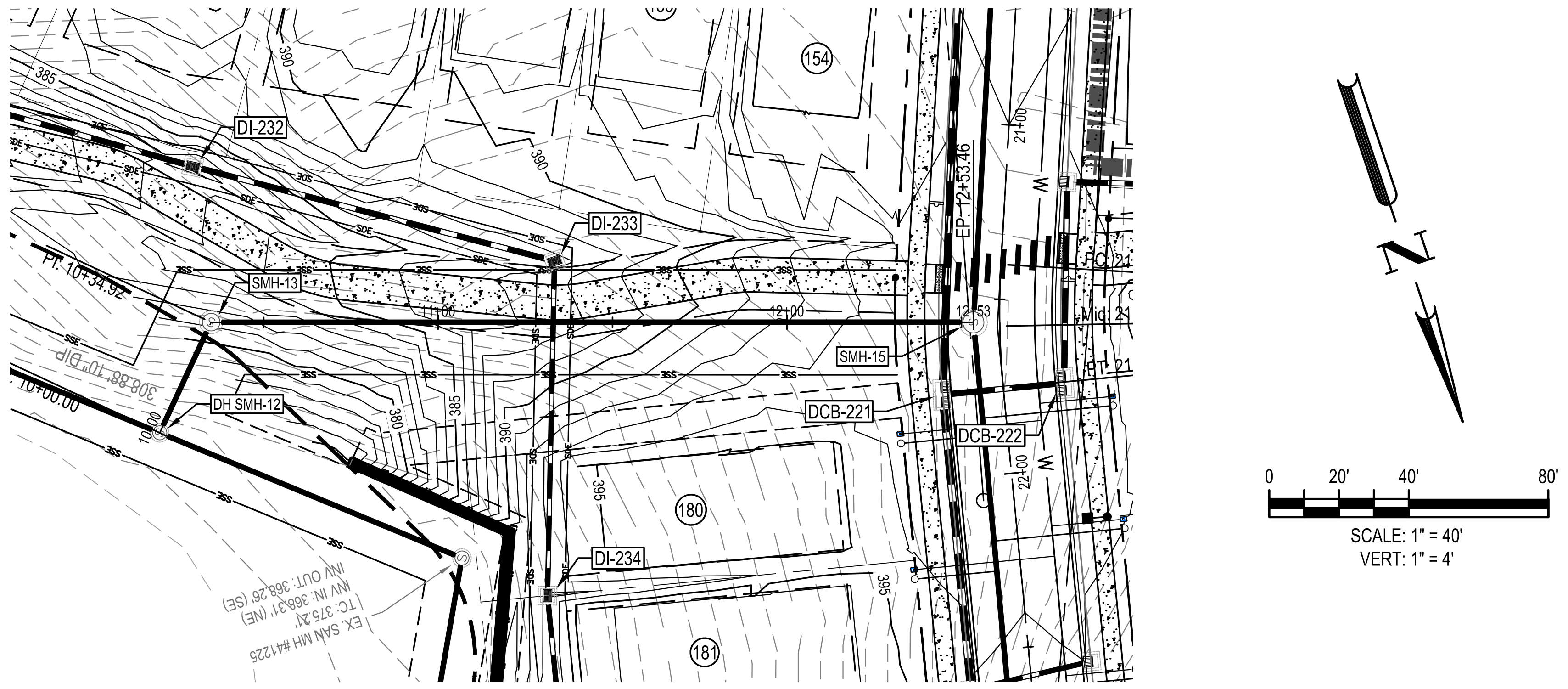


BP 10+00.00
DI-356
DH SMH-38
CB-361
SMH-39
CB-367
LONG MELFORD DRIVE
N
0
20'
40'
80'

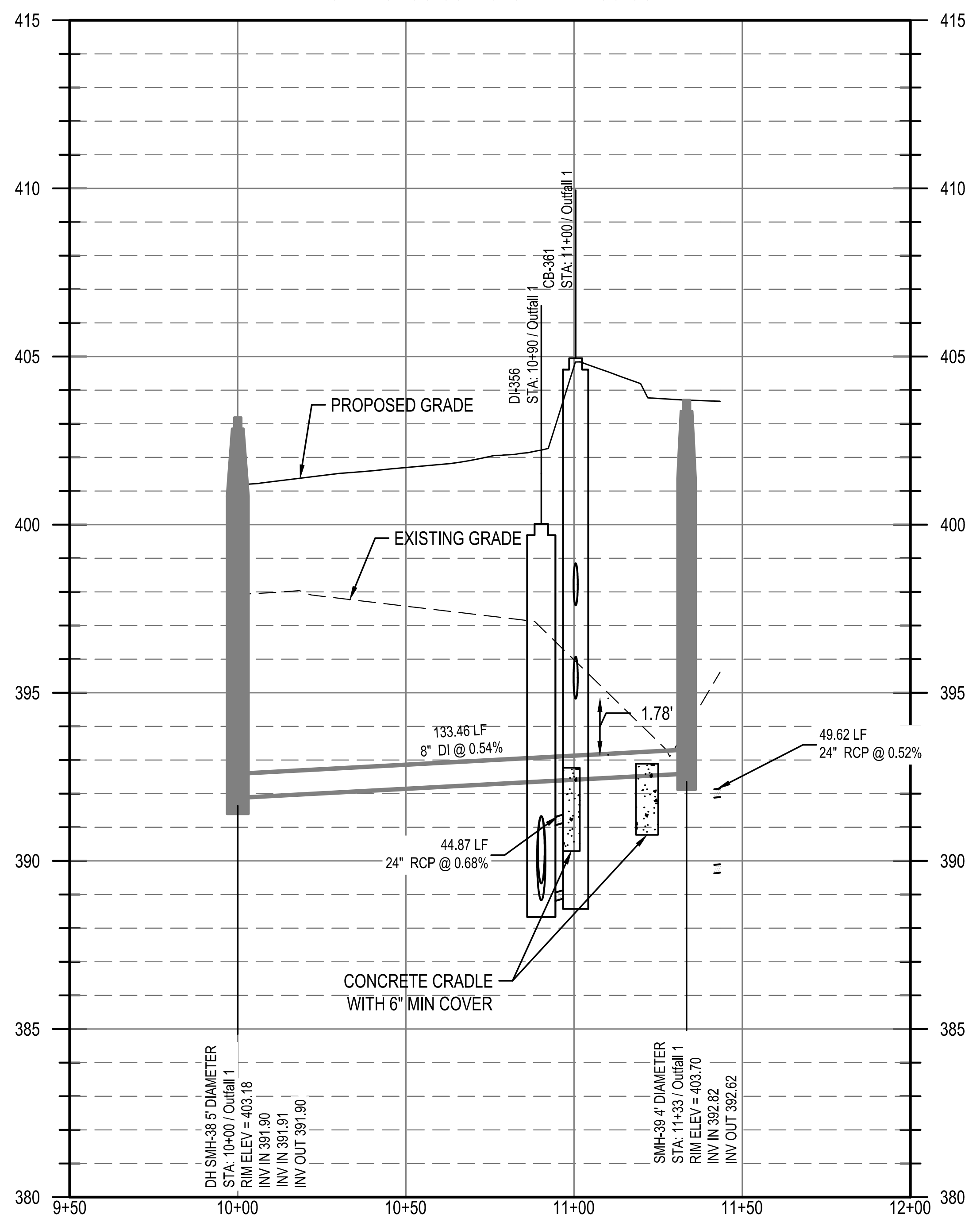
SCALE: 1" = 40'
VERT: 1" = 4'



DI-232
DI-233
SMH-13
DH SMH-12
SMH-15
DCB-221
DCB-222
DI-234
154
180
181
N
0
20'
40'
80'

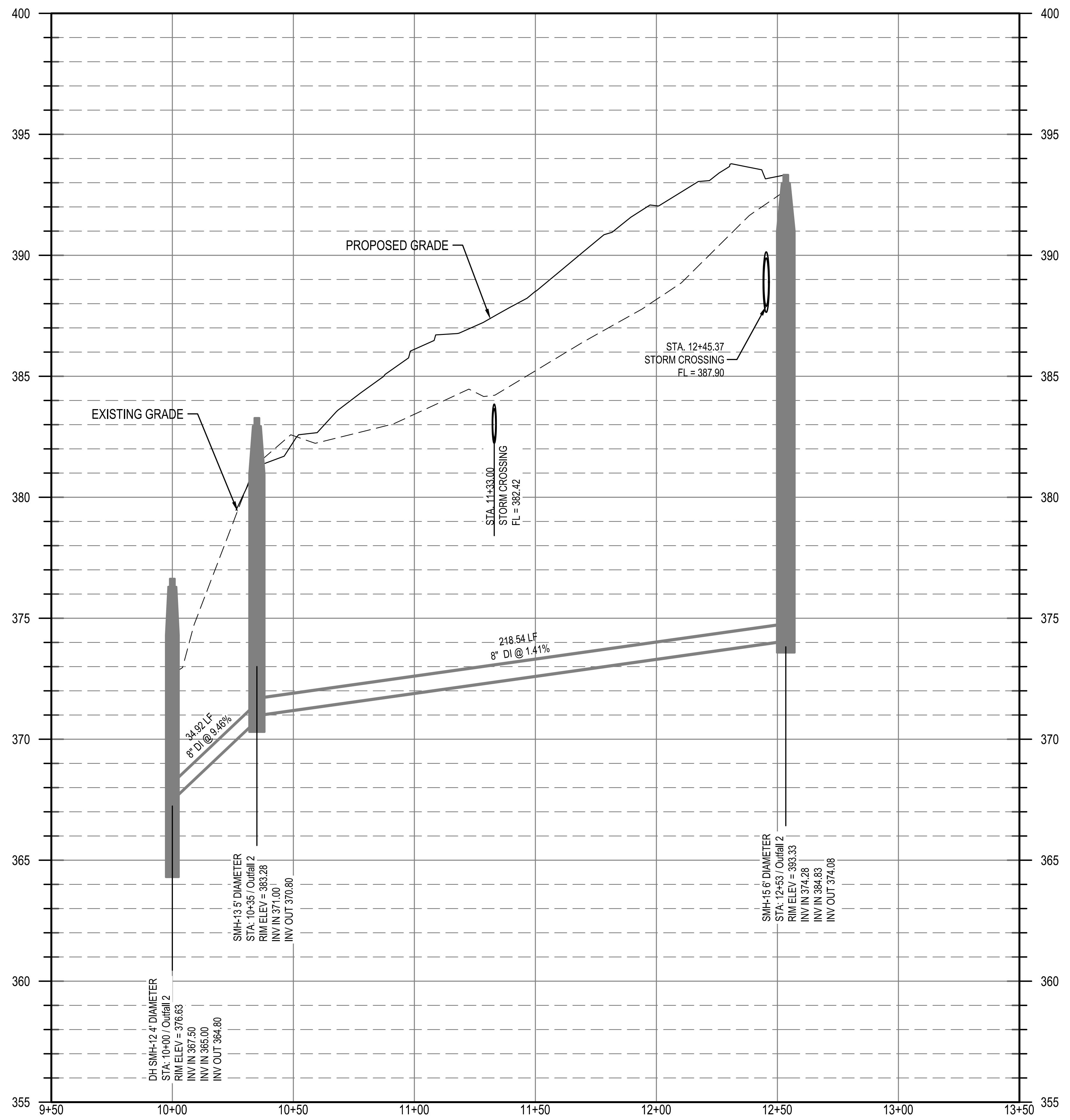
SCALE: 1" = 40'
VERT: 1" = 4'

Outfall 1
STA: 9+50.00 TO STA:12+00.00



415
410
405
400
395
390
385
380
9+50
10+00
10+50
11+00
11+50
12+00
PROPOSED GRADE
EXISTING GRADE
DI-356
STA: 10+90 / Outfall 1
CB-361
STA: 11+00 / Outfall 1
1.78'
133.46 LF
8" DI @ 0.54%
49.62 LF
24" RCP @ 0.52%
44.87 LF
24" RCP @ 0.68%
CONCRETE CRADLE
WITH 6" MIN COVER
DH SMH-38 5' DIAMETER
STA: 10+00 / Outfall 1
RIM ELEV = 403.18
INV IN 391.90
INV IN 391.91
INV OUT 391.90
SMH-39 4' DIAMETER
STA: 11+33 / Outfall 1
RIM ELEV = 403.70
INV IN 392.82
INV OUT 392.62

Outfall 2
STA: 9+50.00 TO STA:13+50.00



400
395
390
385
380
375
370
365
360
355
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
PROPOSED GRADE
EXISTING GRADE
STA. 12+45.37
STORM CROSSING
FL = 387.90
STA. 11+33.00
STORM CROSSING
FL = 382.42
218.54 LF
8" DI @ 1.41%
34.92 LF
8" DI @ 9.46%
DH SMH-12 4' DIAMETER
STA: 10+00 / Outfall 2
RIM ELEV = 376.63
INV IN 367.50
INV IN 365.00
INV OUT 364.80
SMH-13 5' DIAMETER
STA: 10+35 / Outfall 2
RIM ELEV = 383.28
INV IN 371.00
INV OUT 370.80
SMH-15 6' DIAMETER
STA: 12+53 / Outfall 2
RIM ELEV = 393.33
INV IN 374.28
INV IN 384.83
INV OUT 374.08

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\SSWR OUTFALL PROF.dwg Layout: C6-25 SEWER OUTFALL 1 AND 2 PLAN AND PROFILE Plotted: 12/1/2023 12:51:21 PM

REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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SEWER OUTFALL 1 AND 2
PLAN AND PROFILE

NORTH CAROLINA
PROFESSIONAL
PRELIMINARY
ENGINEER
DEBRA M. FERM
12-01-23

NOT FOR
CONSTRUCTION

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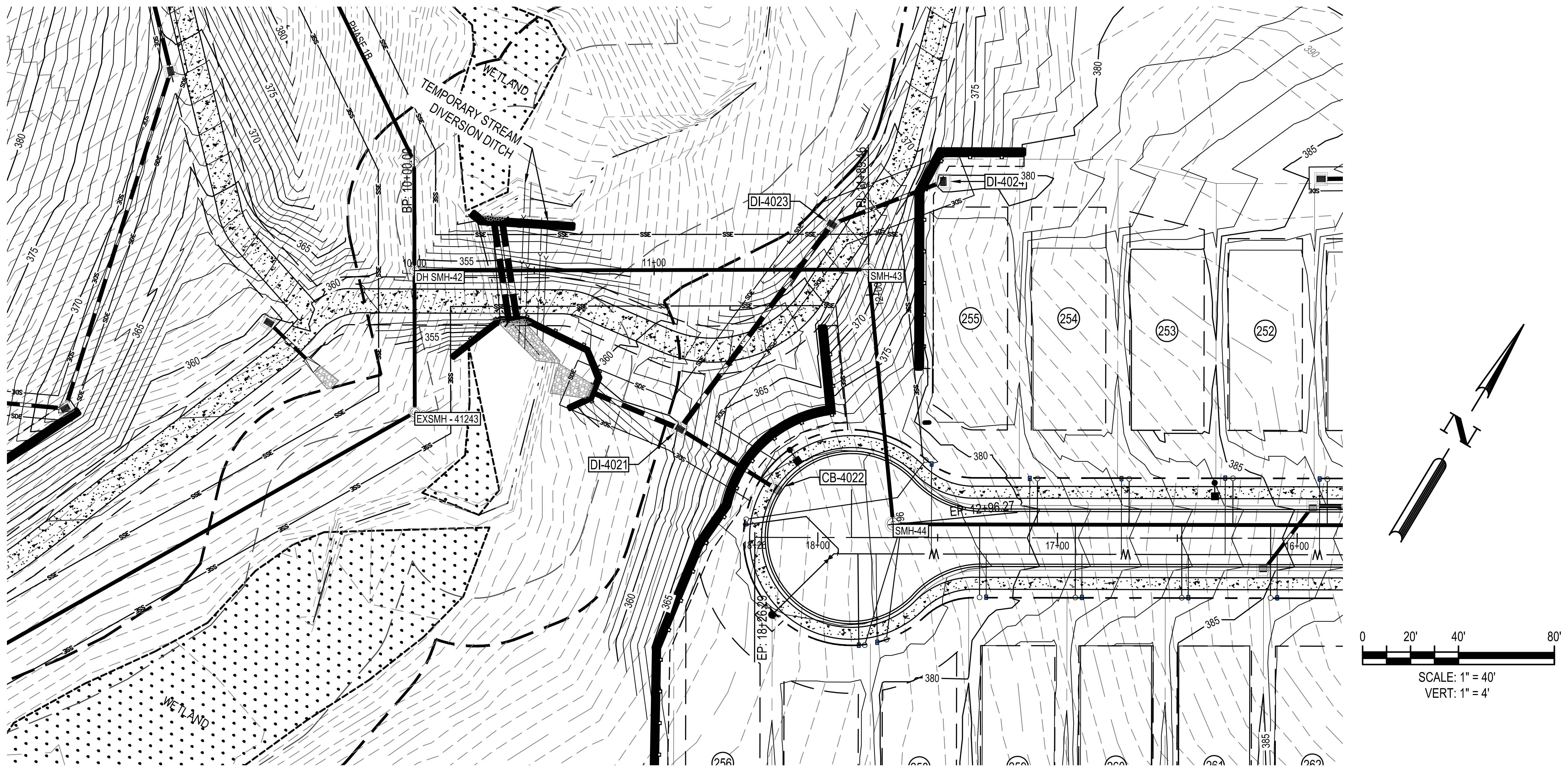
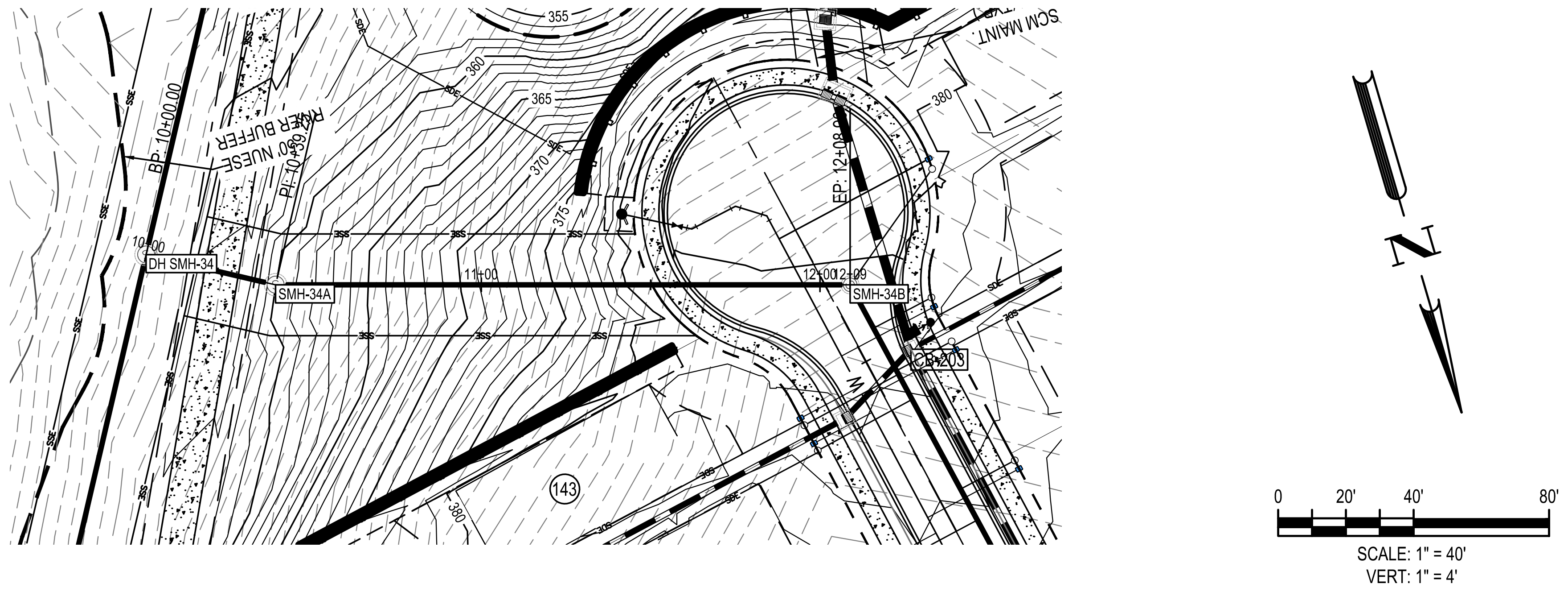
FILE NUMBER:
8430-03

DATE: 11/21/2023

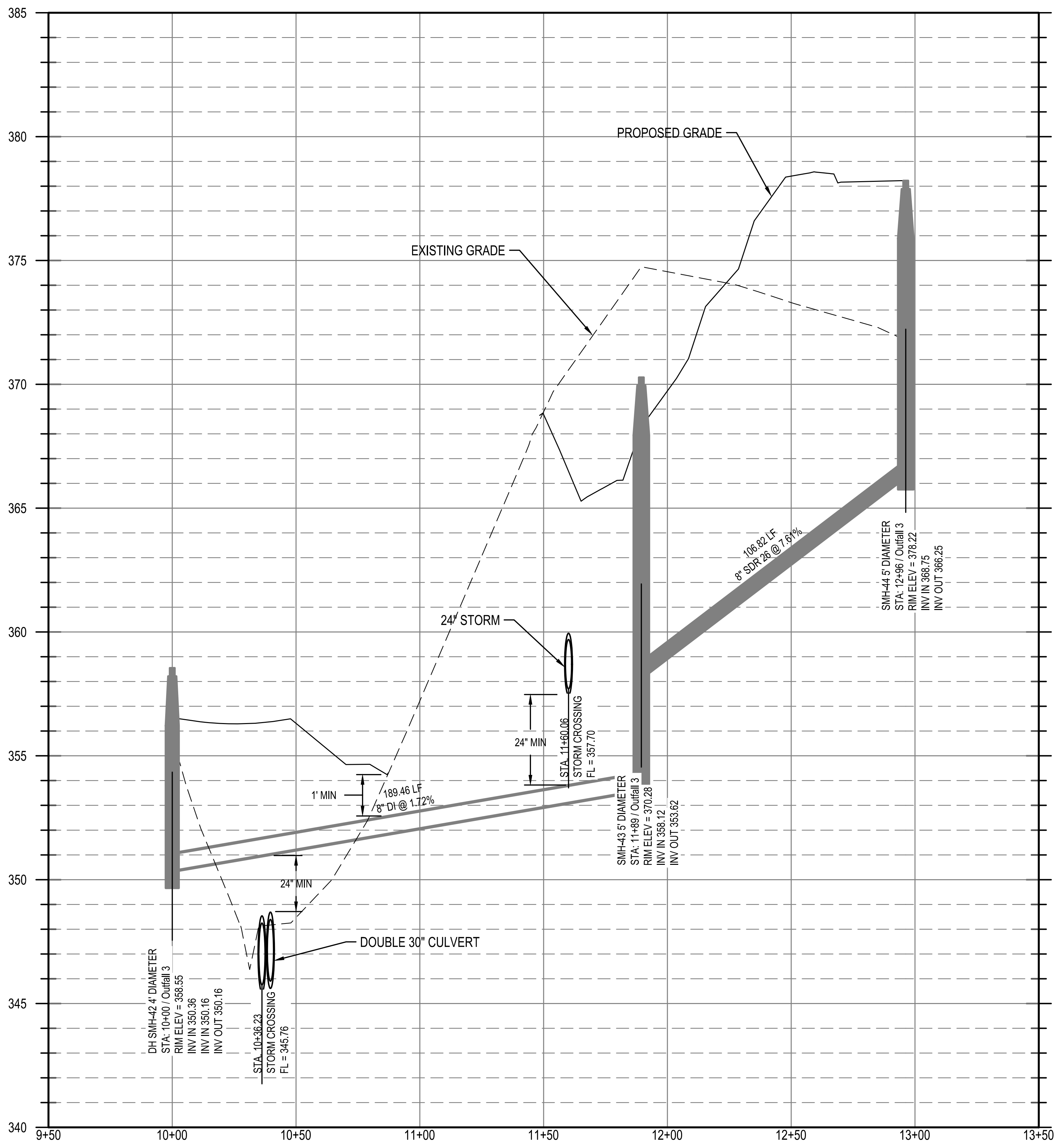
C6-25

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\SSWR OUTFALL PROF.dwg   Layout: C6-26 SEWER OUTFALL 3 AND 4 PLAN AND PROFILE   Plotted: 12/1/2023 12:51:33 PM

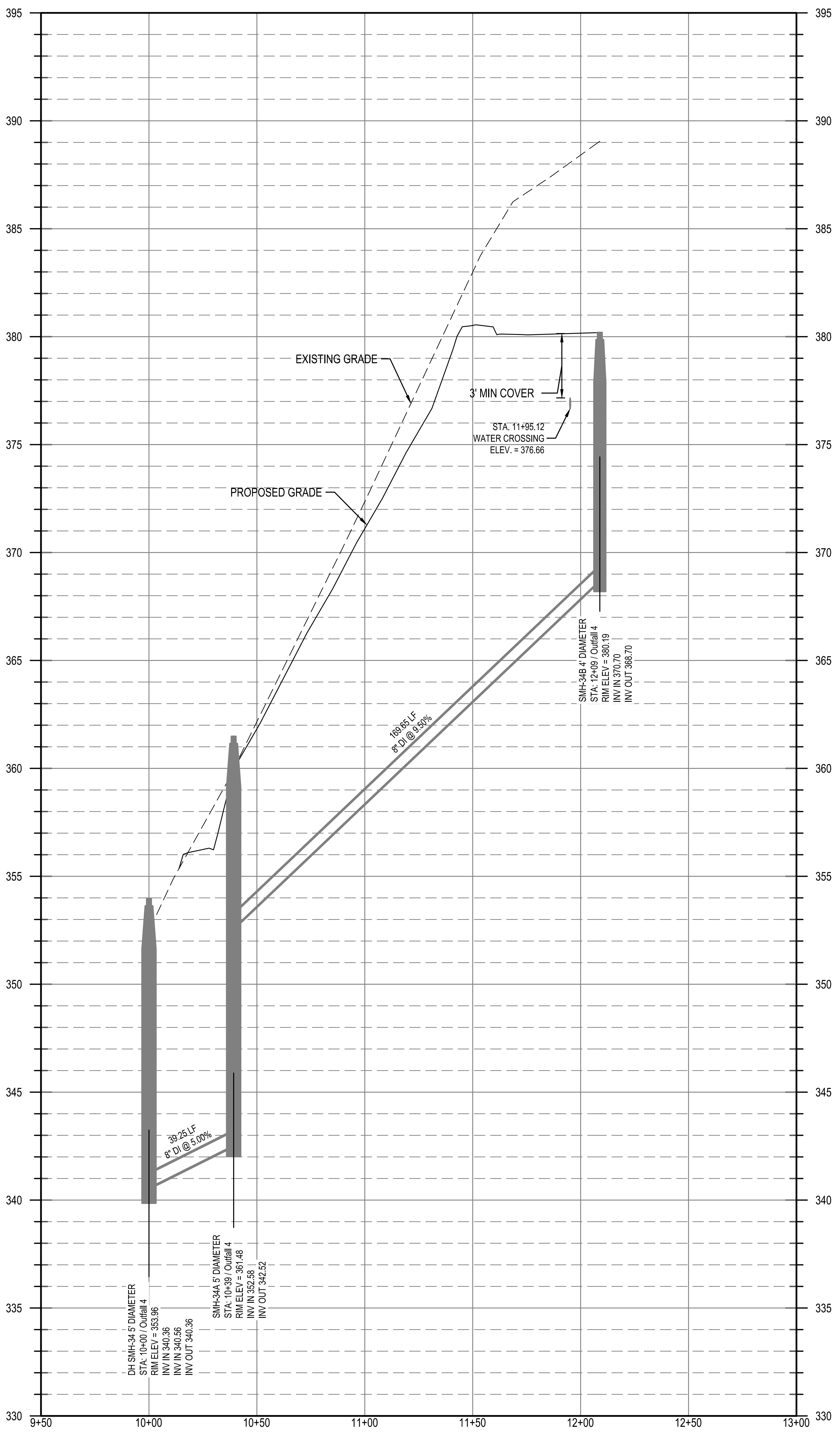

PHASE 1B
WETLAND
TEMPORARY STREAM DIVERSION DITCH
BP: 10+00.00
10+00
DH SMH-42
11+00
SMH-43
12+00
DI-4023
DI-4024
EXSMH - 41243
DI-4021
CB-4022
SMH-44
EP: 12+96.27
18+00
17+00
16+00
EP: 18+26.29
255
254
253
252
WETLAND
355
360
365
370
375
380
385
390
N
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'


BP: 10+00.00
50' NUESE RIVER BUFFER
PI: 10+39.?
10+00
DH SMH-34
SMH-34A
11+00
12+00
12+09
SMH-34B
EP: 12+08.0?
CB-203
SCM MAINT.
143
355
360
365
370
375
380
N
0
20'
40'
80'
SCALE: 1" = 40'
VERT: 1" = 4'

Outfall 3
STA: 9+50.00 TO STA:13+50.00


PROPOSED GRADE
EXISTING GRADE
24" STORM
24" MIN
STA. 11+60.06
STORM CROSSING
FL = 357.70
1' MIN
189.46 LF
8" DI @ 1.72%
24" MIN
DOUBLE 30" CULVERT
106.82 LF
8" SDR 26 @ 7.61%
DH SMH-42 4' DIAMETER
STA: 10+00 / Outfall 3
RIM ELEV = 358.55
INV IN 350.36
INV IN 350.16
INV OUT 350.16
STA. 10+36.23
STORM CROSSING
FL = 345.76
SMH-43 5' DIAMETER
STA: 11+89 / Outfall 3
RIM ELEV = 370.28
INV IN 358.12
INV OUT 353.62
SMH-44 5' DIAMETER
STA: 12+96 / Outfall 3
RIM ELEV = 378.22
INV IN 368.75
INV OUT 366.25
385
380
375
370
365
360
355
350
345
340
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50

Outfall 4
STA: 9+50.00 TO STA:13+00.00


EXISTING GRADE
3' MIN COVER
STA. 11+95.12
WATER CROSSING
ELEV. = 376.66
PROPOSED GRADE
169.65 LF
8" DI @ 9.50%
39.25 LF
8" DI @ 5.00%
DH SMH-34 5' DIAMETER
STA: 10+00 / Outfall 4
RIM ELEV = 353.96
INV IN 340.36
INV IN 340.56
INV OUT 340.36
SMH-34A 5' DIAMETER
STA: 10+39 / Outfall 4
RIM ELEV = 361.48
INV IN 352.58
INV OUT 342.52
SMH-34B 4' DIAMETER
STA: 12+09 / Outfall 4
RIM ELEV = 380.19
INV IN 370.70
INV OUT 368.70
395
390
385
380
375
370
365
360
355
350
345
340
335
330
9+50
10+00
10+50
11+00
11+50
12+00
12+50
13+00

811
Know what's below.
Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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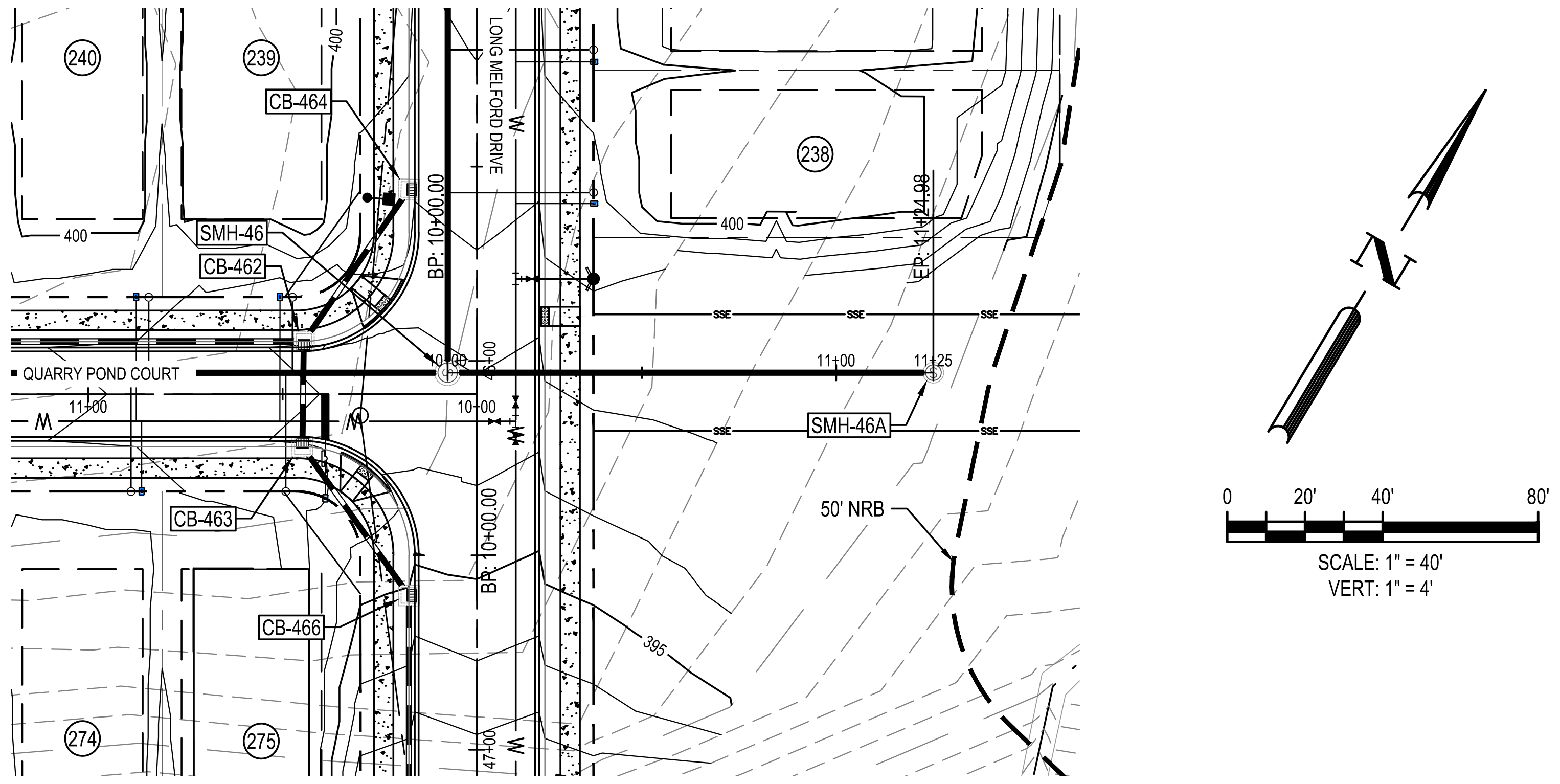
ROLESVILLE / NORTH CAROLINA / 27571

SEWER OUTFALL 3 AND 4 PLAN AND PROFILE

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C6-26

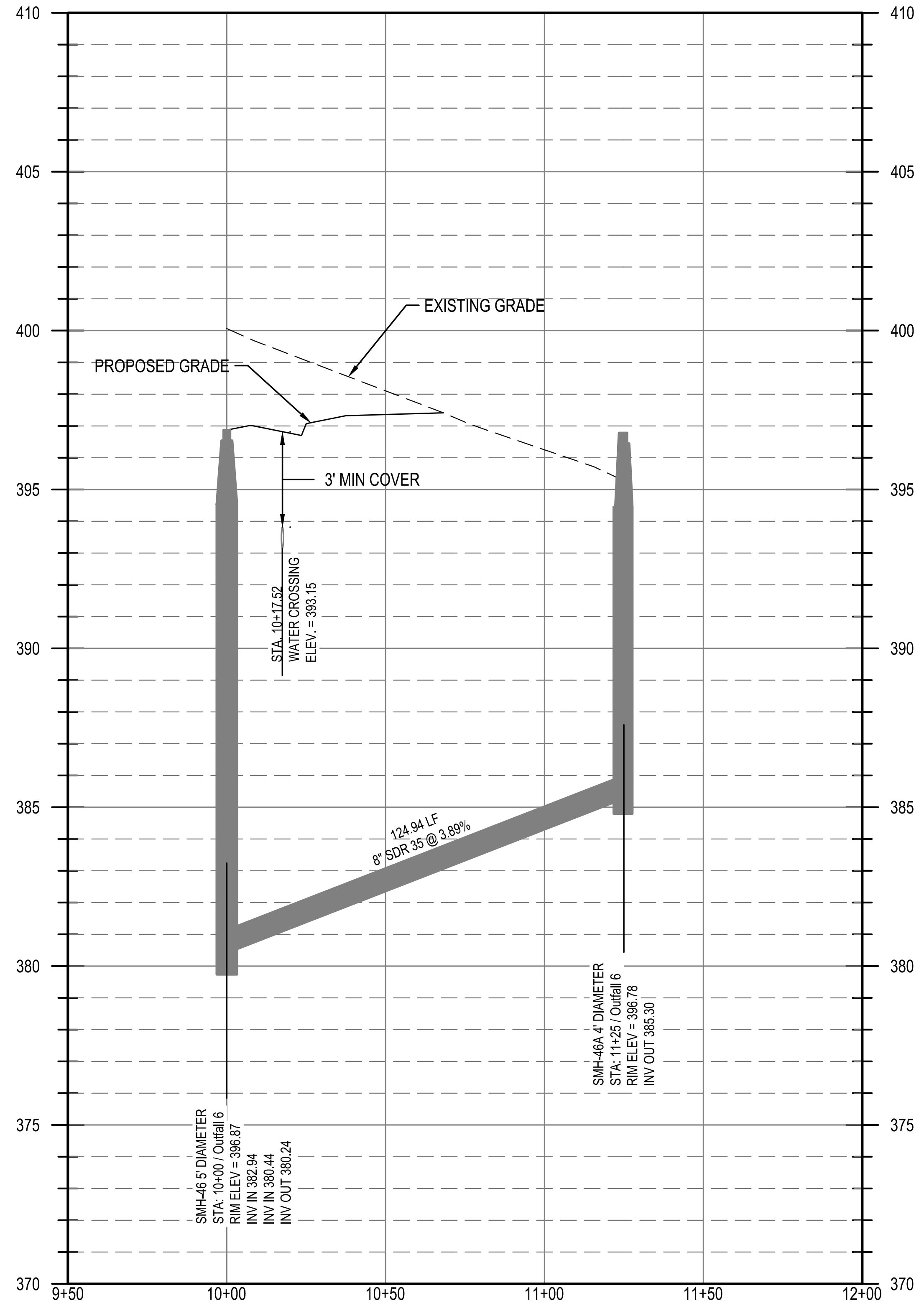
G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\SSWR OUTFALL PROF.dwg Layout: C6-27 SEWER OUTFALL 6 PLAN AND PROFILE Plotted: 12/1/2023 12:51:38 PM



240
239
238
274
275
CB-464
SMH-46
CB-462
CB-463
CB-466
SMH-46A
LONG MELFORD DRIVE
QUARRY POND COURT
BP: 10+00.00
EP: 11+24.98
BP: 10+00.00
10+00
11+00
11+25
11+00
10+00
47+00
400
395
SSE
W
50' NRB
N
0
20'
40'
80'

SCALE: 1" = 40'
VERT: 1" = 4'

Outfall 6
STA: 9+50.00 TO STA:12+00.00



SMH-46 5' DIAMETER
STA: 10+00 / Outfall 6
RIM ELEV = 396.87
INV IN 382.94
INV IN 380.44
INV OUT 380.24

SMH-46A 4' DIAMETER
STA: 11+25 / Outfall 6
RIM ELEV = 396.78
INV OUT 385.30

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

SEWER OUTFALL 6 PLAN AND PROFILE

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

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Know what's below.
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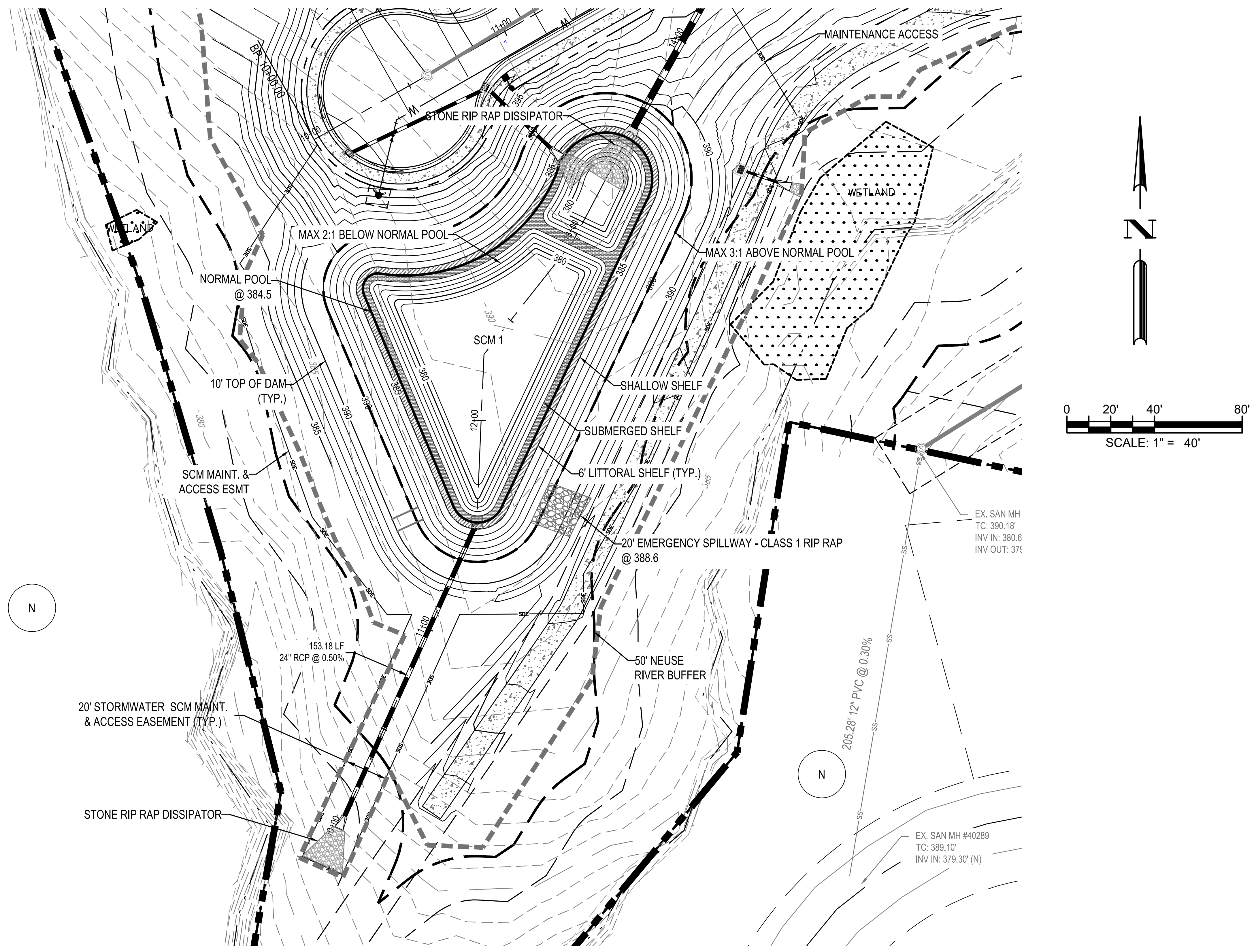
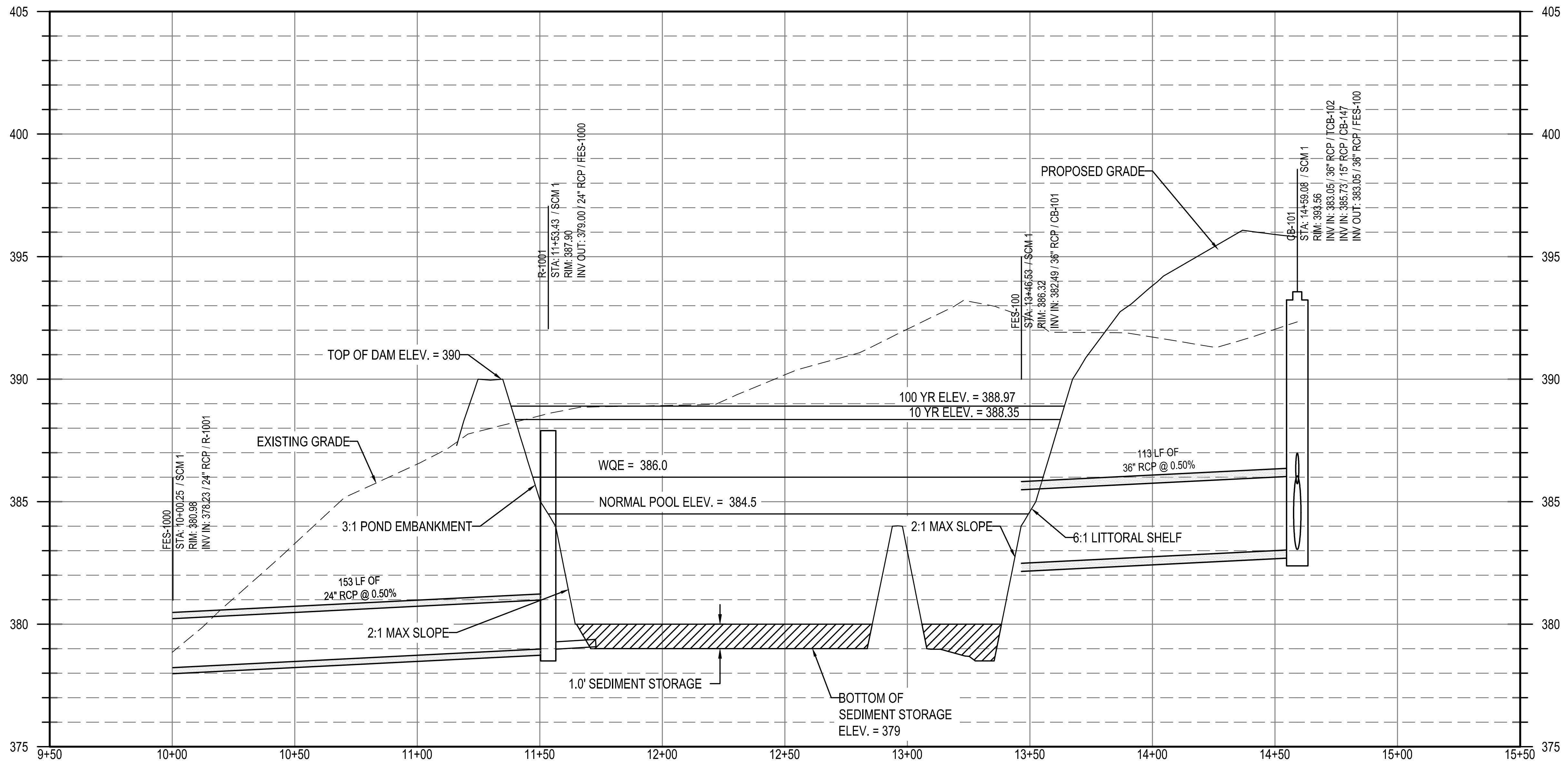
FILE NUMBER:
8430-03
DATE: 11/21/2023

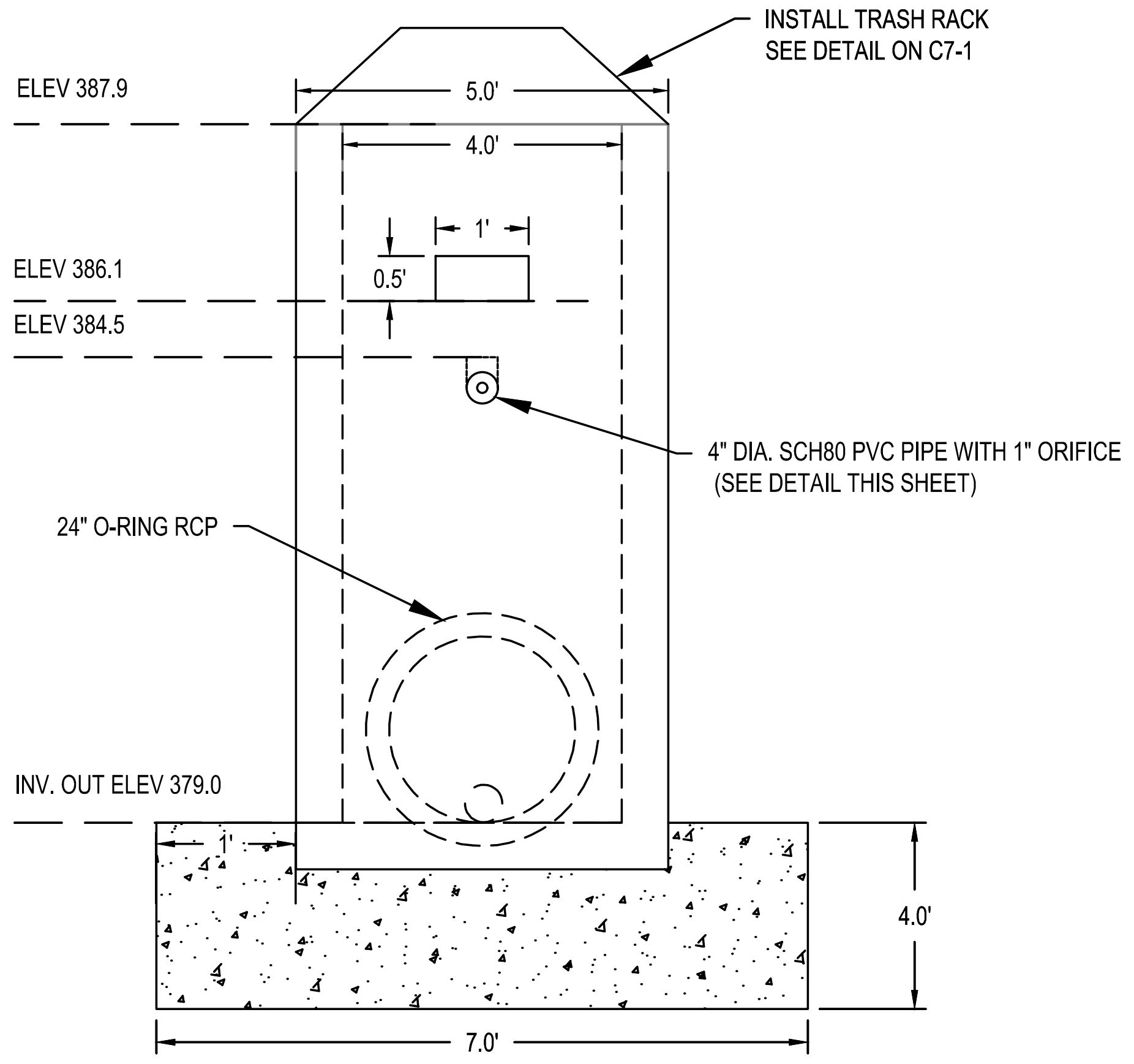
C6-27


MAINTENANCE ACCESS
STONE RIP RAP DISSIPATOR
WETLAND
MAX 2:1 BELOW NORMAL POOL
MAX 3:1 ABOVE NORMAL POOL
NORMAL POOL @ 384.5
SCM 1
10' TOP OF DAM (TYP.)
SHALLOW SHELF
SUBMERGED SHELF
6' LITTORAL SHELF (TYP.)
SCM MAINT. & ACCESS ESMT
20' EMERGENCY SPILLWAY - CLASS 1 RIP RAP @ 388.6
EX. SAN MH
TC: 390.18'
INV IN: 380.6
INV OUT: 37
N
153.18 LF
24" RCP @ 0.50%
50' NEUSE RIVER BUFFER
20' STORMWATER SCM MAINT. & ACCESS EASEMENT (TYP.)
205.28' 12" PVC @ 0.30%
N
STONE RIP RAP DISSIPATOR
EX. SAN MH #40289
TC: 389.10'
INV IN: 379.30' (N)
N
0
20'
40'
80'
SCALE: 1" = 40'

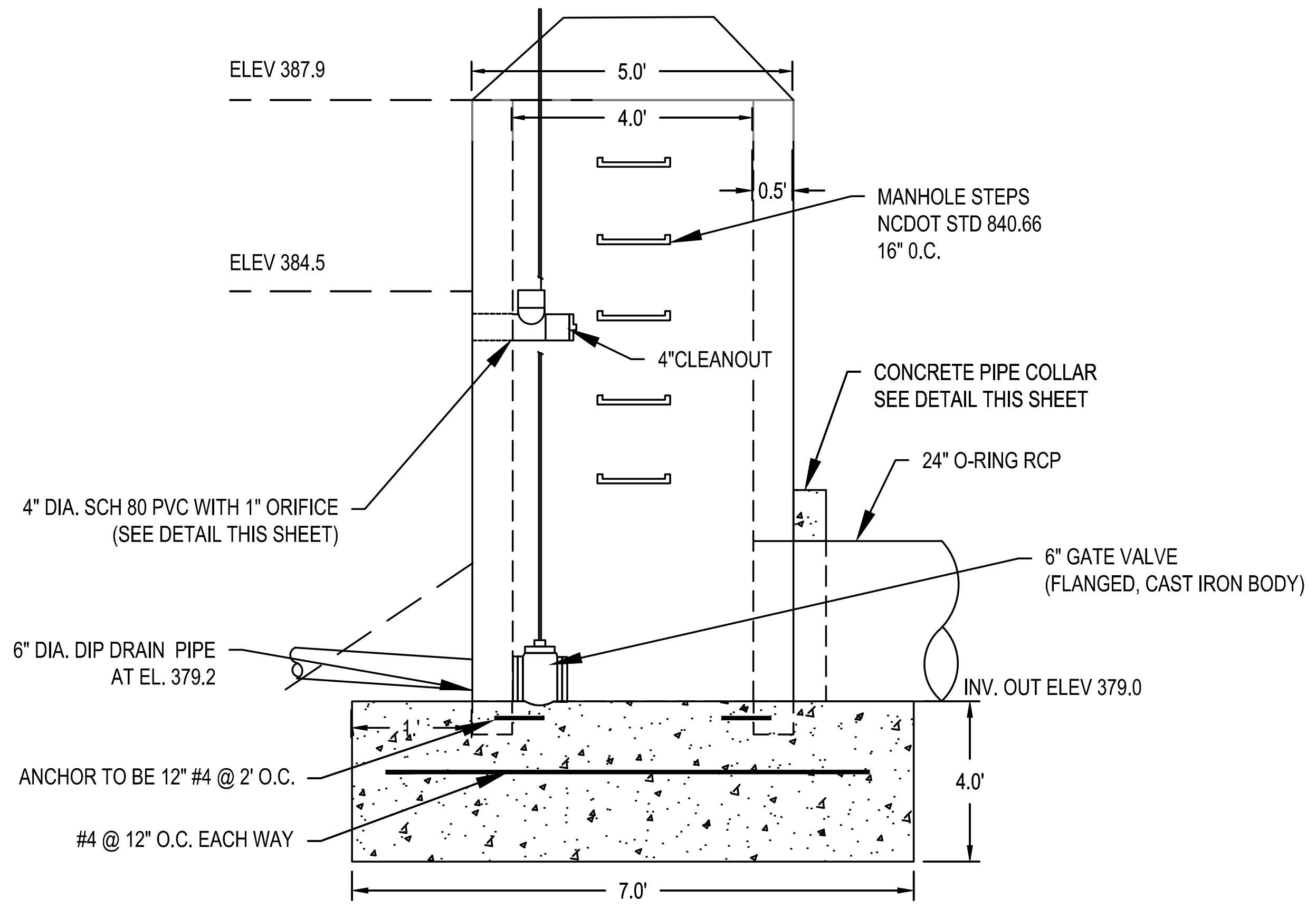
SCM 1

STA: 9+50.00 TO STA:15+50.00

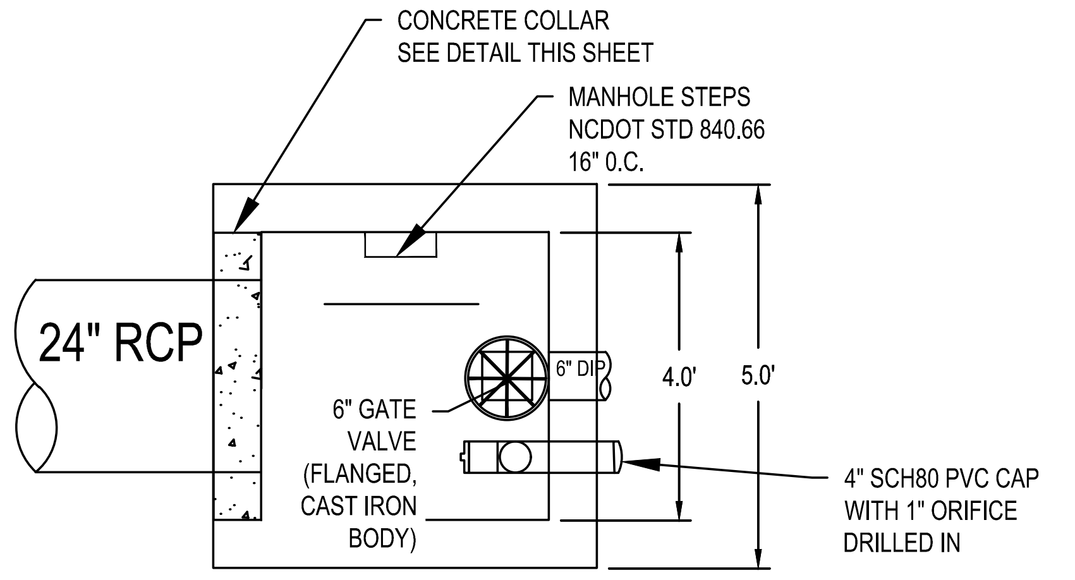



ELEV 387.9
5.0'
4.0'
INSTALL TRASH RACK
SEE DETAIL ON C7-1
1'
0.5'
ELEV 386.1
ELEV 384.5
4" DIA. SCH80 PVC PIPE WITH 1" ORIFICE
(SEE DETAIL THIS SHEET)
24" O-RING RCP
INV. OUT ELEV 379.0
4.0'
7.0'

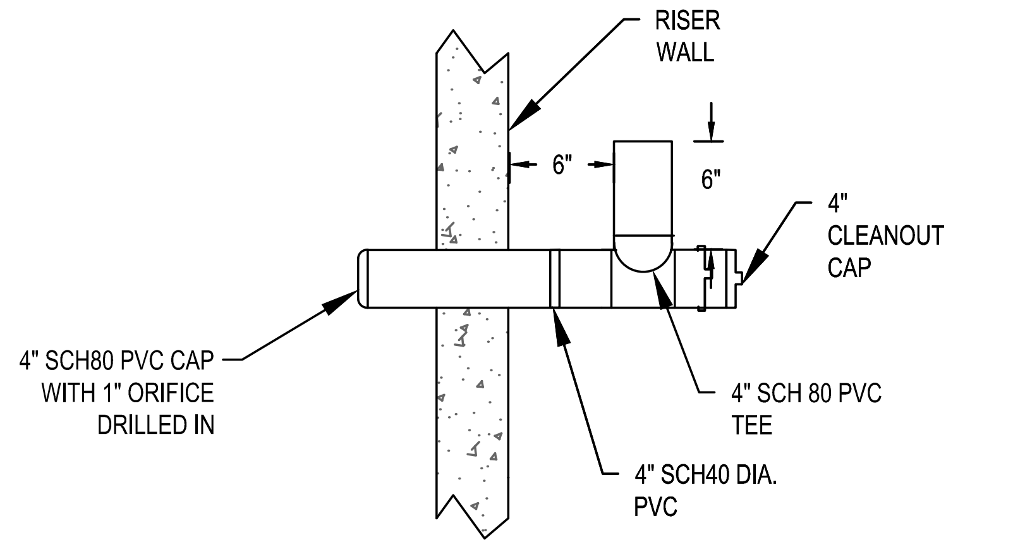
RISER STRUCTURE - WEST
N.T.S.


ELEV 387.9
5.0'
4.0'
0.5'
MANHOLE STEPS
NCDOT STD 840.66
16" O.C.
ELEV 384.5
4" CLEANOUT
CONCRETE PIPE COLLAR
SEE DETAIL THIS SHEET
24" O-RING RCP
4" DIA. SCH 80 PVC WITH 1" ORIFICE
(SEE DETAIL THIS SHEET)
6" GATE VALVE
(FLANGED, CAST IRON BODY)
6" DIA. DIP DRAIN PIPE
AT EL. 379.2
INV. OUT ELEV 379.0
ANCHOR TO BE 12" #4 @ 2' O.C.
#4 @ 12" O.C. EACH WAY
4.0'
7.0'

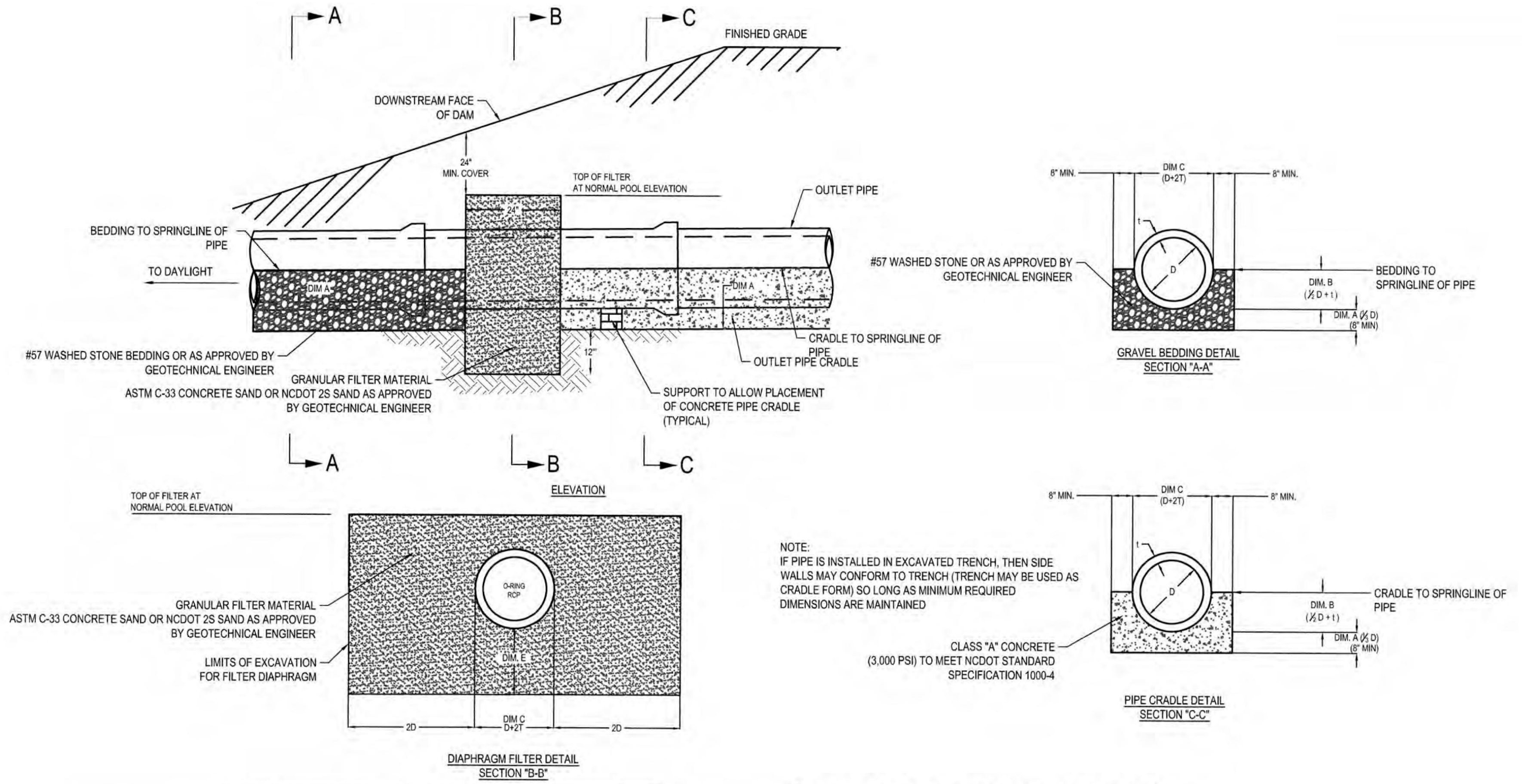
RISER STRUCTURE - SOUTH
N.T.S.


CONCRETE COLLAR
SEE DETAIL THIS SHEET
MANHOLE STEPS
NCDOT STD 840.66
16" O.C.
24" RCP
6" GATE VALVE
(FLANGED, CAST IRON BODY)
6" DIP
4.0'
5.0'
4" SCH80 PVC CAP
WITH 1" ORIFICE
DRILLED IN

RISER STRUCTURE - TOP
N.T.S.


RISER WALL
6"
6"
4" CLEANOUT CAP
4" SCH80 PVC CAP
WITH 1" ORIFICE
DRILLED IN
4" SCH 80 PVC TEE
4" SCH40 DIA. PVC

4" ORIFICE UPTURNED PIPE
N.T.S.


A
B
C
FINISHED GRADE
DOWNSTREAM FACE OF DAM
24" MIN. COVER
TOP OF FILTER AT NORMAL POOL ELEVATION
OUTLET PIPE
BEDDING TO SPRINGLINE OF PIPE
TO DAYLIGHT
DIM A
DIM A
24"
12"
#57 WASHED STONE BEDDING OR AS APPROVED BY GEOTECHNICAL ENGINEER
GRANULAR FILTER MATERIAL
ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
CRADLE TO SPRINGLINE OF PIPE
OUTLET PIPE CRADLE
SUPPORT TO ALLOW PLACEMENT OF CONCRETE PIPE CRADLE (TYPICAL)
A
B
C
ELEVATION
8" MIN.
DIM C (D+2T)
8" MIN.
t
D
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
DIM. B (½ D + t)
BEDDING TO SPRINGLINE OF PIPE
DIM. A (⅓ D) (8" MIN)
GRAVEL BEDDING DETAIL
SECTION "A-A"
TOP OF FILTER AT NORMAL POOL ELEVATION
O-RING RCP
GRANULAR FILTER MATERIAL
ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
LIMITS OF EXCAVATION FOR FILTER DIAPHRAGM
DIM. E
2D
DIM C D+2T
2D
DIAPHRAGM FILTER DETAIL
SECTION "B-B"
8" MIN.
DIM C (D+2T)
8" MIN.
t
D
CRADLE TO SPRINGLINE OF PIPE
DIM. B (½ D + t)
DIM. A (⅓ D) (8" MIN)
CLASS "A" CONCRETE (3,000 PSI) TO MEET NCDOT STANDARD SPECIFICATION 1000-4
PIPE CRADLE DETAIL
SECTION "C-C"

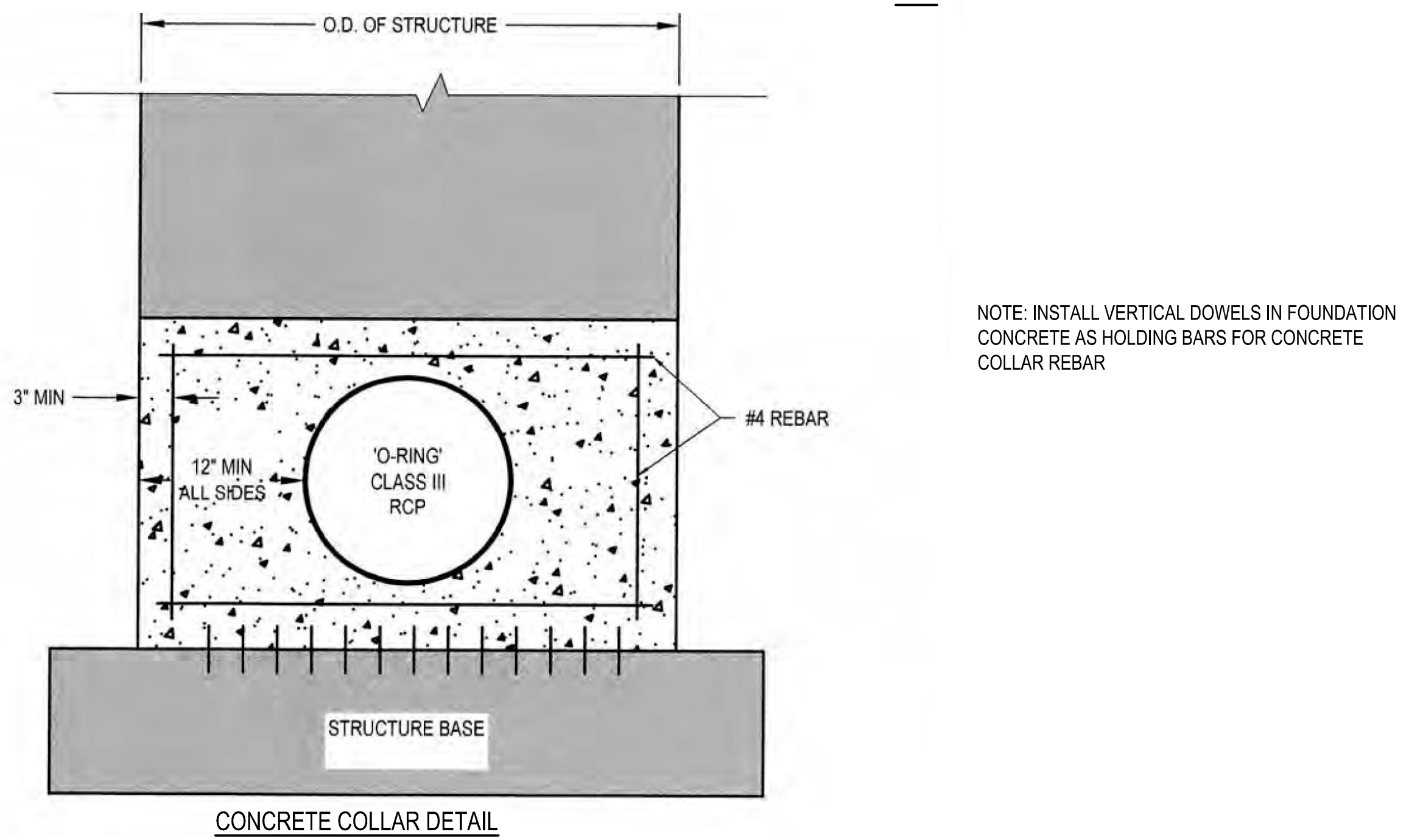
NOTE:
IF PIPE IS INSTALLED IN EXCAVATED TRENCH, THEN SIDE WALLS MAY CONFORM TO TRENCH (TRENCH MAY BE USED AS CRADLE FORM) SO LONG AS MINIMUM REQUIRED DIMENSIONS ARE MAINTAINED

NOMINAL PIPE SIZE	DIM A (1/3 D)	DIM B (1/2 D + t)	DIM C (D + 2t)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM t (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM & CONCRETE CRADLE DETAIL
NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS


O.D. OF STRUCTURE
3" MIN
12" MIN ALL SIDES
'O-RING' CLASS III RCP
#4 REBAR
STRUCTURE BASE

NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

CONCRETE COLLAR DETAIL
NTS

811
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\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-0 SCM 1 PLAN AND PROFILE Plotted: 12/1/2023 10:13:23 AM

REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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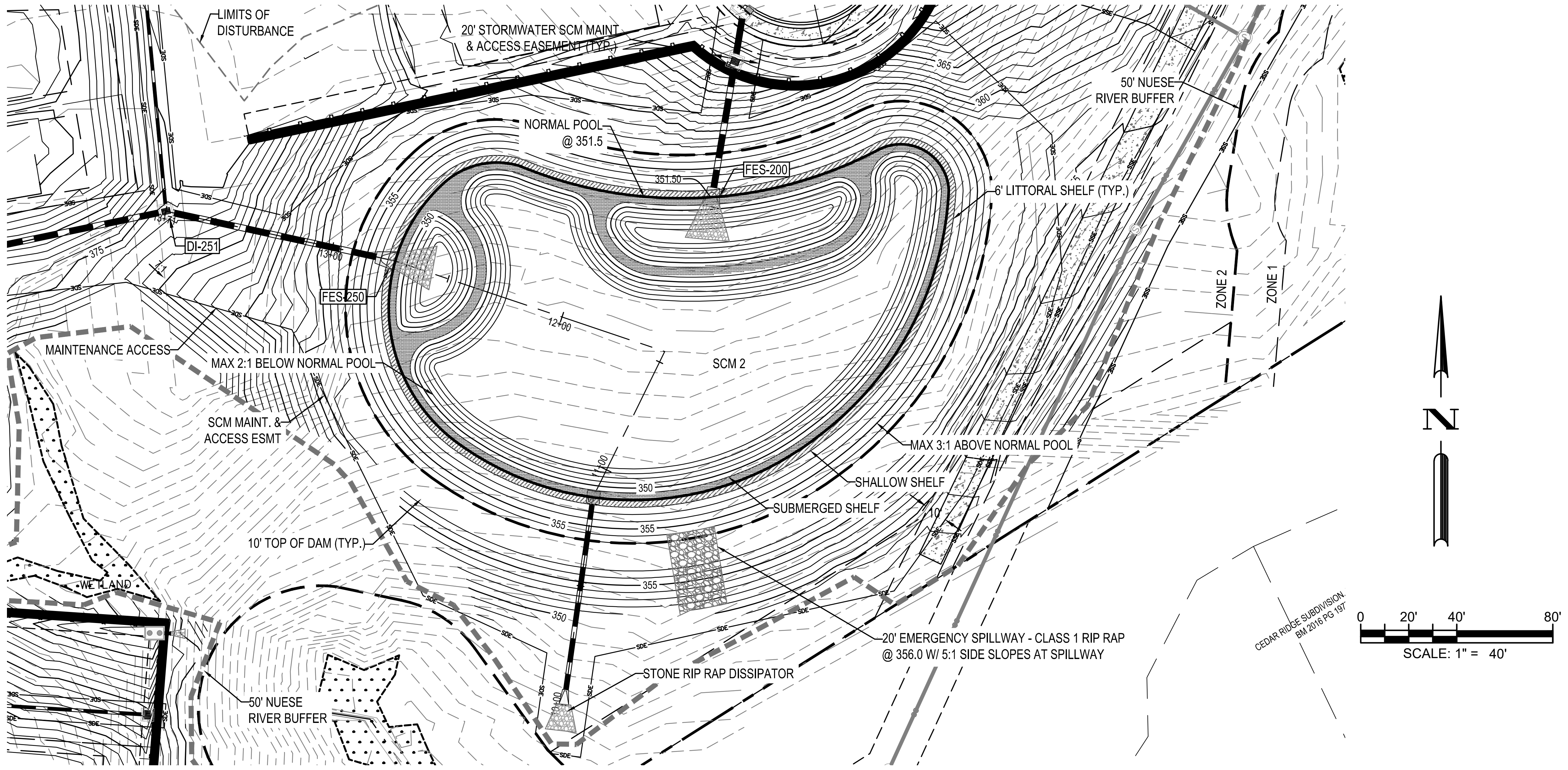
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SCM 1 PLAN AND PROFILE

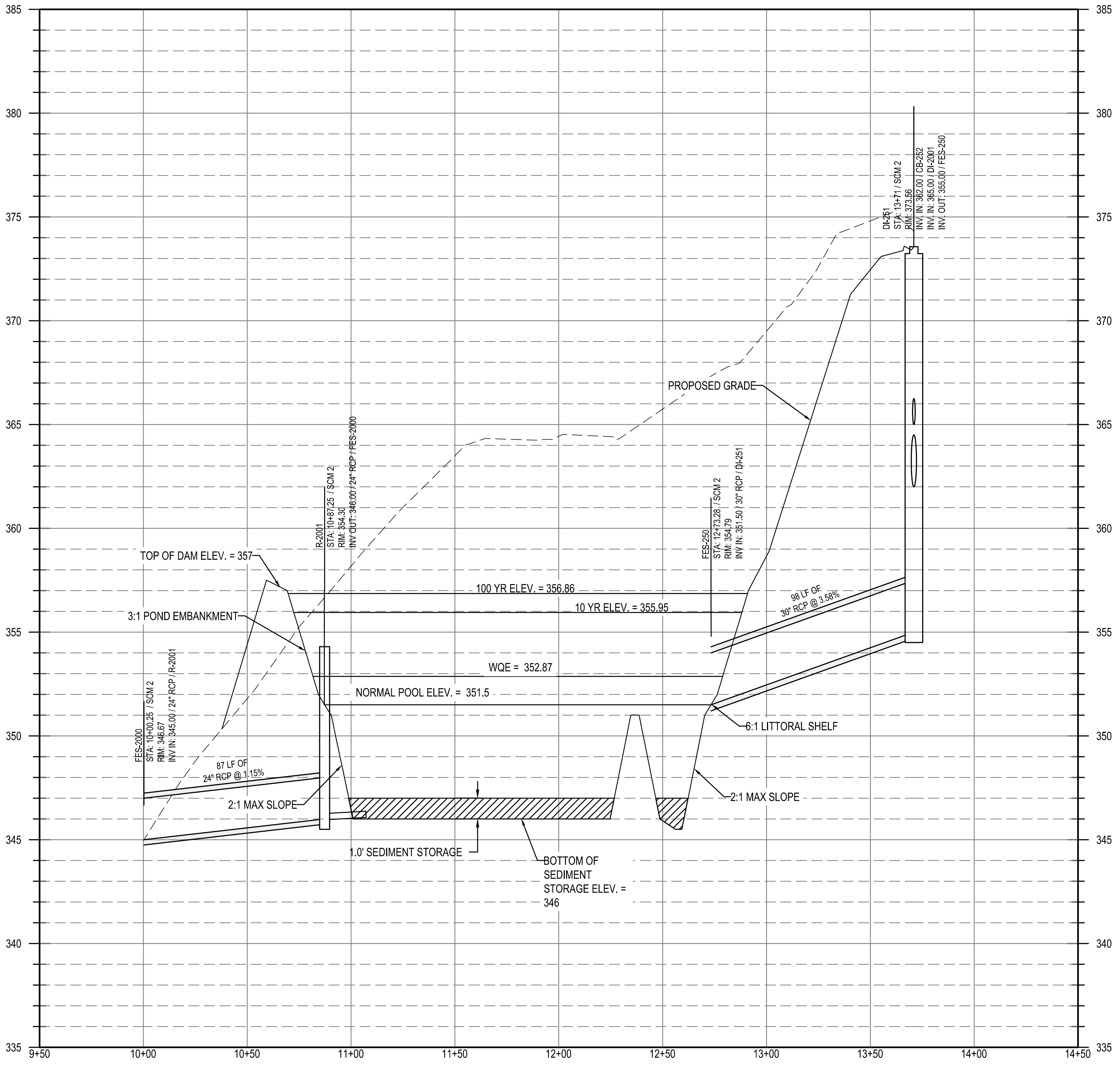
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

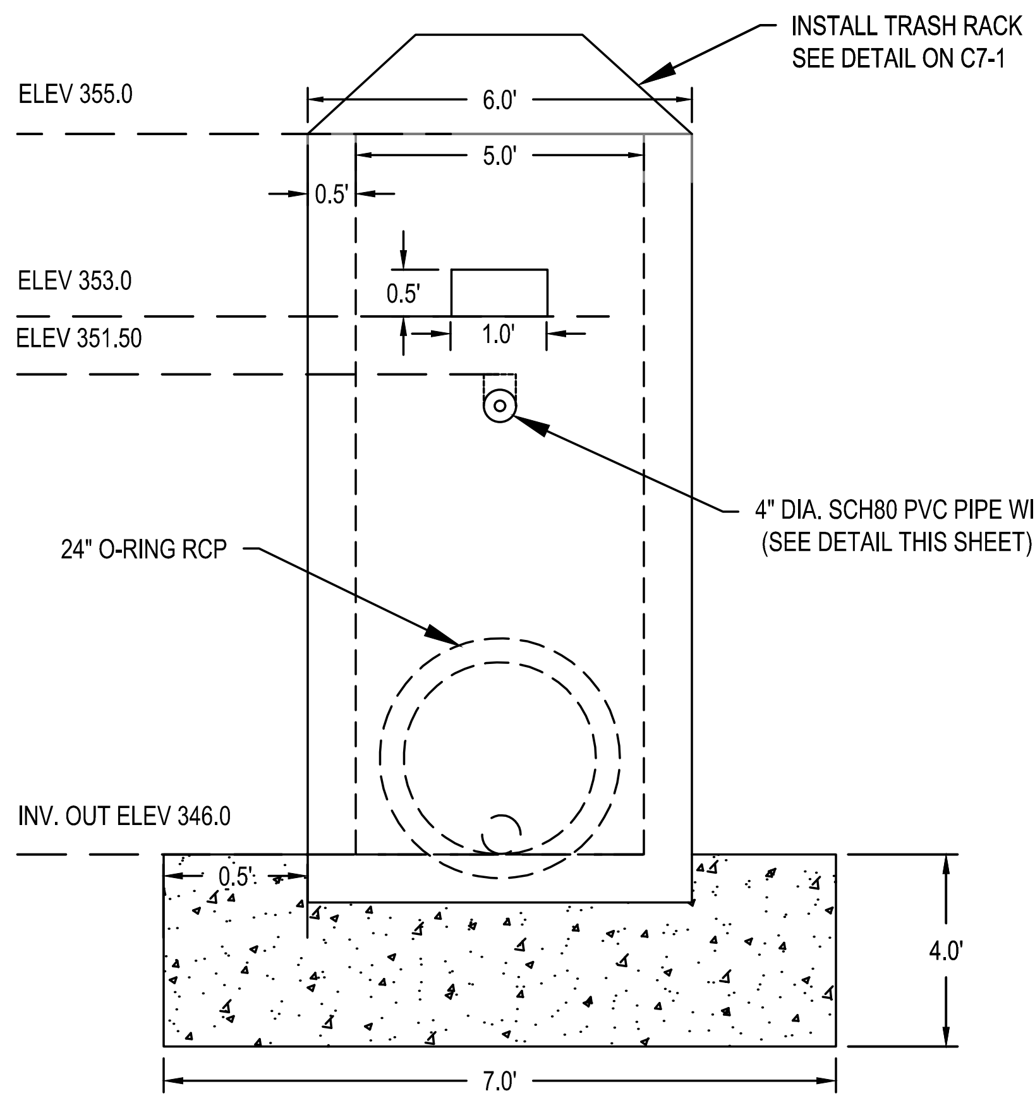
FILE NUMBER: 8430-03
DATE: 11/21/2023

C7-0

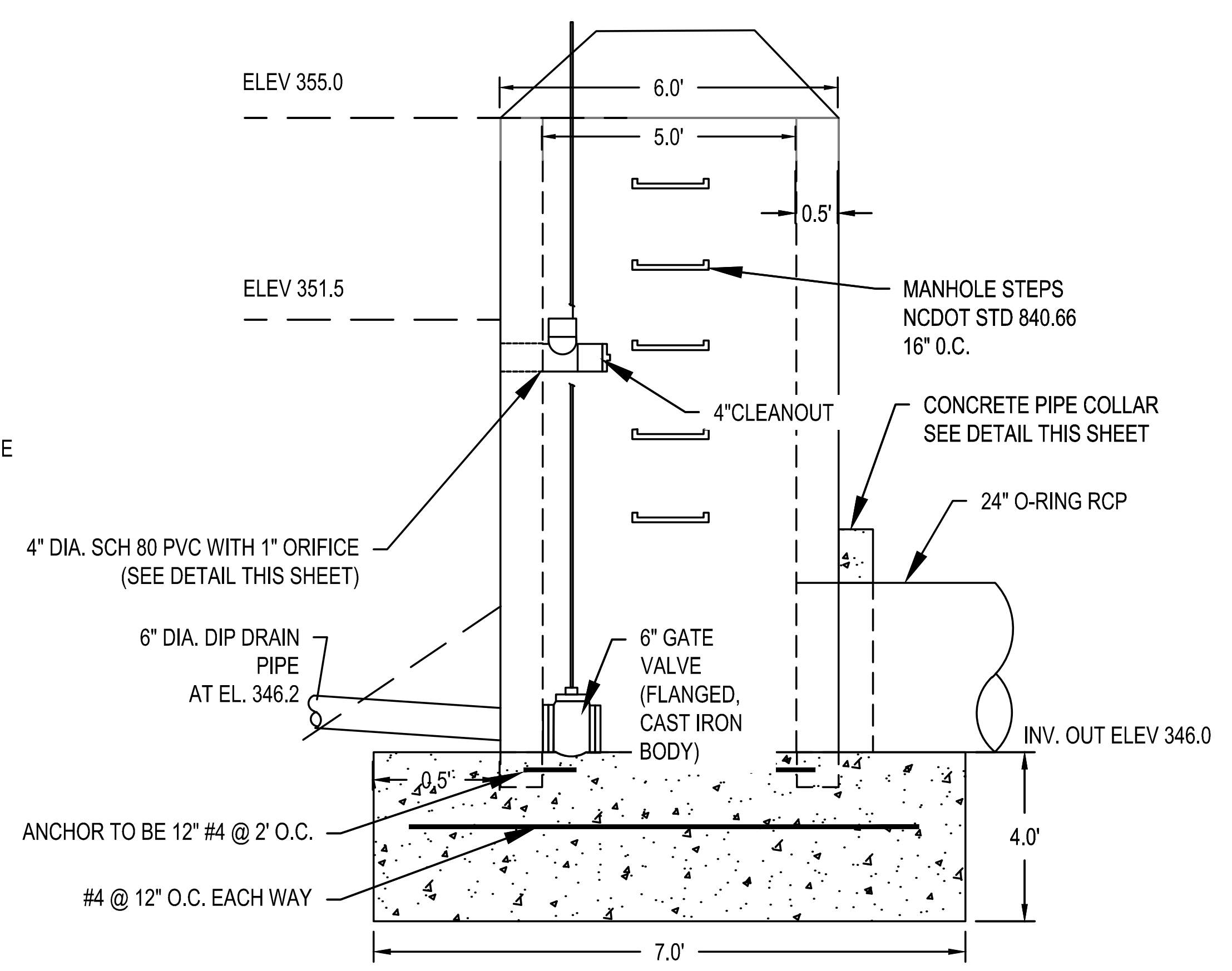

LIMITS OF DISTURBANCE
20' STORMWATER SCM MAINT. & ACCESS EASEMENT (TYP.)
50' NUESE RIVER BUFFER
NORMAL POOL @ 351.5
FES-200
6' LITTORAL SHELF (TYP.)
DI-251
FES-250
ZONE 2
ZONE 1
MAINTENANCE ACCESS
MAX 2:1 BELOW NORMAL POOL
SCM 2
SCM MAINT. & ACCESS ESMT
MAX 3:1 ABOVE NORMAL POOL
SHALLOW SHELF
SUBMERGED SHELF
10' TOP OF DAM (TYP.)
WETLAND
20' EMERGENCY SPILLWAY - CLASS 1 RIP RAP @ 356.0 W/ 5:1 SIDE SLOPES AT SPILLWAY
STONE RIP RAP DISSIPATOR
50' NUESE RIVER BUFFER
CEDAR RIDGE SUBDIVISION BM 2018 PG 197
N
0
20'
40'
80'
SCALE: 1" = 40'

SCM 2
STA: 9+50.00 TO STA:14+50.00

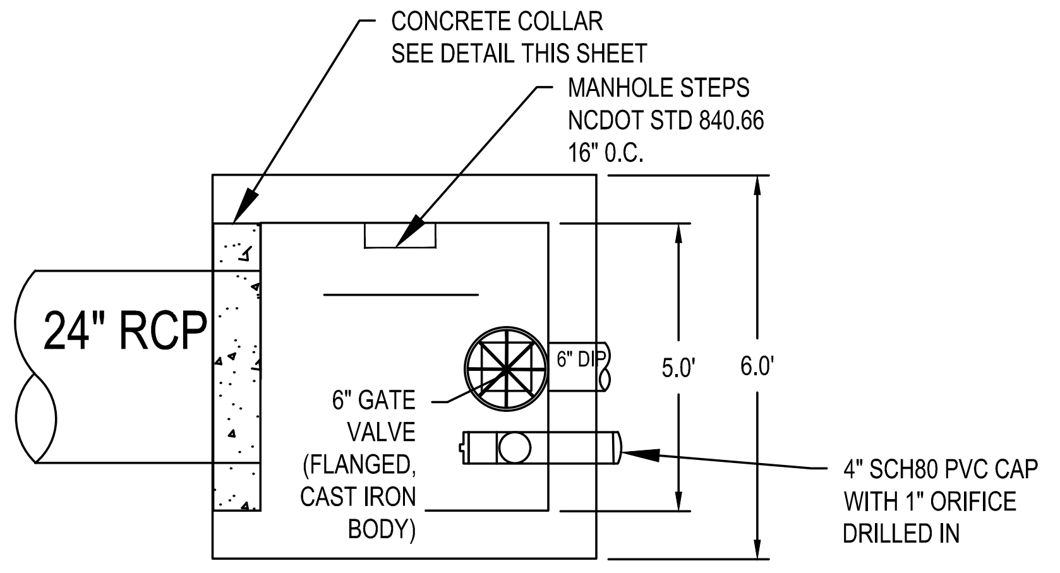



ELEV 355.0
INSTALL TRASH RACK SEE DETAIL ON C7-1
6.0'
5.0'
0.5'
ELEV 353.0
ELEV 351.50
0.5'
1.0'
4" DIA. SCH80 PVC PIPE WITH 1" ORIFICE (SEE DETAIL THIS SHEET)
24" O-RING RCP
INV. OUT ELEV 346.0
0.5'
4.0'
7.0'

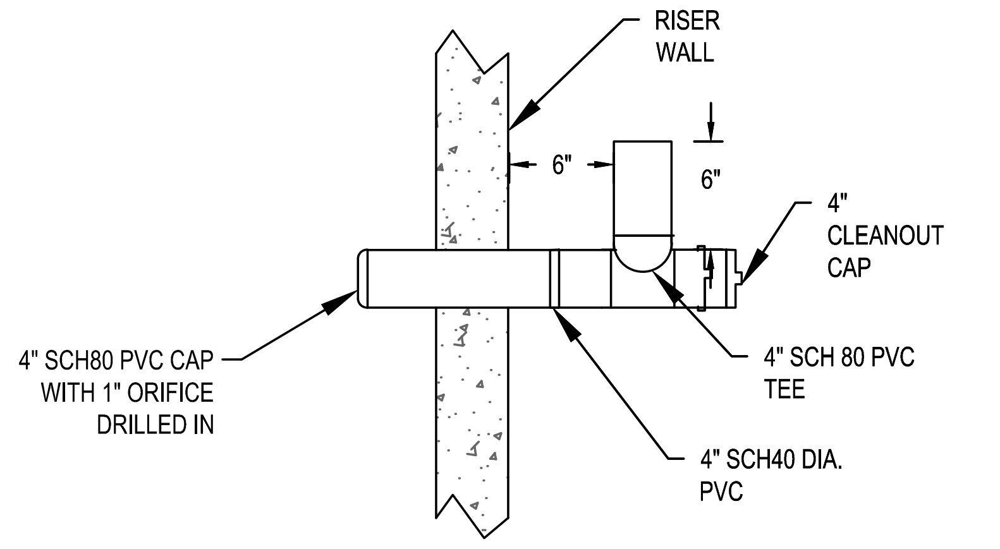
RISER STRUCTURE - WEST
N.T.S.


ELEV 355.0
6.0'
5.0'
0.5'
ELEV 351.5
MANHOLE STEPS NCDOT STD 840.66 16" O.C.
4"CLEANOUT
CONCRETE PIPE COLLAR SEE DETAIL THIS SHEET
24" O-RING RCP
4" DIA. SCH 80 PVC WITH 1" ORIFICE (SEE DETAIL THIS SHEET)
6" DIA. DIP DRAIN PIPE AT EL. 346.2
6" GATE VALVE (FLANGED, CAST IRON BODY)
INV. OUT ELEV 346.0
0.5'
ANCHOR TO BE 12" #4 @ 2' O.C.
#4 @ 12" O.C. EACH WAY
4.0'
7.0'

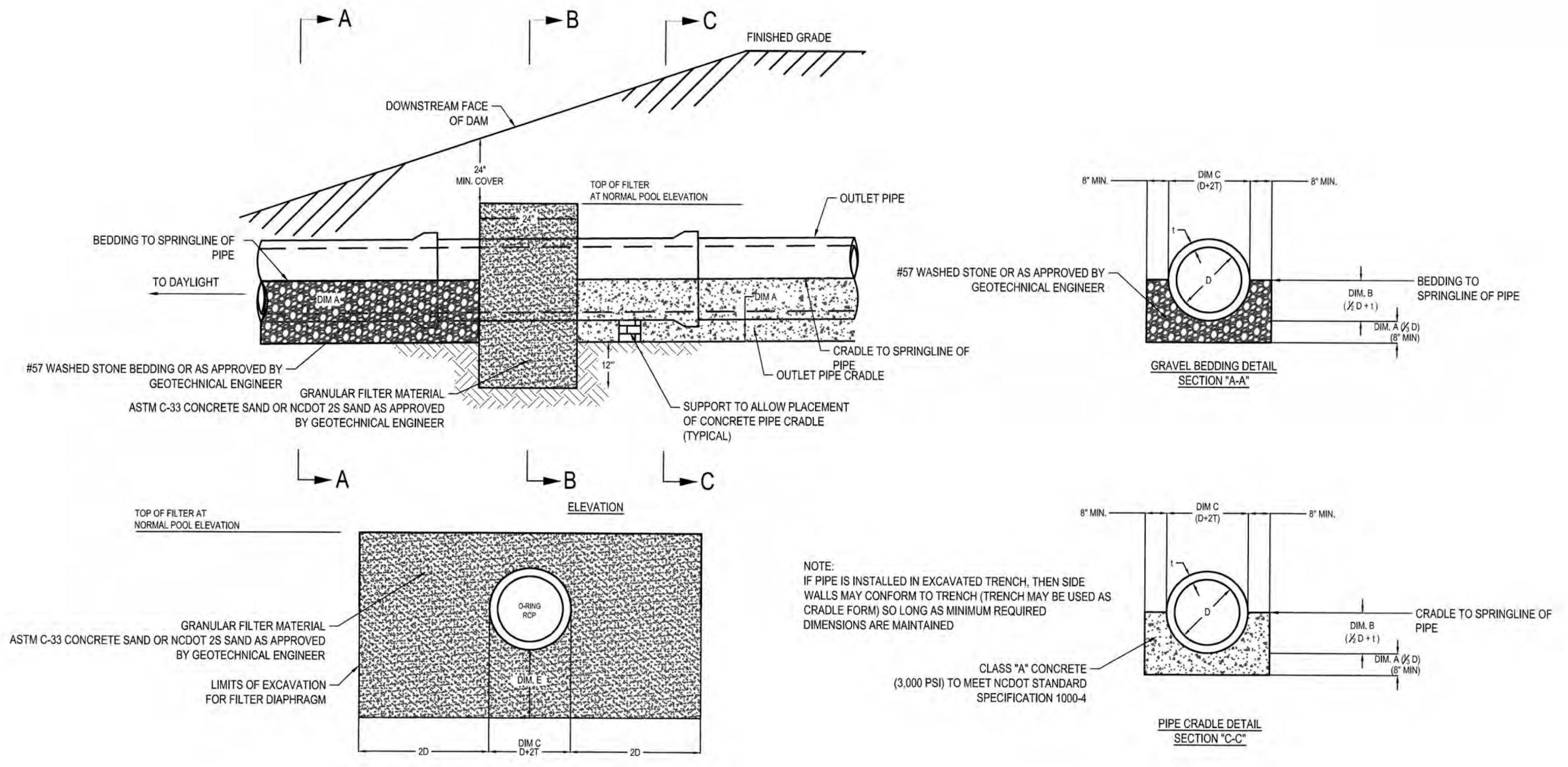
RISER STRUCTURE - SOUTH
N.T.S.


CONCRETE COLLAR SEE DETAIL THIS SHEET
MANHOLE STEPS NCDOT STD 840.66 16" O.C.
24" RCP
6" DIP
5.0'
6.0'
6" GATE VALVE (FLANGED, CAST IRON BODY)
4" SCH80 PVC CAP WITH 1" ORIFICE DRILLED IN

RISER STRUCTURE - TOP
N.T.S.


RISER WALL
6"
6"
4" CLEANOUT CAP
4" SCH80 PVC CAP WITH 1" ORIFICE DRILLED IN
4" SCH 80 PVC TEE
4" SCH40 DIA. PVC

4" ORIFICE UPTURNED PIPE
N.T.S.


A
B
C
FINISHED GRADE
DOWNSTREAM FACE OF DAM
24" MIN. COVER
TOP OF FILTER AT NORMAL POOL ELEVATION
OUTLET PIPE
BEDDING TO SPRINGLINE OF PIPE
TO DAYLIGHT
DIM A
24"
12"
#57 WASHED STONE BEDDING OR AS APPROVED BY GEOTECHNICAL ENGINEER
GRANULAR FILTER MATERIAL ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
CRADLE TO SPRINGLINE OF PIPE
OUTLET PIPE CRADLE
SUPPORT TO ALLOW PLACEMENT OF CONCRETE PIPE CRADLE (TYPICAL)
ELEVATION
8" MIN.
DIM C (D+2T)
8" MIN.
t
D
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
DIM. B (½ D + t)
BEDDING TO SPRINGLINE OF PIPE
DIM. A (⅓ D) (8" MIN)
GRAVEL BEDDING DETAIL SECTION "A-A"
TOP OF FILTER AT NORMAL POOL ELEVATION
GRANULAR FILTER MATERIAL ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
LIMITS OF EXCAVATION FOR FILTER DIAPHRAGM
O-RING RCP
DIM. E
2D
DIM C D+2T
2D
DIAPHRAGM FILTER DETAIL SECTION "B-B"
CLASS "A" CONCRETE (3,000 PSI) TO MEET NCDOT STANDARD SPECIFICATION 1000-4
CRADLE TO SPRINGLINE OF PIPE
PIPE CRADLE DETAIL SECTION "C-C"

NOTE:
IF PIPE IS INSTALLED IN EXCAVATED TRENCH, THEN SIDE WALLS MAY CONFORM TO TRENCH (TRENCH MAY BE USED AS CRADLE FORM) SO LONG AS MINIMUM REQUIRED DIMENSIONS ARE MAINTAINED

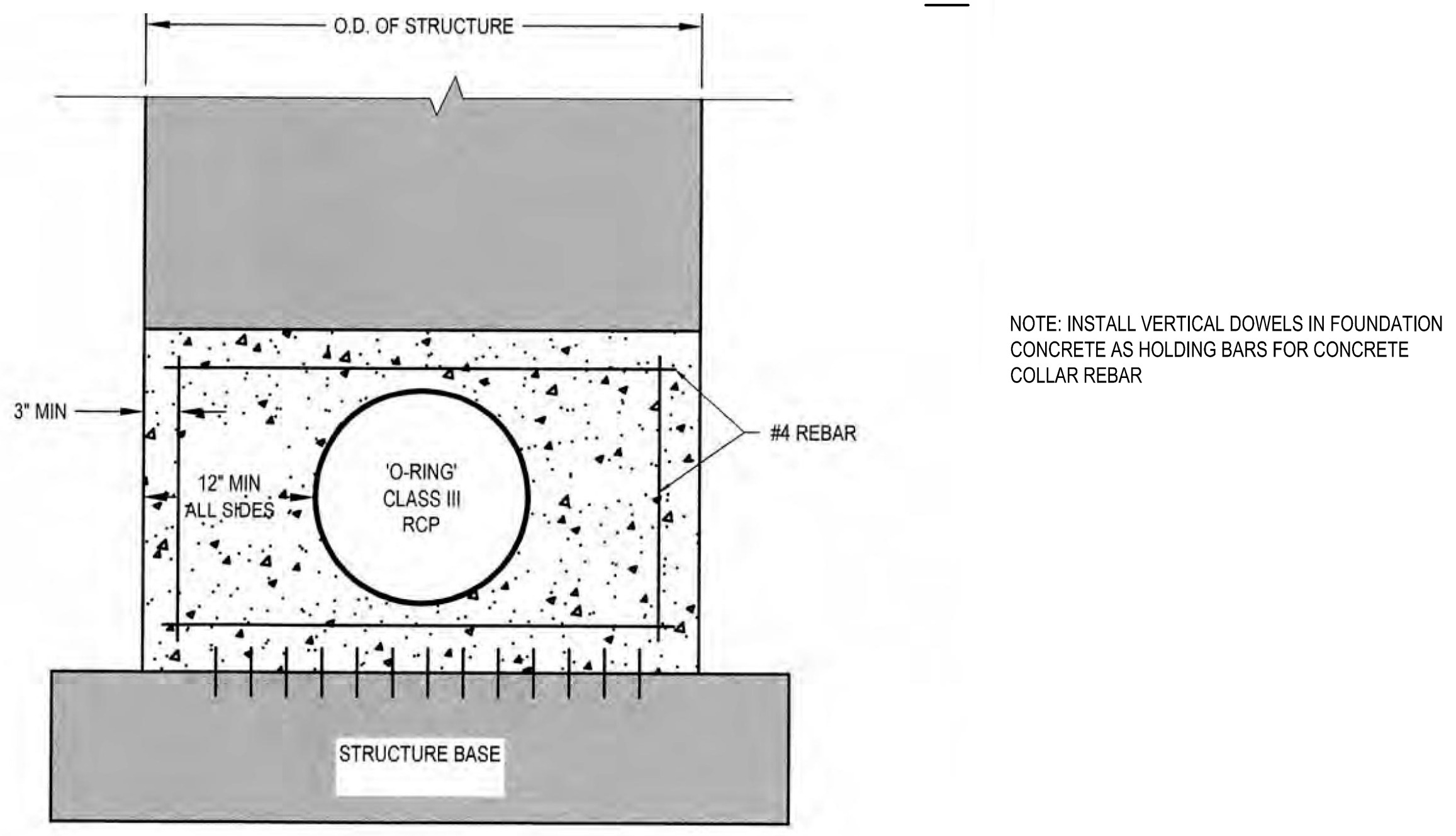
SCM#1, #2, & #3

NOMINAL PIPE SIZE	DIM A (1/3 D)	DIM B (1/2 D + t)	DIM C (D + 2t)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM t (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM & CONCRETE CRADLE DETAIL
NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS


O.D. OF STRUCTURE
3" MIN
12" MIN ALL SIDES
'O-RING' CLASS III RCP
#4 REBAR
STRUCTURE BASE

NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

CONCRETE COLLAR DETAIL
NTS

811
Know what's below.
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REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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SCM 2 PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL ENGINEER
PRELIMINARY
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12-01-23

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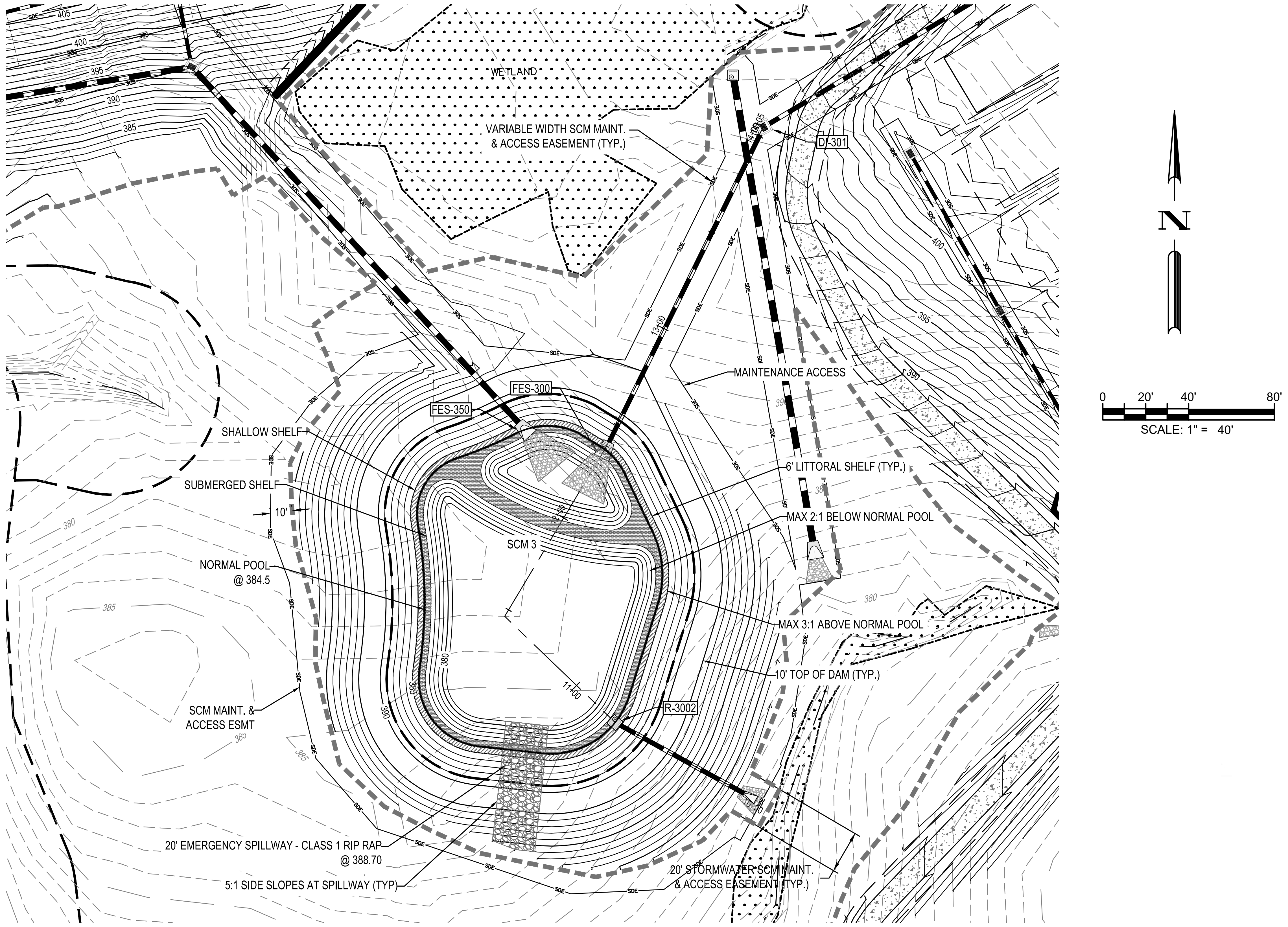
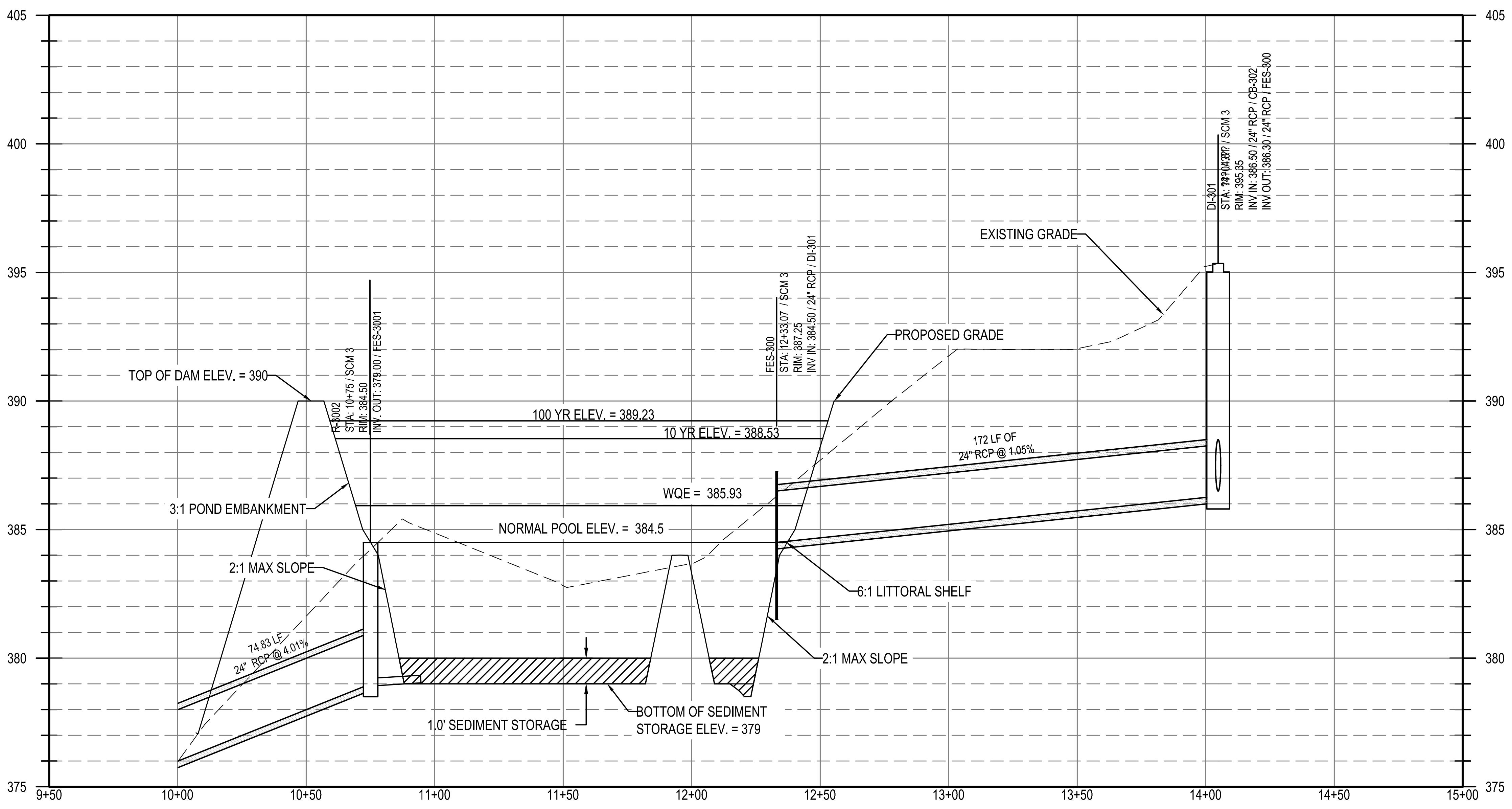
FILE NUMBER: 8430-03
DATE: 11/21/2023
C7-1

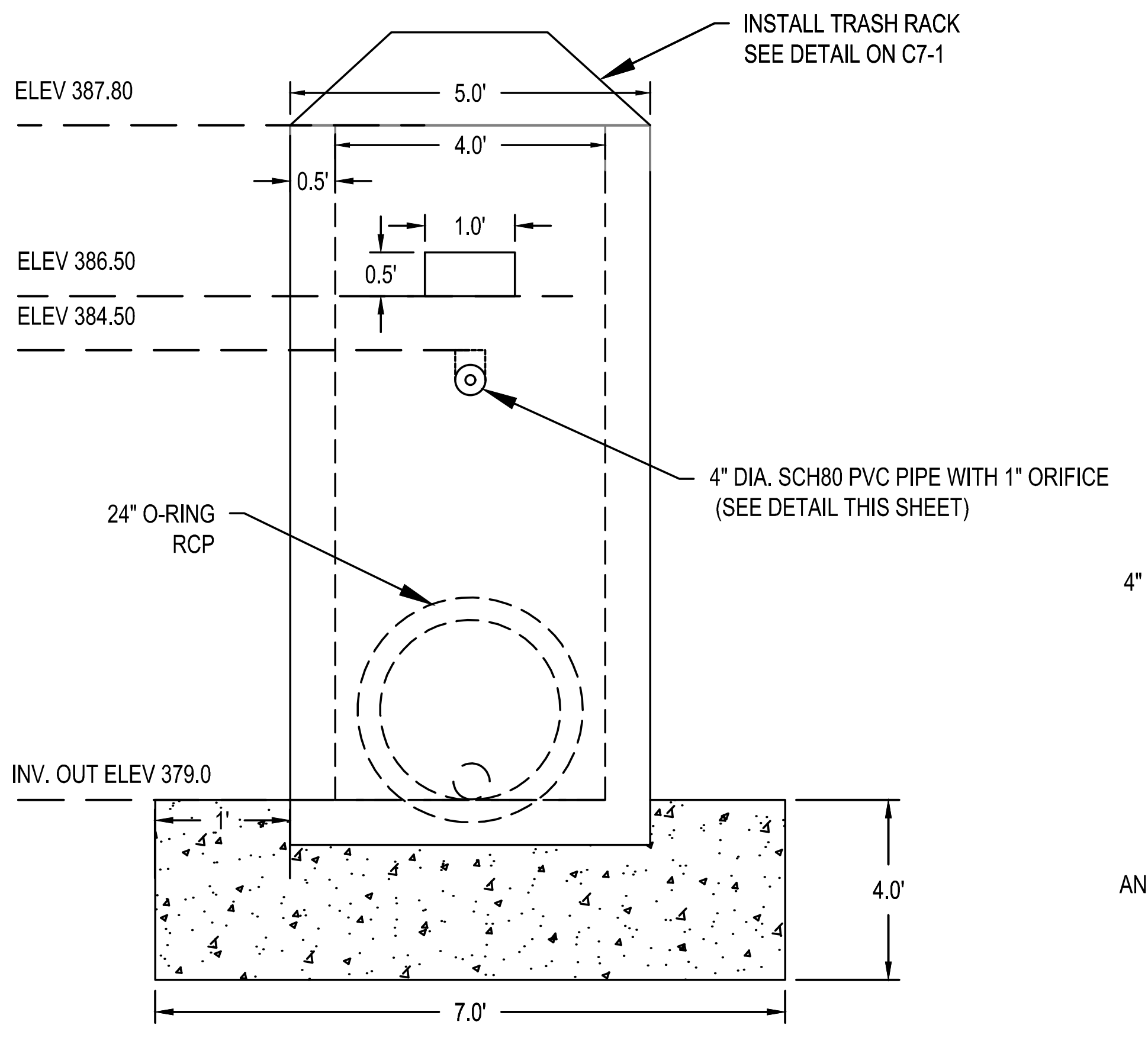
\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-1 SCM 2 PLAN AND PROFILE Plotted: 12/1/2023 10:33:45 AM



WETLAND
VARIABLE WIDTH SCM MAINT. & ACCESS EASEMENT (TYP.)
DI-301
FES-300
FES-350
MAINTENANCE ACCESS
SHALLOW SHELF
SUBMERGED SHELF
10'
NORMAL POOL @ 384.5
SCM 3
6' LITTORAL SHELF (TYP.)
MAX 2:1 BELOW NORMAL POOL
MAX 3:1 ABOVE NORMAL POOL
10' TOP OF DAM (TYP.)
R-3002
SCM MAINT. & ACCESS ESMT
20' EMERGENCY SPILLWAY - CLASS 1 RIP RAP @ 388.70
5:1 SIDE SLOPES AT SPILLWAY (TYP)
20' STORMWATER SCM MAINT. & ACCESS EASEMENT (TYP.)
N
0
20'
40'
80'
SCALE: 1" = 40'

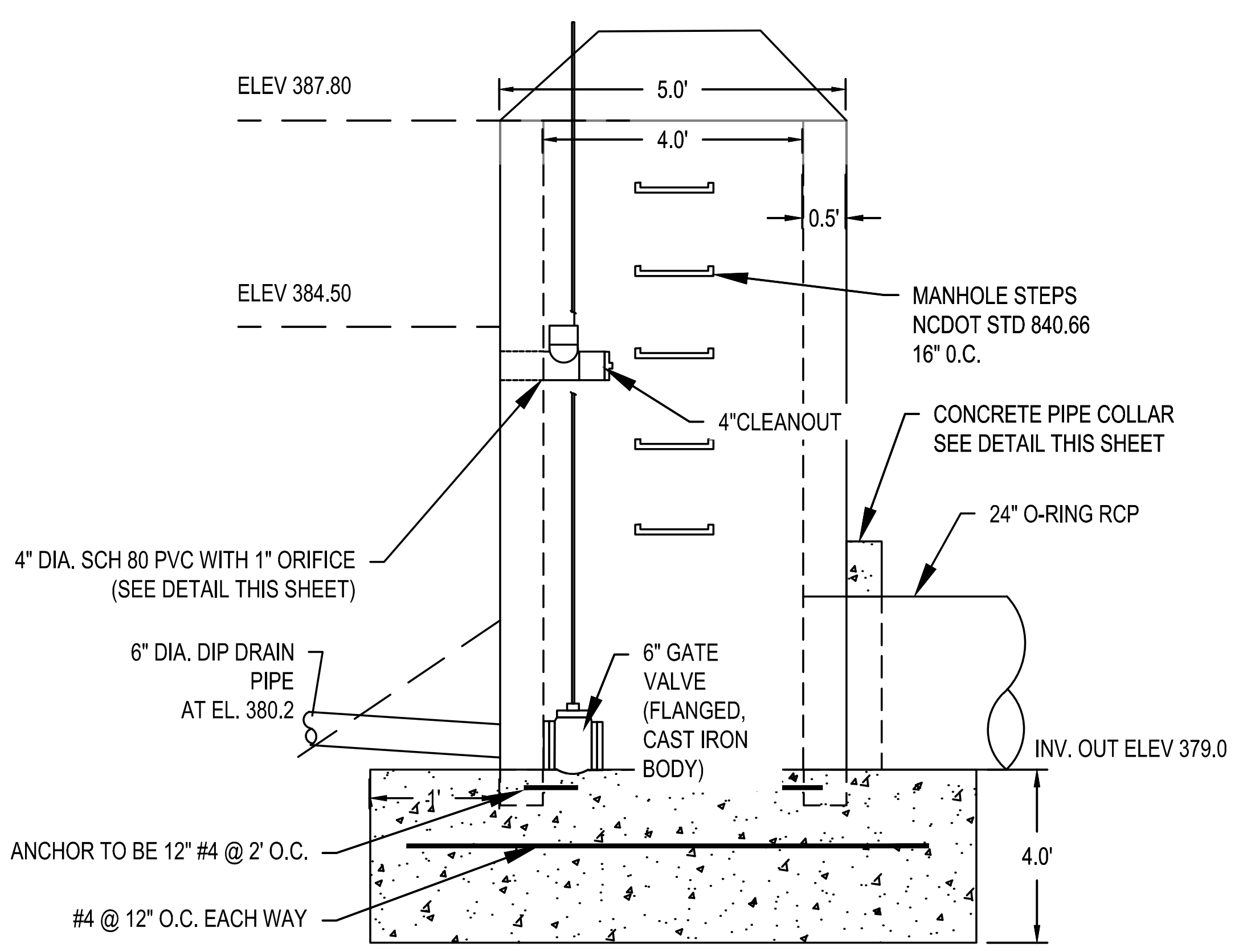
SCM 3
STA: 9+50.00 TO STA:15+00.00





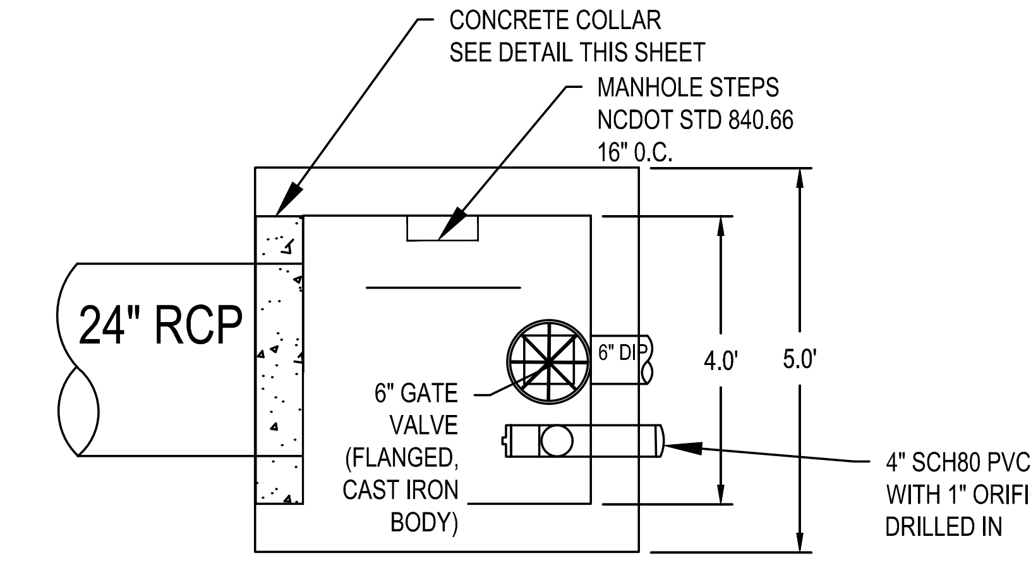
ELEV 387.80
INSTALL TRASH RACK SEE DETAIL ON C7-1
5.0'
4.0'
0.5'
ELEV 386.50
1.0'
ELEV 384.50
0.5'
4" DIA. SCH80 PVC PIPE WITH 1" ORIFICE (SEE DETAIL THIS SHEET)
24" O-RING RCP
INV. OUT ELEV 379.0
4.0'
7.0'

RISER STRUCTURE - WEST
N.T.S.



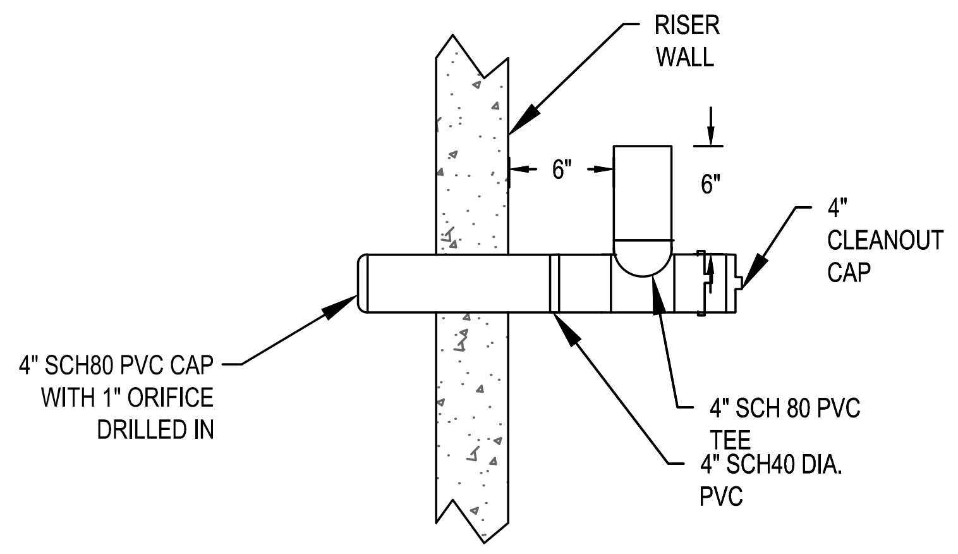
ELEV 387.80
5.0'
4.0'
0.5'
ELEV 384.50
MANHOLE STEPS NCDOT STD 840.66 16" O.C.
4"CLEANOUT
CONCRETE PIPE COLLAR SEE DETAIL THIS SHEET
24" O-RING RCP
4" DIA. SCH 80 PVC WITH 1" ORIFICE (SEE DETAIL THIS SHEET)
6" DIA. DIP DRAIN PIPE AT EL. 380.2
6" GATE VALVE (FLANGED, CAST IRON BODY)
INV. OUT ELEV 379.0
ANCHOR TO BE 12" #4 @ 2' O.C.
#4 @ 12" O.C. EACH WAY
4.0'
7.0'

RISER STRUCTURE - SOUTH
N.T.S.



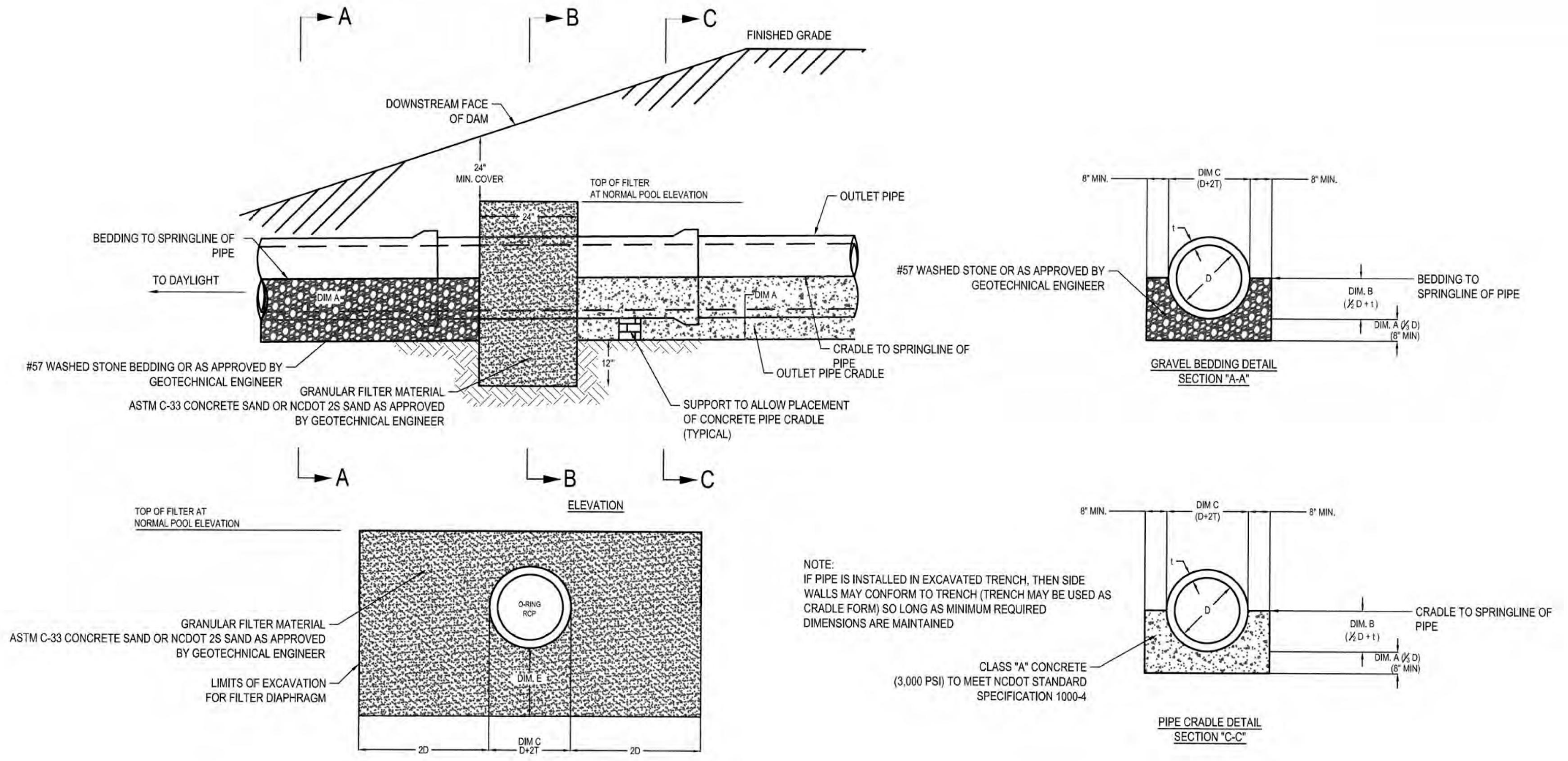
CONCRETE COLLAR SEE DETAIL THIS SHEET
MANHOLE STEPS NCDOT STD 840.66 16" O.C.
24" RCP
6" DIP
6" GATE VALVE (FLANGED, CAST IRON BODY)
4.0'
5.0'
4" SCH80 PVC CAP WITH 1" ORIFICE DRILLED IN

RISER STRUCTURE - TOP
N.T.S.



RISER WALL
6"
6"
4" CLEANOUT CAP
4" SCH80 PVC CAP WITH 1" ORIFICE DRILLED IN
4" SCH 80 PVC TEE
4" SCH40 DIA. PVC

4" ORIFICE UPTURNED PIPE
N.T.S.



A
B
C
FINISHED GRADE
DOWNSTREAM FACE OF DAM
24" MIN. COVER
TOP OF FILTER AT NORMAL POOL ELEVATION
24"
OUTLET PIPE
BEDDING TO SPRINGLINE OF PIPE
TO DAYLIGHT
DIM A
#57 WASHED STONE BEDDING OR AS APPROVED BY GEOTECHNICAL ENGINEER
GRANULAR FILTER MATERIAL ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
12"
CRADLE TO SPRINGLINE OF PIPE
OUTLET PIPE CRADLE
SUPPORT TO ALLOW PLACEMENT OF CONCRETE PIPE CRADLE (TYPICAL)
ELEVATION
8" MIN.
DIM C (D+2T)
t
D
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
DIM. B (½ D + t)
BEDDING TO SPRINGLINE OF PIPE
DIM. A (⅓ D) (8" MIN)
GRAVEL BEDDING DETAIL SECTION "A-A"
TOP OF FILTER AT NORMAL POOL ELEVATION
O-RING RCP
GRANULAR FILTER MATERIAL ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
LIMITS OF EXCAVATION FOR FILTER DIAPHRAGM
DIM. E
2D
DIM C D+2T
DIAPHRAGM FILTER DETAIL SECTION "B-B"
CRADLE TO SPRINGLINE OF PIPE
CLASS "A" CONCRETE (3,000 PSI) TO MEET NCDOT STANDARD SPECIFICATION 1000-4
PIPE CRADLE DETAIL SECTION "C-C"

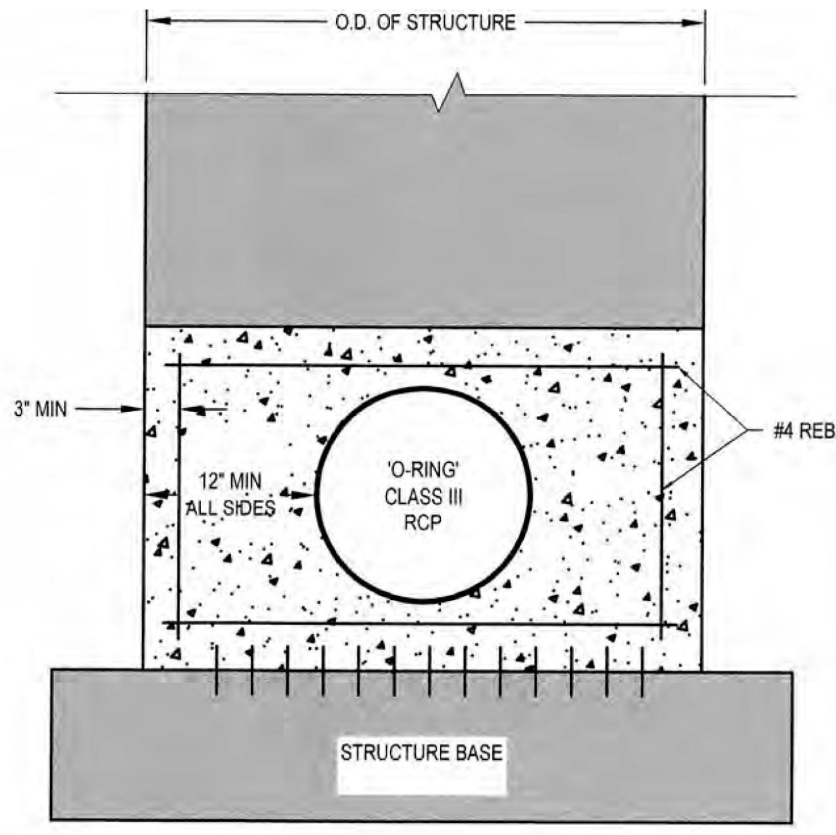
NOTE:
IF PIPE IS INSTALLED IN EXCAVATED TRENCH, THEN SIDE WALLS MAY CONFORM TO TRENCH (TRENCH MAY BE USED AS CRADLE FORM) SO LONG AS MINIMUM REQUIRED DIMENSIONS ARE MAINTAINED

NOMINAL PIPE SIZE	DIM A (1/3 D)	DIM B (1/2 D + t)	DIM C (D + 2t)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM t (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM & CONCRETE CRADLE DETAIL
NOT TO SCALE

OUTLET PIPE FILTER DIAPHRAGM
NTS



O.D. OF STRUCTURE
3" MIN
12" MIN ALL SIDES
'O-RING' CLASS III RCP
#4 REBAR
STRUCTURE BASE

NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

CONCRETE COLLAR DETAIL
NTS

Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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NC LICENSE #C-4397
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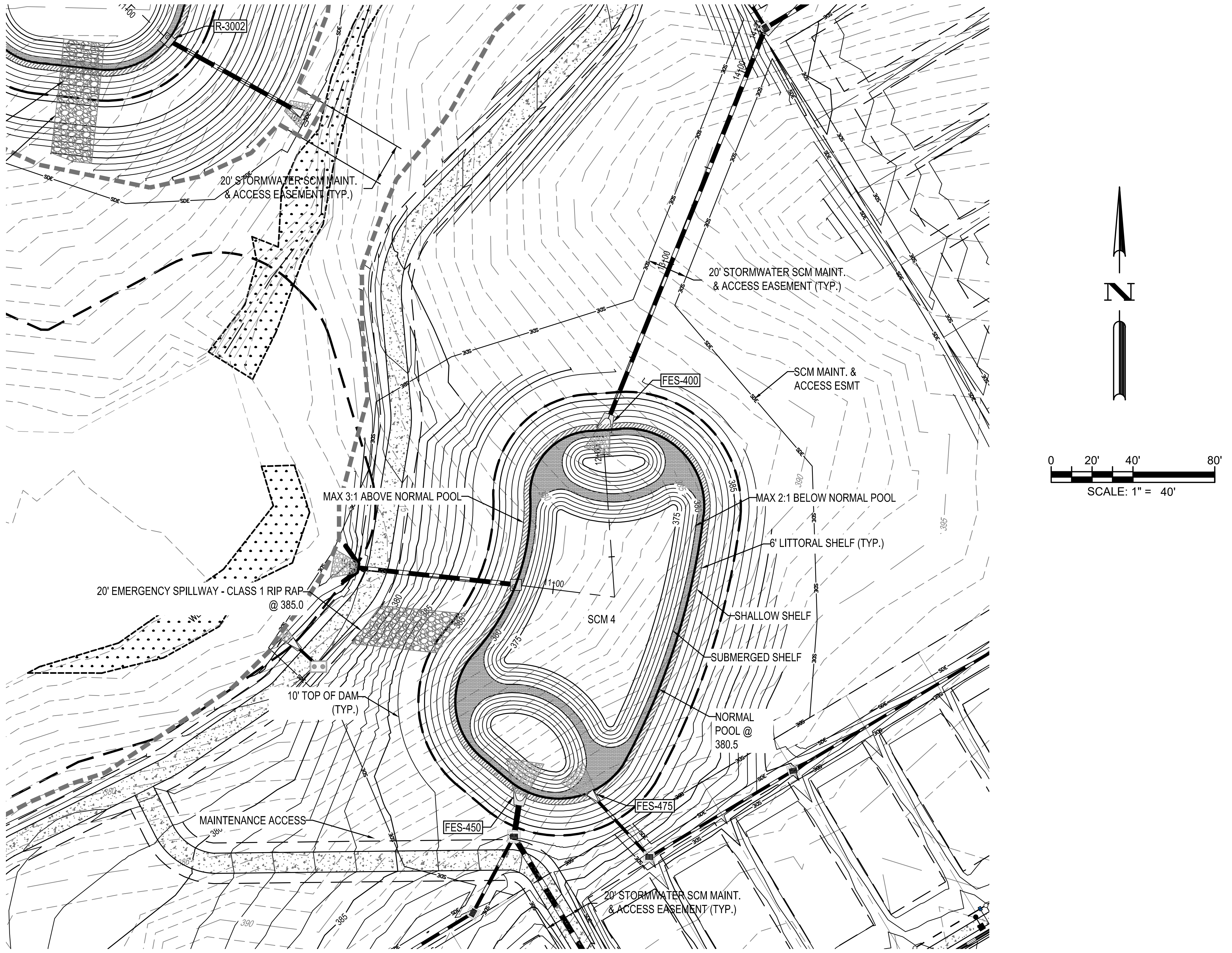
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

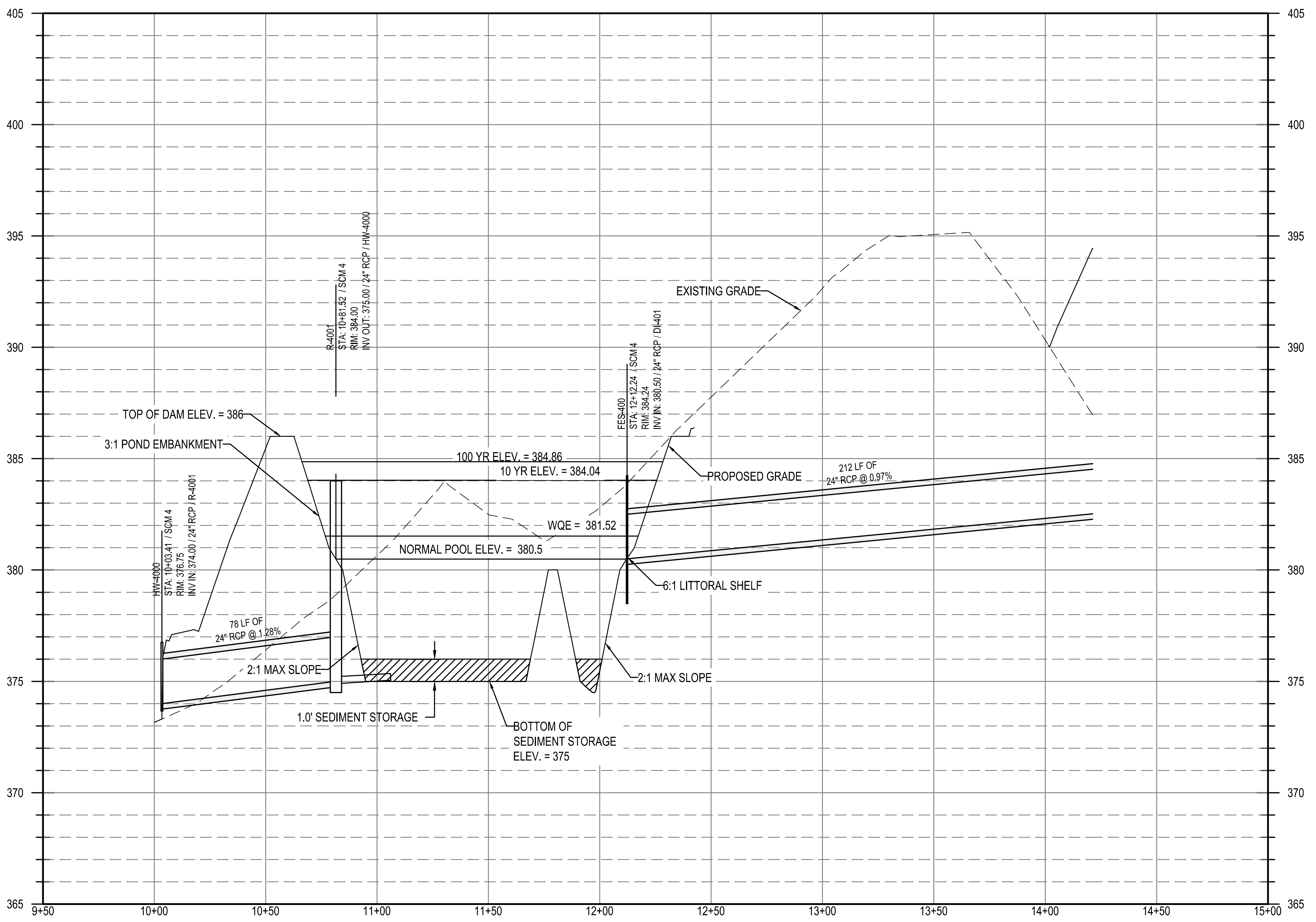
SCM 3 PLAN AND PROFILE

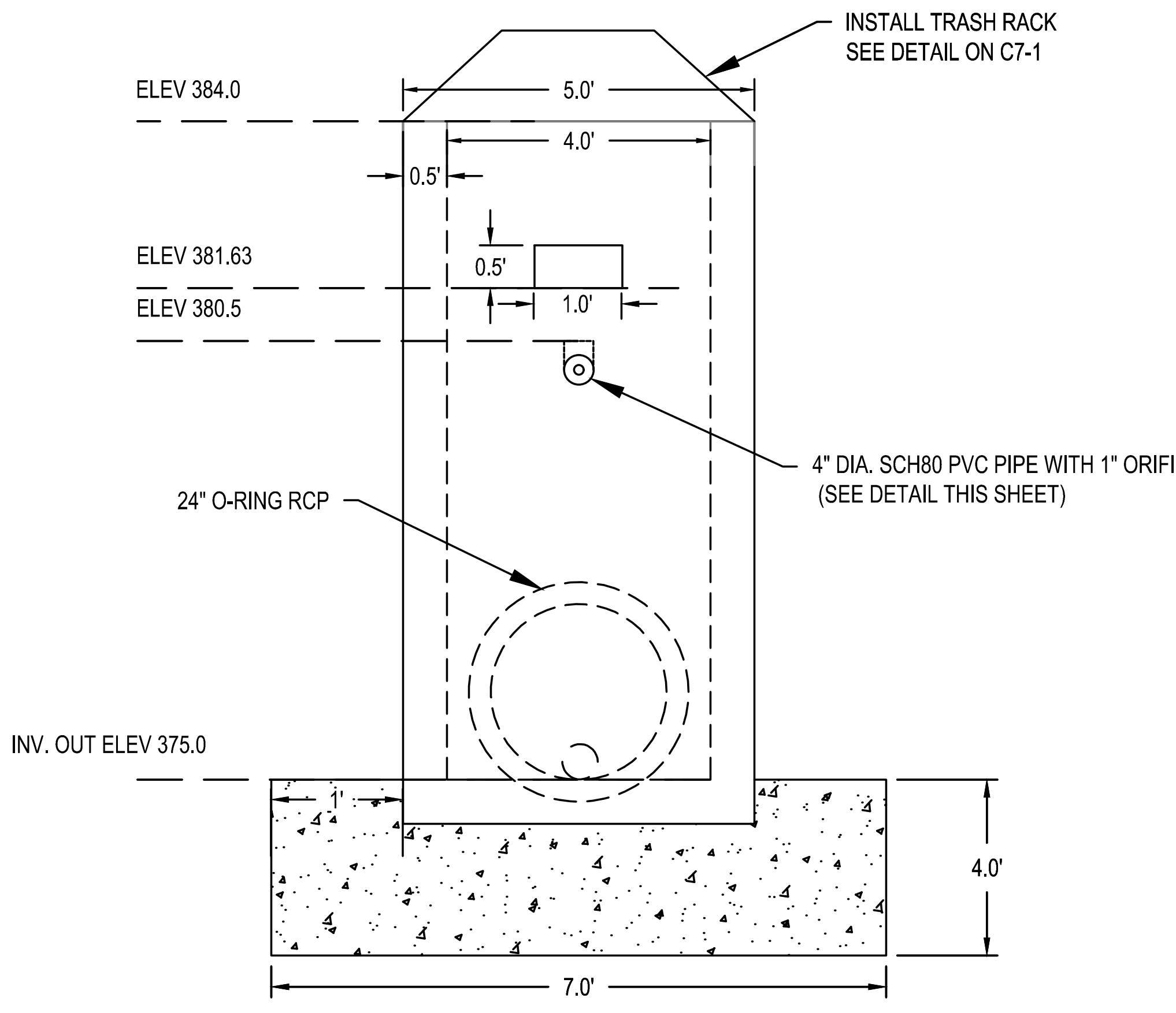
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C7-2

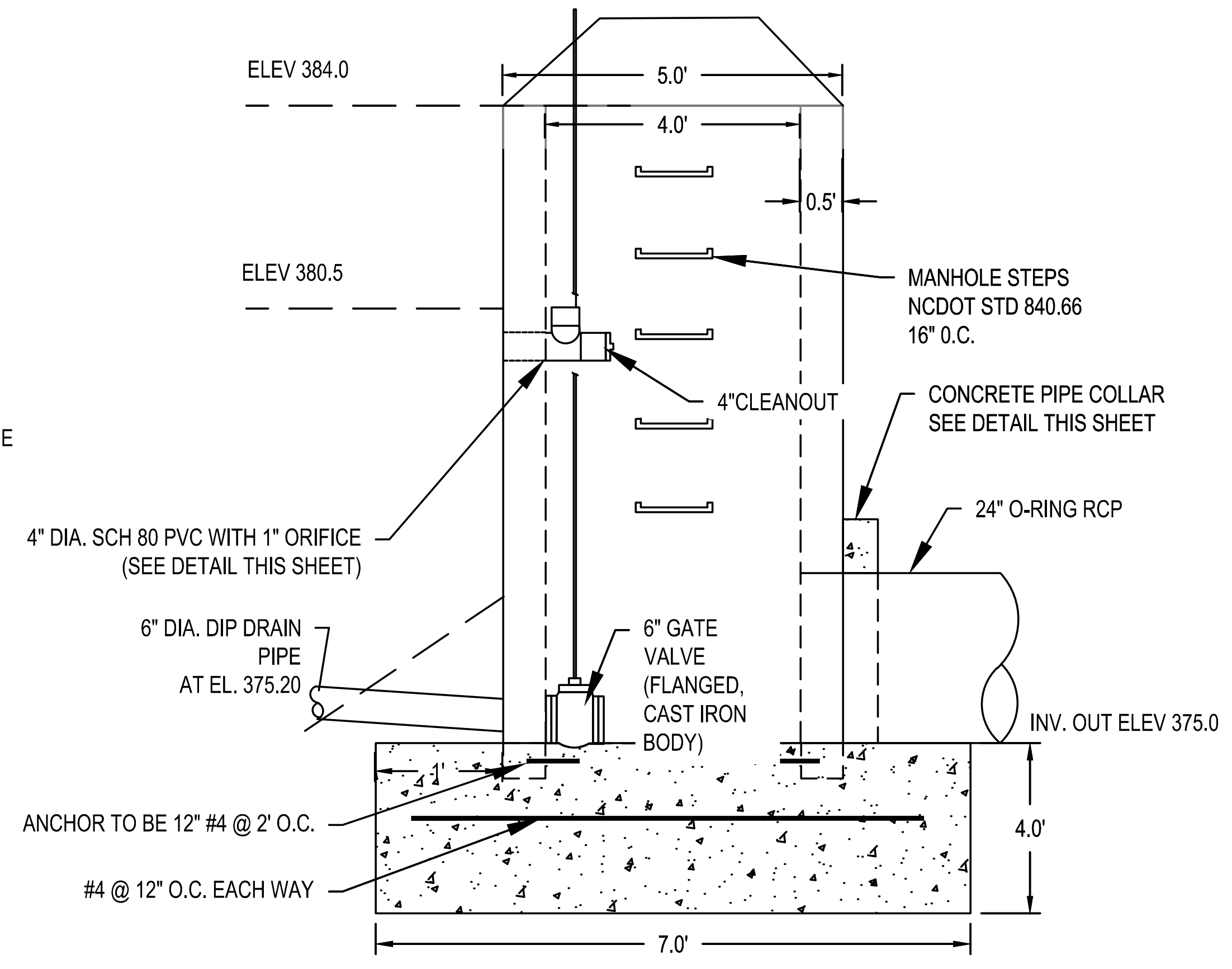

R-3002
20' STORMWATER SCM MAINT. & ACCESS EASEMENT (TYP.)
20' STORMWATER SCM MAINT. & ACCESS EASEMENT (TYP.)
SCM MAINT. & ACCESS ESMT
FES-400
MAX 3:1 ABOVE NORMAL POOL
MAX 2:1 BELOW NORMAL POOL
6' LITTORAL SHELF (TYP.)
20' EMERGENCY SPILLWAY - CLASS 1 RIP RAP @ 385.0
SCM 4
SHALLOW SHELF
SUBMERGED SHELF
10' TOP OF DAM (TYP.)
NORMAL POOL @ 380.5
FES-475
FES-450
MAINTENANCE ACCESS
20' STORMWATER SCM MAINT. & ACCESS EASEMENT (TYP.)
N
0
20'
40'
80'
SCALE: 1" = 40'

SCM 4
STA: 9+50.00 TO STA:15+00.00

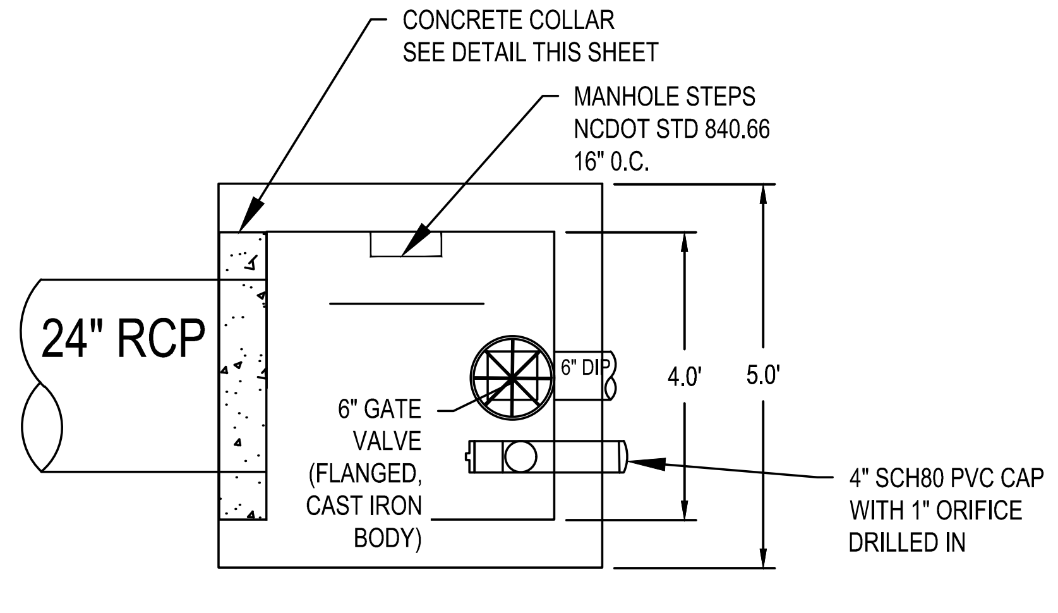



INSTALL TRASH RACK
SEE DETAIL ON C7-1
ELEV 384.0
5.0'
4.0'
0.5'
ELEV 381.63
ELEV 380.5
0.5'
1.0'
4" DIA. SCH80 PVC PIPE WITH 1" ORIFICE
(SEE DETAIL THIS SHEET)
24" O-RING RCP
INV. OUT ELEV 375.0
4.0'
7.0'

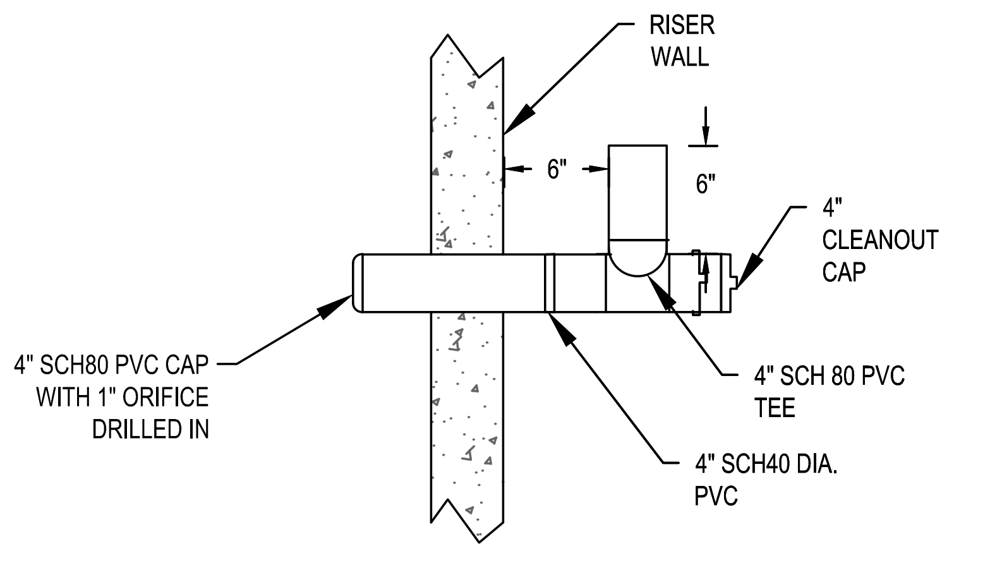
RISER STRUCTURE - WEST
N.T.S.


ELEV 384.0
5.0'
4.0'
0.5'
ELEV 380.5
MANHOLE STEPS
NCDOT STD 840.66
16" O.C.
4"CLEANOUT
CONCRETE PIPE COLLAR
SEE DETAIL THIS SHEET
24" O-RING RCP
4" DIA. SCH 80 PVC WITH 1" ORIFICE
(SEE DETAIL THIS SHEET)
6" DIA. DIP DRAIN PIPE
AT EL. 375.20
6" GATE VALVE (FLANGED, CAST IRON BODY)
INV. OUT ELEV 375.0
ANCHOR TO BE 12" #4 @ 2' O.C.
#4 @ 12" O.C. EACH WAY
4.0'
7.0'

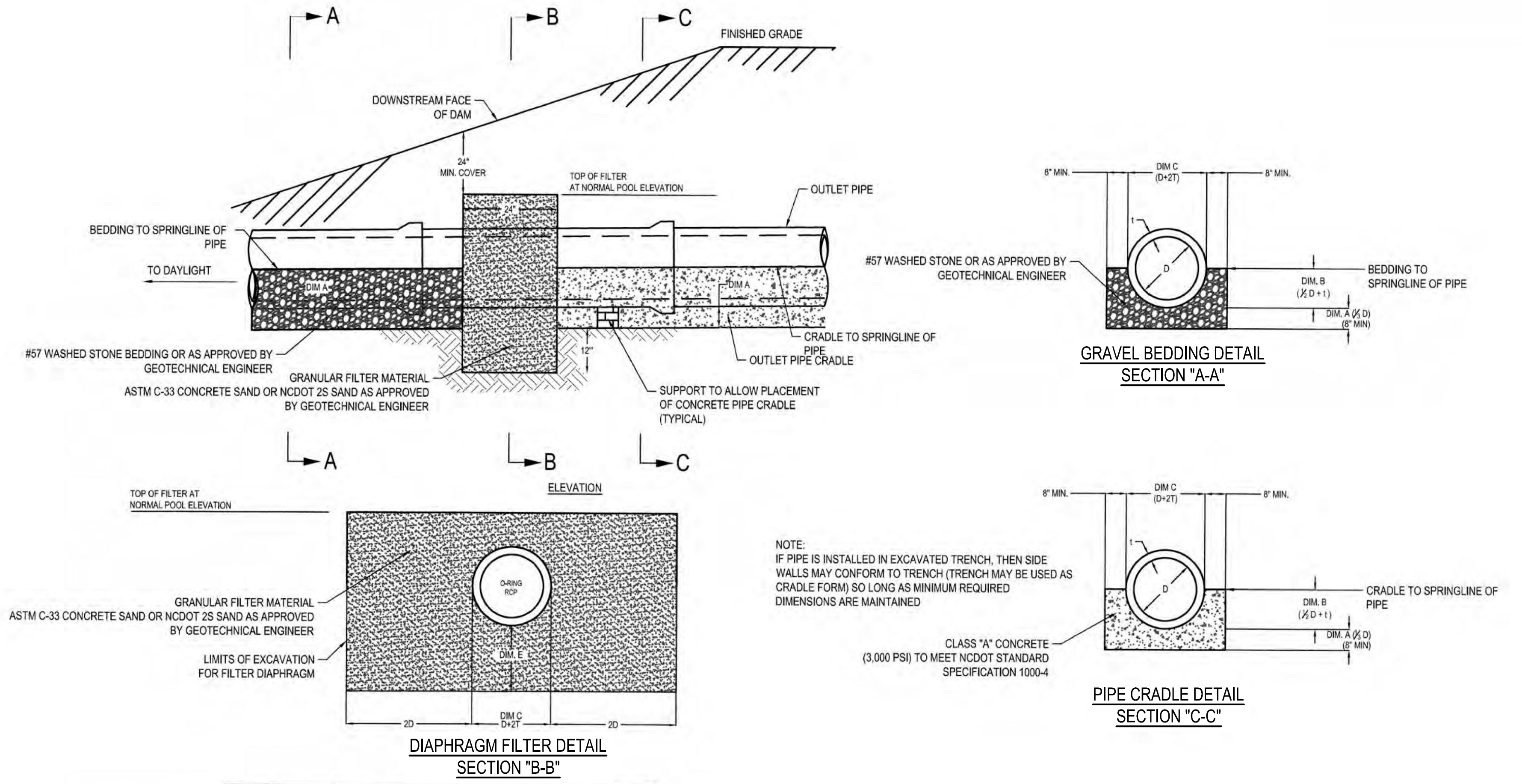
RISER STRUCTURE - SOUTH
N.T.S.


CONCRETE COLLAR
SEE DETAIL THIS SHEET
MANHOLE STEPS
NCDOT STD 840.66
16" O.C.
24" RCP
6" GATE VALVE (FLANGED, CAST IRON BODY)
6" DIP
4.0'
5.0'
4" SCH80 PVC CAP
WITH 1" ORIFICE
DRILLED IN

RISER STRUCTURE - TOP
N.T.S.


RISER WALL
6"
6"
4" CLEANOUT CAP
4" SCH80 PVC CAP
WITH 1" ORIFICE
DRILLED IN
4" SCH 80 PVC TEE
4" SCH40 DIA. PVC

4" ORIFICE UPTURNED PIPE
N.T.S.


A
B
C
FINISHED GRADE
DOWNSTREAM FACE OF DAM
24" MIN. COVER
TOP OF FILTER AT NORMAL POOL ELEVATION
OUTLET PIPE
BEDDING TO SPRINGLINE OF PIPE
TO DAYLIGHT
DIM A
24"
DIM A
12"
#57 WASHED STONE BEDDING OR AS APPROVED BY GEOTECHNICAL ENGINEER
GRANULAR FILTER MATERIAL
ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
CRADLE TO SPRINGLINE OF PIPE
OUTLET PIPE CRADLE
SUPPORT TO ALLOW PLACEMENT OF CONCRETE PIPE CRADLE (TYPICAL)
ELEVATION
8" MIN.
DIM C (D+2T)
8" MIN.
t
D
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
BEDDING TO SPRINGLINE OF PIPE
DIM. B (½ D + t)
DIM. A (⅓ D) (8" MIN)
GRAVEL BEDDING DETAIL
SECTION "A-A"
TOP OF FILTER AT NORMAL POOL ELEVATION
O-RING RCP
GRANULAR FILTER MATERIAL
ASTM C-33 CONCRETE SAND OR NCDOT 2S SAND AS APPROVED BY GEOTECHNICAL ENGINEER
LIMITS OF EXCAVATION FOR FILTER DIAPHRAGM
DIM. E
2D
DIM C D+2T
2D
DIAPHRAGM FILTER DETAIL
SECTION "B-B"
8" MIN.
DIM C (D+2T)
8" MIN.
t
D
CRADLE TO SPRINGLINE OF PIPE
DIM. B (½ D + t)
DIM. A (⅓ D) (8" MIN)
CLASS "A" CONCRETE (3,000 PSI) TO MEET NCDOT STANDARD SPECIFICATION 1000-4
PIPE CRADLE DETAIL
SECTION "C-C"

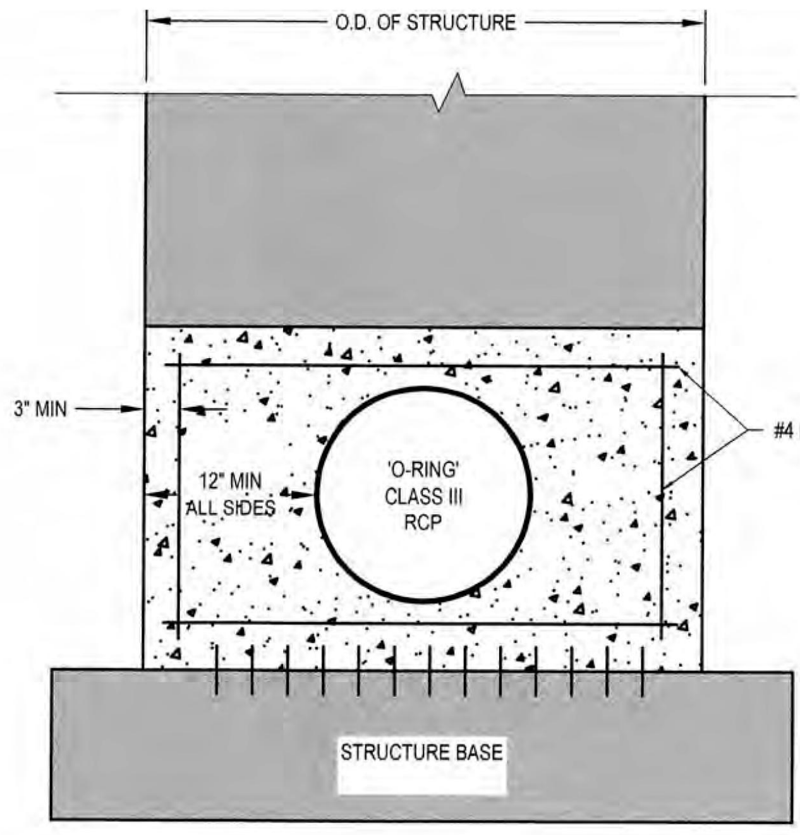
NOTE:
IF PIPE IS INSTALLED IN EXCAVATED TRENCH, THEN SIDE WALLS MAY CONFORM TO TRENCH (TRENCH MAY BE USED AS CRADLE FORM) SO LONG AS MINIMUM REQUIRED DIMENSIONS ARE MAINTAINED

SCM#1, #2, & #3

NOMINAL PIPE SIZE	DIM A (1/3 D)	DIM B (1/2 D + t)	DIM C (D + 2t)	DIM D (PIPE ID)	DIM E (DIM A + 12")	DIM t (WALL)
24	8	7	30	24	20	3
30	10	8.5	37	30	22	3.5
36	12	10	44	36	24	4
42	14	11.5	51	42	26	4.5
48	16	13	58	48	28	5

24" MINIMUM PIPE DIAMETER
ALL DIMENSIONS IN INCHES

OUTLET PIPE FILTER DIAPHRAGM
NTS


O.D. OF STRUCTURE
3" MIN
12" MIN ALL SIDES
'O-RING' CLASS III RCP
#4 REBAR
STRUCTURE BASE

NOTE: INSTALL VERTICAL DOWELS IN FOUNDATION CONCRETE AS HOLDING BARS FOR CONCRETE COLLAR REBAR

CONCRETE COLLAR DETAIL
NTS

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\\browngay.net\panzura\Regions\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-3 SCM 4 PLAN AND PROFILE Plotted: 12/1/2023 10:55:26 AM

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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SCM 4 PLAN AND PROFILE

DEBRA M. FERM
12-01-23
PRELIMINARY
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C7-3

NOTES (DEWATERING FILTER BAG)

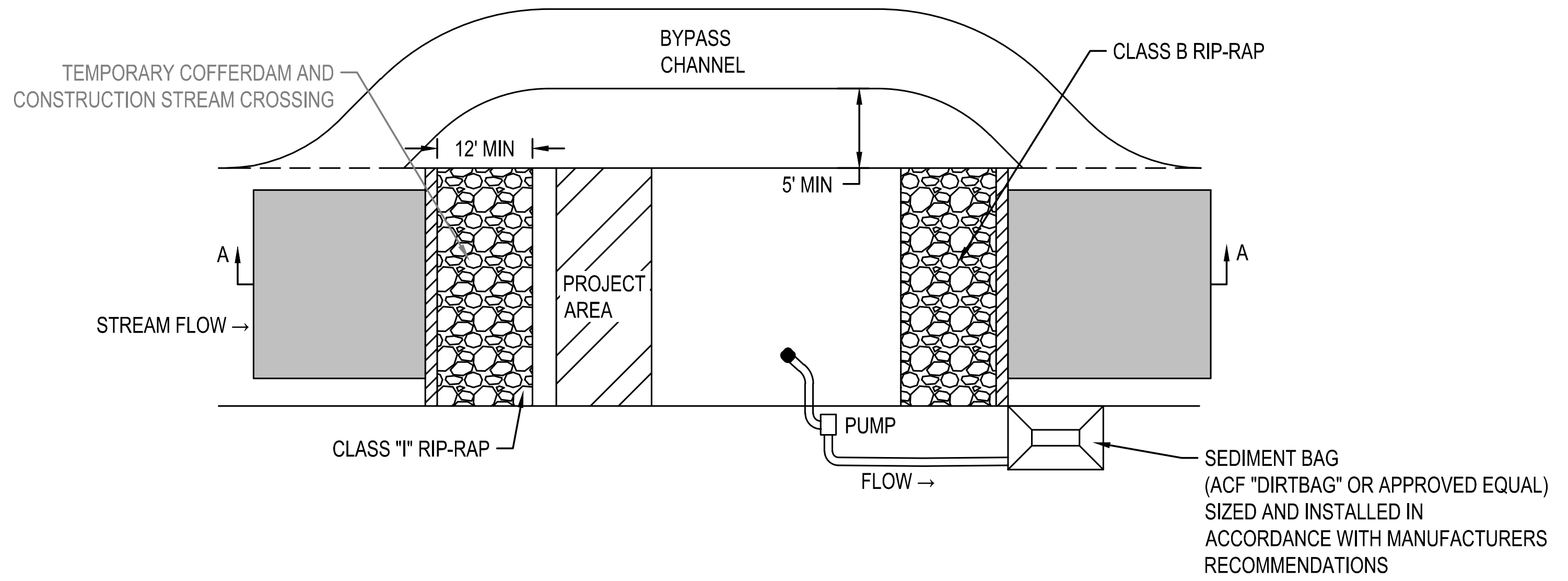
1. CONTRACTOR SHALL EXCERCISE CAUTION NOT TO BURST OR DAMAGE THE DEWATERINGFILTER BAG WHEN PUMPING.
2. THE DIMENTIONS OF THE DEWATERING FILTER BAG SHOWN ON THIS DRAWING MAY VARY PER VENDOR SPECIFICATIONS.
3. DEWATERING BAGS SHALL BE EQUIPPED WITH A SEWN IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT THE PUMP/SIPHON DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF SIX INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE.
4. THE PUMP DISCHARGE HOSE CONNECTION SLEEVE SHALL BE SECURELY TIED OFF DURING DISPOSAL OF THE DEWATERING FILTER BAG IN ORDER TO PREVENT LEAKAGE OF COLLECTED SEDIMENTS.
5. THE DEWATERING FILTER BAG SHALL BE REPLACED WHEN SIX INCHES OF SEDIMENT HAS ACCUMULATED OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. CONTRACTOR SHALL SIZE THE BAG BASED ON THE MAXIMUM FLOW OF THE PUMP OR SIPHON REQUIREMENTS.

MAINTENANCE NOTES

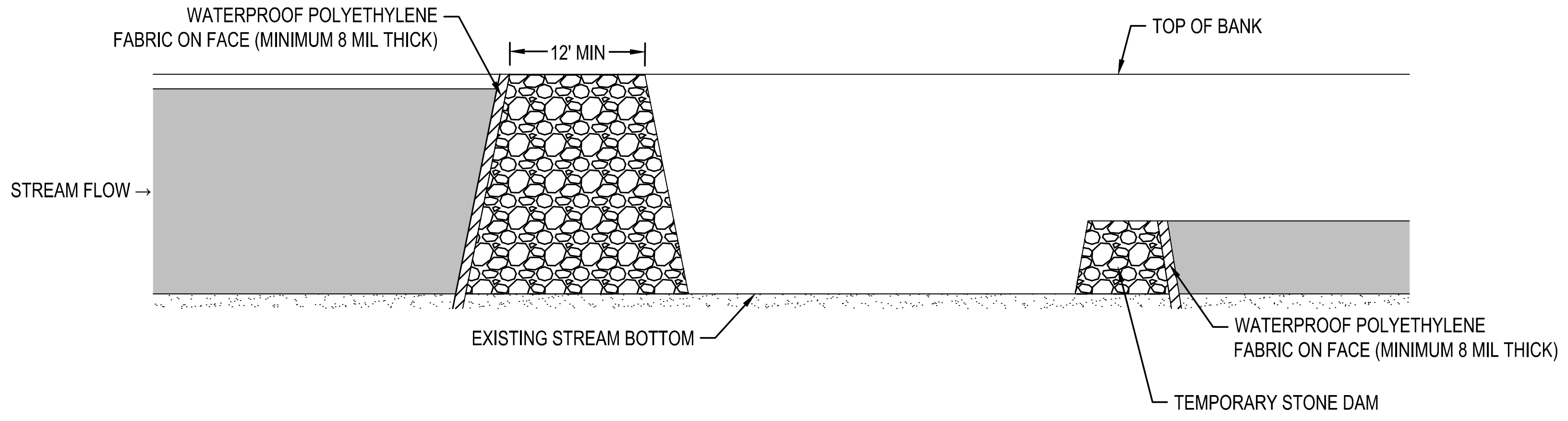
1. INSPECT DAILY DURING BYPASS OPERATION. ANY DAMAGE TO THE SEDIMENT FILTER BAG SHALL BE REPAIRED IMMEDIATELY.
2. DEWATERING FILTER SHALL BE REPLACED WHEN 6" OF SEDIMENT HAS ACCUMULATED OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. MONITOR THE DEWATERING FILTER BAG REGULARLY FOR THE PRESENCE OF TURBID WATER BEING DISCHARGED. IF ANY TURBID WATER IS BEING DISCHARGED FROM THE BAG THE SITUATION SHALL BE RESOLVED IMMEDIATELY. IF THE TEMPORARY BLOCKAGES ARE NOT FOUND, ASSUME THE BAG IS AT SEDIMENT CAPACITY AND REPLACE IMMEDIATELY.

CONSTRUCTION NOTES

1. 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
   - 2.1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS
   - 2.2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS
3. THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL
4. THIS BARREL STANDARD TO BE USED ONLY ON CULVERT ON 75° SKEW AND TO BE USED WITH STANDARD WING SHEET WITH SAME SKEW AND VERTICAL CLEARANCE.
5. DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.
6. TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF ENGINEER.
7. STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.
8. AT THE CONTRACTOR'S OPTION, THEY MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.
9. AT THE CONTRACTOR'S OPTION THEY MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.


TEMPORARY COFFERDAM AND CONSTRUCTION STREAM CROSSING
BYPASS CHANNEL
CLASS B RIP-RAP
12' MIN
5' MIN
A
A
STREAM FLOW →
PROJECT AREA
CLASS "I" RIP-RAP
PUMP
FLOW →
SEDIMENT BAG (ACF "DIRTBAG" OR APPROVED EQUAL) SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

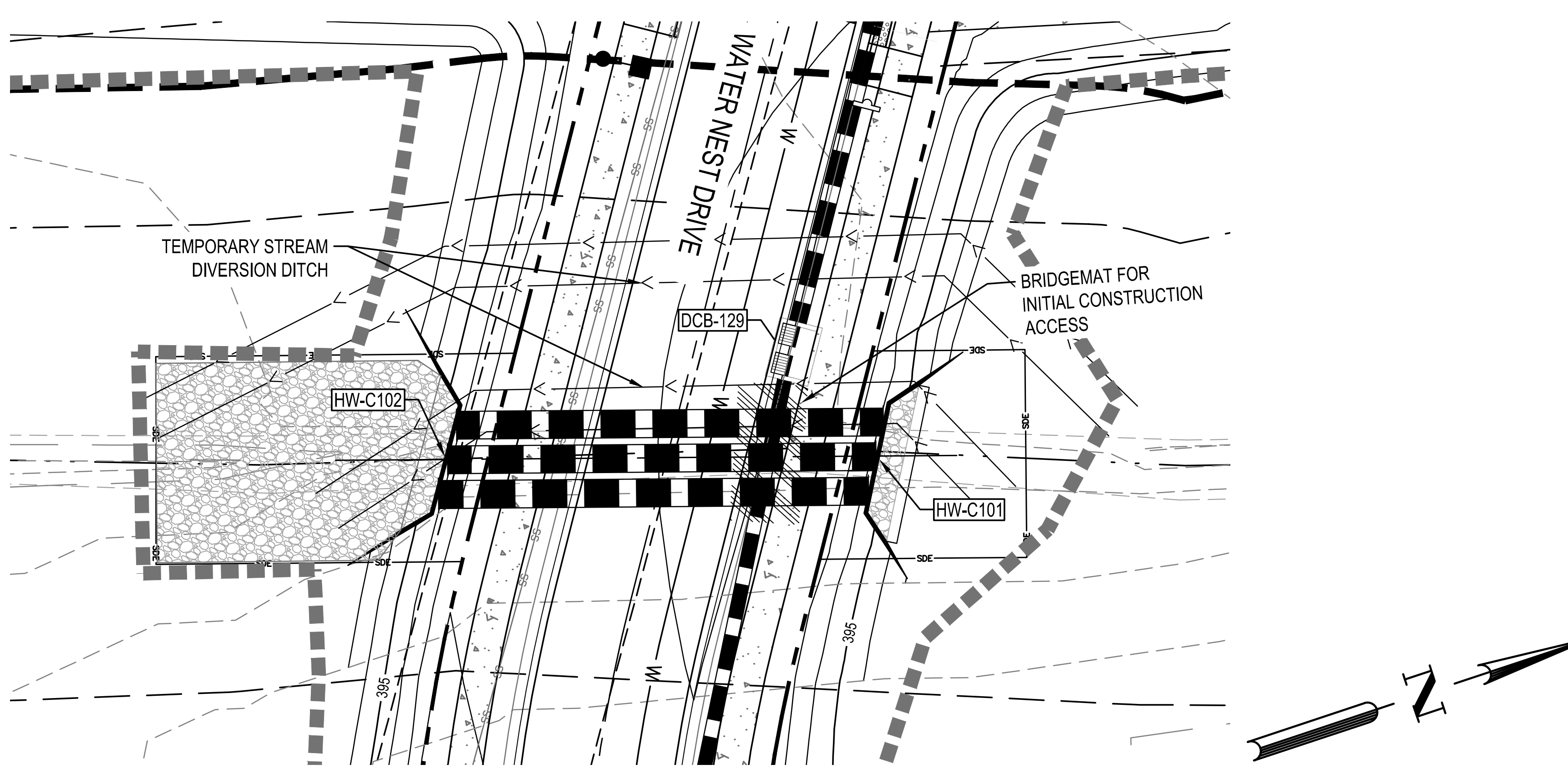
PLAN


WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
12' MIN
TOP OF BANK
STREAM FLOW →
EXISTING STREAM BOTTOM
WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
TEMPORARY STONE DAM

SECTION A-A

TEMPORARY STREAM CROSSING BYPASS

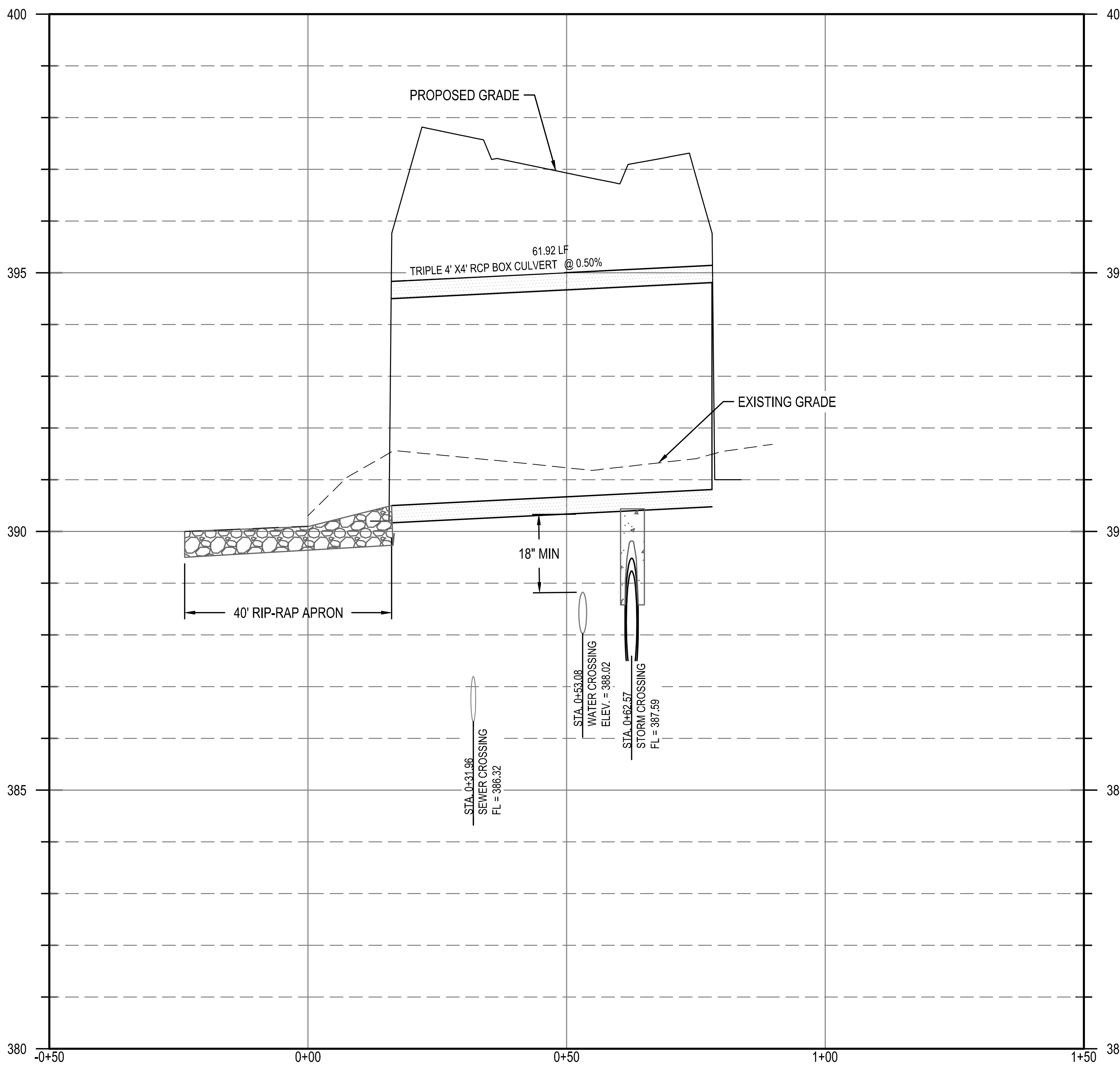
NOT TO SCALE

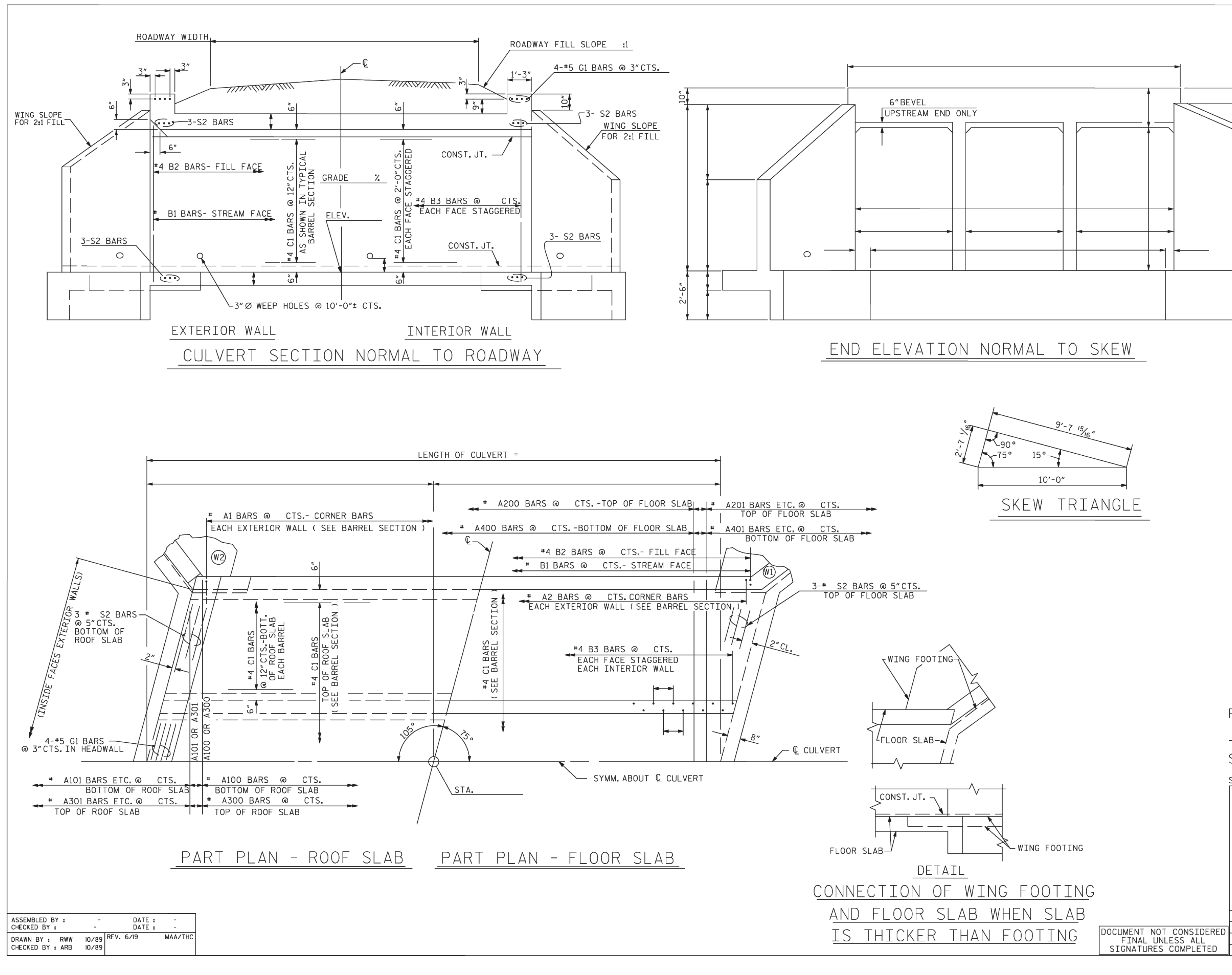

TEMPORARY STREAM DIVERSION DITCH
WATER NEST DRIVE
DCB-129
HW-C102
HW-C101
BRIDGEMAT FOR INITIAL CONSTRUCTION ACCESS
W
N
0
10'
20'
40'
SCALE: 1" = 20'
VERT: 1" = 2'

CULVERT 1

NOTES:
1. TEMPORARY BYPASS AND CULVERT SHALL BE INSTALLED IN AT LEAST 3 DAYS OF DRY CONDITIONS.
2. SILT FENCE SHALL BE INSTALLED ALONG STREAM BANKS AT THE END OF EACH WORKDAY TO MINIMIZE IMPACTS

CULVERT 1
STA: -0+50.00 TO STA:1+50.00


400
395
390
385
380
PROPOSED GRADE
61.92 LF
TRIPLE 4' X4' RCP BOX CULVERT @ 0.50%
EXISTING GRADE
18" MIN
40' RIP-RAP APRON
STA. 0+31.96
SEWER CROSSING
FL = 386.32
STA. 0+53.08
WATER CROSSING
ELEV. = 388.02
STA. 0+62.57
STORM CROSSING
FL = 387.59
-0+50
0+00
0+50
1+00
1+50


ROADWAY WIDTH
ROADWAY FILL SLOPE
4-#5 G1 BARS @ 3" CTS.
WING SLOPE FOR 2:1 FILL
3-S2 BARS
WING SLOPE FOR 2:1 FILL
#4 B2 BARS- FILL FACE
CONST. JT.
GRADE
B1 BARS- STREAM FACE
ELEV.
#4 B3 BARS @ CTS. EACH FACE STAGGERED
CONST. JT.
3- S2 BARS
3" Ø WEEP HOLES @ 10'-0"± CTS.
EXTERIOR WALL
INTERIOR WALL
CULVERT SECTION NORMAL TO ROADWAY
6" BEVEL UPSTREAM END ONLY
END ELEVATION NORMAL TO SKEW
9'-7 ⁵⁄₁₆"
90°
75°
15°
10'-0"
SKEW TRIANGLE
LENGTH OF CULVERT =
A1 BARS @ CTS.- CORNER BARS EACH EXTERIOR WALL (SEE BARREL SECTION)
A200 BARS @ CTS.-TOP OF FLOOR SLAB
A400 BARS @ CTS.-BOTTOM OF FLOOR SLAB
A201 BARS ETC.@ CTS. TOP OF FLOOR SLAB
A401 BARS ETC.@ CTS. BOTTOM OF FLOOR SLAB
#4 B2 BARS @ CTS.- FILL FACE
B1 BARS @ CTS.- STREAM FACE
3- S2 BARS @ 5"CTS. TOP OF FLOOR SLAB
A2 BARS @ CTS. CORNER BARS EACH EXTERIOR WALL (SEE BARREL SECTION)
#4 B3 BARS @ CTS. EACH FACE STAGGERED EACH INTERIOR WALL
3- S2 BARS @ 5"CTS. BOTTOM OF ROOF SLAB
4-#5 G1 BARS @ 3"CTS. IN HEADWALL
A101 BARS ETC.@ CTS. BOTTOM OF ROOF SLAB
A301 BARS ETC.@ CTS. TOP OF ROOF SLAB
A100 BARS @ CTS. BOTTOM OF ROOF SLAB
A300 BARS @ CTS. TOP OF ROOF SLAB
SYMM. ABOUT ℄ CULVERT
℄ CULVERT
STA.
PART PLAN - ROOF SLAB
PART PLAN - FLOOR SLAB
WING FOOTING
FLOOR SLAB
CONST. JT.
FLOOR SLAB
WING FOOTING
ASSEMBLED BY : DATE :
CHECKED BY : DATE :
DRAWN BY : RWW 10/89
CHECKED BY : ARB 10/89
REV. 6/19 MAA/THC

DETAIL
CONNECTION OF WING FOOTING AND FLOOR SLAB WHEN SLAB IS THICKER THAN FOOTING

PROJECT NO. –
– COUNTY
STATION: –
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BARREL STANDARD
TRIPLE FT. X FT.
CONCRETE BOX CULVERT
75° SKEW

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

STD. NO. CB75_3

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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5440 WADE PARK BLVD, SUITE 102
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NC LICENSE #C-4397
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CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

CULVERT 1 PLAN

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C7-4

811
Know what's below.
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G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-4 CULVERT 1 PLAN Plotted: 12/1/2023 3:18:40 PM

NOTES (DEWATERING FILTER BAG)

1. CONTRACTOR SHALL EXCERCISE CAUTION NOT TO BURST OR DAMAGE THE DEWATERINGFILTER BAG WHEN PUMPING.
2. THE DIMENTIONS OF THE DEWATERING FILTER BAG SHOWN ON THIS DRAWING MAY VARY PER VENDOR SPECIFICATIONS.
3. DEWATERING BAGS SHALL BE EQUIPPED WITH A SEWN IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT THE PUMP/SIPHON DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF SIX INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE.
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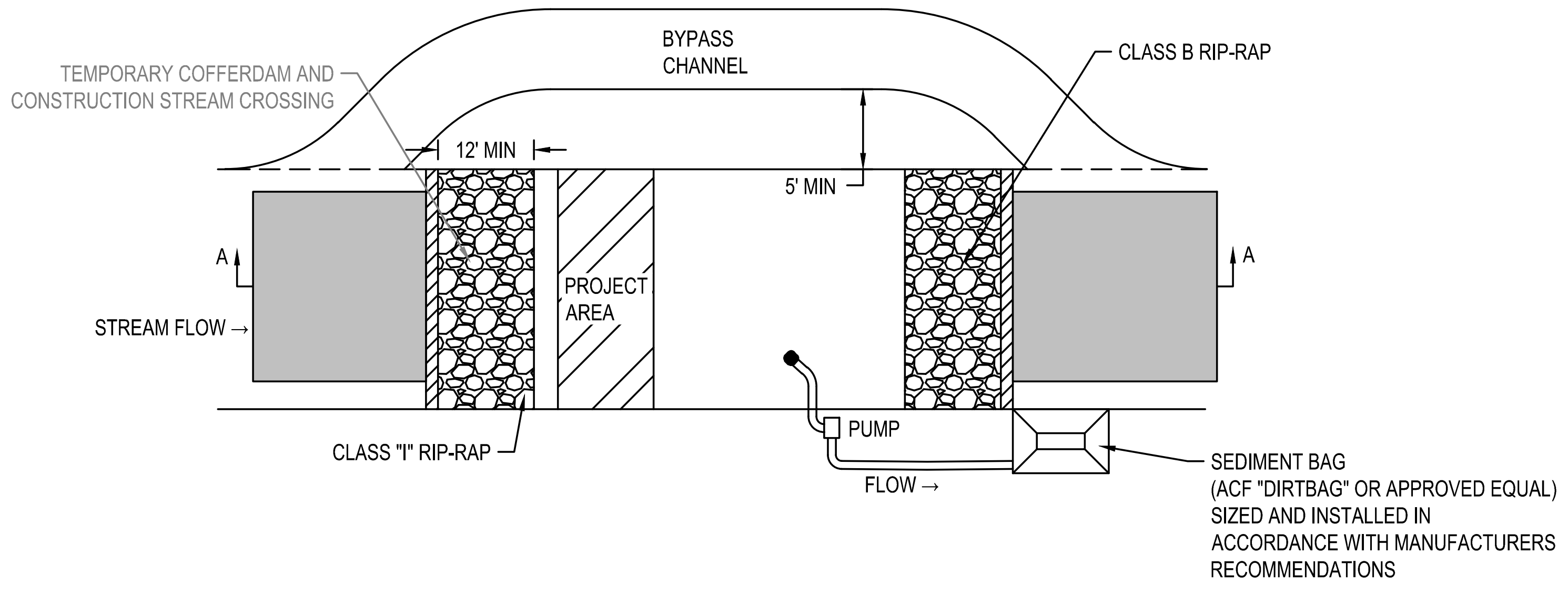
6. CONTRACTOR SHALL SIZE THE BAG BASED ON THE MAXIMUM FLOW OF THE PUMP OR SIPHON REQUIREMENTS.

MAINTENANCE NOTES

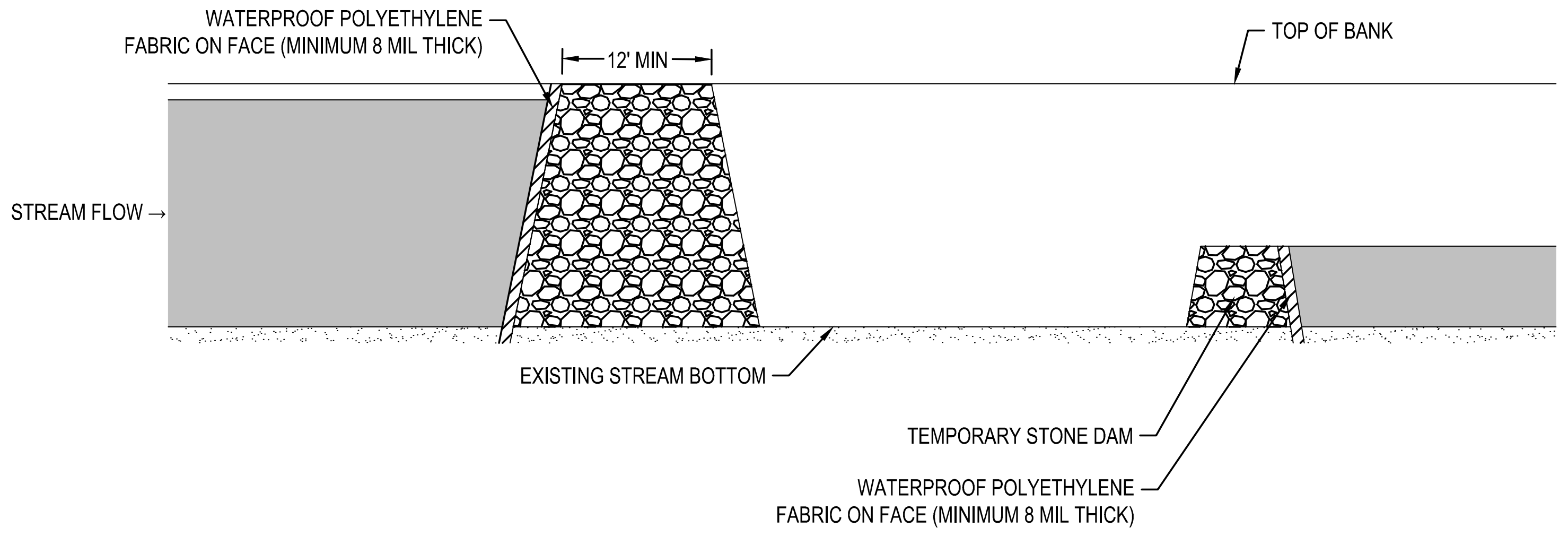
1. INSPECT DAILY DURING BYPASS OPERATION. ANY DAMAGE TO THE SEDIMENT FILTER BAG SHALL BE REPAIRED IMMEDIATELY.
2. DEWATERING FILTER SHALL BE REPLACED WHEN 6" OF SEDIMENT HAS ACCUMULATED OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. MONITOR THE DEWATERING FILTER BAG REGULARLY FOR THE PRESENCE OF TURBID WATER BEING DISCHARGED. IF ANY TURBID WATER IS BEING DISCHARGED FROM THE BAG THE SITUATION SHALL BE RESOLVED IMMEDIATELY. IF THE TEMPORARY BLOCKAGES ARE NOT FOUND, ASSUME THE BAG IS AT SEDIMENT CAPACITY AND REPLACE IMMEDIATELY.

CONSTRUCTION NOTES

1. 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
   - 2.1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS
   - 2.2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS
3. THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL
4. THIS BARREL STANDARD TO BE USED ONLY ON CULVERT ON 75° SKEW AND TO BE USED WITH STANDARD WING SHEET WITH SAME SKEW AND VERTICAL CLEARANCE.
5. DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.
6. TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF ENGINEER.
7. STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.
8. AT THE CONTRACTOR'S OPTION, THEY MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.
9. AT THE CONTRACTOR'S OPTION THEY MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.


BYPASS CHANNEL
TEMPORARY COFFERDAM AND CONSTRUCTION STREAM CROSSING
CLASS B RIP-RAP
12' MIN
5' MIN
A
A
STREAM FLOW →
PROJECT AREA
CLASS "I" RIP-RAP
PUMP
FLOW →
SEDIMENT BAG (ACF "DIRTBAG" OR APPROVED EQUAL) SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

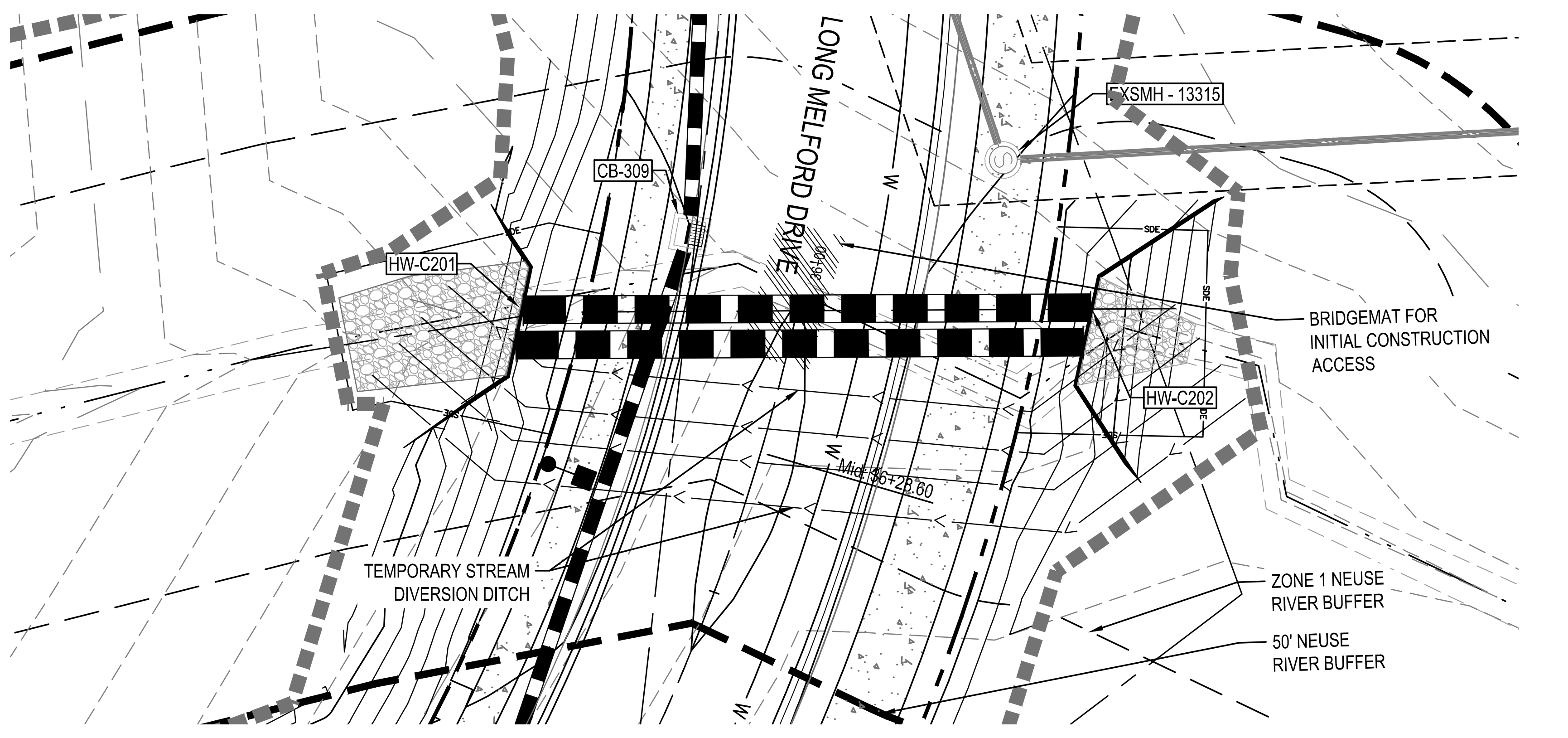
PLAN


WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
12' MIN
TOP OF BANK
STREAM FLOW →
EXISTING STREAM BOTTOM
TEMPORARY STONE DAM
WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)

SECTION A-A

TEMPORARY STREAM CROSSING BYPASS

NOT TO SCALE


LONG MELFORD DRIVE
EXSMH - 13315
CB-309
HW-C201
HW-C202
BRIDGEMAT FOR INITIAL CONSTRUCTION ACCESS
TEMPORARY STREAM DIVERSION DITCH
ZONE 1 NEUSE RIVER BUFFER
50' NEUSE RIVER BUFFER
Mid: 36+28.60
W
SDE

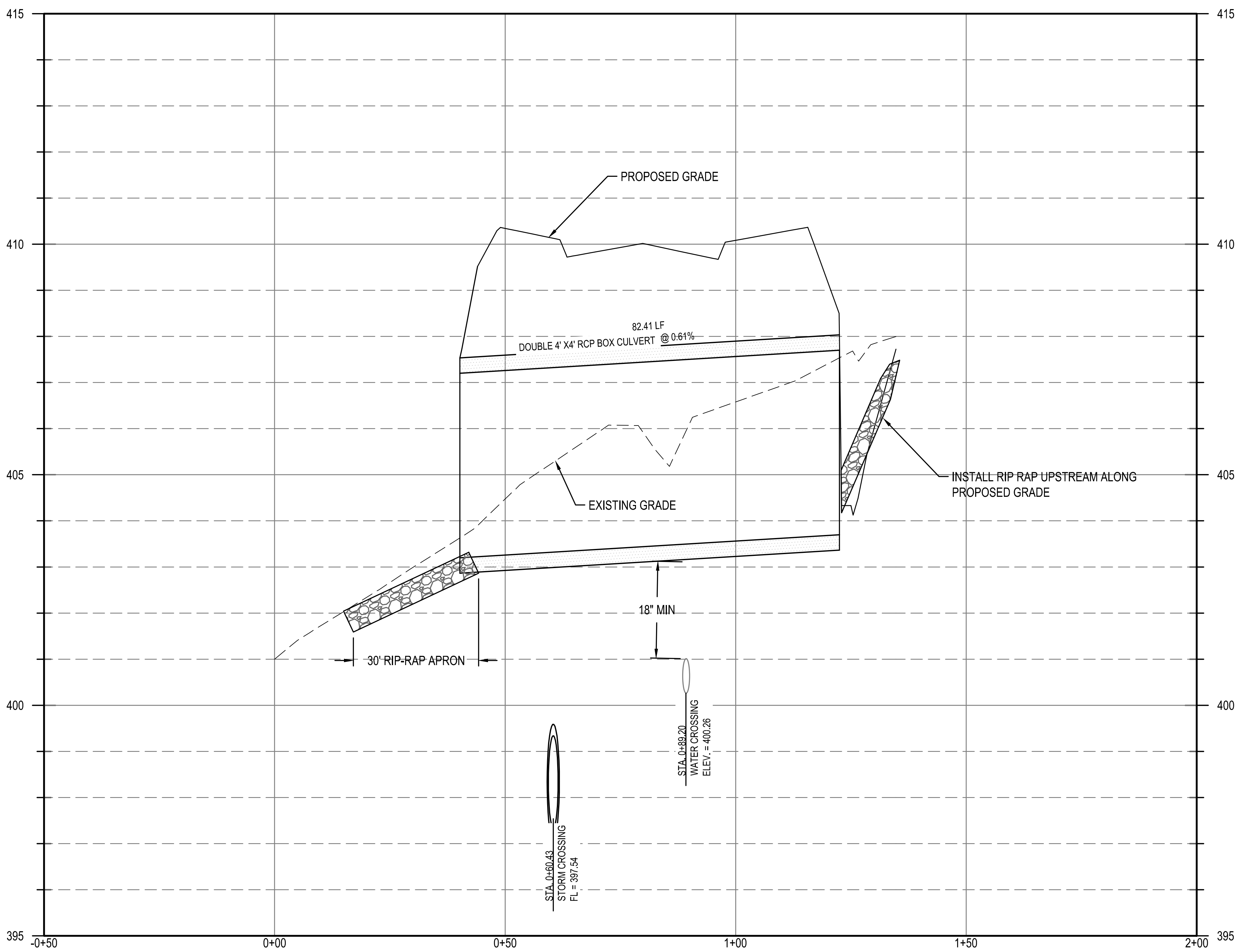
CULVERT 2

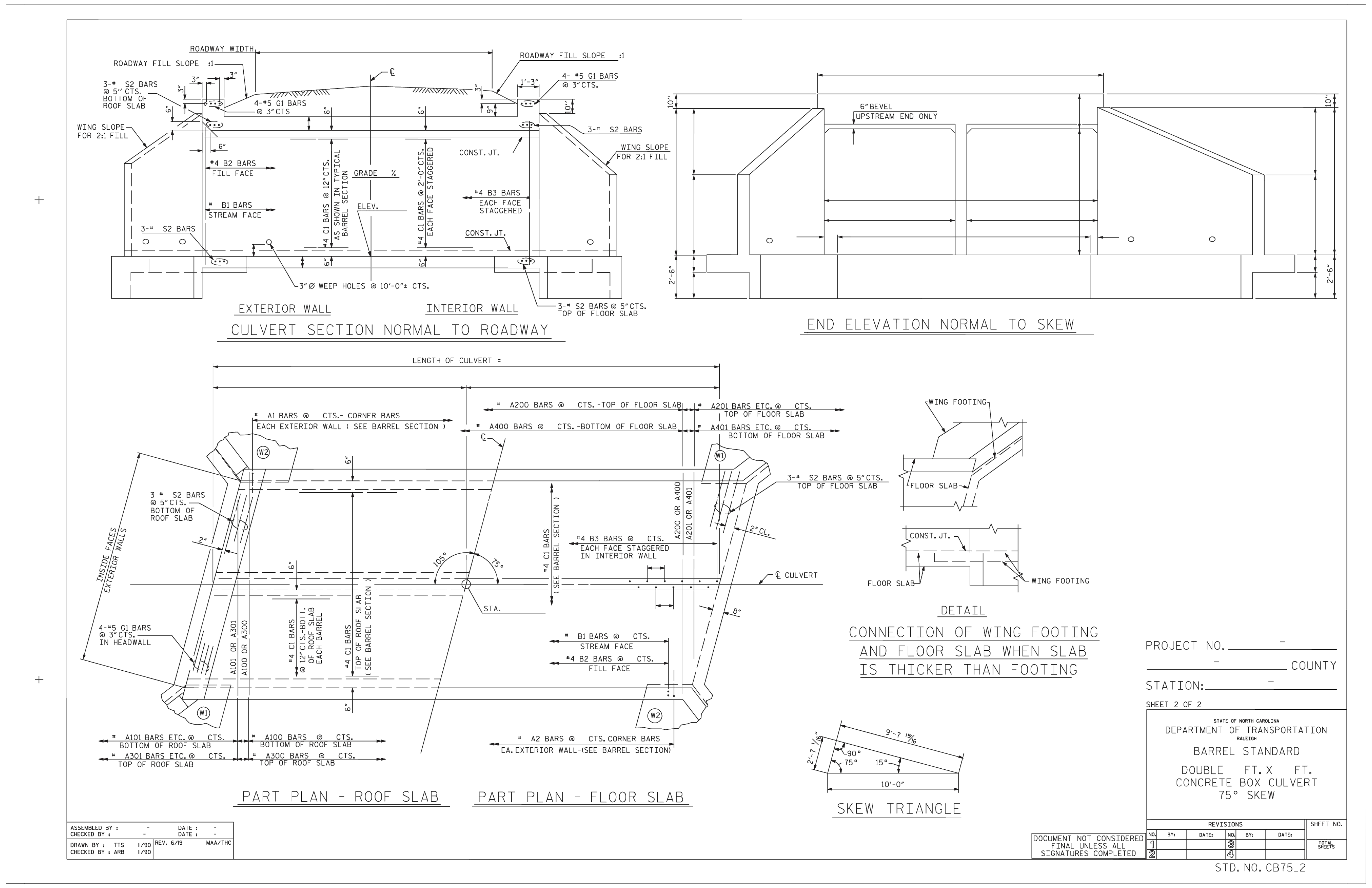
0 10' 20' 40'

SCALE: 1" = 20'
VERT: 1" = 2'

NOTES:
1. TEMPORARY BYPASS AND CULVERT SHALL BE INSTALLED IN AT LEAST 3 DAYS OF DRY CONDITIONS.
2. SILT FENCE SHALL BE INSTALLED ALONG STREAM BANKS AT THE END OF EACH WORKDAY TO MINIMIZE IMPACTS

CULVERT 2
STA: -0+50.00 TO STA:2+00.00




ROADWAY WIDTH
ROADWAY FILL SLOPE :1
3-# S2 BARS @ 5" CTS. BOTTOM OF ROOF SLAB
4-#5 G1 BARS @ 3" CTS
WING SLOPE FOR 2:1 FILL
#4 B2 BARS FILL FACE
# B1 BARS STREAM FACE
3-# S2 BARS
#4 C1 BARS @ 12" CTS. AS SHOWN IN TYPICAL BARREL SECTION
GRADE %
ELEV.
#4 C1 BARS @ 2'-0" CTS. EACH FACE STAGGERED
CONST. JT.
#4 B3 BARS EACH FACE STAGGERED
3" Ø WEEP HOLES @ 10'-0"± CTS.
3-# S2 BARS @ 5" CTS. TOP OF FLOOR SLAB
EXTERIOR WALL
INTERIOR WALL
CULVERT SECTION NORMAL TO ROADWAY
6" BEVEL UPSTREAM END ONLY
END ELEVATION NORMAL TO SKEW
LENGTH OF CULVERT =
# A1 BARS @ CTS.- CORNER BARS EACH EXTERIOR WALL (SEE BARREL SECTION)
# A200 BARS @ CTS. -TOP OF FLOOR SLAB
# A400 BARS @ CTS. -BOTTOM OF FLOOR SLAB
# A201 BARS ETC. @ CTS. TOP OF FLOOR SLAB
# A401 BARS ETC. @ CTS. BOTTOM OF FLOOR SLAB
INSIDE FACES EXTERIOR WALLS
4-#5 G1 BARS @ 3" CTS. IN HEADWALL
#4 C1 BARS @ 12" CTS.-BOTT. OF ROOF SLAB EACH BARREL
#4 C1 BARS TOP OF ROOF SLAB (SEE BARREL SECTION)
#4 B3 BARS @ CTS. EACH FACE STAGGERED IN INTERIOR WALL
℄ CULVERT
STA.
# A101 BARS ETC. @ CTS. BOTTOM OF ROOF SLAB
# A301 BARS ETC. @ CTS. TOP OF ROOF SLAB
# A100 BARS @ CTS. BOTTOM OF ROOF SLAB
# A300 BARS @ CTS. TOP OF ROOF SLAB
# A2 BARS @ CTS. CORNER BARS EA. EXTERIOR WALL-(SEE BARREL SECTION)
PART PLAN - ROOF SLAB
PART PLAN - FLOOR SLAB
WING FOOTING
FLOOR SLAB
CONST. JT.
DETAIL
CONNECTION OF WING FOOTING AND FLOOR SLAB WHEN SLAB IS THICKER THAN FOOTING
9'-7 15/16"
2'-7 1/16"
90°
75°
15°
10'-0"
SKEW TRIANGLE

ASSEMBLED BY : - DATE : -
CHECKED BY : - DATE : -
DRAWN BY : TTS 11/90
CHECKED BY : ARB 11/90
REV. 6/19 MAA/THC

PROJECT NO. -
- COUNTY
STATION: -
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BARREL STANDARD
DOUBLE FT. X FT.
CONCRETE BOX CULVERT
75° SKEW

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

STD. NO. CB75_2

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-5 CULVERT 2 PLAN Plotted: 12/1/2023 3:17:08 PM

811
Know what's below.
Call before you dig.

REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

CULVERT 2 PLAN

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 11/21/2023

C7-5

NOTES (DEWATERING FILTER BAG)
1. CONTRACTOR SHALL EXCERCISE CAUTION NOT TO BURST OR DAMAGE THE DEWATERINGFILTER BAG WHEN PUMPING.
2. THE DIMENTIONS OF THE DEWATERING FILTER BAG SHOWN ON THIS DRAWING MAY VARY PER VENDOR SPECIFICATIONS.
3. DEWATERING BAGS SHALL BE EQUIPPED WITH A SEWN IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT THE PUMP/SIPHON DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF SIX INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE.
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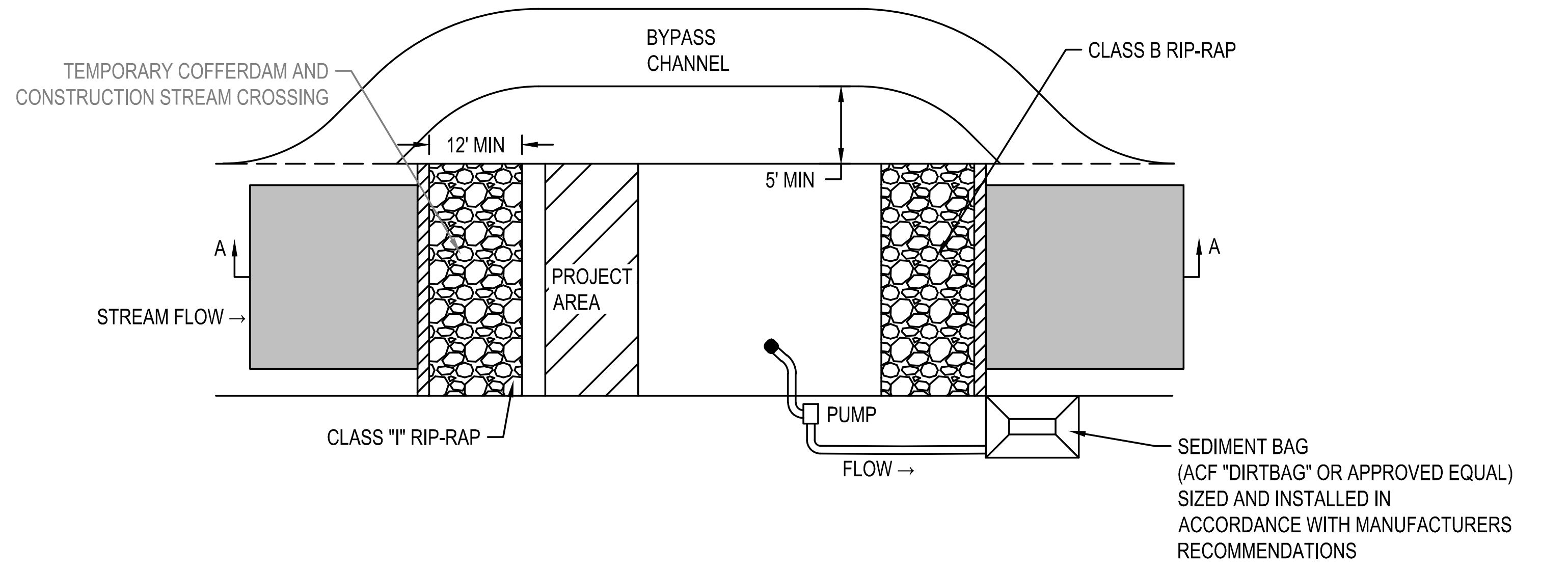
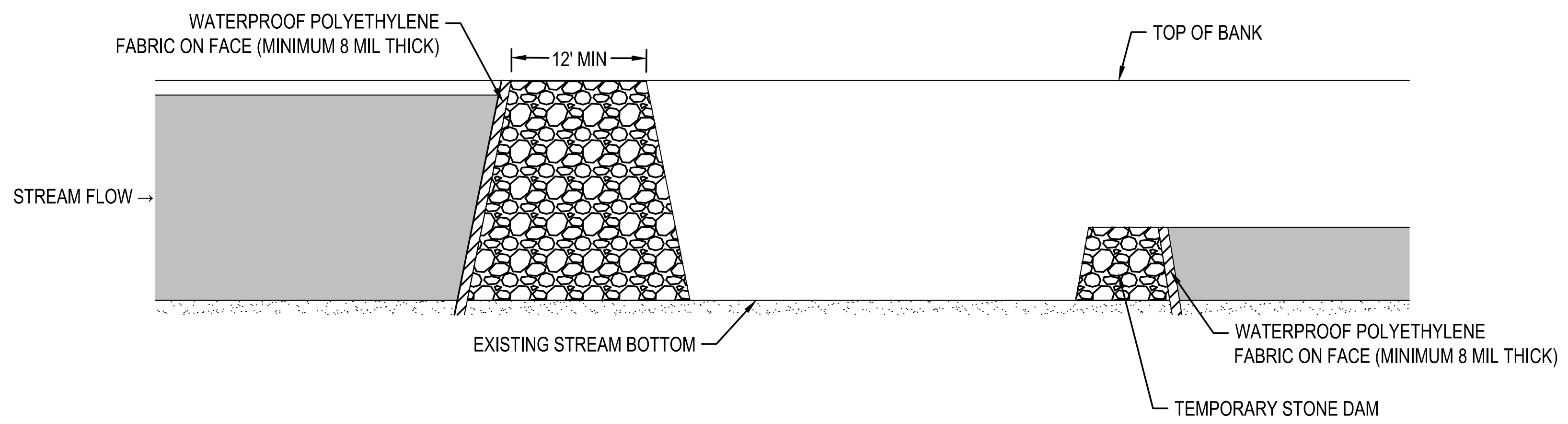

BYPASS CHANNEL
CLASS B RIP-RAP
TEMPORARY COFFERDAM AND CONSTRUCTION STREAM CROSSING
12' MIN
5' MIN
A
A
PROJECT AREA
STREAM FLOW →
CLASS "I" RIP-RAP
PUMP
FLOW →
SEDIMENT BAG (ACF "DIRTBAG" OR APPROVED EQUAL) SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

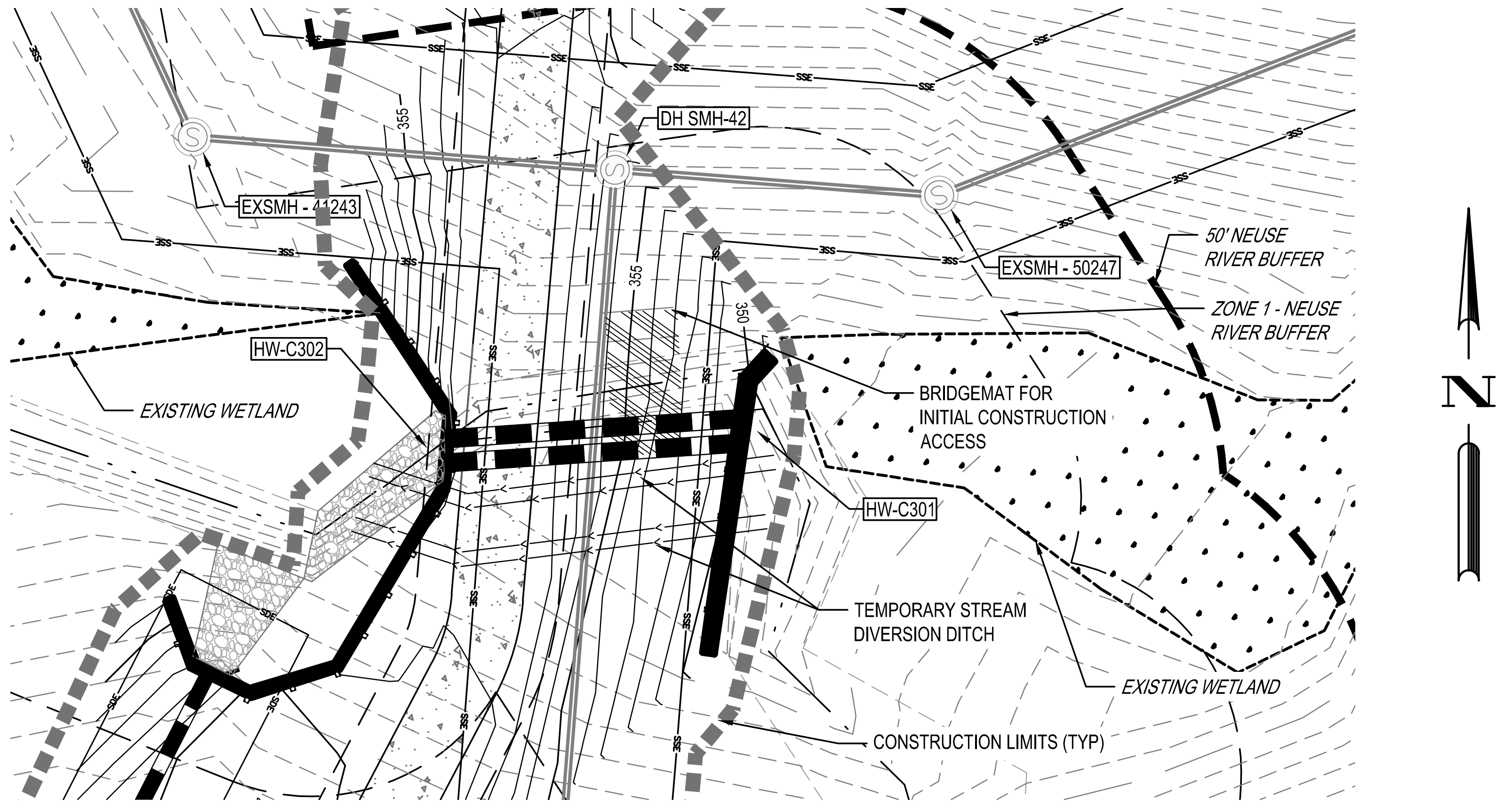
PLAN


WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
12' MIN
TOP OF BANK
STREAM FLOW →
EXISTING STREAM BOTTOM
WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
TEMPORARY STONE DAM

SECTION A-A

TEMPORARY STREAM CROSSING BYPASS

NOT TO SCALE


DH SMH-42
EXSMH - 44243
EXSMH - 50247
50' NEUSE RIVER BUFFER
ZONE 1 - NEUSE RIVER BUFFER
HW-C302
EXISTING WETLAND
BRIDGEMAT FOR INITIAL CONSTRUCTION ACCESS
HW-C301
TEMPORARY STREAM DIVERSION DITCH
EXISTING WETLAND
CONSTRUCTION LIMITS (TYP)
N

CULVERT 3

0 10' 20' 40'
SCALE: 1" = 20'
VERT: 1" = 2'

NOTES:
1. TEMPORARY BYPASS AND CULVERT SHALL BE INSTALLED IN AT LEAST 3 DAYS OF DRY CONDITIONS.
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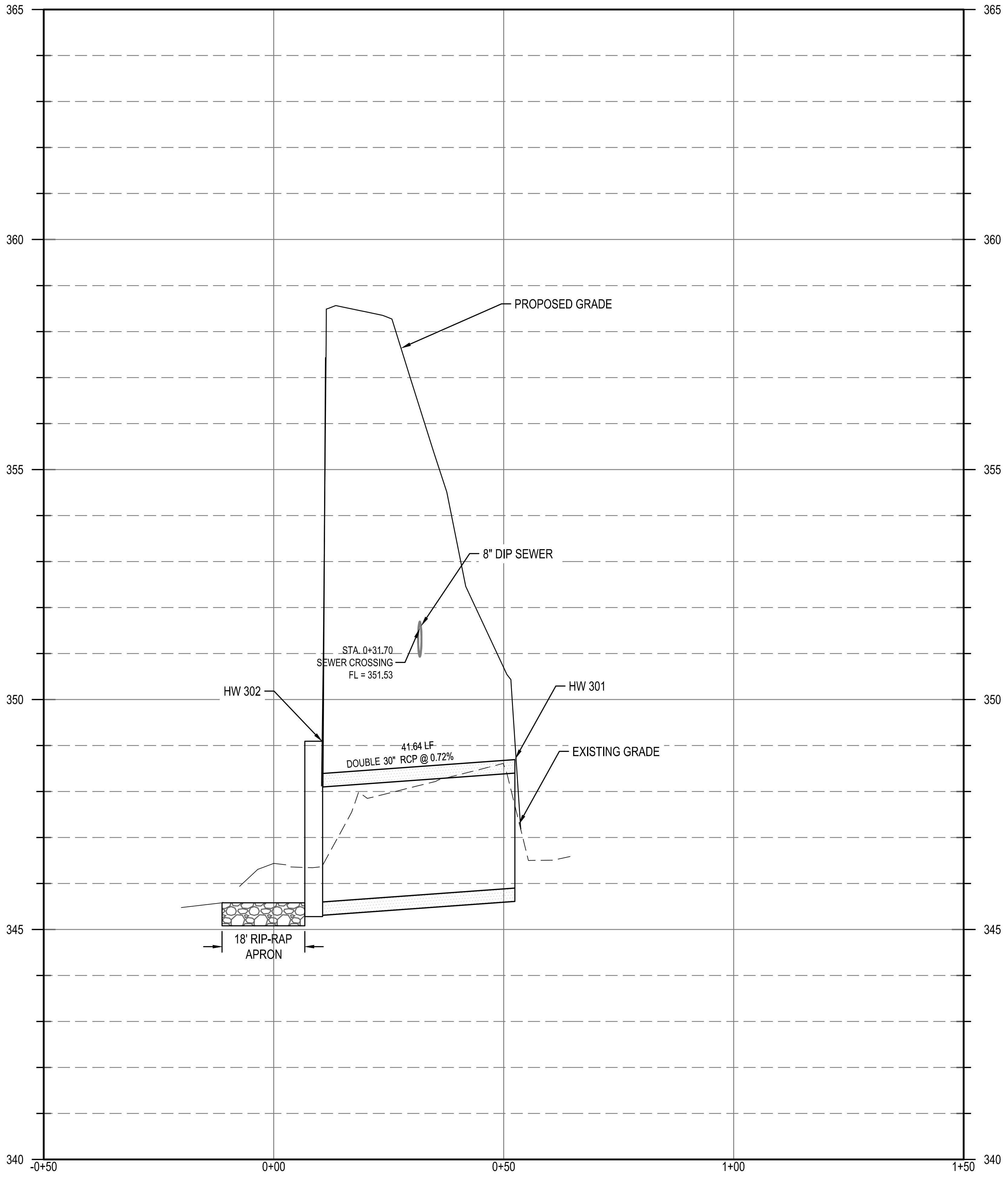
CULVERT 3
STA: -0+50.00 TO STA:1+50.00


365
360
355
350
345
340
-0+50
0+00
0+50
1+00
1+50
PROPOSED GRADE
8" DIP SEWER
STA. 0+31.70
SEWER CROSSING
FL = 351.53
HW 302
HW 301
41.64 LF
DOUBLE 30" RCP @ 0.72%
EXISTING GRADE
18' RIP-RAP APRON

Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5	
4	
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

CULVERT 3 PLAN

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C7-6

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-6 CULVERT 3 PLAN Plotted: 12/1/2023 3:12:55 PM

NOTES (DEWATERING FILTER BAG)

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6. CONTRACTOR SHALL SIZE THE BAG BASED ON THE MAXIMUM FLOW OF THE PUMP OR SIPHON REQUIREMENTS.

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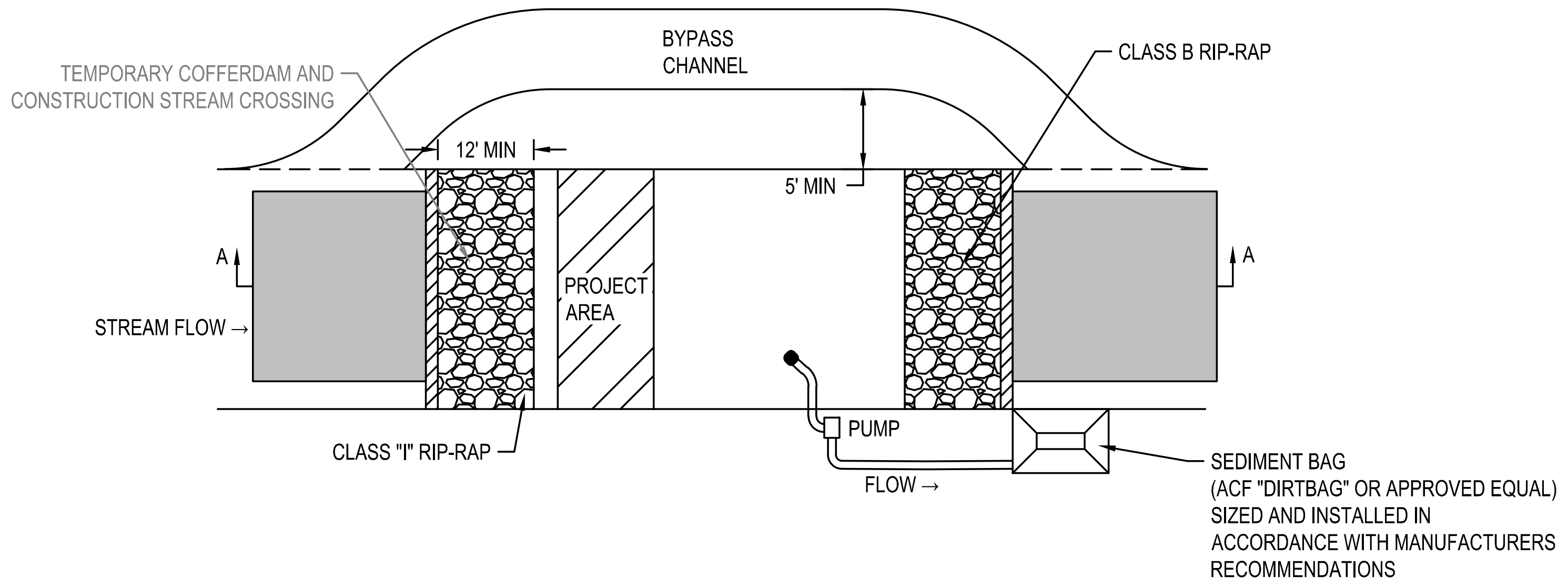
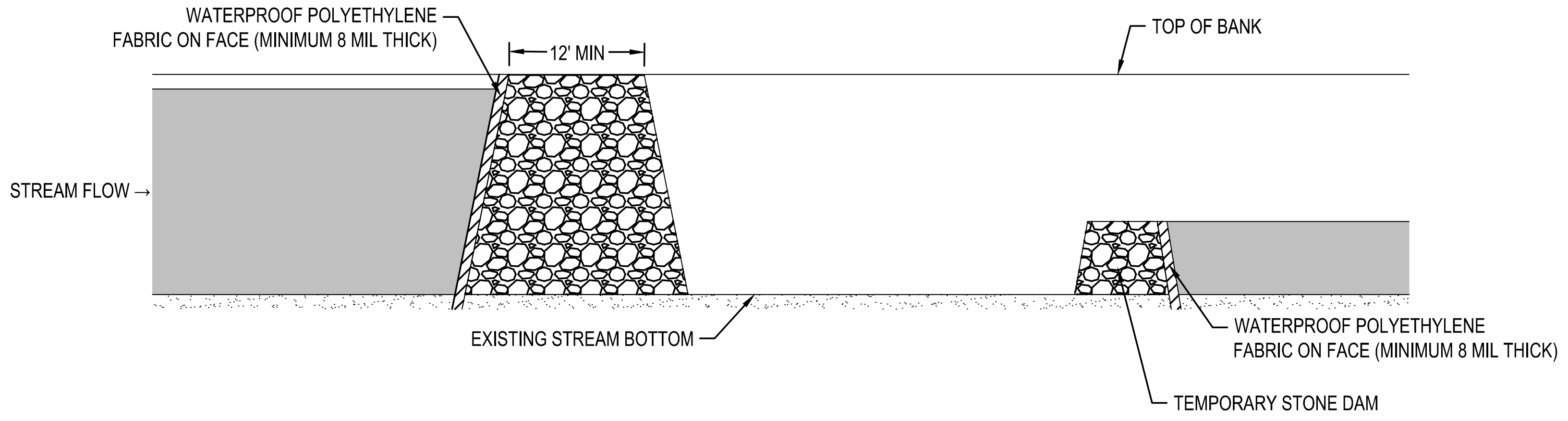

BYPASS CHANNEL
CLASS B RIP-RAP
TEMPORARY COFFERDAM AND CONSTRUCTION STREAM CROSSING
12' MIN
5' MIN
A
A
PROJECT AREA
STREAM FLOW →
CLASS "I" RIP-RAP
PUMP
FLOW →
SEDIMENT BAG (ACF "DIRTBAG" OR APPROVED EQUAL) SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

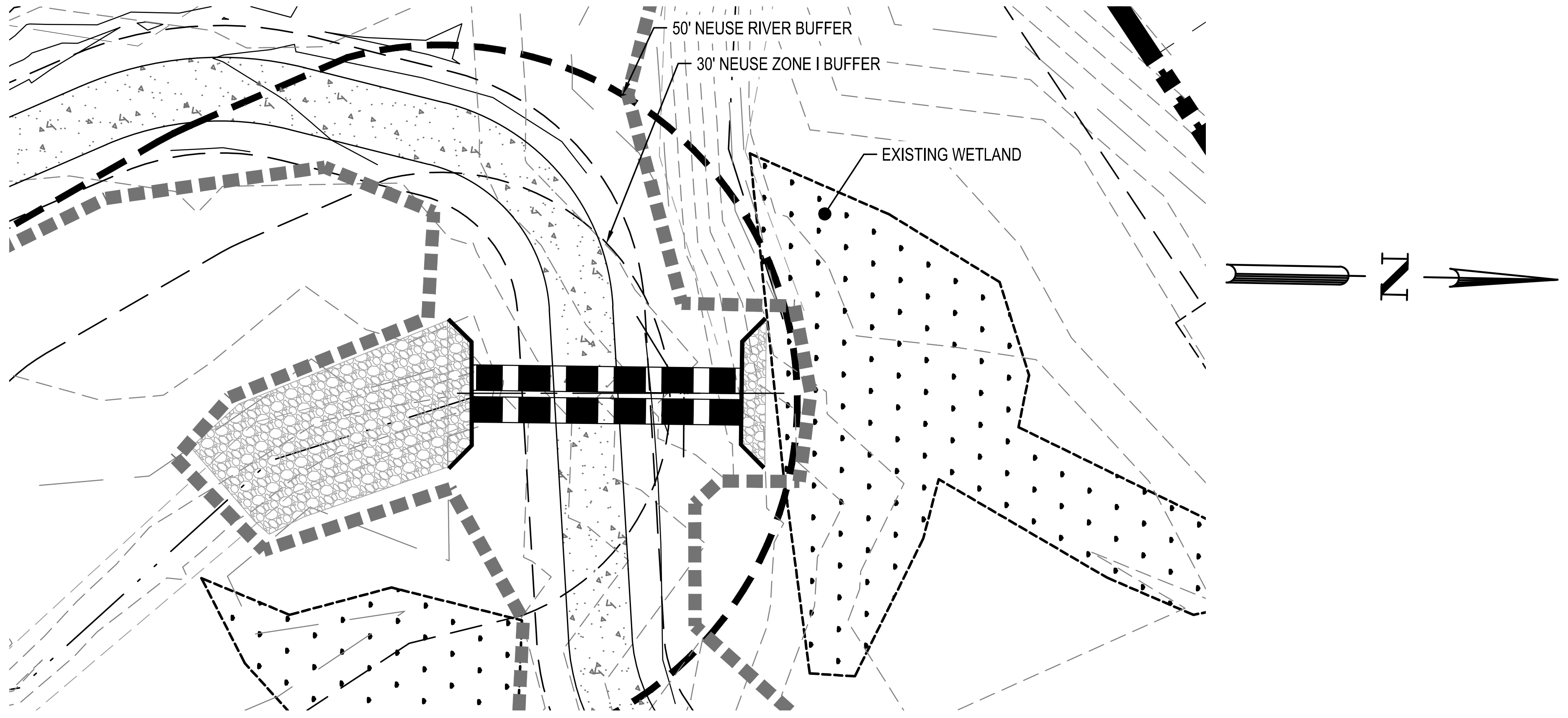
PLAN


WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
12' MIN
TOP OF BANK
STREAM FLOW →
EXISTING STREAM BOTTOM
WATERPROOF POLYETHYLENE FABRIC ON FACE (MINIMUM 8 MIL THICK)
TEMPORARY STONE DAM

SECTION A-A

TEMPORARY STREAM CROSSING BYPASS

NOT TO SCALE


50' NEUSE RIVER BUFFER
30' NEUSE ZONE I BUFFER
EXISTING WETLAND
N

CULVERT 4

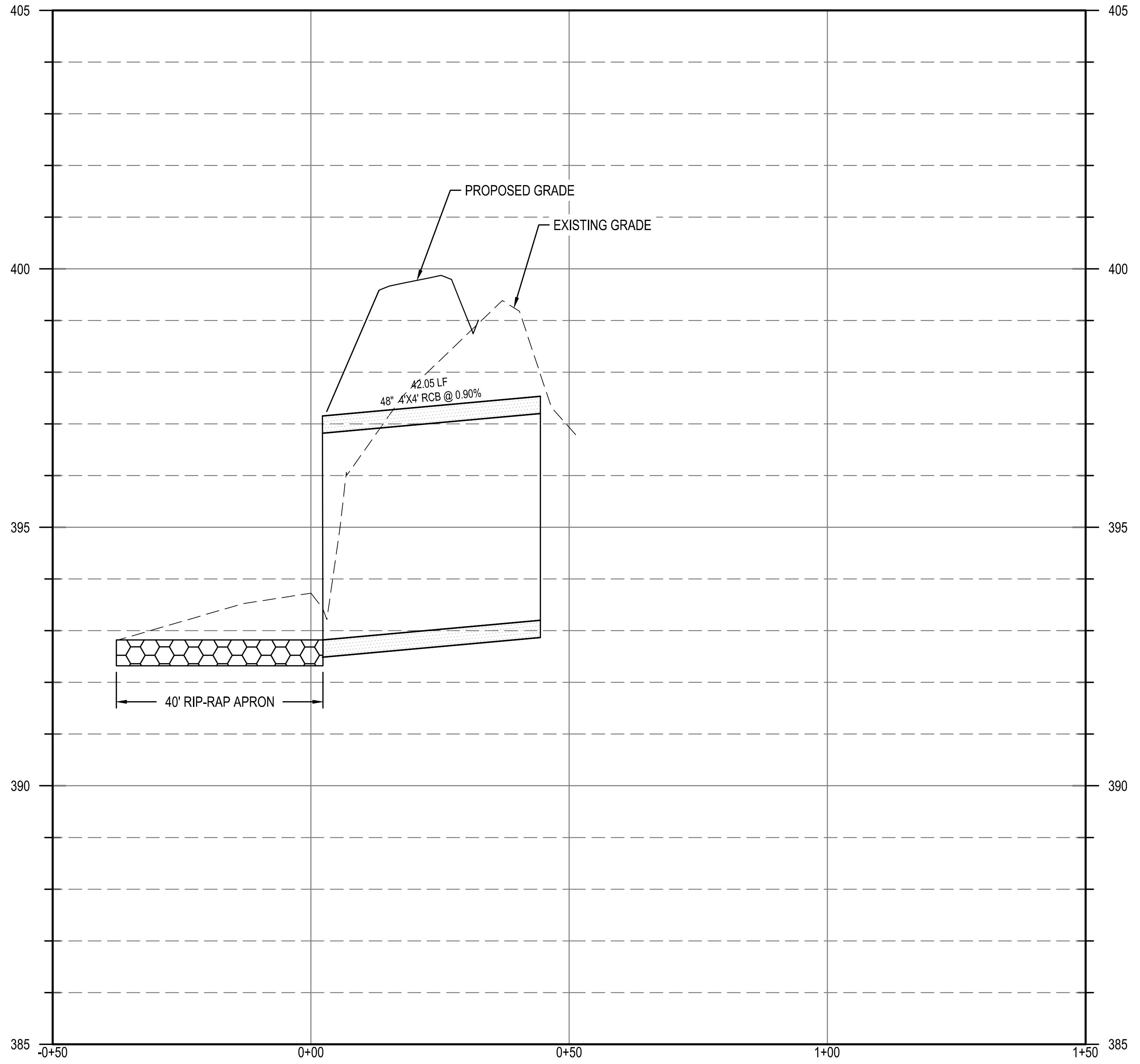
0
10'
20'
40'
SCALE: 1" = 20'
VERT: 1" = 2'

NOTES:

1. TEMPORARY BYPASS AND CULVERT SHALL BE INSTALLED IN AT LEAST 3 DAYS OF DRY CONDITIONS.
2. SILT FENCE SHALL BE INSTALLED ALONG STREAM BANKS AT THE END OF EACH WORKDAY TO MINIMIZE IMPACTS

CULVERT 4

STA: -0+50.00 TO STA:1+50.00


405
400
395
390
385
405
400
395
390
385
PROPOSED GRADE
EXISTING GRADE
42.05 LF
48" 4'X4' RCB @ 0.90%
40' RIP-RAP APRON
-0+50
0+00
0+50
1+00
1+50

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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ROLESVILLE / NORTH CAROLINA / 27571

CULVERT 4 PLAN

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C7-7

811
Know what's below.
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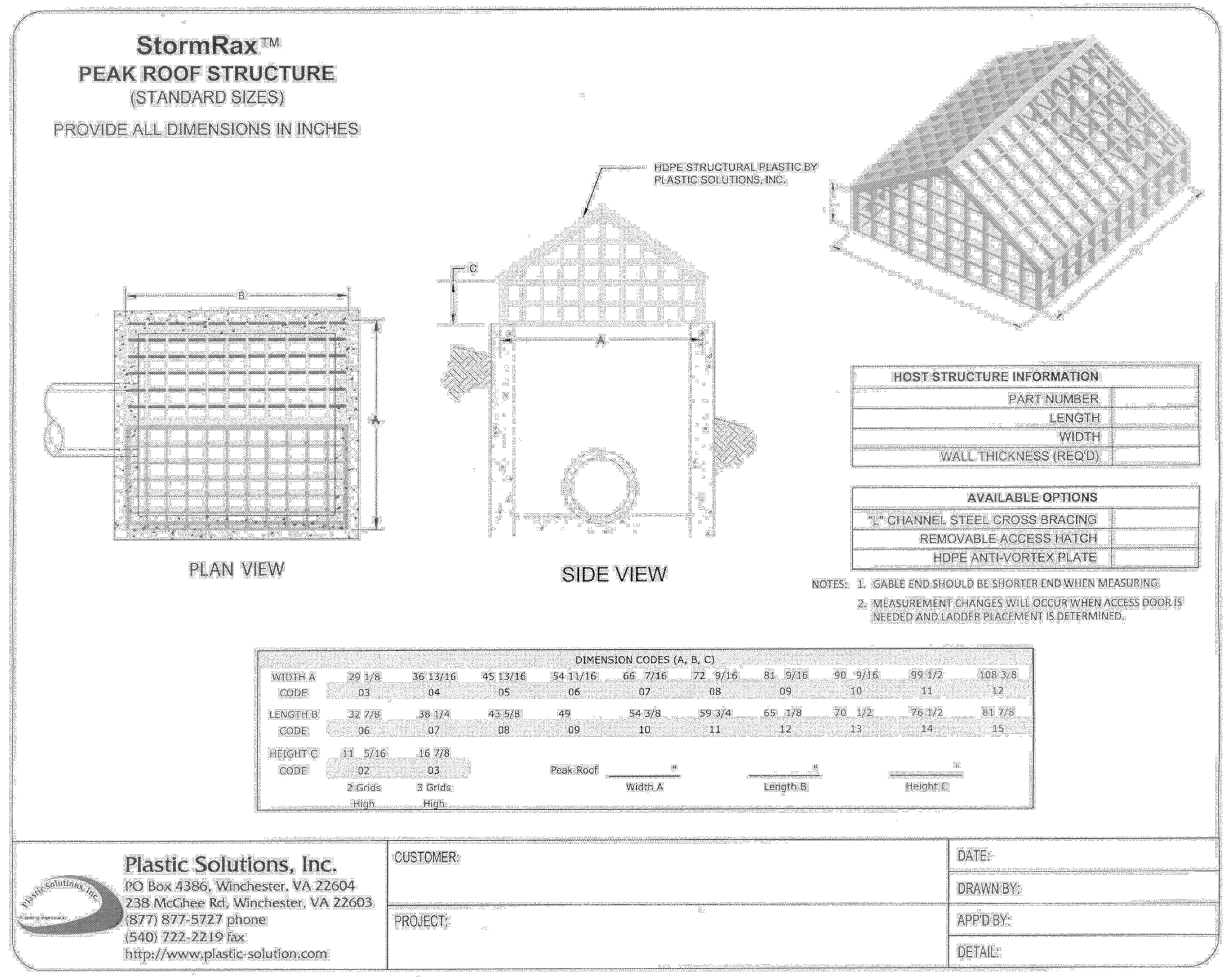
G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-4 - SWM-POND.dwg Layout: C7-7 CULVERT 4 PLAN Plotted: 12/1/2023 3:11:42 PM


B
A
C
A
HDPE STRUCTURAL PLASTIC BY PLASTIC SOLUTIONS, INC.
PLAN VIEW
SIDE VIEW

StormRax™
PEAK ROOF STRUCTURE
(STANDARD SIZES)

PROVIDE ALL DIMENSIONS IN INCHES

HOST STRUCTURE INFORMATION	
PART NUMBER	
LENGTH	
WIDTH	
WALL THICKNESS (REQ'D)	

AVAILABLE OPTIONS	
"L" CHANNEL STEEL CROSS BRACING	
REMOVABLE ACCESS HATCH	
HDPE ANTI-VORTEX PLATE	

NOTES:
1. GABLE END SHOULD BE SHORTER END WHEN MEASURING.
2. MEASUREMENT CHANGES WILL OCCUR WHEN ACCESS DOOR IS NEEDED AND LADDER PLACEMENT IS DETERMINED.

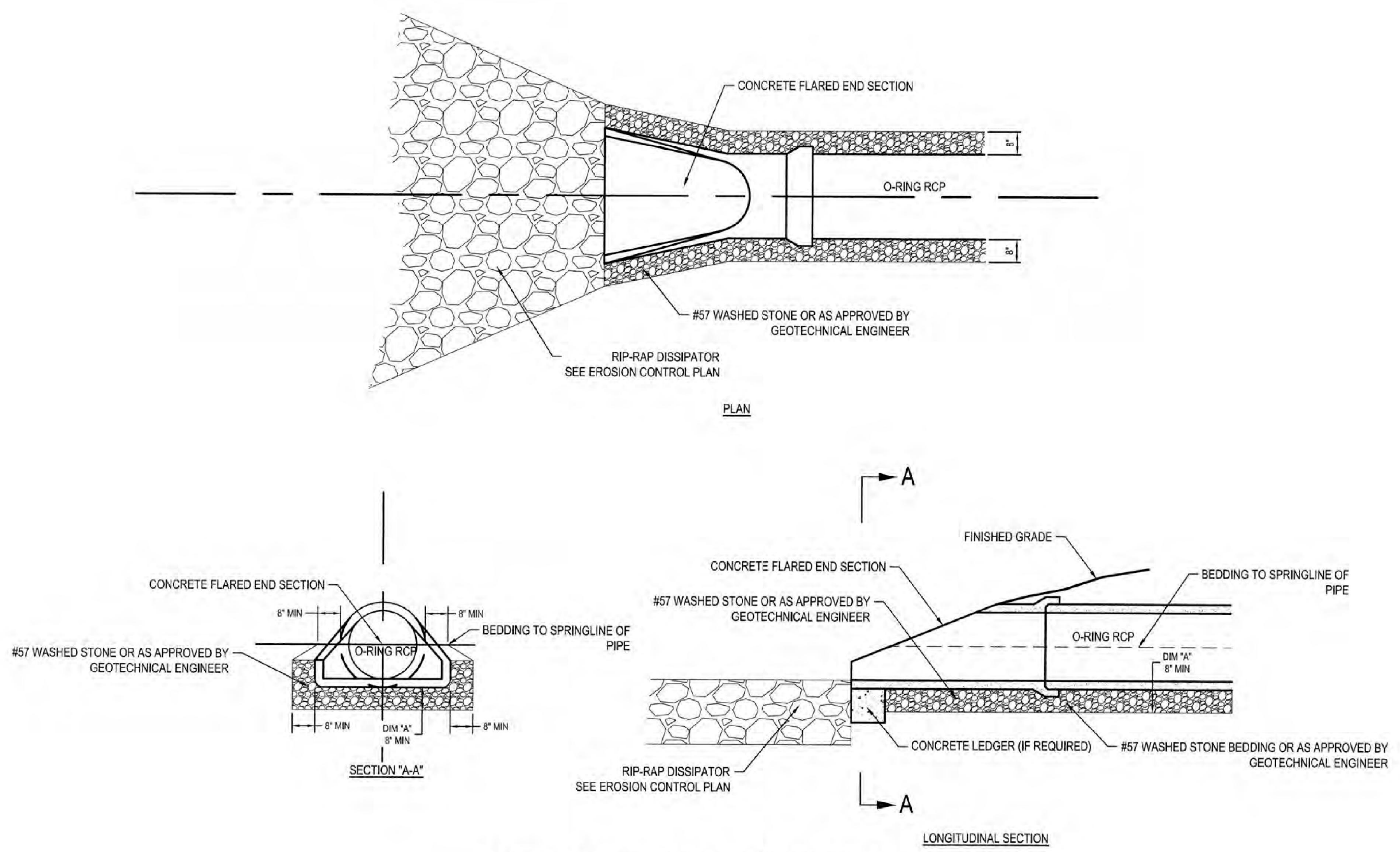
DIMENSION CODES (A, B, C)

WIDTH A	29 1/8	36 13/16	45 13/16	54 11/16	66 7/16	72 9/16	81 9/16	90 9/16	99 1/2	108 3/8
CODE	03	04	05	06	07	08	09	10	11	12
LENGTH B	32 7/8	38 1/4	43 5/8	49	54 3/8	59 3/4	65 1/8	70 1/2	76 1/2	81 7/8
CODE	06	07	08	09	10	11	12	13	14	15
HEIGHT C	11 5/16	16 7/8								
CODE	02	03								
	2 Grids High	3 Grids High								

Peak Roof ____" ____" ____"
Width A Length B Height C

Plastic Solutions, Inc.
PO Box 4386, Winchester, VA 22604
238 McGhee Rd, Winchester, VA 22603
(877) 877-5727 phone
(540) 722-2219 fax
http://www.plastic-solution.com

CUSTOMER:	DATE:
	DRAWN BY:
PROJECT:	APP'D BY:
	DETAIL:


CONCRETE FLARED END SECTION
O-RING RCP
8"
8"
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
RIP-RAP DISSIPATOR SEE EROSION CONTROL PLAN
PLAN
A
CONCRETE FLARED END SECTION
8" MIN
8" MIN
BEDDING TO SPRINGLINE OF PIPE
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
O-RING RCP
8" MIN
DIM "A" 8" MIN
8" MIN
SECTION "A-A"
FINISHED GRADE
CONCRETE FLARED END SECTION
#57 WASHED STONE OR AS APPROVED BY GEOTECHNICAL ENGINEER
BEDDING TO SPRINGLINE OF PIPE
O-RING RCP
DIM "A" 8" MIN
RIP-RAP DISSIPATOR SEE EROSION CONTROL PLAN
CONCRETE LEDGER (IF REQUIRED)
#57 WASHED STONE BEDDING OR AS APPROVED BY GEOTECHNICAL ENGINEER
A
LONGITUDINAL SECTION

OUTLET PIPE FILTER DIAPHRAGM
OUTLET DETAIL (FLARED END SECTION)

NTS

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C5-5 - STRM-DETL.dwg Layout: C7-8 SCM DETAILS Plotted: 12/1/2023 1:23:24 PM

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
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SCM DETAILS

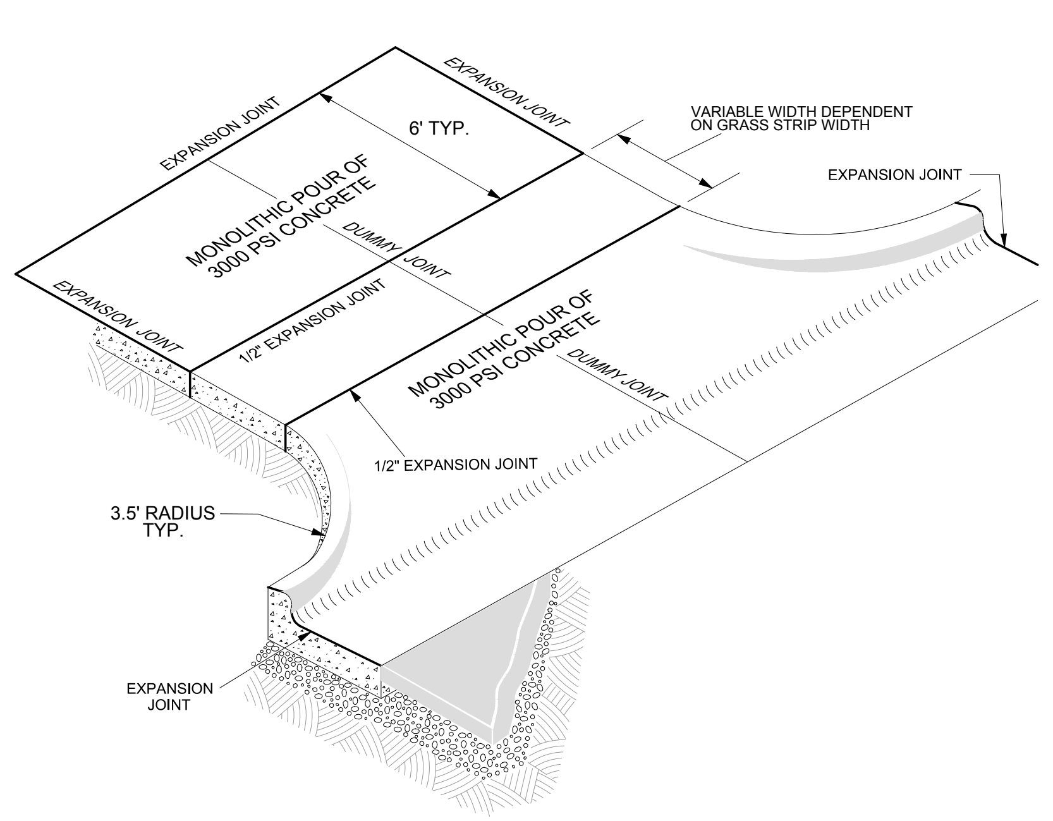
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

Know what's below.
Call before you dig.

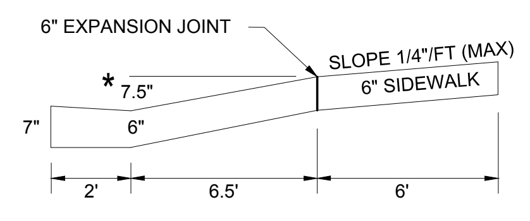
FILE NUMBER:
8430-03

DATE: 11/21/2023

C7-8


EXPANSION JOINT
6' TYP.
VARIABLE WIDTH DEPENDENT ON GRASS STRIP WIDTH
EXPANSION JOINT
MONOLITHIC POUR OF 3000 PSI CONCRETE
DUMMY JOINT
1/2" EXPANSION JOINT
MONOLITHIC POUR OF 3000 PSI CONCRETE
1/2" EXPANSION JOINT
3.5' RADIUS TYP.
EXPANSION JOINT

SEE T-10.01.2 FOR ADDITIONAL NOTES

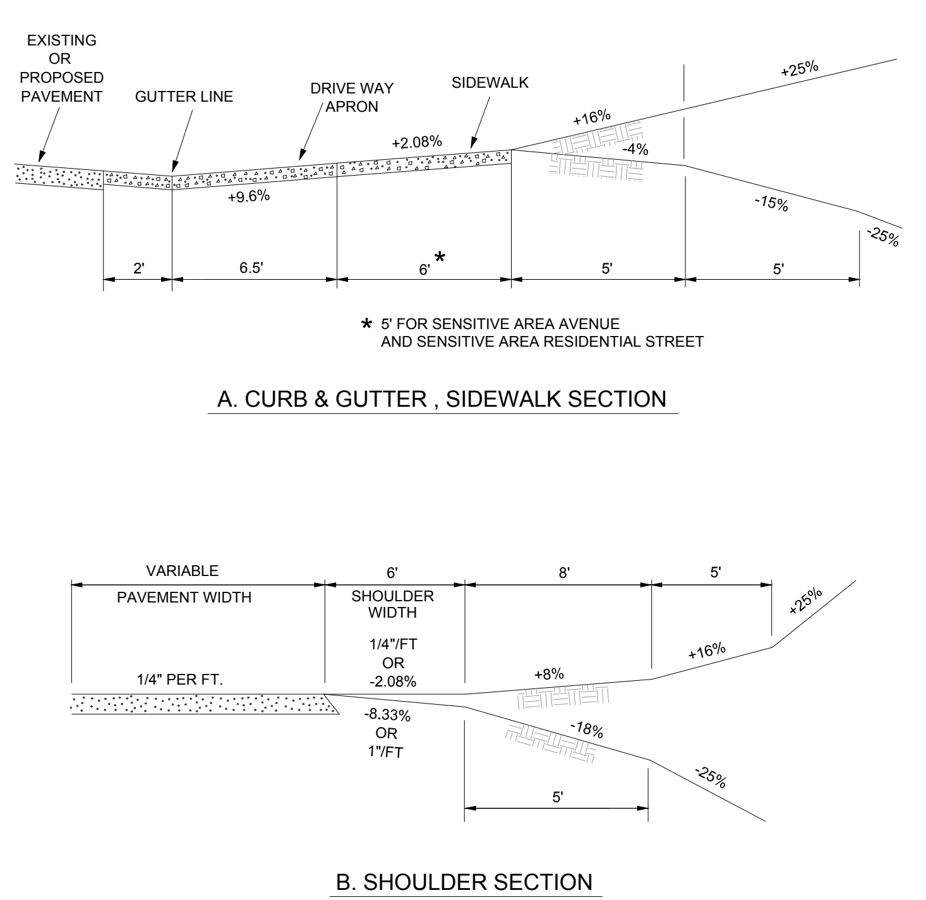

6" EXPANSION JOINT
SLOPE 1/4"/FT (MAX)
* 7.5"
6" SIDEWALK
7"
6"
2'
6.5'
6'

* USE 6.5" WHEN DRIVEWAY IS USED IN LIEU OF A WHEELCHAIR RAMP TO ACCOMMODATE 12:1 MAXIMUM SLOPE (ADA COMPLIANT), SUCH AS IN A CUL-DE SAC.

SHEET 1 OF 2

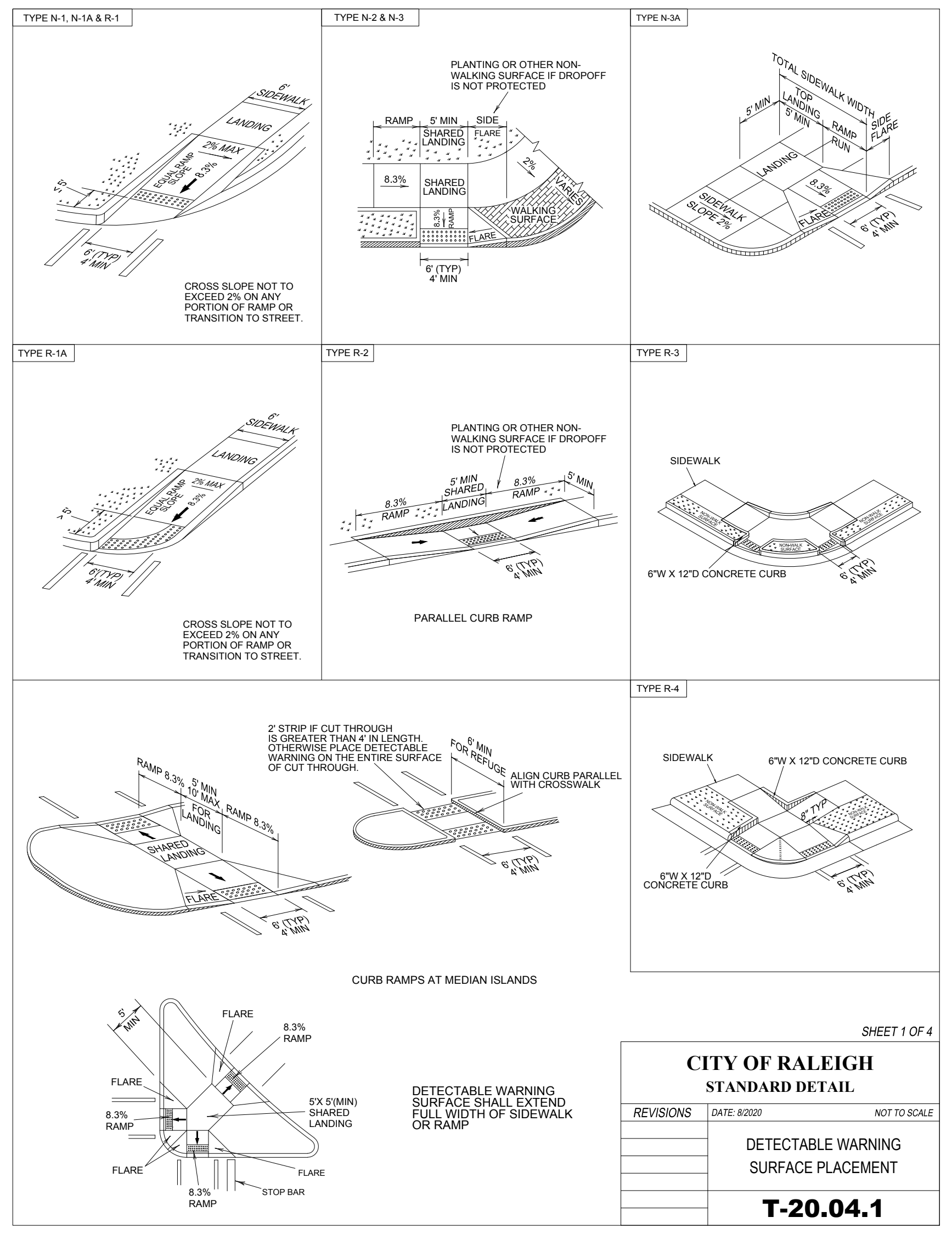
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DRIVEWAY AND SIDEWALK DETAIL
T-10.01.1

DRIVEWAY GRADES


EXISTING OR PROPOSED PAVEMENT
GUTTER LINE
DRIVE WAY APRON
SIDEWALK
+2.08%
+9.6%
+16%
-4%
+25%
-15%
-25%
2'
6.5'
6'
5'
5'
★ 5' FOR SENSITIVE AREA AVENUE AND SENSITIVE AREA RESIDENTIAL STREET
A. CURB & GUTTER , SIDEWALK SECTION
VARIABLE
PAVEMENT WIDTH
SHOULDER WIDTH
1/4" PER FT.
1/4"/FT OR -2.08%
-8.33% OR 1"/FT
+8%
+16%
-18%
-25%
B. SHOULDER SECTION

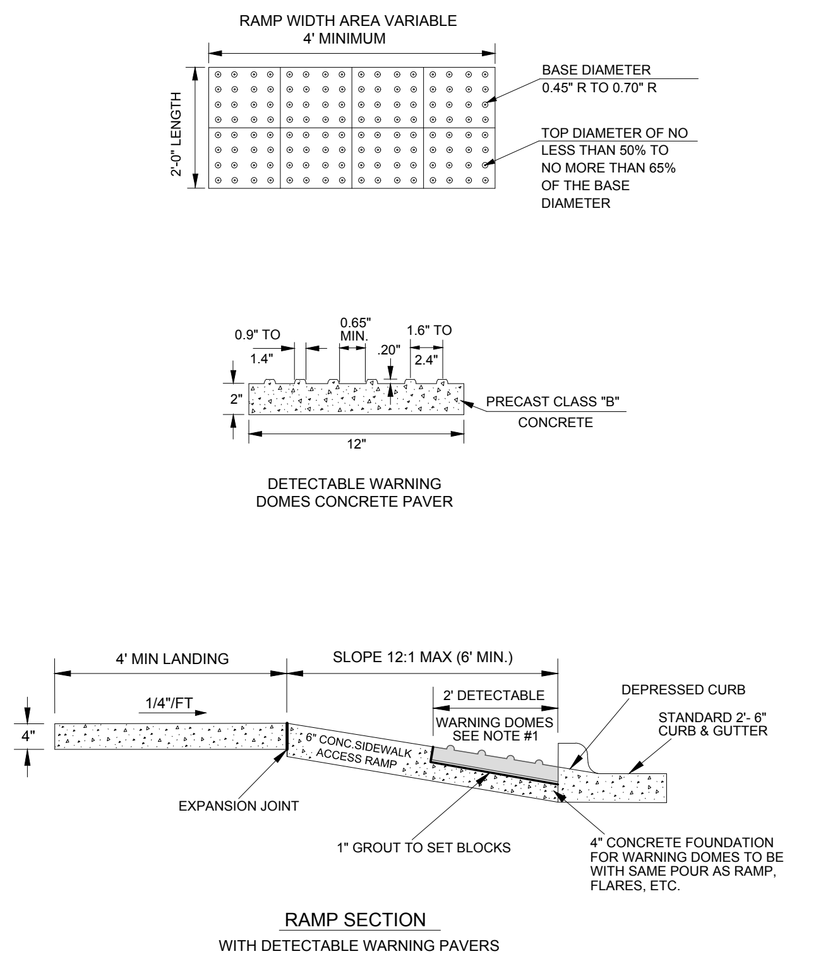
NOTES:
IF THE SLOPE BETWEEN THE TOP OF CURB AND GUTTER AND A POINT 30 FEET FROM THE CURB AND GUTTER EXCEEDS 20%, THIS SLOPE SHALL BE ADJUSTED TO A MAXIMUM OF 8.33% (1"/FT) UP OR 4.17% (1/2" /FT) DOWN.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DRIVEWAY GRADES
T-10.04


TYPE N-1, N-1A & R-1
TYPE N-2 & N-3
TYPE N-3A
TYPE R-1A
TYPE R-2
TYPE R-3
TYPE R-4
PLANTING OR OTHER NON-WALKING SURFACE IF DROPOFF IS NOT PROTECTED
CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP OR TRANSITION TO STREET
PARALLEL CURB RAMP
SIDEWALK
8"W X 12"D CONCRETE CURB
CURB RAMPS AT MEDIAN ISLANDS
DETECTABLE WARNING SURFACE SHALL EXTEND FULL WIDTH OF SIDEWALK OR RAMP
FLARE
RAMP
STOP BAR

SHEET 1 OF 4

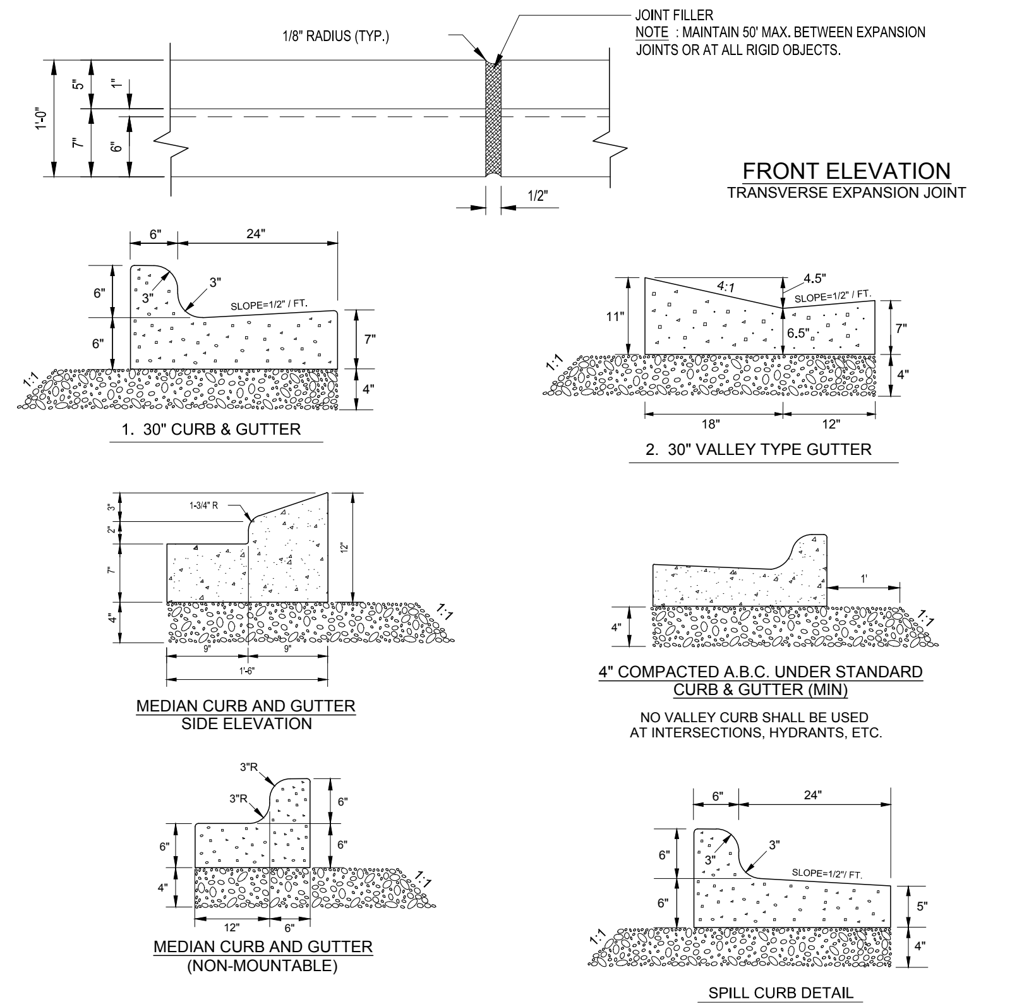
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DETECTABLE WARNING SURFACE PLACEMENT
T-20.04.1


RAMP WIDTH AREA VARIABLE 4' MINIMUM
2' LENGTH
BASE DIAMETER 0.45" Ø TO 0.70" Ø
TOP DIAMETER OF NO LESS THAN 50% TO NO MORE THAN 65% OF THE BASE DIAMETER
PRECAST CLASS "B" CONCRETE
DETECTABLE WARNING DOMES CONCRETE PAVER
4' MIN LANDING
SLOPE 12:1 MAX (6' MIN.)
1/4"/FT
2' DETECTABLE WARNING DOMES SEE NOTE #1
DEPRESSED CURB
STANDARD 2'-6" CURB & GUTTER
EXPANSION JOINT
1" GROUT TO SET BLOCKS
4" CONCRETE FOUNDATION FOR WARNING DOMES TO BE WITH SAME POUR AS RAMP, FLARES, ETC.
RAMP SECTION
WITH DETECTABLE WARNING PAVERS

NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL. SIZE OF PAVER SHALL BE 1' X 1'.
2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.

SHEET 2 OF 4

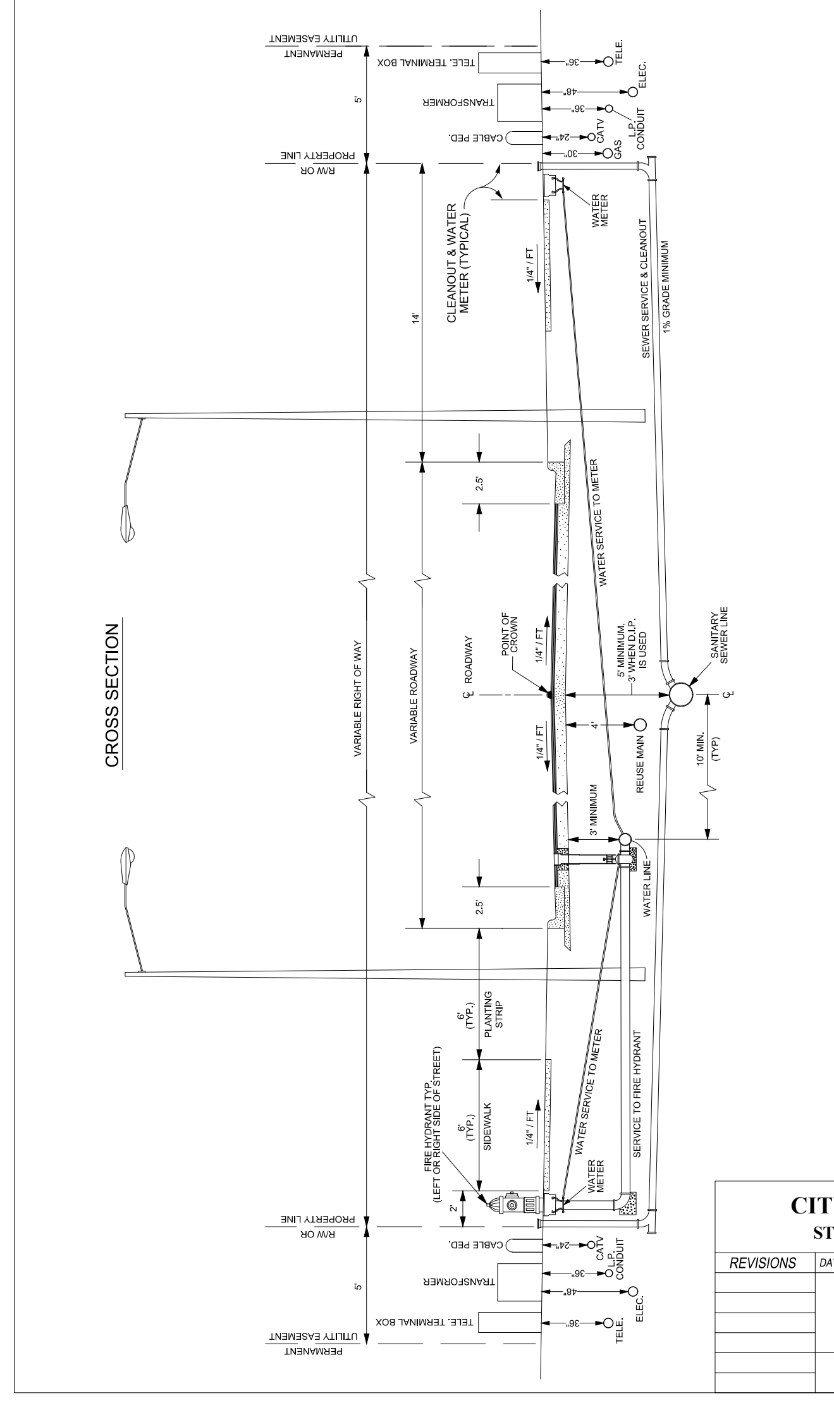
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DETECTABLE WARNING SURFACE PAVERS
T-20.04.2


1/8" RADIUS (TYP.)
JOINT FILLER
NOTE : MAINTAIN 50' MAX. BETWEEN EXPANSION JOINTS OR AT ALL RIGID OBJECTS.
FRONT ELEVATION
TRANSVERSE EXPANSION JOINT
1. 30" CURB & GUTTER
2. 30" VALLEY TYPE GUTTER
MEDIAN CURB AND GUTTER
SIDE ELEVATION
4" COMPACTED A.B.C. UNDER STANDARD CURB & GUTTER (MIN)
NO VALLEY CURB SHALL BE USED AT INTERSECTIONS, HYDRANTS, ETC.
MEDIAN CURB AND GUTTER
(NON-MOUNTABLE)
SPILL CURB DETAIL
SLOPE=1/2"/ FT.

NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01 THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT STANDARD & SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.

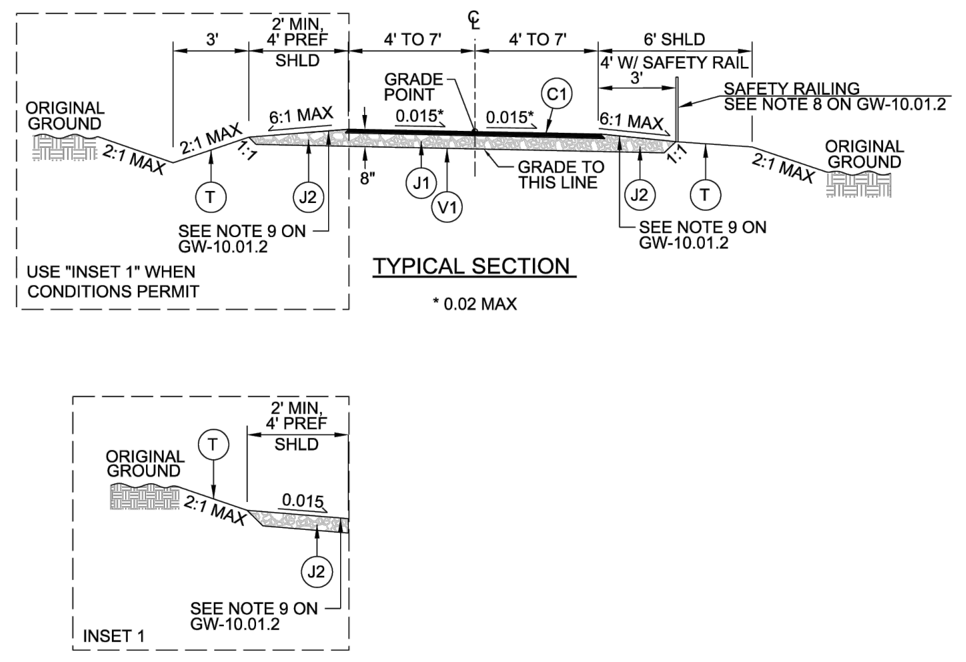
SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
CURB AND GUTTER
T-10.26.1


CROSS SECTION
PERMANENT UTILITY EASEMENT
TELE. TERMINAL BOX
TRANSFORMER
CABLE PED.
SANITARY SEWER LINE
10' MIN. (TYP)

NOTES:
1. WATER AND/OR SANITARY SEWER LINES SHALL BE A MINIMUM OF TWO FEET FROM THE EDGE OF THE CURB AND GUTTER
2. ENCROACHMENT ONTO CITY MAINTAINED RIGHT OF WAY SHALL FOLLOW CONDITIONS OF THE APPLICABLE ENCROACHMENT AGREEMENT OR FRANCHISE AGREEMENT.
3. FOR HYDRANT LOCATION SEE PUBLIC UTILITIES STANDARD DETAIL W-4.
4. PUE TO BE EXPANDED ON A CASE BY CASE BASIS AS NEEDED TO ACCOMMODATE PRIVATE UTILITIES APPURTENANT FACILITIES AND EQUIPMENT.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD UTILITY LOCATIONS IN STREET
T-10-29


3'
2' MIN. 4' PREF SHLD
4' TO 7'
4' TO 7'
6' SHLD
4' W/ SAFETY RAIL
SAFETY RAILING SEE NOTE 8 ON GW-10.01.2
ORIGINAL GROUND
2:1 MAX
6:1 MAX
GRADE POINT
0.015'
0.015'
C1
GRADE TO THIS LINE
SEE NOTE 9 ON GW-10.01.2
USE "INSET 1" WHEN CONDITIONS PERMIT
TYPICAL SECTION
* 0.02 MAX
INSET 1

ASPHALT TYPICAL TRAIL SECTION VARIABLE WIDTH (8' MIN, 14' MAX)

PAVEMENT SCHEDULE	
C1	2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 220 LBS. PER SQ. YD. OR 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
J1	6" AGGREGATE BASE COURSE
J2	VARIABLE DEPTH AGGREGATE BASE COURSE
T	EARTH MATERIAL
V1	GEOTEXTILE FOR PAVEMENT STABILIZATION

SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 12/2022 NOT TO SCALE
ASPHALT TYPICAL TRAIL SECTION VARIABLE WIDTH (8' MIN, 14' MAX)
GW-10.01.1

ASPHALT TYPICAL TRAIL SECTION VARIABLE WIDTH (8' MIN, 14' MAX) - NOTES:

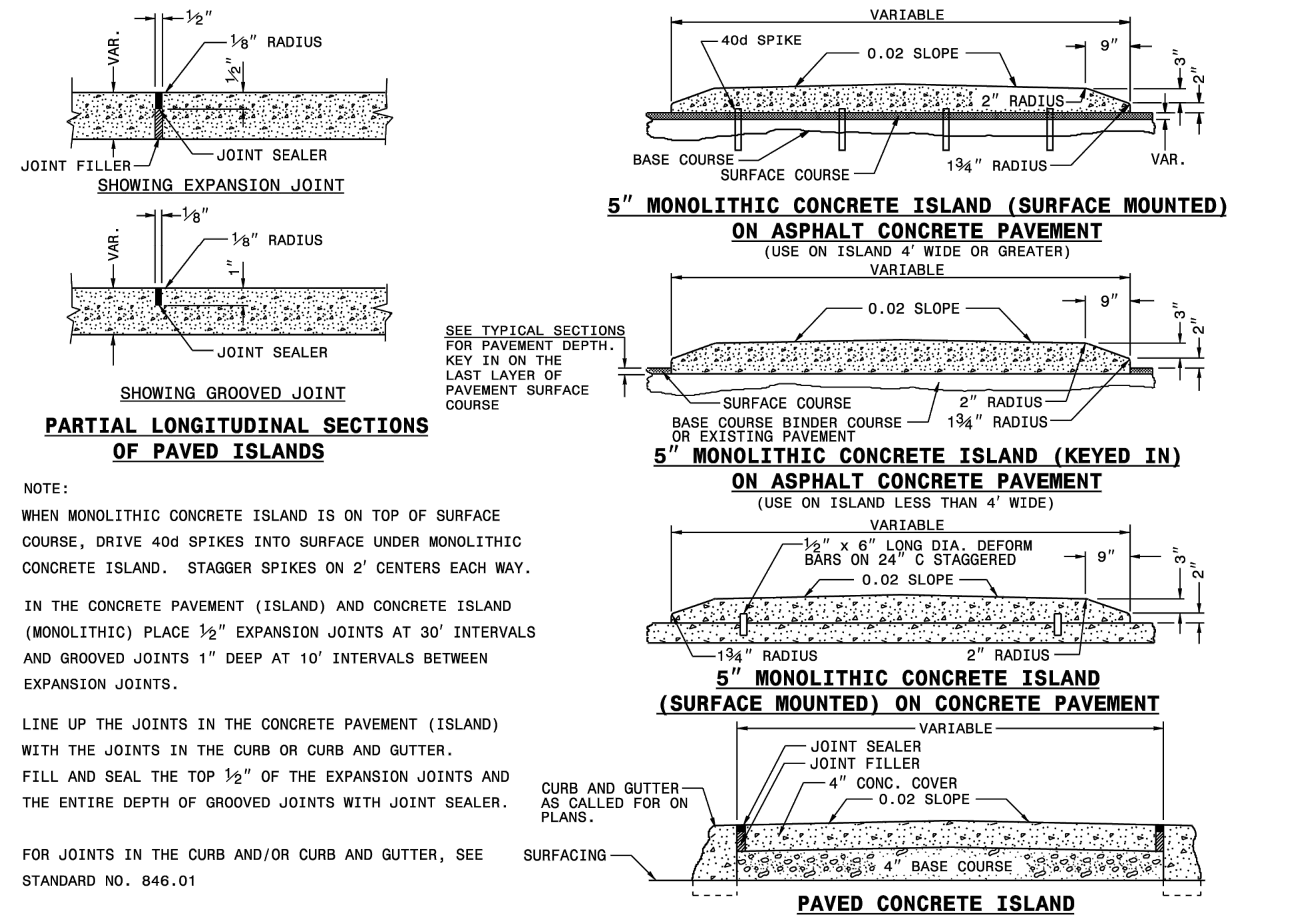
1. TRAIL WIDTH TO BE DETERMINED BY CITY OF RALEIGH.
2. WHEN CONDITIONS PERMIT, USE 6' SHOULDER IN FILL SECTIONS AND 4' SHOULDER IN CUT SECTIONS. USE MINIMUM 2' SHOULDER IN CUT AND FILL SECTIONS. FOR CUT SECTION CONDITION SHOWN IN "INSET 1," APPLY ENGINEERING JUDGMENT TO DETERMINE IF UPHILL SIDE REQUIRES A SWALE.
3. TRAILS OR TRAIL SEGMENTS OF ANY LENGTH MAY BE CONSTRUCTED WITH RUNNING SLOPES/VERTICAL GRADES UP TO 1:20 (5%). TO ACCOMMODATE STEEP TERRAIN, TRAILS MAY BE DESIGNED WITH STEEPER SECTIONS OF CONSTRAINED LENGTH AS SHOWN IN TABLE 1. RESTING INTERVALS WITH FLATTER GRADES ARE REQUIRED BETWEEN TRAIL SEGMENTS ANY TIME THE RUNNING SLOPE EXCEEDS 1:20 (5%). RESTING INTERVALS SHALL BE LOCATED ON UPHILL SIDE OF TRAIL IF ONLY PROVIDED ON ONE SIDE.
4. TO ENSURE THAT A TRAIL IS NOT DESIGNED AS A SERIES OF STEEP SEGMENTS, NO MORE THAN 30% OF THE TOTAL LENGTH OF TRAIL MAY HAVE A RUNNING SLOPE/VERTICAL GRADE of 7.5% (8.33% OR 1:12 MAX). RESTING INTERVALS MUST BE PROVIDED MORE FREQUENTLY AS THE RUNNING SLOPE INCREASES.
5. RUNNING SLOPE/VERTICAL GRADE RECOMMENDATIONS MAY NOT BE ABLE TO BE ACHIEVED FOR TRAIL REPLACEMENT PROJECTS. FOR THESE TYPES OF PROJECTS, REPLACEMENT OF THE EXISTING CONDITION IN KIND IS SUFFICIENT.
6. 1.5% (2.08% OR 1:48 MAX) CROSS SLOPE. CROSS SLOPE DIRECTION VARIES. SLOPE SHOULDERS FOR POSITIVE DRAINAGE. OFTEN REQUIRES CONTINUING PAVEMENT OR SHOULDER SLOPE UNTIL TIE-IN WITH NATURAL GROUND. SEE PLAN SHEETS AND CROSS SECTIONS.
7. WHEN CONDITIONS PERMIT, SHOULDERS TO MATCH CROSS SLOPE OF TRAIL AND SIDE SLOPES TO BE 3:1 OR FLATTER.
8. PROVIDE A SAFETY RAIL FOR THE FOLLOWING CIRCUMSTANCES WITHIN 6' OF THE EDGE OF PAVEMENT: 1) SLOPE > 3:1 AND DROP OF 6'; 2) SLOPE > 2:1 AND DROP OF 4'; 3) SLOPE > 1:1 AND DROP OF 1'. REFER TO GW-20.01 AND GW-20.02 FOR SAFETY RAIL DETAILS.
9. CONTRACTOR GRADE SEED SHALL BE SEWN INTO AGGREGATE BASE COURSE ON SHOULDERS AT THE SURFACE.
10. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED DURING CONSTRUCTION.
11. PROOF ROLLING SHALL OCCUR IN PRESENCE OF THE OWNER OR THE OWNER'S TESTING AGENCY AT THE FOLLOWING STAGES: 1) PRIOR TO PLACING FILL IN LOW AREAS; 2) AFTER THE PREPARATION OF SUBGRADE PRIOR TO PLACING ABC; 3) AFTER THE PLACEMENT OF ABC PRIOR TO PAVING.
12. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.
13. NO ABOVE-GROUND UTILITIES OR UTILITY SURFACE COVERS/PLATES/MANHOLES SHALL BE LOCATED WITHIN THE TRAIL AND SHALL BE A MINIMUM OF 2' FROM THE EDGE OF TRAIL. RAISED MANHOLES SHALL BE A MINIMUM OF 4' FROM THE EDGE OF TRAIL.

TABLE 1 - MAXIMUM RUNNING SLOPE AND TRAIL SEGMENT LENGTH

RUNNING SLOPE	MAX LENGTH OF SEGMENT
1:20 (5%)	200 FT
1:12 (8.33%)	30 FT

SHEET 2 OF 2

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 12/2022 NOT TO SCALE
ASPHALT TYPICAL TRAIL SECTION VARIABLE WIDTH (8' MIN, 14' MAX)
GW-10.01.2


VAR.
1/2"
1/8" RADIUS
JOINT FILLER
JOINT SEALER
SHOWING EXPANSION JOINT
1/8"
1"
SHOWING GROOVED JOINT
PARTIAL LONGITUDINAL SECTIONS OF PAVED ISLANDS
VARIABLE
40d SPIKE
0.02 SLOPE
9"
3"
2"
2" RADIUS
BASE COURSE
SURFACE COURSE
1¾" RADIUS
5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) ON ASPHALT CONCRETE PAVEMENT
(USE ON ISLAND 4' WIDE OR GREATER)
SEE TYPICAL SECTIONS FOR PAVEMENT DEPTH. KEY IN ON THE LAST LAYER OF PAVEMENT SURFACE COURSE
BASE COURSE BINDER COURSE OR EXISTING PAVEMENT
5" MONOLITHIC CONCRETE ISLAND (KEYED IN) ON ASPHALT CONCRETE PAVEMENT
(USE ON ISLAND LESS THAN 4' WIDE)
½" x 6" LONG DIA. DEFORM BARS ON 24" C STAGGERED
5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) ON CONCRETE PAVEMENT
4" CONC. COVER
CURB AND GUTTER AS CALLED FOR ON PLANS.
SURFACING
4" BASE COURSE
PAVED CONCRETE ISLAND

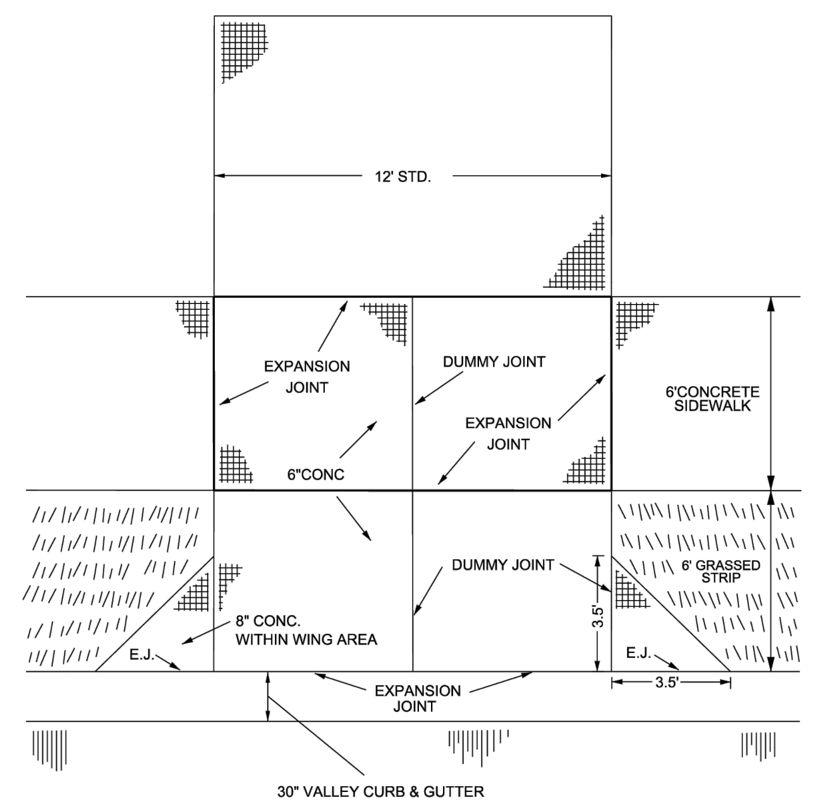
NOTE:
WHEN MONOLITHIC CONCRETE ISLAND IS ON TOP OF SURFACE COURSE, DRIVE 40d SPIKES INTO SURFACE UNDER MONOLITHIC CONCRETE ISLAND. STAGGER SPIKES ON 2' CENTERS EACH WAY.

IN THE CONCRETE PAVEMENT (ISLAND) AND CONCRETE ISLAND (MONOLITHIC) PLACE ½" EXPANSION JOINTS AT 30' INTERVALS AND GROOVED JOINTS 1" DEEP AT 10' INTERVALS BETWEEN EXPANSION JOINTS.

LINE UP THE JOINTS IN THE CONCRETE PAVEMENT (ISLAND) WITH THE JOINTS IN THE CURB OR CURB AND GUTTER.
FILL AND SEAL THE TOP ½" OF THE EXPANSION JOINTS AND THE ENTIRE DEPTH OF GROOVED JOINTS WITH JOINT SEALER.

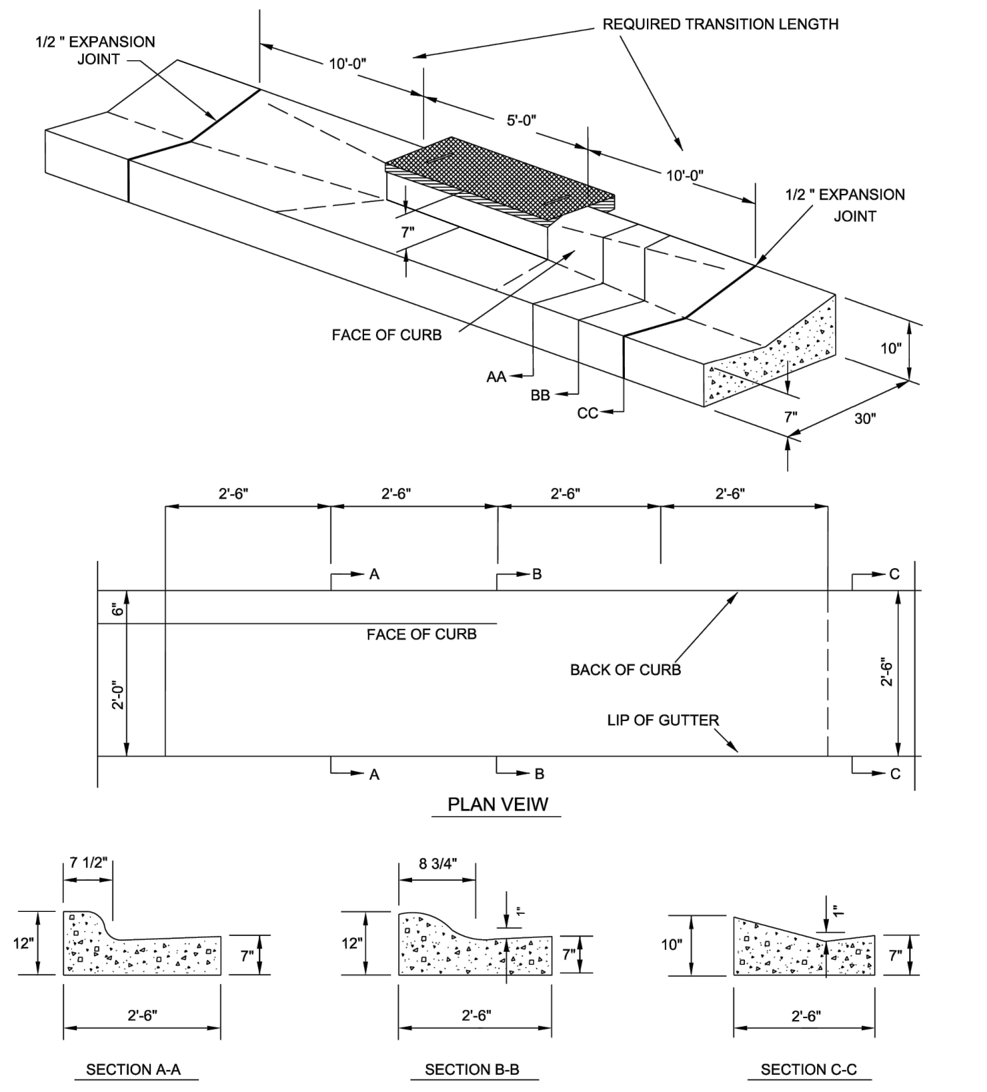
FOR JOINTS IN THE CURB AND/OR CURB AND GUTTER, SEE STANDARD NO. 846.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CONCRETE ISLANDS
SHEET 1 OF 1
852.01


12' STD.
EXPANSION JOINT
DUMMY JOINT
6"CONCRETE SIDEWALK
EXPANSION JOINT
6"CONC.
DUMMY JOINT
6" GRASSED STRIP
6" CONC. WITHIN WING AREA
E.J.
3.5'
EXPANSION JOINT
30" VALLEY CURB & GUTTER

NOTES:
1. SEE STANDARD DETAIL T-10.26.1 FOR CURB AND GUTTER DETAILS.
2. EXPANSION MATERIAL SHALL EXTEND THE FULL DEPTH OF THE CONCRETE.
3. ALL CONCRETE SHALL BE 3000 PSI (MIN.).

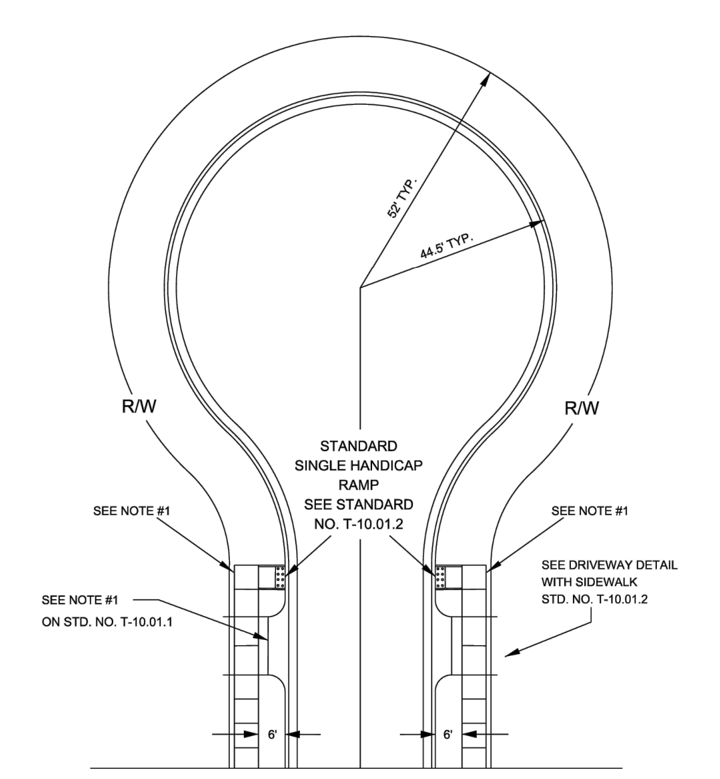
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DRIVEWAY FOR VALLEY TYPE CURB & GUTTER
T-10.02


1/2" EXPANSION JOINT
10'-0"
REQUIRED TRANSITION LENGTH
5'-0"
10'-0"
1/2" EXPANSION JOINT
FACE OF CURB
AA
BB
CC
10"
7"
30"
2'-6"
2'-6"
2'-6"
2'-6"
2'-6"
FACE OF CURB
BACK OF CURB
LIP OF GUTTER
PLAN VEIW
7 1/2"
8 3/4"
12"
12"
10"
7"
2'-6"
SECTION A-A
SECTION B-B
SECTION C-C

NOTES:
TRANSITION NOT TO BE LOCATED WITHIN THE CURB RADIUS.

SHEET 2 OF 2

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
CURB TRANSITION TO 2'- 6" VALLEY GUTTER
T-10.26.2


R/W
R/W
STANDARD SINGLE HANDICAP RAMP SEE STANDARD NO. T-10.01.2
SEE NOTE #1
SEE NOTE #1 ON STD. NO. T-10.01.1
SEE DRIVEWAY DETAIL WITH SIDEWALK STD. NO. T-10.01.2

NOTES:
1. IF DRIVEWAY IS WITHIN CLOSE PROXIMITY OF ACCESS RAMP, TIE SIDEWALK INTO DRIVEWAY.
2. REFER TO STANDARD DETAIL T-10.01.2, DRIVE WAY AND SIDEWALK DETAIL, SHEET 1 OF 2.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD RESIDENTIAL CUL-DE-SAC
T-10.06

Know what's **below.**
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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WWW.BGEINC.COM
NC LICENSE #C-4397
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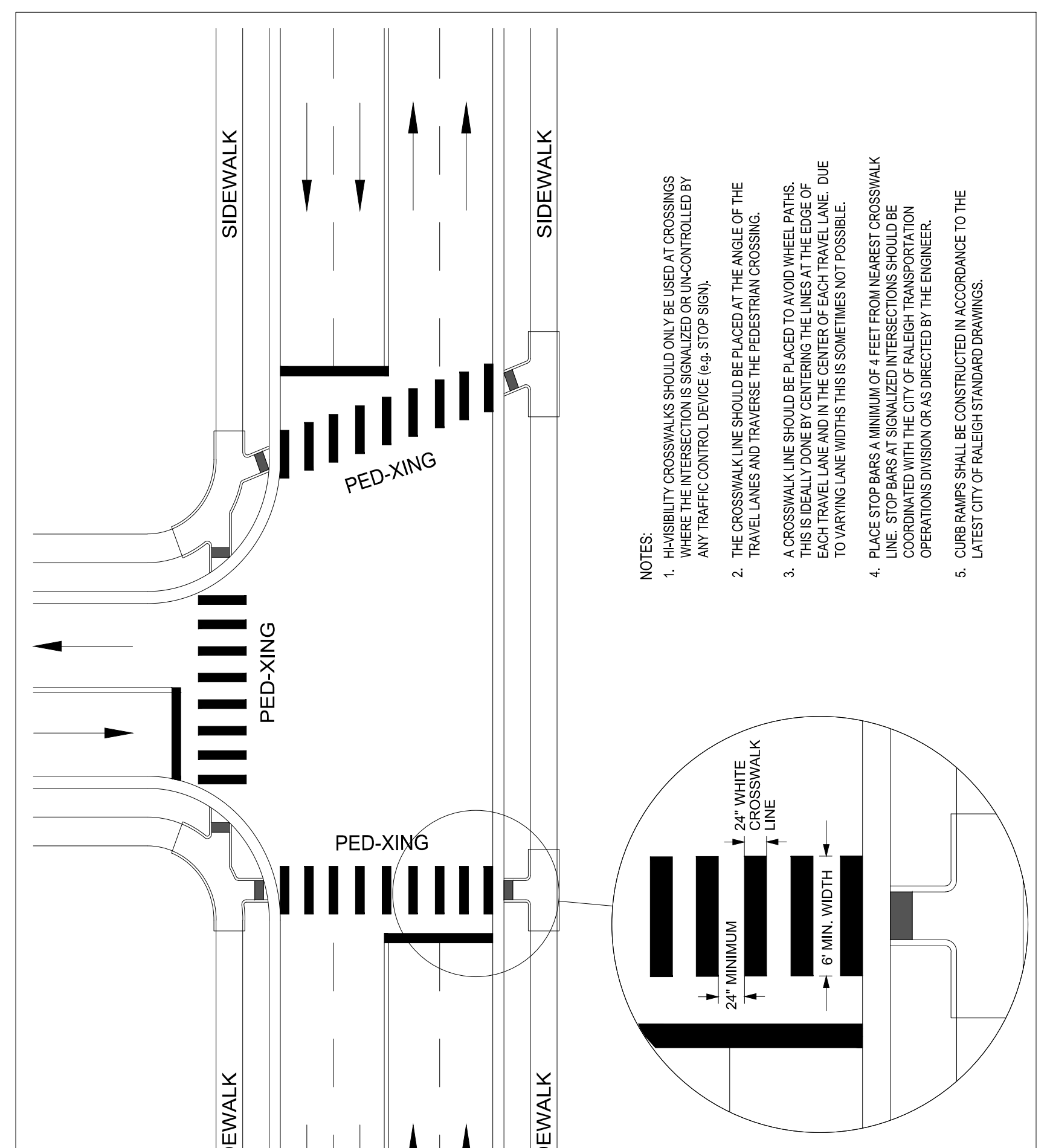
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

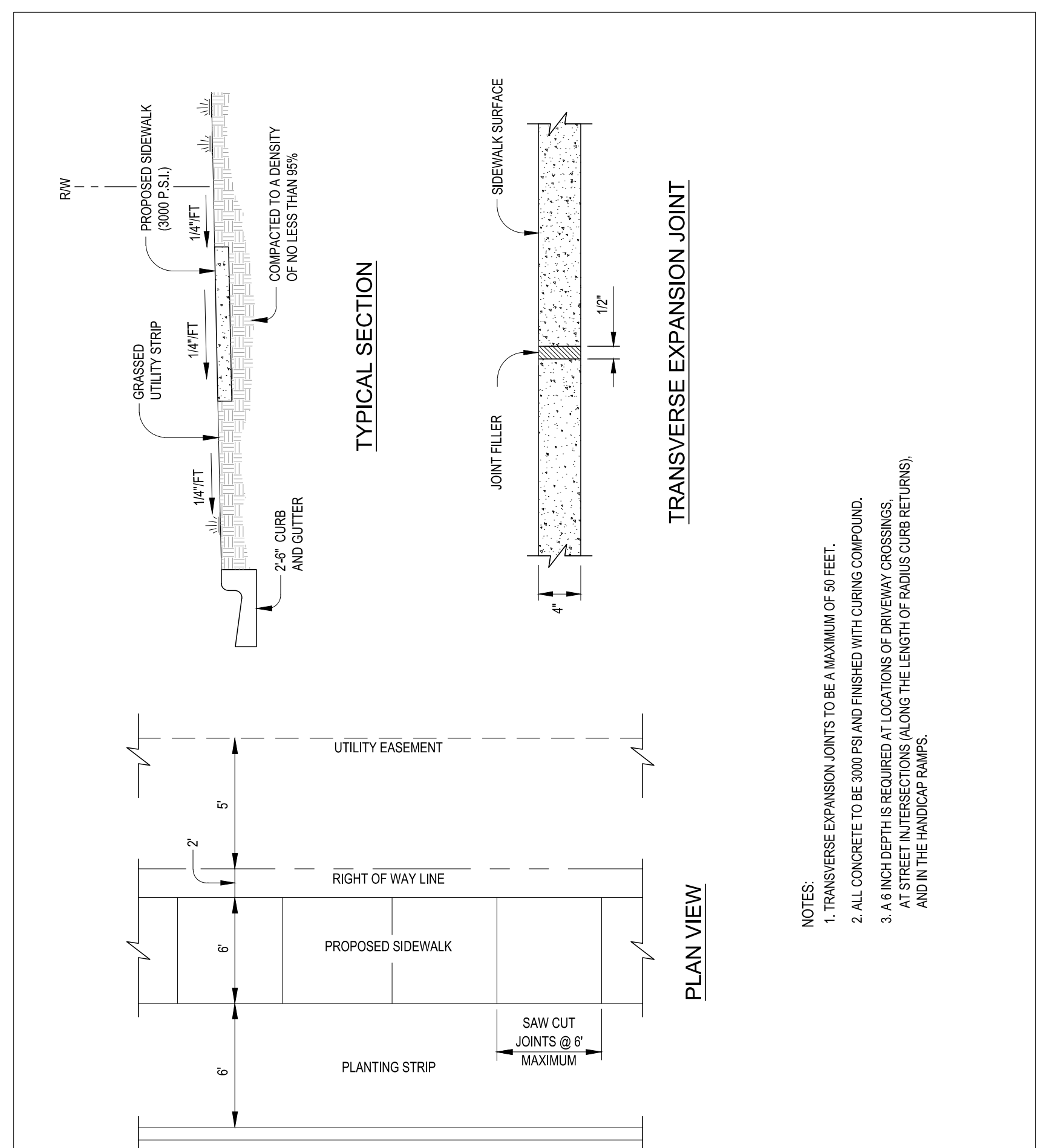
SITE DETAILS (1 OF 3)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

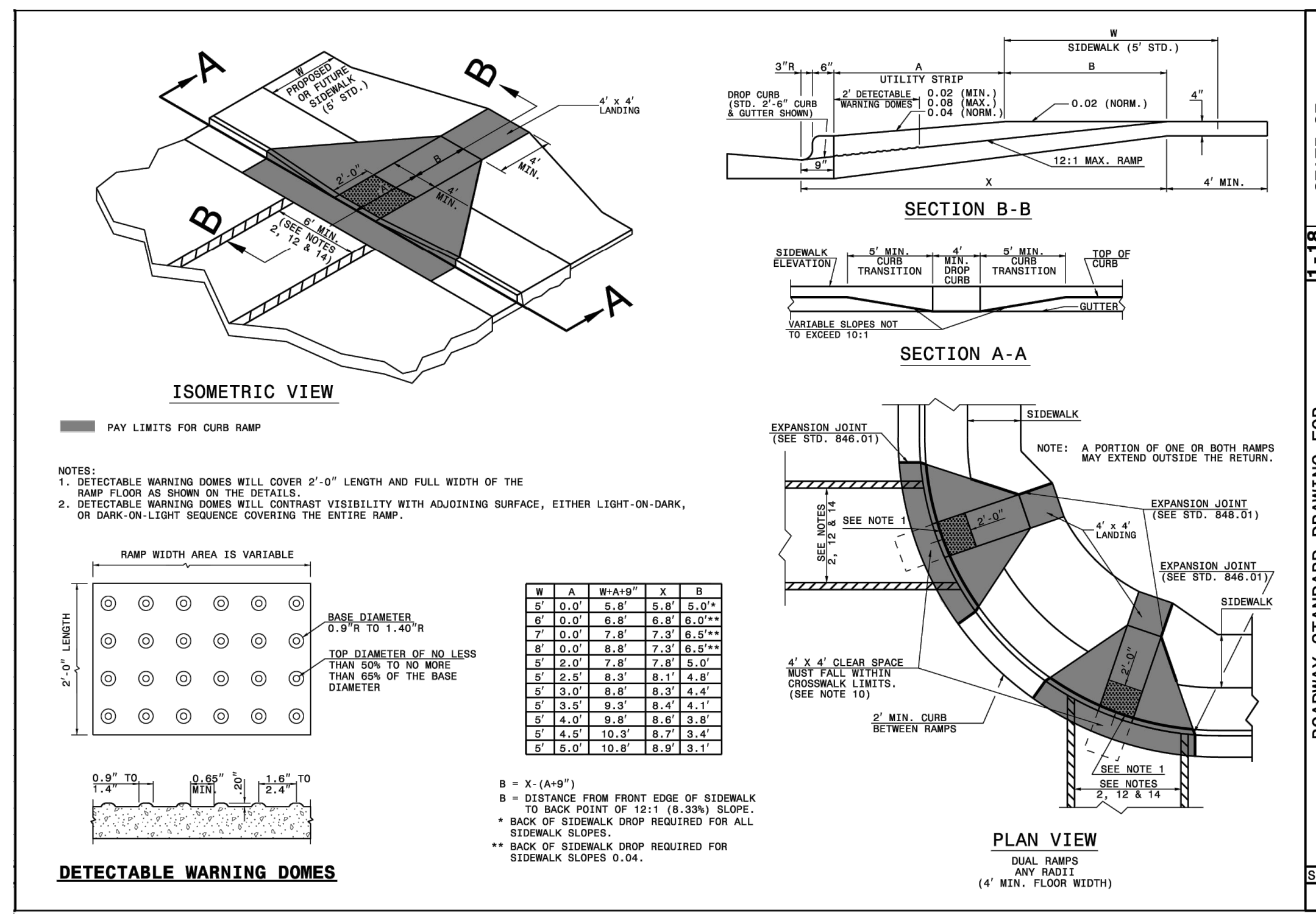
FILE NUMBER: 8430-03
DATE: 11/21/2023
C8-0


SIDEWALK
SIDEWALK
PED-XING
PED-XING
PED-XING
SIDEWALK
SIDEWALK
24" WHITE CROSSWALK LINE
24" MINIMUM
8' MIN. WIDTH

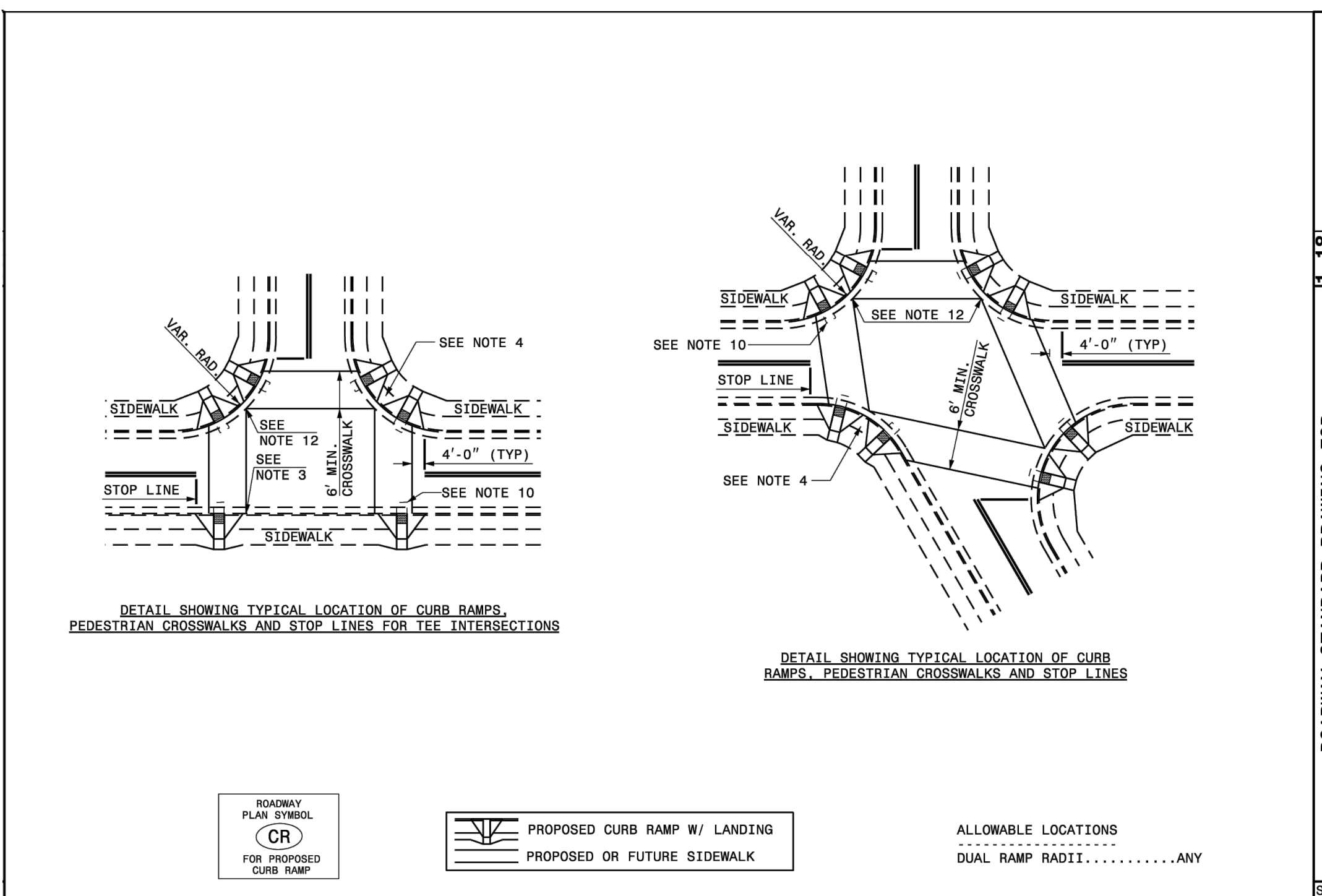
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
PAVEMENT MARKINGS
HI-VISIBILITY
PEDESTRIAN CROSSWALK
T-20.05


TYPICAL SECTION
TRANSVERSE EXPANSION JOINT
PROPOSED SIDEWALK
GRASSED UTILITY STRIP
2'-6" CURB AND GUTTER
UTILITY EASEMENT
RIGHT OF WAY LINE
PROPOSED SIDEWALK
PLANTING STRIP
SAW CUT JOINTS @ 6' MAXIMUM
2'-6" CURB AND GUTTER
PLAN VIEW

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
CONCRETE SIDEWALK
T-30.01


ISOMETRIC VIEW
SECTION B-B
SECTION A-A
PLAN VIEW
DETECTABLE WARNING DOMES
PAY LIMITS FOR CURB RAMP

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER
SHEET 1 OF 3
848.05


DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS
DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES
STOP LINE
SEE NOTE 4
SEE NOTE 10
SEE NOTE 12
4'-0" (TYP)
PROPOSED CURB RAMP W/ LANDING
PROPOSED OR FUTURE SIDEWALK
ALLOWABLE LOCATIONS
DUAL RAMP RADII..........ANY

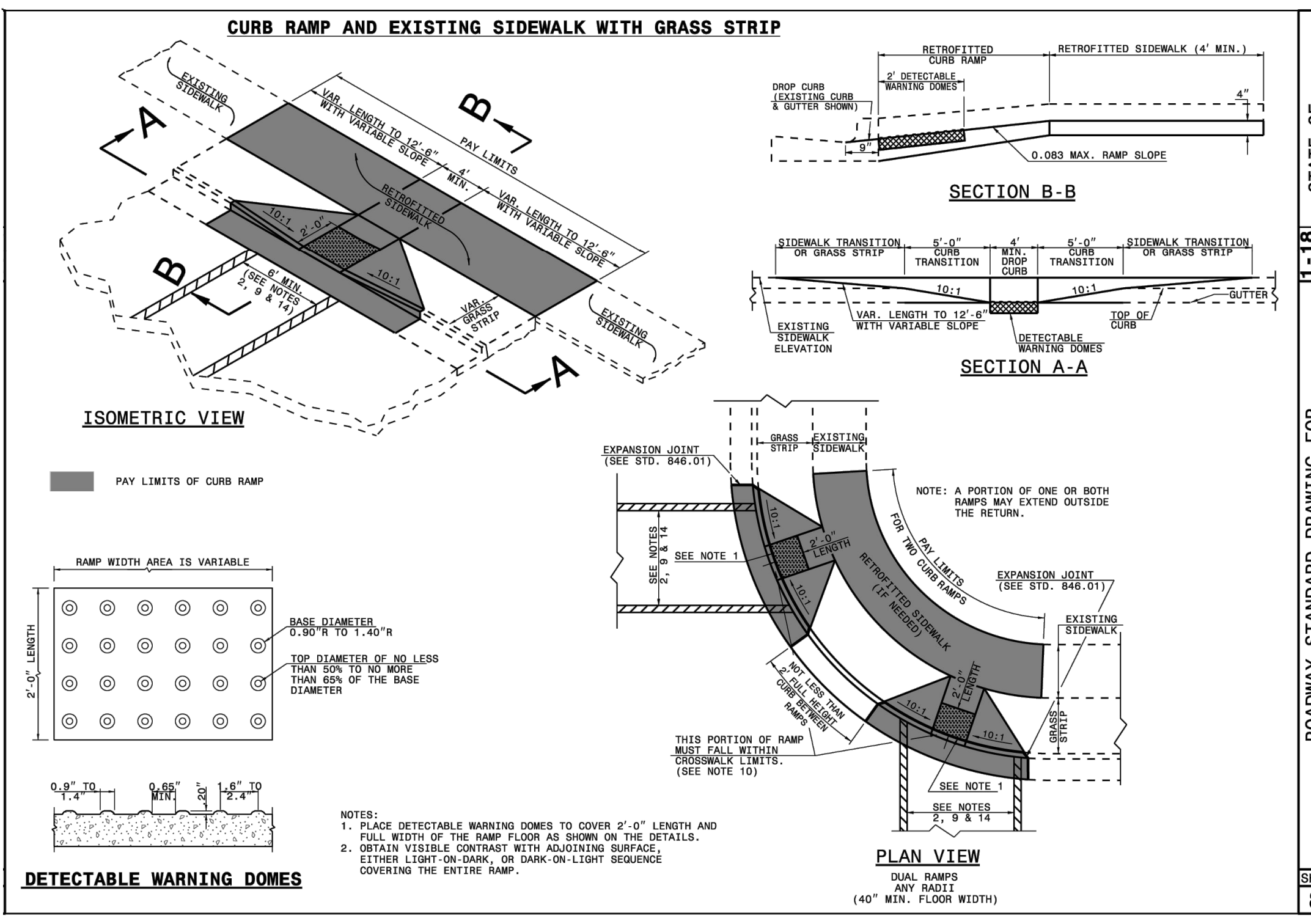
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER
SHEET 2 OF 3
848.05

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

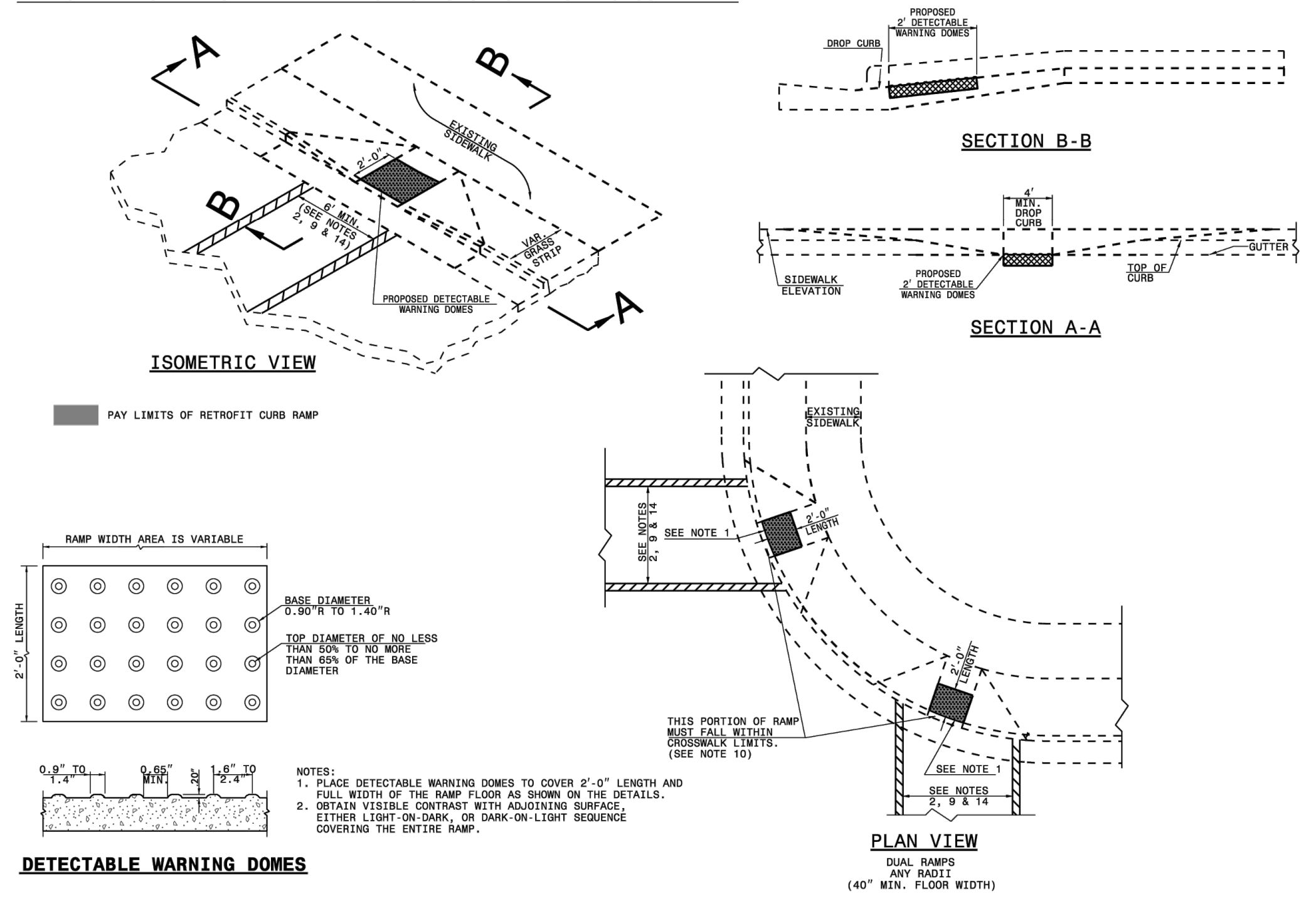
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMPS
NOTES
SHEET 3 OF 3
848.05

CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP


ISOMETRIC VIEW
SECTION B-B
SECTION A-A
PLAN VIEW
DETECTABLE WARNING DOMES
PAY LIMITS OF CURB RAMP

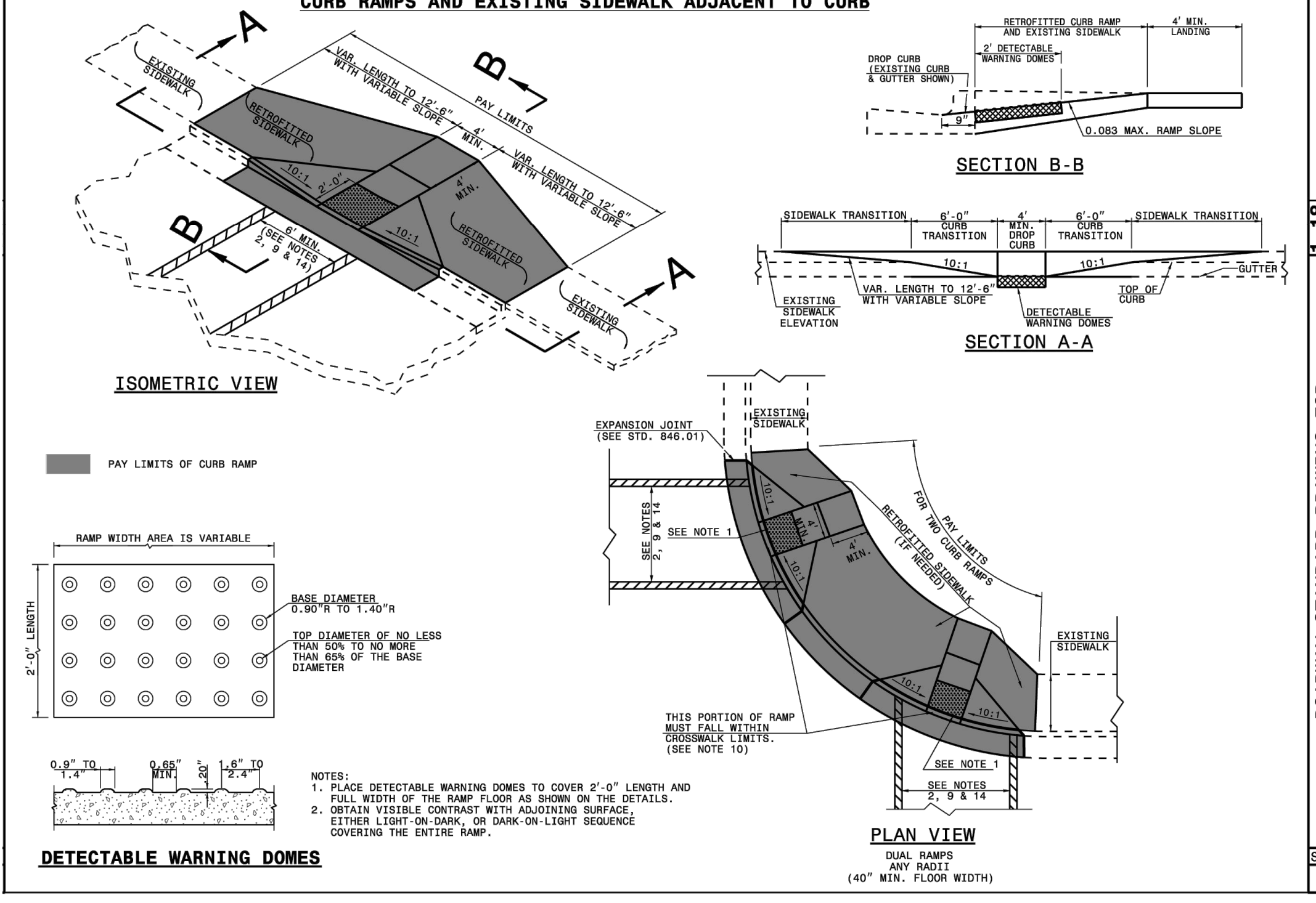
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER
SHEET 1 OF 5
848.06

RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP


ISOMETRIC VIEW
SECTION B-B
SECTION A-A
PLAN VIEW
DETECTABLE WARNING DOMES
PAY LIMITS OF RETROFIT CURB RAMP

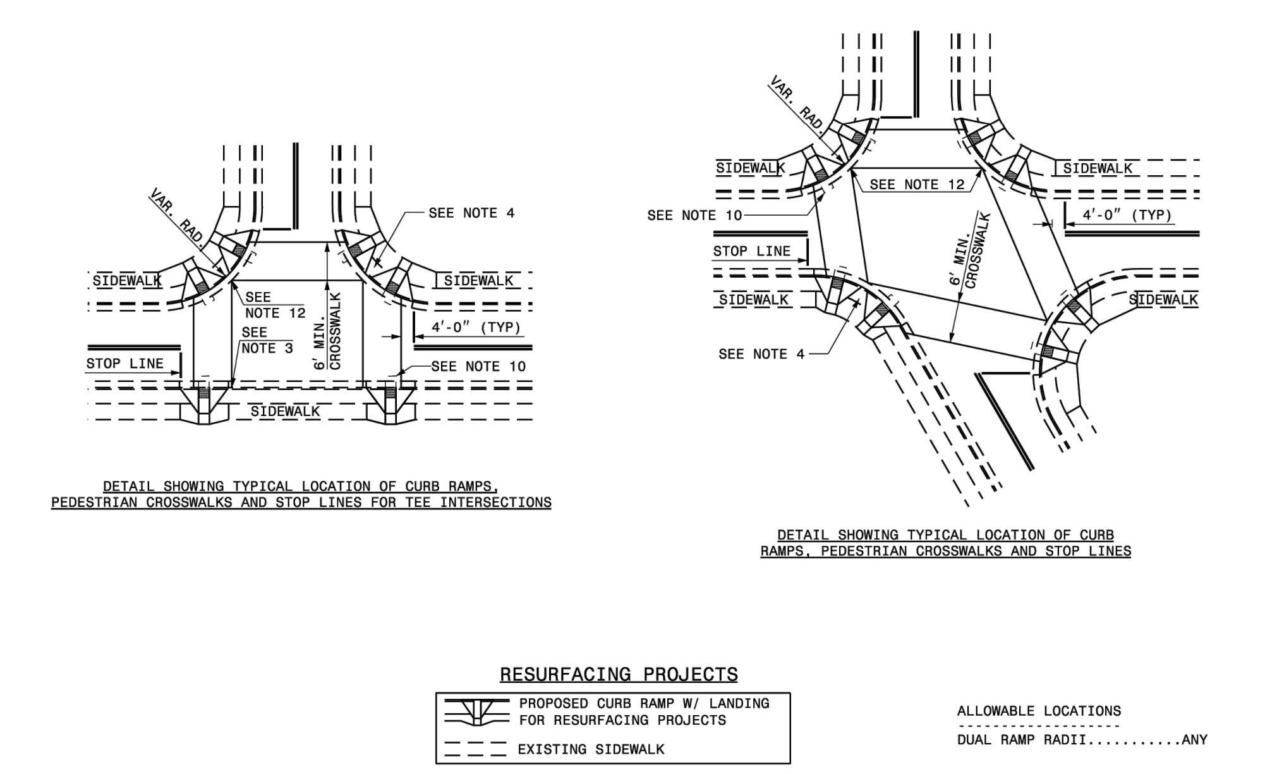
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER
SHEET 3 OF 5
848.06

CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB


ISOMETRIC VIEW
SECTION B-B
SECTION A-A
PLAN VIEW
DETECTABLE WARNING DOMES
PAY LIMITS OF CURB RAMP

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER
SHEET 2 OF 5
848.06

CURB RAMPS AND EXISTING SIDEWALK


DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS
DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES
STOP LINE
SEE NOTE 4
SEE NOTE 10
SEE NOTE 12
4'-0" (TYP)
RESURFACING PROJECTS
PROPOSED CURB RAMP W/ LANDING FOR RESURFACING PROJECTS
EXISTING SIDEWALK
ALLOWABLE LOCATIONS
DUAL RAMP RADII..........ANY

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER
SHEET 4 OF 5
848.06

CURB RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
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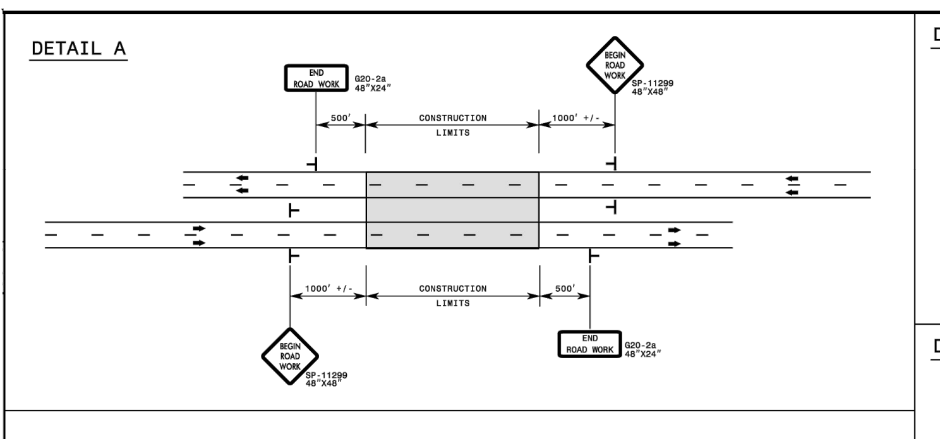
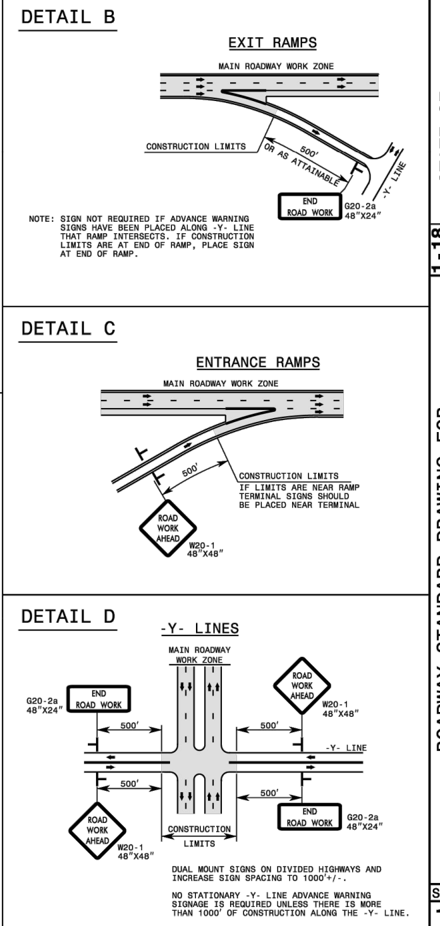
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER
SHEET 5 OF 5
848.06


DETAIL A
BEGIN ROAD WORK
SP-11299
48"X48"
END ROAD WORK
G20-2a
48"X24"
1000' +/-
CONSTRUCTION LIMITS
500'


DETAIL B
EXIT RAMPS
NOTE: SIGN NOT REQUIRED IF SIGNS HAVE BEEN PLACED SO THAT RAMP INTERSECTS CONSTRUCTION LIMITS ARE AT END OF RAMP OR AT END OF RAMP.
DETAIL C
ENTRANCE RAMPS
DETAIL D
-Y- LINES
END ROAD WORK
G20-2a
48"X24"
500'
ROAD WORK AHEAD
W20-1
48"X48"

GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD. 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

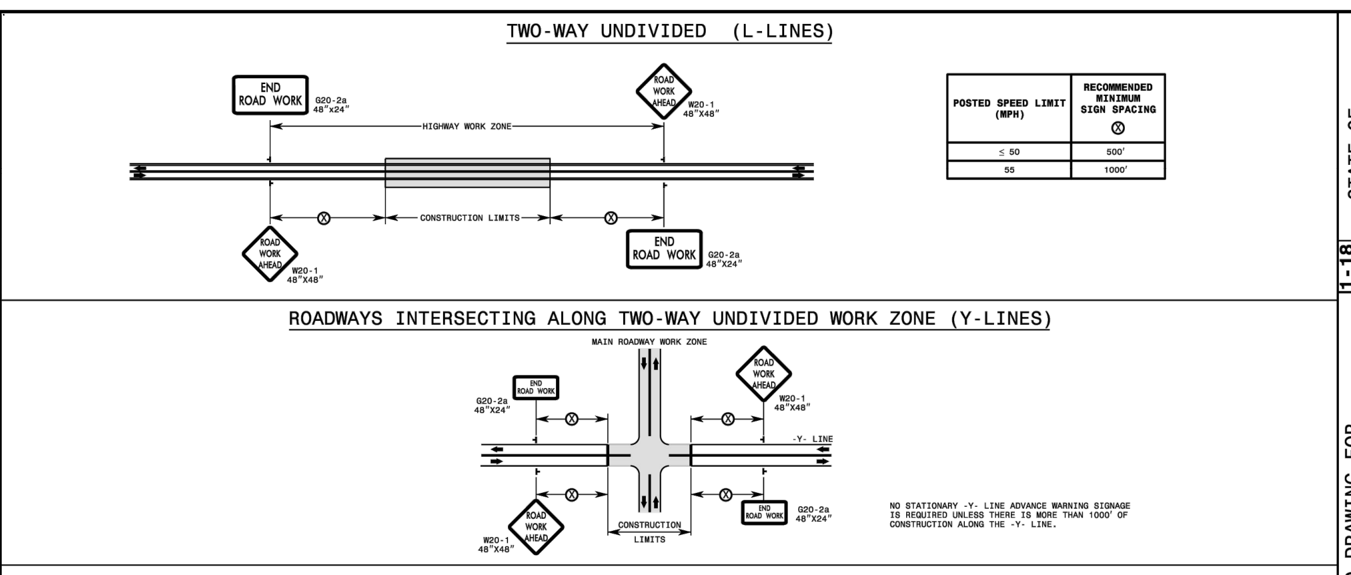
6- DO NOT BACK BRACE SIGN SUPPORTS.

7- TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND
⊢ STATIONARY SIGN
← DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR ≤ 55 MPH
SHEET 2 OF 3
1101.01

TWO-WAY UNDIVIDED (L-LINES)


TWO-WAY UNDIVIDED (L-LINES)
END ROAD WORK
ROAD WORK AHEAD
CONSTRUCTION LIMITS
POSTED SPEED LIMIT (MPH)
RECOMMENDED MINIMUM SIGN SPACING
ROADWAYS INTERSECTING ALONG TWO-WAY UNDIVIDED WORK ZONE (Y-LINES)
MAIN ROADWAY WORK ZONE
END ROAD WORK
G20-2a
48"X24"
ROAD WORK AHEAD
W20-1
48"X48"
-Y- LINE
CONSTRUCTION LIMITS
NO STATIONARY -Y- LINE ADVANCE WARNING SIGNAGE IS REQUIRED UNLESS THERE IS MORE THAN 1000' OF CONSTRUCTION ALONG THE -Y- LINE.

GENERAL NOTES

1- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK UNLESS COVERED.

2- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT LONGER THAN 3 CONSECUTIVE DAYS.

3- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.

4- ERECT SIGNS PER RSD 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATIONS FOR WORK ZONE SIGNS.

5- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH RSD. 1110.01.

6- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND
⊢ STATIONARY SIGN
← DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
1-18
ROADWAY STANDARD DRAWING FOR
WORK ZONE ADVANCE WARNING SIGNS FOR TWO-WAY UNDIVIDED FACILITIES
SHEET 3 OF 3
1101.01

811
Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
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LENNAR CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

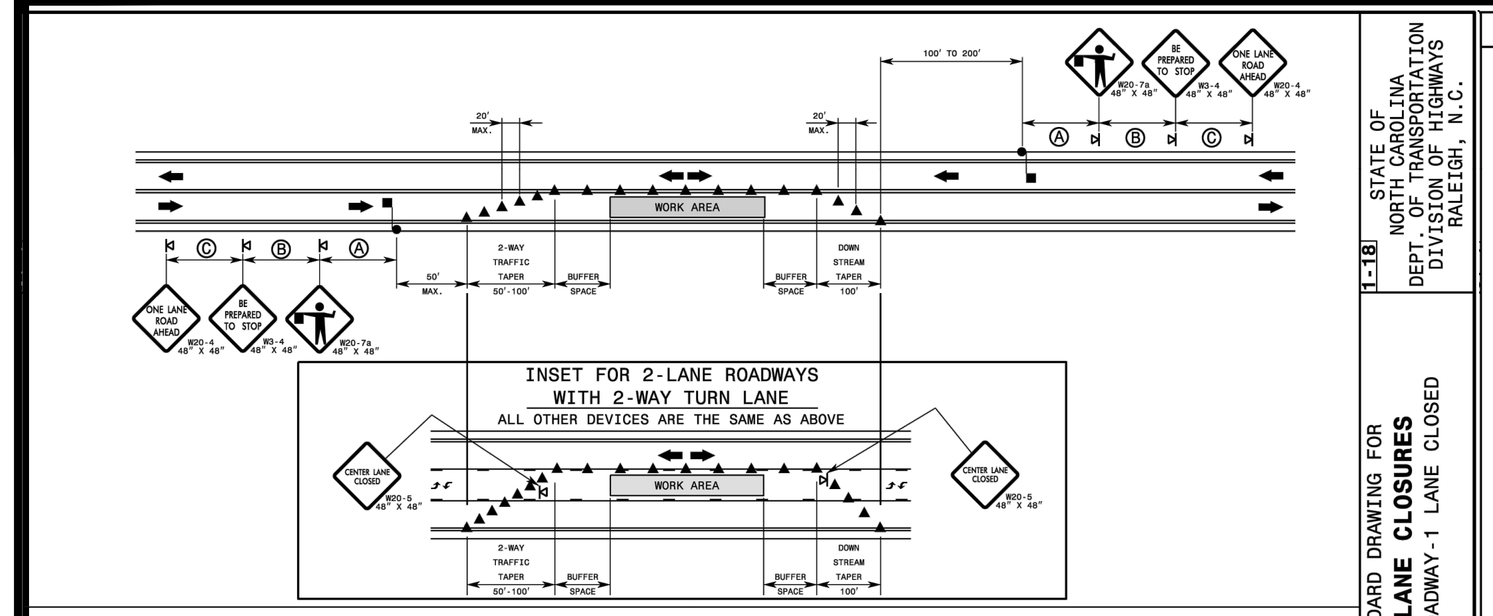
PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SITE DETAILS (2 OF 3)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C8-1

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-0 - SITE-DETL.dwg Layout: C8-2 SITE DETAILS (3 OF 3) Plotted: 12/1/2023 1:23:53 PM


INSET FOR 2-LANE ROADWAYS
WITH 2-WAY TURN LANE
ALL OTHER DEVICES ARE THE SAME AS ABOVE
CENTER LANE CLOSED
W20-5
48" X 48"
WORK AREA
2-WAY TRAFFIC TAPER
50'-100'
BUFFER SPACE
DOWN STREAM TAPER
100'

GENERAL NOTES FOR FLAGGING OPERATIONS

1- REFER TO RSD. 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.

3- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

4- PLACE CONES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD. 1101.11, SHEET 2).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- DRUMS OR SKINNY DRUMS MAY BE USED IN LIEU OF CONES. REFER TO RSD. 1180.01 FOR SKINNY DRUM REQUIREMENTS.

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. SUPPLEMENT FLAGGERS LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7a) PLACED APPROXIMATELY 250 FT. IN ADVANCE OF THE FLAGGER. FOR SIGNALIZED INTERSECTIONS PLACE SIGNALS IN THE FLASH MODE AND USE LAW ENFORCEMENT.

9- REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

11- IF VEHICLE QUEUES WILL REACH WITHIN 15' OF EITHER SIDE OF ACTIVE RAILROAD TRACKS, PROVIDE A UNIFORMED LAW ENFORCEMENT OFFICER OR FLAGGER TO PREVENT VEHICLES FROM STOPPING WITHIN THE GRADE CROSSING. PROVIDE OFFICER OR FLAGGER EVEN IF AUTOMATIC WARNING MEASURES ALREADY EXIST.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ROADWAY WIDTH IS LESS THAN 22 FEET (EOP TO EOP), CONES MAY NOT BE REQUIRED ALONG WORK AREA, AND AT THE DISCRETION OF THE ENGINEER, CONES MAY BE OMITTED ALONG THE WORK AREA IF USING A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN G20-4 "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- ADVISE RESIDENTS AND BUSINESSES WITHIN THE LANE CLOSURE LIMITS ABOUT METHODS OF SAFE EGRESS AND INGRESS FROM DRIVEWAYS DURING FLAGGING AND PILOT CAR OPERATIONS.

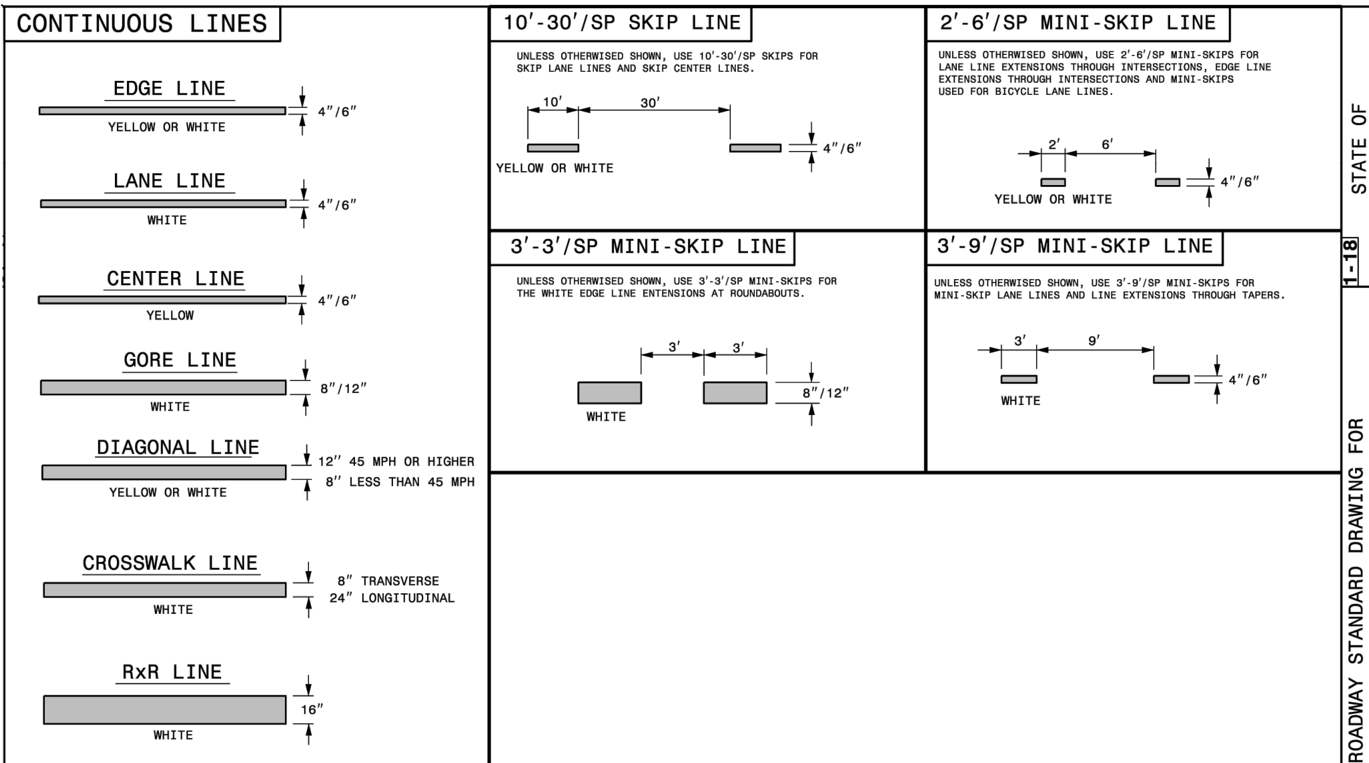
LEGEND

- FLAGGER
- ▲ CONE
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **TEMPORARY LANE CLOSURES** 2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 14
1101.02


CONTINUOUS LINES
EDGE LINE
YELLOW OR WHITE
LANE LINE
WHITE
CENTER LINE
YELLOW
GORE LINE
WHITE
8"/12"
DIAGONAL LINE
12" 45 MPH OR HIGHER
8" LESS THAN 45 MPH
YELLOW OR WHITE
CROSSWALK LINE
8" TRANSVERSE
24" LONGITUDINAL
RxR LINE
16"
STOP OR TRANSVERSE BAR
24"
10'-30'/SP SKIP LINE
2'-6'/SP MINI-SKIP LINE
3'-3'/SP MINI-SKIP LINE
3'-9'/SP MINI-SKIP LINE
4"/6"
WHITE
YELLOW OR WHITE

GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

SHEET 1 OF 2
1205.01

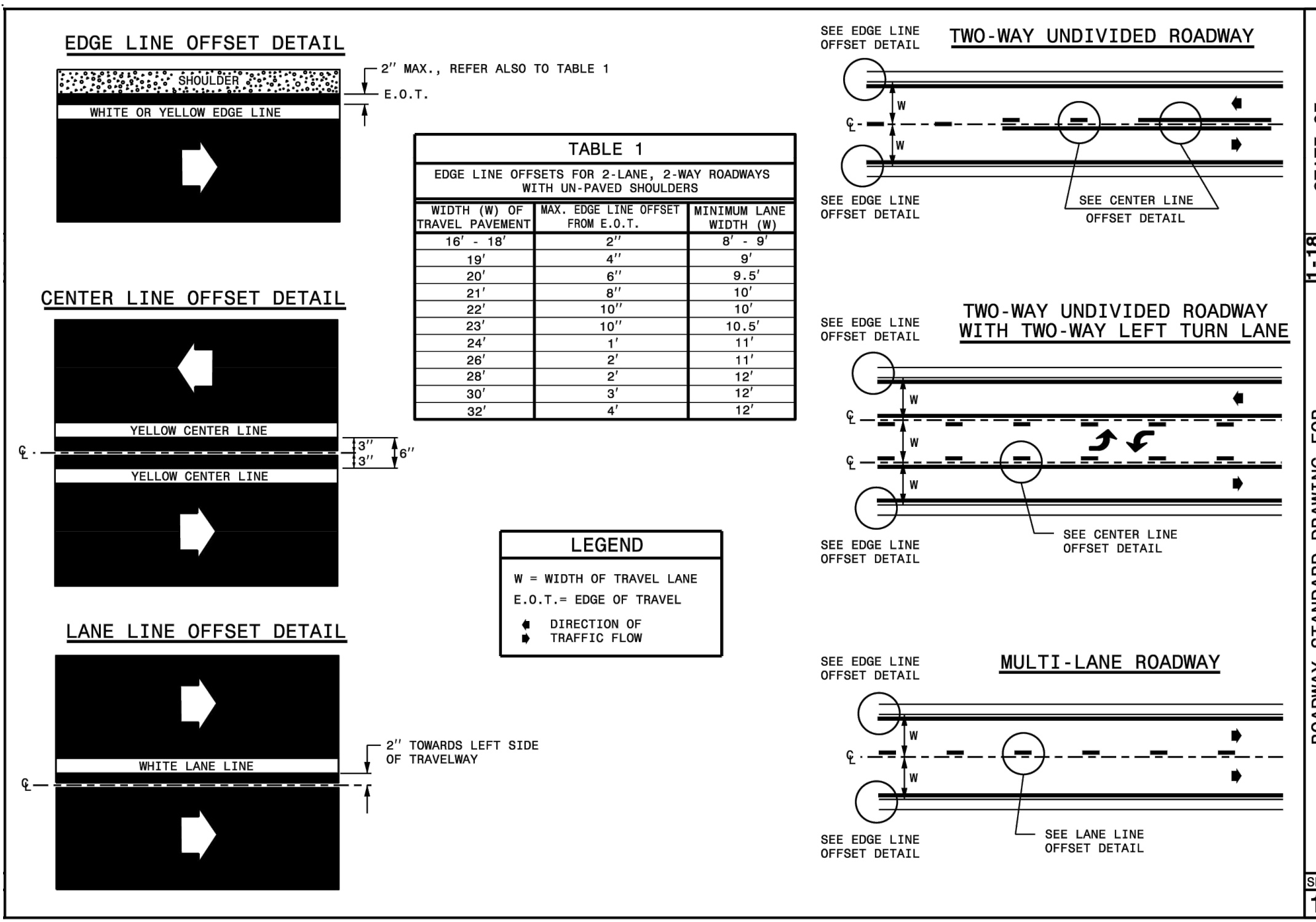

EDGE LINE OFFSET DETAIL
2" MAX., REFER ALSO TO TABLE 1
E.O.T.
WHITE OR YELLOW EDGE LINE
CENTER LINE OFFSET DETAIL
YELLOW CENTER LINE
3"
3"
6"
LANE LINE OFFSET DETAIL
WHITE LANE LINE
2" TOWARDS LEFT SIDE OF TRAVELWAY
TWO-WAY UNDIVIDED ROADWAY
SEE EDGE LINE OFFSET DETAIL
SEE CENTER LINE OFFSET DETAIL
TWO-WAY UNDIVIDED ROADWAY WITH TWO-WAY LEFT TURN LANE
MULTI-LANE ROADWAY
SEE LANE LINE OFFSET DETAIL
W

TABLE 1

EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

WIDTH (W) OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E.O.T.	MINIMUM LANE WIDTH (W)
16' - 18'	2"	8' - 9'
19'	4"	9'
20'	6"	9.5'
21'	8"	10'
22'	10"	10'
23'	10"	10.5'
24'	1'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'

LEGEND

W = WIDTH OF TRAVEL LANE

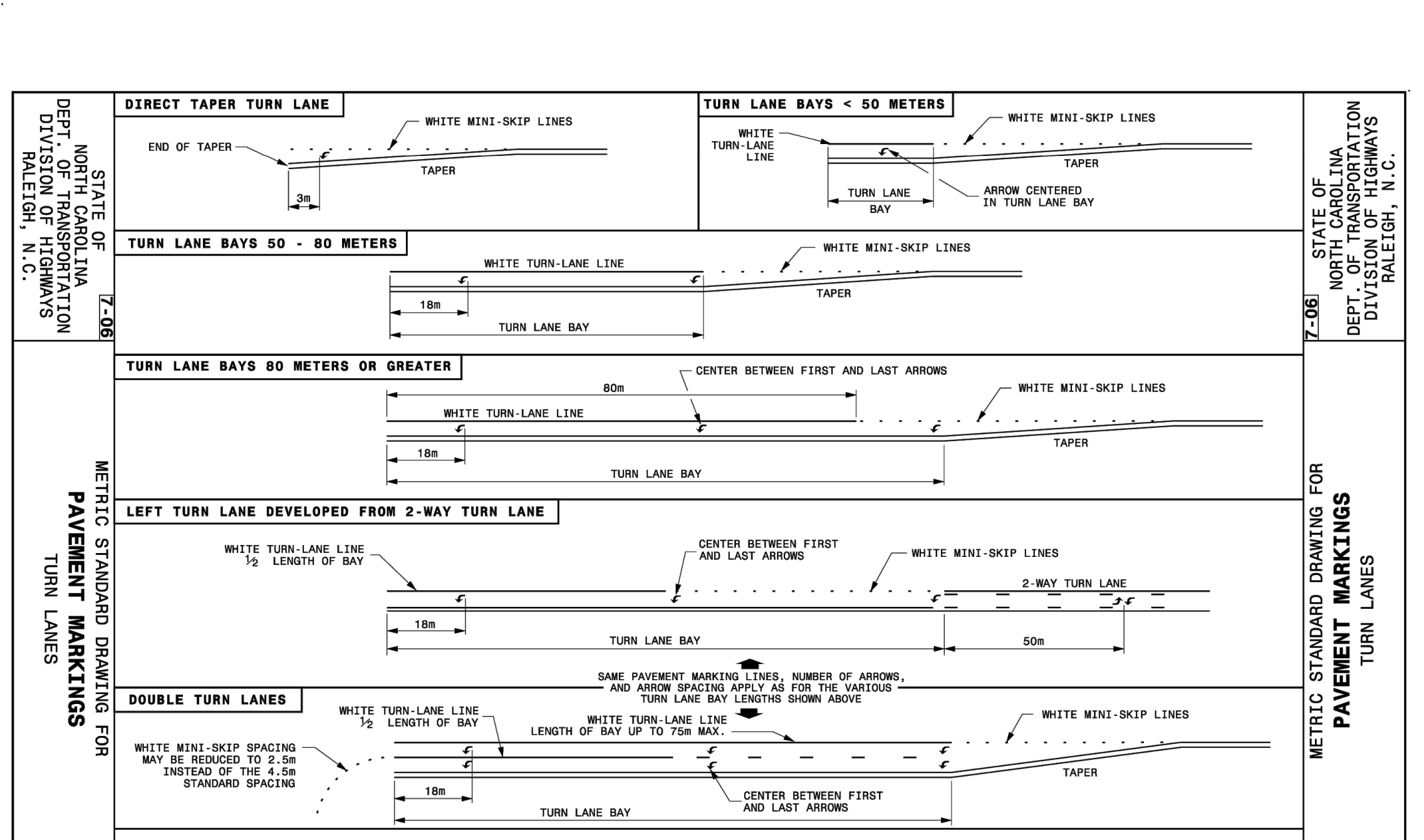
E.O.T.= EDGE OF TRAVEL

DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

SHEET 2 OF 2
1205.01


DIRECT TAPER TURN LANE
TURN LANE BAYS < 50 METERS
TURN LANE BAYS 50 - 80 METERS
TURN LANE BAYS 80 METERS OR GREATER
LEFT TURN LANE DEVELOPED FROM 2-WAY TURN LANE
DOUBLE TURN LANES
WHITE MINI-SKIP LINES
WHITE TURN-LANE LINE
TAPER
TURN LANE BAY
18m
50m
2-WAY TURN LANE
CENTER BETWEEN FIRST AND LAST ARROWS
SAME PAVEMENT MARKING LINES, NUMBER OF ARROWS, AND ARROW SPACING APPLY AS FOR THE VARIOUS TURN LANE BAY LENGTHS SHOWN ABOVE
WHITE TURN-LANE LINE ½ LENGTH OF BAY
WHITE TURN-LANE LINE LENGTH OF BAY UP TO 75m MAX.
WHITE MINI-SKIP SPACING MAY BE REDUCED TO 2.5m INSTEAD OF THE 4.5m STANDARD SPACING

NOTE:
THIS DRAWING IS DIMENSIONED IN MILLIMETERS UNLESS OTHERWISE DEPICTED WITHIN THE DRAWING.

LEGEND

PAVEMENT MARKING SYMBOL

GENERAL NOTES

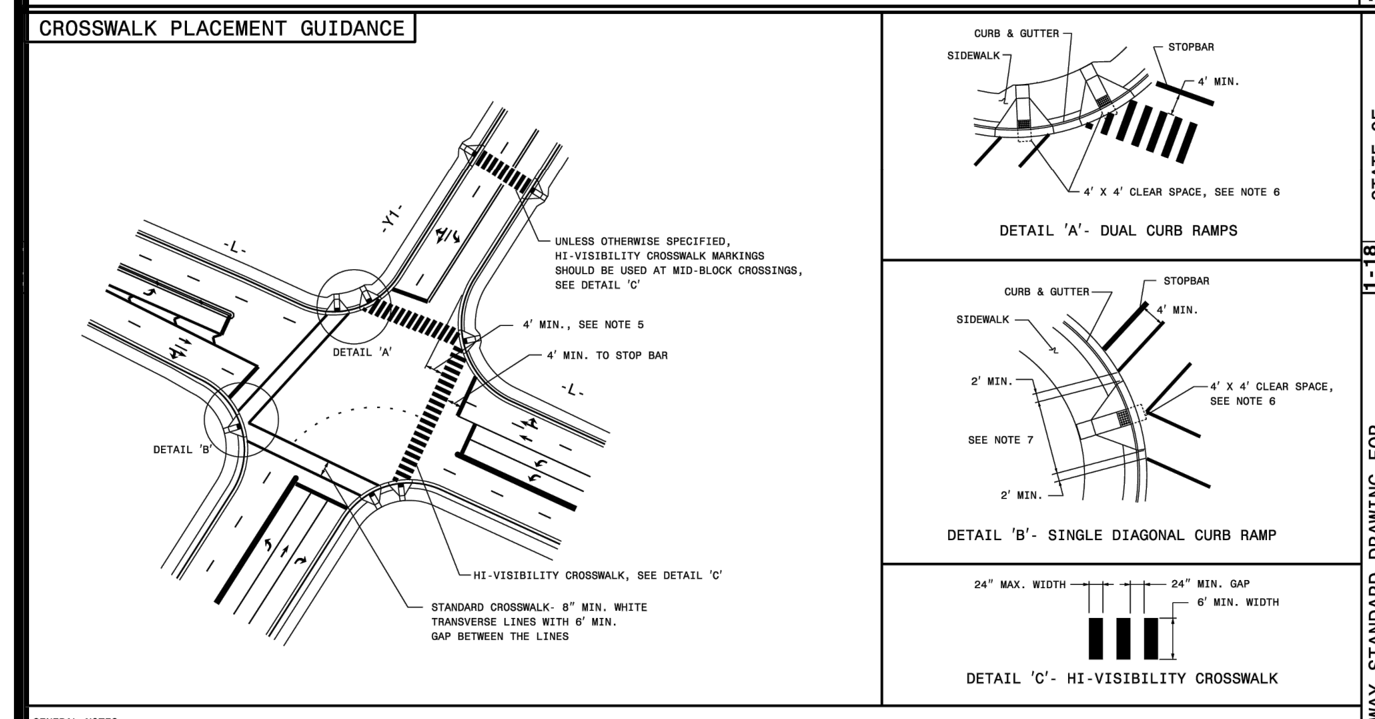
1- APPLY ALL TURN LANE MARKINGS AS SHOWN FOR RIGHT & LEFT TURN LANES.

2- THE NUMBER OF ARROWS SHOWN IS THE MINIMUM REQUIRED. USE ADDITIONAL ARROWS AS DETERMINED BY THE ENGINEER.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

METRIC STANDARD DRAWING FOR **PAVEMENT MARKINGS** TURN LANES

SHEET 1 OF 1
1205.05


CROSSWALK PLACEMENT GUIDANCE
UNLESS OTHERWISE SPECIFIED, HI-VISIBILITY CROSSWALK MARKINGS SHOULD BE USED AT MID-BLOCK CROSSINGS, SEE DETAIL 'C'
4' MIN., SEE NOTE 5
4' MIN., TO STOP BAR
DETAIL 'A'
DETAIL 'B'
HI-VISIBILITY CROSSWALK, SEE DETAIL 'C'
STANDARD CROSSWALK- 8" MIN. WHITE TRANSVERSE LINES WITH 6' MIN. GAP BETWEEN THE LINES
CURB & GUTTER
SIDEWALK
STOPBAR
4' MIN.
4' X 4' CLEAR SPACE, SEE NOTE 6
DETAIL 'A'- DUAL CURB RAMPS
SEE NOTE 7
2' MIN.
DETAIL 'B'- SINGLE DIAGONAL CURB RAMP
24" MAX. WIDTH
24" MIN. GAP
6' MIN. WIDTH
DETAIL 'C'- HI-VISIBILITY CROSSWALK

GENERAL NOTES:

1- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.

2- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.

3- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

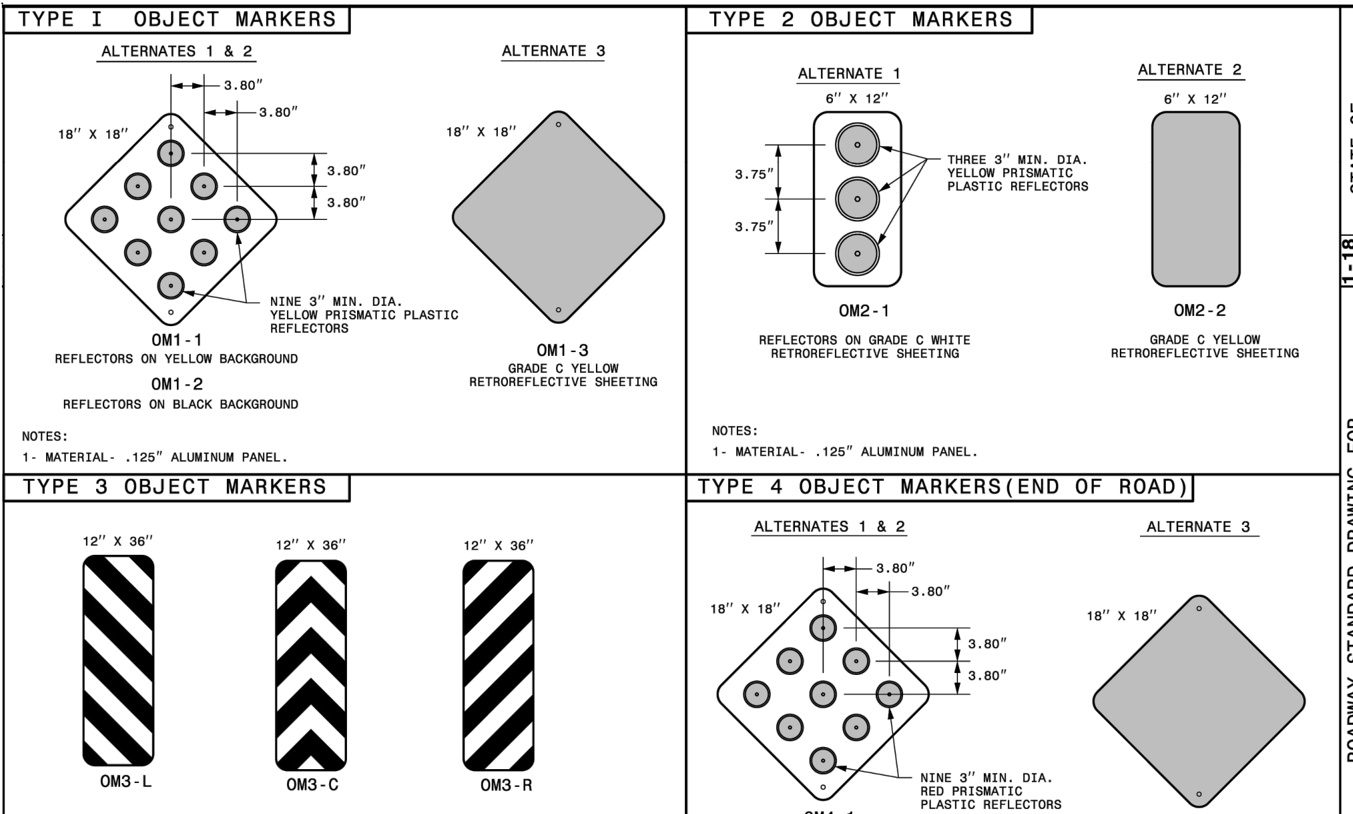
7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** PEDESTRIAN CROSSWALKS

SHEET 1 OF 1
1205.07


TYPE 1 OBJECT MARKERS
ALTERNATES 1 & 2
ALTERNATE 3
18" X 18"
3.80"
NINE 3" MIN. DIA. YELLOW PRISMATIC PLASTIC REFLECTORS
OM1-1
REFLECTORS ON YELLOW BACKGROUND
OM1-2
REFLECTORS ON BLACK BACKGROUND
OM1-3
GRADE C YELLOW RETROREFLECTIVE SHEETING
TYPE 2 OBJECT MARKERS
ALTERNATE 1
ALTERNATE 2
6" X 12"
3.75"
THREE 3" MIN. DIA. YELLOW PRISMATIC PLASTIC REFLECTORS
OM2-1
REFLECTORS ON GRADE C WHITE RETROREFLECTIVE SHEETING
OM2-2
GRADE C YELLOW RETROREFLECTIVE SHEETING
TYPE 3 OBJECT MARKERS
12" X 36"
OM3-L
OM3-C
OM3-R
TYPE 4 OBJECT MARKERS(END OF ROAD)
ALTERNATES 1 & 2
ALTERNATE 3
NINE 3" MIN. DIA. RED PRISMATIC PLASTIC REFLECTORS
OM4-1
REFLECTORS ON RED BACKGROUND
OM4-2
REFLECTORS ON BLACK BACKGROUND
OM4-3
GRADE C RED RETROREFLECTIVE SHEETING

NOTES:
1- MATERIAL- .125" ALUMINUM PANEL.

NOTES:
1- MATERIAL- .125" ALUMINUM PANEL.

NOTES:

1- GRADE C YELLOW RETROFLECTIVE SHEETING WITH ALTERNATING BLACK AND YELLOW STRIPES.

2- STRIPES SLOPE DOWNWARD AT 45 DEGREES TOWARD THE SIDE OF THE OBSTRUCTION WHICH TRAFFIC IS TO PASS.

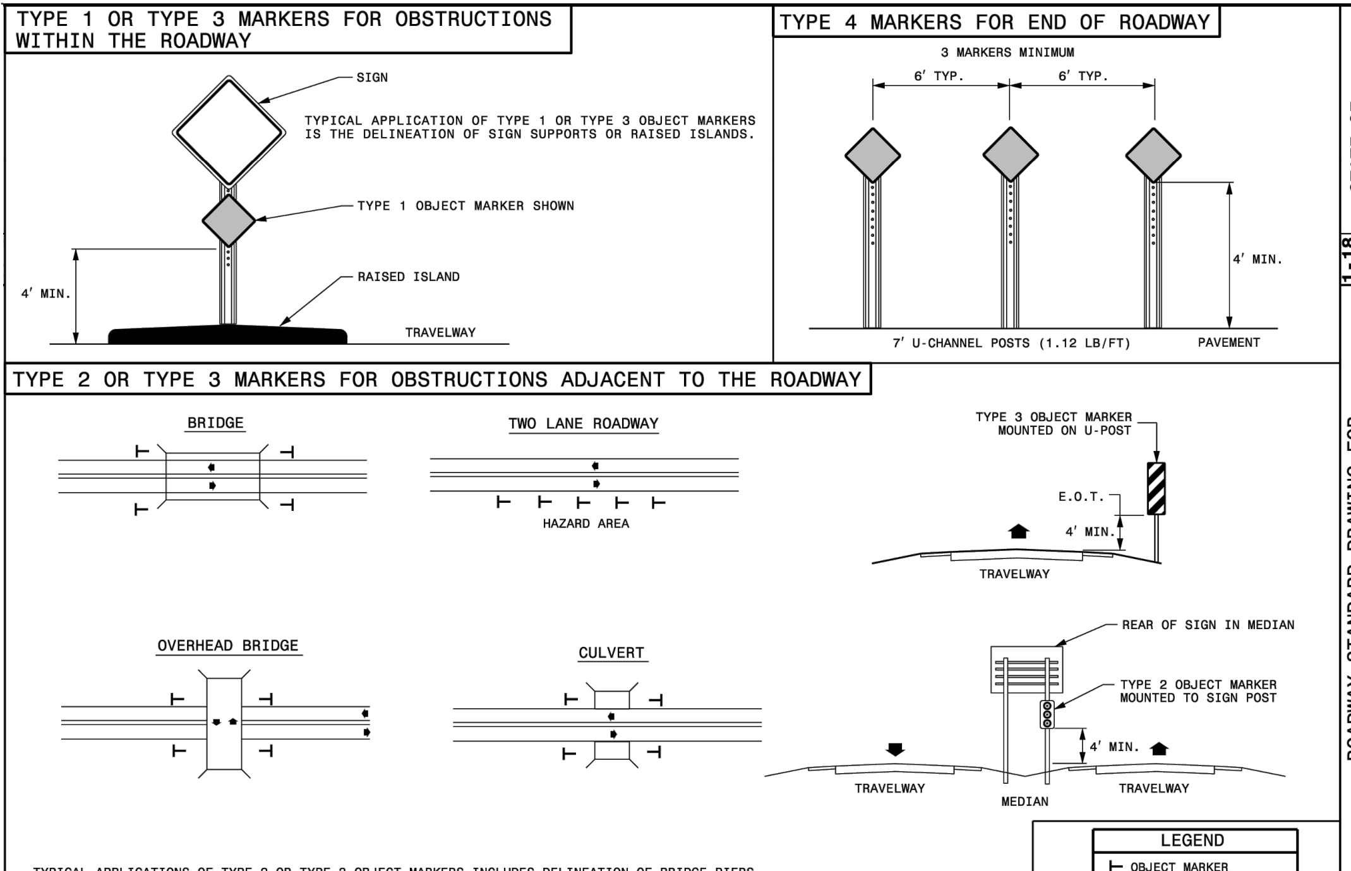
3- MATERIAL-.125" ALUMINUM PANEL.

NOTES:
1- MATERIAL- .125" ALUMINUM PANEL.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR **OBJECT MARKERS** TYPES

SHEET 1 OF 1
1264.01


TYPE 1 OR TYPE 3 MARKERS FOR OBSTRUCTIONS WITHIN THE ROADWAY
SIGN
TYPICAL APPLICATION OF TYPE 1 OR TYPE 3 OBJECT MARKERS IS THE DELINEATION OF SIGN SUPPORTS OR RAISED ISLANDS.
TYPE 1 OBJECT MARKER SHOWN
RAISED ISLAND
4' MIN.
TRAVELWAY
TYPE 4 MARKERS FOR END OF ROADWAY
3 MARKERS MINIMUM
6' TYP.
7' U-CHANNEL POSTS (1.12 LB/FT)
PAVEMENT
TYPE 2 OR TYPE 3 MARKERS FOR OBSTRUCTIONS ADJACENT TO THE ROADWAY
BRIDGE
TWO LANE ROADWAY
HAZARD AREA
OVERHEAD BRIDGE
CULVERT
TYPE 3 OBJECT MARKER MOUNTED ON U-POST
E.O.T.
REAR OF SIGN IN MEDIAN
TYPE 2 OBJECT MARKER MOUNTED TO SIGN POST
MEDIAN

TYPICAL APPLICATIONS OF TYPE 2 OR TYPE 3 OBJECT MARKERS INCLUDES DELINEATION OF BRIDGE PIERS, ABUTMENTS, HANDRAILS, CULVERT HEADWALLS, NARROW SHOULDERS, DROP-OFFS, OR OTHER UNDESIRABLE CONDITIONS WHEN GUARDRAIL OR OTHER ROADSIDE PROTECTION IS NOT IN PLACE.

LEGEND

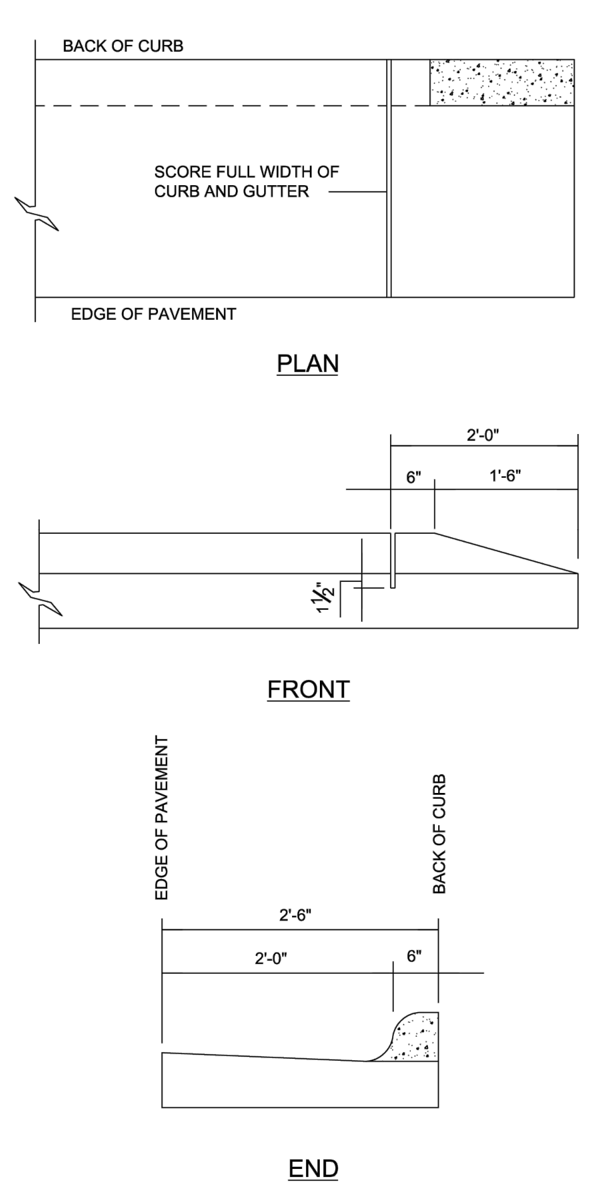
OBJECT MARKER

DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

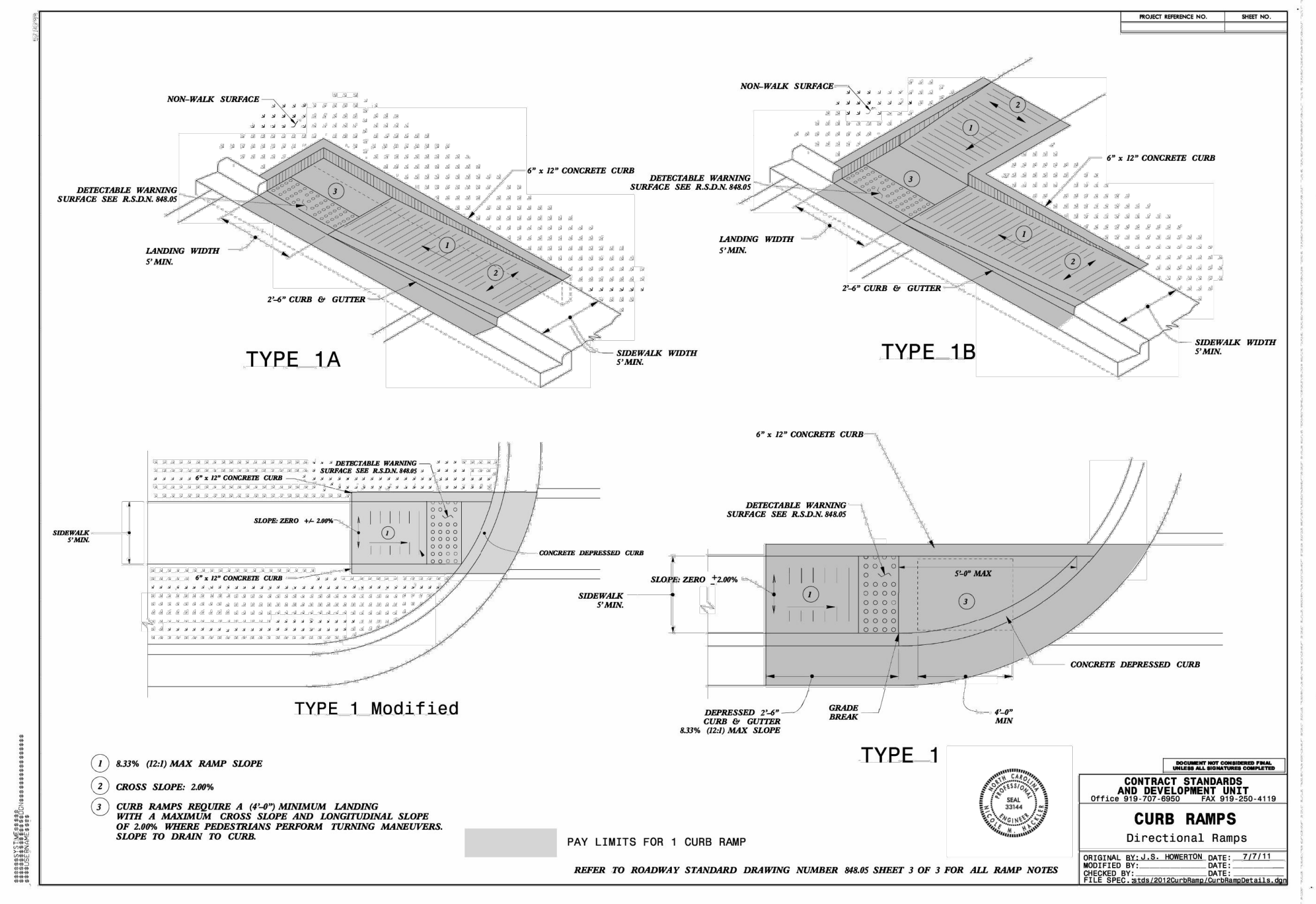
ROADWAY STANDARD DRAWING FOR **OBJECT MARKERS** INSTALLATION

SHEET 1 OF 1
1264.02


BACK OF CURB
SCORE FULL WIDTH OF CURB AND GUTTER
EDGE OF PAVEMENT
PLAN
2'-0"
6"
1'-6"
1½"
FRONT
EDGE OF PAVEMENT
BACK OF CURB
2'-6"
2'-0"
6"
END

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 8/2020 NOT TO SCALE
	STANDARD METHOD OF ENDING CURB AND GUTTER
	T-10.25


NON-WALK SURFACE
DETECTABLE WARNING SURFACE SEE R.S.D.N. 848.05
6" x 12" CONCRETE CURB
LANDING WIDTH
SIDEWALK WIDTH 5' MIN.
TYPE_1A
TYPE_1B
SLOPE: ZERO +/- 2.00%
SIDEWALK 5' MIN.
CONCRETE DEPRESSED CURB
TYPE_1_Modified
5'-0" MAX
DEPRESSED 2'-6" CURB & GUTTER 8.33% (12:1) MAX SLOPE
GRADE BREAK
4'-0" MIN
TYPE_1

① 8.33% (12:1) MAX RAMP SLOPE

② CROSS SLOPE: 2.00%

③ CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP

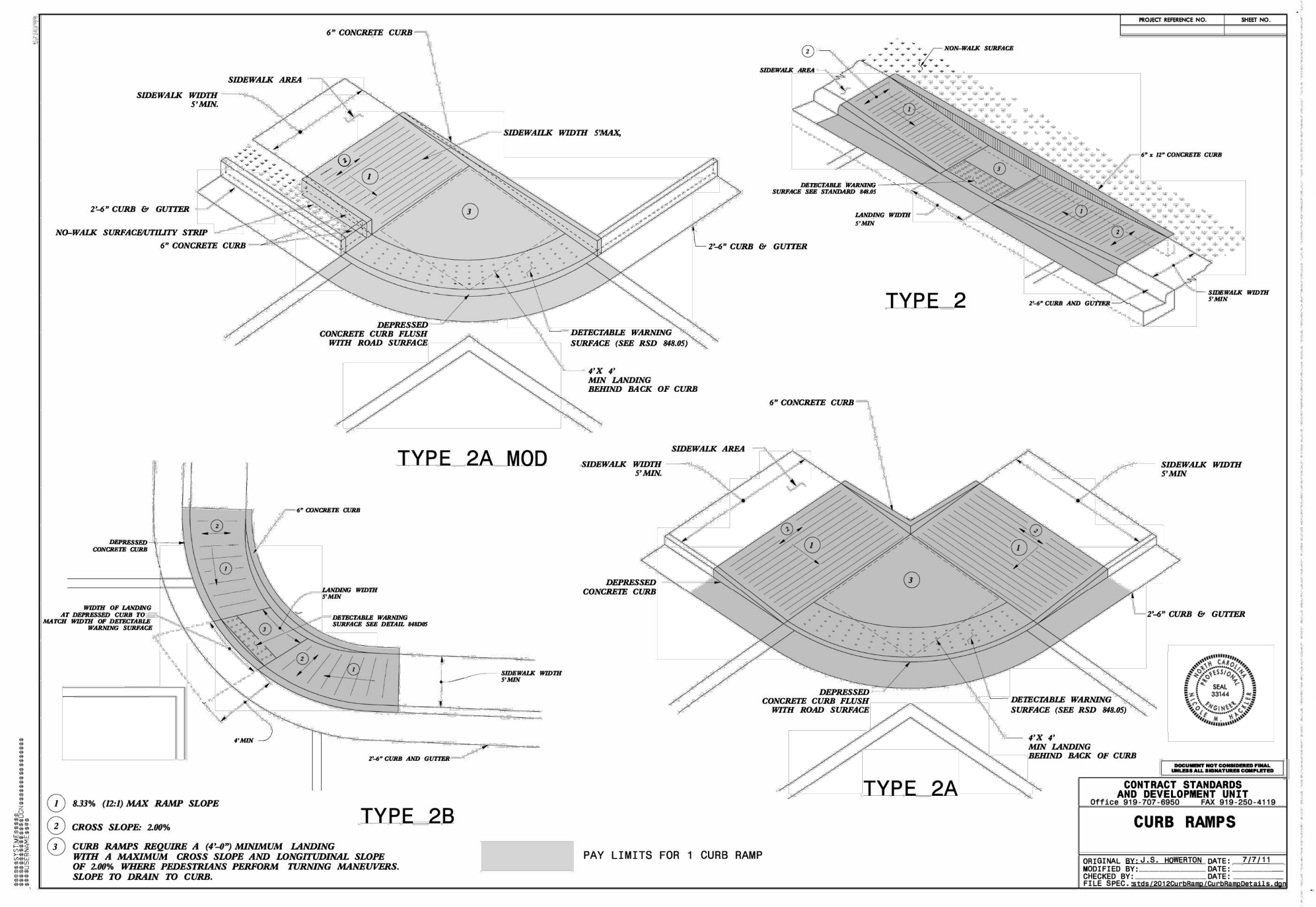
REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

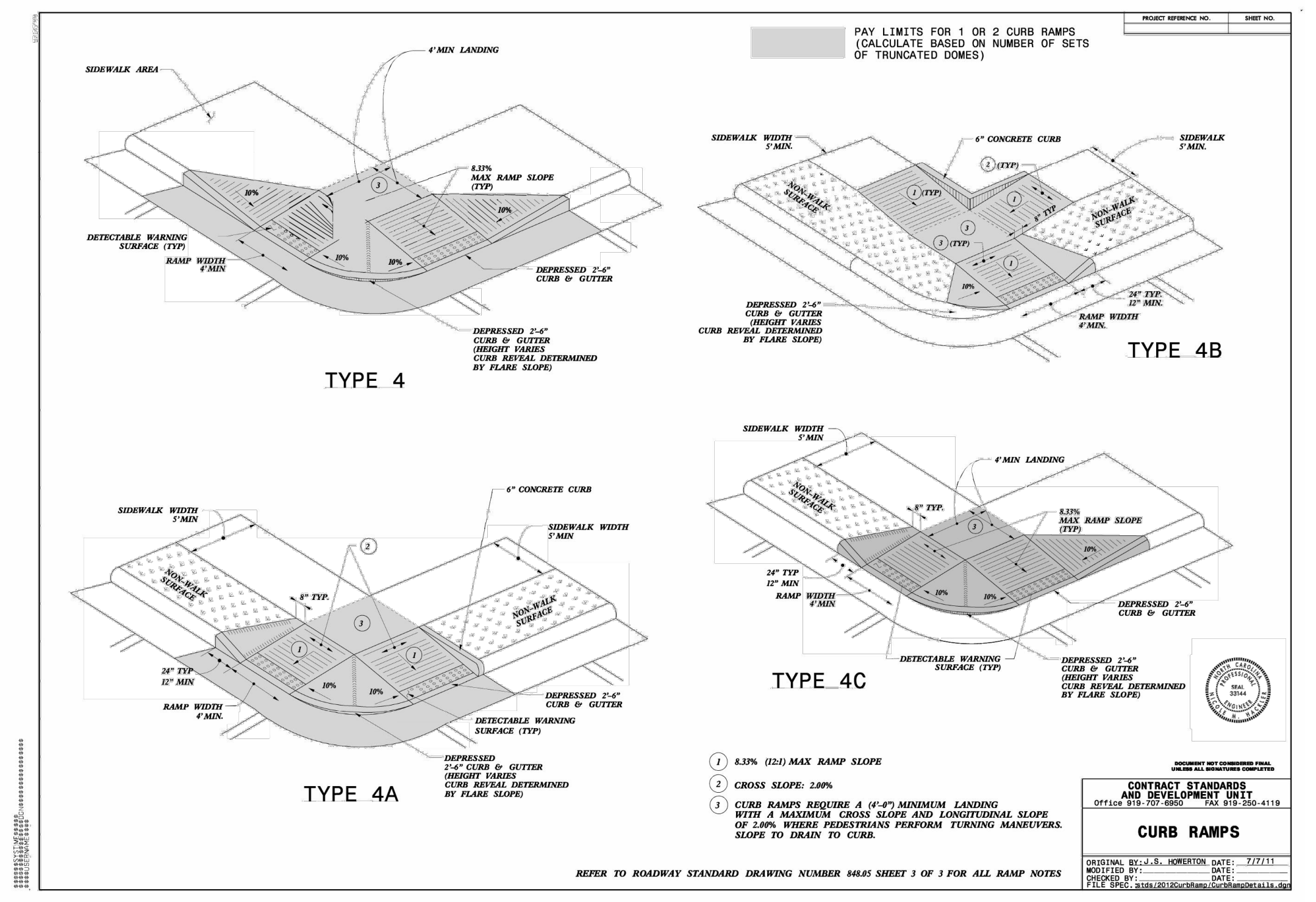
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS
Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn


6" CONCRETE CURB
SIDEWALK AREA
SIDEWALK WIDTH 5' MIN.
SIDEWAILK WIDTH 5'MAX,
NON-WALK SURFACE
6" x 12" CONCRETE CURB
DETECTABLE WARNING SURFACE SEE STANDARD 848.05
LANDING WIDTH
2'-6" CURB & GUTTER
TYPE_2A MOD
TYPE_2
TYPE_2B
TYPE_2A
PAY LIMITS FOR 1 CURB RAMP
CURB RAMPS


PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)
4' MIN LANDING
SIDEWALK AREA
8.33% MAX RAMP SLOPE (TYP)
10%
SIDEWALK WIDTH 5' MIN.
6" CONCRETE CURB
SIDEWALK 5' MIN.
NON-WALK SURFACE
TYPE 4
TYPE 4B
TYPE 4A
TYPE 4C
CURB RAMPS

Know what's **below.**
Call before you dig.

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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RALEIGH NC 27607
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NC LICENSE #C-4397
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LENNAR
CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

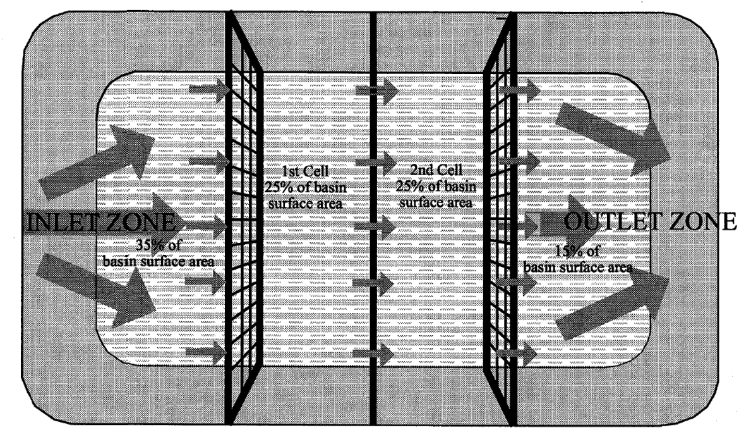
SITE DETAILS (3 OF 3)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

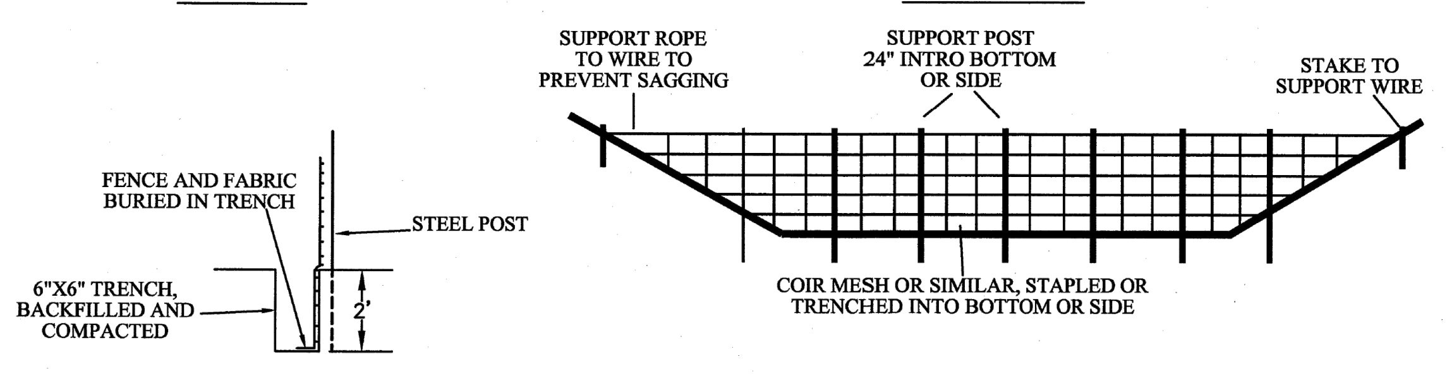
DATE: 11/21/2023

C8-2


INLET ZONE
35% of basin surface area
1st Cell
25% of basin surface area
2nd Cell
25% of basin surface area
OUTLET ZONE
15% of basin surface area

PLAN VIEW

NOTES:
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH). PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 G/M2 COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS
6. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH RAINFALL

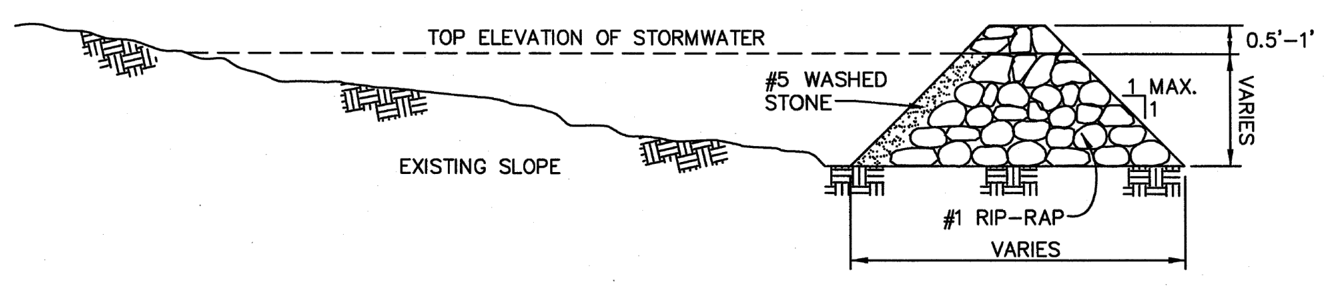

CROSS SECTION
SUPPORT ROPE TO WIRE TO PREVENT SAGGING
SUPPORT POST 24" INTRO BOTTOM OR SIDE
STAKE TO SUPPORT WIRE
COIR MESH OR SIMILAR, STAPLED OR TRENCHED INTO BOTTOM OR SIDE
FENCE AND FABRIC BURIED IN TRENCH
STEEL POST
6"X6" TRENCH, BACKFILLED AND COMPACTED
2'

SECTION VIEW AT OPENING

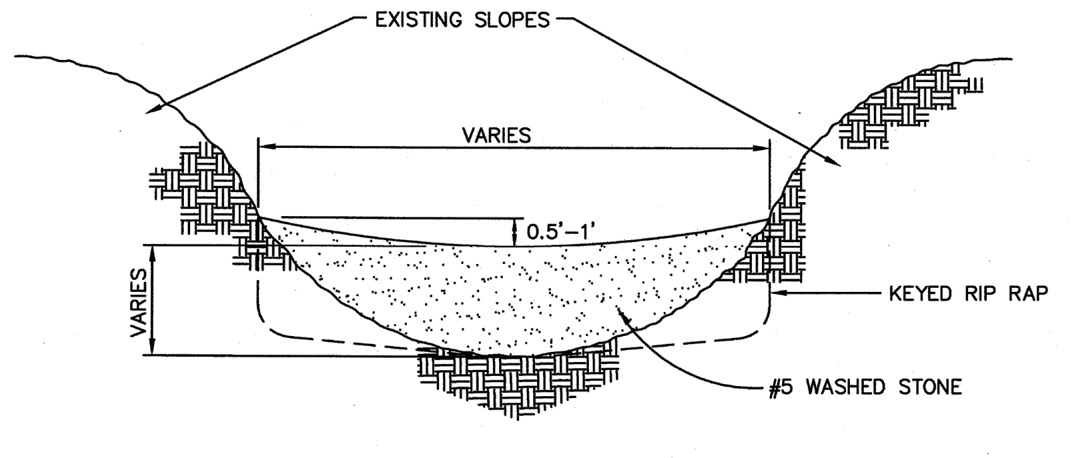
WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL


TOP ELEVATION OF STORMWATER
#5 WASHED STONE
EXISTING SLOPE
1 MAX.
1
0.5'–1'
VARIES
#1 RIP–RAP
VARIES

SIDE VIEW

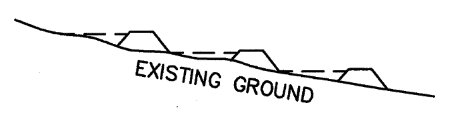

EXISTING SLOPES
VARIES
0.5'–1'
VARIES
KEYED RIP RAP
#5 WASHED STONE

FRONT VIEW

CONSTRUCTION NOTES:

HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.

KEY RIP RAP INTO THE DAM FOR STABILIZATION.


EXISTING GROUND

STEP SEQUENCE

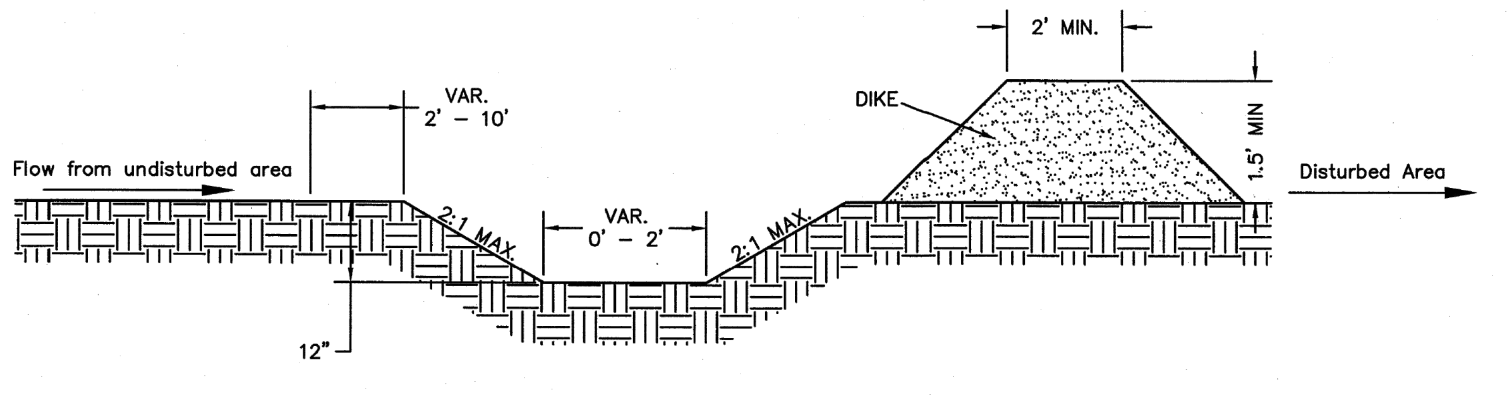
NOTE: REMOVE SEDIMENT ACCUMULATION FROM BEHIND CHECK DAMS TO PREVENT DAMAGE TO CHANNEL VEGETATION. FLOW SHOULD BE MAINTAINED THROUGH THE DAM.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CHECK DAM

NOTES:
1. DIVERSION TO BE USED UPSLOPE OF A CONSTRUCTION SITE TO PREVENT STORM RUNOFF FROM ENTERING THE DISTURBED AREA.
2. IMMEDIATELY LINE AND STABILIZE BEFORE ANY DOWNSLOPE GRADING BEGINS (STABILIZATION MUST OCCUR BEFORE ISSUANCE OF A CERTIFICATE OF COMPLIANCE). STABILIZATION METHOD IS BASED ON VELOCITY OF OFFSITE DRAINAGE.
3. DIVERSIONS SHOULD ONLY BE USED FOR DRAINAGES 5 ACRES OR LESS.
4. ANY SEDIMENT LADEN WATER PRIOR TO STABILIZATION OF THE DIVERSION MUST BE DIVERTED INTO AN APPROVED EROSION AND SEDIMENT CONTROL BMP. CLEAN WATER SHOULD EMPTY INTO AN APPROVED OUTLET DEVICE.

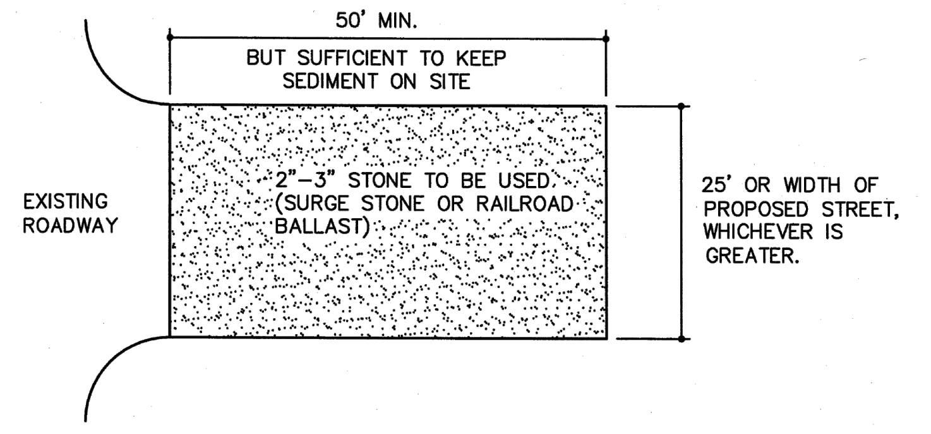

2' MIN.
VAR.
2' – 10'
DIKE
1.5' MIN
Flow from undisturbed area
Disturbed Area
2:1 MAX.
VAR.
0' – 2'
2:1 MAX.
12"

CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA

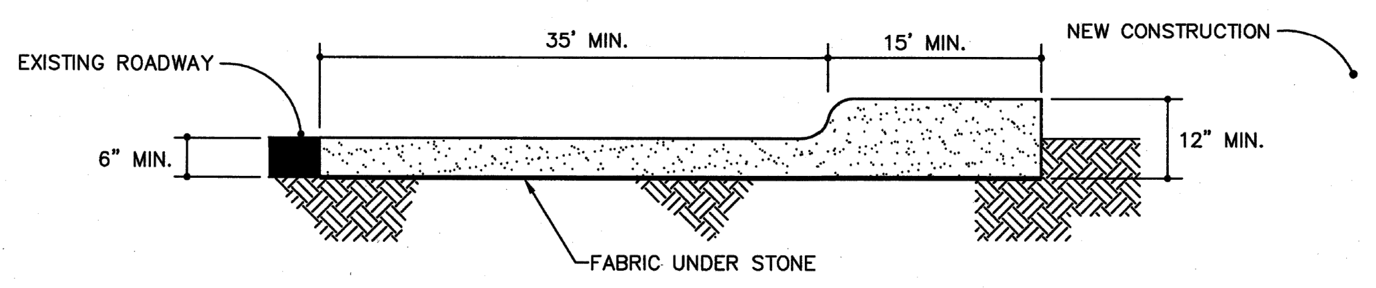
EFFECTIVE: 01/31/08

STANDARD CLEAN WATER DIVERSION


50' MIN.
BUT SUFFICIENT TO KEEP SEDIMENT ON SITE
EXISTING ROADWAY
2"–3" STONE TO BE USED. (SURGE STONE OR RAILROAD BALLAST)
25' OR WIDTH OF PROPOSED STREET, WHICHEVER IS GREATER.

PLAN VIEW

NOTES:
1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3. MAINTAIN GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING CONSTRUCTION SITE. ENTRANCE WILL REQUIRE PERIODIC REMOVAL OF SEDIMENT–LADEN STONE AND REPLACEMENT WITH FRESH STONE.


EXISTING ROADWAY
35' MIN.
15' MIN.
NEW CONSTRUCTION
6" MIN.
12" MIN.
FABRIC UNDER STONE

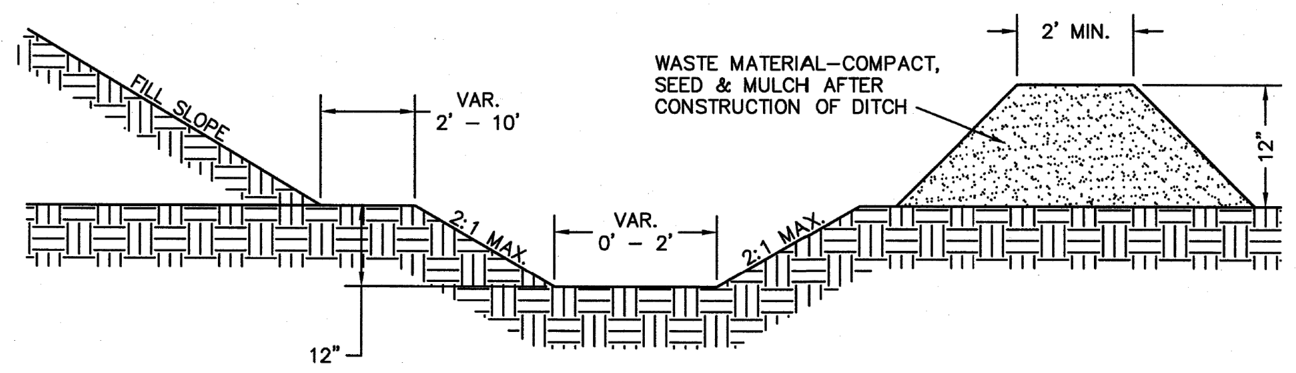
CROSS SECTION

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE

NOTES:
1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE–HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.

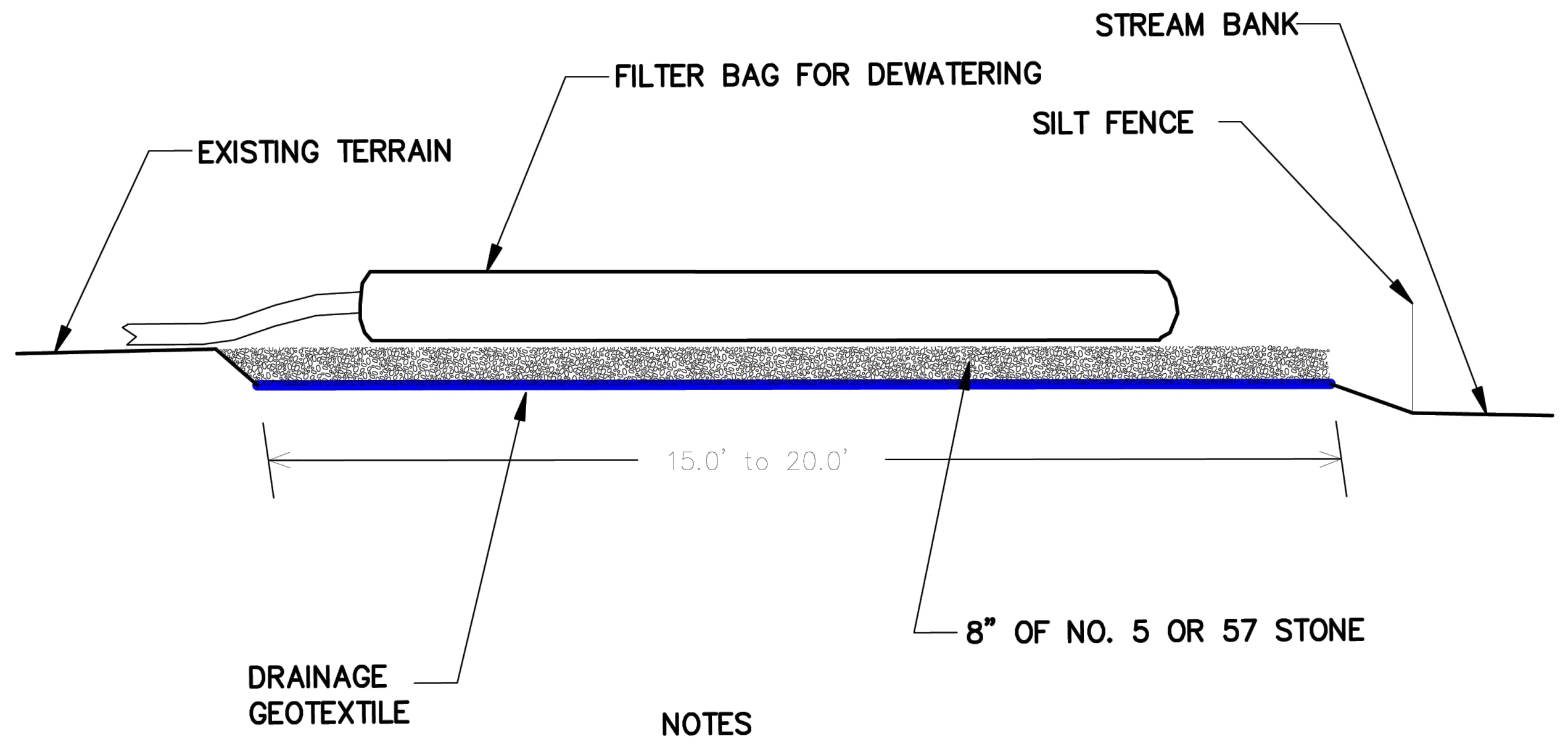

FILL SLOPE
VAR.
2' – 10'
WASTE MATERIAL–COMPACT, SEED & MULCH AFTER CONSTRUCTION OF DITCH
2' MIN.
12"
2:1 MAX.
VAR.
0' – 2'
2:1 MAX.
12"

CROSS SECTIONAL VIEW

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH


STREAM BANK
FILTER BAG FOR DEWATERING
SILT FENCE
EXISTING TERRAIN
15.0' to 20.0'
8" OF NO. 5 OR 57 STONE
DRAINAGE GEOTEXTILE

NOTES

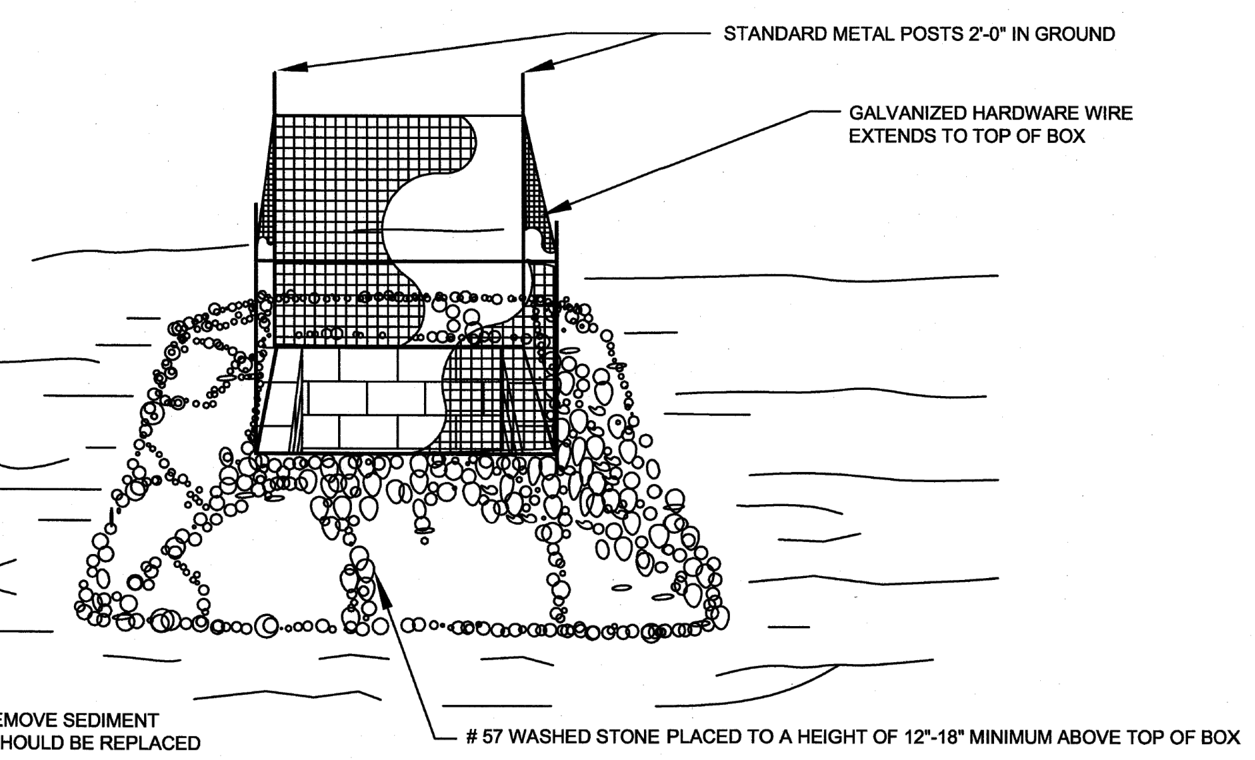
PROVIDE STABILIZED OUTLET TO STREAM BANK. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

NOT TO SCALE

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD FILTER BAG FOR DEWATERING ACTIVITIES

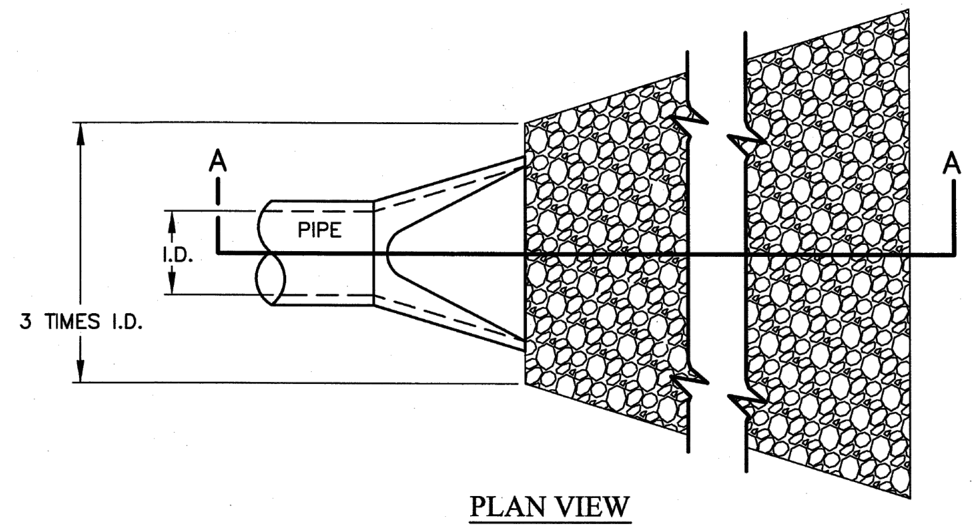

STANDARD METAL POSTS 2'-0" IN GROUND
GALVANIZED HARDWARE WIRE EXTENDS TO TOP OF BOX
# 57 WASHED STONE PLACED TO A HEIGHT OF 12"-18" MINIMUM ABOVE TOP OF BOX

NOTE:
1. INSPECT INLET PROTECTION AND REMOVE SEDIMENT AFTER EACH RAIN EVENT. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.

WAKE COUNTY NORTH CAROLINA

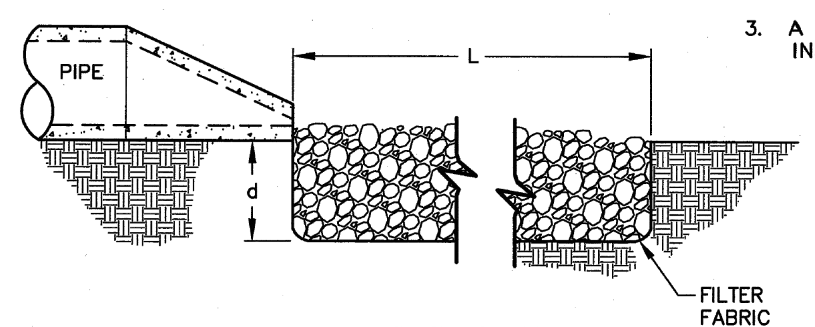
EFFECTIVE: 01/31/08

STANDARD GRAVEL YARD INLET PROTECTION


A
A
PIPE
I.D.
3 TIMES I.D.

PLAN VIEW

NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

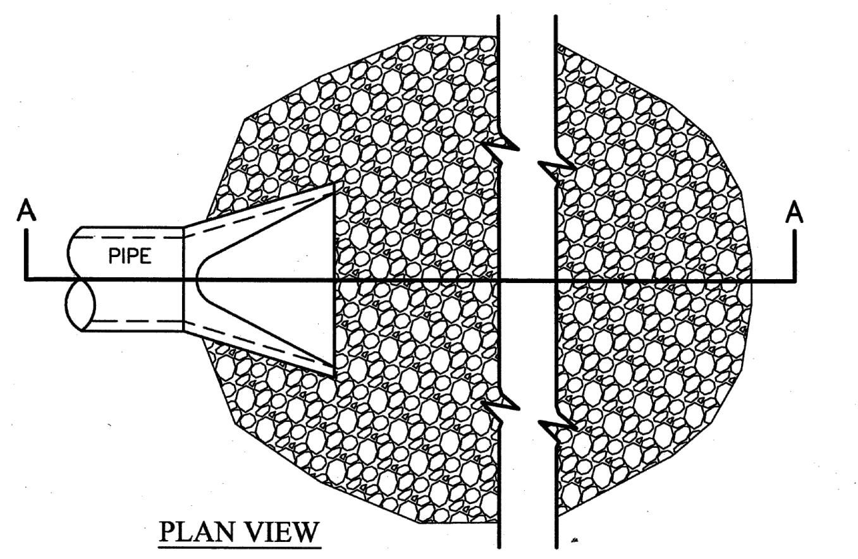

PIPE
L
d
FILTER FABRIC

SECTION 'A-A'

WAKE COUNTY NORTH CAROLINA

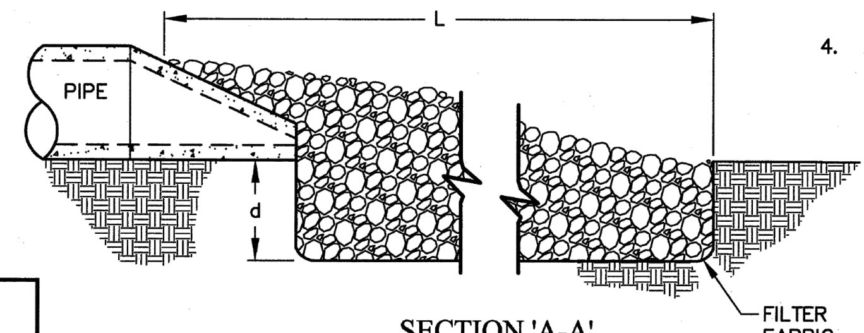
EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL



PLAN VIEW

NOTES:
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. IN A WELL–DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" (INCHES) ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.


L
PIPE
d
FILTER FABRIC

SECTION 'A-A'

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C2-2 - EROS-DETL.dwg Layout: C8-3 EROSION CONTROL DETAILS (1 OF 2) Plotted: 12/1/2023 1:24:11 PM

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
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LENNAR
CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

EROSION CONTROL DETAILS
(1 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

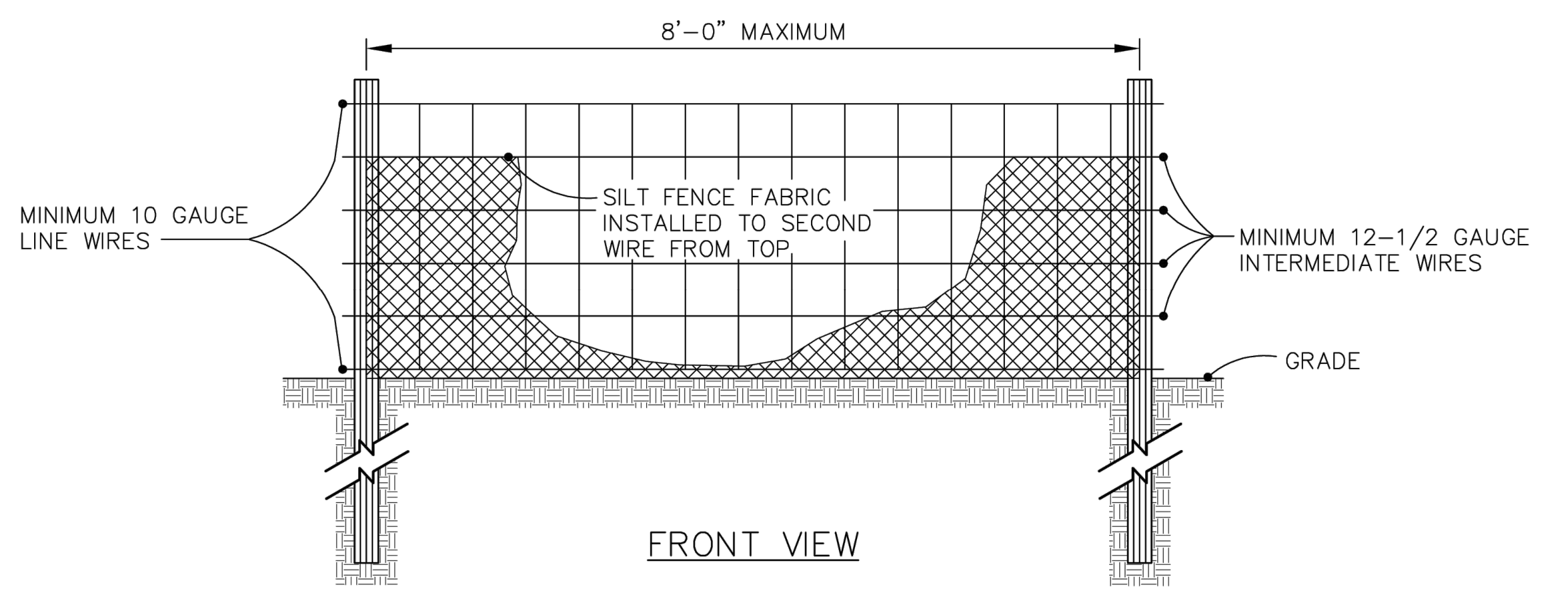
811
Know what's below.
Call before you dig.

FILE NUMBER:
8430-03

DATE: 11/21/2023

C8-3

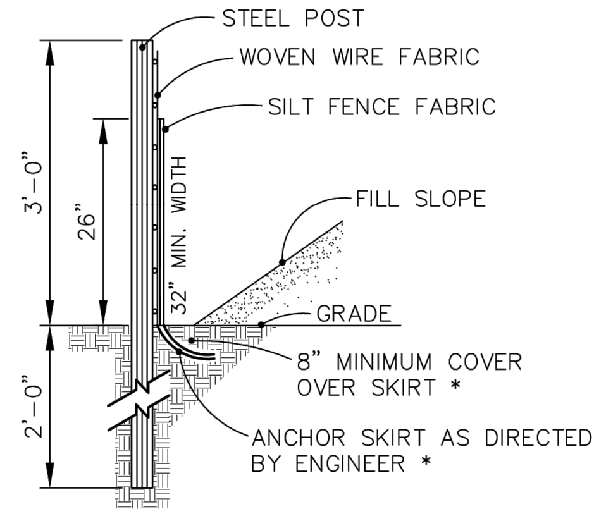
G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C2-2 - EROS-DETL.dwg Layout: C8-4 EROSION CONTROL DETAILS (2 OF 2) Plotted: 12/1/2023 1:24:16 PM


8'–0" MAXIMUM
MINIMUM 10 GAUGE LINE WIRES
SILT FENCE FABRIC INSTALLED TO SECOND WIRE FROM TOP
MINIMUM 12–1/2 GAUGE INTERMEDIATE WIRES
GRADE

FRONT VIEW

NOTE:

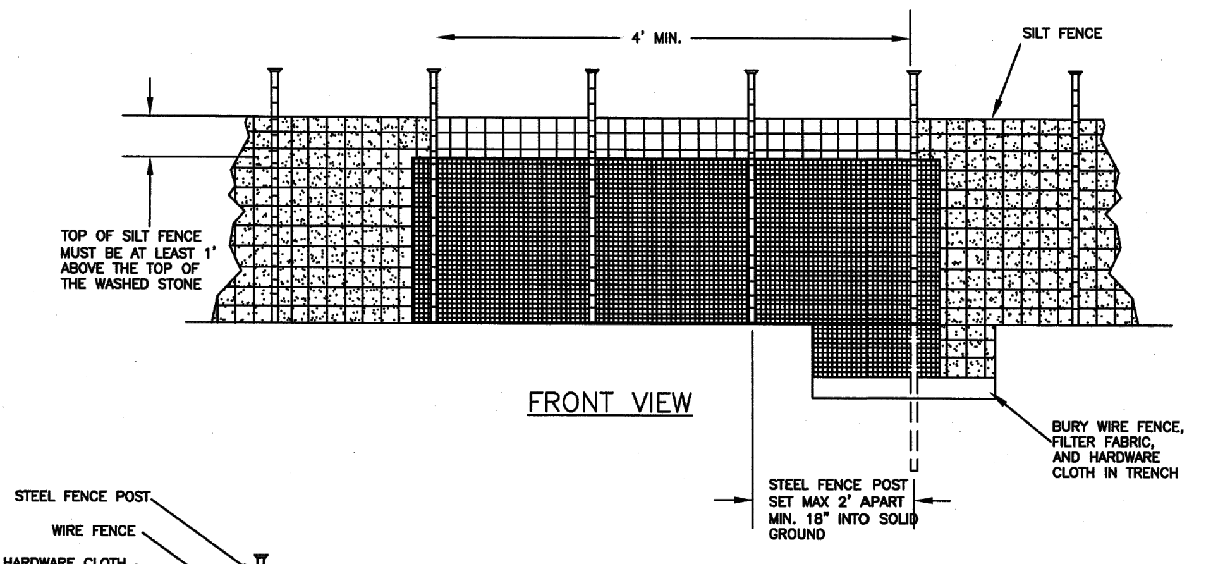
1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2. REMOVE SEDIMENT DEPOSITED AS NEEDED TO PROVIDE STORAGE VOLUME FOR THE NEXT RAIN AND TO REMOVE PRESSURE ON THE SILT FENCE.


STEEL POST
WOVEN WIRE FABRIC
SILT FENCE FABRIC
3'–0"
26"
32" MIN. WIDTH
FILL SLOPE
GRADE
8" MINIMUM COVER OVER SKIRT *
2'–0"
ANCHOR SKIRT AS DIRECTED BY ENGINEER *

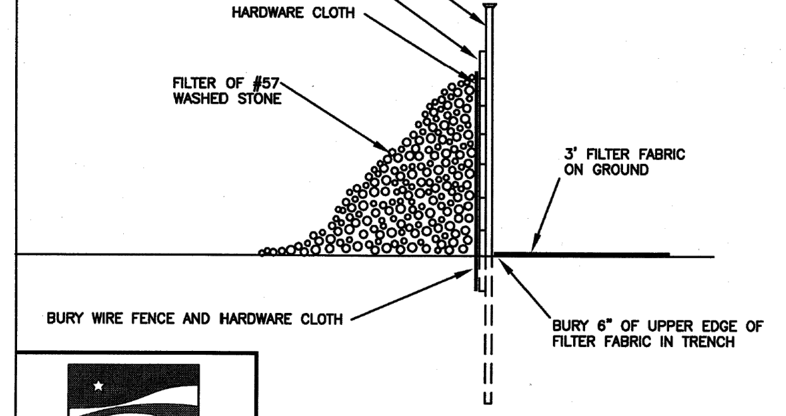
SIDE VIEW

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE


4' MIN.
SILT FENCE
TOP OF SILT FENCE MUST BE AT LEAST 1' ABOVE THE TOP OF THE WASHED STONE
BURY WIRE FENCE, FILTER FABRIC, AND HARDWARE CLOTH IN TRENCH
STEEL FENCE POST SET MAX 2' APART MIN. 18" INTO SOLID GROUND

FRONT VIEW

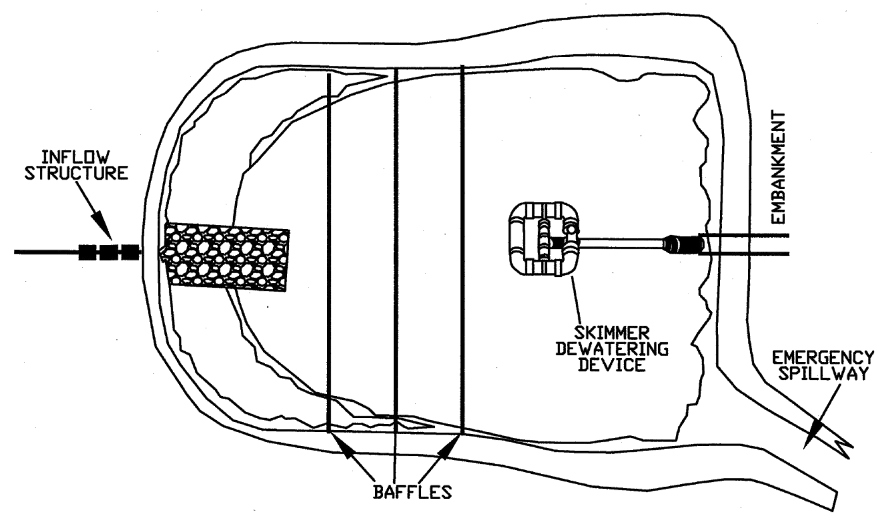

STEEL FENCE POST
WIRE FENCE
HARDWARE CLOTH
FILTER OF #57 WASHED STONE
3' FILTER FABRIC ON GROUND
BURY WIRE FENCE AND HARDWARE CLOTH
BURY 6" OF UPPER EDGE OF FILTER FABRIC IN TRENCH

SECTION VIEW

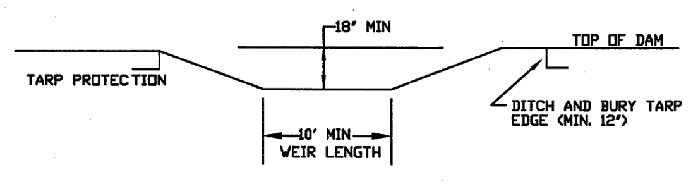
NOTES:
1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

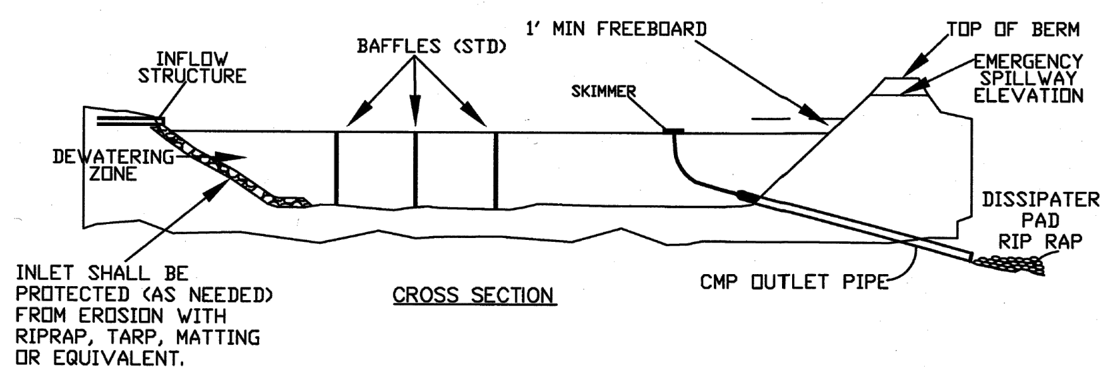
STANDARD SILT FENCE OUTLET


INFLOW STRUCTURE
EMBANKMENT
SKIMMER DEWATERING DEVICE
EMERGENCY SPILLWAY
BAFFLES

PLAN VIEW


18" MIN
TOP OF DAM
TARP PROTECTION
10' MIN WEIR LENGTH
DITCH AND BURY TARP EDGE (MIN. 12")

SECTION THRU WEIR

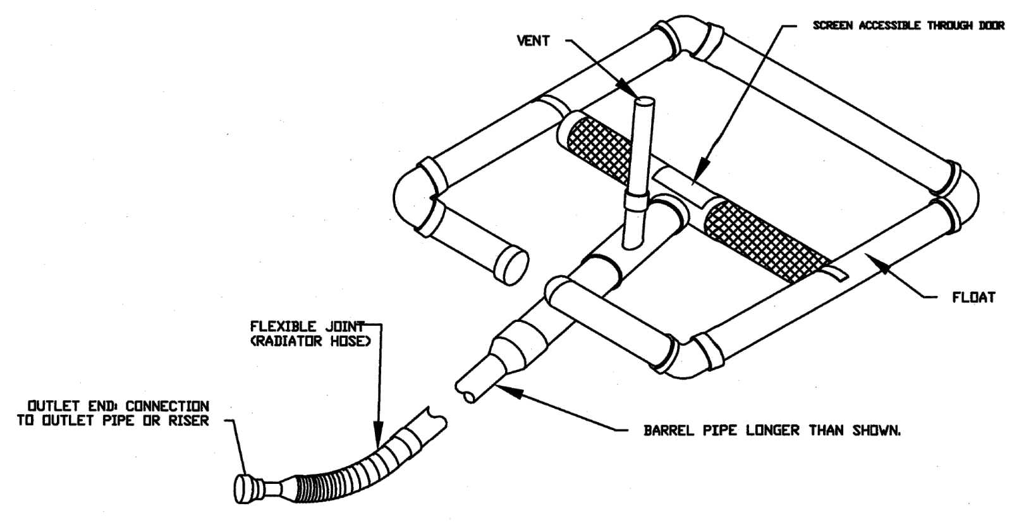

1' MIN FREEBOARD
TOP OF BERM
INFLOW STRUCTURE
BAFFLES (STD)
EMERGENCY SPILLWAY ELEVATION
SKIMMER
DEWATERING ZONE
DISSIPATER PAD RIP RAP
INLET SHALL BE PROTECTED (AS NEEDED) FROM EROSION WITH RIPRAP, TARP, MATTING OR EQUIVALENT.
CMP OUTLET PIPE

CROSS SECTION

NOTES:
1) BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF–FULL.
2) THE TARP USED TO PROTECT THE WEIR SHALL BE THE WIDTH SPECIFIED. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 12". THE UPSTREAM 12" TARP SHALL OVERLAP THE DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARPAULINS OR EQUIVALENT FOR U.V. RESISTANCE.
3) PROVIDE A MINIMUM OF THREE POROUS BAFFLES TO EVENLY DISTRIBUTE FLOW ACROSS THE BASIN, REDUCING TURBULENCE.
4) BAFFLE MATERIAL MUST BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR A SILT FENCE.
5) MOST OF THE SEDIMENT WILL ACCUMULATE IN THE FIRST BAY, SO THIS SHOULD BE READILY AVAILABLE FOR MAINTENANCE.
6) DURING THE CONSTRUCTION PHASE OF THE PROJECT, PERMANENT STORMWATER RISER SHALL ONLY DEWATER FROM THE TOP OF PIPE.
7) POND SHALL NOT BE CONVERTED FOR STORMWATER USE UNTIL APPROVED BY ENVIRONMENTAL ENGINEER.

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER BASIN


VENT
SCREEN ACCESSIBLE THROUGH DOOR
FLOAT
FLEXIBLE JOINT (RADIATOR HOSE)
OUTLET END: CONNECTION TO OUTLET PIPE OR RISER
BARREL PIPE LONGER THAN SHOWN.

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

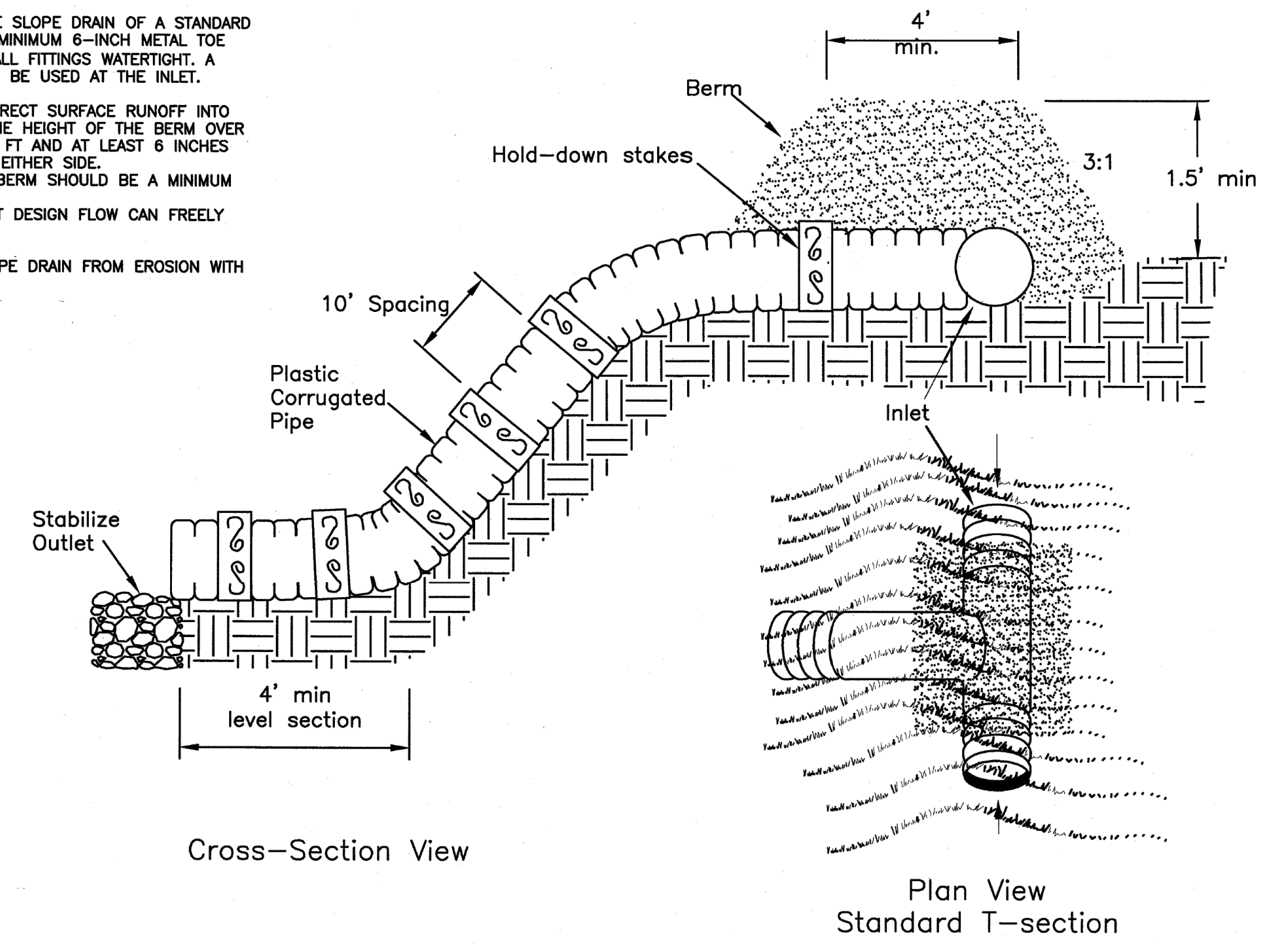
STANDARD SKIMMER DETAIL

NOTES:

1. CONSTRUCT THE ENTRANCE TO THE SLOPE DRAIN OF A STANDARD FLARED–END SECTION OF PIPE WITH A MINIMUM 6–INCH METAL TOE PLATE (CROSS–SECTION VIEW). MAKE ALL FITTINGS WATERTIGHT. A STANDARD T–SECTION FITTING MAY ALSO BE USED AT THE INLET.

2. USE AN EARTHEN DIVERSION TO DIRECT SURFACE RUNOFF INTO THE TEMPORARY SLOPE DRAIN. MAKE THE HEIGHT OF THE BERM OVER THE DRAIN CONDUIT A MINIMUM OF 1.5 FT AND AT LEAST 6 INCHES HIGHER THAN THE ADJOINING BERM ON EITHER SIDE.
THE LOWEST POINT OF THE DIVERSION BERM SHOULD BE A MINIMUM OF 1 FT
ABOVE THE TOP OF THE DRAIN SO THAT DESIGN FLOW CAN FREELY ENTER THE PIPE.

3. PROTECT THE OUTLET OF THE SLOPE DRAIN FROM EROSION WITH RIPRAP DISSIPATOR.

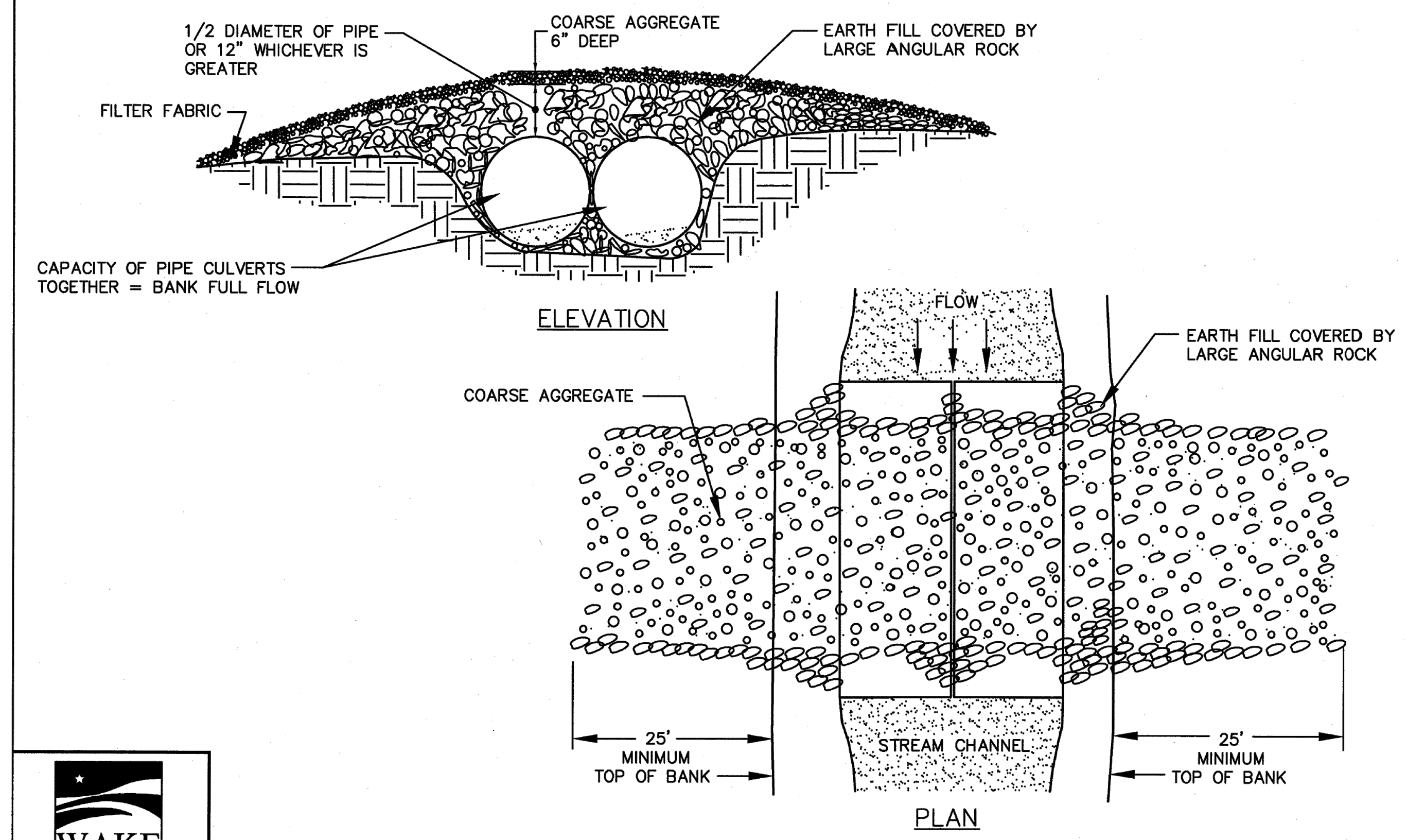

4' min.
Berm
Hold–down stakes
3:1
1.5' min
10' Spacing
Plastic Corrugated Pipe
Inlet
Stabilize Outlet
4' min level section

Cross–Section View

Plan View
Standard T–section

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SLOPE DRAIN

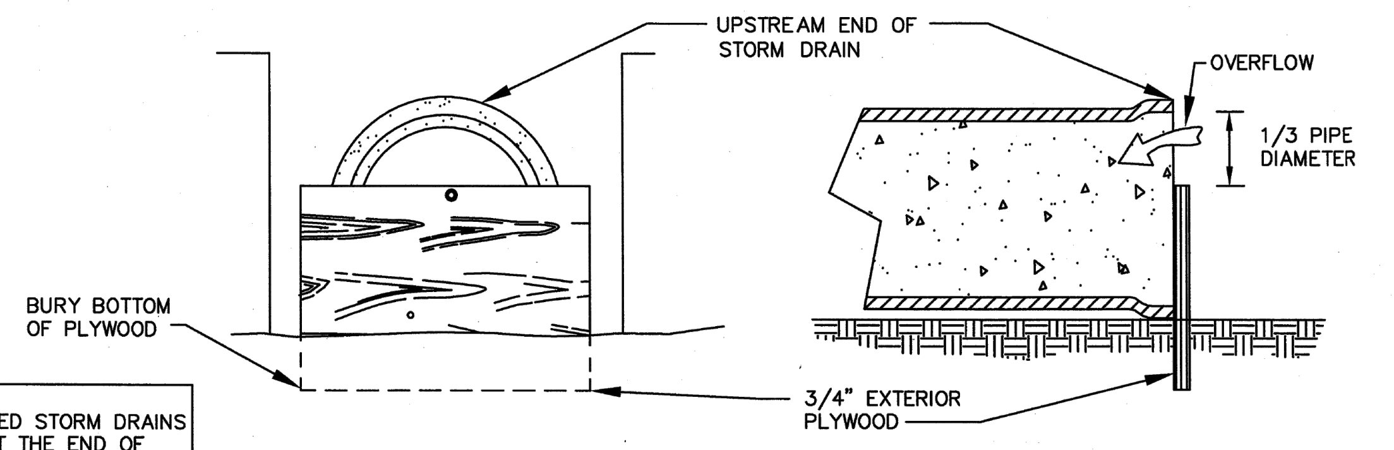

1/2 DIAMETER OF PIPE OR 12" WHICHEVER IS GREATER
COARSE AGGREGATE 6" DEEP
EARTH FILL COVERED BY LARGE ANGULAR ROCK
FILTER FABRIC
CAPACITY OF PIPE CULVERTS TOGETHER = BANK FULL FLOW
FLOW
EARTH FILL COVERED BY LARGE ANGULAR ROCK
COARSE AGGREGATE
25' MINIMUM TOP OF BANK
STREAM CHANNEL
25' MINIMUM TOP OF BANK

ELEVATION

PLAN

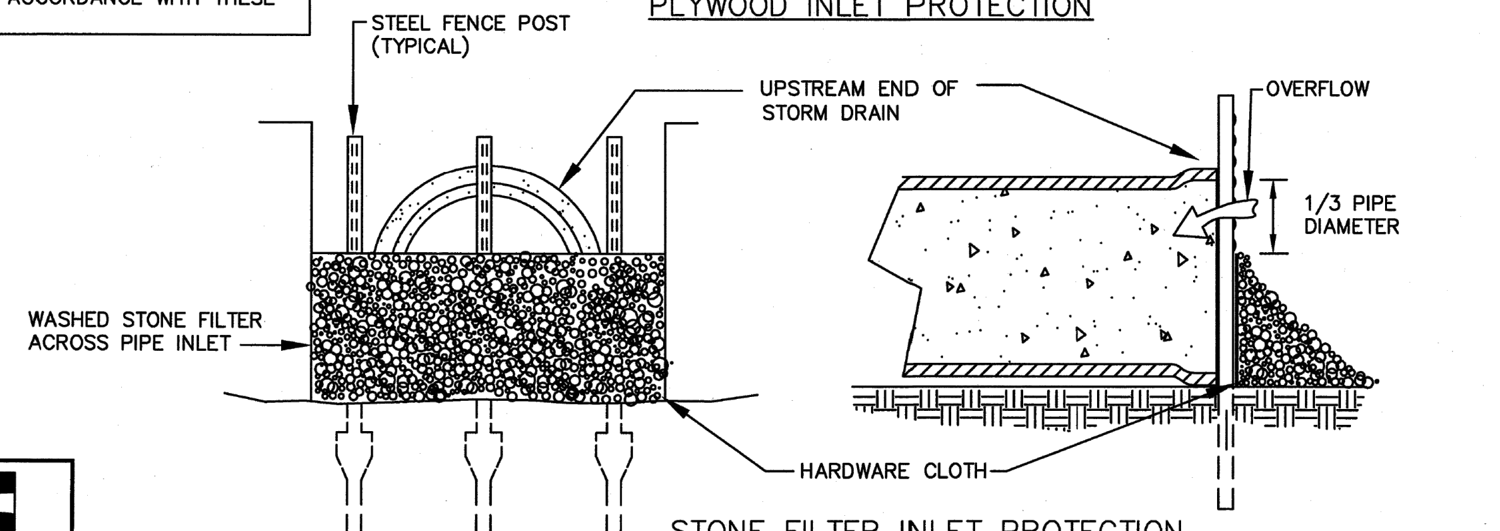
WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY STREAM CROSSING


UPSTREAM END OF STORM DRAIN
OVERFLOW
1/3 PIPE DIAMETER
BURY BOTTOM OF PLYWOOD
3/4" EXTERIOR PLYWOOD

NOTE:
ALL PARTIALLY COMPLETED STORM DRAINS SHALL BE PROTECTED AT THE END OF EACH DAY IN ACCORDANCE WITH THESE DETAILS.

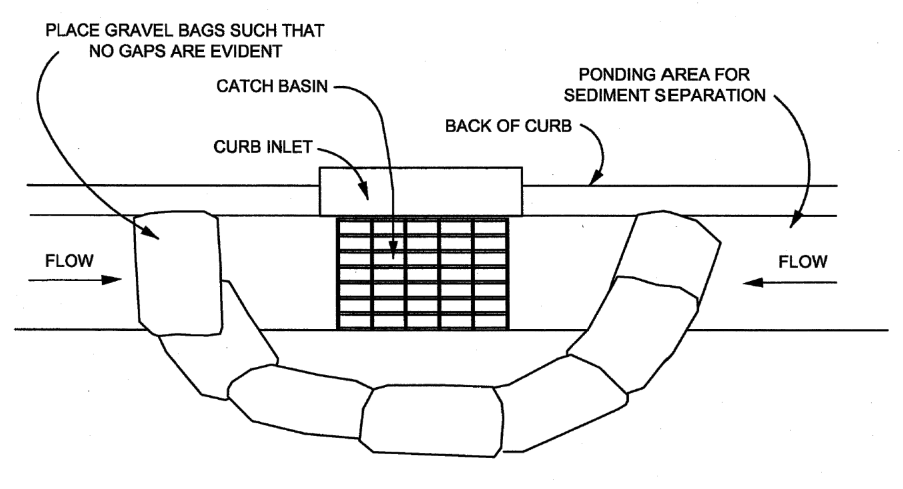
PLYWOOD INLET PROTECTION


STEEL FENCE POST (TYPICAL)
UPSTREAM END OF STORM DRAIN
OVERFLOW
1/3 PIPE DIAMETER
WASHED STONE FILTER ACROSS PIPE INLET
HARDWARE CLOTH

STONE FILTER INLET PROTECTION

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

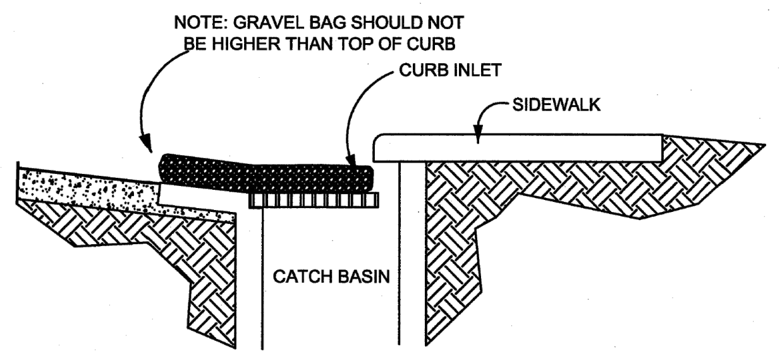
STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)


PLACE GRAVEL BAGS SUCH THAT NO GAPS ARE EVIDENT
CATCH BASIN
PONDING AREA FOR SEDIMENT SEPARATION
BACK OF CURB
CURB INLET
FLOW
FLOW

PLAN VIEW

NOTES:

1. PLACE GRAVEL BAG BARRIER ON GENTLY SLOPING STREET, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNNOFF.
2. USE SAND BAGS OF WOVEN GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH $\frac{1}{2}$ INCH (OR SMALLER) GRAVEL. BAGS MUST BE LAYERED SUCH THAT NO GAPS ARE EVIDENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.
4. WHEN INSTALLING CURB INLET PROTECTION DEVICES, **NEVER** BLOCK THE CURB INLET.


NOTE: GRAVEL BAG SHOULD NOT BE HIGHER THAN TOP OF CURB
CURB INLET
SIDEWALK
CATCH BASIN

SECTION VIEW

WAKE COUNTY
NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD GRAVEL BAG CURB INLET PROTECTION

5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGEINC.COM
NC LICENSE #C-4397
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EROSION CONTROL DETAILS
(2 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23

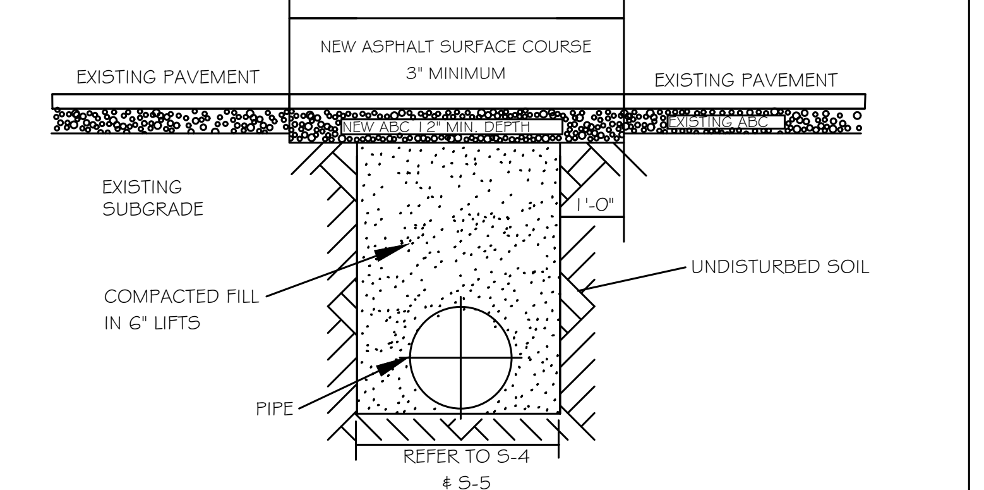
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03

DATE: 11/21/2023

C8-4

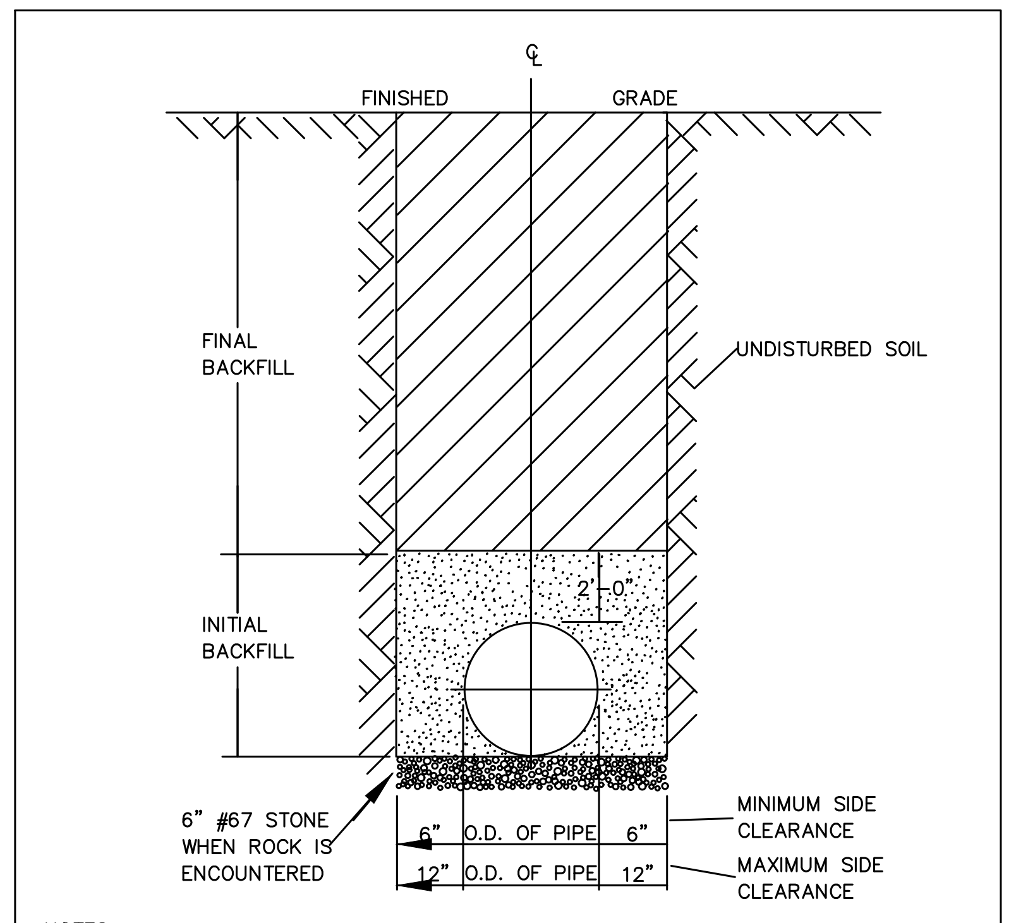
811
Know what's below.
Call before you dig.


NEW ASPHALT SURFACE COURSE
3" MINIMUM
EXISTING PAVEMENT
EXISTING PAVEMENT
EXISTING SUBGRADE
1'-0"
UNDISTURBED SOIL
COMPACTED FILL IN 6" LIFTS
PIPE
REFER TO S-4 & S-5

NOTES:
1. IN NCDOT MAINTAINED ROADWAYS ENCROACHMENT PAVEMENT PATCH REQUIREMENTS SHALL TAKE PRECEDENCE.
2. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAWCUT MACHINE.
3. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
4. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
5. THE ENTIRE THICKNESS AND VERTICAL EDGE OF CUT SHALL BE TACKED.
6. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
7. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
8. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING (S-4 & S-5) FOR ADDITIONAL DETAILS.
9. NO HAND PATCHING ALLOWED.
10. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD ASPHALT PAVEMENT PATCH DETAIL

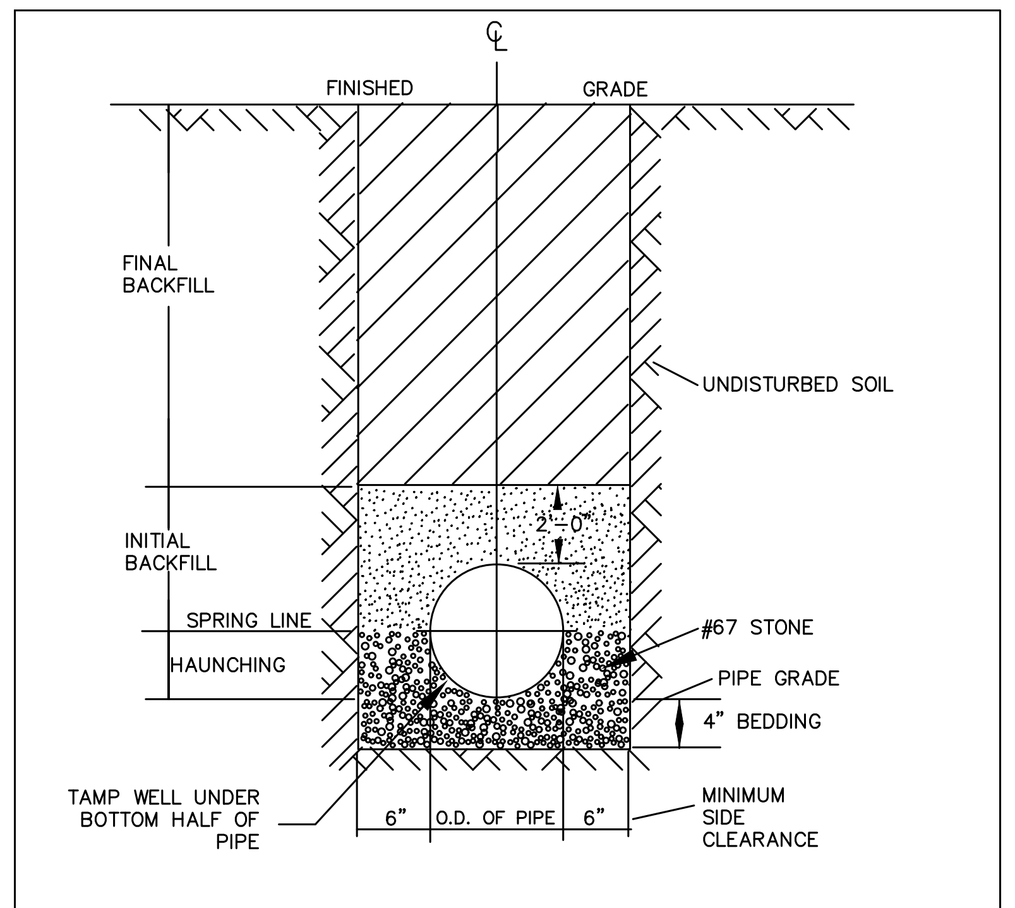
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-3	D.W.C.	11-1-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S.	10-8-10


℄
FINISHED
GRADE
FINAL BACKFILL
UNDISTURBED SOIL
INITIAL BACKFILL
2'-0"
6" #67 STONE WHEN ROCK IS ENCOUNTERED
6" O.D. OF PIPE 6"
12" O.D. OF PIPE 12"
MINIMUM SIDE CLEARANCE
MAXIMUM SIDE CLEARANCE

NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL, AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	D.W.C.	9-3-99		
	RRH	3-30-00		

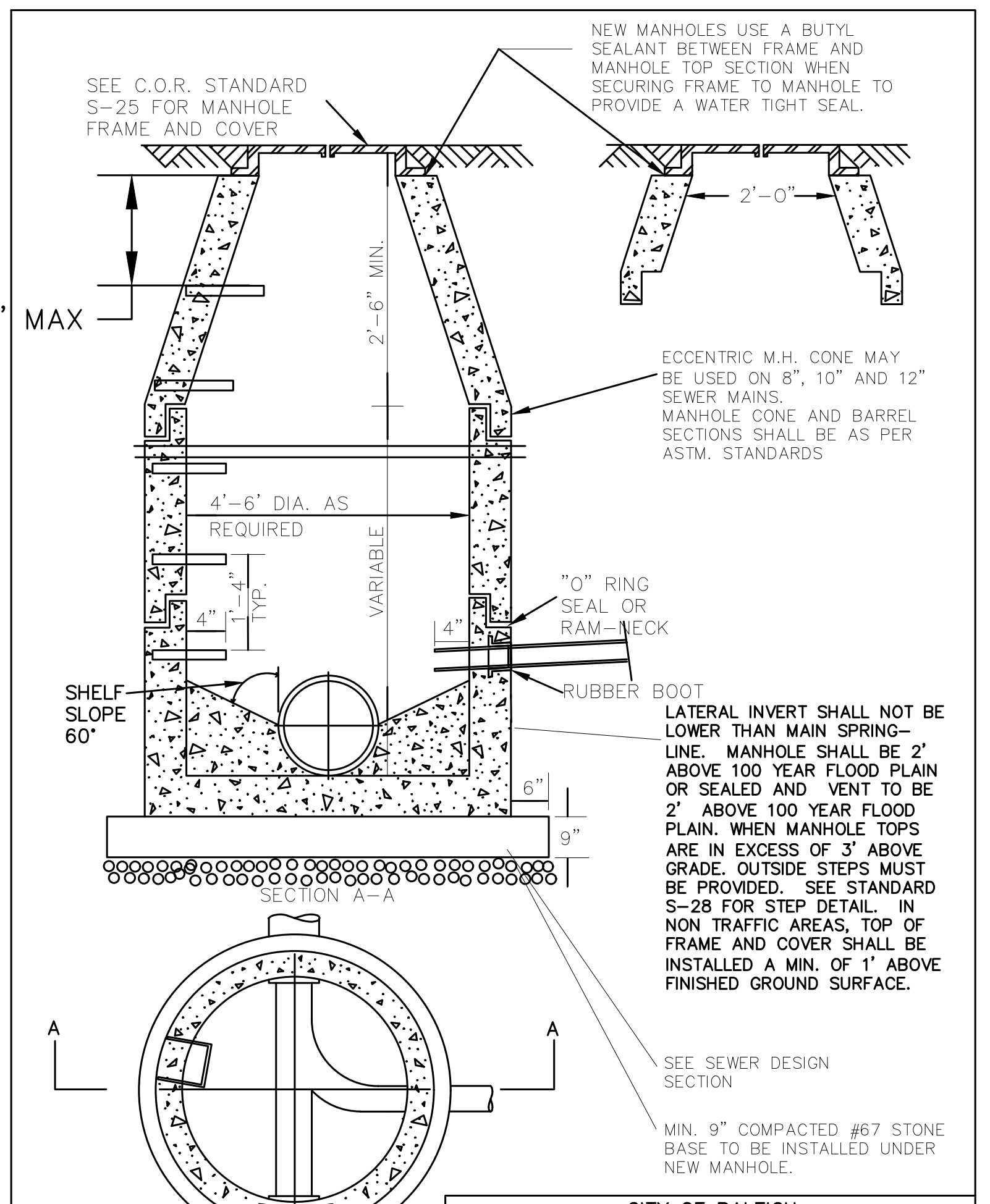

℄
FINISHED
GRADE
FINAL BACKFILL
UNDISTURBED SOIL
INITIAL BACKFILL
1'-0"
SPRING LINE
HAUNCHING
#67 STONE
PIPE GRADE
4" BEDDING
TAMP WELL UNDER BOTTOM HALF OF PIPE
6" O.D. OF PIPE 6"
MINIMUM SIDE CLEARANCE

TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

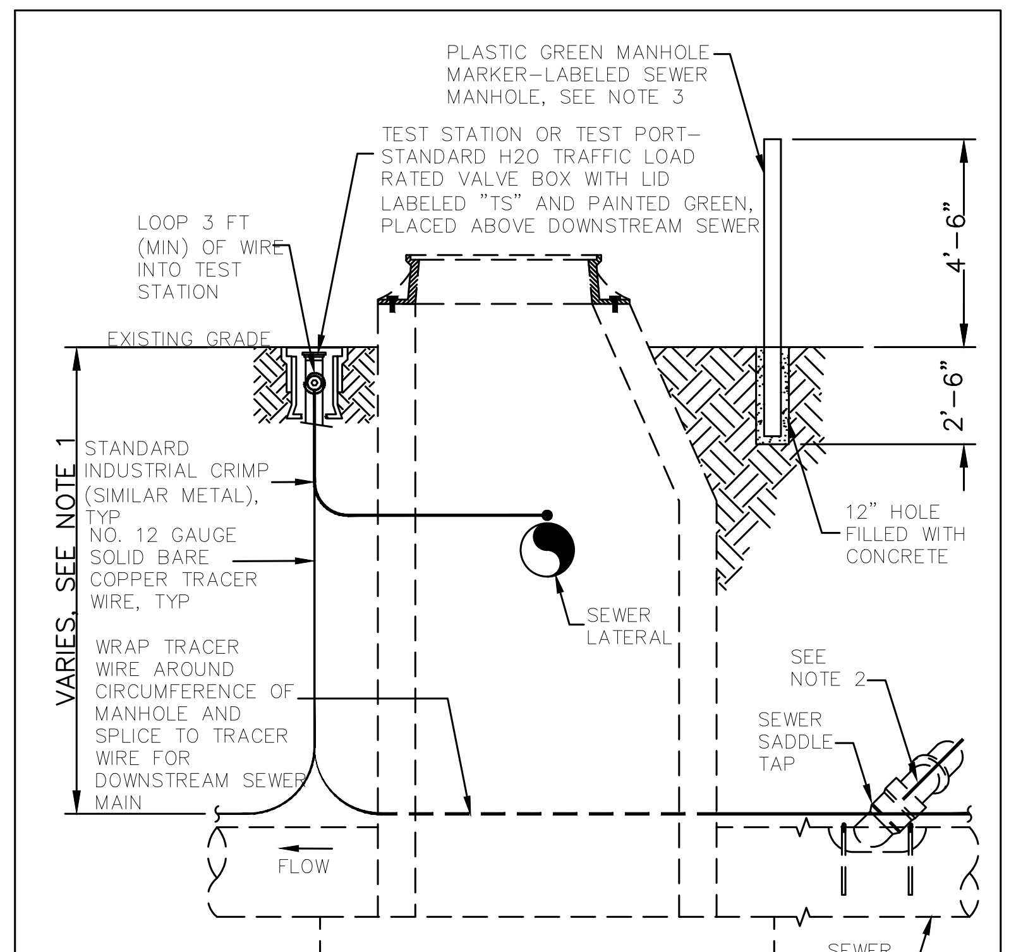
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-82	RRH	3-30-00


SEE C.O.R. STANDARD S-25 FOR MANHOLE FRAME AND COVER
NEW MANHOLES USE A BUTYL SEALANT BETWEEN FRAME AND MANHOLE TOP SECTION WHEN SECURING FRAME TO MANHOLE TO PROVIDE A WATER TIGHT SEAL.
2'-0"
24" MAX
2'-6" MIN.
ECCENTRIC M.H. CONE MAY BE USED ON 8", 10" AND 12" SEWER MAINS.
MANHOLE CONE AND BARREL SECTIONS SHALL BE AS PER ASTM. STANDARDS
4'-6' DIA. AS REQUIRED
VARIABLE
1'-4" TYP.
4"
4"
"O" RING SEAL OR RAM-NECK
RUBBER BOOT
SHELF SLOPE 60°
6"
9"
SECTION A-A
A
A
SEE SEWER DESIGN SECTION
MIN. 9" COMPACTED #67 STONE BASE TO BE INSTALLED UNDER NEW MANHOLE.

LATERAL INVERT SHALL NOT BE LOWER THAN MAIN SPRING-LINE. MANHOLE SHALL BE 2' ABOVE 100 YEAR FLOOD PLAIN OR SEALED AND VENT TO BE 2' ABOVE 100 YEAR FLOOD PLAIN. WHEN MANHOLE TOPS ARE IN EXCESS OF 3' ABOVE GRADE. OUTSIDE STEPS MUST BE PROVIDED. SEE STANDARD S-28 FOR STEP DETAIL. IN NON TRAFFIC AREAS, TOP OF FRAME AND COVER SHALL BE INSTALLED A MIN. OF 1' ABOVE FINISHED GROUND SURFACE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD PRECAST SANITARY SEWER MANHOLE

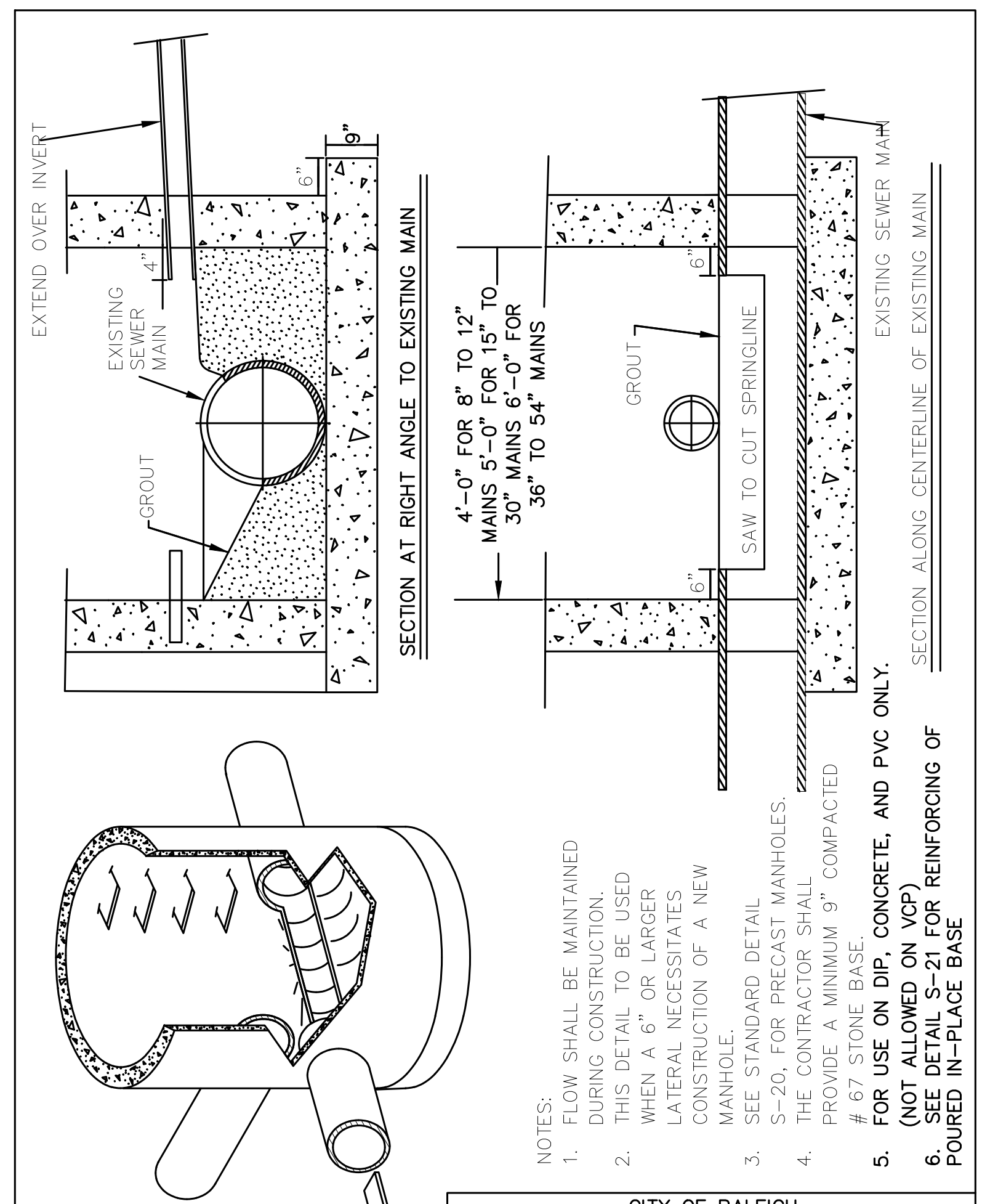
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-92	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08


PLASTIC GREEN MANHOLE MARKER-LABELED SEWER MANHOLE, SEE NOTE 3
TEST STATION OR TEST PORT-STANDARD H2O TRAFFIC LOAD RATED VALVE BOX WITH LID LABELED "TS" AND PAINTED GREEN, PLACED ABOVE DOWNSTREAM SEWER
LOOP 3 FT (MIN) OF WIRE INTO TEST STATION
EXISTING GRADE
4'-6"
2'-6"
VARIES, SEE NOTE 1
STANDARD INDUSTRIAL CRIMP (SIMILAR METAL), TYP
NO. 12 GAUGE SOLID BARE COPPER TRACER WIRE, TYP
WRAP TRACER WIRE AROUND CIRCUMFERENCE OF MANHOLE AND SPLICE TO TRACER WIRE FOR DOWNSTREAM SEWER MAIN
SEWER LATERAL
12" HOLE FILLED WITH CONCRETE
SEE NOTE 2
SEWER SADDLE TAP
FLOW
SEWER MAIN

NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7-8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
2. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO TO BE PLACED BETWEEN THE SADDLE AND MAIN.
3. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WKD	09-14		


EXTEND OVER INVERT
EXISTING SEWER MAIN
GROUT
SECTION AT RIGHT ANGLE TO EXISTING MAIN
4'-0" FOR 8" TO 12" MAINS 5'-0" FOR 15" TO 30" MAINS 6'-0" FOR 36" TO 54" MAINS
6"
9"
SAW TO CUT SPRINGLINE
SECTION ALONG CENTERLINE OF EXISTING SEWER MAIN

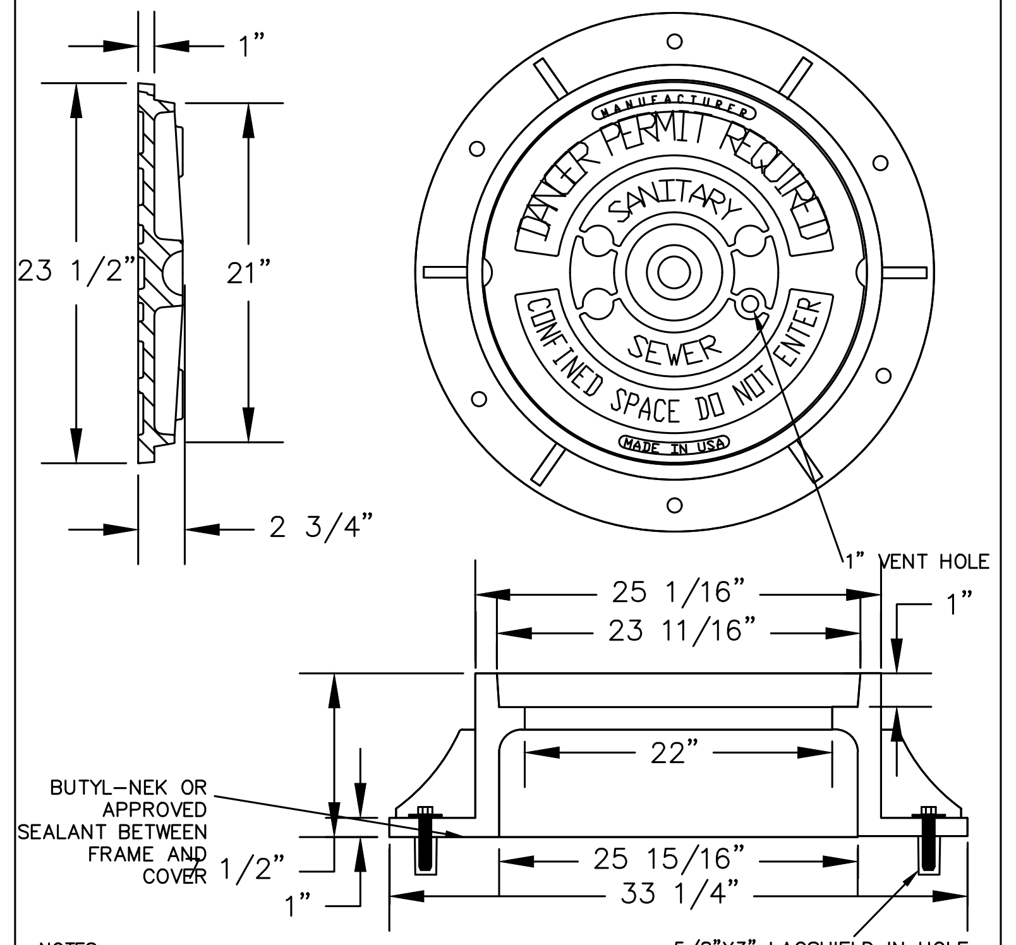
NOTES:
1. FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.
2. THIS DETAIL TO BE USED WHEN A 6" OR LARGER LATERAL NECESSITATES CONSTRUCTION OF A NEW MANHOLE.
3. SEE STANDARD DETAIL S-20, FOR PRECAST MANHOLES.
4. THE CONTRACTOR SHALL PROVIDE A MINIMUM 9" COMPACTED # 67 STONE BASE.
5. FOR USE ON DIP, CONCRETE, AND PVC ONLY. (NOT ALLOWED ON VCP)
6. SEE DETAIL S-21 FOR REINFORCING OF POURED IN-PLACE BASE

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE INSTALLATION OVER EXISTING SEWER MAIN

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-22	Y.C.A.	12-31-91	A.B.B.	1-19-05
	RRH	3-30-00	D.H.L.	6/16/08

COVER 120 LBS. MINIMUM

MANHOLE FRAME AND COVER

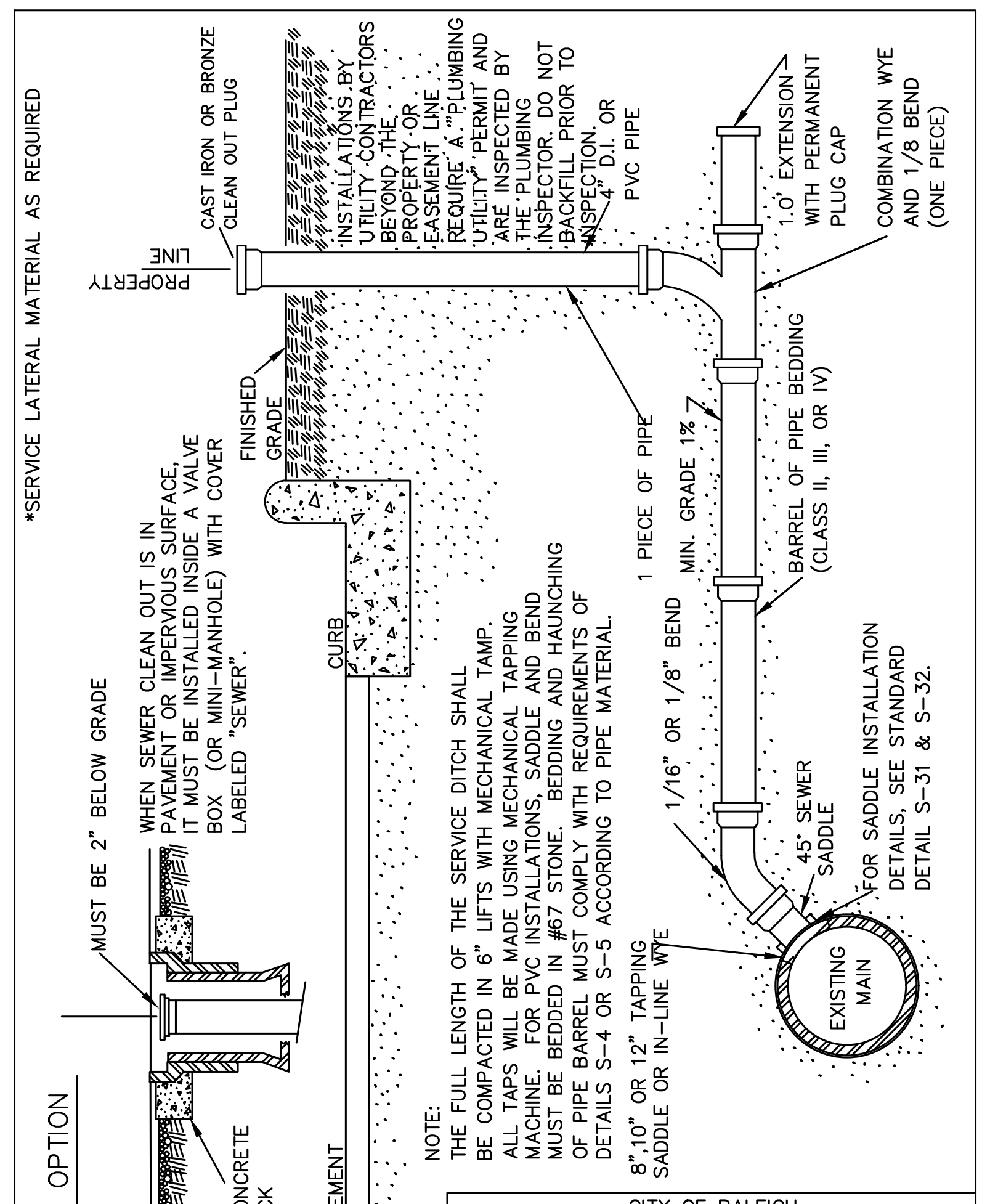

1"
23 1/2"
21"
2 3/4"
DANGER PERMIT REQUIRED
SANITARY
SEWER
CONFINED SPACE DO NOT ENTER
MADE IN USA
1" VENT HOLE
1"
25 1/16"
23 11/16"
22"
BUTYL-NEK OR APPROVED SEALANT BETWEEN FRAME AND COVER
7 1/2"
1"
25 15/16"
33 1/4"

NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 3/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD MANHOLE COVER

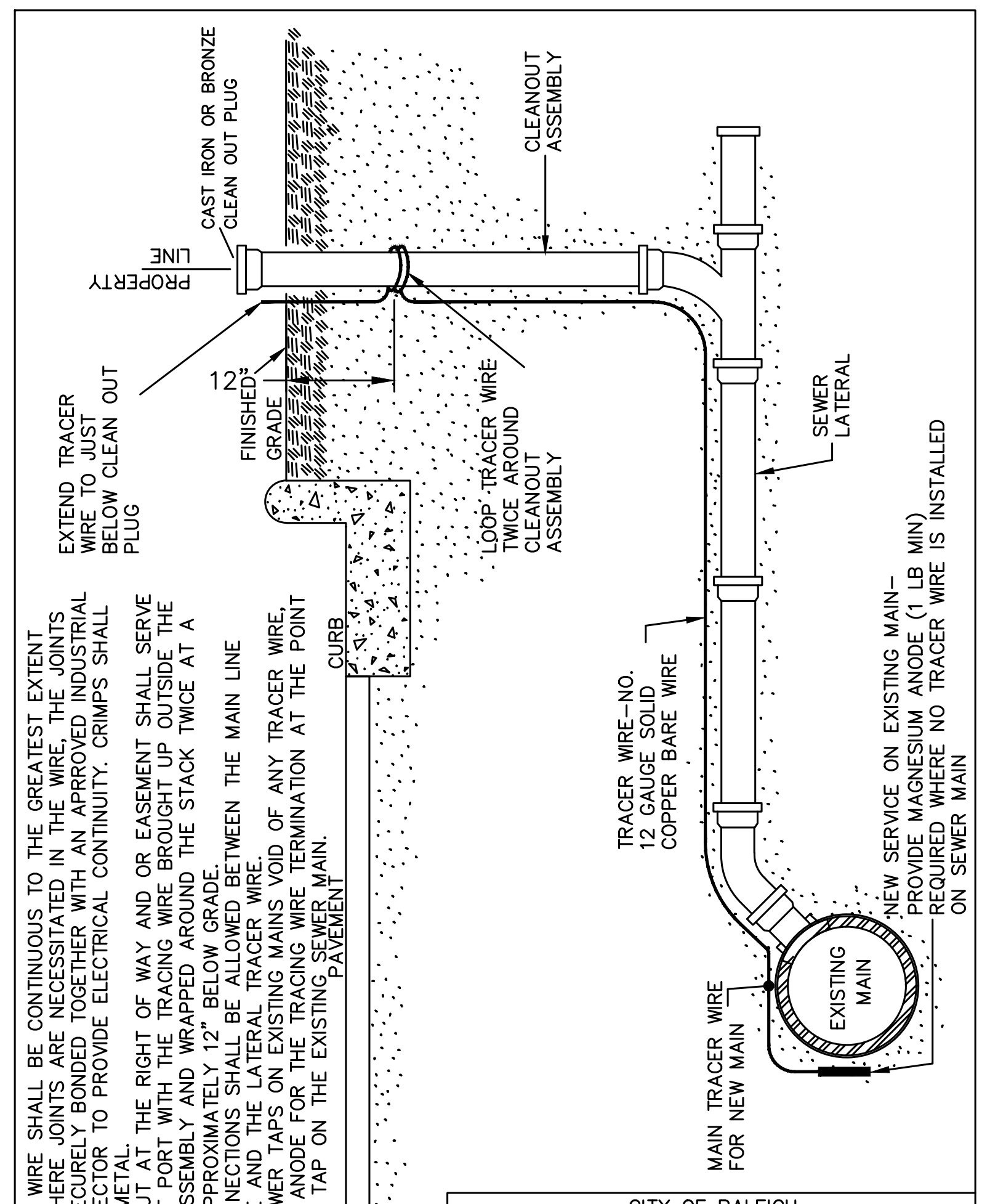
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08


*SERVICE LATERAL MATERIAL AS REQUIRED
CAST IRON OR BRONZE CLEAN OUT PLUG
PROPERTY LINE
INSTALLATIONS BY UTILITY CONTRACTORS BEYOND THE PROPERTY OR EASEMENT LINE REQUIRE A "PLUMBING UTILITY" PERMIT AND ARE INSPECTED BY THE PLUMBING INSPECTOR. DO NOT BACKFILL PRIOR TO INSPECTION.
4" D.I. OR PVC PIPE
1.0' EXTENSION WITH PERMANENT PLUG CAP
COMBINATION WYE AND 1/8 BEND (ONE PIECE)
FINISHED GRADE
1 PIECE OF PIPE
MIN. GRADE 1%
BARREL OF PIPE BEDDING (CLASS II, III, OR IV)
MUST BE 2" BELOW GRADE
WHEN SEWER CLEAN OUT IS IN PAVEMENT OR IMPERVIOUS SURFACE, IT MUST BE INSTALLED INSIDE A VALVE BOX (OR MINI-MANHOLE) WITH COVER LABELED "SEWER".
CURB
1/16" OR 1/8" BEND
45° SEWER SADDLE
FOR SADDLE INSTALLATION DETAILS, SEE STANDARD DETAIL S-31 & S-32.
EXISTING MAIN
8",10" OR 12" TAPPING SADDLE OR IN-LINE WYE
PAVEMENT
PAVEMENT OPTION
4' DIAMETER CONCRETE COLLAR 6" THICK

NOTE:
THE FULL LENGTH OF THE SERVICE DITCH SHALL BE COMPACTED IN 6" LIFTS WITH MECHANICAL TAMP. ALL TAPS WILL BE MADE USING MECHANICAL TAPPING MACHINE. FOR PVC INSTALLATIONS, SADDLE AND BEND MUST BE BEDDED IN #67 STONE. BEDDING AND HAUNCHING OF PIPE BARREL MUST COMPLY WITH REQUIREMENTS OF DETAILS S-4 OR S-5 ACCORDING TO PIPE MATERIAL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL CONNECTION

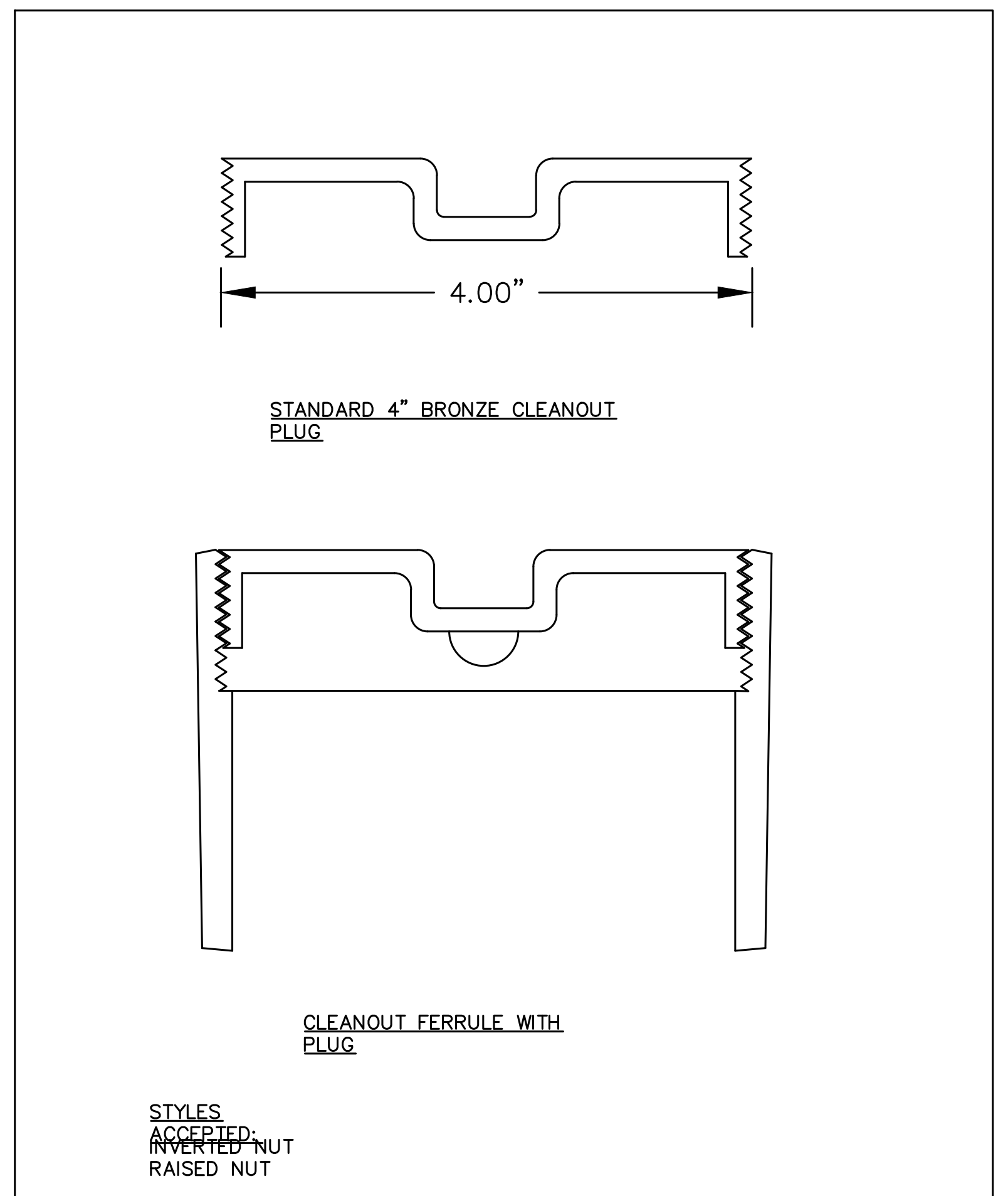
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-92	A.B.B.	4-8-04
	RRH	3-30-00	D.H.L.	6-18-08


CAST IRON OR BRONZE CLEAN OUT PLUG
PROPERTY LINE
CLEANOUT ASSEMBLY
EXTEND TRACER WIRE TO JUST BELOW CLEAN OUT PLUG
12"
FINISHED GRADE
LOOP TRACER WIRE TWICE AROUND CLEANOUT ASSEMBLY
SEWER LATERAL
CURB
TRACER WIRE-NO. 12 GAUGE SOLID COPPER BARE WIRE
NEW SERVICE ON EXISTING MAIN-PROVIDE MAGNESIUM ANODE (1 LB MIN) REQUIRED WHERE NO TRACER WIRE IS INSTALLED ON SEWER MAIN
EXISTING MAIN
MAIN TRACER WIRE FOR NEW MAIN
PAVEMENT

NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. WHERE JOINTS ARE NECESSITATED IN THE WIRE, THE JOINTS SHALL BE SECURELY BONDED TOGETHER WITH AN APRROVED INDUSTRIAL CRIMP CONNECTOR TO PROVIDE ELECTRICAL CONTINUITY. CRIMPS SHALL BE SIMILAR METAL.
2. THE CLEANOUT AT THE RIGHT OF WAY AND OR EASEMENT SHALL SERVE AS THE TEST PORT WITH THE TRACING WIRE BROUGHT UP OUTSIDE THE CLEANOUT ASSEMBLY AND WRAPPED AROUND THE STACK TWICE AT A DEPTH OF APPROXIMATELY 12" BELOW GRADE.
3. SPLICED CONNECTIONS SHALL BE ALLOWED BETWEEN THE MAIN LINE TRACER WIRE AND THE LATERAL TRACER WIRE.
4. FOR NEW SEWER TAPS ON EXISTING MAINS VOID OF ANY TRACER WIRE, PROVIDE AN ANODE FOR THE TRACING WIRE TERMINATION AT THE POINT OF THE NEW TAP ON THE EXISTING SEWER MAIN.

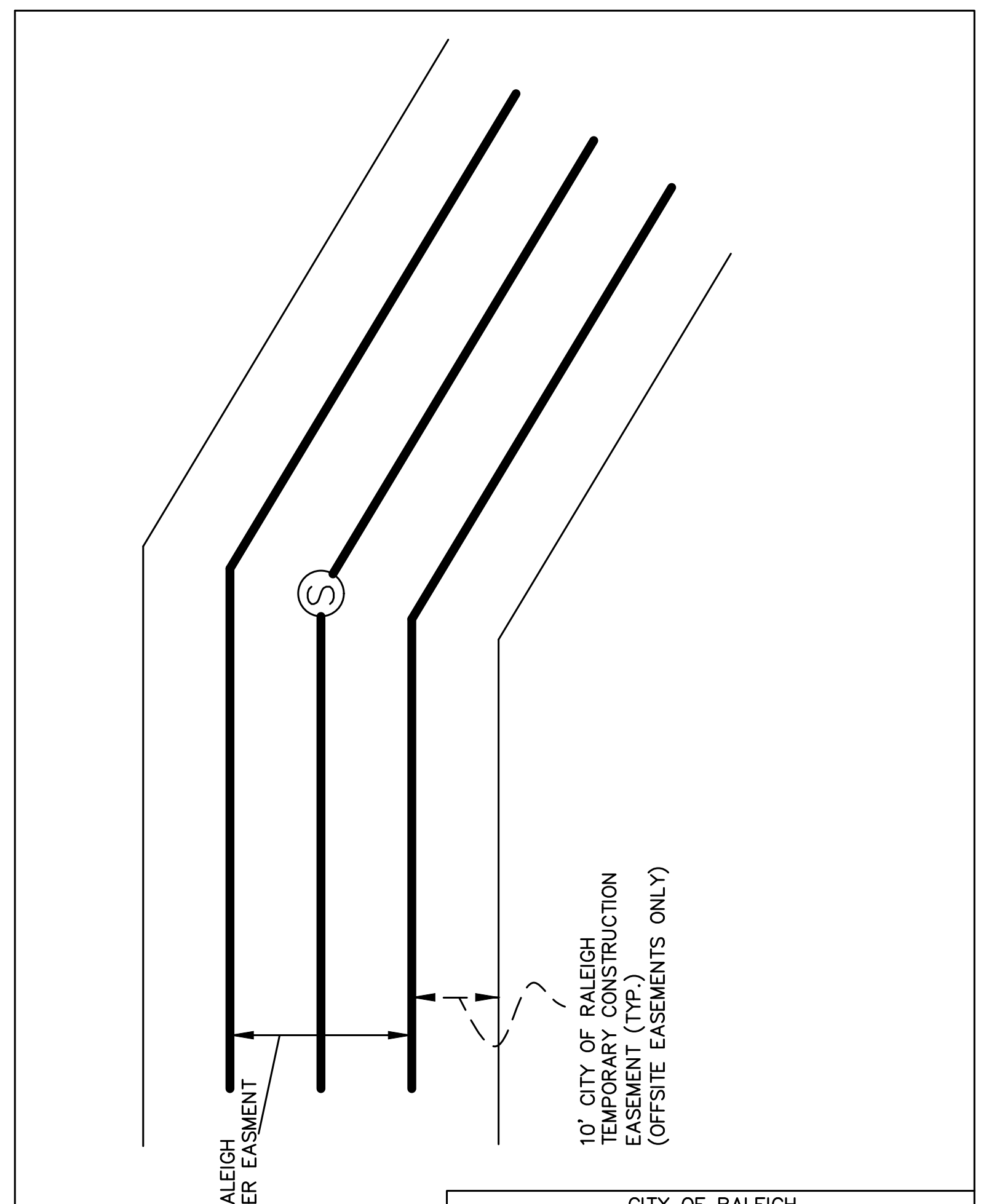
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER LATERAL TRACER WIRE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	9-14		


4.00"
STANDARD 4" BRONZE CLEANOUT PLUG
CLEANOUT FERRULE WITH PLUG
STYLES ACCEPTED:
INVERTED NUT
RAISED NUT

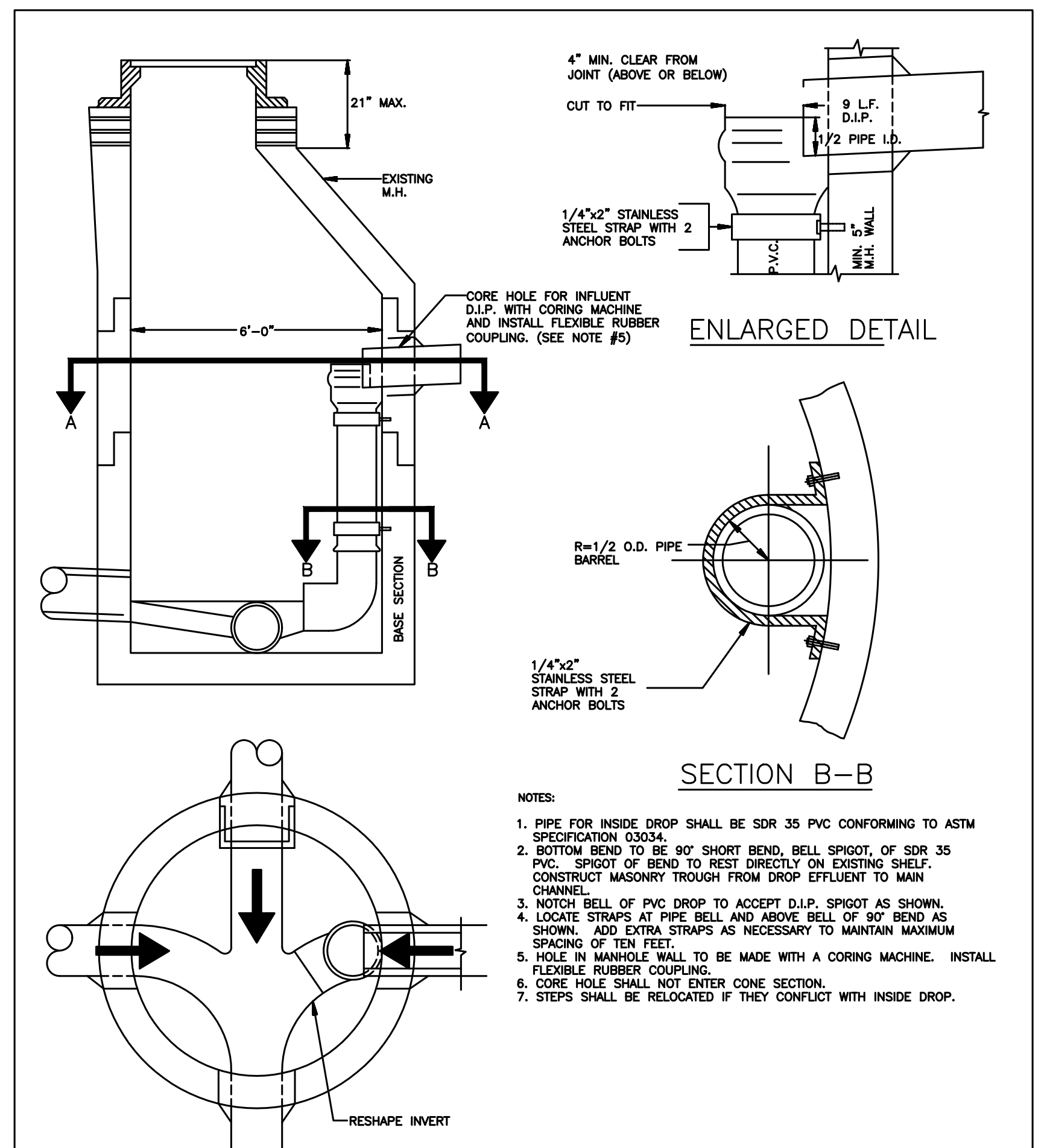
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" CLEANOUT PLUG

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34	D.W.C.	3-1-87	RRH	3-30-00
		3-27-98		


S
30' CITY OF RALEIGH SANITARY SEWER EASMENT
10' CITY OF RALEIGH TEMPORARY CONSTRUCTION EASEMENT (TYP.) (OFFSITE EASEMENTS ONLY)

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
8" & 10" SANITARY SEWER EASEMENT WIDTHS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-43	A.B.B.	1-27-05		
	D.H.L.	6-18-08		


21" MAX.
EXISTING M.H.
6'-0"
CORE HOLE FOR INFLUENT D.I.P. WITH CORING MACHINE AND INSTALL FLEXIBLE RUBBER COUPLING. (SEE NOTE #5)
A
A
B
B
BASE SECTION
4" MIN. CLEAR FROM JOINT (ABOVE OR BELOW)
CUT TO FIT
9 L.F. D.I.P.
1/2 PIPE I.D.
1/4"x2" STAINLESS STEEL STRAP WITH 2 ANCHOR BOLTS
P.V.C.
MIN. 5" M.H. WALL
ENLARGED DETAIL
R=1/2 O.D. PIPE BARREL
1/4"x2" STAINLESS STEEL STRAP WITH 2 ANCHOR BOLTS
SECTION B-B
RESHAPE INVERT
SECTION A-A

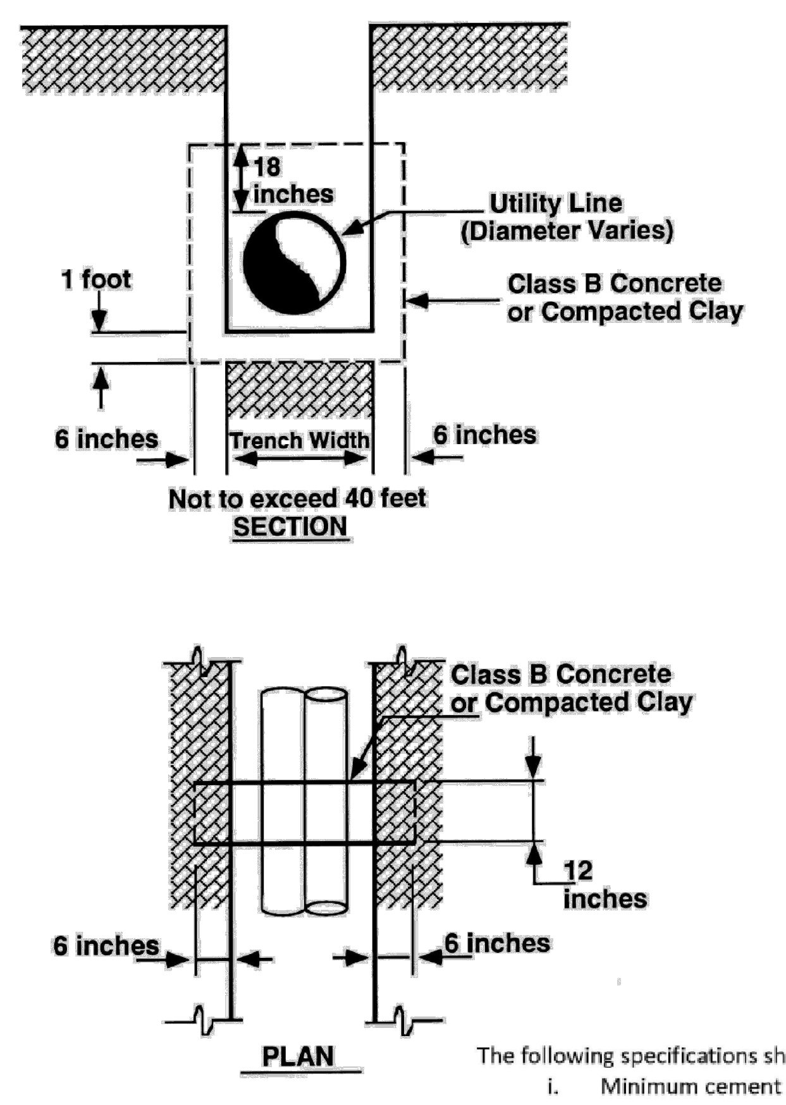
NOTES:
1. PIPE FOR INSIDE DROP SHALL BE SDR 35 PVC CONFORMING TO ASTM SPECIFICATION 03034.
2. BOTTOM BEND TO BE 90° SHORT BEND, BELL SPIGOT, OF SDR 35 PVC. SPIGOT OF BEND TO REST DIRECTLY ON EXISTING SHELF. CONSTRUCT MASONRY TROUGH FROM DROP EFFLUENT TO MAIN CHANNEL.
3. NOTCH BELL OF PVC DROP TO ACCEPT D.I.P. SPIGOT AS SHOWN.
4. LOCATE STRAPS AT PIPE BELL AND ABOVE BELL OF 90° BEND AS SHOWN. ADD EXTRA STRAPS AS NECESSARY TO MAINTAIN MAXIMUM SPACING OF TEN FEET.
5. HOLE IN MANHOLE WALL TO BE MADE WITH A CORING MACHINE. INSTALL FLEXIBLE RUBBER COUPLING.
6. CORE HOLE SHALL NOT ENTER CONE SECTION.
7. STEPS SHALL BE RELOCATED IF THEY CONFLICT WITH INSIDE DROP.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
INSIDE DROP MANHOLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-53	MAB	11-6-13		

GC4276

ANTI -SEEP COLLAR


18 inches
Utility Line (Diameter Varies)
1 foot
Class B Concrete or Compacted Clay
6 inches
Trench Width
6 inches
Not to exceed 40 feet
SECTION
Class B Concrete or Compacted Clay
12 inches
6 inches
6 inches
PLAN

Page 16 of 16

The following specifications shall apply to class B concrete:
i. Minimum cement content, sacks per cubic yard with rounded coarse aggregate 5.0
ii. Minimum cement content, sacks per cubic yard with angular coarse aggregate 5.5
iii. Maximum water-cement ratio gallons per sack 6.8
iv. Slump range 2" to 4"
v. Minimum strength - 28-day psi 2,500

811
Know what's below.
Call before you dig.

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

BGE
5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
WWW.BGEINC.COM
NC LICENSE #C-4397
©2023

LENNAR
CORPORTAION
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

SEWER DETAIL

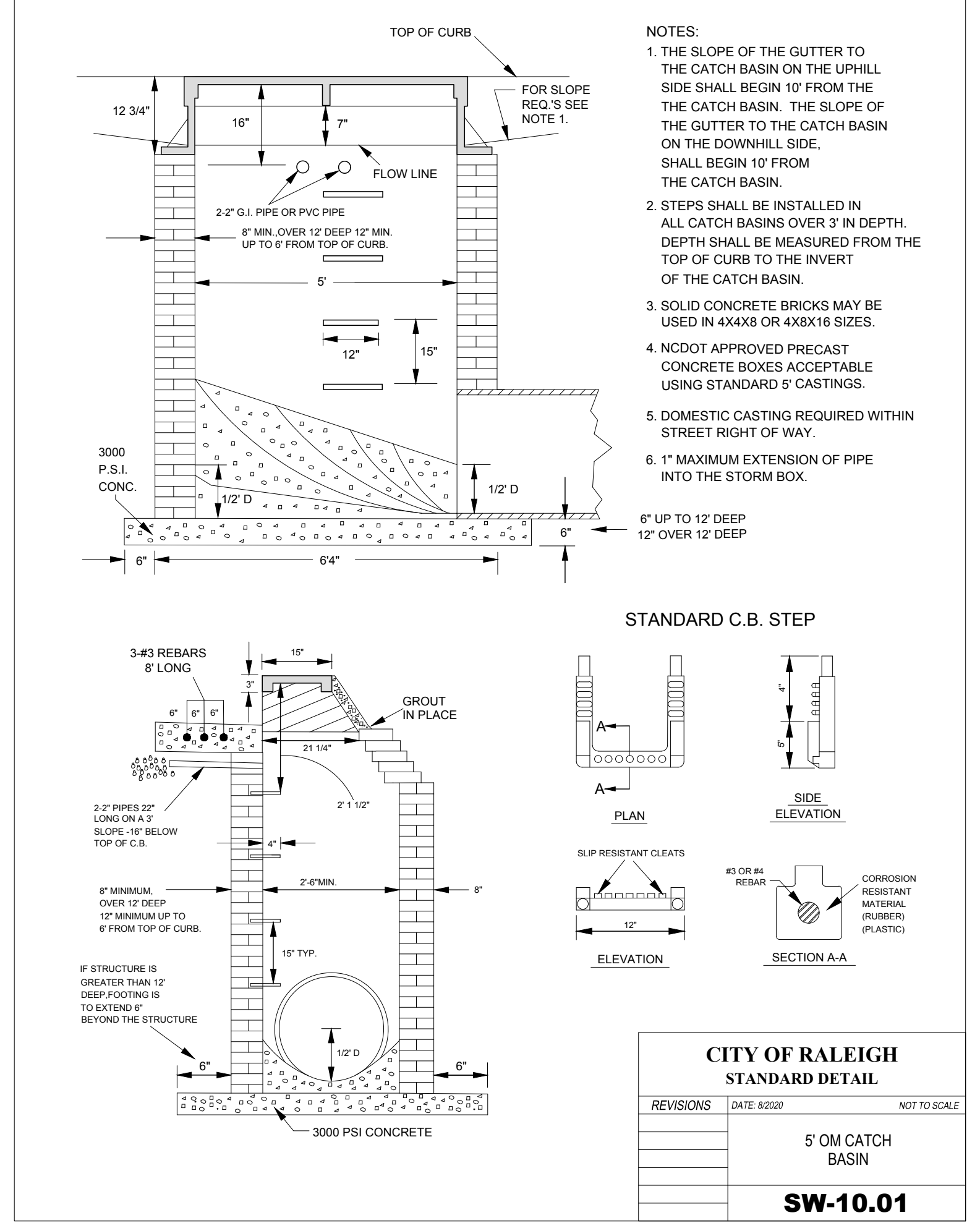
PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

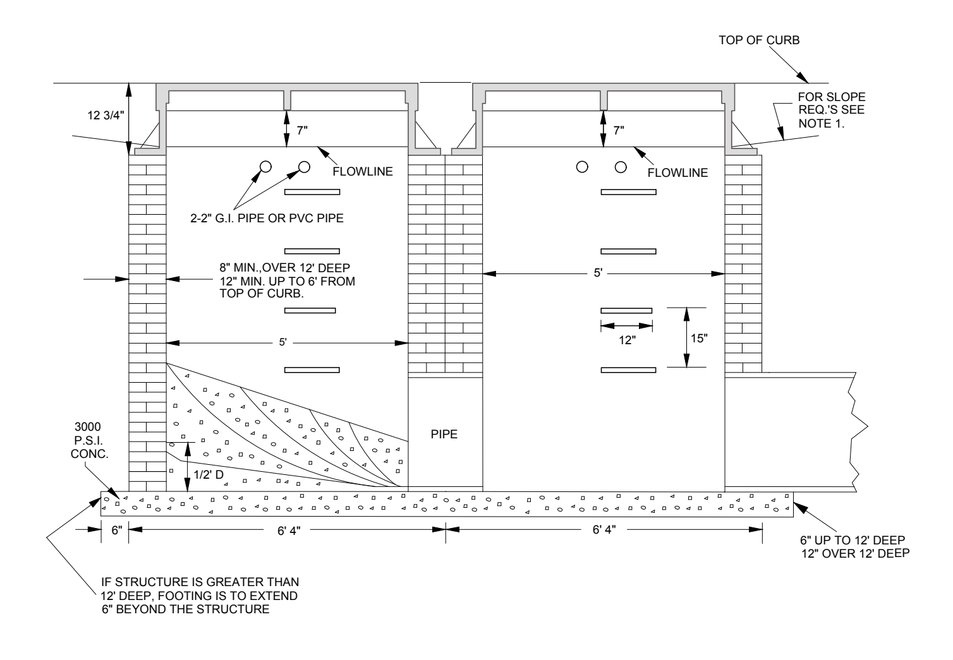
C8-5

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-5 - STORM-DETAIL.dwg Layout: C8-6 STORM DETAILS (1 OF 2) Plotted: 12/1/2023 1:24:35 PM


TOP OF CURB
FOR SLOPE REQ.'S SEE NOTE 1.
12 3/4"
16"
7"
FLOW LINE
2-2" G.I. PIPE OR PVC PIPE
8" MIN.,OVER 12' DEEP 12" MIN. UP TO 6' FROM TOP OF CURB.
5'
12"
15"
3000 P.S.I. CONC.
1/2' D
6" UP TO 12' DEEP
12" OVER 12' DEEP
6"
6'4"
STANDARD C.B. STEP
PLAN
SIDE ELEVATION
SLIP RESISTANT CLEATS
ELEVATION
#3 OR #4 REBAR
CORROSION RESISTANT MATERIAL (RUBBER) (PLASTIC)
SECTION A-A
3-#3 REBARS 8' LONG
15"
3"
GROUT IN PLACE
21 1/4"
2' 1 1/2"
2-2" PIPES 22" LONG ON A 3' SLOPE -16" BELOW TOP OF C.B.
4"
8" MINIMUM, OVER 12' DEEP 12" MINIMUM UP TO 6' FROM TOP OF CURB.
2'-6"MIN.
8"
15" TYP.
IF STRUCTURE IS GREATER THAN 12' DEEP,FOOTING IS TO EXTEND 6" BEYOND THE STRUCTURE
3000 PSI CONCRETE

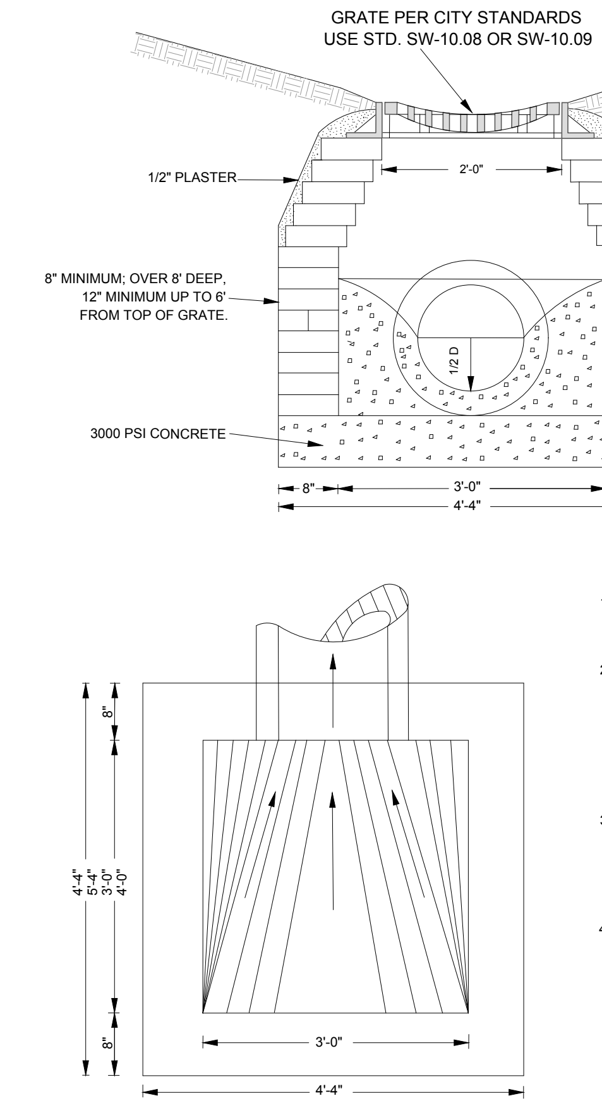
NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4X4X8 OR 4X8X16 SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
6. 1" MAXIMUM EXTENSION OF PIPE INTO THE STORM BOX.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
5' OM CATCH BASIN
SW-10.01


TOP OF CURB
FOR SLOPE REQ.'S SEE NOTE 1.
12 3/4"
7"
FLOWLINE
2-2" G.I. PIPE OR PVC PIPE
8" MIN.,OVER 12' DEEP 12" MIN. UP TO 6' FROM TOP OF CURB.
5'
12"
15"
PIPE
3000 P.S.I. CONC.
1/2' D
6"
6' 4"
6' 4"
6" UP TO 12' DEEP
12" OVER 12' DEEP
IF STRUCTURE IS GREATER THAN 12' DEEP, FOOTING IS TO EXTEND 6" BEYOND THE STRUCTURE

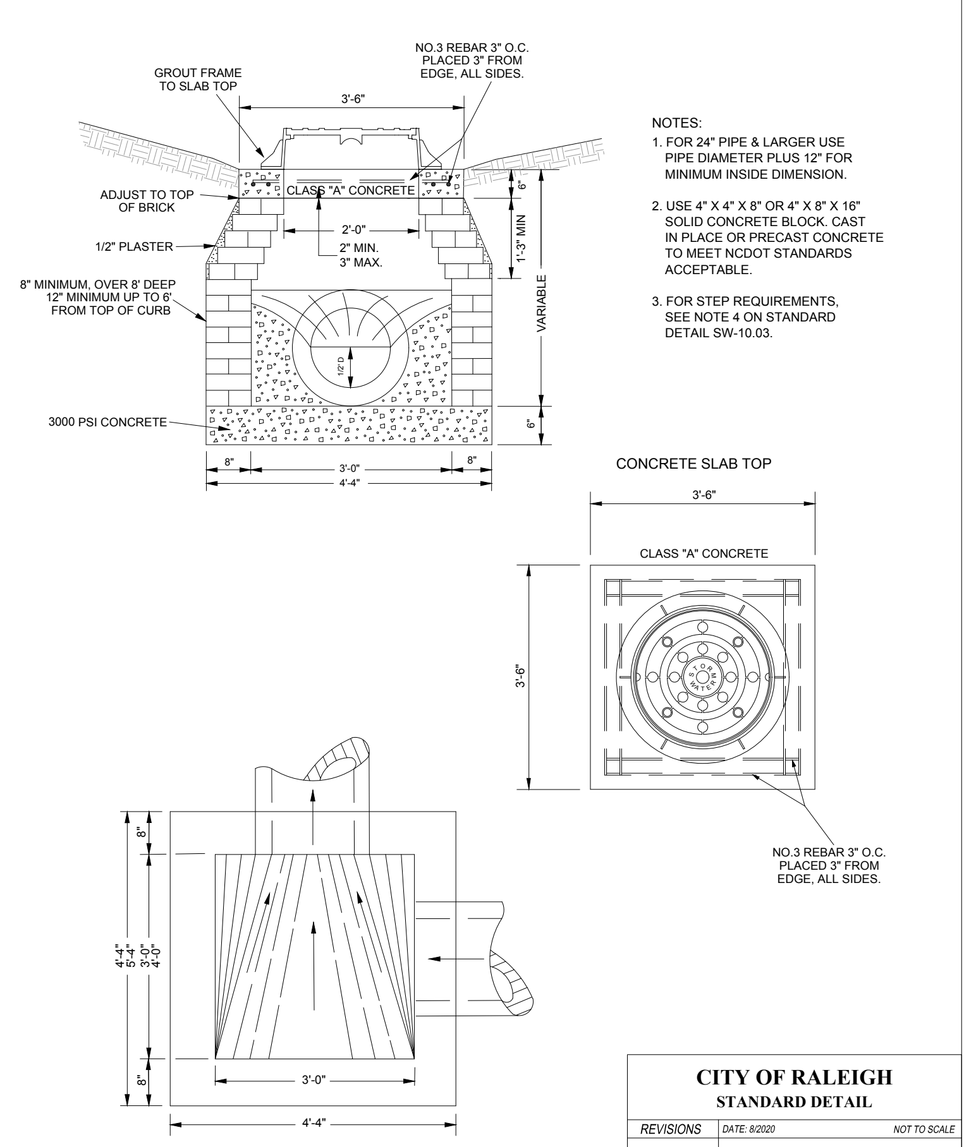
NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10' FROM THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE , SHALL BEGIN 10' FROM THE CATCH BASIN.
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4" X 4" X 16" OR 4" X 8" X 16" SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE, USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DOUBLE WIDTH CATCH BASIN
SW-10.02


GRATE PER CITY STANDARDS USE STD. SW-10.08 OR SW-10.09
1/2" PLASTER
2'-0"
5"
1'-3" MIN.
VARIABLE
8" MINIMUM; OVER 8' DEEP, 12" MINIMUM UP TO 6' FROM TOP OF GRATE.
1/2 D
3000 PSI CONCRETE
6"
8"
3'-0"
8"
4'-4"
8"
4'-4"
5'-4"
3'-0"
4'-0"
3'-0"
4'-4"

NOTES:
1. FOR 24" RCP & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. 24" X 24" CASTING WITH 12", 15" & 18" PIPE, 24" X 36" CASTING USED WITH 24" PIPE OR LARGER. IF PLACED WITHIN PUBLIC R/W CASTING MUST BE TRAFFIC BEARING TYPE PER NCDOT STANDARDS.
3. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET N.C.D.O.T. STANDARDS ACCEPTABLE.
4. STEPS SHALL BE INSTALLED IN ALL DROP INLETS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF GRATE TO THE INVERT OF THE DROP INLET.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD DROP INLET
SW-10.03

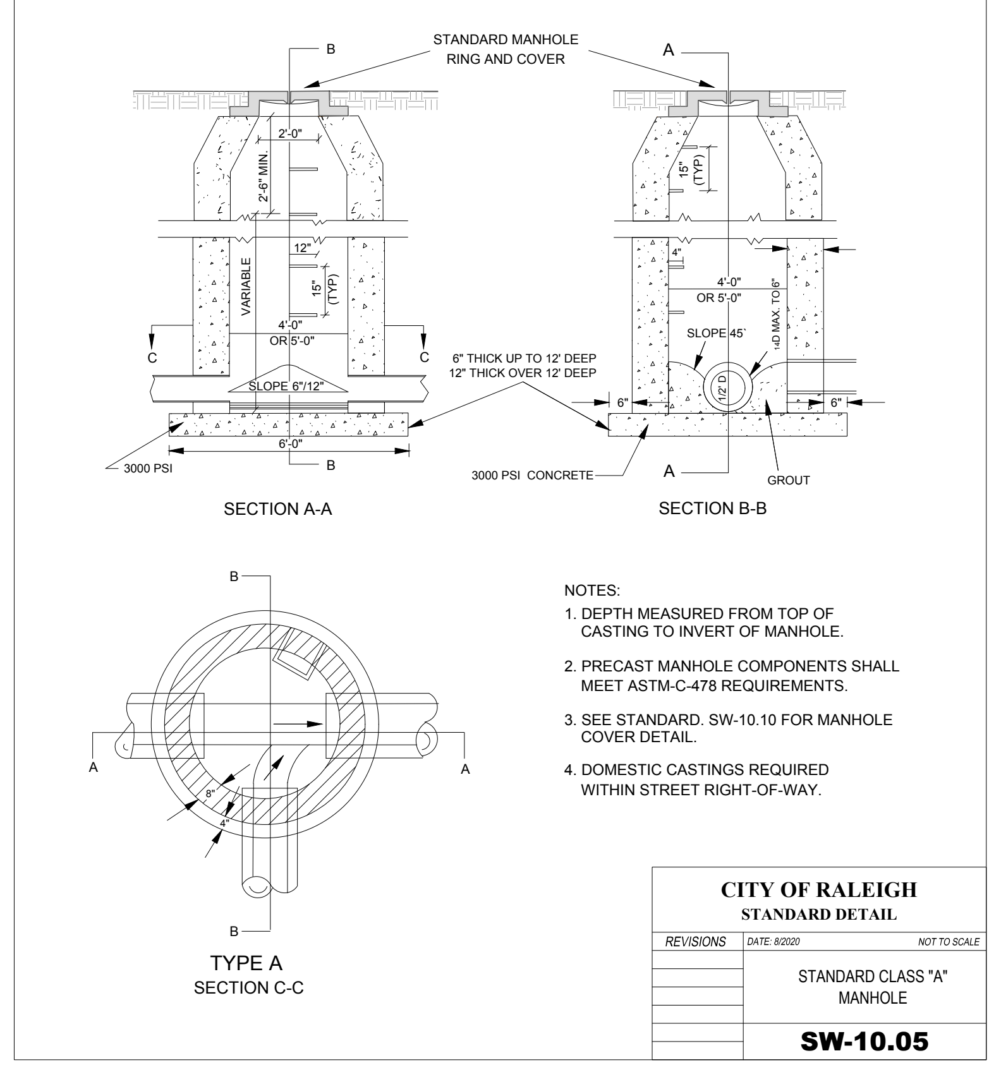

GROUT FRAME TO SLAB TOP
NO.3 REBAR 3" O.C. PLACED 3" FROM EDGE, ALL SIDES.
3'-6"
ADJUST TO TOP OF BRICK
CLASS "A" CONCRETE
1/2" PLASTER
2'-0"
2" MIN. 3" MAX.
6"
1'-3" MIN
VARIABLE
8" MINIMUM, OVER 8' DEEP 12" MINIMUM UP TO 6' FROM TOP OF CURB
1/2 D
3000 PSI CONCRETE
6"
8"
3'-0"
8"
4'-4"
CONCRETE SLAB TOP
3'-6"
CLASS "A" CONCRETE
3'-6"
STORM WATER
NO.3 REBAR 3" O.C. PLACED 3" FROM EDGE, ALL SIDES.
8"
4'-4"
5'-4"
3'-0"
4'-0"
8"
3'-0"
4'-4"

NOTES:
1. FOR 24" PIPE & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET NCDOT STANDARDS ACCEPTABLE.
3. FOR STEP REQUIREMENTS, SEE NOTE 4 ON STANDARD DETAIL SW-10.03.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD JUNCTION BOX
SW-10.04

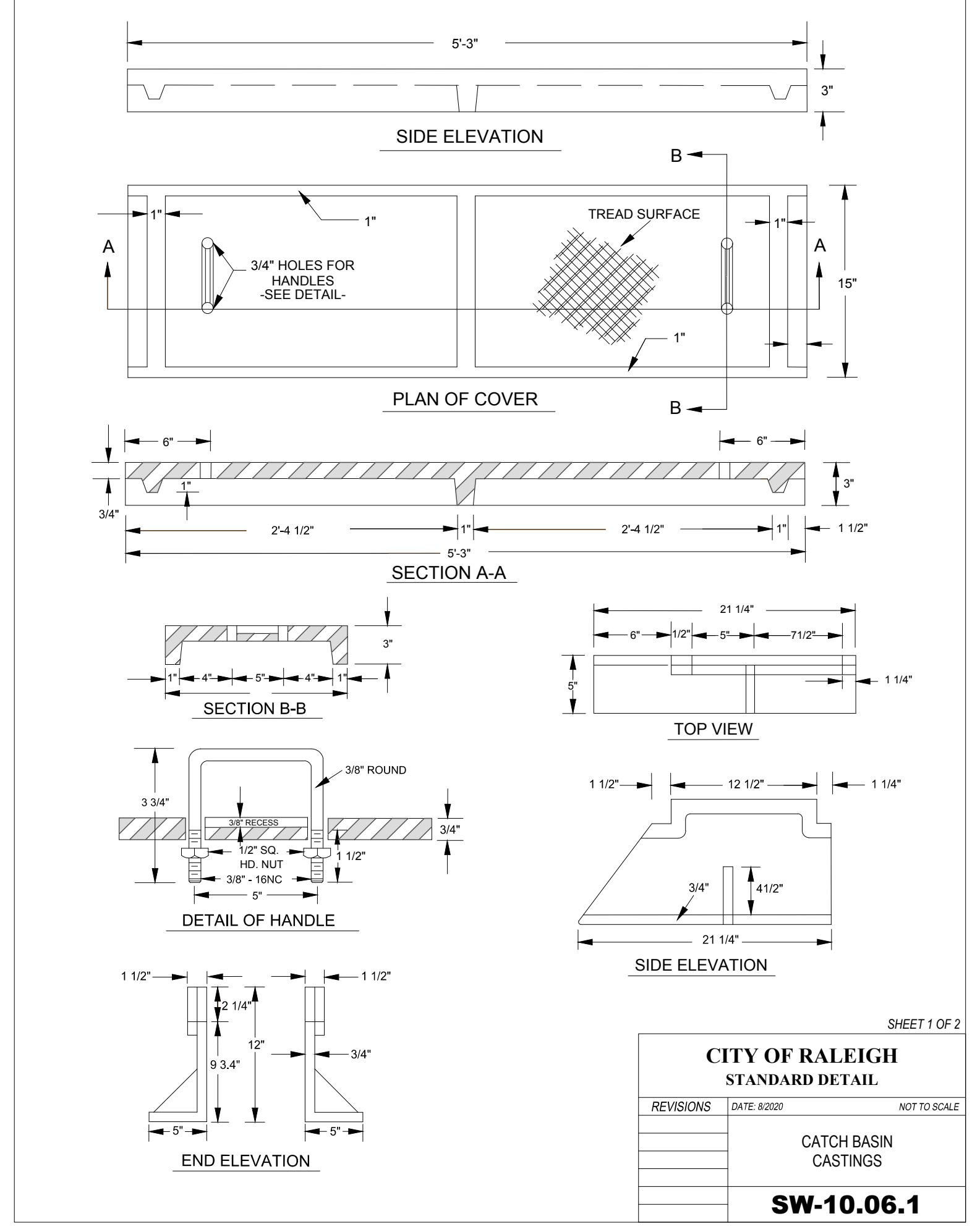
TYPICAL MH FOR STORM SEWER

PIPE SIZE	MH DIAMETER
12-24"	4'-0"
30-42"	5'-0"
48"	6'-0"
54"	8'-0"


STANDARD MANHOLE RING AND COVER
B
A
2'-0"
2'-6" MIN.
VARIABLE
12"
15" (TYP)
4'-0" OR 5'-0"
SLOPE 6"/12"
C
C
6" THICK UP TO 12' DEEP
12" THICK OVER 12' DEEP
6'-0"
3000 PSI
3000 PSI CONCRETE
4"
SLOPE 45`
1/2' D
14D MAX. TO 6"
6"
6"
GROUT
SECTION A-A
SECTION B-B
8"
4"
TYPE A
SECTION C-C

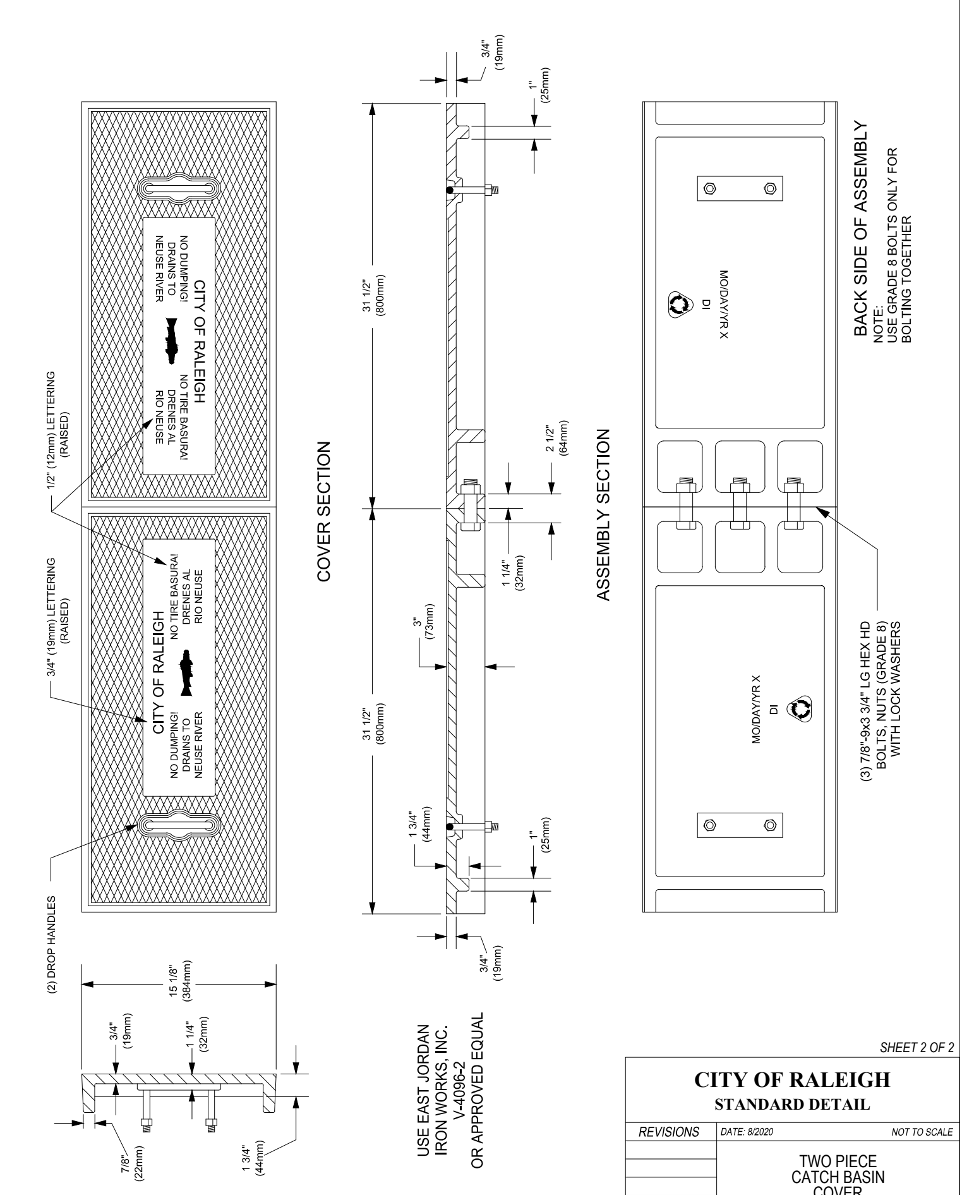
NOTES:
1. DEPTH MEASURED FROM TOP OF CASTING TO INVERT OF MANHOLE.
2. PRECAST MANHOLE COMPONENTS SHALL MEET ASTM-C-478 REQUIREMENTS.
3. SEE STANDARD. SW-10.10 FOR MANHOLE COVER DETAIL.
4. DOMESTIC CASTINGS REQUIRED WITHIN STREET RIGHT-OF-WAY.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD CLASS "A" MANHOLE
SW-10.05


5'-3"
3"
SIDE ELEVATION
B
1"
A
3/4" HOLES FOR HANDLES -SEE DETAIL-
TREAD SURFACE
15"
PLAN OF COVER
6"
3/4"
3"
2'-4 1/2"
1"
1 1/2"
5'-3"
SECTION A-A
3"
1"
4"
5"
SECTION B-B
21 1/4"
7 1/2"
5"
1 1/4"
TOP VIEW
3/8" ROUND
3 3/4"
3/8" RECESS
1/2" SQ. HD. NUT
3/8" - 16NC
3/4"
DETAIL OF HANDLE
12 1/2"
4 1/2"
SIDE ELEVATION
2 1/4"
12"
9 3.4"
END ELEVATION

SHEET 1 OF 2

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
CATCH BASIN CASTINGS
SW-10.06.1

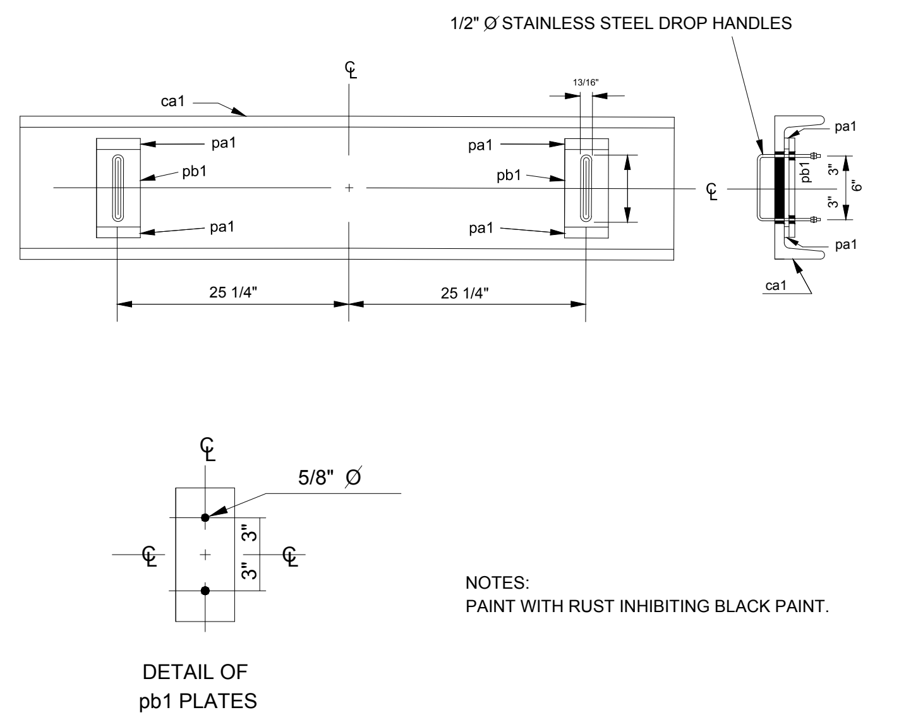

CITY OF RALEIGH
NO DUMPING! DRAINS TO NEUSE RIVER
NO TIRE BASURA! DRENES AL RIO NEUSE
1/2" (12mm) LETTERING (RAISED)
3/4" (19mm) LETTERING (RAISED)
(2) DROP HANDLES
15 1/8" (384mm)
3/4" (19mm)
1 1/4" (32mm)
7/8" (22mm)
1 3/4" (44mm)
COVER SECTION
31 1/2" (800mm)
1" (25mm)
2 1/2" (64mm)
3" (73mm)
ASSEMBLY SECTION
MO/DAY/YR X
DI
BACK SIDE OF ASSEMBLY
(3) 7/8"-9x3 3/4" LG HEX HD BOLTS, NUTS (GRADE 8) WITH LOCK WASHERS

NOTE: USE GRADE 8 BOLTS ONLY FOR BOLTING TOGETHER

USE EAST JORDAN IRON WORKS, INC. V-4096-2 OR APPROVED EQUAL

SHEET 2 OF 2

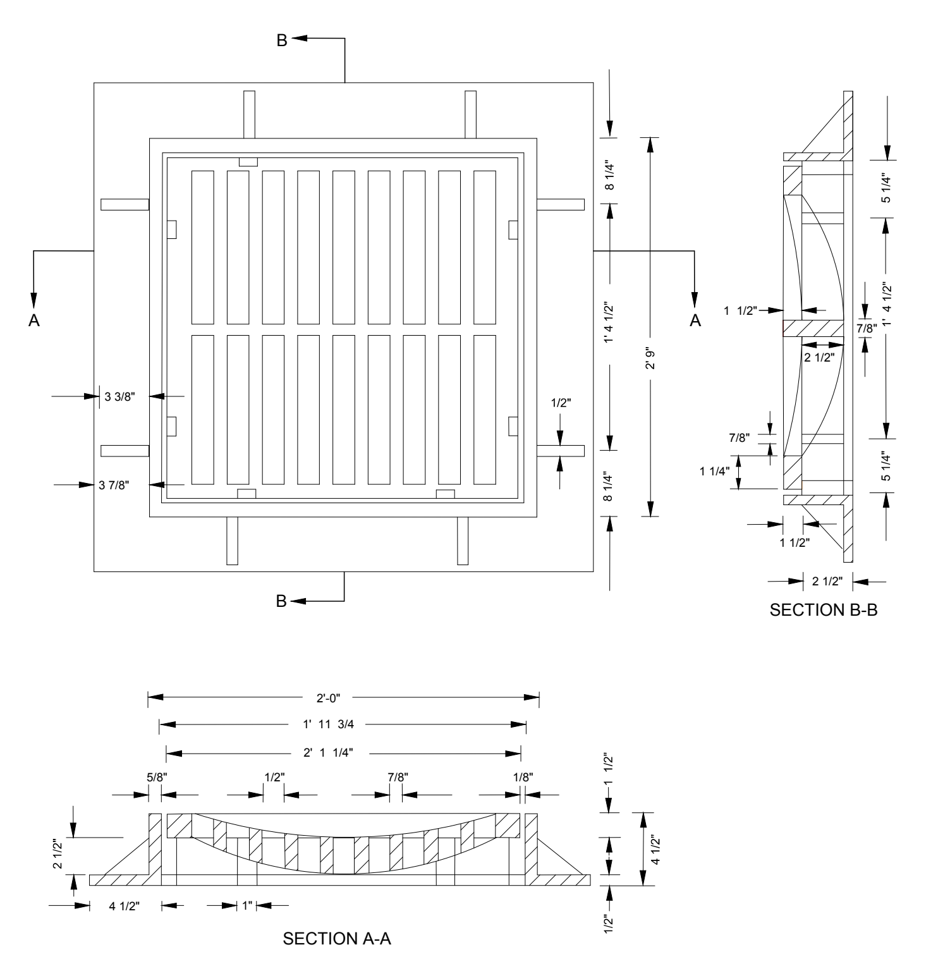
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
TWO PIECE CATCH BASIN COVER
SW-10.06.2


1/2" Ø STAINLESS STEEL DROP HANDLES
ca1
pa1
pb1
13/16"
25 1/4"
25 1/4"
3"
6"
5/8" Ø
DETAIL OF pb1 PLATES

NOTES:
PAINT WITH RUST INHIBITING BLACK PAINT.

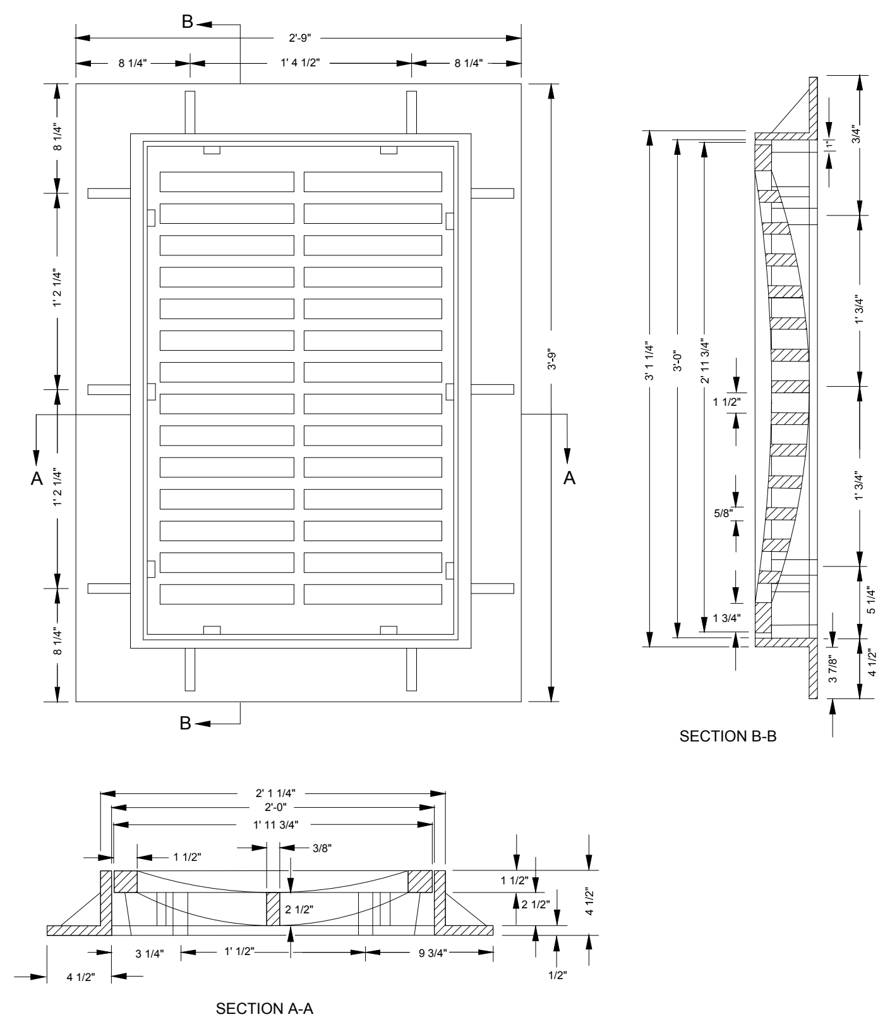
	BILL OF MATERIAL MATERIAL LIST FOR ONE UNIT - MAKE ( ) UNITS	
1	C15 X 33.9# CHANNEL 62 1/2"	MK-ca1
4	1/8" X 1" H.R. FLAT BAR 3"	MK-pa1
2	3/8" x 3" H.R. FLAT BAR 10"	MK-pb1
2	1/2" STAINLESS STEEL ROUND ROD 18"	
8	1/2" STAINLESS STEEL HEX NUTS	
4	1/2" STAINLESS STEEL FLAT WASHERS	

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
CATCH BASIN STEEL TOP
SW-10.07


B
A
8 1/4"
1' 4 1/2"
2' 9"
3 3/8"
3 7/8"
1/2"
1 1/2"
7/8"
2 1/2"
5 1/4"
1 1/4"
SECTION B-B
2'-0"
1' 11 3/4
2' 1 1/4"
5/8"
1/2"
7/8"
1/8"
2 1/2"
4 1/2"
1"
SECTION A-A

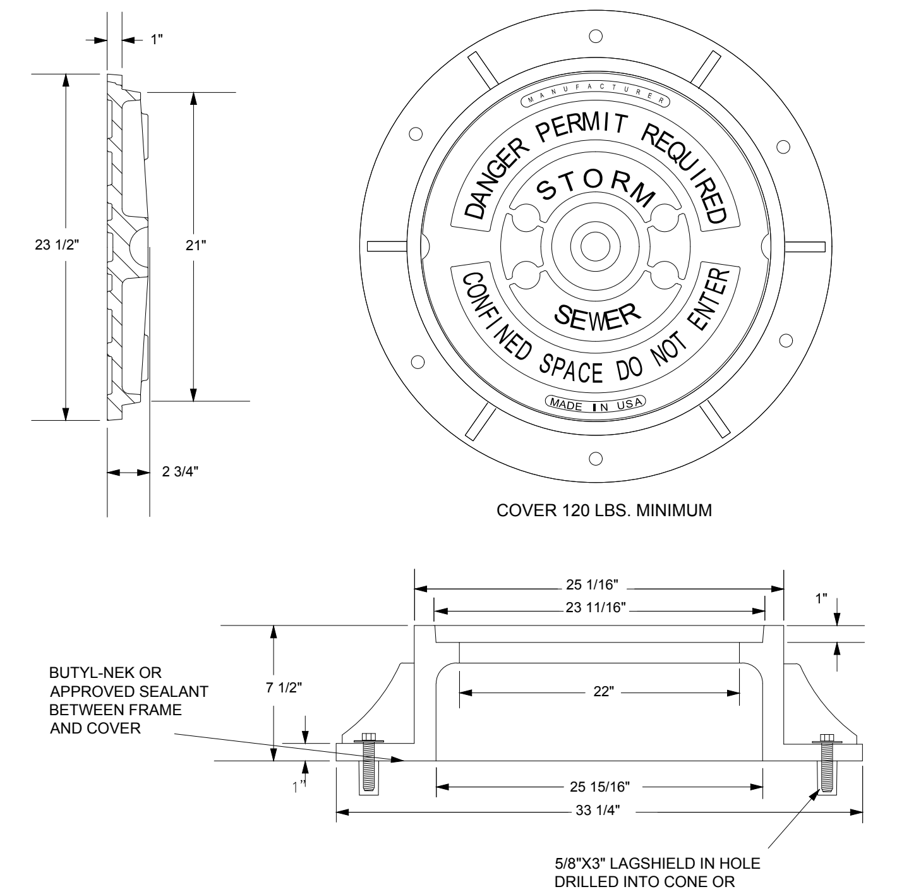
STANDARD 24" X 24" DROP INLET CASTING

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
DROP INLET CASTING
SW-10.08


B
2'-9"
8 1/4"
1' 4 1/2"
8 1/4"
1' 2 1/4"
3'-9"
A
3' 1 1/4"
3'-0"
2' 11 3/4"
1 1/2"
5/8"
1 3/4"
3/4"
1' 3/4"
5 1/4"
3 7/8"
4 1/2"
SECTION B-B
2' 1 1/4"
2'-0"
1' 11 3/4"
3/8"
2 1/2"
3 1/4"
1' 1/2"
9 3/4"
1/2"
SECTION A-A

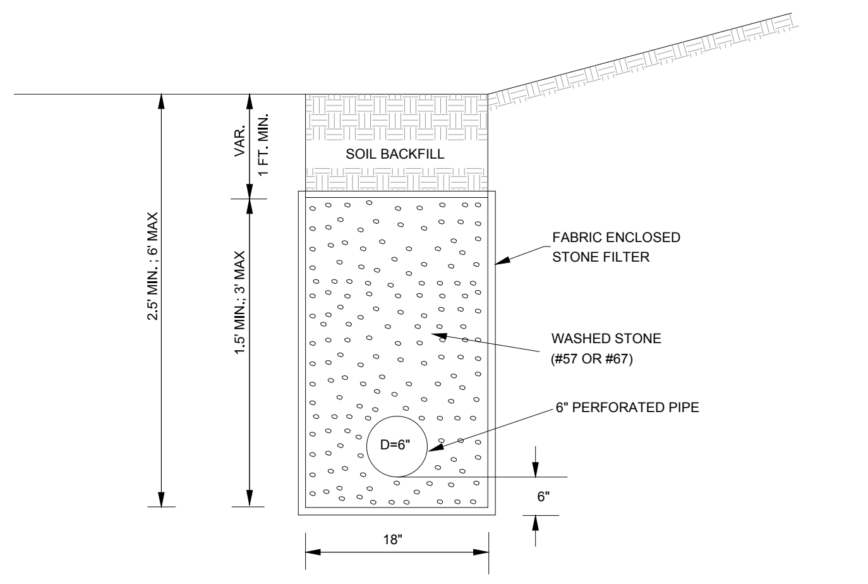
STANDARD 24" X 36" DROP INLET CASTING

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD DROP INLET CASTING
SW-10.09


1"
23 1/2"
21"
2 3/4"
MANUFACTURER
DANGER PERMIT REQUIRED
STORM
SEWER
CONFINED SPACE DO NOT ENTER
MADE IN USA
COVER 120 LBS. MINIMUM
25 1/16"
23 11/16"
1"
7 1/2"
22"
BUTYL-NEK OR APPROVED SEALANT BETWEEN FRAME AND COVER
25 15/16"
33 1/4"
5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 5/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3. COVER SHALL WEIGH A MINIMUM OF 120 LBS.
4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACE SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

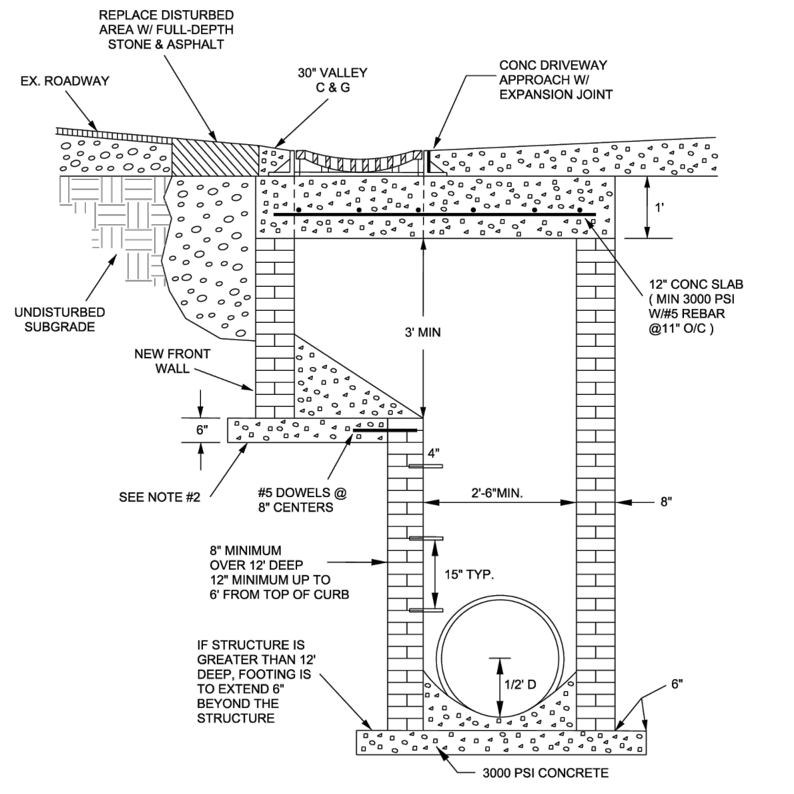
CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
STANDARD STORM MANHOLE COVER
SW-10.10


SOIL BACKFILL
VAR. 1 FT. MIN.
2.5' MIN. ; 6' MAX
1.5' MIN.; 3' MAX
FABRIC ENCLOSED STONE FILTER
WASHED STONE (#57 OR #67)
6" PERFORATED PIPE
D=6"
6"
18"

NOTES:
ALL PIPE UNDERDRAINS ARE TO EXIT INTO DRAINAGE STRUCTURES SUCH AS CATCH BASINS OR JUNCTION BOXES. IF STRUCTURE IS NOT AVAILABLE, SPECIAL EXIT REQUIREMENTS WILL APPLY IN ACCORDANCE WITH THE DIRECTION OF ENGINEERING SERVICES DIRECTOR OR HIS/HER DESIGNEE.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
PIPE UNDERDRAIN DETAIL
SW-10.11

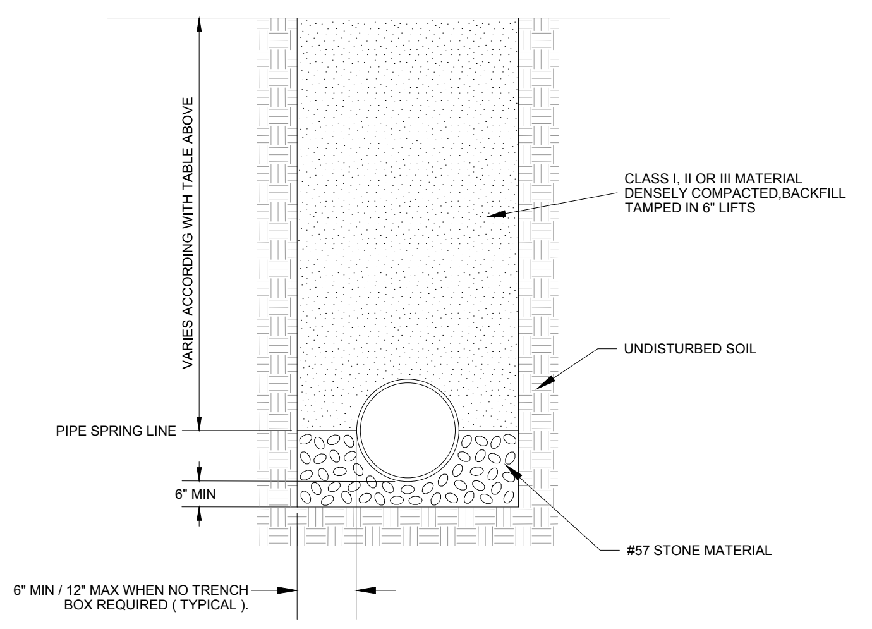
GRATE: USE EAST JORDAN IRON WORKS V-4530-02 OR APPROVED EQUAL FOR VALLEY CURB. USE USF 5120 FRAME AND 6167 GRATE OR APPROVED EQUAL FOR STANDARD CURB. FRAME AND GRATE PLACEMENT WILL VARY DEPENDING UPON TYPE USED.


REPLACE DISTURBED AREA W/ FULL-DEPTH STONE & ASPHALT
EX. ROADWAY
30" VALLEY C & G
CONC DRIVEWAY APPROACH W/ EXPANSION JOINT
1'
UNDISTURBED SUBGRADE
12" CONC SLAB (MIN 3000 PSI W/#5 REBAR @11" O/C)
3' MIN
NEW FRONT WALL
6"
4"
SEE NOTE #2
#5 DOWELS @ 8" CENTERS
2'-6"MIN.
8"
8" MINIMUM OVER 12' DEEP 12" MINIMUM UP TO 6' FROM TOP OF CURB
15" TYP.
IF STRUCTURE IS GREATER THAN 12' DEEP, FOOTING IS TO EXTEND 6" BEYOND THE STRUCTURE
1/2' D
6"
3000 PSI CONCRETE

NOTES:
1. IF STRUCTURE IS LESS THAN 5' IN DEPTH, BOX MUST BE REBUILT BEGINNING AT ORIGINAL FOOTING ELEVATION.
2. IF STRUCTURE IS GREATER THAN 5' IN DEPTH. THE ELEVATED FOOTING DESIGN AS INDICATED ABOVE MAY BE USED.
3. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT-OF-WAY.
4. FOR STEP REQUIREMENTS, SEE NOTE 4 ON STANDARD DETAIL SW-10.03.

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
CATCH BASIN CONVERSION DETAIL
SW-10.13

COVER FOR PIPES WITHIN THE R.O.W. MINIMUM PIPE CLEARANCE FROM INVERT TO SUBGRADE	
PIPE SIZE (in)	CLEARANCE DISTANCE (ft)
15	2.4
18	2.7
24	3.3
30	3.6
36	4.4
42	4.9
48	5.4
54	6.0
60	6.5
66	7.0
72	7.6


VARIES ACCORDING WITH TABLE ABOVE
CLASS I, II OR III MATERIAL DENSELY COMPACTED,BACKFILL TAMPED IN 6" LIFTS
UNDISTURBED SOIL
PIPE SPRING LINE
6" MIN
#57 STONE MATERIAL
6" MIN / 12" MAX WHEN NO TRENCH BOX REQUIRED (TYPICAL).

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE: 8/2020 NOT TO SCALE
BEDDING FOR STORMWATER RCP PIPES
SW-10.14

REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

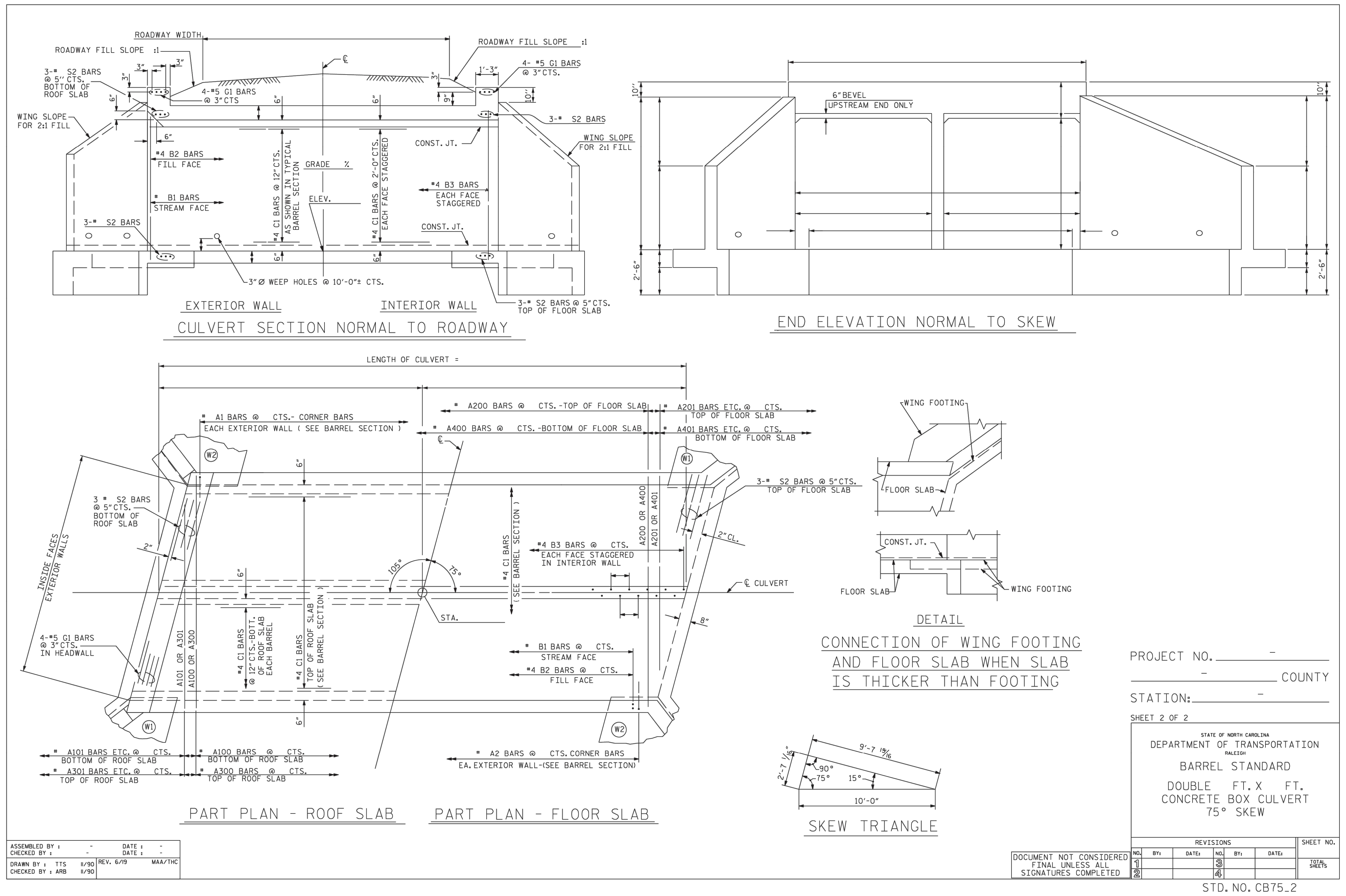
STORM DETAILS (1 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

Know what's below. Call before you dig.

FILE NUMBER: 8430-03
DATE: 11/21/2023
C8-6

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-5 - STORM-DETAIL.dwg Layout: C8-7 STORM DETAILS (2 OF 2) Plotted: 12/1/2023 1:24:35 PM


ROADWAY WIDTH
ROADWAY FILL SLOPE :1
3-# S2 BARS @ 5"CTS. BOTTOM OF ROOF SLAB
4-#5 G1 BARS @ 3"CTS
WING SLOPE FOR 2:1 FILL
#4 B2 BARS FILL FACE
# B1 BARS STREAM FACE
3-# S2 BARS
#4 C1 BARS @ 12"CTS. AS SHOWN IN TYPICAL BARREL SECTION
GRADE %
ELEV.
#4 C1 BARS @ 2'-0"CTS. EACH FACE STAGGERED
CONST. JT.
#4 B3 BARS EACH FACE STAGGERED
3"Ø WEEP HOLES @ 10'-0"± CTS.
3-# S2 BARS @ 5"CTS. TOP OF FLOOR SLAB
EXTERIOR WALL
INTERIOR WALL
CULVERT SECTION NORMAL TO ROADWAY
6"BEVEL UPSTREAM END ONLY
END ELEVATION NORMAL TO SKEW
LENGTH OF CULVERT =
# A1 BARS @ CTS.- CORNER BARS EACH EXTERIOR WALL (SEE BARREL SECTION)
# A200 BARS @ CTS.-TOP OF FLOOR SLAB
# A400 BARS @ CTS.-BOTTOM OF FLOOR SLAB
# A201 BARS ETC.@ CTS. TOP OF FLOOR SLAB
# A401 BARS ETC.@ CTS. BOTTOM OF FLOOR SLAB
INSIDE FACES EXTERIOR WALLS
4-#5 G1 BARS @ 3"CTS. IN HEADWALL
#4 B3 BARS @ CTS. EACH FACE STAGGERED IN INTERIOR WALL
℄ CULVERT
STA.
# B1 BARS @ CTS. STREAM FACE
#4 B2 BARS @ CTS. FILL FACE
# A101 BARS ETC.@ CTS. BOTTOM OF ROOF SLAB
# A301 BARS ETC.@ CTS. TOP OF ROOF SLAB
# A100 BARS @ CTS. BOTTOM OF ROOF SLAB
# A300 BARS @ CTS. TOP OF ROOF SLAB
# A2 BARS @ CTS. CORNER BARS EA. EXTERIOR WALL (SEE BARREL SECTION)
PART PLAN - ROOF SLAB
PART PLAN - FLOOR SLAB
WING FOOTING
FLOOR SLAB
CONST. JT.
DETAIL
CONNECTION OF WING FOOTING AND FLOOR SLAB WHEN SLAB IS THICKER THAN FOOTING
9'-7 ⁵⁄₁₆"
2'-7 ¼"
90°
75°
15°
10'-0"
SKEW TRIANGLE

PROJECT NO. –

– COUNTY

STATION: –

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BARREL STANDARD
DOUBLE FT. X FT.
CONCRETE BOX CULVERT
75° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

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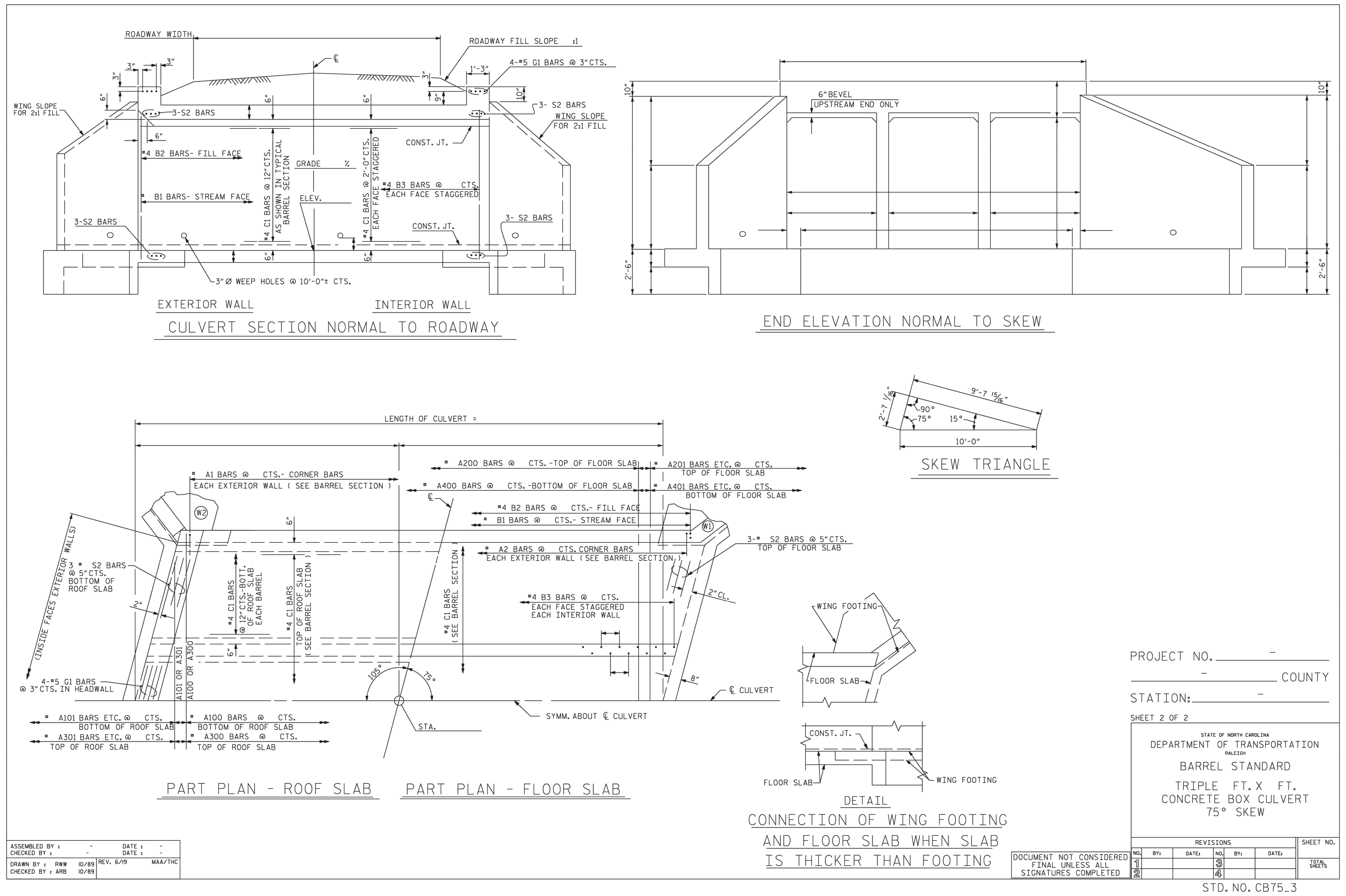
STD. NO. CB75_2

ASSEMBLED BY : - DATE : -
CHECKED BY : - DATE : -
DRAWN BY : TTS 11/90
CHECKED BY : ARB 11/90
REV. 6/19 MAA/THC


ROADWAY WIDTH
ROADWAY FILL SLOPE :1
4-#5 G1 BARS @ 3"CTS.
WING SLOPE FOR 2:1 FILL
3-S2 BARS
#4 B2 BARS- FILL FACE
B1 BARS- STREAM FACE
#4 C1 BARS @ 12"CTS. AS SHOWN IN TYPICAL BARREL SECTION
GRADE %
ELEV.
#4 C1 BARS @ 2'-0"CTS. EACH FACE STAGGERED
CONST. JT.
#4 B3 BARS @ CTS. EACH FACE STAGGERED
3"Ø WEEP HOLES @ 10'-0"± CTS.
EXTERIOR WALL
INTERIOR WALL
CULVERT SECTION NORMAL TO ROADWAY
6"BEVEL UPSTREAM END ONLY
END ELEVATION NORMAL TO SKEW
9'-7 ⁵⁄₁₆"
2'-7 ¼"
90°
75°
15°
10'-0"
SKEW TRIANGLE
LENGTH OF CULVERT =
# A1 BARS @ CTS.- CORNER BARS EACH EXTERIOR WALL (SEE BARREL SECTION)
# A200 BARS @ CTS.-TOP OF FLOOR SLAB
# A400 BARS @ CTS.-BOTTOM OF FLOOR SLAB
# A201 BARS ETC.@ CTS. TOP OF FLOOR SLAB
# A401 BARS ETC.@ CTS. BOTTOM OF FLOOR SLAB
#4 B2 BARS @ CTS.- FILL FACE
B1 BARS @ CTS.- STREAM FACE
# A2 BARS @ CTS.CORNER BARS EACH EXTERIOR WALL (SEE BARREL SECTION)
3-# S2 BARS @ 5"CTS. TOP OF FLOOR SLAB
3-# S2 BARS @ 5"CTS. BOTTOM OF ROOF SLAB
INSIDE FACES EXTERIOR WALLS
4-#5 G1 BARS @ 3"CTS. IN HEADWALL
#4 B3 BARS @ CTS. EACH FACE STAGGERED EACH INTERIOR WALL
℄ CULVERT
STA.
SYMM. ABOUT ℄ CULVERT
# A101 BARS ETC.@ CTS. BOTTOM OF ROOF SLAB
# A301 BARS ETC.@ CTS. TOP OF ROOF SLAB
# A100 BARS @ CTS. BOTTOM OF ROOF SLAB
# A300 BARS @ CTS. TOP OF ROOF SLAB
PART PLAN - ROOF SLAB
PART PLAN - FLOOR SLAB
WING FOOTING
FLOOR SLAB
CONST. JT.
DETAIL
CONNECTION OF WING FOOTING AND FLOOR SLAB WHEN SLAB IS THICKER THAN FOOTING

PROJECT NO. –

– COUNTY

STATION: –

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BARREL STANDARD
TRIPLE FT. X FT.
CONCRETE BOX CULVERT
75° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

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STD. NO. CB75_3

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DRAWN BY : RWW 10/89
CHECKED BY : ARB 10/89
REV. 6/19 MAA/THC

811
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REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

STORM DETAILS (2 OF 2)

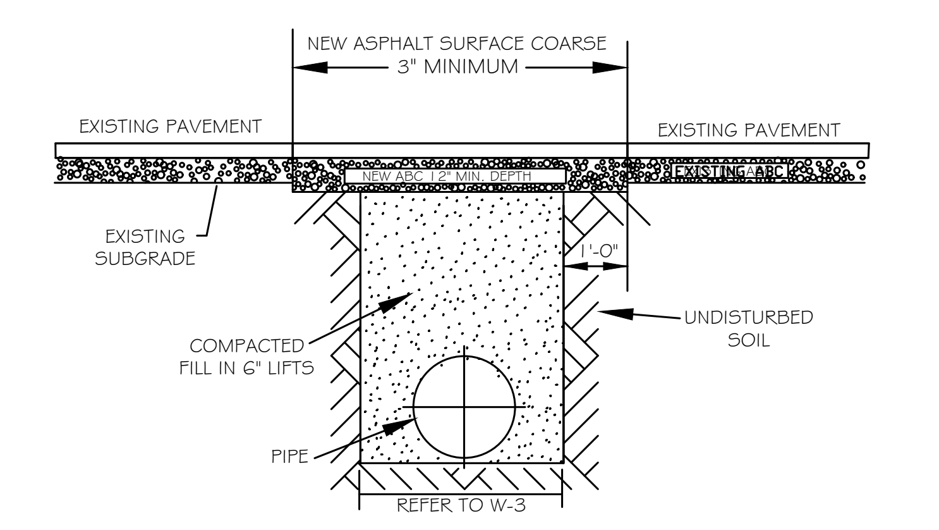
DEBRA M. FERM
PRELIMINARY
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER:
8430-03

DATE: 11/21/2023

C8-7

G:\NC\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-6 - WATER DETAIL.dwg Layout: C8-8 WATER DETAIL (1 OF 2) Plotted: 12/1/2023 1:24:43 PM



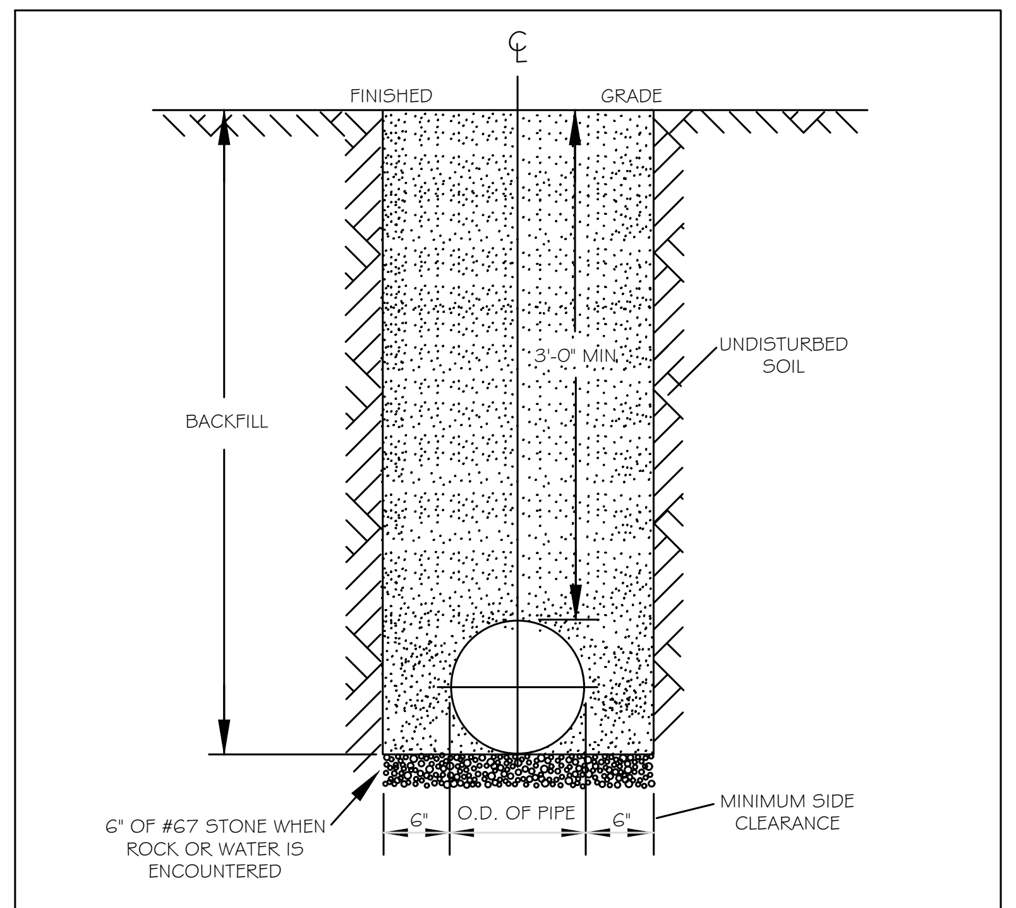
NEW ASPHALT SURFACE COARSE
3" MINIMUM
EXISTING PAVEMENT
EXISTING PAVEMENT
EXISTING SUBGRADE
1'-0"
COMPACTED FILL IN 6" LIFTS
UNDISTURBED SOIL
PIPE
REFER TO W-3

NOTES:

1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
4. THE ENTIRE THICKNESS/ VERTICAL EDGE OF CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
7. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3. FOR ADDITIONAL DETAILS.
8. NO HAND PATCHING ALLOWED.
9. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD ASPHALT PAVEMENT PATCH DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-2	RRH	3-31-00	A.B.B.	4-16-04
	D.W.C.	11-1-99	J.P.S.	10-29-10

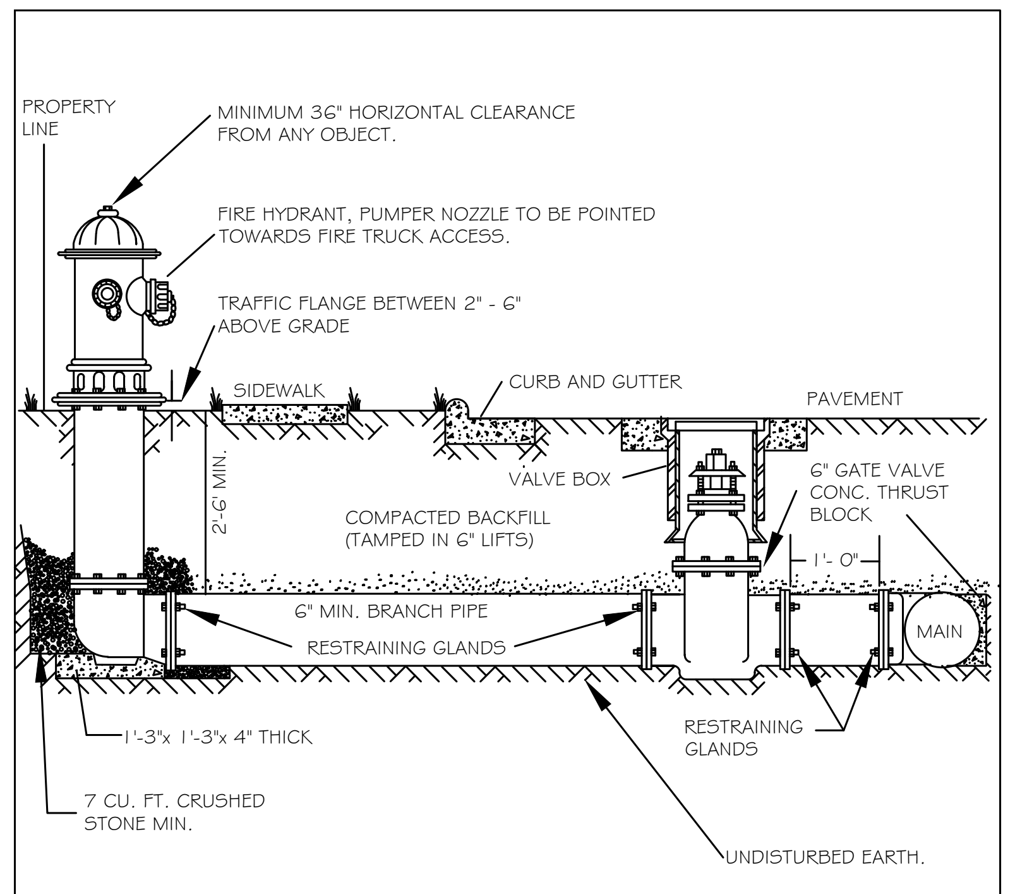


℄
FINISHED
GRADE
BACKFILL
3'-0" MIN.
UNDISTURBED SOIL
6" OF #67 STONE WHEN ROCK OR WATER IS ENCOUNTERED
6"
O.D. OF PIPE
6"
MINIMUM SIDE CLEARANCE

NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



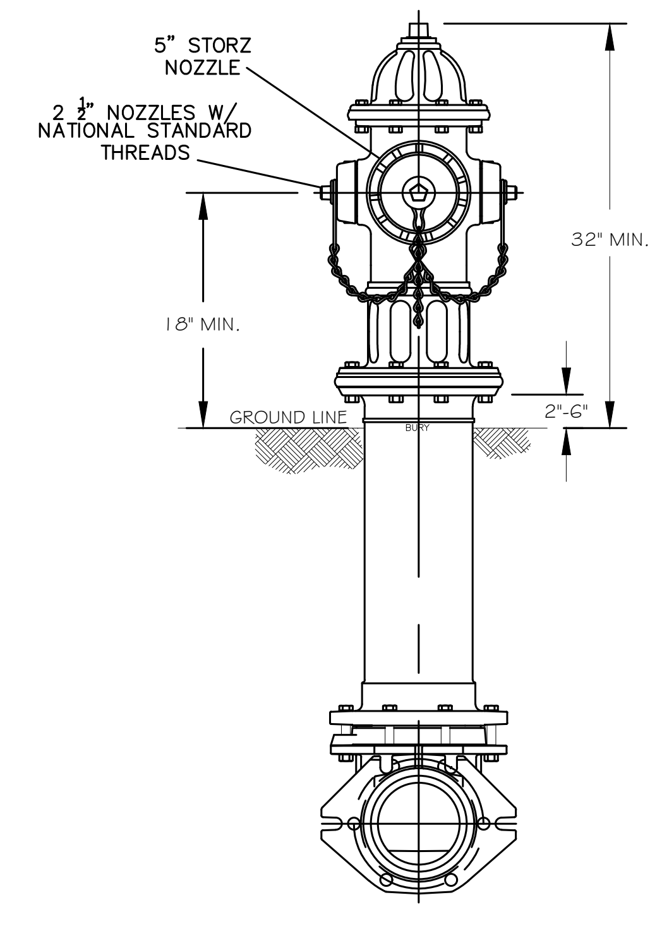
PROPERTY LINE
MINIMUM 36" HORIZONTAL CLEARANCE FROM ANY OBJECT.
FIRE HYDRANT, PUMPER NOZZLE TO BE POINTED TOWARDS FIRE TRUCK ACCESS.
TRAFFIC FLANGE BETWEEN 2" - 6" ABOVE GRADE
SIDEWALK
CURB AND GUTTER
PAVEMENT
2'-6" MIN.
VALVE BOX
6" GATE VALVE CONC. THRUST BLOCK.
COMPACTED BACKFILL (TAMPED IN 6" LIFTS)
1'-0"
6" MIN. BRANCH PIPE
RESTRAINING GLANDS
MAIN
1'-3"x 1'-3"x 4" THICK
7 CU. FT. CRUSHED STONE MIN.
RESTRAINING GLANDS
UNDISTURBED EARTH.

NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, M&H, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
3. 6" GATE VALVE SHALL BE AWWA C500-86 OPEN LEFT
4. STEEL RODS AND BOLTS SHALL BE $\frac{3}{4}$" HOT DIPPED GALVANIZED
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD FIRE HYDRANT INSTALLATION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	PAP	2/17/09
	DHL	2/14/08		

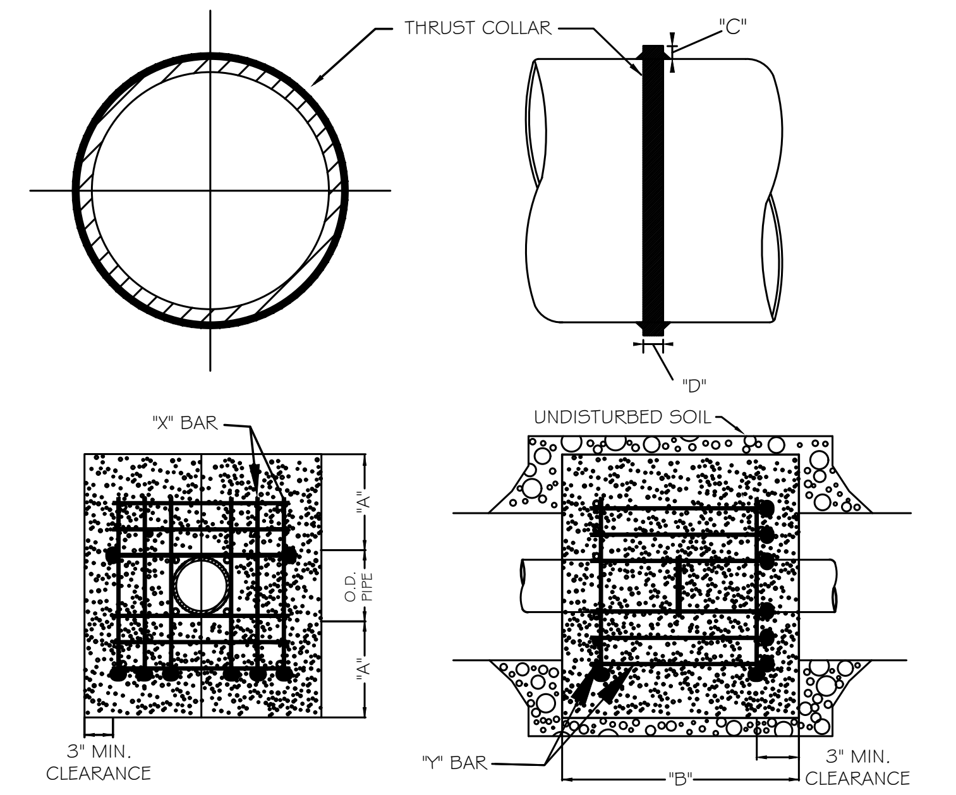


5" STORZ NOZZLE
2 $\frac{1}{2}$" NOZZLES W/ NATIONAL STANDARD THREADS
32" MIN.
18" MIN.
GROUND LINE
2'-6"

NOTES:
1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.
2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
RALEIGH, GARNER, KNIGHTDALE, ROLESVILLE, WAKE FOREST, WENDELL & ZEBULON
STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-5	MAB	6-30-16		
	KAT	9-15-17		



THRUST COLLAR
"C"
"D"
"X" BAR
UNDISTURBED SOIL
"A"
O.D. PIPE
"A"
3" MIN. CLEARANCE
"Y" BAR
"B"
3" MIN. CLEARANCE

REINFORCING REQUIREMENTS

I.D. PIPE	REBAR SIZE	"X" BAR LENGTH	"X" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6" - 36"	#5	2'-2" + O.D. PIPE	1.043 LBS/FT	1'-1"	1.1 LBS. EACH	X-24, Y-12
48" & greater	#6	3'-0" + O.D. PIPE	1.502 LBS/FT	1'-3"	1.9 LBS. EACH	X-24, Y-12

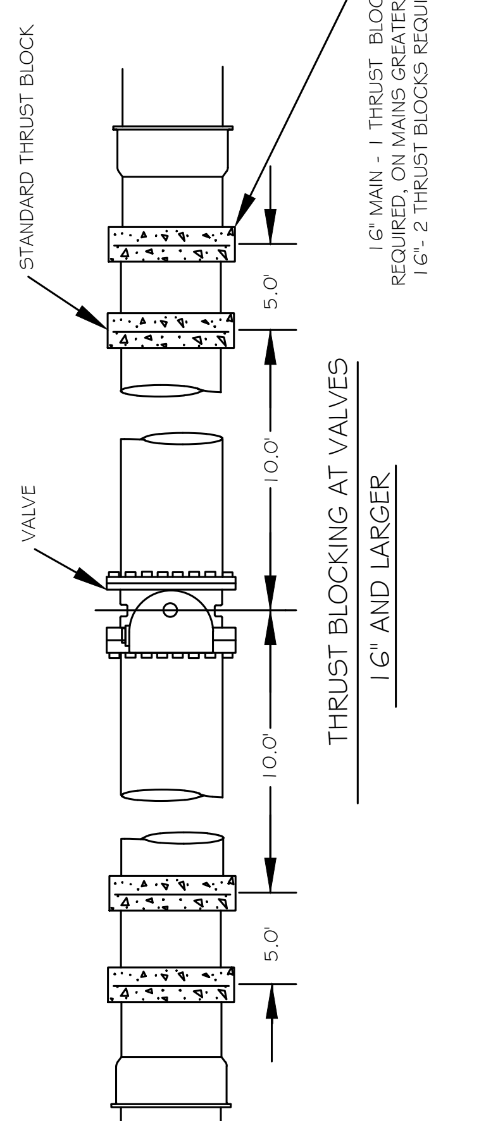
THRUST COLLAR, AND THRUST SCHEDULE

I.D. PIPE	"A"	"B"	"C"	"D"
6" - 16"	1'-4"	1'-7"	2"	3/8"
20" - 24"	1'-4"	1'-7"	3"	1/2"
30" - 36"	1'-4"	1'-7"	4"	5/8"
48" & greater	1'-8"	1'-9"	6"	7/8"

NOTES:
1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3.
5. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3.
6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
THRUST BLOCKING DESIGN DATA FOR WATER MAINS

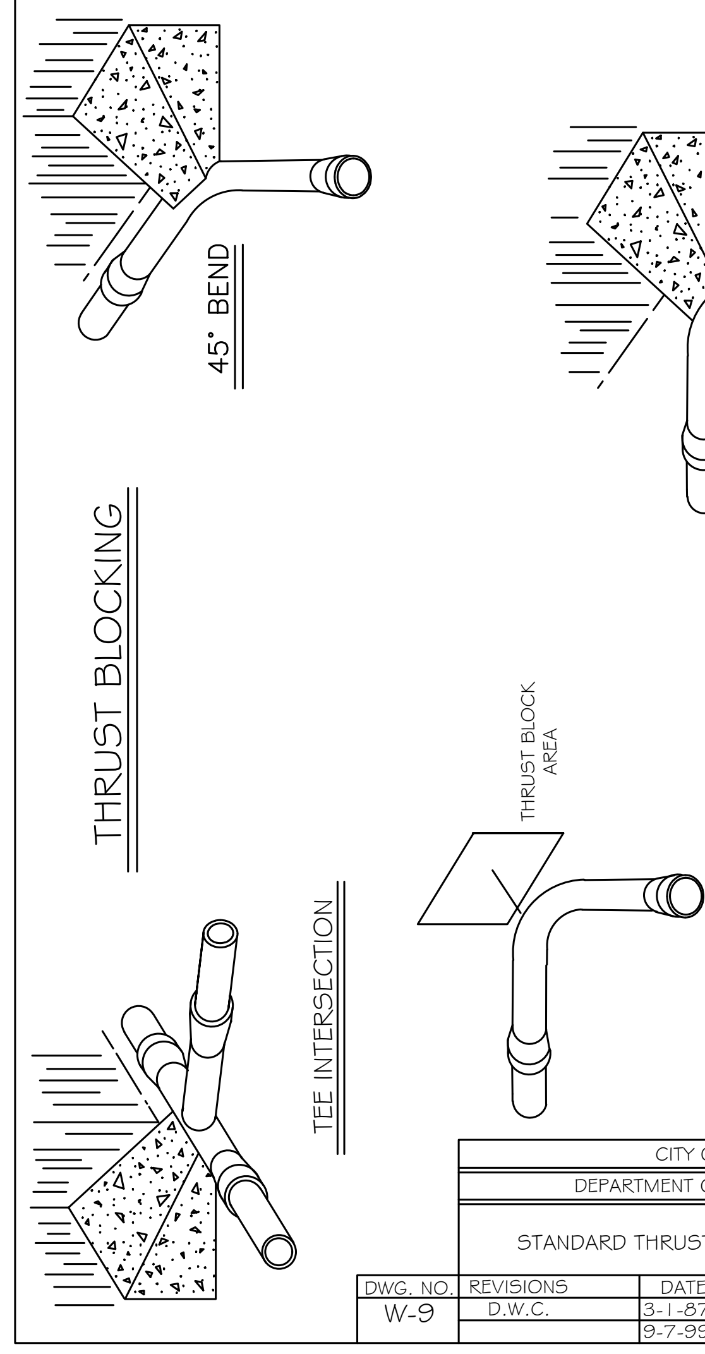
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-7	RRH	1-21-00	J.P.S.	
	D.H.L.	6-18-08	11-1-10	



STANDARD THRUST BLOCK.
16" MAIN - 1 THRUST BLOCK REQUIRED. ON MAINS GREATER THAN 16", 2 THRUST BLOCKS REQUIRED.
5.0'
VALVE
10.0'
10.0'
5.0'
THRUST BLOCKING AT VALVES
16" AND LARGER

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD THRUST BLOCK INSTALLATION FOR 16" AND LARGER VALVES AND DEAD END MAINS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-8	Y.C.A.	4-12-90	D.W.C.	9-7-99
		6-92	RRH	3-31-00



45° BEND
90° BEND
THRUST BLOCKING
THRUST BLOCK AREA
TEE INTERSECTION

NOTES:
1. CONCRETE SHALL BE 3000 PSI
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. TRENCHES SHALL CONFORM TO STANDARD DETAIL W-3.
4. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-11, FOR AREA OF CONCRETE REQUIRED.
5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD THRUST BLOCKING VIEWS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-9	D.W.C.	3-1-87	RRH	3-31-00
		9-7-99	D.H.L.	6-18-08

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 P.S.I.

ALL AREAS GIVEN IN SQUARE FEET.

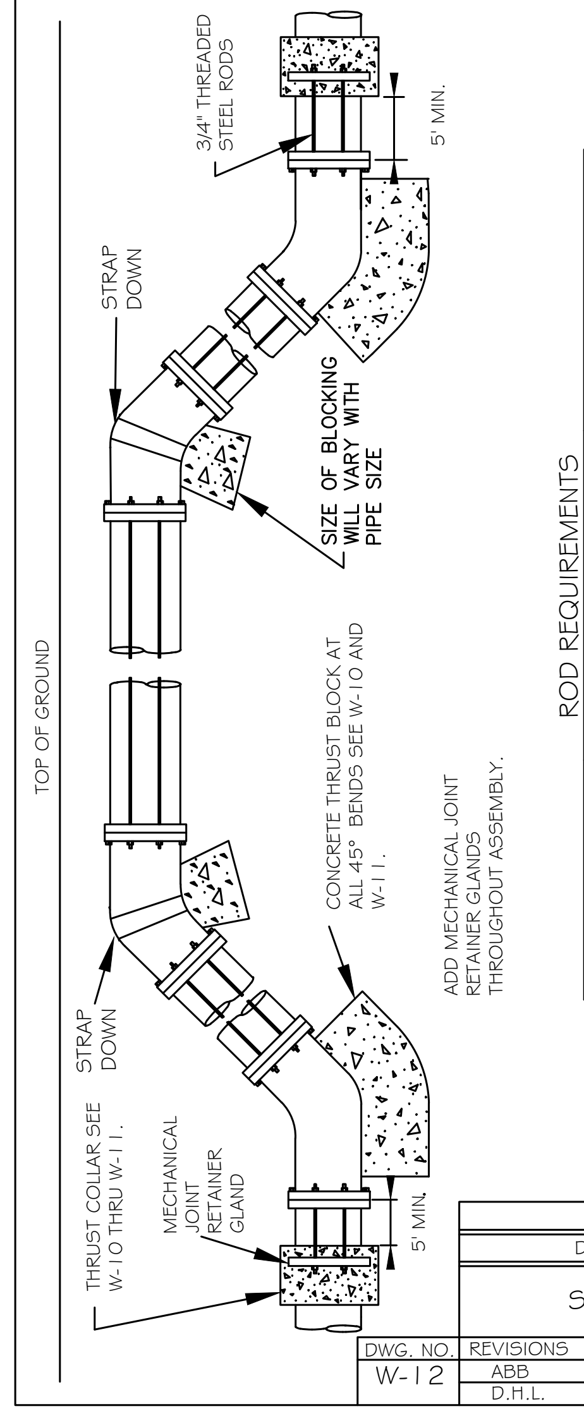
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY 4000 LBS/FT²	SOFT CLAY 2000 LBS/FT²	1600 LBS/FT² GRAVEL / COARSE SAND	8000 LBS/FT² DRY CLAY - ALWAYS DRY	SAND, COMPACT FIRM 8000 LBS/FT²	SAND -CLEAN DRY 4000 LBS/FT²	SOIL 1000 LBS/FT² QUICKSAND - VERY POOR	ROCK - POOR 10,000 LBS/FT²
6"									
11 1/4°	1,108	1	1	1	1	1	1	2	1
22 1/2°	2,207	1	2	2	1	1	1	3	1
45°	4,328	2	3	3	1	1	2	5	1
90°	7,996	2	4	5	1	1	2	8	1
PLUG	5,655	2	3	4	1	1	2	6	1
8"									
11 1/4°	1,970	1	1	2	1	1	1	2	1
22 1/2°	3,922	1	2	3	1	1	1	4	1
45°	7,694	2	4	5	1	1	2	8	1
90°	14,215	4	8	9	2	2	4	15	2
PLUG	10,053	3	5	6	2	2	3	10	1
12"									
11 1/4°	4,433	2	3	3	1	1	2	5	1
22 1/2°	8,826	3	5	6	2	2	3	9	1
45°	17,312	5	9	11	3	3	5	18	2
90°	31,983	8	16	19	4	4	8	32	4
PLUG	22,619	6	12	14	3	3	6	23	3
16"									
11 1/4°	7,881	2	4	5	1	1	2	8	1
22 1/2°	15,691	4	8	10	2	2	4	16	2
45°	30,779	8	16	19	4	4	8	31	4
90°	56,861	15	29	35	8	8	15	57	6
PLUG	40,213	10	21	25	5	5	10	41	5

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

USE 6" - 90 BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
THRUST BLOCKING DESIGN QUANTITY TABLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-10	D.W.C.	6-23-99		



3/4" THREADED STEEL RODS
5' MIN.
STRAP DOWN
SIZE OF BLOCKING WILL VARY WITH PIPE SIZE
TOP OF GROUND
CONCRETE THRUST BLOCK AT ALL 45° BENDS SEE W-10 AND W-11.
ADD MECHANICAL JOINT RETAINER GLANDS THROUGHOUT ASSEMBLY.
STRAP DOWN
THRUST COLLAR SEE W-10 THRU W-11.
MECHANICAL JOINT RETAINER GLAND
5' MIN.

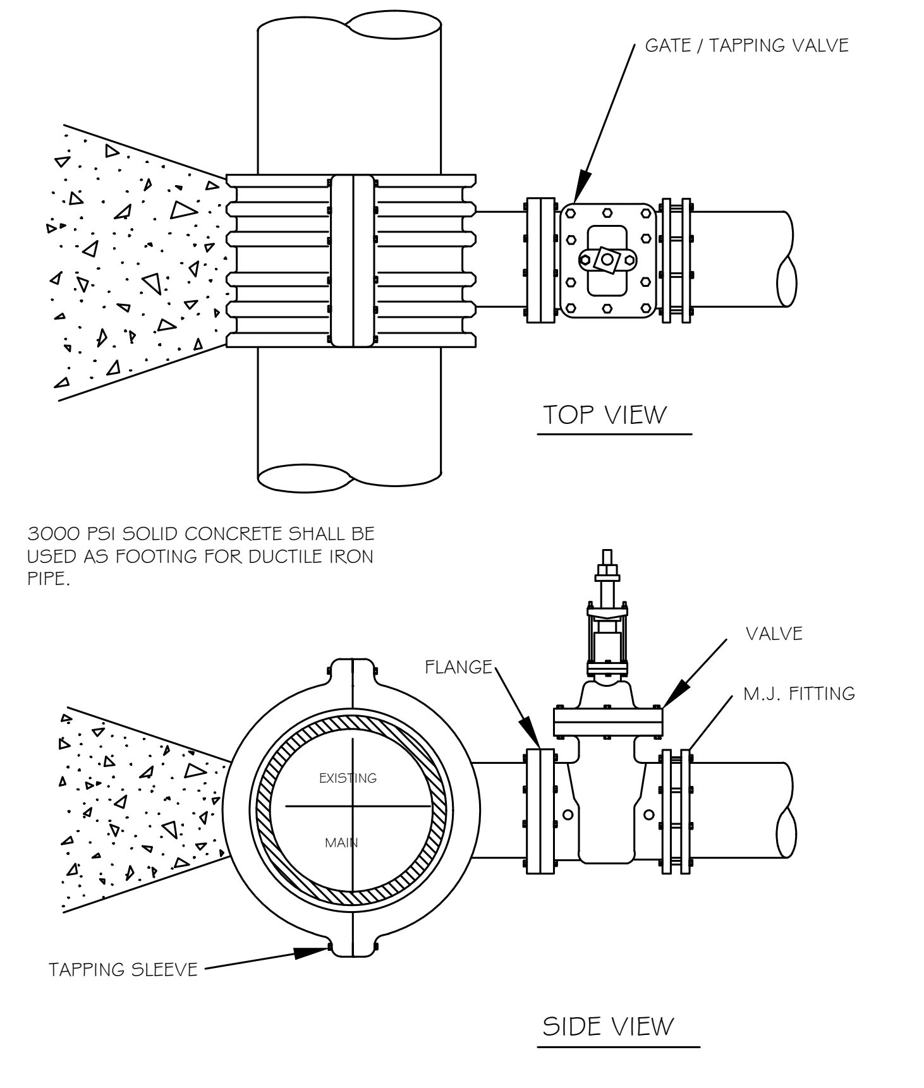
ROD REQUIREMENTS

SIZE OF 45 BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	8
24"	69,252	8

GENERAL NOTES:
1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. MUST USE DUCTILE IRON EYE BOLTS WHERE NECESSARY.
5. 3' MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD VERTICAL BEND

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-12	ABB	4-6-04	J.P.S.	11-1-10
	D.H.L.	6-18-08		

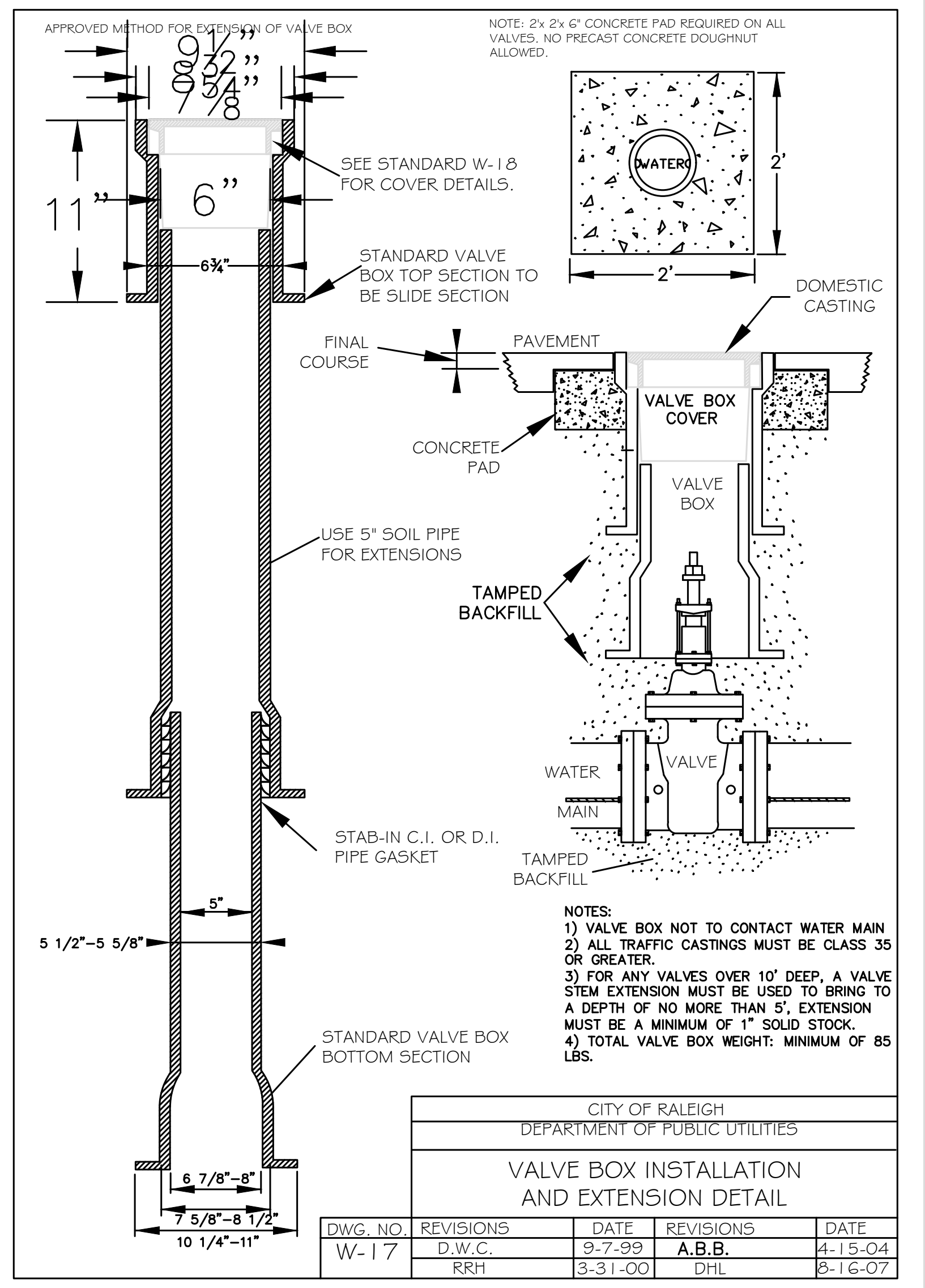


GATE / TAPPING VALVE
TOP VIEW
3000 PSI SOLID CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
FLANGE
VALVE
M.J. FITTING
EXISTING
MAIN
TAPPING SLEEVE
SIDE VIEW

NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-14	Y.C.A.	2-31-91	RRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10

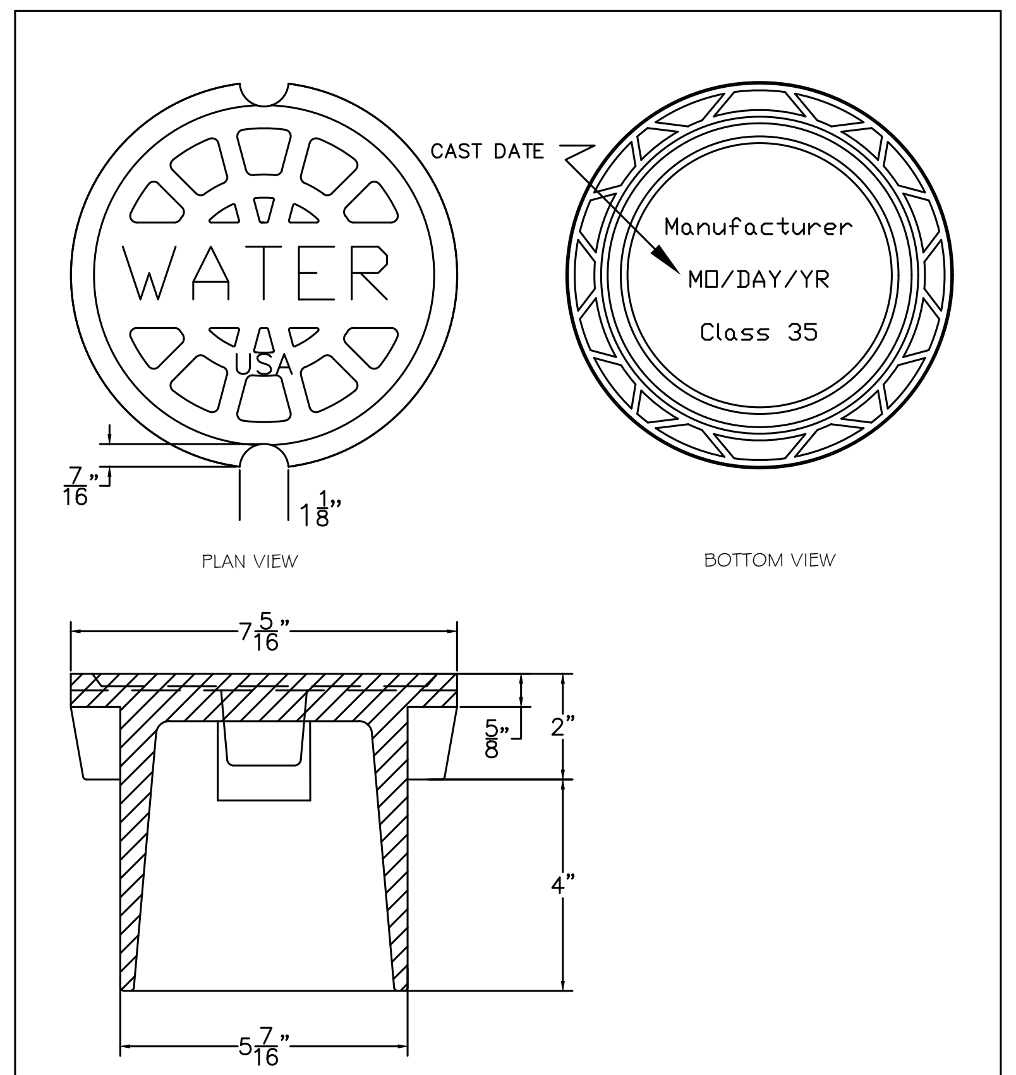


APPROVED METHOD FOR EXTENSION OF VALVE BOX
NOTE: 2'x 2'x 6" CONCRETE PAD REQUIRED ON ALL VALVES. NO PRECAST CONCRETE DOUGHNUT ALLOWED.
6"
11"
SEE STANDARD W-18 FOR COVER DETAILS.
STANDARD VALVE BOX TOP SECTION TO BE SLIDE SECTION
2'
2'
WATER
DOMESTIC CASTING
FINAL COURSE
PAVEMENT
VALVE BOX COVER
CONCRETE PAD
VALVE BOX
USE 5" SOIL PIPE FOR EXTENSIONS
TAMPED BACKFILL
STAB-IN C.I. OR D.I. PIPE GASKET
WATER
MAIN
VALVE
TAMPED BACKFILL
5"
5 1/2"-5 5/8"
6 7/8"-8"
7 5/8"-8 1/2"
10 1/4"-11"
STANDARD VALVE BOX BOTTOM SECTION

NOTES:
1) VALVE BOX NOT TO CONTACT WATER MAIN
2) ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER.
3) FOR ANY VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5', EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK.
4) TOTAL VALVE BOX WEIGHT: MINIMUM OF 85 LBS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
VALVE BOX INSTALLATION AND EXTENSION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-17	D.W.C.	9-7-99	A.B.B.	4-15-04
	RRH	3-31-00	DHL	8-16-07

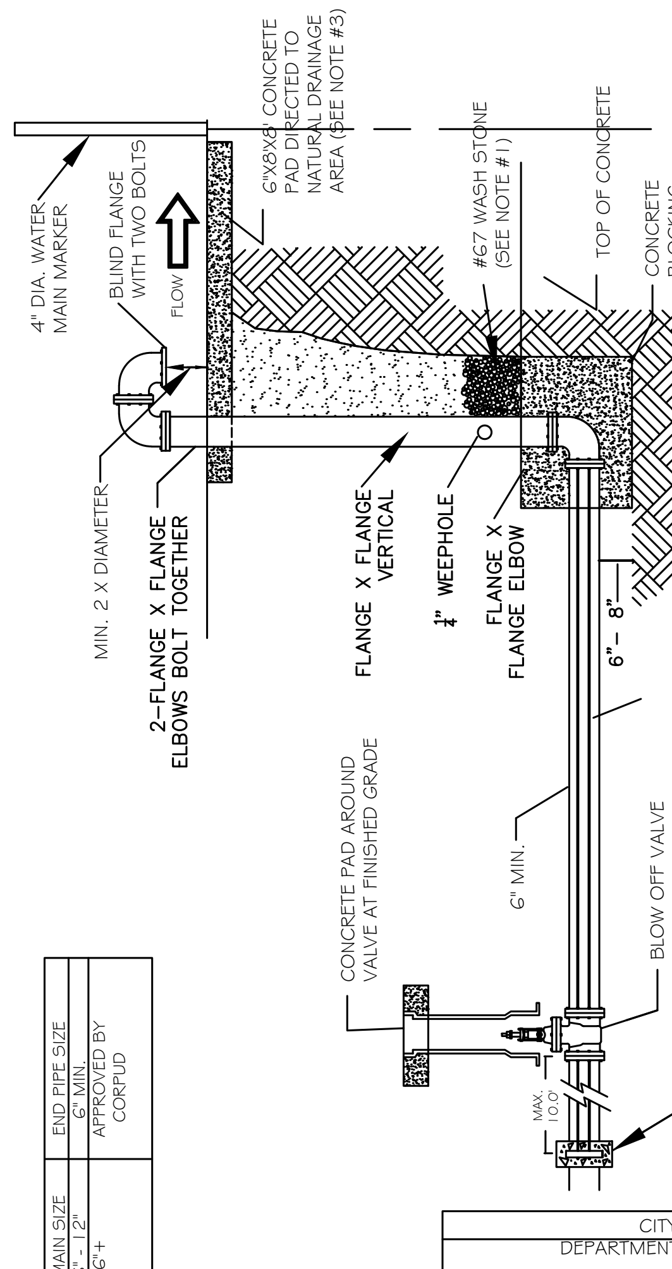


CAST DATE
WATER
USA
Manufacturer
MO/DAY/YR
Class 35
7 3/16"
18"
PLAN VIEW
BOTTOM VIEW
7 5/8"
2"
4"
5 7/16"
SECTION VIEW

NOTE 1 - "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH)
NOTE 2 - VALVE COVER SHALL BE DOMESTICALLY CAST.
NOTE 3 - COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
NOTE 4 - COVER MUST BE CLASS 35 OR GREATER.
NOTE 5 - COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
5 1/4" VALVE BOX DROP LID WITH 4" SKIRT

DWG. NO.	REVISIONS		DATE	
W-18				

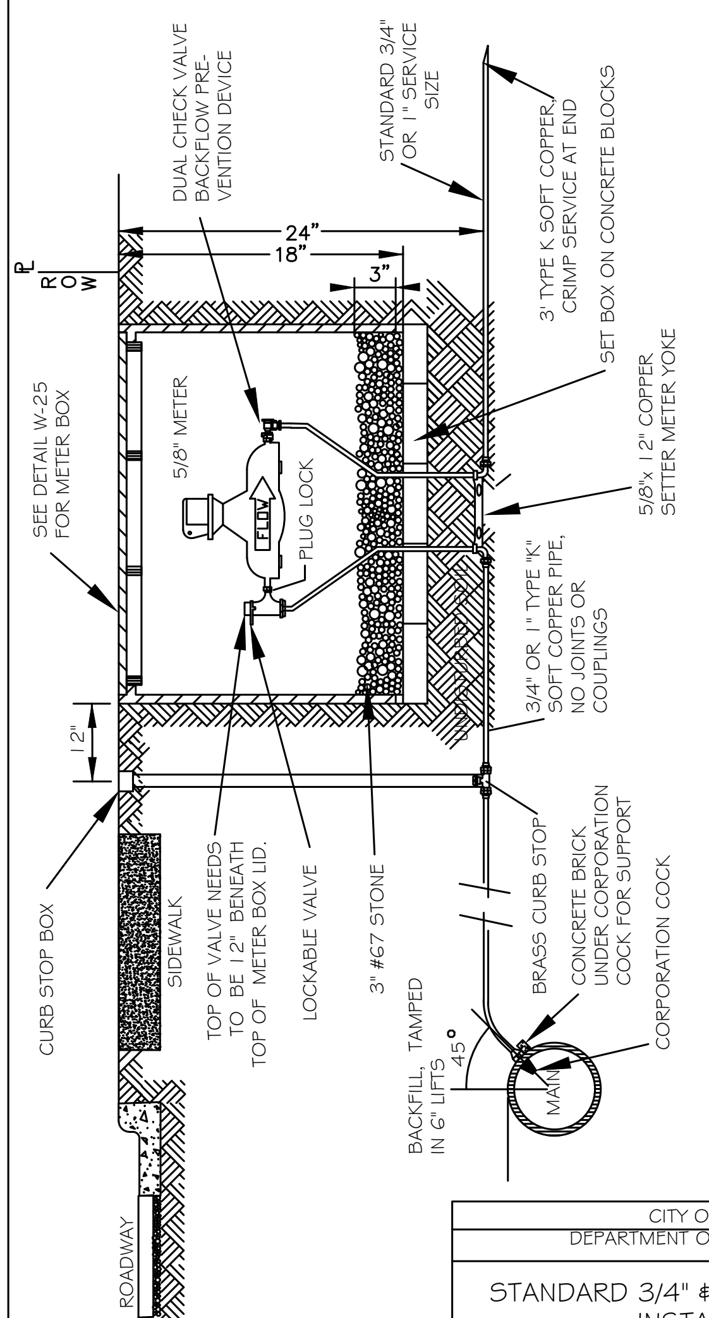


4" DIA. WATER MAIN MARKER
BLIND FLANGE WITH TWO BOLTS
6'X8'X8' CONCRETE PAD DIRECTED TO NATURAL DRAINAGE AREA (SEE NOTE #3)
#67 WASH STONE (SEE NOTE #1)
TOP OF CONCRETE
CONCRETE BLOCKING
FLOW
MIN. 2 X DIAMETER
2-FLANGE X FLANGE ELBOWS BOLT TOGETHER
FLANGE X FLANGE VERTICAL
1" WEEPHOLE
FLANGE X FLANGE ELBOW
6"-8"
CONCRETE PAD AROUND VALVE AT FINISHED GRADE
6" MIN.
BLOW OFF VALVE
SEE DETAILS W-8 & W-9 FOR THRUST BLOCK INFORMATION
MAX. 10.0'
END PIPE SIZE
APPROVED BY COR/PUD
MAIN SIZE
16"+

NOTES:
1. DRILL 1/4" WEEP HOLE FOR STACK DRAINAGE INTO STONE.
2. DOUBLE 3/4" BRIDLE RODS ON BOTH SIDES.
3. A RIP-RAP SWALE FROM FROM CONCRETE SPLASH PAD TO POSITIVE DRAINAGE AREA IS REQUIRED.
4. BOTTOM 90° ELBOW SHALL HAVE BLIND FLANGE ATTACHED WITH TWO BOLTS.
5. INSTALL WATER MAIN MARKER AT R/W OR P/L TO LOCATE MAIN.
6. 3/4" RODS AND BOLTS TO BE HOT DIPPED GALVANIZED.
7. END PIPE SIZE 6" MIN. OR AS APPROVED BY PUBLIC UTILITIES.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
PERMANENT WATER MAIN BLOW OFF ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-22	D.W.C.	7-28-99	DHL	8-16-07
	A.B.B.	4-13-04		



R/W
SEE DETAIL W-25 FOR METER BOX
DUAL CHECK VALVE BACKFLOW PRE-VENTION DEVICE
STANDARD 3/4" OR 1" SERVICE SIZE
24"
18"
3"
3/4" TYPE K SOFT COPPER, CRIMP SERVICE AT END
SET BOX ON CONCRETE BLOCKS
5/8" METER
PLUG LOCK
5/8"x 12" COPPER SETTER METER YOKE
12"
3/4" OR 1" TYPE "K" SOFT COPPER PIPE, NO JOINTS OR COUPLINGS
CURB STOP BOX
SIDEWALK
TOP OF VALVE NEEDS TO BE 12" BENEATH TOP OF METER BOX LID
LOCKABLE VALVE
3" #67 STONE
BACKFILL, TAMPED IN 6" LIFTS
BRASS CURB STOP
MAIN
CONCRETE BRICK UNDER CORPORATION COCK FOR SUPPORT
CORPORATION COCK
ROADWAY

NOTES:
1. WATER METER AS MANUFACTURED BY SENSUS, OR SCHLUMBERGER.
2. DIRECT TAP ALLOWED ON MAINS NO LARGER THAN 16" LINE,
3. METER BOX TO BE LOCATED IN R/W ADJACENT TO PROPERTY OR IN APPROVED EASEMENT ADJACENT TO R/W.
4. WHEN THE GRADE CHANGES ON EXISTING SERVICES, A COPPER RESETTER CAN BE USED TO ADJUST TO GRADE. COPPER RESETTERS ARE PROHIBITED ON NEW SERVICES.
5. CURB STOP BOX SHALL HAVE PLUG STYLE LID WITH PENTAGON BOLT, 1-1/4" STEEL UPPER SECTION, AND ARCH STYLE BASE. STEEL STATIONARY ROD TO BE PROVIDED FOR CURB STOP OPERATION.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD 3/4" & 1" WATER SERVICE INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-23	ABB	4-6-04		
	D.H.L.	6/18/08		

811
Know what's below.
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REV	DATE	DESCRIPTION
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
REV	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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5440 WADE PARK BLVD, SUITE 102
RALEIGH NC 27607
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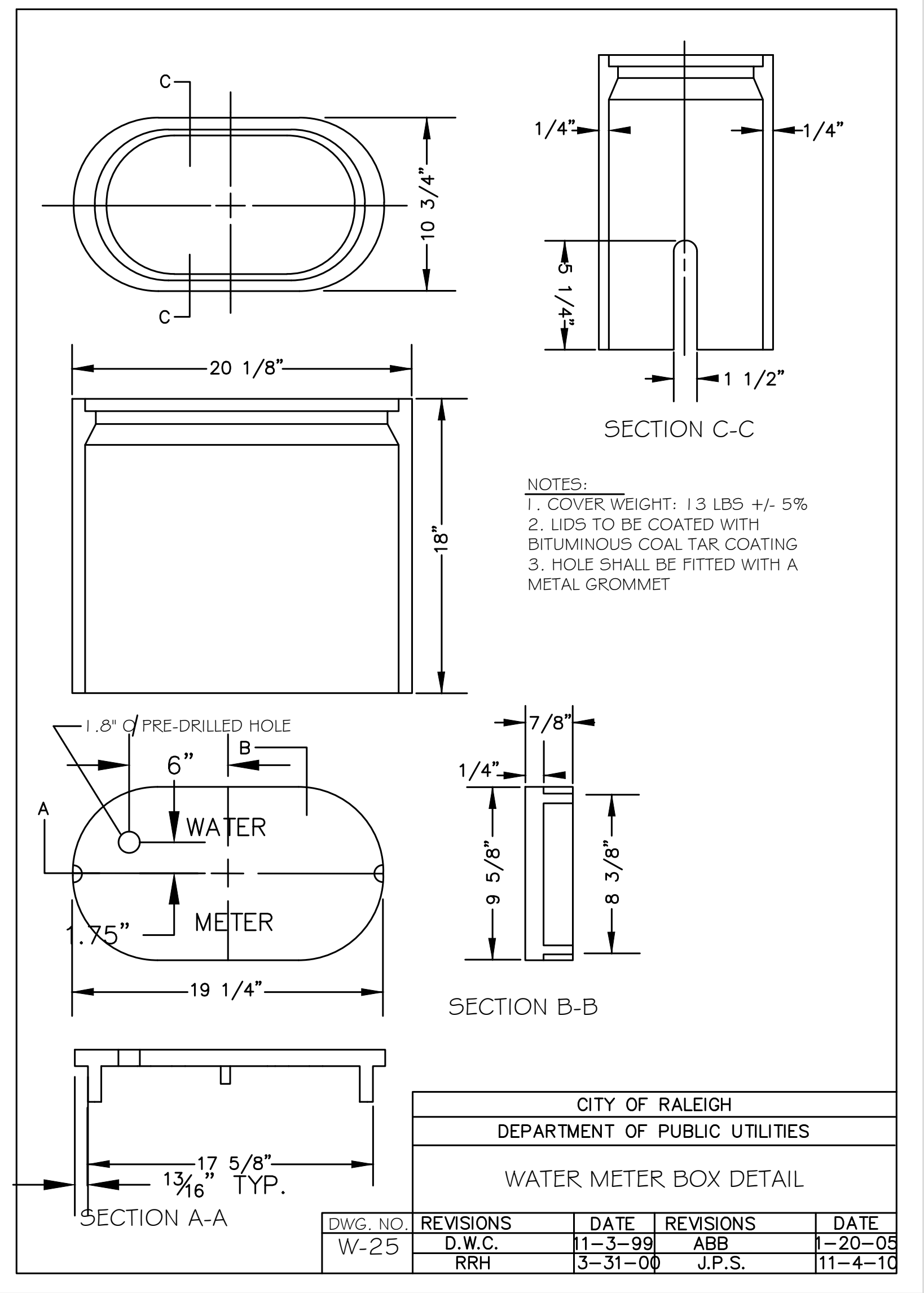
1100 PERIMETER PARK DRIVE, SUITE 112
MORRISVILLE / NORTH CAROLINA / 27560

PARKER RIDGE
82 SCHOOL STREET
ROLESVILLE / NORTH CAROLINA / 27571

WATER DETAIL (1 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

FILE NUMBER: 8430-03
DATE: 11/21/2023
C8-8


C
C
10 3/4"
20 1/8"
18"
1/4"
1/4"
5 1/4"
1 1/2"
SECTION C-C
1.8" Ø PRE-DRILLED HOLE
A
B
6"
WATER
METER
1.75"
19 1/4"
7/8"
1/4"
9 5/8"
8 3/8"
SECTION B-B
17 5/8"
$1\frac{3}{16}$" TYP.
SECTION A-A

NOTES:
1. COVER WEIGHT: 13 LBS +/- 5%
2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING
3. HOLE SHALL BE FITTED WITH A METAL GROMMET

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

WATER METER BOX DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-25	D.W.C.	11-3-99	ABB	1-20-05
	RRH	3-31-00	J.P.S.	11-4-10

REV		
5		
4		
3	11/21/2023	PER TOWN OF ROLESVILLE COMMENT
2	10/02/2023	PER TOWN OF ROLESVILLE COMMENT
1	08/01/2023	PER TOWN OF ROLESVILLE COMMENT
	06/01/2023	INITIAL SUBMITTAL

DESIGNED BY: DF/CD
DRAWN BY: DF/JWM
REVIEWED BY: DF

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PARKER RIDGE
82 SCHOOL STREET
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WATER DETAIL (2 OF 2)

PRELIMINARY
DEBRA M. FERM
12-01-23
NOT FOR CONSTRUCTION

Know what's below.
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FILE NUMBER:
8430-03
DATE: 11/21/2023

C8-9

G:\NCA\Projects\Lennar\8430-03 - Lennar - School Street - Rolesville\03 - DWG\PlanSheets\On-Site\C8-6 - WATER DETAIL.dwg Layout: C8-9 WATER DETAIL (2 OF 2) Plotted: 12/1/2023 1:24:43 PM