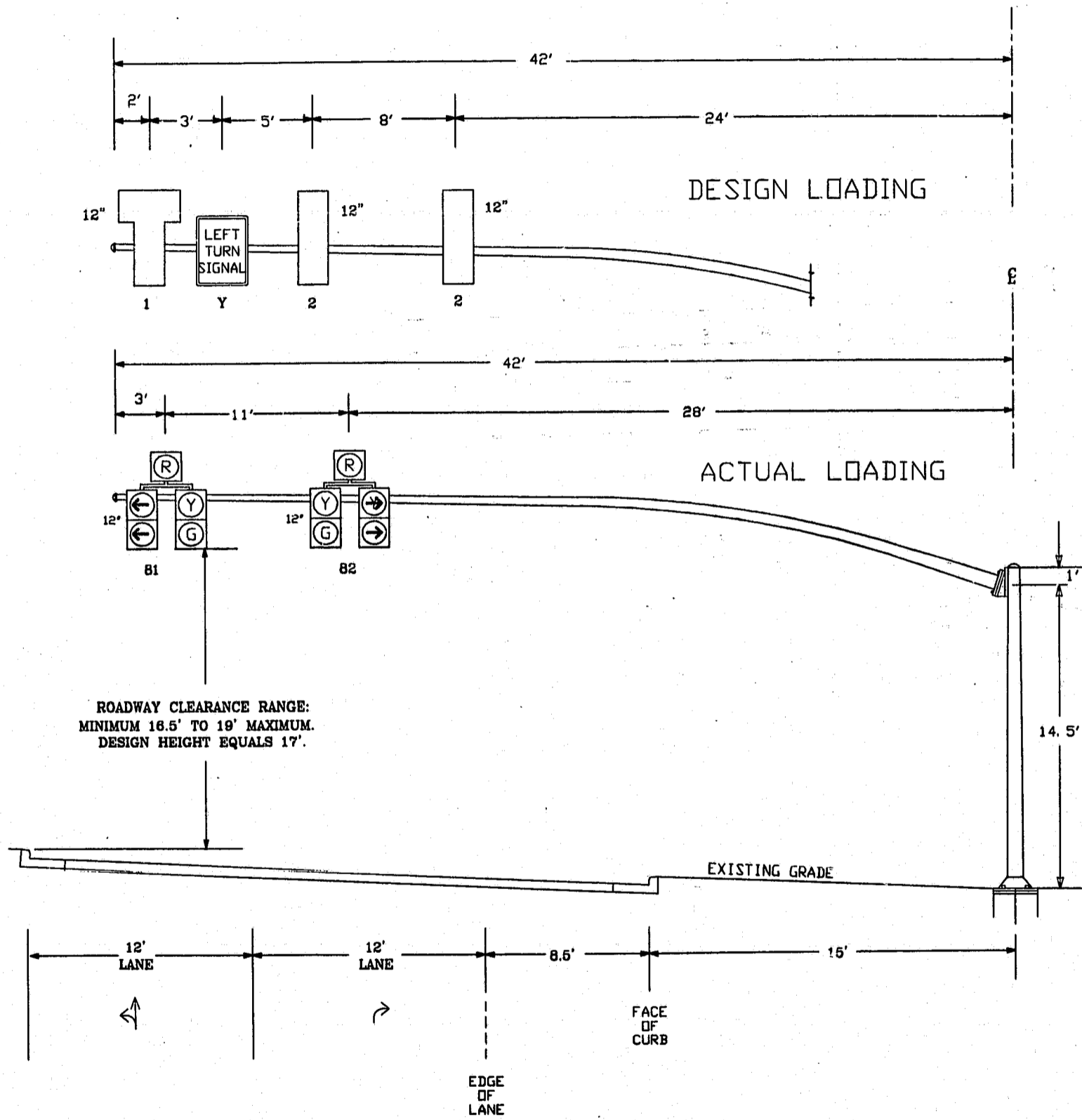


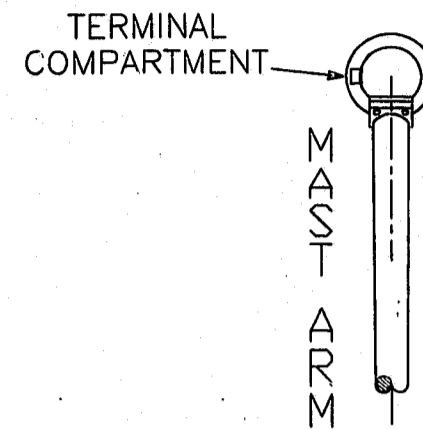
METAL POLE No. 4

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		4	4
F.A. PROJ. NO.			
PROJECT ID NO.			

ELEVATION VIEW: MAST ARM LOADING CONDITIONS



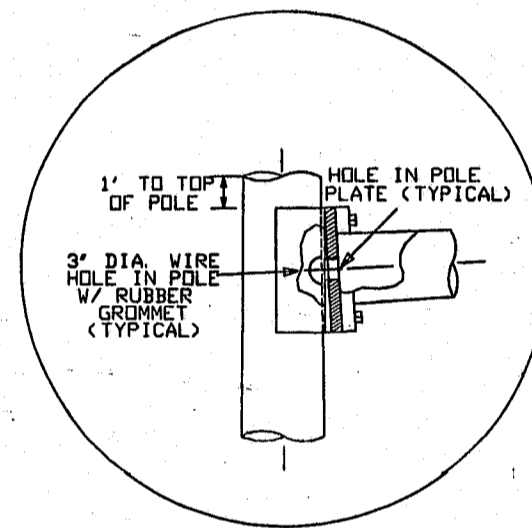
PLAN VIEW



NOTES

1. THE TRAFFIC SIGNAL STRUCTURE THAT WILL BE DESIGNED USING THE LOADING INFORMATION SHOWN ON THIS DRAWING SHALL BE DESIGNED IN ACCORDANCE WITH THE 1993 NCDOT TRAFFIC SIGNAL SPECIFICATIONS AND THE 1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
2. THE MAST ARM ATTACHMENT HEIGHT (H1) AND THE OVERALL POLE HEIGHT (H2) FOR METAL POLE WERE DETERMINED USING CROSS SECTIONS ALONG EACH MAST ARM, AND THE FOLLOWING DESIGN CRITERIA:
 - SIGNAL HEAD CLEARANCE FROM ROADWAY OF 17 FEET IS ASSUMED.
 - SIGNAL HEADS MOUNTED ON THE MAST ARMS ARE RIGID MOUNTED AND VERTICALLY CENTERED ON THE ARM. IF VERTICAL ADJUSTMENTS ARE REQUIRED TO MAINTAIN A UNIFORM HORIZONTAL APPEARANCE OF THE SIGNAL HEADS ALONG THE MAST ARM, THE ADJUSTMENTS SHALL BE MADE WITHIN THE ROADWAY CLEARANCE RANGE SHOWN ON THE ELEVATION VIEWS.
 - 5 FOOT VERTICAL RISE IN OVERALL MAST ARM LENGTH AS MEASURED FROM THE CENTER LINES OF EACH END OF THE MAST ARM.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE MAST ARM LENGTH AND ATTACHMENT HEIGHT SHOWN WILL PROVIDE THE REQUIRED VERTICAL CLEARANCES FROM THE ROADWAY PRIOR TO SUBMITTING FINAL SHOP DRAWINGS.
4. THE METAL POLE, MAST ARMS, AND FOUNDATIONS ARE TO BE DESIGNED USING THE "DESIGN LOADINGS" SHOWN ON THIS SHEET. FOR ACTUAL LOADING CONDITIONS THAT WILL BE APPLIED TO THESE POLES AT THE TIME OF THEIR INSTALLATION, REFER TO THE "ACTUAL LOADING" CONDITIONS.

TYPICAL ARM ATTACHMENT

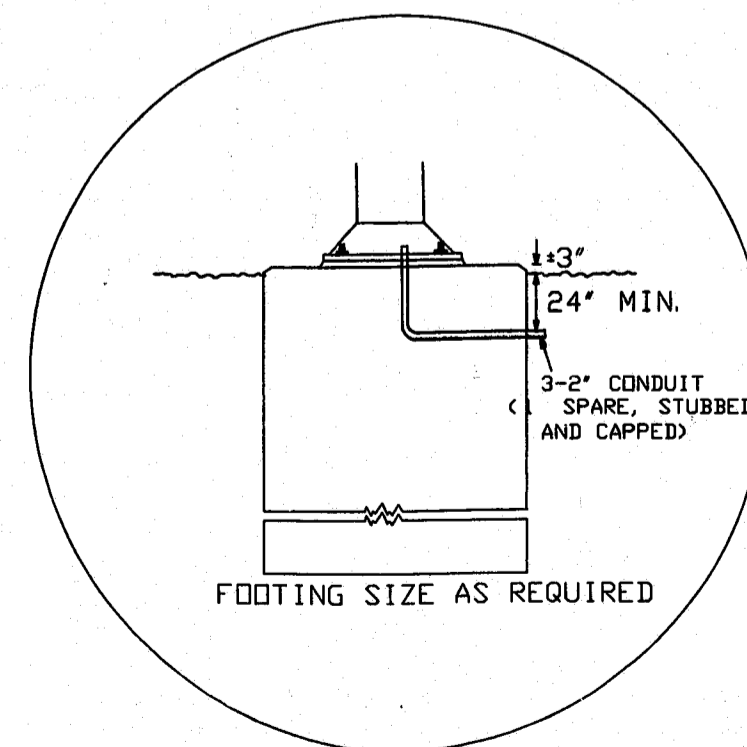


I. D. No.	DESCRIPTION	AREA (S.F.)	SIZE (in.)	WEIGHT (#)
81,82	SIGNAL HEAD, 12" - 5 SECTION, RIGID MOUNTED WITH ASTRO BRAC HANGERS, WITH BACKPLATES	16.3	42" W X 56" L	103
2	SIGNAL HEAD, 12" - 3 SECTION, RIGID MOUNTED WITH ASTRO BRAC HANGERS, WITH BACKPLATES	9.2	25.5" W X 52" L	60
1	SIGNAL HEAD, 12" - 4 SECTION ('T'-TYPE), RIGID MOUNTED WITH ASTRO BRAC HANGERS, WITH BACKPLATES	16.3	42" W X 56" L	90
Y	SIGN, REGULATORY, R10-10L, RIGID MOUNTED WITH ASTRO BRAC HANGERS .080" ALUMINUM SHEETING	5	24" W X 30" L	13

* * ADDITIONAL HEAD(S) AND SIGN(S) FOR STRUCTURAL ANALYSIS ONLY. DO NOT USE FOR SIGNAL INSTALLATION OR MAST ARM CONSTRUCTION.

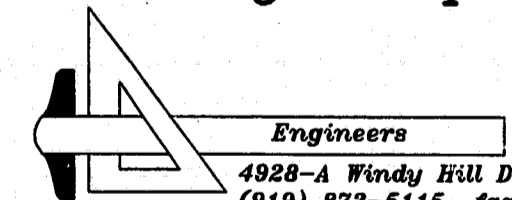
LOADING DIAGRAM FOR METAL POLE No. 4

TYPICAL CONDUIT PLACEMENT



72-SP-133
APPROVED
BB 3/31/99
JFP 9/2/99

Ramey Kemp & Associates



Engineers
4928-A Windy Hill Drive Raleigh, NC 27609
(919) 872-5115 fax (919) 878-5416

WESTON PARKWAY		CARY	
AT			
SR 3091 (HARRISON OAKS BLVD.)			
RENAISSANCE PLACE			
DIVISION 05	WAKE COUNTY	CARY	
REVISIONS	INIT.	DATE	

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
19713
ENGINEER
DONALD L. DUBOY
Signature: Donald L. Duboy
Date: 7/12/99

N.C. DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING BRANCH

SCALE: NONE
DATE: 7/12/99
PREPARED BY: CDT/LJD
REVIEWED BY: RFK
RKA JOB #: 98083.40
S/G INV. NO. 05-1896