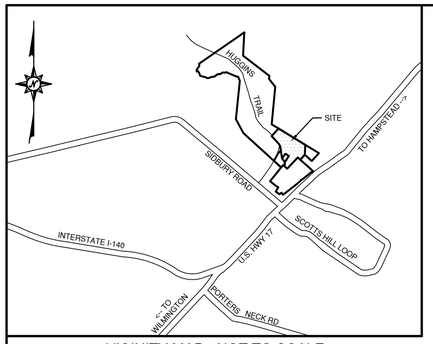
BLAKE FARM

A TRASK LAND COMPANY COMMUNITY

SF-1 SUBDIVISION

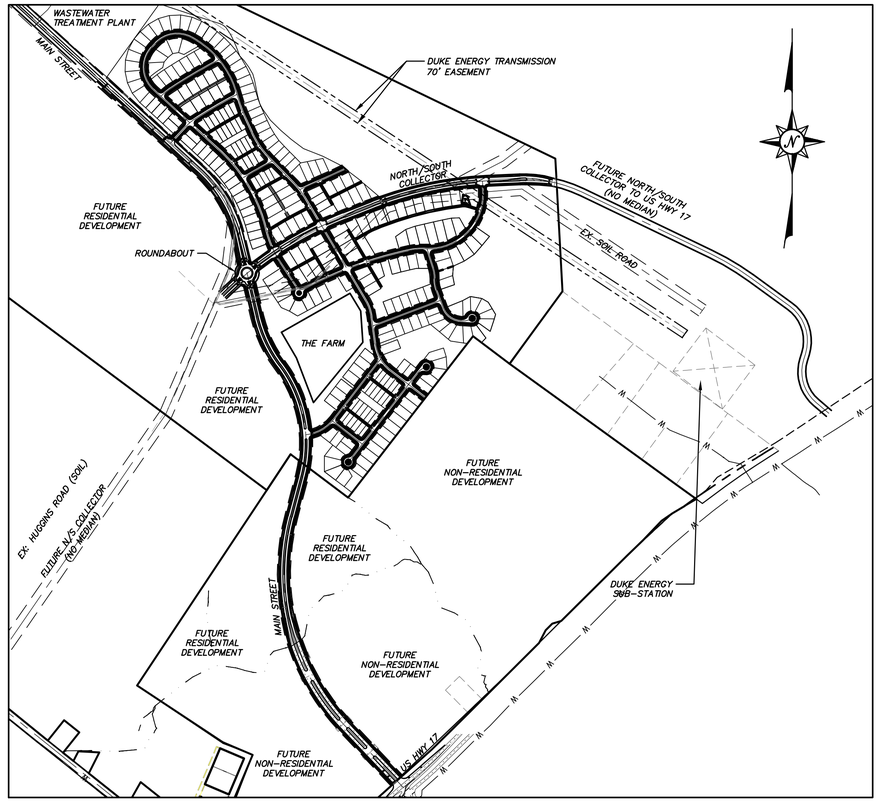
PENDER COUNTY OCTOBER 10, 2014



VICINITY MAP - NOT TO SCALE

SHEET INDEX

SHEET NO.	FILE NO.	DESCRIPTION	SCALE
1	G001	COVER	N/A
2	G002	TYPICAL ROADWAY AND PAVEMENT SECTIONS	N/A
3	CS101	OVERALL SITE PLAN	1"=200'
3A	CS101A	OPEN SPACE MAP	1"=200'
3B	CS101B	PHASING MAP	1"=200'
3C	CS101C	IMPACT MAP	1"=200'
4	CS102	ENLARGED SITE PLAN	1"=50'
5	CS103	ENLARGED SITE PLAN	1"=50'
6	CS104	ENLARGED SITE PLAN	1"=50'
7	CS105	ENLARGED SITE PLAN	1"=50'
8	CS106	ENLARGED SITE PLAN	1"=50'
9	CS107	ENLARGED SITE PLAN	1"=50'
10	CS108	PARCEL INFORMATION TABLES	N/A
11	CS109	PARCEL INFORMATION TABLES	N/A
12	CS110	US HWY 17 ROADWAY IMPROVEMENTS	1"=50'
13	CG101	ENLARGED GRADING PLAN	1'=60'
14	CG102	ENLARGED GRADING PLAN	1'=60'
15	CG103	ENLARGED GRADING PLAN	1'=60'
16	CU101	OVERALL UTILITY PLAN	1"=200'
17	CU102	ENLARGED UTILITY PLAN	1"=50'
18	CU103	ENLARGED UTILITY PLAN	1"=50'
19	CU104	ENLARGED UTILITY PLAN	1"=50'
20	CU105	ENLARGED UTILITY PLAN	1"=50'
21	CU106	ENLARGED UTILITY PLAN	1"=50'
22	CU107	ENLARGED UTILITY PLAN	1"=50'
23	CU701	BLAKE FARM BLVD. PLAN AND PROFILE STA 10+00 TO 22+00	1"=40'
24	CU702	BLAKE FARM BLVD. PLAN AND PROFILE STA 22+00 TO 34+00	1"=40'
25	CU703	BLAKE FARM BLVD. PLAN AND PROFILE STA 34+00 TO 46+00	1"=40'
26	CU704	BLAKE FARM BLVD. PLAN AND PROFILE STA 46+00 TO 58+00	1"=40'
27	CU705	BLAKE FARM BLVD. PLAN AND PROFILE STA 58+00 TO 70+00	1"=40'
28	CU706	BLAKE FARM BLVD. PLAN AND PROFILE STA 70+00 TO 74+00	1"=40'
29	CU707	N/S COLLECTOR PLAN AND PROFILE STA 10+00 TO 22+00	1"=40'
30	CU708	N/S COLLECTOR PLAN AND PROFILE STA 22+00 TO 30+00	1"=40'
31	CU709	N/S COLLECTOR PLAN AND PROFILE STA 30+00 TO 35+45.04	1"=40'
32	CU710	RESIDENTIAL COLLECTOR 1 PLAN AND PROFILE STA 10+00 TO 21+00	1"=40'
33	CU711	RESIDENTIAL COLLECTOR 1 & LOCAL 12 PLAN AND PROFILE STA 21+00 TO 33+00	1"=40'
34	CU712	RESIDENTIAL COLLECTOR 1 PLAN AND PROFILE STA 33+00 TO 45+00	1"=40'
35	CU713	RES. COLLECTOR 1 & RES. LOCAL 4 PLAN AND PROFILE	1"=40'
36	CU714	RESIDENTIAL LOCAL 1 PLAN AND PROFILE STA 10+00 TO 15+29.86	1"=40'



NOT TO SCALE

Trask Land CO INC

1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

McKIM&CREED

243 North Front Street
Wilmington, NC 28401
Phone: (910) 343-1048
Fax: (910) 251-8282
NC FIRM LICENSE F-1222
www.mckimcreed.com

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

PRELIMINARY DESIGN NOT FOR CONSTRUCTION

BLAKE FARM

— EST 1946 —

SHEET INDEX

SHEET NO.	FILE NO.	DESCRIPTION	SCALE
37	CU715	RES. COLL. 3, RES. LOCALS 2 & 3 PLAN AND PROFILE STA 10+00 TO 16+43.91 AND 10+00 TO 12+57.17	1"=40'
38	CU716	ALLEYS 1, 2, & 3 PLAN AND PROFILE	1"=40'
39	CU717	ALLEYS 4, 5, & 6 PLAN AND PROFILE	1"=40'
40	CU718	RESIDENTIAL COLLECTOR 2 PLAN AND PROFILE STA 10+00 TO 18+00	1"=40'
41	CU719	RESIDENTIAL COLLECTOR 2 PLAN AND PROFILE STA 18+00 TO 25+93	1"=40'
42	CU720	RESIDENTIAL LOCAL 10 PLAN AND PROFILE STA 10+00 TO 22+00	1"=40'
43	CU721	RESIDENTIAL LOCAL 10 PLAN AND PROFILE STA 22+00 TO 31+52.39	1"=40'
44	CU722	ALLEYS 7, 8, & 9 PLAN AND PROFILE	1"=40'
45	CU723	ALLEY 10 PLAN AND PROFILE STA 10+00 TO 20+24.31	1"=40'
46	CU724	RESIDENTIAL LOCAL 5 PLAN AND PROFILE STA 10+00 TO 17+93.86	1"=40'
47	CU725	RESIDENTIAL LOCAL 6 & ALLEY 11 PLAN AND PROFILE	1"=40'
48	CU726	RESIDENTIAL LOCAL 11 PLAN AND PROFILE STA 10+00 TO 18+38.13	1"=40'
49	CU727	RESIDENTIAL 7 & 9 PLAN AND PROFILE STA 10+00 TO 20+00.14	1"=40'
50	CU728	RES. LOCAL 8 & ALLEYS 13 & 14 PLAN AND PROFILE	1"-40'
51	CU301	PUMP STATION DETAILS	1"-10'
52	CS501	SITE DETAILS	N/A
53	CU501	UTILITY DETAILS	N/A
54	CU502	UTILITY DETAILS	N/A
55	CN501	CONSTRUCTED WETLAND DETAILS	N/A
56	CN502	WET DETENTION POND #1 DETAILS	N/A
57	CN503	WET DETENTION POND #2 DETAILS	N/A
58	CN504	WET DETENTION POND#3 DETAILS	N/A
59	CP501	PAVEMENT MARKING & TRAFFIC SIGN DETAILS	N/A
60	CP502	PAVEMENT MARKING & TRAFFIC SIGN DETAILS	N/A
61	CT501	ROUNDABOUT DETAILS	N/A
62	CT502	ROUNDABOUT SECTION	N/A
63	CT503	ROADWAY DETAILS	N/A
64	CT504	ROADWAY DETAILS	N/A
65	CT505	ROADWAY DETAILS	N/A
66	CT506	ROADWAY DETAILS	N/A

BLAKE FARM SF-1 SUBDIVISION

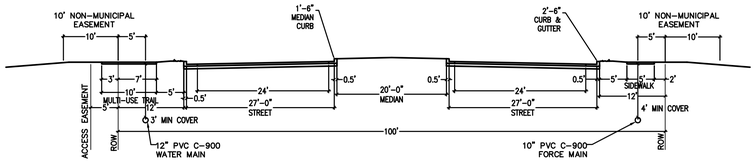
MC FILE: 06525-0001

STATUS: PRELIMINARY PLAT

S:\6525\001\06-Drawings\G001_06525001.dwg, 10/13/2014 3:38:17 PM, cruesey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

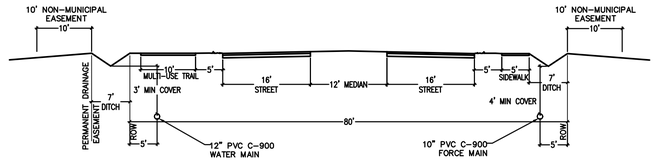
BLAKE FARM BOULEVARD - A

100' R/W (PUBLIC)



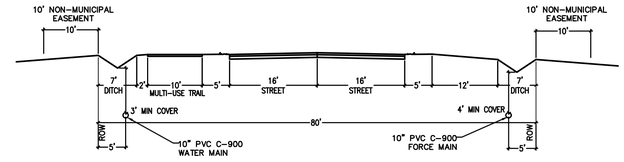
BLAKE FARM BOULEVARD - B

80' R/W (PUBLIC)



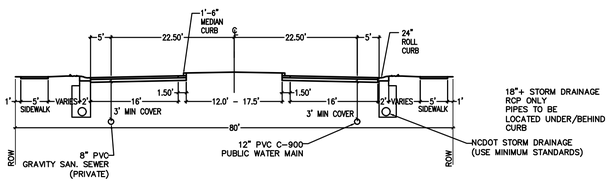
BLAKE FARM BOULEVARD - C

80' R/W (PUBLIC)



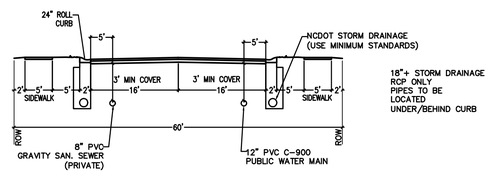
NORTH/SOUTH COLLECTOR

80' R/W (PUBLIC)



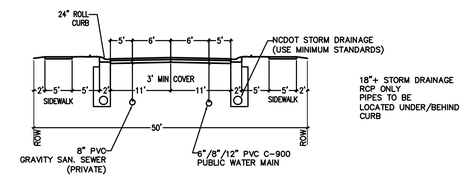
NORTH/SOUTH COLLECTOR (NO MEDIAN)

60' R/W (PUBLIC)



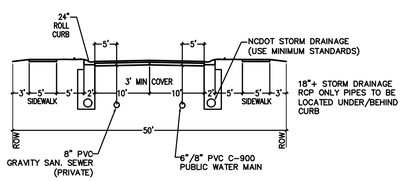
RESIDENTIAL COLLECTOR

50' R/W (PUBLIC)



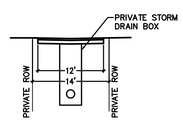
RESIDENTIAL LOCAL

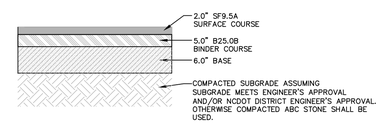
50' R/W (PUBLIC)



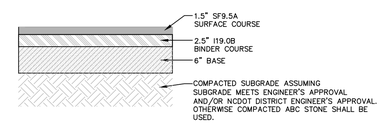
ALLEY

14' EASEMENT (PRIVATE)

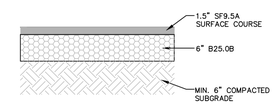




ASPHALT PAVEMENT SECTION
(MAIN STREET)



ASPHALT PAVEMENT SECTION
(COLLECTORS AND LOCAL STREETS)



ASPHALT PAVEMENT SECTION
(ALLEY)

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10/10/14

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
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BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

TYPICAL ROADWAY AND PAVEMENT SECTIONS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER G002
DRAWING NUMBER 2

STATUS: PRELIMINARY PLAT
REVISION B

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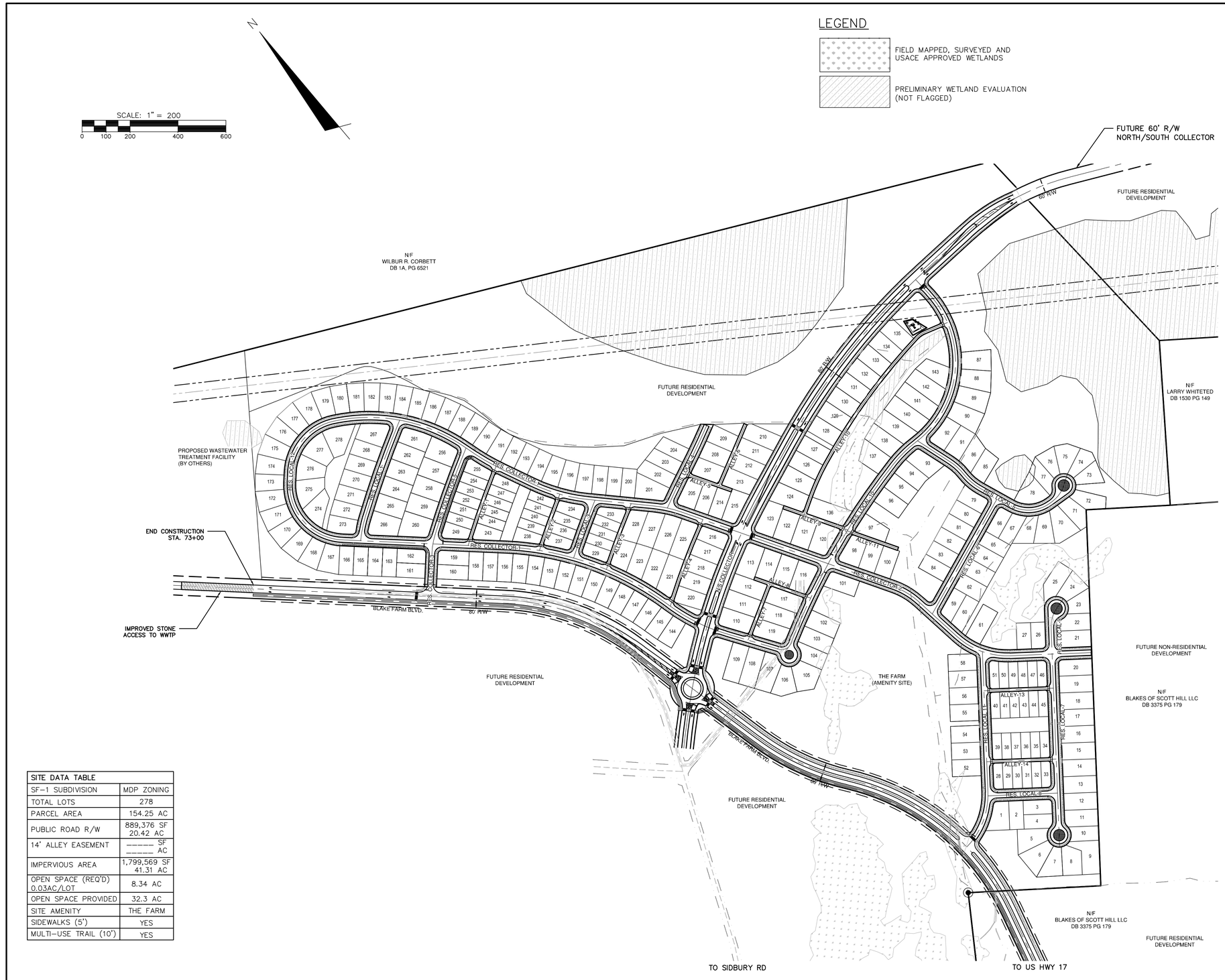
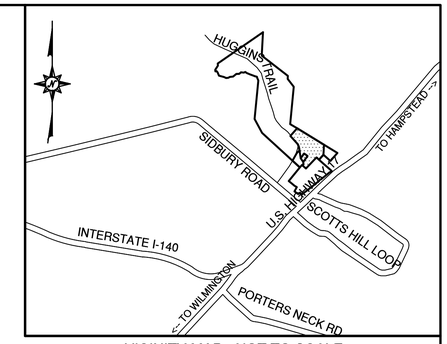
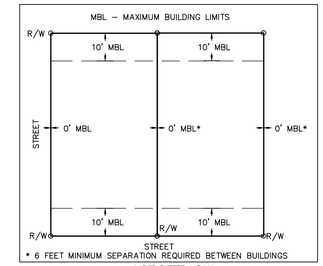




VICINITY MAP - NOT TO SCALE



LOT SETBACK
NOT TO SCALE

SITE DATA TABLE	
SF–1 SUBDIVISION	MDP ZONING
TOTAL LOTS	278
PARCEL AREA	154.25 AC
PUBLIC ROAD R/W	889,376 SF 20.42 AC
14' ALLEY EASEMENT	------ SF ------ AC
IMPERVIOUS AREA	1,799,569 SF 41.31 AC
OPEN SPACE (REQ'D) 0.03AC/LOT	8.34 AC
OPEN SPACE PROVIDED	32.3 AC
SITE AMENITY	THE FARM
SIDEWALKS (5')	YES
MULTI–USE TRAIL (10')	YES

SITE NOTES:

1. OPEN SPACE REQ'D: 0.03 AC/LOT
   278 LOTS X 0.03 AC./LOT = 8.34 AC.
   OPEN SPACE PROVIDED: 32.3 ACRES
2. THERE IS NO EVIDENCE OF ENDANGERED SPECIES OR HABITAT ISSUES ON THE PROPERTY. THERE ARE NO STATE CULTURAL RESOURCES FOUND ON THE PROPERTY.
3. THE TRACT IS NOT WITHIN SPECIAL FLOOD HAZARD AREA DESIGNATED BY NC FLOODPLAIN MAPPING.
4. PUBLIC STREETS ARE DESIGNED TO MEET NCDOT STANDARDS AND SPECIFICATIONS FOR COMPLETE STREETS AND NCDOT SUBDIVISION MANUAL.
5. PUBLIC SANITARY SEWER TO BE PROVIDED BY PLURIS HAMPSTEAD, LLC.
6. PUBLIC WATER TO BE PROVIDED BY PENDER COUNTY UTILITIES.
7. A BUFFER CONSISTING OF AT LEAST 1 CANOPY TREE, 2 UNDERSTORY TREES AND EITHER A GRASS OR OTHER APPROVED VEGETATIVE GROUND COVER OF AT LEAST 98% COVERAGE (EXCEPT WITHIN 4 FEET OF THE BASE OF ANY TREE OR SHRUB) OR 32 SHRUBS PER 100 LINEAR FEET WILL BE APPLIED ALONG MAIN STREET.
8. SITE IS LOCATED WITHIN FEMA FLOOD ZONE X – MINIMAL FLOOD RISK.
9. SEE SHEET G002 FOR ROADWAY SECTIONS AND PAVEMENT DESIGN.
10. SEE SHEETS CS108 & CS109 FOR PARCEL AREAS AND BOUNDARY BEARINGS & DISTANCES.

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN

SEAL
PRELIMINARY- DO NOT USE FOR CONSTRUCTION

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BLAKE FARM

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

OVERALL SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=200'
VERTICAL: N/A

M&C FILE NUMBER: CS101
DRAWING NUMBER: 3

STATUS: PRELIMINARY PLAT
REVISION: B

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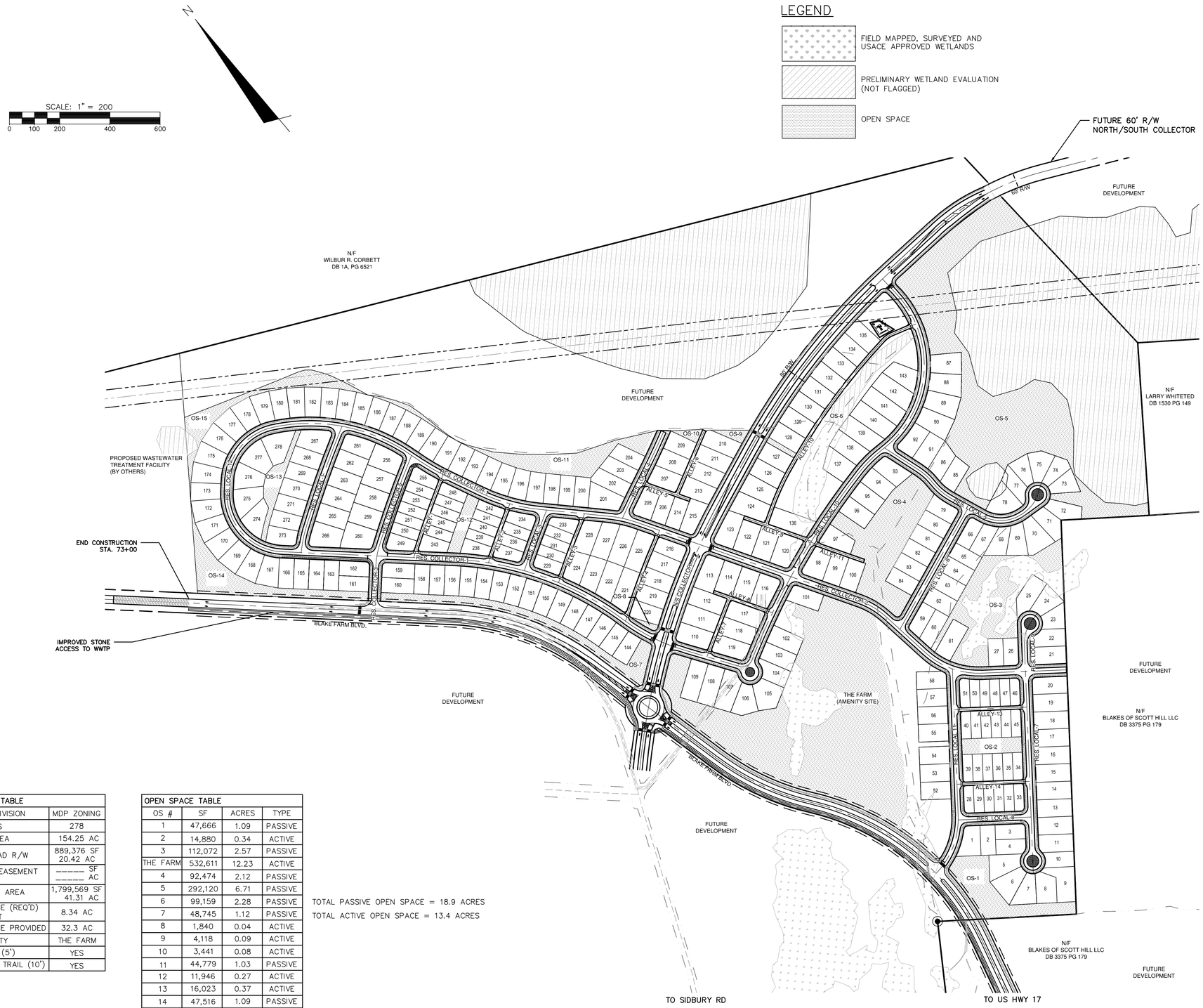
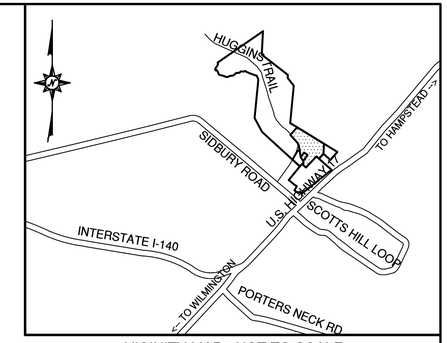
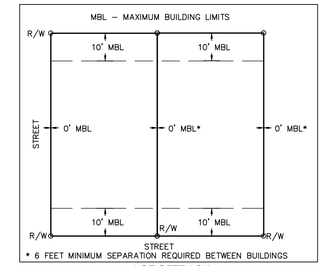




VICINITY MAP - NOT TO SCALE



LOT SETBACK
NOT TO SCALE

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OPEN SPACE PROVIDED	32.3 AC
SITE AMENITY	THE FARM
SIDEWALKS (5')	YES
MULTI–USE TRAIL (10')	YES

OPEN SPACE TABLE			
OS #	SF	ACRES	TYPE
1	47,666	1.09	PASSIVE
2	14,880	0.34	ACTIVE
3	112,072	2.57	PASSIVE
THE FARM	532,611	12.23	ACTIVE
4	92,474	2.12	PASSIVE
5	292,120	6.71	PASSIVE
6	99,159	2.28	PASSIVE
7	48,745	1.12	PASSIVE
8	1,840	0.04	ACTIVE
9	4,118	0.09	ACTIVE
10	3,441	0.08	ACTIVE
11	44,779	1.03	PASSIVE
12	11,946	0.27	ACTIVE
13	16,023	0.37	ACTIVE
14	47,516	1.09	PASSIVE
15	39,482	0.91	PASSIVE

TOTAL PASSIVE OPEN SPACE = 18.9 ACRES
TOTAL ACTIVE OPEN SPACE = 13.4 ACRES

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10/10/14

SEAL
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BLAKE FARM
EST. 1948

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

OPEN SPACE MAP

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=200'
VERTICAL: N/A

M&C FILE NUMBER CS101A
DRAWING NUMBER 3A

STATUS: PRELIMINARY PLAT
REVISION B

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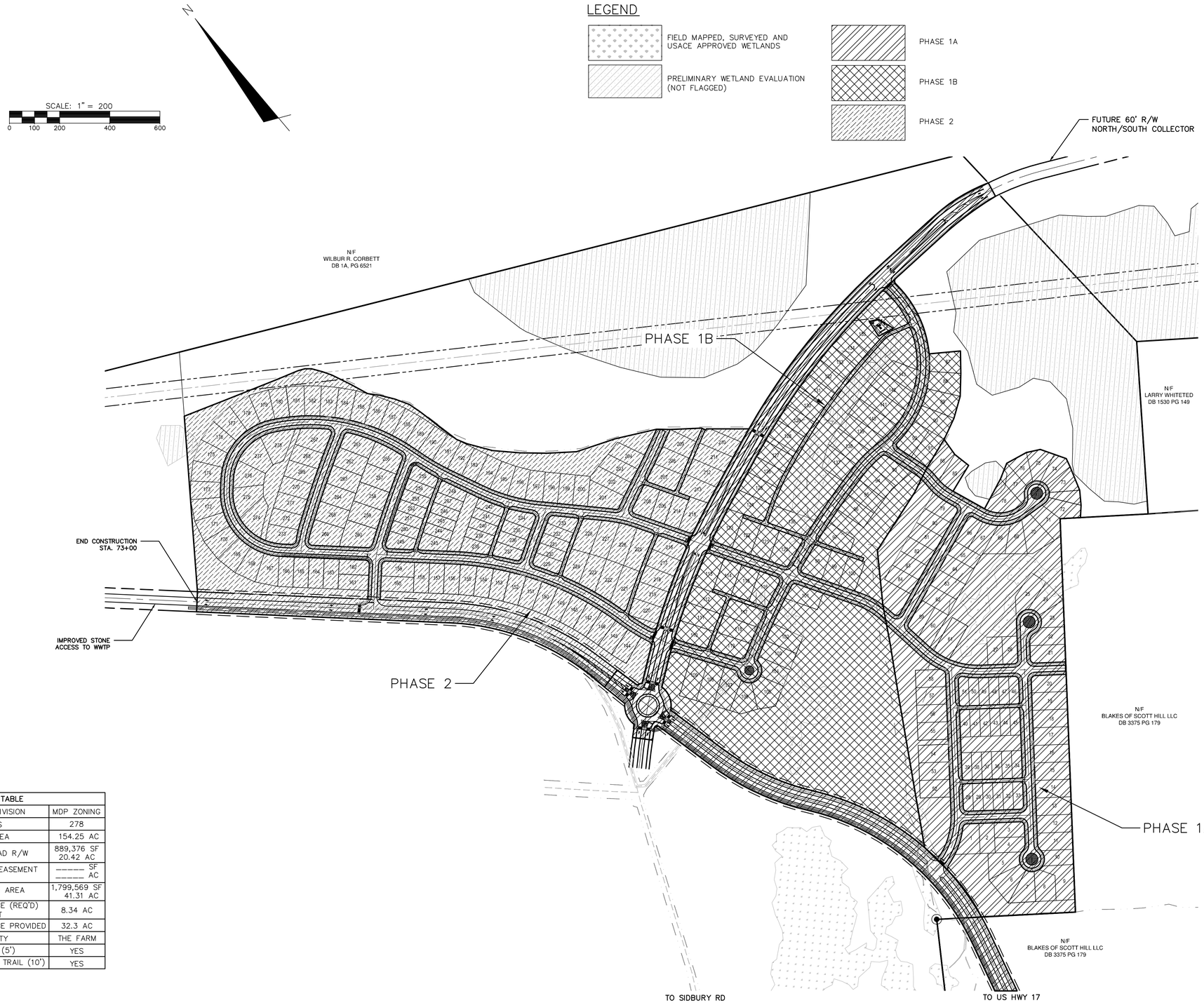
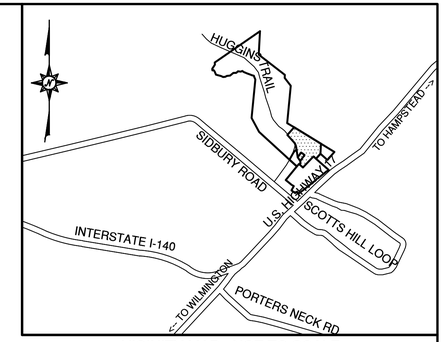
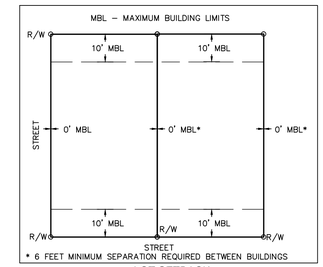
ARCH expand D (24.00 x 36.00 inches), 1:1





VICINITY MAP - NOT TO SCALE



LOT SETBACK
NOT TO SCALE

SITE NOTES:

1. OPEN SPACE REQ'D: 0.03 AC/LOT
   278 LOTS X 0.03 AC./LOT = 8.34 AC.
   OPEN SPACE PROVIDED: 32.3 ACRES
2. THERE IS NO EVIDENCE OF ENDANGERED SPECIES OR HABITAT ISSUES ON THE PROPERTY. THERE ARE NO STATE CULTURAL RESOURCES FOUND ON THE PROPERTY.
3. THE TRACT IS NOT WITHIN SPECIAL FLOOD HAZARD AREA DESIGNATED BY NC FLOODPLAIN MAPPING.
4. PUBLIC STREETS ARE DESIGNED TO MEET NCDOT STANDARDS AND SPECIFICATIONS FOR COMPLETE STREETS AND NCDOT SUBDIVISION MANUAL.
5. PUBLIC SANITARY SEWER TO BE PROVIDED BY PLURIS HAMPSTEAD, LLC.
6. PUBLIC WATER TO BE PROVIDED BY PENDER COUNTY UTILITIES.
7. A BUFFER CONSISTING OF AT LEAST 1 CANOPY TREE, 2 UNDERSTORY TREES AND EITHER A GRASS OR OTHER APPROVED VEGETATIVE GROUND COVER OF AT LEAST 98% COVERAGE (EXCEPT WITHIN 4 FEET OF THE BASE OF ANY TREE OR SHRUB) OR 32 SHRUBS PER 100 LINEAR FEET WILL BE APPLIED ALONG MAIN STREET.
8. SITE IS LOCATED WITHIN FEMA FLOOD ZONE X – MINIMAL FLOOD RISK.
9. SEE SHEET G002 FOR ROADWAY SECTIONS AND PAVEMENT DESIGN.
10. SEE SHEETS CS108 & CS109 FOR PARCEL AREAS AND BOUNDARY BEARINGS & DISTANCES.

SITE DATA TABLE	
SF–1 SUBDIVISION	MDP ZONING
TOTAL LOTS	278
PARCEL AREA	154.25 AC
PUBLIC ROAD R/W	889,376 SF 20.42 AC
14' ALLEY EASEMENT	_____ SF _____ AC
IMPERVIOUS AREA	1,799,569 SF 41.31 AC
OPEN SPACE (REQ'D) 0.03AC/LOT	8.34 AC
OPEN SPACE PROVIDED	32.3 AC
SITE AMENITY	THE FARM
SIDEWALKS (5')	YES
MULTI–USE TRAIL (10')	YES

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10-10-2014

SEAL
PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
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www.mckimcreed.com

Trask Land CO INC
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Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

PHASING MAP

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=200'
VERTICAL: N/A

M&C FILE NUMBER: CS101
DRAWING NUMBER: 3B

STATUS: PRELIMINARY PLAT
REVISION: B

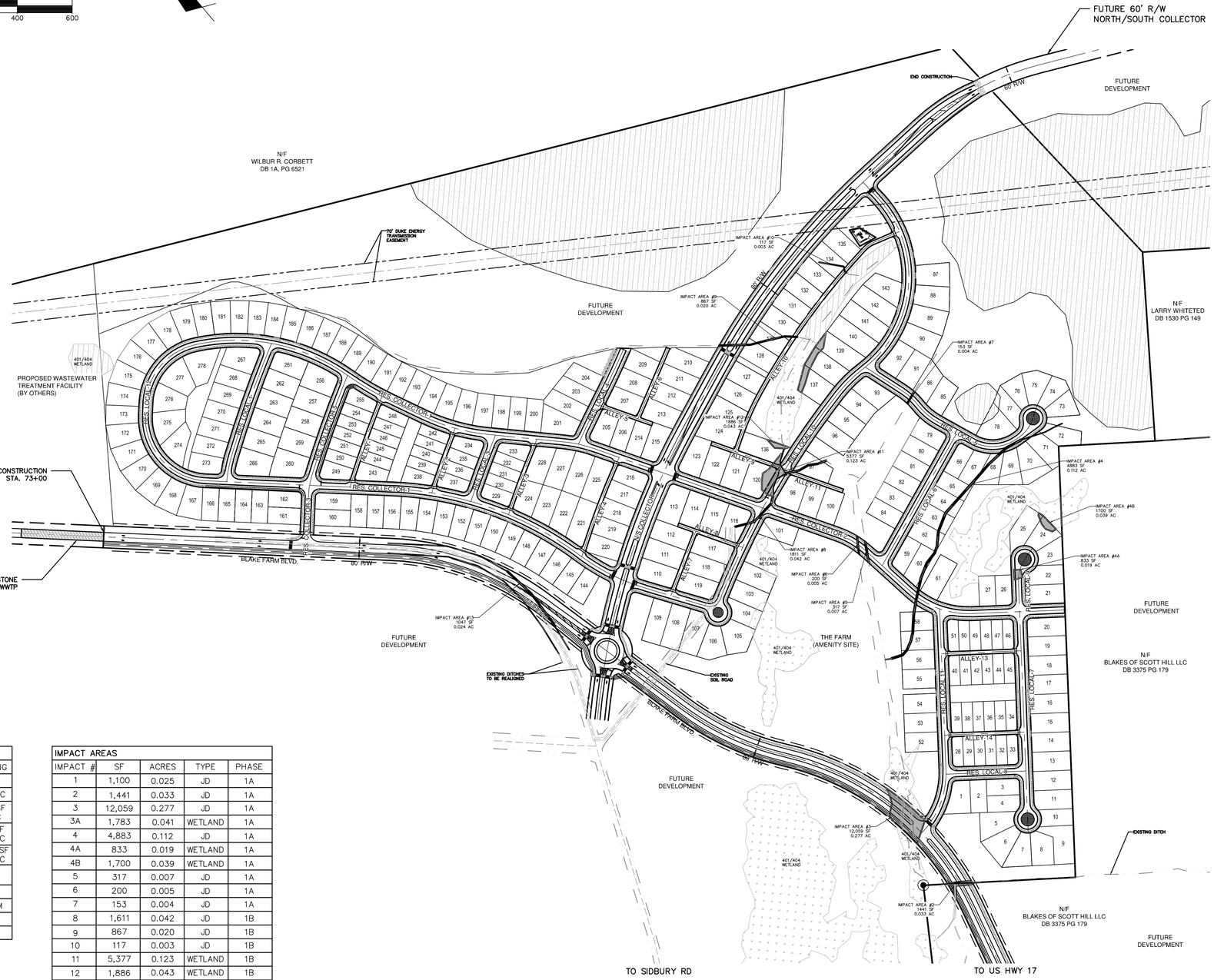
S:\6525\0001\80-Drawings\CS101B_06252S001.dwg, 10/13/2014 11:31:45 AM, cnursey, ARCH expand D (24.00 x 36.00 Inches), 1:1

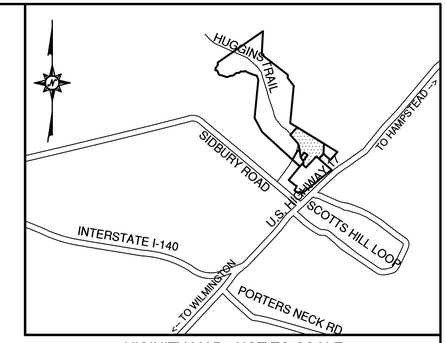
LEGEND

- FIELD MAPPED, SURVEYED AND USACE APPROVED WETLANDS
- PRELIMINARY WETLAND EVALUATION (NOT FLAGGED)

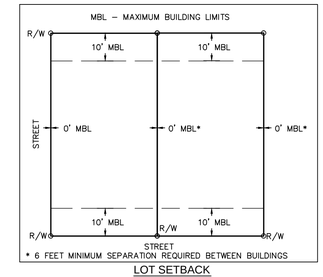
SCALE: 1" = 200

0 100 200 400 600





VICINITY MAP - NOT TO SCALE



LOT SETBACK
NOT TO SCALE

SITE NOTES:

1. OPEN SPACE REQ'D: 0.03 AC/LOT
   278 LOTS X 0.03 AC./LOT = 8.34 AC.
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9. SEE SHEET G002 FOR ROADWAY SECTIONS AND PAVEMENT DESIGN.
10. SEE SHEETS CS108 & CS109 FOR PARCEL AREAS AND LOT LINE BEARINGS & DISTANCES.

SITE DATA TABLE	
SF–1 SUBDIVISION	MDP ZONING
TOTAL LOTS	278
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14' ALLEY EASEMENT	_____ SF _____ AC
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OPEN SPACE (REQ'D) 0.03AC/LOT	8.34 AC
OPEN SPACE PROVIDED	32.3 AC
SITE AMENITY	THE FARM
SIDEWALKS (5')	YES
MULTI–USE TRAIL (10')	YES

IMPACT AREAS				
IMPACT #	SF	ACRES	TYPE	PHASE
1	1,100	0.025	JD	1A
2	1,441	0.033	JD	1A
3	12,059	0.277	JD	1A
3A	1,783	0.041	WETLAND	1A
4	4,883	0.112	JD	1A
4A	833	0.019	WETLAND	1A
4B	1,700	0.039	WETLAND	1A
5	317	0.007	JD	1A
6	200	0.005	JD	1A
7	153	0.004	JD	1A
8	1,611	0.042	JD	1B
9	867	0.020	JD	1B
10	117	0.003	JD	1B
11	5,377	0.123	WETLAND	1B
12	1,886	0.043	WETLAND	1B
13	1,047	0.024	JD	2

*JD=JURSIDICTIONAL DITCH

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTMAN

PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
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BLAKE FARM
EST. 1948

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

IMPACT MAP

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=200'
VERTICAL: N/A

M&C FILE NUMBER CS101C
DRAWING NUMBER 3C

STATUS: PRELIMINARY PLAT
REVISION B

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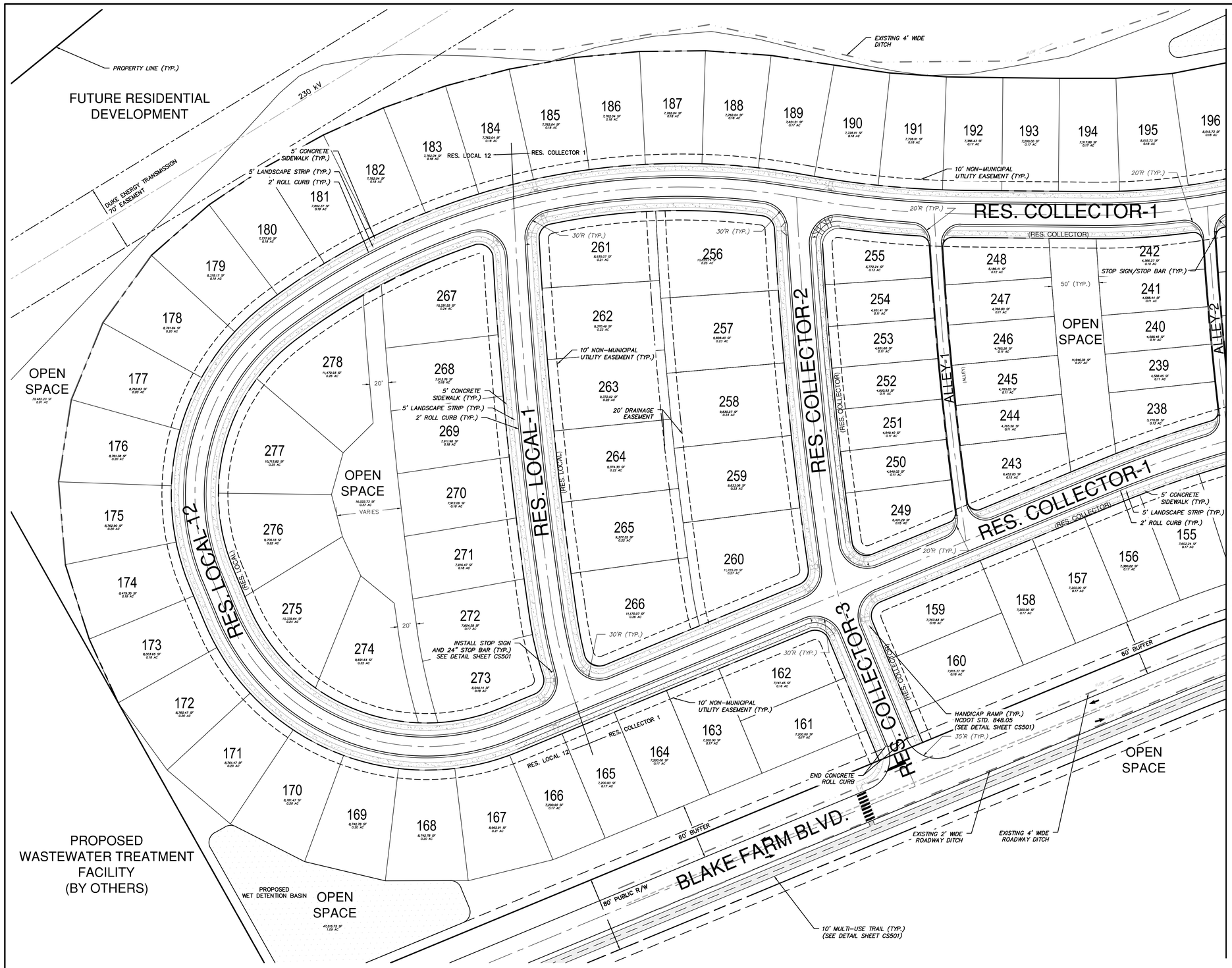

LEGEND

FIELD MAPPED, SURVEYED AND USACE APPROVED WETLANDS

PRELIMINARY WETLAND EVALUATION (NOT FLAGGED)

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN

10-10-2014

SEAL

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BLAKE FARM
EST. 1948

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CS102
DRAWING NUMBER: 4

STATUS: PRELIMINARY PLAT
REVISION: B

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ARCH expand D (24.00 x 36.00 Inches), 1:1

MATCHLINE - SEE SHEET CS106

LEGEND

- FIELD MAPPED, SURVEYED AND USACE APPROVED WETLANDS
- PRELIMINARY WETLAND EVALUATION (NOT FLAGGED)
- STAMPED CONCRETE FLUSH WITH ASPHALT

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO T.C FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

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BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER CS103
DRAWING NUMBER 5

STATUS: PRELIMINARY PLAT
REVISION B

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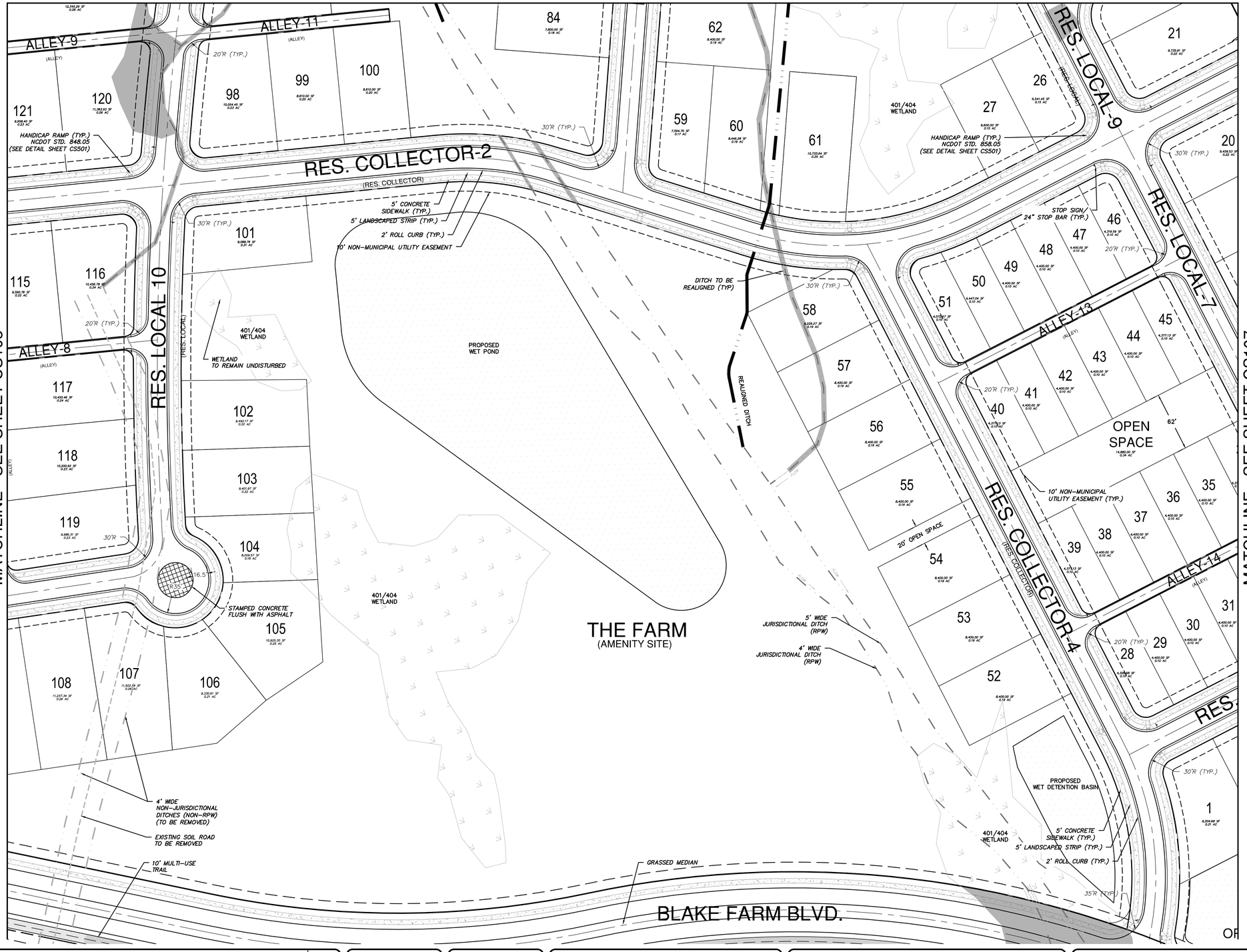
ARCH expand D (24.00 x 36.00 Inches), 1:1

MATCHLINE - SEE SHEETS CS105 & CS106



LEGEND

- FIELD MAPPED, SURVEYED AND USACE APPROVED WETLANDS
- PRELIMINARY WETLAND EVALUATION (NOT FLAGGED)
- STAMPED CONCRETE FLUSH WITH ASPHALT

REV.NO	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

SEAL: PRELIMINARY- DO NOT USE FOR CONSTRUCTION

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BLAKE FARM
EST. 1946

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER
CS104
DRAWING NUMBER
6

STATUS: PRELIMINARY PLAT
REVISION B

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ARCH expand D (24.00 x 36.00 inches), 1:1

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

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BLAKE FARM
EST. 1946

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PENDER COUNTY NORTH CAROLINA

ENLARGED SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CS105
DRAWING NUMBER: 7

STATUS: PRELIMINARY PLAT
REVISION: B

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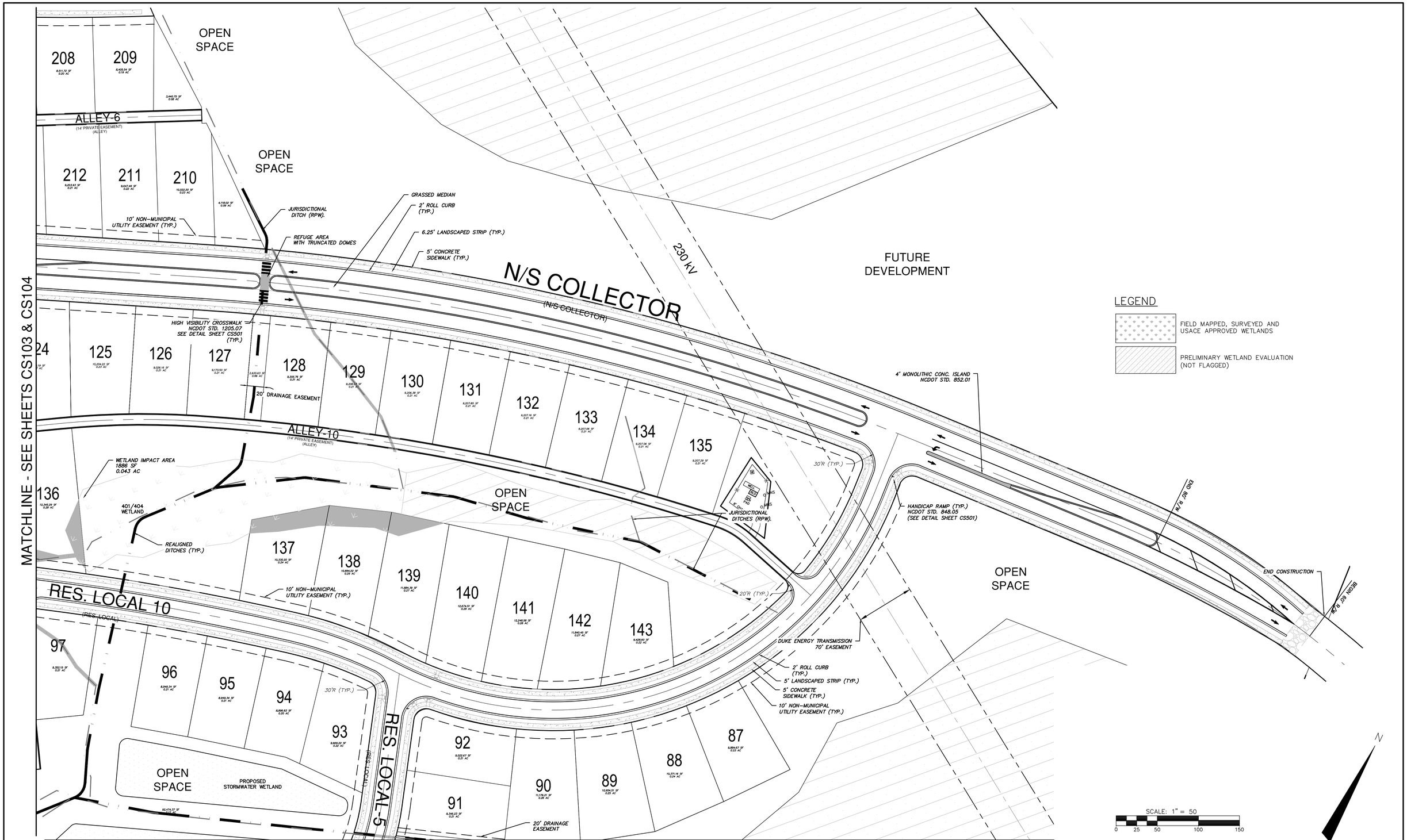

MATCHLINE - SEE SHEET CS105

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO T.C FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10/10/2014

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BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER CS106
DRAWING NUMBER 8

STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\90-Drawings\CS106-107_06525000L1.dwg, 10/13/2014 11:34:13 AM, cmursey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

MATCHLINE - SEE SHEET CS105

MATCHLINE - SEE SHEET CS106

LEGEND

- MAPPED AND USAGE APPROVED WETLANDS
- PRELIMINARY WETLAND EVALUATION (NOT FLAGGED)
- STAMPED CONCRETE FLUSH WITH ASPHALT

SCALE: 1" = 50

0 25 50 100 150

N

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

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ENLARGED SITE PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CS107
DRAWING NUMBER: 9

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\8-Drawings\CS106-107_06525000.1.dwg, 10/13/2014 11:34:21 AM, cmurray,
ARCH expand D (24.00 x 36.00 inches), 1:1

PARCEL NUMBERS, AREAS, AND LAYOUTS FOR SF-1

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
1	9203.68	405.404	21.447 49.322 120.000 100.588 114.048	N87° 17' 21.46"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N56° 32' 15.87"E
2	7200.00	360.000	60.000 60.000 29.162 30.838 120.000 60.000	S37° 46' 57.55"W S37° 46' 57.55"W N52° 13' 02.45"W N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E
3	7148.54	353.354	60.000 105.000 23.354 45.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S7° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
4	7061.22	349.854	60.000 120.000 30.448 27.549 6.356 105.501	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W S60° 19' 55.98"W S79° 14' 23.78"W N52° 13' 02.45"W
5	9920.91	433.575	52.360 140.000 106.552 29.162 105.501	S45° 35' 53.16"W N76° 15' 01.34"W N37° 46' 57.55"E S52° 13' 02.45"E S52° 13' 02.45"E
6	10431.80	442.157	8.162 148.726 120.000 140.000 25.268	S18° 02' 01.07"E S68° 43' 13.60"W N0° 16' 07.54"E S76° 15' 01.34"E S1° 07' 14.11"W
7	8807.25	411.842	32.989 120.127 110.000 148.726	S41° 36' 42.51"E S36° 58' 39.16"W N52° 59' 35.65"W N68° 43' 13.60"E
8	9462.36	390.452	20.136 68.917 100.168 81.105 120.127	S72° 03' 00.87"E S30° 22' 50.96"E S37° 46' 57.55"W N52° 59' 35.65"W N36° 58' 39.16"E
9	12117.59	528.885	20.136 124.455 140.055 75.154 100.168 68.917	N84° 52' 33.03"E S52° 58' 44.63"E S37° 46' 19.95"W N52° 59' 35.65"W N37° 46' 57.55"E N30° 22' 50.96"W
10	7216.96	378.444	66.634 127.262 60.092 124.455	N35° 09' 36.52"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 58' 44.63"W
11	9696.11	411.123	42.464 140.098 70.000 127.262 3.751 27.549	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W N5° 10' 03.12"W N15° 13' 59.12"E
12	9806.40	420.183	70.000 140.085 70.000 140.098	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
13	9805.51	420.157	70.000 140.072 70.000 140.085	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
14	9804.61	420.132	70.000 140.060 70.000 140.072	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
15	9803.72	420.106	70.000 140.047 70.000 140.060	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
16	9802.83	420.081	70.000 140.034 70.000 140.047	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
17	9801.93	420.055	70.000 140.021 70.000 140.034	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
18	9801.04	420.030	70.000 140.008 70.000 140.021	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
19	9800.15	420.004	70.000 139.996 70.000 140.008	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 19.95"W N52° 13' 02.45"W
20	9458.53	408.858	123.983 67.984 139.996 51.984 24.911	S52° 13' 02.48"E S37° 46' 19.95"W N52° 13' 02.45"W N37° 46' 57.55"E N82° 46' 57.55"E

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
21	9734.91	412.724	24.911 54.000 139.903 70.000 123.910	N7° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 37.58"W N52° 13' 02.45"W
22	8879.89	395.087	31.736 96.300 70.000 139.903 17.023 40.124	N85° 17' 01.14"E S52° 13' 02.45"E S37° 46' 37.58"W N52° 13' 02.45"W N37° 46' 57.55"E N70° 37' 29.22"E
23	7397.86	368.388	53.356 112.197 106.535 96.300	N36° 31' 46.96"E S81° 58' 29.34"E S37° 46' 37.58"W N52° 13' 02.45"W
24	8452.32	393.863	52.075 130.000 99.591 112.197	N23° 52' 40.82"W N72° 55' 02.61"E S4° 00' 54.87"E N81° 58' 29.34"W
25	10392.22	494.793	77.233 102.422 115.138 70.000 130.000	S82° 02' 01.70"W N37° 46' 57.55"E N72° 55' 02.61"E S17° 04' 57.39"E S72° 55' 02.61"W
26	6541.45	332.911	44.000 110.000 60.000 94.000 24.911	N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W S82° 46' 57.55"W
27	6600.00	340.000	60.000 110.000 60.000 110.000	N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W
28	4325.68	288.924	85.000 15.569 30.000 110.000 25.000 23.354	N37° 46' 57.55"E N82° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N7° 13' 02.45"W
29	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
30	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
31	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
32	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
33	4325.68	288.924	30.000 15.569 85.000 23.354 25.000 110.000	S52° 13' 02.45"E S7° 13' 02.45"E S37° 46' 57.55"W S82° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
34	4377.13	295.569	100.000 15.569 30.000 110.000 40.000	S37° 46' 57.55"W S82° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E
35	4400.00	300.000	40.000 110.000 40.000 110.000	N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W
36	4400.00	300.000	40.000 110.000 40.000 110.000	N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W
37	4400.00	300.000	40.000 110.000 40.000 110.000	N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W
38	4400.00	300.000	40.000 110.000 40.000 110.000	N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W
39	4377.13	295.569	30.000 15.569 100.000 40.000 110.000	N52° 13' 02.45"W N7° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W
40	4377.13	295.569	100.000 15.569 30.000 110.000 40.000	N37° 46' 57.55"E N82° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
41	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
42	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
43	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
44	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
45	4377.13	295.569	30.000 15.569 100.000 40.000 110.000	S52° 13' 02.45"E S7° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
46	4318.59	288.480	84.000 15.569 30.000 110.000 24.000 24.911	S37° 46' 57.55"W S82° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E S52° 13' 02.45"E S7° 13' 02.45"E
47	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
48	4400.00	300.000	40.000 110.000 40.000 110.000	S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
49	4400.00	300.000	8.564 31.436 110.000 40.000 110.000	S52° 13' 02.45"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
50	4447.04	303.747	40.208 110.000 40.000 113.539	S47° 09' 41.63"E S37° 46' 57.55"W N52° 13' 02.45"W N37° 46' 57.55"E
51	4571.67	299.822	92.818 25.691 22.204 113.539 30.000 15.569	N37° 46' 57.55"E N88° 50' 57.09"E S41° 58' 59.21"E S37° 46' 57.55"W N52° 13' 02.45"W N7° 13' 02.45"W
52	8400.00	380.000	70.000 120.000 70.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
53	8400.00	380.000	70.000 120.000 70.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
54	8400.00	380.000	70.000 120.000 70.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
55	8400.00	380.000	70.000 120.000 70.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
56	8400.00	380.000	70.000 120.000 70.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
57	8400.00	380.000	70.000 120.000 70.000 120.000	N37° 46' 57.55"E S52° 13' 02.45"E S37° 46' 57.55"W N52° 13' 02.45"W
58	8229.27	370.304	69.997 100.701 11.621 17.496 50.488 120.000	N38° 09' 52.87"E S51° 43' 01.58"E S25° 54' 37.56"E S5° 47' 41.54"W S37° 46' 57.55"W N52° 13' 02.45"W
59	7593.70	372.136	20.559 108.070 60.000 133.858 49.649	N30° 50' 02.39"E N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W N7° 39' 48.26"W
60	8446.28	403.115	133.858 60.000 147.685 61.573	N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W N7° 41' 29.26"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
61	10732.94	443.964	151.258 70.000 152.518 70.189	N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W N19° 38' 14.57"W
62	8400.00	380.000	60.000 70.000 120.000 70.000 60.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W N20° 40' 06.96"W
63	8400.00	380.000	120.000 70.000 120.000 70.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W
64	8400.00	380.000	120.000 70.000 120.000 70.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W
65	7200.00	360.000	120.000 60.000 60.000 60.000 60.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S20° 40' 06.96"E S69° 19' 53.04"W
66	7156.79	354.609	60.000 105.000 23.354 24.479 20.569	N20° 40' 06.96"W N69° 19' 53.04"E S65° 40' 06.96"E S20° 40' 06.96"E S24° 02' 08.63"E
67	7706.09	383.937	121.207 60.000 121.207 63.105 130.000 9.625	S69° 19' 53.04"W N20° 40' 06.96"W N69° 19' 53.04"E S37° 43' 59.56"E S69° 19' 53.04"W S69° 19' 53.04"W
68	7790.31	387.850	47.982 120.000 89.868 130.000	S55° 55' 05.91"E S50° 16' 05.15"W N50° 07' 11.36"W N69° 19' 53.04"E
69	8537.99	396.763	137.955 89.868 120.000 48.940	S30° 19' 36.03"W N50° 07' 11.36"W N50° 16' 05.15"E S71° 47' 04.67"E
70	11259.09	443.430	143.155 102.297 20.000 137.955 18.658 21.365	S2° 50' 02.65"E N81° 36' 37.95"W N50° 07' 11.36"W N30° 19' 36.03"E S82° 51' 02.17"E S85° 54' 18.00"E
71	8856.18	392.811	89.599 89.868 70.003 30.000 143.155 60.054	S12° 45' 36.57"E S37° 46' 37.58"W N82° 17' 15.13"W N2° 50' 02.65"W S85° 54' 18.00"E
72	8414.35	393.238	89.599 9.964 30.868 132.752 49.009 81.036 0.009	N12° 45' 36.57"W S85° 54' 18.00"E N76° 24' 32.18"E S36° 24' 12.85"E S43° 22' 04.13"W N53° 06' 14.73"W N12° 45' 36.58"W
73	7495.95	372.549	120.000 101.387 120.993 30.169	S88° 55' 20.56"E S17° 50' 18.51"W N54° 19' 13.54"W N18° 21' 47.86"E
74	7084.94	358.239	121.178 50.805 35.787 120.000 30.469	N67° 02' 31.31"E S30° 41' 34.26"E S14° 41' 11.70"W N88° 55' 20.56"W N16° 22' 47.93"W
75	8793.83	387.252	120.211 56.693 58.702 121.178 30.469	N27° 30' 35.32"E S60° 49' 42.42"E S30° 41' 34.26"E S67° 02' 31.31"W N51° 17' 42.67"W
76	6901.11	361.017	120.834 89.504 120.211 30.469	N1° 13' 09.39"W S79° 35' 29.66"E S27° 30' 35.32"W N86° 12' 37.41"W
77	7591.28	395.619	131.806 67.393 120.834 41.819 33.767	N1° 13' 09.39"W N61° 41' 27.21"E S1° 13' 09.39"E S52° 22' 16.94"W S56° 02' 58.01"W
78	10910.56	429.592	135.183 131.806 6.357 13.923 142.324	N68° 08' 07.31"E S1° 13' 09.39"E S88° 53' 29.68"W N85° 54' 18.00"W N53° 17' 12.48"W
79	7905.91	371.641	120.000 72.658 62.652 42.976 23.354 50.000	N20° 40' 06.96"W N69° 19' 53.04"E S13° 37' 47.88"E S20° 40' 06.96"E S24° 19' 53.04"W S69° 19' 53.04"W
80	7800.00	370.000	120.000 65.000 120.000 65.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
81	7800.00	370.000	120.000 65.000 120.000 65.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W
82	7800.00	370.000	120.000 65.000 120.000 65.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W
83	7800.00	370.000	120.000 65.000 120.000 65.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W
84	7800.00	370.000	120.000 65.000 120.000 65.000	N20° 40' 06.96"W N69° 19' 53.04"E S20° 40' 06.96"E S69° 19' 53.04"W
85	8542.68	381.402	120.000 3.790 67.084 120.000 70.527	S71° 11' 36.87"W N20° 40' 06.96"W N11° 17' 38.17"W N71° 11' 36.87"E S11° 47' 43.93"E
86	8385.41	394.912	131.054 73.710 120.000 14.094 56.053	N71° 11' 36.87"E S4° 54' 23.62"W S71° 11' 36.87"W N0° 03' 01.35"E N4° 16' 38.13"W
87	9883.67	409.735	70.072 125.000 89.663 125.000	N39° 13' 01.13"E S55° 17' 38.72"E S39° 13' 01.13"W N46° 16' 19.02"W
88	10371.16	422.152	125.000 91.172 135.908 70.072	S46° 16' 19.02"E S41° 23' 21.09"W N37° 14' 59.32"W N48° 14' 20.83"E
89	10953.51	435.311	91.546 137.785 70.072 135.908	S56° 05' 22.66"W N28° 13' 39.63"W N57° 15' 40.52"E S37° 14' 59.32"E
90	11176.21	440.278	92.419 69.900 70.101 70.072 137.785	S64° 56' 29.09"W N18° 58' 54.10"W N18° 58' 54.10"W N66° 17' 00.22"E S28° 13' 39.63"E
91	9021.67	392.978	25.644 107.674 70.101 127.138 62.421	N33° 42' 33.78"E N77° 43' 11.59"E S18° 58' 54.10"E S73° 46' 28.14"W N17° 15' 08.79"W
92	9346.23	403.860	69.900 131.054 29.605 46.163 127.138	S18° 58' 54.10"E S71° 11' 36.87"W N13° 54' 01.94"W N17° 11' 29.47"W N73° 46' 28.14"E
93	9669.22	409.436	84.017 126.128 58.867 19.432 120.992	N90° 00' 00.00"W N11° 18' 43.16"W N87° 37' 10.99"E S53° 16' 02.69"E S17° 13' 35.55"E
94	8895.83	394.276	126.128 18.732 51.635 125.000 21.253 18.452 33.075	S11° 18' 43.16"E N90° 00' 00.00"W S76° 43' 57.23"W N12° 34' 24.70"W N77° 37' 42.29"E N77° 49' 49.27"E N81° 09' 18.20"E
95	8949.34	393.029	70.000 125.000 73.029 125.000	S76° 43' 57.23"W N13° 57' 40.85"W N76° 43' 57.23"E S12° 34' 24.70"E
96	8949.34	393.029	70.000 125.000 73.029 125.000	S75° 20' 41.07"W N15° 20' 57.01"W N75° 20' 41.07"E S13° 57' 40.85"E
97	9352.15	397.819	17.187 77.243 120.462 58.000 124.927	N20° 41' 43.27"E N72° 44' 35.76"E S16° 31' 21.97"E S59° 22' 53.04"W N30° 37' 06.96"W
98	10054.45	400.126	13.862 62.338 123.000 76.832 25.315 99.279	S69° 38' 11.03"E S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N19° 25' 12.83"E N70° 24' 08.76"E
99	8610.00	386.000	70.000 123.000 70.000 123.000	S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N59° 22' 53.04"E
100	8610.00	386.000	123.000 70.000 123.000 60.095 9.905	S59° 22' 53.04"W N30° 37' 06.96"W N59° 22' 53.04"E S30° 37' 06.96"E S30° 37' 06.96"E

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
101	9087.76	397.946	113.656 69.238 136.421 57.080 21.553	S30° 37' 06.96"E S59° 22' 53.04"W N30° 38' 41.20"W N67° 22' 06.26"E S71° 21' 14.11"E
102	9072.71	396.533	73.035 125.760 69.991 127.747	N63° 48' 50.84"E S25° 29' 30.90"E S62° 11' 14.48"W N26° 52' 47.42"W
103	9105.38	405.537	70.026 136.910 44.286 26.568 127.747	S61° 33' 57.79"W N26° 52' 47.42"W N72° 45' 53.64"E N62° 52' 03.77"E S26° 52' 47.42"E
104	7733.91	394.242	70.026 98.149 62.997 20.207 5.953 136.910	S61° 33' 57.79"W N26° 52' 47.42"W N37° 39' 48.21"E N4° 51' 00.19"E N84° 16' 43.84"E S26° 52' 47.42"E
105	10883.49	410.054	86.584 71.536 107.213 46.571 98.149	S61° 33' 57.79"W N59° 08' 04.68"W N26° 40' 28.77"E S85° 15' 55.98"E S26° 52' 47.42"E
106	8524.02	377.668	62.894 47.498 116.926 43.137 107.213	N59° 08' 04.68"W N33° 33' 35.74"W N60° 54' 55.09"E S38° 32' 21.11"E S26° 40' 28.77"W
107	11059.01	451.754	46.381 116.926 70.000 160.666 4.878 32.696 20.207	S8° 05' 16.31"W S60° 54' 55.09"W N33° 33' 35.74"W N56° 26' 24.26"E S33° 33' 35.74"E S41° 03' 12.13"E S32° 14' 46.66"W
108	11246.65	461.333	160.666 70.000 160.666 70.000	N56° 26' 24.26"E S33° 33' 35.74"E S56° 26' 24.26"W N33° 33' 35.74"W
109	11246.65	461.333	160.666 70.000 160.666 70.000	N56° 26' 24.26"E S33° 33' 35.74"E S56° 26' 24.26"W N33° 33' 35.74"W
110	10469.38	418.315	65.117 0.131 14.808 83.512 29.024 23.647 61.353 140.723	S60° 59' 47.70"W S60° 59' 47.70"W N75° 54' 16.86"W N33° 33' 35.74"W N32° 24' 47.30"W N15° 37' 10.35"E N57° 24' 53.63"E S31° 54' 23.76"E
111	10864.32	436.955	143.445 74.360 140.723 78.426	S30° 14' 55.36"E S60° 59' 47.70"W N31° 54' 23.76"W N58° 54' 00.77"E
112	9879.19	420.590	3.000 41.275 29.996 51.949 143.445 67.552 83.373	N59° 22' 53.04"E S30° 37' 06.96"E S15° 11' 20.37"W S60° 59' 47.70"W N30° 14' 55.36"W N60° 27' 19.72"E S30° 37' 06.96"E
113	11532.72	443.157	125.000 3.000 14.000 3.000 83.373 130.467 22.878 61.439	S59° 22' 53.04"W S59° 22' 53.04"W S59° 22' 53.04"W S59° 22' 53.04"W N30° 37' 06.96"W N62° 35' 18.84"E S75° 50' 48.74"E S30° 37' 06.96"E
114	9589.76	405.840	74.920 128.000 74.920 3.000 125.000	S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N59° 22' 53.04"E N59° 22' 53.04"E
115	9589.76	405.840	74.920 128.000 74.920 128.000	S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N59° 22' 53.04"E
116	10455.78	409.977	73.878 24.984 102.796 14.678 65.641 128.000	S30° 37' 06.96"E S18° 32' 04.26"W S66° 43' 36.64"W N72° 25' 34.58"W N30° 37' 06.96"W N59° 22' 53.04"E
117	10383.44	422.358	118.576 16.341 61.718 143.451 53.111 29.162	S30° 37' 06.96"E S17° 17' 48.02"W S64° 33' 19.74"W N30° 14' 55.36"W N60° 59' 47.70"E S74° 48' 39.63"E
118	10199.92	428.166	70.002 140.759 73.868 0.087 143.451	S63° 19' 14.53"W N31° 54' 24.61"W N60° 59' 47.70"E N60° 59' 47.69"E S30° 14' 55.36"E
119	9076.08	393.401	2.736 109.726 60.886 16.176 63.118 140.759	S62° 38' 27.03"W N75° 28' 20.38"W N33° 33' 35.74"W N13° 43' 05.98"E N60° 59' 47.70"E S31° 54' 24.61"E
120	11382.93	426.751	54.400 128.000 54.400 35.471 17.085 105.388 21.271 10.736	N30° 37' 06.96"W N59° 22' 53.04"E S30° 37' 06.96"E S30° 37' 06.96"E S20° 16' 23.00"W S70° 10' 46.90"W N70° 42' 43.06"W N30° 37' 06.96"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
121	9958.40	411.600	62.200 15.600 128.000 15.600 62.200 0.000 128.000	S30° 37' 06.96"E S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N30° 37' 06.96"W N59° 22' 53.18"E N59° 22' 53.04"E
122	9958.40	411.600	3.000 70.000 7.800 128.000 0.000 7.800 70.000 125.000	N59° 22' 53.04"E S30° 37' 06.96"E S30° 37' 06.96"E S59° 22' 53.04"W S59° 22' 53.18"W N30° 37' 06.96"W N30° 37' 06.96"W N59° 22' 53.04"E
123	11109.17	435.028	69.382 25.341 128.404 66.900 3.000 14.000 3.000 125.000	N30° 37' 06.96"W N19° 52' 06.14"E N67° 02' 51.01"E S30° 37' 06.96"E S59° 22' 53.04"W S59° 22' 53.04"W S59° 22' 53.04"W S59° 22' 53.04"W
124	11436.31	450.021	139.590 1.525 12.476 54.596 7.854 80.722 3.000 66.900 12.673 70.685	S25° 49' 16.32"E S60° 07' 30.04"W S59° 43' 54.46"W S59° 11' 02.77"W N75° 37' 06.96"W N30° 37' 06.96"W N59° 22' 53.04"E N30° 37' 06.96"W N68° 32' 19.77"E N68° 40' 22.07"E
125	10204.22	422.309	131.147 1.387 69.165 139.590 81.020	S21° 19' 37.93"E S64° 05' 31.14"W S62° 06' 37.53"W N25° 49' 16.32"W N68° 40' 22.07"E
126	9026.16	398.986	128.003 0.575 69.328 131.147 69.934	S21° 16' 31.54"E S68° 02' 29.00"W S66° 04' 41.15"W N21° 19' 37.93"W N68° 40' 22.07"E
127	9172.50	399.336	11.073 62.019 127.961 0.510 58.594 11.176 128.003	N68° 40' 22.07"E N69° 19' 26.18"E S20° 00' 57.53"E S69° 59' 22.82"W S69° 20' 04.78"W S68° 22' 17.11"W N21° 16' 31.54"W
128	9204.76	399.792	127.966 0.407 69.787 127.960 73.672	S18° 00' 54.30"E S71° 59' 21.92"W S71° 12' 41.45"W N19° 34' 21.67"W N71° 12' 39.30"E
129	9205.53	399.814	127.982 0.326 69.867 127.966 73.672	S16° 27' 26.92"E S73° 32' 46.06"W S72° 46' 05.61"W N18° 00' 54.30"W N72° 45' 32.11"E
130	9206.38	399.837	127.990

PARCEL NUMBERS, AREAS, AND LAYOUTS FOR SF-1

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
141	12247.58	490.660	68.637 178.570 69.925 173.527	S72° 50' 49.12"W N14° 20' 51.05"W N77° 02' 25.24"E S13° 52' 24.45"E
142	11840.45	472.009	77.136 173.527 69.443 151.902	S62° 16' 28.44"W N13° 52' 24.45"W N78° 50' 13.01"E S15° 54' 49.79"E
143	9427.60	409.394	92.327 151.902 62.445 102.720	S49° 59' 02.58"W N15° 54' 49.79"W N87° 15' 59.50"E S29° 00' 59.23"E
144	7757.90	369.298	120.000 69.295 120.000 60.004	S69° 15' 38.31"W N18° 31' 16.74"W N73° 41' 48.20"E S18° 31' 16.74"E
145	7478.65	364.644	41.815 120.000 11.572 36.455 0.263 0.315 16.042 120.000 18.183	S14° 45' 27.73"E S73° 41' 48.20"W N15° 55' 58.39"W N14° 23' 44.16"W N13° 14' 19.68"W N13° 13' 13.08"W N13° 39' 22.31"W N75° 54' 58.70"E S13° 38' 52.06"E
146	7602.24	366.704	66.701 120.000 60.003 120.000	S15° 40' 57.81"E S75° 54' 58.70"W N15° 40' 57.81"W N72° 43' 05.68"E
147	7602.24	366.704	66.701 120.000 60.003 120.000	S18° 52' 50.83"E S72° 43' 05.68"W N18° 52' 50.83"W N69° 31' 12.66"E
148	7602.24	366.704	66.701 120.000 60.003 120.000	S22° 04' 43.85"E S69° 31' 12.66"W N22° 04' 43.85"W N66° 19' 19.64"E
149	7602.24	366.704	60.003 120.000 66.701 120.000	N25° 16' 36.88"W N63° 07' 26.61"E S25° 16' 36.88"E S66° 19' 19.64"W
150	7602.24	366.704	66.701 120.000 60.003 120.000	S28° 28' 29.90"E S63° 07' 26.61"W N28° 28' 29.90"W N59° 55' 33.59"E
151	7602.24	366.704	66.701 120.000 60.003 120.000	S31° 40' 22.92"E S59° 55' 33.59"W N31° 40' 22.92"W N56° 43' 40.57"E
152	7602.24	366.704	66.701 120.000 60.003 120.000	S34° 52' 15.95"E S56° 43' 40.57"W N34° 52' 15.95"W N53° 31' 47.54"E
153	7602.24	366.704	60.003 120.000 66.701 120.000	N38° 04' 08.97"W N50° 19' 54.52"E S38° 04' 08.97"E S53° 31' 47.54"W
154	7602.24	366.704	120.000 66.701 120.000 60.003	N47° 08' 01.50"E S41° 16' 01.99"E S50° 19' 54.52"W N41° 16' 01.99"W
155	7602.24	366.704	66.701 120.000 60.003 120.000	S44° 27' 55.02"E S47° 08' 01.50"W N44° 27' 55.02"W N43° 56' 08.47"E
156	7380.22	363.004	33.041 29.965 120.000 26.956 33.041 120.000	S47° 30' 03.74"E S46° 46' 57.63"E S43° 56' 08.47"W N46° 46' 57.63"W N47° 30' 03.74"W N42° 29' 56.26"E
157	7200.00	360.000	60.000 120.000 60.000 120.000	N47° 30' 03.74"W N42° 29' 56.26"E S47° 30' 03.74"E S42° 29' 56.26"W
158	7200.00	360.000	60.000 60.000 60.000 120.000 60.000	N42° 29' 56.26"E N42° 29' 56.26"E S47° 30' 03.74"E S42° 29' 56.26"W N47° 30' 03.74"W
159	7756.83	373.423	24.911 114.256 60.000 130.256 44.000	N87° 29' 56.26"E S47° 30' 03.74"E S42° 29' 56.26"W N47° 30' 03.74"W N42° 29' 56.26"E
160	7815.37	380.512	130.256 60.000 130.256 60.000	S47° 30' 03.74"E S42° 29' 56.26"W N47° 30' 03.74"W N42° 29' 56.26"E

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
161	7200.00	360.000	60.000 120.000 60.000 120.000	S42° 29' 56.26"W N47° 30' 03.74"W N42° 29' 56.26"E S47° 30' 03.74"E
162	7141.45	352.911	24.911 44.000 120.000 60.000 104.000	S2° 30' 03.74"E S42° 29' 56.26"W N47° 30' 03.74"W N42° 29' 56.26"E S47° 30' 03.74"E
163	7200.00	360.000	60.000 60.000 60.000 120.000 60.000	S42° 29' 56.26"W S42° 29' 56.26"W N47° 30' 03.74"W N42° 29' 56.26"E S47° 30' 03.74"E
164	7200.00	360.000	60.000 120.000 60.000 120.000	N47° 30' 03.74"W N42° 29' 56.26"E S47° 30' 03.74"E S42° 29' 56.26"W
165	7200.00	360.000	120.000 60.000 120.000 60.000	S42° 29' 56.26"W N47° 30' 03.74"W N42° 29' 56.26"E S47° 30' 03.74"E
166	7199.90	360.005	9.847 120.000 9.848 50.155 120.000 50.155	N46° 23' 40.99"W N42° 29' 56.26"E S46° 23' 40.99"E S47° 30' 03.74"E S42° 29' 56.26"W N47° 30' 03.74"W
167	8991.91	392.623	120.000 92.623 120.000 59.999	S42° 29' 56.26"W N38° 56' 20.94"W N58° 11' 34.07"E S38° 32' 52.08"E
168	8741.78	388.030	120.000 88.031 120.000 59.999	S58° 11' 34.07"W N25° 03' 59.77"W N71° 40' 26.38"E S25° 03' 59.77"E
169	8741.78	388.030	120.000 88.031 120.000 59.999	S71° 40' 26.38"W N11° 35' 07.46"W N85° 09' 18.69"E S11° 35' 07.46"E
170	8761.47	388.375	120.000 88.235 120.000 60.139	S85° 09' 18.69"W N1° 54' 41.47"E S81° 19' 55.75"E S1° 54' 41.47"W
171	8761.47	388.375	120.000 88.235 120.000 19.547 0.361 40.232	N81° 19' 55.75"W N15° 25' 27.03"E S67° 49' 10.20"E S19° 59' 04.23"W S17° 44' 52.82"W S13° 11' 15.62"W
172	8760.47	388.356	120.000 88.217 120.000 60.139	N67° 49' 10.20"W N28° 56' 07.56"E S54° 18' 56.00"E S28° 56' 12.58"W
173	8002.65	374.303	30.290 120.000 74.259 120.000 29.754	S39° 05' 45.81"W N54° 18' 56.00"W N40° 27' 28.94"E S47° 30' 03.74"E S42° 29' 56.24"W
174	8479.35	383.185	83.061 120.000 49.106 11.018 120.000	N47° 15' 28.54"E S36° 28' 31.62"E S47° 58' 17.84"W S42° 29' 56.47"W N47° 30' 03.74"W
175	8761.90	388.395	60.149 120.000 88.246 120.000	S60° 15' 29.69"W N36° 28' 31.62"W N60° 15' 56.86"E S22° 57' 39.18"E
176	8761.38	388.378	60.147 120.000 88.230 120.000	S73° 51' 08.61"W N22° 57' 39.18"W N73° 49' 59.72"E S9° 27' 14.28"E
177	8761.83	388.363	60.128 120.000 88.235 120.000	S87° 18' 25.85"W N9° 27' 14.28"W N87° 18' 22.54"E S4° 03' 45.32"W
178	8760.84	388.375	120.000 88.234 120.000 60.141	N4° 03' 45.32"E S79° 12' 06.86"E S17° 34' 27.83"W N79° 12' 41.41"W
179	8378.17	381.407	120.000 81.292 120.000 14.542 45.573	N17° 34' 27.83"E S66° 16' 29.38"E S27° 45' 22.52"W N61° 36' 51.41"W N67° 15' 59.01"W
180	7776.95	370.184	120.000 70.167 120.000 60.017	N27° 45' 22.52"E S58° 50' 41.47"E S32° 36' 46.04"W N58° 40' 49.17"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
181	7892.37	372.142	120.000 72.125 120.000 60.017	N32° 36' 46.04"E S54° 02' 48.01"E S38° 24' 17.48"W N53° 57' 24.74"W
182	7762.04	369.907	120.000 69.890 120.000 60.017	N38° 24' 17.48"E S49° 14' 00.31"E S43° 07' 41.91"W N49° 14' 00.31"W
183	7762.04	369.907	120.000 69.890 120.000 60.017	N43° 07' 41.91"E S44° 30' 35.87"E S47° 51' 06.34"W N44° 30' 35.87"W
184	7762.04	369.907	60.017 120.000 69.890 120.000	N39° 47' 11.44"W N47° 51' 06.34"E S39° 47' 11.44"E S52° 34' 30.78"W
185	7762.04	369.907	60.017 120.000 46.848 23.042 120.000	N35° 03' 47.01"W N52° 34' 30.78"E S35° 03' 47.01"E S35° 03' 47.01"E S57° 17' 55.21"W
186	7762.04	369.907	60.017 120.000 69.890 120.000	N30° 20' 22.57"W N57° 17' 55.21"E S30° 20' 22.57"E S62° 01' 19.64"W
187	7762.04	369.907	60.017 120.000 69.890 120.000	N25° 36' 58.14"W N62° 01' 19.64"E S25° 36' 58.14"E S66° 44' 44.08"W
188	7762.04	369.907	60.017 120.000 69.890 120.000	N20° 53' 33.71"W N66° 44' 44.08"E S20° 53' 33.71"E S71° 28' 08.51"W
189	7621.21	367.474	51.569 120.000 67.460 120.000 8.445 0.000	N16° 30' 06.05"W N71° 28' 08.51"E S16° 18' 22.19"E S75° 01' 52.96"W N14° 43' 13.77"W N14° 28' 20.76"W
190	7727.91	368.435	68.435 120.000 60.000 120.000	N16° 58' 45.89"W N75° 01' 52.96"E S16° 58' 45.89"E S71° 00' 35.26"W
191	7727.91	368.435	68.435 120.000 39.963 20.037 120.000	N21° 00' 03.59"W N71° 00' 35.26"E S21° 00' 03.59"E S21° 00' 03.59"E S66° 59' 17.57"W
192	7386.43	363.003	60.000 120.000 38.613 24.391 120.000	S24° 11' 22.21"E S65° 33' 17.64"W N24° 26' 42.36"W N23° 43' 42.40"W N66° 59' 17.57"E
193	7200.00	360.000	60.000 120.000 60.000 120.000 73.009	S24° 26' 42.85"E S65° 33' 17.64"W N24° 26' 42.36"W N65° 33' 17.64"E
194	7516.88	365.092	120.000 60.000 120.000 28.616 36.477	N65° 33' 17.64"E S24° 55' 16.61"E S63° 07' 33.36"W N25° 39' 34.50"W N24° 26' 42.36"W
195	8014.73	373.009	120.000 60.000 120.000 73.009	N63° 07' 33.36"E S29° 58' 21.52"E S56° 55' 43.59"W N29° 58' 21.52"W
196	8014.73	373.009	120.000 60.000 120.000 73.009	N56° 55' 43.59"E S36° 10' 11.29"E S50° 43' 53.82"W N36° 10' 11.29"W
197	7877.59	370.770	120.000 60.000 120.000 10.332 60.437	N50° 43' 53.82"E S42° 16' 29.97"E S45° 36' 05.54"W N44° 23' 54.46"W N41° 50' 00.32"W
198	7200.00	360.000	120.000 60.000 120.000 60.000	N45° 36' 05.54"E S44° 23' 54.46"E S45° 36' 05.54"W N44° 23' 54.46"W
199	7200.00	360.000	120.000 60.000 120.000 60.000	N45° 36' 05.54"E S44° 23' 54.46"E S45° 36' 05.54"W N44° 23' 54.46"W
200	7200.00	360.000	120.000 60.000 13.083 106.917 60.000	N45° 36' 05.54"E S44° 23' 54.46"E S45° 36' 05.54"W S45° 36' 05.54"W N44° 23' 54.46"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
201	11022.21	439.585	106.917 151.648 53.579 11.087 33.873 82.481	N45° 36' 05.54"E S24° 27' 21.80"E S65° 02' 55.99"W N78° 02' 52.53"W N42° 51' 43.32"W N44° 23' 54.46"W
202	9293.37	421.634	13.083 51.847 145.046 60.011 151.648	N45° 36' 05.54"E N78° 33' 15.54"E S23° 20' 49.52"E S66° 05' 54.34"W N24° 27' 21.80"W
203	8327.08	398.997	61.327 132.712 28.556 31.354 145.046	N78° 33' 15.54"E S23° 18' 15.15"E S66° 57' 50.43"W S66° 56' 33.43"W N23° 20' 49.52"W
204	7718.83	375.966	61.305 119.500 62.448 132.712	N78° 33' 15.54"E S24° 28' 39.08"E S66° 06' 32.79"W N23° 18' 15.15"W
205	9104.03	383.341	14.528 58.575 123.000 46.819 16.326 26.462 97.631	S71° 54' 15.83"E S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N31° 30' 33.63"W N16° 17' 16.29"E N65° 53' 34.09"E
206	7380.00	366.000	60.000 123.000 60.000 123.000	S30° 37' 06.96"E S59° 22' 53.04"W N30° 37' 06.96"W N59° 22' 53.04"E
207	9054.34	383.167	16.571 66.539 0.009 118.374 64.357 15.042 102.276	N18° 11' 50.44"E N66° 23' 54.23"E S28° 46' 14.07"E S28° 46' 14.07"E S63° 11' 55.34"W N73° 42' 35.81"W N30° 37' 06.96"W
208	8510.72	379.884	118.374 74.922 115.839 70.749	N28° 46' 14.07"W N65° 05' 03.54"E S26° 46' 13.10"E S63° 11' 55.34"W
209	8404.54	376.804	115.839 74.942 0.001 115.252 70.771	N26° 46' 13.10"W N63° 42' 22.26"E S24° 41' 53.48"E S24° 41' 53.71"E S63° 11' 55.34"W
210	10022.20	428.422	3.000 5.277 13.778 136.016 68.389 144.977 56.985	S26° 48' 04.66"E N63° 11' 55.34"E S51° 45' 38.93"E S26° 48' 04.66"E S68° 40' 40.24"W N26° 48' 04.66"W N63° 11' 55.34"E
211	9647.49	419.893	138.447 68.078 144.977 68.391	N26° 48' 04.66"W N63° 11' 55.34"E S26° 48' 04.66"E S68° 40' 40.24"W
212	9202.93	406.832	131.917 68.078 138.447 68.391	N26° 48' 04.66"W N63° 11' 55.34"E S26° 48' 04.66"E S68° 40' 40.24"W
213	9640.56	403.397	131.917 71.425 77.250 37.642 16.374 68.789	S26° 48' 04.66"E S68° 30' 43.83"W N30° 37' 06.96"W N30° 37' 06.96"W N16° 17' 24.19"E N63° 11' 55.34"E
214	7380.00	366.000	60.000 123.000 60.000 3.000 120.000	N30° 37' 06.96"W N59° 22' 53.04"E S30° 37' 06.96"E S59° 22' 53.04"W S59° 22' 53.04"W
215	9280.00	407.357	77.250 123.699 22.581 46.827 120.000 3.000 14.000	S30° 37' 06.96"E S66° 41' 28.16"W N74° 53' 41.79"W N30° 37' 06.96"W N59° 22' 53.04"E N59° 22' 53.04"E N59° 22' 53.04"E
216	7668.92	360.535	122.996 50.167 14.968 98.078 24.965 49.331 0.030	N27° 15' 30.29"W N63° 14' 02.76"E S73° 26' 42.53"E S30° 37' 06.96"E S18° 56' 12.27"W S63° 16' 03.79"W S62° 44' 28.47"W
217	8382.37	382.296	122.997 69.549 0.072 122.996 66.681	N28° 37' 39.98"W N62° 03' 24.82"E N62° 38' 50.04"E S27° 15' 30.29"E S62° 03' 23.60"W
218	8386.75	382.369	123.000 0.072 69.569 122.997 66.730	N29° 59' 00.89"W N60° 00' 06.27"E N60° 41' 14.38"E S28° 37' 39.98"E S60° 41' 01.67"W
219	8386.90	382.375	123.005 0.143 69.527 123.000 66.699 0.000	N31° 22' 04.12"W N58° 42' 57.61"E N59° 18' 59.63"E S29° 59' 00.89"E S59° 18' 39.10"W S58° 37' 22.49"W
220	8451.87	380.129	116.162 12.912 61.271 123.005 66.779	N33° 15' 55.51"W N21° 31' 30.97"E N58° 01' 57.15"E S31° 22' 04.12"E S57° 56' 14.69"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
221	11168.70	458.707	153.784 68.437 157.969 17.827 60.690	N60° 19' 01.00"E S29° 15' 18.91"E S59° 11' 55.45"W N68° 17' 16.98"W N15° 37' 30.17"W
222	10404.39	437.173	140.272 25.653 45.626 151.784 71.839	N60° 00' 09.21"E S29° 59' 24.57"E S29° 15' 18.91"E S60° 19' 01.00"W N18° 40' 26.43"W
223	9461.35	409.539	126.875 1.228 69.444 140.272 71.719	N60° 11' 50.93"E S34° 42' 14.11"E S32° 42' 52.17"E S60° 00' 09.21"W N21° 58' 36.39"W
224	9062.64	388.692	126.875 65.477 14.917 105.341 76.082	S60° 11' 50.93"W N25° 07' 59.13"W N16° 00' 27.57"E N59° 15' 38.50"E S34° 42' 14.11"E
225	11218.19	456.459	158.785 63.251 16.142 149.844 68.437	N60° 19' 01.00"E S30° 37' 06.96"E S16° 31' 46.72"W S62° 12' 40.75"W N29° 15' 18.91"W
226	11246.39	455.842	153.413 61.632 10.733 158.785 45.626 25.653	N60° 00' 09.21"E S34° 20' 08.64"E S30° 37' 06.96"E S60° 19' 01.00"W N29° 15' 18.91"W N29° 59' 24.57"W
227	10410.81	437.636	141.812 71.738 153.413 69.444 1.228	N60° 11' 50.93"E S42° 04' 17.85"E S60° 00' 09.21"W N32° 42' 52.17"W N34° 42' 14.11"W
228	10059.56	420.562	141.812 76.082 122.109 13.091 67.468	S60° 11' 50.93"W N34° 42' 14.11"W N61° 37' 48.50"E S80° 52' 40.72"E S44° 23' 54.46"E
229	4610.12	298.377	86.257 25.126 55.820 112.761 32.427 15.986	N30° 10' 45.33"W N13° 19' 57.94"E N68° 50' 29.21"E S30° 43' 36.22"E S58° 23' 44.96"W N74° 44' 58.22"W
230	4675.40	308.352	112.761 42.208 112.597 40.785	N30° 43' 36.22"W N59° 30' 55.93"E S30° 00' 10.74"E S59° 16' 50.05"W
231	4671.34	308.137	112.597 42.212 112.536 40.792	N30° 00' 10.74"W N60° 21' 07.39"E S29° 16' 48.22"E S60° 15' 59.04"W
232	4671.35	308.126	112.536 42.216 112.579 40.794	N29° 16' 48.22"W N61° 11' 19.16"E S28° 33' 21.24"E S61° 15' 08.40"W
233	6499.69	335.106	112.579 30.200 21.113 92.596 17.691 60.927	N28° 33' 21.24"W N61° 54' 22.42"E S81° 13' 05.37"E S44° 23' 54.46"E S9° 03' 49.08"W S62° 28' 53.76"W
234	6037.86	324.474	37.370 14.602 85.913 27.663 45.926 113.000	N61° 05' 48.93"E S77° 03' 16.76"E S38° 54' 16.84"E S9° 31' 19.38"W S61° 09' 55.43"W N29° 12' 31.25"W
235	5170.47	317.513	46.467 113.000 45.006 113.000 0.040	N60° 24' 39.54"E S29° 12' 31.25"E S60° 24' 39.54"W N29° 58' 09.67"W N60° 01' 49.16"E
236	5169.99	317.504	46.423 113.000 45.002 110.000 2.999 0.080	N59° 39' 00.08"E S29° 58' 09.67"E S59° 39' 01.25"W N30° 43' 47.83"W N30° 43' 47.83"W N59° 34' 26.49"E
237	5685.53	318.521	2.999 110.000 30.173 23.879 87.377 16.669 47.423	S30° 43' 47.83"E S30° 43' 47.83"E S59° 00' 54.22"W N78° 34' 00.69"W N37° 54' 13.17"W N9° 17' 25.57"E N58° 52' 58.75"E
238	5769.81	330.094	0.232 64.557 113.000 0.034 31.011 14.188 107.073	N57° 53' 23.45"E N58° 24' 04.16"E S31° 05' 21.72"E S58° 54' 39.28"W S58° 38' 54.45"W N81° 30' 48.82"W N43° 56' 26.53"W
239	4588.45	307.211	39.964 113.000 41.248 113.000	S59° 14' 11.18"W N31° 05' 21.72"W N59° 14' 10.18"E S30° 26' 17.92"E
240	4588.46	307.212	39.964 113.000 41.248 113.000	S59° 53' 13.98"W N30° 26' 17.92"W N59° 53' 13.98"E S29° 47' 14.13"E

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
241	4588.44	307.211	113.000 41.248 112.999 39.964	N29° 47' 14.13"W N60° 32' 17.77"E S29° 08' 10.33"E S60° 32' 13.78"W
242	4366.27	301.607	16.201 29.664 0.068 112.999 40.400 0.011 102.264	S13° 58' 31.10"W S61° 06' 28.92"W S60° 51' 45.68"W N29° 08' 10.33"W N61° 10' 57.48"E N61° 30' 05.61"E S28° 47' 14.85"E
243	6451.85	336.471	17.258 60.716 113.000 41.525 103.972	N4° 06' 24.45"E N57° 51' 53.92"E S31° 40' 33.63"E S58° 00' 02.62"W N47° 30' 03.74"W
244	4764.56	310.329	113.000 41.527 113.000 0.034 42.768	S31° 01' 46.06"E S58° 38' 50.16"W N31° 40' 33.63"W N58° 36' 55.54"E N58° 38' 50.16"E
245	4764.85	310.334	42.804 113.000 41.529 113.000	N59° 17' 41.51"E S30° 22' 58.34"E S59° 17' 37.80"W N31° 01' 46.06"W
246	4765.26	310.340	113.000 42.808 112.998 41.533	N30° 22' 58.34"W N59° 56' 32.08"E S29° 44' 10.39"E S59° 56' 25.64"W
247	4765.80	310.347	41.538 112.998 42.814 112.996	S60° 35' 13.73"W N29° 44' 10.39"W N60° 35' 22.91"E S29° 05' 22.15"E
248	5186.41	313.164	16.228 102.384 41.495 112.996 40.057	S70° 57' 18.60"E S24° 23' 11.69"E S61° 14' 00.87"W N29° 05' 22.15"W N61° 12' 58.82"E
249	6401.29	329.856	13.216 88.359 27.861 52.501 112.995 0.170 34.752	N84° 23' 11.95"W N47° 30' 03.74"W N4° 45' 51.94"E N57° 24' 48.87"E S32° 12' 09.86"E S57° 47' 54.74"W S57° 31' 30.85"W
250	4949.02	313.588	112.995 44.439 112.997 0.136 43.022	N32° 12' 09.86"W N58° 07' 19.29"E S31° 33' 11.56"E S58° 26' 52.12"W S58° 07' 23.89"W
251	4949.40	313.597	44.441 112.998 0.102 43.058 112.997	N58° 46' 17.66"E S30° 54' 13.12"E S59° 05' 49.64"W S58° 46' 21.34"W N31° 33' 11.56"W
252	4949.93	313.608	112.998 44.446 112.999 0.068 43.097	N30° 54' 13.12"W N59° 25' 16.22"E S30° 15' 14.44"E S59° 44' 47.40"W S59° 25' 18.98"W
253	4950.60	313.621	43.136 112.999 44.451 113.000 0.034	S60° 04' 16.88"W N30° 15' 14.44"W N60° 04' 15.04"E S29° 36' 15.47"E S60° 23' 45.45"W
254	4951.41	313.635	43.177 113.000 44.459 113.000	S60° 43' 15.12"W N29° 36' 15.47"W N60° 43' 14.20"E S28° 57' 16.12"E
255	5772.24	319.031	14.170 35.123 113.000 43.442 27.248 86.048	S18° 18' 33.43"W S61° 18' 34.60"W N28° 57' 16.12"W N61° 21' 46.81"E S67° 39' 16.81"E S19° 23' 55.42"E
256	10866.65	487.417	34.566 34.566 34.566 34.566 125.000 0.474 18.467 73.831 117.557 13.824	S61° 46' 00.91"W N61° 45' 42.18"E S61° 45' 42.18"W S61° 15' 46.28"W N28° 59' 11.66"W N61° 01' 00.27"E N61° 08' 57.29"E N61° 47' 41.81"E S22° 18' 38.73"E S22° 31' 37.80"W
257	9828.40	407.254	125.000 77.409 125.000 24.950 54.896	S28° 59' 11.66"E S60° 27' 17.43"W N30° 06' 13.49"W N60° 04' 14.87"E N60° 37' 45.78"E
258	9830.27	407.284	125.000 77.423 125.000 30.962 48.899	S30° 06' 13.49"E S59° 20' 15.21"W N31° 13' 16.08"W N58° 59' 43.68"E N59° 33' 14.98"E
259	9833.08	407.329	77.445 125.000 36.978 42.905 125.000	S58° 13' 12.04"W N32° 20' 19.83"W N57° 55' 11.47"E N58° 28' 43.35"E S31° 13' 16.08"E
260	11770.38	437.145	21.912 115.336 40.720 32.964 36.913 125.000 64.300	N85° 57' 45.82"W N47° 30' 03.74"W N53° 36' 49.10"E N56° 54' 50.70"E N57° 24' 10.53"E S32° 20' 19.83"E S56° 14' 23.12"W

Parcel Table

Parcel #	Area	Perimeter	Segment Lengths	Segment Bearings
261	8944.45	387.147	117.179 73.831 125.000 56.910 14.226	S32° 14' 14.00"E S61° 47' 41.81"W N28° 43' 17.62"W N61° 40' 01.99"E S77° 39' 33.78"E
262	9370.49	399.928	125.000 76.091 125.000 18.467 0.474 54.896	N29° 45' 16.78"W N60° 45' 42.80"E S28° 43' 17.62"E S61° 08' 57.29"W S61° 01' 00.27"W S60° 37' 45.78"W
263	9372.02	399.952	125.000 76.103 125.000 24.950 48.899	N30° 47' 16.55"W N59° 43' 43.34"E S29° 45' 16.78"E S60° 04' 14.87"W S59° 33' 14.98"W
264	9374.30	399.989	76.122 125.000 30.962 42.905 125.000	N58° 41' 43.11"E S30° 47' 16.55"E S58° 59' 43.68"W S58° 28' 43.35"W N31° 49' 17.22"W
265	9377.35	400.038	125.000 76.147 125.000 36.978 36.913	N32° 51' 19.11"W N57° 39' 41.83"E S31° 49' 17.22"E S57° 55' 11.47"W S57° 24' 10.53"W
266	11170.07	421.641	108.831 26.612 53.545 33.970 125.000 32.964 40.720	N47° 30' 03.74"W N1° 33' 25.75"E N54° 43' 06.58"E N56° 54' 50.70"E S32° 51' 19.11"E S56° 54' 50.70"W S52° 56' 39.10"W
267	10330.55	405.307	22.778 84.785 119.977 67.700 110.068	S9° 04' 04.68"W S61° 18' 48.97"W N31° 47' 45.97"W N61° 01' 53.66"E S47° 56' 48.25"E
268	7912.76	371.960	119.977 65.115 119.927 66.941	S31° 47' 45.97"E S60° 15' 48.25"W N32° 40' 11.19"W N60° 09' 10.61"E
269	7910.98	371.904	119.927 65.114 119.922 66.941	S32° 40' 11.19"E S59° 21' 03.65"W N33° 32' 36.41"W N59° 16' 45.39"E
270	7912.06	371.935	119.922 65.112 119.961 66.941	S33° 32' 36.41"E S58° 26' 19.15"W N34° 25' 01.61"W N58° 24' 20.17"E
271	7916.47	372.061	119.961 65.113 120.043 66.945	S34° 25' 01

FUTURE DEVELOPMENT

FUTURE DEVELOPMENT

100' PROPOSED R/W

MAIN STREET STA 16+64.76
FUTURE DEVELOPMENT

FUTURE DRIVEWAY

86'

FUTURE DRIVEWAY

FUTURE DEVELOPMENT

FUTURE DEVELOPMENT

10' MULTI-USE TRAIL

2'-6" CURB & GUTTER

302'

MAIN STREET STA 10+00
US HWY 17 (EDGE PVMT.)

GRASSED MEDIAN

PROPOSED 4' PAVED SHOULDER

PROPOSED 12' RT. TURN LANE

125' FULL

50' DECEL

200' TAPER

EX ACCESS LANE

R50'

R50'

EXISTING GRASSED MEDIAN

EX. DROP INLET

EXISTING GRASSED MEDIAN

U.S. HIGHWAY 17
(PUBLIC R/W VARIES)

EXISTING TRAFFIC SIGNAL

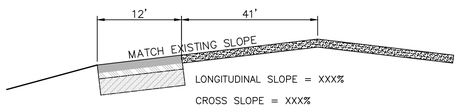
REMOVE EXISTING STRIPING AND REPLACE AS SHOWN WITH GORE STRIPING

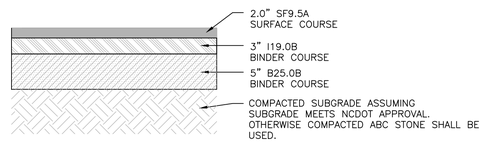
REMOVE EXISTING CONCRETE MEDIAN & REPLACE WITH MONOLITHIC CONCRETE ISLAND

EXISTING TRAFFIC SIGNAL POLE, TYP.

SPEED LIMIT 55

EXISTING SCOTT'S HILL LOOP ROAD





RIGHT TURN LANE ASPHALT PAVEMENT SECTION
(US HWY 17)

N

SCALE: 1" = 50

0 25 50 100 150

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN
10-10-2014

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282

NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

US HWY 17
ROADWAY IMPROVEMENTS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CS110
DRAWING NUMBER: 12

STATUS: PRELIMINARY PLAT
REVISION: B

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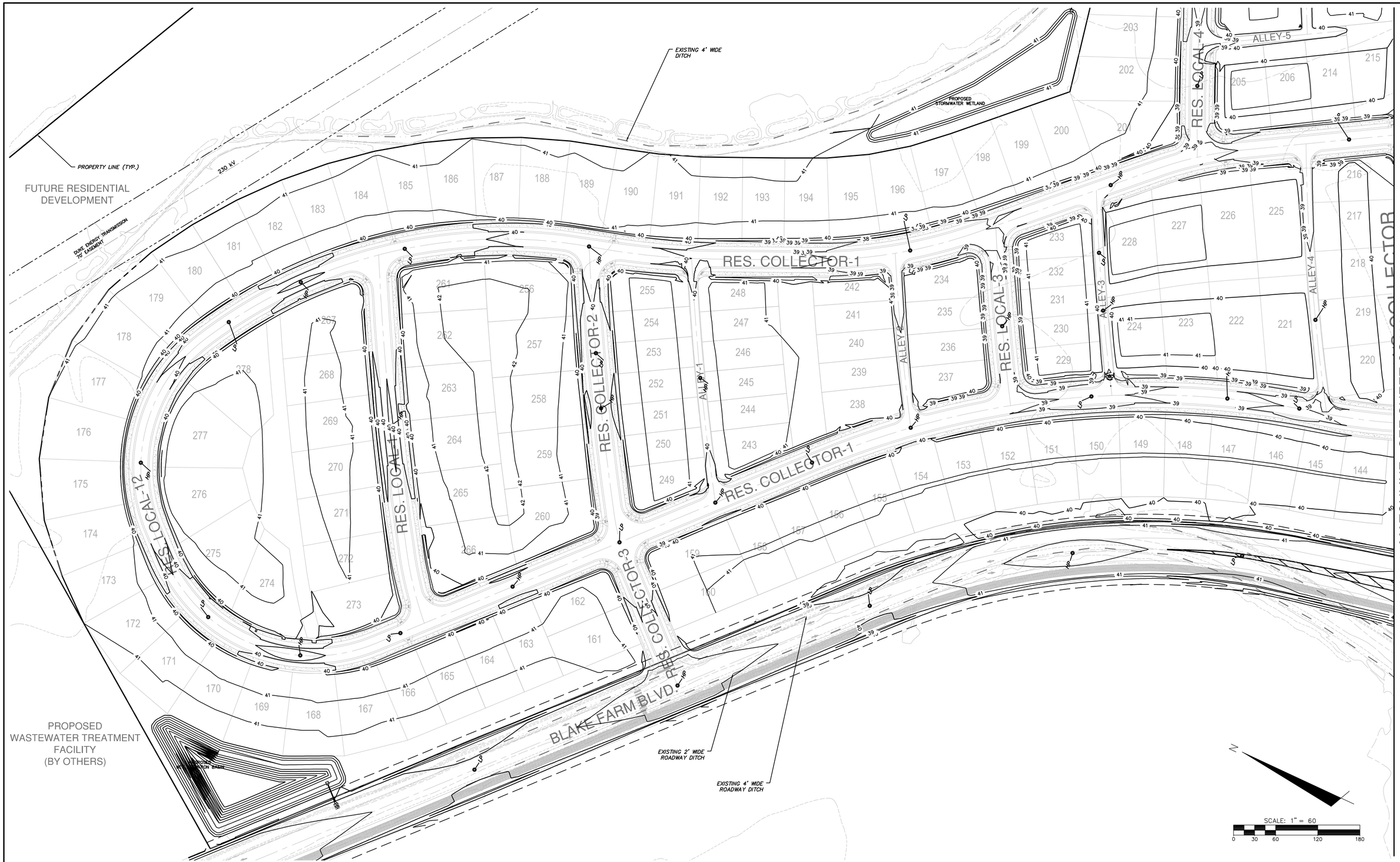

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/15/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10-10-2014

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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BLAKE FARM
EST. 1949

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED GRADING PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=60'
VERTICAL: N/A

M&C FILE NUMBER: CG101
DRAWING NUMBER: 13

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\80-Drawings\CG101-103_065250001.dwg, 10/13/2014 1:11:02 PM, cnursey,
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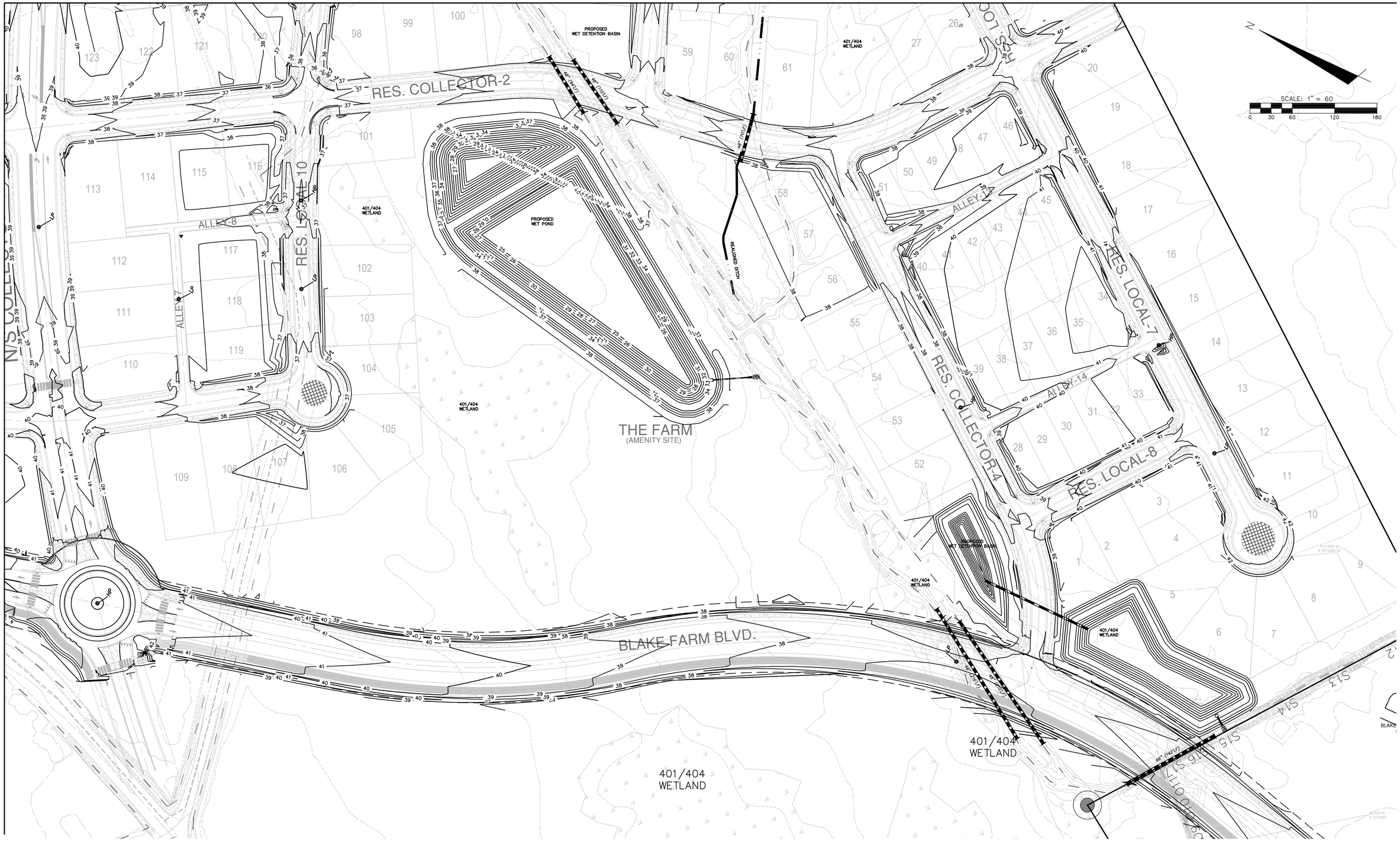
MATCHLINE - SEE SHEET CG103



MATCHLINE - SEE SHEET CG101

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO T.C FOR REVIEW	08/11/14

REVISIONS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

10-10-2014

SEAL

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EST. 1949

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PENDER COUNTY NORTH CAROLINA

ENLARGED GRADING PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=60'
VERTICAL: N/A

M&C FILE NUMBER CG102
DRAWING NUMBER 14

STATUS: PRELIMINARY PLAT
REVISION B

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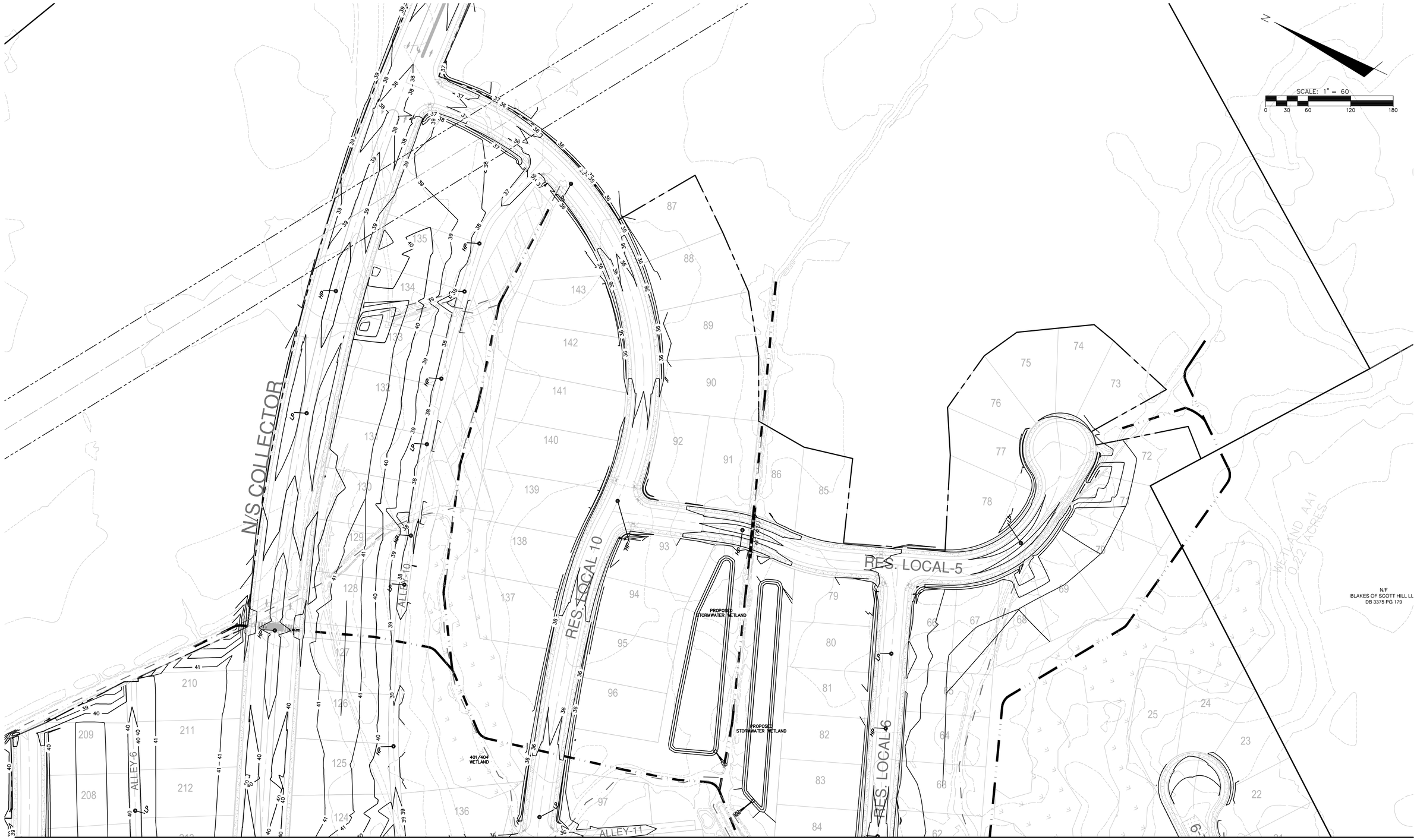

MATCHLINE - SEE SHEET CG102

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10-10-2014

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BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED GRADING PLAN

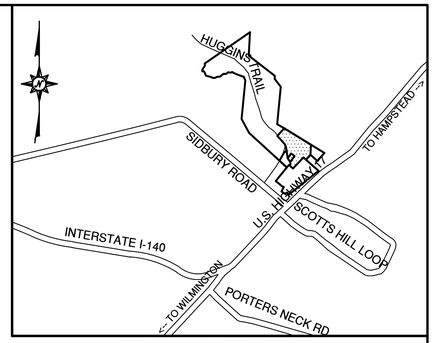
DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=60'
VERTICAL: N/A

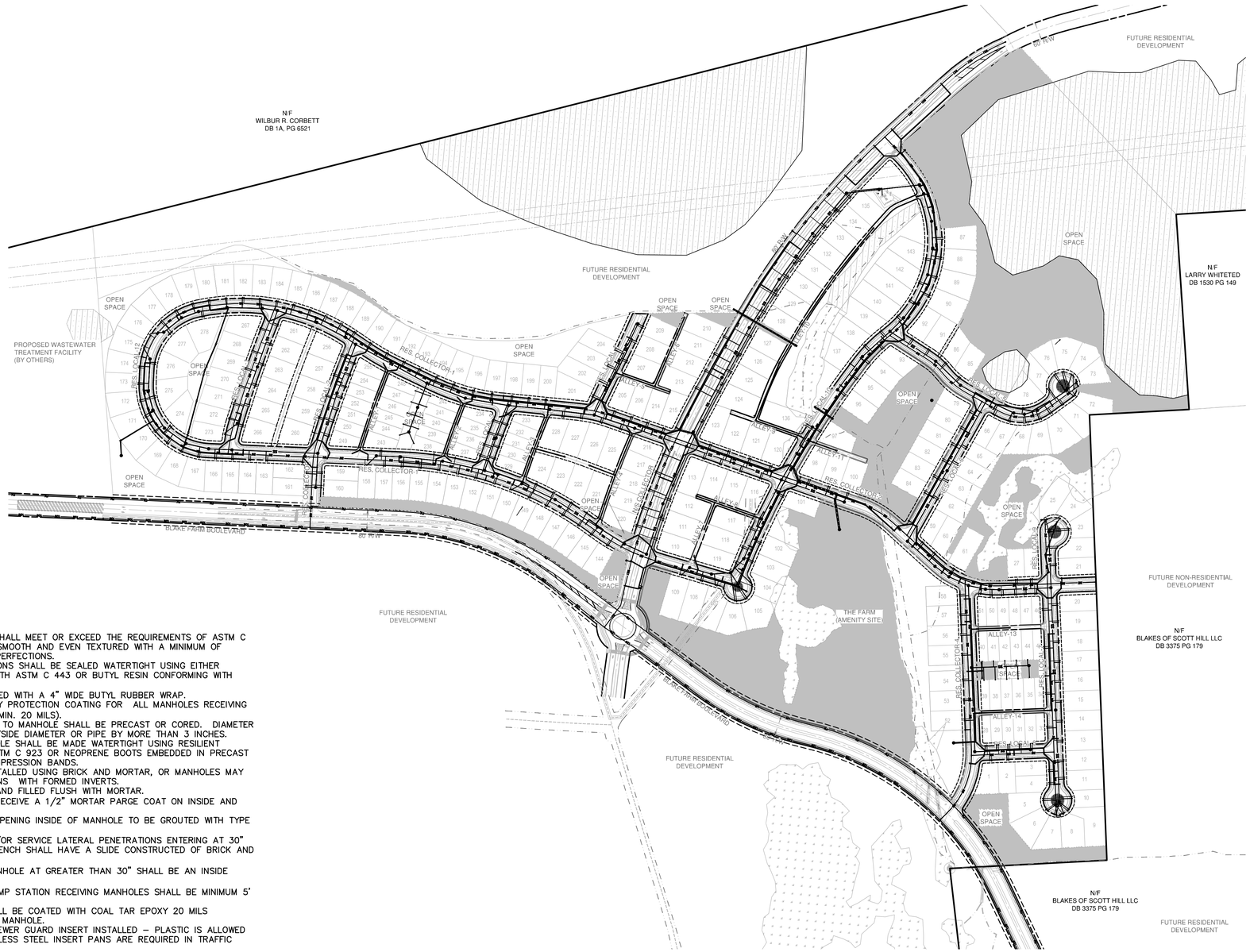
M&C FILE NUMBER: CG102
DRAWING NUMBER: 15

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\80-Drawings\CG101-103_06525001.dwg, 10/13/2014 1:11:40 PM, cnursey, ARCH expand D (24.00 x 36.00 inches), 1:1



VICINITY MAP - NOT TO SCALE



NOTES:

1. CONTRACTOR TO VERIFY SIZE, DEPTH, MATERIAL AND LOCATION FOR ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. THE UNDERGROUND UTILITIES INDICATED ON THE PLANS HAVE BEEN TAKEN FROM INFORMATION MADE AVAILABLE FROM THE VARIOUS UTILITY OWNERS. THIS INFORMATION IS NOT INCLUSIVE OF ALL EXISTING UNDERGROUND UTILITIES AND CABLES. THE CONTRACTOR IS ADVISED THAT ADDITIONAL UNDERGROUND UTILITIES AND CABLES MAY EXISTING WHICH ARE NOT SHOWN ON THE PLANS. PLEASE BE ADVISED THAT THE UNDERGROUND UTILITIES AND CABLES COULD CONFLICT WITH THE WATER AND FORCEMAIN CONSTRUCTION AS SHOWN.
3. CLEARING LIMITS HAVE NOT BEEN SHOWN ON THE PLANS.
4. CONTRACTOR SHALL BRACE / SUPPORT ALL POWER POLES AS REQUIRED FOR CONSTRUCTION.
5. PRECAST CONCRETE MANHOLES SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C 478. ALL SURFACES SHALL BE SMOOTH AND EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FIN, AND OTHER IMPERFECTIONS.
6. JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WATERTIGHT USING EITHER O-RING GASKETS CONFORMING WITH ASTM C 443 OR BUTYL RESIN CONFORMING WITH AASHTO M-198.
7. EXTERIOR JOINTS SHALL BE SEALED WITH A 4" WIDE BUTYL RUBBER WRAP.
8. ADD INTERIOR HIGH SOLIDS EPOXY PROTECTION COATING FOR ALL MANHOLES RECEIVING DISCHARGE FROM FORCE MAINS (MIN. 20 MILS).
9. HOLES FOR CONNECTION OF PIPE TO MANHOLE SHALL BE PRECAST OR CORED. DIAMETER OF HOLE SHALL NOT EXCEED OUTSIDE DIAMETER OR PIPE BY MORE THAN 3 INCHES.
10. CONNECTIONS OF PIPE TO MANHOLE SHALL BE MADE WATERTIGHT USING RESILIENT CONNECTORS CONFORMING TO ASTM C 923 OR NEOPRENE BOOTS EMBEDDED IN PRECAST BASE WITH STAINLESS STEEL COMPRESSION BANDS.
11. MANHOLE INVERTS SHALL BE INSTALLED USING BRICK AND MORTAR, OR MANHOLES MAY BE PRECAST, MONOLITHIC SECTIONS WITH FORMED INVERTS.
12. LIFT HOLES SHALL BE PLUGGED AND FILLED FLUSH WITH MORTAR.
13. ALL BRICK AND MORTAR SHALL RECEIVE A 1/2" MORTAR PARGE COAT ON INSIDE AND OUTSIDE.
14. ALL SPACE BETWEEN PIPE AND OPENING INSIDE OF MANHOLE TO BE GROUTED WITH TYPE S MORTAR
15. SEWER MAIN PENETRATIONS AND/OR SERVICE LATERAL PENETRATIONS ENTERING AT 30" OR LESS ABOVE THE MANHOLE BENCH SHALL HAVE A SLIDE CONSTRUCTED OF BRICK AND MORTAR.(SEE DETAIL)
16. ALL PENETRATIONS ENTERING MANHOLE AT GREATER THAN 30" SHALL BE AN INSIDE DROP MANHOLE (SEE DETAIL).
17. INSIDE DROP MANHOLES, AND PUMP STATION RECEIVING MANHOLES SHALL BE MINIMUM 5' DIAMETER MANHOLES.
18. SANITARY SEWER MANHOLES SHALL BE COATED WITH COAL TAR EPOXY 20 MILS THROUGHOUT THE INSIDE OF THE MANHOLE.
19. ALL MANHOLES SHALL HAVE A SEWER GUARD INSERT INSTALLED – PLASTIC IS ALLOWED IN NON-TRAFFIC AREAS – STAINLESS STEEL INSERT PANS ARE REQUIRED IN TRAFFIC AREAS
20. MANHOLES SHALL BE TRAFFIC BEARING WITH A MINIMUM HS-20 LOAD ALLOWANCE.

NOTES:

1. PRECAST CONCRETE MANHOLES SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C 478. ALL SURFACES SHALL BE SMOOTH AND EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FIN, AND OTHER IMPERFECTIONS.
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9. ALL BRICK AND MORTAR SHALL RECEIVE A 1/2" MORTAR PARGE COAT ON INSIDE AND OUTSIDE.
10. ALL SPACE BETWEEN PIPE AND OPENING INSIDE OF MANHOLE TO BE GROUTED WITH TYPE S MORTAR
11. SEWER MAIN PENETRATIONS AND/OR SERVICE LATERAL PENETRATIONS ENTERING AT 30" OR LESS ABOVE THE MANHOLE BENCH SHALL HAVE A SLIDE CONSTRUCTED OF BRICK AND MORTAR.(SEE DETAIL)
12. ALL PENETRATIONS ENTERING MANHOLE AT GREATER THAN 30" SHALL BE AN INSIDE DROP MANHOLE (SEE DETAIL).
13. INSIDE DROP MANHOLES, AND PUMP STATION RECEIVING MANHOLES SHALL BE MINIMUM 5' DIAMETER MANHOLES.
14. SANITARY SEWER MANHOLES SHALL BE COATED WITH COAL TAR EPOXY 20 MILS THROUGHOUT THE INSIDE OF THE MANHOLE.
15. ALL MANHOLES SHALL HAVE A SEWER GUARD INSERT INSTALLED – PLASTIC IS ALLOWED IN NON-TRAFFIC AREAS – STAINLESS STEEL INSERT PANS ARE REQUIRED IN TRAFFIC AREAS
16. MANHOLES SHALL BE TRAFFIC BEARING WITH A MINIMUM HS-20 LOAD ALLOWANCE.

SCALE: 1" = 200'

0 100 200 400 600

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN

SEAL

PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

OVERALL UTILITY PLAN

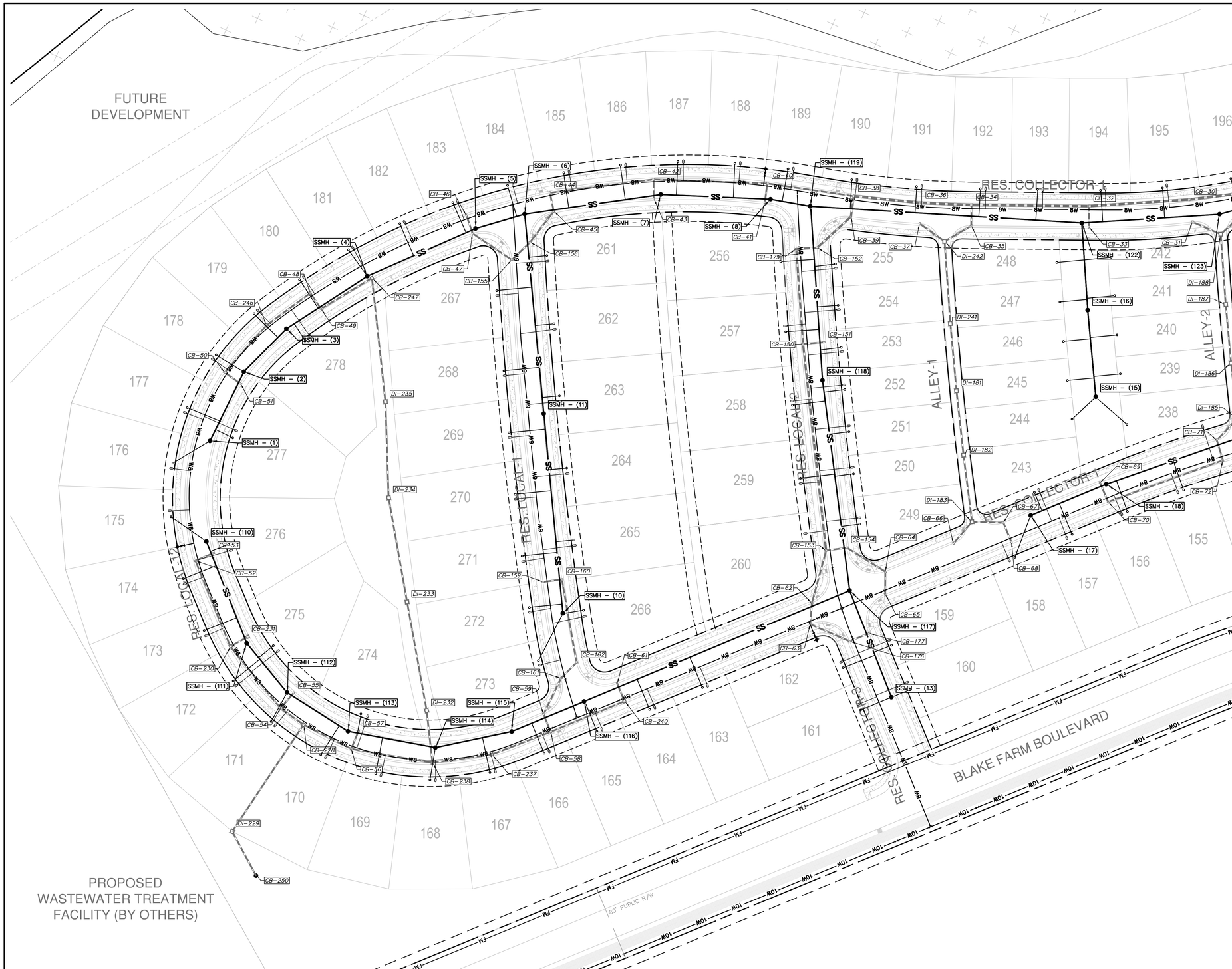
DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=200'
VERTICAL: N/A

M&C FILE NUMBER CU101
DRAWING NUMBER 16

STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\80-Drawings\CU101_06525001.dwg, 10/13/2014 11:41:19 AM, cnursey,
ARCH expand D (24.00 x 36.00 inches), 1:1



MATCHLINE - SEE SHEET CU103

SCALE: 1" = 50

0 25 50 100 150

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

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BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED UTILITY PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CU102
DRAWING NUMBER: 17

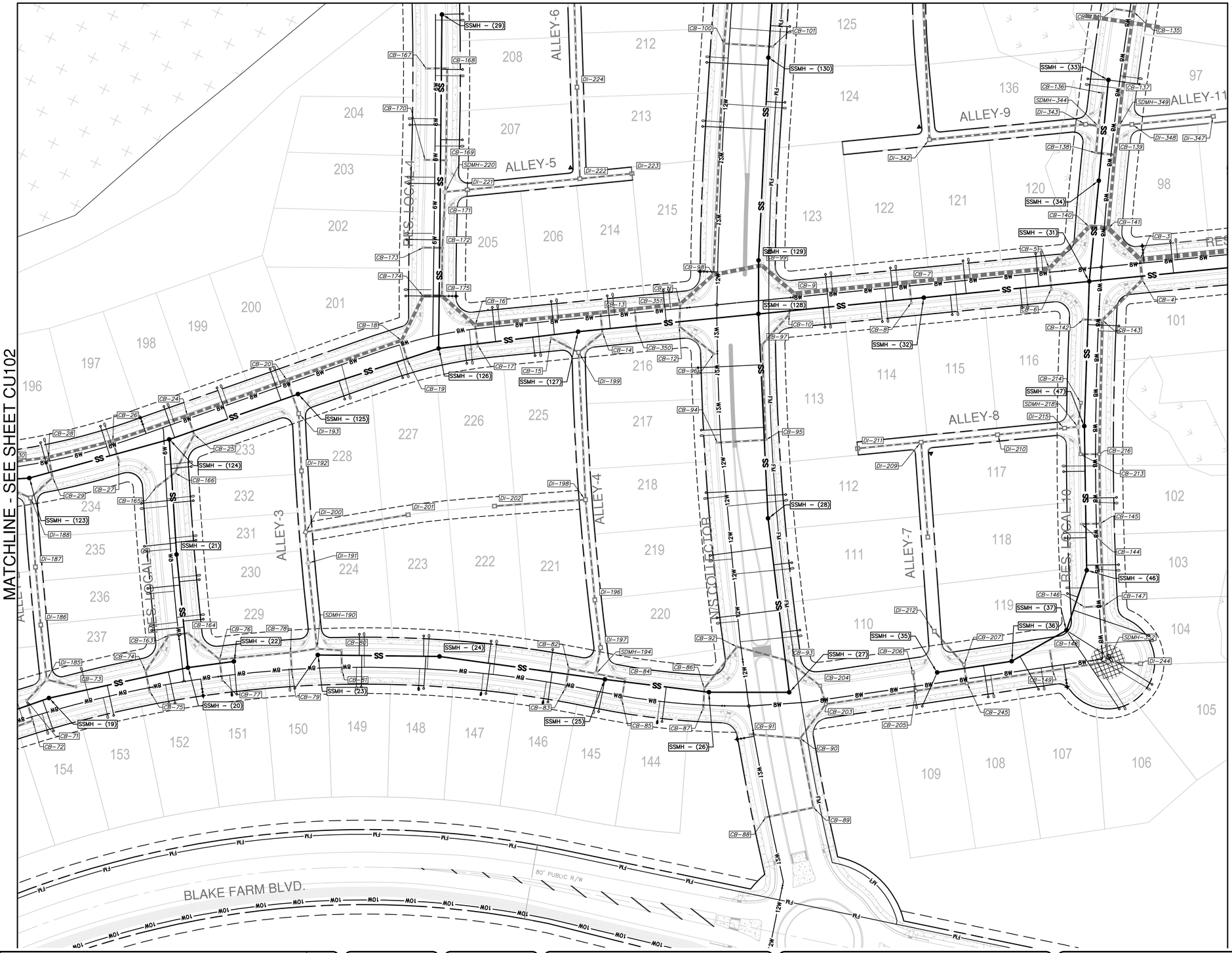
STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\80-Drawings\CU102-105_06525001.dwg, 10/13/2014 11:44:26 AM, cmursey, ARCH expand D (24.00 x 36.00 inches), 1:1

MATCHLINE - SEE SHEET CU106

MATCHLINE - SEE SHEET CU102

MATCHLINE - SEE SHEET CU104



SCALE: 1" = 50

0 25 50 100 150

N

REV.NO	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

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BLAKE FARM
EST. 1946

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PENDER COUNTY NORTH CAROLINA

ENLARGED UTILITY PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

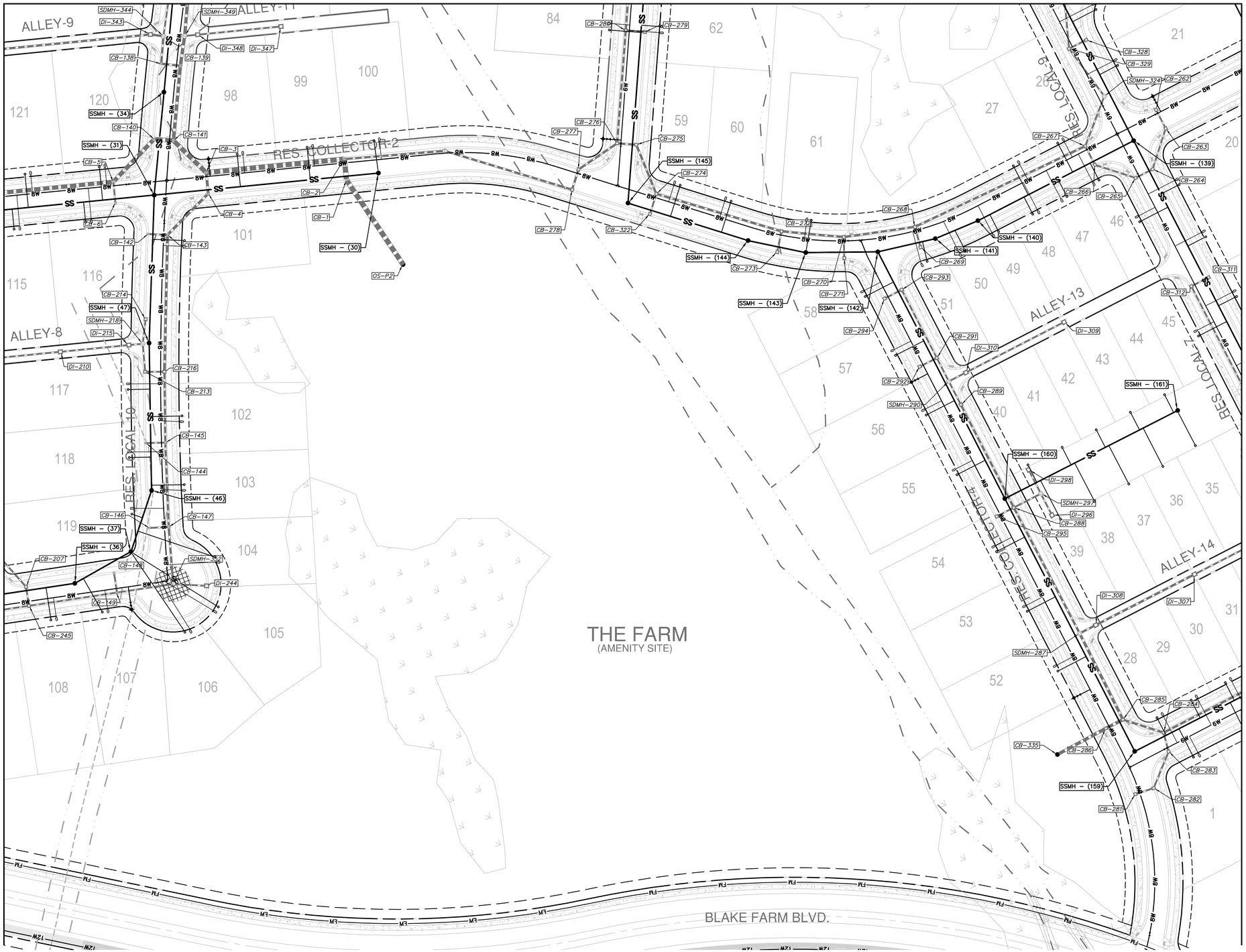
SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER CU103
DRAWING NUMBER 18

STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\98-Drawings\CU102-105_06525000L1.dwg, 10/13/2014 11:44:37 AM, cmursky,
ARCH expand D (24.00 x 36.00 inches), 1:1

MATCHLINE - SEE SHEETS CU105 & CU106



MATCHLINE - SEE SHEET CU103

MATCHLINE - SEE SHEET CU107

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/15/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038577 RICHARD A. CHRISTENSEN
10-10-2014

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BLAKE FARM
EST. 1946

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED UTILITY PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

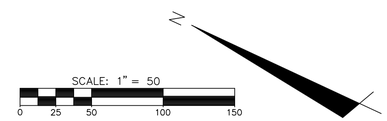
SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CU104
DRAWING NUMBER: 19

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\80-Drawings\CU102-105_06525001.dwg, 10/13/2014 11:44:49 AM, crumsey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

MATCHLINE - SEE SHEET CU106



MATCHLINE - SEE SHEET CU107

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/15/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN
10-10-2014

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BLAKE FARM
EST. 1946

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED UTILITY PLAN

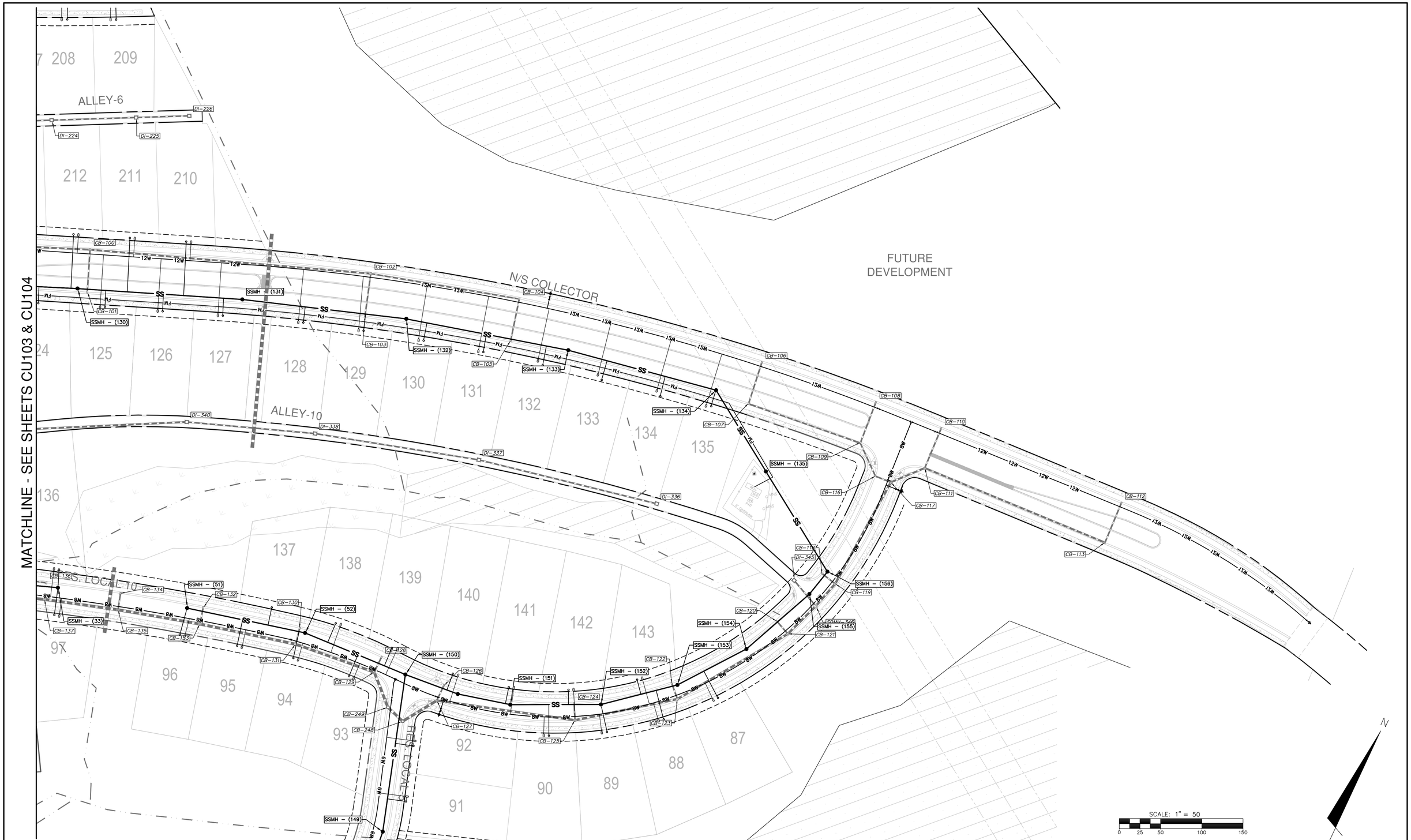
DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CU105
DRAWING NUMBER: 20

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\001\80-Drawings\CU102-105_06252S001.dwg, 10/13/2014 11:45:00 AM, cmursey, ARCH expand D (24.00 x 36.00 Inches), 1:1



MATCHLINE - SEE SHEET CU105

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

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BLAKE FARM
— EST 1946 —

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED UTILITY PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

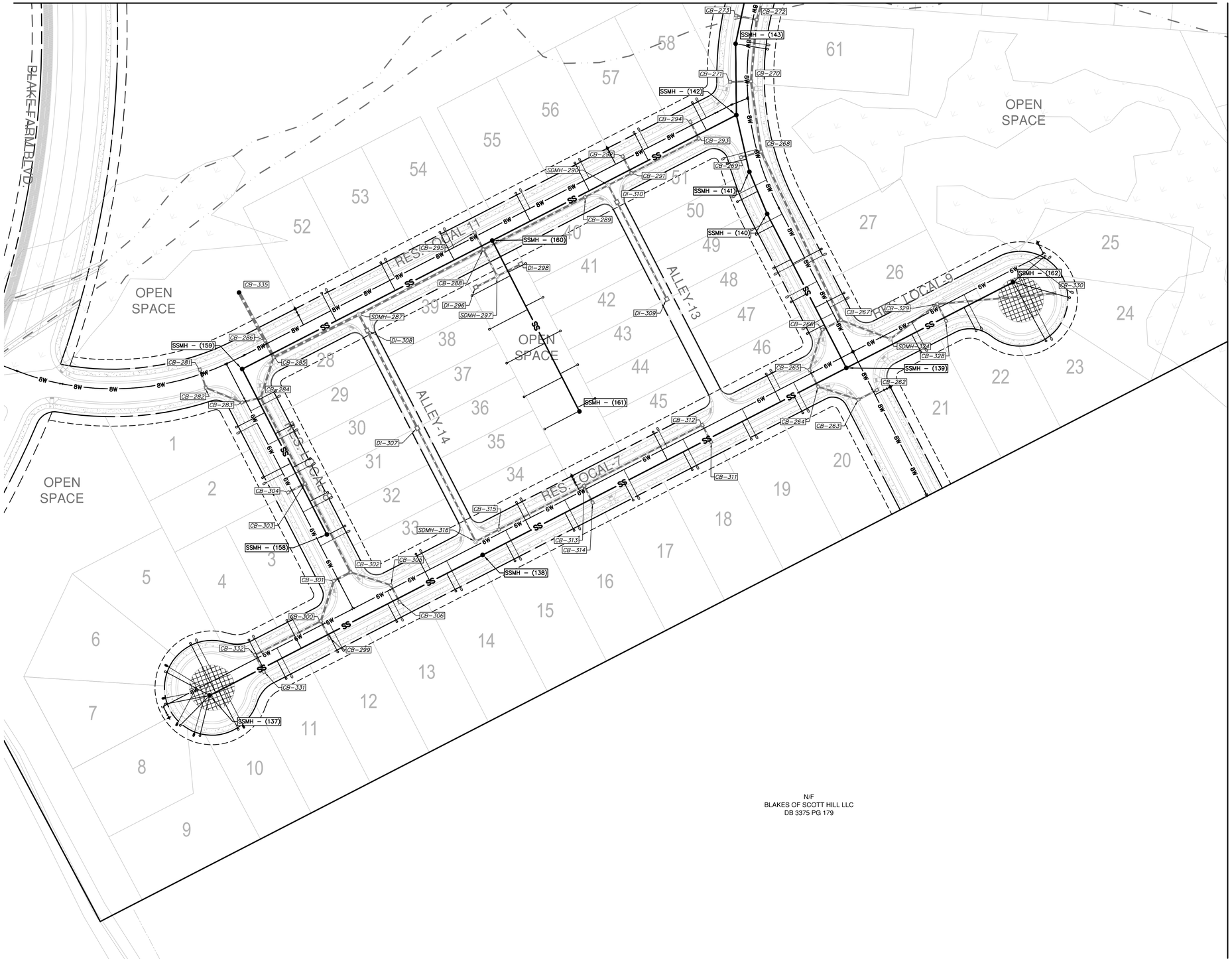
SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER: CU106
DRAWING NUMBER: 21

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\8-Drawings\CU106-107_06252001.dwg, 10/13/2014 11:47:50 AM, cnursey,
ARCH expand D (24.00 x 36.00 inches), 1:1

MATCHLINE - SEE SHEET CU105



MATCHLINE - SEE SHEET CU106

SCALE: 1" = 50

0 25 50 100 150

N

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL:
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BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ENLARGED UTILITY PLAN

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

M&C FILE NUMBER CU107
DRAWING NUMBER 22

STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\8-Drawings\CU106-107_06525000\1.dwg, 10/13/2014 11:48:01 AM, cnursey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

NOTES

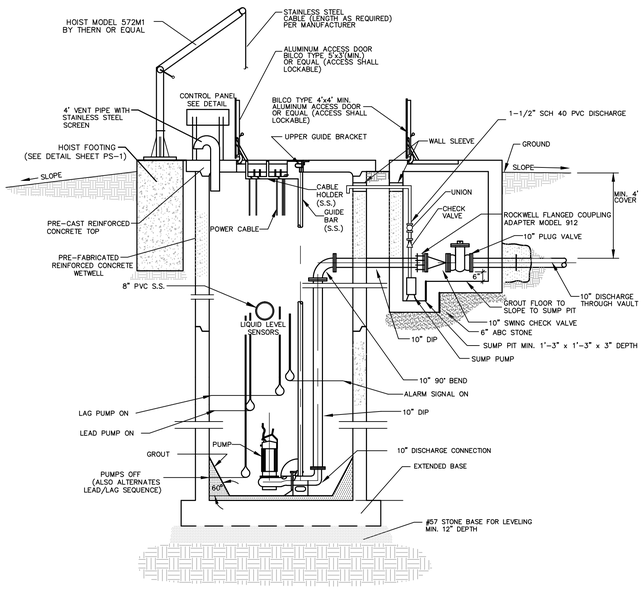
1. CONTRACTOR SHALL FINE GRADE SITE FOR POSITIVE DRAINAGE.

2. THERE ARE NO WETLANDS ON THIS SITE.

3. COORDINATES SHOWN ON THIS DRAWING ARE ASSUMED AND DO NOT CONFORM TO N.C. GRID COORDINATES.

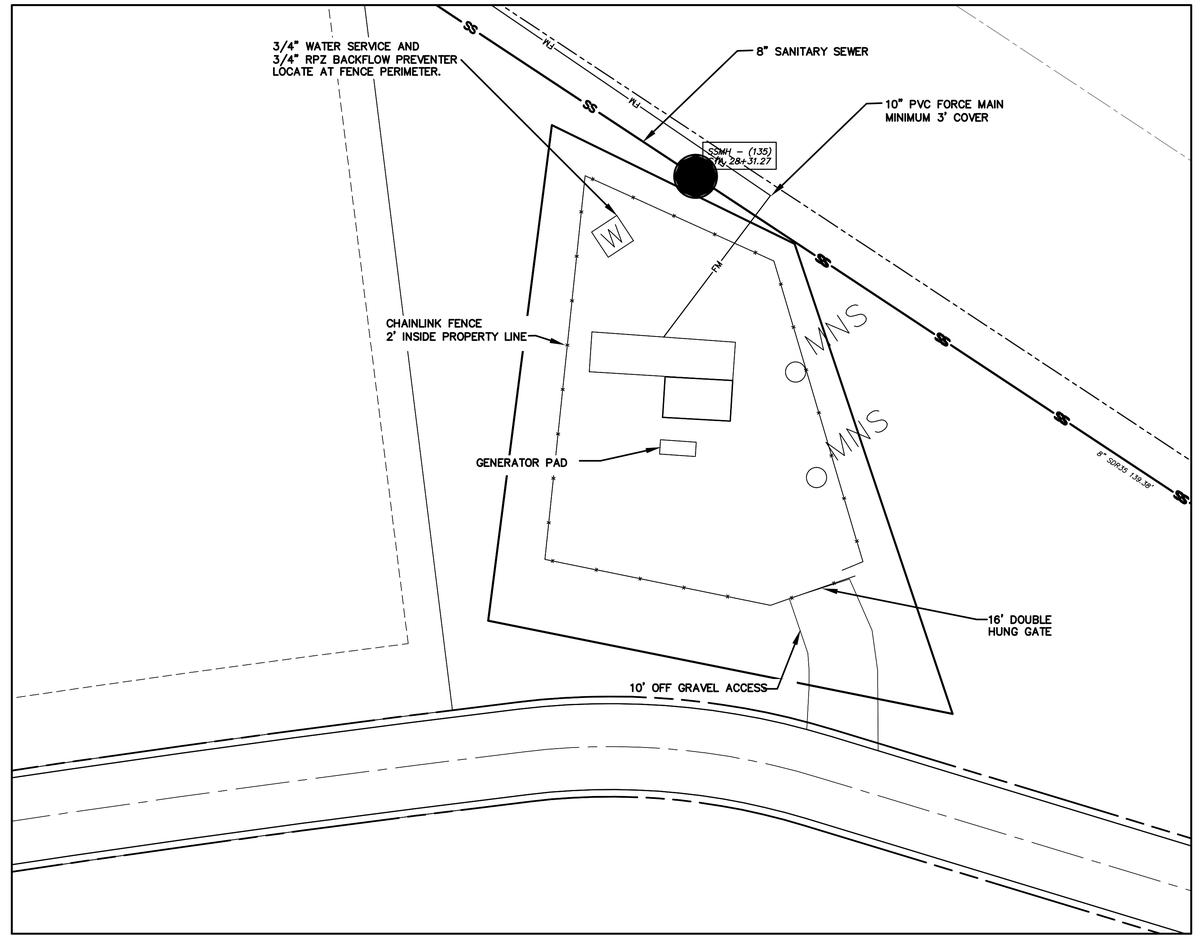
4. CONCRETE PAD FOR GENERATOR SHALL BE A MINIMUM OF 8" WIDER THAN GENERATOR ON ALL SIDES. ALL EDGES MUST BE CHAMFERED. GENERATOR SHALL INCLUDE SUITABLE PLATFORM FOR ACCESS.

5. COMPLETE INSTALLATION OF THE 1" P.E. WATER SERVICE INCLUDING TAP, METER BOX, RPZ, YARD HYDRANT AND ALL MISCELLANEOUS APPURTENANCES SHALL BE INCLUDED IN THE LUMP SUM COST OF THE PUMP STATION.



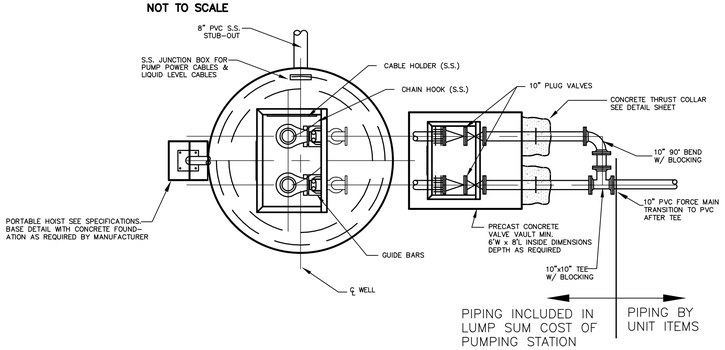
BLAKE FARM PUMP STATION — SECTION

NOT TO SCALE



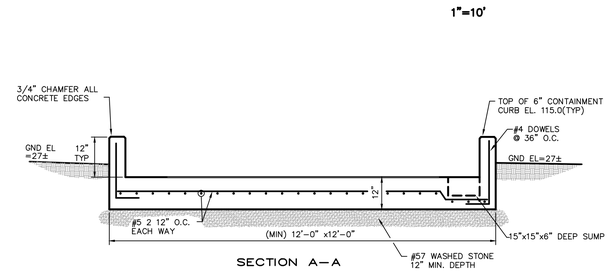
BLAKE FARM PUMP STATION — SITE PLAN

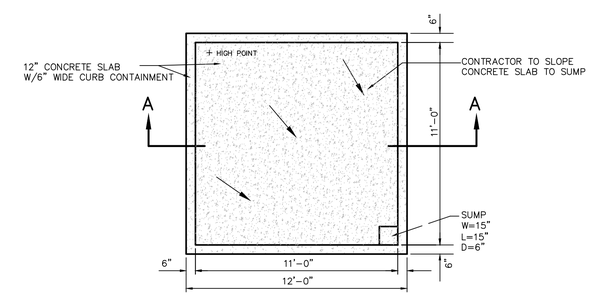
1"=10'



BLAKE FARM PUMP STATION — PLAN

NOT TO SCALE





CHEMICAL STORAGE DETAIL

NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/15/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

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BLAKE FARM — EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

PUMP STATION DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER: CU301
DRAWING NUMBER: 51

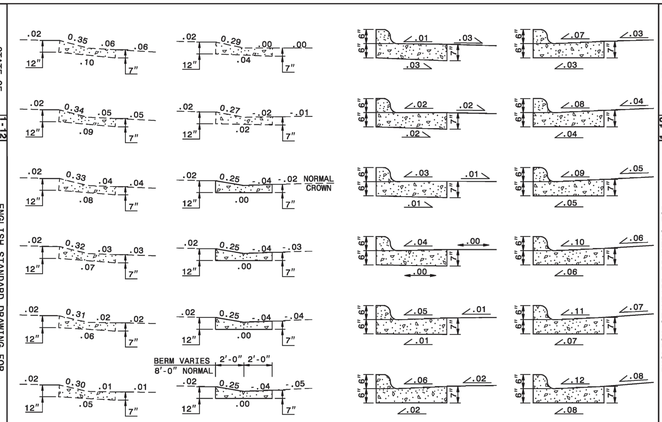
STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\80-Drawings\CU301_065250001.dwg, 10/13/2014 11:56:44 AM, cmurray, ARCH expand D (24.00 x 36.00 Inches), 1:1

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER



SECTION VIEWS OF EXPRESSWAY GUTTER IN SUPER ELEVATION

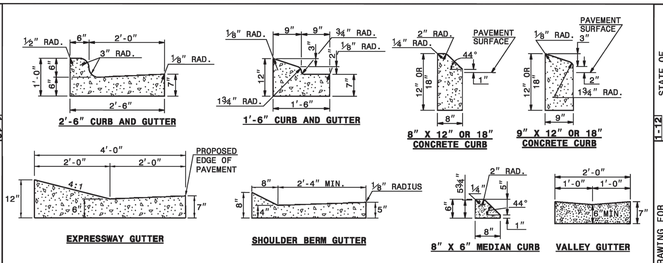
SECTION VIEWS OF 2'-6" CURB AND GUTTER SUPERELEVATION RATES

SHEET 2 OF 3
846.01

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER

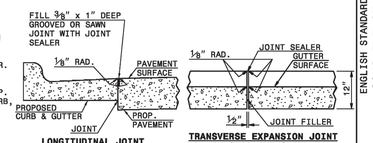


2'-6" CURB AND GUTTER | **1'-6" CURB AND GUTTER** | **8" X 12" OR 18" CONCRETE CURB** | **9" X 12" OR 18" CONCRETE CURB**

EXPRESSWAY GUTTER | **SHOULDER BERM GUTTER** | **8" X 6" MEDIAN CURB** | **VALLEY GUTTER**

SECTION VIEW OF CURBS OR CURBS AND GUTTERS

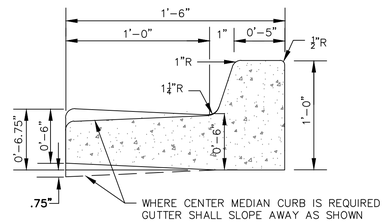
GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
- JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1½" DEEP.
- FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 8"x6" MEDIAN CURB, WITH JOINT FILLER AND SEALER.
- SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.



LONGITUDINAL JOINT | **TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER**

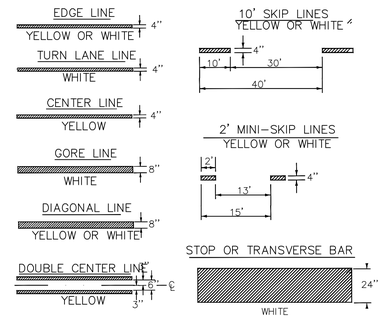
SECTION VIEW OF JOINTS

SHEET 1 OF 3
846.01



STANDARD 18" CURB SECTION

NOT TO SCALE



PAVEMENT MARKING DETAIL

NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO, REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10/10/14

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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BLAKE FARM
EST. 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

SITE DETAILS

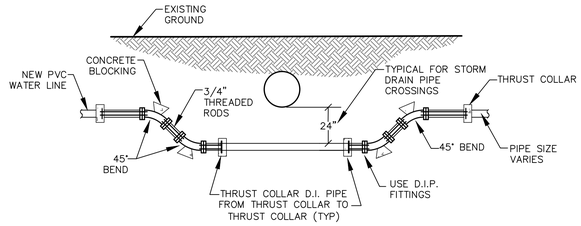
DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER: CS501
DRAWING NUMBER: 52

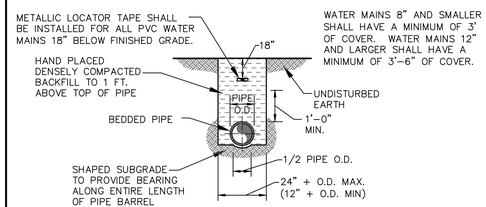
STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\8-Drawings\CS501_06525001.dwg, 10/13/2014 11:57:05 AM, cnursey,
ARCH expand D (24.00 x 36.00 inches), 1:1

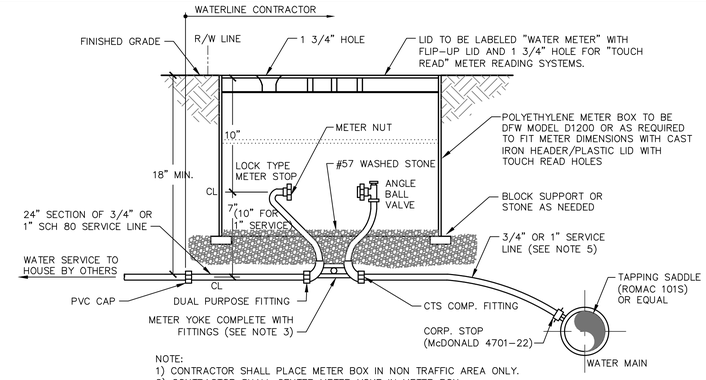


NOTE:
WATERLINE SHALL BE DUCTILE IRON PIPE AT ALL AREAS WHERE ADEQUATE COVER CANNOT BE MAINTAINED.

PIPE CROSSING DETAIL "A"
NOT TO SCALE

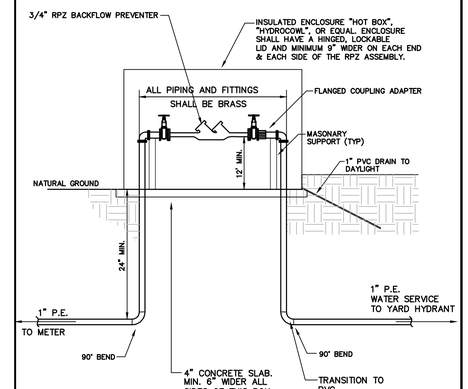


PIPE LAYING CONDITIONS
NOT TO SCALE

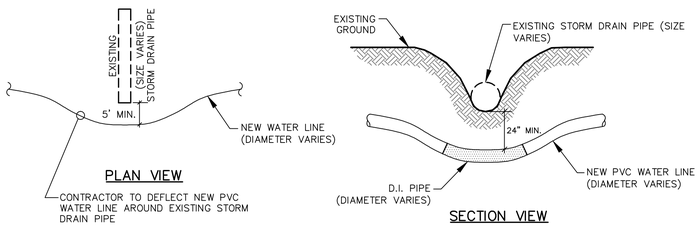


NOTE:
1) CONTRACTOR SHALL PLACE METER BOX IN NON TRAFFIC AREA ONLY.
2) CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
3) McDONALD 26-207WX2D 33 (3/4")
McDONALD 26-410WX2D 44 (1") OR EQUAL
4) BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER. (NEPTUNE T-10, PRO READ REGISTER, R900 MIU)
5) SERVICE LINE SHALL BE CLASS 200 CTS POLYETHYLENE.

5/8", 3/4", 1" AND 2" WATER METER SERVICE DETAIL
NOT TO SCALE

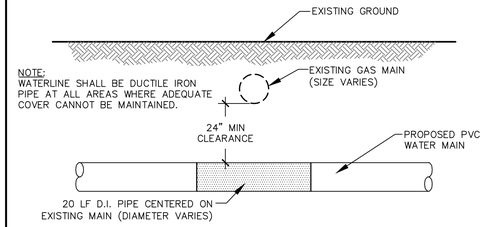


3/4" RPZ DETAIL
NOT TO SCALE



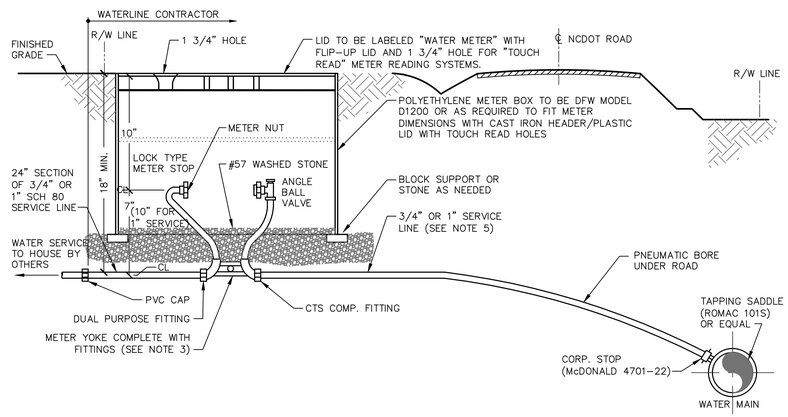
PIPE CROSSING DETAIL "B"
NOT TO SCALE

NOTE:
WATERLINE SHALL BE DUCTILE IRON PIPE AT ALL AREAS WHERE ADEQUATE COVER CANNOT BE MAINTAINED.

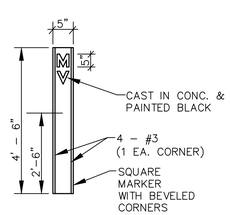


NOTE:
WATERLINE SHALL BE DUCTILE IRON PIPE AT ALL AREAS WHERE ADEQUATE COVER CANNOT BE MAINTAINED.

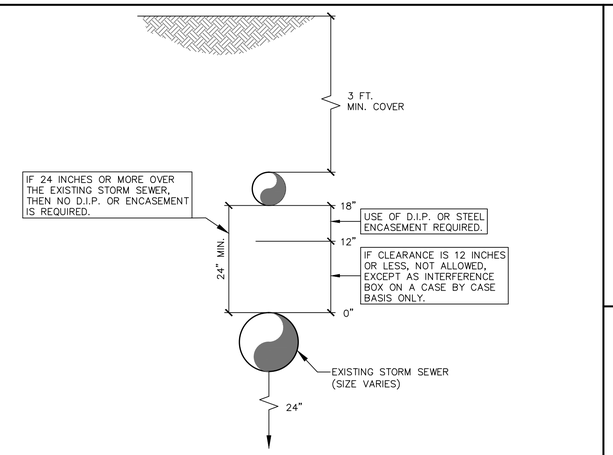
PIPE CROSSING DETAIL "D"
NOT TO SCALE



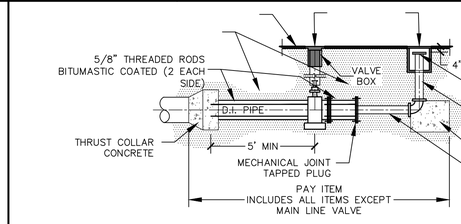
NOTE:
1) CONTRACTOR SHALL PLACE METER BOX IN NON TRAFFIC AREA ONLY.
2) CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
3) McDONALD 26-207WX2D 33 (3/4")
McDONALD 26-410WX2D 44 (1") OR EQUAL
4) BOX TO BE ADJUSTED VERTICALLY TO ACCEPT COUNTY'S STANDARD SERVICE METER. (NEPTUNE T-10 PRO READ REGISTER, R900 MIU)
5) SERVICE LINE SHALL BE CLASS 200 CTS. POLYETHYLENE.
6) DRY BORE ALL SERVICES LOCATED ON OPPOSITE SIDE OF STATE HIGHWAYS.
7) BORE SHALL EXTEND 5' OUTISDE NCDOT DITCH ON EACH SIDE OF ROAD.
8) MAINTAIN 3'-6" COVER UNDER PAVED SURFACES AND 3'-0" UNDER DITCHES.



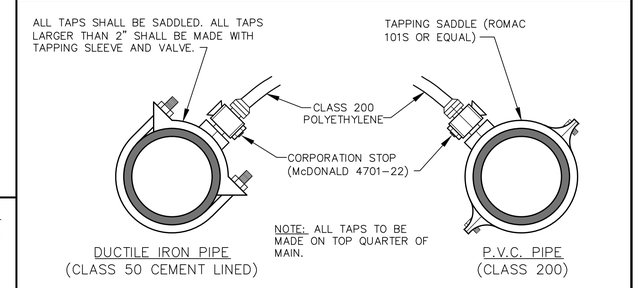
VALVE MARKER DETAIL
NOT TO SCALE



PIPE CROSSING DETAIL "C"
NOT TO SCALE

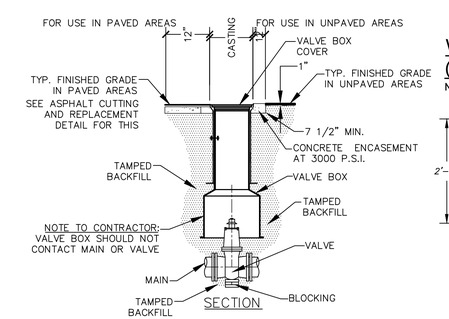


TEMPORARY BLOW-OFF ASSEMBLY
NOT TO SCALE



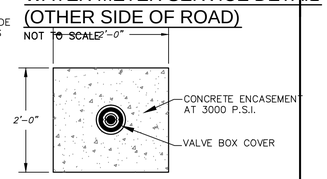
NOTE: ALL TAPS TO BE MADE ON TOP QUARTER OF MAIN.

STANDARD WATER TAP DETAIL
NOT TO SCALE

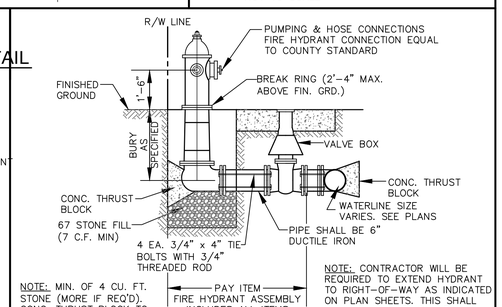


VALVE AND VALVE BOX INSTALLATION
NOT TO SCALE

WATER METER SERVICE DETAIL (OTHER SIDE OF ROAD)
NOT TO SCALE



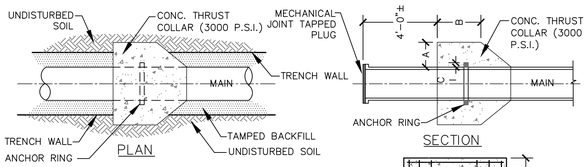
NOTES:
1. D.I.P. MAY BE USED FOR VALVE BOX EXTENSIONS.
2. PRECAST CONCRETE COLLARS MAY BE USED IN SHOULDER AREAS.



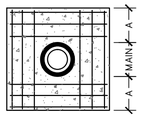
NOTE: MIN. OF 4 CU. FT. STONE (MORE IF REQ'D). CONC. THRUST BLOCK TO HAVE MIN. OF 6 SQ. FT. BEARING ON SOLID BANK (MORE IF REQ'D.). DRAIN HOLE AND FLANGES SHALL BE CLEAR OF CONC.

NOTE: CONTRACTOR WILL BE REQUIRED TO EXTEND HYDRANT TO RIGHT-OF-WAY AS INDICATED ON PLAN SHEETS. THIS SHALL INCLUDE ALL PIPING AND FITTINGS AS NECESSARY TO MAINTAIN ADEQUATE COVER UNDER ROADSIDE DITCHES. THIS SHALL BE INCLUDED IN THE COST OF THE FIRE HYDRANT ASSEMBLY.

FIRE HYDRANT ASSEMBLY
NOT TO SCALE



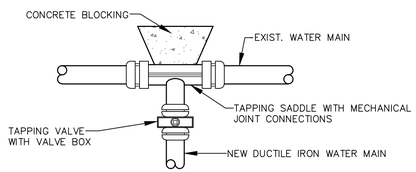
SCHEDULE				
PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR COLLAR	RINGS REQUIRED
	A	B	C	
6",8",12"	1'-0"	1'-0"	2"	ONE
16"	1'-4"	1'-0"	2"	ONE
20"	1'-4"	1-0"	3"	ONE
24"	1'-4"	1'-0"	3"	TWO
30"	1'-4"	1'-2"	4"	TWO
36"	1'-4"	1'-4"	4"	TWO



REINFORCING

NOTE:
6" TO 16" MAINS = 12-NO. 7
BARS 20" TO 36" MAINS = 12-NO. 8 BARS BARS PLACED AS SHOWN

THRUST COLLAR INSTALLATION
NOT TO SCALE



TAPPING SADDLE AND VALVE ASSEMBLY
NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10/10/2014

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

UTILITY DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

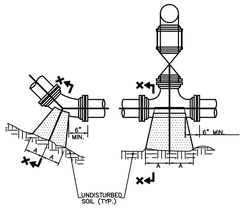
SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER CU501
DRAWING NUMBER 53

STATUS: PRELIMINARY PLAT
REVISION B

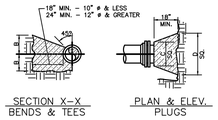
S:\6525\0001\B\Drawings\CU501_065250001.dwg, 10/13/2014 11:57:17 AM, cmursey,
ARCH expand D (24.00 x 36.00 Inches) 1:1

NOTES:
1. CONCRETE SHALL BE 3,000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL FITTING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.



PLAN BENDS

HYDRANT TEE PLAN TEES



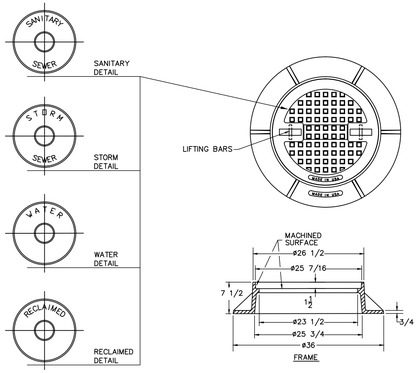
SECTION X–X BENDS & TEES

PLAN & ELEV. PLUGS

PIPE SIZE	90° BEND		45° BEND		22-1/2° BEND		11-1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	4"	6"	8"	8"	10"	18"
6"	10"	12"	8"	10"	8"	8"	6"	8"	10"	10"	12"	18"
8"	15"	12"	10"	10"	8"	8"	8"	8"	10"	12"	12"	24"
10"	16"	14"	10"	12"	8"	10"	8"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"
20"	32"	26"	20"	22"	16"	20"	16"	20"	22"	26"	24"	40"
24"	40"	28"	22"	24"	18"	22"	18"	22"	40"	28"	28"	44"

THRUST BLOCKING DETAIL

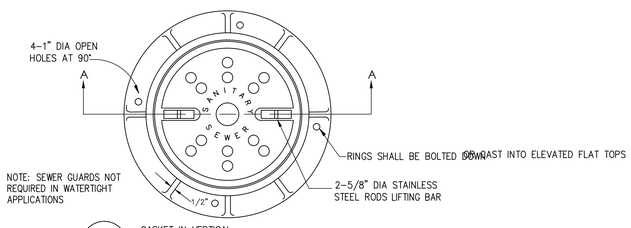
NOT TO SCALE



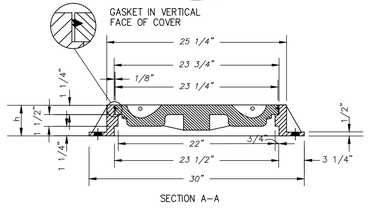
MANUFACTURER	MODEL NUMBER
US FOUNDRY	725 RING / DP-SSG COVER
US FOUNDRY	710 RING / DP-SSG COVER
CAPITAL FOUNDRY	MH-3000
EAST JORDAN IRON WORKS	202711 RING / 202746 COVER
GENERAL FOUNDRIES	GFI-7126 / GFI-41261

STANDARD MANHOLE RING AND COVER

NOT TO SCALE



NOTE: SEWER GUARDS NOT REQUIRED IN WATERTIGHT APPLICATIONS

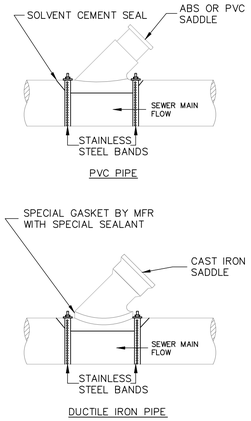


SECTION A–A

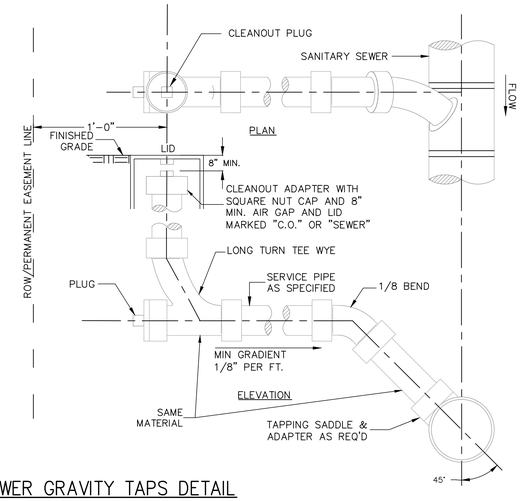
MANUFACTURER	MODEL NUMBER
US FOUNDRY	725 RING / DP-SSG COVER
US FOUNDRY	710 RING / DP-SSG COVER
CAPITAL FOUNDRY	MH-3000-WT
EAST JORDAN IRON WORKS	202701 RING / 202722 COVER

WATERTIGHT MANHOLE RING AND COVER

NOT TO SCALE

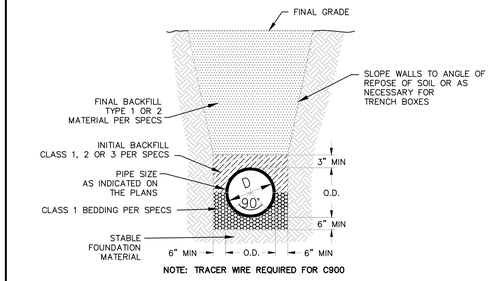


SERVICE SADDLES



SANITARY SEWER GRAVITY TAPS DETAIL

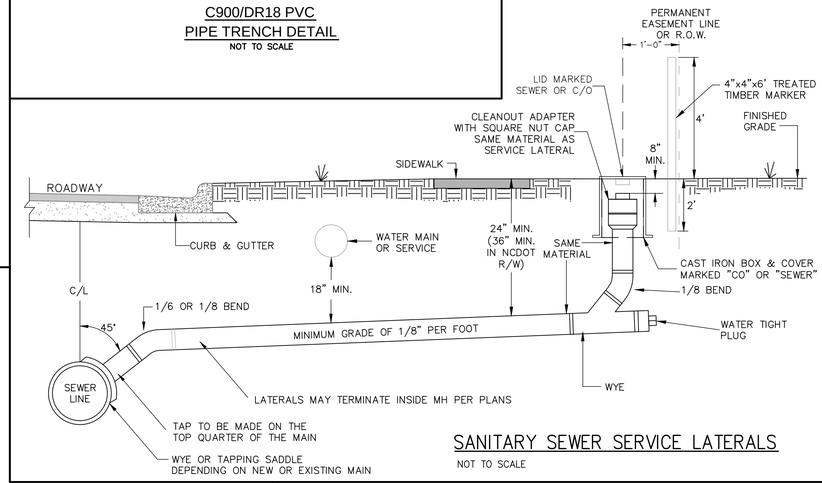
NOT TO SCALE



NOTE: TRACER WIRE REQUIRED FOR C900

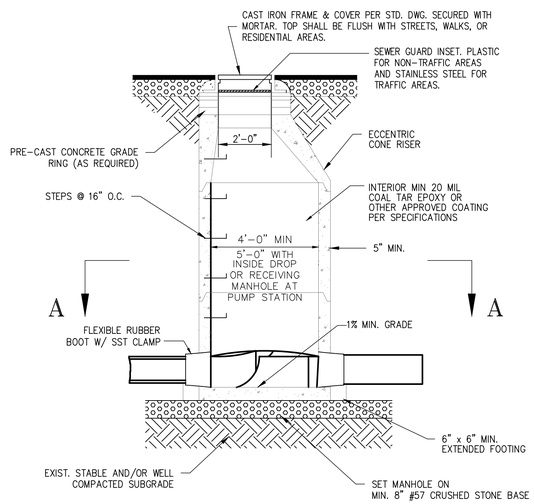
C900/DR18 PVC PIPE TRENCH DETAIL

NOT TO SCALE



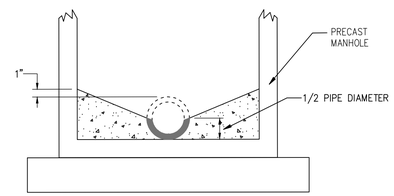
SANITARY SEWER SERVICE LATERALS

NOT TO SCALE

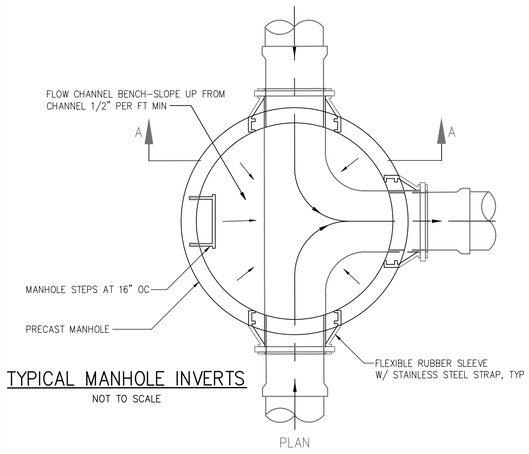


PRECAST CONCRETE MANHOLE

NOT TO SCALE



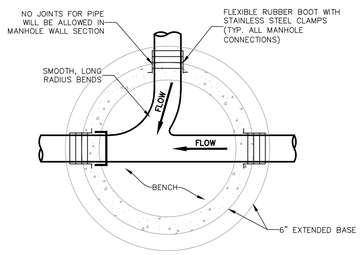
SECTION "A–A"



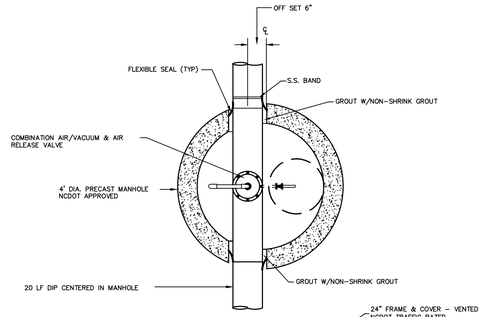
PLAN

TYPICAL MANHOLE INVERTS

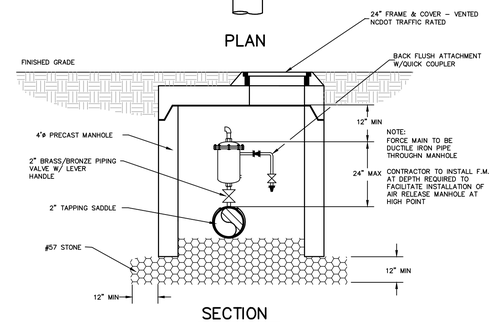
NOT TO SCALE



SECTION A–A



PLAN



SECTION

SEWER FORCE MAIN COMBINATION AIR/VACUUM AND AIR RELEASE VALVES MANHOLE

NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

UTILITY DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE: HORIZONTAL: N/A VERTICAL: N/A

M&C FILE NUMBER: CU502

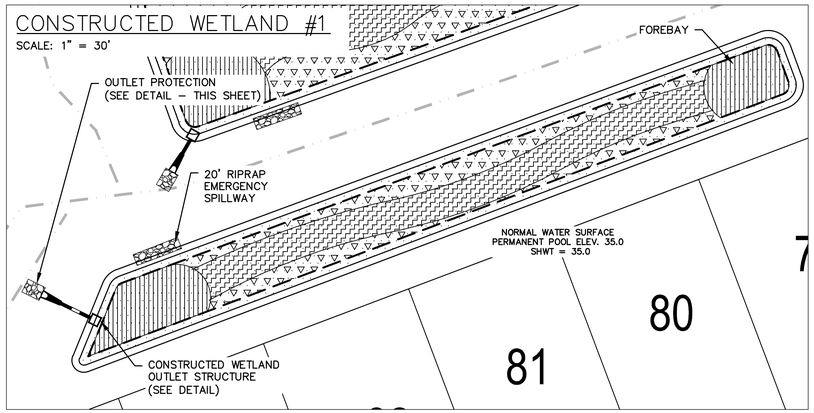
DRAWING NUMBER: 54

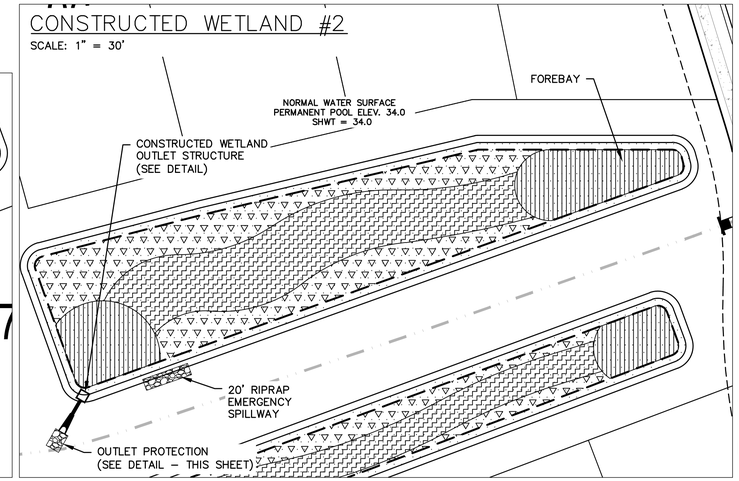
STATUS: PRELIMINARY PLAT

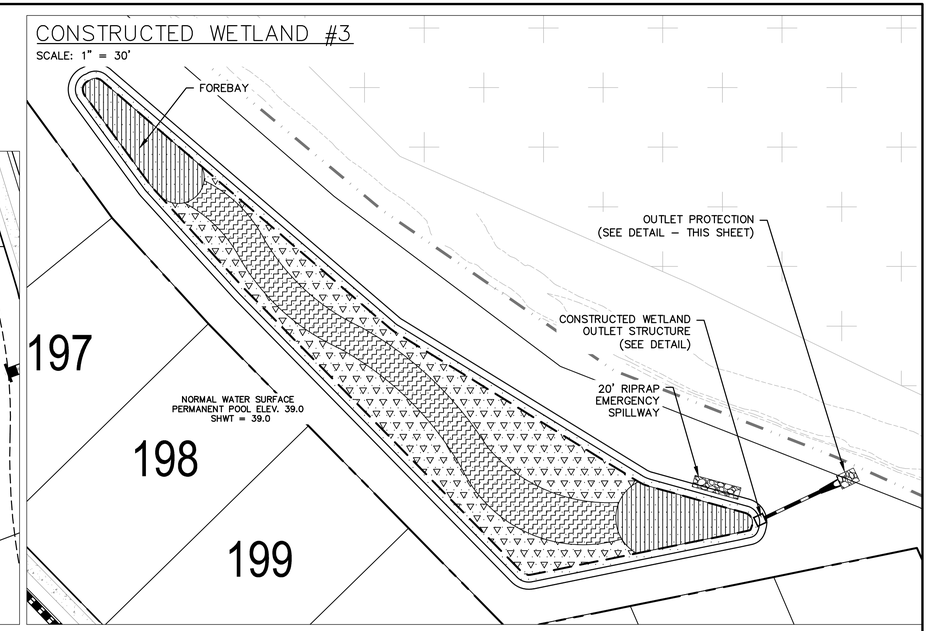
REVISION: B

S:\6525\0001\8\-Drawings\CU502_065250001.dwg, 10/13/2014 11:57:28 AM, cmurphey, ARCH expand D (24.00 x 36.00 Inches), 1:1

LEGEND	
	SHALLOW LAND ZONE
	SHALLOW WATER ZONE
	DEEP POOL AND FOREBAY ZONE







SCALE: 1" = 30

0 15 30 60 90

N

TOPSOIL SPECIFICATIONS

TOPSOIL TO BE ADDED TO TOP OF CONSTRUCTED WETLAND SHELF IF NATIVE SOILS ARE NOT SUITABLE FOR GROWTH OF SELECTED PLANT SPECIES.

TOPSOIL SHALL BE WELL MIXED, FREE OF TRASH AND DEBRIS, UNCOMPACTED, AND VOID OF LARGE (>2 INCHES) AND WOODY MATERIAL (>3 INCHES).

TOPSOIL SHALL MEET THE FOLLOWING SPECIFICATIONS:
SOIL TYPE: CLAY < 60%, SAND < 80%, SILT < 80%
ORGANIC CONTENT: 5–8%
P–I: 20<50
pH: 6.0–7.0

IN THE EVENT THAT SELECTED TOPSOIL DOES NOT MEET SPECIFICATION LISTED ABOVE, SOIL CAN BE AMENDED BY ADDITION OF APPROPRIATE MATERIALS.

UPON PLACEMENT OF TOPSOIL, AREA SHOULD BE LIGHTLY COMPACTED TO ENSURE STABILIZATION OF MATERIAL.

EXCESSIVE TRAFFICKING OF EQUIPMENT OVER CONSTRUCTED WETLAND PLANTING AREAS SHOULD BE AVOIDED.

MINIMUM DEPTH OF TOPSOIL SHOULD BE 12 INCHES.

GENERAL PLANTING NOTES:

PREVENT FROM COMPACTING TOPSOIL, TO PROMOTE HEALTHY ENVIRONMENTAL CONDITIONS FOR THE PLANTS.

PLANTS OF THE SAME SPECIES SHOULD BE PLANTED IN CLUSTERS, THESE CLUSTERS SHOULD CONTAIN 4–6 PLANTS OF THAT SPECIES.

ALL PLANTS SHOULD BE PLANTED IN THE SPECIFIED ZONE TO ENSURE SURVIVAL.

AVOID PLANTING INDIVIDUAL SPECIES IN LARGE GROUPS BY SPACING CLUSTERS A MIN. OF 5' APART.

ALL ZONES TO BE PLANTED WITH BARE ROOT, PLUGS, OR CONTAINER LIVE PLANTINGS AS SPECIFIED

SEE PLANTING DETAIL FOR PLACEMENT OF PLANTS.

BEGIN PLANTING DURING LOCAL GROWING SEASON IN ORDER TO ENSURE THAT PLANTS HAVE ADAQUET TIME TO ESTABLISH BEFORE WINTER MONTHS.

FRESH PLANTS WILL BE OBTAINED FROM A NURSERY AND WILL BE STORED WITH ROOTS IN MOIST SOILS.

PLANTINGS WILL BE INSPECTED AND MAINTAINED. PLANTS WILL BE INSPECTED FOR WASHOUT. WASHED OUT PLANTS WILL BE REPLACED.

A SUITABLE STAND OF WETLAND PLANTS WILL BE ESTABLISHED WITHIN 8 MONTHS OF PLANTING. A 90% SURVIVAL RATE MEETS THIS OBJECTIVE. SUPPLEMENTAL PLANTINGS WILL BE PROVIDED AS NEEDED TO MEET THIS CRITERIA.

THE SPECIFIED PLANT MATERIALS MAY BE OBTAINED FROM ANY NURSERY, INCLUDING: COASTAL PLAIN CONSERVATION NURSERY, 3067 CONNERS DR. EDENTON, NC 27932. (252) 482–5707.

TEMPORARY SEEDING

GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
RYE GRAIN	1–2 LBS.	APRIL – JUNE	25 LBS. 10–10–10
BROWNTOP MILLET	1–2 LBS	JUNE – AUGUST	25 LBS 10–10–10

PERMANENT SEEDING

GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA, COMMON	1–2 LBS.	APRIL – JUNE	25 LBS. 10–10–10
FESCUE, TALL (KENTUCKY 31)	5–7 LBS	JUNE – AUGUST FEB. – OCT.	25 LBS 10–10–10
SERICEA LESPEDEZA (SLOPES	1–2 LBS	MARCH – APRIL	25 LBS 10–10–10

SEEDBED PREPARATION

CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.

RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.

REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.

APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELLOW).

CONTINUE TILLAGE UNTIL A WELL – PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.

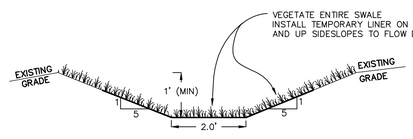
SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.

MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.

INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.

CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

* APPLY: AGRICULTURAL LIMESTONE – 2 TONS/ACRE
FERTILIZER – 1000 LBS/ACRE (10–10–10)
SUPER PHOSPHATE – 500 LBS/ACRE (20%)
MULCH – 2 TONS/ACRE (SMALL GRAIN STRAW)
ANCHOR – ASPHALT EMULSION AT 450 GAL

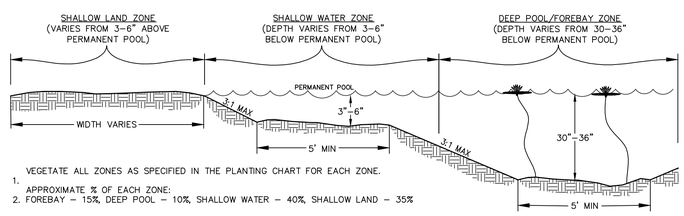


VEGETATED SWALE

NOT TO SCALE

NOTES

1. OVER–EXCAVTE CHANNEL DEPTH 0.5' TO ALLOW FOR SOIL BULKING (DURING SEEDBED PREP) AND SOD/VEGETATIVE ACCUMULATION.
2. VEGETATE SWALES ACCORDING TO SEEDING SCHEDULE IMMEDIATELY UPON COMPLETION.
3. THE TEMPORARY LINER SHALL BE PLACED ON THE BOTTOM AND UP THE SIDESLOPES TO THE SPECIFIED FLOW DEPTH; MULCH ACCORDING TO SEEDING SCHEDULE ABOVE THAT HEIGHT.
4. THE TEMPORARY LINER SHALL BE JUTE NET OR STRAW MATTING.
5. FOLLOW MANUFACTURERS INSTRUCTIONS WHEN INSTALLING TEMPORARY LINER.



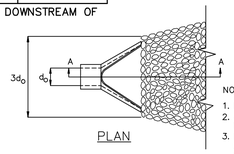
1. VEGETATE ALL ZONES AS SPECIFIED IN THE PLANTING CHART FOR EACH ZONE.
2. APPROXIMATE % OF EACH ZONE:
FOREBAY – 15%, DEEP POOL – 10%, SHALLOW WATER – 40%, SHALLOW LAND – 35%

CONSTRUCTED WETLAND ZONES

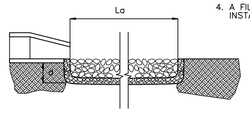
NOT TO SCALE

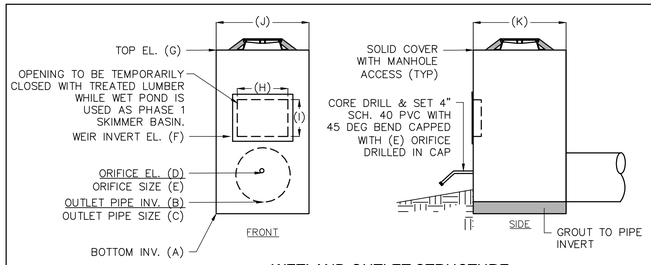
CONSTRUCTED WETLAND OUTFALL PROTECTION			
	WETLAND 1	WETLAND 2	WETLAND 3
OUTLET PIPE DIA.	12"	12"	15"
OUTLET FLOW RATE	2.72 CFS	1.57 CFS	3.97 CFS
OUTLET VELOCITY	5.0 FT/S	4.4 FT/S	5.5 FT/S
MATERIAL	CLASS A	CLASS A	CLASS A
LENGTH	4.0'	4.0'	4.0'
WIDTH	2.6'	2.6'	2.6'
STONE DIA.	3"	3"	3"
THICKNESS	9"	9"	9"

* OUTFALL PIPE DIAMETER REFERS TO PIPE SIZE DOWNSTREAM OF CONFLUENCE IN MANHOLE.



NOTES:
1. La IS THE THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL – DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" 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.

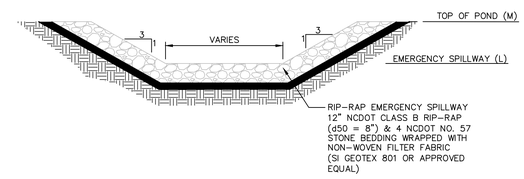




WETLAND OUTLET STRUCTURE

NOT TO SCALE

CONSTRUCTED WETLAND OUTLET STRUCTURE			
	WETLAND 1	WETLAND 2	WETLAND 3
A	34.5'	33.5'	38.5'
B	35.0'	34.0'	39.0'
C	12" RCP	12" RCP	12" RCP
D	35.0'	34.0'	39.0'
E	0.5"	0.5"	0.5"
F	35.3'	34.3'	39.5'
G	36.0'	35.0'	40.0'
H	24"	24"	24"
I	6"	6"	6"
J	36"	36"	36"
K	36"	36"	36"
L	36.5'	35.5'	40.5'
M	37.0'	36.0'	41.0'



EMERGENCY SPILLWAY SECTION

NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/15/14

REVISIONS

SEAL
N. CAROLINA PROFESSIONAL ENGINEER SEAL 038577 RICHARD A. CHRISTENSEN
10-13-14

SEAL
PRELIMINARY-DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM – EST. 1946 –

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

CONSTRUCTED WETLAND DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: 1"=30'
VERTICAL: N/A

M&C FILE NUMBER CN501
DRAWING NUMBER 55

STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\Bh Drawings\CN501_065250001.dwg, 10/13/2014 12:03:42 PM, cmursey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

WET DETENTION POND NOTES

1) TEMPORARY PUMP WILL BE PROVIDED BY OWNER TO DRAIN POND/FOREBAY FOR ROUTINE MAINTENANCE OR IN AN EMERGENCY.

2) CONTRACTOR SHALL INSTALL EQUAL NUMBERS OF THE LISTED SUITABLE SPECIES FOR THE VEGETATED SHELF. GROUP SIMILAR SPECIES OF PLANTS TOGETHER, INSTALL PLANTS 24" O.C. IN A CHECKERBOARD PATTERN, AND NO PLANTS SHALL BE PLANTED WITHIN 10 FT OF THE OUTLET STRUCTURE. LISTED SUITABLE SPECIES FOR VEGETATED SHELF ARE: **ARROW ARUM, BLUE FLAG IRIS, CANA LILY, AND PICKEREL WEED.**

3) SOD SLOPES ABOVE THE PERMANENT POOL AROUND THE INSIDE OF THE FOREBAY, ABOVE THE VEGETATED SHELF AROUND THE MAIN BAY AND SLOPES OUTSIDE OF THE POND.

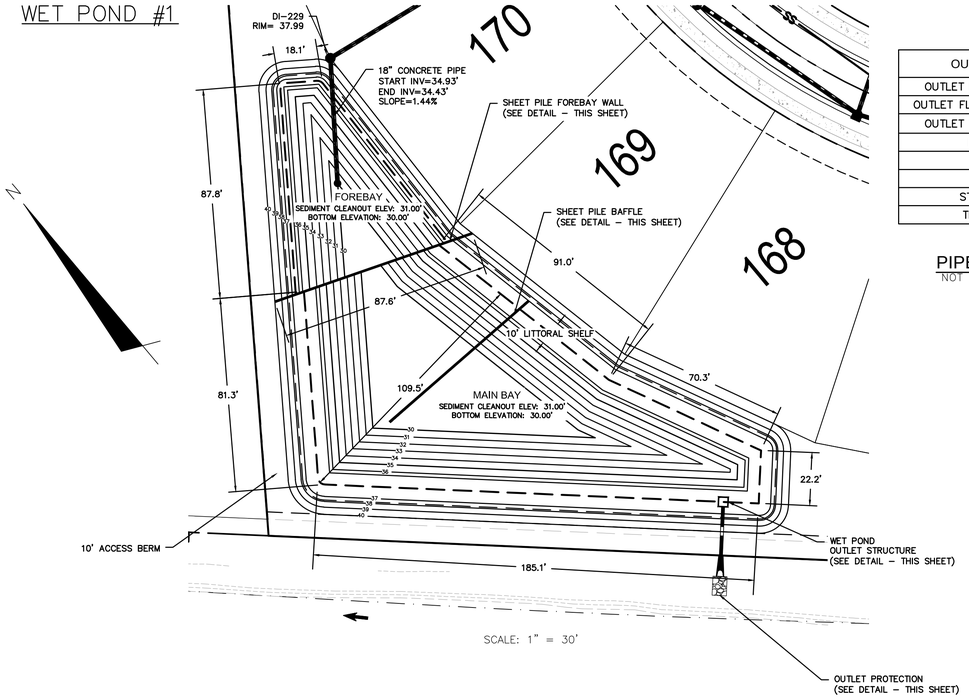
4) CONTRACTOR SHALL EXCAVATE VEGETATED SHELF AS NECESSARY TO PROVIDE ADEQUATE CLEARANCE AROUND RISER FOR PVC PIPE INVERT.

5) THE SEASONAL HIGH WATER TABLE WAS FOUND TO BE ~ EL. 36.69 IN MAIN BAY 1 AND EL. 37.00 IN MAIN BAY 2 OF THE WET DETENTION POND.

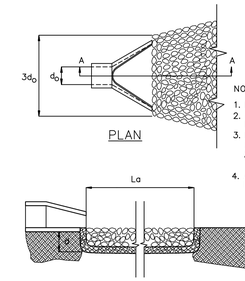
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES.
2. BASED ON FIRM FLOOD INSURANCE RATE MAP FOR NEW HANOVER COUNTY, THIS PARCEL IS NOT LOCATED IN A FLOOD HAZARD ZONE.
3. THE IMPROVEMENTS SHOWN ON THIS SITE PLAN CANNOT DEVIATE FROM THE PLAN ONCE APPROVED WITHOUT WRITTEN APPROVAL OF ENGINEER.
4. SITE WILL REQUIRE A STATE EROSION CONTROL PERMIT AND STATE STORMWATER PERMIT.
5. IMPERVIOUS AREA SHALL DRAIN TO PROPOSED STATE PERMITTED STORMWATER POND.
6. SURVEY INFORMATION PROVIDED BY SHERWIN D. CRIBB – 01/2013 AND 07/2013.

WET POND #1

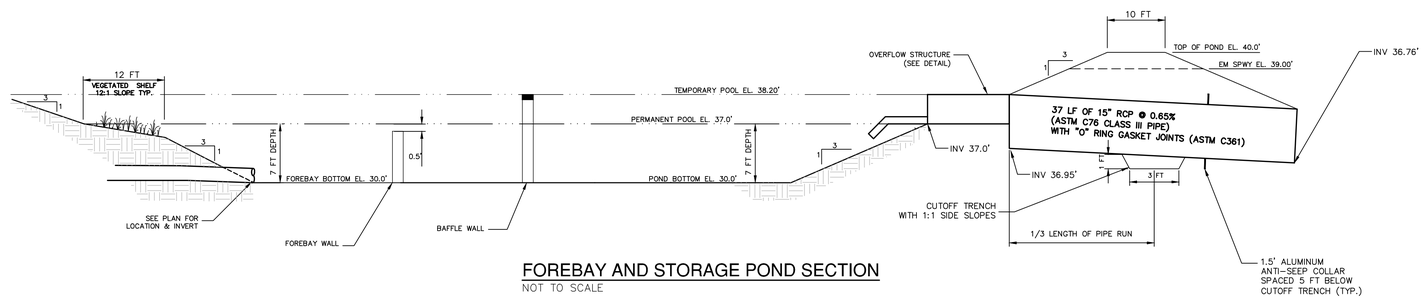


OUTLET PROTECTION	
OUTLET PIPE DIA.	15"
OUTLET FLOW RATE	0.13 CFS
OUTLET VELOCITY	1.8 FT/S
MATERIAL	CLASS A
LENGTH	4.0'
WIDTH	2.6'
STONE DIA.	3"
THICKNESS	9"

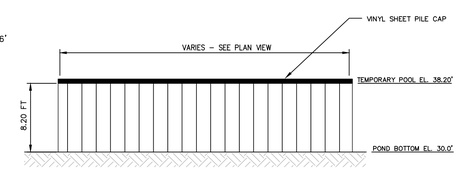


NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL – DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET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

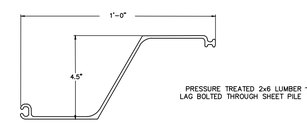
PIPE OUTLET PROTECTION
NOT TO SCALE



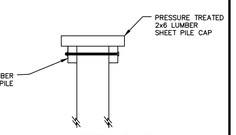
FOREBAY AND STORAGE POND SECTION
NOT TO SCALE



VINYL SHEET PILE BAFFLE WALL DETAIL
NOT TO SCALE



VINYL SHEET PILE FOR BAFFLE AND FOREBAY WALL
NOT TO SCALE



VINYL SHEET PILE CAP
NOT TO SCALE

STORM ELEVATIONS

WET POND

1.5" PROPOSED DEPTH = 37.00'

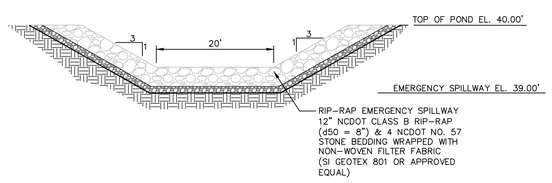
DESIGN STORM

2-YEAR = 37.18'

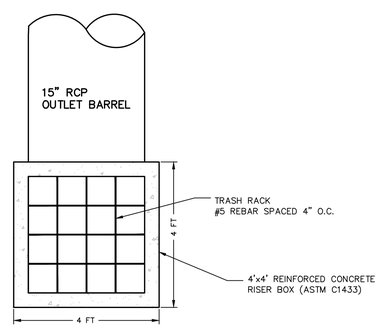
10-YEAR = 37.92'

25-YEAR = 38.28'

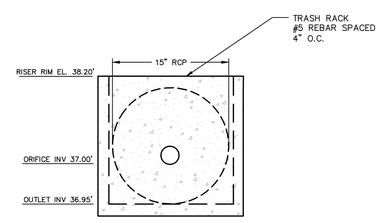
100-YEAR = 38.38'



EMERGENCY SPILLWAY SECTION
NOT TO SCALE



TOP



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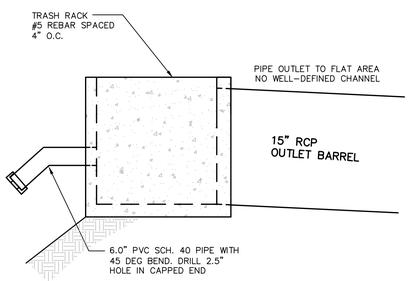

SIDE

POND OVERFLOW STRUCTURE
NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO T.L.C FOR REVIEW	08/15/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
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BLAKE FARM – EST. 1946 –

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

WET DETENTION POND #1 DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

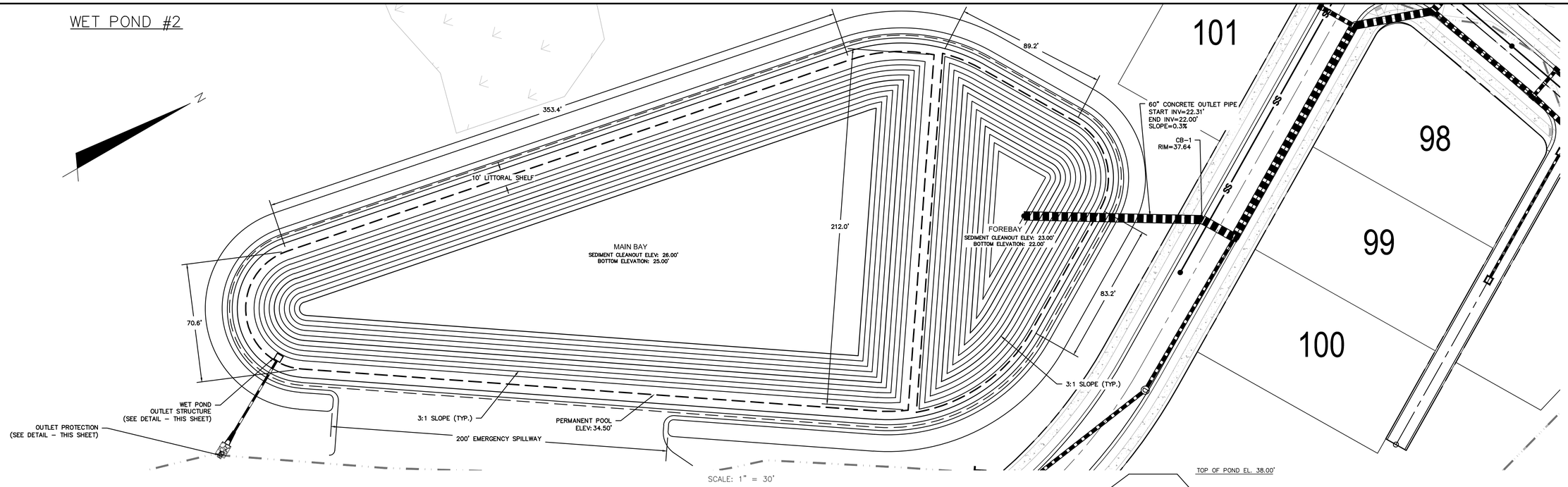
SCALE
HORIZONTAL: N/A
VERTICAL: N/A

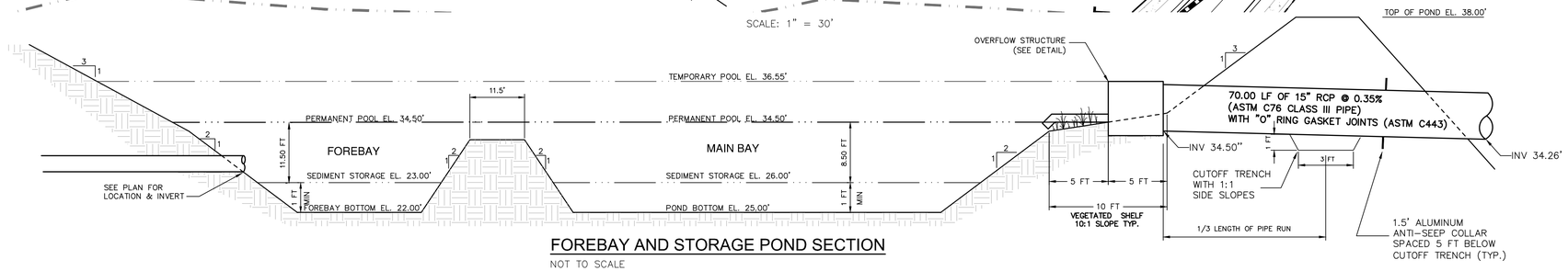
M&C FILE NUMBER: CN502
DRAWING NUMBER: 56

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\80-Drawings\CN502_06525000L1.dwg, 10/13/2014 12:09:10 PM, cnursey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

WET POND #2





FOREBAY AND STORAGE POND SECTION

NOT TO SCALE

WET DETENTION POND NOTES

1) TEMPORARY PUMP WILL BE PROVIDED BY OWNER TO DRAIN POND/FOREBAY FOR ROUTINE MAINTENANCE OR IN AN EMERGENCY.

2) CONTRACTOR SHALL INSTALL EQUAL NUMBERS OF THE LISTED SUITABLE SPECIES FOR THE VEGETATED SHELF. GROUP SIMILAR SPECIES OF PLANTS TOGETHER, INSTALL PLANTS 24" O.C. IN A CHECKERBOARD PATTERN, AND NO PLANTS SHALL BE PLANTED WITHIN 10 FT OF THE OUTLET STRUCTURE. LISTED SUITABLE SPECIES FOR VEGETATED SHELF ARE: ARROW ARUM, BLUE FLAG IRIS, CANA LILY, AND PICKEREL WEED.

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5) THE SEASONAL HIGH WATER TABLE WAS FOUND TO BE ~ EL. 36.69 IN MAIN BAY 1 AND EL. 37.00 IN MAIN BAY 2 OF THE WET DETENTION POND.

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES.
2. BASED ON FIRM FLOOD INSURANCE RATE MAP FOR NEW HANOVER COUNTY, THIS PARCEL IS NOT LOCATED IN A FLOOD HAZARD ZONE.
3. THE IMPROVEMENTS SHOWN ON THIS SITE PLAN CANNOT DEVIATE FROM THE PLAN ONCE APPROVED WITHOUT WRITTEN APPROVAL OF ENGINEER.
4. SITE WILL REQUIRE A STATE EROSION CONTROL PERMIT AND STATE STORMWATER PERMIT.
5. IMPERVIOUS AREA SHALL DRAIN TO PROPOSED STATE PERMITTED STORMWATER POND.
6. SURVEY INFORMATION PROVIDED BY SHERWIN D. CRIBB – 01/2013 AND 07/2013.

STORM ELEVATIONS

WET POND

1.5" PROPOSED DEPTH = 36.55'

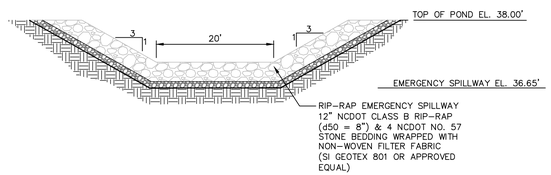
DESIGN STORM

2–YEAR = 36.74'

10–YEAR = 37.05'

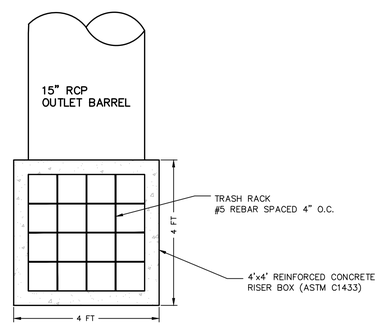
25–YEAR = 37.17'

100–YEAR = 37.38'



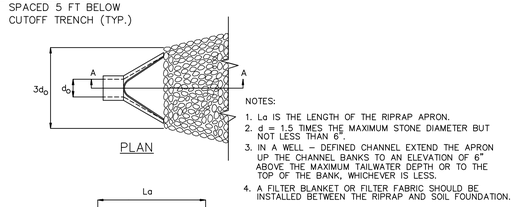
EMERGENCY SPILLWAY SECTION

NOT TO SCALE



TOP

OUTLET PROTECTION	
OUTLET PIPE DIA.	15"
OUTLET FLOW RATE	3.82 CFS
OUTLET VELOCITY	3.55 FT/S
MATERIAL	CLASS A
LENGTH	4.0'
WIDTH	2.6'
STONE DIA.	3"
THICKNESS	9"



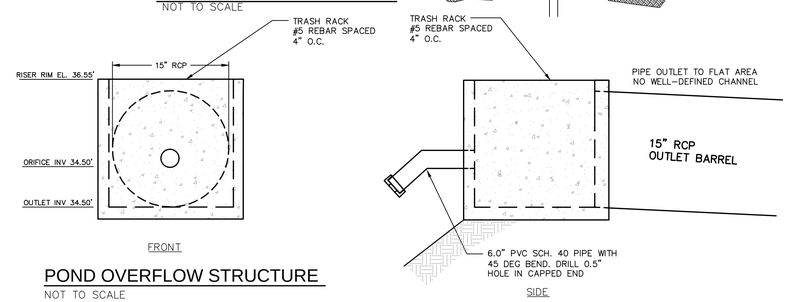
PLAN

NOTES:

1. Lo IS THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL – DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" 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.

PIPE OUTLET PROTECTION

NOT TO SCALE



FRONT

SIDE

POND OVERFLOW STRUCTURE

NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN
10/10/2014

SEAL
PRELIMINARY-DO NOT USE FOR CONSTRUCTION

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(910) 799-8755

BLAKE FARM – EST. 1946

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

WET DETENTION POND #2 DETAILS

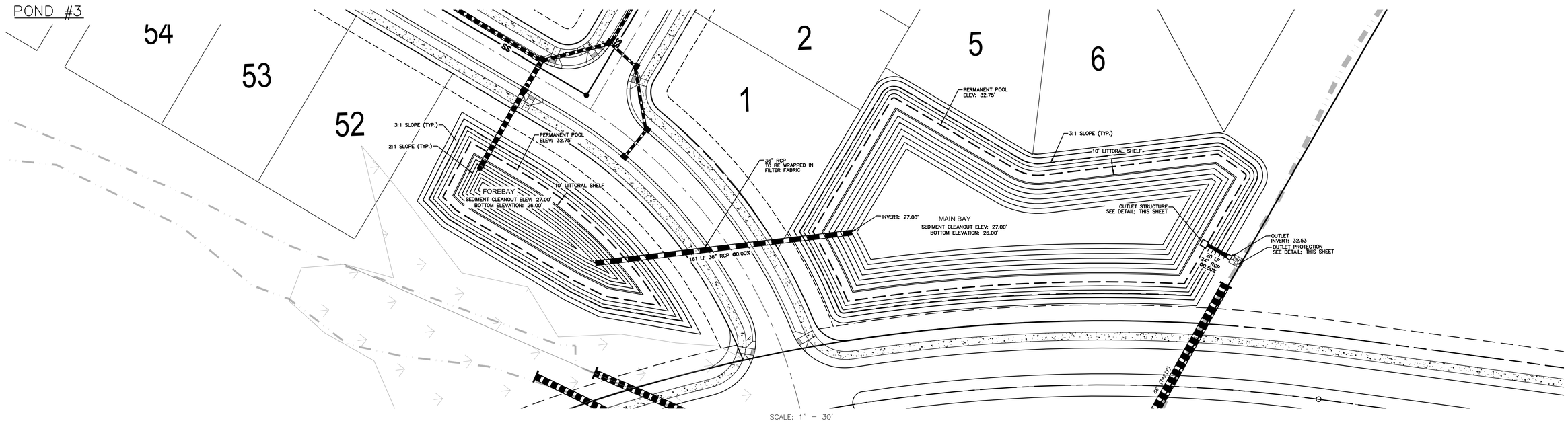
DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

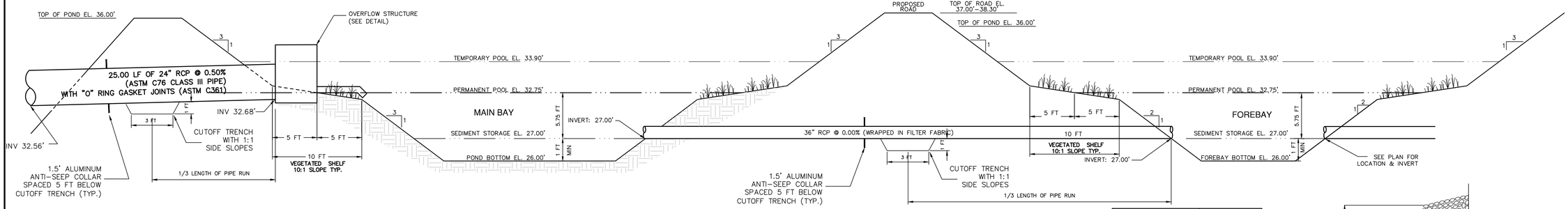
SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER: CN503
DRAWING NUMBER: 57

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\8D-Drawings\CN503_065250001.dwg, 10/13/2014 12:14:49 PM, cmurray,
ARCH expand D (24.00 x 36.00 inches), 1:1





FOREBAY AND STORAGE POND SECTION

NOT TO SCALE

WET DETENTION POND NOTES

1) TEMPORARY PUMP WILL BE PROVIDED BY OWNER TO DRAIN POND/FOREBAY FOR ROUTINE MAINTENANCE OR IN AN EMERGENCY.

2) CONTRACTOR SHALL INSTALL EQUAL NUMBERS OF THE LISTED SUITABLE SPECIES FOR THE VEGETATED SHELF. GROUP SIMILAR SPECIES OF PLANTS TOGETHER, INSTALL PLANTS 24" O.C. IN A CHECKERBOARD PATTERN, AND NO PLANTS SHALL BE PLANTED WITHIN 10 FT OF THE OUTLET STRUCTURE. LISTED SUITABLE SPECIES FOR VEGETATED SHELF ARE: ARROW ARUM, BLUE FLAG IRIS, CANA LILY, AND PICKEREL WEED.

3) SOD SLOPES ABOVE THE PERMANENT POOL AROUND THE INSIDE OF THE FOREBAY, ABOVE THE VEGETATED SHELF AROUND THE MAIN BAY AND SLOPES OUTSIDE OF THE POND.

4) CONTRACTOR SHALL EXCAVATE VEGETATED SHELF AS NECESSARY TO PROVIDE ADEQUATE CLEARANCE AROUND RISER FOR PVC PIPE INVERT.

5) THE SEASONAL HIGH WATER TABLE WAS FOUND TO BE AT EXISTING GRADE IN THE MAIN BAY AREA OF THE WET DETENTION POND.

STORM ELEVATIONS

WET POND

1.5" PROPOSED DEPTH = 33.90'

DESIGN STORM

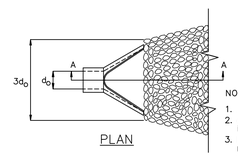
2-YEAR = 33.68'

10-YEAR = 34.40'

25-YEAR = 34.96'

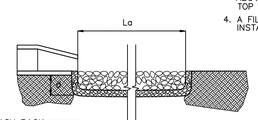
100-YEAR = 35.45'

OUTLET PROTECTION	OUTLET
OUTLET PIPE DIA.	24"
OUTLET FLOW RATE	4.34 CFS
OUTLET VELOCITY	4.3 FT/S
MATERIAL	CLASS A
LENGTH	4.0'
WIDTH	2.6'
STONE DIA.	3"
THICKNESS	9"



NOTES:

1. La IS THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL - DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" 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.

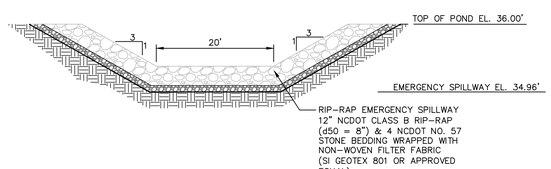


PIPE OUTLET PROTECTION

NOT TO SCALE

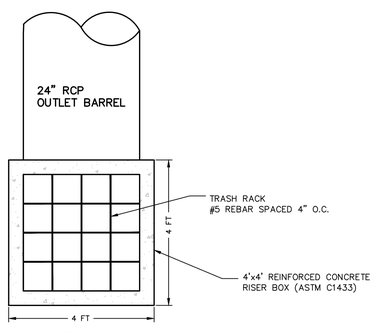
GENERAL NOTES

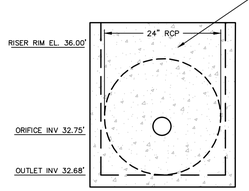
1. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES.
2. BASED ON FIRM FLOOD INSURANCE RATE MAP FOR NEW HANOVER COUNTY, THIS PARCEL IS NOT LOCATED IN A FLOOD HAZARD ZONE.
3. THE IMPROVEMENTS SHOWN ON THIS SITE PLAN CANNOT DEVIATE FROM THE PLAN ONCE APPROVED WITHOUT WRITTEN APPROVAL OF ENGINEER.
4. SITE WILL REQUIRE A STATE EROSION CONTROL PERMIT AND STATE STORMWATER PERMIT.
5. IMPERVIOUS AREA SHALL DRAIN TO PROPOSED STATE PERMITTED STORMWATER POND.
6. SURVEY INFORMATION PROVIDED BY SHERWIN D. CRIBB - 01/2013 AND 07/2013.

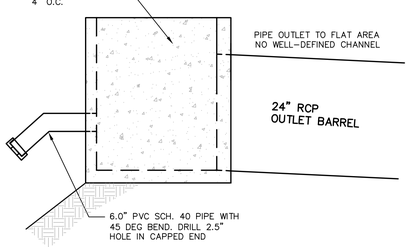


EMERGENCY SPILLWAY SECTION

NOT TO SCALE







POND OVERFLOW STRUCTURE

NOT TO SCALE

N

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL 038577 NORTH CAROLINA PROFESSIONAL ENGINEER RICHARD A. CHRISTENSEN

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
EST. 1946

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

WET DETENTION POND #3 DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: XX
VERTICAL: N/A

M&C FILE NUMBER: CN504
DRAWING NUMBER: 58

STATUS: PRELIMINARY PLAT
REVISION: B

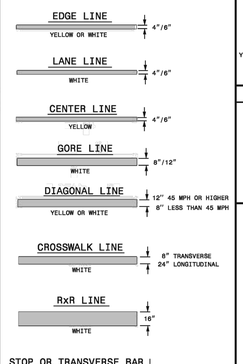
S:\6525\0001\90-Drawings\CN504_065250001.dwg, 10/13/2014 12:20:09 PM, cmurray, ARCH expand D (24.00 x 36.00 inches), 1:1

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

1-12

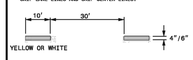
ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

CONTINUOUS LINES



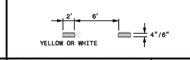
10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



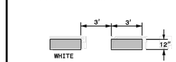
2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS. EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



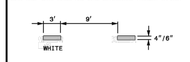
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.



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.

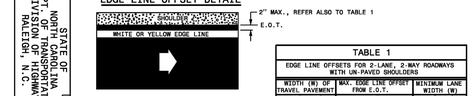
SHEET 1 OF 2
1205.01

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

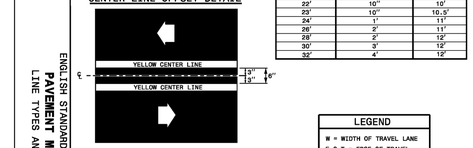
1-12

ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

EDGE LINE OFFSET DETAIL



CENTER LINE OFFSET DETAIL



LANE LINE OFFSET DETAIL

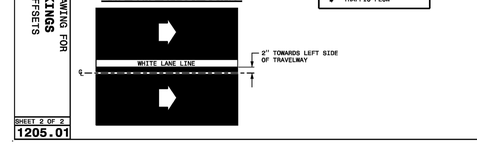


TABLE 1

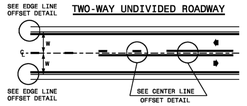
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

WIDTH (W) OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E.O.T.	MINIMUM LANE WIDTH (W)
16' - 18'	2"	9' - 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'

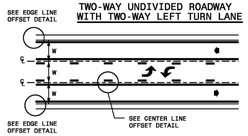
LEGEND

W = WIDTH OF TRAVEL LANE
E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW

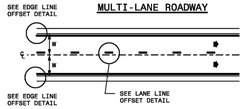
TWO-WAY UNDIVIDED ROADWAY



TWO-WAY UNDIVIDED ROADWAY WITH TWO-WAY LEFT TURN LANE



MULTI-LANE ROADWAY



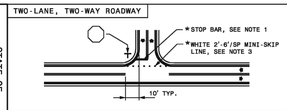
SHEET 2 OF 2
1205.01

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

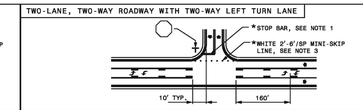
1-12

ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
INTERSECTIONS

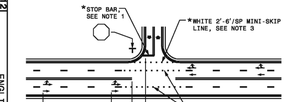
TWO-LANE, TWO-WAY ROADWAY



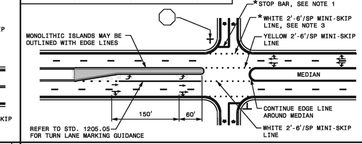
TWO-LANE, TWO-WAY ROADWAY WITH TWO-WAY LEFT TURN LANE



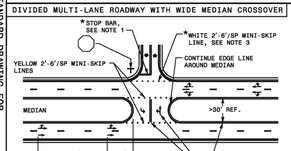
UNDIVIDED MULTI-LANE ROADWAY



DIVIDED MULTI-LANE ROADWAY WITH TURN BAY



DIVIDED MULTI-LANE ROADWAY WITH WIDE MEDIAN CROSSOVER



GENERAL NOTES:

1- PLACEMENT OF STOP BARS AT NON-SIGNALIZED INTERSECTIONS IS OPTIONAL AND USED WHERE IT IS IMPORTANT TO INDICATE THE POINT WHICH VEHICLES ARE REQUIRED TO STOP. PLACE STOP BARS NO LESS THAN 4 FEET AND NO MORE THAN 30 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. USE 10 FEET AS THE TYPICAL SETBACK DISTANCE OR AS DIRECTED BY THE ENGINEER.

2- MINI-SKIP LANE LINE EXTENSIONS SHOULD BE USED AT INTERSECTIONS THAT HAVE REDUCED VISIBILITY CONDITIONS SUCH AS OFFSET, SKEWED, OR CURVED ROADWAYS.

3- MINI-SKIP EDGE LINE EXTENSIONS MAY BE PLACED THROUGH INTERSECTIONS AND MAJOR DRIVEWAYS.

4- REFER TO ROADWAY STANDARD DRAWINGS 1205.01, 1205.02, 1205.05, 1205.08 AND 1205.09 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

STOP SIGN
STATIONARY SIGN
DIRECTION OF TRAFFIC FLOW
PAVEMENT MARKING SYMBOLS
OPTIONAL

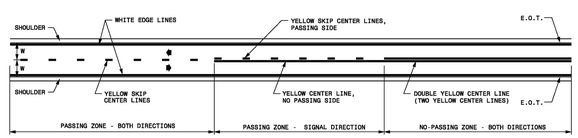
SHEET 2 OF 2
1205.04

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

1-12

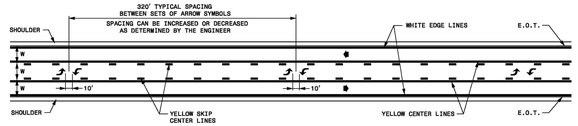
ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
TWO-LANE AND MULTI-LANE ROADWAYS

TWO-LANE, TWO-WAY ROADWAY



PASSING/NO PASSING ZONES WILL BE DETERMINED BY THE ENGINEER.

TWO-LANE, TWO-WAY ROADWAY WITH TWO-WAY LEFT TURN LANE



GENERAL NOTES:

1- EDGE LINES ARE NOT REQUIRED ALONG CURB AND GUTTER LOCATIONS.

2- CONTINUE EDGE LINES THROUGH MINOR DRIVEWAYS. DO NOT CONTINUE EDGE LINES AT INTERSECTIONS AND MAJOR DRIVEWAYS, SEE ROADWAY STANDARD DRAWING 1205.05 FOR ADDITIONAL GUIDANCE.

3- REFER TO ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.08 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

W = WIDTH OF TRAVEL LANE
E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW
PAVEMENT MARKING SYMBOLS

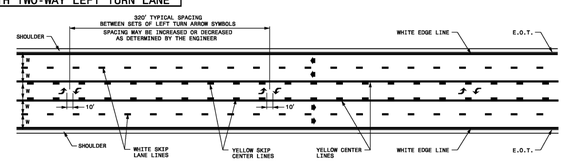
SHEET 1 OF 2
1205.02

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

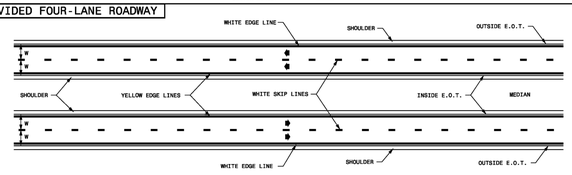
1-12

ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
TWO-LANE AND MULTI-LANE ROADWAYS

UNDIVIDED MULTI-LANE ROADWAY WITH TWO-WAY LEFT TURN LANE



DIVIDED FOUR-LANE ROADWAY



GENERAL NOTES:

1- EDGE LINES ARE NOT REQUIRED ALONG CURB AND GUTTER LOCATIONS.

2- CONTINUE EDGE LINES THROUGH MINOR DRIVEWAYS. DO NOT CONTINUE EDGE LINES AT INTERSECTIONS AND MAJOR DRIVEWAYS, SEE ROADWAY STANDARD DRAWING 1205.05 FOR ADDITIONAL GUIDANCE.

3- REFER TO ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.08 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

LEGEND

W = WIDTH OF TRAVEL LANE
E.O.T.= EDGE OF TRAVEL
DIRECTION OF TRAFFIC FLOW
PAVEMENT MARKING SYMBOLS

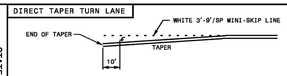
SHEET 2 OF 2
1205.02

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

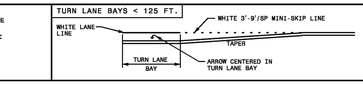
1-12

ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
TURN LANES

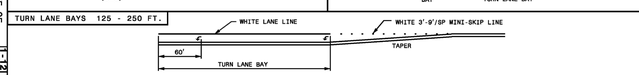
DIRECT TAPER TURN LANE



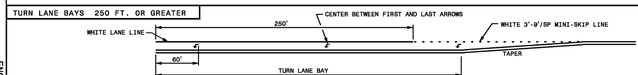
TURN LANE BAYS < 125 FT.



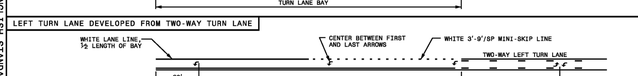
TURN LANE BAYS 125 - 250 FT.



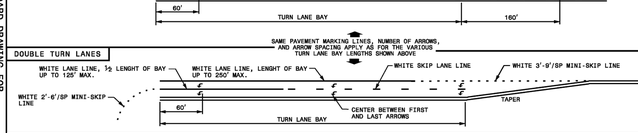
TURN LANE BAYS 250 FT. OR GREATER



LEFT TURN LANE DEVELOPED FROM TWO-WAY TURN LANE



DOUBLE TURN LANES



GENERAL NOTES:

1- USE THE GUIDANCE SHOWN ABOVE IN CONJUNCTION WITH THE INTERSECTION GUIDANCE SHOWN ON ROADWAY STANDARD DRAWING 1205.04.

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

LEGEND

PAVEMENT MARKING SYMBOL

SHEET 1 OF 1
1205.05

B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14
REV.NO.	DESCRIPTIONS	DATE

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTIAN

SEAL
PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
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Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
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1202 Eastwood Road
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(910) 799-8755

BLAKE FARM

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

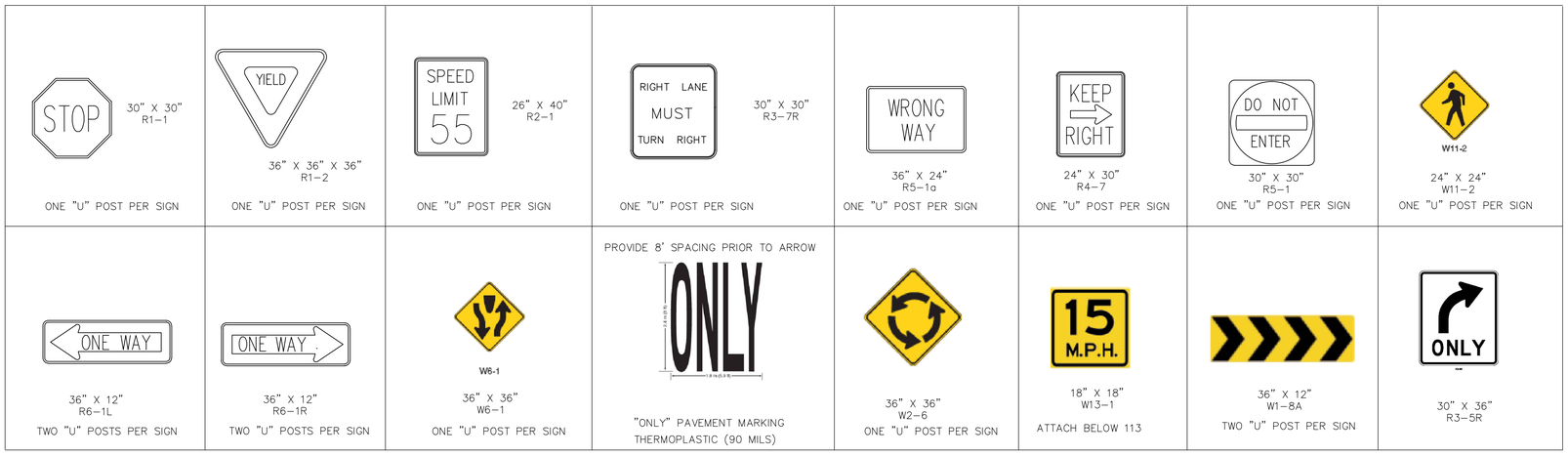
PAVEMENT MARKING & TRAFFIC SIGN DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER: CP501
DRAWING NUMBER: 59

STATUS: PRELIMINARY PLAT
REVISION: B



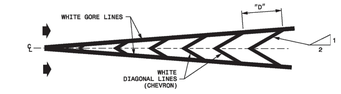
S:\6525\0001\Bk-Drawings\CP501_065250001.dwg, 10/13/2014 12:20:32 PM, courtesy,
ARCH expand D (24.00 x 36.00 Inches), 1:1

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

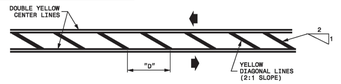
1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** PAINTED ISLANDS

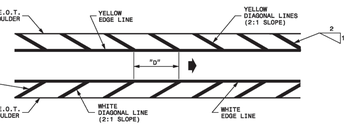
CHANNELIZING ISLAND SEPARATING TRAFFIC IN SAME DIRECTION



MEDIAN ISLAND SEPARATING TRAFFIC IN OPPOSING DIRECTIONS



EDGE OF PAVEMENT OR SHOULDER ISLAND



GENERAL NOTES:

1- "D" = SPACING OF DIAGONAL LINES (TYPICALLY EQUAL IN FEET TO THE POSTED SPEED LIMIT).

2- INCREASE SPACING OF DIAGONALS TO 200' ON MORE ON INTERSTATE ROADWAYS.

3- ADJUST SPACING OF DIAGONALS DEPENDING ON THE LENGTH OF THE ISLAND. SPACING MAY BE ADJUSTED AS DETERMINED BY THE ENGINEER.

LEGEND

E.O.T.= EDGE OF TRAVEL

DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

1205.09

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

1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** PAINTED ISLANDS

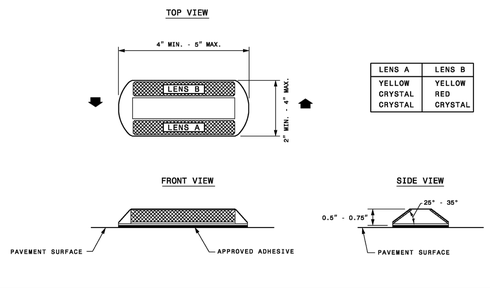
1205.09

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

1-12

ENGLISH STANDARD DRAWING FOR **RAISED PAVEMENT MARKERS** PERMANENT AND TEMPORARY

TYPICAL PAVEMENT MARKER



LENS A	LENS B
YELLOW	YELLOW
CRYSTAL	RED
CRYSTAL	CRYSTAL

GENERAL NOTES:

1- USE A MINIMUM OF 2 SQUARE INCHES FOR THE AREA OF EACH REFLECTIVE LENS.

2- FOR A COMPLETE LISTING OF PAVEMENT MARKERS AND ADHESIVES ACCEPTABLE FOR USE IN NORTH CAROLINA CONTACT THE NCDOT SIGNING AND DELINEATION UNIT.

LEGEND

DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1

1251.01

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

1-12

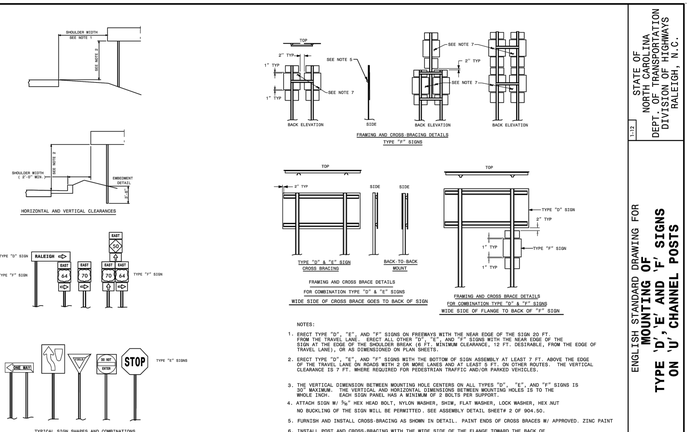
ENGLISH STANDARD DRAWING FOR **RAISED PAVEMENT MARKERS** PERMANENT AND TEMPORARY

1251.01

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

1-12

ENGLISH STANDARD DRAWING FOR **MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS**



NOTES:

1. ERECT TYPE "D", "E", AND "F" SIGNS ON FREEWAYS WITH THE NEAR EDGE OF THE SIGN 20 FT. FROM THE EDGE OF THE TRAVEL LANE. ERECT TYPE "D" AND "F" SIGNS WITH THE NEAR EDGE OF THE SIGN AT THE EDGE OF THE SHOULDER BREAK (8 FT. MINIMUM CLEARANCE), 12 FT. DESIRABLE, FROM THE EDGE OF TRAVEL LANE), OR AS DIMENSIONED ON PLAN SHEETS.

2. ERECT TYPE "D", "E", AND "F" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 7 FT. ABOVE THE EDGE OF THE TRAVEL LANE ON ROADS WITH 2 OR MORE LANES AND AT LEAST 5 FT. ON OTHER ROUTES. THE VERTICAL CLEARANCE IS 7 FT. WHERE REQUIRED FOR PEDESTRIAN TRAFFIC AND/OR PARKED VEHICLES.

3. THE VERTICAL DIMENSION BETWEEN MOUNTING HOLE CENTERS ON ALL TYPES "D", "E", AND "F" SIGNS IS 30" MAXIMUM. THE VERTICAL AND HORIZONTAL DIMENSIONS BETWEEN MOUNTING HOLES IS TO THE WHOLE INCH. EACH SIGN PANEL HAS A MINIMUM OF 2 BOLTS PER SUPPORT.

4. ATTACH SIGN W/ $\frac{5}{16}$" HEX HEAD BOLT, NYLON WASHER, SHCW, FLAT WASHER, LOCK WASHER, HEX NUT
   NO BUCKLING OF THE SIGN WILL BE PERMITTED. SEE ASSEMBLY DETAIL SHEETS 2 OF 904.50.

5. FURNISH AND INSTALL CROSS-BRACING AS SHOWN IN DETAIL. PAINT ENDS OF CROSS BRACES W/ APPROVED. ZINC PAINT

6. INSTALL POST AND CROSS-BRACING WITH THE WIDE SIDE OF THE FLANGE TOWARD THE BACK OF SIGN(S) FOR COMBINATION TYPE "D" AND "F" SIGNS.

7. THE SHIELD HEIGHTS IN THESE ASSEMBLIES CAN NOT BE LANGER THAN 24".

SHEET 1 OF 2

904.50

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

1-12

ENGLISH STANDARD DRAWING FOR **MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS**

904.50

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

1-12

ENGLISH STANDARD DRAWING FOR **RAISED PAVEMENT MARKERS** INSTALLATION SPACING

GENERAL NOTES:

1- MARKERS ARE GENERALLY NOT REQUIRED ALONG EDGE LINES EXCEPT IF DESIGNATED IN THE PLANS OR DIRECTED BY THE ENGINEER. WHEN THEY ARE REQUIRED, SPACE THEM ON 20 FT. CENTERS, AND OFFSET 2 INCHES FROM THE EDGE LINE ON THE TRAFFIC SIDE.

2- PLACE CRYSTAL/RED MARKERS AT INTERSECTIONS AND INTERCHANGES WHERE WRONG-WAY MOVEMENTS ARE POSSIBLE. POSITION THE RED SIDE OF THE MARKER TO FACE "WRONG-WAY" TRAFFIC. WHEN USED, PLACE CRYSTAL/RED MARKERS ALONG THE ENTIRE LENGTH OF THE PROJECT.

3- DO NOT PLACE PAVEMENT MARKERS CLOSER THAN 3 INCHES TO A PAVEMENT CONSTRUCTION JOINT (AS FEASIBLE), EXCEPT WHEN PLACED BETWEEN DOUBLE YELLOW CENTER LINES, AND ALONG YELLOW SKIP LINES ON TWO-LANE, TWO-WAY ROADWAYS WHERE PASSING IS ALLOWED IN BOTH DIRECTIONS.

4- DO NOT PLACE PAVEMENT MARKERS DIRECTLY ON PAVEMENT MARKING LINES.

5- PLACE PAVEMENT MARKERS USED IN CONJUNCTION WITH DOUBLE YELLOW CENTER LINES MID-WAY BETWEEN THE LINES. PROVIDE A GAP BETWEEN THE LINES AND THE MARKER TO REDUCE OVERSPRAYING THE MARKER DURING REPAINTING OPERATIONS.

6- MARKERS ARE NOT REQUIRED ALONG MINI-SKIP LINES IN TAPERS.

PAVEMENT MARKER SPACING CHART

TYPE OF PAVEMENT MARKING	TYPICAL SPACING (FT)
SKIP LINES AND CENTER LINES ALONG THRU LANES-	
ALONG TANGENT SECTIONS AND HORIZONTAL CURVES LESS THAN 6°	80
HORIZONTAL CURVES ≥ 6°	40
TURN LANES-	
MINI-SKIP LINES	24
SKIP LINES	40
SOLID LINES	20
CENTER LINES	40
MINI-SKIP LINES AT LANE DROP APPROACHES	24
TWO-WAY RAMP CENTER LINES	40
GORE LINES	20
PAINTED ISLANDS-	
WHITE	20
YELLOW	40
RAISED MEDIAN ISLANDS	40
WRONG WAY RAMP ARROW	5
TAPERS	40
NARROW BRIDGES-	
EDGE LINE	20
CENTER LINE	40
ONE LANE BRIDGES-	
EDGE LINE	20
WORK ZONE APPLICATIONS	
2-LANE, 2-WAY ON-SITE DIVERSION	20 FT. FOR CENTER LINE
ALL OTHER DIVERSIONS	½ NORMAL SPACING

SHEET 1 OF 3

1250.01

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

1-12

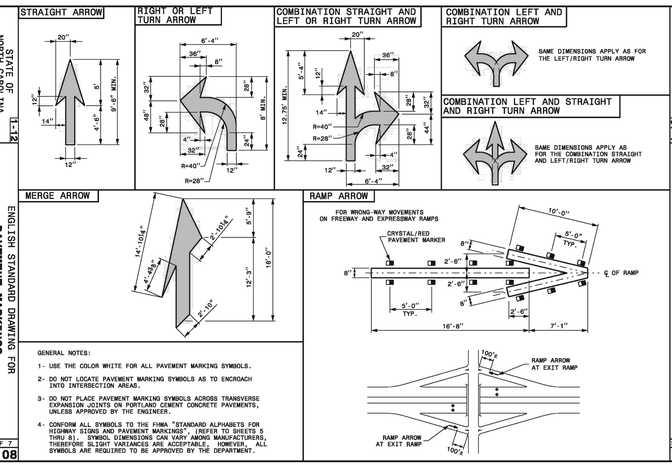
ENGLISH STANDARD DRAWING FOR **RAISED PAVEMENT MARKERS** INSTALLATION SPACING

1250.01

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

1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES



GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS AS TO ENCROACH INTO INTERSECTION AREAS.

3- DO NOT PLACE PAVEMENT MARKING SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

4- CONFORM ALL SYMBOLS TO THE FHWA "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", (REFER TO SHEETS 5 THRU 8). SYMBOL DIMENSIONS CAN VARY AMONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE. HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

SHEET 1 OF 7

1205.08

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

1-12

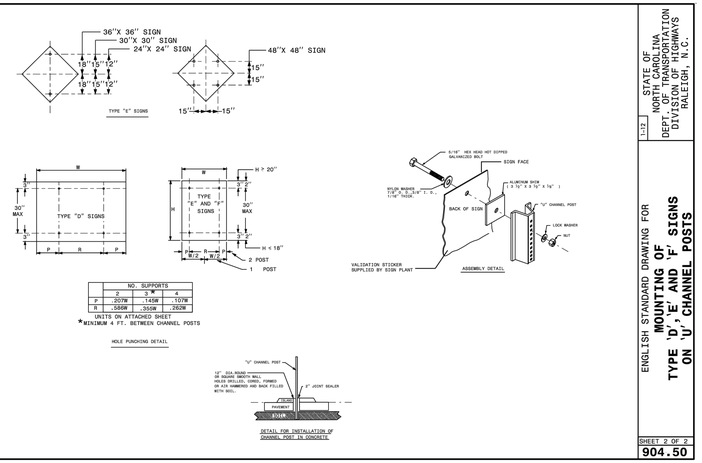
ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

1205.08

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

1-12

ENGLISH STANDARD DRAWING FOR **MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS**



SHEET 2 OF 2

904.50

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

1-12

ENGLISH STANDARD DRAWING FOR **MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS**

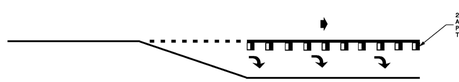
904.50

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

1-12

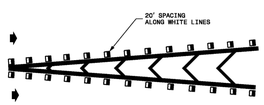
ENGLISH STANDARD DRAWING FOR **RAISED PAVEMENT MARKERS** INSTALLATION SPACING

AUXILIARY TURN LANES



YELLOW PAINTED ISLANDS

WHITE PAINTED ISLANDS



LEGEND

DIRECTION OF TRAFFIC FLOW

CRYSTAL/RED PAVEMENT MARKER

YELLOW/YELLOW PAVEMENT MARKER

PAVEMENT MARKING SYMBOL

SHEET 3 OF 3

1250.01

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

1-12

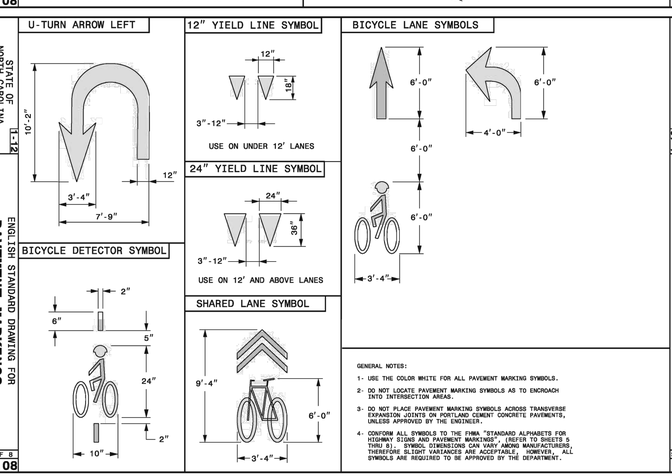
ENGLISH STANDARD DRAWING FOR **RAISED PAVEMENT MARKERS** INSTALLATION SPACING

1250.01

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

1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES



GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS AS TO ENCROACH INTO INTERSECTION AREAS.

3- DO NOT PLACE PAVEMENT MARKING SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

4- CONFORM ALL SYMBOLS TO THE FHWA "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", (REFER TO SHEETS 5 THRU 8). SYMBOL DIMENSIONS CAN VARY AMONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE. HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

SHEET 2 OF 8

1205.08

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

1-12

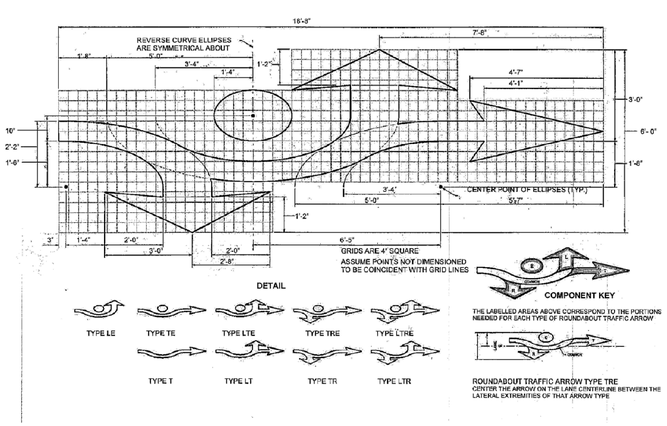
ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

1205.08

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

1-12

ENGLISH STANDARD DRAWING FOR **MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS**



SHEET 2 OF 8

1205.08

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

1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

1205.08

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL 038577 NORTH CAROLINA PROFESSIONAL ENGINEER RICHARD A. CHRISTIE

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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(910) 799-8755

BLAKE FARM

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

PAVEMENT MARKING & TRAFFIC SIGN DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE: HORIZONTAL: N/A VERTICAL: N/A

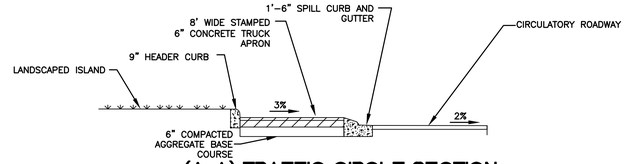
MAC FILE NUMBER: CP502

DRAWING NUMBER: 60

STATUS: PRELIMINARY PLAT

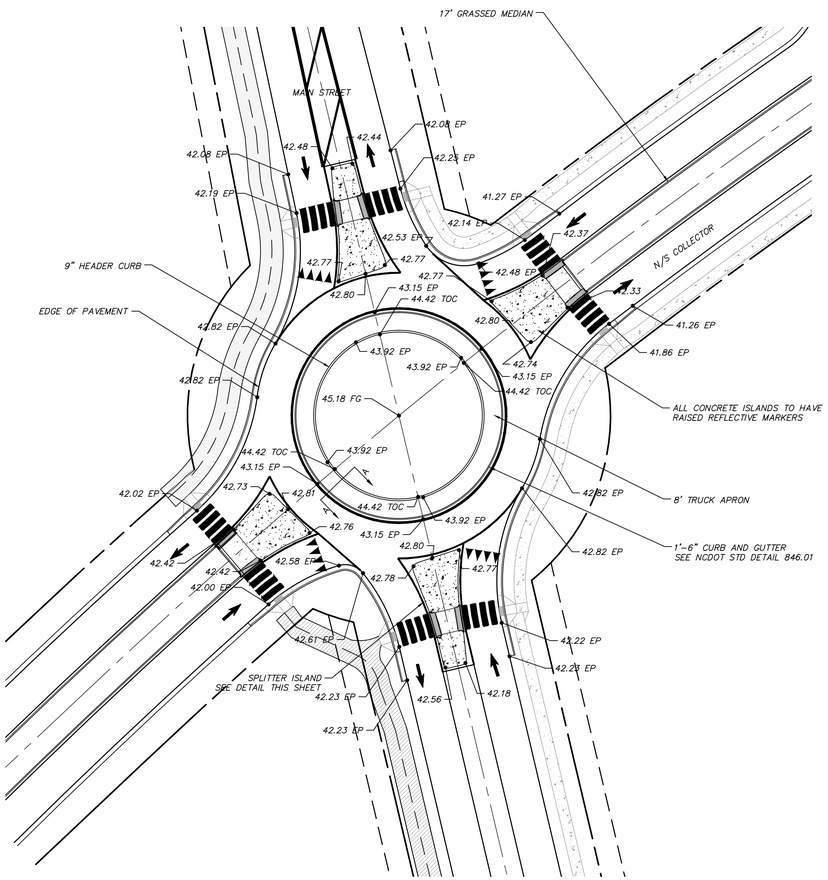
REVISION: B

S:\6525\0001\Bh\Drawings\CP502_N6525001.dwg, 10/13/2014 12:20:55 PM, cruursey,
ARCH expand D (24.00 x 36.00 Inches), 1:1



(A-A) TRAFFIC CIRCLE SECTION

NOT TO SCALE



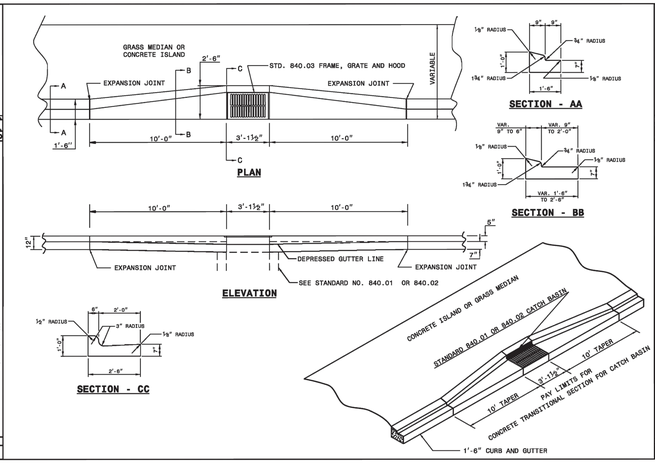
MAIN STREET AND N/S COLLECTOR CONNECTION ROUNDABOUT PLAN

NOT TO SCALE

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

1-12

ENGLISH STANDARD DRAWING FOR **MEDIAN CURB FOR CATCH BASIN** (FOR USE WITH 1'-6" CURB AND GUTTER)



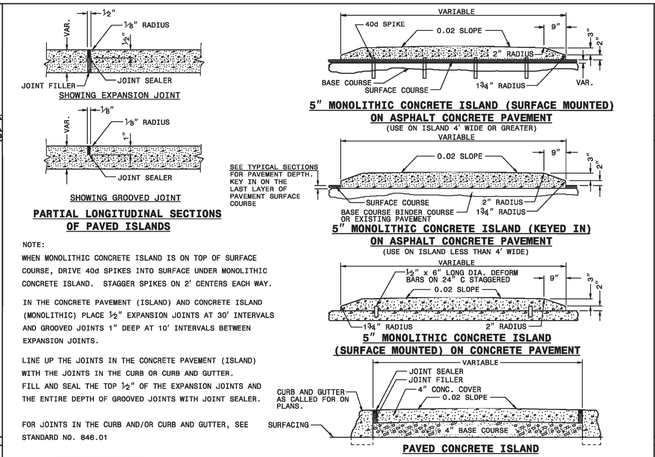
SHEET 1 OF 1

852.05

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

1-12

ENGLISH STANDARD DRAWING FOR **CONCRETE ISLANDS**



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.

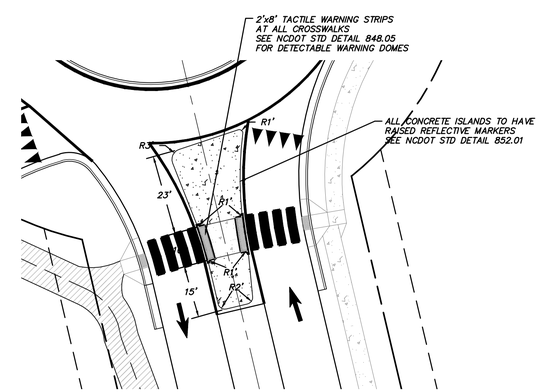
IN THE CONCRETE PAVEMENT (ISLAND) AND CONCRETE ISLAND (MONOLITHIC) PLACE ½" EXPANSION JOINTS AT 30' INTERVALS AND GROOVED JOINTS 1" DEEP AT 10' INTERVALS BETWEEN EXPANSION JOINTS.

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

SHEET 1 OF 1

852.01



SPLITTER ISLANDS

NOT TO SCALE

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL 038577 NORTH CAROLINA PROFESSIONAL ENGINEER RICHARD A. CHRISTIE

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BLAKE FARM

BLAKE FARM

SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ROUNDABOUT DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

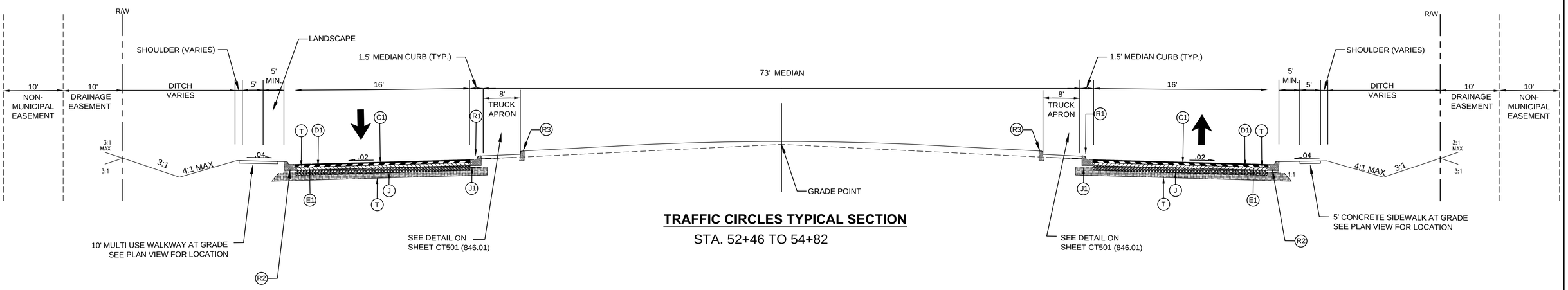
SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER: CT501
DRAWING NUMBER: 61

STATUS: PRELIMINARY PLAT
REVISION: B

S:\6525\0001\BD-Drawings\CT501_065250001.dwg, 10/13/2014 12:21:41 PM, cmursey,
ARCH expand D (24.00 x 36.00 inches), 1:1

	PAVEMENT SCHEDULE
C1	2" ASPHALT CONCRETE SURFACE COARSE, TYPE S9.5B AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
D1	2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I 19.0 B AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	3.0" ASPHALT CONCRETE BASE COURSE, TYPE B 25.0B AT A RATE OF 342 LBS. PER SQ. YD.
J	8.0" AGGREGATE BASE COURSE
J1	6" AGGREGATE BASE COURSE TO BE INSTALLED UNDER ALL CURB AND GUTTER
R1	1'-6" MEDIAN CURB AND GUTTER (846.01)
R2	2'6-6" CONCRETE CURB AND GUTTER (846.01)
R3	9"X12" CONCRETE CURB (846.01)
T	EARTH MATERIAL - SUBGRADE SOILS



TRAFFIC CIRCLES TYPICAL SECTION

STA. 52+46 TO 54+82

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN
10/10/14

SEAL
PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ROUNDABOUT SECTION

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER CT502
DRAWING NUMBER 62

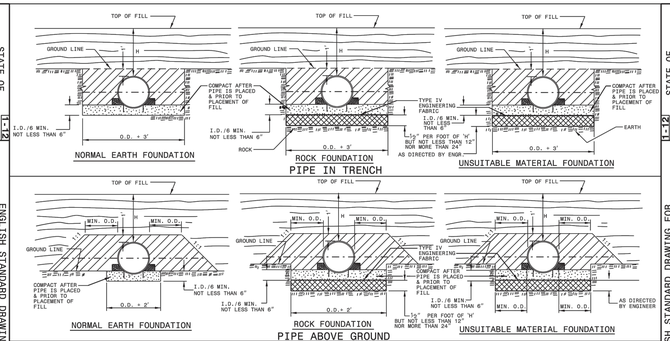
STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\80-Drawings\CT502_06525\0001.dwg, 10/13/2014 12:22:42 PM, cnursey,
ARCH expand D (24.00 x 36.00 Inches), 1:1

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

1-12

ENGLISH STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
FLEXIBLE PIPE



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

APPROVED SUITABLE LOCAL MATERIAL.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

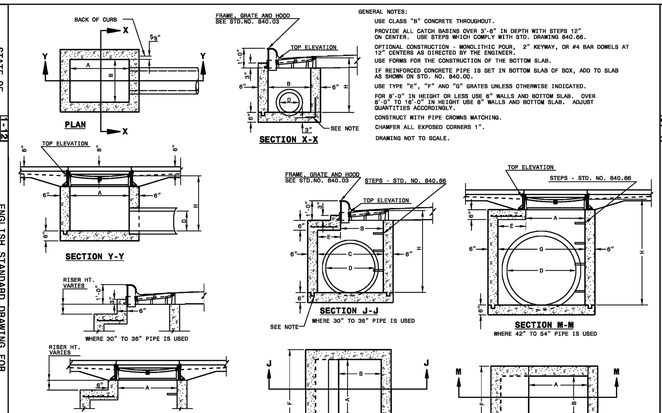
SHEET 1 OF 3
300.01

ENGLISH STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
FLEXIBLE PIPE

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 5" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

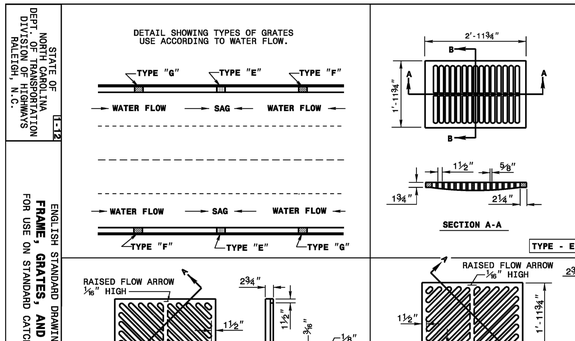
SHEET 1 OF 2
840.02

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

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

1-12

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN



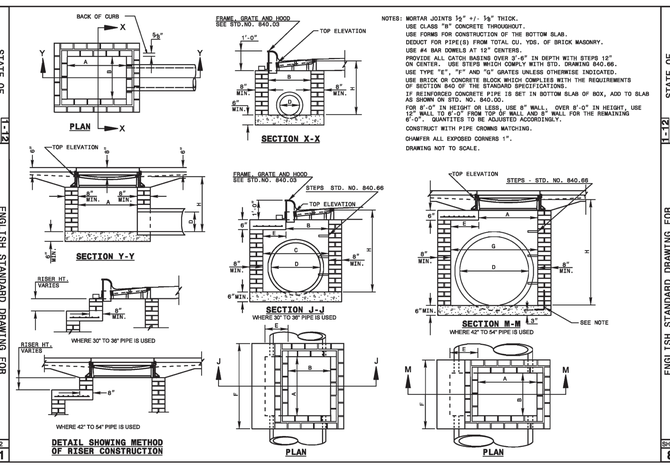
SHEET 2 OF 2
840.03

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

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

1-12

ENGLISH STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE



NOTES: MORTAR JOINTS 1/2" +/- 1/8" THICK.

USE CLASS "B" CONCRETE THROUGHOUT.

USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.

DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.

USE #4 BAR DOWELS AT 12" CENTERS.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

FOR 8'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE 12" WALL. ADJUST QUANTITIES TO BE ADJUSTED ACCORDINGLY. USE 8" WALL FOR THE REMAINING 8'-0". QUANTITIES TO BE ADJUSTED ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

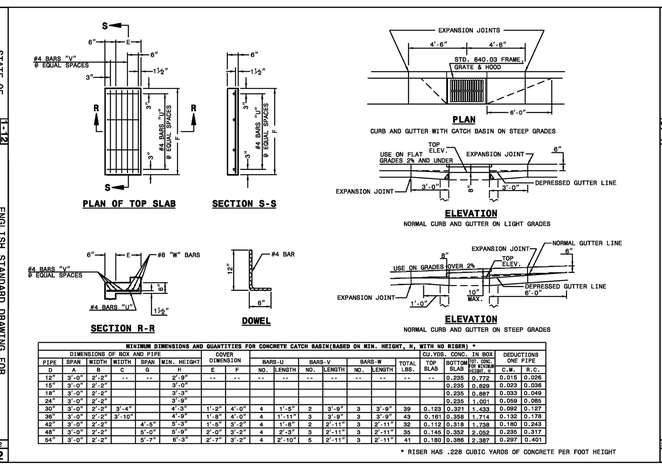
SHEET 1 OF 2
840.01

ENGLISH STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *																						
DIMENSIONS OF BOX AND PIPE							COVER DIMENSION		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX			DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT		E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	TOTAL CONC.	C.M.	R.C.
D	A	B	C		H															
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-2"			3'-0"												0.235	0.829	0.033	0.036
18"	3'-0"	2'-2"			3'-3"												0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"												0.235	1.001	0.059	0.065
30"	3'-0"	2'-2"	3'-4"		4'-3"		1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"		4'-9"		1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.167	0.358	1.714	0.132	0.178
42"	3'-0"	2'-2"		4'-5"	5'-3"		1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	52	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"		5'-0"	5'-9"		2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"		2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

SHEET 2 OF 2
840.02

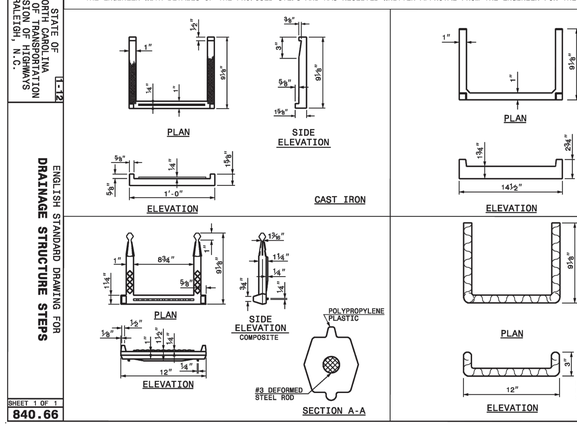
ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

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

1-12

ENGLISH STANDARD DRAWING FOR
DRAINAGE STRUCTURE STEPS

NOTES:
INSTALL ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL.
STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.



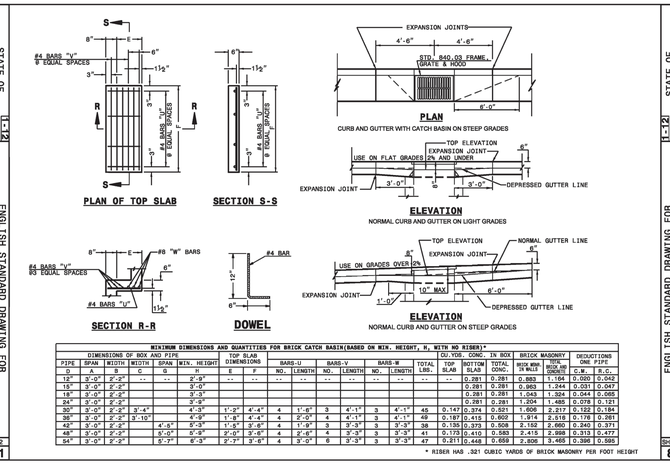
SHEET 1 OF 1
840.66

ENGLISH STANDARD DRAWING FOR
DRAINAGE STRUCTURE STEPS

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

1-12

ENGLISH STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE



MINIMUM DIMENSIONS AND QUANTITIES FOR BRICK CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER)*																						
DIMENSIONS OF BOX AND PIPE							TOP SLAB DIMENSIONS		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX		BRICK MASONRY		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT		E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	TOTAL CONC.	HIGH WAY IN WALL	TOTAL HIGH WAY CONCRETE	C.M.	R.C.
D	A	B	C	G	H																	
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	--	0.281	0.281	0.883	1.164	0.020	0.042
15"	3'-0"	2'-2"			3'-0"												0.281	0.281	0.963	1.244	0.031	0.047
18"	3'-0"	2'-2"			3'-3"												0.281	0.281	1.043	1.324	0.044	0.065
24"	3'-0"	2'-2"			3'-9"												0.281	0.281	1.204	1.485	0.078	0.121
30"	3'-0"	2'-2"	3'-4"		4'-3"		1'-2"	4'-4"	4	1'-8"	3	4'-1"	4	4'-1"	45	0.147	0.374	0.521	1.606	2.217	0.122	0.184
36"	3'-0"	2'-2"	3'-10"		4'-9"		1'-8"	4'-4"	4	2'-0"	4	4'-1"	3	4'-1"	49	0.187	0.415	0.602	1.914	2.516	0.176	0.281
42"	3'-0"	2'-2"		4'-5"	5'-3"		1'-5"	3'-8"	4	1'-8"	3	3'-3"	3	3'-3"	38	0.135	0.373	0.508	2.152	2.660	0.240	0.371
48"	3'-0"	2'-2"		5'-0"	5'-9"		2'-0"	3'-8"	4	2'-6"	4	3'-3"	3	3'-3"	41	0.173	0.410	0.583	2.415	2.998	0.313	0.477
54"	3'-0"	2'-2"		5'-7"	6'-3"		2'-7"	3'-8"	4	3'-0"	6	3'-3"	3	3'-3"	47	0.211	0.448	0.659	2.808	3.465	0.386	0.595

* RISER HAS .321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT

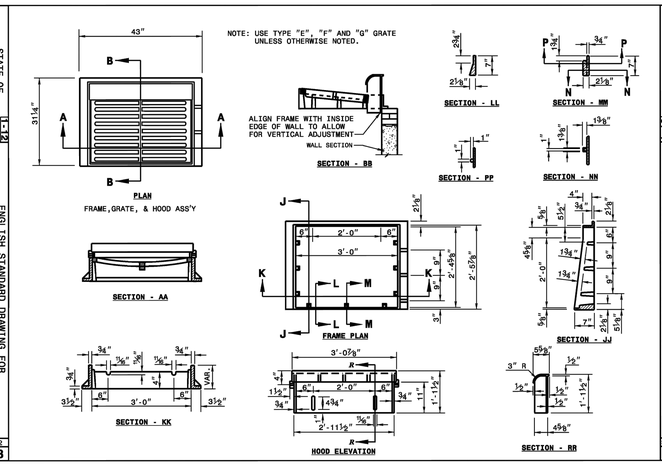
SHEET 2 OF 2
840.01

ENGLISH STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE

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

1-12

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN



SHEET 1 OF 2
840.03

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/15/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
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(910) 799-8755

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ROADWAY DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER: CT503
DRAWING NUMBER: 63

STATUS: PRELIMINARY PLAT
REVISION: B

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ARCH expand D (24.00 x 36.00 Inches), 1:1

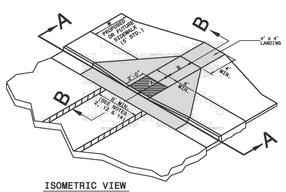
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMP

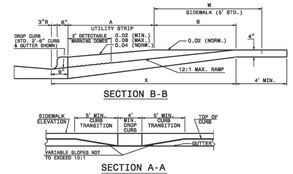
PROPOSED CURB AND GUTTER



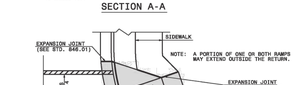
ISOMETRIC VIEW

PAY LIMITS FOR CURB RAMP

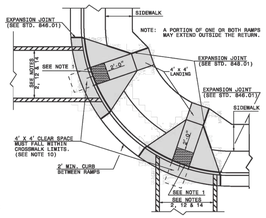
NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



SECTION B-B



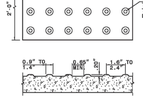
SECTION A-A



PLAN VIEW

DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

RAMP WIDTH AREA IS VARIABLE



DETECTABLE WARNING DOMES

W	A	B=A+9"	X	B
5'	5.0'	5.8'	5.6'	5.0'*
6'	5.0'	5.8'	5.6'	5.0'*
7'	5.0'	7.8'	7.3'	6.5'**
8'	5.0'	7.8'	7.3'	6.5'**
5'	2.0'	7.8'	7.4'	5.0'
6'	2.5'	8.2'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X-(A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

SHEET 1 OF 3

848.05

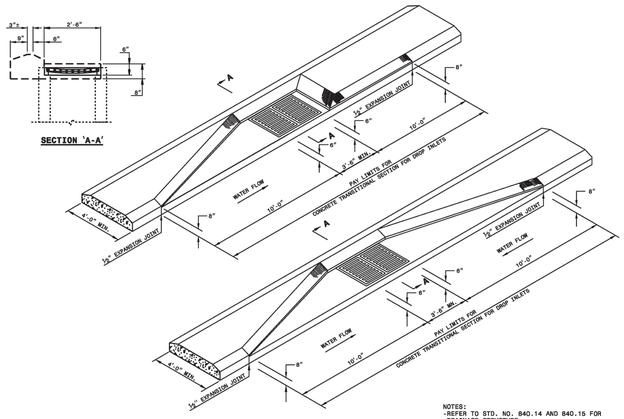
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

METHOD FOR PLACEMENT OF DROP INLETS IN CONCRETE ISLANDS

SECTION 'A-A'



NOTES:
-REFER TO STD. NO. 840.14 AND 840.15 FOR DRAINAGE STRUCTURE.
-REFER TO STD. NO. 840.16 FOR GRATE AND FRAME.

SHEET 1 OF 1

852.06

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

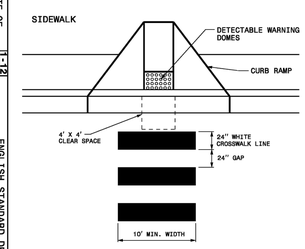
1-12

ENGLISH STANDARD DRAWING FOR

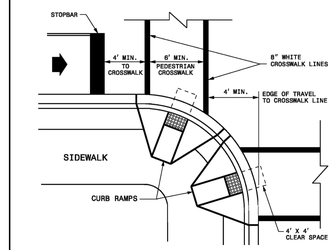
PAVEMENT MARKINGS

PEDESTRIAN CROSSWALKS

HI-VISIBILITY CROSSWALK



STANDARD CROSSWALK



1- THE MINIMUM WIDTH OF STANDARD CROSSWALKS IS 6 FEET. THE MINIMUM WIDTH OF HI-VISIBILITY CROSSWALKS IS 10 FEET.

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

3- BEYOND THE CURB FACE, A CLEAR SPACE OF 4' X 4' FEET MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE CROSSWALK.

4- PLACE STOP BARS A MINIMUM OF 4 FEET FROM NEAREST CROSSWALK LINE. STOP BARS AT SIGNALIZED INTERSECTIONS SHOULD BE COORDINATED WITH THE SIGNAL DESIGN SECTION OR AS DIRECTED BY THE ENGINEER.

5- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS.

LEGEND
- DIRECTION OF TRAFFIC FLOW
- CURB RAMP WITH DETECTABLE WARNING DOMES

SHEET 1 OF 1

1205.07

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

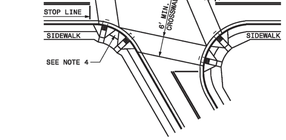
1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER

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

ROADWAY PLAN SYMBOL
CR
FOR PROPOSED CURB RAMP

PROPOSED CURB RAMP W/ LANDING
PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

SHEET 2 OF 3

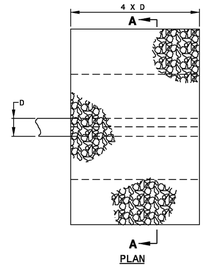
848.05

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

1-12

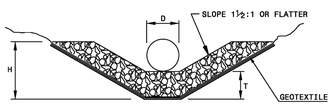
ENGLISH STANDARD DRAWING FOR

GUIDE FOR RIP RAP AT PIPE OUTLETS



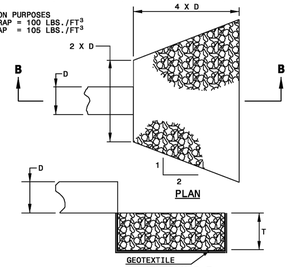
D	OUTLET W/DITCH CLASS 'B' RIP RAP TONS	12"x12"x6"	CLASS I RIP RAP S.Y.	TONS	12"x12"x6"	OUTLET W/O DITCH CLASS 'B' RIP RAP TONS	12"x12"x6"	CLASS I RIP RAP S.Y.	TONS	12"x12"x6"
12"	2	5	5	2	5	1	4	2	1	4
15"	2	7	7	3	7	1	5	3	2	6
18"	3	10	9	4	10	2	7	4	2	8
24"	5	14	15	7	15	3	11	7	4	12
30"	8	21	21	11	22	5	16	11	7	17
36"	11	28	29	15	30	7	22	16	10	23
42"	15	37	39	20	39	10	28	22	13	30
48"	-	-	49	26	50	-	-	28	17	38
54"	-	-	60	33	62	-	-	36	21	47
60"	-	-	73	40	75	-	-	44	26	56
66"	-	-	87	48	89	-	-	54	32	67
72"	-	-	102	57	104	-	-	64	38	78

NOTE:
FOR CALCULATION PURPOSES
CLASS 'B' RIP RAP = 100 LBS./FT^3
CLASS I RIP RAP = 105 LBS./FT^3



SECTION A-A
PIPE OUTLET WITH DITCH

H= RIP RAP TO TOP OF PIPE (MAX. H = D + T)
T= 15" CLASS I RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS
T= 12" CLASS 'B' RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS



SECTION B-B
PIPE OUTLET WITHOUT DITCH

SHEET 1 OF 1

876.02

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

1-12

ENGLISH STANDARD DRAWING FOR

GUIDE FOR RIP RAP AT PIPE OUTLETS

SHEET 1 OF 1

876.02

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

1-12

ENGLISH STANDARD DRAWING FOR

SPECIAL SEDIMENT CONTROL FENCE

NOTES

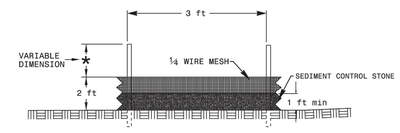
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.

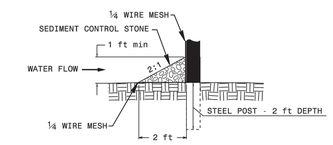
USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH ¼ INCH MESH OPENINGS.

INSTALL 5 FT. SELF FASTENER ANGLE STEEL POST 2 FT. DEEP MINIMUM.

SPACE POST A MAXIMUM OF 3 FT.

FOR INSTALLATION BETWEEN SECTIONS OF SILT FENCE, EXTEND SEDIMENT CONTROL STONE A MINIMUM OF 12" IN WIDTH ON EACH SIDE OF SPECIAL SEDIMENT CONTROL FENCE SECTION.





SHEET 1 OF 1

1606.01

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

1-12

ENGLISH STANDARD DRAWING FOR

SPECIAL SEDIMENT CONTROL FENCE

SHEET 1 OF 1

1606.01

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

1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMPS

NOTES

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 ON 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.

SHEET 3 OF 3

848.05

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

1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMPS

NOTES

SHEET 3 OF 3

848.05

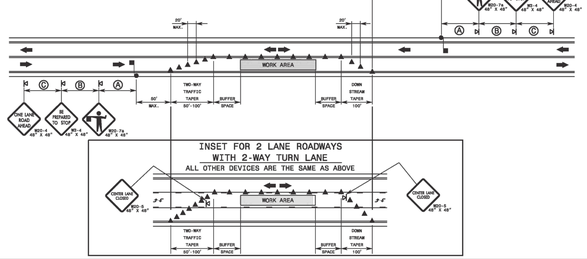
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

TEMPORARY LANE CLOSURES

2-LANE, 2-WAY ROADWAY-1 LANE CLOSED



GENERAL NOTES FOR FLAGGER OPERATIONS

1- REFER TO STD. 1101.11 SHEET 4 FOR 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 TOWARD THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
5- PROVIDE SIGHT DISTANCE AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO STD. 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 ROADWAY STANDARD DRAWING 1180.01 FOR SKINNY-DRUM REQUIREMENTS.
8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. REPLACEMENT FLAGGERS LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7a) OR FLAGGER PRESENT SIGNS (W20-7) MAY BE ELIMINATED. IF FLAGGERS ARE NOT USED TO REGULATE TRAFFIC AT INTERSECTIONS PLACE SIGNALS IN THE FLASH MODE AND RECOMMEND THE USE OF LAW ENFORCEMENT.
9- REFER TO 2009 MUTCD, CHAPTER 6, FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.
10- DO NOT EXCEED A ½ MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.
2- IF ROADWAY WIDTH IS LESS THAN 22 FEET (TOP TO EOP), CONES MAY NOT BE REQUIRED ALONG MOVING BLOCK. ON 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 G20-2A "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 AND METHODS OF SAFE EGRESS AND INGRESS FROM DRIVEWAYS DURING PILOTING AND PILOT CAR OPERATIONS.

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

SHEET 1 OF 15

1101.02

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

1-12

ENGLISH STANDARD DRAWING FOR

TEMPORARY LANE CLOSURES

2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 15

1101.02

REV.NO	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

SEAL
PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ROADWAY DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER CT504
DRAWING NUMBER 64

STATUS: PRELIMINARY PLAT
REVISION B

S:\6525\0001\8-Drawings\CT504_06525001.dwg, 10/13/2014 12:23:22 PM, cnursey,
ARCH expand D (24.00 x 36.00 inches), 1:1

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

1-12

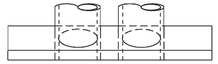
ENGLISH STANDARD DRAWING FOR

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS

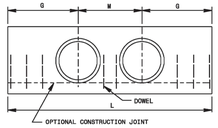
15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3

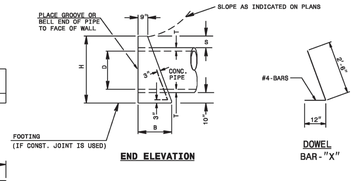
838.01



PLAN



ELEVATION



END ELEVATION

DOWEL
BAR-"X"

DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE																		
LOC.	PIPE	SINGLE PIPE								DOUBLE PIPE								
	DIA.	15"	18"	24"	30"	36"	42"	48"		15"	18"	24"	30"	36"	42"	48"		
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"Y"
G	QTY.	2	2	3	3	4	4	2	-	2	2	3	3	4	4	2	5		
M	QTY.	-	-	-	-	-	5		2	1	1	2	2	2	2	2	3	2	
G	QTY.	2	2	3	3	4	4	5		2	2	3	3	4	4	2	5		
TOTAL LBS.		9	9	14	14	19	55	65		12	12	19	19	23	77	92			

DIMENSIONS AND CONCRETE QUANTITIES										
USING CONCRETE PIPE										
	COMMON DIMENSIONS					SINGLE PIPE		DOUBLE PIPE		
D	H	B	G	T	S	L	YD³	M	L	YD³
15"	3'-3"	1'-8"	2'-8"	2¼"	8½"	5'-6"	0.7	2'-2"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	2½"	10"	6'-4"	1.0	2'-7"	8'-11"	1.3
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5	3'-5"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	4¼"	11½"	9'-2"	2.3	4'-3"	13'-5"	3.1
36"	5'-8"	2'-8"	5'-8"	4¾"	11½"	11'-0"	3.4	5'-0"	16'-0"	4.5
42"	6'-2"	3'-1"	6'-4"	5¼"	11½"	12'-8"	4.5	5'-10"	18'-6"	6.0
48"	6'-9"	3'-5"	7'-2"	5¾"	11½"	14'-4"	6.0	6'-8"	21'-0"	8.0

*SEE SHEET 3

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS

15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3

838.01

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

1-12

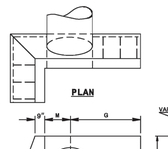
ENGLISH STANDARD DRAWING FOR

CONCRETE "L" ENDWALL FOR SINGLE PIPE CULVERTS

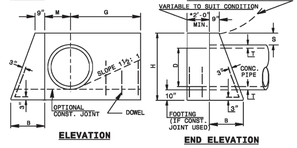
15" THRU 48" PIPE

SHEET 1 OF 1

838.05

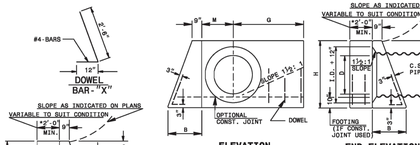


PLAN



ELEVATION

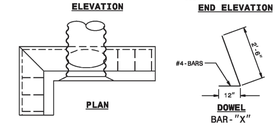
END ELEVATION



DOWEL
BAR-"X"

ELEVATION

END ELEVATION



PLAN

DOWEL
BAR-"X"

GENERAL NOTES:
-CHAMFER ALL CORNERS 1". USE CLASS "B" CONCRETE.
-PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.
-CONSTRUCT BOTTOM SLAB WITH FORMS.
-WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
-WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.
-DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

REINFORCING QUANTITIES												
DIA.	15"	18"	24"	30"	36"	42" C.S.	42" R.C.	48" C.S.	48" R.C.			
BARS	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"Y"	"X"	"Y"	"X"	"Y"
QTY.	5	5	6	6	7	7	2	7	2	8	2	8	2
LBS.	12	12	14	14	16	47	49	52	55				

*QUANTITIES BASED ON 2'-0"

DIMENSIONS AND CONCRETE QUANTITIES															
	R.C.P. DIMENSIONS AND VOLUMES								C.S.P. DIMENSIONS AND VOLUMES						
D	H	B	G	M	S	T	YD³	H	B	G	M	YD³
15"	3'-4"	1'-8"	2'-6"	1'-1"	10½"	2¼"	1.0	3'-4"	1'-8"	2'-5"	1'-5"	1.0
18"	3'-7"	1'-10"	2'-11"	1'-3"	10"	2½"	1.2	3'-7"	1'-10"	2'-9"	1'-6"	1.3
24"	4'-2"	2'-1"	3'-9"	1'-8"	10"	3"	1.7	4'-1"	2'-1"	3'-6"	1'-9"	1.8
30"	4'-9"	2'-5"	4'-8"	1'-10"	10"	3½"	2.5	4'-7"	2'-4"	4'-3"	2'-0"	2.4
36"	5'-5"	2'-9"	5'-8"	2'-2"	9½"	4¾"	3.6	5'-1"	2'-7"	5'-0"	2'-3"	3.1
42"	6'-0"	3'-0"	6'-7"	2'-5"	9½"	5¼"	4.6	5'-7"	2'-10"	5'-9"	2'-6"	4.0
48"	6'-7"	3'-4"	7'-5"	2'-9"	9½"	5¾"	6.0	6'-1"	3'-1"	6'-6"	2'-9"	5.1

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE "L" ENDWALL FOR SINGLE PIPE CULVERTS

15" THRU 48" PIPE

SHEET 1 OF 1

838.05

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

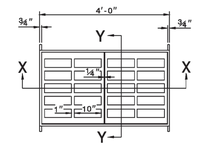
1-12

ENGLISH STANDARD DRAWING FOR

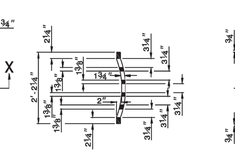
FRAMES AND WIDE SLOT SAG GRATES

SHEET 1 OF 1

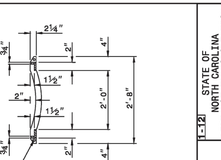
840.22



PLAN



GRATE SECTION Y-Y



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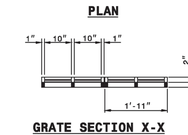

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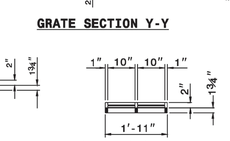

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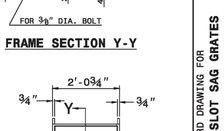
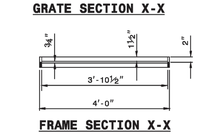


PLAN



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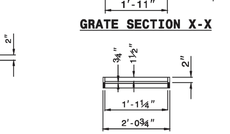


FRAME SECTION X-X

NOTE:
SEE STD. DWG. 840.25
FOR FRAME ANCHORAGE.

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

1-12

ENGLISH STANDARD DRAWING FOR

FRAMES AND WIDE SLOT SAG GRATES

SHEET 1 OF 1

840.22

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

1-12

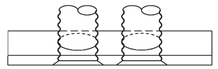
ENGLISH STANDARD DRAWING FOR

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS

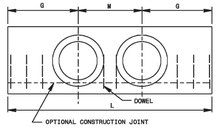
15" THRU 48" PIPE - 90° SKEW

SHEET 2 OF 3

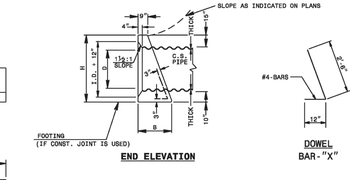
838.01



PLAN



ELEVATION



END ELEVATION

DOWEL
BAR-"X"

DOWELS IN ENDWALL WITH C. S. PIPE																		
LOC.	PIPE	SINGLE PIPE								DOUBLE PIPE								
	DIA.	15"	18"	24"	30"	36"	42"	48"		15"	18"	24"	30"	36"	42"	48"		
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"Y"
G	QTY.	2	2	3	3	4	4	5		2	2	3	3	4	4	5			
M	QTY.	-	-	-	-	-	-	2	-	2	1	1	1	2	2	2	2	2	
G	QTY.	2	2	3	3	4	4	5		2	2	3	3	4	4	5			
TOTAL LBS.		9	9	14	14	19	53	62		12	12	16	19	23	73	85			

DIMENSIONS AND CONCRETE QUANTITIES										
USING CORRUGATED STEEL PIPE										
	COMMON				SINGLE PIPE		DOUBLE PIPE			
D	H	B	G	L	YD³	M	L	YD³
15"	3'-4"	1'-8"	2'-6"	5'-0"	0.7	1'-11"	6'-11"	1.0
18"	3'-7"	1'-10"	2'-11"	5'-10"	1.0	2'-3"	8'-1"	1.2
24"	4'-1"	2'-1"	3'-8"	7'-4"	1.4	3'-0"	10'-4"	1.9
30"	4'-7"	2'-4"	4'-5"	8'-10"	2.0	3'-9"	12'-7"	2.7
36"	5'-1"	2'-7"	5'-2"	10'-4"	2.8	4'-6"	14'-10"	3.8
42"	5'-7"	2'-10"	5'-11"	11'-10"	3.8	5'-3"	17'-1"	5.0
48"	6'-1"	3'-1"	6'-8"	13'-4"	4.8	6'-0"	19'-4"	7.5

*SEE SHEET 3

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS

15" THRU 48" PIPE - 90° SKEW

SHEET 2 OF 3

838.01

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

1-12

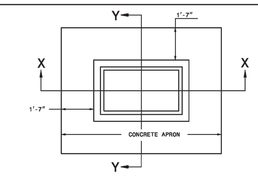
ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'D'

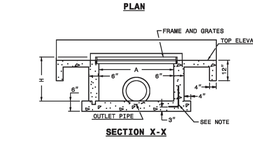
12" THRU 36" PIPE

SHEET 1 OF 1

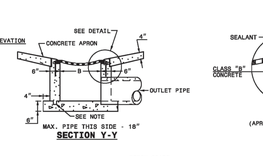
840.19



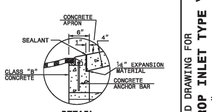
PLAN



SECTION X-X

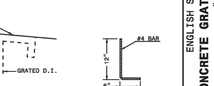


SECTION Y-Y



DETAIL
(APRON SUPPORT NOTCH)

GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION : MONOLITHIC POUR. 3" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
CONSTRUCT WITH PIPE CROWNS MATCHING.
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



DOWEL "A"

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET									
PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX				DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	1'-8"	0.362	0.247	0.391	0.753	0.020	0.032
15"	3'-8"	2'-0"	1'-11"	0.362	0.247	0.453	0.815	0.023	0.036
18"	3'-8"	2'-0"	2'-2"	0.362	0.247	0.515	0.877	0.033	0.049
24"	3'-8"	2'-0"	2'-8"	0.362	0.247	0.659	1.021	0.059	0.065
30"	3'-8"	2'-0"	3'-2"	0.362	0.247	0.782	1.144	0.092	0.127
36"	3'-8"	2'-0"	3'-8"	0.362	0.247	0.906	1.268	0.132	0.178

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'D'

12" THRU 36" PIPE

SHEET 1 OF 1

840.19

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

1-12

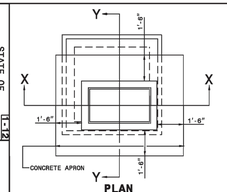
ENGLISH STANDARD DRAWING FOR

BRICK GRATED DROP INLET TYPE 'A'

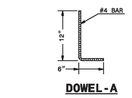
12" THRU 72" PIPE

SHEET 1 OF 2

840.26

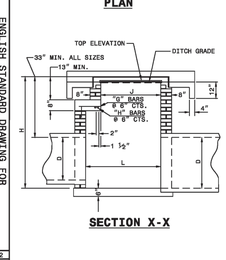


PLAN

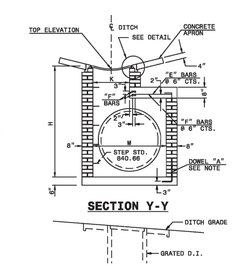


DOWEL-A

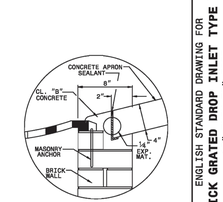
GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
JUMBO BRICK WILL BE PERMITTED. CONCRETE BRICK OR 4" SOLID CONCRETE BLOCKS MAY BE USED IN LIEU OF CLAY BRICKS.
PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
USE #4 BAR DOWELS AT 12" CENTERS.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
CONSTRUCT WITH PIPE CROWNS MATCHING.
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



SECTION X-X



SECTION Y-Y



DETAIL
(APRON SUPPORT NOTCH)

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

1-12

ENGLISH STANDARD DRAWING FOR

BRICK GRATED DROP INLET TYPE 'A'

12" THRU 72" PIPE

SHEET 1 OF 2

840.26

GENERAL NOTES:

CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.

CONSTRUCT BOTTOM SLAB WITH FORMS.

DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.

USE CLASS "B" CONCRETE.

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS

15" THRU 48" PIPE - 90° SKEW

SHEET 3 OF 3

838.01

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS

15" THRU 48" PIPE - 90° SKEW

SHEET 3 OF 3

838.01

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

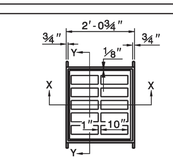
1-12

ENGLISH STANDARD DRAWING FOR

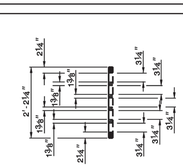
FRAMES AND WIDE SLOT FLAT GRATES

SHEET 1 OF 1

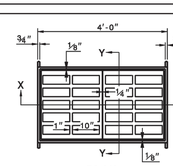
840.20



PLAN



GRATE SECTION Y-Y



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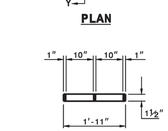
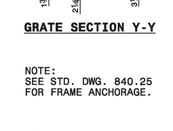
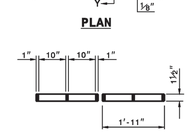


GRATE SECTION X-X

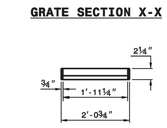
NOTE:
SEE STD. DWG. 840.25
FOR FRAME ANCHORAGE.



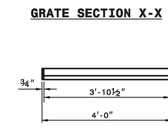
FRAME SECTION Y-Y



GRATE SECTION X-X



FRAME SECTION X-X



FRAME SECTION X-X

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

1-12

ENGLISH STANDARD DRAWING FOR

FRAMES AND WIDE SLOT FLAT GRATES

SHEET 1 OF 1

840.20

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

1-12

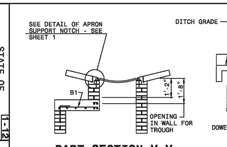
ENGLISH STANDARD DRAWING FOR

BRICK GRATED DROP INLET TYPE 'A'

12" THRU 72" PIPE

SHEET 2 OF 2

840.26



PART SECTION V-V

PART SECTION U-U

DOWEL-B1
FOR 12" THRU 36" INLET

DOWEL-B2

DOWEL-C

QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING						
ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.145	1.380
CONCRETE APRON CU. YDS.	0.065	0.132	0.198	0.263	0.329	0.396

DIMENSIONS AND QUANTITIES FOR BRICK GRATED DROP INLET (BASED ON MIN. HEIGHT, H)																											
DIMENSIONS OF BOX AND PIPE						REINFORCING STEEL - NO. 4 BARS									CU.YDS. CONC. IN BOX				CU.YDS. MASONRY	BRICK IN BOX	BRICK AND CONC.	DEDUCTIONS FOR ONE PIPE		
						BARS E		BARS F		BARS G		BARS H		TOTAL LBS.										
PIPE	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB	APRON	TOTAL	TOTAL	H PER FT. HT	TOTAL	C.S.	R.C.
D	J	K	L	M	H																			
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-9"	—	—	—	—	—	—	—	—	—	—	0.308	0.351	0.659	1.301	0.346	1.960	0.020	0.032
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	—	—	—	—	—	—	—	—	—	—	0.308	0.351	0.659	1.407	ABOVE MIN H	2.066	0.031	0.047
18"			3'-8"	2'-0"	4'-3"	—	—	—	—	—	—	—	—	—	—	0.308		0.659	1.471		2.130	0.044	0.065
24"				2'-10"	4'-9"	8	1'-3"	6	4'-9"	—	—	—	—	26	0.185	0.386		0.922	1.646	0.346	2.568	0.078	0.113
30"			3'-8"	3'-5"	5'-3"	8	1'-10"	7	4'-9"	—	—	—	—	32	0.301	0.410		1.062	1.936		2.998	0.122	0.170
36"			3'-10"	3'-10"	5'-8"	8	2'-3"	8	4'-10"	4	0'-7"	2	4'-11"	46	0.374	0.494		1.219	2.187		3.406	0.176	0.238
42"			4'-6"	4'-6"	6'-3"	10	2'-11"	9	5'-7"		1'-3"	3	5'-7"	68	0.555	0.630		1.536	2.717		4.253	0.240	0.323
48"			5'-0"	5'-0"	6'-9"	11	3'-5"	10	6'-1"		1'-9"	4	6'-1"	87	0.705	0.743		1.799	3.321	H	5.020	0.313	0.422
54"			5'-6"	5'-6"	7'-3"	12	3'-11"	11	6'-7"		2'-3"	5	6'-7"	108	0.868	0.860		2.084	3.786		5.870	0.398	0.535
60"			6'-2"	6'-2"	7'-9"	13	4'-7"	12	7'-3"		2'-11"	6	7'-3"	135	1.104	1.042		2.497	4.701		7.198	0.489	0.660
66"			6'-9"	6'-9"	8'-3"	14	5'-2"	14	7'-10"		3'-8"	7	7'-10"	168	1.328	1

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

1-12

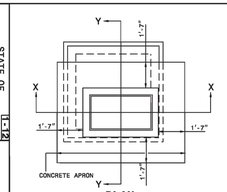
ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'A'

12" THRU 72" PIPE

SHEET 1 OF 2

840.17



PLAN

DOWEL-A

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

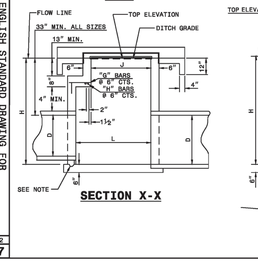
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20 (NOT SHOWN) OR 840.29 (NOT SHOWN).

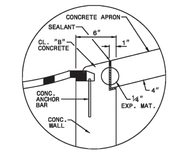
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.





DETAIL
(APRON SUPPORT NOTCH)

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'A'

12" THRU 72" PIPE

SHEET 1 OF 2

840.17

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

1-12

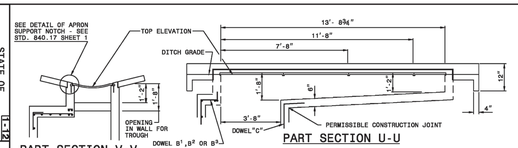
ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'A'

12" THRU 72" PIPE

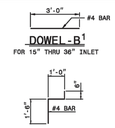
SHEET 2 OF 2

840.17



PART SECTION V-V

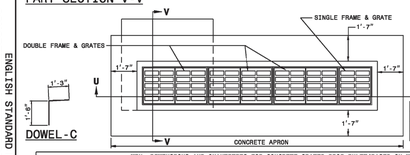
PART SECTION U-U



DOWEL-B1
FOR 15" THRU 36" INLET

DOWEL-B2
FOR 42" INLET

DOWEL-B3



DOWEL-C

QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING						
ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.146	1.380
CONCRETE APRON CU. YDS.	0.074	0.148	0.222	0.296	0.370	0.444

MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX AND PIPE						REINFORCING STEEL - NO. 4 BARS								CU YDS CONC. IN BOX					DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	BARS E		BARS F		BARS G		BARS H		TOTAL LBS.	BOTTOM SLAB	H TOTAL	H PER FT HT	APRON	TOTAL	
D	J	K	L	M	H	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH						C.S.	R.C.
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-8"	—	—	—	—	—	—	—	—	—	0.362	0.926	0.247	0.395	1.683	0.015	0.024
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	—	—	—	—	—	—	—	—	—	0.362	0.988	0.247	0.395	1.745	0.023	0.036
18"				2'-0"	4'-3"	—	—	—	—	—	—	—	—	—	0.362	1.050	0.247		1.807	0.033	0.049
24"				2'-10"	4'-9"	8	1'-5"	6	4'-9"	—	—	—	—	27	0.444	1.362	0.278		2.201	0.059	0.085
30"			3'-8"	3'-6"	5'-3"	8	2'-0"	7	4'-9"	—	—	—	—	33	0.502	1.644	0.288		2.541	0.092	0.127
36"			4'-0"	4'-0"	5'-9"	8	2'-5"	8	4'-11"	4	0'-9"	2	4'-11"	47	0.560	1.931	0.321		2.920	0.132	0.178
42"			4'-10"	4'-10"	6'-3"	10	3'-1"	9	5'-7"		1'-5"	3	5'-7"	67	0.704	2.500	0.370		3.677	0.180	0.243
48"			5'-4"	5'-4"	6'-9"	11	3'-7"	10	6'-1"		1'-11"	4	6'-1"	87	0.823	3.013	0.407		4.315	0.235	0.317
54"			6'-0"	6'-0"	7'-3"	12	4'-1"	11	6'-7"		2'-5"	5	6'-7"	107	0.951	3.589	0.444		5.072	0.297	0.401
60"			6'-6"	6'-6"	7'-9"	13	4'-9"	12	7'-3"		3'-1"	6	7'-3"	135	1.311	4.539	0.494		6.170	0.387	0.495
66"			7'-2"	7'-2"	8'-3"	14	5'-4"	14	7'-10"		3'-7"	7	7'-10"	168	1.136	5.061	0.537		6.901	0.444	0.599
72"	3'-8"	2'-0"	7'-8"	7'-8"	8'-9"	15	5'-11"	15	8'-5"	4	4'-3"	8	8'-5"	199	1.500	5.860	0.580	0.395	7.868	0.528	0.713

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'A'

12" THRU 72" PIPE

SHEET 2 OF 2

840.17

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

1-12

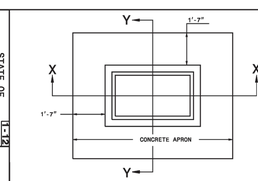
ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'B'

12" THRU 36" PIPE

SHEET 1 OF 1

840.18



PLAN

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

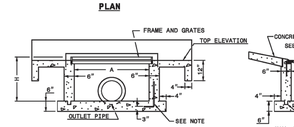
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

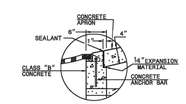
CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

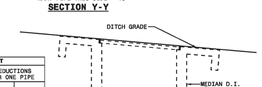


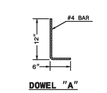
SECTION X-X

SECTION Y-Y



DETAIL
(APRON SUPPORT NOTCH)





DOWEL "A"

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET

PIPE	SPAN	WIDTH	HEIGHT		CUBIC YARDS OF CONCRETE IN BOX			DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	2'-8"	0.362	0.247	0.597	0.958	0.020	0.030
15"	3'-8"	2'-0"	2'-9"	0.362	0.247	0.659	1.021	0.023	0.036
18"	3'-8"	2'-0"	3'-0"	0.362	0.247	0.720	1.082	0.033	0.049
24"	3'-8"	2'-0"	3'-6"	0.362	0.247	0.865	1.227	0.059	0.085
30"	3'-8"	2'-0"	4'-0"	0.362	0.247	0.988	1.350	0.092	0.127
36"	3'-8"	2'-0"	4'-6"	0.362	0.247	1.112	1.474	0.132	0.178

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

1-12

ENGLISH STANDARD DRAWING FOR

CONCRETE GRATED DROP INLET TYPE 'B'

12" THRU 36" PIPE

SHEET 1 OF 1

840.18

REV.NO.	DESCRIPTIONS	DATE
B	PRELIMINARY PLAT PENDER CO. REVIEW	10/10/14
A	75% CONSTRUCTION DOCUMENTS TO TLC FOR REVIEW	08/11/14

REVISIONS

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 038577 ENGINEER RICHARD A. CHRISTENSEN

10/10/14

SEAL

PRELIMINARY- DO NOT USE FOR CONSTRUCTION

McKIM&CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282

NC LIC. No. F-1222
www.mckimcreed.com

Trask Land CO INC
1202 Eastwood Road
Wilmington, NC 28403
(910) 799-8755

BLAKE FARM — EST 1946

BLAKE FARM
SCOTTS HILL COMMUNITY
PENDER COUNTY NORTH CAROLINA

ROADWAY DETAILS

DATE:	11 AUGUST 2014
MCE PROJ. #	6525-0001
DRAWN	CDN
DESIGNED	RAC
CHECKED	RMC
PROJ. MGR.	RMC

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

M&C FILE NUMBER CT506

DRAWING NUMBER 66

STATUS: PRELIMINARY PLAT

REVISION B

S:\6525\0001\80-Drawings\CT506_06525001.dwg, 10/13/2014 12:24:10 PM, cruersy,
ARCH expand D (24.00 x 36.00 inches), 1:1