Massaro, Luly (PUC)

From: Anthony Bucci Jr <abucci@buccilaw.com>
Sent: Monday, November 04, 2019 1:35 PM
To: Massaro, Luly (PUC)
Cc: Wold, Leo (DPUC); Hogan, Margaret (PUC); McCarthy, Ken (DPUC)
Subject: [EXTERNAL] : FW: R19.051 - NBC - Shipyard Street, Providence, RI - Preliminary Railroad Crossing set
Attachments: 19051-PDF-191104-Complete Unsigned Railroad Crossing Plan set.pdf

Dear Ms. Massaro,

Attached for filing with the Commission are the Amended Plans dated November 1, 2019 and delivered to the Division this morning. The Amended Plans conform to terms of Pare Corporation's Revised Memorandum to the Division dated October 23, 2019.

Thank you.

ANTHONY J BUCCI JR
Attorney At Law

From: mark@watermanengineering.net <mark@watermanengineering.net>
Sent: Monday, November 4, 2019 7:48 AM
To: aarcher@parecorp.com
Cc: 'Richard Lipsitz' <richard@watermanengineering.net>; Anthony Bucci Jr <abucci@buccilaw.com>
Subject: R19.051 - NBC - Shipyard Street, Providence, RI - Preliminary Railroad Crossing set

Amy,

Enclosed is a preliminary plan set of the NBC Railroad Crossing (Shipyard Street & New York Avenue in Providence) revised per our phone conversation on Friday and emailed to you for your review. If you have any comments or changes, please let us know.

Thank you,

Mark

Mark Sousa
Project Manager

Waterman Engineering Company
46 Sutton Avenue
East Providence, Rhode Island 02914
(401) 438-5775 – office
(401) 438-5773 – fax

Waterman
ENGINEERING COMPANY
Engineers & Surveyors - Est. 1894

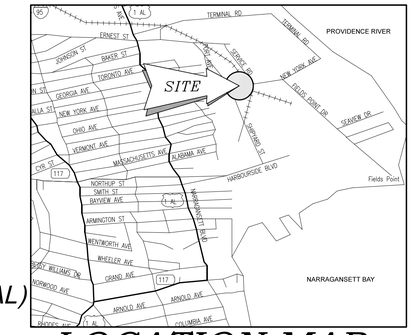
Please consider the environment before printing this email

SHIPYARD ST. & NEW YORK AVE. CROSSING

SHIPYARD STREET & NEW YORK AVENUE
PROVIDENCE, RHODE ISLAND
JULY 2019
REVISED: NOVEMBER 2019

PRELIMINARY
11/4/2019

INDEX SHEET:



LOCATION MAP

APPLICANT:

NARRAGANSETT BAY COMMISSION
1 SERVICE ROAD
PROVIDENCE, RI 02905

Waterman
ENGINEERING COMPANY
Engineers & Surveyors - Est. 1894

46 Sutton Avenue
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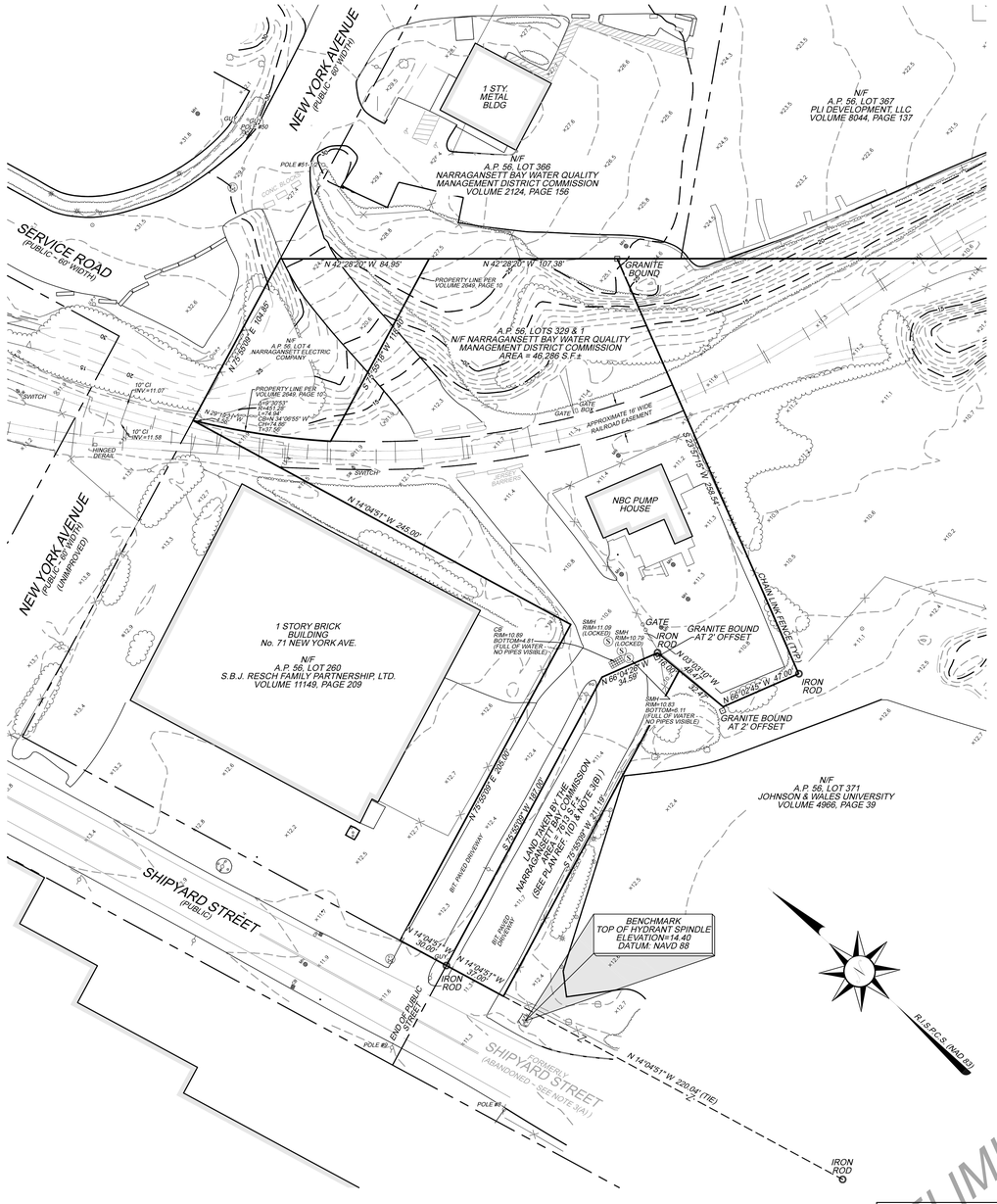

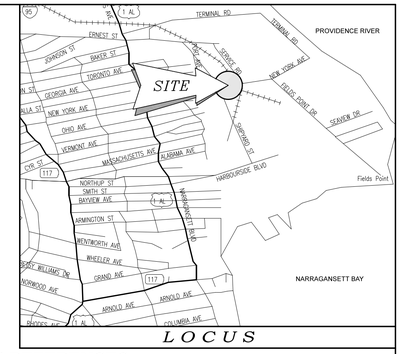

LOCUS

NOTES / REFERENCES

1. REFERENCE IS MADE TO THE FOLLOWING MAPS AND PLANS OF RECORD;
   - A.) PLAN ENTITLED "SURVEY PLAN OF THE PORT OF PROVIDENCE, R I, SITUATED AT FIELD'S POINT PROVIDENCE, RHODE ISLAND SCALE: 1" = 100' DATE: SEPTEMBER 21, 1994 PREPARED FOR PROVPORT, INC. & PEABODY & BROWN BY CROSSMAN ENGINEERING, INC."
   - B.) PLAN ENTITLED "ADMINISTRATIVE SUBDIVISION PORT OF PROVIDENCE RHODE ISLAND TERMINAL ROAD, NEW YORK AVENUE, FIELDS POINT AVE, SHIPYARD STREET & HARBORSIDE BOULEVARD PROVPORT, INC. TERMINAL ROAD PROVIDENCE, RHODE ISLAND PROJECT No. 98.121 SCALE: 1" = 100' FEB. 17, 2005 BY WATERMAN ENGINEERING CO."
   - C.) PLAN ENTITLED "SURVEY OF LAND FOR NEWHARBOR PARTNERS PROVIDENCE, CRANSTON SCALE: 1" = 100' BY THE GUILLEMETTE CORPORATION LAST REVISED: JULY 18, 1988"
   - D.) PLAN ENTITLED "A.P. 56, LOT 371, N/F JOHNSON AND WALES UNIVERSITY SHOWING LAND IN PROVIDENCE, RI TAKEN FOR SECURITY AND ACCESS PURPOSES BY THE NARRAGANSETT BAY COMMISSION, PREPARED BY LEDDY LAND SURVEYING, SCALE: 1" = 40', DATE: JANUARY 30, 2015, RICHARD P. LEDDY, P.L.S. No. 1940."
2. REFERENCE IS MADE TO THE FOLLOWING CITY OF PROVIDENCE LAND EVIDENCE RECORDS REGARDING RECORDED TITLE TO THE PREMISES SURVEYED;
   - A.) A.P. 56, LOT 329 ~ NARRAGANSETT BAY WATER QUALITY MANAGEMENT DISTRICT COMMISSION ~ VOLUME 2649, PAGE 10
3. THESE PREMISES MAY BE SUBJECT TO THE FOLLOWING EASEMENTS, RIGHTS OF WAY OR AGREEMENTS OF RECORD;
   - A.) RESOLUTION OF THE CITY COUNCIL No. 251 APPROVED APRIL 24, 2012 REGARDING THE ABANDONMENT OF A PORTION OF SHIPYARD STREET AS DESCRIBED IN VOLUME 10368, PAGE 270.
   - B.) TAKING BY THE NARRAGANSETT BAY COMMISSION AS DESCRIBED IN VOLUME 11144, PAGE 320 AS SHOWN ON PLAN REF. 1(D)
   - C.) 16' WIDE RAILROAD EASEMENT AS REFERENCED IN VOLUME 2649, PAGE 10
4. THESE PREMISES ARE SITUATED IN AN 'W-2 ZONE':

   DIMENSIONAL REQUIREMENTS

MIN. LOT AREA	= NONE
MIN. LOT WIDTH	= NONE
MIN. S/B FRONT YARD	= NONE
MIN. S/B REAR YARD	= NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 20 FT.
MIN. S/B SIDE YARD	= 6 FT.
MAX. BUILDING HEIGHT	= 75 FT.
MAX. LOT COVERAGE	= N/A

   NOTE - ZONING INFORMATION IS FROM CURRENT ZONING AND MAY NOT REFLECT THE CONDITIONS AT THE TIME OF CONSTRUCTION OR ANY VARIANCES GRANTED.
5. PORTIONS OF THESE PREMISES ARE SITUATED IN A ZONE 'AE' (EL. 17), ZONE 'X' (AREAS OF 0.2% ANNUAL CHANCE FLOOD...) AND ZONE 'X' (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DESIGNATED ON THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM FLOOD INSURANCE RATE MAP PROVIDENCE COUNTY, RHODE ISLAND (ALL JURISDICTIONS) PANEL 317 OF 451 CITY OF PROVIDENCE MAP NUMBER 44007C0317J EFFECTIVE DATE: SEPTEMBER 18, 2013. FEDERAL EMERGENCY MANAGEMENT AGENCY".
6. ANY UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING PLANS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH OR ABANDONED. THE SURVEYOR DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM ALL AVAILABLE INFORMATION. (PLEASE CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION AT PHONE NO. 1-888-DIG-SAFE AND/OR ALL LOCAL UTILITY COMPANIES.)
7. THE HORIZONTAL DATUM FOR THIS PROJECT IS THE R.I.S.P.C.S. (NAD 83) AND THE VERTICAL DATUM FOR THIS PROJECT IS NAVD 88. THE PROJECT DATUMS WERE ESTABLISHED FROM REFERENCE STATIONS AND GNSS CORRECTIONS RECEIVED FROM THE LEICA SMARTNET NORTH AMERICA RTK NETWORK VIA CARLSON BRX6 GNSS ANTENNAS / RECEIVERS.
8. PLANIMETRICS FROM AERIAL PHOTOGRAMMETRIC MAPPING COMPILED BY EASTERN TOPOGRAPHICS - P.O. BOX 970 ~ 495 CENTER STREET (RT. 28) - WOLFEBORO, N.H. 03894-0970 WITH AERIAL PHOTOS EXPOSED NOVEMBER 4, 2018 SUPPLEMENTED BY FIELD EDITS IN JULY, 2019. GROUND CONTROL BY WATERMAN ENGINEERING CO. BUILDING LINES REPRESENT ROOF LINES AS SEEN IN THE AERIAL PHOTOGRAPHY.

LEGEND & ABBREVIATIONS

N/F	- NOW OR FORMERLY		- PROPERTY LINE
A.P.	- ASSESSORS PLAT		- ZONING SETBACK LINE
S.F.	- SQUARE FEET	15	- EXISTING CONTOUR
AC.	- ACRES	15	- NEW CONTOUR
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CLF	- CHAIN LINK FENCE	G	- GAS VALVE
INV.	- INVERT	E	- ELECTRIC MANHOLE
x 10.80	- EXISTING SPOT GRADE		- GRANITE BOUND
x 10.80	- NEW SPOT GRADE		- DRILL HOLE
			- IRON PIPE

GRAPHIC SCALE

40 0 20 40 80 120

(in feet)

1 INCH EQUALS 40 FEET

** SIGNATURES MUST BE IN BLUE INK TO CONSTITUTE AN ORIGINAL PLAN

CERTIFICATION

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON JANUARY 1, 2016, AS FOLLOWS:

TYPE OF BOUNDARY SURVEY:	MEASUREMENT / ACCURACY SPECIFICATION:
LIMITED CONTENT BOUNDARY SURVEY	I (AS SHOWN)
OTHER TYPE OF SURVEY:	
DATA ACCUMULATION	III
TOPOGRAPHIC SURVEY	T-1

THE PURPOSE FOR CONDUCTING THIS SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:

BOUNDARY & TOPOGRAPHIC SURVEY FOR THE FUTURE DEVLOPMENT OF THE SUBJECT PARCEL.

RICHARD S. LIPSITZ
No. 1837
PROFESSIONAL LAND SURVEYOR

BY: _____ 1837

RICHARD S. LIPSITZ, P.L.S. REG. NO. DATE

WATERMAN ENGINEERING COMPANY (COA No. LS.000A483)

PRELIMINARY 4/4/2020

NO.	DATE	REVISION	CHECKED BY
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EXISTING CONDITIONS PLAN
A.P. 56, LOT 329
SHIPYARD STREET & NEW YORK AVENUE
PROVIDENCE, RHODE ISLAND

WATERSON TERMINAL SERVICES, LLC
PORT OF PROVIDENCE ~ 35 TERMINAL ROAD
PROVIDENCE, RHODE ISLAND 02905

PROJECT No. 19-051
SCALE: 1" = 40
DATE: 6/18/2019
DRAWN BY: BJT/MS
CHECKED BY: RSL
FILENAME: 19-051_RR Crossing_rev4
1 of 13 SHTS
DRAWING # SU1

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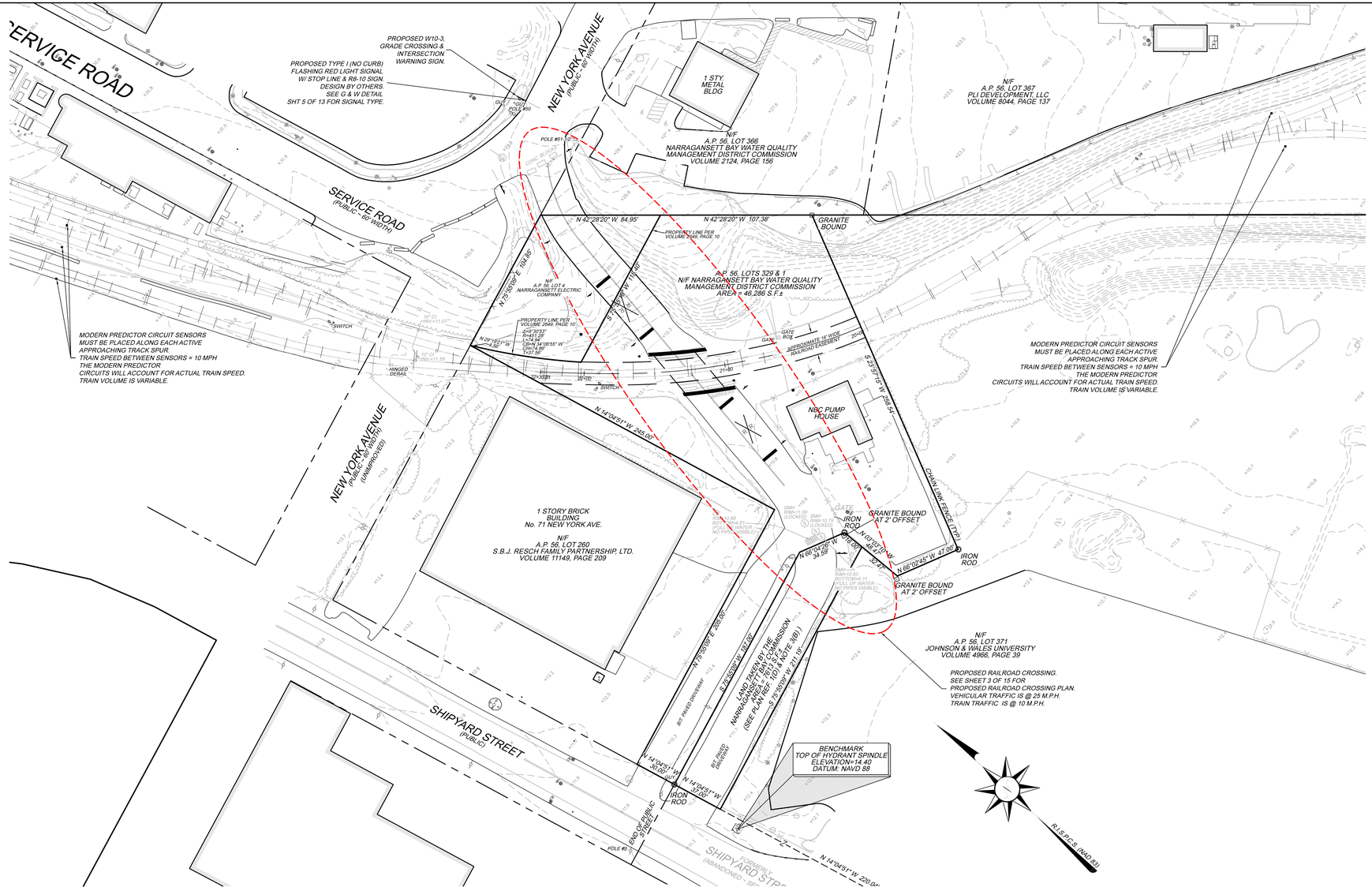

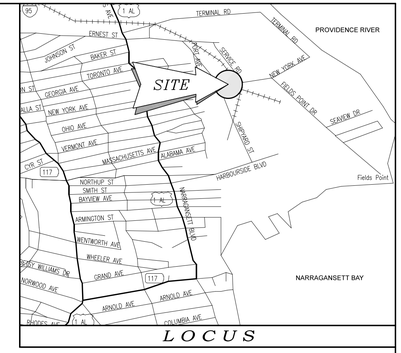

LOCUS

NOTES / REFERENCES

1. SEE SHEET 1 FOR EXISTING CONDITIONS NOTES & REFERENCES.
2. SEE SHEET 4: DETAIL PLAN FOR CONTRACT SPECIFICATION FOR ROAD CROSSING CONSTRUCTION & INSTALLATION.
3. A TRAIN DETECTION/CIRCUIT PLAN SHALL BE DESIGNED FOR APPROVAL BY GENESEE & WYOMING RAILROAD TO CONFORM WITH THE STANDARDS FOR ADVANCE WARNING OF AN APPROACHING TRAIN ALONG ANY OF THE ACTIVE SPURS. THE APPROACH DETECTION SHALL BE INSTALLED AS PART OF THE CROSSING SYSTEM.

LEGEND & ABBREVIATIONS

N/F	- NOW OR FORMERLY		- PROPERTY LINE
A.P.	- ASSESSORS PLAT		- ZONING SETBACK LINE
S.F.	- SQUARE FEET	15	- EXISTING CONTOUR
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GRAPHIC SCALE

40 0 20 40 80 120

(in feet)

1 INCH EQUALS 40 FEET

L. ROBERT SMITH
STATE OF RHODE ISLAND
No. 3536
REGISTERED PROFESSIONAL ENGINEER

** SIGNATURES MUST BE IN BLUE INK TO CONSTITUTE AN ORIGINAL PLAN

CERTIFICATION

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RICHARD S. LIPSITZ
STATE OF RHODE ISLAND
No. 1837
PROFESSIONAL LAND SURVEYOR

BY: _____ 1837

RICHARD S. LIPSITZ, P.L.S. REG. NO. DATE

WATERMAN ENGINEERING COMPANY (COA No. LS.000A483)

PRELIMINARY 11/12/2019

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2	10/08/19	REV. PER PARE & GENESEE & WYOMING COMMENTS	RSL

PROPOSED CONDITION PLAN
PORT OF PROVIDENCE
SHIPYARD STREET & NEW YORK AVENUE
PROVIDENCE, RHODE ISLAND

WATERSON TERMINAL SERVICES, LLC
PORT OF PROVIDENCE - 35 TERMINAL ROAD
PROVIDENCE, RHODE ISLAND 02905

PROJECT NO: 19-051
SCALE: 1" = 40'
DATE: 6/18/2019
DRAWN BY: BJT/MS
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FILENAME: 19-051_RR Crossing_rev4
2 of 13 SHTS
DRAWING # C-1

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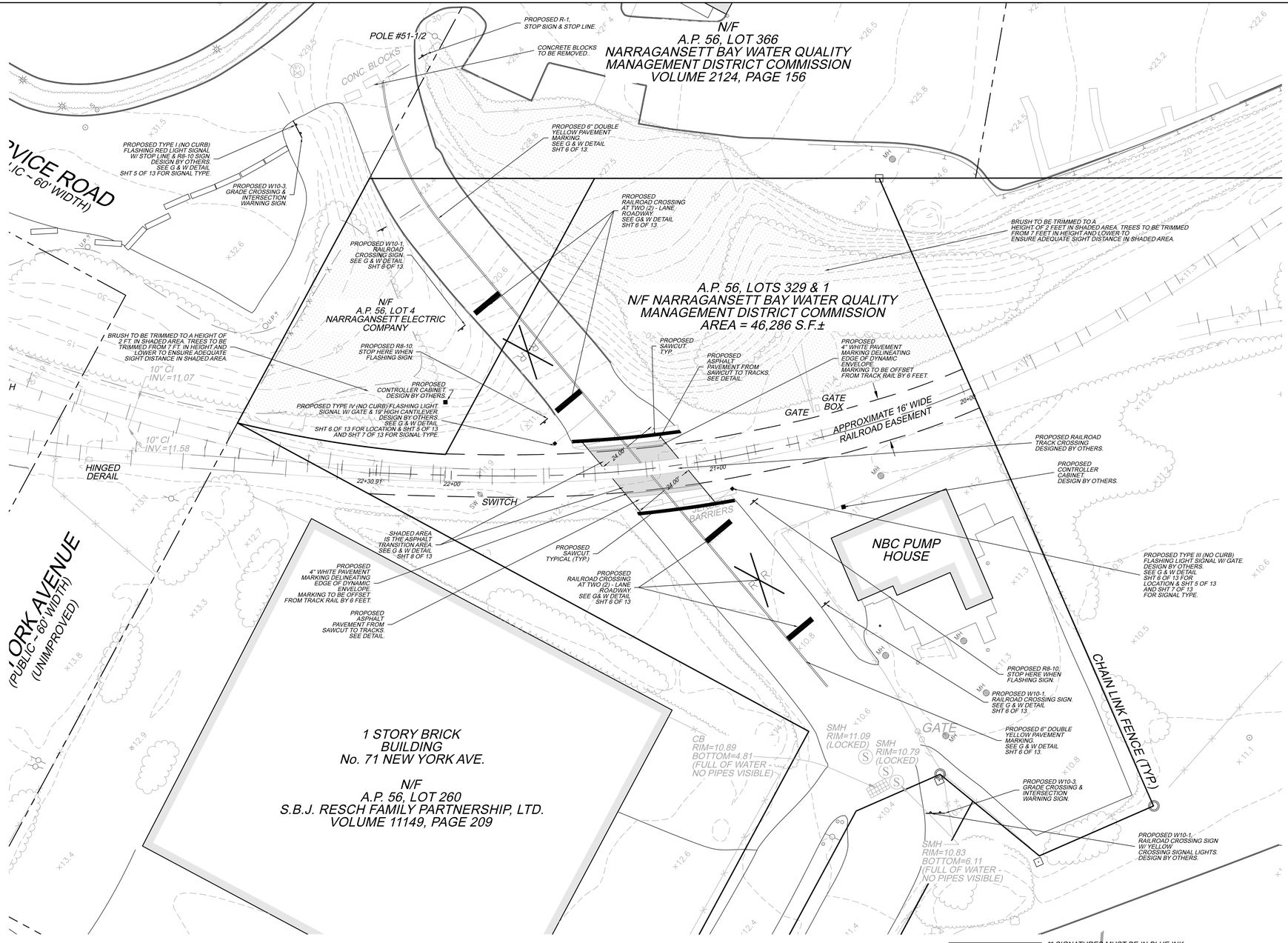

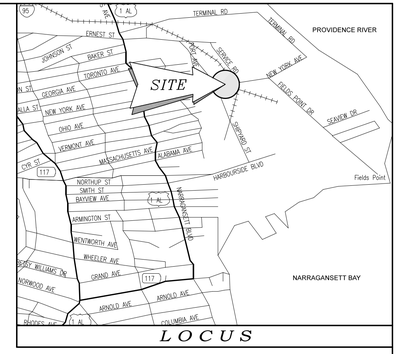

NOTES / REFERENCES

1. SEE SHEET 1 FOR EXISTING CONDITIONS NOTES & REFERENCES.
2. SEE SHEET 4: DETAIL PLAN FOR CONTRACT SPECIFICATION FOR ROAD CROSSING CONSTRUCTION & INSTALLATION.

R.I.S.P.C.S. (NAD 83)

GRAPHIC SCALE

20 0 10 20 40 60

(in feet)

1 INCH EQUALS 20 FEET

LEGEND & ABBREVIATIONS

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WATERMAN ENGINEERING CO.
CIVIL ENGINEERS & SURVEYORS
46 SUTTON AVENUE
EAST PROVIDENCE, RI 02914-2096

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STATE OF RHODE ISLAND
No. 3536
REGISTERED PROFESSIONAL ENGINEER

RICHARD S. LIPSITZ
STATE OF RHODE ISLAND
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BY: _____ 1837

RICHARD S. LIPSITZ, P.L.S. REG. NO. DATE
WATERMAN ENGINEERING COMPANY (COA No. LS.000A483)

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PROPOSED RAILROAD CROSSING PLAN
PORT OF PROVIDENCE
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PROVIDENCE, RHODE ISLAND

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CONTRACT SPECIFICATIONS FOR ROAD CROSSING CONSTRUCTION AND INSTALLATION

1. WORK INCLUDED

FURNISH ALL SUPERVISION, LABOR, MATERIALS NOT FURNISHED BY RAILROAD (SEE 3A), EQUIPMENT, TRANSPORTATION AND INCIDENTALS NECESSARY TO CONSTRUCT AND INSTALL ROAD CROSSINGS AS PER THE SPECIFICATIONS OUTLINED IN ITEM 6 BELOW.

2. MEASUREMENT AND PAYMENT

A. MEASUREMENT AND PAYMENT FOR CONSTRUCTING AND INSTALLING ROAD CROSSINGS WILL BE MADE AT THE BID UNIT PRICE PER "TRACK FEET" AS SPECIFIED IN BID FORM "A". THE BID PRICE SHALL INCLUDE, BUT WILL NOT BE LIMITED TO, TRANSPORTATION, LABOR, TOOLS EQUIPMENT, SUPERVISION, AND ANY OTHER INCIDENTALS NECESSARY TO ACCOMPLISH TO WORK.

3. MATERIALS

A. UNLESS OTHERWISE AGREED UPON IN THE QUOTATION AND CONTRACT, MATERIALS TO BE INSTALLED UNDER THIS CONTRACT SHALL BE PROVIDED BY THE RAILROAD. RAIL SHOULD BE NEW 115# OR GREATER, BUT NO MORE THAN ONE RAIL SIZE ABOVE THE EXISTING RAIL IN THE APPROACH TO THE GRADE CROSSING. IF THE RAIL IN THE APPROACH TO THE GRADE CROSSING IS SMALLER THAN 100#, BUFFER RAILS WILL BE REQUIRED TO TRANSITION TO THE NEW RAIL.

B. CONTRACTOR TO SUPPLY RAILROAD BALLAST

C. CONTRACTOR TO PROVIDE HOT MIX ASPHALT (HMA) AND UNLESS OTHERWISE AGREED UPON IN THE QUOTATION AND CONTRACT, OTHER MATERIALS TO BE INSTALLED UNDER THIS CONTRACT SHALL BE PROVIDED BY THE RAILROAD. HMA SHALL CONFORM TO THE PROJECT STATE DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS. HMA MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER (REGIONAL V.P. – ENGINEERING OR DESIGNEE) FOR REVIEW AND APPROVAL PRIOR TO HMA PLACEMENT.

D. MATERIALS DAMAGED OR BROKEN DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPLACED BY THE RAILROAD, AT THE CONTRACTOR'S SOLE EXPENSE. THE CONTRACTOR WILL HAVE DEDUCTED FROM HIS INVOICE ANY COSTS FOR MATERIAL REPLACED BY THE RAILROAD DUE TO THE CONTRACTOR'S NEGLIGENCE, MISUSE OR LOSS OF MATERIALS PROVIDED EARLIER BY THE RAILROAD. THE CONTRACTOR WILL BE BILLED FOR THE ACTUAL COSTS PLUS ADDITIVES INCURRED BY THE RAILROAD FOR THE REPLACEMENT MATERIAL.

E. IF HMA IS NOT AVAILABLE DUE TO CLIMATE OR SEASON, THE USE OF COLD MIX ASPHALT MUST BE REQUESTED AT LEAST TWO WEEKS ADVANCE AND APPROVED BY THE ENGINEER IN WRITING.

4. EQUIPMENT

A. ALL EQUIPMENT NECESSARY FOR THE REHABILITATION OF THE TRACK, OR ANY INCIDENTAL WORK RELATED THERETO, UNDER THIS SECTION WILL BE FURNISHED BY THE CONTRACTOR, AT NO COST TO THE RAILROAD.

B. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SECURITY OF ANY EQUIPMENT STORED ON RAILROAD PROPERTY DURING THE PERFORMANCE OF THIS CONTRACT.

C. ALL EQUIPMENT MUST MEET THE REQUIREMENTS OF CFR TITLE 49, PART 214 D – ON-TRACK ROADWAY MAINTENANCE MACHINES AND HI-RAIL VEHICLES.

5. EXECUTION

A. CONTRACTOR SHALL BE REQUIRED TO PERFORM THE WORK AT ALL TIMES UNDER THE SUPERVISION OF A QUALIFIED SUPERINTENDENT, OR GENERAL FOREMEN EXPERIENCED IN RAILROAD TRACK CONSTRUCTION AND REHABILITATION. ALL TRACK REHABILITATION SHALL BE PERFORMED BY FOREMEN AND LABORERS EXPERIENCED IN RAILROAD TRACK REHABILITATION. SUPERVISORS AND LABORERS NOT QUALIFIED TO REHABILITATE THE RAILROAD TRACK WILL BE REMOVED AND REPLACED BY QUALIFIED PERSONNEL WHEN REQUESTED BY THE ENGINEER, AT HIS SOLE DISCRETION.

B. THE CONTRACTOR SHALL EXERCISE CARE IN HIS PROGRESSION OF WORK UNDER THIS CONTRACT TO AVOID AND PREVENT DAMAGE TO ADJACENT STRUCTURES AND FACILITIES, INCLUDING, BUT NOT LIMITED TO, EXISTING PAVEMENTS, PAVEMENT BASES, DRAINAGE STRUCTURES, RAILROAD SIGNAL APPLIANCES, CABLES AND WIRES, LIGHT POLES, FIRE HYDRANTS, UTILITIES AND BUILDINGS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE "CALL BEFORE YOU DIG" CENTER FOR THE PROJECT AREA AND HAVING UTILITIES MARKED IN THE PROJECT AREA.

C. THE CONTRACTOR SHALL PERFORM HIS WORK UNDER THIS SECTION IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN A MANNER THAT IS CONSISTENT WITH TRACK REHABILITATION AS IS STANDARD IN THE RAILROAD INDUSTRY AMONG CLASS I RAILROADS IN THE CONTINENTAL UNITED STATES. IF THE CONTRACTOR SHOULD FIND ANY OMISSIONS OR ITEMS FOR WHICH HE DESIRES CLARIFICATION, IT SHALL BE HIS SOLE RESPONSIBILITY TO ADDRESS THESE ITEMS TO THE ENGINEER.

6. CONSTRUCTING AND INSTALLING ROAD CROSSINGS

A. REFERENCE STAKE THE EXISTING ALIGNMENT AND PROFILE. RE-STAKE NEW TOP OF RAIL PROFILE AS NECESSARY TO MATCH ADJACENT EXISTING TRACK AND/OR STREET ELEVATION.

B. SAW CUT ASPHALT A MINIMUM OF 7' EACH SIDE OF THE TRACK CENTERLINE TO FACILITATE THE INSTALLATION OF 10' TIES AND PAVING THE APPROACHES.

C. REMOVE EXISTING TRACK TO A MINIMUM OF 10' PAST EACH END OF THE CROSSING. ASPHALT AND TIES TO BE DISPOSED OF OFFSITE BY THE CONTRACTOR. TIES, CROSSING MATERIAL (INCLUDING ASPHALT), AND OTM TO BE PROPERLY DISPOSED OF OFFSITE BY CONTRACTOR. THE ENGINEER MAY SPECIFY MATERIAL (TIES AND OTM) TO BE KEPT FOR RE-USE. CONTRACTOR WILL DELIVER THIS MATERIAL TO A LOCATION SPECIFIED BY THE ENGINEER. ALL SCRAP MATERIAL MUST BE PROPERLY DISPOSED OF. SCRAP TIES AND OTHER CREOSOTED MATERIAL MUST BE DISPOSED OF IN COMPLIANCE WITH THE G&W CROSSTIE DISPOSAL POLICY. THE AREA AROUND THE GRADE CROSSING WILL BE GRADED AND DRESSED TO PROVIDE A SMOOTH AND PROPERLY DRAINING SURFACE.

D. EXCAVATE TO A DEPTH THAT WILL ALLOW FOR A MINIMUM OF 8" OF RAILROAD GRADE CRUSHED ROCK BALLAST. DISTURBED SUBGRADE MUST BE COMPACTED WITH AT LEAST A PLATE COMPACTOR OR VIBRATORY TAMPER TYPE COMPACTOR TO ACHIEVE AT LEAST 95 PERCENT OF ITS MAXIMUM UNIT WEIGHT. EXCAVATED MATERIALS MAY BE SPREAD ON THE RAILROAD RIGHT OF WAY AS PERMITTED BY THE ENGINEER, WHEN THEY WILL NOT ADVERSELY AFFECT DRAINAGE OR RAILROAD OPERATIONS. DRAINAGE PIPE IS TO BE INSTALLED AS SPECIFIED BY THE ENGINEER AND AS REQUIRED IN THE BID DOCUMENTS. DRAINAGE PIPE SHALL BE INSTALLED AS SHOWN IN G&W STANDARD PLAN ES6006.1. CORNERS OF THE ROAD CROSSING SHALL BE GRADED TO DRAIN AWAY FROM THE TRACK (SEE STANDARD PLAN ES8052.1)

E. TIES SHOULD BE SQUARE TO THE RAIL AND AT THE SPACING REQUIRED FOR THE TYPE OF CROSSING PANELS BEING INSTALLED (MANUFACTURER SPECIFICATIONS). TIES SHALL BE SPIKED WITH A MINIMUM OF 2 RAIL SPIKES ON THE GAGE SIDE AND 1 RAIL WITH 1 ANCHOR SPIKE ON THE FIELD SIDE OF THE PLATE. IF THE SPIKING PATTERN FOR THE TRACK ADJACENT TO THE ROAD CROSSING CALLS FOR ADDITIONAL SPIKES, THAT PATTERN SHALL BE UTILIZED THROUGH THE ROAD CROSSING (SEE STANDARD PLAN ES8050.1). ALL SPIKE HOLES WILL BE PRE-DRILLED WITH A 3/8" BIT TO A DEPTH NOT TO EXCEED 6". RAIL WILL BE BOX ANCHORED THOUGH THE ENTIRE LENGTH OF THE CROSSING SURFACE (SEE STANDARD PLAN ES8050.1). RAIL JOINTS ARE NOT ALLOWED WITHIN THE LIMITS OF THE CROSSING SURFACE OR CLOSER THAN 25 FEET TO THE EDGE OF CROSSING.

F. RAISE AND TAMP THE TRACK WITH MECHANICAL MEANS TO PREVENT FUTURE SETTLEMENT. TWO TAMPING PASSES SHOULD BE MADE WITH A MECHANICAL TAMPER. CROSSING APPROACHES SHOULD BE TAMPED AND RAISED AS NECESSARY TO ENSURE A UNIFORM RUNOFF (AT LEAST 200' EACH WAY). TRACK SURFACING AND DRESSING MUST BE PERFORMED IN COMPLIANCE WITH SPECIFICATION 500-2.

G. ALL ROAD CROSSING REHABILITATION IN CWR SHALL BE PERFORMED IN COMPLIANCE WITH THE G&W PROCEDURES FOR THE INSTALLATION, ADJUSTMENT, MAINTENANCE AND INSPECTION OF CWR (LATEST REVISION). THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING AND SIGNING DAILY, A "TRACK DISTURBANCE REPORT." THESE REPORTS WILL BE FILED WITH THE RAILROAD ON A DAILY BASIS.

H. INSTALL AND FASTEN FULL DEPTH PRE-CAST CONCRETE CROSSING PANELS IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS FOR THE FULL WIDTH OF THE ROAD CROSSING (SEE STANDARD PLANS ES6007.1).

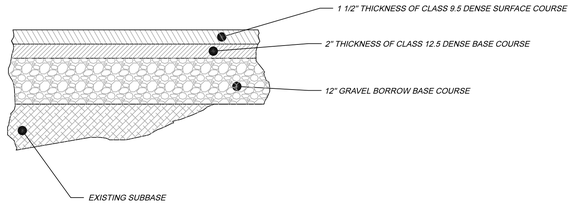
I. RAIL-SEAL TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS (SEE STANDARD PLAN ES6005.3).

J. INSTALL OTHER CROSSING SURFACES ACCORDING TO (PREMIER MODULAR CROSSINGS, COMPOSITE CROSSINGS, FULL WIDTH TIMER, ETC.) MANUFACTURER'S INSTRUCTIONS.

K. ASPHALTING FULL DEPTH AND COMPACTING IN ACCORDANCE WITH SPECIFICATIONS AND G&W STANDARD DRAWINGS FOR THE FULL WIDTH OF THE ROAD CROSSING.

L. CONTRACTOR TO COORDINATE ROAD CLOSURES WITH RAILROAD AND THE APPROPRIATE ROADWAY AUTHORITY. CONTRACTOR TO PROVIDE ALL MAINTENANCE OF TRAFFIC (MOT). MOT PLAN AND EXECUTION MUST COMPLY WITH ALL APPLICABLE STATE DOT SPECIFICATION AND REQUIREMENTS AND WHERE REQUIRED MUST HAVE THE APPROVAL OF THE APPROPRIATE AGENCY. CONTRACTOR IS RESPONSIBLE FOR ANY PERMITTING REQUIRED IN RELATION TO THE MOT.

7. APPLICABLE STANDARD PLANS: ES6005.3, ES6006.1, ES6007.1, ES8050.1, ES8052.1.



TYPICAL PAVEMENT SECTION
(N.T.S.)

L. ROBERT SMITH
STATE OF RHODE ISLAND
No. 3536
REGISTERED
PROFESSIONAL ENGINEER

* SIGNATURES MUST BE IN BLUE INK TO CONSTITUTE AN ORIGINAL PLAN

PRELIMINARY
11/4/2019

NO.	DATE	REVISION	CHECKED BY
4	11/1/19	REVISED PER PARE CORP. COMMENTS DATED 10/31/19	RSL
3	10/24/19	REVISED PER PARE CORP. COMMENTS DATED 10/23/19	RSL
2	10/08/19	REV. PER PARE & GENESEE & WYOMING COMMENTS	RSL

DETAIL PLAN
PORT OF PROVIDENCE
SHIPYARD STREET & NEW YORK AVENUE
PROVIDENCE, RHODE ISLAND

WATERSON TERMINAL SERVICES, LLC
PORT OF PROVIDENCE – 35 TERMINAL ROAD
PROVIDENCE, RHODE ISLAND 02905

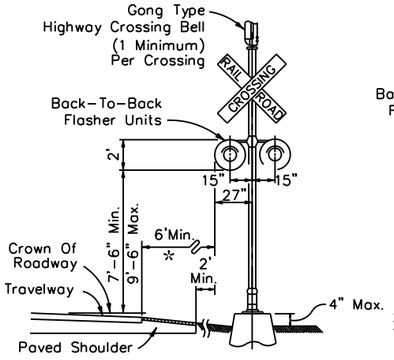
PROJECT NO: 19-051
SCALE: AS NOTED
DATE: 6/18/2019
DRAWN BY: MS
CHECKED BY: LRS
FILENAME: 19-051_RR Crossing_rev4
4 of 13 SHTS
DRAWING # C-3

Waterman ENGINEERING COMPANY
Engineers & Surveyors - Est. 1894
46 Sutton Avenue
East Providence, RI
Phone: (401) - 438 - 5775
Fax: (401) - 438 - 5773
www.watermanengineering.net

WATERMAN ENGINEERING CO.
CIVIL ENGINEERS & SURVEYORS
46 SUTTON AVENUE
EAST PROVIDENCE, RI 02914-2096

FILE
SC600.1

REVISIONS	
09/27/10	XRL/TJF
01/12/12	XRL/TJF
07/15/13	XRL/TJF



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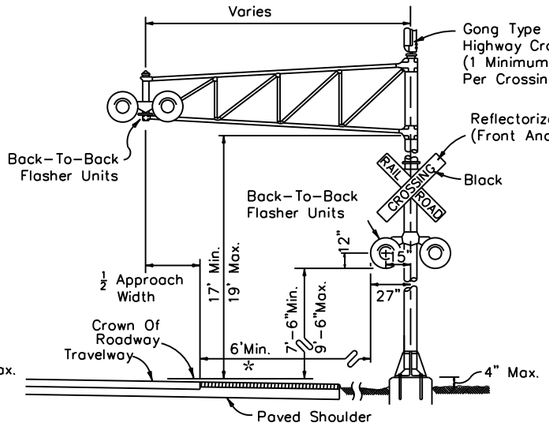

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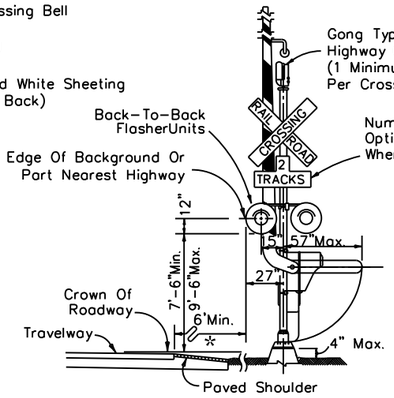

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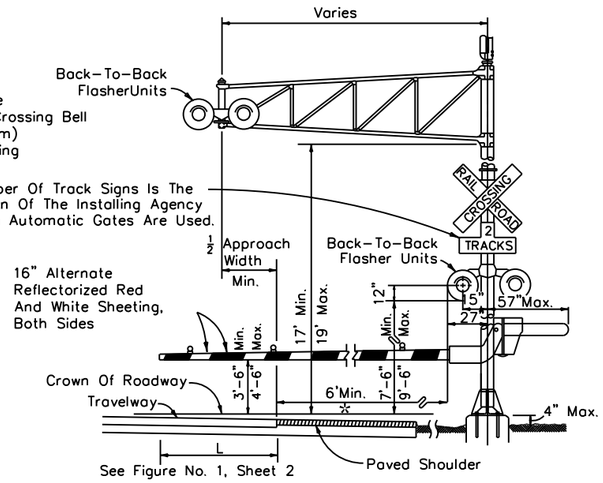
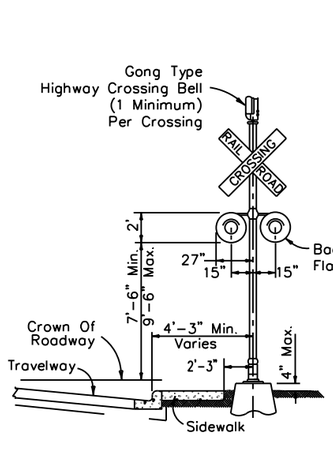


TYPE IV
(NO CURB)

NOTES:

1. NO GUARDRAIL IS PROPOSED FOR SIGNALS: HOWEVER, SOME FORM OF IMPACT ATTENUATION DEVICE MAY BE SPECIFIED FOR CERTAIN LOCATIONS.
2. ADVANCE FLASHER TO BE INSTALLED WHEN AND IF CALLED FOR IN PLANS OR SPECIFICATIONS.
3. TOP OF FOUNDATION SHALL BE NO HIGHER THAN 4" ABOVE FINISHED SHOULDER GRADE.
4. TYPE OF TRAFFIC CONTROL DEVICE
   - I. FLASHING SIGNALS
   - II. FLASHING SIGNALS WITH CANTILEVER
   - III. FLASHING SIGNALS WITH GATE
   - IV. FLASHING SIGNALS WITH CANTILEVER AND GATE
   - V. GATE
5. CLASS OF TRAFFIC CONTROL DEVICES
   - I. FLASHING SIGNALS - ONE TRACK
   - II. FLASHING SIGNALS - MULTIPLE TRACKS
   - III. FLASHING SIGNALS AND GATES - ONE TRACK
   - IV. FLASHING SIGNALS AND GATES - MULTIPLE TRACKS
6. TWO SEPARATE FOUNDATIONS MAY BE REQUIRED (ONE FOR SIGNALS, ONE FOR GATE) DEPENDING ON TYPE OF EQUIPMENT NEEDED.

* WHEN 6' IS DEEMED IMPRACTICAL, THE CONTROL DEVICE CAN BE LOCATED AS CLOSE AS 2' FROM THE EDGE OF A PAVED OR SURFACED SHOULDER BUT NOT LESS THAN 6' FROM THE EDGE OF TRAVELED WAY (NEAR TRAFFIC LANE).



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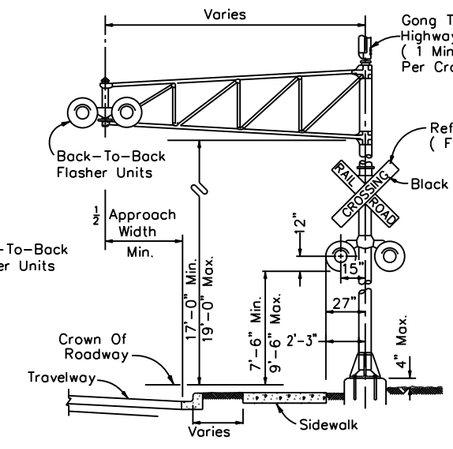

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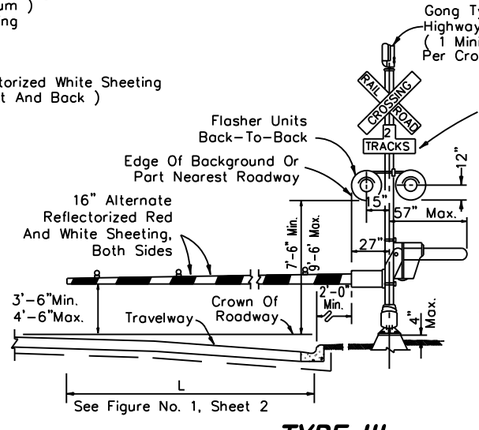

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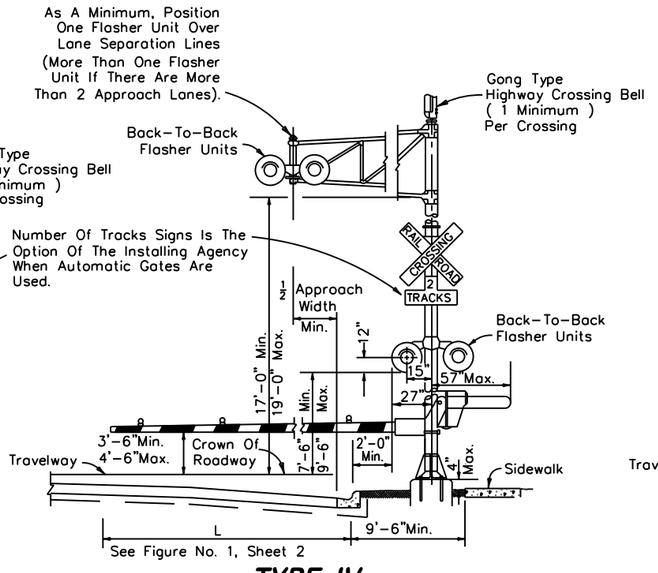

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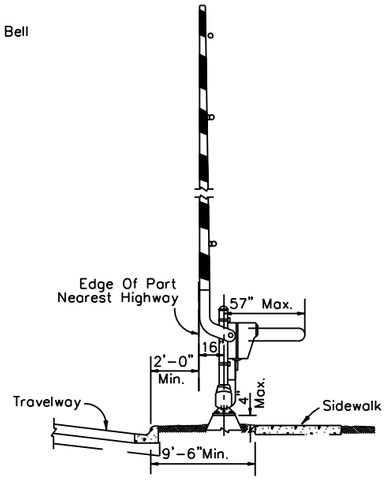


TYPE V
(WITH CURB)

GENESEE & WYOMING
SIGNAL & COMMUNICATION
STANDARDS REFERENCE MANUAL

Issue Date: 03-01-2009 | Revised Date: 07-15-2013

Authorized: Chief Engineer Signals and Communications

The material and equipment shown herein must meet or exceed all quality requirements. Any deviation from these standards must be submitted in writing and approved by the Railroad Director of Engineering Services prior to use.

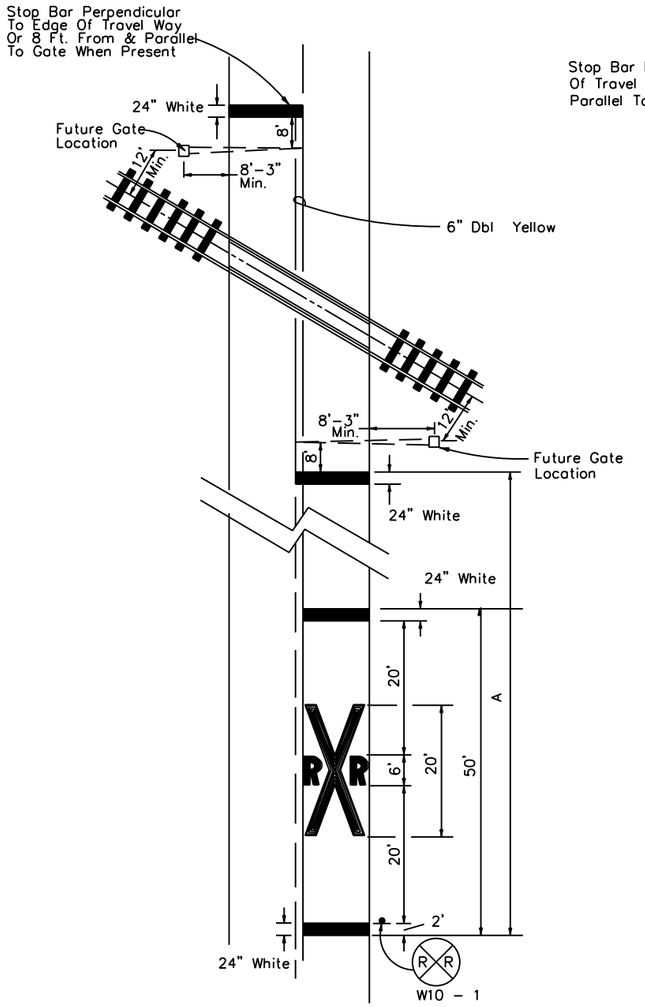
CROSSING WARNING DEVICES
600 SERIES

TYPICAL LOCATION PLAN FOR
HIGHWAY CROSSING SIGNALS I

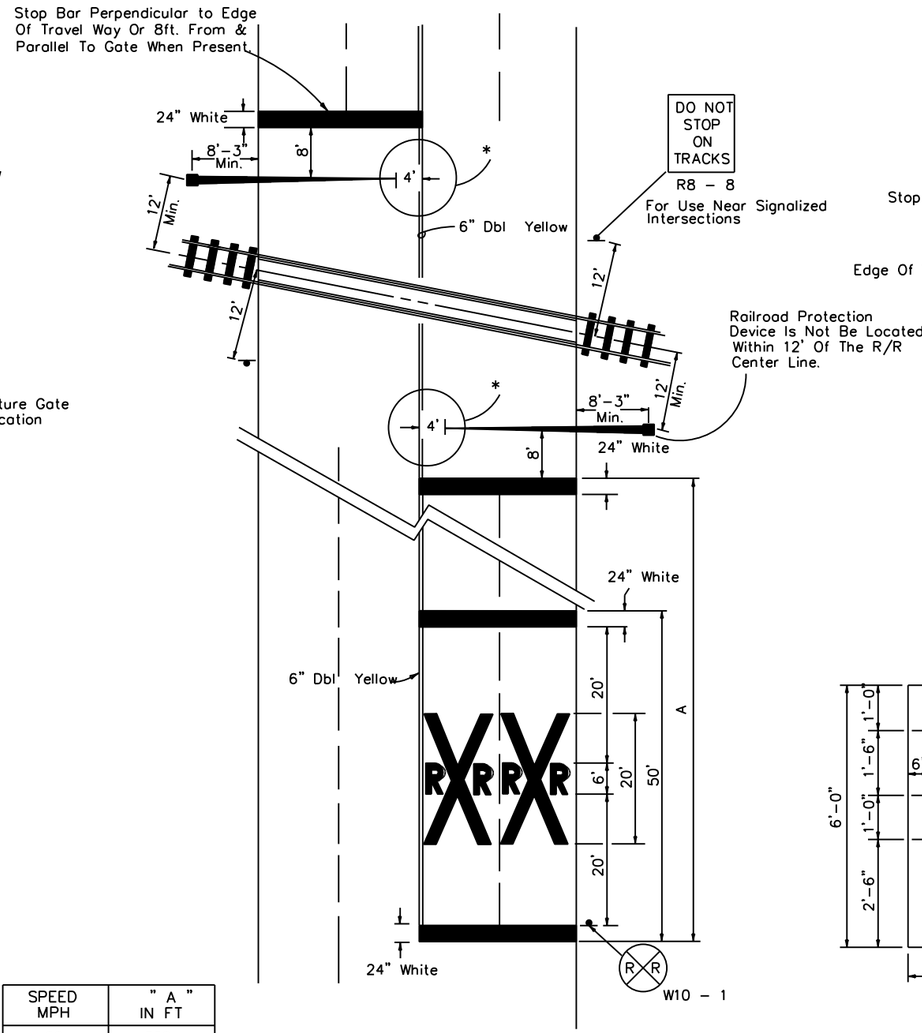
SC600.1
SHT 5 OF 13

FILE	
SC600.1	
REVISIONS	
09/27/10	XRL/TJF
01/12/12	XRL/TJF
07/15/13	XRL/TJF

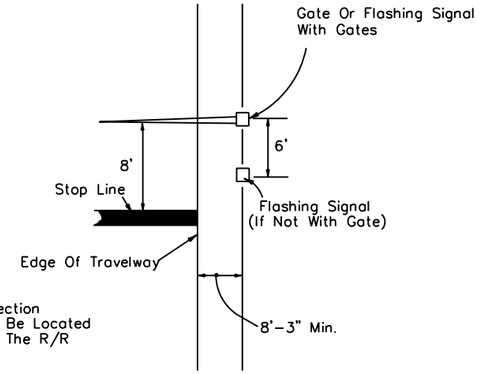
RAILROAD CROSSING AT TWO (2) – LANE ROADWAY

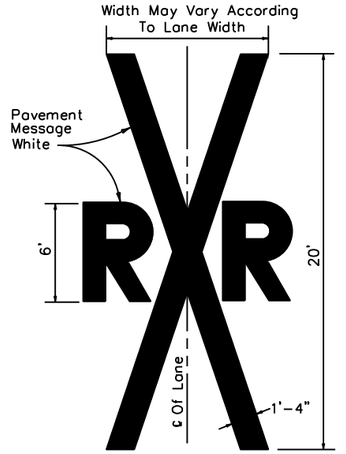


RAILROAD CROSSING AT MUTI–LANE ROADWAY



RELATIVE LOCATION OF CROSSING TRAFFIC CONTROL DEVICES





SPEED MPH	" A " IN FT
60	550
55	450
50	375
45	300
40	225
35	150
30	100
URBAN	50 MIN.

NOTE:

VEHICULAR APPROACH SPEED = 25 MILES PER HOUR (MPH)
THEREFORE "A" = 50' MINIMUM

NOTES:

1. When computing pavement message, quantities do not include transverse lines.
2. Placement of sign W10-1 in a residential or business district, where low speeds are prevalent, the W10-1 sign may be placed a minimum distance of 100 feet from the crossing. Where street intersection occur between the R R pavement message and the tracks an additional W10-1 sign and additional pavement message should be used

A portion of the pavement markings symbol should be directly opposite the W10-1 sign.

Gate Length Requirements

* For two-way undivided sections:
The gate should extend to within 1' of the center line. On multilane approaches the maximum gate length may not reach to within 1' of the center line. For those cases, the distance from the gate to the center line shall be a maximum of 4'.

For one-way or divided sections:
The gate shall be of sufficient length such that the distance from the gate tip to the inside edge of pavement is a maximum of 4'.

GENESEE & WYOMING
SIGNAL & COMMUNICATION
STANDARDS REFERENCE MANUAL

Issue Date: 03-01-2009 | Revised Date: 07-15-2013

Authorized: Chief Engineer Signals and Communications

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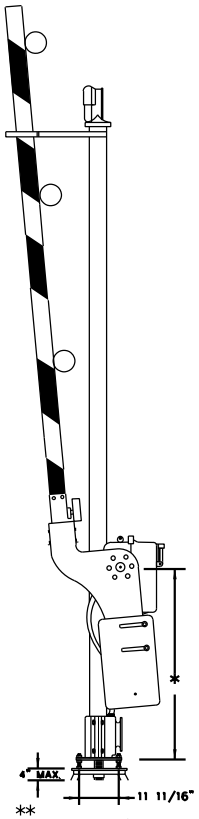
CROSSING WARNING DEVICES

600 SERIES

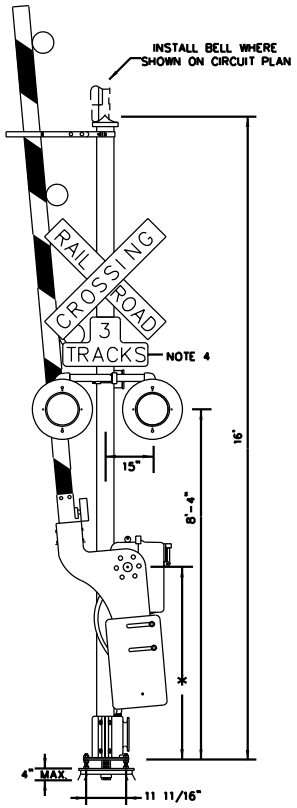
TYPICAL LOCATION PLAN FOR HIGHWAY CROSSING SIGNALS II

SC600.1
SHT 6 OF 13

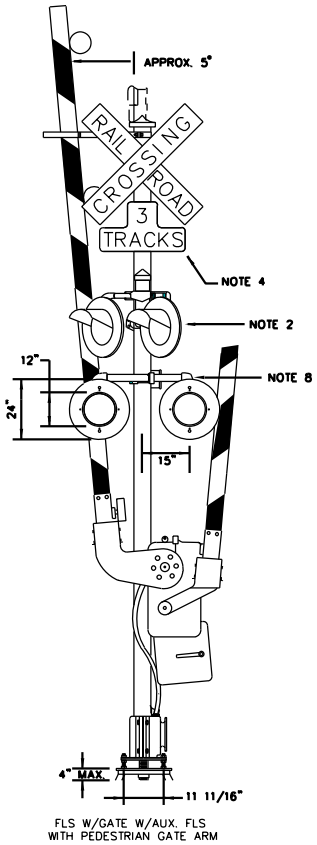
FILE
SC630.1
REVISIONS	
09/27/10	XRL/TJF
07/15/13	XRL/TJF



GATE USED W/CFLS



FLS W/GATE



FLS W/GATE W/AUX. FLS WITH PEDESTRIAN GATE ARM

NOTE:

GATE ARM LENGTH IS MEASURED FROM GATE MECHANISM CAM SHAFT TO END OF GATE ARM.
END OF GATE ARM SHALL BE LOCATED WITHIN 12" OF THE CENTERLINE OF ROADWAY OR FACE OF MEDIAN CURB. WHERE PRACTICAL, END OF GATE ARM SHALL EXTEND TO CENTERLINE OF ROADWAY OR FACE OF MEDIAN CURB.

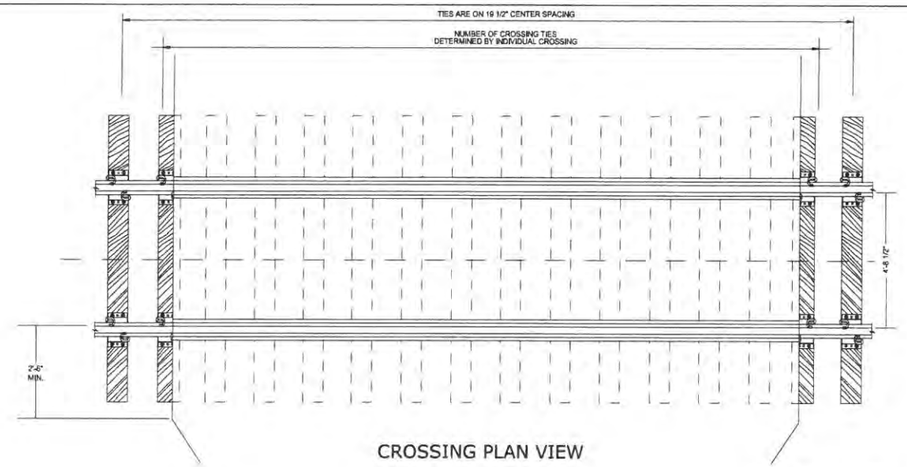
1. TOP OF FOUNDATION TO BE LEVEL WITH CROWN OF ROAD, (MAXIMUM 4" ABOVE TOP OF GROUND LEVEL.)
2. WHEN USED, SIDELIGHT ASSEMBLY TO BE PLACED SO AS NOT TO INTERFERE WITH GATE ARM OR REDUCE TRACK CLEARANCE. WHEN NEEDED, OFFSET ARMS ARE TO BE USED AND INSTALLED IN A WAY THAT SIDE BY SIDE LIGHTS STAY ON THE SAME VERTICAL PLANE WHILE MAINTAINING A 30" SEPARATION BETWEEN LIGHTS.
3. ALL PARTS TO BE ALUMINUM IN COLOR EXCEPT VISORS AND BACKGROUNDS WILL BE FLAT BLACK.
4. TRACK SIGN TO BE USED WHEN TWO OR MORE TRACKS CROSS STREET.
5. GATE LAMPS SHALL BE 4" DIAMETER.
6. FLASHING LIGHT SIGNAL UNIT BACKGROUNDS-24" AND VISORS TO BE ALUMINUM.
7. LENS HORIZONTAL DOWNWARD DEFLECTION 30%15°
8. WHEN AUXILIARY PEDESTRIAN GATE ARM IS USED, FLASHING LIGHT ARM MUST BE OFFSET.
9. BELL MUST BE ELECTRO MECHANICAL.

* 10. GATE MECHANISM SHOULD BE ADJUSTED SO THAT WHEN GATE IS IN FULL HORIZONTAL POSITION, THE GATE ARM RESTS BETWEEN 3'-6" TO 4'-6" ABOVE CROWN OF ROADWAY.

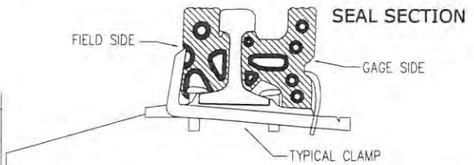
11. PEDESTRIAN GATE ARM MUST NOT BLOCK ENTIRE WALKWAY. AN EXIT PATH MUST BE PROVIDED FOR PEDESTRIANS WHO ARE IN TRANSIT WHEN GATES ACTIVATE.

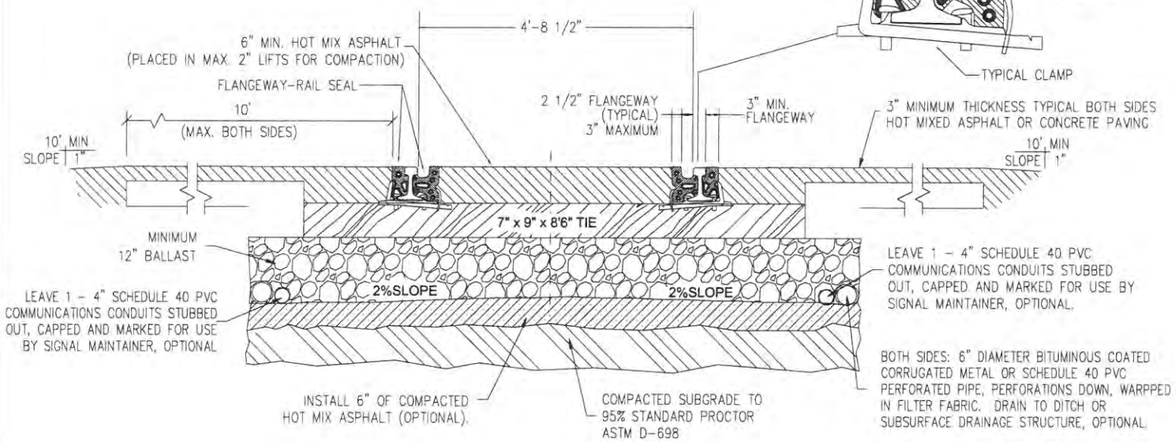
* * 12. BACKLIGHTS & BELL LOCATIONS ON CANTILEVER & GATES TO BE DETERMINED ON DESIGN OR BY THE CHIEF ENGINEER.

FILE
ES6005.3
REVISIONS
10-07-2013 GRSI/LSR

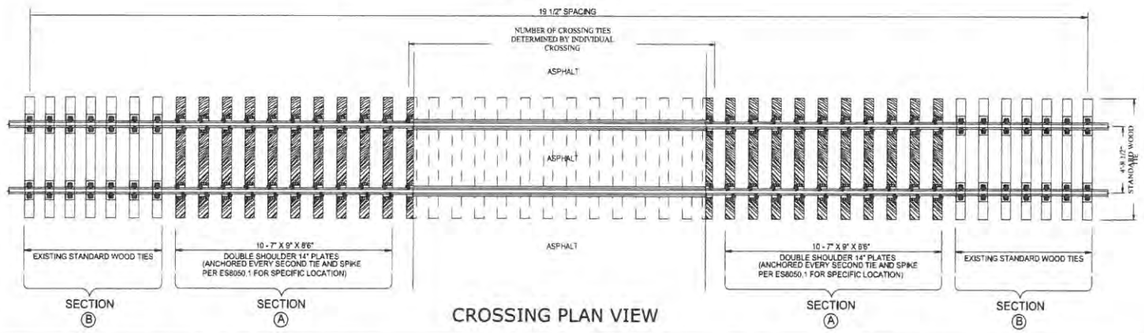


CROSSING PLAN VIEW

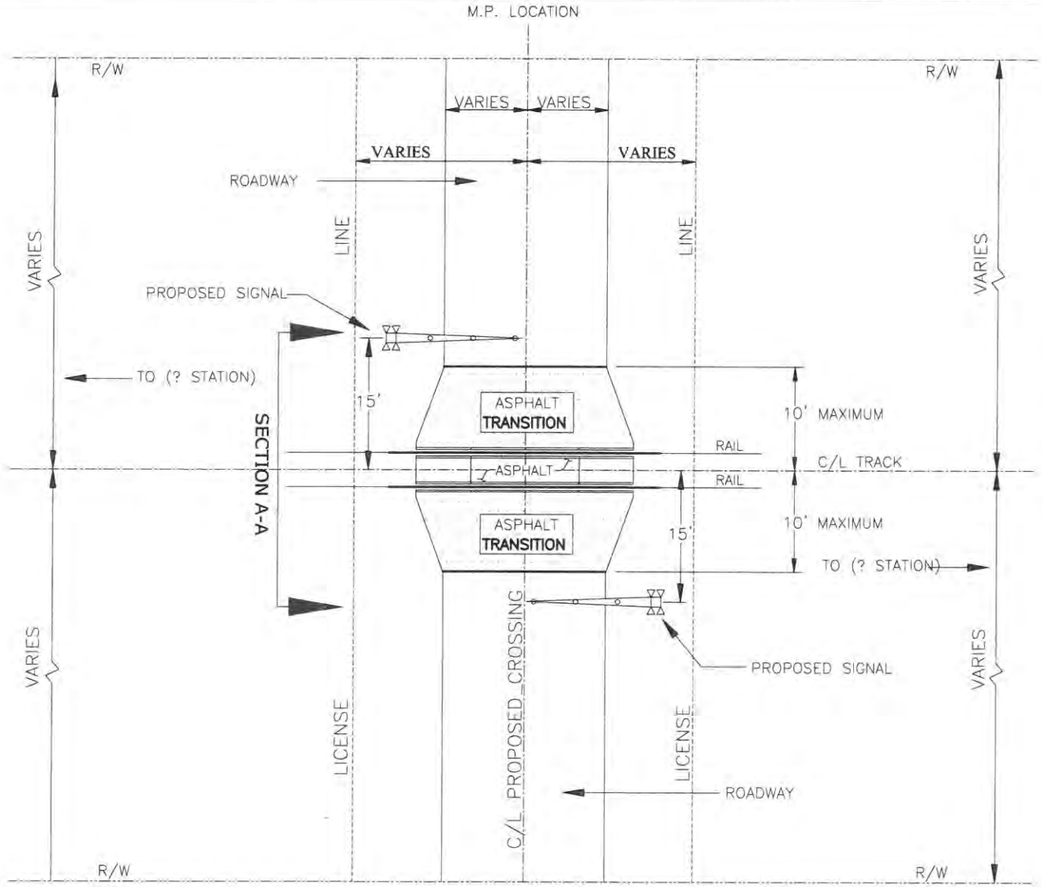




SECTION A-A



CROSSING PLAN VIEW



NOTES

1. CROSSING SITE IS TO BE INSPECTED PRIOR TO START OF INSTALLATION TO DETERMINE THAT PROPER DRAINAGE AND SURFACE SUPPORT IS PROVIDED, TRACK GRADE IS UNIFORM.
2. FOR COMPLETE RENEWAL OF CROSSING & NEW CONSTRUCTION: TRACK STRUCTURE INCLUDING RAIL, OTM, BALLAST AND ROADBED MUST BE IN EXCELLENT CONDITION. ALL TIES MUST BE 8'6" FT. LONG, SPACED AT 19 1/2" CENTERS AND EXTEND 10 TIES BEYOND END OF CROSSING. NEW 7"X9"X8'6" TRACKS TIES TO BE INSTALLED IF NECESSARY. IF CONDITIONS WARRANT, SITE TO BE OVER-EXCAVATED AND CROSSING DRAINAGE SYSTEM INSTALLED USING COMPACTED, WELL-GRADED GRANULAR FILL: SUBBALLAST, AND PERFORATED DRAINAGE PIPE (IF REQUIRED) INSTALLED PER DETAILS OF THIS DRAWING. ADDITIONAL SITE DRAINAGE INCLUDING PROPER DRAINAGE AT EACH QUADRANT OF CROSSING SHALL BE COMPLETED TO ENSURE CROSSING DRAINAGE. SUBBALLAST SECTION TO BE A MINIMUM OF 4" WHEN COMPLETE RENEWAL OF EXISTING CROSSING. FOR NEW CONSTRUCTION, SUBBALLAST SECTION TO BE IN ACCORDANCE WITH CONSTRUCTION DESIGN STANDARDS OR AS REQUIRED BY STATE OR LOCAL AGENCIES.
3. IN ALL INSTALLATIONS THE RAIL JOINTS SHOULD FALL OUTSIDE THE CROSSING AREA A MINIMUM OF 25 FEET FROM THE END OF THE CROSSING.
4. USE OF CLAMPS ARE REQUIRED IN EACH TIE CRIB WITHIN THE LIMITS OF THE CROSSING. CLAMPS MUST BE ATTACHED PRIOR TO PLACEMENT OF ASPHALTIC CONCRETE (SEE SECTION DETAILS).
5. HOT MIX ASPHALTIC CONCRETE MUST COMPLY WITH STATE D.O.T. SPECIFICATIONS AND BE PLACED IN 2 INCHES MAXIMUM LIFTS. CARE MUST BE TAKEN DURING COMPACTION OF ASPHALT TO PREVENT DAMAGE TO HOLD DOWN CLAMPS OR RUBBER. ASPHALT SHOULD BE ROLLED PARALLEL TO THE RAIL UNTIL THE FINAL LIFT AND COMPACTION. FINAL LIFT OF ASPHALT IS TO BE LEVEL WITH THE TOP OF RAIL FOR 30 INCHES FROM THE FIELD SIDE OF THE RAIL.
6. SLOPE EDGE OF PAVING TO RETURN TO ORIGINAL EDGE OF PAVING ALIGNMENT. LENGTH OF TRANSITION WILL DEPEND ON LOCAL CONDITIONS.
7. AT THE TIE-IN POINT WITH THE EXISTING PAVEMENT, THE OLD PAVEMENT MUST BE CUT DOWN A MINIMUM 2" TO ELIMINATE A FEATHER EDGE ON THE NEW PAVEMENT.
8. USE STATE D.O.T. SPECIFICATION FOR THE ASPHALT SPRAY TACK COAT.
9. ENVIRONMENTAL RULES OF THE GOVERNMENT BODY HAVING AUTHORITY WILL BE FOLLOWED WHEN DISPOSING OF THE PAVEMENT REMOVED FROM THE CROSSING.
10. MATERIAL USED ON GAGE SIDE RAIL SEAL SHALL HAVE AN ELECTRICAL RESISTANCE IF A MINIMUM OF 10 MEGOHMS AT 500 VOLTS DC.
11. REPORT CROSSING GATE MALFUNCTIONS TO RAIL AMERICA HOT LINE AT 1-800-800-3490.
12. ALL EXCEPTIONS TO THIS PLAN MUST BE APPROVED BY ENGINEERING SERVICES.

ORDERING NOTE:

1. RUBBER RAIL SEAL CROSSING SECTIONS ARE TO BE ORDERED BY "TRACK FEET" IN 16'-0" INCREMENTS. EACH 16'-0" INCREMENT WILL INCLUDE (2) GAGE & (2) FIELD SIDE RAIL SEAL SECTIONS, (20) CLAMPS & ANY REQUIRED HARDWARE TO CONNECT THE SECTIONS TOGETHER.

GENERAL NOTES

1. NO WORK WILL BE PERMITTED ON RAILROAD RIGHT-OF-WAY WITHOUT A FLAGMAN.

GENESEE & WYOMING
ENGINEERING DEPARTMENT
STANDARDS REFERENCE MANUAL

Issue Date: 06-05-2012 Revised Date: 10/07/2013

Authorized: Janeene L. Ronaine
AVP - ENGINEERING DESIGN

The material and equipment shown herein must meet or exceed all quality requirements. Any deviation from these standards must be submitted in writing and approved by the AVP - Engineering Design or Regional V.P. - Engineering prior to use.

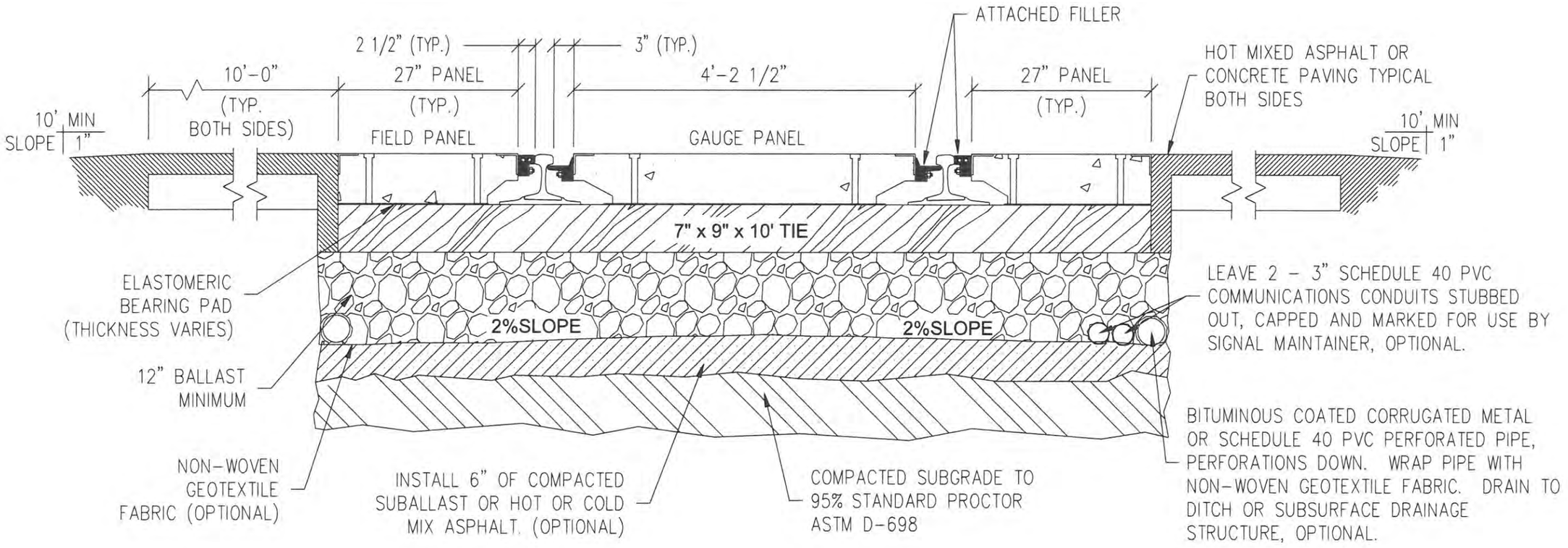
TIES & ROAD CROSSINGS
SERIES 6000

TYPICAL X-ING PLAN & SECTION VIEWS
PUBLIC CROSSING
(RUBBER FLANGEWAY-RAIL SEAL)

ES6005.3
SHT 8 OF 13

TYP DWG

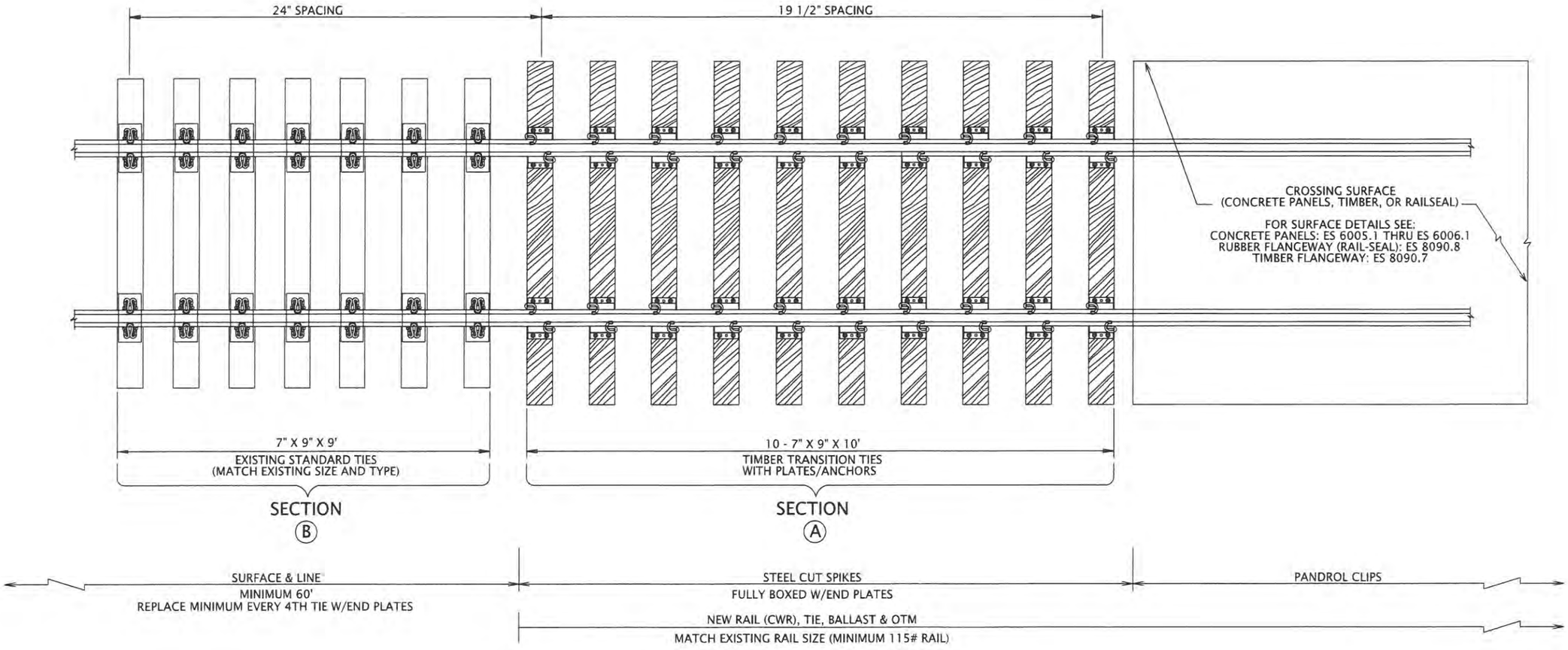
FILE
ES6006.1
REVISIONS
-09-2016 | KAB



NOTE:
Concrete Crossing Panels will be Omni ECR Type or approved equal accepted by the Director Engineering Services. Reference Omni part No. 10-1469-00 ECR

GENESEE & WYOMING ENGINEERING DESIGN STANDARDS REFERENCE MANUAL	Issue Date: 03-01-2009 Revised Date: 11/09/2016 Authorized: V.P. - ENGINEERING	The material and equipment shown herein must meet or exceed all quality requirements. Any deviation from these standards must be submitted in writing and approved by the AVP - Engineering Design or Regional Chief Engineer prior to use.	**Ties & Road Crossing** SERIES 6000	TYPICAL CROSSING CROSS-SECTION SUBGRADE REQUIREMENTS	**ES6006.1** SHT 9 OF 13

FILE
ES6007.1
REVISIONS	
'-18-2011	XRL/TJF
-09-2016	KAB



DETAIL PLAN

GENESEE & WYOMING
ENGINEERING DESIGN
STANDARDS REFERENCE MANUAL

Issue Date: 03-01-2009 | Revised Date: 11/09/2016

Authorized: Jeneese S. Rosnaire
V.P. – ENGINEERING

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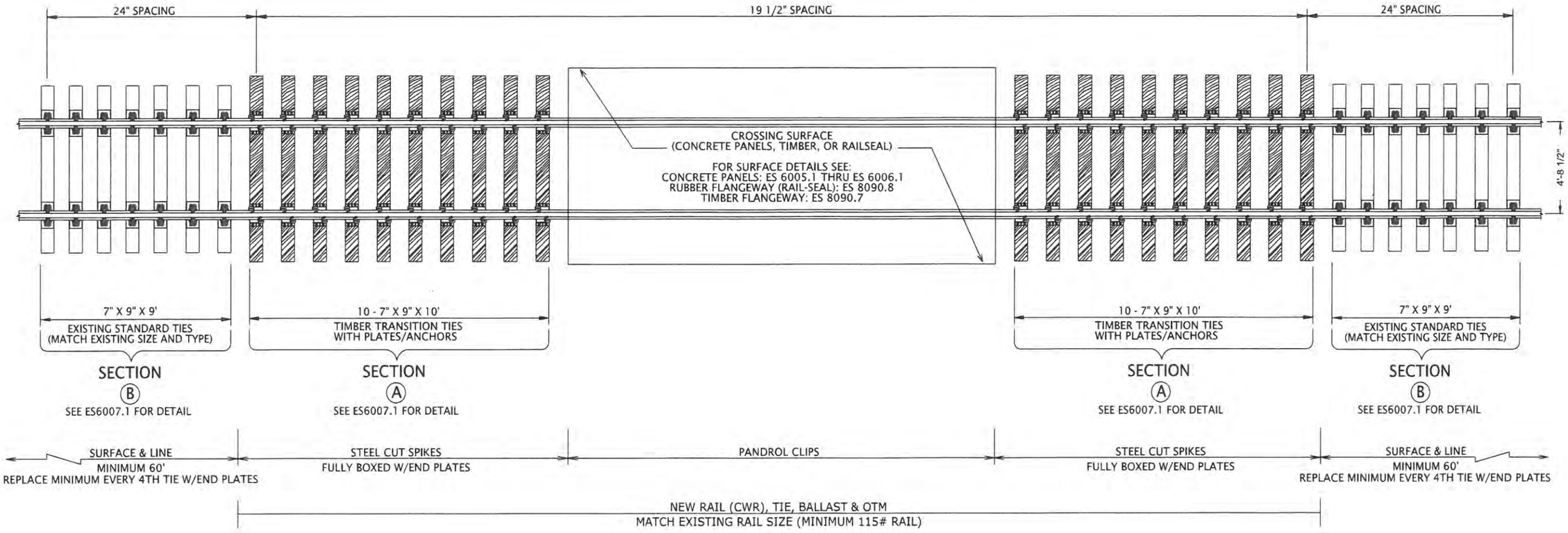
Ties & Road Crossing
SERIES 6000

TRANSITION ZONE FROM GRADE CROSSING TO EXISTING TIES (DETAIL)

ES6007.1
SHT 10 OF 13

FILE
ES6007.1
REVISIONS
05/27/2010
-18-2011 XRL/TJF
-09-2016 KAB



CROSSING PLAN VIEW

GENESEE & WYOMING
ENGINEERING DESIGN
STANDARDS REFERENCE MANUAL

Issue Date: 03-01-2009 Revised Date: 11/09/2016

Authorized: _____ V.P. - ENGINEERING

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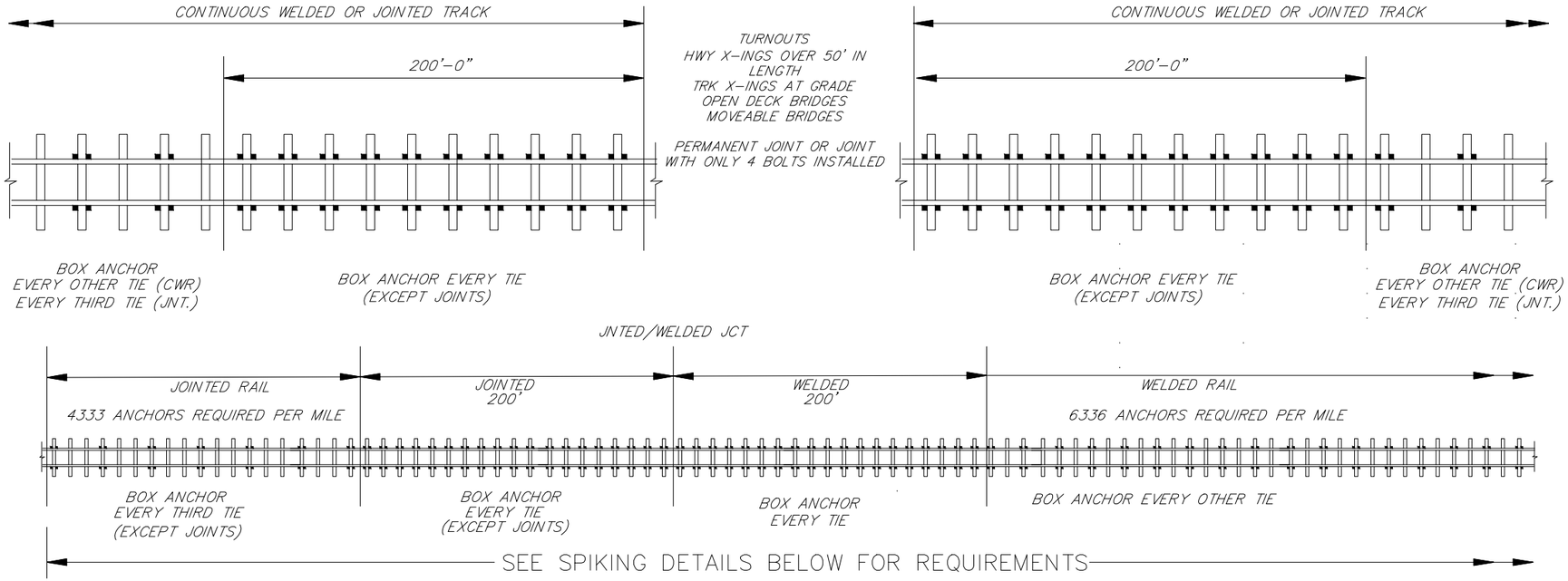
Ties & Road Crossing

SERIES 6000

TRANSITION ZONE FROM GRADE CROSSING TO EXISTING TIES (PLAN)

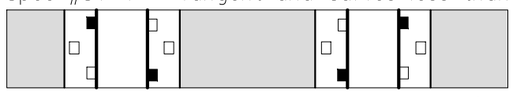
ES6007.1
SHT 11 OF 13

FILE	
ES8050.1	
REVISIONS	
11–15–2010	TJF/XRL
06–28–2011	TJF/XRL
09–06–2013	LSR/GRSI
04–07–2015	AWC/GRSI



SIDE, YARD & INDUSTRY TRACKS SPIKING PATTERNS

Spec #ST–1 – Tangent and Curves less than 2°



Spec #ST–2 – Curves 2° and less than 13°

Spec #ST–3 – Curves 13° and greater

MAIN TRACK & SIDING SPIKING PATTERNS

Spec #MT–1 – Tangent and Curves less than 2°

Spec #MT–2 – Curves 2° and less than 6°

Spec #MT–3 – Curves 6° and greater

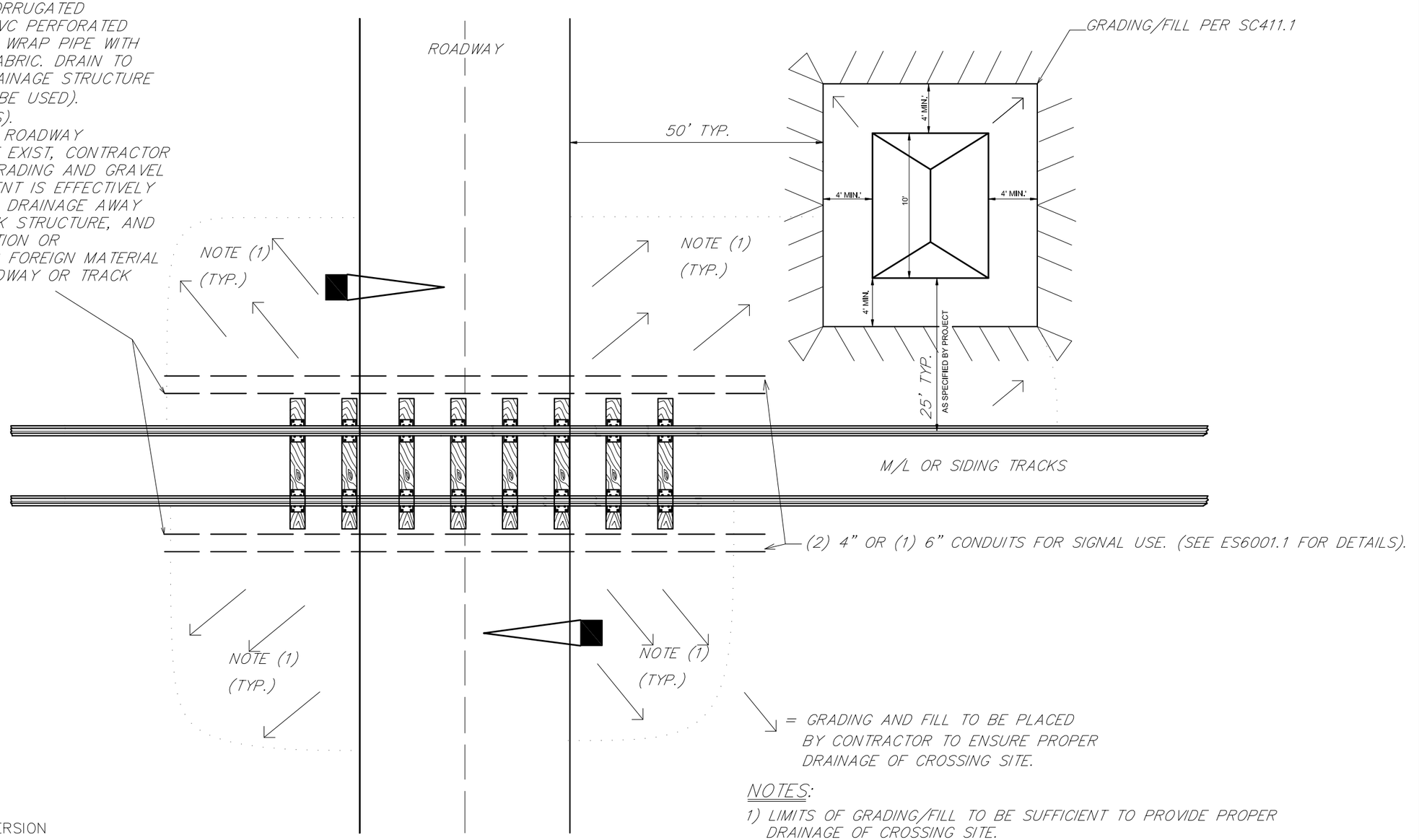
If plate configuration does not allow pattern, perform spiking pattern similar to required pattern using the same number of spikes if possible.

NOTES:

1) ON JOINTED RAIL ABUTTING A COMPLETED LENGTH OF CONTINUOUS WELDED RAIL (CWR), 200' IN EACH DIRECTION MUST BE FULLY BOX ANCHORED (EXCEPT JOINT TIES) AND THEREAFTER EVERY THIRD TIE MUST BE BOX ANCHORED.
2) OTHER REQUIREMENTS MAY APPLY (PROJECT SPECIFIC).
3) REQUIRED TIE SPACING IS 19–1/2".
4) 80' JOINTED RAIL LENGTHS WILL BE ANCHORED PER CWR STANDARD.
5) SPIKE 15 TIES AHEAD OF POINT OF SWITCH:
   – WITH SPIKING PATTERN ST–2 ON YARD TRACKS
   – WITH SPIKING PATTERN MT–2 ON ALL OTHER TRACKS
6) OPEN DECK BRIDGES WILL BE BOX ANCHORED ONLY AT TIES THAT ARE HOOK BOLTED TO THE SPAN(GENERALLY EVERY SECOND TIE). SPACING MAY BE EXTENDED TO EVERY THIRD TIE IF REQUIRED TO MATCH HOOK BOLT SPACING.
7) ALL TRACKS, WHICH ARE NOT IN COMPLIANCE WITH THIS ANCHORING POLICY, WILL BE BROUGHT UP TO STANDARD DURING THE NEXT RAIL LAYING OPERATION, CURVE PATCH, OR BRIDGE TIMBERING OPERATION. DURING TIMBERING OPERATIONS, MISSING ANCHORS WILL BE REPLACED TO MATCH THE PATTERN CURRENTLY IN THE TRACK.
8) SPIKING PATTERN ON OPEN DECK BRIDGES:
   – SPEC #MT–2 – CURVES 2° AND LESS
   – SPEC #MT–3 – CURVES 2° AND OVER
9) SPIKING PATTERN IN TURNOUTS:
   – SPEC #MT–1 – TANGENT
   – SPEC #MT–2 – CURVE
10) SPIKING PATTERN IN ROAD CROSSINGS AT GRADE:
   – SPEC #MT–1 WITH 1 ADDITIONAL GAGE SIDE HOLDING SPIKE
11) ADD ADDITIONAL SPIKES AS NEEDED TO SATISFY LOCAL CONDITIONS.

FILE
ES8052.1
REVISIONS	
07–03–2013	XRL/GRC
10–16–2013	XRL/GRC

(1) BITUMINOUS COATED CORRUGATED METAL OR SCHEDULE 40 PVC PERFORATED PIPE PERFORATIONS DOWN. WRAP PIPE WITH NON–WOVEN GEOTEXTILE FABRIC. DRAIN TO DITCH OR SUBSURFACE DRAINAGE STRUCTURE (MINIMUM 8" DIA. PIPE TO BE USED). (SEE ES6001.1 FOR DETAILS).
WHERE EXISTING TRACK OR ROADWAY CROSSDRAIN PIPES DO NOT EXIST, CONTRACTOR MUST ENSURE THAT ALL GRADING AND GRAVEL OR FILL MATERIAL PLACEMENT IS EFFECTIVELY PLACED TO ALLOW PROPER DRAINAGE AWAY FROM ROADWAY AND TRACK STRUCTURE, AND AVOID ANY WATER COLLECTION OR INFILTRATION OF WATER OR FOREIGN MATERIAL INTO OR TOWARD THE ROADWAY OR TRACK STRUCTURE.



= GRADING AND FILL TO BE PLACED BY CONTRACTOR TO ENSURE PROPER DRAINAGE OF CROSSING SITE.

( )=METRIC CONVERSION

NOTES:

1) LIMITS OF GRADING/FILL TO BE SUFFICIENT TO PROVIDE PROPER DRAINAGE OF CROSSING SITE.
2) ENSURE CROSSING SITE IS DRESSED CLEAN AND NEAT TO AVOID DROP–OFFS OR TRIPPING HAZARDS.