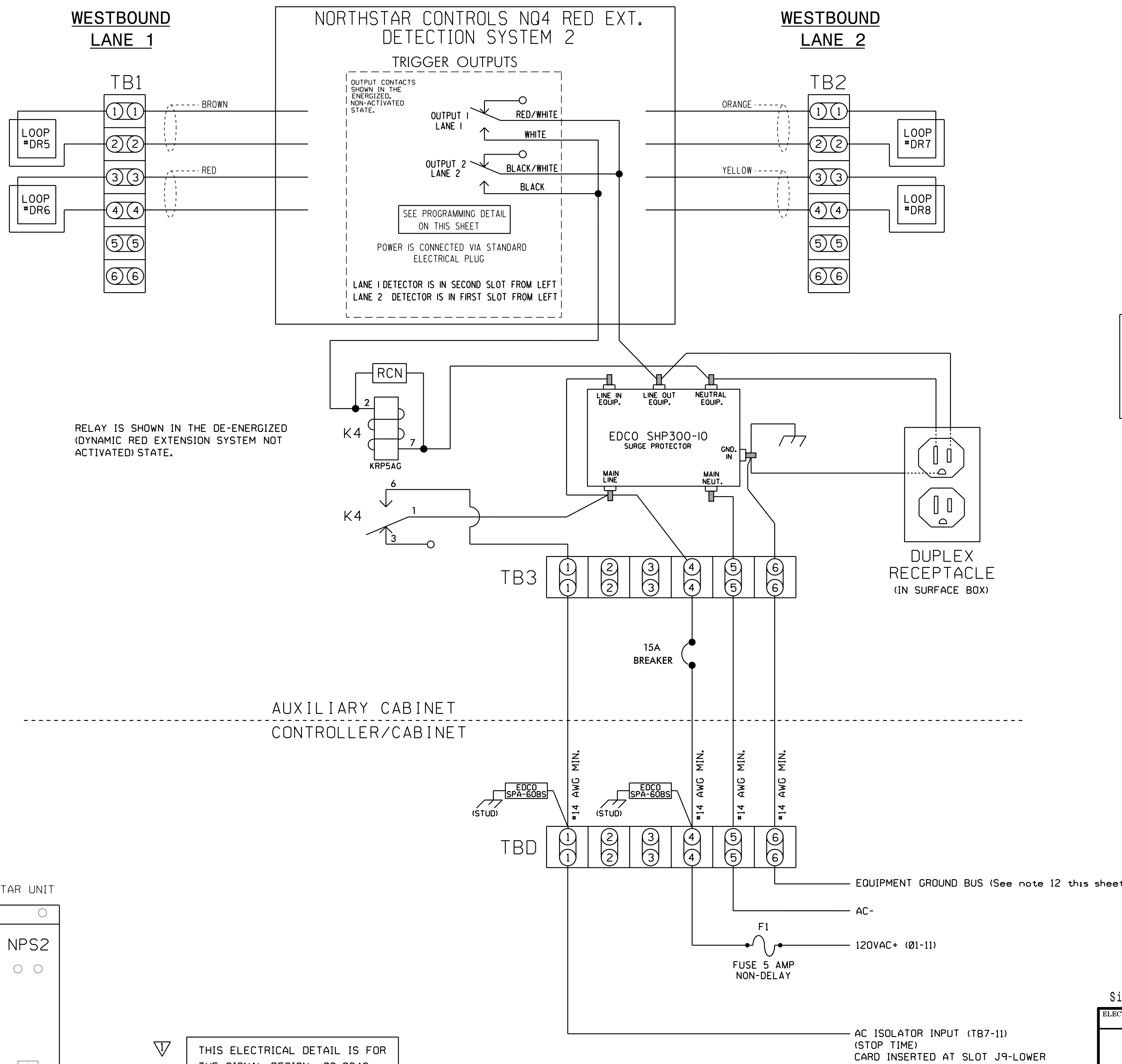


WIRING DETAIL FOR NORTHSTAR CONTROLS NQ4 USED FOR DYNAMIC RED EXTENSION - SYSTEM NO. 2

(wire unit as shown below)

NOTES

1. All loop lead-ins shall be twisted.
2. Loop spacing is critical to the proper operation of this Overspeed Detection System. Make sure loop spacing is correctly programmed in NQ4 Unit.
3. Insure that connectors on rear of NQ4 are seated securely.
4. NQ4 Unit shall be located in an auxiliary cabinet adjacent to Dynamic Red Extension System loops.
5. Unit power is connected by standard electrical plug.
6. Terminal strips TB1, TB2, TB3, & TBD to be added by installer.
7. Relay 'K4' is a SPDT with an 120VAC coil. Potter & Brumfield no. KRP5AGAG, Dot Material no. 625028600.
8. The RC Network across the coil of 'K4' is a .1 micro farad, 100 ohm. Dot Material no. 106018075. ITW no. 104M060C100
9. EDCO SPA-60BS is a surge protector for 120VAC interconnect circuits. Dot Material no. 625022076.
10. EDCO SHP300-10 is an AC service surge protector. Dot Material no. 625022075.
11. Do not install ground rods at auxiliary cabinet.
12. Install equipment ground from controller cabinet to auxiliary cabinet if not already present.
13. Install disconnect if there is no disconnect present at auxiliary cabinet.



RELAY IS SHOWN IN THE DE-ENERGIZED (DYNAMIC RED EXTENSION SYSTEM NOT ACTIVATED) STATE.

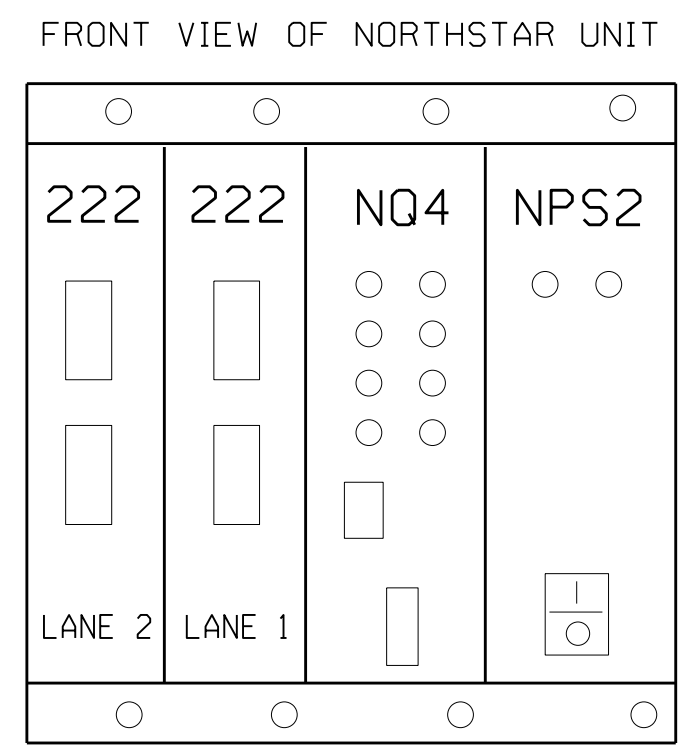
NORTHSTAR CONTROLS MODEL NQ4
PROGRAMMING DETAIL
 (program unit as shown)

NOTE: UNIT MUST BE PROGRAMMED USING PC AND HYPERTERMINAL PROGRAM. FOR CONNECTION TO HYPERTERMINAL REFER TO NQ4 OPERATION MANUAL.

PROGRAM NQ4 BY TYPING THE FOLLOWING COMMANDS

1. SET SPEED=50
2. SET LENGTH=1'
3. SET ALARMTIME=5
4. SET SEPARATION=16' (LEADING EDGE TO LEADING EDGE) (THIS VALUE MAY VARY, PROGRAM ACTUAL MEASURED SEPARATION)
5. SET LOOP LENGTH=6' (THIS VALUE MAY VARY, PROGRAM ACTUAL MEASURED LOOP LENGTH)
6. SAVE

ALARM LOG NOTE: WHEN DYNAMIC RED EXTENSION SYSTEM 2 DETECTS A VIOLATION, A SPECIAL FUNCTION 2 ALARM IS RECORDED WITHIN THE OASIS ALARM LOG (WITH TIME AND DATE STAMP).



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 03-0342
 DESIGNED: December 2012
 SEALED: 12/6/12
 REVISED: 7/16/2015

Signal Upgrade - Sheet 8 of 10

ELECTRICAL AND PROGRAMMING DETAILS FOR:		US 17 at NC 904 (Longwood Road/ Seaside Road)		SEAL	
Prepared In the Offices of: Transportation Mobility and Safety Division 3 750 N. Greenfield Pkwy, Garner, NC 27529		Brunswick County Grissetown		Professional Engineer SEAL 008453 JOHN T. ROWE, JR.	
PLAN DATE: December 2012	REVIEWED BY: JTR	PREPARED BY: S. Armstrong	REVIEWED BY:	DATE: 7/20/2015	DATE:
Revised from stretch to Volume Density. (WSA)		gtr		John T. Rowe, Jr. 12/10/2012	
SIG. INVENTORY NO. 03-0342				DATE	

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