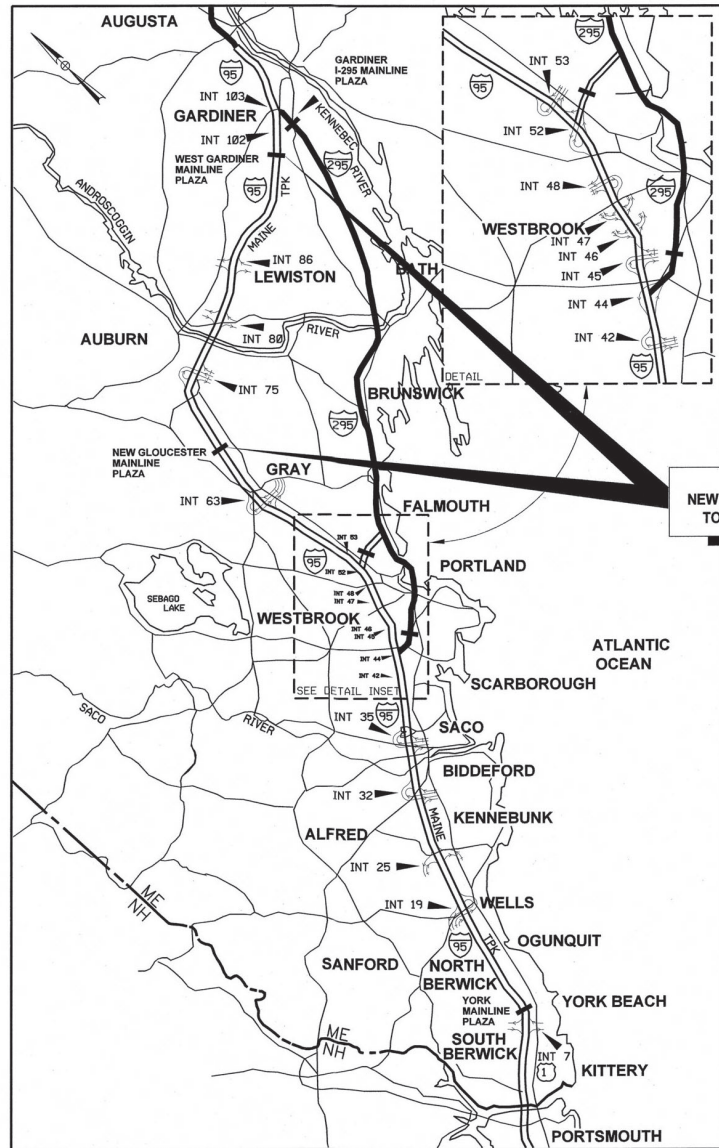


Date: 1/2/20



LOCATION MAP



THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
 ROBERT D. STONE, VICE CHAIR
 MICHAEL J. CIANCHETTE, MEMBER
 ANN R. ROBINSON, MEMBER
 THOMAS J. ZUKE, MEMBER
 BRUCE A. VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

CONTRACT 2020.05 NEW GLOUCESTER/W. GARDINER BARRIER TOLL PLAZA ORT EQUIPMENT UPDATE (MM 67.0/MM 100.0)

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3-8	MAINTENANCE OF TRAFFIC
9	NEW GLOUCESTER CASH LANES CANOPY ELECTRICAL PLAN
10	ORT OVERHEAD EQUIPMENT PLAN
11	NEW GLOUCESTER ORT LOOP ASSEMBLY LAYOUT
12	ORT SPACE FRAME MOUNTING BRACKET ASSEMBLY DETAILS
13	NEW GLOUCESTER ORT SLAB PLAN
14	ELECTRICAL DETAILS
15-16	ORT DATA WIRING SCHEDULE
17-18	ORT POWER WIRING SCHEDULE
19	RISER DIAGRAM

CONTRACT 2020.05
 NEW GLOUCESTER/W. GARDINER BARRIER
 TOLL PLAZA ORT EQUIPMENT UPDATE

APPROVED: MAINE TURNPIKE AUTHORITY

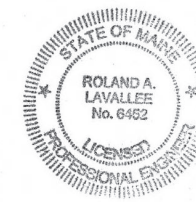
William H. Yates III
 WILLIAM H. YATES III - DIRECTOR OF INFORMATION SERVICES & COMMUNICATIONS

2/27/20
 DATE

Stephen R. Tartre
 STEPHEN R. TARTRE, P.E., - DIRECTOR OF ENGINEERING

1/27/2020
 DATE

HNTB



Roland A. Lavallee
 ROLAND A. LAVALLEE, P.E., PLS
 VICE PRESIDENT
 DIRECTOR OF OPERATIONS

1/27/20
 DATE

Filename: 001_MT ATTitle.dgn

Date: 1/27/2020

GENERAL

1. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MaineDOT) STANDARD DETAILS HIGHWAYS AND BRIDGES LATEST REVISION AND MaineDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL LATEST REVISION UNLESS OTHERWISE INCLUDED IN THESE PLANS.
2. CONTRACTOR IS REQUIRED TO MAINTAIN ACCESS FOR MTA TO THE EMPLOYEE PARKING LOTS OF THE PLAZAS DURING CONSTRUCTION UNLESS OTHERWISE SHOWN ON THE PLANS.
3. UPON REQUEST, THE MTA WILL SUPPLY AS-BUILT PLANS OF THE NEW GLOUCESTER TOLL PLAZA AND WEST GARDINER TOLL PLAZA TO THE CONTRACTOR.
4. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT AS BUILT PLANS.

UTILITY

1. THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 PRIOR TO THE START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY THE RESIDENT 10 DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. ALL PROPOSED SIGN LOCATIONS AND EXCAVATION LOCATIONS SHALL BE MARKED AT THE TIME OF NOTIFICATION. EXCAVATION AND CONSTRUCTION SIGN INSTALLATION WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED THEIR UNDERGROUND UTILITIES, OR NOTIFIED THE RESIDENT THERE ARE NO UNDERGROUND UTILITIES IN THE MARKED AREAS. THE AUTHORITY HAS PROGRAMMED TWO FIELD VISITS FOR MAINE TURNPIKE UTILITY COORDINATION ON THIS PROJECT. SHOULD THE CONTRACTOR NEED ADDITIONAL SIGN LOCATIONS AND/OR ADDITIONAL EXCAVATION LOCATIONS MARKED, OR SHOULD THE CONTRACTOR FAIL TO MAINTAIN THE AUTHORITY'S PREVIOUSLY ESTABLISHED UTILITY LOCATION MARKINGS, THE AUTHORITY SHALL DEDUCT THE ADDED MARKING COSTS FROM THE CONTRACTOR'S PAYMENTS.

TOLLING - GENERAL

1. COORDINATE LOOP LOCATIONS WITH SYSTEM INTEGRATOR FOR SOFT CUT JOINTS TO PREVENT CUTS THROUGH LOOPS.

TOLL SYSTEM INTEGRATOR

1. THE CONTRACTOR'S SCHEDULE OF WORK SHALL ACCOUNT FOR THE TESTING AND COMMISSIONING OF THE NEW TOLLING EQUIPMENT IN EACH ORT ZONE AFTER THE CONTRACTOR'S INSTALLATION WORK IS COMPLETE AND PRIOR TO OPENING THE ORT ZONES TO TRAFFIC. SYSTEM INTEGRATOR WILL TERMINATE EQUIPMENT DURING THE CONTRACTOR'S INSTALLATION PERIOD - RESIDENT TO COORDINATE WITH MTA, TRANSCORE, AND CONTRACTOR.
2. TOLL SYSTEM INTEGRATOR SHALL HAVE 42 CALENDAR DAYS TO TEST AND COMMISSION ORT EQUIPMENT FOR EACH PLAZA. IF NB AND SB ZONES ARE LAGGING IN PROGRESS, THE 42 DAYS FOR TESTING AND COMMISSIONING PERIOD BEGINS AFTER THE LAST ZONE INSTALLATION IS COMPLETE.
3. THE ORT LANES SHALL NOT BE OPENED TO TRAFFIC UNTIL AFTER ALL NEW TOLLING EQUIPMENT HAS BEEN INSTALLED IN THE RESPECTIVE LANE AND TESTING AND COMMISSIONING HAS BEEN ACCEPTED BY THE MTA.

TOLLING - DEMOLITION

1. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE THE FOLLOWING:
 - A. EXISTING CASH LANE USE SIGNALS. (LED LAMPS SHALL BE SALVAGED)
2. THE CONTRACTOR SHALL REMOVE AND SALVAGE THE FOLLOWING:
 - A. EXISTING CASH LANE USE SIGNAL LED LAMPS ONLY - DELIVERED TO MTA SIGN SHOP IN CUMBERLAND.
 - B. EXISTING AVI ANTENNAS - DELIVERED TO TRANSCORE AT 190 RIVERSIDE STREET, SUITE 38 IN PORTLAND.
3. REMOVAL, DISPOSAL, AND SALVAGE OF IDENTIFIED EQUIPMENT SHALL BE INCIDENTAL TO THE CONTRACT.

TOLLING - ORT

1. SYSTEM INTEGRATOR SHALL PROVIDE THE FOLLOWING ITEMS TO BE INSTALLED BY THE CONTRACTOR:
 - A. IVIS LOOP SENSORS AND ASSOCIATED TEMPLATES FOR CUTTING CONCRETE. (NEW GLOUCESTER ONLY)
 - B. 24 OPUS SCANNERS, TDK LAMBDA 48V TRANSFORMERS, AND ASSOCIATED POWER SUPPLY CABINETS.
 - C. 16 AVI ANTENNAS AND LANE KITS.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING:
 - A. AVI ANTENNA BRACKETS FOR MOUNTING TO 3" PIPE.
 - B. ALL REQUIRED JUNCTION BOXES, CONDUIT, AND ASSOCIATED WIRING.
 - C. KLIK-ITS FOR LANE SENSOR HOME RUN TERMINATION.
 - D. CONCRETE, SYNTHETIC FIBER REINFORCEMENT, AND CLEAR PROTECTIVE COATING. (NEW GLOUCESTER ONLY)
 - E. EPOXY OVERLAY - ALL IVIS LANE SENSOR LOOPS SHALL HAVE AN EPOXY OVERLAY PER SECTION 515 OF SPECIAL PROVISIONS. (NEW GLOUCESTER ONLY)
3. SYSTEM INTEGRATOR SHALL PROVIDE, INSTALL AND TERMINATE THE FOLLOWING ITEMS:
 - A. IVIS LOOP SENSORS.
 - B. OPUS SCANNERS AND TDK LAMBDA 48V TRANSFORMERS (PROVIDE AND TERMINATE ONLY)
 - C. MULTI-PROTOCOL READERS (PROVIDE AND TERMINATE ONLY)
 - D. AVI ANTENNAE (PROVIDE AND TERMINATE ONLY)
4. THE CONTRACTOR SHALL REMOVE AND RESET THE FOLLOWING:
 - A. REAR VCARS (SYSTEM INTEGRATOR - TERMINATE ONLY)

PAVING NOTES (NEW GLOUCESTER ONLY)

1. 10' OF THE ORT APPROACH AND DEPARTURE AREAS FOR THE NB AND SB PLAZAS SHALL BE MILLED AND REPAVED USING 1/2" HOT MIX ASPHALT 12.5 MM NOMINAL MAXIMUM SIZE.
2. A COATING OF HOT RUBBERIZED ASPHALT (ASTM D6690 TYPE IV) SHALL BE APPLIED AT THE TOP SURFACE LIFT TO ALL TRANSVERSE AND LONGITUDINAL JOINTS. PAYMENT SHALL BE INCIDENTAL TO ITEM 403.208.
3. BITUMINOUS TACK COAT IS REQUIRED BETWEEN EXISTING PAVEMENT AND PROPOSED HMA.
4. PAYMENT FOR HOT MIX ASPHALT 12.5 MM NOMINAL MAXIMUM SIZE WILL BE MADE UNDER ITEM 403.208.

TOLLING - CASH LANE (NEW GLOUCESTER ONLY)

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING ITEMS:
 - A. ALL NECESSARY JUNCTION BOXES, CONDUIT AND ASSOCIATED WIRING. (ANTICIPATE USING IN PLACE WIRING TO EXISTING LANE USE SIGNALS FOR REPLACEMENT SIGNALS)
 - B. 6 RED 'X'/GREEN 'ARROW' LANE USE SIGNALS ON FRONT OF CANOPY. (TOLL CANOPY SUSPENDED CEILING PANELS SHALL BE REMOVED AND RESET AS NECESSARY TO ACCESS INTERIOR OF THE CANOPY FASCIA FOR SECURING LANE USE SIGNAL PELCO MOUNTING DEVICES AND WIRING SIGNAL - INCIDENTAL TO ITEM 643.711)

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	NEW GLOUCESTER QUANTITY	WEST GARDINER QUANTITY	TOTAL QUANTITY
202J231I	MILLING CONCRETE ORT SLAB -TOP 3"	SY	420	0	420
202.202	REMOVING PAVEMENT SURFACE	SY	140	0	140
403.208	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE	TON	20	0	20
409.15	BITUMINOUS TACK COAT RS-1 OR RS-1h -APPLIED	GAL	10	0	10
502.262	STRUCTURAL CONCRETE ROADWAY SLAB WEARING SURFACE	CY	40	0	40
503.90	SYNTHETIC FIBER REINFORCEMENT	LB	120	0	120
504.91	MOUNTING BRACKET ASSEMBLIES	LS	0.5	0.5	1
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	SY	420	0	420
515.23	EPOXY OVERLAY	SY	55	0	55
627.18	12 INCH SOLID WHITE PAVEMENT MARKING TAPE	LF	1900	0	1900
627.712	WHITE OR YELLOW PAVEMENT MARKING LINE	LF	7000	0	7000
627.73	TEMPORARY 6 INCH PAVEMENT MARKING TAPE	LF	3550	4250	7800
627.731	TEMPORARY 6 INCH BLACK PAVEMENT MARKING TAPE	LF	1000	0	1000
627.77	REMOVING EXISTING PAVEMENT MARKING	SF	8800	0	8800
627.78	TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW	LF	8400	0	8400
629.05	HAND LABOR, STRAIGHT TIME	HR	5	5	10
631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	HR	5	5	10
631.11	AIR TOOL (INCLUDING OPERATOR)	HR	5	5	10
631.36	FOREMAN	HR	5	5	10
631.51	BUCKET TRUCK	HR	10	10	20
631.52	SCISSOR LIFT	HR	10	10	20
631.53	ELECTRICIAN	HR	10	10	20
631.54	ELECTRICIAN'S APPRENTICE	HR	10	10	20
643.711	LANE USE SIGNAL	EA	6	0	6
652.30	FLASHING ARROW	EA	2	2	4
652.312	TYPE III BARRICADES	EA	4	4	8
652.33	DRUMS	EA	100	100	200
652.35	CONSTRUCTION SIGNS	SF	1080	520	1600
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	LS	0.75	0.25	1
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	EA	2	2	4
652.45	TRUCK MOUNTED ATTENUATOR	CD	16	8	24
655.031	REMOVE AND RESET REAR VCARS MOUNT	EA	6	6	12
655.04	INSTALLATION OF SENSOR LOOPS	LS	1	0	1
655.05	INSTALLATION OF AVI ANTENNAS	EA	8	8	16
655.08	OPUS MOUNT INSTALLATION	EA	12	12	24
655.11	*10 AWG WIRE	LF	6000	6000	12000
655.12	*12 AWG WIRE	LF	6500	6500	13000
655.141	4PR/24 (CATEGORY 5E) SHIELDED CABLE	LF	5000	5000	10000
655.151	LMR 600 CABLE	LF	1200	1200	2400
655.17	IVIS HOMERUN LOOP CABLE (IMSA 50-2 *14)	LF	100	100	200
655.171	E-6 READER SYNC CABLE (IMSA 50-2 *18)	LF	1000	1000	2000
655.206	1" GALVANIZED RIGID METAL CONDUIT	LF	250	250	500
655.208	3" GALVANIZED RIGID METAL CONDUIT	LF	500	500	1000
655.210	3/4" LIQUID TIGHT METALLIC FLEXIBLE CONDUIT	LF	300	300	600
655.30	12"X12"X6" GALVANIZED STEEL JUNCTION BOX	EA	18	18	36
655.31	18"X18"X6" GALVANIZED STEEL JUNCTION BOX	EA	8	8	16
655.52	1" GALVANIZED RIGID METAL CONDUIT CONDULETS	EA	16	16	32
655.55	3" GALVANIZED RIGID METAL CONDUIT CONDULETS	EA	15	15	30
659.10	MOBILIZATION	LS	0.5	0.5	1

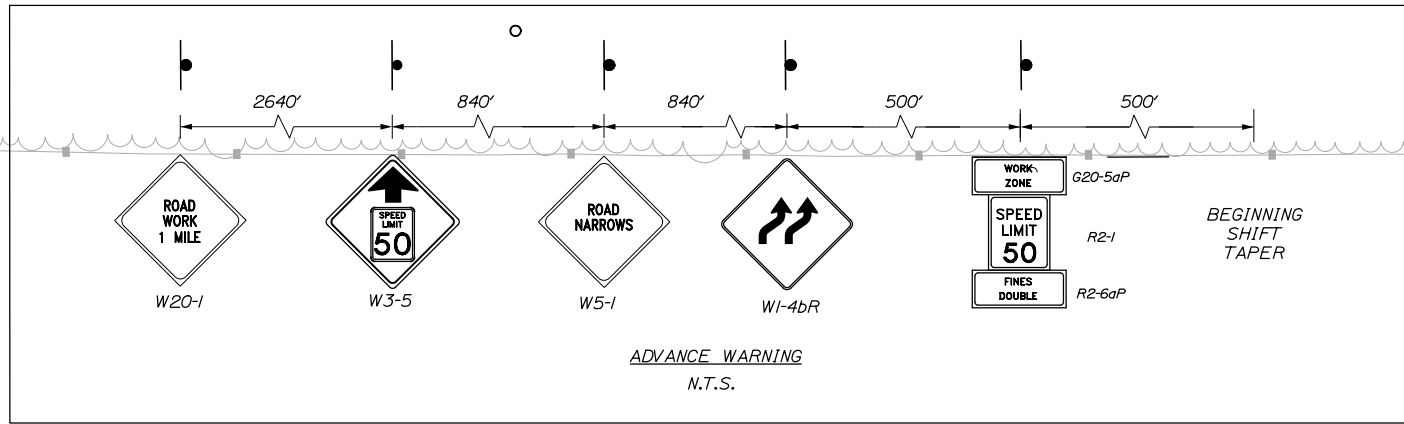
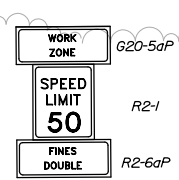
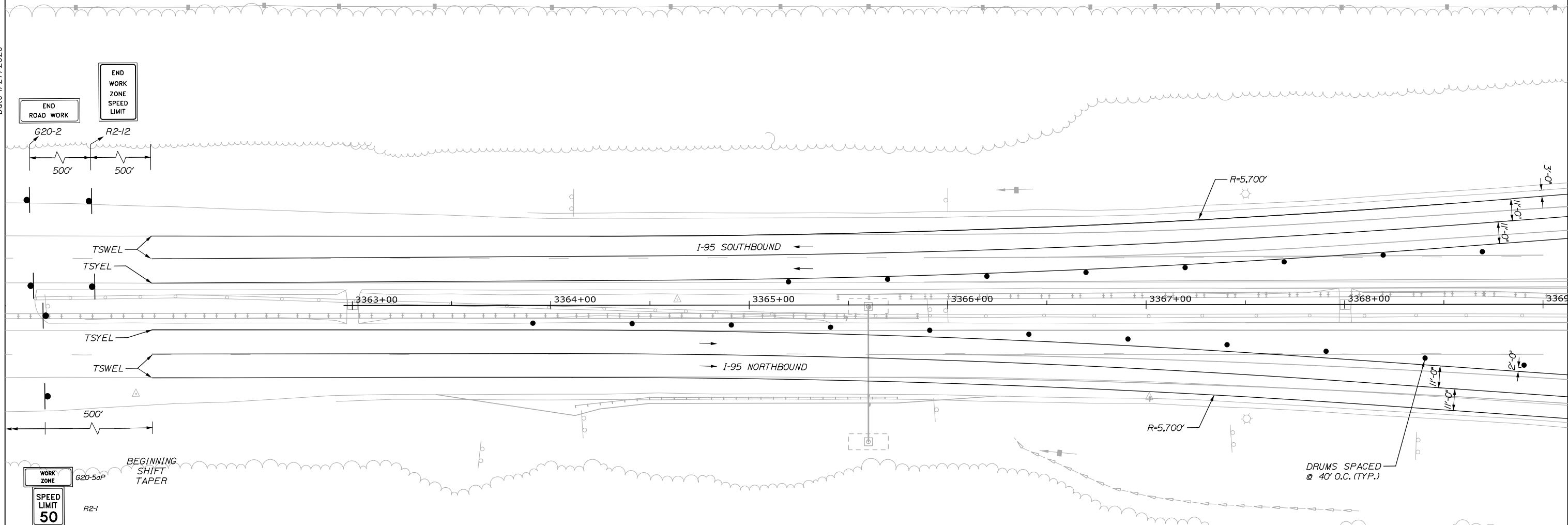
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Scale: NOT TO SCALE	Designed by: <div style="text-align: center; font-size: 2em; font-weight: bold; margin-bottom: 10px;">HNTB</div> HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909	 <div style="font-weight: bold; font-size: 1.2em;">THE GOLD STAR MEMORIAL HIGHWAY</div>	NEW GLOUCESTER/W. GARDINER BARRIER TOLL PLAZA ORT EQUIPMENT UPDATE GENERAL NOTES & ESTIMATED QUANTITIES SHEET NUMBER: GN-01 CONTRACT: 2020.05																																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	Revision	By	Date													CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th> </th> <th>By</th> <th>Date</th> <th> </th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Designed</td> <td>RBM</td> <td>1/20</td> <td>Checked</td> <td>TC</td> <td>1/20</td> </tr> <tr> <td>Drawn</td> <td>WWL</td> <td>1/20</td> <td>In Charge of</td> <td>RAL</td> <td>1/20</td> </tr> </tbody> </table>		By	Date		By	Date	Designed	RBM	1/20	Checked	TC	1/20	Drawn	WWL	1/20	In Charge of	RAL	1/20	MTA PROJECT MANAGER: WILLIAM H. YATES III	CONTRACT: 2020.05 SHEET NUMBER: GN-01 2 OF 19
No.	Revision	By	Date																																		
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Designed	RBM	1/20	Checked	TC	1/20																																
Drawn	WWL	1/20	In Charge of	RAL	1/20																																

LEGEND
 TSWEL - TEMPORARY 6" SOLID WHITE EDGE LINE
 TSYEL - TEMPORARY 6" SOLID YELLOW EDGE LINE

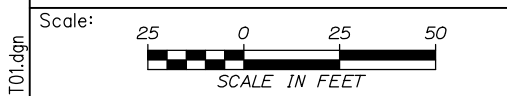


Date: 1/27/2020



DRUMS SPACED @ 40' O.C. (TYP.)

NOTES:
 1. TEMPORARY SOLID YELLOW EDGE LINES (TSYEL) SHALL BE TEMPORARY 6 INCH PAVEMENT MARKING TAPE. TEMPORARY SOLID WHITE EDGE LINES (TSWEL) SHALL BE TEMPORARY PAINTED PAVEMENT MARKINGS. REMOVAL OF PAVEMENT MARKINGS SHALL BE COORDINATED WITH THE RESIDENT PRIOR TO SCHEDULING THE WORK.
 2. MOT PLANS ARE FOR NEW GLOUCESTER ONLY.



Designed by:

HNTB

CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.

No.	Revision	By	Date

	By	Date		By	Date
Designed	RBM	1/20	Checked	TC	1/20
Drawn	WWL	1/20	In Charge of	RAL	1/20

HNTB CORPORATION
 340 County Road, Suite 6-C
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**THE GOLD STAR
 MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
 TOLL PLAZA ORT EQUIPMENT UPDATE
 MAINTENANCE OF TRAFFIC
 NEW GLOUCESTER ORT

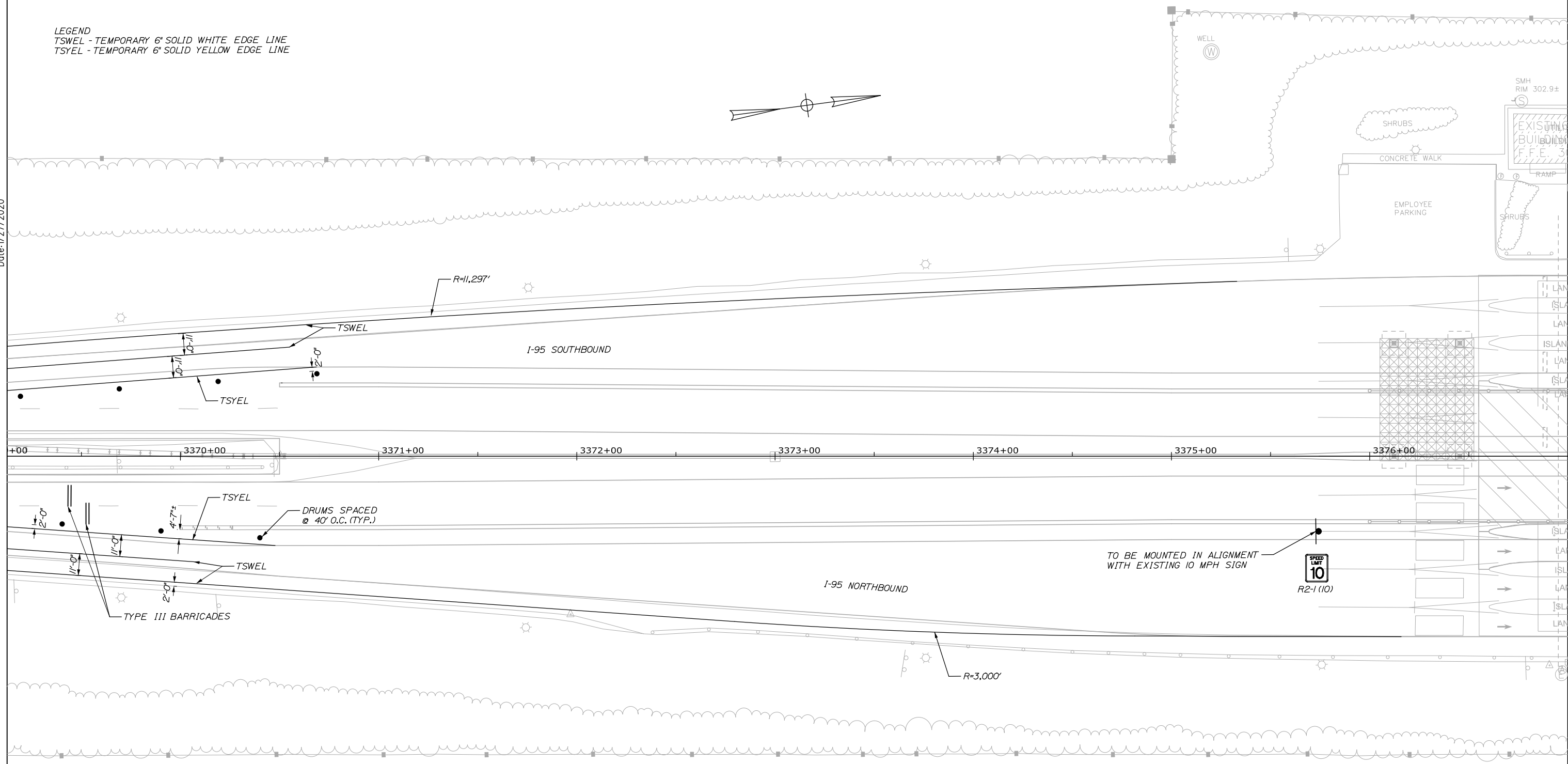
SHEET NUMBER: MT-01
 3 OF 19

CONTRACT: 2020.05

Filename: 003_MOT01.dgn

LEGEND
 TSWEL - TEMPORARY 6" SOLID WHITE EDGE LINE
 TSYEL - TEMPORARY 6" SOLID YELLOW EDGE LINE

Date: 1/27/2020



TO BE MOUNTED IN ALIGNMENT WITH EXISTING 10 MPH SIGN



NOTES:
 1. TEMPORARY SOLID YELLOW EDGE LINES (TSYEL) SHALL BE TEMPORARY 6 INCH PAVEMENT MARKING TAPE. TEMPORARY SOLID WHITE EDGE LINES (TSWEL) SHALL BE TEMPORARY 6" PAINTED PAVEMENT MARKINGS. REMOVAL OF PAVEMENT MARKINGS SHALL BE COORDINATED WITH THE RESIDENT PRIOR TO SCHEDULING THE WORK.
 2. MOT PLANS ARE FOR NEW GLOUCESTER ONLY.

Scale: 25 0 25 50
 SCALE IN FEET

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.

	By	Date	Checked	By	Date
Designed	RBM	1/20	TC	TC	1/20
Drawn	WWL	1/20	In Charge of	RAL	1/20

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

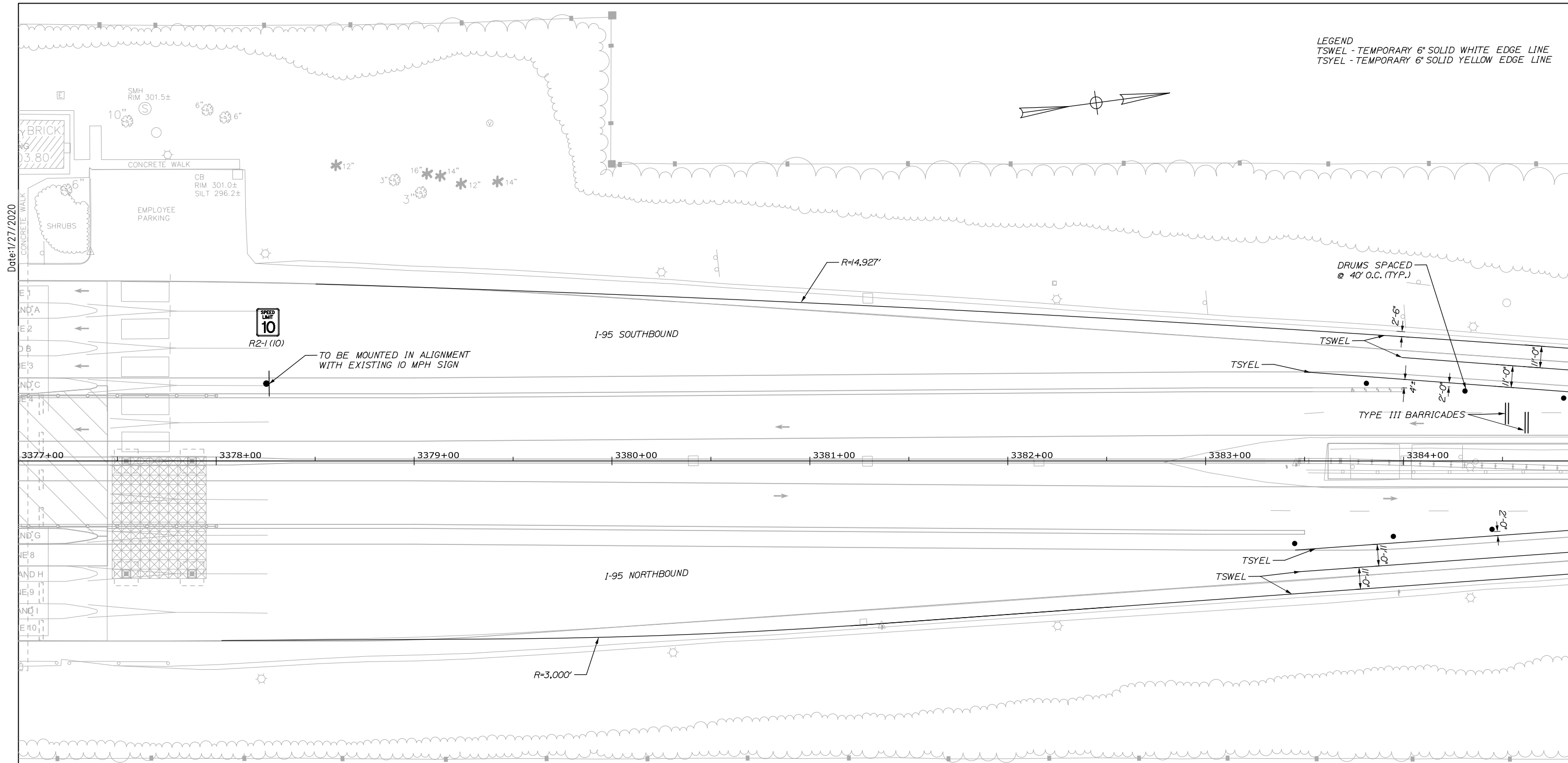
MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER TOLL PLAZA ORT EQUIPMENT UPDATE
 MAINTENANCE OF TRAFFIC
 NEW GLOUCESTER ORT

SHEET NUMBER: MT-02
 CONTRACT: 2020.05
 4 OF 19

Filename: 004_MOT02.dgn

LEGEND
 TSWEL - TEMPORARY 6" SOLID WHITE EDGE LINE
 TSYEL - TEMPORARY 6" SOLID YELLOW EDGE LINE



Date: 1/27/2020



TO BE MOUNTED IN ALIGNMENT WITH EXISTING 10 MPH SIGN

NOTES:
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Scale: 25 0 25 50
SCALE IN FEET

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Designed by:

HNTB

CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.

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THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: WILLIAM H. YATES III

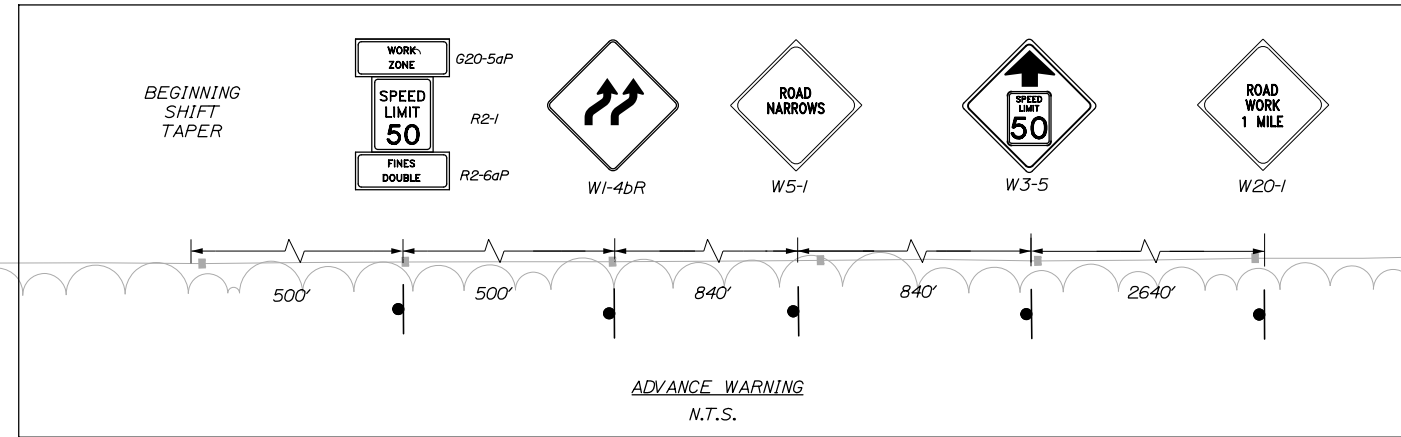
NEW GLOUCESTER/W. GARDINER BARRIER
 TOLL PLAZA ORT EQUIPMENT UPDATE
 MAINTENANCE OF TRAFFIC
 NEW GLOUCESTER ORT

SHEET NUMBER: MT-03
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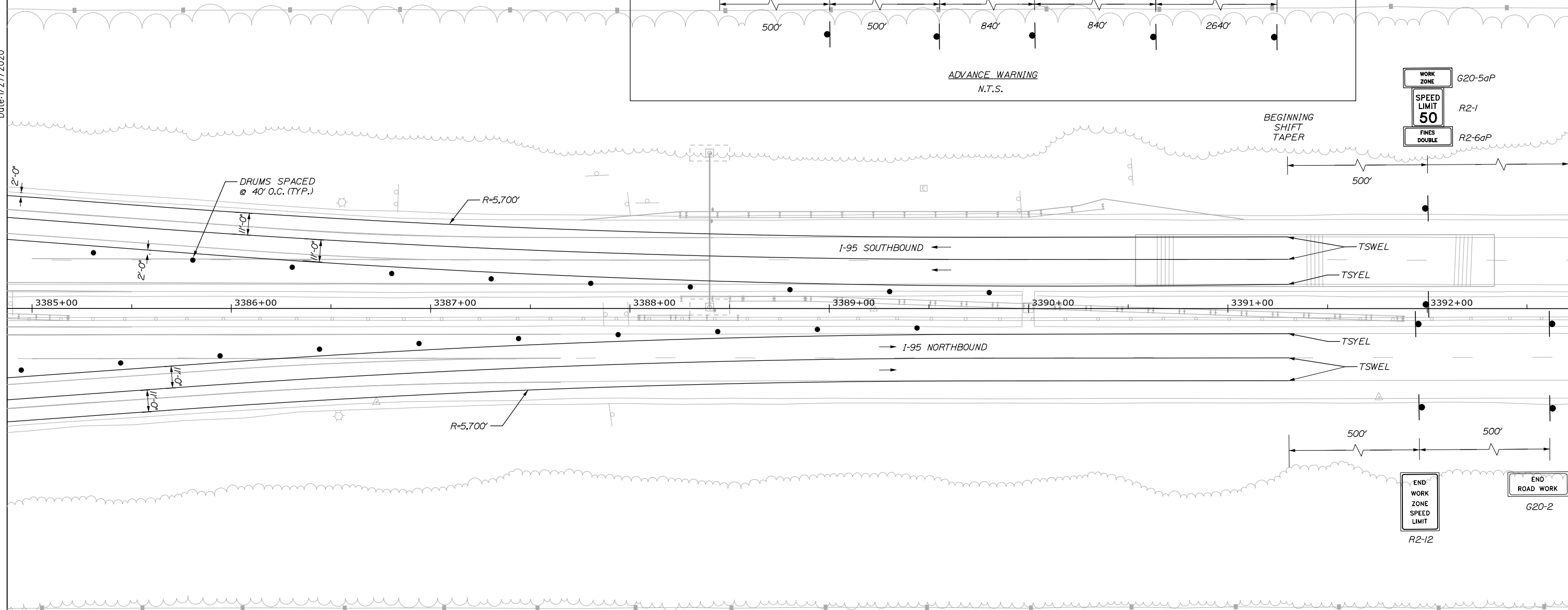
CONTRACT: 2020.05

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LEGEND
 TSWEL - TEMPORARY 6" SOLID WHITE EDGE LINE
 TSYEL - TEMPORARY 6" SOLID YELLOW EDGE LINE



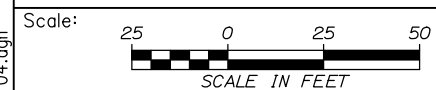
Date: 1/27/2020



NOTES:

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2. MOT PLANS ARE FOR NEW GLOUCESTER ONLY.



Designed by:



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THE GOLD STAR
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NEW GLOUCESTER/W. GARDINER BARRIER
 TOLL PLAZA ORT EQUIPMENT UPDATE
 MAINTENANCE OF TRAFFIC
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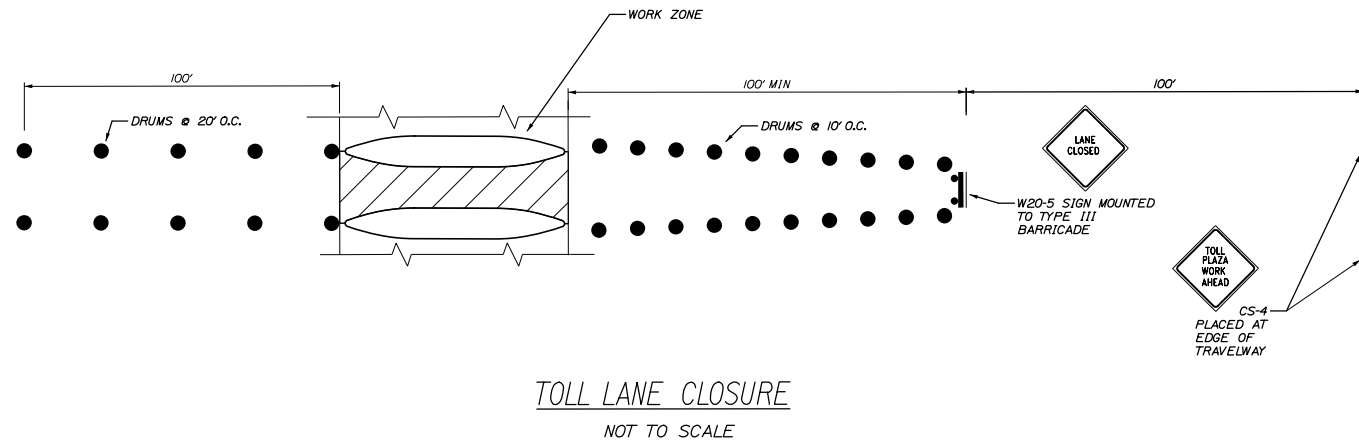
MTA PROJECT MANAGER: WILLIAM H. YATES III

CONTRACT: 2020.05

SHEET NUMBER: MT-04

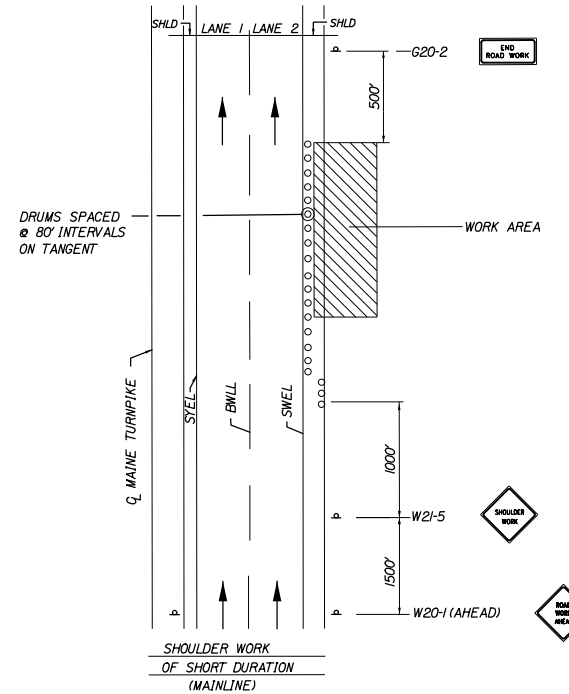
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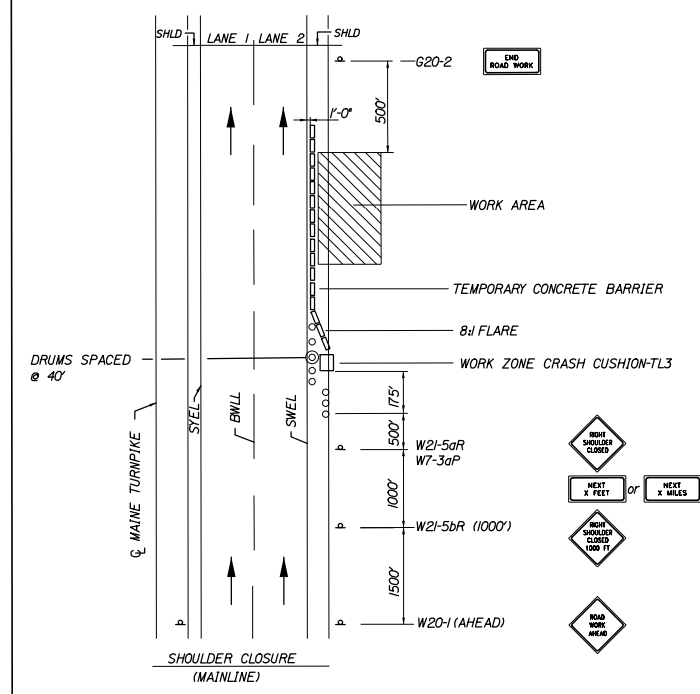
TOLL LANE CLOSURE
NOT TO SCALE

- CONTRACTOR SHALL MAINTAIN ACCESS AT ALL ACTIVE TOLL BOOTHS FOR MTA EMPLOYEES AND PLACE DRUMS TO BLOCK MTA EMPLOYEES FROM ACCESSING THE WORK ZONE.
- CANOPY LIGHT ABOVE CLOSED LANE SHALL BE RED.



SHOULDER WORK

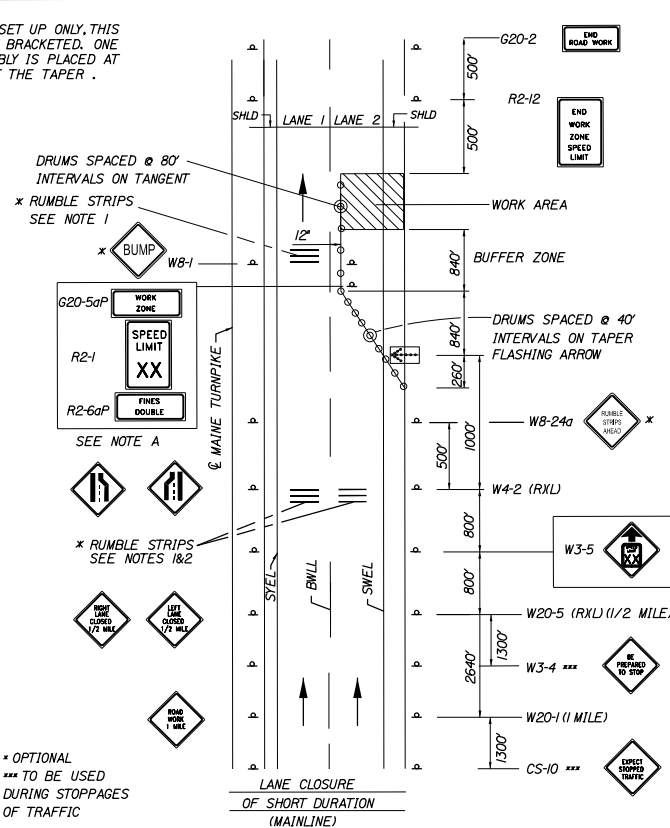
- THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.
- CONTRACTOR



SHOULDER CLOSURE

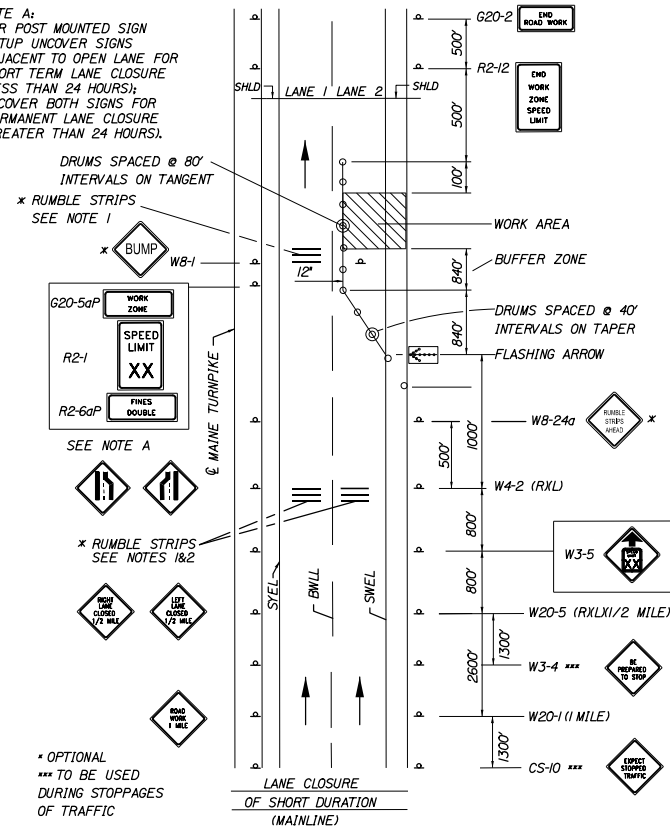
- THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.
- ONLY ONE SHOULDER CLOSURE PERMITTED PER BOUND AT ONE TIME.

NOTE A: FOR EASEL SET UP ONLY, THIS SIGN IS NOT BRACKETED. ONE SIGN ASSEMBLY IS PLACED AT THE END OF THE TAPER.

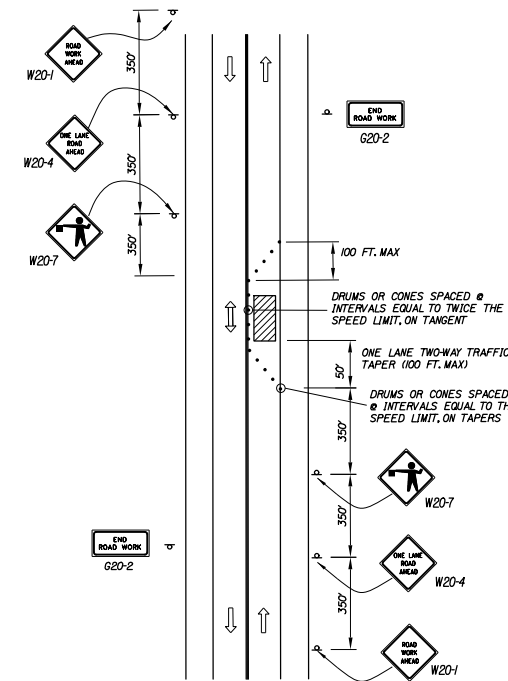


SINGLE LANE CLOSURE - SIGNS ON EASELS

NOTE A: FOR POST MOUNTED SIGN SETUP UNCOVER SIGNS ADJACENT TO OPEN LANE FOR SHORT TERM LANE CLOSURE (LESS THAN 24 HOURS); UNCOVER BOTH SIGNS FOR PERMANENT LANE CLOSURE (GREATER THAN 24 HOURS).



SINGLE LANE CLOSURE - POST MOUNTED SIGN SETUP



LOCAL ROAD SINGLE LANE CLOSURE

- NOTES:
- ROAD WORK AHEAD & END ROAD WORK SIGNS MAY BE OMITTED FOR SHORT DURATION OPERATIONS (LESS THAN 1 HOUR).
 - FLAGGERS SHALL BE LOCATED SO THEY ARE CLEARLY VISIBLE TO APPROACHING DRIVERS.
 - SIGN SPACING ASSUMES LOCAL ROAD SPEED IS 40 MPH OR LESS.

GENERAL MAINTENANCE OF TRAFFIC NOTES:

- ALL PAVEMENT STRIPING & SIGNING SHALL BE IN ACCORDANCE WITH THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES', U.S.D.O.T., F.H.W.A., LATEST EDITION.
- THESE PLANS SHOW THE GENERAL CONDITION FOR TURNPIKE MAINLINE TRAFFIC CONTROL DURING CONSTRUCTION, SLIGHT MODIFICATIONS IN CONSTRUCTION PROCEDURE MAY OCCUR AND MAY REQUIRE SOME MINOR ADJUSTMENTS TO BE MADE IN THE FIELD. ALL PROCEDURES MUST BE APPROVED BY THE RESIDENT.
- THE CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS IN ACCORDANCE WITH THE SPECIFICATIONS AND MUTCD. PAYMENT SHALL BE MADE UNDER ITEM 627.77 - REMOVING PAVEMENT MARKINGS.
- EXPOSED BARRIER ENDS SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION. PAYMENT WILL BE UNDER ITEM 527.341 - WORK ZONE CRASH CUSHION - TL-3.
- SPEED LIMIT, STOP, YIELD AND EXIT SIGNS SHALL BE A MINIMUM OF 5' ABOVE THE PAVEMENT.

ABBREVIATIONS FOR ALL M.O.T. PLANS

- BWLL = BROKEN WHITE LANE LINE
- SWEL = SOLID WHITE EDGE LINE
- SYEL = SOLID YELLOW EDGE LINE
- TBWLL = TEMPORARY BROKEN WHITE LANE LINE
- TSWLL = TEMPORARY SOLID WHITE LANE LINE
- TSYLL = TEMPORARY SOLID YELLOW LANE LINE


TEMPORARY RUMBLE STRIP NOTES

- IF RUMBLE STRIPS ARE USED THEY SHALL BE PLACED IN ONE OF THE FOLLOWING CONFIGURATIONS:
 - ADJACENT TO THE WORK ZONE (1 UNIT)
 - UPSTREAM FROM THE TAPER FOR THE WORKZONE (2 UNITS)
 - BOTH ADJACENT TO THE WORKZONE AND PRIOR TO THE TAPER (3 UNITS)
 W8-1 SIGNS SHALL BE PLACED ADJACENT TO THE FIRST RUMBLE STRIP AT ANY LOCATION. ONLY ONE SET OF W8-24a SIGNS ARE REQUIRED FOR ANY OF THE ABOVE CONFIGURATIONS.
- RUMBLE STRIPS MAY BE PLACED UPSTREAM OF THE TAPER BETWEEN THE W3-5 SIGNS AND THE W4-2 SIGNS. IF RUMBLE STRIPS ARE INSTALLED PRIOR TO TAPER, W8-1 SIGNS SHALL BE PLACED ADJACENT TO THE FIRST STRIP AND THE W8-24a SIGNS SHALL BE MOVED TO 400' AFTER THE W20-5 SIGNS.

Scale:		Designed by:	
No.	Revision	By	Date

HNTB			
CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.			
Designed	RBM	1/20	Checked TC 1/20
Drawn	WWL	1/20	In Charge of RAL 1/20

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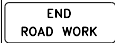
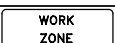


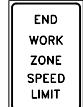
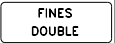

**THE GOLD STAR
MEMORIAL HIGHWAY**








MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
TOLL PLAZA ORT EQUIPMENT UPDATE
MAINTENANCE OF TRAFFIC
DETAILS

SHEET NUMBER: MT-05
CONTRACT: 2020.05
7 OF 19

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		TOTAL AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND BORDER	
G20-2	48"	24"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			8	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		8.00 (64.00)
G20-5aP	48"	24"					12			8.00 (96.00)
R2-1 (10)	48"	60"					2			20.00 (40.00)
R2-1 (50)	48"	60"					12			20.00 (240.00)
R2-12	48"	60"					8			20.00 (160.00)
R2-6aP	48"	24"					12			8.00 (96.00)
W1-4bR	48"	48"					4			16.00 (64.00)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		TOTAL AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND BORDER	
W20-1 (1 MILE)	48"	48"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			12	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		16.00 (192.00)
W20-5	48"	48"					4			16.00 (64.00)
W20-5(L) (1/2 MILE)	48"	48"					8			16.00 (128.00)
W20-5(R) (1/2 MILE)	48"	48"					4			16.00 (64.00)
W3-5 (50)	48"	48"					12			16.00 (192.00)
W4-2L	48"	48"					8			16.00 (128.00)
W4-2R	48"	48"					4			16.00 (64.00)

SIGN SUMMARY NOTES:

- PROPOSED SIGN LOCATIONS ARE APPROXIMATE. THE FINAL LOCATION OF THE SIGNS SHALL BE FIELD LOCATED AND APPROVED BY THE RESIDENT.
- WEST GARDINER MAINTENANCE OF TRAFFIC SHALL CONSIST OF A STANDARD LEFT LANE CLOSURE WITH A 50 MPH CONSTRUCTION SPEED ZONE. TEMPORARY PAVEMENT MARKINGS WILL BE REQUIRED FOR THE STANDARD LEFT LANE CLOSURE; COORDINATE WITH THE RESIDENT PRIOR TO SCHEDULING THE WORK.
- THE DOWN ARROWS ON THE OVERHEAD MOUNTED 'EZ PASS ONLY/NO CASH' SIGN PANELS SHALL BE COVERED WITH A GREEN PLAQUE WHEN THE LONG TERM LANE CLOSURES ARE IN PLACE CLOSING THE ORT LANES. THE GREEN PLAQUE OVERLAYS SHALL TEMPORARILY COVER THE DOWN ARROWS AND ANY DRILLED OUT RIVETS SHALL BE PERMANENTLY FILLED WITH A RIVET. THE WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES.

Date: 1/27/2020

Scale: NOT TO SCALE

No.	Revision	By	Date


Designed by:

HNTB

CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.

	By	Date		By	Date
Designed	RBM	1/20	Checked	TC	1/20
Drawn	WWL	1/20	In Charge of	RAL	1/20

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**THE GOLD STAR
MEMORIAL HIGHWAY**

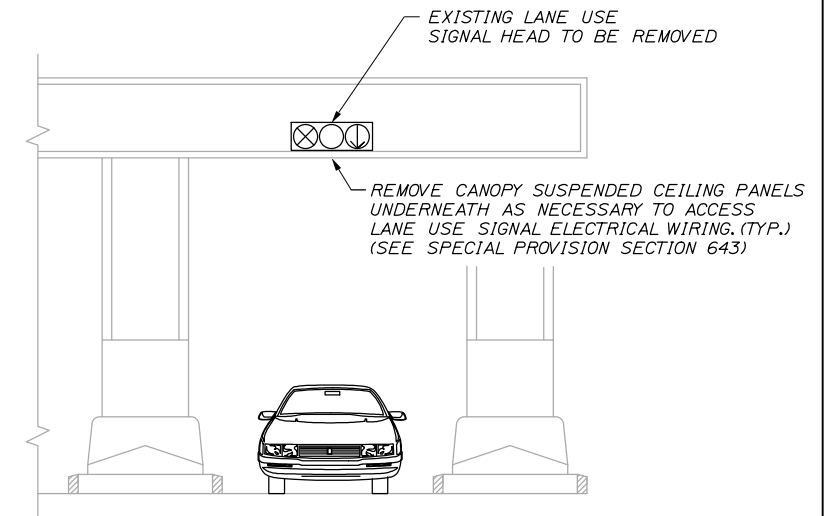
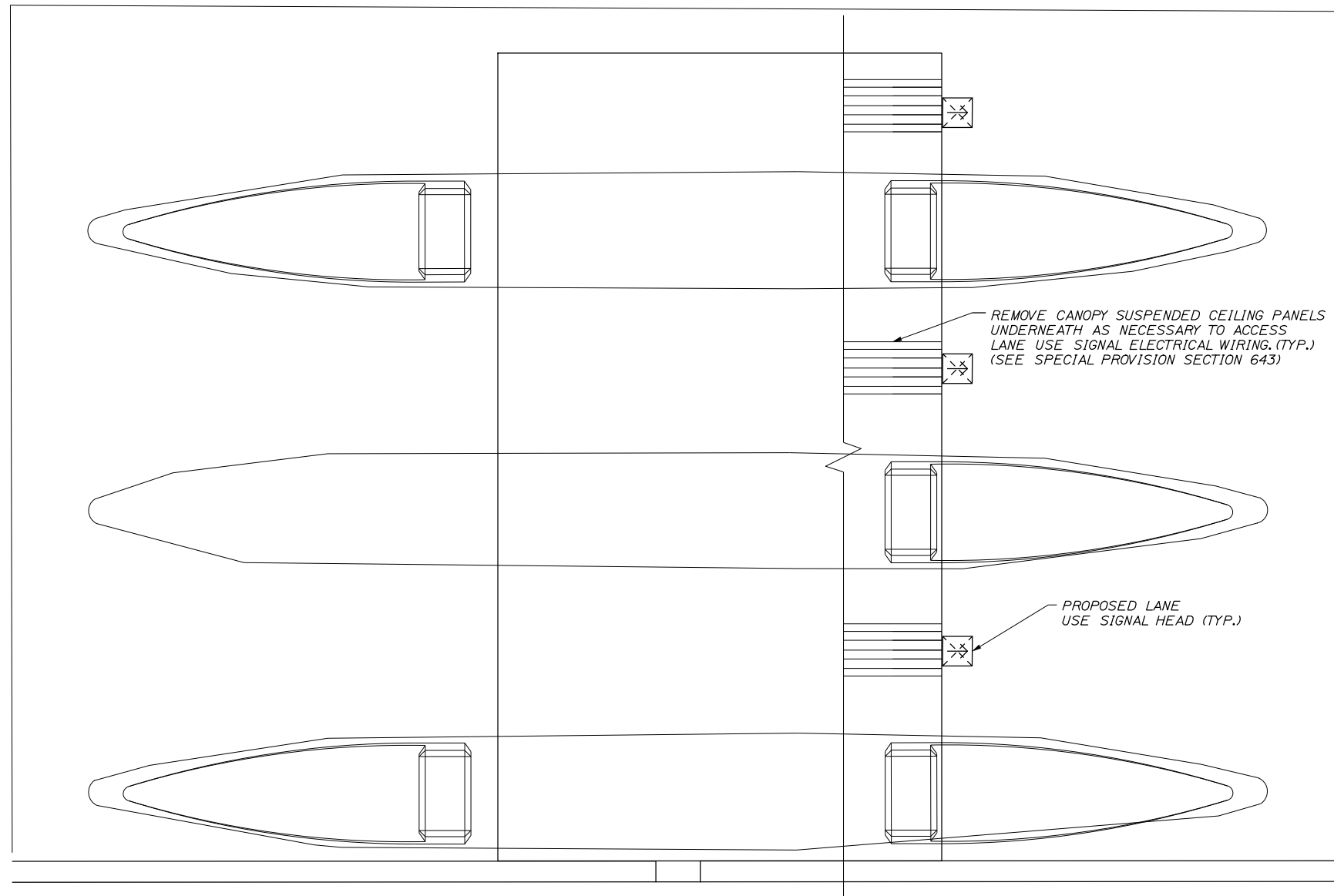
MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
 TOLL PLAZA ORT EQUIPMENT UPDATE
 MAINTENANCE OF TRAFFIC
 SIGN SUMMARY

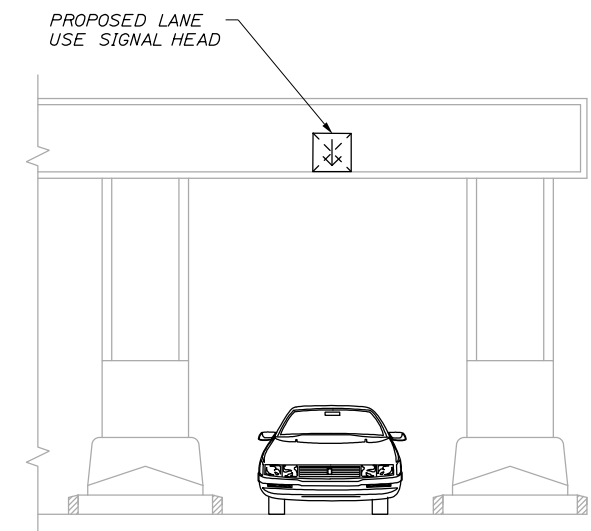
SHEET NUMBER: MT-06
 8 OF 19

CONTRACT: 2020.05

Filename: 008_MOT06.dgn



SECTION VIEW



SECTION VIEW

Filename: 009_NG_CanopyCash.dgn

Scale:			
NOT TO SCALE			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.					
	By	Date		By	Date
Designed	RBM	1/20	Checked	TC	1/20
Drawn	WWL	1/20	In Charge of	RAL	1/20

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THE GOLD STAR
MEMORIAL HIGHWAY

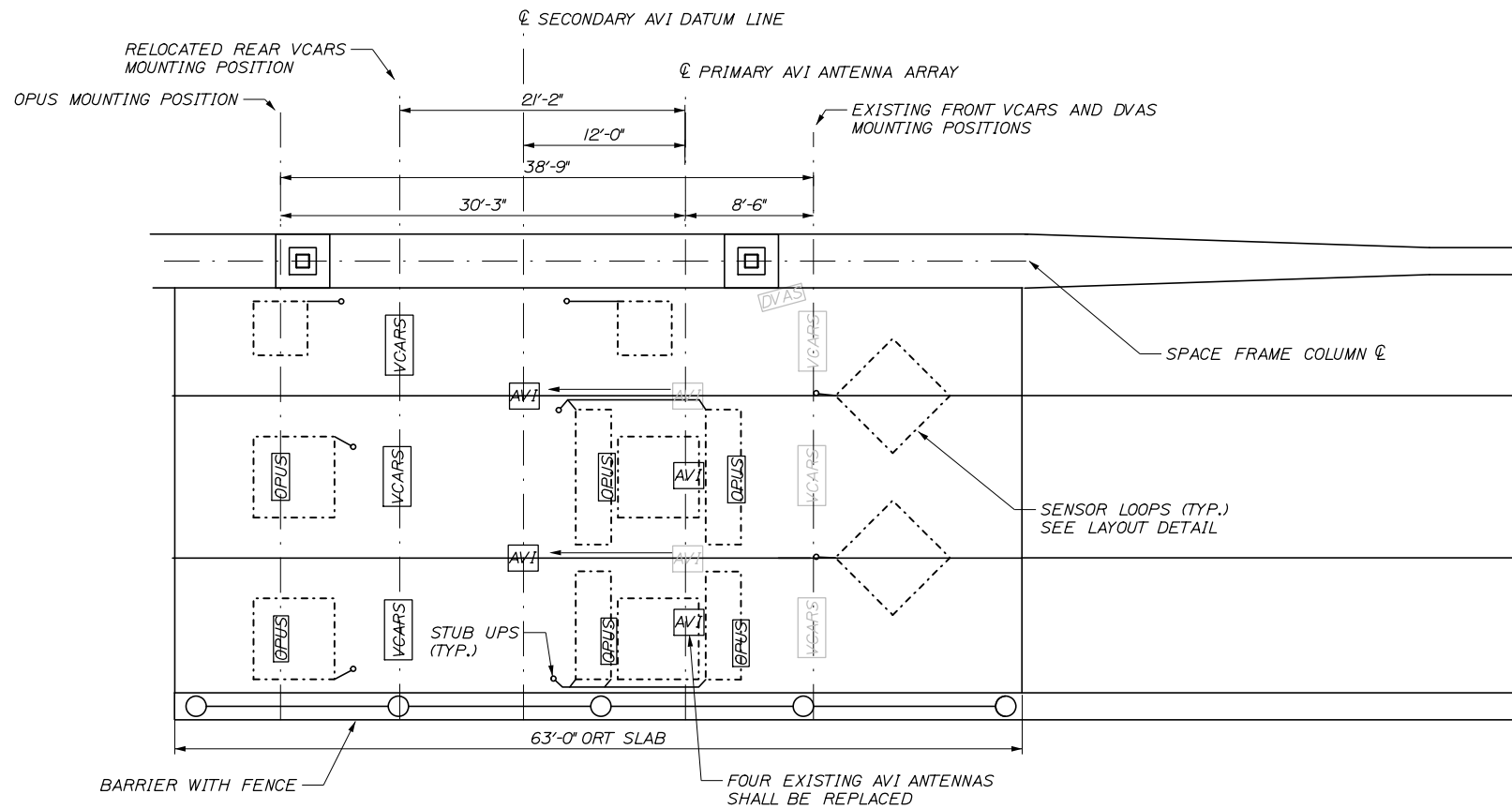
MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
TOLL PLAZA ORT EQUIPMENT UPDATE
NEW GLOUCESTER CASH LANE
CANOPY ELECTRICAL PLAN

SHEET NUMBER: T-01
CONTRACT:2020.05 9 OF 19

Date: 1/27/2020

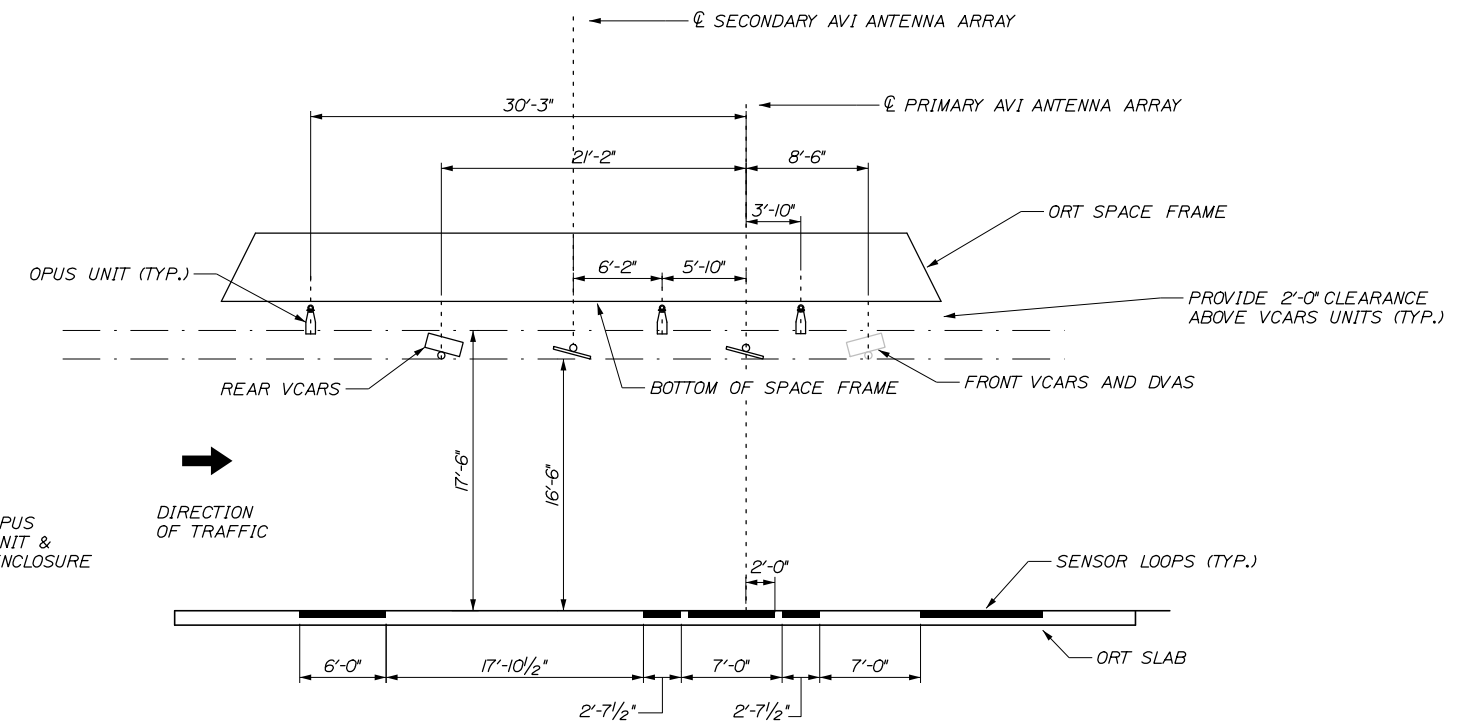
Filename: 010_NG_EquipmentLayout.dgn



**NB ORT PLAN
(SB ORT SIMILAR)**

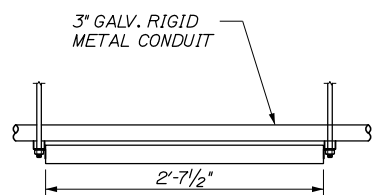
N.T.S.

- NOTES:**
- REFER TO SPACE FRAME DETAILS FOR MOUNTING ASSEMBLIES.
 - REFER TO ELECTRICAL PLANS FOR CONNECTIONS OF POWER AND COMMUNICATION LINES.
 - SYSTEM INTEGRATOR SHALL PROVIDE AVI ANTENNAS, MULTI PROTOCOL READERS, AND OPUS EQUIPMENT. CONTRACTOR SHALL PROVIDE NECESSARY CONNECTION HARDWARE, UPDATED WIRING AND CONNECT POWER AND COMMUNICATION LINES.
 - SYSTEM INTEGRATOR SHALL PROVIDE IVIS SENSOR LOOPS. REFER TO SPECIAL PROVISION 655 FOR MORE INFORMATION.
 - FRONT VCARS MOUNTING POSITIONS ARE FIXED. THE AVI ANTENNA ARRAY SHALL HAVE THE ABILITY TO MOVE 3' LONGITUDINAL TO TRAFFIC.
 - REAR VCARS AND MOUNTING BRACKET ASSEMBLY SHALL BE MOVED TO 2'-2" FROM THE PRIMARY AVI DATUM LINE.
 - SECONDARY AVI ANTENNA ARRAY SHALL BE 12'-0" FROM PRIMARY ANTENNA ARRAY.
 - FOUR ADDITIONAL ROWS OF MOUNTING BRACKETS SHALL BE INSTALLED: ONE FOR SECONDARY AVI ANTENNA ARRAY AND THREE NEW ROWS OF OPUS EQUIPMENT.



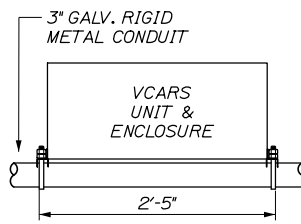
**NB PROFILE VIEW
(MIRROR FOR SB)**

N.T.S.



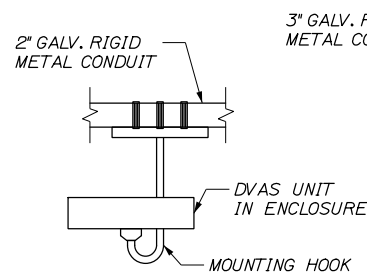
**AVI ANTENNA
ELEVATION**

N.T.S.



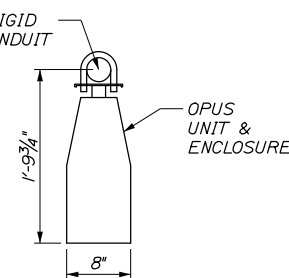
**VCARS
ELEVATION**

N.T.S.



**DVAS
ELEVATION**

N.T.S.



**OPUS
ELEVATION**

N.T.S.

Scale: NOT TO SCALE

Designed by:



CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.

No.	Revision	By	Date	By	Date
Designed	RBM	1/20	Checked	TC	1/20
Drawn	WWL	1/20	In Charge of	RAL	1/20

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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: WILLIAM H. YATES III

**NEW GLOUCESTER/W. GARDINER BARRIER
TOLL PLAZA ORT EQUIPMENT UPDATE**

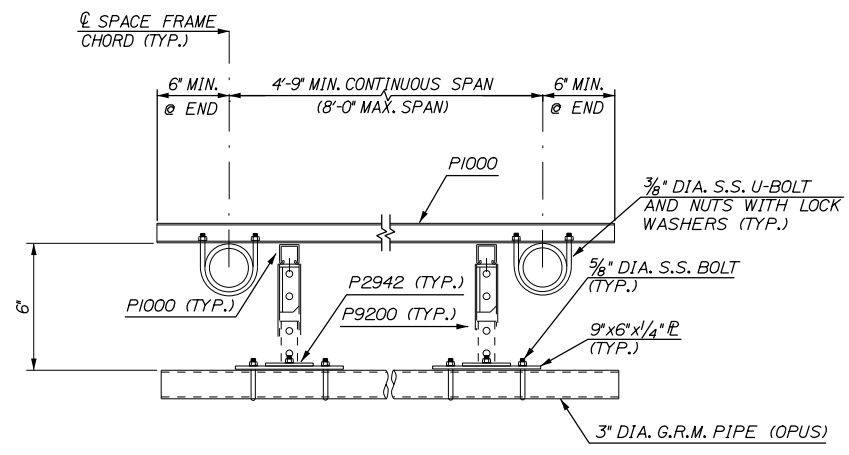
ORT OVERHEAD EQUIPMENT PLAN

SHEET NUMBER: T-02

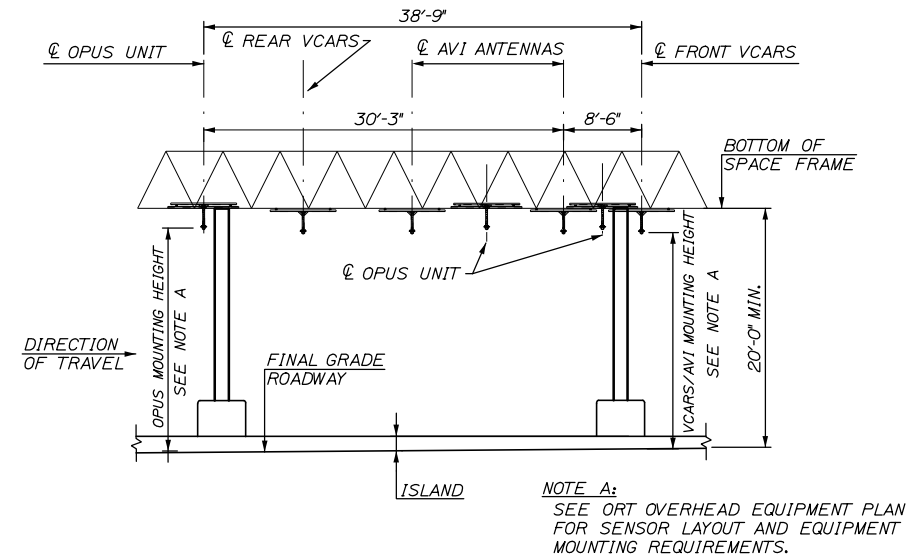
CONTRACT: 2020.05

10 OF 19

Date: 1/27/2020

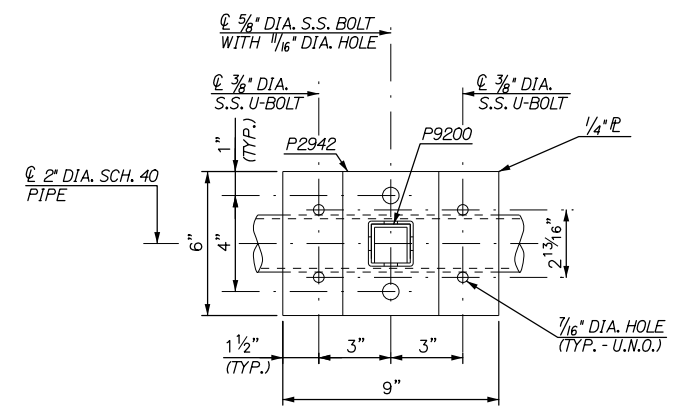


OPUS MOUNTING DIAGRAM
N.T.S.

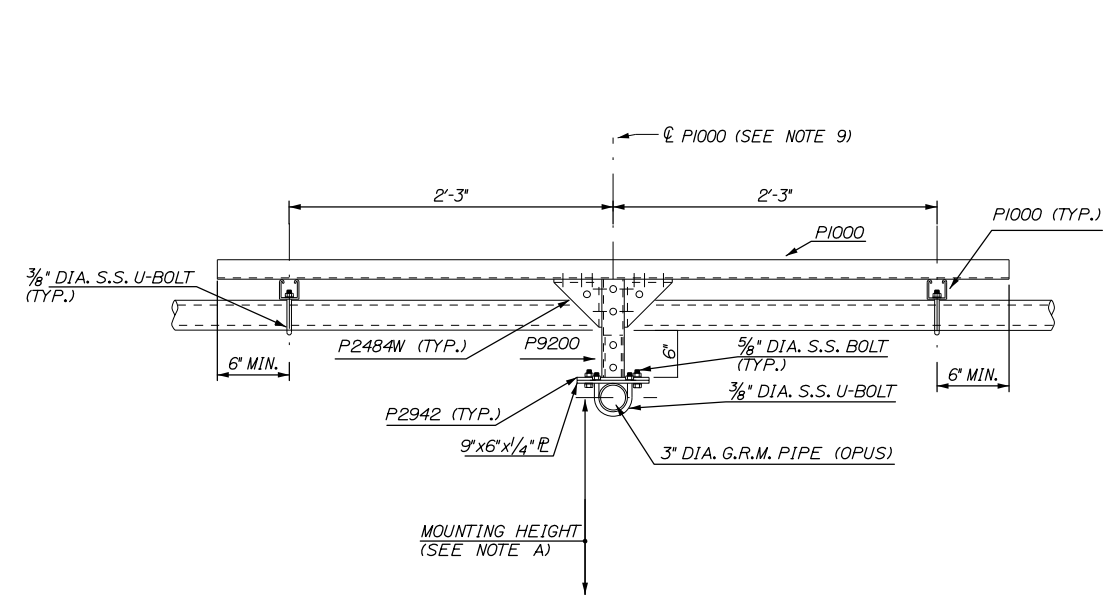


END VIEW
N.T.S.

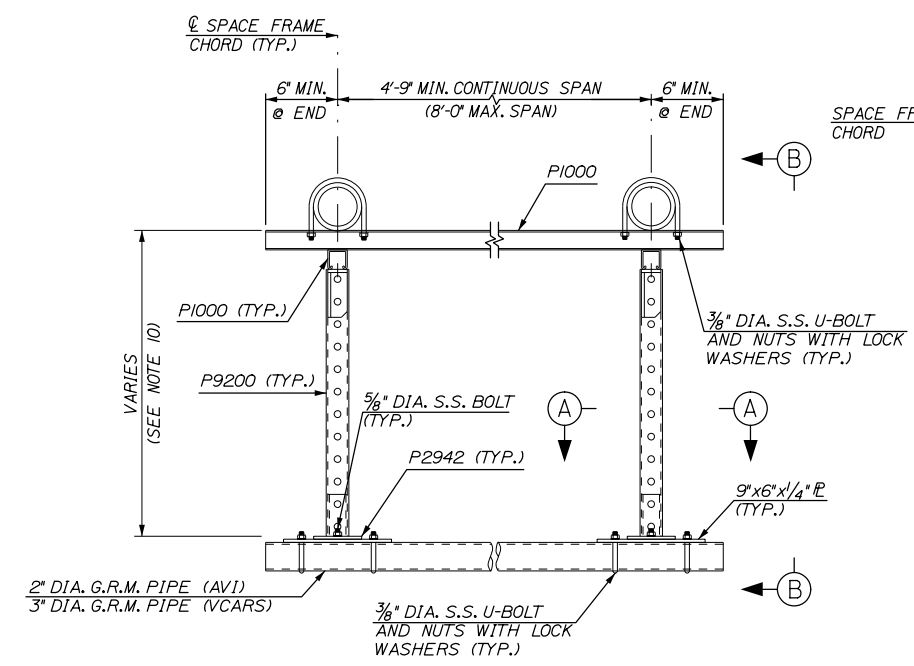
- NOTES:
1. MOUNTING BRACKET ASSEMBLIES SHALL BE CONSTRUCTED OF GALVANIZED UNISTRUT BRAND MATERIALS, OR AN APPROVED EQUAL.
 2. SEE ELECTRICAL PLANS FOR LAYOUT OF VCARS, AVI ANTENNAS AND OPUS CAMERAS. SEE ORT EQUIPMENT LAYOUT FOR MOUNTING DETAILS.
 3. HORIZONTAL SUPPORTS FOR EQUIPMENT MUST REMAIN WITHIN MOUNTING HEIGHT TOLERANCES. DISCONTINUITY OF 2" DIA. PIPE IS PERMISSIBLE TO ACHIEVE MOUNTING HEIGHTS.
 4. PIPE SHALL CONFORM TO ASTM A-53, GALVANIZED.
 5. S.S. U-BOLTS AND BOLTS SHALL CONFORM TO ASTM A-276, TYPE 304.
 6. STEEL PLATE SHALL CONFORM TO ASTM A-572, GRADE 50, GALVANIZED.
 7. SYSTEM INTEGRATOR SHALL PROVIDE AVI ANTENNAS, OPUS UNITS AND MPR'S.
 8. CLEARANCE FOR VCARS UNITS SHALL BE 6' ON THE SIDES AND 2'-0" ABOVE.
 9. C/O OF P1000 FOR AVI SHALL BE 11'-0" FROM FRONT VCARS C.
 10. ALL MOUNTING BRACKET ASSEMBLIES SHALL BE CAPABLE OF +/- 1' OF VERTICAL ADJUSTMENT.



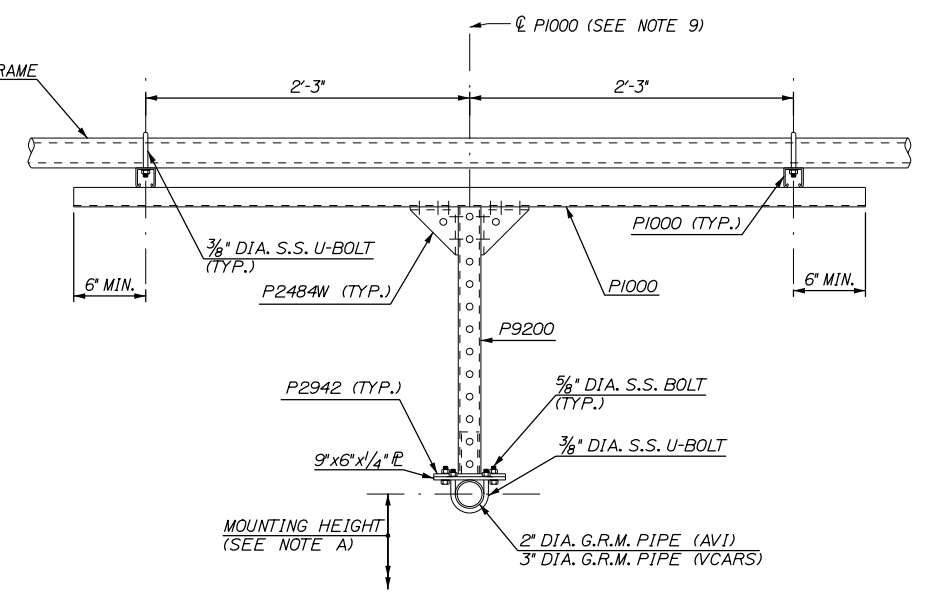
SECTION A-A
SCALE: 3" = 1'-0"



OPUS MOUNTING DIAGRAM
N.T.S.



DETAIL A
N.T.S.




VIEW B-B
N.T.S.

Filename: 012_NG_Opus Bracket.dgn

Scale:			
NOT TO SCALE			
No.	Revision	By	Date

Designed by:			
HNTB			
CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.			
	By	Date	

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**THE GOLD STAR
MEMORIAL HIGHWAY**

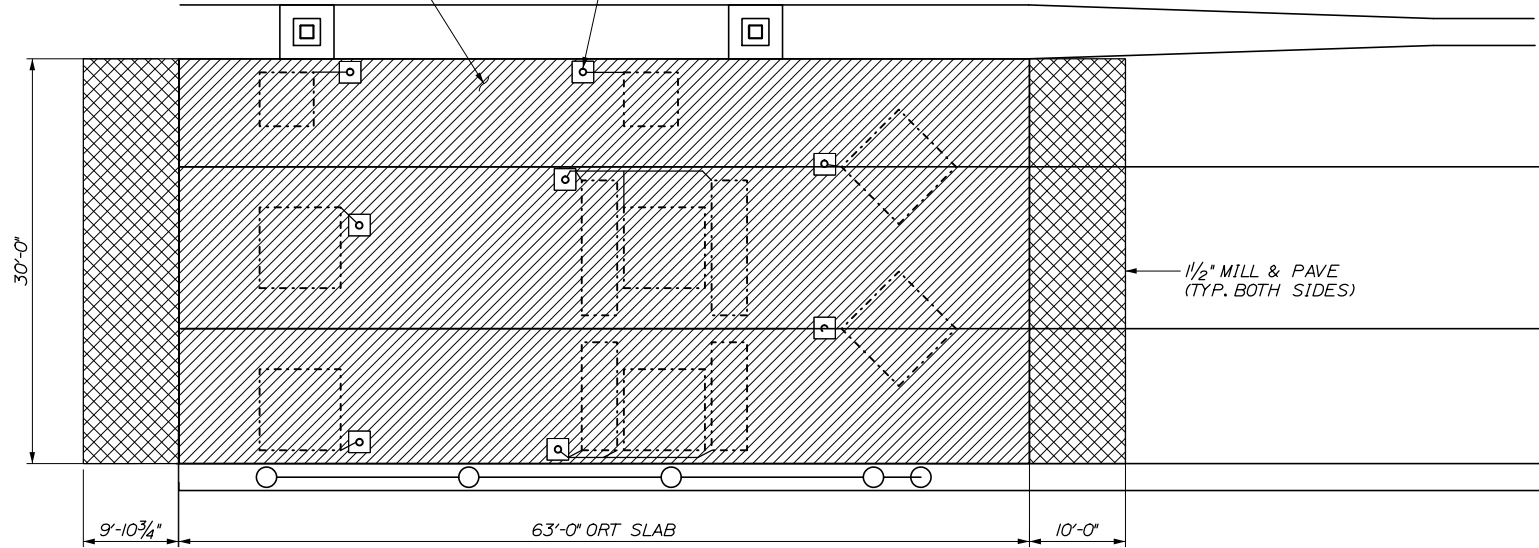
MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
TOLL PLAZA ORT EQUIPMENT UPDATE
ORT SPACE FRAME MOUNTING BRACKET
ASSEMBLY DETAILS

SHEET NUMBER: T-04
CONTRACT: 2020.05
12 OF 19

3" OF CONCRETE SURFACE TO BE MILLED AND REPLACED.
(SEE SPECIAL PROVISIONS SECTION 202)

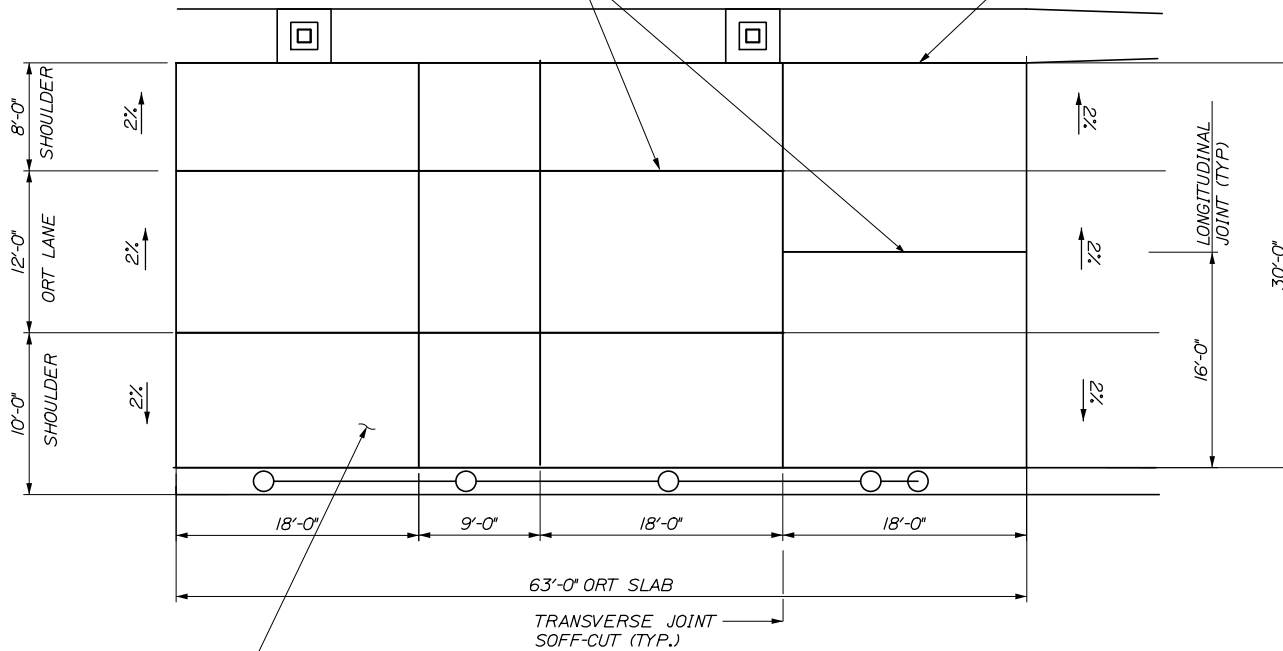
STUB UP (TYP.)
CONTRACTOR SHALL MANUALLY REMOVE
A ONE FOOT BY ONE FOOT AREA
AROUND TO PRESERVE ALL EXISTING STUB UPS.
(SEE SPECIAL PROVISIONS SECTION 202)



NB ORT DEMOLITION PLAN
(SB ORT SIMILAR)
N.T.S.

LONGITUDINAL JOINT SOFF-CUT (TYP.)

1/2" FLEXIBLE FOAM EXPANSION JOINT
(CERAMAR OR APPROVED EQUAL) AND
SIKAFLEX -1CSL ALONG CONCRETE
BARRIER (TYP.) (SEE NOTE 7)



3" CONCRETE WEARING SURFACE
WITH SYNTHETIC FIBER REINFORCEMENT

NB ORT SOFF-CUT SLAB PLAN
N.T.S.

NOTES:

1. DEMOLITION CANNOT BEGIN WITHOUT APPROVAL FROM THE SYSTEM INTEGRATOR AND THE RESIDENT.
2. ANY EXISTING WORK DISTURBED OR DAMAGED BY THE ALTERATIONS OR PROPOSED WORK SHALL BE REPAIRED OR REPLACED TO THE RESIDENT'S AND AUTHORITY'S SATISFACTION AT NO ADDED COST TO THE AUTHORITY AND DISPOSED OF IN A LEGAL, LAWFUL MANNER BY THE CONTRACTOR.
3. ANY EXISTING WIRING AND CONDUIT DISCONTINUED UNDER THIS PROJECT SHALL BE COMPLETELY REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.
4. CONTRACTOR SHALL REMOVE BY POWER-OPERATED MILLING MACHINE 3" OF EXISTING ORT SLAB WITH THE EXCEPTION OF A ONE FOOT BY ONE FOOT AREA AROUND ALL EXISTING STUB UPS, WHICH SHALL BE REMOVED BY HAND. (SEE SPECIAL PROVISIONS SECTION 202)
5. THE CONTRACTOR SHALL PLACE A 3" WEARING SURFACE USING THE MTA "AAA DECK MIX" WITH SYNTHETIC FIBER REINFORCEMENT AT A DOSAGE RATE OF 3 LBS./CY. THE WEARING SURFACE SHALL HAVE A TRANSVERSE BROOM FINISH. PAYMENT FOR 3" WEARING SURFACE SHALL BE MADE UNDER ITEM 502.262 STRUCTURAL CONCRETE ROADWAY SLAB WEARING SURFACE.
6. AFTER THE CONCRETE WEARING SURFACE HAS BEEN PLACED AND ALLOWED TO REACH INITIAL SET, THE CONTRACTOR SHALL SAWCUT THE TRANSVERSE AND LONGITUDINAL JOINTS 3/4" DEEP USING A SOFF-CUT SAW. SAWCUTTING OF THE CONCRETE WEARING SURFACE SHALL OCCUR NO MORE THAN 8 HOURS AFTER COMPLETION OF THE WEARING SURFACE, UNLESS OTHERWISE APPROVED BY THE RESIDENT.
7. A 1/2" FLEXIBLE FOAM EXPANSION JOINT SHALL BE INSTALLED ALONG THE CONCRETE BARRIER. SIKAFLEX-ICSL POLYURETHANE SEALANT SHALL BE 1/2" DEEP. THIS WORK IS INCIDENTAL TO ITEM 502.262.

SHEET FOR NEW GLOUCESTER ORT PLAZA ONLY


Date: 1/27/2020

Filename: 013_NG_Slab Plan.dgn

Scale:			
NOT TO SCALE			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.					
	By	Date		By	Date
Designed	RBM	1/20	Checked	TC	1/20
Drawn	WWL	1/20	In Charge of	RAL	1/20

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**MAINE
TURNPIKE**

THE GOLD STAR
MEMORIAL HIGHWAY

MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
TOLL PLAZA ORT EQUIPMENT UPDATE

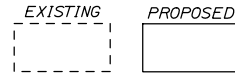
NEW GLOUCESTER ORT SLAB PLAN

SHEET NUMBER: T-05

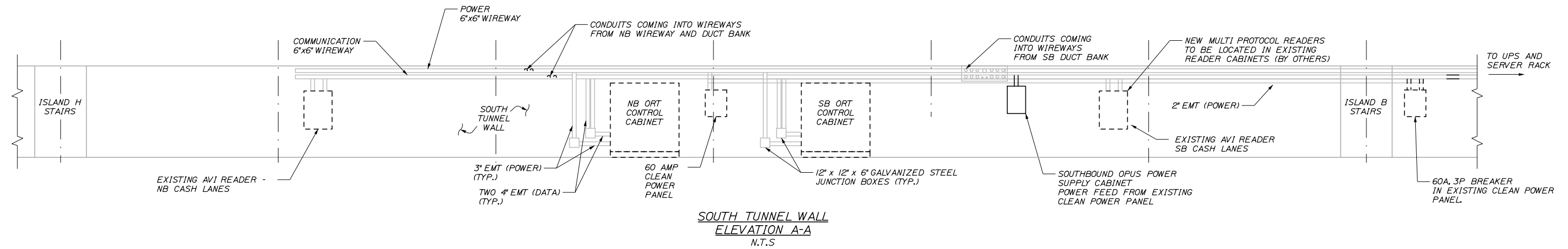
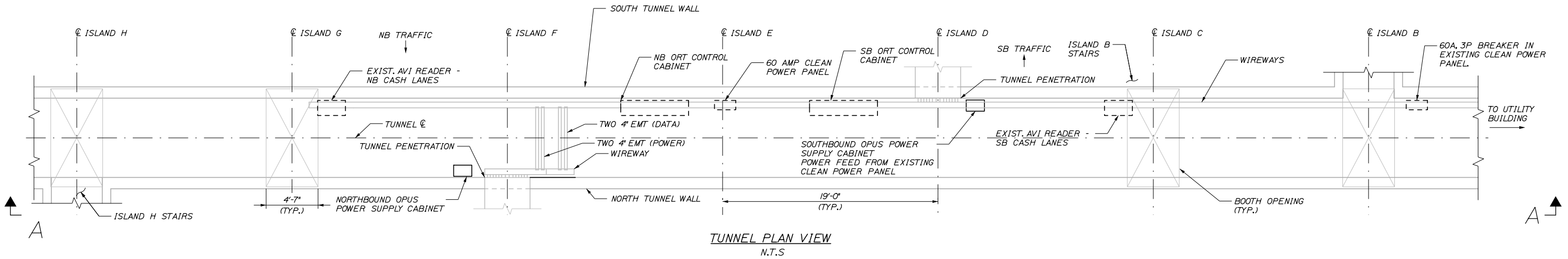
CONTRACT: 2020.05

13 OF 19

LEGEND



Date: 1/27/2020



NOTE: THIS SHEET SHOWS NEW GLOUCESTER, WEST GARDINER IS A MIRROR IMAGE.

Filename: 014_NG_Electrical Details.DGN

Scale:			
NOT TO SCALE			
No.	Revision	By	Date

Designed by:			
HNTB			
CONSULTANT PROJECT MANAGER: R. BRUCE MUNGER, P.E.			
	By	Date	
	RBM	1/20	
	Checked	TC	1/20
	By	Date	
	Drawn	WWL	1/20
	In Charge of	RAL	1/20

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER TOLL PLAZA ORT CONVERSION

ELECTRICAL DETAILS

SHEET NUMBER: T-06

CONTRACT: 2020.05

14 OF 19

Date: 1/27/2020

Wiring Shown Below is for one direction of ORT travel only. Duplicate for second ORT direction of travel.

ORT SYSTEMS NETWORK AND DATA WIRING (CONTINUED)

Video Capture and Recognition System (VCARS™) *Relocating rear VCARS*

RISER DIAGRAM NUMBER	WIRE LABEL	DESCRIPTION	WIRE	TO	SIGNAL TYPE	ROUTING INSTRUCTIONS	TERMINATION
124	(ORT#)MSH.RVA	MEDIAN SHOULDER VCARS™ REAR LICENSE PLATE CAMERA A - GIGABIT DATA	4pr/24AWG CAT-5e Shielded Burial Grade (No Gel)	RJ45 Both Ends, From VCARS™ Connector Panel Blue 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET	In Gantry, pull 3 new cables using existing wire as a pull cable to VCARS™ Junction Box. Extend using flexible weathertight conduit to VCARS™ access panel cover. Punch and attach weathertight conduit. Attach end connector (RJ45) each end and test to Gigabit specification.	Termination by Integrator
125	(ORT#)MSH.RVST	MEDIAN SHOULDER VCARS™ REAR UNIT CONTROL NETWORK AND TRIGGER		RJ45 Both Ends, From VCARS™ Connector Panel Yellow 110 Jack to Designated Switch Port 110 Jack	10/100 ETHERNET 24V DC SWITCHED		Termination by Integrator
126	(ORT#)MSH.RVB	MEDIAN SHOULDER VCARS™ REAR LICENSE PLATE CAMERA B - GIGABIT DATA		RJ45 Both Ends, From VCARS™ Connector Panel Red 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET		Termination by Integrator
127	(ORT#)L1.RVA	LANE 1 VCARS™ REAR LICENSE PLATE CAMERA A - GIGABIT DATA	4pr/24AWG CAT-5e Shielded Burial Grade (No Gel)	RJ45 Both Ends, From VCARS™ Connector Panel Blue 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET	In Gantry, pull 3 new cables using existing wire as a pull cable to VCARS™ Junction Box. Extend using flexible weathertight conduit to VCARS™ access panel cover. Punch and attach weathertight conduit. Attach end connector (RJ45) each end and test to Gigabit specification.	Termination by Integrator
128	(ORT#)L1.RVST	LANE 1 VCARS™ REAR UNIT CONTROL NETWORK AND TRIGGER		RJ45 Both Ends, From VCARS™ Connector Panel Yellow 110 Jack to Designated Switch Port 110 Jack	10/100 ETHERNET 24V DC SWITCHED		Termination by Integrator
129	(ORT#)L1.RVB	LANE 1 VCARS™ REAR LICENSE PLATE CAMERA B - GIGABIT DATA		RJ45 Both Ends, From VCARS™ Connector Panel Red 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET		Termination by Integrator
130	(ORT#)OSH.RVA	OUTSIDE SHOULDER VCARS™ REAR LICENSE PLATE CAMERA A - GIGABIT DATA	4pr/24AWG CAT-5e Shielded Burial Grade (No Gel)	RJ45 Both Ends, From VCARS™ Connector Panel Blue 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET	In Gantry, pull 3 new cables using existing wire as a pull cable to VCARS™ Junction Box. Extend using flexible weathertight conduit to VCARS™ access panel cover. Punch and attach weathertight conduit. Attach end connector (RJ45) each end and test to Gigabit specification.	Termination by Integrator
131	(ORT#)OSH.RVST	OUTSIDE SHOULDER VCARS™ REAR UNIT CONTROL NETWORK AND TRIGGER		RJ45 Both Ends, From VCARS™ Connector Panel Yellow 110 Jack to Designated Switch Port 110 Jack	10/100 ETHERNET 24V DC SWITCHED		Termination by Integrator
132	(ORT#)OSH.RVB	OUTSIDE SHOULDER VCARS™ REAR LICENSE PLATE CAMERA B - GIGABIT DATA		RJ45 Both Ends, From VCARS™ Connector Panel Red 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET		Termination by Integrator


Wiring Shown Below is for one direction of ORT travel only. Duplicate for second ORT direction of travel.

LASER SCANNER (OPUS) DATA WIRING SCHEDULE

RISER DIAGRAM NUMBER	WIRE LABEL	DESCRIPTION	WIRE	TO	SIGNAL TYPE	ROUTING INSTRUCTIONS	TERMINATION
145	(ORT#)	LANE 1 OPUS P3 SCANNER 10/100	4pr/24AWG CAT-5e Shielded Burial Grade (No Gel)	RJ45 Both Ends, From OPUS Connector Panel Blue 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET	In Gantry, route the 3 cables before connector attachment to OPUS Junction Box. Extend using flexible weathertight conduit to OPUS access panel cover. Punch and attach weathertight conduit. Attach end connector (RJ45) each end and test to Gigabit specification.	Termination by Integrator
146	(ORT#)	LANE 1 OPUS P4 LEAD SCANNER 10/100		RJ45 Both Ends, From OPUS Connector Panel Yellow 110 Jack to Designated Switch Port 110 Jack	10/100 ETHERNET 24V DC SWITCHED		Termination by Integrator
147	(ORT#)	LANE 1 OPUS P4 TRAIL SCANNER 10/100		RJ45 Both Ends, From OPUS Connector Panel Red 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET		Termination by Integrator
148	(ORT#)	OUTER SHOULDER OPUS P3 SCANNER 10/100	4pr/24AWG CAT-5e Shielded Burial Grade (No Gel)	RJ45 Both Ends, From OPUS Connector Panel Blue 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET	In Gantry, route the 3 cables before connector attachment to OPUS Junction Box. Extend using flexible weathertight conduit to OPUS access panel cover. Punch and attach weathertight conduit. Attach end connector (RJ45) each end and test to Gigabit specification.	Termination by Integrator
149	(ORT#)	OUTER SHOULDER OPUS P4 LEAD SCANNER 10/100		RJ45 Both Ends, From OPUS Connector Panel Yellow 110 Jack to Designated Switch Port 110 Jack	10/100 ETHERNET 24V DC SWITCHED		Termination by Integrator
150	(ORT#)	OUTER SHOULDER OPUS P4 TRAIL SCANNER 10/100		RJ45 Both Ends, From OPUS Connector Panel Red 110 Jack to TipOut Designated 110 Jack	GIGABIT ETHERNET		Termination by Integrator

NOTE:
1. SEE DATA WIRING SCHEDULE 2

Filename: 015_NG_Data Wiring Schedule 1.dgn

Scale: <i>NOT TO SCALE</i>		Designed by: HNTB		HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909		 THE GOLD STAR MEMORIAL HIGHWAY		NEW GLOUCESTER/W. GARDINER BARRIER TOLL PLAZA ORT EQUIPMENT UPDATE ORT DATA WIRING SCHEDULE 1	
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: R. Bruce Munger, P.E.		MTA PROJECT MANAGER: WILLIAM H. YATES III		CONTRACT: 2020.05	
				Designed	RBM	1/20	Checked	TC	1/20
				Drawn	WWL	1/20	In Charge of	RAL	1/20
								SHEET NUMBER: T-07 15 OF 19	

Date: 1/27/2020



ORT SYSTEMS NETWORK AND DATA WIRING (CONTINUED)									
TRANSCORE E-6 MPR (Specifications are for TRANSCORE E-6 MPR)									
RISER DIAGRAM NUMBER	WIRE LABEL	DESCRIPTION	AWG	COLOR	CORE	JACKET	FROM	TO	TERMINATION
154	ORT.TCE-6.LSH	LEFT SHOULDER TCE-6 ANTENNA RF CABLE	LMR 600	BLACK	SOLID	PVC	ORT TC E-6 MPR	LANE ANTENNA ON THE SPACE FRAME	"N" CONNECTOR (MALE)
155	ORT.TCE-6.LSH/L	LEFT SHOULDER/LANE 1 STRADDLE TCE-6 ANTENNA RF CABLE							
156	ORT.TCE-6.LN 1	TRAVEL LANE 1 TCE-6 ANTENNA RF CABLE							
157	ORT.TCE-6.LN 1/RSH	LANE 1/RIGHT SHOULDER STRADDLE TCE-6 ANTENNA RF CABLE							

AVI System Synchronization Cables									
RISER DIAGRAM NUMBER	WIRE LABEL (SOURCE.CIRCUIT.DESTINATION)	DESCRIPTION	AWG	COLOR	CORE	JACKET	FROM	TO	TERMINATION REQUIREMENTS
170	ORTNB/CashNB AVI SYNC	System Integrator Multi Protocol Reader Synchronization Cable: NB ORT MPR to NB Cash MPR	IMSA-50 #18	BLACK	STRANDED	Low Density Polyethylene	NB ORT AVI READER CABINET (LEAVE 10' SLACK LOOP in CABINET)	NB Cash AVI Reader CABINET (LEAVE 10' SLACK LOOP IN CABINET)	TERMINATION BY INTEGRATOR
171	ORTNB/ORTSB AVI SYNC	System Integrator Multi Protocol Reader Synchronization Cable: NB ORT MPR to SB ORT MPR					NB ORT AVI READER CABINET (LEAVE 10' SLACK LOOP in CABINET)	SB ORT AVI Reader CABINET (LEAVE 10' SLACK LOOP IN CABINET)	
172	ORTSB/CashSB AVI SYNC	System Integrator Multi Protocol Reader Synchronization Cable: SB ORT MPR to SB Cash MPR					SB ORT AVI READER CABINET (LEAVE 10' SLACK LOOP in CABINET)	SB Cash AVI Reader CABINET (LEAVE 10' SLACK LOOP IN CABINET)	

NOTES:

- ALL AVI ANTENNAS, READERS AND WIRING SHALL BE REMOVED AND REPLACED WITH SYSTEM INTEGRATOR ANTENNAS AND E-6 MPR READERS. (BY OTHERS)
- LMR 400 WIRING FOR THE AVI ANTENNAS AND READERS SHALL BE REPLACED WITH LMR 600 WIRING.
- REAR VCARS SHALL BE MOVED TO 2'-2" FROM THE PRIMARY AVI DATUM LINE.
- OLD CAT-5E DATA WIRING SHALL BE USED AS A PULL STRING FOR NEW CAT-5E WIRING TO BE INSTALLED.

Filename: 016_NG_Data Wiring Schedule 2.dgn

Scale: NOT TO SCALE		Designed by:				HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909				THE GOLD STAR MEMORIAL HIGHWAY		NEW GLOUCESTER/W GARDINER BARRIER TOLL PLAZA ORT EQUIPMENT UPDATE ORT DATA WIRING SCHEDULE 2	
No.	Revision	By	Date										
				Designed	RBM	1/20	Checked	TC	1/20	SHEET NUMBER: T-08		16 OF 19	
				Drawn	WWL	1/20	In Charge of	RAL	1/20				

Date: 1/27/2020

Filename: 017_NG_Power Wiring Schedule 1.dgn

Wiring Shown is for one direction of travel only. Duplicate for second ORT direction of travel.

MEDIAN SHOULDER ORT LANE TYPE GANTRY POWER WIRING SCHEDULE (Electrician Responsibilities - Includes pull strings, wire, conduit, trays, boxes and termination)

REAR VCARS™												
220	(Panel#).(Ckt #).(ORT#)RVLMS	REAR VCARS™ POWER (HOT, NON-SWITCHED)	12	BLACK	STRANDED	THHW or SOW	120 VAC	15	CLEAN (UPS) POWER DISTRIBUTION PANEL CIRCUIT BREAKER	VCARS™ FIELD WIRING TERMINATION CONNECTOR	V1-1	6X6X4 JUNCTION BOX WITH 6' of 1/2" LIQUID TIGHT FLEX CABLE TO VCARS™ LOCATION. LEAVE 8' SLACK IN BOX
221	(Panel#)-.N.(ORT#)RVLMS	REAR VCARS™ POWER (NEUTRAL)		WHITE							V1-2	
222	(Panel#).IG.(ORT#)RVLMS	REAR VCARS™ POWER (FACILITY GROUND)		GREEN							V1-3	
223	(Panel#).G.(ORT#)RVLMS	REAR VCARS™ POWER (UPS ISOLATED GROUND)		GREEN W/ YELLOW STRIPE							V1-4	

Wiring Shown is for one direction of travel only. Duplicate for second ORT direction of travel.


LANE 1 ORT LANE TYPE GANTRY POWER WIRING SCHEDULE

REAR VCARS™												
224	(Panel#).(Ckt #).RVL1	REAR VCARS™ POWER (HOT, NON-SWITCHED)	12	BLACK	STRANDED	THHW or SOW	120 VAC	15	CLEAN (UPS) POWER DISTRIBUTION PANEL CIRCUIT BREAKER	VCARS™ FIELD WIRING TERMINATION CONNECTOR	V1-1	6X6X4 JUNCTION BOX WITH 6' of 1/2" LIQUID TIGHT FLEX CABLE TO VCARS™ LOCATION. LEAVE 8' SLACK IN BOX
225	(Panel#)-.N.RVL1	REAR VCARS™ POWER (NEUTRAL)		WHITE							V1-2	
226	(Panel#).IG.RVL1	REAR VCARS™ POWER (FACILITY GROUND)		GREEN							V1-3	
227	(Panel#).G.RVL1	REAR VCARS™ POWER (UPS ISOLATED GROUND)		GREEN W/ YELLOW STRIPE							V1-4	

OPUS SCANNER POWER WIRING SCHEDULE

RISER DIAGRAM NUMBER	WIRE LABEL (SOURCE.CIRCUIT.DESTINATION)	DESCRIPTION	MIN AWG *1	COLOR	CORE	JACKET	VOLTAGE	CIRCUIT BREAKER	FROM	TO	TERMINAL #	TERMINATION REQUIREMENTS
244	(Panel#).H.(ORT#)	LANE 1 OPUS SCANNER AC POWER (HOT-NON-SWITCHED)	12	BLACK	STRANDED	THHW or SOW	120 VAC	15	CLEAN (UPS) POWER DISTRIBUTION PANEL CIRCUIT BREAKER	OPUS POWER SUPPLY CABINET	AC	TDK-LAMBDA 48V TRANSFORMER
245	(Panel#).N.(ORT#)	LANE 1 OPUS SCANNER AC POWER (NEUTRAL)		WHITE							IN	
246	(Panel#).G.(ORT#)	LANE 1 OPUS SCANNER AC POWER (GROUND)		GREEN							Case Gnd Lug Only*2	
247-252		LANE 1 OPUS SCANNER DC POWER (ISOLATED GROUND)	12	BLACK AND RED	STRANDED	THHW or SOW	48VDC	10	OPUS POWER SUPPLY CABINET	OPUS SCANNER(1-3)	OPUS TERMINALS	INDIVIDUAL OPUS SCANNER

NOTE:
1. SEE POWER WIRING SCHEDULE 2

Scale: <i>NOT TO SCALE</i>	Designed by: HNTB	HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909		THE GOLD STAR MEMORIAL HIGHWAY	NEW GLOUCESTER/W. GARDINER BARRIER TOLL PLAZA ORT EQUIPMENT UPDATE ORT POWER WIRING SCHEDULE 1																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Revision</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Revision	By	Date					CONSULTANT PROJECT MANAGER: R. Bruce Munger, P.E. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>By</th> <th>Date</th> <th>By</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Designed RBM</td> <td>1/20</td> <td>Checked TC</td> <td>1/20</td> </tr> <tr> <td>Drawn WWL</td> <td>1/20</td> <td>In Charge of RAL</td> <td>1/20</td> </tr> </tbody> </table>	By	Date	By	Date	Designed RBM	1/20	Checked TC	1/20	Drawn WWL	1/20	In Charge of RAL	1/20	MTA PROJECT MANAGER: WILLIAM H. YATES III	CONTRACT: 2020.05	SHEET NUMBER: T-09 17 OF 19
No.	Revision	By	Date																					
By	Date	By	Date																					
Designed RBM	1/20	Checked TC	1/20																					
Drawn WWL	1/20	In Charge of RAL	1/20																					

Date: 1/27/2020

Filename: 018_NG_Power Wiring Schedule 2.dgn

Wiring shown is for one direction of travel only. Duplicate for second ORT direction of travel.

OUTSIDE SHOULDER ORT LANE TYPE GANTRY POWER WIRING SCHEDULE

REAR VCARS™												
280	(Panel#).(Ckt #).RVOSH	REAR VCARS™ POWER (HOT, NON-SWITCHED)	12	BLACK	STRANDED	THHW or SOW	120 VAC	15	CLEAN (UPS) POWER DISTRIBUTION PANEL CIRCUIT BREAKER	VCARS™ FIELD WIRING TERMINATION CONNECTOR	V1-1	6X6X4 JUNCTION BOX WITH 6' of 1/2" LIQUID TIGHT FLEX CABLE TO VCARS™ LOCATION. LEAVE 8' SLACK IN BOX
281	(Panel#).N.RVOSH	REAR VCARS™ POWER (NEUTRAL)		WHITE							V1-2	
282	(Panel#).IG.RVOSH	REAR VCARS™ POWER (FACILITY GROUND)		GREEN							V1-3	
283	(Panel#).G.RVOSH	REAR VCARS™ POWER (UPS ISOLATED GROUND)		GREEN W/ YELLOW STRIPE							V1-4	

OPUS SCANNER POWER WIRING SCHEDULE

RISER DIAGRAM NUMBER	WIRE LABEL (SOURCE.CIRCUIT.DESTINATION)	DESCRIPTION	MIN AWG *1	COLOR	CORE	JACKET	VOLTAGE	CIRCUIT BREAKER	FROM	TO	TERMINAL #	TERMINATION REQUIREMENTS
290	(Panel#).H.(ORT#)	RIGHT SHOULDER OPUS P3 SCANNER ENCLOSURE POWER (HOT - NON-SWITCHED)	12	BLACK	STRANDED	THHW or SOW	120 VAC	15	CLEAN (UPS) POWER DISTRIBUTION PANEL CIRCUIT BREAKER	OPUS POWER SUPPLY CABINET	AC	TDK-LAMBDA 48V TRANSFORMER
291	(Panel#).N.(ORT#)	RIGHT SHOULDER OPUS P4 LEAD SCANNER ENCLOSURE POWER (NEUTRAL)		WHITE							IN	
292	(Panel#).G.(ORT#)	RIGHT SHOULDER OPUS POWER (ISOLATED GROUND)		GREEN							Case Gnd Lug Only* <u>2</u>	
293-298	(Panel#).(ORT#)	RIGHT SHOULDER OPUS SCANNER DC POWER	10	BLACK AND RED	STRANDED	THHW or SOW	48VDC	10	OPUS POWER SUPPLY CABINET	OPUS SCANNER(1-3)	OPUS TERMINALS	INDIVIDUAL OPUS SCANNER

NOTES:


1. ALL AVI ANTENNAS, READERS AND WIRING SHALL BE REMOVED AND REPLACED WITH SYSTEM INTEGRATOR ANTENNAS AND E-6 MPR READERS. (BY OTHERS)

2. REAR VCARS SHALL BE MOVED 2'-2" FROM THE PRIMARY AVI DATUM LINE. THE LIQUID TIGHT FLEXIBLE CONDUIT RUNNING FROM THE JUNCTION BOX TO THE REAR VCARS UNITS SHALL BE REPLACED TO ACCOMMODATE THE NEW LOCATION OF THE VCARS.

Scale:			
NOT TO SCALE			
No.	Revision	By	Date

Designed by:					
HNTB					
CONSULTANT PROJECT MANAGER: R. Bruce Munger, P.E.					
	By	Date		By	Date
	RBM	1/20	Checked	TC	1/20
	Drawn	WWL	In Charge of	RAL	1/20

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**THE GOLD STAR
MEMORIAL HIGHWAY**

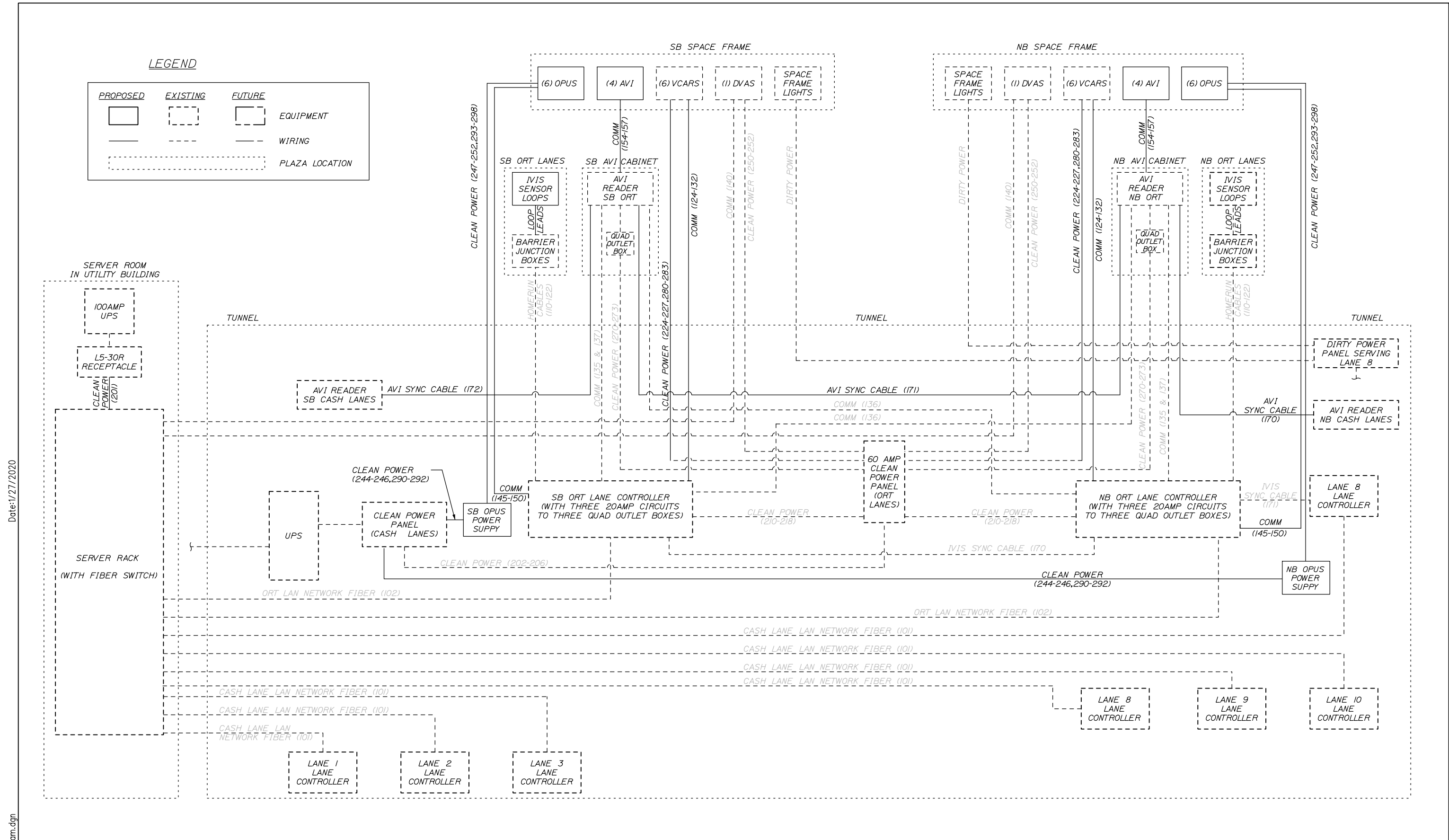
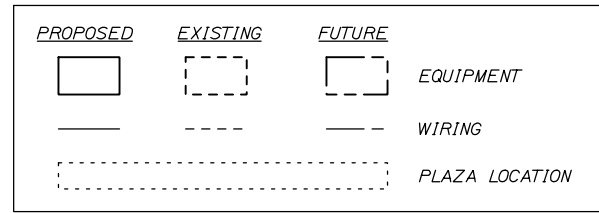
MTA PROJECT MANAGER: WILLIAM H. YATES III

NEW GLOUCESTER/W. GARDINER BARRIER
 TOLL PLAZA ORT EQUIPMENT UPDATE

ORT POWER WIRING SCHEDULE 2

SHEET NUMBER: T-10
 CONTRACT: 2020.05
 18 OF 19

LEGEND



Date: 1/27/2020

Filename: 019_NG_Riser Diagram.dgn

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