WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Clark County Public Works, Petitioner, vs. Portland Vancouver Junction Railroad Respondent	DOCKET NO. TR- PETITION TO MODIFY WARNING DEVICES AT A HIGHWAY-RAILROAD GRADE CROSSING USDOT: 852-436D

The Petitioner asks the Washington Utilities and Transportation Commission to approve modification of warning devices at a highway-rail grade crossing.

Section 1 – Petitioner's Information

Clark County – Public Works Department
Petitioner

Robin A Washington
Signature

1300 Franklin Street
Street Address

Vancouver, WA 98666
City, State and Zip Code

PO Box 9810 – Vancouver, WA 98666-9810
Mailing Address, if different than the street address

Robin Washington
Contact Person Name & Signature

564.397.4572 Robin.Washington@clark.wa.gov
Contact Phone Number and Email Address

Section 2 – Respondent's Information

Portland Vancouver Junction Railroad
Respondent

1300 Franklin Street
Street Address

Vancouver, WA 98666
City, State and Zip Code

PO Box 9810, Vancouver, WA
Mailing Address, if different than the street address

Greg Shafer
Contact Person Name

564.397.4064 - Greg.Shafer@clark.wa.gov
Contact Phone Number and Email Address

Section 3 – Crossing Location

1. Existing highway/roadway NE 119th Street

2. Existing railroad Portland Vancouver Junction Railroad

3. USDOT Crossing No. 852-436D

4. GPS location Latitude 45.707811; Longitude -122.570418

5. Railroad mile post (nearest tenth) 7.60

6. City Vancouver County Clark County Washington

Section 4 – Vehicle Traffic

1. Name of highway NE 119th Street

2. Road authority Clark County

3. Average annual daily traffic (AADT) 12,809 (2017)

4. Number of lanes two

5. Roadway speed 45 MPH Posted

6. Is the crossing part of an established truck route? Yes X No _____

7. If so, trucks are what percent of total daily traffic? 10%

8. Is the crossing part of an established school bus route? Yes X No _____

9. If so, how many school buses travel over the crossing each day? 70 buses

10. Describe any changes to the information in 1 through 7, above, expected within ten years:

This roadway section is a Clark County Public Works, Capital project. Construction is starting this summer (2018).

This roadway will be widening from two lanes to four travel-lanes, center turn-lane, sidewalks and bike-lanes.

Section 5 – Current Crossing Information

1. Railroad company Portland Vancouver Junction Railroad

2. Type of railroad at crossing x Common Carrier € Logging € Industrial

€ Passenger € Excursion

3. Type of tracks at crossing x Main Line € Siding or Spur

4. Number of tracks at crossing one

5. Average daily train traffic, freight twice weekly

Authorized freight train speed 10mph Operated freight train speed 10mph

6. Average daily train traffic, passenger -0-

Authorized passenger train speed N/A Operated passenger train speed N/A

7. Describe any changes to the information in 1 through 4, above, expected within ten years:

None

8. What is the available sight distance from the stop bar (or 25 feet from the tracks if no stop bar) on both approaches to the crossing?

The roadway is being widened. Sightlines for the widened crossing are not known

9. If the sight distance is less than 400 feet, describe the structures, roadway or track curvature, visual obstacles or other characteristics that limit sight distance.

Vegetation, dips in roadway and rail line curve limit sightlines

Section 6 – Current Warning Devices

Provide a complete description of the warning devices currently located at the crossing (vehicle and pedestrian), including signs, gates, lights, train detection circuitry and any other warning devices.

Style-C track circuits, flasher signals with gates arms, bells and crossbucks.

Section 7 – Description of Proposed Changes

Describe in detail the number and type of proposed automatic signals (vehicle and pedestrian), gates or other warning devices, including proposed circuitry. If sidewalks are being installed, please provide information on who will maintain them.

Two each Flasher/Gate/Cantilever combo with flashing lights and bells, the gate arms 35' – 0", **Cantilevers mast** 30'– 0" (Sheet RR15 (136 of 167))

New crossing surface: width will be 121'-10.5". The crossing will be extended (5) panels in each direction. Sheet RRCD (120 of 167)

Center Island Medians: Two medians will be installed, 95' long (west side) and 150' long (east side) by 10' wide and 6' high with RPMS. See TYP 2 (74 of 232), SSD13 (78 of 167) and M1 (99 of 232)

Guardrail will be installed to protect the signals.

Bungalow: The existing rail bungalow is being relocated and retrofitted. Connections to the County ITS system are being provided. Sheets RRS1 to RRS15 (122 of 167 to 136 of 167) for detailed information on the wiring.

Pedestrian walkway/sidewalks – Four Flashers only (no gates) and detectable warning surface will be installed. No stop bars for pedestrians nor cyclist. See RR1 (96 of 232, 97 of 232). The sidewalks will be maintained by Clark County.

Pavement markings and warning signs, Bicycles use caution, crossing marking, Sheet SSIN5 (92 of 167) There is not a "slow speed sign" listed.

Section 8 – Illustration of Proposed Warning Devices

Attach a detailed design diagram, drawing, map or other illustration showing all proposed modifications, including signals, signage, pavement markings, sidewalks, etc.

See Attached "Railroad Signaling" Sheet 1 of 15 also "HDR CCCP Diagnostic Report".

Section 9 – Waiver of Hearing by Respondent

Waiver of Hearing

The undersigned represents the Respondent in the petition to modify highway-rail grade crossing warning signals at the following crossing.

USDOT Crossing No. 852-436D

We have investigated the conditions at the crossing. We are satisfied the conditions are the same as described by the Petitioner in this docket. We agree the warning signals should be modified and consent to a decision by the commission without a hearing.

Dated at Vancouver, Washington, on the 12TH day of July, 2018.

Gregory A. Shafer
Printed name of Respondent

[signature] for Jerry Barnett
Signature of Respondent's Representative

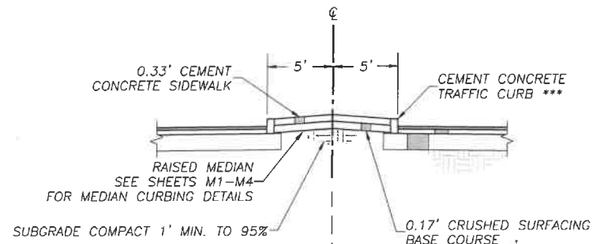
Development Engineering Manager for RR Coordinator
Title

(360) 397-6118 (x-4064) greg.shafer@clark.wa.gov
Phone number and e-mail address

1300 Franklin St.
Vancouver, WA 98666
Mailing address

GENERAL NOTES:

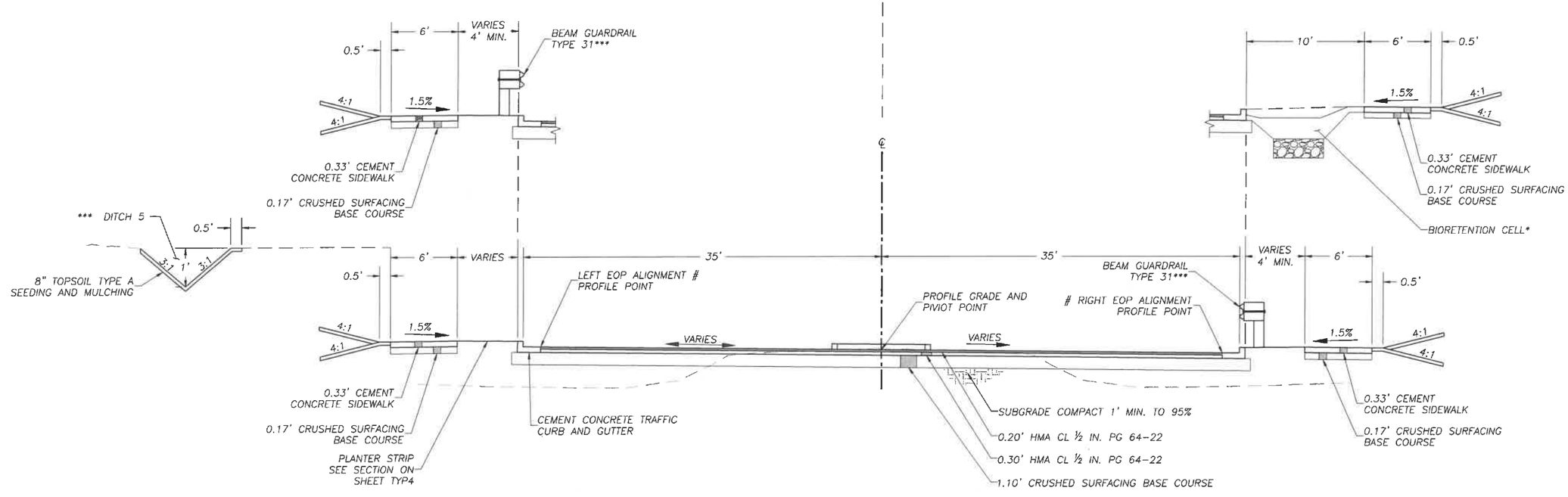
1. ALL SURFACING AND PAVING DEPTHS SHOWN ARE COMPACTED DEPTHS. SEE SPECIFICATIONS FOR MAXIMUM LIFT DEPTHS.
2. SEE ROADWAY PLAN AND PROFILE SHEETS FOR VARIABLE WIDTHS.
3. SEE SHEET TYP4 FOR CSBC EXTENSION AND TYPICAL SLOPE GRADING DETAILS.



* SEE BIORETENTION CELL PLANS FOR LOCATIONS OF BIORETENTION CELLS.

*** SEE ROADWAY PLANS FOR LOCATIONS.

\# SEE PP6 AND PP7 FOR EOP PROFILES.



NE 119TH STREET
STA 219+00.00 TO 223+60.00 LT
STA 220+00.00 TO 222+00.00 RT

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

CLARK COUNTY, WASHINGTON

TRANSPORTATION PROGRAM

PUBLIC WORKS
ENGINEERING & CONSTRUCTION DIVISION

ENGINEERING AND DESIGN SECTION

MARC E. ALEXIS STATE OF WASHINGTON 37336 REGISTERED PROFESSIONAL ENGINEER

NE 119TH STREET EAST - VOLUME 1 CRP #342422

TYPICAL SECTIONS
SHEET 2 OF 4

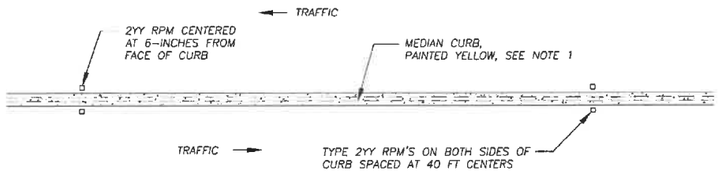
DATE 04/12/18
TYP2

DELINEATION FOR MEDIAN CURB AND CENTER MEDIAN ISLAND

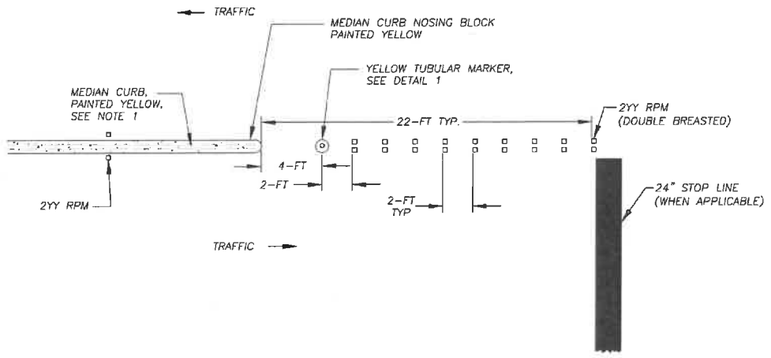
NOTES:

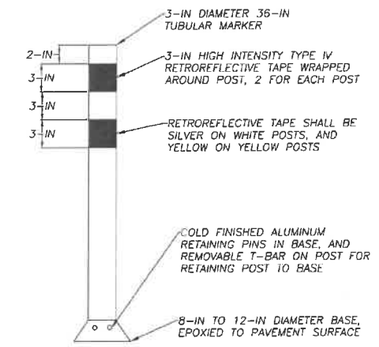
1. ALL MEDIAN CURB SHALL BE PAINTED AS SPECIFIED IN SECTION 8-07.3(2) OF THE WSDOT STANDARD SPECIFICATIONS.

2YY RPM'S NEXT TO MEDIAN CURB



TUBULAR MARKER AND 2YY ARRAY AT END OF CONCRETE MEDIAN DETAIL

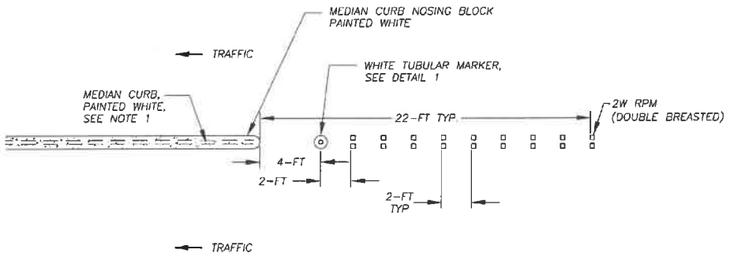




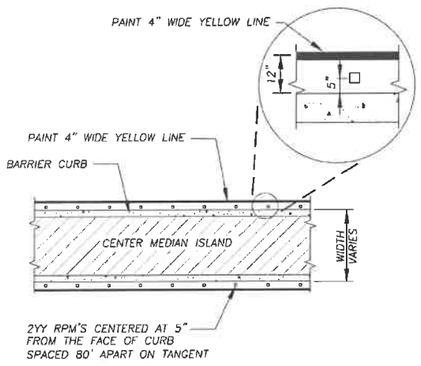
TUBULAR MARKER SHALL MEET THE REQUIREMENTS OF WSDOT STANDARD SPECIFICATIONS 1-10.3(3)H AND 9-35.10.

DETAIL 1

TUBULAR MARKER AND 2W ARRAY AT END OF CONCRETE MEDIAN DETAIL



CENTER MEDIAN ISLAND WITH 2YY RPM'S AND STRIPING DETAIL



REV. NO.	DATE	BY	APPR
1	05/16/17	MG	HH

DWG:

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

DELINEATION FOR MEDIAN CURB AND CENTER MEDIAN ISLAND

APPROVED

COUNTY ENGINEER — DATE 09/20/16

STANDARD T12.0 DETAIL

DESIGNED — DRAWN — DATE

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ENGINEERING & CONSTRUCTION DIVISION

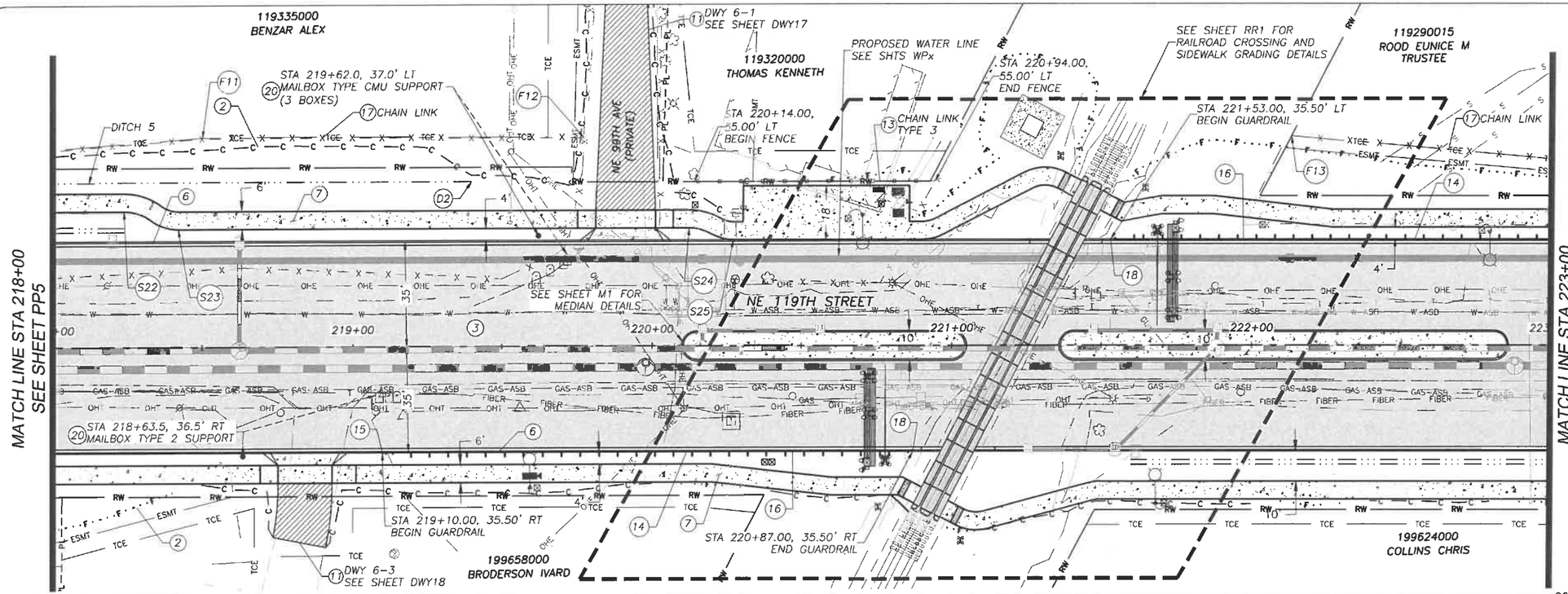
ENGINEERING AND DESIGN SECTION

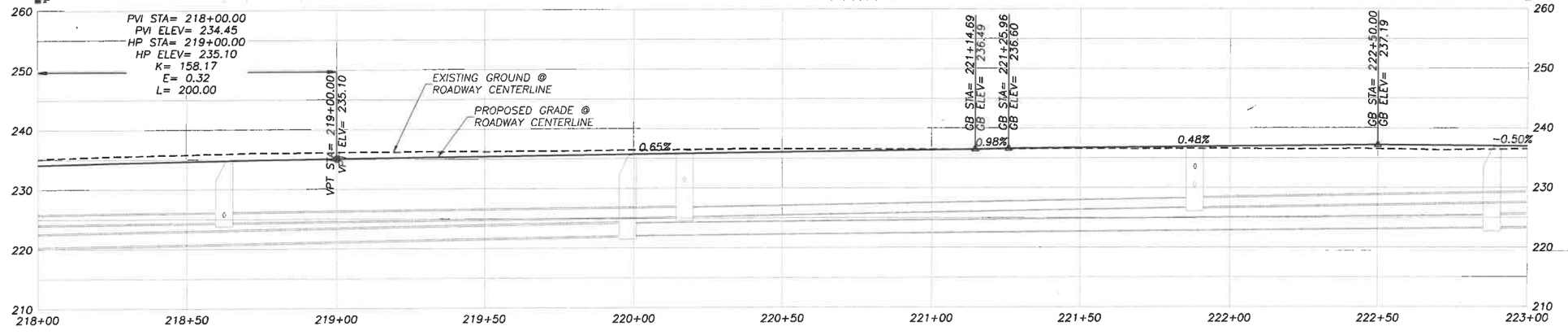
COURTNEY FURMAN — STATE OF WASHINGTON — 53566 — REGISTERED PROFESSIONAL ENGINEER

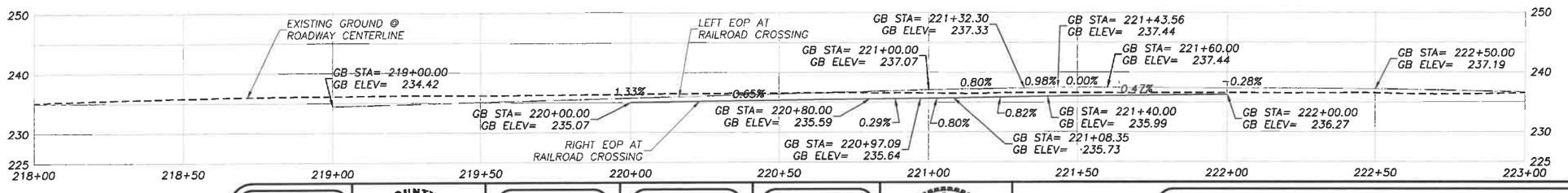
NE 119TH STREET EAST - VOLUME 2 CRP #342422

SIGNING AND STRIPING DETAILS
SHEET 13 OF 13

DATE 04/12/18
SSD13







CONSTRUCTION NOTES

(2) GRADING LIMITS

(3) CONSTRUCT ROADWAY. SEE TYPICAL SECTIONS ON SHEETS TYP(x)

(6) CONSTRUCT CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER DETAIL ON SHEETS RD(x)

(7) CONSTRUCT CEMENT CONCRETE SIDEWALK PER DETAIL ON SHEETS RD(x)

(11) CONSTRUCT DRIVEWAY PER DRIVEWAY PLAN AND PROFILE SHEETS DWY(x). SEE PLAN FOR DRIVEWAY NUMBER

(13) INSTALL FENCE OF TYPE NOTED PER DETAIL ON SHEETS RD(x)

(14) INSTALL BEAM GUARDRAIL TYPE 31 PER DETAIL ON SHEETS GD(x)

(15) INSTALL BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL PER DETAIL ON SHEETS GD(x)

(16) INSTALL BEAM GUARDRAIL TRANSITION SECTION TYPE 21 PER DETAIL ON SHEETS GD(x)

(17) INSTALL TEMPORARY FENCE, TYPE AND LOCATIONS SHOWN ON THE PLANS, PER DETAIL ON SHEETS RD(x)

(18) INSTALL BEAM GUARDRAIL ANCHOR TYPE 10 (THRIE BEAM), PER DETAIL ON SHEETS GD(x)

(20) INSTALL MAILBOX ON SUPPORT OF TYPE NOTED PER DETAIL ON SHEETS RD(x)

Sidewalk Staking		
PNT	STA/OFF	DESC
S22	218+24.00, 45.50L	BEGIN TAPER, R=15'
S23	218+42.00, 39.50L	END TAPER
S24	220+12.27, 39.50L	BEGIN TAPER, R=15'
S25	220+27.23, 35.50L	END TAPER

Ditch Staking		
PNT	STA/OFF	DESC
D2	219+40.00, 55.00L	END DITCH

Fence Staking		
PNT	STA/OFF	DESC
F11	218+50.00, 70.00L	ANGLE POINT
F12	219+77.06, 69.73L	END FENCE
F13	222+12.89, 70.00L	BEGIN FENCE

FULL DEPTH CONSTRUCTION

CEMENT CONCRETE

HMA DRIVEWAY

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ENGINEERING & CONSTRUCTION DIVISION

ENGINEERING AND DESIGN SECTION

MARC E. ALBERS STATE OF WASHINGTON 37536 REGISTERED PROFESSIONAL ENGINEER

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

NE 119TH STREET EAST - VOLUME 1 CRP #342422

ROADWAY PLAN & PROFILES
STA 218+00 TO STA 223+00

DATE 04/12/18

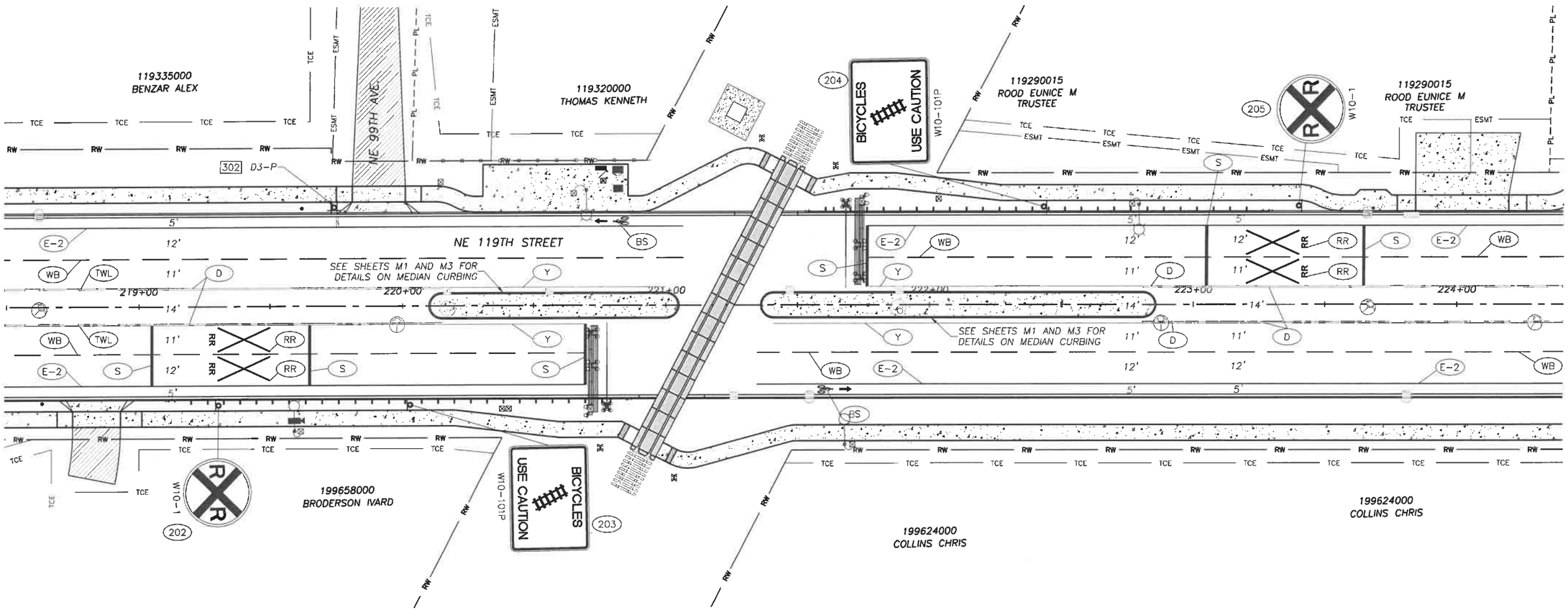
PP6

0 20 40 Feet

N

NOTES:

1. SEE RAILROAD SIGNAL PLANS RRS1 THROUGH RRS15 FOR DETAILS ON RAILROAD CROSSING SIGNING.



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CLARK COUNTY, WASHINGTON

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ENGINEERING AND DESIGN SECTION

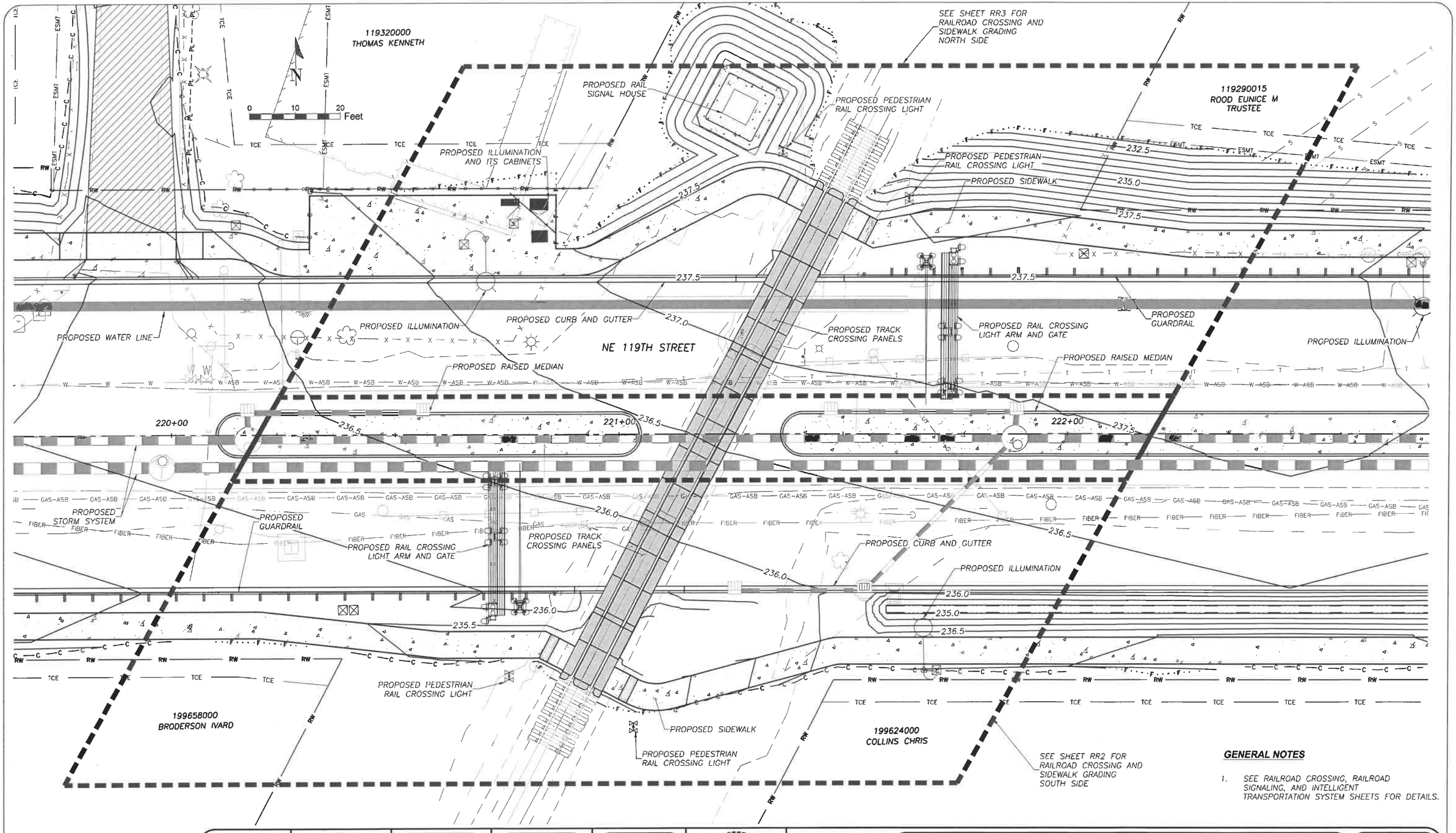
COURTNEY FURMAN STATE OF WASHINGTON 53566 REGISTERED PROFESSIONAL ENGINEER

NE 119TH STREET EAST - VOLUME 2 CRP #342422

SIGNING AND STRIPING INSTALL
STA 213+00 TO STA 223+00

DATE 04/12/18

SSIN5



GENERAL NOTES

1. SEE RAILROAD CROSSING, RAILROAD SIGNALING, AND INTELLIGENT TRANSPORTATION SYSTEM SHEETS FOR DETAILS.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

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ENGINEERING AND DESIGN SECTION

MARC E. ALLEN STATE OF WASHINGTON 37336 REGISTERED PROFESSIONAL ENGINEER

NE 119TH STREET EAST - VOLUME 1 CRP #342422

RAILROAD CROSSING SHEET LAYOUT

DATE 04/12/18

RR1

96 OF 232

NE 119TH STREET

221+00

236.5

236.0

235.5

PROPOSED TRACK CROSSING PANELS

STA 220+20.00, 39.50' RT
N=143462.741
E=1111420.889
EL= 235.74

STA 220+84.81, 44.67' RT
N=143456.411
E=1111485.596
EL= 235.31

STA 220+90.14, 47.43' RT
N=143453.557
E=1111490.874
EL= 235.31
MATCH TRACK PANEL ELEVATION

STA 220+83.51, 44.00' RT
N=143457.106
E=1111484.311
EL= 235.31

STA 220+60.00, 44.00' RT
N=143457.526
E=1111460.803
EL= 235.33

STA 220+99.02, 52.03' RT
N=143448.802
E=1111499.671
EL= 235.31
MATCH TRACK PANEL ELEVATION

STA 221+50.00, 45.50' RT
N=143454.417
E=1111550.761
EL= 236.67

STA 221+46.11, 46.01' RT
N=143453.974
E=1111546.864
EL= 236.53

STA 221+04.35, 54.79' RT
N=143445.948
E=1111504.949
EL= 235.31

STA 221+10.82, 55.49' RT
N=143445.133
E=1111511.407
EL= 235.31

STA 220+20.00, 45.50' RT
N=143456.742
E=1111420.782
EL= 235.83

STA 220+60.00, 50.00' RT
N=143451.527
E=1111460.695
EL= 235.42

STA 220+82.05, 50.00' RT
N=143451.133
E=1111482.743
EL= 235.17

STA 220+87.38, 52.76' RT
N=143448.279
E=1111488.021
EL= 235.17
MATCH TRACK PANEL ELEVATION

STA 221+01.59, 60.11' RT
N=143440.670
E=1111502.096
EL= 235.18

STA 220+96.26, 57.36' RT
N=143443.524
E=1111496.817
EL= 235.18
MATCH TRACK PANEL ELEVATION

STA 221+12.37, 61.28' RT
N=143439.311
E=1111512.858
EL= 235.40

STA 221+50.00, 51.50' RT
N=143448.418
E=1111550.654
EL= 236.76

STA 221+47.67, 51.81' RT
N=143448.152
E=1111548.316
EL= 236.67

199658000
BRODERSON IVARD

199624000
COLLINS CHRIS

1.0% L=40.3'
0.1% L=23.5'
1.1% L=22.1'
3.4% L=36.5'
3.5% L=36.5'
2.2% L=6.0'
1.5% L=6.0'
0.0%
R=15.00'
R=9.00'

0 5 10 Feet

CONSTRUCTION NOTES

1. TRANSITION CURB HEIGHT FROM 6 INCHES TO 0 INCHES IN 6 FEET TO MATCH TRACK PANEL ELEVATION
2. INSTALL DETECTABLE WARNING SURFACE PER PLAN AND DETAIL ON ROADWAY DETAIL SHEET RD(x)

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

CLARK COUNTY, WASHINGTON

TRANSPORTATION PROGRAM

PUBLIC WORKS
ENGINEERING & CONSTRUCTION DIVISION

ENGINEERING AND DESIGN SECTION

MARC E. AERNI STATE OF WASHINGTON 37350 PROFESSIONAL ENGINEER 4/16/18

NE 119TH STREET EAST - VOLUME 1 CRP #342422

RAILROAD CROSSING
SOUTH SIDE

DATE 04/12/18

RR2

97 OF 232

CONSTRUCTION NOTES

1. TRANSITION CURB HEIGHT FROM 6 INCHES TO 0 INCHES IN 6 FEET TO MATCH TRACK PANEL ELEVATION
2. INSTALL DETECTABLE WARNING SURFACE PER PLAN AND DETAIL ON ROADWAY DETAIL SHEET RD(x)

N

0 5 10 Feet

PROPOSED RAIL SIGNAL HOUSE

STA 221+37.90, 57.87' LT
N=143557.987
E=1111540.511
EL= 237.86

STA 221+43.23, 55.11' LT
N=143555.133
E=1111545.789
EL= 237.86
MATCH TRACK PANEL ELEVATION

STA 221+52.11, 50.51' LT
N=143550.377
E=1111554.586
EL= 237.85
MATCH TRACK PANEL ELEVATION

119320000
THOMAS KENNETH

119290015
ROOD EUNICE M
TRUSTEE

STA 221+24.15, 57.90' LT
N=143558.263
E=1111526.761
EL= 237.81

STA 221+57.44, 47.75' LT
N=143547.524
E=1111559.864
EL= 237.85

STA 220+90.00, 41.50' LT
N=143542.476
E=1111492.327
EL= 237.51

STA 220+94.11, 42.49' LT
N=143543.394
E=1111496.451
EL= 237.54

STA 221+70.00, 50.00' LT
N=143549.544
E=1111572.466
EL= 238.11

STA 221+87.00, 50.00' LT
N=143549.240
E=1111589.463
EL= 238.06

STA 222+27.00, 45.50' LT
N=143544.026
E=1111629.376
EL= 237.88

STA 221+26.89, 52.56' LT
N=143552.875
E=1111529.408
EL= 237.72

STA 221+35.14, 52.54' LT
N=143552.709
E=1111537.657
EL= 237.72

STA 221+56.45, 41.51' LT
N=143541.293
E=1111558.769
EL= 237.76

STA 221+87.00, 44.00' LT
N=143543.241
E=1111589.356
EL= 237.97

PROPOSED TRACK CROSSING PANELS

STA 221+54.68, 42.43' LT
N=143542.246
E=1111557.010
EL= 237.72

STA 221+70.00, 44.00' LT
N=143543.545
E=1111572.359
EL= 238.02

STA 222+27.00, 39.50' LT
N=143538.027
E=1111629.269
EL= 237.79

STA 221+49.35, 45.19' LT
N=143545.099
E=1111551.732
EL= 237.72
MATCH TRACK PANEL ELEVATION

STA 220+96.84, 37.15' LT
N=143538.007
E=1111499.092
EL= 237.47

STA 221+40.47, 49.78' LT
N=143549.855
E=1111542.935
EL= 237.72
MATCH TRACK PANEL ELEVATION

STA 220+90.00, 35.50' LT
N=143536.477
E=1111492.219
EL= 237.42

NE 119TH STREET

221+00

222+00

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CLARK COUNTY, WASHINGTON

TRANSPORTATION PROGRAM

PUBLIC WORKS
ENGINEERING & CONSTRUCTION DIVISION

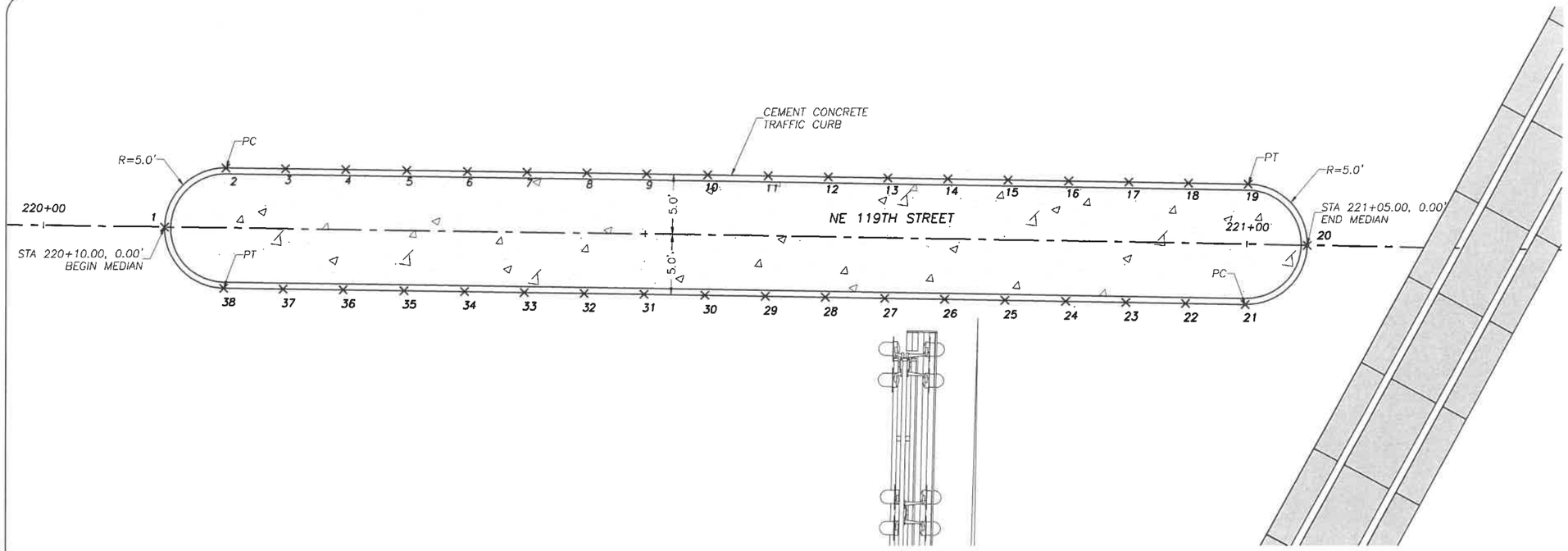
ENGINEERING AND DESIGN SECTION

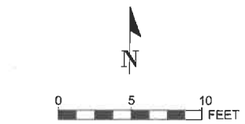
4/16/18

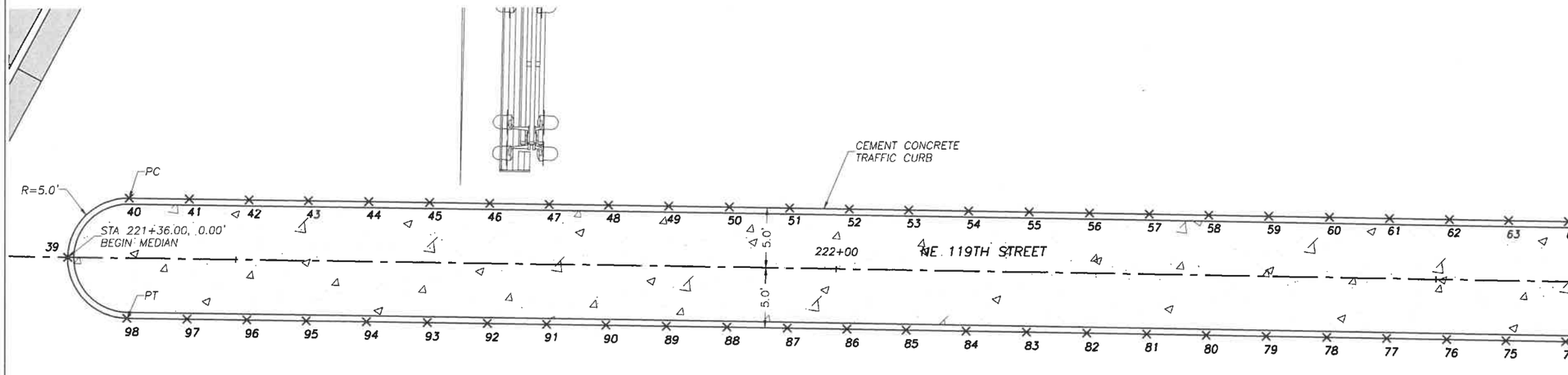
NE 119TH STREET EAST - VOLUME 1 CRP #342422

RAILROAD CROSSING
NORTH SIDE

DATE 04/12/18
RR3
98 OF 232







NOTES:

1. ALL POINTS ARE TOP FACE OF CURB (TFC).
2. SEE TYPICAL SECTION SHEETS FOR MEDIAN SECTIONS.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

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TRANSPORTATION PROGRAM

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ENGINEERING & CONSTRUCTION DIVISION

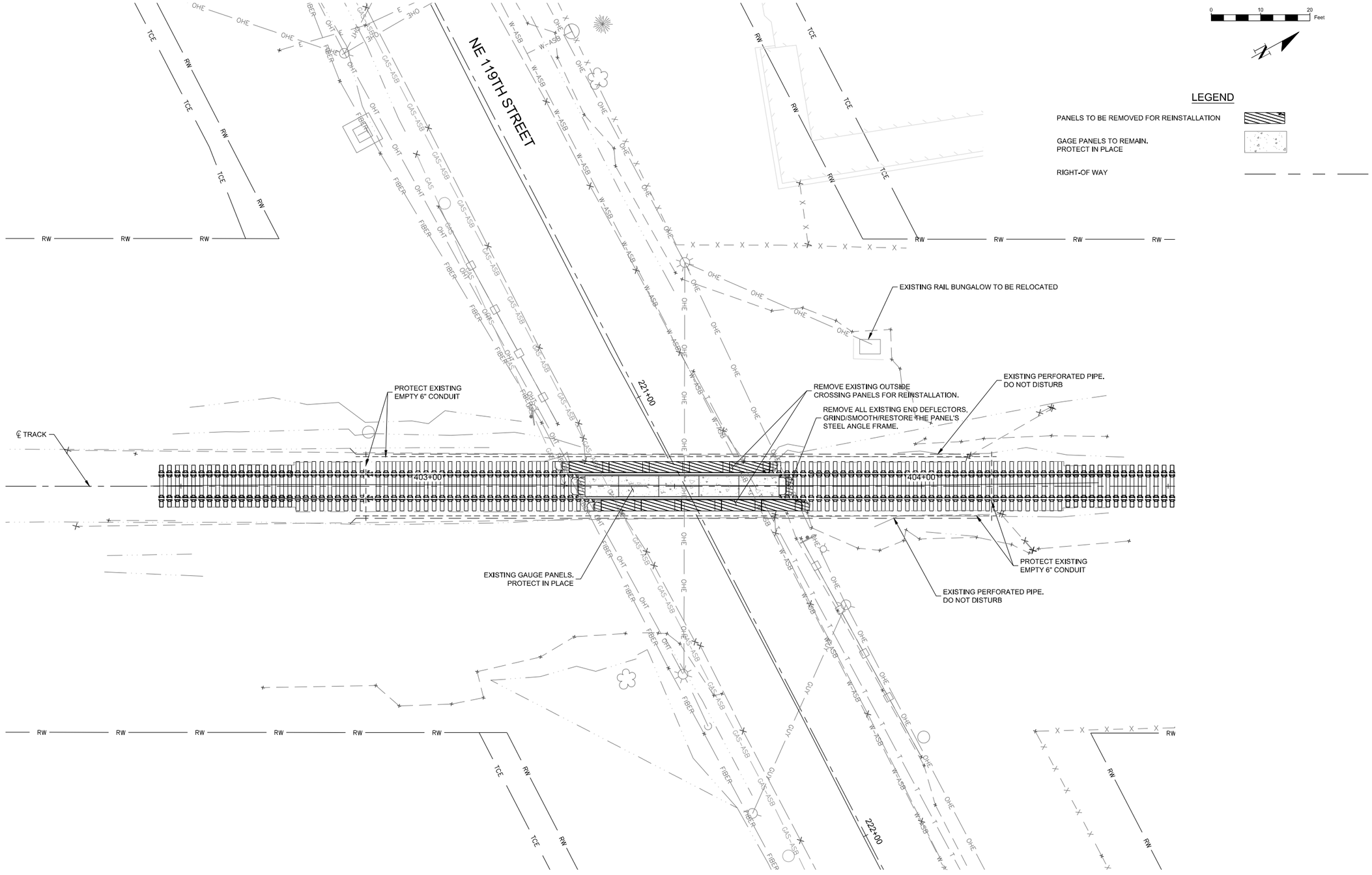
ENGINEERING AND DESIGN SECTION

MARC E. AKERS — STATE OF WASHINGTON — 37336 — REGISTERED PROFESSIONAL ENGINEER

NE 119TH STREET EAST - VOLUME 1 CRP #342422

MEDIAN CURBING
RAILROAD CROSSING

DATE 04/12/18
M1
99 OF 232



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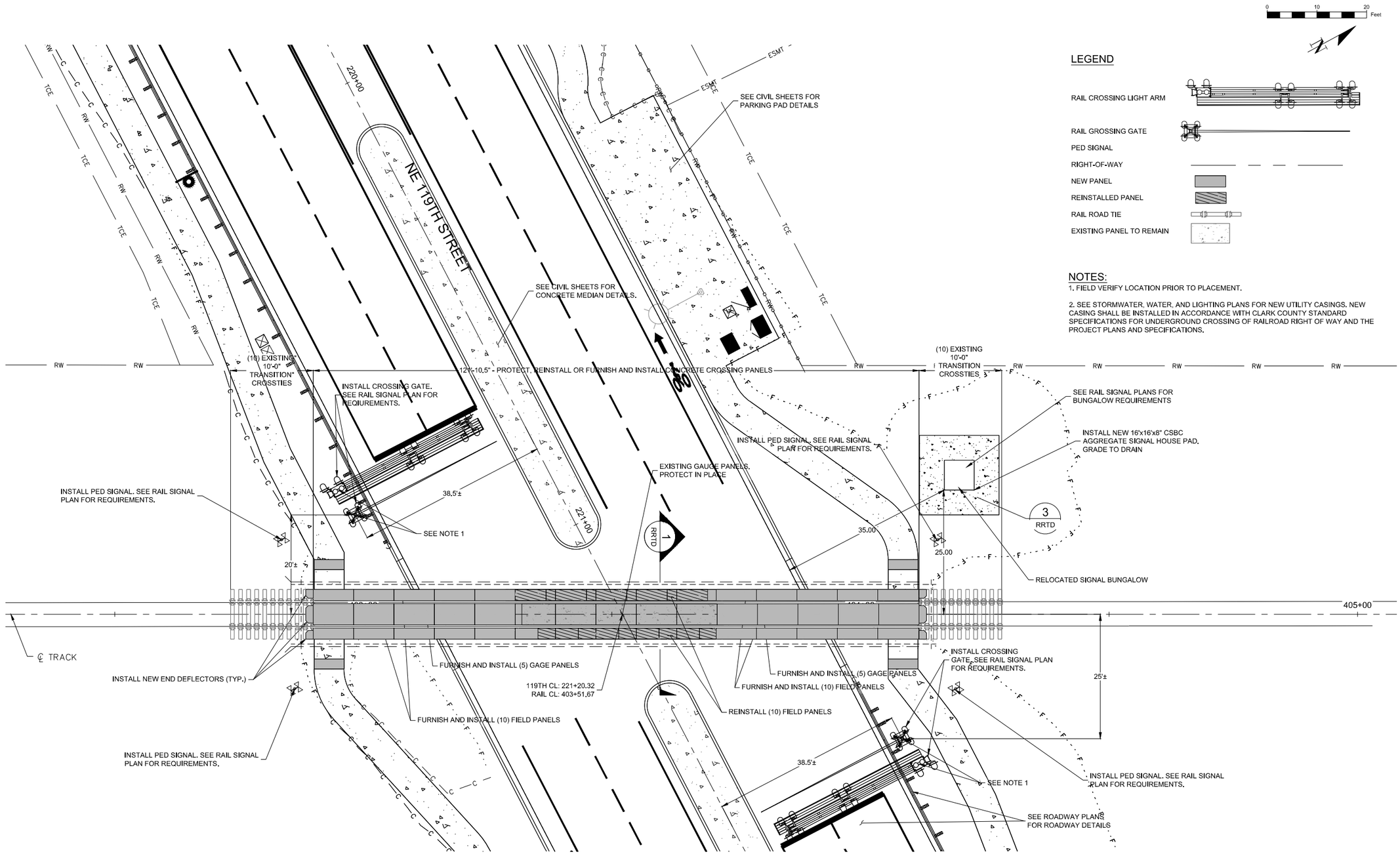
ENGINEERING AND DESIGN SECTION

NE 119TH STREET EAST - VOLUME 2 CRP #342422

EXISTING CONDITIONS - RAIL
SHEET 1 OF 1

DATE 02/07/18
XCR



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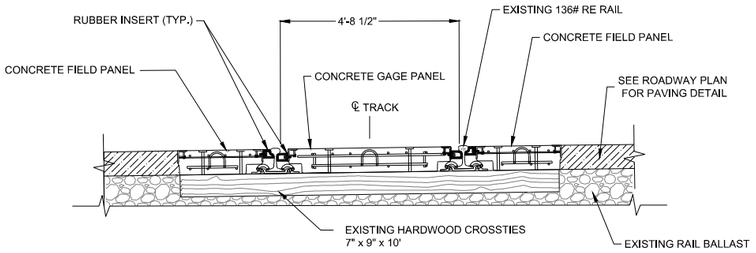
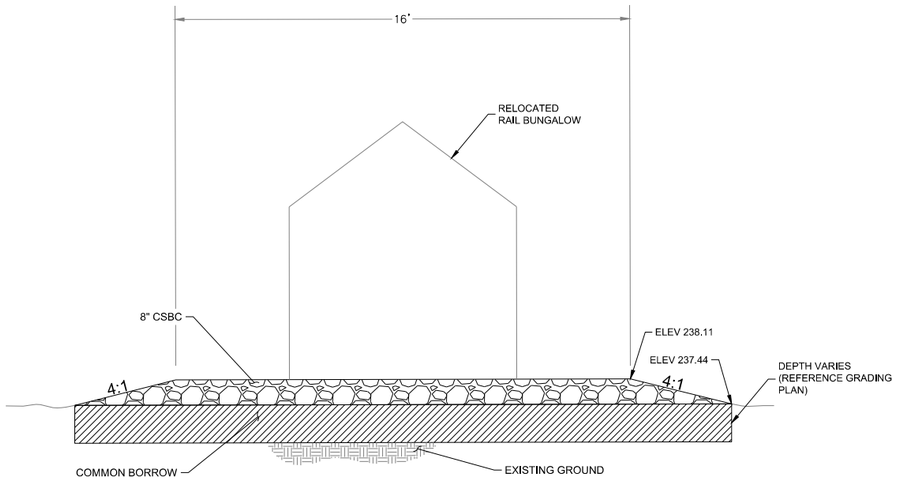
NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD CROSSING PLAN
SHEET 1 OF 1

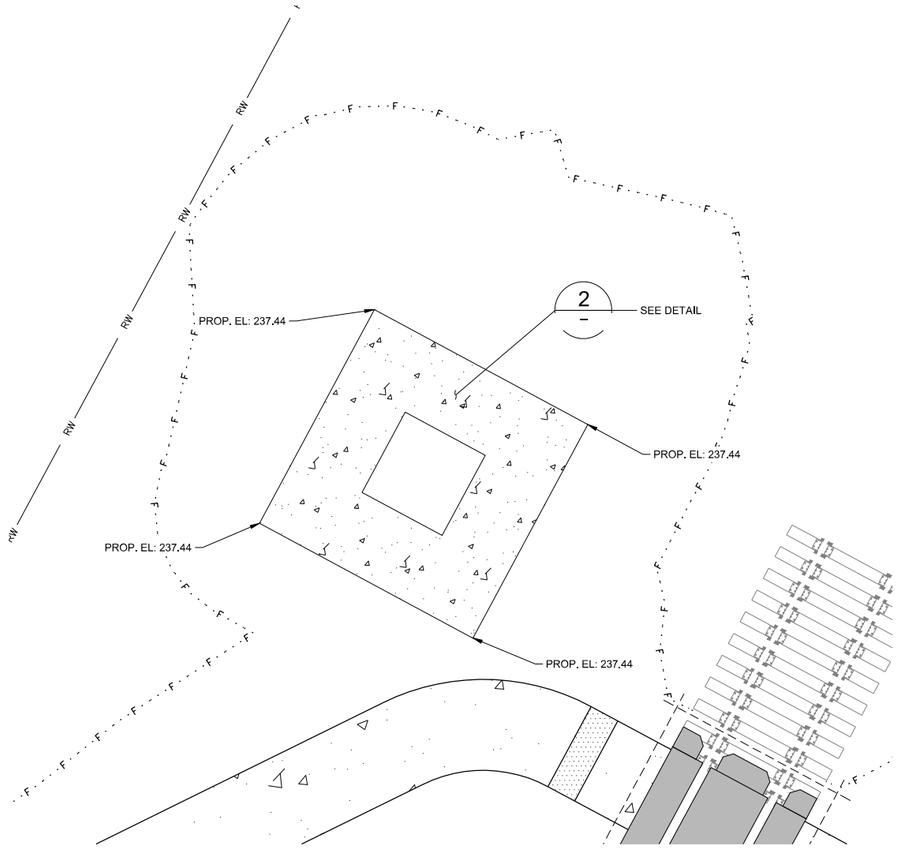
DATE 02/07/18
RRCD
120 OF 167



TYPICAL CONCRETE CROSSING TRACK SECTION 1
NTS



DETAIL: BUNGALOW SECTION 2
NTS



RAIL BUNGALOW PAD 3
NTS

NOTES:
1. RE-GRADING PLAN FOR EXISTING GROUND ELEVATION.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

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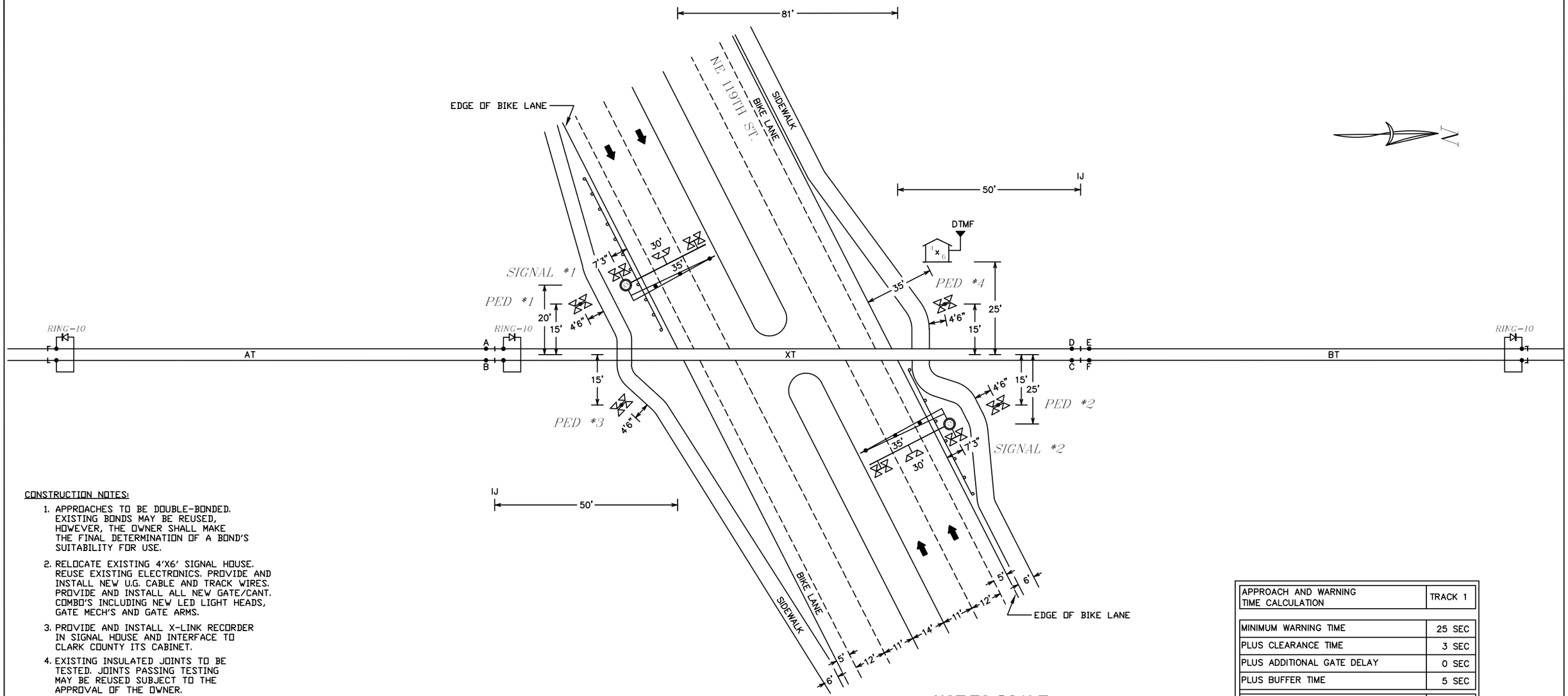
NE 119TH STREET EAST - VOLUME 2 CRP #342422

TYPICAL TRACK DETAILS AND SITE GRADING
SHEET 1 OF 1

DATE 02/07/18
RRTD
121 OF 167

Ver. 16.0



NOT TO SCALE

CONSTRUCTION NOTES:

1. APPROACHES TO BE DOUBLE-BONDED. EXISTING BONDS MAY BE REUSED, HOWEVER, THE OWNER SHALL MAKE THE FINAL DETERMINATION OF A BOND'S SUITABILITY FOR USE.
2. RELOCATE EXISTING 4'X6' SIGNAL HOUSE. REUSE EXISTING ELECTRONICS. PROVIDE AND INSTALL NEW U.G. CABLE AND TRACK WIRES. PROVIDE AND INSTALL ALL NEW GATE/CANT. COMBO'S INCLUDING NEW LED LIGHT HEADS, GATE MECH'S AND GATE ARMS.
3. PROVIDE AND INSTALL X-LINK RECORDER IN SIGNAL HOUSE AND INTERFACE TO CLARK COUNTY ITS CABINET.
4. EXISTING INSULATED JOINTS TO BE TESTED. JOINTS PASSING TESTING MAY BE REUSED SUBJECT TO THE APPROVAL OF THE OWNER.
5. REPLACE XB BATTERY WITH 7EA. GNB ABSOLYTE 50G27 680 AH.
6. PROVIDE AND INSTALL LARRY MCGEE DTMF CONTROLLER AND EXTERNAL ANTENNA.
7. STICK TIMES = 15 MINUTES.
8. ALL CROSSING LAMPS, INCLUDING GATE ARM LAMPS, TO BE LED.
9. REFERENCE ITS PLANS FOR INSTALLATION OF X-LINK CAMERAS.
10. DIMENSIONS TO CROSSING SIGNALS FROM CENTERLINE OF TRACK TO CENTER OF MAST, AND FROM EDGE OF PAVEMENT TO CENTER OF MAST.

LEGEND:

= TEST LINK
= HEAVY DUTY LIGHTNING ARRESTER
= HEAVY DUTY EQUALIZER
= TWISTED 2 TURNS PER FOOT.
XX = BELL
= INSULATED NUT.
= GUARDRAIL

ALL WIRING #16 AWG UNLESS OTHERWISE NOTED. ALL SHEETS.

APPROACH AND WARNING TIME CALCULATION	TRACK 1
MINIMUM WARNING TIME	25 SEC
PLUS CLEARANCE TIME	3 SEC
PLUS ADDITIONAL GATE DELAY	0 SEC
PLUS BUFFER TIME	5 SEC
TOTAL WARNING TIME	31 SEC
TOTAL APPROACH TIME	31 SEC
MAXIMUM TRAIN SPEED	10 MPH
TIMES RATIO OF FT/SEC TO MPH	1.4667
TOTAL APPROACH DISTANCE	485 FT.

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Innovative Solutions In Signaling

NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 1 OF 15

DATE 06/30/16
RRS1
122 OF 167

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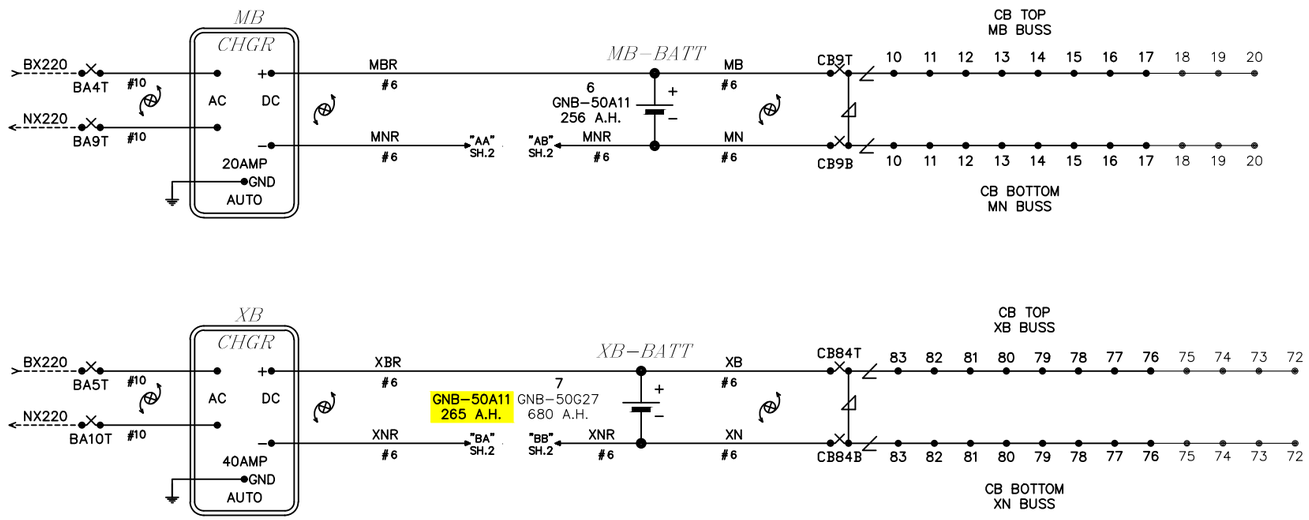

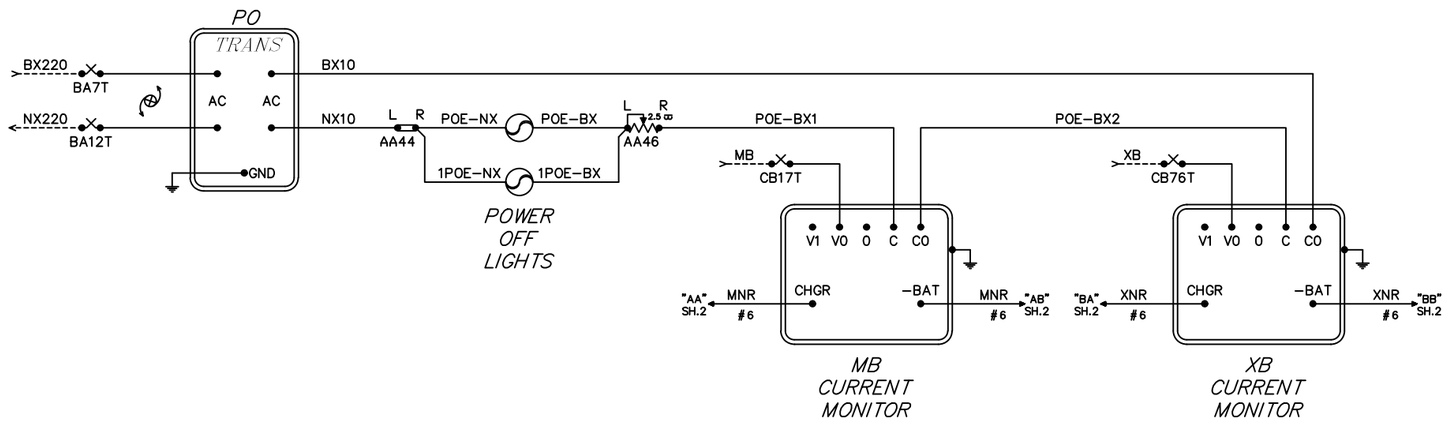

NOTES:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.

REV 1
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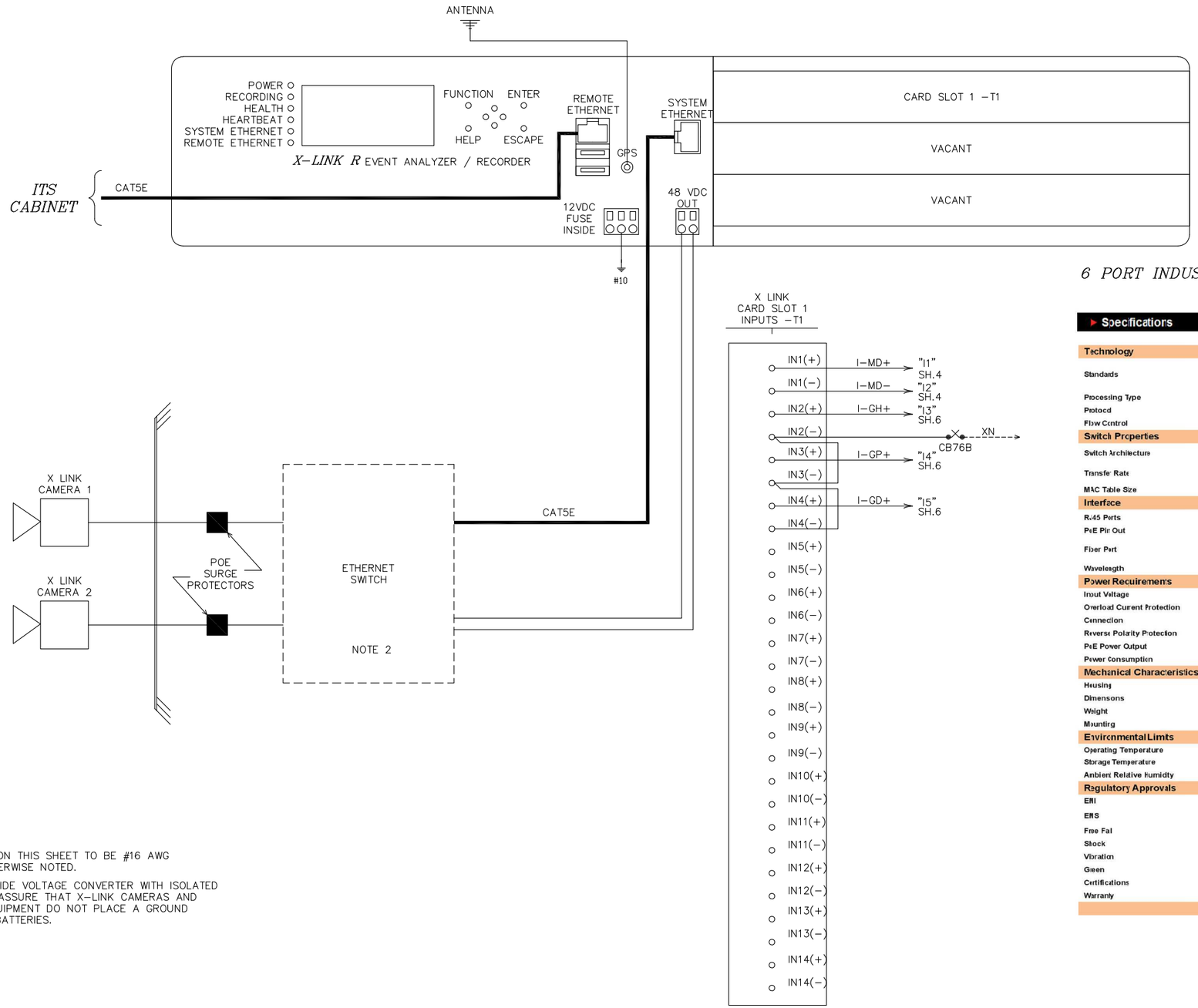
NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 2 OF 15

DATE 06/30/16

RRS2

123 OF 167



NOTES:

1) ALL WIRING ON THIS SHEET TO BE #16 AWG UNLESS OTHERWISE NOTED.
2) ITS TO PROVIDE VOLTAGE CONVERTER WITH ISOLATED OUTPUT TO ASSURE THAT X-LINK CAMERAS AND RELATED EQUIPMENT DO NOT PLACE A GROUND ON SIGNAL BATTERIES.

6 PORT INDUSTRIAL POE UNMANAGED ETHERNET SWITCH

Specifications

Technology	
Standards	IEEE802.3 10BaseT Ethernet IEEE802.3u 100baseTX Fast Ethernet IEEE802.3x Flow Control and Back-Pressure IEEE802.3at Power over Ethernet
Processing Type	Store and Forward
Protocol	CSMA/CD
Flow Control	IEEE 802.3x flow control, back pressure flow contro
Switch Properties	
Switch Architecture	Back-Plane (Switching Fabric): 1.0Gbps Packet Throughput Ability (Full-Duplex): 1.488Mpps @ 64bytes
Transfer Rate	14,880pps for Ethernet Port 148,800pps for Fast Ethernet Port
MAC Table Size	2K
Interface	
RJ45 Ports	10/100Base-T(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection 4 10/100TX (PoE+) + 1 10/100TX
PoE Pin Out	V+, V+, V- V-, for pin 1, 2, 3, 6 (Endspan, MDI-X Alternative A)
Fiber Port	2*100Fx SC/ST type connector Multi-mode (2Km - 50/125um ~ 62.5/125um, Single-mode (30Km) - 9/125um ~ 13/125um
Wavelength	1310nm (Multi-mode and Singe-mode)
Power Requirements	
Input Voltage	48~55VDC, Redundant Input
Overload Current Protection	Slow-Blown Fuse
Connection	1 removable 4-contact terminal block
Reverse Polarity Protection	Yes
PoE Power Output	25W @ 48VDC (per PoE port); 30W @ 51~55VDC per PoE port)
Power Consumption	110 Watts @ 48VDC; 130 Watts @ 51~55VDC
Mechanical Characteristics	
Housing	Metal, IP30 protection
Dimensions	30 x 142 x 99 mm (1.18 x 5.59 x 3.90 in.)
Weight	Unit Weight: 1.1 lbs, Shipping Weight: 1.45 lbs
Mounting	DIN-Rail mounting, wall mounting (optional)
Environmental Limits	
Operating Temperature	STD: -10° to 70°C (14° to 158° F); EOT: 40° to 75° C (-40° to 167° F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, (non-condensing)
Regulatory Approvals	
EMI	FCC Class A
EMS	EN61000-4-2; EN3100-4-3; EN6100-4-4; EN6100-4-5; EN3100-4-6; EN6100-4-8 EN6100-6-2; EN3100-4-4
Free Fall	IEC60068-232
Shock	IEC60068-227
Vibration	IEC60068-26
Green	RoHS Compliant
Certifications	FCC,CE, UL508
Warranty	5 Years

NEW SHEET

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 3 OF 15

DATE 06/30/16

RRS3

Ver.16.0

TRAIN TENNA VERTICAL
OUTDOOR BASE ANTENNA
(MOUNT TO EXTERIOR OF BUNGALOW)

DTMF RECEIVER

MB/DTMF — MB — CB19T — B12 — FRONT — MTS
MN/DTMF — MN — CB19B — N12 — HEEL
BACK
LARRY MCGEE
LMG 14-99005V2-A

MAINTAINERS TEST SWITCH

MB — CB11T — L — R — AA38 — MTS

MN — CB11B
GPX — "EC" SH.6
XN — CB77B

WARNING
PLACING CROSSING OVERRIDE SWITCH IN THE OVERRIDE POSITION COMPLETELY DISABLES THIS HIGHWAY CROSSING WARNING SYSTEM. PROPER AUTHORITIES MUST BE NOTIFIED PRIOR TO OVERRIDE.

KEY SWITCH

"AA" SH.5 — XLC — 02 01 04 03 — XLC — I-MD+ — "I1" SH.3
"DD" SH.6 — VRD — MB — CB12T — VRD
"BB" SH.5 — XLCN — I-MD- — "I2" SH.3 — XLCN
"EE" SH.6 — VRDN — MN — CB17B — VRDN

SWITCH SHOWN IN NORMAL POSITION

MB — CB10T #10

SCX-1 CONTROLLER

TB1: 1 B | 2 1 | 3 2 | 4 3 OUTPUTS | 5 | 6 + | 7 − INPUT 1 | 8 + | 9 − INPUT 2 | 10 + | 11 − INPUT 3 | 12 AUX A | 13 AUX REF | 14 1 | 15 2 CONF | 16 — #10 — CB10B — MN

TB2: COM 1 | 4 2 | 5 3 | 6 4 OUTPUTS | 5 | INPUT 4 (6 +, 7 −) | INPUT 5 (8 +, 9 −) | INPUT 6 (10 +, 11 −) | 12 AUX B | 13 | CONF 3 14, 4 15 | 16

TB3:
- 1 | TRACK 1: 2 TB, 3 RB, 4 TN/RN | 5
- TRACK 2: 6 TB, 7 RB, 8 TN/RN | 9
- TRACK 3: 10 TB, 11 RB, 12 TN/RN | 13
- TRACK 4: 14 TB, 15 RB, 16 TN/RN

ATB #10 — AA15R — ATB #6 — A
ATN #10 — AA12R — ATN #6 — B
TO AT TRACK

XTB #10 — AA11R — XTB #6 — C
XTN #10 — AA9R — XTN #6 — D
TO XT TRACK

BTB #10 — AA8R — BTB #6 — E
BTN #10 — AA5R — BTN #6 — F
TO BT TRACK

NOTES:

1. ALL WIRING #16 UNLESS NOTED OTHERWISE.

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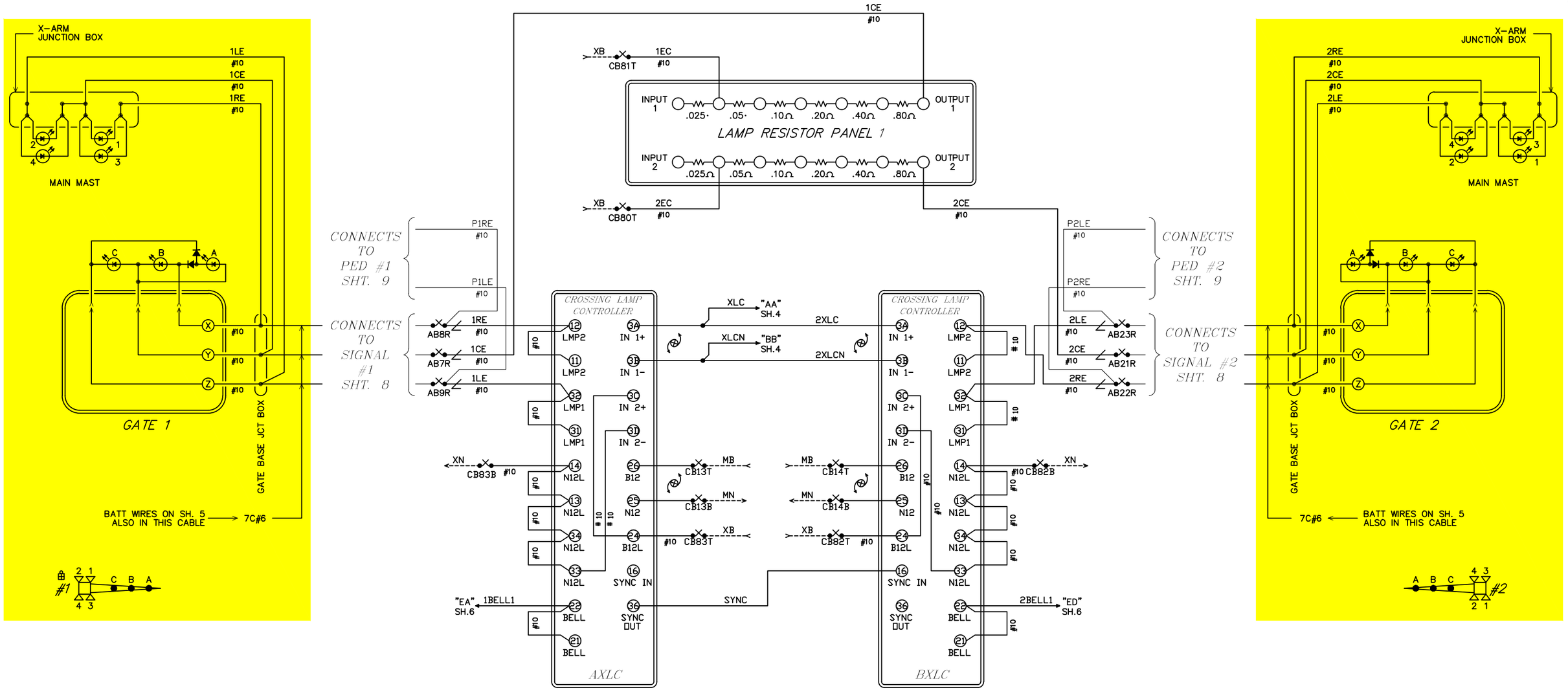
NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 4 OF 15

DATE 06/30/16
RRS4
125 OF 167



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RAILROAD SIGNALING
SHEET 5 OF 15

DATE 06/30/16

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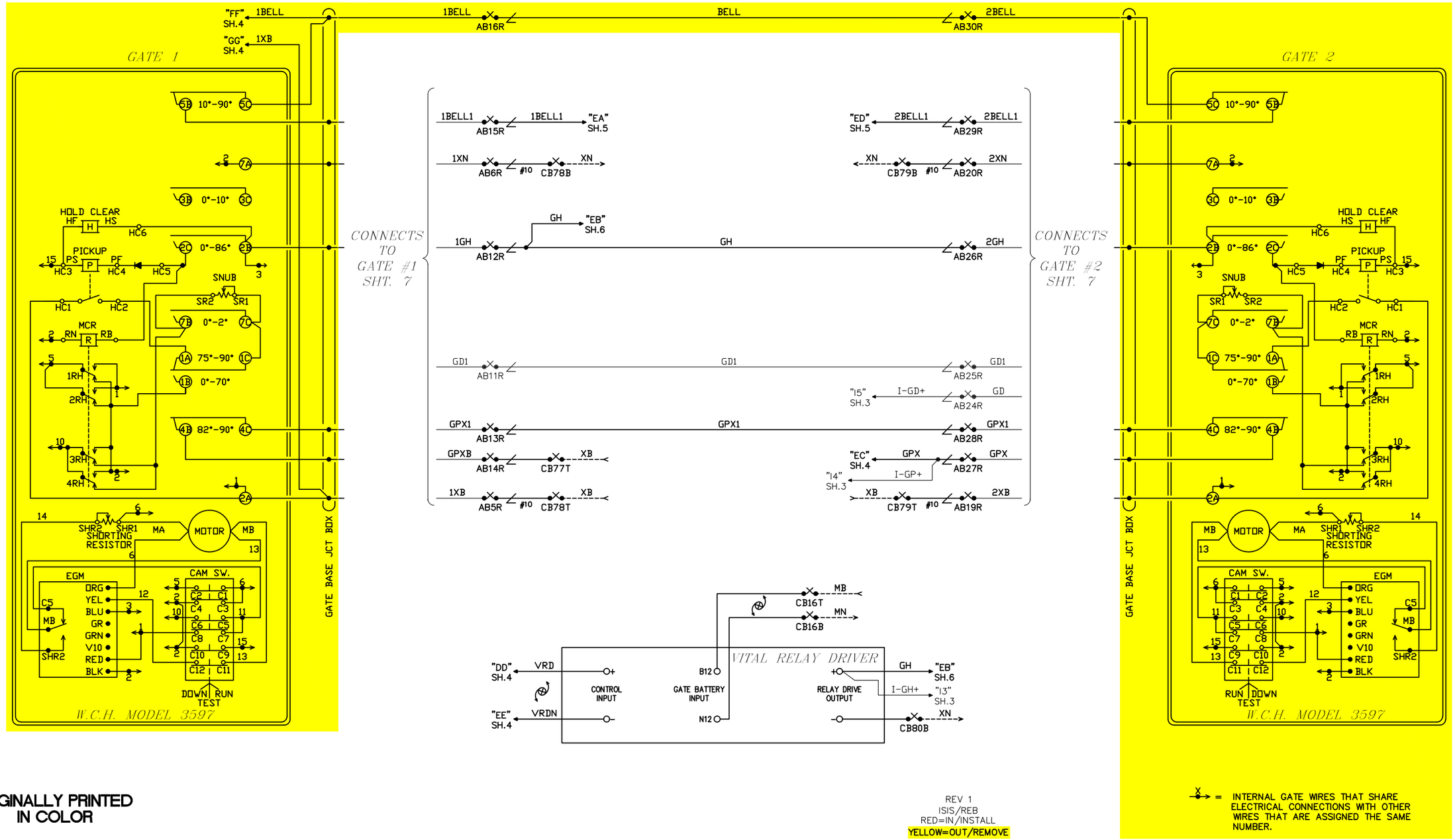

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RAILROAD SIGNALING
SHEET 6 OF 15

DATE 06/30/16
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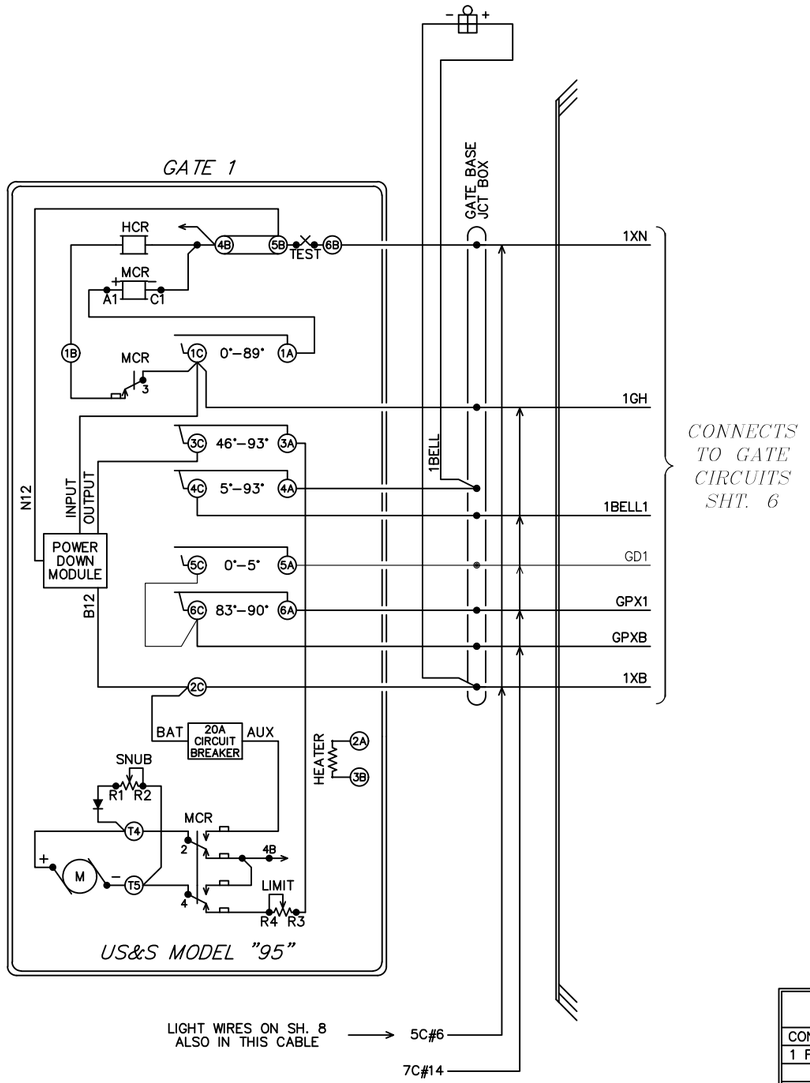
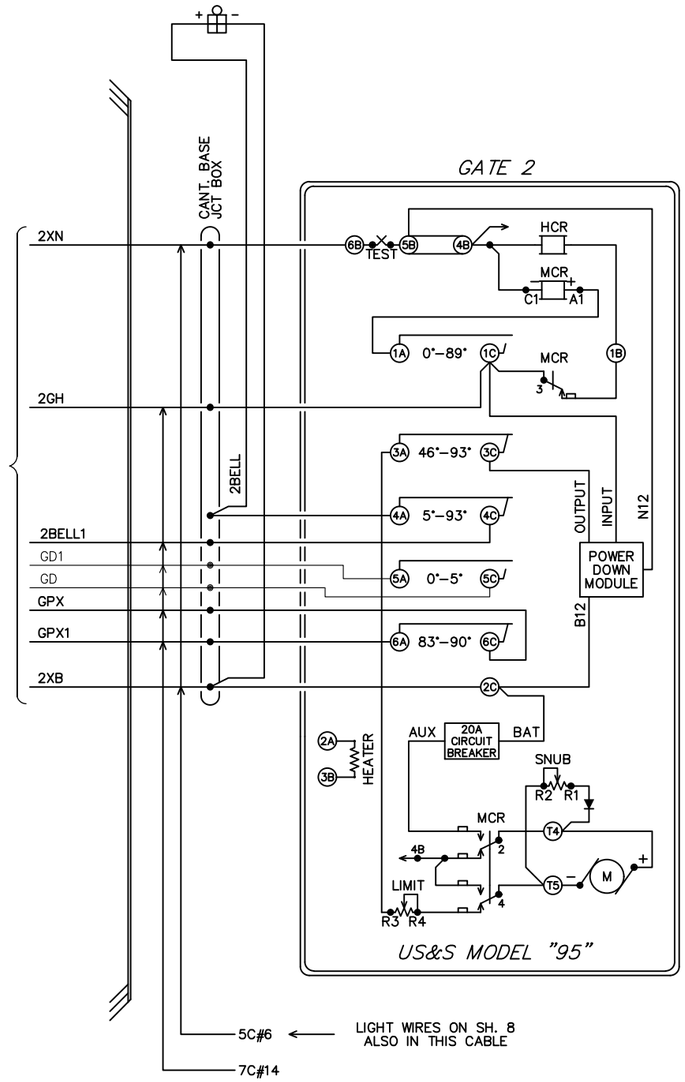


CONNECTS TO GATE CIRCUITS SHT. 6



CONNECTS TO GATE CIRCUITS SHT. 6

CIRCUIT CONTROLLER ADJUSTMENT

CONTACT	CLOSED	FUNCTION
1 FRONT	0°–89°	MOTOR UP CONTROL
2		
3	46°–93°	MOTOR DN
4	5°–93°	BELL
5	0°–5°	GATE DN IND.
6	83°–90°	FLASHING LIGHT

NOTES:

1.) ALL WIRING TO BE #10 AWG UNLESS OTHERWISE NOTED.

2.) TO ENABLE BELL WITH GATE DOWN STRAP BETWEEN BELL AND BELL1 TERMINALS IN CANTILEVER JCT. BOXES.

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NEW SHEET

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 7 OF 15

DATE 06/30/16
RRS7
128 OF 167

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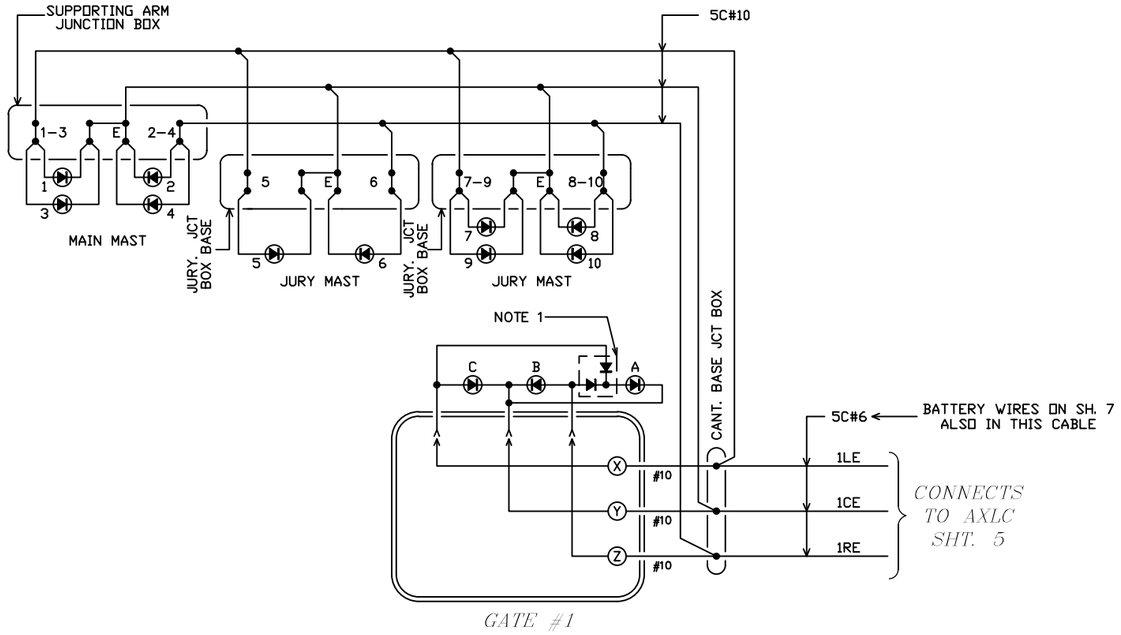
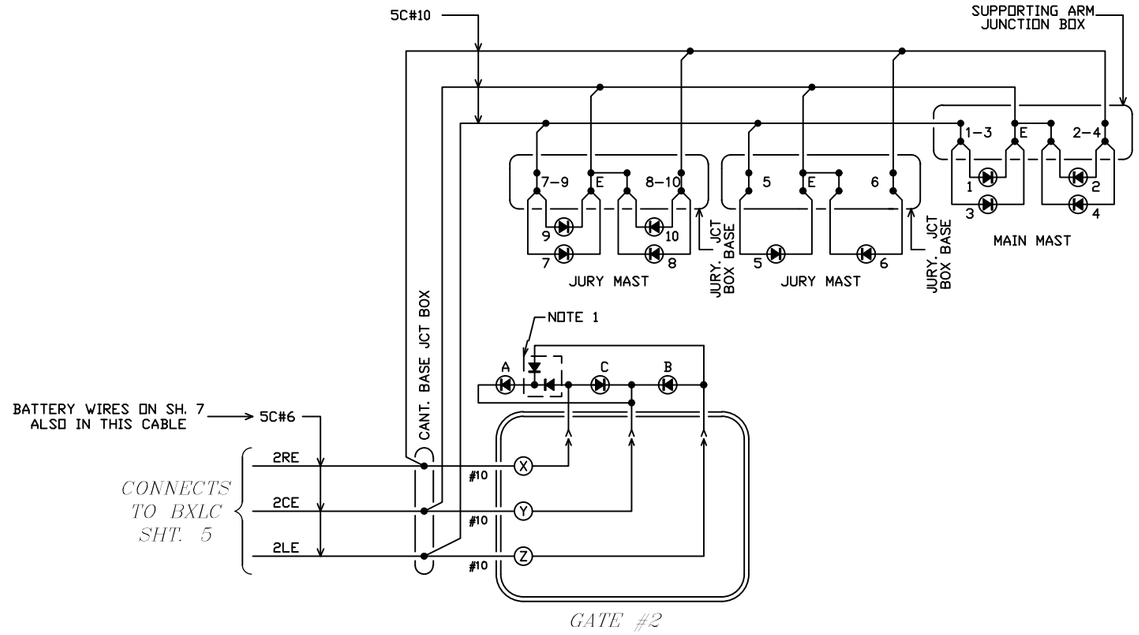
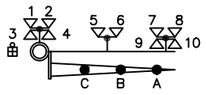
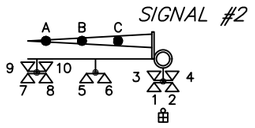




SIGNAL #1



SIGNAL #2



NOTES:

1. GETS-GS P/N 07G045-300.
2. ⏭ =LED SIGNAL LAMP WITH 8.5 TO 16 VOLT WORKING VOLTAGE.

NEW SHEET

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 8 OF 15

DATE 06/30/16

RRS8

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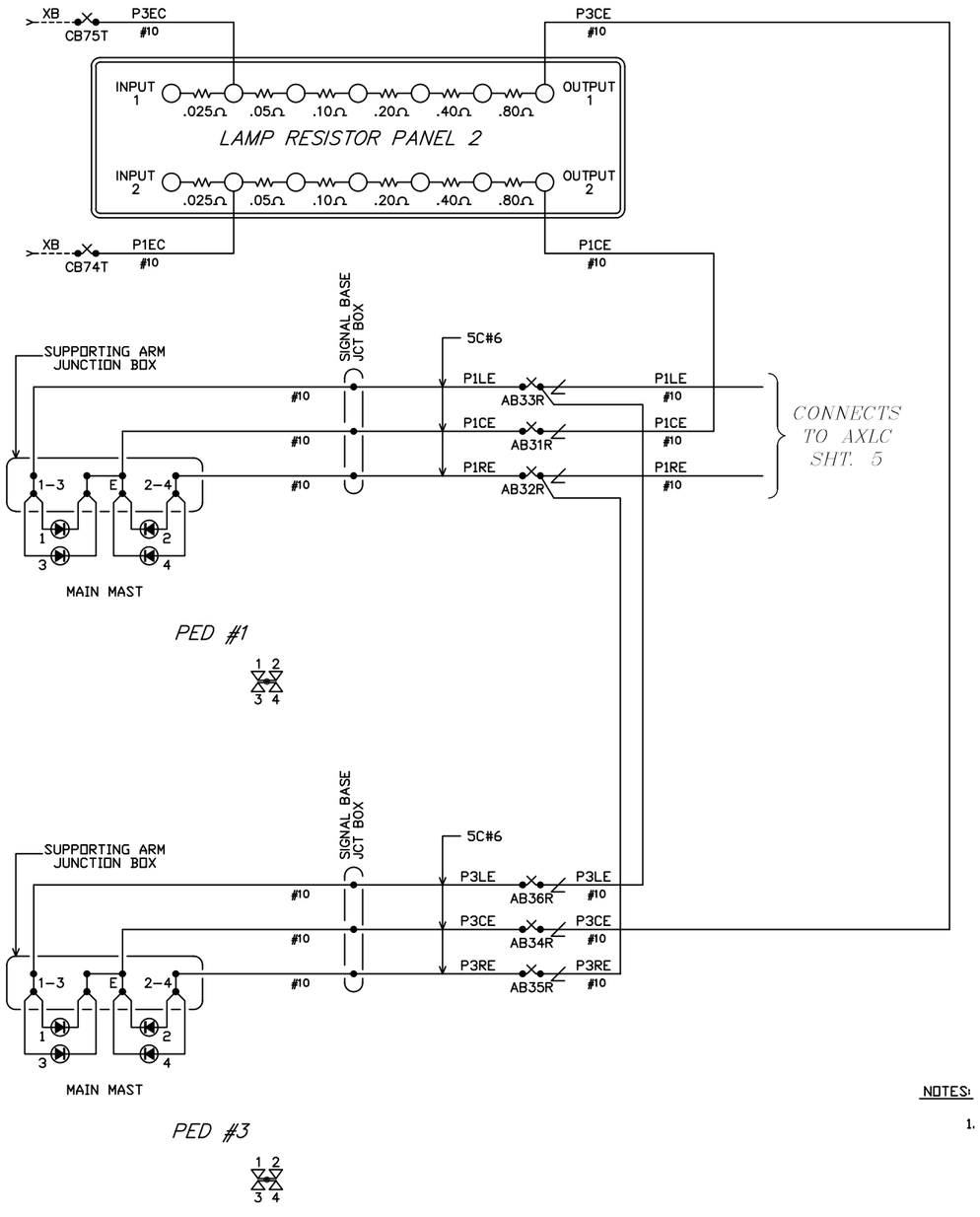

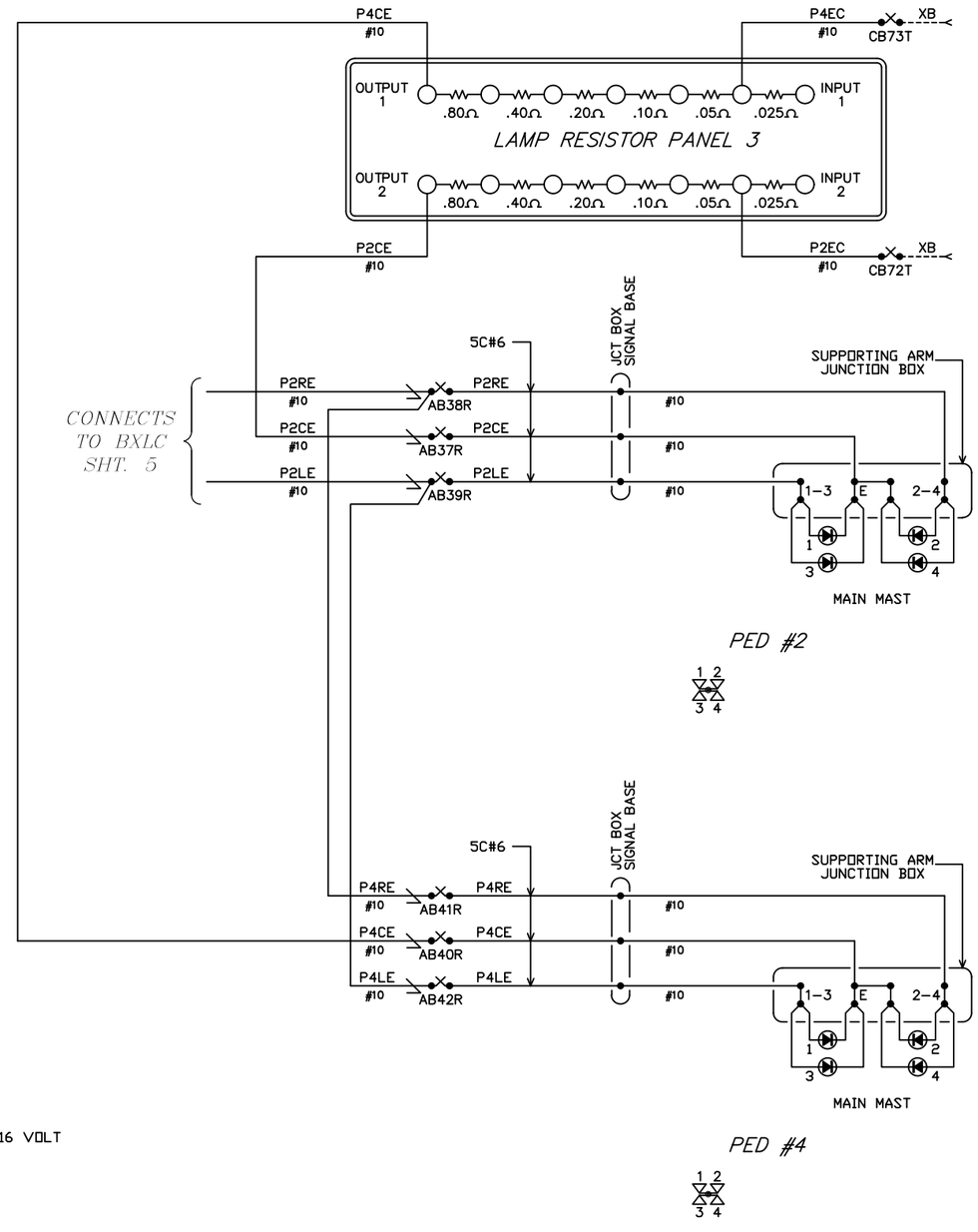

NOTES:

1. ⏯ =LED SIGNAL LAMP WITH 8.5 TO 16 VOLT WORKING VOLTAGE.

NEW SHEET

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 9 OF 15

DATE 06/30/16
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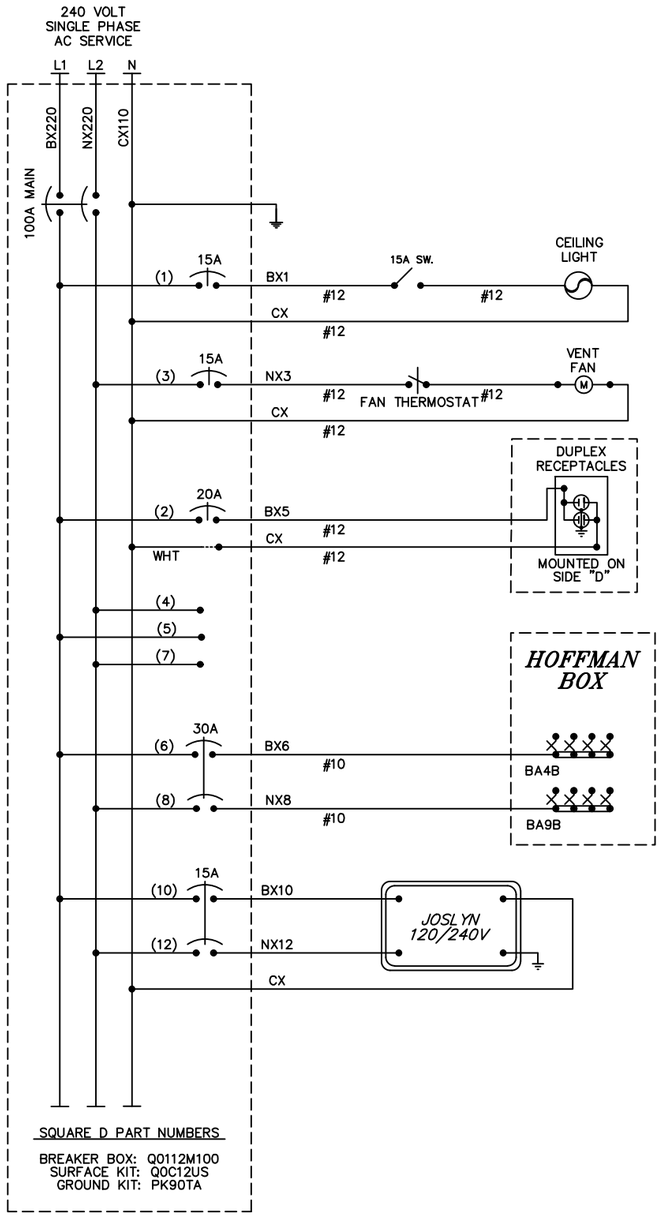
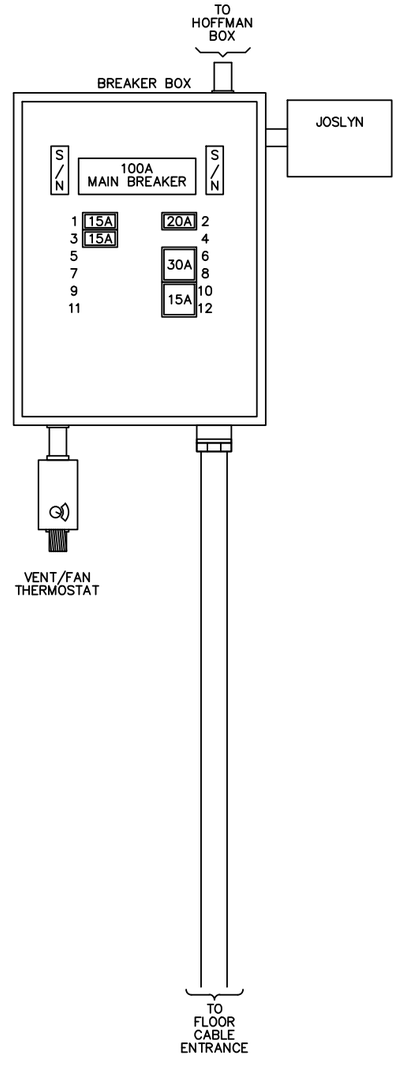


NOTES:

1. MINIMUM WIRE SIZE
   15 AMP – NO. 14 AWG THHN OR THWN SOLID
   20 AMP – NO. 12 AWG THHN OR THWN SOLID
   30 AMP – NO. 10 AWG THHN OR THWN SOLID
2. GROUND FAULT INTERRUPT (GFCI) MUST BE USED ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USED INSTEAD OF BREAKER TYPE.

SIDE B



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LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

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CLARK COUNTY, WASHINGTON

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Innovative Solutions In Signaling

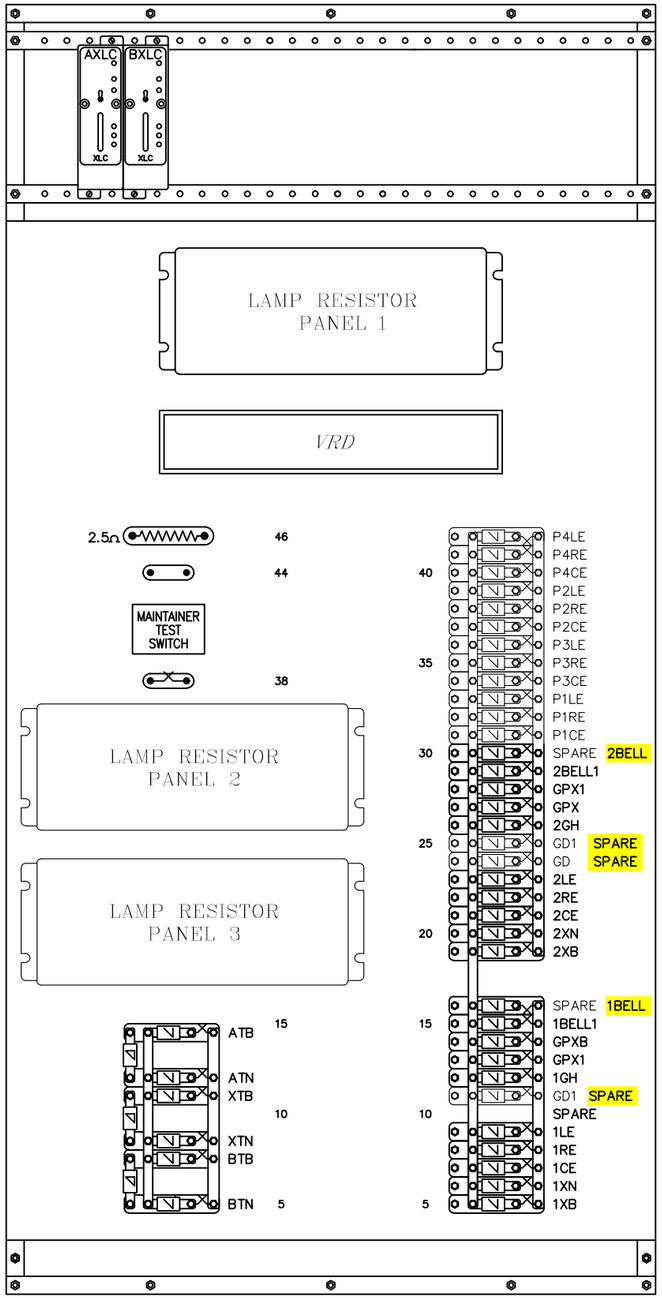
NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 10 OF 15

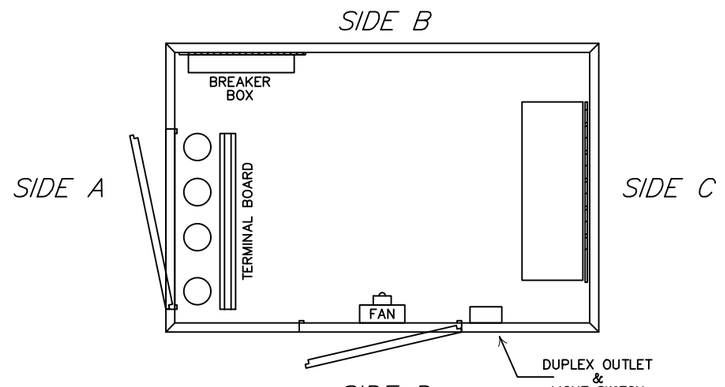
DATE 06/30/16

RRS10

131 OF 167



REV 1
ISIS/REB
RED=IN/INSTALL
YELLOW=OUT/REMOVE



4'X6' HOUSE LAYOUT
NOT TO SCALE

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 11 OF 15

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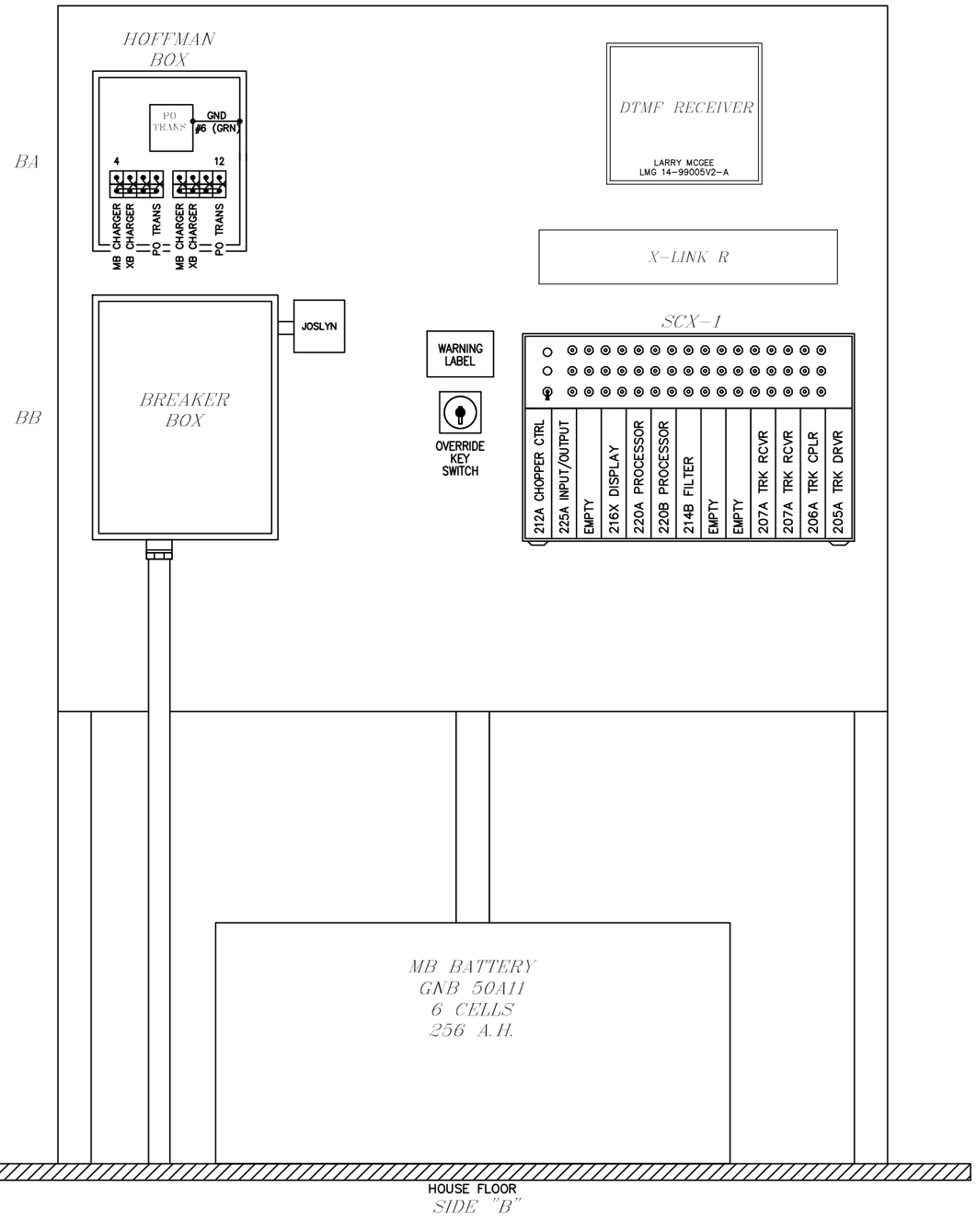

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RED=IN/INSTALL

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 12 OF 15

DATE 06/30/16

RRS12

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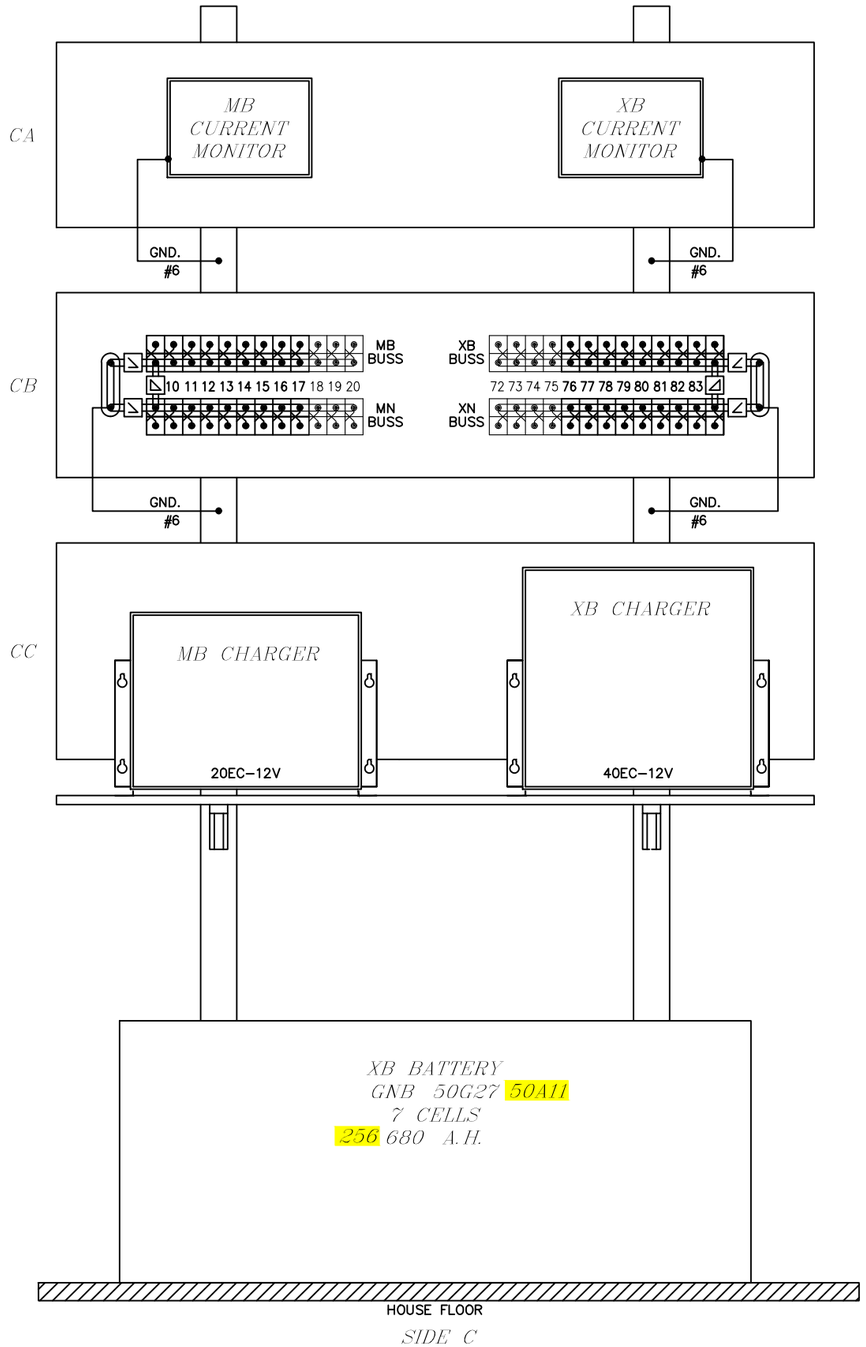
Ver1.10.0



REV 1
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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 13 OF 15

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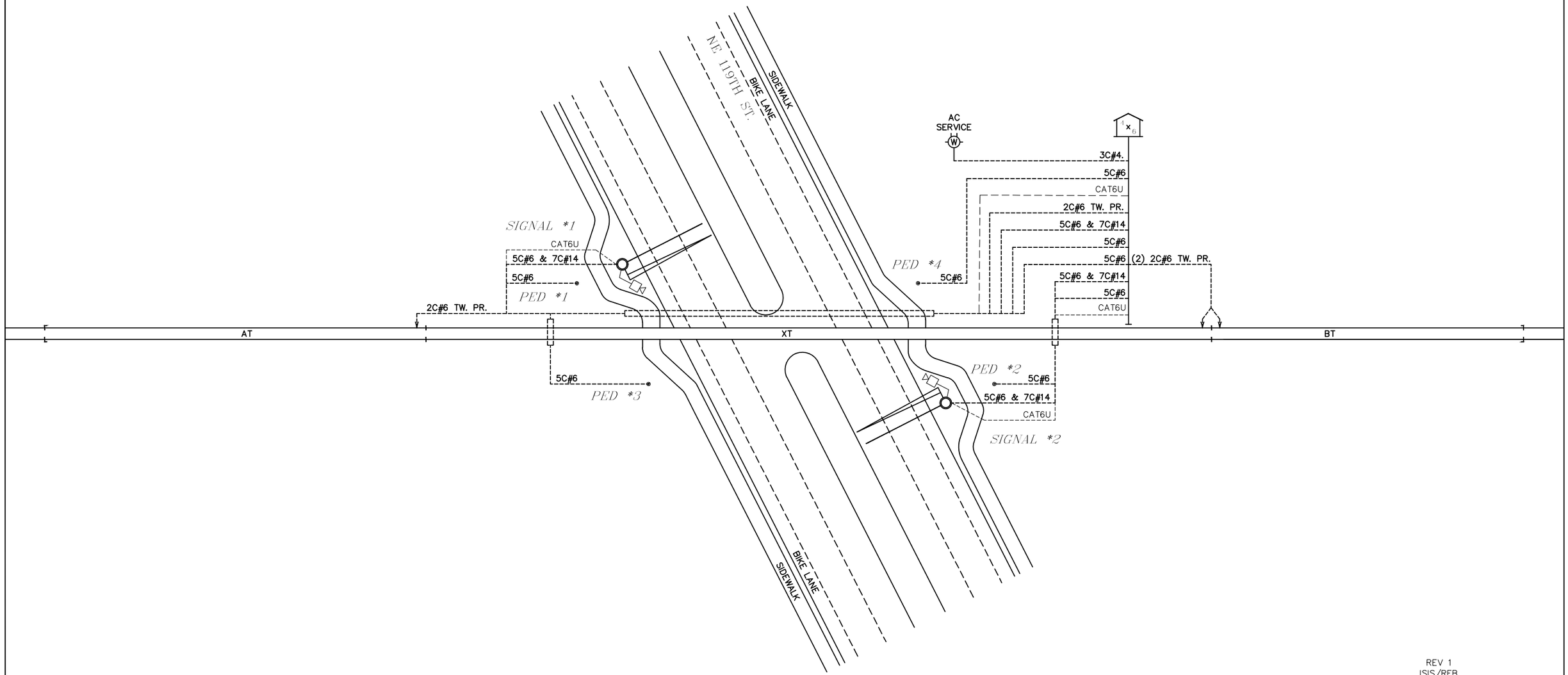

LEGEND:

------- – UNDERGROUND CABLE

– X–LINK CAMERA

REV 1
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RED=IN/INSTALL
YELLOW=OUT/REMOVE

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RAILROAD SIGNALING
SHEET 14 OF 15

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Ver.19.0

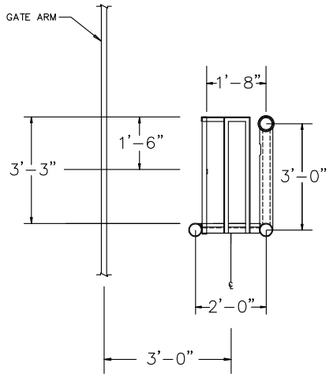
TORQUE VALUES

TORQUE VALUES FOR 18–8 S/S HARDWARE WITHOUT ANTI–SEIZE COMPOUND.

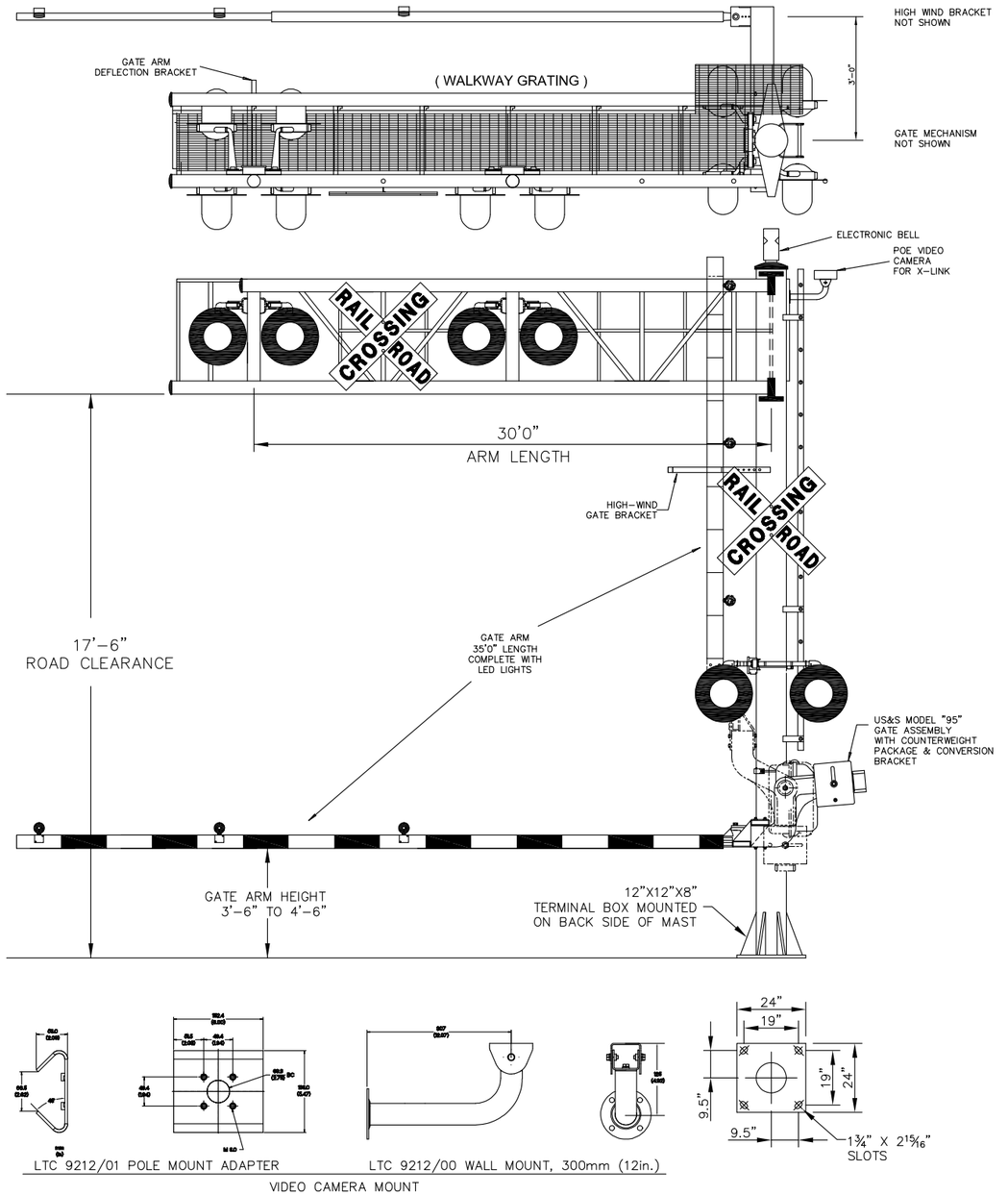
1. 3/8"–16 BOLTS: 236 IN. LBS.
2. 1/2"–13 BOLTS: 517 IN. LBS.
3. 5/8"–11 BOLTS: 1110 IN. LBS.
4. 1"–8 BOLTS: 3440 IN. LBS.

TORQUE VALUES FOR 18–8 S/S HARDWARE WITH ANTI–SEIZE COMPOUND.

1. 3/8"–16 BOLTS: 201 IN. LBS.
2. 1/2"–13 BOLTS: 439 IN. LBS.
3. 5/8"–11 BOLTS: 944 IN. LBS.
4. 1"–8 BOLTS: 2924 IN. LBS.



LEFT SIDE VIEW
(MASK & LIGHTS NOT SHOWN)



LTC 9212/01 POLE MOUNT ADAPTER
LTC 9212/00 WALL MOUNT, 300mm (12in.)
VIDEO CAMERA MOUNT

FEATURES :

- STRUCTURE MEETS AAR, AREMA AND AASHTO RECOMMENDED DESIGN CRITERIA
- ALUMINUM CONSTRUCTION 6061–T6
- ¾" THK. x 17" WD. SLOTTED WALKWAY BAR GRATING
- HANDRAIL 39" HIGH WITH INTERMEDIATE HANDRAIL AT 18"
- 17'–6" ROAD CLEARANCE
- SIGN MOUNTING BRACKETS WELDED TO THE STRUCTURE
- 12" LED FLASHING LIGHT CAN BE FURNISHED
- REMOVABLE LADDER GUARD
- 12" SINGLE PIPE MAST WILL BE SUPPLIED WITH 10'–0" TO 22'–0" ARM
- 12" PIPE MAST WILL BE SUPPLIED WITH 24'–0" TO 30'–0" ARM

NEW SHEET

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

RAILROAD SIGNALING
SHEET 15 OF 15

DATE 06/30/16
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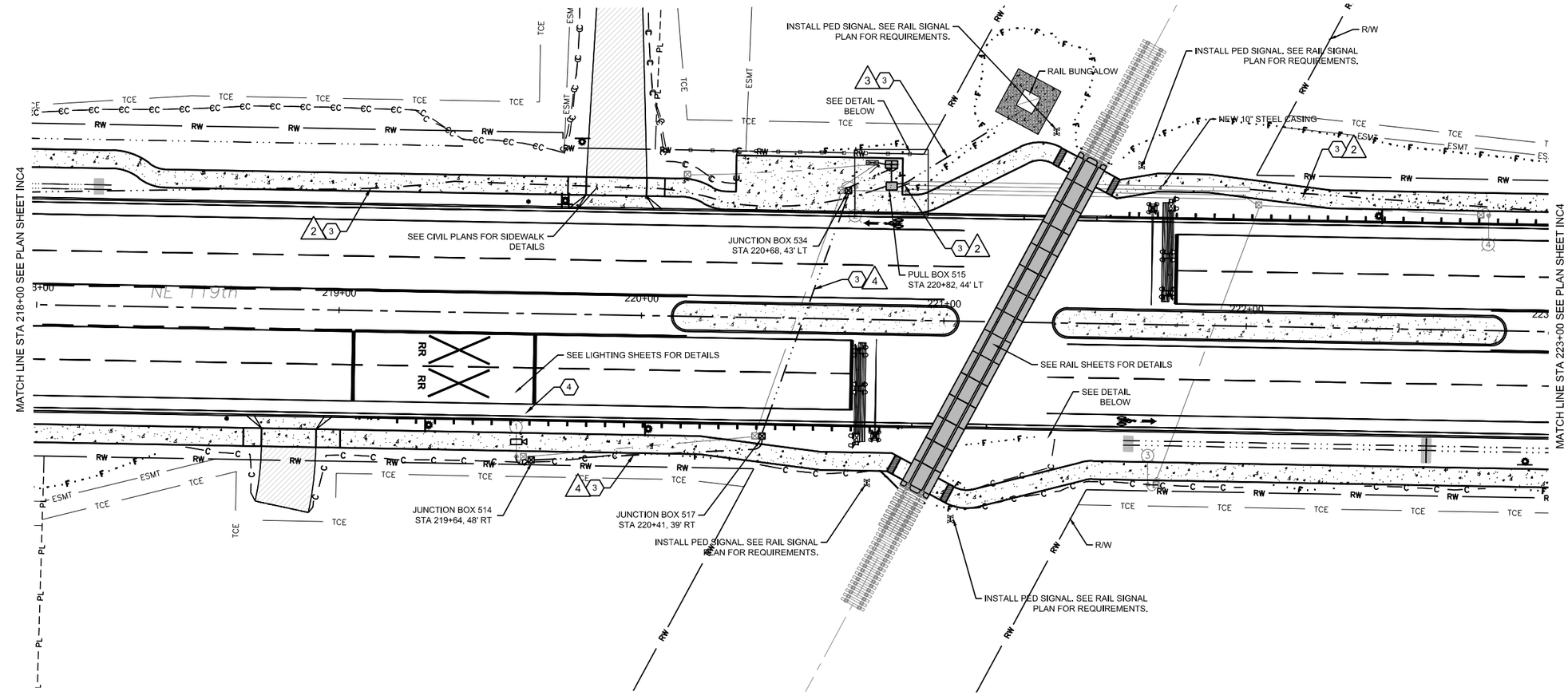

CONSTRUCTION NOTES

1. CONSTRUCT FOUNDATION, SUPPLY AND INSTALL TYPE 332D CABINET AND ITS EQUIPMENT WITH INTERIOR BATTERY BACKUP, SEE SHEET ITS1
2. FURNISH AND INSTALL PULL BOX PER WSDOT STANDARD PLAN J-90.10-02.
3. FURNISH AND INSTALL CONDUIT. SEE WIRING SCHEDULE.
4. FURNISH AND INSTALL POE PTZ CAMERA INCLUDING MOUNTING EQUIPMENT.

CONDUIT & FIBER OPTIC SCHEDULE

RUN NO	CONDUIT	48 SMFO	CAT5e	CAT6u	PULL LINE	#12 TRACER WIRE	POWER	NOTES
1	3" VIA TRENCHING	1			1	1		
2	3" VIA TRENCHING	1			1	1		
3	3" VIA TRENCHING			1	1			
4	3" VIA TRENCHING		1		1			
5	3" VIA TRENCHING						2 - #6	POWER W/ 1-#6 GRD

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH WSDOT AND CLARK COUNTY STANDARD PLANS AND SPECIFICATIONS, OR AS AMENDED BY THE CONTRACT SPECIFICATIONS.
2. PROPOSED CONDUIT LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY ITS WORK. ANY CONFLICTS RESOLUTIONS SHALL BE APPROVED BY COUNTY ENGINEER.
3. COORDINATE WITH THE POWER COMPANY FOR SERVICE HOOK-UP.
4. CONTRACTOR SHALL PROVIDE AND INSTALL FIBER AND ETHERNET SWITCHES IN ITS CABINET.

LEGEND

- PROPOSED COBRA HEAD LIGHT POLE NUMBER (N). SEE LIGHTING SCHEDULE
- PROPOSED POE PTZ CAMERA
- ITS CABINET
- SERVICE CABINET
- PULL BOX
- WSDOT TYPE 1 JUNCTION BOX
- WSDOT TYPE 2 JUNCTION BOX
- ILLUMINATION CONDUIT AND CONDUCTOR
- ITS CONDUIT AND CONDUCTOR
- RIGHT OF WAY

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

INTELLIGENT TRANSPORTATION SYSTEM PLAN SHEET 1 OF 1

DATE 02/07/18

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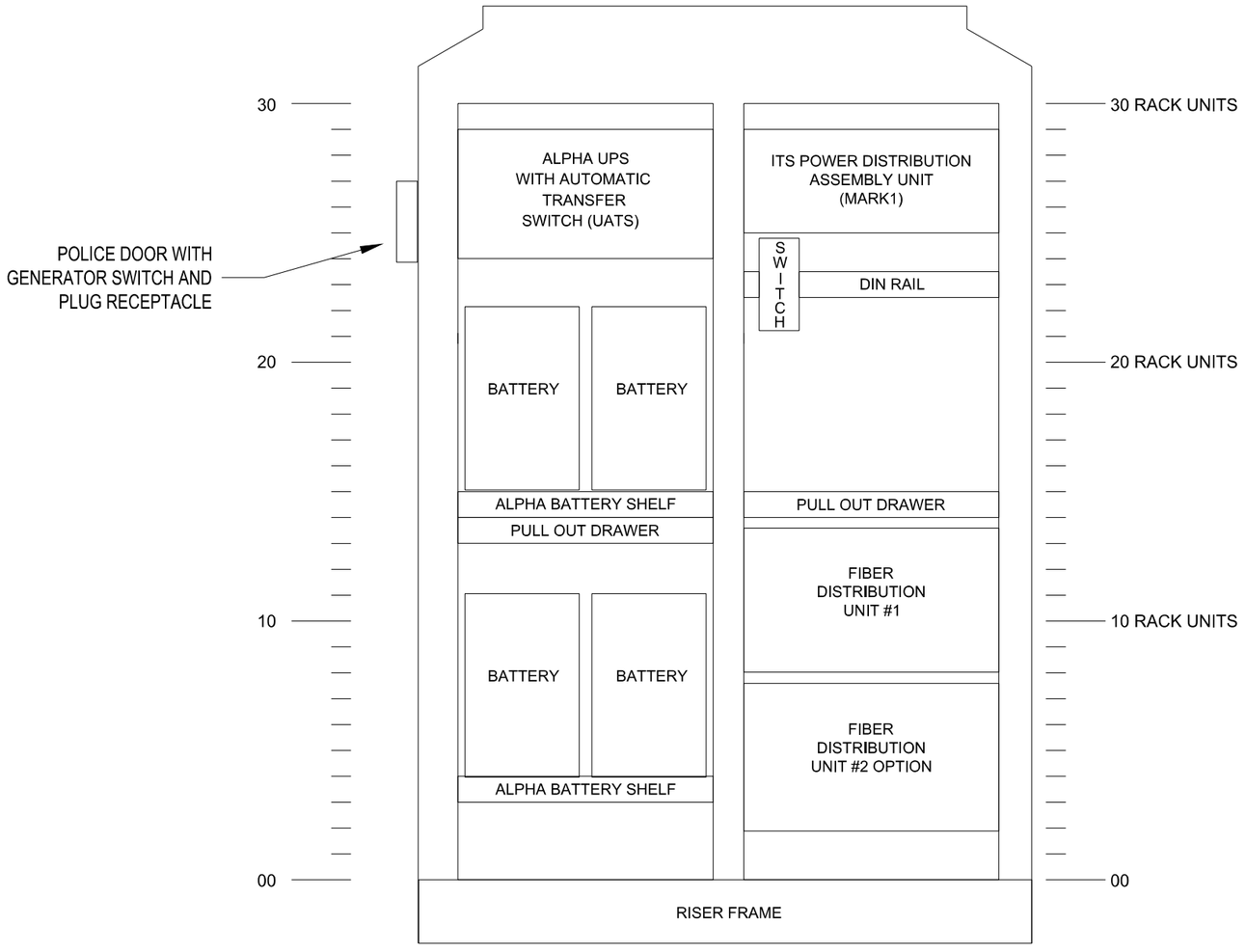
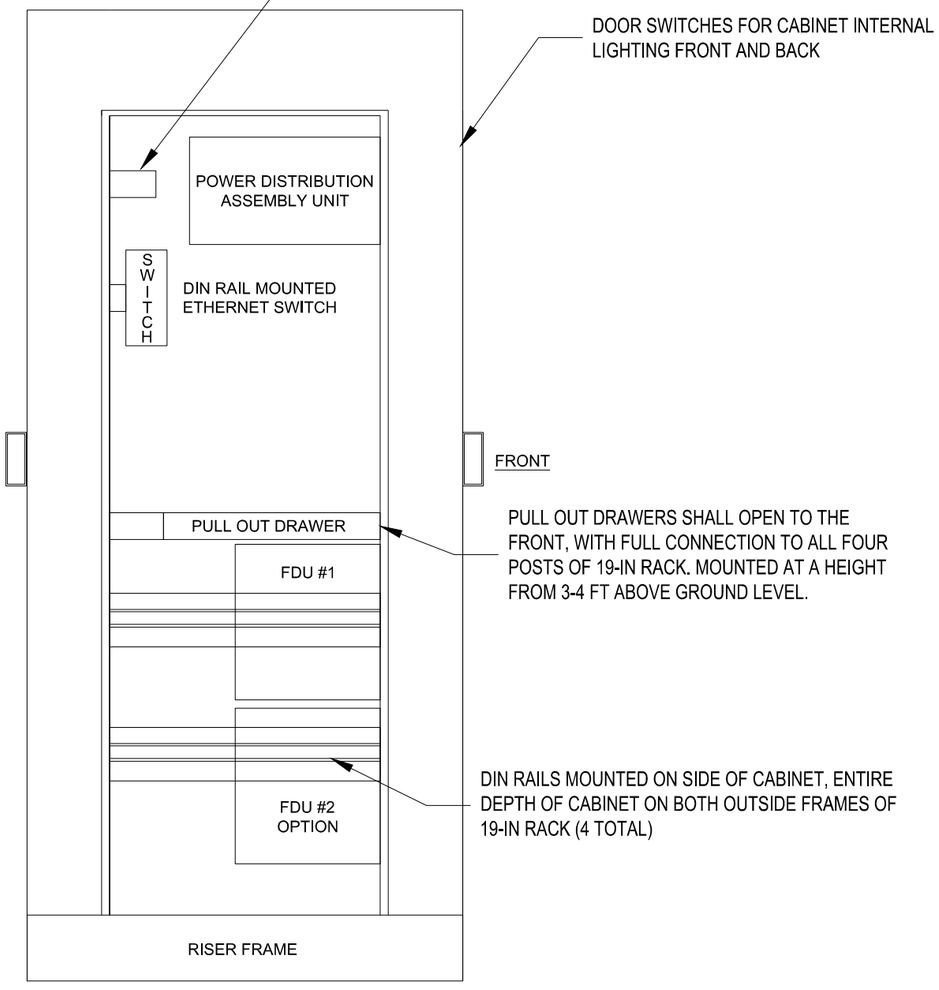
TYPICAL 332D COMMUNICATIONS/UPS CABINET DETAILS



FRONT VIEW



SIDE VIEW

NOTE: CONTRACTOR SHALL PROVIDE AND INSTALL FIBER SWITCHES

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

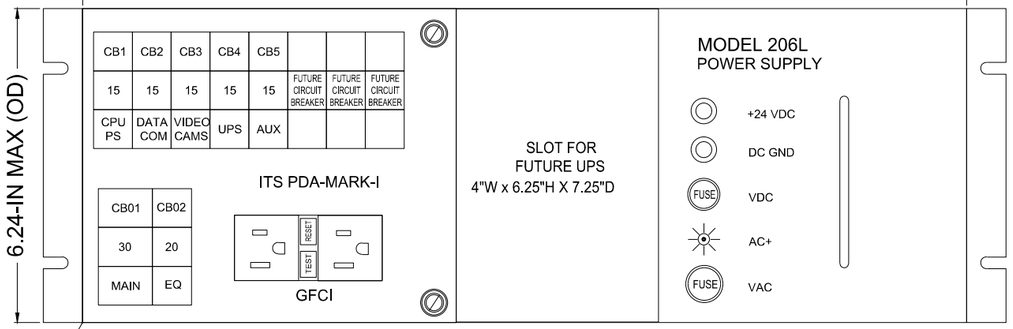
INTELLIGENT TRANSPORTATION SYSTEM
SHEET 1 OF 2

DATE 02/07/18

ITS1

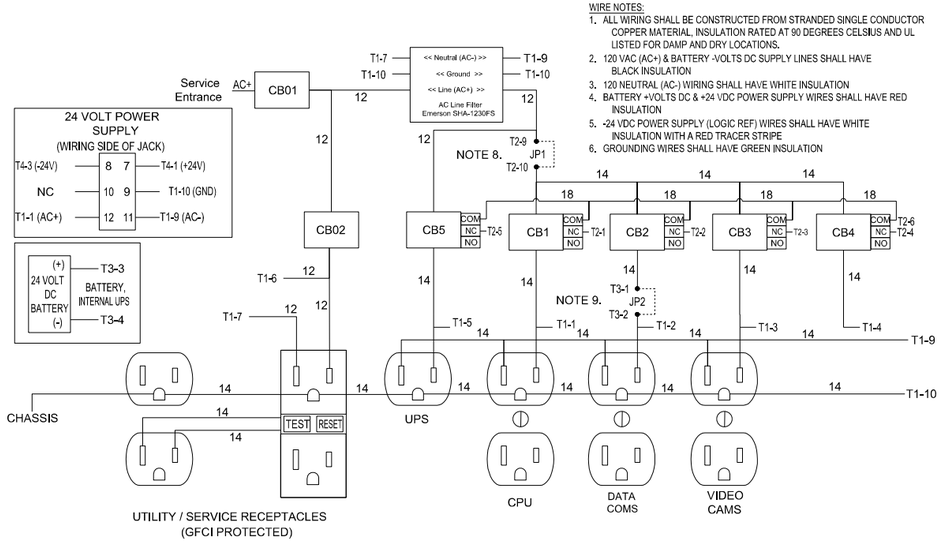
Ver: 18.0

ITS-POWER DISTRIBUTION ASSEMBLY - FRONT VIEW



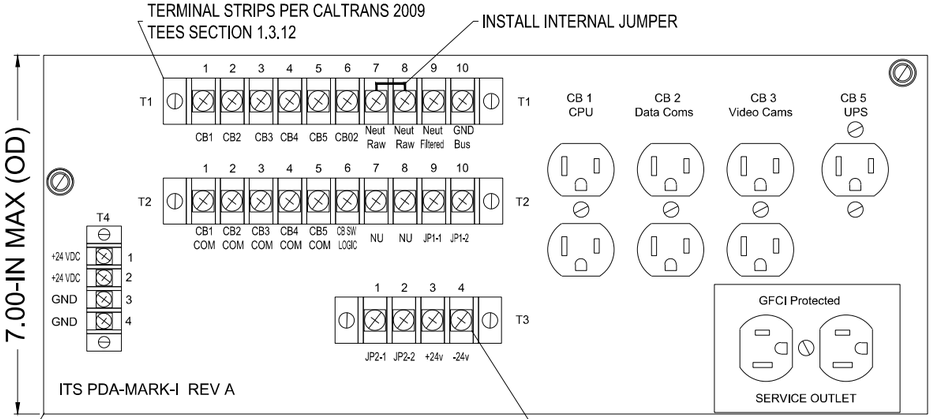
HINGE AT TOP AND BOTTOM. ALL WIRING SHALL HAVE SUFFICIENT SLACK TO ALLOW DOOR TO FULLY OPEN

DEPTH OF ITS-PDA - 10.50-IN MAX
CIRCUIT BREAKERS PER 2009 CALTRANS TEES SECTION 1.3.9



WIRE NOTES:
1. ALL WIRING SHALL BE CONSTRUCTED FROM STRANDED SINGLE CONDUCTOR COPPER MATERIAL, INSULATION RATED AT 90 DEGREES CELSIUS AND UL LISTED FOR DAMP AND DRY LOCATIONS.
2. 120 VAC (AC+) & BATTERY -VOLTS DC SUPPLY LINES SHALL HAVE BLACK INSULATION
3. 120 NEUTRAL (AC-) WIRING SHALL HAVE WHITE INSULATION
4. BATTERY +VOLTS DC & +24 VDC POWER SUPPLY WIRES SHALL HAVE RED INSULATION
5. -24 VDC POWER SUPPLY (LOGIC REF) WIRES SHALL HAVE WHITE INSULATION WITH A RED TRACER STRIPE
6. GROUNDING WIRES SHALL HAVE GREEN INSULATION

ITS-POWER DISTRIBUTION ASSEMBLY - REAR VIEW



HINGE AT BOTTOM, BOTH SIDES. ALL WIRING SHALL HAVE SUFFICIENT SLACK TO ALLOW DOOR TO FULLY OPEN

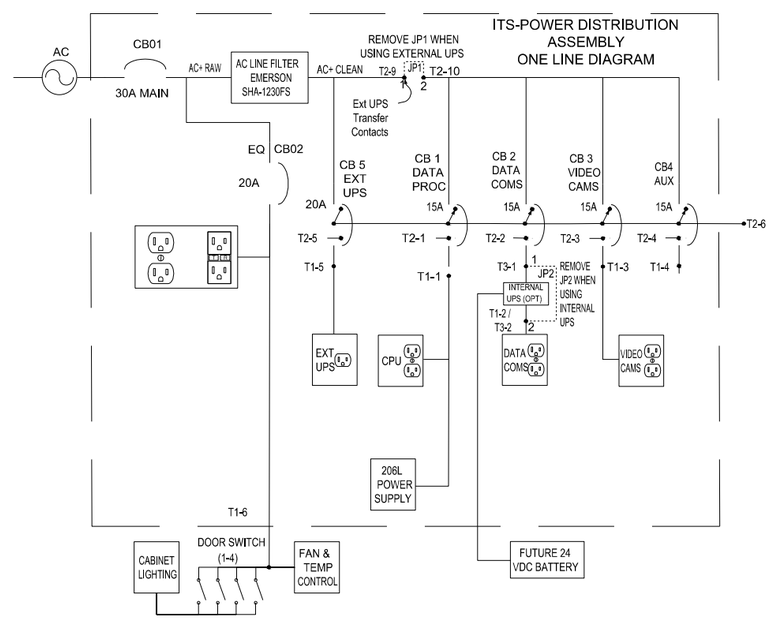
ALL SCREWS ON TERMINAL STRIPS SHALL BE PAN HEAD STANDARD / PHILLIPS (COMBO) 10-32 MACHINE SCREWS WITH 18-8 STAINLESS STEEL (TYPE 316 STAINLESS STEEL IS ACCEPTABLE AS ALTERNATE)

RECEPTACLE COLOR:

CB 1 - CPU - BLACK
CB 2 - DATA COMS - GREY
CB 3 - VIDEO CAMS - BLUE
CB 4 - UPS - RED
GFCI - WHITE

NOTES:
7. CIRCUIT BREAKER AUXILIARY SWITCH– WHEN CIRCUIT BREAKER IS PLACED IN THE 'ON' POSITION, THE NORMALLY OPEN (NO) TERMINAL SHALL BE CONNECTED TO THE COMMON TERMINAL. WHEN PLACED IN THE 'OFF' POSITION, THE NORMALLY CLOSED (NC) TERMINAL SHALL BE CONNECTED TO THE COMMON TERMINAL.
8. JP1 -- INSTALL JUMPER WHEN EXTERNAL UPS / BBS IS NOT INSTALLED. REMOVE JUMPER AND CONNECT EXTERNAL UPS / BBS TO T2-10.
9. JP2 -- INSTALL JUMPER WHEN INTERNAL UPS / BBS IS NOT INSTALLED. REMOVE JUMPER AND CONNECT INTERNAL UPS / BBS TO T3-2.

ITS-POWER DISTRIBUTION ASSEMBLY ONE LINE DIAGRAM



NOTE: CONTRACTOR SHALL PROVIDE AND INSTALL FIBER SWITCHES

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NE 119TH STREET EAST - VOLUME 2 CRP #342422

INTELLIGENT TRANSPORTATION SYSTEM
SHEET 2 OF 2

DATE 02/07/18
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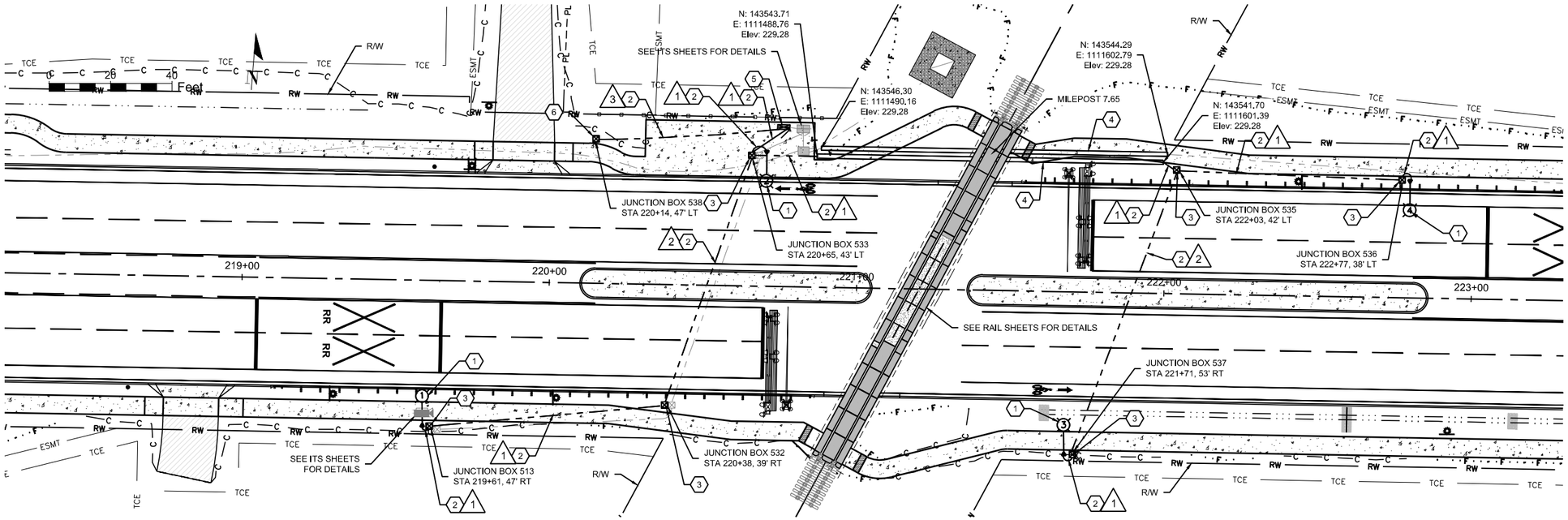

CONSTRUCTION NOTES

1. INSTALL NEW LED COBRA HEAD STYLE STEEL STREET LIGHT POLE ON NEW FOUNDATION
2. FURNISH AND INSTALL LIGHTING CONDUIT. SEE LIGHTING WIRING SCHEDULE
3. FURNISH AND INSTALL TYPE 1 JUNCTION BOX. SEE WSDOT STD. PLAN J-40.10-04
4. FURNISH AND INSTALL 2 -10" STEEL CASINGS BY DIRECTIONAL BORE. SEE ITS PLANS FOR FIBER OPTIC CABLING, SEE GENERAL NOTE 2. VERIFY DEPTH TO BE 6.0 FEET BELOW RR TOP OF TIE (APPROX. ELEV: 236.8)
5. CONSTRUCT FOUNDATION, FURNISH AND INSTALL METERED SERVICE PER DETAIL ON SHEET ILLD1 AND ILLD2
6. CPU SERVICE POLE, COORDINATE CONNECTION WITH CPU.
7. INSTALL SERVICE CONDUIT AND WIRING

CONDUIT & CONDUCTOR SCHEDULE

RUN NO. (#)	CONDUIT	ILLUMINATION WIRES	CIRCUIT	PULL LINE	POWER	NOTES
1	2" VIA TRENCHING	2 - #8 w/ 1 - #8 GRD	1	–		
2	2" VIA TRENCHING	2 - #8 w/ 1 - #8 GRD	1	-		
3	2" VIA TRENCHING	-	–	–	2 - #6 w/ #2 GRD	

NOTE: POWER SERVICE REQUIREMENTS TO BE DETERMINED BY CLARK PUBLIC UTILITY

LIGHTING WIRING SCHEDULE

LUMINAIRE NUMBER	LOCATION		LUMINAIRE			POLE TYPE	CIRCUIT	NOTES
	STATION	OFFSET	TYPE-DISTRIBUTION-WATTAGE	ARM LENGTH (FT)	MOUNTING HEIGHT (FT)			
1	219+59.2	47.10 Rt	LED - TYPE III - SPEC 9-29.10	15	30	STEEL	1	FIXED BASE
2	220+70.0	43.00 Lt	LED - TYPE III - SPEC 9-29.10	15	30	STEEL	1	SLIP BASE
3	221+68.0	38.50 Rt	LED - TYPE III - SPEC 9-29.10	15	30	STEEL	1	FIXED BASE
4	222+78.2	38.50 Lt	LED - TYPE III - SPEC 9-29.10	15	30	STEEL	1	SLIP BASE

LEGEND

- PROPOSED COBRA HEAD LIGHT POLE NUMBER (N). SEE LIGHTING SCHEDULE
- PROPOSED PTZ CAMERA (SEE ITS PLANS)
- WSDOT TYPE 1 JUNCTION BOX
- PROPOSED SERVICE CABINET
- CPU POWER SERVICE PEDESTAL
- CONDUIT AND CONDUCTOR
- RIGHT OF WAY

CASING CONTENTS

1. ILLUMINATION CASING:

   SCH. 80 HDPE WITH 3 - #8 COPPER WIRE CARRYING 240V.

2. ITS CASING

   SCH. 80 HDPE WITH 48 STRAND SINGLE MODE FIBER OPTIC CABLE.

GENERAL NOTES

1. SEE WSDOT STANDARD PLANS:

   J-28.10-01 FOR STEEL LIGHT STANDARD.
   J-28.22-00 FOR STEEL LIGHT STANDARD (SLIP BASE)
   J-28.24-01 FOR STEEL LIGHT STANDARD (FIXED BASE).
   J-28.30-03 FOR DESIGN OF TYPE A FOUNDATION
   J-28.40-02 FOR STEEL LIGHT STANDARD BASE MOUNTING (FIXED BASE).
   J-28.42-01 FOR STREET LIGHT STANDARD ANCHOR/SLIP PLATE FOR SLIP BASE
   J-28.50-03 FOR STREET LIGHT STANDARD POLE BASE AND HAND HOLE DETAILS.
   J-28.70-03 FOR STREET LIGHT STANDARD WIRING DETAILS.

2. STEEL CASING SHALL HAVE A MINIMUM THICKNESS OF 0.188 INCHES AND A MINIMUM YIELD STRENGTH OF 35,000 P.S.I

3. ALL CONDUIT RUNS AND JUNCTION BOX LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS AND EASE OF CONSTRUCTION, BUT MUST BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION.

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ILLUMINATION PLAN
SHEET 1 OF 1

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ILLP1

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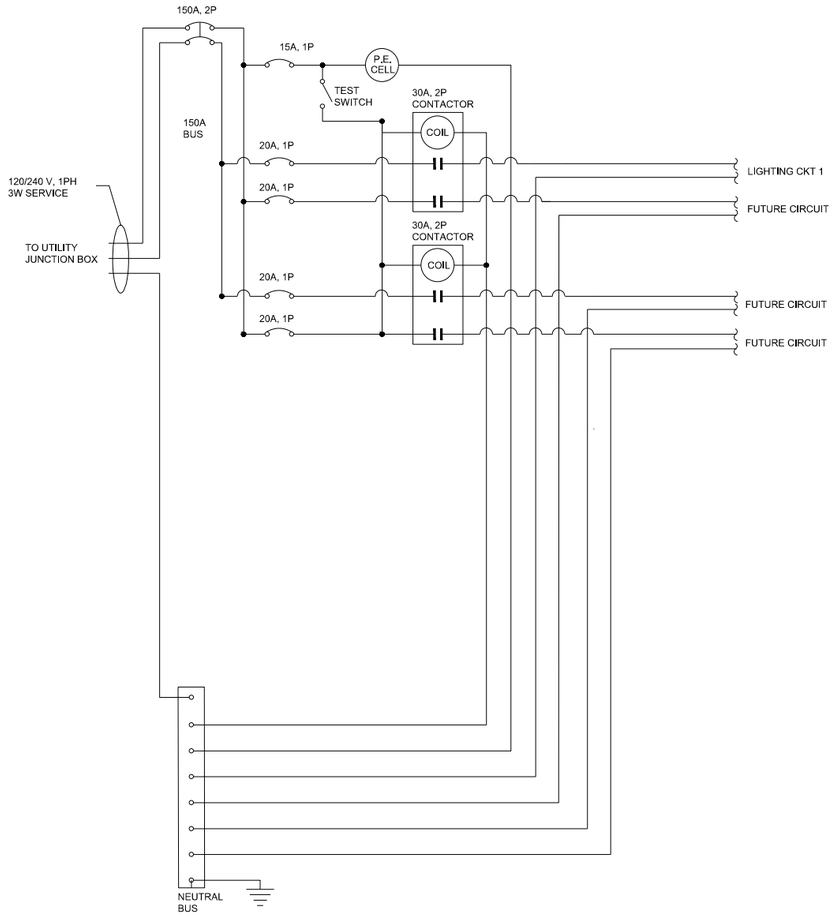

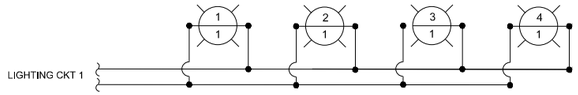

WIRING SCHEMATIC - ROADWAY LIGHTING

LEGEND

(S) / (T) — NEW LIGHT POLE,
(S)= LIGHT POLE NUMBER
(T)= LIGHTING CIRCUIT

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ILLUMINATION DETAIL
SHEET 1 OF 2

DATE 02/07/18

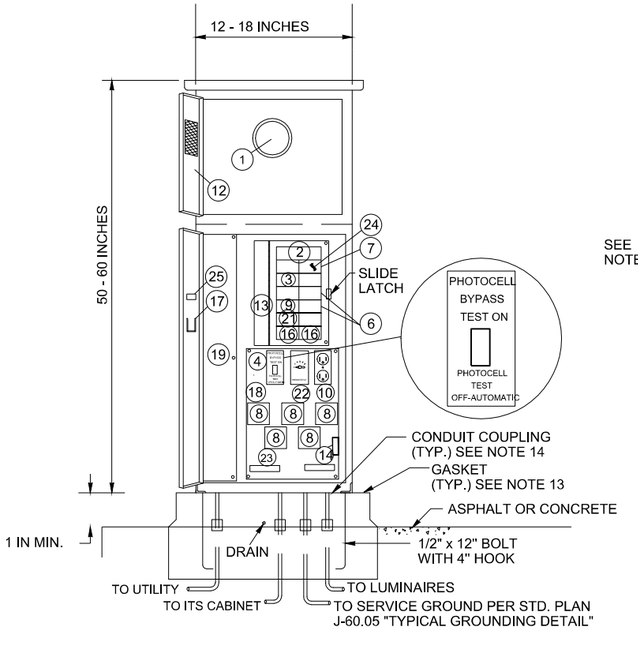
ILLD1

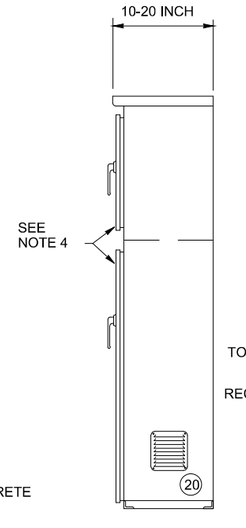
150 AMP TYPE 120/240 1ø SERVICE CABINET

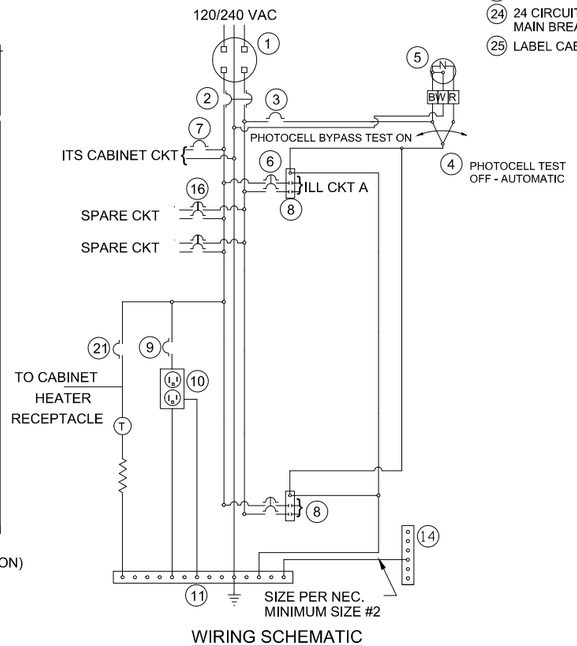
NOTES:

1. SEE STD. SPECIFICATION 9-29.24, SERVICE CABINETS. THE CONTRACTOR SHALL SUBMIT A REQUEST FOR APPROVAL OF MATERIALS THAT DESCRIBES THE SERVICE CABINET PROPOSED FOR USE.
2. HINGES SHALL HAVE STAINLESS STEEL OR BRASS PINS.
3. CABINETS SHALL BE RATED NEMA 3R AND SHALL INCLUDE TWO RAIN TIGHT VENTS.
4. METERING EQUIPMENT DOOR SHALL BE PAD LOCKABLE. EACH DOOR SHALL BE GASKETED. INSTALL FIGURE 8 CORE LOCK ON BOTTOM DOOR COMPATIBLE WITH COUNTY LOCKS.
5. METERING ARRANGEMENTS VARY WITH DIFFERENT SERVING UTILITIES. THE UTILITY MAY REQUIRE METER BASE MOUNTING IN THE ENCLOSURE, ON THE SIDE OR ON THE BACK OF THE ENCLOSURE. THE UTILITY MAY SPECIFY A MINIMUM DIMENSION BETWEEN THE DOOR AND THE FRONT OF THE SAFETY SOCKET.
6. THE CONTRACTOR SHALL VERIFY THE SERVING UTILITY'S REQUIREMENTS PRIOR TO FABRICATION OF AND INSTALLING THE SERVICE EQUIPMENT.
8. ALL BUSSWORK SHALL BE HIGH GRADE COPPER AND SHALL EQUAL OR EXCEED THE MAIN BREAKER RATING. ALL BREAKERS SHALL BOLT ONTO THE BUSSWORK. JUMPERING OF BREAKERS SHALL NOT BE ALLOWED. BUSSWORK SHALL ACCOMMODATE ALL FUTURE EQUIPMENT AS SHOWN IN THE BREAKER SCHEDULE.
9. ALL INTERNAL WIRE RUNS SHALL BE IDENTIFIED WITH "TO - FROM" CODED TAGS LABELED WITH THE CODE LETTERS AND/OR NUMBERS SHOWN ON THE SCHEDULES. APPROVED PVC OR POLYOLEFIN WIRE MARKING SLEEVES SHALL BE USED.
10. A 1% TOLERANCE IS ALLOWED FOR ALL DIMENSIONS.
12. INSTALL CONDUIT COUPLINGS ON ALL CONDUITS. PLACE COUPLINGS FLUSH WITH TOP OF CONCRETE FOUNDATION.
13. SEAL CABINET TO FOUNDATION WITH A 1/2" BEAD OF SILICONE. APPLY SILICONE TO DRY SURFACE ONLY. INSTALL GASKET (30 LB BUILDING PAPER) AND SEAL WITH A NON-HARDENING WATER-TIGHT SEALANT.
14. THE METER BASE PORTION OF THIS SERVICE SHALL MEET METERING PORTION OF EUSERC DRAWING 309 REQUIREMENTS.
15. UNUSED CIRCUIT BREAKER LOCATIONS SHALL BE COVERED.

(1) METER BASE PER SERVING UTILITY REQUIREMENTS. AS A MINIMUM, THE METER BASE SHALL BE SAFETY SOCKET BOX WITH FACTORY INSTALLED TEST BYPASS FACILITY THAT MEETS THE REQUIREMENTS OF EUSERC DRAWING 304.
(2) 150 AMP MAIN BREAKER
(3) PHOTOCELL BREAKER (SPST 15 AMP - 120/240 VOLT)
(4) PHOTOCELL TEST SWITCH (SPDT SNAP ACTION, POSITIVE CLOSE, 15 AMP - 120/277 VOLT "T" RATED)
(5) PHOTOELECTRIC CONTROL, MOUNTED ON LUMINAIRE No. 1
(6) ILLUMINATION CIRCUIT BREAKER (20 AMP)
(7) ITS CABINET CIRCUIT BREAKER (50 AMP)
(8) CONTACTOR
(9) RECEPTACLE BREAKER (SPST 20 AMP - 120/240 VOLT)
(10) RECEPTACLE, GROUNDED (GFCI 20 AMP - 125 VOLT)
(11) NEUTRAL BUSS, 14 LUG COPPER
(12) HINGED FRONT FACING DOOR WITH 4" x 4" MIN. POLISHED WIRE GLASS WINDOW.
(13) HINGED DEAD FRONT WITH 1/4 TURN FASTENERS OR SLIDE LATCH.
(14) CABINET MAIN BONDING JUMPER BUSS SHALL BE 4 LUG TINNED COPPER. SEE CABINET MAIN BONDING JUMPER DETAIL, STANDARD PLAN J-3b.
(16) SPARE BRANCH BREAKER (DPST 20AMP- 120/240 VOLT)
(17) METAL WIRING DIAGRAM HOLDER
(18) REMOVABLE EQUIPMENT MOUNTING PAN
(19) 6" x 6" MIN. UNDERGROUND FEED - UTILITY SERVICE WIREWAY (LEFT REAR CORNER)
(20) SCREENED VENTS, 2 REQUIRED, 1 EACH SIDE, LOUVERED PLATES.
(21) PROVIDE BREAKER FOR SIGNAL CABINET HEATER (SPST 20 AMP - 120/240 VOLT)
(22) NOT USED
(23) NOT USED
(24) 24 CIRCUIT PANEL BOARD - MINIMUM SIZE WITH SEPARATE MAIN BREAKER.
(25) LABEL CABINET WITH BUSSWORK RATING.







WIRING SCHEMATIC

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND MAY BE INCOMPLETE

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

CLARK COUNTY, WASHINGTON

TRANSPORTATION PROGRAM

PUBLIC WORKS
ENGINEERING & CONSTRUCTION DIVISION

ENGINEERING AND DESIGN SECTION

NE 119TH STREET EAST - VOLUME 2 CRP #342422

ILLUMINATION DETAIL
SHEET 2 OF 2

DATE 02/07/18
ILLD2
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