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August 9, 2018

VIA ELECTRONIC FILING
AND FIRST CLASS U.S. MAIL

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

Re: **Application of the Department of Transportation of the Commonwealth of Pennsylvania for approval to alter the public at-grade crossing by the installation of new automatically operated flashing-light crossing warning signals where SR 1015 (Hanover Street) crosses the single track of CSX Transportation, Inc. (DOT 832 125 X) in Oxford Township, Adams County**
Docket No. A-2015-2469144

Dear Secretary Chiavetta:

Enclosed for filing in the above-referenced matter is CSX Transportation, Inc.'s ("CSXT") Circuitry Plan for the subject crossing. CSXT seeks the Commission's approval of the Plan. Pursuant to Paragraph 3 of the Secretarial Letter regarding this Application dated August 31, 2015, a copy of the Circuitry Plan is being provided to PennDOT for its review.

Thank you for your attention to this matter.

Sincerely yours,



Benjamin C. Dunlap, Jr.

BCDjr/lp
Enclosures
c: Gregory Vaughn, PennDOT (w/encs.)

REVISIONS			
REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE
1	PA2015R21	09-12-17	

TO BE COMPLETED ON A.I.S.

INDEX CONTENTS

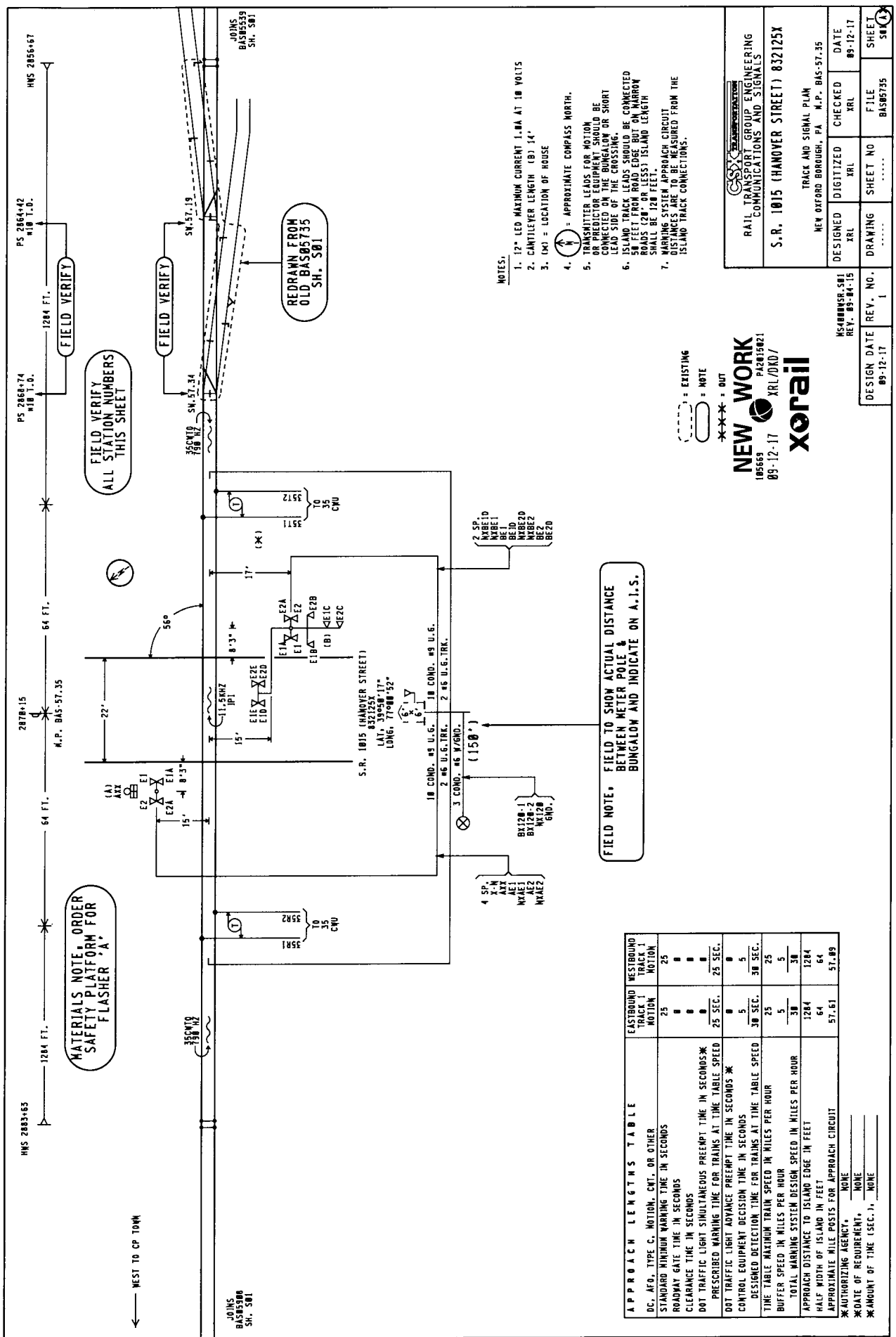
SH. NO.	DESCRIPTION	REVISION NO.								
		1	2	3	4	5	6	7	8	9
IB1	INDEX AND REVISIONS									
SB1	TRACK AND SIGNAL PLAN									
EB1	POWER DISTRIBUTION									
CB1	DETECTION DEVICE CONSIST CNE-35									
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CB3	CROSSING WARNING DEVICE LIGHT CIRCUITRY									
CB4	SEAR II CIRCUITS									
CB5	SEAR II CONFIGURATION AND FUNCTIONS									
CB6	SEAR II CHANNELS									
CB7	WAYSIDE ACCESS GATEWAY									

☒ = DESIGN COMPLETED
☒ = REVISION COMPLETED



RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
S.R. 1015 (HANOVER STREET) 832125X	
INDEX AND REVISIONS	
NEW OXFORD BOROUGH, PA M.P. BAS-57.35	
DESIGNED	CHECKED
DIGITIZED	DATE
XRL	09-12-17
DRAWING	FILE
SHEET NO	BAS5735
REV. NO.	SHEET
1	181

MS/00058,181	REV. NO.
REV. 05-04-15	1
DESIGN DATE	REV. NO.
09-12-17	1



MATERIALS NOTE, ORDER SAFETY PLATFORM FOR FLASHER 'A'

FIELD VERIFY ALL STATION NUMBERS THIS SHEET

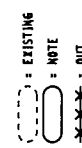
FIELD VERIFY

FIELD VERIFY

REDRAWN FROM OLD BAS05735 SH. S01

NOTES:

1. 12" LED MAXIMUM CURRENT 1.0A AT 110 VOLTS
2. CANTILEVER LENGTH (B) 14'
3. (X) = LOCATION OF HOUSE
4. (N) = APPROXIMATE COMPASS NORTH.
5. TRANSMITTER LEADS FOR MOTION DETECTOR OR EQUIPMENT SHOULD BE CONNECTED TO THE CORNER OR SHORT LEAD SIDE OF THE CROSSING.
6. ISLAND TRACK LEADS SHOULD BE CONNECTED 50 FEET FROM ROAD EDGE BUT ON MARROON ROADS (20' OR LESS) ISLAND LENGTH SHALL BE 120 FEET.
7. WARNING SYSTEM APPROACH CIRCUIT TEST LEADS ARE NOT ASSURED FROM THE ISLAND TRACK CONNECTIONS.



NEW WORK
105663
09-12-17
P4201021
ARL/DKD/
korail

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
S.R. 1015 (HANOVER STREET) 832125X	
TRACK AND SIGNAL PLAN	
NEW OXFORD, BOROUGH, PA. M.P. BAS-57-35	
DESIGNED	CHECKED
DIGITIZED	XRL
DATE	89-12-17
REV. NO.	1
DRAWING	SHEET NO
FILE	FILE
BAS05735	BAS05735
SHEET	SHEET
18	18

FIELD NOTE. FIELD TO SHOW ACTUAL DISTANCE BETWEEN METER POLE & BUNGALOW AND INDICATE ON A.I.S.

APPROACH LENGTHS TABLE	EASTBOUND TRACK 1 MOTION	WESTBOUND TRACK 1 MOTION
DC, AFO, TYPE, C, MOTION, CNT, OR OTHER	25	25
STANDARD MINIMUM WARNING TIME IN SECONDS	25	25
ROADWAY GATE TIME IN SECONDS	25	25
CLEARANCE TIME IN SECONDS	25	25
DOT TRAFFIC LIGHT SIMULTANEOUS PREEMPT TIME IN SECONDS	25	25
PRESCRIBED WARNING TIME FOR TRAINS AT TIME TABLE SPEED	25	25
DOT TRAFFIC LIGHT ADVANCE PREEMPT TIME IN SECONDS	25	25
CONTROL EQUIPMENT DECISION TIME IN SECONDS	25	25
DESIGNED DETECTION TIME FOR TRAINS AT TIME TABLE SPEED	30	30
TIME TABLE MAXIMUM TRAIN SPEED IN MILES PER HOUR	25	25
BUFFER SPEED IN MILES PER HOUR	5	5
TOTAL WARNING SYSTEM DESIGN SPEED IN MILES PER HOUR	30	30
APPROACH DISTANCE TO ISLAND EDGE IN FEET	1284	1284
HALE WIDTH OF ISLAND IN FEET	64	64
APPROXIMATE MILE POSTS FOR APPROACH CIRCUIT	57.61	57.61
* AUTHORIZING AGENCY	NONE	NONE
** DATE OF REQUIREMENT	NONE	NONE
** AMOUNT OF TIME (SEC.-1)	NONE	NONE

* AUTHORIZING AGENCY
** DATE OF REQUIREMENT
** AMOUNT OF TIME (SEC.-1)

MS 4000 APPLICATION NOTES:

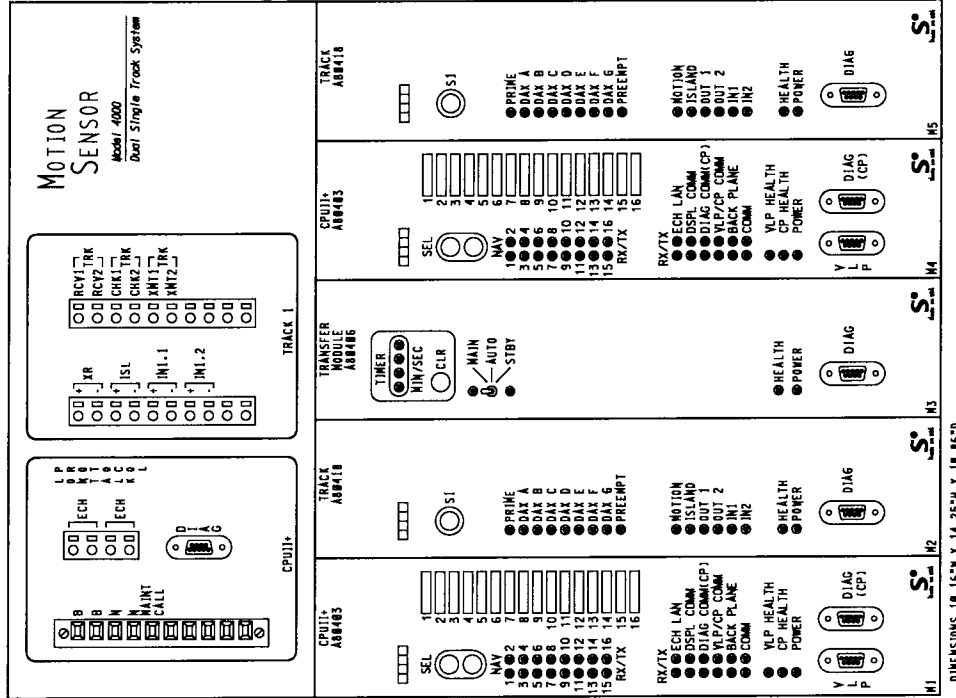
1. THE MOTION SENSOR (MS) IS A MODULAR MICROPROCESSOR CONTROLLED SYSTEM THAT IS DEPLOYED TO CONTINUALLY MONITOR THE APPROACHES TO RAILROAD GRADE CROSSINGS AND TO CONTROL THE LAMPS, GATES AND BELLS ASSOCIATED WITH THOSE CROSSINGS.
2. THE MS 4000 (A88400) IS A SINGLE TRACK REDUNDANT UNIT THAT INCLUDES THE FOLLOWING MODULES:

SLOT	MODULE	FUNCTION	PART NO.
M1	CPU1+*	MAIN	A88403
M2	TRACK-1	MAIN	A88418
M3	TRANSFER UNIT	STANDBY	A88406
M4	CPU1+*	STANDBY	A88403
M5	TRACK-1	STANDBY	A88418
3. EACH TRACK MODULE HAS TWO PROGRAMMABLE INPUTS AND TWO PROGRAMMABLE OUTPUTS.
4. LOCATED ON THE FRONT OF EACH MODULE THERE ARE LED LIGHTS TO INDICATE THE ACTIVITY OF CERTAIN FUNCTIONS OCCURRING INSIDE THE MS.
5. BETWEEN SLOT 1 & 2 THERE IS A CHASSIS IDENTIFICATION CHIP (CIC1) SOCKET AND AN ECD CONNECTOR (08-29 FEMALE).
6. UPON THE FAILURE OF A MODULE IN SLOTS M1-M2 THE AUTOMATIC TRANSFER UNIT SWITCHES TO THE STANDBY MODULES IN SLOTS M4-M5.




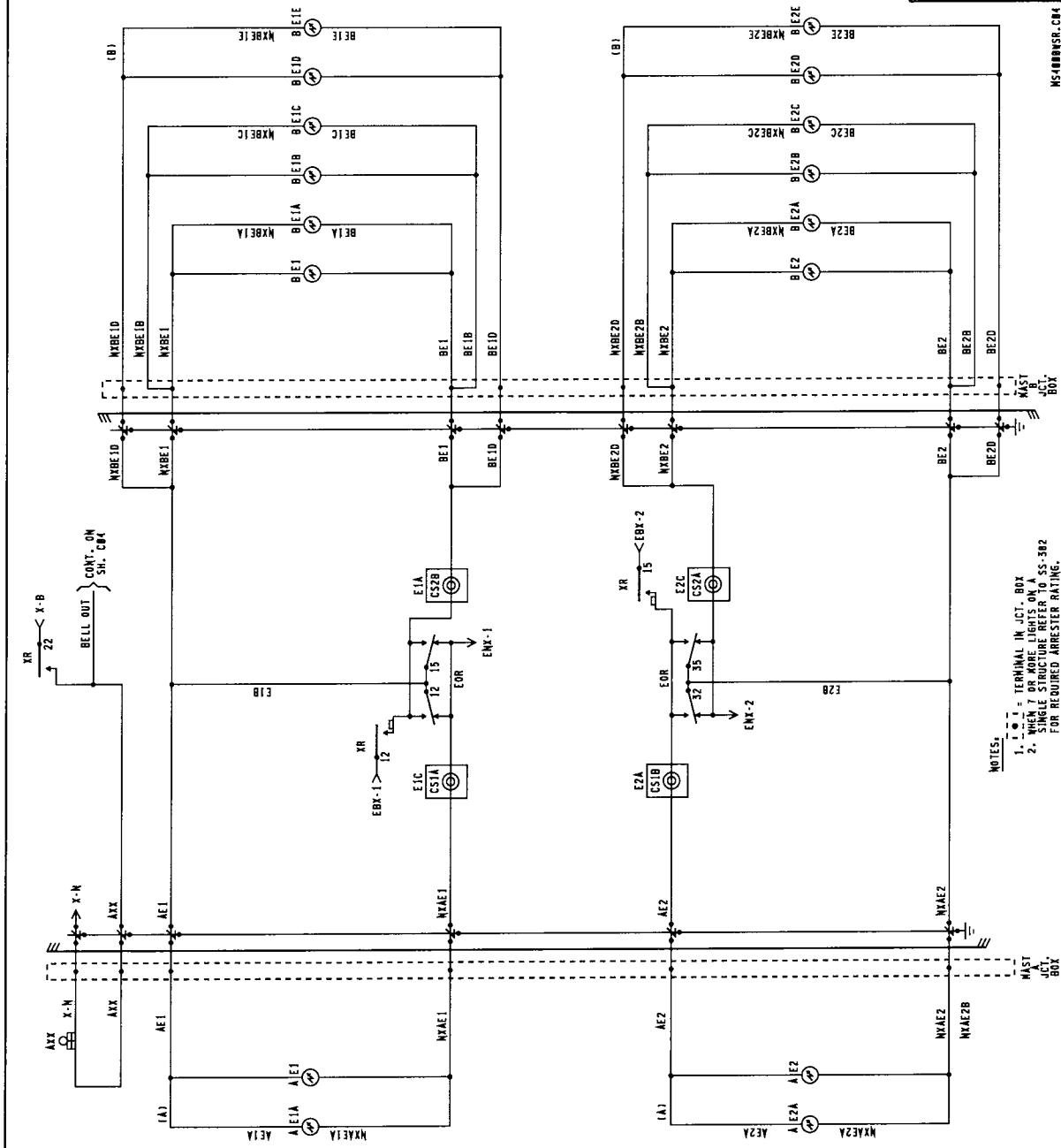
 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS S.R. 1015 (HANOVER STREET) 832125X	
DETECTION DEVICE CONSIST CNE-35 NEW OXFORD BOROUGH, PA. N.P. BAS-67-35	
DESIGNED	CHECKED
DIGITIZED	DATE
XRL	XRL
09-12-17	09-12-17
DRAWING	SHEET NO
.....
REV. NO.	FILE
1	BASB5735
	SHEET
	CB 1

MS4000SR-C01	REV. NO.
REV. 05-04-15	1
DESIGN DATE	REV. NO.
09-12-17	1



DIMENSIONS 18.16" X 14.25" X 18.86"

 RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
S.R. 1015 (HANOVER STREET) 832125X	
CROSSING WARNING DEVICE LIGHT CIRCUITRY NEW OXFORD BOROUGH, PA M.P. BAS-57.35	
DESIGNED	CHECKED
DIGITIZED	DATE
XRL	XRL
09-12-17	09-12-17
DRAWING	SHEET NO
09-12-17	09-12-17
FILE	SHEET
BAS58735	CB3

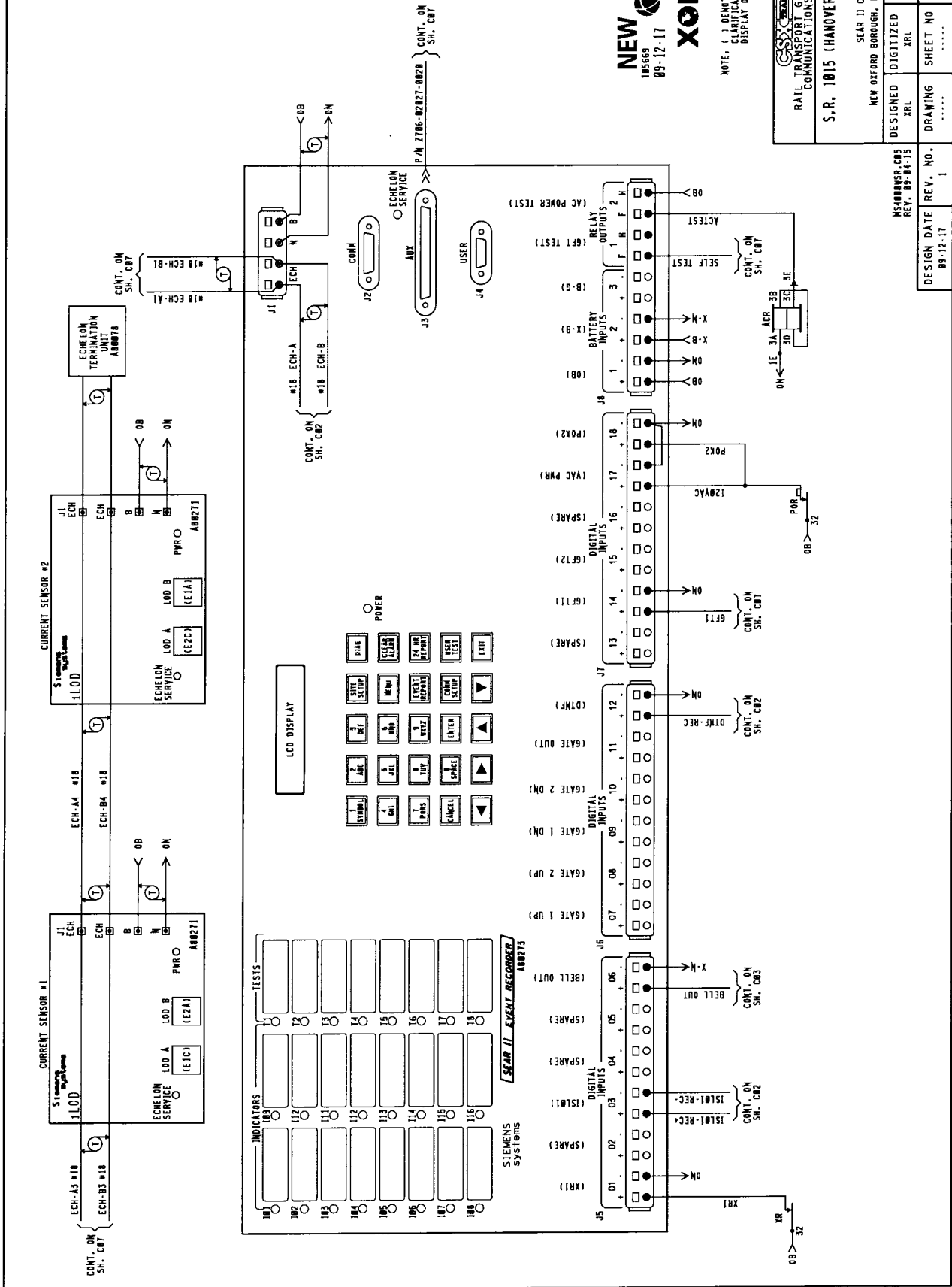


NOTES:
 1. MAST TERMINAL IN JCT. BOX
 2. SINGLE STRUCTURE REFER TO SS-302
 FOR REQUIRED ARRESTER RATING.

MS4000SP.CBA REV. 03-04-15	DESIGN DATE 09-12-17	REV. NO. 1
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NOTE: () DENOTES NOMENCLATURE FOR CLARIFICATION AND WILL NOT DISPLAY ON LOG REPORTS.

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS		SEAR 11 CIRCUITS	
S.R. 1015 (HANOVER STREET) 832125X		NEW OXFORD BOROUGH, PA. H.P. BAS-57-35	
DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 89-12-17
DRAWING NO.	SHEET NO.	FILE BAS05735	SHEET 084



MS4000SR.CBS REV. 05-04-15	DESIGN DATE 89-12-17	REV. NO. 1
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FIELD TO PROVIDE SEARCH PROGRAM INFORMATION ON AIS

SEARCH EXECUTIVE PROGRAM	VERSION: _____	FIELD RECORD
APPLICATION PROGRAM (IF LOADED)	VERSION: _____	VERSION: _____

OPTION	SELECTION
DATE	XX-XX-XXXX
TIME	XX:XX:XX
DAYLIGHT SAVING TIME	YES <input type="checkbox"/> NO <input type="checkbox"/>
TIME ZONE	EST <input type="checkbox"/> CST <input type="checkbox"/>
SITE NAME	S.R. 1015 (HANOVER STREET)
RAILPOST	BAS-57.35
DOT NUMBER	832125X
TESTER TYPE	CROSSING <input type="checkbox"/> WAYSIDE <input type="checkbox"/>
TEMP FORMAT	MM-DD-YYYY <input type="checkbox"/> DD-MM-YYYY <input type="checkbox"/>
INDICATE HOLOOFF	FAHRENHEIT <input type="checkbox"/> CELSIUS <input type="checkbox"/>
INDICATE REFRESH	0
SITE TYPE	NO COMMUNICATION <input type="checkbox"/> DIAL-UP <input type="checkbox"/>
	COLLECTOR <input type="checkbox"/> NODE <input type="checkbox"/>
	BULLHORN/MODE <input type="checkbox"/> COSWRY <input type="checkbox"/>
SITE AICS ADDRESS	7-125-168-018-95-01 (7-RRR-LLL-666-95-01)
OFFICE ADDRESS	2-125-100-0000 (2-RRR-NN-DDDD)
OFFICE SITE ADDRESS	NA
BACK UP SITE ADDRESS 1	NA
BACK UP SITE ADDRESS 2	NA
ROLL ID	(1-99)
GEN/VATS MODE	GEN/VATS <input type="checkbox"/> NO <input type="checkbox"/>
XID DISABLED	YES <input type="checkbox"/> NO <input type="checkbox"/>
OFFICE COM. DEVICE	DIRECT <input type="checkbox"/> MCM (RS232) <input type="checkbox"/>
	MCM (ECHO) <input type="checkbox"/> M4G (ECHO) <input type="checkbox"/>
	DIAL UP <input type="checkbox"/> S200 (RADIO) <input type="checkbox"/>
	(RS232) <input type="checkbox"/> (RS422) <input type="checkbox"/>
RADIO AICS ADDRESS	7-125-168-018-95-01
OFFICE PHONE NUMBER	J-XXX-XXX-XXXX
FIELD COM	VHF (ECHO) <input type="checkbox"/> VHF (RS232) <input type="checkbox"/>
	M4G (ECHO) <input type="checkbox"/> S5 (RS232) <input type="checkbox"/>
	BAUD RATE (9600) <input type="checkbox"/>
	BAUD RATE (3600) <input type="checkbox"/>
	BAUD RATE (9600) <input type="checkbox"/>

NOTE 5

NOTE 6

NOTE 7

OPTION	SELECTION
RAILROAD NUMBER	125
CROSSING CONFIGURATION	STANDARD <input type="checkbox"/> LARGE <input type="checkbox"/> REARTE <input type="checkbox"/> SPLIT GATE <input type="checkbox"/>
	ISL ONLY <input type="checkbox"/> CP COLLECTION <input type="checkbox"/>
NUMBER OF XR INPUTS	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
NUMBER OF ISL INPUTS	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
CONSTANT WARNING DEVICE	GCP <input type="checkbox"/> OTHER <input type="checkbox"/> NONE <input type="checkbox"/>
TOTAL NUMBER OF GCP MODES	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
NUMBER OF REDUNDANT GCP	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
CROSSING CONTROLLER 1	SSC T1A / PLUS <input type="checkbox"/> SSC IV <input type="checkbox"/> OTHER <input type="checkbox"/> NONE <input type="checkbox"/>
PKC2	YES <input type="checkbox"/> NO <input type="checkbox"/>
MAIN / STANDBY	YES <input type="checkbox"/> NO <input type="checkbox"/>
AUXILIARY TRACKS	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>
ENTRANCE GATE	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
	5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
EXIT GATES	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
	5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
GATE POSITION FAIL 10-60 SEC	XX
NUMBER OF WAJ INPUTS	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>
BATTERY BANKS	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>
OB RESOLUTION	.2 <input type="checkbox"/> .5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input type="checkbox"/>
X-B RESOLUTION	.2 <input type="checkbox"/> .5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input type="checkbox"/>
B-6 RESOLUTION	.2 <input type="checkbox"/> .5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input type="checkbox"/>
X-B2 RESOLUTION	.2 <input type="checkbox"/> .5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input type="checkbox"/>
B-62 RESOLUTION	.2 <input type="checkbox"/> .5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input type="checkbox"/>
X-B3 RESOLUTION	.2 <input type="checkbox"/> .5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input type="checkbox"/>
PREEMPTION	NORMAL <input type="checkbox"/> ADVANCED <input type="checkbox"/> NO <input type="checkbox"/>
KOR INPUT	YES <input type="checkbox"/> NO <input type="checkbox"/>
VHF COMMUNICATOR	YES <input type="checkbox"/> NO <input type="checkbox"/>
ACTIVATION CODE 1	XXX
ACTIVATION CODE 2	XXX
ACTIVATION CODE 3	XXX
ACTIVATION TIMEOUT (30 TO 600 SECONDS)	60
FLOOD MODULES	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>
ANY LED BULBS	NO <input type="checkbox"/> YES <input type="checkbox"/>
AUTO INSPECTIONS	YES <input type="checkbox"/> NO <input type="checkbox"/>
BELL ON	GATES LOWERING <input type="checkbox"/> GATES MOVING <input type="checkbox"/> ALWAYS <input type="checkbox"/>
GROUND FAULT DETECTORS	YES <input type="checkbox"/> NO <input type="checkbox"/>
BATTERIES ON GFT1	1 <input type="checkbox"/> 2 <input type="checkbox"/>
FULL APPROACH MOVE ALARMS	ACTIVATED <input type="checkbox"/> DO NOT ACTIVATE <input type="checkbox"/>

NOTE 1

NOTE 2

NOTE 3

NOTE 4



NOTE

FIELD TO PROVIDE BATTERY VOLTAGES ON AIS

MEASURE BATTERY VOLTAGE AT INPUT	XXXX VOLTS
BATTERY VOLTAGE - OB	XXXX VOLTS
BATTERY VOLTAGE - X-B	XXXX VOLTS

LIT BULB COUNT ON EACH CIRCUIT	NO.	TYPE OF BULB	CURRENT READING (M.A.)	TYPE OF BULB
CURRENT SENSOR (1) ETC. LAMP SET UP	2	BULBS <input type="checkbox"/> LED <input type="checkbox"/>	X.X	X.X
CURRENT SENSOR (1) ETC. LAMP SET UP	2	BULBS <input type="checkbox"/> LED <input type="checkbox"/>	X.X	X.X
CURRENT SENSOR (2) ETC. LAMP SET UP	6	BULBS <input type="checkbox"/> LED <input type="checkbox"/>	X.X	X.X
CURRENT SENSOR (2) ETC. LAMP SET UP	6	BULBS <input type="checkbox"/> LED <input type="checkbox"/>	X.X	X.X

- LARGE CONFIGURATION ASSIGNS RECORDER INPUTS FOR USE WHEN DIGITAL I/O MODULE REQUIRED.
- IF WARNING DEVICE = NONE NOT SHOWN OPTION
- IF NO COMMUNICATIONS - NO CHANNEL OPTIONS ARE NOT SHOWN.
- LAST 3 DIGITS OF DOT NO. FOR FIRST ACTIVATION CODE
- DEFAULT ADDRESS 1 FOR 100-95-01 USED FOR STAND. LANE LOCATIONS.
- OPTIONS NOT SHOWN IF COMMUNICATIONS - SITE TYPE = NO COMMUNICATIONS.
- PARITY STOP BITS, FLOW CONTROL.

DESIGNED	DATE
DIGITIZED	CHECKED
XRL	XRL
09-12-17	09-12-17
FILE	SHEET
8458735	CB5

DESIGN DATE	REV. NO.
09-12-17	1
DRAWING	SHEET NO
	8458735
FILE	SHEET
8458735	CB5

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS
S.R. 1015 (HANOVER STREET) 832125X
SEAR 11 CONFIGURATION AND FUNCTIONS
NEW OXFORD BOROUGH, PA M.P. BAS-57.35
NS4000SR-CBS
REV. 05-04-15

DISCRETE INPUTS	DI #1	DI #2	DI #3	DI #4	DI #5	DI #6
CHANNEL	1	2	3	4	5	6
NAME	XRL	ISLAND 1 (TRACK)				BELL OUT (BELL PRR)
TAG	XRL (XRL)	SP	ISL1	SP	SP	BELL OUT (BELL PRR)
OFF NAME	DOWN (XRL)		DOWN (ISL1)			OFF (BELL PRR)
ON NAME	UP (XRL)		UP (ISL1)			ON (BELL PRR)
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms	1000 ms

TSS INPUTS	DI #7	DI #8	DI #9	DI #10
CHANNEL	7	8	9	10
NAME	SP	SP	SP	SP
OFF NAME				
ON NAME				
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	1000 ms	1000 ms	1000 ms	1000 ms

DISCRETE INPUTS	DI #11	DI #12	DI #13
CHANNEL	11	12	13
NAME	SP	DTMF-REC	SP
TAG		DTMF-REC	SP
OFF NAME		OFF AND GATE KEYED	
ON NAME		ON (ACTIVATE)	
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	1000 ms	1000 ms	1000 ms

GET INPUTS	DI #14	DI #15
CHANNEL	14	15
NAME	6ND FAULT TESTER 1 (GFT1,2)	
TAG	GFT1 (GFT1 DASH)	SP
BATTERY 1 NAME	OB (6ND FAULT)	SP
BATTERY 1 TAG	OB (6ND FAULT)	SP
BATTERY 2 NAME	X-B (6ND FAULT)	SP
BATTERY 2 TAG	X-B (6ND FAULT)	SP

DISCRETE INPUTS	DI #16	DI #17	DI #18
CHANNEL	16	17	18
NAME	SP	128 VAC	POK2
TAG		128 VAC	POK2
OFF NAME		OFF (CALL POWER OFF)	OFF (CALL POWER OFF)
ON NAME		ON (CALL POWER ON)	ON (CALL POWER ON)
ON DEBOUNCE TIME	1000 ms	1000 ms	1000 ms
OFF DEBOUNCE TIME	1000 ms	1000 ms	1000 ms
TOGGLE PERIOD	1000 ms	1000 ms	1000 ms

BATTERY INPUTS	BI 1	BI 2	BI 3
CHANNEL	1	2	3
NAME	OB (ELECTRONIC BATT)	X-B (BULB BATT)	
TAG	OB	X-B	SP
OFF NAME			
ON NAME			
ON DEBOUNCE TIME	500 (ms)	500 (ms)	500 (ms)
OFF DEBOUNCE TIME	0.2 (VOLTS)	0.2 (VOLTS)	0.2 (VOLTS)
TOGGLE PERIOD	32 SAMPLES	32 SAMPLES	32 SAMPLES

RELAYS	RO 1	RO 2
CHANNEL	1	2
NAME	GFT TEST	AC POWER TEST (ACRLY)
TAG	SELF TEST	AC POWER TEST (ACRLY)
OFF STATE NAME	NOT TESTING	OFF (ACR DN)
ON STATE NAME	TESTING	ON (ACR UP)
UNKNOWN STATE NAME	PULSE	PULSE
ON PULSE TIME (s)	1 (s)	1 (s)
OFF PULSE TIME (s)	1 (s)	1 (s)
TOGGLE PERIOD (s)	1 (s)	1 (s)
DUTY CYCLE	50	50

NOTE: () DENOTES NOMENCLATURE FOR CHANNELS WHICH DO NOT DISPLAY ON LOG REPORTS.

NEW WORK
105669
09-12-17

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS
S.R. 1015 (HANOVER STREET) 832125X

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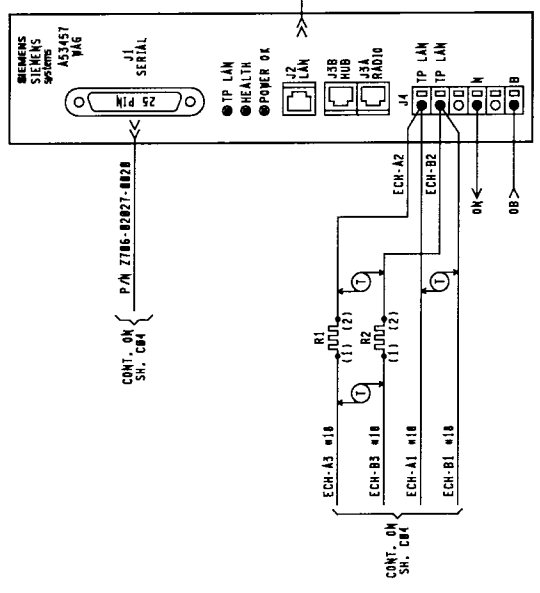
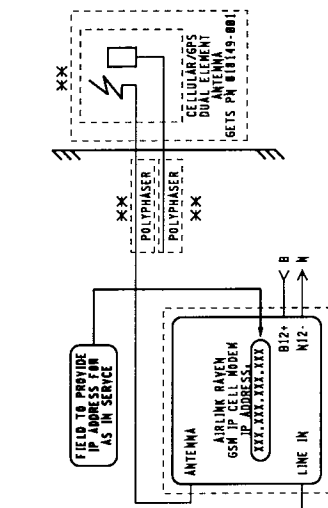
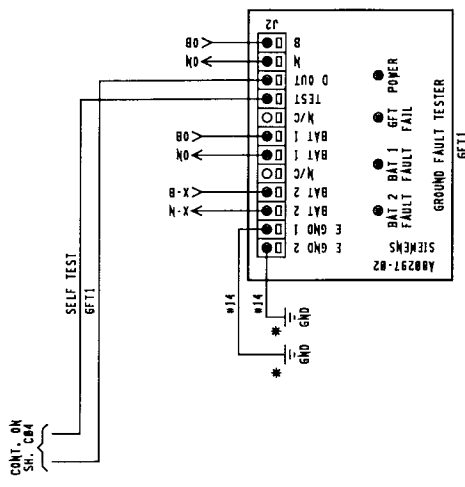
NSA000RSP-CB7
REV. 05-04-15

DESIGNED	DIGITIZED	CHECKED	DATE
XRL	XRL	XRL	09-12-17
DRAWING	SHEET NO	FILE	SHEET
09-12-17	BA505735	CB6

SEAR II CHANNELS
NEW OXFORD BOROUGH, PA. N.P. BAS-67-35

WAYSIDE ACCESS GATEWAY CONFIGURATION	
SITE ATCS ADDRESS	7-125-460-818-01-81
SERIAL INTERFACE	7-125-LLL-666-SS-00
SERIAL FORMAT	9600,NONE,B,T,NOFLOW
WAG TEST MODE	DISABLED
ECHOLON ADDRESS	01-81
UDP PORTS	5000, 5001, 5002, 5003
ROUTE TABLE EXPIRY	5400 SEC
BROADCAST MEDIUM	IP ETHERNET
TCP PORTS	6001
DHCP SERVER	DISABLED
IP ADDRESS	192.168.13.1
TYPE 7 ROUTE LENGTH	12--7RRLL166SS
IP NETWORK MASK	255.255.255.000

NOTE TO INSPECTOR:
AT INSTALLATION OF CDMA BY COM
MARK-UP CONFIGURATION TABLE FOR
AS IN SERVICE PLANS



- NOTE:
1. ALL WIRING #16 UNLESS NOTED OTHERWISE.
 2. * = EARTH GROUND REF. TERMINALS REQUIRED FOR CONNECTION OF DIFFERENT TERMINALS. MUST BE CONNECTED TO DIFFERENT POINTS OF BUNGALOW.
 3. R1 & R2 = 1.5 WATT, 200 OHM RESISTOR
 4. ** = COMMUNICATIONS TO SUPPLY.

NEW WORK
105663
09-12-17
XRL/DKD/
xorail

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS	
S.R. 1015 (HANOVER STREET) 032125X	
WAYSIDE ACCESS GATEWAY	
NEW OXFORD BOROUGH, PA M.P. BAS-57.35	
DESIGNED	CHECKED
DIGITIZED	DATE
XRL	XRL
XRL	09-12-17
DRAWING	SHEET NO
.....
FILE	SHEET
BAS05735	007

- CONM NOTES:
1. WAG JSA PHOTOS.
 - 4 & 5 = +12VDC RADIO OUT
 - 7 & 8 = GND RADIO RETURN

NS4000SR-C08
REV. 05/04/15

DESIGN DATE	REV. NO.
09-12-17	1

Shop Material List for CSX Project: PA2015021 (Effective: 09/22/2017)
INSTALL FLS W/MS 4000[S.R. 1015.]
NEW OXFORD BOROUGH, PA - BAS 57.35

Catalog Num	Cond	Unit Price	Qty	Cost	Description
020-0017120	1	11.52	6	69.12	BLOCK TERMINAL 12 POST SINGLE STRIP AAR 14.1.6 WITH 1 AAR
020-0017125	1	3.26	6	19.56	BLOCK TERMINAL 2 POST AAR 14.1.8 WITH 1 AAR 14.1.11
020-0017211	1	1106.56	1	1106.56	TRANSFORMER LIGHT 750VA 010520-50X MODEL SLT-50
020-0021965	1	8.96	1	8.96	EXTRACTOR DWG 59688-4 TERMINAL GRS CAT P3-308 REF
020-0022651	1	106.70	4	426.80	PLUGBOARD KIT TYPE B1 OR ST1 RELAY ASSEMBLY WITH 12 EACH
020-0025595	1	20.72	1	20.72	WRENCH DWG 55393-3 GR1 "E" TERMINAL POST NUT GRS CAT
020-0053360	1	387.88	2	775.76	CHARGER BATTERY ELC 12/20 D 20 AMP 10-19.9 VDC ROTARY SW
020-0167501	1	38.51	14	539.14	ARRESTER HYBRID LOW VOLTAGE,2, 0-30V DC OR 0-24V
020-0660077	1	603.13	1	603.13	ARRESTER GE 9L10KAC213 FOR 240 VOLT SINGLE PHASE 3 WIRE
020-0750090	1	0.11	3	0.33	NUT INSULATED USE ON AAR BINDING POST TERMINAL FOR
020-0770060	1	15.46	4	61.84	ARRESTER US&S N451552-0201 TRACK SERIES RED LABEL USGA
020-0770105	1	22.40	2	44.80	ARRESTER HARMON 202217-000 AGE-1 TRACK AIR GAP EQUALIZER
020-1000354	1	5954.25	1	5954.25	HOUSE SIGNAL 6FT X 6FT WITH PTC UPGRADE PTMW P/N 91000354
020-1940055	1	20.24	1	20.24	CONTAINER TUBE HOLDER CIRCUIT PRINT PLAN 24" SCHD 20 4" PVC
020-2501400	1	1094.58	1	1094.58	CONTROLLER DTMF RADIO KEY DOWN MODE 6 SET TIMER TO 60
020-2503081	1	69.04	1	69.04	MODULE SAFETRAN ECHELON TERMINATION UNIT (A80078) USE
020-3180290	1	4878.63	1	4878.63	KIT, SEAR II FOR REMOTE MONITORING, ALARMS & TESTING,
020-3430115	1	473.41	1	473.41	RELAY SAFETRAN 400005 500 OHMS CONTACTS 4FB HEAVY DUTY
020-3430130	1	409.74	1	409.74	RELAY SAFETRAN 400023 500 OHMS CONTACTS 6FB HEAVY DUTY
020-3430170	1	464.35	1	464.35	RELAY SAFETRAN 400800-CSX 100/100 OHMS CONTACTS 6FB
020-3430185	1	483.80	1	483.80	RELAY SAFETRAN 400700-X 60 OHMS CONTACTS 4FB CSX
020-4200340	1	1.74	4	6.96	LINK TEST ASSEMBLY 1" CENTERS YELLOW INSULATOR ON OFFSET
020-4200350	1	2.06	6	12.36	LINK TEST ASSEMBLY 2-3/8" CENTERS YELLOW INSULATOR ON
020-4201045	1	0.15	400	60.00	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT
020-4900002	1	6500.00	1	6500.00	DETECTOR MOTION INVENSYS MS4000 ONE TRACK REDUNDANT

Shop Material List for CSX Project: PA2015021 (Effective: 09/22/2017)
INSTALL FLS W/MS 4000[S.R. 1015.]
NEW OXFORD BOROUGH, PA - BAS 57.35

<u>Catalog Num</u>	<u>Cond</u>	<u>Unit Price</u>	<u>Qty</u>	<u>Cost</u>	<u>Description</u>
020-8000067	1	14.88	2	29.76	LOCK AMERICAN H10SIGRA CSX SIGNAL PADLOCK WITH BLACK
022-5290559	1	317.05	1	317.05	CONVERTER WILMORE INPUT 10V DC TO 16V DC OUTPUT 13.6V DC
Total Cost: \$				24,450.89	

Field Material List for CSX Project: PA2015021 (Effective: 09/22/2017)
INSTALL FLS W/MS 4000[S.R. 1015.]
NEW OXFORD BOROUGH, PA - BAS 57.35

Catalog Num	Cond	Unit Price	Qty	Cost	Description
N/A		13064.00	1	13064.00	CANTILEVER 14' QUOTE # QSOA0189
014-8006169	1	10.62	2	21.24	SIGN PERMANENT EMERGENCY NOTIFICATION (VEHICLE
020-0002105	1	1873.52	1	1873.52	SIGNAL 0210-L5 GCWD FLASHER ASSY DWG SS221 INCLS 2-WAY
020-0010447	1	9.83	3	29.49	BOX GROUND ROD CONNECTION ENCLOSURE COMPLETE WITH 7"
020-0013686	1	75.94	2	151.88	BOOTLEG KIT CSX RAIL CONN W/15 FT 3/16 IN BDSTRAND 6/64
020-0014000	1	4.17	400	1668.00	CABLE UG 10 COND NO 9 AWG SOLID C CSX SPEC SS796 SHOW
020-0014605	1	2990.00	1	2990.00	FOUNDATION CONCRETE GCWD 5' - 10" SECT PRECAST ASSY BLT
020-0053220	1	2.29	150	343.50	CABLE POWER UG 3 COND NO 6 AWG - SHOW LENGTH ON EACH
020-0055421	1	23.96	4	95.84	BRACKET SIGN 4" OR 5" MAST W/1/2" U-BOLT FOR ALL SIGNS
020-0057275	1	1.02	400	408.00	WIRE UG TRACK TWISTED PAIR NO. 6 AWG SOLID CONDUCTOR
020-1020095	1	1678.83	1	1678.83	PLATFORM HIGHWAY CROSSING ACCESS FOUNDATION COMPLETE
020-1040322	1	127.92	18	2302.56	BATTERY SAFT SPL165, 165 AH POCKET PLATE NICKEL CADMIUM
020-1040540	1	31.36	2	62.72	TRAY BATTERY FIBER CO 82687-1-P 12" WIDTH 24" LONG
020-1150750	1	1.00	400	400.00	BOND STRAND 3/16" DIA 7 STRANDS OF 19 STR EACH 6 WITH
020-1304014	1	6.14	12	73.68	KIT BOND, CADWELD PLUS WEB OF RAIL BOND 3/16 DIA. 4" LARGE
020-1360014	1	933.66	1	933.66	PACKAGE FOREMANS CARE FOR ALUMINUM TYPICAL BOM FOR USE
020-1360016	1	22.57	1	22.57	PACKAGE SAFETY FOR BURCO CONTAINERS COMPLETE WITH ONE
020-1360104	1	1394.70	1	1394.70	LAYOUT AC METER SERVICE WITH 30' POLE CSX DWG SS351 SH 2
020-2060078	1	53.00	4	212.00	BOLT 1" - 8 X 8" INCLUDES NUT AND 3 FLAT WASHERS, USE ON
020-3920200	1	178.76	1	178.76	BELL GCWD ELECTRONIC 4" OR 5" MAST 8 TO 13 VOLTS DC GSI PN
020-4200340	1	1.74	18	31.32	LINK TEST ASSEMBLY 1" CENTERS YELLOW INSULATOR ON OFFSET
020-4200900	1	0.17	6	1.02	CONNECTOR SHEATHING AMP 329860 FOR NO. 14 WIRE
020-7300030	1	189.28	1	189.28	BRACKET BELL FITS SAFETRAN JUNCTION BOX MOUNT, 5" BENT
020-9999991	1	100.00	1	100.00	BLOCKING AND BRACING FOR PROJECTS BURCO DIST
250-0001836	1	15.21	1	15.21	BREAKER CIRCUIT SQ D QO260
360-0006100	1	35.07	1	35.07	STOOL STEP WOOD 14"X 20" SIGNAL MAINTAINERS CSXT

Field Material List for CSX Project: PA2015021 (Effective: 09/22/2017)
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NEW OXFORD BOROUGH, PA - BAS 57.35

Catalog Num	Cond	Unit Price	Qty	Cost Description
360-0800145	1	7.54	1	7.54 BROOM WAREHOUSE CORN HVY DUTY 1-1/8" DIA HANDLE
Total Cost: \$				28,284.39

Consumables List for CSX Project: PA2015021 (Effective: 09/22/2017)
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NEW OXFORD BOROUGH, PA - BAS 57.35

Catalog Num	Cond	Unit Price	Qty	Cost Description
N/A		50.00	100	5000.00 FILL MATERIAL, 1 CUBIC YARD
N/A		500.00	1	500.00 RAVEN AIR-LINK
N/A		800.00	1	800.00 WALKWAY ROCK, 10 CUBIC YARDS
020-0017605	1	0.27	350	94.50 WIRE CASE 10 AWG FLEX CSX SPEC SS796 OKONITE P/N
020-0017607	1	0.65	500	325.00 WIRE CASE TW PR NO 10 AWG FLEX CSX SPEC SS796 TWIST 2
020-0017625	1	0.42	150	63.00 WIRE CASE TWISTED PAIR AWG #14 FLEX TWIST 2 TURNS PER FT
020-0017630	1	0.13	200	26.00 WIRE CASE NO 16 AWG FLEX CSX SPEC SS796 FURN 1000 FT SPOOL
020-0017636	1	0.75	130	97.50 WIRE SIGNAL AWG 6 STRANDED COPPER, T&C BLUE, FOR BATTERY
020-0028610	1	0.23	100	23.00 TERMINAL RING PANDUIT PN12-14HDR-D YELLOW NYLON HVY
020-0053510	1	208.13	1	208.13 KIT 240V AC EMERGENCY GENERATOR CABLE AND
020-1360540	1	71.65	1	71.65 BREAKER MAIN/GENERATOR BACKFEED RETAINING GENERATOR
020-1710045	1	2.42	1000	2420.00 CONDUIT SDR 13.5 4" ORANGE POLYETHYLENE TRENCHLESS
020-2060072	1	442.00	1	442.00 FOUNDATION HELICAL SCREW-IN ASSEMBLY 7' X 10", USED FOR
020-2060074	1	366.00	1	366.00 EXTENSION 10" X 3' USE WITH XING GATE AND SIGNAL MAST
020-3261970	1	9.41	2	18.82 DECAL (DO NOT ORDER, CALL SIGNAL SHOP) ASSY 2" BLACK
020-4168917	1	0.50	2	1.00 RESISTOR, FIXED .5W, 20W OHM (REPLACEMENT FOR INVENSYS PN
020-4200880	1	0.53	2	1.06 CONNECTOR TERMINAL 2-3/8" CENTERS AAR 14.1.15-4 NICKEL
020-4200892	1	0.44	27	11.88 CONNECTOR TERMINAL 1" CENTERS AAR 14.1.15-3 NICKEL PLATED
020-4251190	1	0.14	120	16.80 TERMINAL RING PANDUIT PV10-14RD YELLOW VINYL SIZE
020-4251290	1	0.53	30	15.90 TERMINAL RING PANDUIT PV6-14R-T BLUE VINYL SIZE 6
020-4251295	1	0.53	6	3.18 TERMINAL RING PANDUIT PV6-38R-T BLUE VINYL SIZE 6
020-9999992	1	50.00	1	50.00 HOUSE SIGNAL HANDLING CHARGE BURCO DISTRIBUTION
450-0019212	1	0.40	100	40.00 SCREW 10 X 1" SHT METAL PAN HD TYPE A COARSE THREAD
Total Cost: \$				10,595.42