

COMPUTED BY: MRT DATE: 2-6-2008
 CHECKED BY: GSD DATE: 4-5-2008

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
GUARDRAIL SUMMARY

PROJECT REFERENCE NO. R-4425 SHEET NO. RAND-2

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
 W = TOTAL WIDTH OF FLARE FROM BEGIN

G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

Location (RANDOLPH Co.)	Field Reference	LENGTH				"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							IMPACT ATTENUATOR TYPE 350		REPLACE OFFSET BLOCKS	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS				
		STRAIGHT	SHOP CURVED		TRIPLE CORRUGATED			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III MOD	B-77	B-83	M-350	GRAU 350	CAT-1	AT-1							G	NG		
US311																												
	#35 US311-1																											Replace Structural Anchor Units and End Units
	#36 US311-2																											Replace End Units on Both sides.
	#37 US311-3	250				4	7																					Place New GR on both sides of road at Engineer's direction
	#38 US311-4	250				4	7																					Place New GR on both sides of road at Engineer's direction
	#39 US311-5																											Replace End Units
	#40 US311-6																											Replace End Units
	#41 US311-7	25																										Replace End Units and Damaged Rail.
	#42 US311-8	25																										Replace End Units and Damaged Rail.
	#43 US311-9																											Replace Structural Anchor Unit
	#44 US311-10																											Replace Structural Anchor Units and End Units
	#45 US311-11																											Replace End Unit on Trail end.
	#46 US311-12																											Replace End Unit on Trail end
	#47 US311-13																											Replace End Units.
	Subtotal	550																										
	Less Anchor Deductions	GRAU350 8 @ 50'	400																									
																												* Items included in anchor deductions
	US 311 Total	150																										
	US 220 NB																											
	#50																											Replace End Units.
	#51																											Replace End Unit
	#52																											Replace End Units.
	#53																											Replace End Units.
	#54																											Replace Approach End Unit
	#55																											Replace End Units.
	#56																											Replace End Units.
	#57																											Replace End Units.
	Outside Approach																											Replace Structural Anchor Unit
	Outside Trail																											Replace Structural Anchor Unit and End Unit
	Median Approach																											Replace Structural Anchor Unit and End Unit
	#59																											Replace End Units.
	#60																											Replace End Unit
	#61																											Replace End Units.
	#62																											Replace End Units.
	#63																											Replace End Units.
	#65																											Replace End Unit
	#66																											Replace End Unit
	#67																											Replace End Unit
	#69																											Replace Structural Anchor Unit and End Unit
	#70																											Replace End Unit
	#71																											Replace Median End Units around Piers
	#72																											Replace End Unit
	#73																											Replace Median End Units around Piers
	#74																											Replace End Units on On Ramp
	#75																											Replace End Units
	#76																											Replace End Units
	#77																											Replace End Units
	#78																											Replace Median End Units around Piers
	#79																											Replace End Units
	#80																											Replace Median End Units around Piers
	#81																											Replace Median End Units around Piers
	#82																											Replace Structural Anchor Unit and End Unit
	#83																											Replace End Units
	#84																											Replace End Unit
	Outside Approach																											Replace Structural Anchor Unit and End Unit
	Outside Trail																											Replace Structural Anchor Unit and End Unit
	Median Approach																											Replace Structural Anchor Unit and End Unit
	#85																											Replace End Units
	#86																											Replace End Units
	#87																											Replace End Units
	#89																											Replace damaged End Unit
	#90																											Replace End Units
	#91																											Replace damaged End Unit
	US 220 NB TOTAL	0																										
	TOTAL THIS SHEET	150																										

COMPUTED BY: MRT DATE: 2-6-2008
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PROJECT REFERENCE NO. SHEET NO.
R-4425 RAND-3

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
 W = TOTAL WIDTH OF FLARE FROM BEGIN

G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

Location (RANDOLPH Co.)	Field Reference	LENGTH				"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							IMPACT ATTENUATOR TYPE 350		REPLACE OFFSET BLOCKS	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS			
		STRAIGHT	SHOP CURVED		TRIPLE CORRUGATED			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III MOD	B-77	B-83	M-350	GRAU 350	CAT-1	AT-1							G	NG	
US 220 SB																											
#92																								12.5		Replace End Units	
#93																								12.5		Replace End Units	
#94																										Replace Trail End Unit	
#95																											
Outside Approach																								12.5		Replace Structural Anchor Unit and End Unit	
Outside Trail																										Replace Structural Anchor Unit and End Unit	
Median Approach																										Replace Structural Anchor Unit	
#96																								6.25		Replace Trail End Unit	
#97																								6.25		Replace Trail End Unit	
#98																											
Outside Approach																								12.5		Replace Structural Anchor Unit and End Unit	
Median Approach																										Replace Structural Anchor Unit	
#99																								18.75		Replace End Units	
#101																								18.75		Replace End Units	
#102																								18.75		Replace End Units	
#103																								18.75		Replace End Units	
#104																								12.5		Replace End Unit	
#105																								12.5		Replace End Unit	
#106																								18.75		Replace End Units	
#107																								12.5		Replace End Unit	
#108																								50		Replace Structural Anchor Unit and End Unit	
#110																								18.75		Replace End Units	
#111																								18.75		Replace End Units	
#113																										Replace Damaged End Unit	
#114																											
Outside Approach																								12.5		Replace Structural Anchor Unit and End Unit	
Outside Trail																										Replace Structural Anchor Unit	
Median Approach																								12.5		Replace Structural Anchor Unit and End Unit	
#115																								12.5		Replace End Units	
#118																								12.5		Replace End Units	
#119																								12.5		Replace End Units	
#120																								12.5		Replace End Units	
#121																								12.5		Replace Approach End Unit.	
US 220 SB Total		0																						368.75			
US 220 TOTAL		0																						950			

COMPUTED BY: MRT DATE: 2-6-2008
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PROJECT REFERENCE NO. R-4425 SHEET NO. RAND-4

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
GUARDRAIL SUMMARY

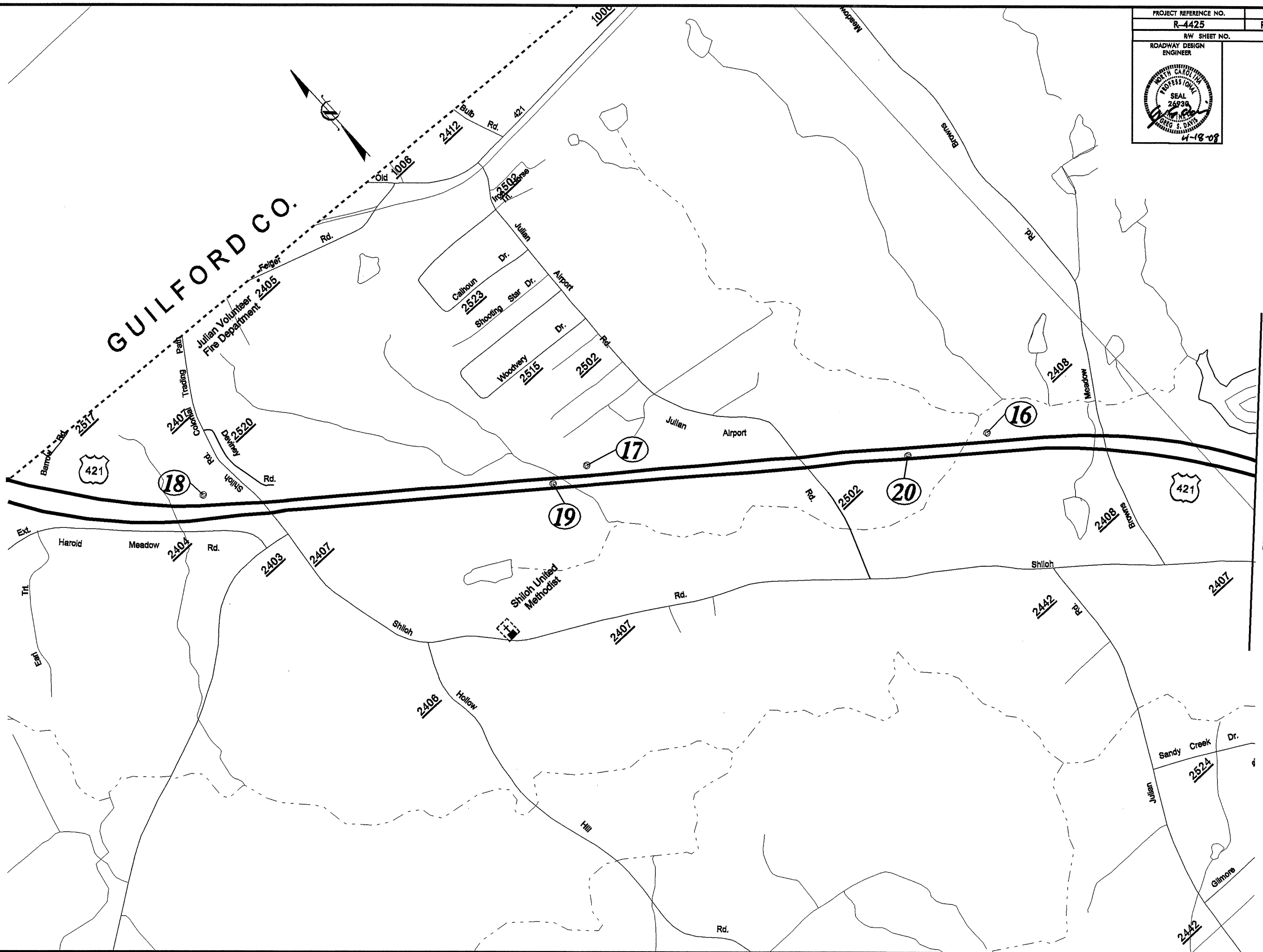
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
 W = TOTAL WIDTH OF FLARE FROM BEGIN

G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

Location (RANDOLPH Co.)	Field Reference	LENGTH				"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							IMPACT ATTENUATOR TYPE 350		REPLACE OFFSET BLOCKS	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS																									
		STRAIGHT	SHOP CURVED		TRIPLE CORRUGATED			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III MOD	B-77	B-83	M-350	GRAU 350	CAT-1	AT-1							G	NG																							
NC 49 SB																																																	
#125	NC49rs1	287.5																				200	Replace GR, EUs, and SAUs on Approaches																										
#126	NC49rs2	1000																				1000	Replace GR, EUs, and SAUs on Trails																										
#127	NC49rs3	1220																				1220	Replace GR and End Units																										
#128	NC49rs4	987.5																				983	Replace GR and End Units																										
#129	NC49rs5	400																					Place new GR and End Units																										
#131	NC49rs7	400																				400	Replace GR and End Units																										
#133	NC49rs9	212.5																					Place new GR and End Units																										
#134	NC49rs10	925																				925	Replace GR and End Unit on trail end.																										
#136	NC49rs12	362.5																					Place new GR and End Units																										
#137	NC49rs13	485																				435	Replace GR and End Units																										
#138	NC49rs14	500																				400	Replace GR and End Units, extend GR 100 feet																										
#139	NC49rs15	1075																				1075	Replace GR and End Units																										
#140	NC49rs16	525																					Place new GR and End Units																										
#142	NC49rs18	275																				225	Replace GR and End Units, extend GR 50'																										
#143	NC49rs19	525																				425	Replace GR and End Units, extend GR 100' to #144																										
#144	NC49rs20	200																				200	Replace GR and End Unit																										
#145	NC49rs21	550																				500	Replace GR and End Units, extend GR 50'																										
#147	NC49rs23	225																				225	Replace GR and End Units																										
#148	NC49rs24	425																				425	Replace GR, End Unit and Struct. Anchor Unit on approach																										
#149	NC49rs25	450																				450	Replace GR, End Unit and Struct. Anchor Unit on trail																										
#151	NC49rs27	112.5	75																			187	Replace GR, End Unit and Struct. Anchor Unit on approach																										
#152	NC49rs28	150																				150	Replace GR, End Unit and Struct. Anchor Unit on trail																										
#153	NC49rs29	250																				250	Replace GR and End Units																										
#154	NC49rs30	400																				400	Replace GR and End Units																										
#155	NC49rs31	500	50																			550	Replace GR and End Unit																										
#156	NC49rs32	550																				550	Replace GR and End Unit																										
#157	NC49rs33	225																					Place new GR and End Units																										
#158	NC49rs34	500																					Place new GR and End Units																										
#159	NC49rs35	150																					Place new GR and End Units																										
#160	NC49rs36	300																					Place new GR and End Units																										
#161	NC49rs37	300																					Place new GR and End Units																										
#162	NC49rs38	225																				225	Replace GR and End Unit																										
#163	NC49rs39	637.5																				637	Replace GR and End Unit																										
#164	NC49rs40	300																					Place new GR and End Units																										
#165	NC49rs41	225																					Place new GR and End Units																										
NC 49 SB Total		15855	125											8	0							2	51	9				12037																					
NC 49 NB																																																	
#166	NC49m42	300																					300	Replace GR and End Units																									
#167	NC49m43	500																					500	Replace GR and End Units																									
#168	NC49m44	400																					350	Replace GR and End Units, extend GR 50'																									
#169	NC49m45	350																					350	Replace GR and End Units																									
#170	NC49m46	525																					525	Replace GR and End Units																									
#171	NC49m47	450																						Place new GR and End Units																									
#172	NC49m48	650																						Place new GR and End Units																									
#173	NC49m49	200																						Place new GR and End Units																									
#174	NC49m50	325																					325	Replace GR and End Units																									
#175	NC49m51	575																					525	Replace GR and End Units, extend GR 50'																									
#176	NC49m52	325																						Place new GR and End Units																									
#177	NC49m53	675																						Place new GR and End Units																									
#178	NC49m54	600																					600	Place new GR and End Units																									
#179	NC49m55	300																					250	Replace GR and End Units, extend GR 50'																									
#180	NC49m56	375																					375	Replace GR and End Units																									
#181	NC49m57	500																					450	Replace GR and End Units, extend GR 50'																									
#182	NC49m58	550	100																				250	Replace GR and End Units, extend GR 400' up SR 1173																									
#183	NC49m59	175																					175	Replace GR, End Unit and Struct. Anchor Unit on approach																									
#184	NC49m60	137.5																					75	Replace GR, End Unit and Struct. Anchor Unit on trail																									
#185	NC49m61	425																						Place new GR and End Units																									
#186	NC49m62	612.5																					562	Replace GR, EU and SAU, extend 50' on approach																									
#187	NC49m63	425																					425	Replace GR, End Unit and Struct. Anchor Unit on trail																									
#188	NC49m64	250																					250	Replace GR and End Units																									
#189	NC49m65	500																					500	Replace GR and End Units																									
#190	NC49m66	750	50																					Place new GR and End Units																									
#191	NC49m66	475																					475	Replace GR and End Units																									
NC 49 NB Subtotal		11350	150											4	0							2	32	15	1			7262																					
TOTAL THIS SHEET		27205	275											12	0							2	83	24	1			19299																					

PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

GUILFORD CO.



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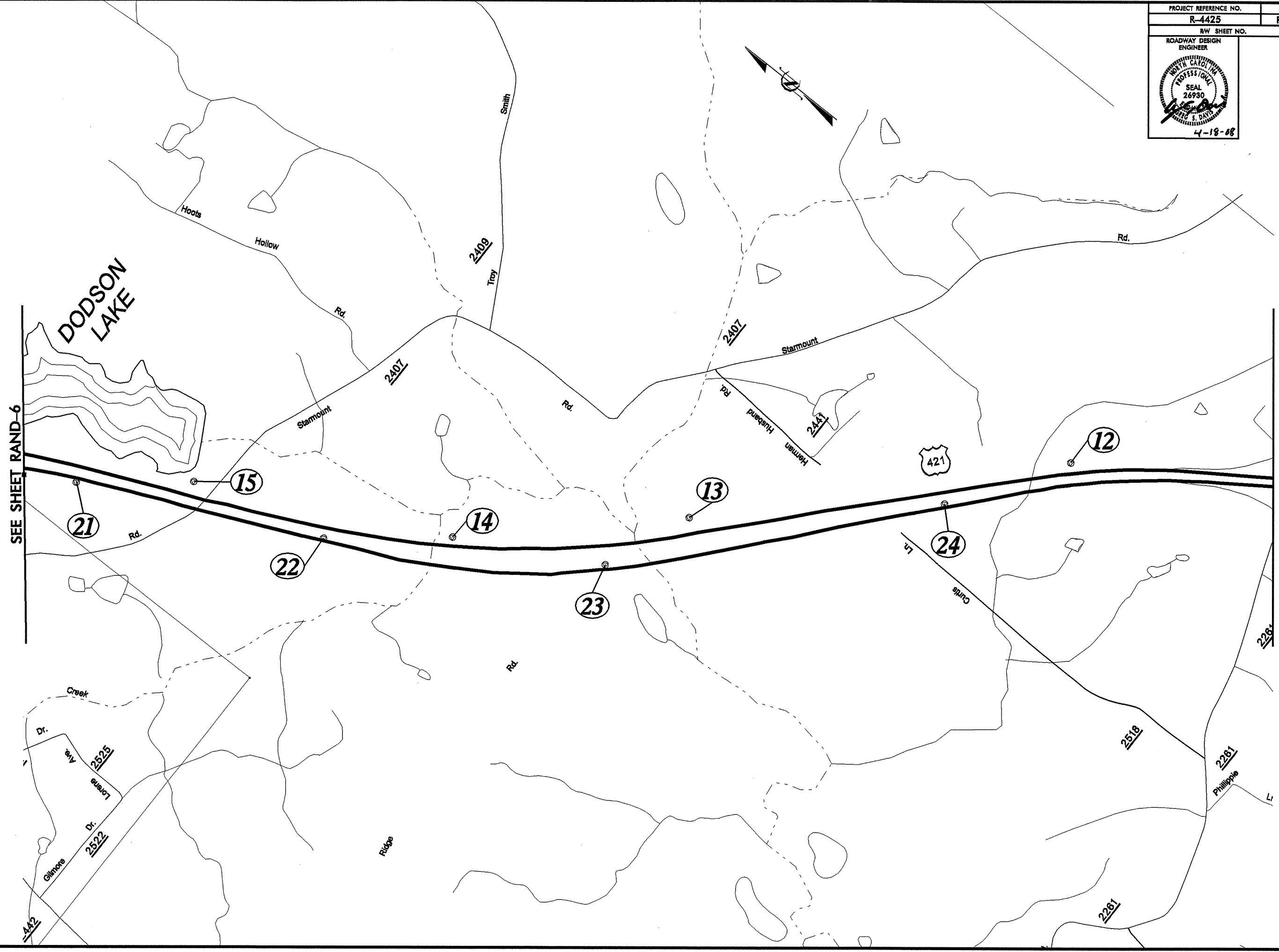
SEE SHEET RAND-7

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8/17/99

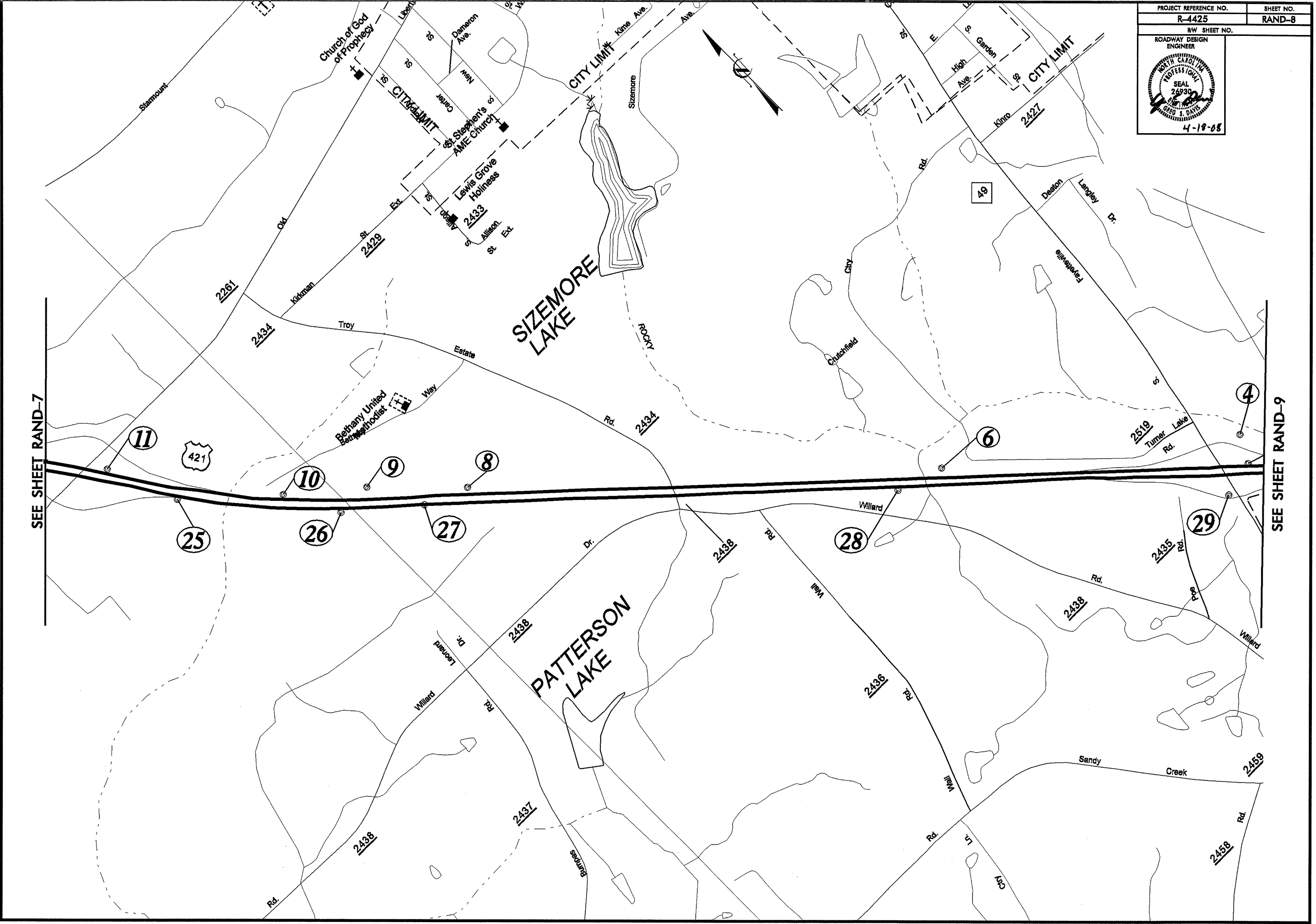
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	

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ROADWAY DESIGN ENGINEER	



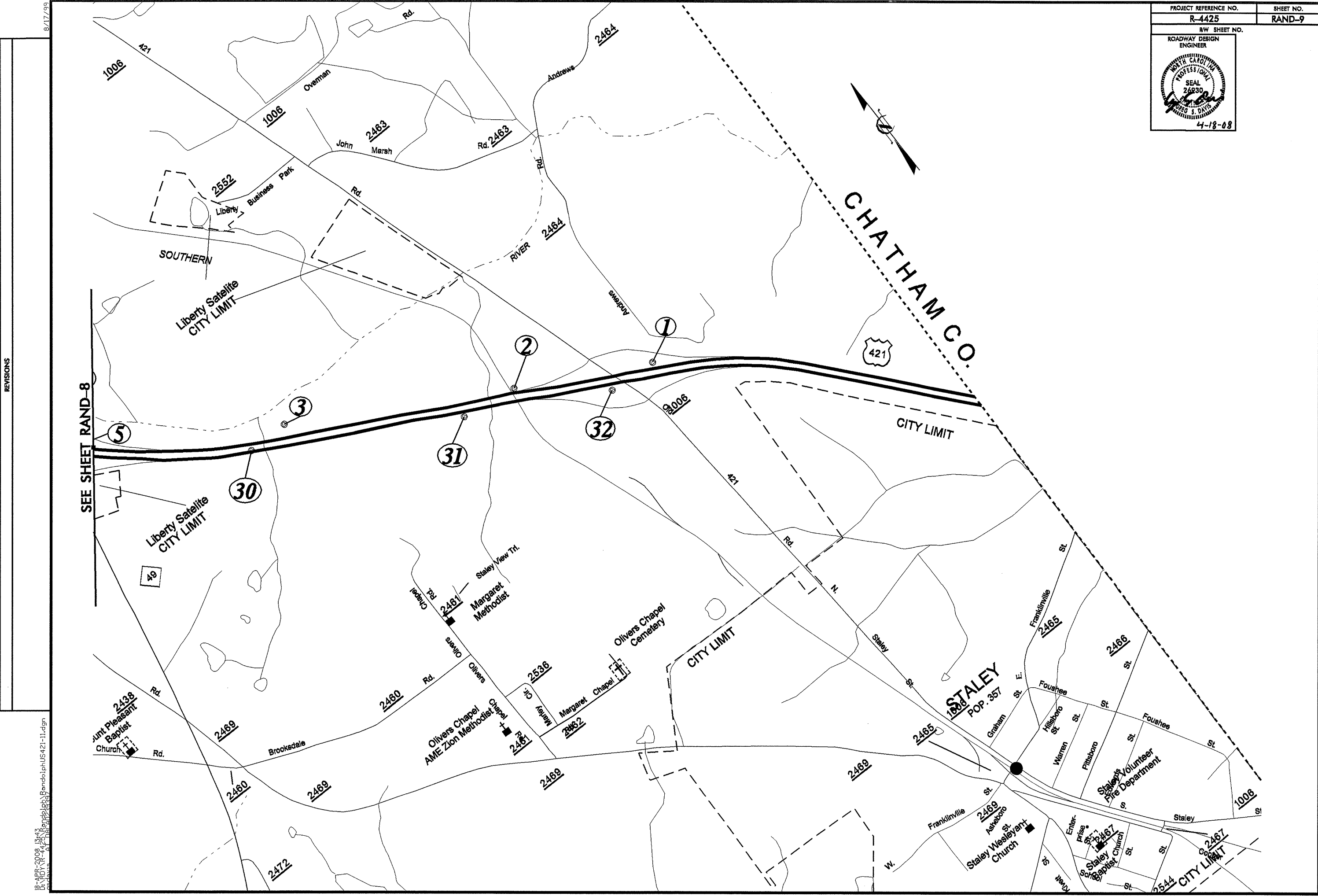
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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-9
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ROADWAY DESIGN ENGINEER	



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PROJECT REFERENCE NO.	SHEET NO.
R-4425	RAND-10
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DIVISION 8 DDC ENGINEER	

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SEE SHEET RAND-11



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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-11
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DIVISION 8 DDC ENGINEER	

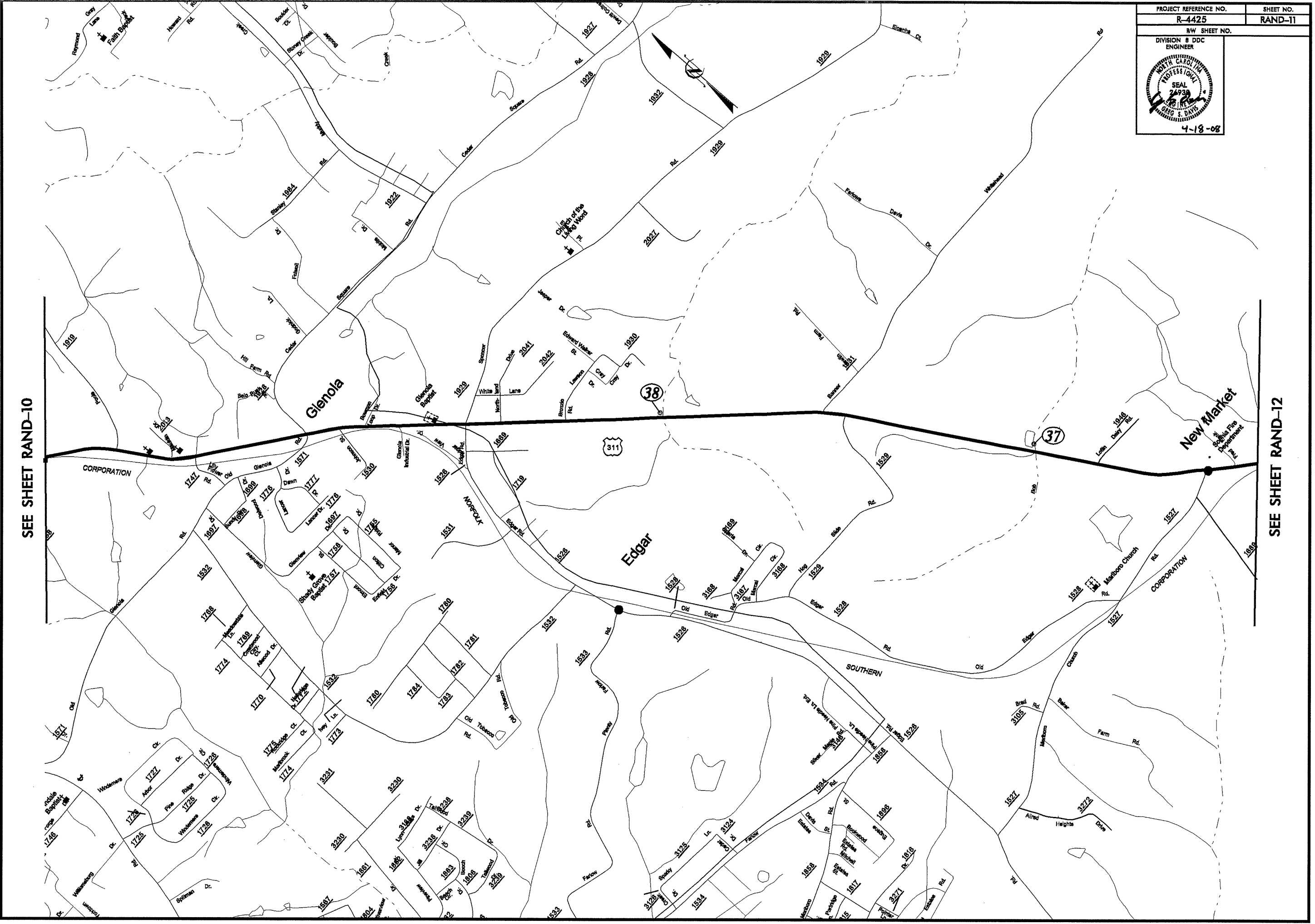
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SEE SHEET RAND-10

SEE SHEET RAND-12

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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-12
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DIVISION 8 DDC ENGINEER	

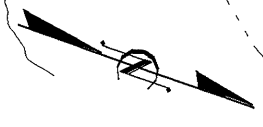


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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-13
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	



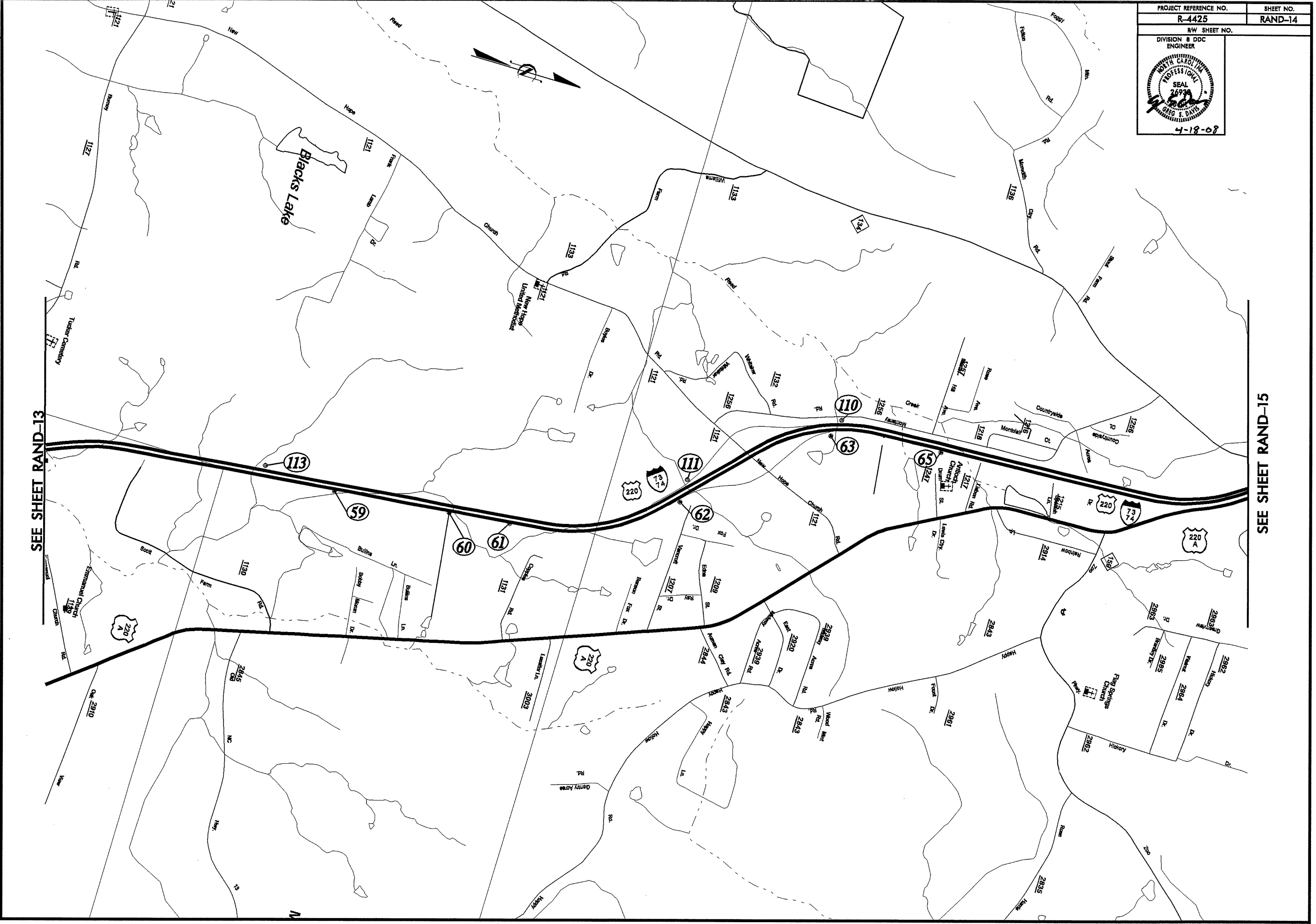
MONTGOMERY CO.

SEE SHEET RAND-14

REVISIONS

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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-14
R/W SHEET NO.	
DIVISION & DDC ENGINEER	




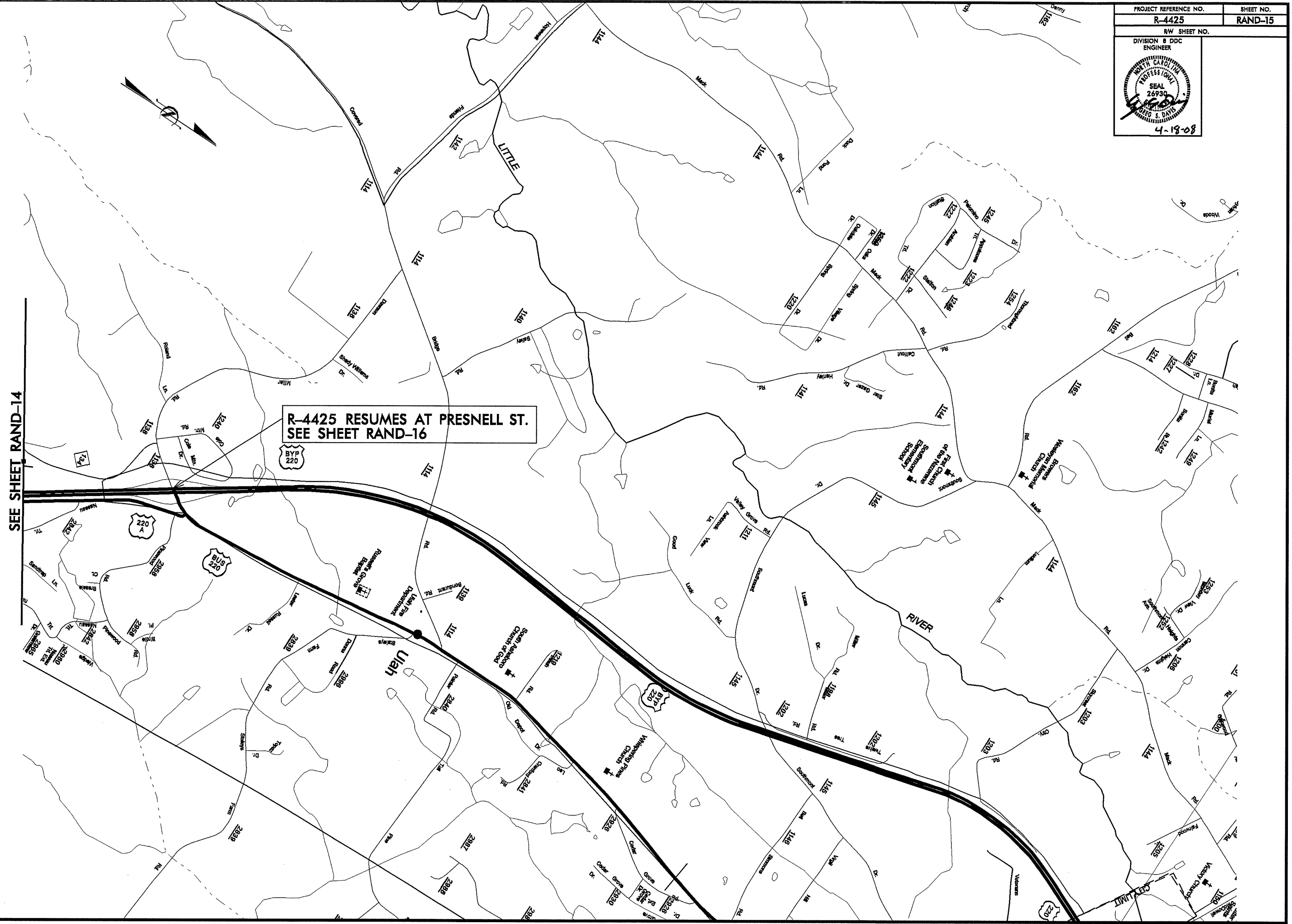
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SEE SHEET RAND-15

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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-15
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	
	
4-18-08	



**R-4425 RESUMES AT PRESNELL ST.
SEE SHEET RAND-16**

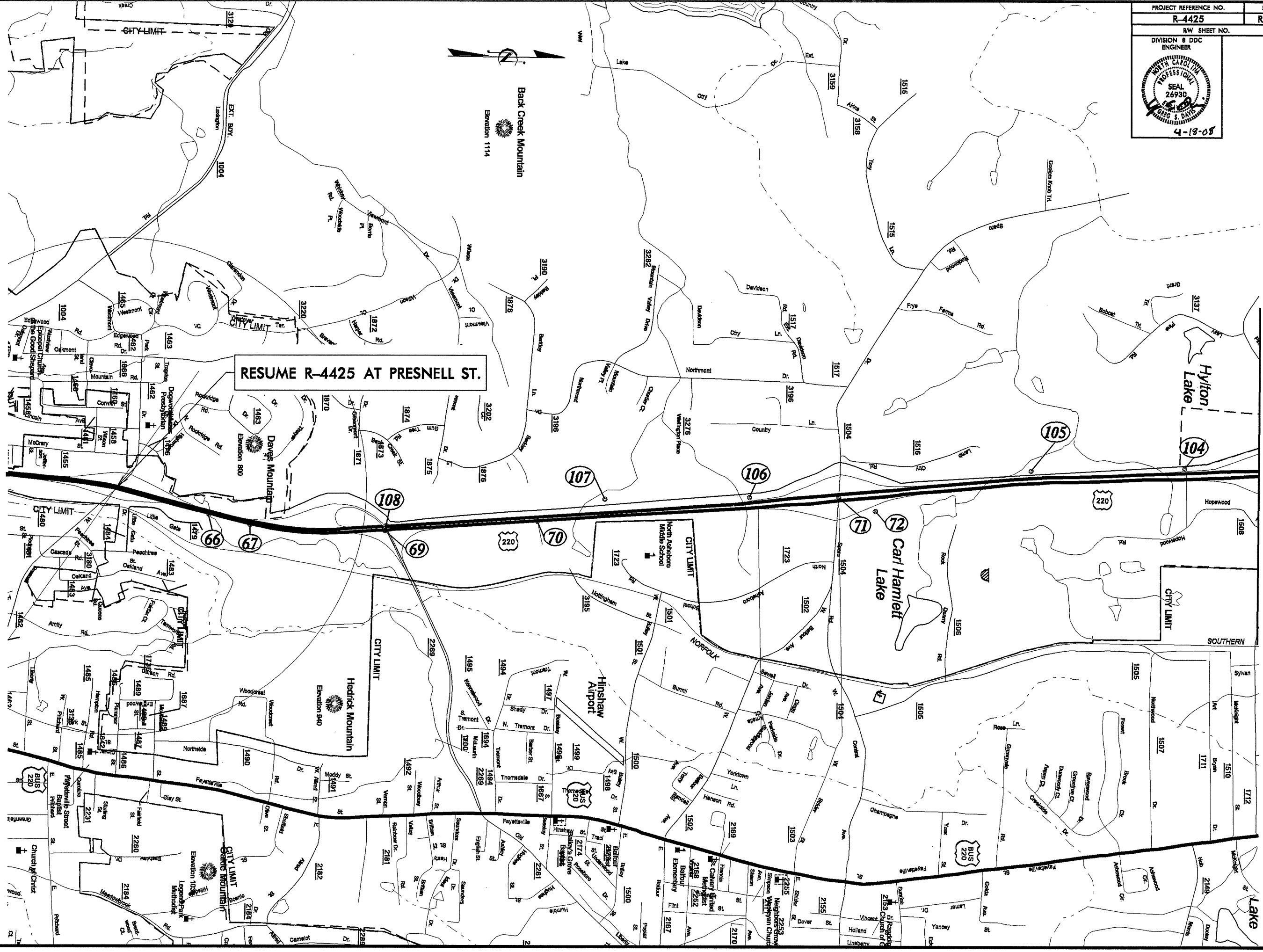
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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-16
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	

SEE SHEET RAND-15



RESUME R-4425 AT PRESNELL ST.



Back Creek Mountain
Elevation 1114

Dave's Mountain
Elevation 800

Hedrick Mountain
Elevation 840

Hinsshaw Airport

Carl Hamlett
Lake

Hylton
Lake

Lake

66/2178

ufp-22-22022010pue8
20180506
2017-2018-16
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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-18
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	



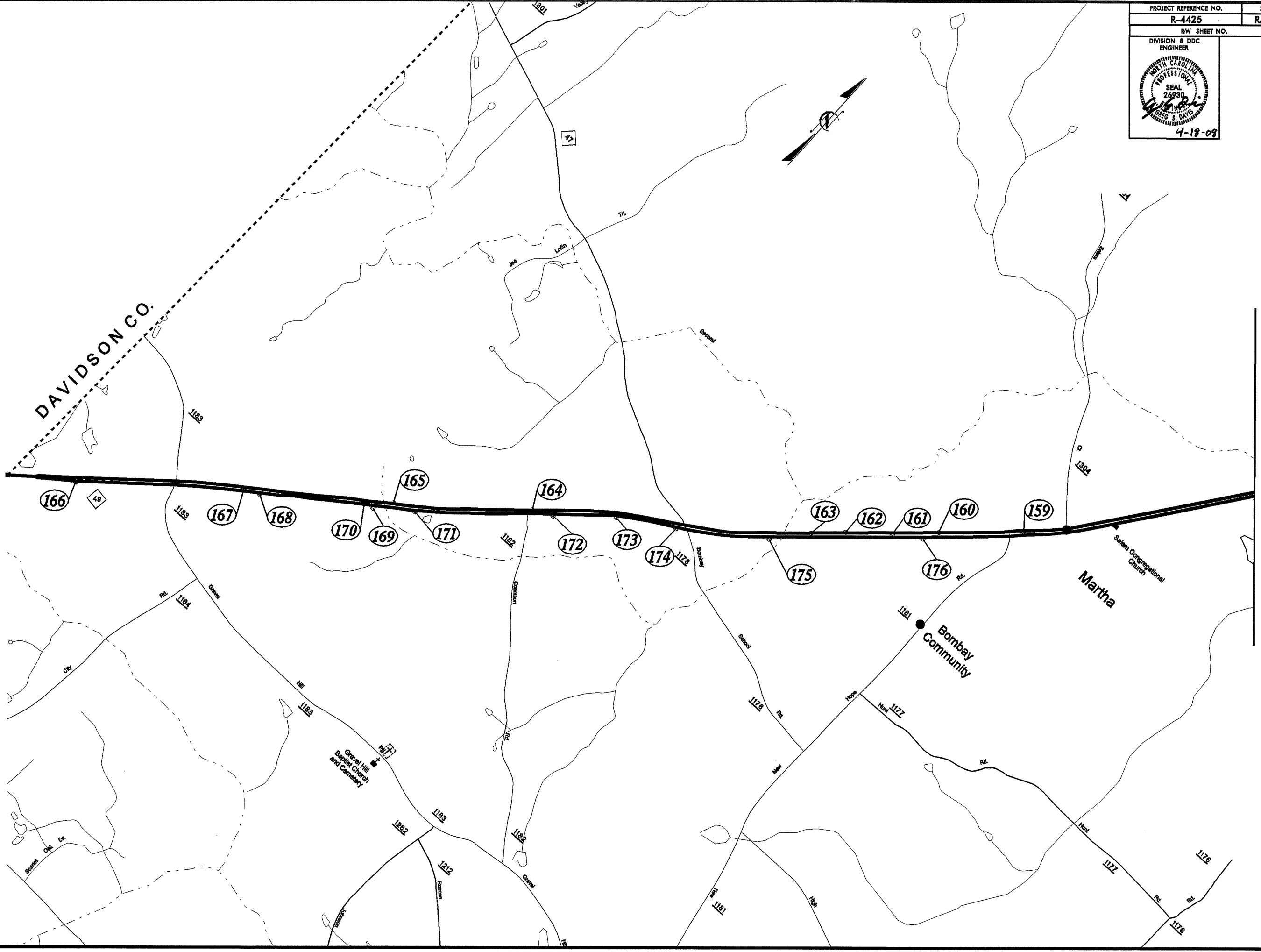
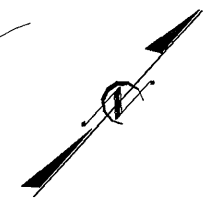
SEE SHEET RAND-17

SEE SHEET RAND-19

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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-20
R/W SHEET NO.	
DIVISION 8 DDC ENGINEER	

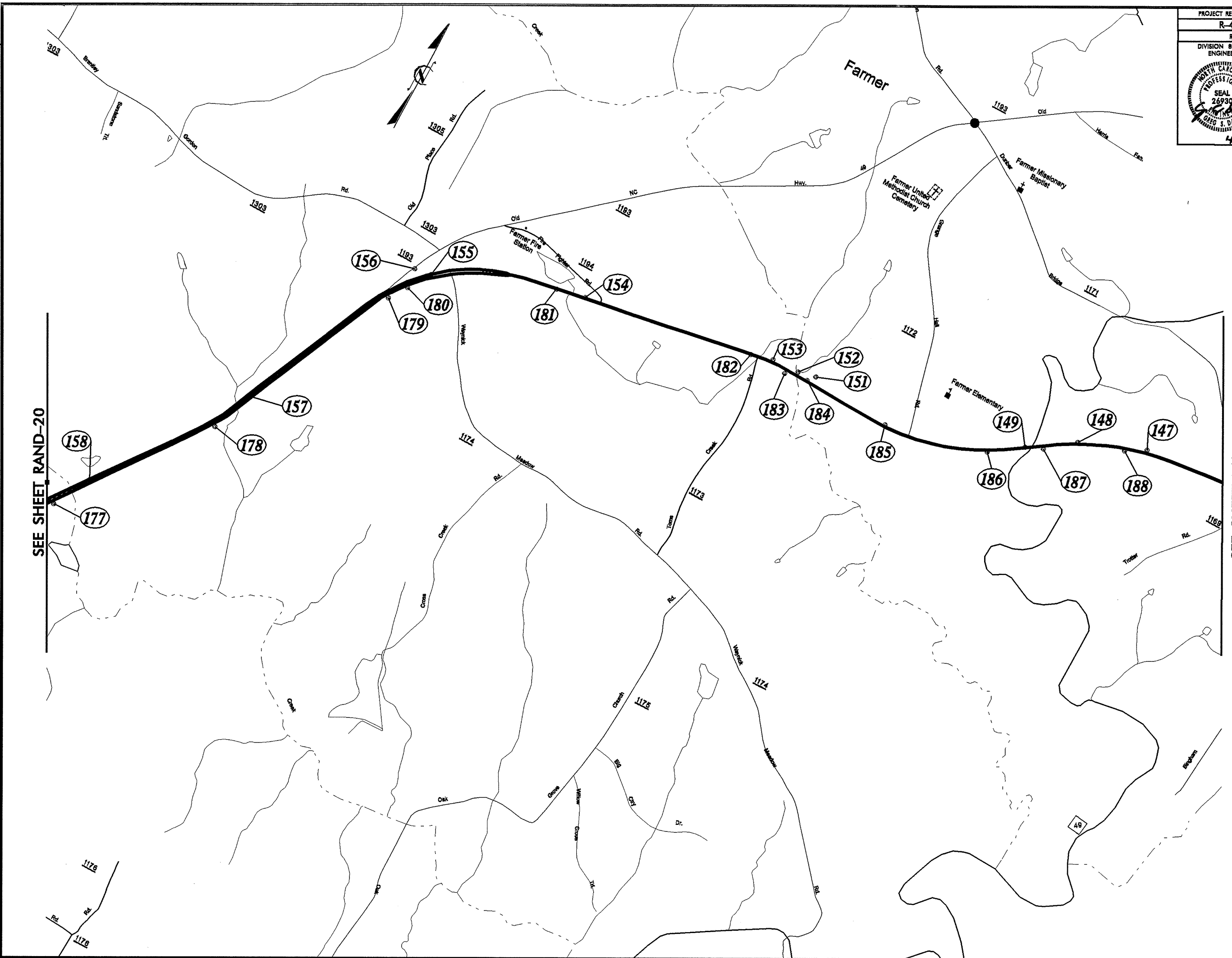


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SEE SHEET RAND-21

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PROJECT REFERENCE NO. R-4425	SHEET NO. RAND-21
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	



SEE SHEET RAND-20

SEE SHEET RAND-22

REVISIONS

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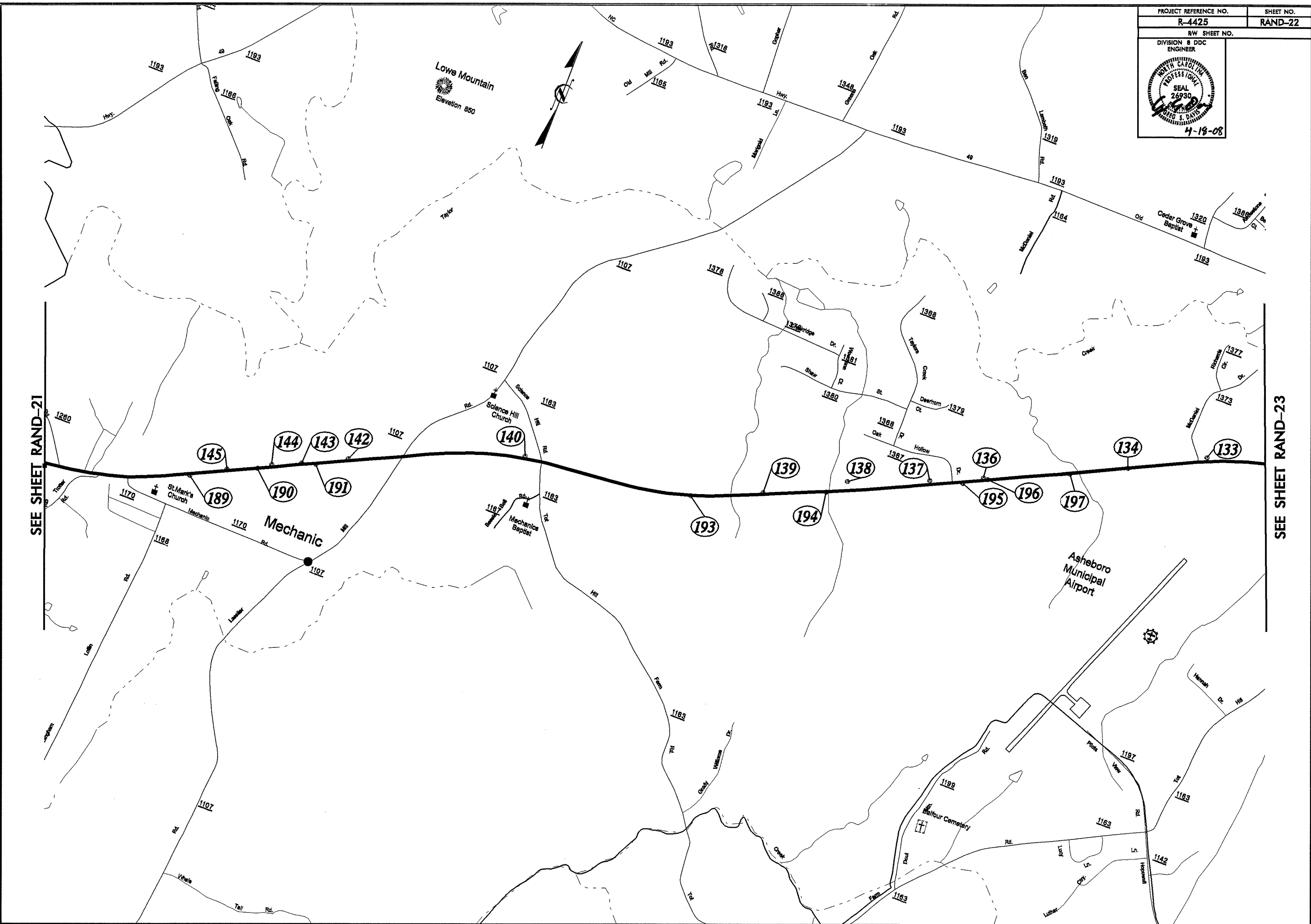
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DIVISION 8 DDC ENGINEER	

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 J. S. Davis

REVISIONS

SEE SHEET RAND-21

SEE SHEET RAND-23



SEE SHEET RAND-21

SEE SHEET RAND-23

PROJECT REFERENCE NO.	SHEET NO.
R-4425	RAND-23
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	



SEE SHEET RAND-22

REVISIONS