

LOCATION SKETCH

TOP OF RAIL ELEVATIONS						
TRACK STATION	-Y5-		-Y5A-		-Y5B-	
	LEFT RAIL	RIGHT RAIL	LEFT RAIL	RIGHT RAIL	LEFT RAIL	RIGHT RAIL
10+60.000	255.702	255.702	259.164	259.164	258.051	258.051
10+80.000	255.841	255.841	259.175	259.175	256.128	256.128
11+00.000	255.974	255.974	259.193	259.193	256.140	256.140
11+20.000	256.162	256.162	259.198	259.198	256.130	256.130
11+40.000	256.342	256.342	259.208	259.208	256.135	256.135
11+60.000	256.538	256.538	259.208	259.208	256.154	256.154

TOTAL BILL OF MATERIAL																				
	1676mm DIA DRILLED PIERS IN SOIL	1676mm DIA DRILLED PIERS NOT IN SOIL	SID INSPECTION	SPT TESTING	CROSSHOLE SONIC LOGGING	CSL TUBES	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	HP 310 X 79 STEEL PILES	CONCRETE BARRIER RAIL	100mm SLOPE PROTECTION	POT BEARINGS	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	
	METERS	METERS	EACH	EACH	EACH	METERS	SQ. METERS	SQ. METERS	CU. METERS	LUMP SUM	kg	kg	APPROX. kg	NO.	METERS	METERS	SQ. METERS	LUMP SUM	LUMP SUM	LUMP SUM
SUPERSTRUCTURE							1137.0	949.2		LUMP SUM			252,300		192.878		LUMP SUM	LUMP SUM	LUMP SUM	
END BENT 1									24.2		2213			11	242.0	320				
BENT 1	41.9	10.5	1	2	1	323.5			128.2		18489	3533								
END BENT 2									24.2		2212			10	260.0	420				
TOTAL	41.9	10.5	1	2	1	323.5	1137.0	949.2	176.6	LUMP SUM	22914	3533	252,300	21	502.0	740	LUMP SUM	LUMP SUM	LUMP SUM	

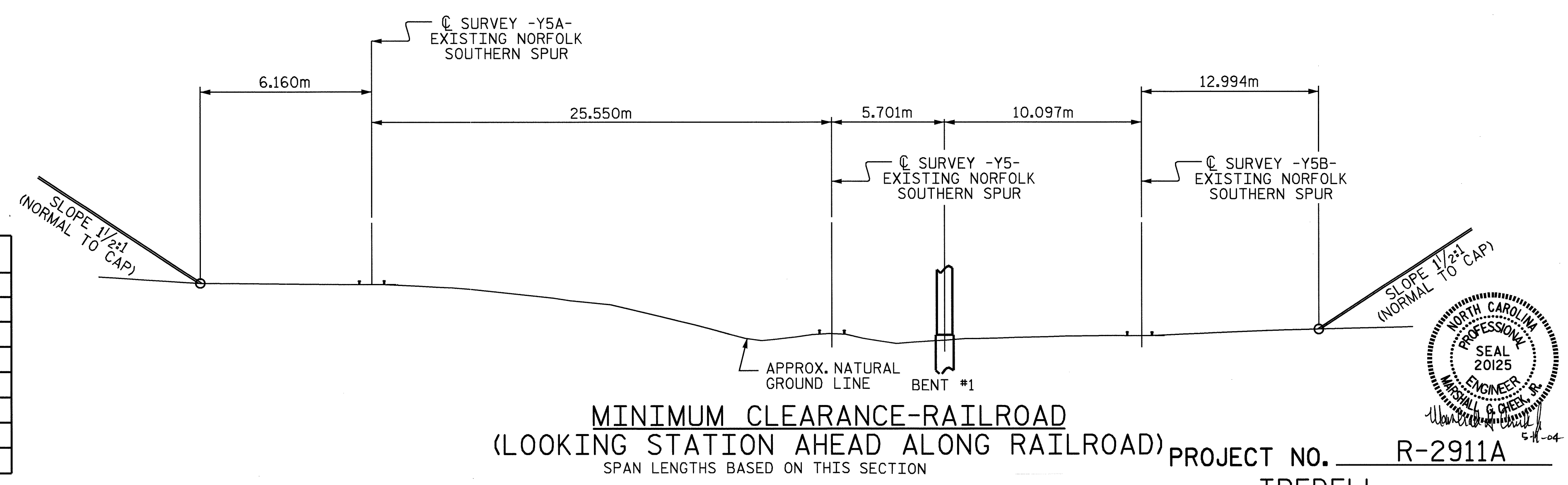
DRAWN BY: E.E.M./L.L.M./DAH DATE: 2-04
CHECKED BY: M.G. CHEEK DATE: 4/04

NOTES:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
ALL ELEVATIONS ARE IN METERS.
ASSUMED LIVE LOAD = MS 18 OR ALTERNATE LOADING.
FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SNSM.
THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.
ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 345W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS. (PLANS WITH MSIP FORMS)
THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 300mm BELOW THE GROUND LINE.
THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.
THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 360,000 kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000 kg OF REINFORCING STEEL, TWO 760mm SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.
FOR FALSEWORK AND FORMS OVER OR ADJACENT TO TRAFFIC, SEE SPECIAL PROVISIONS.
NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
FOR METRIC STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
FOR MINIMIZING RAILROAD FLAGGING SERVICE, SEE SPECIAL PROVISIONS.
THE CONTRACTOR SHALL OBSERVE A ONE (1) MONTH WAITING PERIOD BEFORE BEGINNING ANY WORK FOR END BENT CONSTRUCTION AFTER COMPLETION OF THE EMBANKMENT AT EACH END BENT. THE CONTRACTOR MAY BEGIN THE REINFORCED BRIDGE APPROACH FILL CONSTRUCTION AFTER COMPLETION OF END BENT INCLUDING WINGWALLS.
PILES FOR END BENTS NO.1 AND 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530 kN EACH.
WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.
THE DRILLED PIERS AT BENTS NO.1 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 2900 kPa.

THE REQUIRED TIP BEARING CAPACITY AT BENT NO.1 SHALL BE VERIFIED.
DRILLED PIERS FOR BENT NO.1 HAS BEEN DESIGNED FOR AN APPLIED LOAD OF 6230 kN EACH AT THE TOP OF THE COLUMN.
DRILLED PIERS AT BENT NO.1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 228.5, SATISFY THE REQUIRED TIP BEARING CAPACITY, AND HAVE A MINIMUM PENETRATION OF 0.3m INTO ROCK AS DEFINED BY THE DRILLED PIERS SPECIAL PROVISION.
PERMANENT STEEL CASING IS NOT REQUIRED FOR DRILLED PIERS AT BENT NO.1
SPT TESTING IS REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF DRILLED PIERS AT BENT NO.1.
SLURRY CONSTRUCTION SHALL BE USED FOR THIS PROJECT. SEE DRILLED PIERS SPECIAL PROVISION.
SID INSPECTIONS ARE REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS AT BENT NO.1.
CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS AT BENT NO.1. SEE SPECIAL PROVISION FOR CROSSHOLE SONIC LOGGING.
FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.



MINIMUM CLEARANCE-RAILROAD
(LOOKING STATION AHEAD ALONG RAILROAD)
SPAN LENGTHS BASED ON THIS SECTION

PROJECT NO. R-2911A
IREDELL COUNTY
STATION: 39+62.402 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE OVER NORFOLK SOUTHERN RAILROAD ON US 70 BETWEEN SR 2318 AND ROWAN COUNTY LINE (RIGHT LANE)

REVISIONS			SHEET NO.
NO.	BY:	DATE:	S-32
1		3	TOTAL SHEETS 106
2		4	