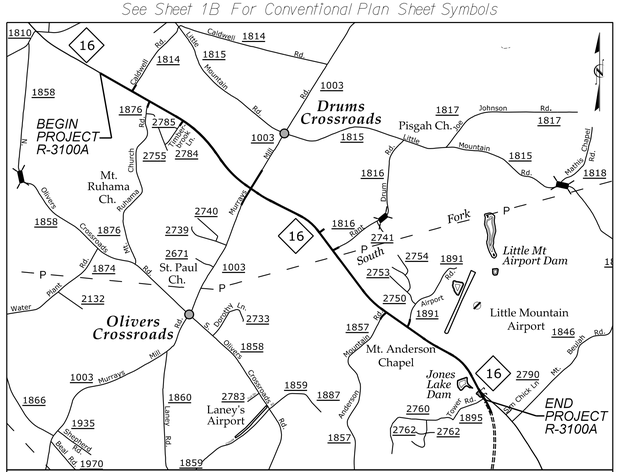
09/08/99

TIP PROJECT: R-3100A

CONTRACT: C203800

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



VICINITY MAP
(NOT TO SCALE)

PLFI PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

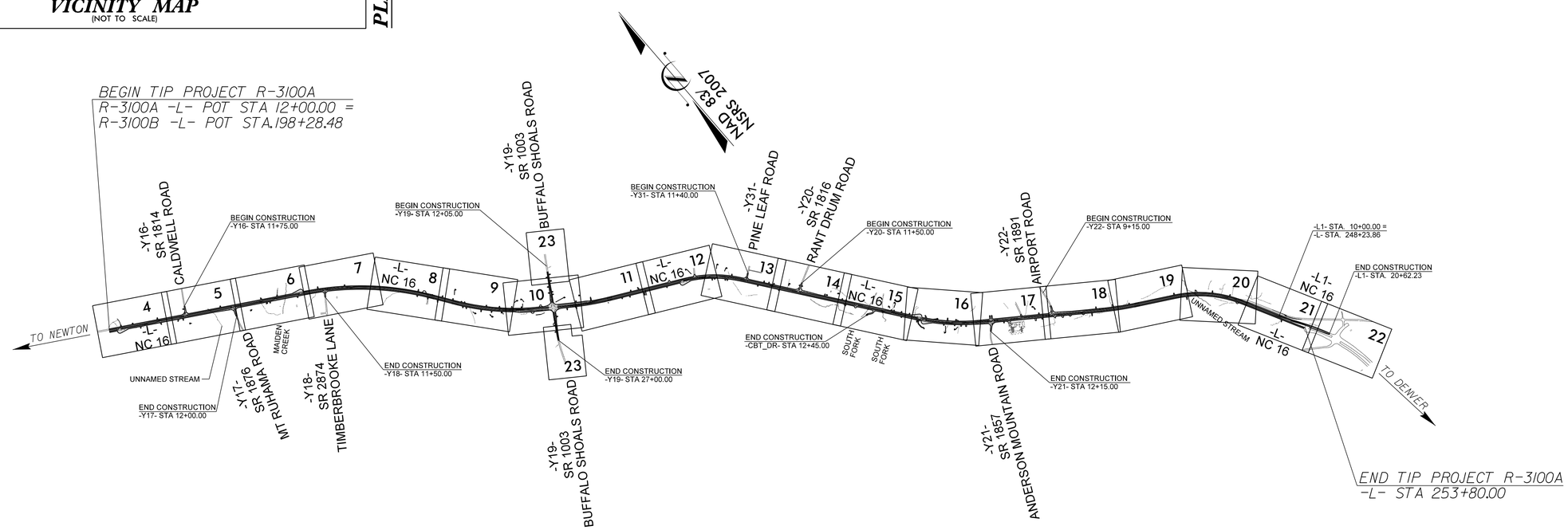
CATAWBA COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3100A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34522.1.3	STP-0016(52)	P.E.
34522.2.3	STP-0016(52)	R/W, UTIL.
34522.3.FR3	STP-0016(52)	CONST.

LOCATION: NC 16 FROM NORTH OF SR 1814 (CALDWELL ROAD) TO SR 1895 (TOWER ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, WIDENING, AND CULVERTS



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 0 50 100
PROFILE (HORIZONTAL): 0 50 100
PROFILE (VERTICAL): 0 10 20

DESIGN DATA

ADT 2016 = 10,960
ADT 2034 = 18,700
K = 10 %
D = 60 %
T = 9 % *
V = 60 MPH
* TTST 4% DUAL 5%
FUNC CLASS =
RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3100A = 4.781 MILES
TOTAL LENGTH OF TIP PROJECT R-3100A = 4.781 MILES

Prepared in the Office of:

PO Box 700
Fuquay-Varina, NC 27526
(919) 552-2253
(919) 552-2254 (Fax)
www.hatchmott.com
LICENSE NO. F-0669
Hatch Mott MacDonald

McKIM & CREED
NC LICENSED #F-0222
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1048 FAX. (910) 790-6282

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 26, 2014

LETTING DATE:
NOVEMBER 15, 2016

TIM JORDAN, PE
PROJECT ENGINEER

RICK MOORE, P.E.
HYDRAULICS PROJECT ENGINEER

REKHA PATEL, P.E.
NCDOT CONTACT

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

HYDRAULICS ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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jor66165

PROJECT REFERENCE NO.	SHEET NO.
R-3100A	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	3P-1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PARCEL INDEX SHEET

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
1	4	ELISSA D BARNES & DANNY A CALDWELL
2	4	CHARLES R & TINA H RAMSEY
3	4	TIMOTHY H & VICKIE M DRUM
4	4	WAYNE H RINK
5	4	TIMOTHY HOWARD DRUM
6	4	BARBARA DRUM ROBINSON TRUSTEE
7	4,5	THOMAS C JR & JACQUELYN M HEWITT
8	4,5	MICHAEL D & JULIE D CARROLL
9	4,5	DAVID LEE STEWART
10	5	JERRY R WARREN
11	5	MICHAEL D & JULIE D CARROLL
12	5	DAVID L STEWART
13	5,6	ERIC C & ANNETTE H LEE
14	5	ERIC C & ANNETTE H LEE
15	5,6	BRIAN N & TONY M POOLE
16	6	PHIL C & KAREN V RICE
17	6	RICKY M & KATHY C GOODSON
18	6	ALBERT S & WANDA G JARRETT
19	6	MARK D & KELLY B SHUBERT
20	6,7	MARK B & MITZI Y STORY
21	6,7	JOHNNIE D & JEANETTE S SHUBERT
22	7	JOHN M & BEVERLY A HILTON
23	7	MARK B & MITZI Y STORY
24	7	JOE L & DOROTHY H STAMEY
25	7	ERIC J & MELISSA N WEISS
26	7	MARK B & MITZI Y STORY
27	7,8	LINELLE LINEBERGER WILLIAMS
28	7,8	MARK B & MITZI Y STORY
29	8	FRANK L & VERA C CALDWELL
30	8	GROEN REALTY LLC
31	8	45' PRIVATE R/W

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
32	8	BURKE FAMILY PROPERTIES LTD
33	8	EZRA B DRUM
34	8,9	LARRY G & GLENDA W SIGMON
35	8,9	GLENN A SHERRILL
36	9	VIRGINIA CALDWELL ESTES
37	9	CLEO P & REBECCA A ROSS
38	9	BURKE FAMILY PROPERTIES LTD
39	9	BILLY A WHITE
40	9	45' PRIVATE R/W
41	9	PAUL JR & PEARL H GAITHER CALDWELL
42	9	45' PRIVATE R/W
43	9	FLYNN L & JOYCE I LOFTIN
44	9	DANIEL T & DEBORAH A MAULTBAY
45	9	HAL B & MARY W CALDWELL
46	9	MARLENE BLAIR HANVEY
47	9	STANLY T & VICKI C SWANSON
48	9	FLOYD YATES MCCALL LIFE ESTATE
49	9	JO ANN B IKERD
50	9,10	PATRICIA C ELLIS
51	9,10	GAYNELL MCCALL CAUTHEN
52	10	LABAN WILLIAM HELDERMAN
53	10	DIXIE STECK
54	10	CHARLES P JR & KAREN FRESCO
55	10	TONY W & CHARLOTTE L WALKER
56	10	DWIGHT V & BETTY JO CALDWELL
57	10	PEA RIDGE INVESTMENTS LLC
58	10	BELLSOUTH TELECOMMUNICATIONS INC
59	10	45' PRIVATE R/W
60	10,23	LARRY E & LINDA C CALDWELL
61	10	LARRY D DRUM
62	10	DENISE D WRIGHT

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
63	10	LARRY DAVID DRUM
64	10,11	SANDRA ARLAND HEWIT PRICE
65	10	NORMA TUCKER MCCALL
66	10	DRUM HOWARD TRACY
67	10	NORMA TUCKER MCCALL
68	10,23	HOWARD TRACY DRUM
69	10,23	GAYNELL MCCALL CAUTHEN
70	23	30' ACCESS EASEMENT
71	23	JUANITA BOGLE REINHARDT
72	23	BRENDA CAUTHEN HILDEBRAN
73	10,23	ROBERT K & KAREN M WILKINSON
74	10,11	KELLY C MOOSE & DEBORAH C PROPST
75	11	OLLIE GERTRUDE BOSTI MAJOR
76	11	ACCESS EASEMENT
77	11	VICKY CAMPBELL WHITMIRE
78	11	RECIL H & DENISE D WRIGHT
79	11	FRANKIE S DETTER & WANDA D EADES
80	11	RONALD D JR & RHONDA W JUSTICE
81	11	JOSEPH BRENT MITCHELL
82	11,12	ELMER UDEAN & NANCY B BURKE
83	11,12	ANDREW P & LESLIE C HANELLIN
84	12	ELMER U & NANCY B BURKE
85	12	KENNETH E & LOVENIA S KEEVER
86	12	HECHT DEVELOPMENT CO INC
87	12	LOVENIA STORY KEEVER
88	12,13	HECHT DEVELOPMENT CO INC
89	12,13	HECHT DEVELOPMENT CO INC
90	12,13	LAHRUE JONES HOLLAND
91	13	LAWRENCE A STORY
92	13	LAWRENCE P & DORIS M STORY
93	13	CREEK PLAZA LLC

8/17/99
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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	3P-2

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PARCEL INDEX SHEET

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
94	13	EVEY LENA ISENHOWER HEIRS
95	13	JUDY BEARD JONES
96	13	JEFFREY W & GINA J AUTON
97	13	CARROL M & MELLONEE B OWENBY
98	13	LARRY A & PATRICIA L DAVIS
99	13	EVAN M OWENBY
100	13	DANIEL H & NATINE LINEBERGER
101	13	SHEILA ANNETTE JOHNSON
102	13,14	ELMER U & NANCY B BURKE
103	13	MARCOS M & TERESA CHAVEZ
104	13,14	LORI A REARDON
105	14	AARON T & KRISTY H BURKE
106	14	JOHN W & ANNA P MULL
107	14	NORMA GOSNELL SLUDER
108	14	NORMA GOSNELL SLUDER
109	14	ELMER U & NANCY B BURKE
110	14	JOHN WALTER WILKINSON
111	14	MICHAEL L & DEBRA C GILBERT
112	14	DAVID E & FAYE B JOHNSON
113	14,15	MAXINE WILKINSON BUMGARNER
114	14,15	DAVEY ANDREW BUMGARNER
115	15	EDWARD M & KATHLEEN STOLARCYK JR
116	15	ELMER U & NANCY B BURKE
117	15	ELMER U & NANCY B BURKE
118	15	REBECCA REINHARDT DUFFEY
119	15	ELMER U & NANCY B BURKE
120	15	NANCY DRUM JOSEY
121	15	ELMER U & NANCY B BURKE
122	15	LINEBERGER LINDA S
123	15,16	HERBERT CECIL SHOEMAKE
124	15,16	ELMER U & NANCY B BURKE

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
125	16	45' PRIVATE R/W
126	16	HAZELENE WHITWORTH WILKINSON
127	16	REGINALD STEVEN WILKINSON SR
128	16	VIVIAN JOY POPE
129	16	GREGORY B & ANITA R HILTON
130	16	PHILLIP H & LINDA S COOPER
131	16	WINSTON F & BESSIE WILKINSON
132	16,17	MT ANDERSON BAPTIST CHURCH TRUSTEES OF
133	16	KENNETH E TUCKER
134	16,17	TANYA C PARSONS
135	17	THOMAS B & HEATHER H THOMAS
136	17	DAVID KEITH BLACKBURN
137	17	BANDYS CROSS ROADS VOLUNTEER FIRE DEPARTMENT
138	17,18	GARLAND L & RONDA G GOODSON
139	17	EVELYN L CALDWELL
140	17,18	JEFFREY W & GINA J AUTON
141	17,18	NCDOT
142	18	PAUL G & DEBORAH G THOMPSON
143	18	MT ANDERSON BAPTIST CHURCH
144	18	PATRICIA C LITTLE
145	18,19	LITTLE MOUNTAIN AIRPORT ASSOCIATES INC
146	18	BILLY D BUFF
147	18	JOSEPH EVERETT BAKER
148	18	BILLY D & JOY F BUFF
149	18	REMOVED
150	18,19	JOSEPH E & AMBER W BAKER
151	19,20	CUSHMAN PROPERTIES LLC
152	19,20	DWAYNE RAY CALDWELL
153	19,20	DAVID A & PEGGY W WEATHERS
154	20	LITTLE MOUNTAIN FARMS LTD PARTNERSHIP
155	20	WANDA JONES GOODSON

PARCEL NO.	SHEET NO.	PROPERTY OWNERS NAME
156	20	CLAYTON S & VICKIE E KIRBY
157	20	BILLY D & LINDSEY M HUFFMAN
158	20	NC DEPT OF TRANS
159	20	45' ACCESS EASEMENT
160	20,21	WANDA JONES GOODSON
161	20,21	LITTLE MOUNTAIN FARMS LTD PARTNERSHIP
162	21	EDDIE DWAYNE LAIL
163	23	LINELLE LINEBERGER WILLIAMS
164	23	ROLAND F & RUTH M EDWARDS
165	23	J D JR & JANICE M GOODSON
166	18	MARY E SHERRILL

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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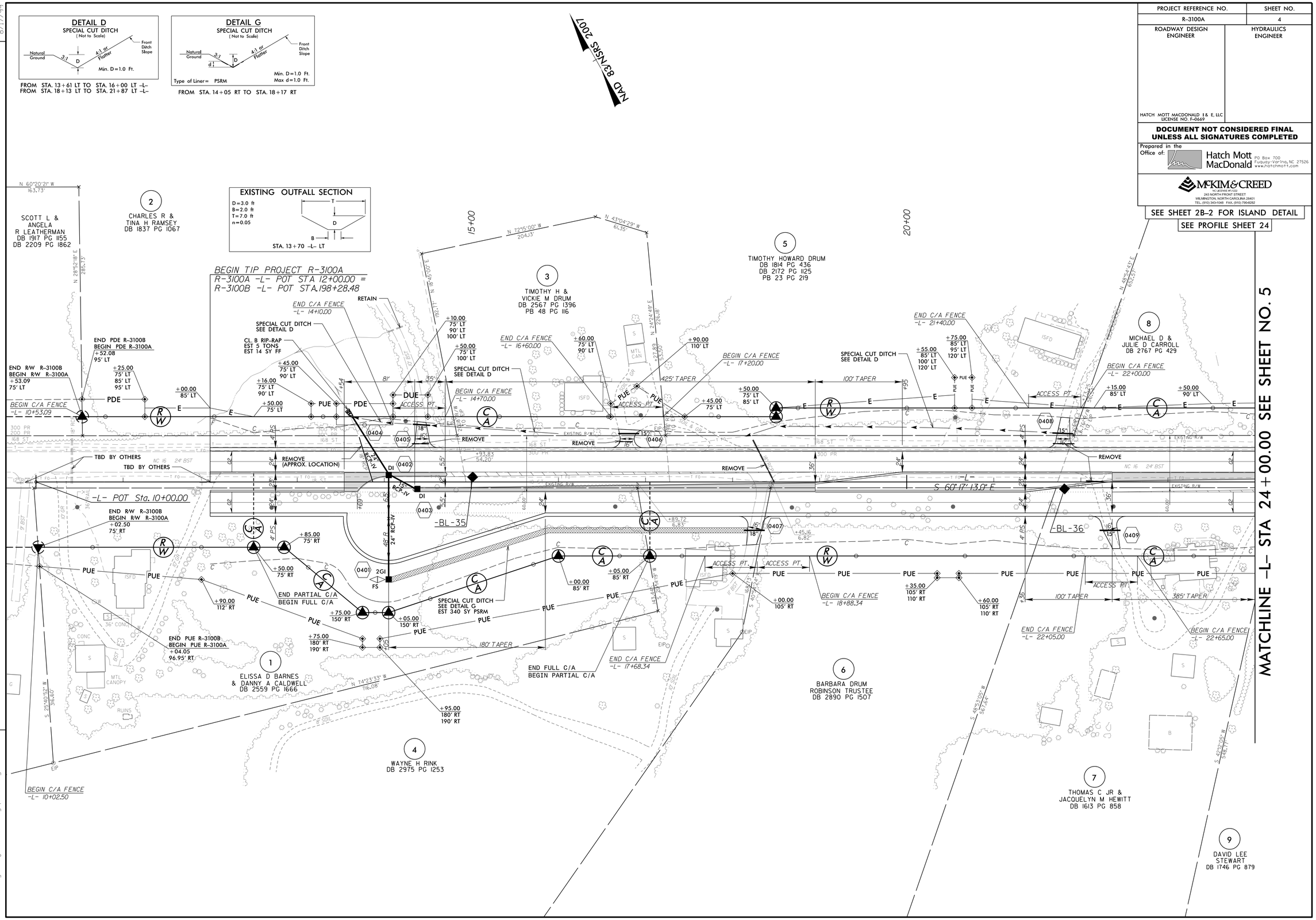
McKIM & CREED
MCKIMCREED.COM
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1568 FAX. (910) 790-0282

SEE SHEET 2B-2 FOR ISLAND DETAIL
SEE PROFILE SHEET 24



DATE: 6-16-2015 - ADDED PUE ON PARCEL 002 & CHANGED TCE TO PUE ON PACEL 001

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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McKIM & CREED
ENGINEERING • SURVEYING
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1066 FAX: (910) 790-4282

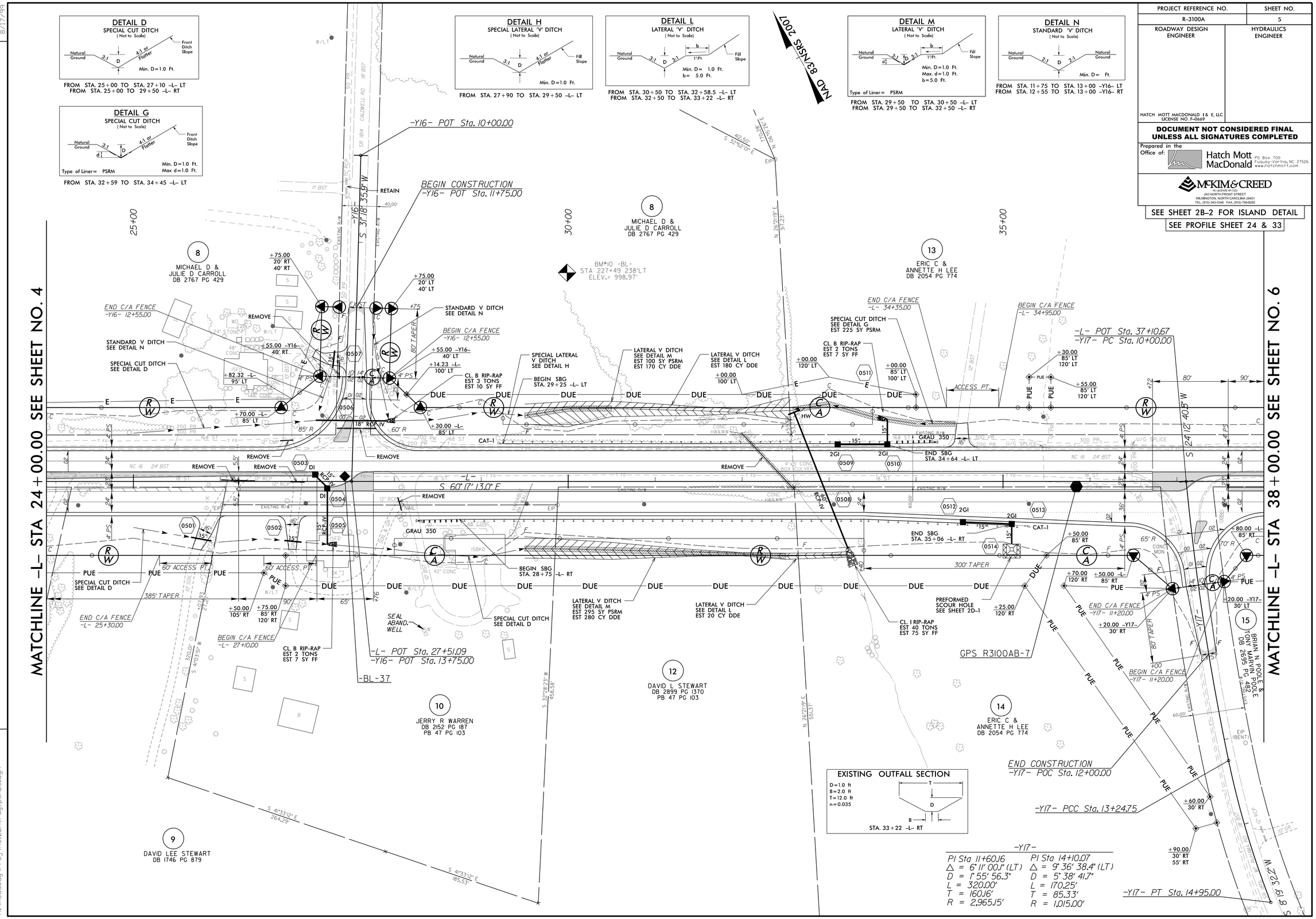
SEE SHEET 2B-2 FOR ISLAND DETAIL

SEE PROFILE SHEET 24 & 33

REVISIONS

DATE: 5-7-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 010 & 015
R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-6-2015 FOR PARCEL 008 & 011

DATE: 6-16-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 (ELIMINATED PARCEL 011 BY COMBINING WITH PARCEL 008); CHANGED PDE TO DUE ON PARCEL 008 & 013



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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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MCKIMCREED.COM
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1568 FAX. (910) 790-4282

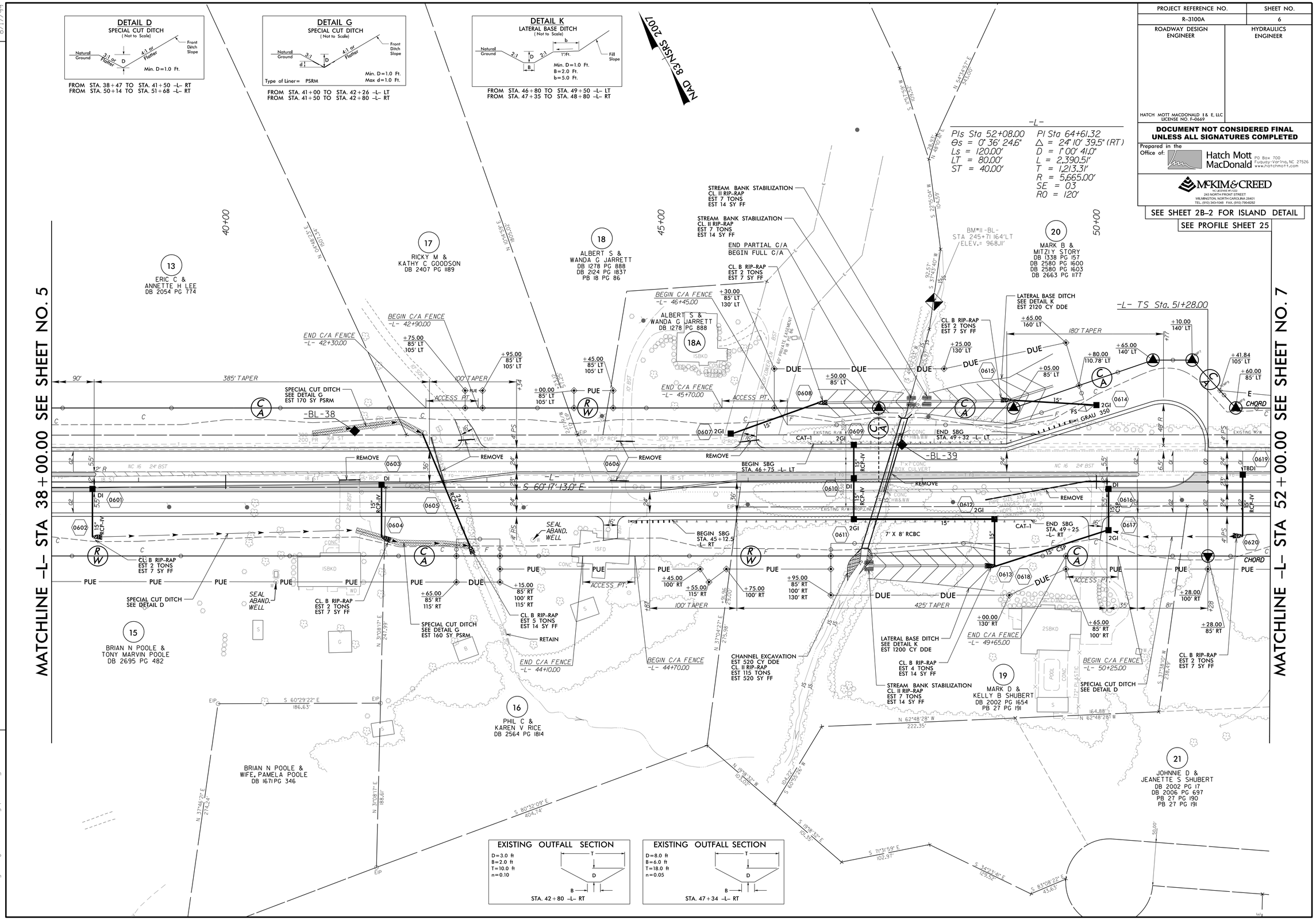
SEE SHEET 2B-2 FOR ISLAND DETAIL

SEE PROFILE SHEET 25

REVISIONS

DATE: 5-7-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 015
R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-6-2015 FOR PARCEL 018
DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 FOR PARCEL 018 & 18A
CHANGED PDE TO DUE ON PARCEL 018, 18A & 020, REVISED OR RESHAPED DUE ON PARCEL 018

8/17/99



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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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McKIM & CREED
INCORPORATED
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1566 FAX. (910) 790-0202

SEE SHEET 2B-3 FOR ISLAND DETAIL

SEE PROFILE SHEET 25 & 33

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Front Ditch Slope

Min. D= 1.0 Ft.

FROM STA. 65+25 TO STA. 65+50 -L- RT

DETAIL E
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; d; D; B; 4:1 or Flatter; Fill Slope

Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 3.0 Ft.

Type of Liner= PSRM

FROM STA. 55+25 TO STA. 58+60 -L- LT
FROM STA. 54+10 TO STA. 56+75 -L- RT

DETAIL F
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; d; D; 4:1 or Flatter; Fill Slope

Min. D= 1.0 Ft.
Max. d= 1.0 Ft.

Type of Liner= PSRM

FROM STA. 61+25 TO STA. 62+50 -L- RT

NAD 83/NSRS 2007

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; d; D; 4:1 or Flatter; Front Ditch Slope

Min. D=1.0 Ft.
Max d=1.0 Ft.

Type of Liner= PSRM

FROM STA. 58+60 TO STA. 59+00 -L- LT
FROM STA. 58+00 TO STA. 61+25 -L- RT

DETAIL H
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; D; 4:1 or Flatter; Fill Slope

Min. D= 1.0 Ft.

FROM STA. 62+50 TO STA. 65+25 -L- RT

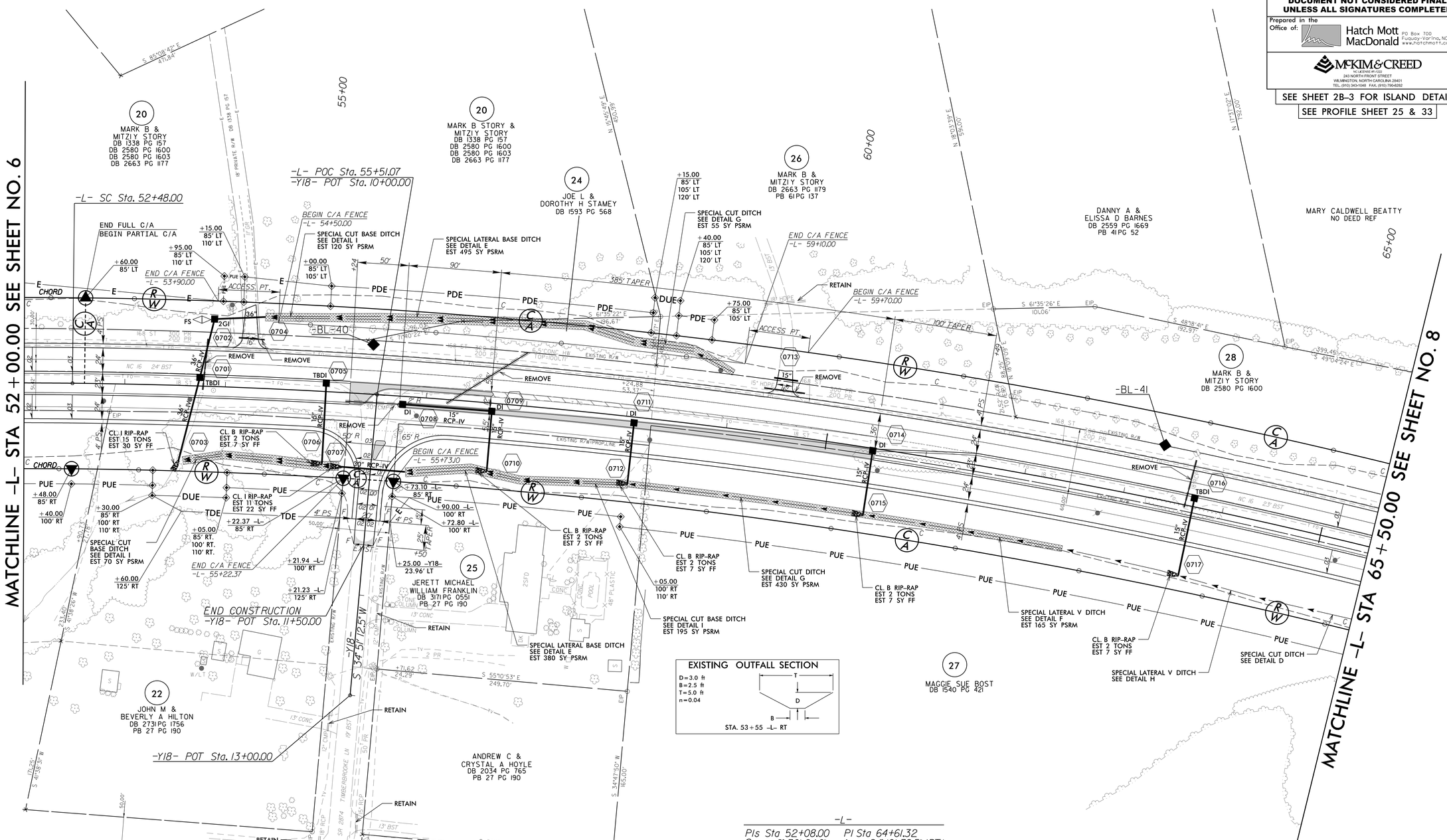
DETAIL I
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground; 2:1; d; D; B; 4:1 or Flatter; Front Ditch Slope

Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 2.0 Ft.

Type of Liner= PSRM

FROM STA. 54+37 TO STA. 55+25 -L- LT
FROM STA. 53+60 TO STA. 54+10 -L- RT
FROM STA. 56+75 TO STA. 58+00 -L- RT



-L-

PIs Sta 52+08.00	PI Sta 64+61.32
Θs = 0° 36' 24.6"	Δ = 24° 10' 39.5" (RT)
Ls = 120.00'	D = 1° 00' 41.0"
LT = 80.00'	L = 2,390.51'
ST = 40.00'	T = 1,213.31'
	R = 5,665.00'
	SE = 03
	RO = 120'

REVISIONS

DATE: 5-7-2015 - RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 025
DATE: 6-16-2015 - RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 (ELIMINATED PARCEL 023 BY COMBINING WITH PARCEL 20; NAME CHANGED ON PARCEL 025); REVISED PUE AND DUE ON PARCEL 022

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
HATCH MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	

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McKIM & CREED, NC LICENSE #F-0122, 243 NORTH FRONT STREET, WILMINGTON, NORTH CAROLINA 28401, TEL. (910) 343-1546 FAX. (910) 790-4282

SEE PROFILE SHEET 26

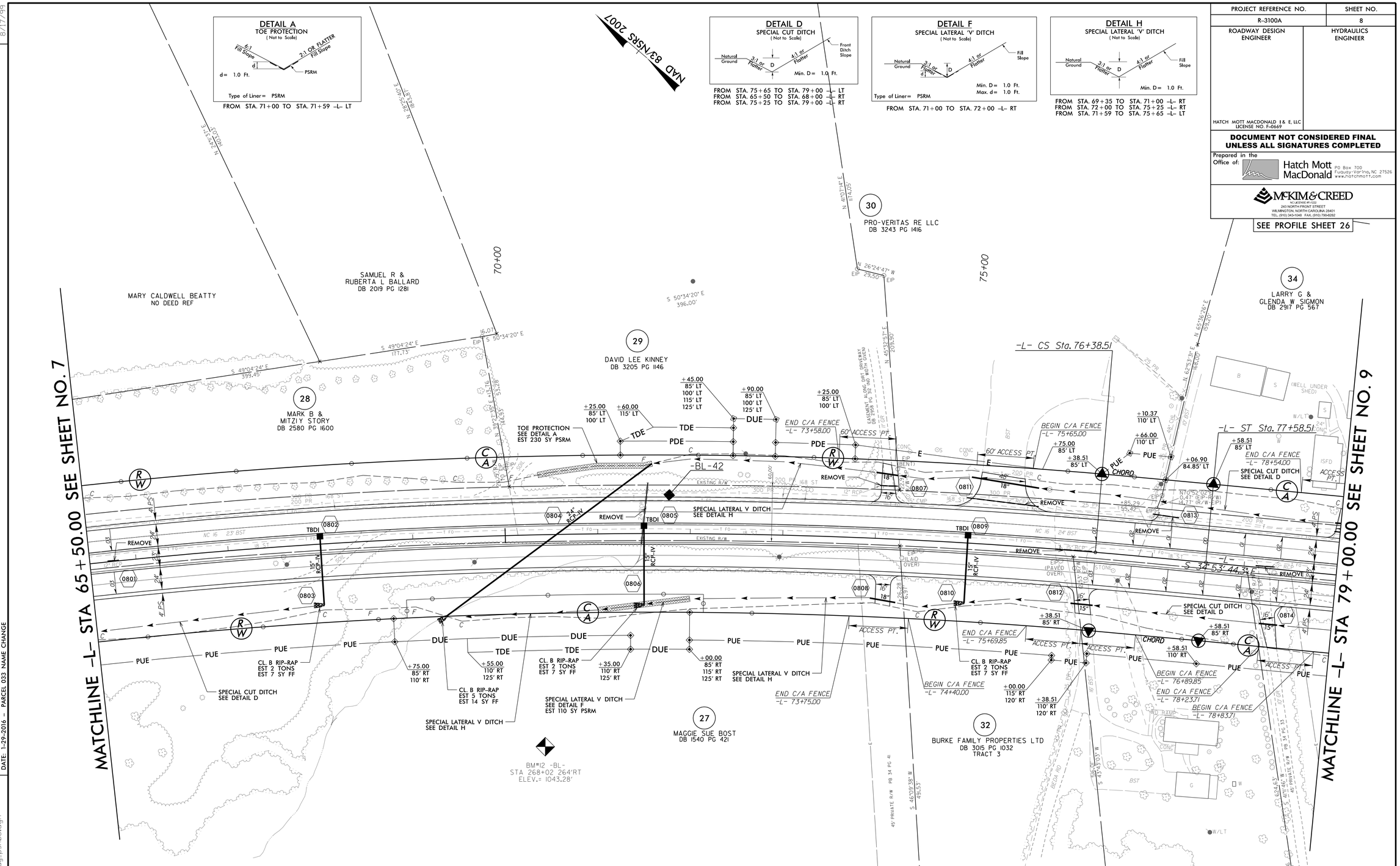
REVISIONS

DATE: 5-7-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 029, 030 & 033

DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-6-2015 FOR PARCEL 027 & 031
R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 FOR PARCEL 029 & 033
INCREASED DUE ON PARCEL 029, DECREASED PUE ON PARCEL 030, ELIMINATED PUE ON PARCEL 034

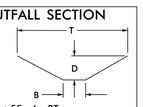
DATE: 1-29-2016 – PARCEL 033 NAME CHANGE

8/17/99



EXISTING OUTFALL SECTION

D=1.0 ft
B=4.0 ft
T=35.0 ft
n=0.065



STA. 69+55 –L– RT

–L–

PI Sta 64+61.32	PIs Sta 76+78.51
Δ = 24° 10' 39.5" (RT)	Θs = 0° 36' 24.6"
D = 1° 00' 41.0"	Ls = 120.00'
L = 2,390.51'	LT = 80.00'
T = 1,213.31'	ST = 40.00'
R = 5,665.00'	
SE = 03	
RO = 120'	

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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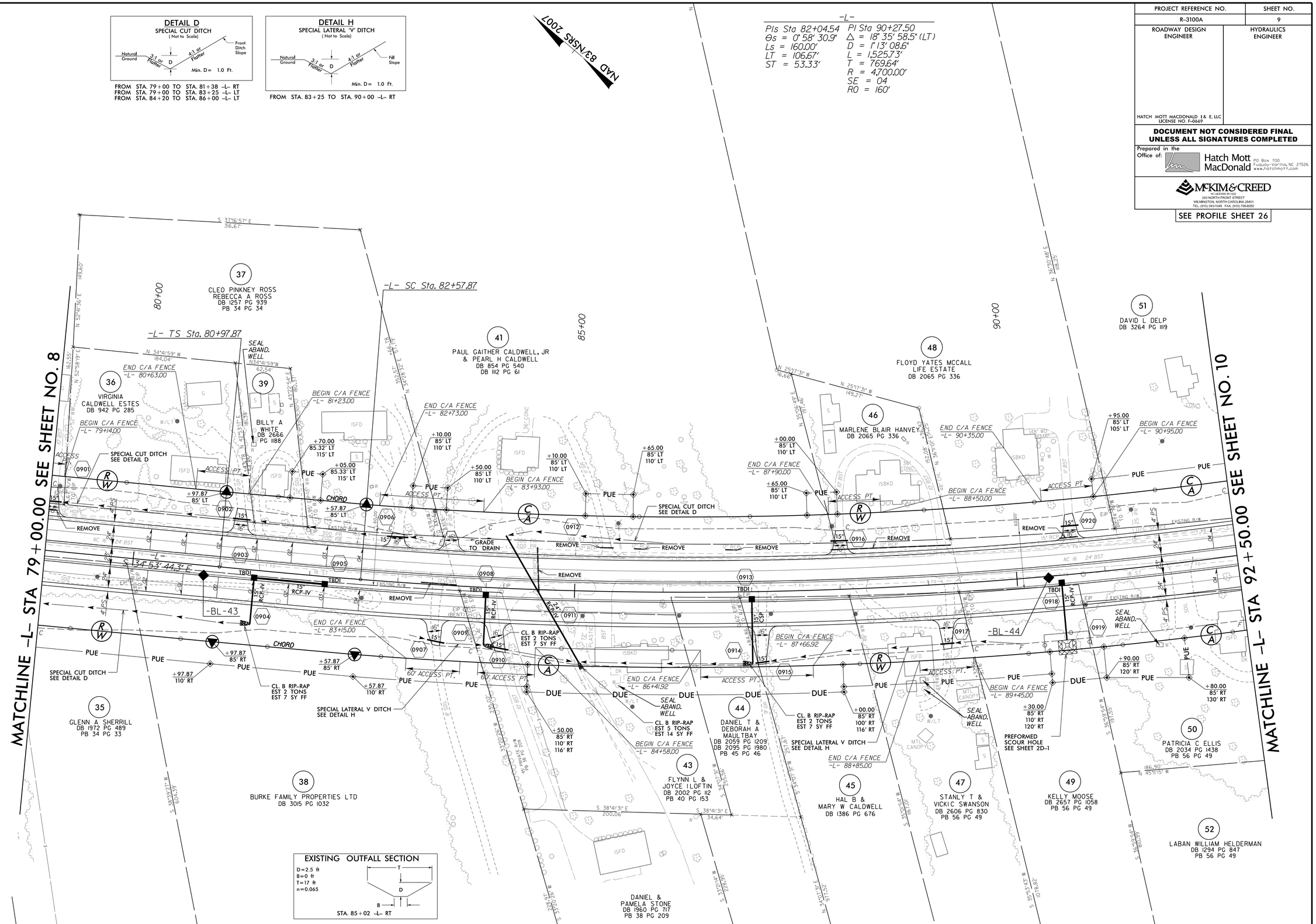
NC LICENSE #F-0112
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1568 FAX. (910) 799-0282

SEE PROFILE SHEET 26

REVISIONS

DATE: 1-16-2015 – PARCEL 37, 40; REMOVED PARCEL 40, PRIVATE R/W, AS CURRENT PROPERTY OWNER NOW OWNS BOTH PARCELS INVOLVED.
DATE: 5-7-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 049 & 051
R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 043 & 50
DATE: 6-16-2015 – RESHAPED PUE ON PARCEL 041 & 46, INCREASED DUE ON PARCEL 042, 043, 044, & 045
DATE: 7-14-2015 – PARCEL 049 & 051; NAME & DB CHANGED.
DATE: 1-29-2016 – PARCEL 037 & 041; ACCESS REVISION: EXTEND ACCESS POINT FROM -L- 82+73 TO -L- 83+95 TO 84+58 RT

8/17/99



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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1568 FAX. (910) 790-4282

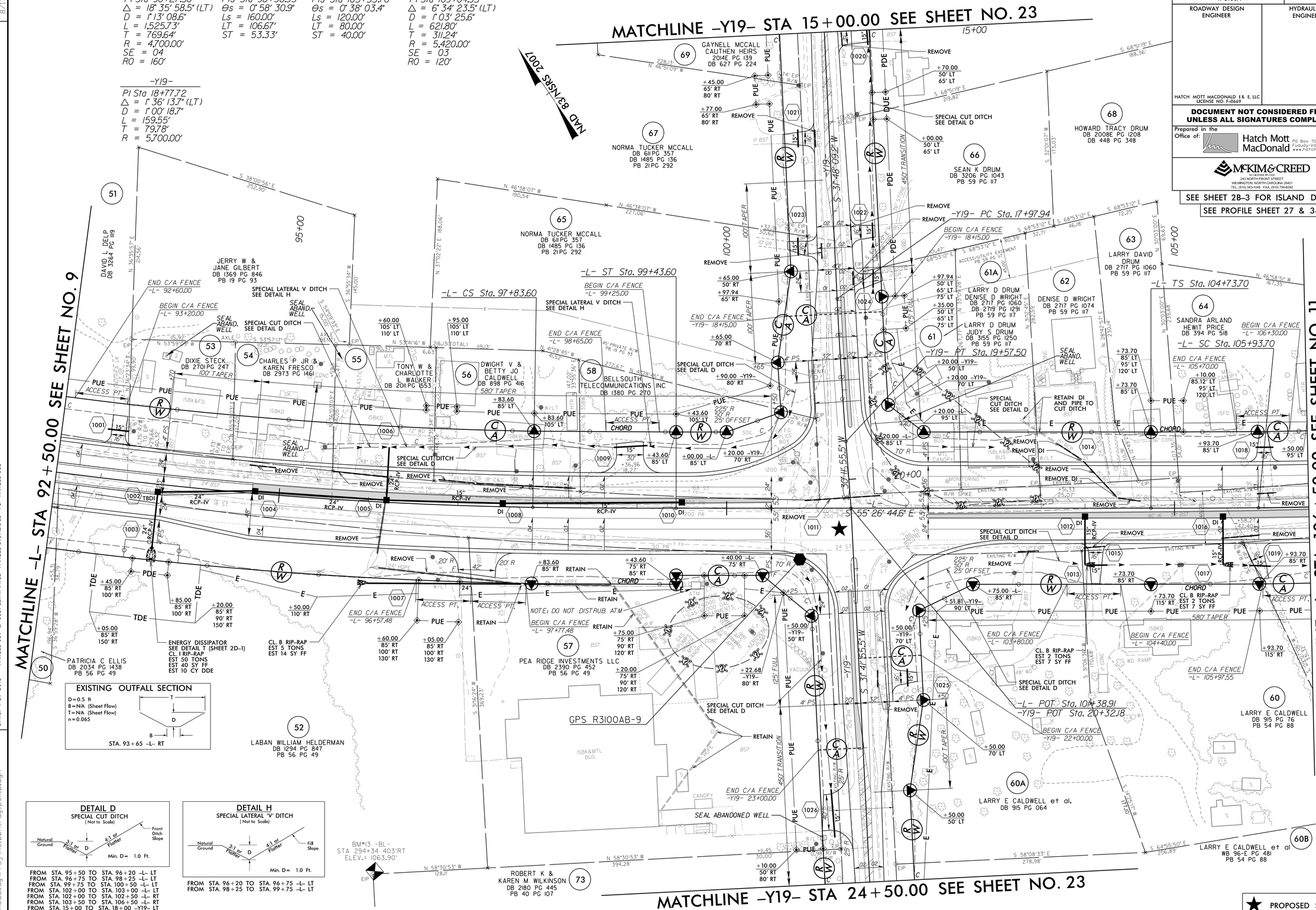
SEE SHEET 2B-3 FOR ISLAND DETAIL

SEE PROFILE SHEET 27 & 34

8/17/99

REVISIONS

DATE: 5-7-2015 – RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 051 & 066
DATE: 6-16-2015 – RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 050, 061, 061A, 062, & 063
DATE: 7-14-2015 – RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-10-2015 FOR PARCEL 060, 060A, 060B, & 062
DATE: 1-29-2016 – PARCEL 51, 66 & 74; NAME & DB CHANGED; PARCEL 59 & 65; ELIMINATE PARCEL 59 AND MERGED WITH PARCEL 65.
DATE: 1-29-2016 – PARCEL 059 & 065; ELIMINATED PARCEL 59; ADDED TO PARCEL 065



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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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LICENSE NO. F-0669

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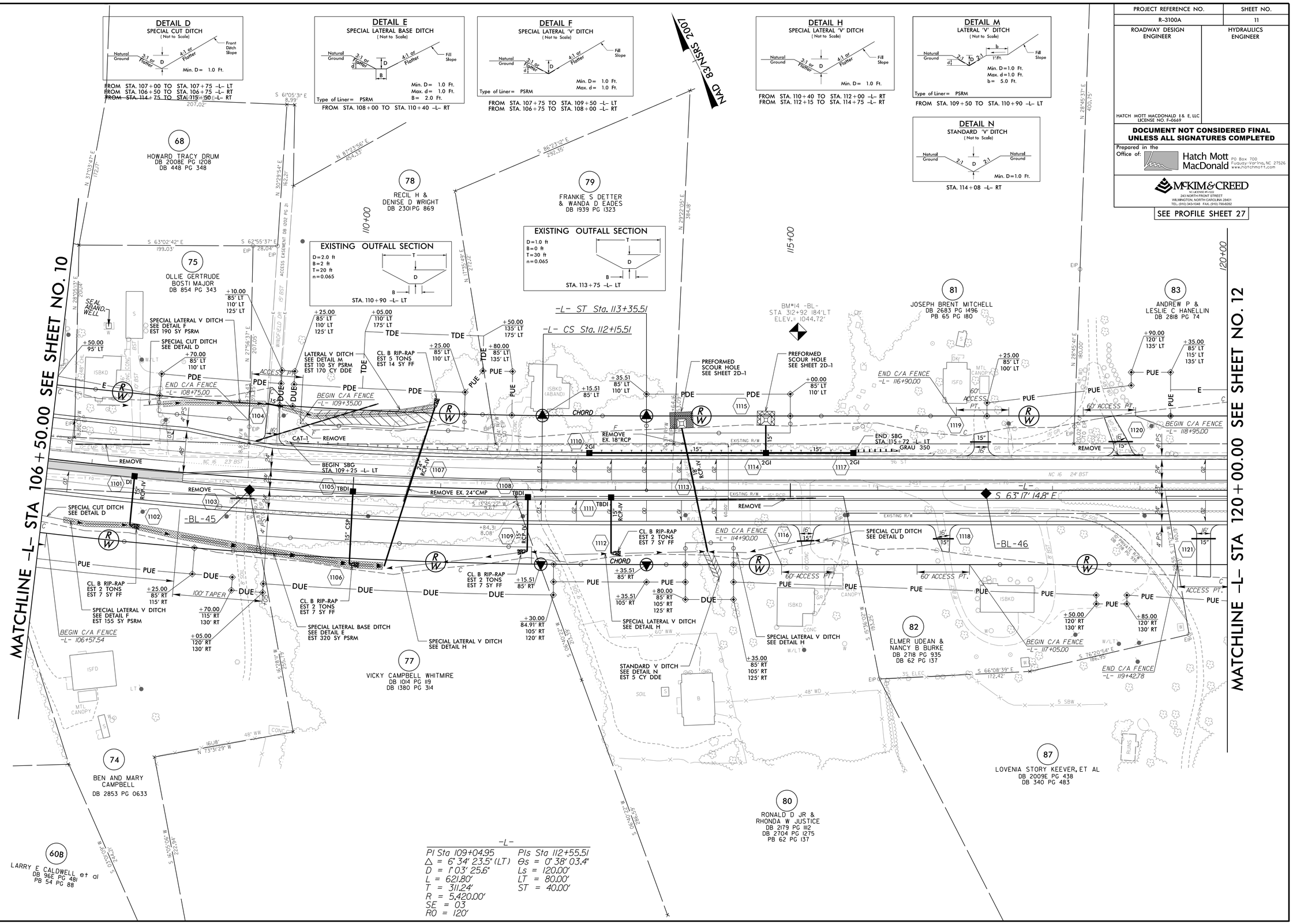
TEL. (910) 343-1566 FAX. (910) 790-4282

SEE PROFILE SHEET 27

REVISIONS

DATE: 1-16-2015 - PARCEL 82, 87; REVISED A PORTION OF PARCEL 82 TO PARCEL 87 (LOVENIA STORY KEEVER, ET AL)
DATE: 5-7-2015 - RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 074
RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 082
DATE: 6-16-2015 - RW REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-10-2015 FOR PARCEL 060, 60B, 076 & 078 (ELIMINATED PARCEL 076 BY COMBINING WITH PARCEL 078);
PARCEL 077 WAS ADDED
DATE: 7-14-2015 - PARCEL 074; NAME & DB CHANGED.



8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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MCKIMCREED.COM
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WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1568 FAX. (910) 790-0202

SEE SHEET 2B-3 FOR ISLAND DETAIL

SEE PROFILE SHEET 28

DETAIL E
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; d; D; B; 4:1 or Flatter; Fill Slope

Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.

Type of Liner = PSRM

FROM STA. 129+52 TO STA. 133+50 -L- RT

DETAIL F
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; d; D; 4:1 or Flatter; Fill Slope

Min. D = 1.0 Ft.
Max. d = 1.0 Ft.

Type of Liner = PSRM

FROM STA. 126+50 TO STA. 129+52 -L- LT
FROM STA. 125+25 TO STA. 129+52 -L- RT

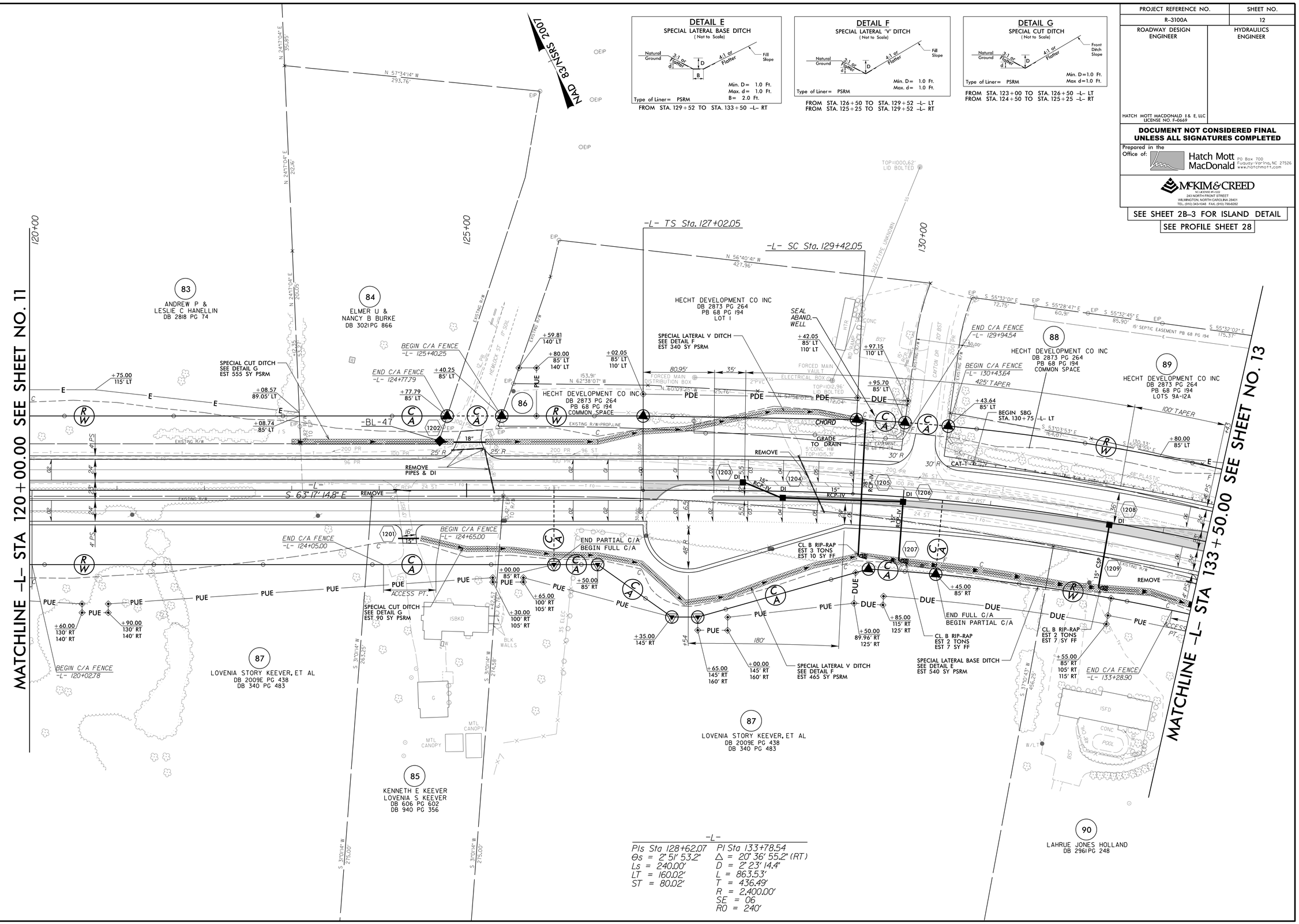
DETAIL G
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground; 3:1 or Flatter; d; D; 4:1 or Flatter; Front Ditch Slope

Min. D = 1.0 Ft.
Max. d = 1.0 Ft.

Type of Liner = PSRM

FROM STA. 123+00 TO STA. 126+50 -L- LT
FROM STA. 124+50 TO STA. 125+25 -L- RT



REVISIONS

DATE: 1-16-2015 - PARCEL 82, 87; REVISED A PORTION OF PARCEL 82 TO PARCEL 87 (LOVENIA STORY KEEVER, ET AL)
DATE: 2-19-2016 - PARCEL 84; REMOVED TEMPORARY CONSTRUCTION EASEMENT, RETIED EASEMENT TO PROPERTY LINE.

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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LICENSE NO. F-0669

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WILMINGTON, NORTH CAROLINA 28401
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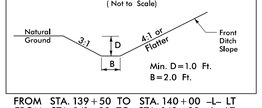
SEE SHEET 2B-4 FOR ISLAND DETAIL

SEE PROFILE SHEET 28 & 34

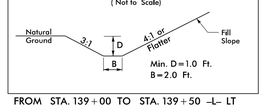
8/17/99

DETAIL B
SPECIAL CUT BASE DITCH
(Not to Scale)



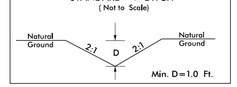
FROM STA. 139+50 TO STA. 140+00 –L– LT
FROM STA. 141+00 TO STA. 142+30 –L– LT

DETAIL C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



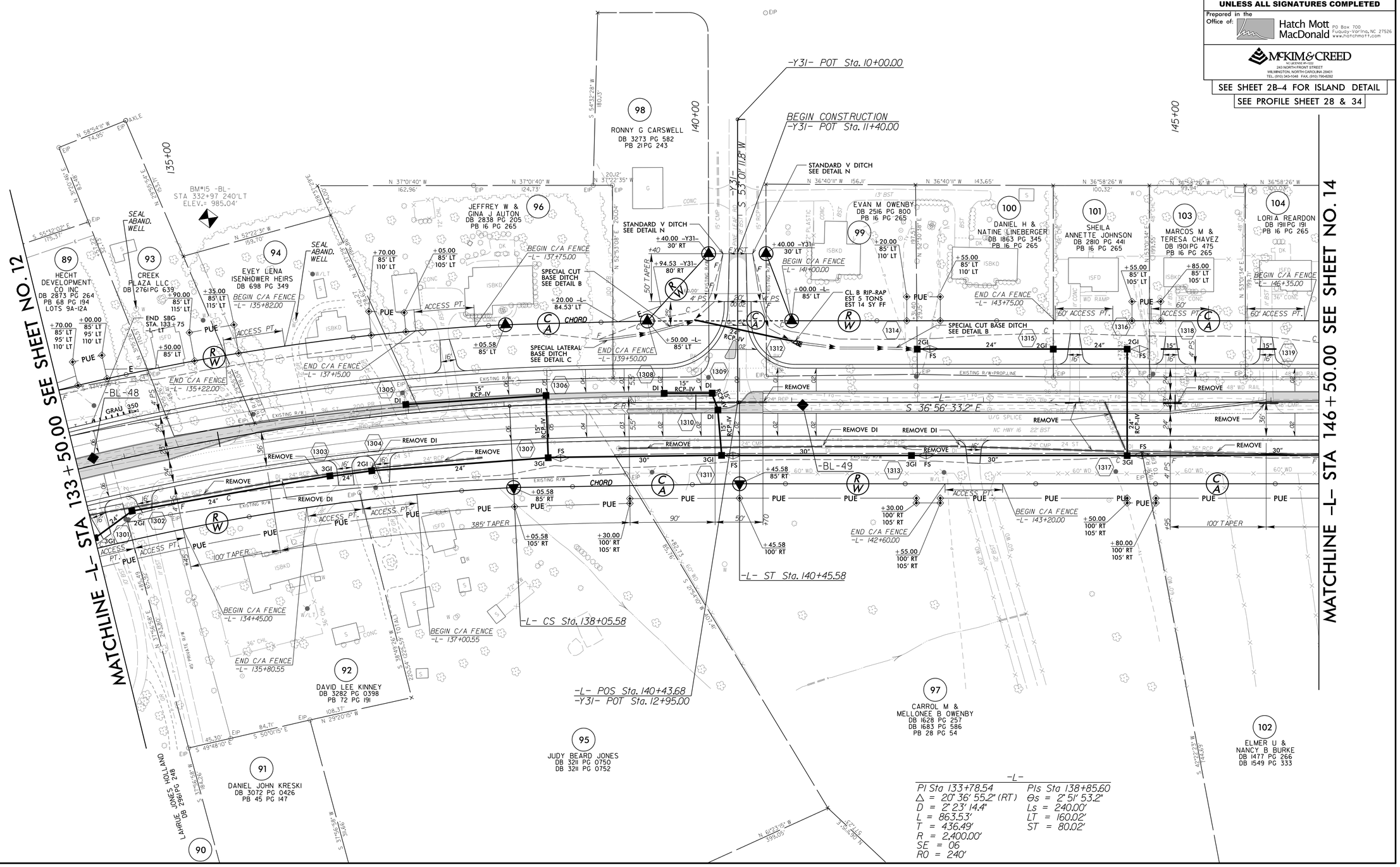
FROM STA. 139+00 TO STA. 139+50 –L– LT

DETAIL N
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 11+40 TO STA. 12+18 –Y31– RT
FROM STA. 11+40 TO STA. 12+18 –Y31– LT

NAD 83/NSRS 2007



REVISIONS

DATE: 5-7-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 092
R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 092 & 095
DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-9-2015 FOR PARCEL 091, 092 & 095
DATE: 7-14-2015 – PARCEL 091: NAME CHANGED, PARCEL 092 & 095: ACCESS POINT FROM PROPERTY LINE TO STA. 134+45 ON –L–, R/W REVISION REQUEST FOR PLAN CHANGES SUBMITTED ON 4-21-2015 FOR PARCEL 098
DATE: 10-7-2015 – PARCEL 094: ADDED ACCESS POINT FROM –L– STA. 135+22 TO STA. 135+82, TO PROVIDE ACCESS (VIA EXISTING EASEMENT) TO PARCEL LOCATED BEHIND PARCEL 94.
DATE: 11-20-2015 – PARCEL 102: UPDATED PROPERTY OWNER INFORMATION. (JFJ)

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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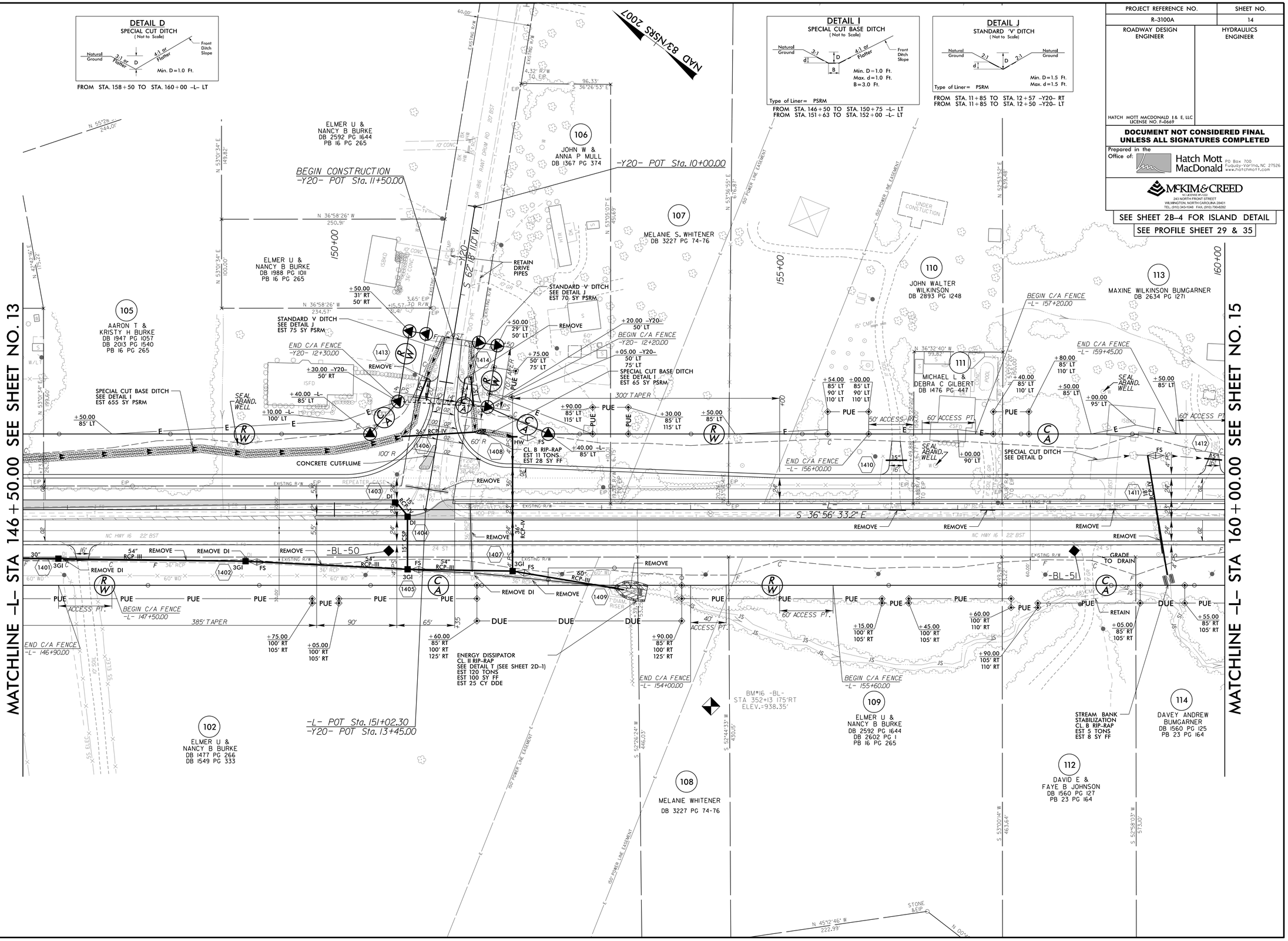
NC LICENSE #F-0122
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1568 FAX: (910) 799-0282

SEE SHEET 2B-4 FOR ISLAND DETAIL

SEE PROFILE SHEET 29 & 35

DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-10-2015 FOR PARCEL 109
INCREASED DUE ON PARCEL 102, ADDED PUE ON PARCEL 106
DATE: 7-14-2015 – PARCEL 107 & 108: NAME & DB CHANGED.
DATE: 11-19-2015 – PARCEL 110: REMOVED EXISTING PUE AND ADDED PUE ON SAME PARCEL TO MOVE POWER AWAY FROM PROPERTY OWNER'S DRIVEWAY AND MOVED ACCESS POINT TO –L– STA. 156+00.00 (JTJ)
DATE: 11-20-2015 – PARCEL 102: UPDATED PROPERTY OWNER INFORMATION; PARCEL 108: ADDED ACCESS POINT APPROVED BY DCE LARRY CARPENTER AT –L– STA. 154+00 TO 154+40. (JTJ)

8/17/99



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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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LICENSE NO. F-0669

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A MCI ENGINEERING GROUP
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1066 FAX: (910) 790-4282

SEE SHEET 2B-4 FOR ISLAND DETAIL

SEE PROFILE SHEET 29 & 35

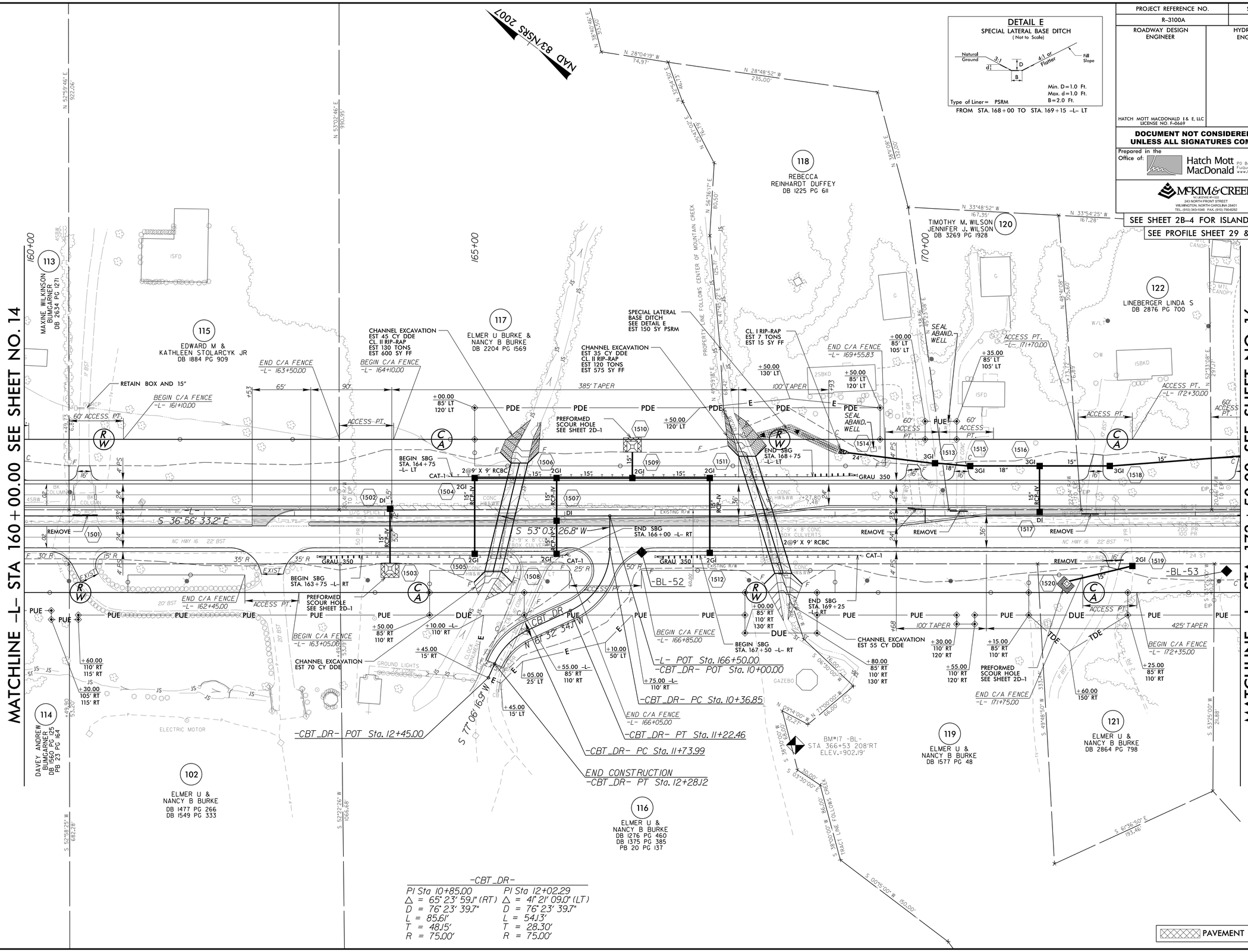
DETAIL E
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 3:1, d, D, B, 4:1 or Flatter, Fill Slope

Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.

Type of Liner = PSRM

FROM STA. 168 + 00 TO STA. 169 + 15 –L– LT



-CBT_DR-

PI Sta 10+85.00	PI Sta 12+02.29
△ = 65° 23' 59.1" (RT)	△ = 41° 21' 09.0" (LT)
D = 76° 23' 39.7"	D = 76° 23' 39.7"
L = 85.61'	L = 54.13'
T = 48.15'	T = 28.30'
R = 75.00'	R = 75.00'

DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 FOR PARCEL 120
R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-10-2015 FOR PARCEL 117
ADDED PUE ON PARCEL 118 & 120
DATE: 11-20-2015 – PARCEL 102 & 116: ADDED PROPERTY LINE TO SEPARATE PARCELS 102 & 116 AND UPDATED PROPERTY OWNER INFORMATION. (JTJ)

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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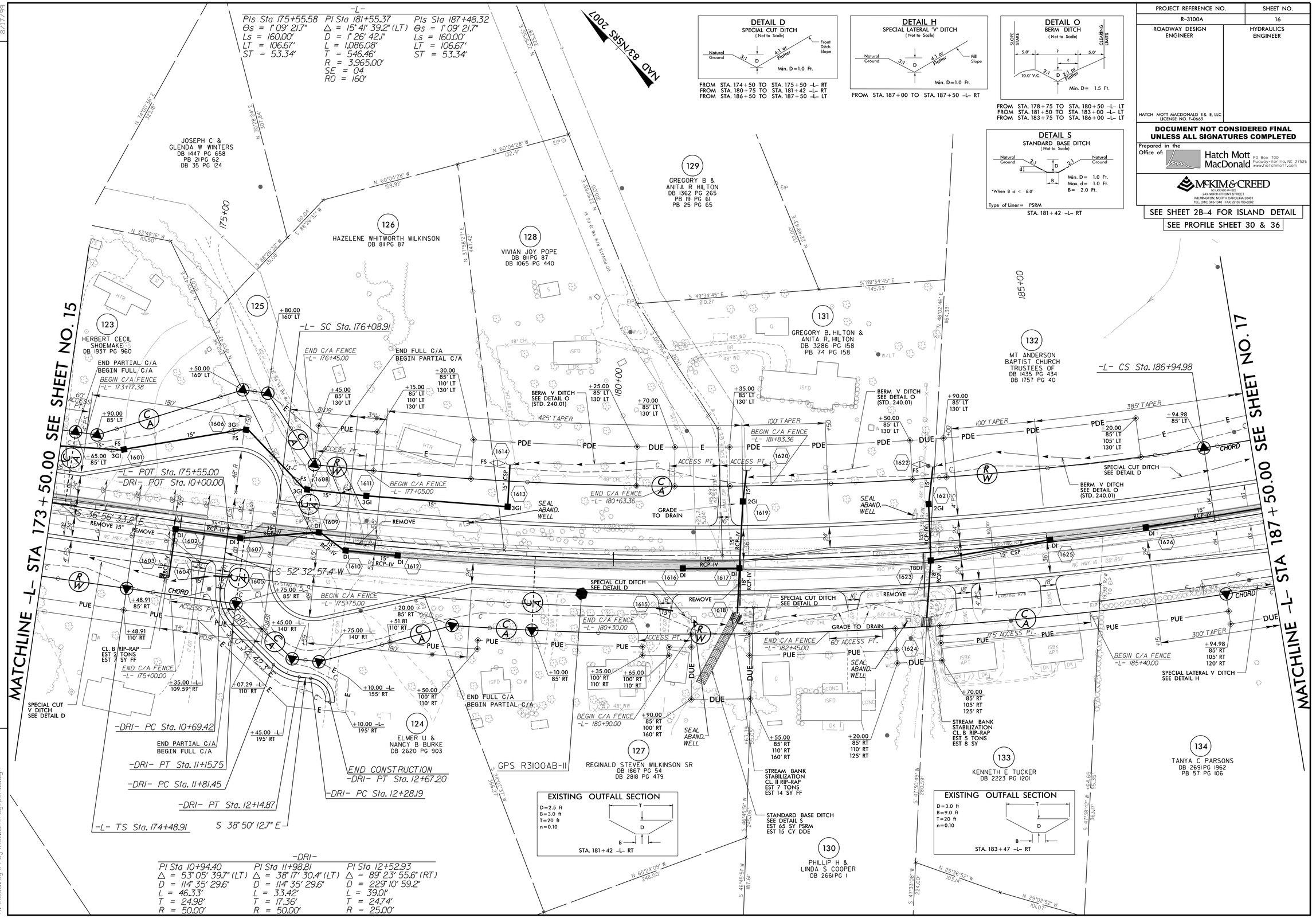
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 343-1546 FAX: (910) 790-4282

SEE SHEET 2B-4 FOR ISLAND DETAIL

SEE PROFILE SHEET 30 & 36

DATE: 6-16-2015 - INCREASED PUE ON PARCEL 127
DATE: 9-25-2015 - CHANGED PDE TO DUE ON PARCELS 128, 131 & 132; REVISED PROPERTY LINES AND CHANGED PROPERTY OWNER NAMES ON PARCEL 131 TO GREGORY B. HILTON & ANITA R. HILTON

8/17/99



DETAIL D
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D=1.0 Ft.
FROM STA. 174+50 TO STA. 175+50 -L- RT
FROM STA. 180+75 TO STA. 181+42 -L- RT
FROM STA. 186+50 TO STA. 187+50 -L- LT

DETAIL H
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Fill Slope
Min. D=1.0 Ft.
FROM STA. 187+00 TO STA. 187+50 -L- RT

DETAIL O
BERM DITCH
(Not to Scale)
SLOPE STAKE, CLEARING LIMITS, 5.0', ?, 10.0' V.C., 2:1, D, 2:1 or Flatter
Min. D= 1.5 Ft.
FROM STA. 178+75 TO STA. 180+50 -L- LT
FROM STA. 181+50 TO STA. 183+00 -L- LT
FROM STA. 183+75 TO STA. 186+00 -L- LT

DETAIL S
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 2:1, d, D, B
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 2.0 Ft.
*When B is < 6.0'
Type of Liner= PSRM
STA. 181+42 -L- RT

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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Prepared in the Office of: Hatch Mott MacDonald, PO Box 700, Fuquay-Varina, NC 27526, www.hatchmott.com

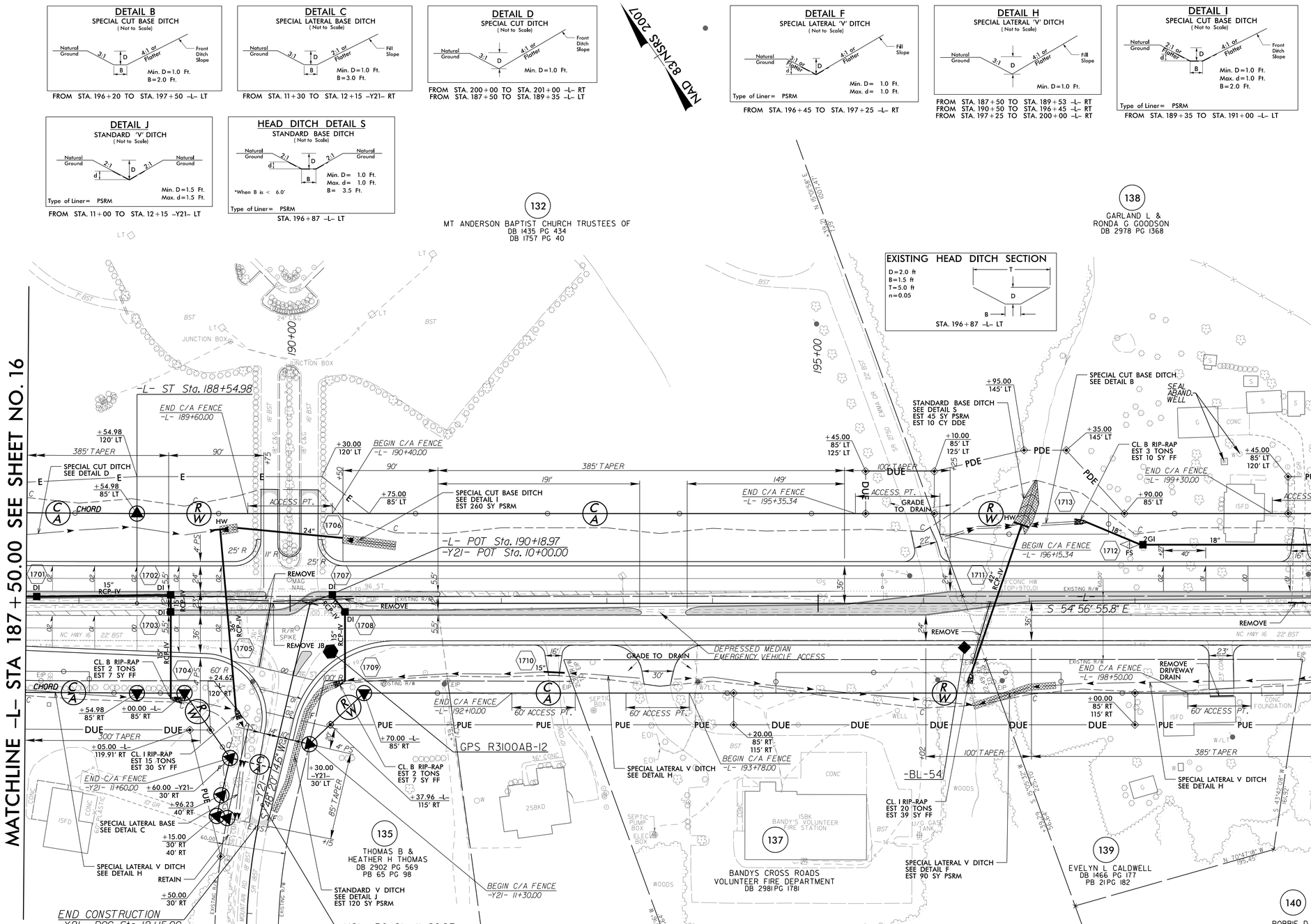
McKIM & CREED
NC LICENSE #F-0112
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1544 FAX. (910) 790-0202

SEE SHEET 2B-5 FOR ISLAND DETAIL
SEE PROFILE SHEET 30 & 35

REVISIONS

DATE: 5-7-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 140
DATE: 6-16-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-27-2015 FOR PARCEL 135 & 136
DATE: 7-14-2015 - PARCEL 137: UPDATED TOPO AND SHIFTED DRIVEWAY & DEPRESSED MEDIAN AROUND STA. 193+50 -L-; ADDED ACCESS POINT FROM STA. 193+18.00 TO STA. 193+78.00 ON -L-.

8/17/99



-L-

PI Sta 181+55.37
Δ = 15° 41' 39.2" (LT)
D = 1° 26' 42.1"
L = 1,086.08'
T = 546.46'
R = 3,965.00'
SE = 04
RO = 160'

PIs Sta 187+48.32
Θs = 1° 09' 21.7"
Ls = 160.00'
LT = 106.67'
ST = 53.34'

-Y21-

PI Sta 13+06.46
Δ = 21° 46' 49.5" (LT)
D = 9° 59' 58.9"
L = 217.81'
T = 110.24'
R = 572.98'

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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McKIM & CREED, ENGINEERS-ARCHITECTS-SURVEYORS, 243 NORTH FRONT STREET, WILMINGTON, NORTH CAROLINA 28401, TEL: (910) 343-1246 FAX: (910) 790-4282

SEE SHEET 2B-5 FOR ISLAND DETAIL

SEE PROFILE SHEET 31 & 35

NAD 83/NSRS 2007

BM#19 -BL- STA 411+32 392'LT ELEV.=1023.86'

DETAIL B
SPECIAL CUT BASE DITCH (Not to Scale)

Natural Ground, 3:1, D, B, 4:1 or Flatter, Front Ditch Slope. Min. D=1.0 Ft. B=3.0 Ft.

FROM STA. 212+00 TO STA. 214+00 –L– LT

DETAIL D
SPECIAL CUT DITCH (Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Front Ditch Slope. Min. D=1.0 Ft.

FROM STA. 201+00 TO STA. 201+75 –L– RT
FROM STA. 203+50 TO STA. 206+00 –L– RT
FROM STA. 208+00 TO STA. 211+00 –L– LT
FROM STA. 213+25 TO STA. 213+50 –L– RT
FROM STA. 12+10 TO STA. 13+30 –Y22– RT

DETAIL E
SPECIAL LATERAL BASE DITCH (Not to Scale)

Natural Ground, 3:1, d, D, B, 4:1 or Flatter, Fill Slope. Min. D=1.0 Ft. Max. d=1.0 Ft. B=3.0 Ft. Type of Liner= PSRM

FROM STA. 214+00 TO STA. 215+00 –L– LT

DETAIL F
SPECIAL LATERAL 'V' DITCH (Not to Scale)

Natural Ground, 3:1 or Flatter, d, D, 4:1 or Flatter, Fill Slope. Min. D= 1.0 Ft. Max. d= 1.0 Ft. Type of Liner= PSRM

FROM STA. 208+85 TO STA. 209+75 –L– RT

DETAIL G
SPECIAL CUT DITCH (Not to Scale)

Natural Ground, 3:1 or Flatter, d, D, 4:1 or Flatter, Front Ditch Slope. Min. D=1.0 Ft. Max d=1.0 Ft. Type of Liner= PSRM

FROM STA. 202+50 TO STA. 203+50 –L– RT
FROM STA. 209+75 TO STA. 210+25 –L– RT

DETAIL H
SPECIAL LATERAL 'V' DITCH (Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Fill Slope. Min. D=1.0 Ft.

FROM STA. 201+75 TO STA. 202+50 –L– RT
FROM STA. 210+25 TO STA. 213+25 –L– RT
FROM STA. 213+50 TO STA. 215+00 –L– RT

DETAIL J
STANDARD 'V' DITCH (Not to Scale)

Natural Ground, 2:1, d, D, 2:1, Natural Ground. Min. D= 1.0 Ft. Max. d= 1.0 Ft. Type of Liner= PSRM

FROM STA. 12+10 TO STA. 13+30 –Y22– LT

DETAIL O
BERM DITCH (Not to Scale)

SLOPE STAKE, 5.0', ?, ?, 5.0', CLEARING LIMITS, 10.0' V.C., 2:1, D, 2:1 or Flatter. Min. D= 1.5 Ft.

FROM STA. 206+70 TO STA. 208+00 –L– LT

DETAIL O1
BERM DITCH (Not to Scale)

SLOPE STAKE, 5.0', ?, ?, 5.0', CLEARING LIMITS, 10.0' V.C., 2:1, D, VAR, d, Geotextile. Min. D= 1.0 Ft. Max. d= 1.0 Ft. Type of Liner= PSRM

FROM STA. 203+00 TO STA. 205+50 –L– LT
FROM STA. 12+70 TO STA. 13+00 –Y22– LT

MATCHLINE –L– STA 201+00.00 SEE SHEET NO. 17

MATCHLINE –L– STA 215+00.00 SEE SHEET NO. 19

-BY22-119
-Y22- POT Sta. 9+00.00
RETAIN
166 MARY E SHERF DB 1791 PG 105
-Y22- PC Sta. 10+36.71
BEGIN CONSTRUCTION -Y22- POT Sta. 11+10.00
S 65°58'28" W
N 63°26'47" W 369.70'
END C/A FENCE -Y22- 12+70.00
BEGIN C/A FENCE -Y22- 12+70.00
STANDARD V DITCH SEE DETAIL J EST 95 SY PSRM
142 PAUL G & DEBORAH G THOMPSON DB 1158 PG 489
30' ACCESS EASEMENT DB 1158 PG 489
-Y22- PT Sta. 13+11.31
145 LITTLE MOUNTAIN AIRPORT ASSOCIATES INC DB 1388 PG 582 DB 1586 PG 850 DB 2465 PG 1762 DB 2605 PG 1854 DB 2701 PG 579
SPECIAL CUT DITCH SEE DETAIL D
141 NCDOT DB 2673 PG 1977
BERM V DITCH SEE DETAIL O1 (STD. 240.01) EST 155 SY PSRM
BERM V DITCH SEE DETAIL O (STD. 240.01)
300' TAPER
END C/A FENCE -L- 210+65.00
SPECIAL CUT DITCH SEE DETAIL D
ACCESS PT.
CHORD
BEGIN C/A FENCE -L- 211+25.00
SPECIAL CUT BASE DITCH SEE DETAIL B
SPECIAL LATERAL BASE DITCH SEE DETAIL E EST 65 SY PSRM
BEGIN C/A FENCE -L- 214+60.00
END C/A FENCE -L- 214+00.00
EX R/W 105' LT
ISFD
ISBKD
S 54°56'55.8" E
GRADE TO DRAIN
RETAIN
JB W/MH
-BL-55
-BL-56
385' TAPER
100' TAPER
60' ACCESS PT.
BEGIN C/A FENCE -L- 210+42.67
END C/A FENCE -L- 213+48.00
BEGIN C/A FENCE -L- 213+95.00
END C/A FENCE -L- 202+35.00
-L- POT Sta. 202+30.68
-Y22- POT Sta. 14+00.00
STREAM BANK STABILIZATION CL. II RIP-RAP EST 15 TONS EST 20 SY FF
SPECIAL LATERAL V DITCH SEE DETAIL H
SPECIAL CUT DITCH SEE DETAIL G EST 120 SY PSRM
ACCESS PT. -L- 203+90.00
ACCESS PT. -L- 204+50.00
BEGIN C/A FENCE -L- 206+05.00
END C/A FENCE -L- 207+72.62
RETAIN 18" AND HW
SPECIAL CUT DITCH SEE DETAIL G EST 55 SY PSRM
SPECIAL LATERAL V DITCH SEE DETAIL F EST 100 SY PSRM
STREAM BANK STABILIZATION CL. II RIP-RAP EST 5 TONS EST 8 SY FF
-L- TS Sta. 211+36.52
-L- SC Sta. 212+56.52
CL. B RIP-RAP EST 2 TONS EST 7 SY
SPECIAL LATERAL V DITCH SEE DETAIL H
SPECIAL CUT DITCH SEE DETAIL D
140 ROBBIE D & LESLEY A DAVIS DB 3216 PG 1032 PB 70 PG 160
143 MT ANDERSON BAPTIST CHURCH DB 467 PG 709 PB 21 PG 182
144 PATRICIA C LITTLE DB 2953 PG 641 PB 21 PG 182
146 JEREMIAH E BUFF DB 3062 PG 1487 PB 20 PG 38
147 JOSEPH EVERETT BAKER DB 2295 PG 357 PB 53 PG 119
148 BILLY D BUFF & JOY F BUFF DB 2295 PG 355 DB 2414 PG 1184 PB 53 PG 119
150 JOSEPH E & AMBER W BAKER DB 2295 PG 357 PB 53 PG 119

EXISTING OUTFALL SECTION
D=2.0 ft, B=2.0 ft, T=8.0 ft, n=0.08
STA. 202+50 –L– RT

EXISTING HEAD DITCH SECTION
D=4.0 ft, B=2.0 ft, T=25 ft, n=0.08
STA. 206+36 TO 207+15 –L– RT

–Y22–
PI Sta 11+75.55
Δ = 20° 53' 56.9" (RT)
D = 7° 36' 38.8"
L = 274.60'
T = 138.84'
R = 752.83'

–L–
PIs Sta 212+16.52
Θs = 0° 31' 49.9"
Ls = 120.00'
LT = 80.00'
ST = 40.00'

PI Sta 215+55.88
Δ = 5° 17' 24.0" (LT)
D = 0° 53' 03.1"
L = 598.29'
T = 299.36'
R = 6,480.00'
SE = 03
RO = 120'

REVISIONS

DATE: 5-7-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 2-19-2015 FOR PARCEL 146
DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 3-5-2015 FOR PARCEL 140
DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 FOR PARCEL 143, 146 & 148
DATE: 6-16-2015 – R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-10-2015 FOR PARCEL 146 & 148

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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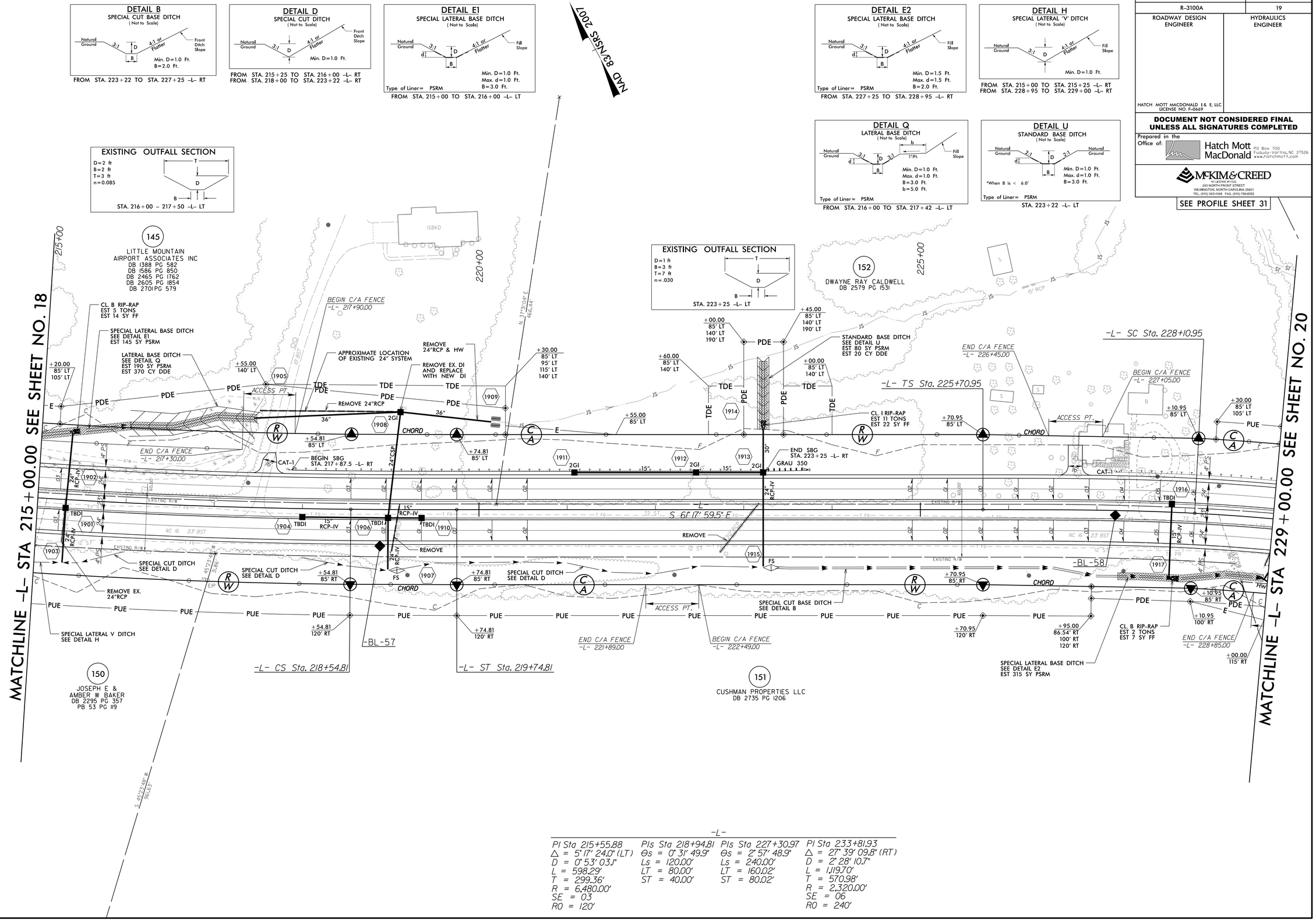
McKIM & CREED
NC LICENSE #F-0122
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1345 FAX. (910) 790-4282

SEE PROFILE SHEET 31



-L-

PI Sta 215+55.88	PIs Sta 218+94.81	PIs Sta 227+30.97	PI Sta 233+81.93
Δ = 5° 17' 24.0" (LT)	Θs = 0° 31' 49.9"	Θs = 2° 57' 48.9"	Δ = 27° 39' 09.8" (RT)
D = 0° 53' 03.1"	Ls = 120.00'	Ls = 240.00'	D = 2° 28' 10.7"
L = 598.29'	LT = 80.00'	LT = 160.02'	L = 1,119.70'
T = 299.36'	ST = 40.00'	ST = 80.02'	T = 570.98'
R = 6,480.00'			R = 2,320.00'
SE = 03			SE = 06
RO = 120'			RO = 240'

REVISIONS

DATE: 7-14-2015 - PARCEL 151: ADDED ACCESS POINT FROM STA. 221+89.00 TO STA. 222+49.00 ON -L-.

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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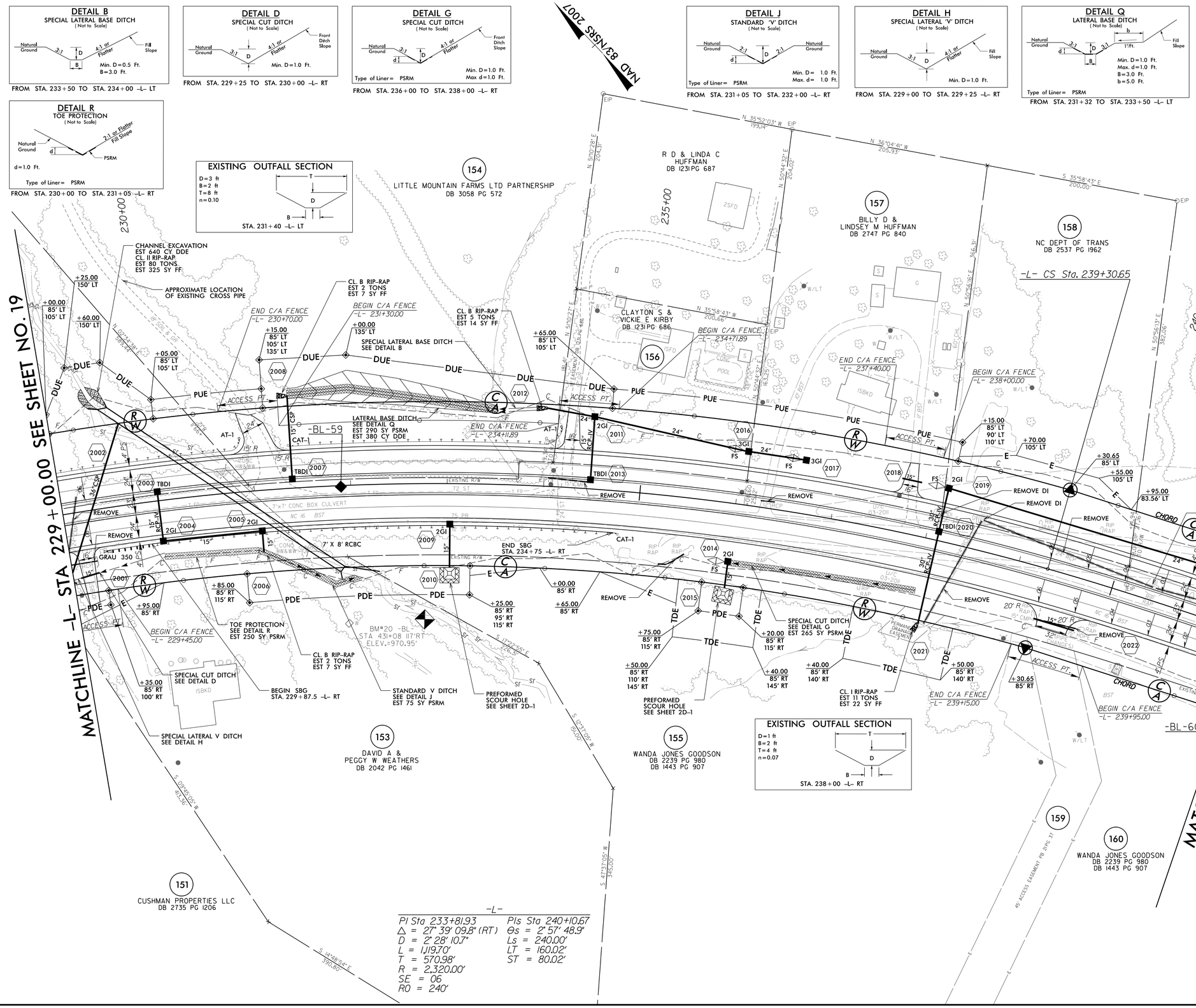
McKIM & CREED
ENGINEERING • PLANNING
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1544 FAX. (910) 790-4202

SEE PROFILE SHEET 32



DATE: 6-16-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 CHANGE PARCEL 161 TO PARCEL 154
DATE: 2-5-2016 - PARCEL 157: ACCESS POINT -L- STA. 236+10.00 TO 236+70.00 LT MOVED TO -L- STA. 237+40.00 TO 238+00.00 LT

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
HATCH MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	

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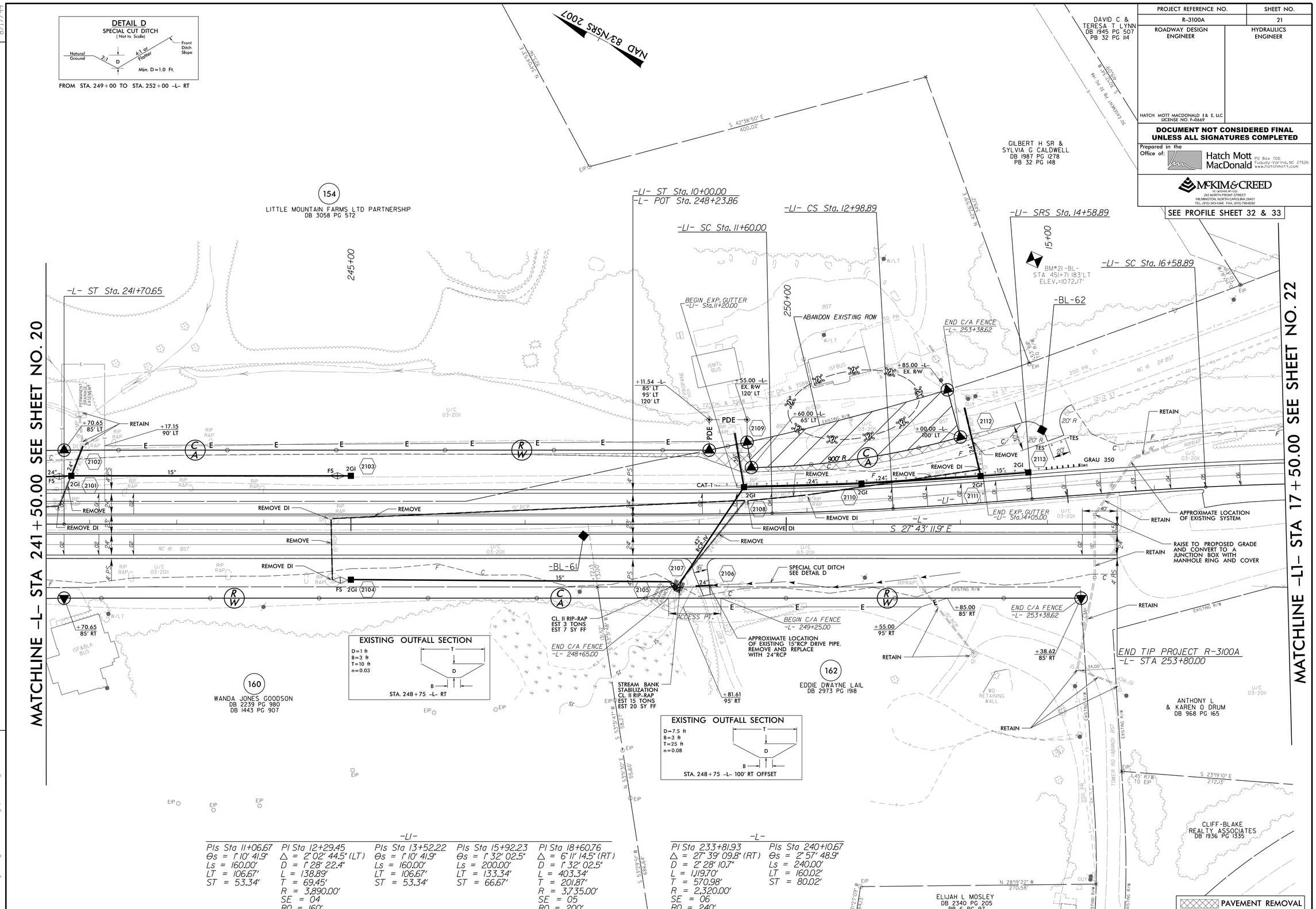
McKIM & CREED, NC LICENSE #F-0112, 243 NORTH FRONT STREET, WILMINGTON, NORTH CAROLINA 28401, TEL. (910) 343-1568 FAX. (910) 790-4282

SEE PROFILE SHEET 32 & 33



-L1-

PIs Sta 11+06.67	PI Sta 12+29.45	PIs Sta 13+52.22	PIs Sta 15+92.23	PI Sta 18+60.76
Θs = 1° 10' 41.9"	Δ = 2° 02' 44.5" (LT)	Θs = 1° 10' 41.9"	Θs = 1° 32' 02.5"	Δ = 6° 11' 14.5" (RT)
Ls = 160.00'	D = 1° 28' 22.4"	Ls = 160.00'	Ls = 200.00'	D = 1° 32' 02.5"
LT = 106.67'	L = 138.89'	LT = 106.67'	LT = 133.34'	L = 403.34'
ST = 53.34'	T = 69.45'	ST = 53.34'	ST = 66.67'	T = 201.87'
	R = 3,890.00'			R = 3,735.00'
	SE = 04			SE = 05
	RO = 160'			RO = 200'

-L-

PI Sta 233+81.93	PIs Sta 240+10.67
Δ = 27° 39' 09.8" (RT)	Θs = 2° 57' 48.9"
D = 2° 28' 10.7"	Ls = 240.00'
L = 1,119.70'	LT = 160.02'
T = 570.98'	ST = 80.02'
R = 2,320.00'	
SE = 06	
RO = 240'	

DATE: 6-16-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-21-2015 FOR PARCEL 154 & 161

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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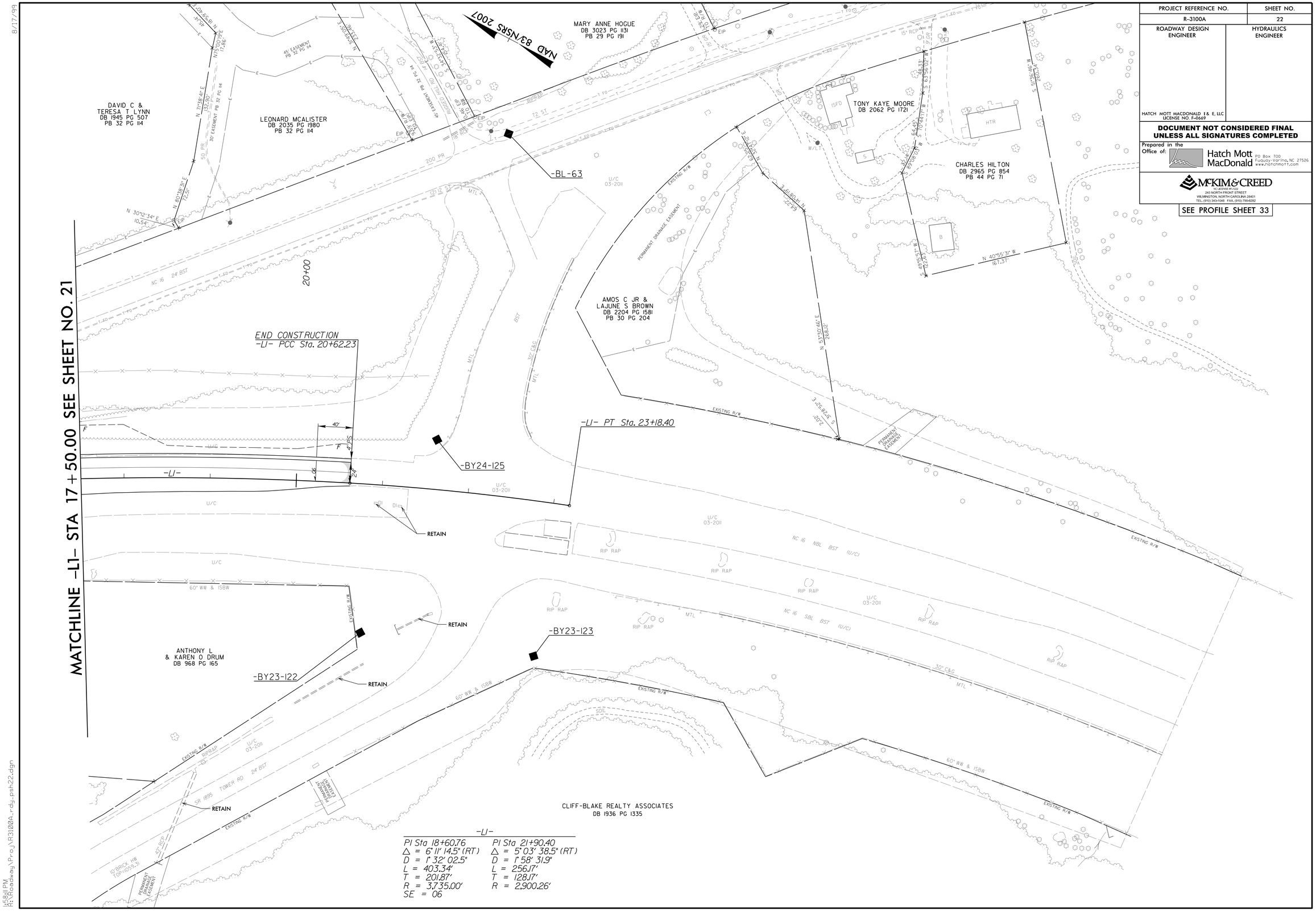
McKIM & CREED
NC LICENSE #F-0112
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL: (910) 343-1548 FAX: (910) 790-4282

SEE PROFILE SHEET 33



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PROJECT REFERENCE NO.	SHEET NO.
R-3100A	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HATCH MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

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McKIM & CREED
ENGINEERING • SURVEYING
243 NORTH FRONT STREET
WILMINGTON, NORTH CAROLINA 28401
TEL. (910) 343-1046 FAX. (910) 790-0202

SEE PROFILE SHEET 34

REVISIONS

DATE: 1-30-2015 - PARCEL 70: REMOVED PARCEL 070. PROPERTY OWNER FOR PARCEL 071 NOW OWNS ALL PROPERTY INVOLVED WITH EASEMENT.
DATE: 4-16-2015 - R/W REVISION REQUEST FOR PLAN CHANGES DURING THE INITIAL CONTACTS SUBMITTED ON 4-10-2015 FOR PARCEL 060 & 060B

8/17/99

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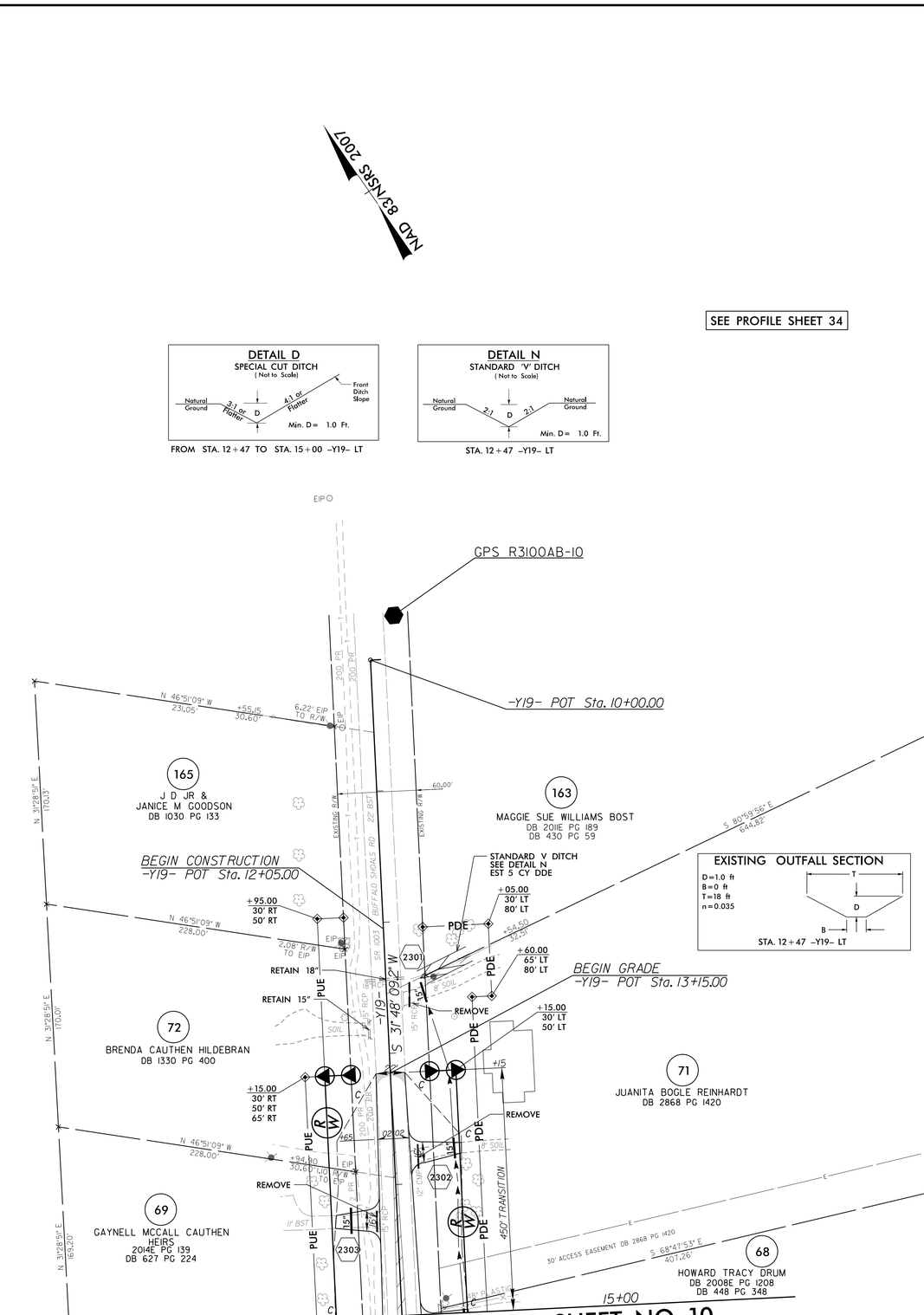
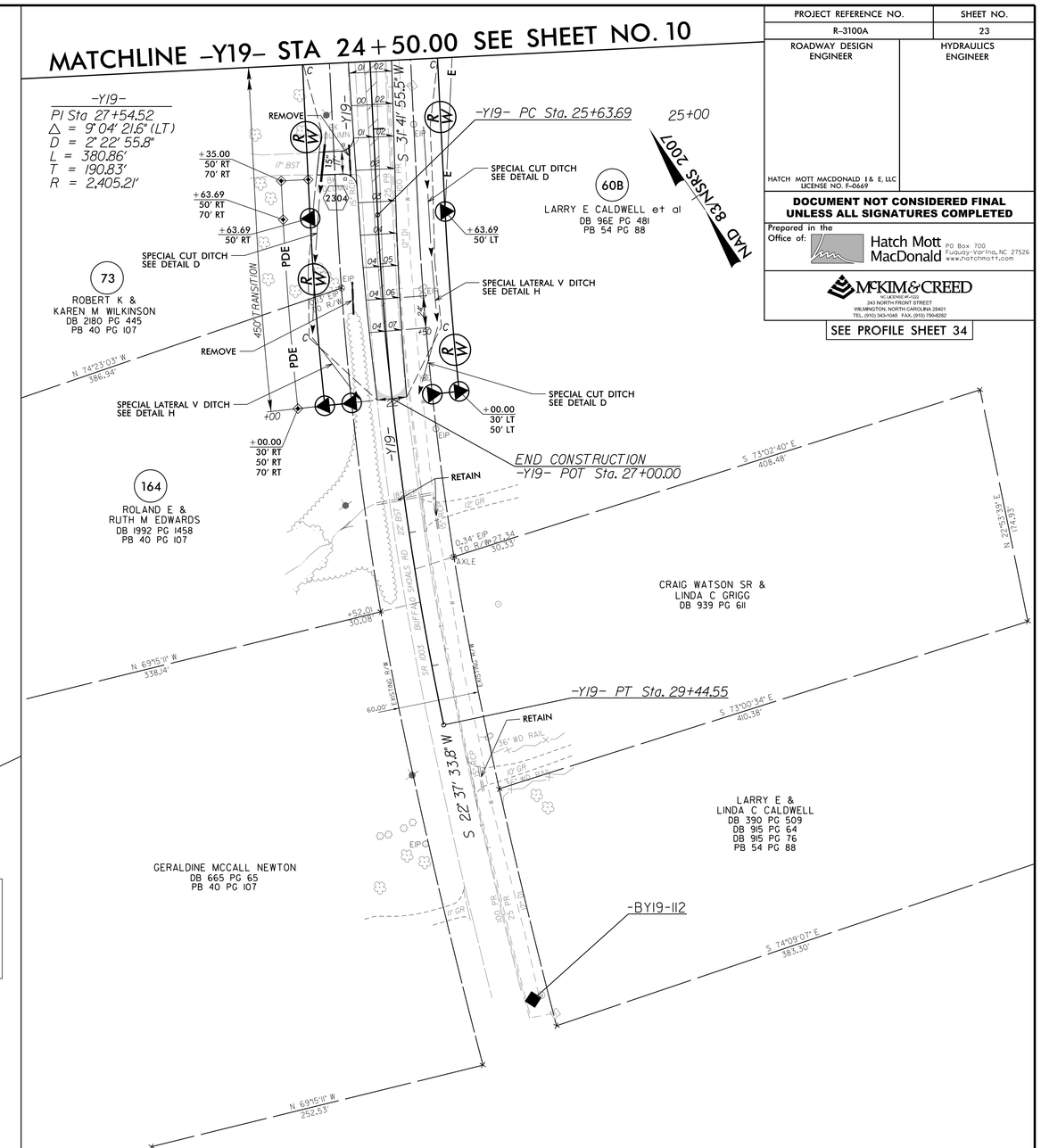




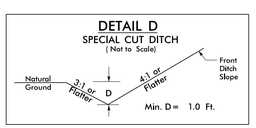
DETAIL D
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 12+47 TO STA. 15+00 -Y19- LT

DETAIL N
STANDARD 'V' DITCH
(Not to Scale)

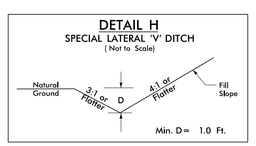
STA. 12+47 -Y19- LT

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 25+00 TO STA. 25+75 -Y19- LT
FROM STA. 26+75 TO STA. 27+00 -Y19- LT
FROM STA. 25+00 TO STA. 25+75 -Y19- RT

DETAIL H
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 25+75 TO STA. 26+75 -Y19- LT
FROM STA. 25+75 TO STA. 27+00 -Y19- RT