



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. Rich-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 (RICHMOND 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)	Type III	B-77	B-83	M-350	GRAU 350	CAT-1	AT-1		G					NG																			
<b>US 220 NB</b>																																													
#67	US220Rn01& .02																																												
Outside Approach		25																				75	Replace End Unit and Damaged Rail																						
Outside Trail		25																					75	Replace Damaged Rail																					
Median Approach																							50	Replace End Unit																					
#69	US220Rn03	25																					100	Replace End Unit and damaged rail.																					
#70	US220Rn04	12.5																					50	Replace End Unit and damaged rail.																					
#71	US220Rn05	25																					56.25	Replace End Units and damaged rail.																					
#72	US220Rn06	12.5																					56.25	Replace End Units and damaged rail.																					
#73	US220Rn07	12.5																					56.25	Replace End Units and damaged rail.																					
#74	US220Rn08																						56.25	Replace End Units																					
#75	US220Rn09	100	100																				56.25	Replace End Units and damaged rail.																					
#76	US220Rn10																						56.25	Replace End Units and damaged rail.																					
Outside Rail		100																					100	Replace End Units and damaged rail.																					
Median Rail		100																					75	Replace End Units and damaged rail.																					
#77	US220Rn11																						6.25	Replace End Unit on Trail end.																					
#78	US220Rn12		100																				56.25	Replace End Units																					
#79	US220Rn13		100																				56.25	Replace End Units																					
#80	US220Rn14																						56.25	Replace End Units																					
#81	US220Rn15	25																					56.25	Replace End Units and damaged rail.																					
#82	US220Rn16																						75	Replace End Units																					
#83	US220Rn17																						6.25	Replace End Units on Trail end.																					
#84	US220Rn18	12.5																					56.25	Replace End Units																					
#85	US220Rn19	25																					56.25	Replace End Units																					
<b>US 220 SB</b>																																													
#86	US220Rs01	25																					56.25	Replace End Units and damaged rail																					
#87	US220Rs02	12.5																					56.25	Replace End Units and damaged rail																					
#88	US220Rs03	12.5																					56.25	Replace End Units																					
#89	US220Rs04																						400	Replace GR and End Units																					
#90	US220Rs05	535																					535	Replace GR and End Units																					
#91	US220Rs06	1740																					1740	Replace GR and End Unit on trail side																					
#92	US220Rs07																						75	Replace End Units																					
#93	US220Rs08																						56.25	Replace End Units																					
#94	US220Rs09																						56.25	Replace End Units																					
#95	US220Rs10		50																				56.25	Replace End Units																					
#96	US220Rs11																						112.5	Replace End Units																					
#97	US220Rs12																						56.25	Replace End Units																					
#98	US220Rs13																						100	Replace End Units on side road																					
#99	US220Rs14																						56.25	Replace End Units(Approach on side road)																					
#100	US220Rs15	25																					6.25	Replace End Unit on Trail End and damaged GR																					
#101	US220Rs16																						6.25	Replace End Unit on Trail End																					
#102	US220Rs17																						12.5	Add Structural Anchor Unit and Replace End Unit.																					
#103	US220Rs18																						100	Replace End Units																					
#104	US220Rs19																						100	Replace End Units and Structural Anchor Unit																					
#105	US220Rs20																						12.5	Replace End Unit on Approach																					
#106	US220Rs21																						112.5	Replace End Units on both sides of road																					
#68	SB opposite #67 above																																												
Outside Approach		25																						50	Replace End Units on Approaches																				
Outside Trail		25																						50	Replace End Unit, and Struct. Anchor Unit, Damaged Rail																				
Median Approach																								50	Replace Struct. Anchor Unit																				
<b>US 220 2-Lane</b>																																													
#107	at Rest Area	12.5																						100	Replace End Units and damaged rail on both sides																				
#108	unprotect box culvert	1125																								Install new GR (See Sht. 9 of Std. 862.01) Both sides of Road																			
#109	US220Rn01a																							4	Replace End Units on both sides of road.																				
#110	US220Rn02a																							1	Replace End Unit on Approach End																				
#111	US220Rn03a																							25	Replace End Units (Starts @off ramp)																				
#112	US220Rn04a																							100	Replace End Units																				
Less Anchor Deductions	GRAU350 6 @ 50'	300																																											
	CAT-1 3 @6.25	12.5																																											
* Items included in anchor deductions																																													
<b>TOTAL US 220</b>		<b>3725</b>	<b>350</b>																																										
																<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>8</b>	<b>58</b>	<b>31</b>					<b>0</b>	<b>0</b>	<b>5256.25</b>																



PROJECT REFERENCE NO. R-4425	SHEET NO. RICH-4
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	

REVISIONS



SEE SHEET RICH-5

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 8/17/99

PROJECT REFERENCE NO. R-4425	SHEET NO. RICH-5
R/W SHEET NO.	
DIVISION 8 DDC ENGINEER	



SEE SHEET RICH-4

SEE SHEET RICH-6

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-4425	RICH-6
R/W SHEET NO.	
DIVISION 8 DDC ENGINEER	

REVISIONS

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SEE SHEET RICH-7



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PROJECT REFERENCE NO. <b>R-4425</b>	SHEET NO. <b>RICH-7</b>
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	




REVISIONS

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SEE SHEET RICH-8

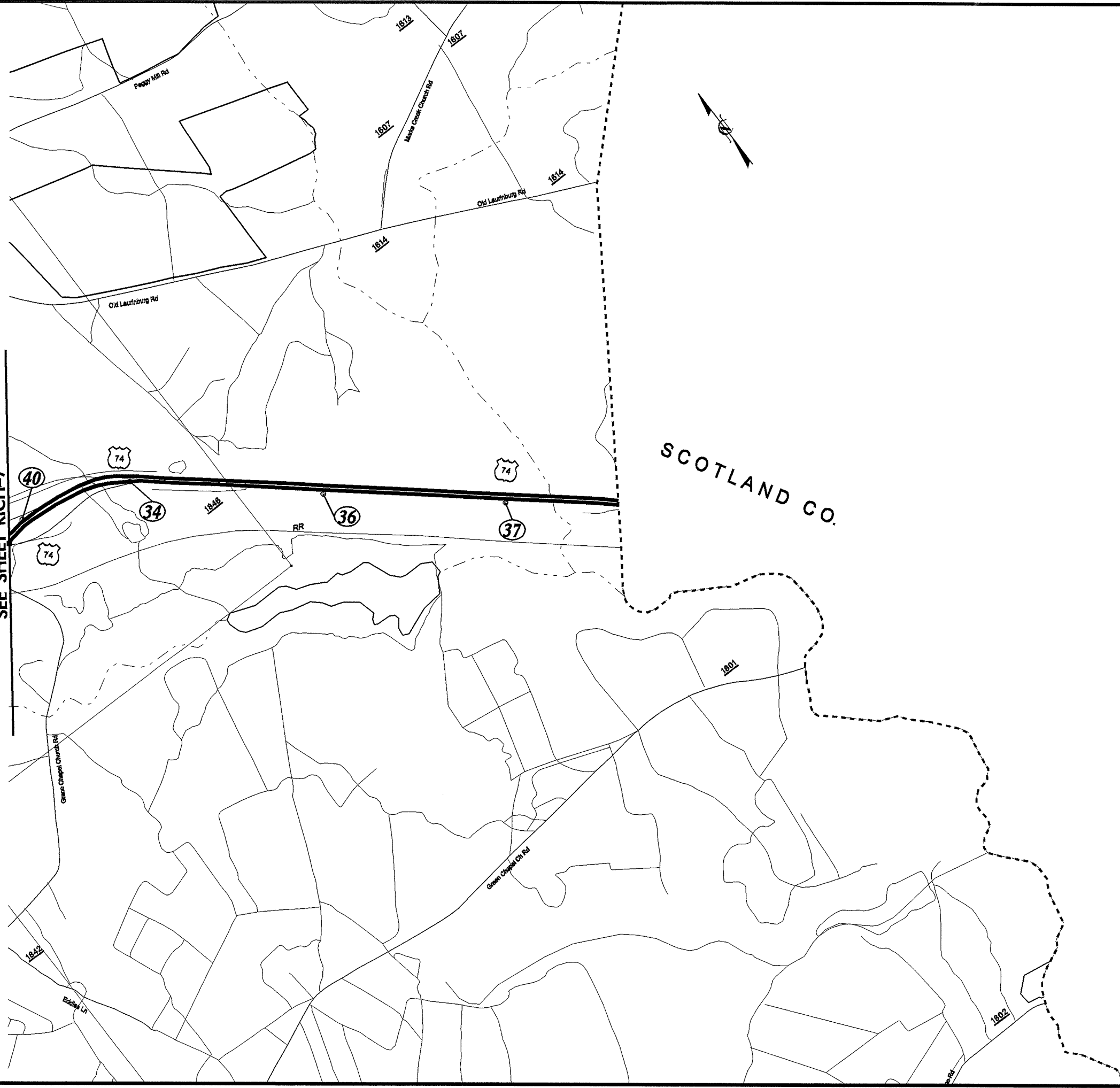
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 8/17/99

PROJECT REFERENCE NO. <b>R-4425</b>	SHEET NO. <b>RICH-8</b>
RW SHEET NO.	
DIVISION 8 DDC ENGINEER	
	
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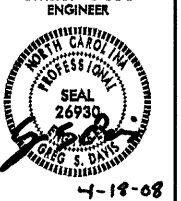
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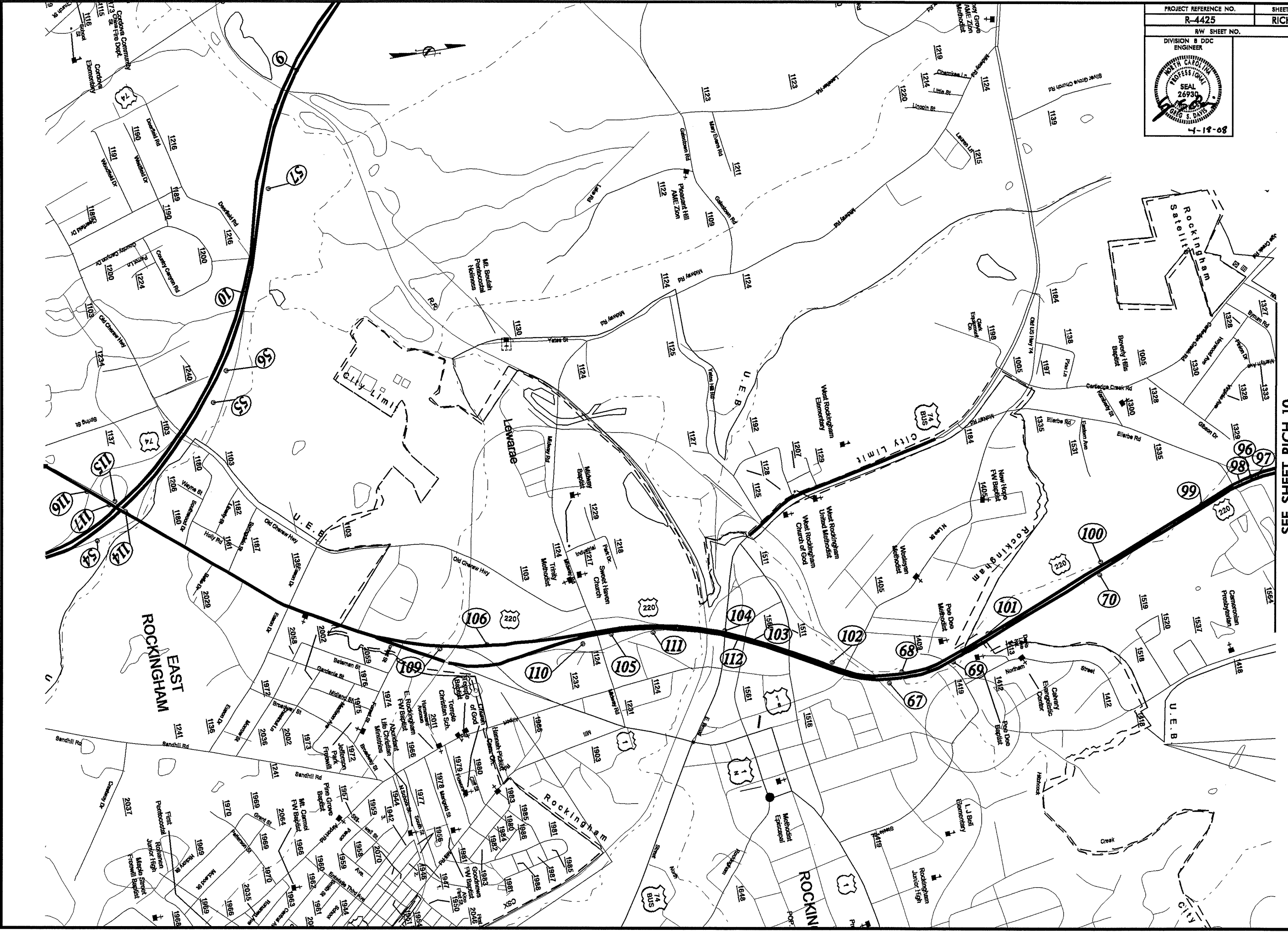


SCOTLAND CO.

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 Richmond



PROJECT REFERENCE NO. R-4425	SHEET NO. RICH-9
RW SHEET NO.	
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PROJECT REFERENCE NO. R-4425	SHEET NO. RICH-10
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DIVISION 8 DDC ENGINEER	

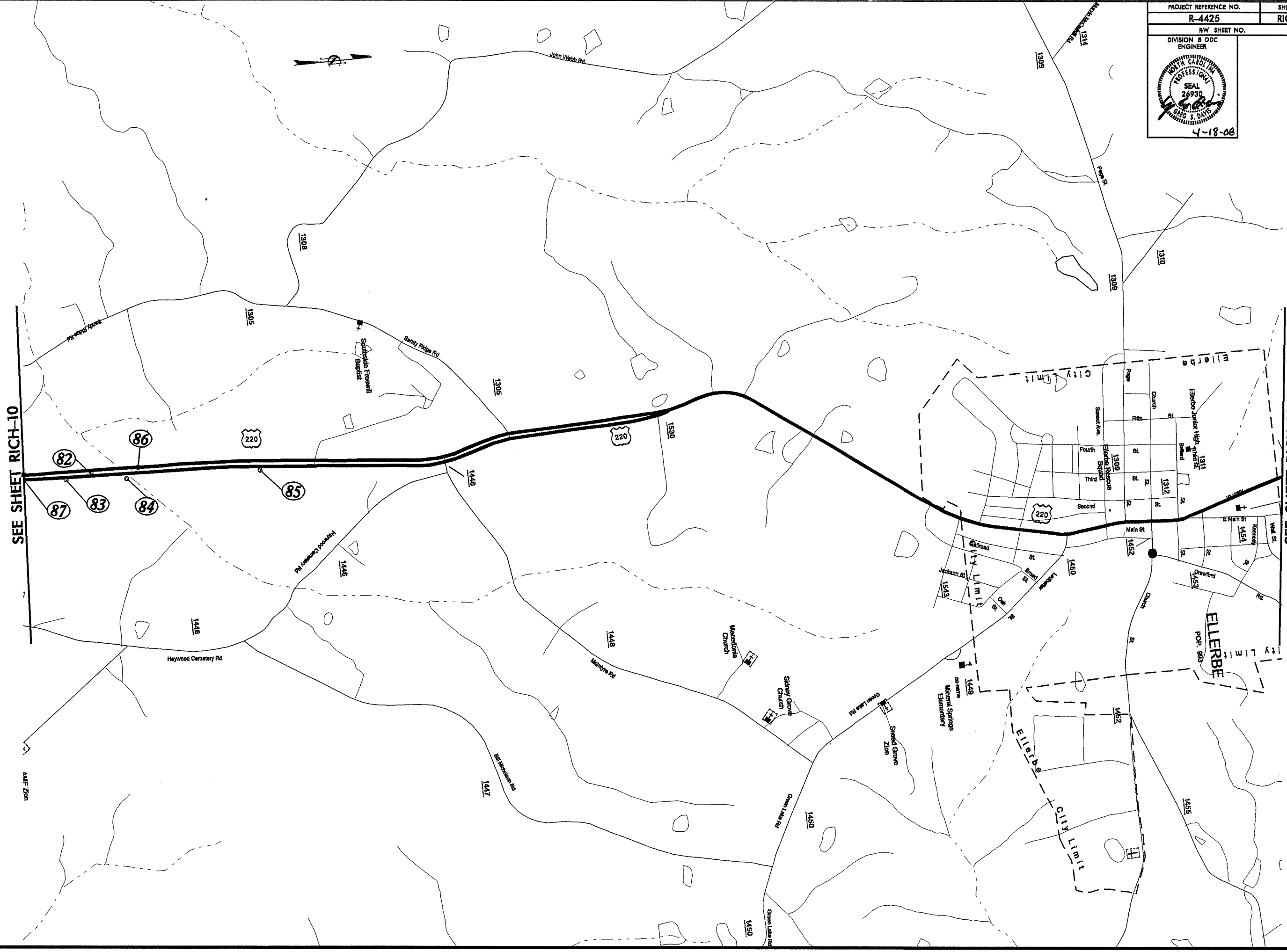


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PROJECT REFERENCE NO. <b>R-4425</b>	SHEET NO. <b>RICH-11</b>
RW SHEET NO.	
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SEE SHEET RICH-12

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