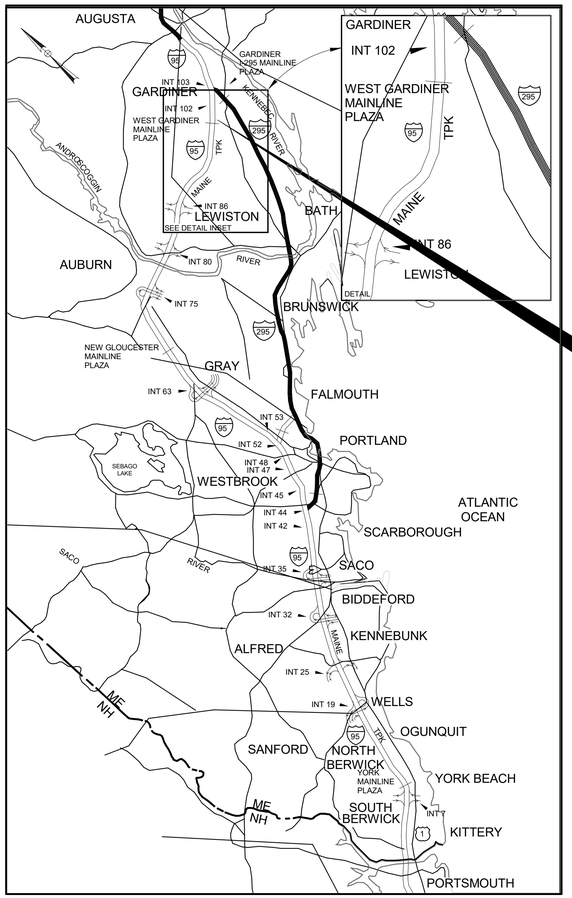


LOCATION MAP

CONTRACT 2019.12
NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD
MILE MARKER 92.7

MAINE TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

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

S. PETER MILLS, EXECUTIVE DIRECTOR

CONTRACT 2019.12
NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD,
MILE MARKER 92.7

ISSUED FOR BID
10/15/2019

APPROVED:

MAINE TURNPIKE AUTHORITY

PETER S. MERFELD, P.E.–CHIEF OPERATIONS OFFICER — 10-15-20199 DATE

STEPHEN D. TARTRE, P.E.–DIRECTOR OF ENGINEERING — 10-15-20199 DATE

JOHN W. CANNELL, P.E.–DIRECTOR OF MAINTENANCE — 10-15-20199 DATE

INDEX OF SHEETS

Allied Engineering
Structural Mechanical Electrical Plumbing
160 Veranda Street
Portland, Maine 04103
P: 207.221.2260
F: 207.221.2266
Web:www.allied-eng.com

WILLIAM P. FAUCHER, P.E. –
PRINCIPLE @ ALLIED ENGINEERING, INC.

10-15-2019
DATE

STATE OF MAINE · WILLIAM P FAUCHER #7135 · REGISTERED PROFESSIONAL ENGINEER

LICENSED ARCHITECT · MICHAEL F. HAYS · NO. 1724 · STATE OF MAINE

STATE OF MAINE · DOUGLAS E REYNOLDS · No 9868 · 9-25-19 · LICENSED PROFESSIONAL ENGINEER

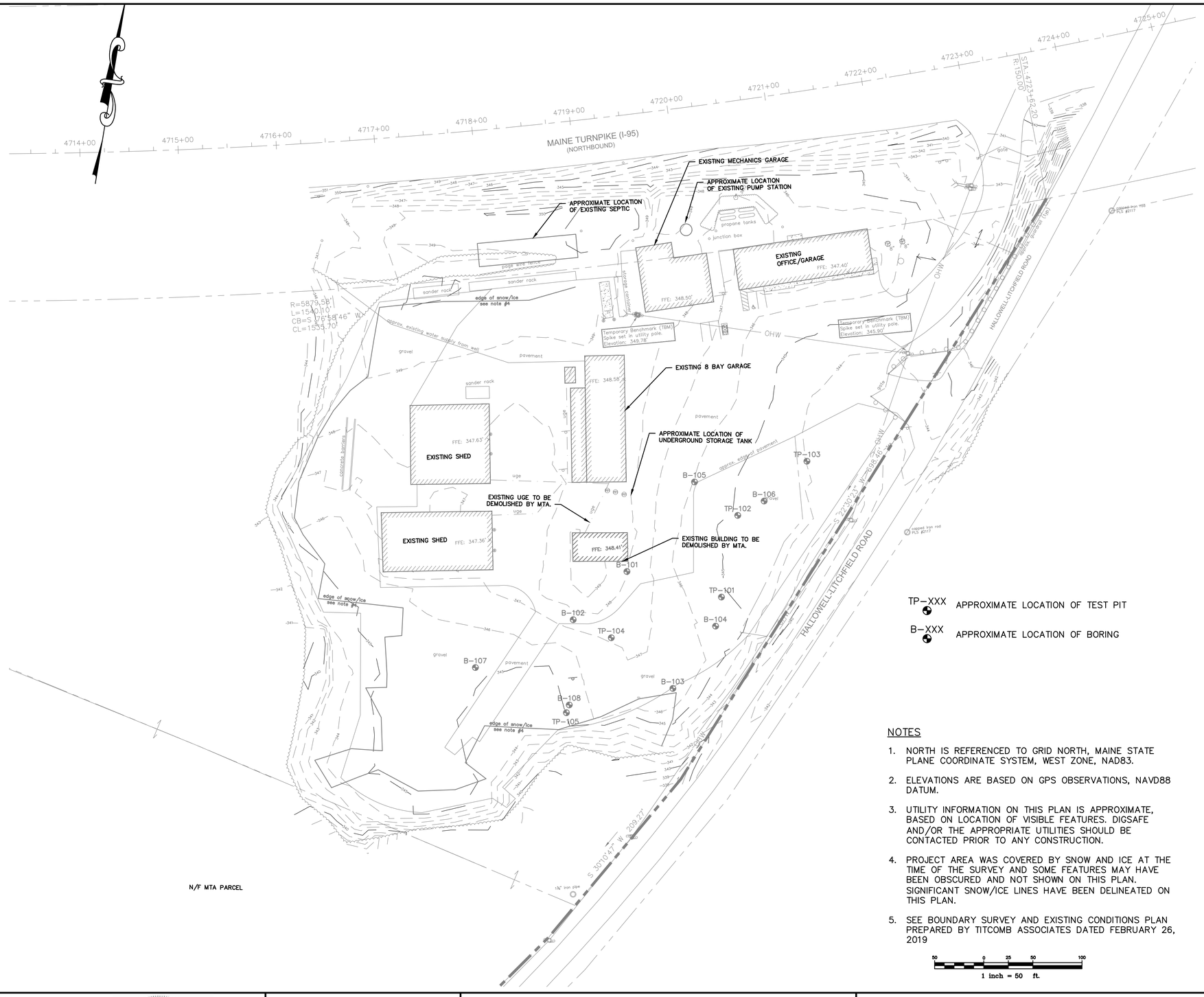
STATE OF MAINE · ANTHONY S. DAVIS · No. 8834 · LICENSED PROFESSIONAL ENGINEER

STATE OF MAINE · CATHERINE A. FAUCHER · No. 7575 · LICENSED LANDSCAPE ARCHITECT

Contract 2019.12

CIVIL LEGEND

SYMBOL	DESCRIPTION
	EXISTING RIGHT-OF-WAY
	EXISTING SETBACK
	EXISTING EDGE OF PAVEMENT
	EXISTING TREELINE
X	EXISTING CHAINLINK FENCE
	EXISTING GUARDRAIL
249	EXISTING CONTOUR
	EXISTING BUILDING
UG	EXISTING UNDERGROUND GAS
OHW	EXISTING OVERHEAD WIRE
UC	EXISTING UNDERGROUND CABLE
UW	EXISTING UNDERGROUND WATER
UE	EXISTING UNDERGROUND ELECTRIC
15" RCP SD	EXISTING UNDERGROUND STORM DRAIN
	EXISTING CATCH BASIN
	EXISTING FREE STANDING SIGN
	EXISTING WATER SHUT OFF
	EXISTING LIGHT POLE
	EXISTING PROPANE TANK
	EXISTING UTILITY POLE
	EXISTING HYDRANT
	PROPOSED VERTICAL GRANITE CURB
	PROPOSED EDGE OF BUILDING
	PROPOSED GUARDRAIL
	PROPOSED CONCRETE
	PROPOSED EDGE OF PAVEMENT
240	PROPOSED CONTOUR
	PROPOSED SEWER
W	PROPOSED WATER
	PROPOSED UNDERGROUND ELECTRIC
P	PROPOSED PROPANE LINE
	PROPOSED SILT FENCE
GP11-201	2019 SOIL PROBE LOCATION
B11-101	2019 BORING LOCATION



TP-XXX ◉ APPROXIMATE LOCATION OF TEST PIT

B-XXX ◉ APPROXIMATE LOCATION OF BORING

NOTES

1. NORTH IS REFERENCED TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83.
2. ELEVATIONS ARE BASED ON GPS OBSERVATIONS, NAVD88 DATUM.
3. UTILITY INFORMATION ON THIS PLAN IS APPROXIMATE, BASED ON LOCATION OF VISIBLE FEATURES. DIGSAFE AND/OR THE APPROPRIATE UTILITIES SHOULD BE CONTACTED PRIOR TO ANY CONSTRUCTION.
4. PROJECT AREA WAS COVERED BY SNOW AND ICE AT THE TIME OF THE SURVEY AND SOME FEATURES MAY HAVE BEEN OBSCURED AND NOT SHOWN ON THIS PLAN. SIGNIFICANT SNOW/ICE LINES HAVE BEEN DELINEATED ON THIS PLAN.
5. SEE BOUNDARY SURVEY AND EXISTING CONDITIONS PLAN PREPARED BY TITCOMB ASSOCIATES DATED FEBRUARY 26, 2019

50 0 25 50 100
1 inch = 50 ft.

Scale: 1"=50'

No.	Revision	By	Date
1	ISSUED FOR BID	DER	10/15/19

Designed by: DOUGLAS E. REYNOLDS

STATE OF MAINE DOUGLAS E. REYNOLDS No. 9888 LICENSED PROFESSIONAL ENGINEER 10-15-19

	By	Date		By	Date
Designed:	DJG	10/15/2019	Checked:	DER	10/15/2019
Drawn:	CG	10/15/2019			

GORRILL PALMER

MAINE TURNPIKE

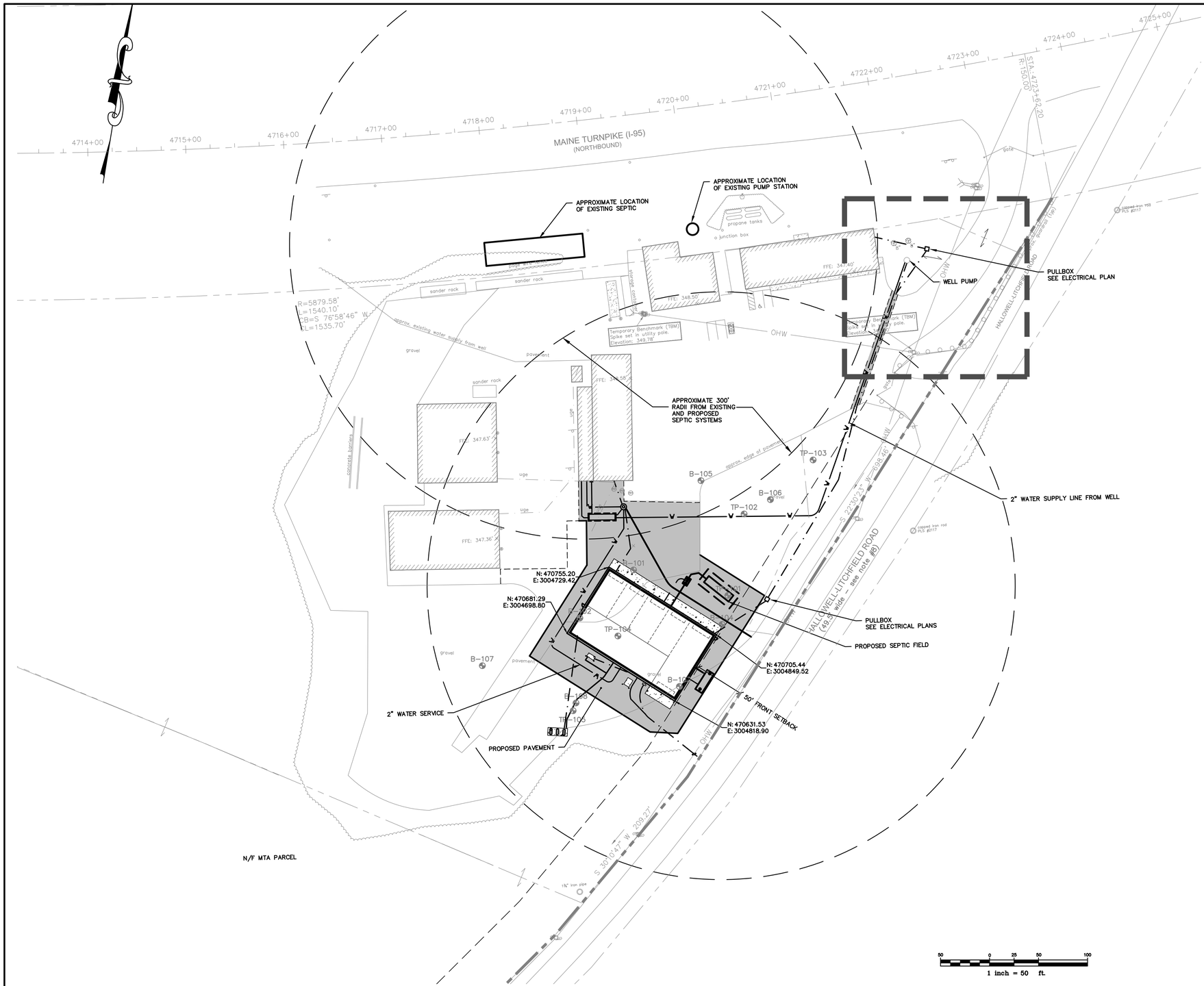
THE GOLD STAR MEMORIAL HIGHWAY

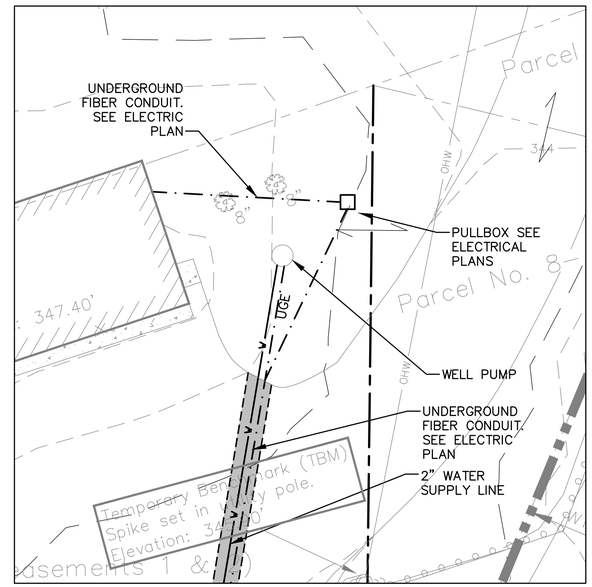
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE, LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
EXISTING CONDITIONS PLAN

SHEET NUMBER: C-001

CONTRACT: 2019.12





WELL INSET
1"=20'

Scale: 1"=50'

No.	Revision	By	Date
1	ISSUED FOR BID	DER	10/15/19

Designed by: DOUGLAS E. REYNOLDS

STATE OF MAINE — DOUGLAS E. REYNOLDS — No. 9898 — 10-10-19 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	DJG	10/15/2019	Checked:	DER	10/15/2019
Drawn:	CG	10/15/2019			

GORRILL PALMER

MAINE TURNPIKE

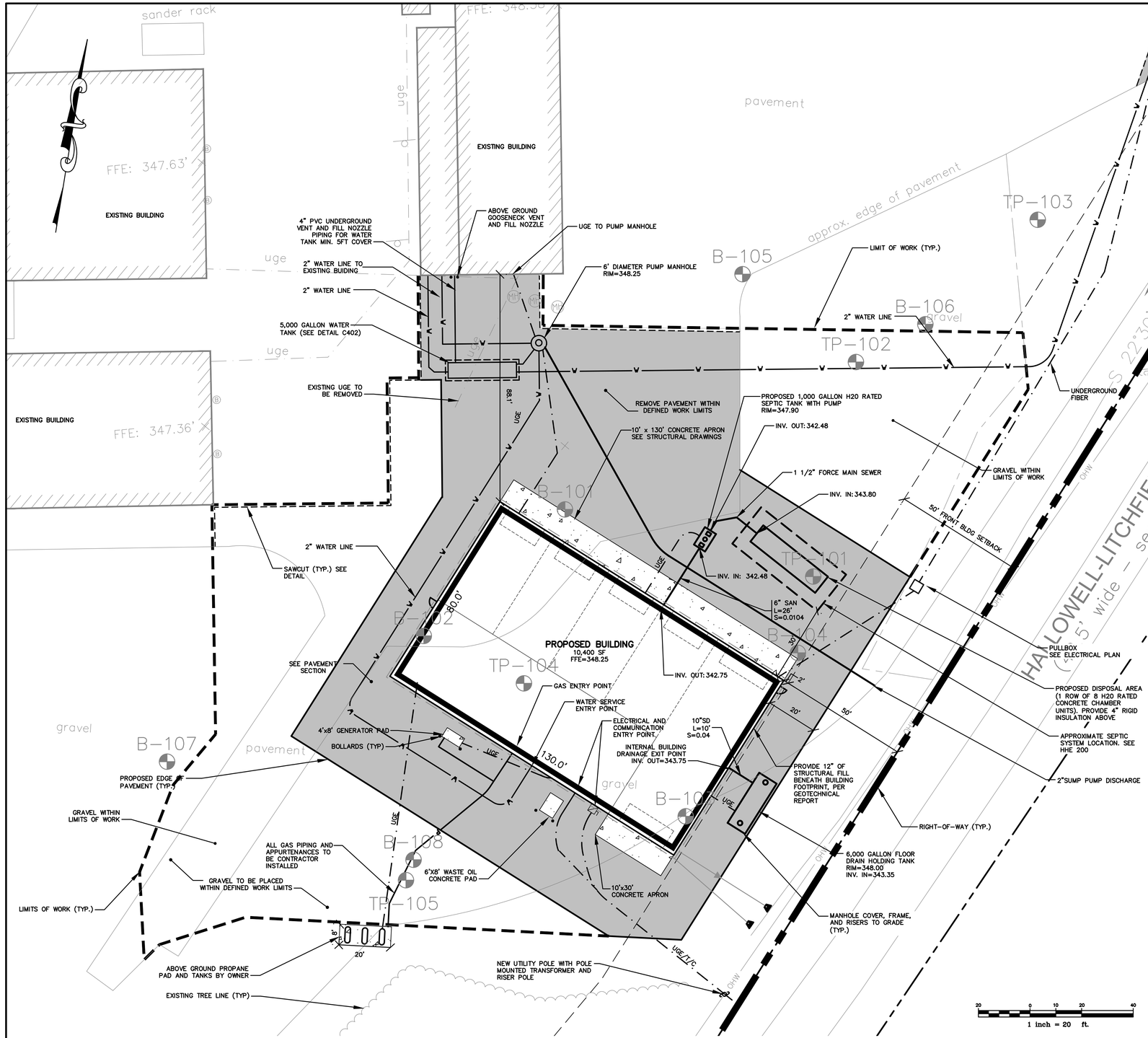
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE, LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
OVERALL SITE PLAN AND UTILITY PLAN

SHEET NUMBER: C-100

CONTRACT: 2019.12



NOTES:

1. SURVEY AND TOPOGRAPHY PROVIDED BY TITCOMB ASSOCIATES OF FALMOUTH, MAINE, DATED MARCH 1, 2019.

2. ALL DIVISION 2 SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, (2014 EDITION) AND AS MODIFIED BY MAINE TURNPIKE 2016 SUPPLEMENTAL SPECIFICATIONS. SPECIAL PROVISIONS HAVE BEEN PREPARED FOR WORK ITEMS NOT ADDRESSED IN THE STANDARD SPECIFICATIONS, AND ARE ENCLOSED AS PART OF THIS CONTRACT. IN THE EVENT OF A CONFLICT BETWEEN THE STANDARD SPECIFICATIONS AND THE SUPPLEMENTAL SPECIFICATIONS, THE MORE STRINGENT STANDARD SHALL APPLY.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL SPOIL/EXCESS MATERIAL FROM THE SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAWS.

4. ALL AREAS OUTSIDE THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO PRIOR CONDITIONS AT NO EXPENSE TO THE OWNER.

5. ALL DISTURBED AREAS INSIDE THE LIMIT OF WORK LINE NOT PROPOSED TO BE IMPROVED SHALL BE RESTORED TO THEIR PRIOR CONDITION, EITHER PAVEMENT, RECYCLED ASPHALT PAVEMENT, OR 4" LOAM AND SEED.

6. CONTRACTOR SHALL COORDINATE WITH SURVEYOR FOR BUILDING/COORDINATE LAYOUT PRIOR TO CONSTRUCTION.

7. ALL PAVEMENT SHALL BE SAWCUT PRIOR TO REMOVAL.

8. A TACK COAT OF EMULSIFIED ASPHALT, RS–1 OR HFMS–1 SHALL BE APPLIED TO ANY EXISTING PAVEMENT AT A RATE OF APPROXIMATELY 0.06 GALLONS/SY. A FOG COAT OF EMULSIFIED ASPHALT SHALL BE BETWEEN SHIM/INTERMEDIATE COURSE AND THE SURFACE COURSE AT A RATE NOT TO EXCEED 0.06 GALLONS/SY.

9. ALL ABOVE GROUND FEATURES AND BELOW GROUND OBSTRUCTIONS, (UTILITIES, FOUNDATIONS, ETC.) ENCOUNTERED DURING EXCAVATION SHALL BE REMOVED AND DISPOSED OF AS NECESSARY TO ENABLE WORK TO BE COMPLETED. UNDERGROUND UTILITIES LABELED "TO REMAIN" SHALL BE PROTECTED. SAVING OR REMOVAL OF UNDERGROUND OBSTRUCTIONS NOT SHOWN ON THE PLAN SHALL BE COORDINATED WITH THE PROJECT OWNER OR THEIR REPRESENTATIVE.

10. BORING AND SOIL PROBE LOCATIONS TAKEN FROM GEOTECHNICAL REPORT PREPARED BY S.W. COLE DATED FEBRUARY 2019.

11. UTILITY WORK OUTSIDE PAVEMENT DISTURBANCE LIMIT SHOWN ON PLAN WILL RESULT IN ADDITIONAL PAVEMENT RECONSTRUCTION IN ACCORDANCE WITH THE TRENCH DETAIL SHOWN ON SHEET C401.

12. WHERE FINISH PAVEMENT OR GRAVEL GRADE IS BELOW EXISTING GRADE (CUT CONDITION), CONTRACTOR TO PROVIDE FULL DEPTH GRAVEL CONSTRUCTION. WHERE FINISH PAVEMENT OR GRAVEL GRADE IS ABOVE EXISTING GRADE (FILL CONDITION), CONTRACTOR TO REMOVE PAVEMENT, COMPACT EXISTING GRAVEL BASE, AND PROVIDE GRAVEL TO BOTTOM OF PAVEMENT SECTION OR GRAVEL SURFACE.

PAVEMENT LEGEND

- STANDARD DUTY BITUMINOUS CONCRETE
- REINFORCED CEMENT CONCRETE
- GRAVEL WITHIN LIMITS OF WORK

Scale: 1"=20'

No.	Revision	By	Date
1	ISSUED FOR BID	DER	10/15/19

Designed by: DOUGLAS E. REYNOLDS

STATE OF MAINE DOUGLAS E. REYNOLDS No 9868 10-10-19 LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	DJG	10/15/2019	Checked:	DER	10/15/2019
Drawn:	CG	10/15/2019			

GORRILL PALMER

MAINE TURNPIKE

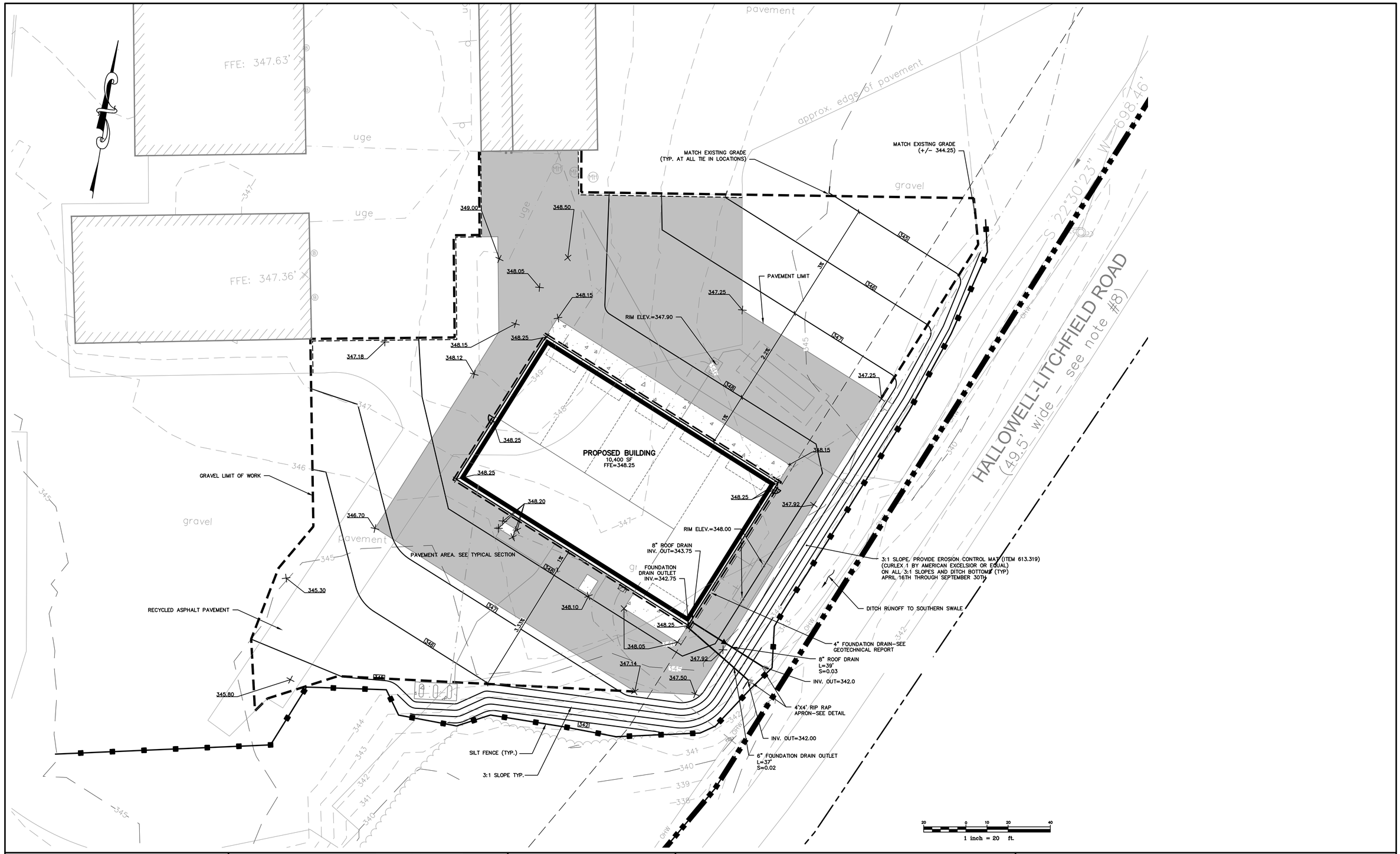
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE, LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
SITE AND UTILITY PLAN

SHEET NUMBER: C-101

CONTRACT: 2019.12



Scale:			
1"=20'			
No.	Revision	By	Date
1	ISSUED FOR BID	DER	10/15/19

Designed by: DOUGLAS E. REYNOLDS

STATE OF MAINE
DOUGLAS E. REYNOLDS
No. 9868
10-15-19
REGISTERED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	DJG	10/15/2019	Checked:	DER	10/15/2019
Drawn:	CG	10/15/2019			

GORRILL PALMER

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

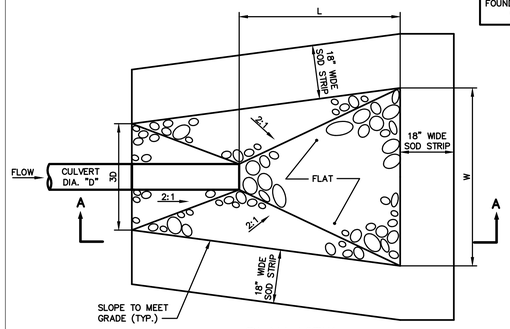
CONTRACT 2019.12, NEW MECHANICS GARAGE, LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7

GRADING, DRAINAGE, EROSION CONTROL PLAN

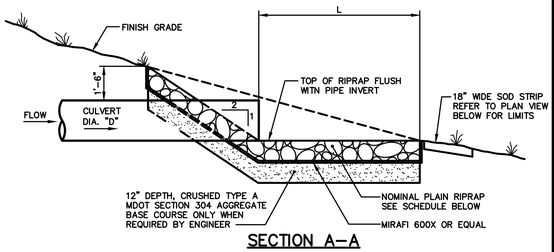
SHEET NUMBER: C-102

CONTRACT: 2019.12

SCHEDULE					
	CULVERT DIAMETER (D)	LENGTH (L)	WIDTH (W)	STONE d50	RIPRAP THICKNESS
ROOF DRAIN OUTLET	8"	4'	4'	4"	12"
FOUNDATION DRAIN OUTLET	6"	4'	4'	4"	12"



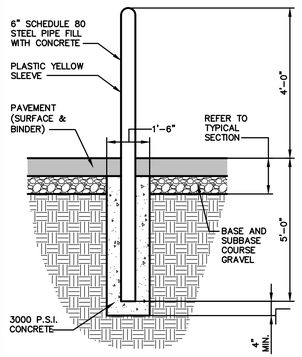
PLAN VIEW



SECTION A–A

CULVERT OUTLET APRON

NOT TO SCALE



NOTE: PLASTIC YELLOW SLEEVE AS AVAILABLE FROM:

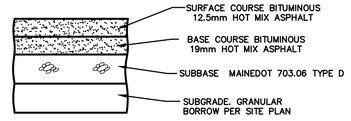
IDEAL SHIELD, LLC
DETROIT, MICHIGAN
(313) 842–7290

LIBERTY EQUIPMENT SALES
HOUSTON, TEXAS
(218) 987–8708
(888) 987–8708

OR ENGINEER APPROVED EQUIVALENT.

GENERATOR PAD BOLLARD DETAIL

NOT TO SCALE



THICKNESS OF LAYERS	
LAYERS	
2"	SURFACE COURSE BITUMINOUS 12.5 mm HOT MIX ASPHALT
2.5"	BASE COURSE BITUMINOUS 19mm HOT MIX ASPHALT
18"	AGGREGATE SUBBASE GRAVEL MAINEDOT 703.06 TYPE D

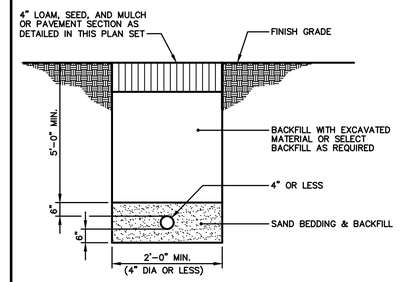
NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D–1557.

2. WHERE FINISH GRADE IS BELOW EXISTING GRADE (CUT CONDITION), CONTRACTOR TO PROVIDE FULL DEPTH GRAVEL CONSTRUCTION. WHERE FINISH GRADE IS ABOVE EXISTING GRADE (FILL CONDITION), CONTRACTOR TO REMOVE PAVEMENT, COMPACT EXISTING GRAVEL BASE, AND PROVIDE GRAVEL TO ALLOW PLACEMENT OF NEW PAVEMENT.

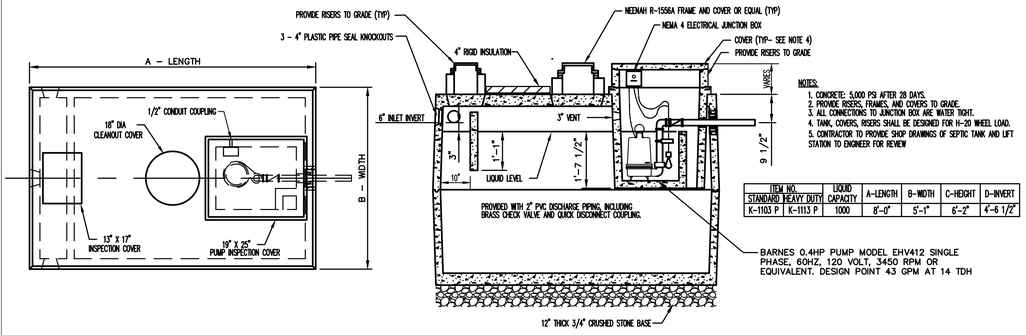
BITUMINOUS PAVEMENT SECTION

NOT TO SCALE



WATER SERVICE TRENCH SECTION

NOT TO SCALE

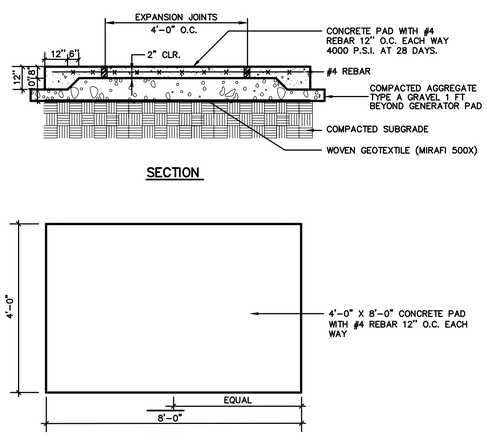


NOTES:
1. CONCRETE: 5,000 PSI AFTER 28 DAYS.
2. PROVIDE RISERS, FRAMES, AND COVERS TO GRADE.
3. ALL CONNECTIONS TO JUNCTION BOX ARE WATER TIGHT.
4. TANK, COVERS, RISERS SHALL BE DESIGNED FOR H–20 WHEEL LOAD.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF SEPTIC TANK AND LIFT STATION TO ENGINEER FOR REVIEW

ITEM NO.		LIQUID CAPACITY	A–LENGTH	B–WIDTH	C–HEIGHT	D–INVERT
STANDARD	HEAVY DUTY					
K–1103 P	K–1113 P	1000	8'–0"	5'–1"	6'–2"	4'–6 1/2"

1,000 GAL. COMBINATION SEPTIC TANK SEWAGE LIFT STATION

NOT TO SCALE

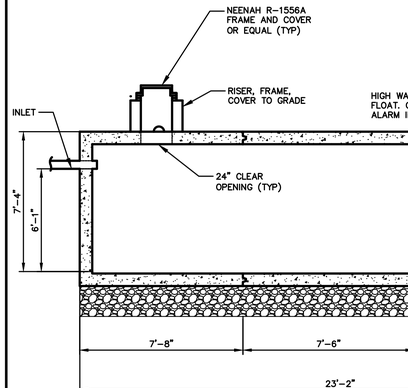


SECTION

PLAN

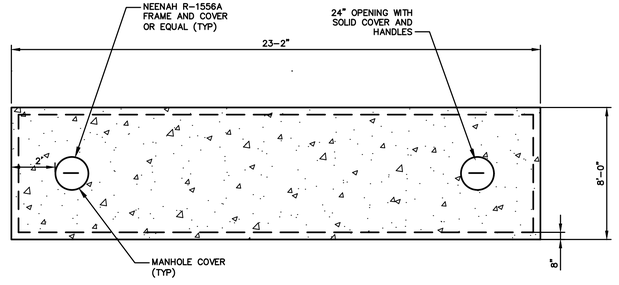
GENERATOR PAD

NOT TO SCALE



1. ALL TANKS, RISERS, FRAMES, COVERS SHALL BE DESIGNED FOR H20 LOADING AND PROVIDED TO GRADE.
2. CONCRETE: 5000PSI AFTER 28 DAYS
3. TONGUE AND GROOVE JOINTS ARE SEALED WITH A STRIP OF BUTYL RUBBER
4. INLET PIPE SLEEVE CAST IN
5. COORDINATE WITH WASH BAY MANUFACTURER FOR EXACT SIZES, LOCATIONS OF ALL PLUMBING WITHIN TANKS.
6. SUBMIT SHOP DRAWINGS OF TANKS FOR APPROVAL BY ENGINEER PRIOR TO ORDERING.
7. PROVIDE POWER TO FLOAT ALARM (INCIDENTAL).

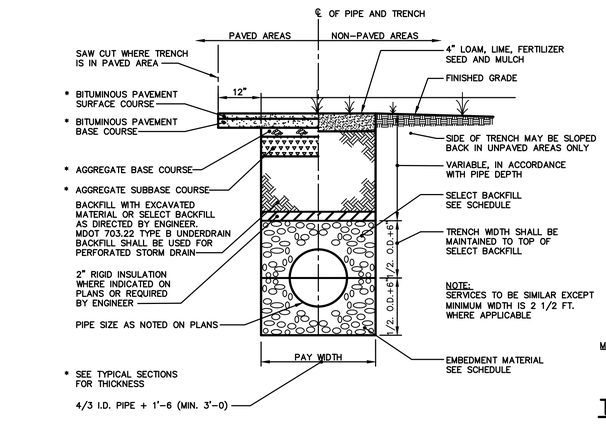
SECTION



PLAN

6,000 GALLON HOLDING TANK

NOT TO SCALE



NOTE:
NOTE: SERVICES TO BE SIMILAR EXCEPT MINIMUM WIDTH IS 2 1/2 FT. WHERE APPLICABLE

SCHEDULE OF TRENCH BACKFILL		
TYPE OF PIPE	EMBEDMENT MATERIAL	SELECT BACKFILL
PVC–SDR 35 HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
PERFORATED PVC–SDR35 HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTE:
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

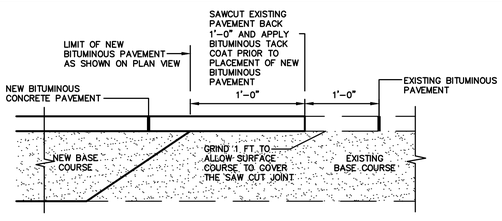
2. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES, 12" BELOW FINISH GRADE.

MINIMUM COVER	PIPE
2'–0"	DRAIN (1)
5'–5"	WATER
5'–0"	SEWER

(1) COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" RIGID INSULATION.

TRENCH SECTION

N.T.S.



PAVEMENT SAWCUT

NOT TO SCALE

Scale:			
N/A			
No.	Revision	By	Date
1	ISSUED FOR BID	DER	10/15/19

Designed by: DOUGLAS E. REYNOLDS

STATE OF MAINE — DOUGLAS E. REYNOLDS — No 9868 — 10-10-19 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	DJG	10/15/2019	Checked:	DER	10/15/2019
Drawn:	CG	10/15/2019			

GORRILL PALMER

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE, LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
DETAILS - 1

SHEET NUMBER: C-401

CONTRACT: 2019.12

GENERAL

1. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD DETAILS HIGHWAYS AND BRIDGES 2014 WITH UPDATES AND MAINEDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL LATEST REVISION UNLESS OTHERWISE INCLUDED IN THESE PLANS OR PROJECT SPECIFICATIONS.
2. ALL EXISTING ROADWAYS USED IN ACCESSING THE SITE SHALL REMAIN CLEAN.
3. THE CONTRACTOR SHALL SUBMIT THE PROPOSED STAGING AREA(S) AND FIELD TRAILER LOCATION TO THE RESIDENT FOR APPROVAL PRIOR TO STARTING WORK.
4. CONTRACTOR IS REQUIRED TO MAINTAIN SAFE ACCESS TO PARKING AREAS FOR MTA EMPLOYEES AT ALL TIMES DURING CONSTRUCTION.
5. A COPY OF THE "GEOTECHNICAL REPORT" IS INCLUDED WITH THE CONTRACT DOCUMENTS.
6. DUST CONTROL IS INCIDENTAL TO CONTRACT.
7. WASTE MATERIALS SHALL BE DISPOSED OF OFF THE PROJECT SITE, IN ACCORDANCE WITH CHAPTER 404, DEPARTMENT OF ENVIRONMENTAL PROTECTION SOLID WASTE MANAGEMENT RULES.
8. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THIS PLAN SET IS FOR THE USE OF THE BIDDERS AND THE CONTRACTOR. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF ACTUAL SUBSURFACE CONDITIONS OF THE CONSTRUCTION SITE. THE MTA WILL NOT BE RESPONSIBLE FOR THE BIDDERS' OR CONTRACTOR'S INTERPRETATIONS OF, OR CONCLUSIONS DRAWN FROM, THE GEOTECHNICAL INFORMATION.
9. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT AS BUILT PLANS.

EARTHWORK

1. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA SUBPART P OF 29 CFR PART 1926.650–652 (CONSTRUCTION STANDARDS FOR EXCAVATION).
2. THE NORMAL GRUBBING WIDTH IN THE FILLS SHALL BE VARIABLE WHEN SUBGRADE IS LESS THAN 5' ABOVE OLD GROUND. THE GRUBBING DEPTH HAS BEEN ESTIMATED AS 6" IN FIELD AREAS AND 12" IN WOODED AREAS.

UTILITY

1. EXISTING UTILITIES ON THESE PLANS WERE COMPILED FROM FIELD SURVEY AND VARIOUS OTHER SOURCES. LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED. NO WORK SHALL BE STARTED UNTIL THE OWNERS OF THE VARIOUS UTILITIES ARE NOTIFIED BY THE CONTRACTOR OF THE PROPOSED CONSTRUCTION. THE CONTRACTOR IS ALSO REQUIRED TO CALL DIG SAFE AT 1–888–344–7233 PRIOR TO THE START OF THE WORK.
2. THE UTILITIES INVOLVED IN THIS CONTRACT ARE:
   MAINE TURNPIKE AUTHORITY
   CENTRAL MAINE POWER
   FAIRPOINT/CONSOLIDATED COMMUNICATIONS
   SPECTRUM/CHARTER COMMUNICATIONS
3. THE CONTRACTOR SHALL NOTIFY THE RESIDENT 10 DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. ALL PROPOSED EXCAVATION LOCATIONS SHALL BE MARKED AT THE NOTIFICATION TIME. EXCAVATION WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED ITS' 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 EXCAVATION LOCATIONS MARKED, OR SHOULD THE CONTRACTOR FAIL TO MAINTAIN THE AUTHORITY'S PREVIOUSLY ESTABLISHED DIG SAFE MARKS, THE AUTHORITY SHALL DEDUCT THE ADDED MARKING COSTS FROM THE CONTRACTOR'S PAYMENTS.

EROSION CONTROL

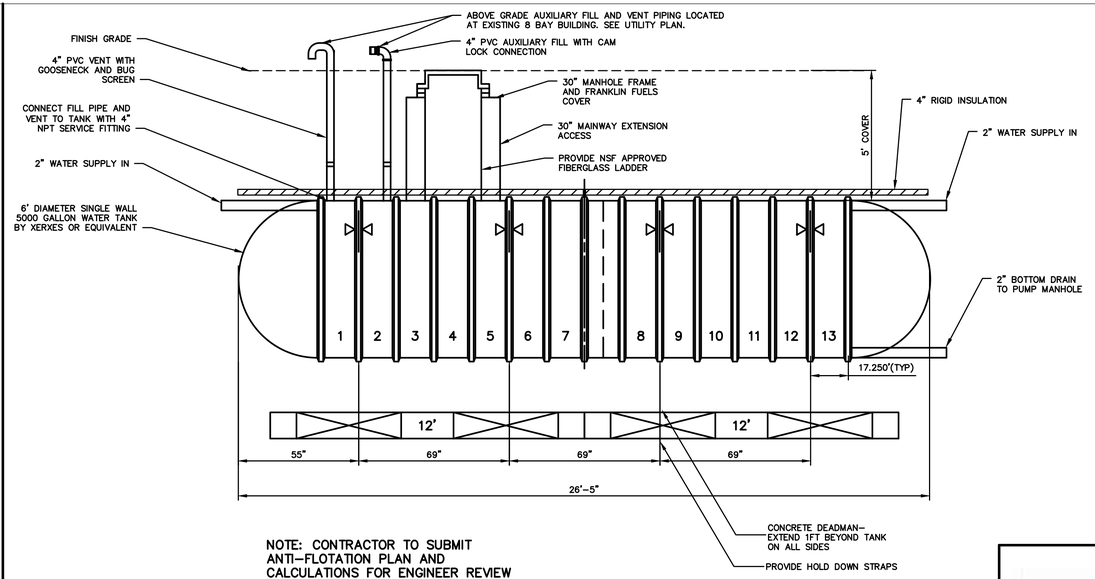
1. THE ANTICIPATED EROSION CONTROL DEVICES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROPOSED ACTUAL TYPE AND LOCATION OF DEVICES FOR APPROVAL BY THE RESIDENT. ADDITIONAL MEASURES MAY BE PROPOSED BY THE CONTRACTOR DUE TO SITE OR WEATHER CONDITIONS. THE RESIDENT MAY DIRECT THE CONTRACTOR TO IMPLEMENT ADDITIONAL MEASURES. ANY ADDITIONAL MEASURES APPROVED BY THE RESIDENT WILL BE MEASURED FOR PAYMENT.
2. 4" LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED SLOPE AREA UNLESS OTHERWISE SPECIFIED ON THE PLANS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.
3. NEWLY DISTURBED EARTH SHALL BE MULCHED PRIOR TO A RAIN EVENT. THIS WORK SHALL BE PAID FOR UNDER ITEM 619.1202 TEMPORARY MULCH.
4. ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION BEST MANAGEMENT PRACTICES.
5. TEMPORARY SEED SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE COMPLETED WITHIN 30 DAYS. TEMPORARY SEED SHALL BE INCIDENTAL TO THE 618 ITEMS.
6. TEMPORARY EROSION CONTROL BLANKET, ITEM 613.319 SHALL BE INSTALLED IN ALL DITCHES AND 2:1 SLOPES FROM TOP TO TOE OF SLOPE. LOAM AND SEED SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET. LIMITS OF THE EROSION CONTROL BLANKET IN DITCHES SHALL BE 8' WIDE OR AS DESIGNATED BY THE RESIDENT.

PAVING

1. WHERE PROPOSED PAVEMENT JOINS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAW CUT ALONG AS SMOOTH LINE TO A NET, EVEN AND VERTICAL JOINT, AS DIRECTED BY THE RESIDENT. SAWCUTTING SHALL BE PAID FOR UNDER ITEM 419.05.
2. ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE BUTTED.
3. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE CONSIDERED INCIDENTAL TO THE RELATED PAVING ITEMS.
4. A BITUMINOUS TACK COAT IS REQUIRED BETWEEN ALL PAVEMENT LIFTS.
5. PLACEMENT OF THE FINAL LIFTS OF PAVEMENT SHALL BE DONE IN A MANNER TO LIMIT PAVEMENT JOINTS. CONTRACTOR SHALL COORDINATE WITH RESIDENT.

DRAINAGE

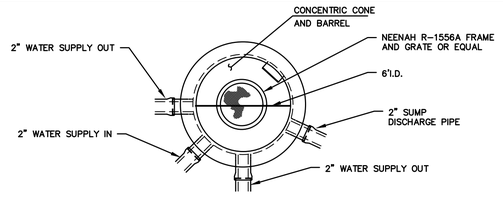
1. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
2. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.
3. ALL DITCH ELEVATIONS AND OFFSETS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISHED DITCH FLOW LINE.
4. ANY NECESSARY CUTTING OF EXISTING PIPES TO FIT IN AREAS OF PROPOSED CATCH BASINS AND MANHOLES WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE PROPOSED CATCH BASIN AND MANHOLE ITEMS.
5. ANY NECESSARY CUTTING OF EXISTING CATCH BASINS TO TAKE A PROPOSED PIPE WILL NOT BE PAID FOR SEPARATELY AND SHALL BE CONSIDERED INCIDENTAL TO THE PROPOSED CULVERT ITEMS.
6. ONE GREEN DELINEATOR POST SHALL BE INSTALLED AT ALL UNDERDRAIN AND STORM DRAIN OUTLETS.



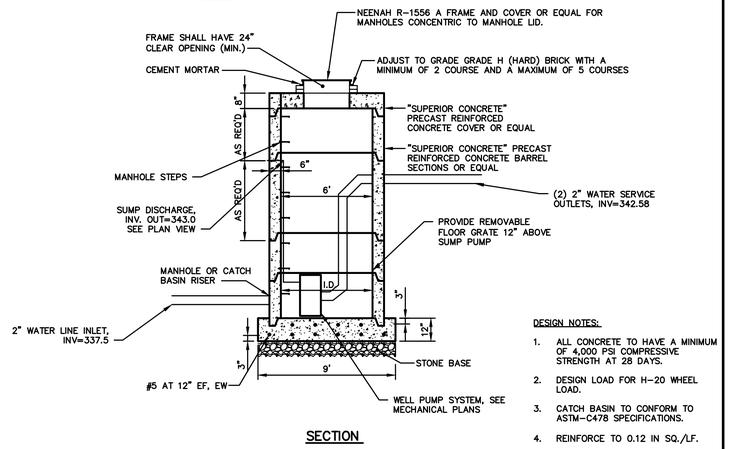
NOTE: CONTRACTOR TO SUBMIT ANTI–FLOTATION PLAN AND CALCULATIONS FOR ENGINEER REVIEW

5000 GALLON WATER TANK

NOT TO SCALE



PLAN



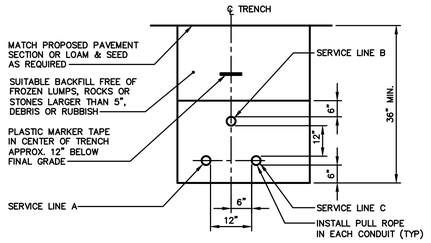
SECTION

DESIGN NOTES:

1. ALL CONCRETE TO HAVE A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H–20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM–C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF.

WELL PUMP MANHOLE WITH FLAT TOP

NOT TO SCALE



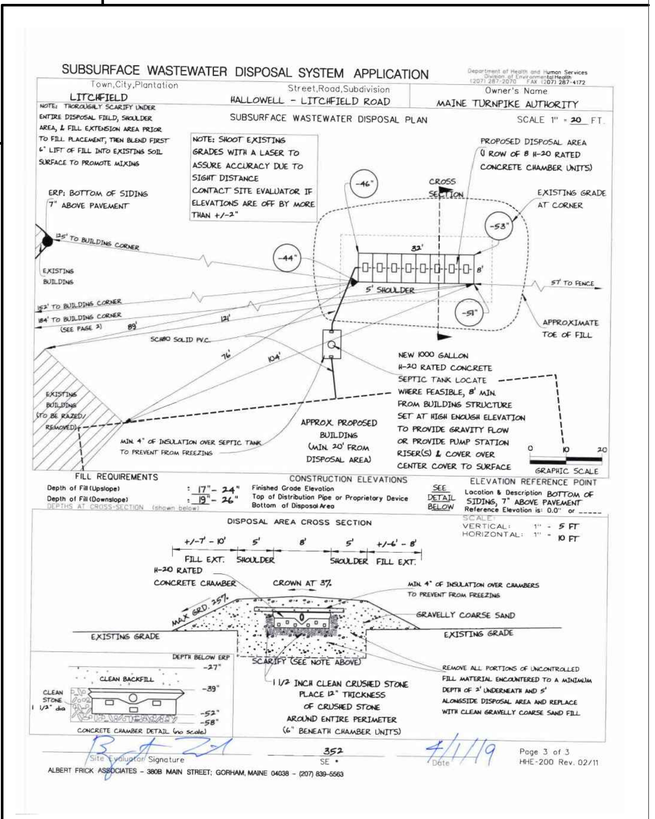
CONDUIT TYPE SCHEDULE

SERVICE	CONDUIT SIZE	GRASS & PAVED AREAS	UTILITY	REMARKS
A	2–4"	SCHEDULE 80 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE
B	2–4"	SCHEDULE 80	TELEPHONE/DATA	SEE NOTE
C	1–1 1/2"	SCHEDULE 80	SPARE	SEE NOTE

NOTE:
ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE



SUBSURFACE WASTEWATER DISPOSAL–HHE 200

NOT TO SCALE

Scale: N/A				Designed by: DOUGLAS E. REYNOLDS					
No.	Revision	By	Date		By	Date		By	Date
1	ISSUED FOR BID	DER	10/15/19	Designed:	DJG	10/15/2019	Checked:	DER	10/15/2019
				Drawn:	CG	10/15/2019			

STATE OF MAINE DOUGLAS REYNOLDS No 9868 10-10-19 LICENSED PROFESSIONAL ENGINEER

GORRILL PALMER

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE, LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7

DETAILS - 2

SHEET NUMBER: C-402

CONTRACT: 2019.12

CODE ANALYSIS

NFPA 101 Life Safety Code - 2015 Edition

Building Classification:	Industrial 12,400 sf - Industrial Use,
Hazard Classification:	Ordinary Hazard
Construction Type:	Type II (000)
Occupant Loads:	Industrial @ 100 sf/occupant = 124 occupants Actual occupants = 6 maximum
Janitor, Mech, Storage Rating:	1 hour
Stair Rating:	1 Hour (None at Mezzanine)
Minimum Stair width:	44" clear; 36" if less than 50 occupants
Maximum Riser height:	7"
Minimum Tread width:	11"
Minimum Headroom:	6'-8" at stairs; 7'-6" at occupied areas
Maximum ht between landings:	12'-0"
Handrail height:	34"-38" @ 42" guardrail
Handrail top extension:	12" horz.
Handrail bottom extension:	11" angled + 12" horz.
Handrail diameter:	1-1/4" O.D.
Maximum baluster open space:	less than 4"

Building Uses	Industrial
Non-Sprinkled Building	
Max. Allowable Travel Distance:	200'
Max. Allowable Common Path:	50'
Max. Dead End Corridor Length:	50'
Minimum Egress Corridor Width:	44"/36" if >50 occ
Minimum Number of Required Exits	2
Minimum Horz Egress Enclosure rating:	1 hr
Minimum Separation of exits:	0.5 diagonal'
Minimum Egress Door Width:	36"
Exit Lighting:	Required
Emergency Lighting:	Required
Fire Alarm System:	Required
Fire Sprinkler System:	Not Required
Portable Fire Extinguishers:	Required
Exit Devices/Panic Hardware	Required if over 50 occupants

2015 International Building Code
"(x)" denotes if building is fully sprinkled

Use Group Classification:	Factory - Use Group F1
Construction:	Type II - Non-Combustible, Unprotected
Occupant Loads:	F1 @ 100 sf/occupant = 124 occupants (6 actual max)
Janitor, Mech & Storage Rooms Rating:	1 hour

Building Limitations	Non-Sprinkled
Construction Type:	IIB Unprotected
Maximum Height:	2 stories / 55'
Maximum Area / Floor:	15,500 sf
Actual Area/Height:	12,400 sf / single story / 26' high

Fire Resistance Ratings	
Load Bearing Exterior Walls:	None
Fire Separation Exits (Stairs):	1 hour (None at Mezzanine)
Exit Corridors:	1 hour
Minimum Number of Exits:	2
Maximum Dead-End Corridor Length:	20'
Maximum Common Travel Path:	75'
Maximum Travel Distance:	200'
Minimum Corridor Width:	44" except 36" if less than 50 occupants
Minimum Stair Width:	44" except 36" if less than 50 occupants
Maximum Riser Height:	7"
Minimum Tread Depth:	11"
Minimum Ramp Width:	44"
Maximum Ramp Pitch:	1:12
Handrails:	Same as NFPA 101
Minimum Ceiling Height:	7'-6"
Fire Alarm System:	Not Required
Fire Sprinkler System:	Not Required (12,400 sf fire area / less than 24,000 sf including Mezzanine)
Portable Fire Extinguishers:	Required
Exit Lighting	Required
Emergency Lighting	Required

Building Live Loads	
Office:	50 psf
Lobbies:	100 psf
Corridors:	80 psf
Storage:	125 psf @ light; 250 psf @ heavy

Maine State Plumbing Code/UPC

Occupancy Classification: Factory
Actual Occupants: 6 at Factory (IBC exemption)

Factory: 6 Occupants - 3 male / 3 female

FIXTURES	TOILETS	URINALS	LAVS	EYE WASH
Unisex	1	1	1	1

Drinking Fountain: 1/150 Occupants - 1 required
(or Water Station)

MUBEC (Maine Uniform Building Energy Code) MINIMUM INSULATION VALUES
Per 2009 IECC; Table 502.1.2, 502.2(1) and 502.3

ZONE 6A	R-VALUE	U-FACTOR	SHGC
Roof (above deck)	20.0 ci	0.048	NA
Exterior Wall	13+5.6 ci	0.054	NA
Mass Wall (above Grade)	13.3 ci	0.077	NA
Slab (24" band)	15.0	0.052	NA
Frost Wall	7.5 ci	0.133	NA
Doors - Swinging	1.42	0.70	NA
Doors - Overhead	2.00	0.50	NA
Windows	2.9	0.35	NR
Storefront	2.2	0.45	NR

End of Analysis

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	HC	HANDICAP	S	SOUTH
ALUM or AL	ALUMINUM	HD WD	HARDWOOD	SAT	SUSPENDED ACOUSTICAL TILE CEILING
AWP	ACOUSTICAL WALL PANEL	HDR	HEADER		
		HDWE	HARDWARE	SC	SHOWER CURTAIN
BIT	BITUMINOUS	HM	HOLLOW METAL	SD	SOAP DISPENSER
BM	BENCH MARK	HORIZ	HORIZONTAL	SCHED	SCHEDULE
BOT	BOTTOM	HT	HEIGHT	SECT	SECTION
BRG	BEARING			SGB	SUSPENDED GYPSUM BOARD CEILING
BRK	BRICK	ID	INSIDE DIAMETER		
		IF	INSIDE FACE	SHT	SHEET
C	CARPET	IN	INCHES	SIM	SIMILAR
CAB	CABINET	INSUL	INSULATION	SND	SANITARY NAPKIN DISPOSAL
CB	CHALK BOARD	INT	INTERIOR	SPEC	SPECIFICATIONS
CC	CENTER TO CENTER			SQ	SQUARE
CH	CONCRETE FLOOR WITH HARDENER	JNT or JT	JOINT	SSS	SYNTHETIC SPORTS SURFACE
				STD	STANDARD
CJ	CONTROL JOINT	KEC	KITCHEN EQUIPMENT	STL	STEEL
CL	CENTER LINE	KP	KICK PLATE	STRUCT	STRUCTURAL
CLG	CEILING			STV	STRAIGHT VINYL BASE
CMU	CONCRETE MASONRY UNIT	L	LAVATORY	SV	SHEET VINYL
CONC	CONCRETE	LAB	LABEL (FIRE)	T	TEMPERED (GLASS)
CONT	CONTINUOUS	LNTL	LINTEL	TB	TACK BOARD
CONST	CONSTRUCTION	LOC	LOCATION	TH	THERMAL (INSULATED)
CONTR	CONTRACTOR	LS	LOCKSET	THK	THICKNESS
CT	CERAMIC TILE			TO	TOP OF
		M	MARBLE	TOB	TOP OF BEAM
DBL	DOUBLE	MAS	MASONRY	TOM	TOP OF MASONRY
DC	DOOR CLOSER	MAX	MAXIMUM	TOW	TOP OF WALL
DIA	DIAMETER	MB	MARKER BOARD	TP	TOILET PAPER DISPENSER
DIM	DIMENSION	MECH	MECHANICAL	TYP	TYPICAL
DNA	DOES NOT APPLY	MFGR	MANUFACTURER		
DR	DOOR	MIN	MINIMUM	VB	VAPOR BARRIER
DTL	DETAIL	MISC	MISCELLANEOUS	VCT	VINYL COMPOSITION TILE
DWG	DRAWING	MO	MASONRY OPENING	VERT	VERTICAL
		MR	MOP OPENING	VWC	VINYL WALL COVERING
E	EAST	MRGB	MOISTURE RESISTANT GYPSUM BOARD		
EA	EACH			W	WEST
EF	EACH FACE	MTL	METAL	w/	WITH
EJ	EXPANSION JOINT			WC	WATER CLOSET
EL	ELEVATION	N	NORTH	WD	WOOD
ELEC	ELECTRICAL	NA	NOT APPLICABLE	WF	WATER FOUNTAIN
ELEV	ELEVATOR	NIC	NOT IN CONTRACT	WG	WIRE GLASS
EMHO	ELECTROMAGNETIC HOLD OPEN	NO	NUMBER	WP	WOOD PANELING
		NOM	NOMINAL		
EQ	EQUAL	NTS	NOT TO SCALE		
EW	EACH WAY				
EWC	ELECTRIC WATER COOLER	OA	OVERALL		
EXIST OF (E)	EXISTING	OC	ON CENTER		
EXP	EXPANSION	OD	OUTSIDE DIAMETER		
EXT	EXTERIOR	OF	OUTSIDE FACE		
		OPNG	OPENING		
FCS	FLOOR COATING SYSTEM	OPP	OPPOSITE		
FD	FLOOR DRAIN				
FDN	FOUNDATION	P	PAINT		
FE	FIRE EXTINGUISHER	PTD	PAINTED		
FFE	FINISH FLOOR ELEVATION	PB	PANIC BAR		
FIN	FINISH	PL	PLATE		
FIN FL or FF	FINISH FLOOR	PLY WD	PLYWOOD		
FIN GR	FINISH GRADE	PNL	PANEL		
FL	FLOOR	PS	PASSAGE LATCH SET		
FR	FIRE RATING	P.T.	PRESSURE TREATED		
FRMG	FRAMING	PT & D	PAPER TOWEL & WASTE DISPENSER		
FT	FEET (FOOT)	PTN	PARTITION		
FV	FIELD VERIFY				
FWC	FABRIC WALL COVERING	RD	ROOF DRAIN		
		RE	REFER		
G	GRANITE	REF	REFRIGERATOR		
GA	GAUGE	REINF	REINFORCED		
GALV	GALVANIZED	REQ'D	REQUIRED		
GB	GRAB BARS	RM	ROOM		
GC	GENERAL CONTRACTOR	RO	ROUGH OPENING		
GWB	GYPSUM WALL BOARD				

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO PREVAILING EDITIONS OF ADOPTED BUILDING CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN STATE PLUMBING AND ELECTRICAL PERMITS FOR WORK.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING THE WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT. CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER SUCH DISCREPANCIES HAVE BEEN RESOLVED BY THE ARCHITECT. CONTRACTOR SHALL ALLOW A 48 HOUR TIME FRAME FOR RESOLVING DISCREPANCIES ONCE THE ARCHITECT HAS ACKNOWLEDGED THE CONDITION.
3. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING THE WORK IN ANY GIVEN AREA.
4. WORK WITH GIVEN DIMENSIONS AND LARGE SCALE DETAILS. DO NOT SCALE THE DRAWINGS AS THE REPRODUCTIVE PROCESS TENDS TO DISTORT THE ACCURACY OF THE GRAPHIC SCALE INDICATED.
5. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN A NEAT, SAFE, AND CLEAN MANNER. ALL CONSTRUCTION WASTE SHALL BE REMOVED FROM THE BUILDING. SITE BURNING IS NOT ALLOWED. LEAVE WORK AREA IN A CLEAN, SAFE CONDITION AT THE END OF EACH WORK DAY.
6. ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF AT AN APPROVED OFF-SITE FACILITY IN COMPLIANCE WITH ALL REGULATIONS.
7. ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESERVATIVE TREATED.
8. ALL CEILINGS SHALL BE LEVEL TO A TOLERANCE OF ⅛" IN A 20'-0" RADIUS WHEN CHECKED WITH A 10'-0" STRAIGHT EDGE.
9. INSTALL SOLID BLOCKING AT WALL FRAMING BEHIND ALL SURFACE MOUNTED FIXTURES, TRIM AND HANDRAILS.
10. ALL GRAB BARS AND HANDRAILS SHALL BE ABLE TO SUPPORT A DEAD WEIGHT OF 250 LBS. AT ANY POINT.
11. THE LOCATION OF ANY DOOR JAMBS NOT DIMENSIONED SHALL BE 6" FROM ADJACENT PERPENDICULAR WALL.
12. ALL WALL PARTITIONS SHALL EXTEND FLOOR TO STRUCTURE ABOVE, UNLESS OTHERWISE NOTED.
13. ALL NEW SHEETROCK IN WET AREAS (PLUMBING FIXTURES) SHALL BE MOISTURE-RESISTANT TYPE, UNLESS OTHERWISE NOTED.
14. ALL NEW INTERIOR WALLS SHALL HAVE FULL-THICK ACOUSTICAL BATT INSULATION.
15. REFER TO THE ACCESSIBILITY DETAIL SHEET FOR AMERICANS WITH DISABILITIES ACT (ADA) AND MAINE HUMAN RIGHTS ACT (MHRA) CONSTRUCTION CRITERIA.

MATERIALS

- CONCRETE
- CONCRETE MASONRY UNIT
- BRICK
- GRAVEL
- SOIL
- STUD PARTITION (EXISTING)
- STEEL
- WOOD FRAMING
- WOOD BLOCKING
- PLYWOOD
- GYPSUM BOARD
- SUSPENDED ACOUSTICAL TILE
- BATT INSULATION
- RIGID INSULATION
- FINISH WOOD
- ONE HOUR RATED PARTITION
- TWO HOUR RATED PARTITION
- EXISTING PARTITION (SCREENED)
- NEW PARTITION

SYMBOLS

- 101 ROOM NUMBER
- 101 DOOR NUMBER
- A WINDOW NUMBER
- A / A2.1 BUILDING SECTION
- A2.1 / A WALL SECTION
- D / A2.1 DETAIL SECTION
- G-A3.9 CASEWORK ELEVATION
- A / A3.9 INTERIOR ELEVATION
- VERTICAL ELEVATION
- PARTITION TYPE
- STRUCTURAL CENTERLINE

EGRESS SYMBOLS LEGEND

- DIAGONAL DISTANCE
- EGRESS SEPARATION
- EGRESS PATH
- 1 HR RATED

NFPA LEGEND

SYMBOL	DESCRIPTION
	EXIT LIGHT
	ABC FIRE EXTINGUISHER w/ BRACKET
	EMERGENCY LIGHT
S	SMOKE DETECTOR
	EMERGENCY / EXIT LIGHT
	HORN / STROBE UNIT
	STROBE UNIT
P	FIRE ALARM PULL STATION
FACP	FIRE ALARM PANEL
K	KNOX BOX
	"NOT AN EXIT" SIGN
	EXTERIOR EMERGENCY LIGHT

Scale:

Designed by:

Michael F. Hays, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

GRANT HAYS ASSOCIATES
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P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

AEI PROJECT NO. 18-080

MAINE TURNPIKE

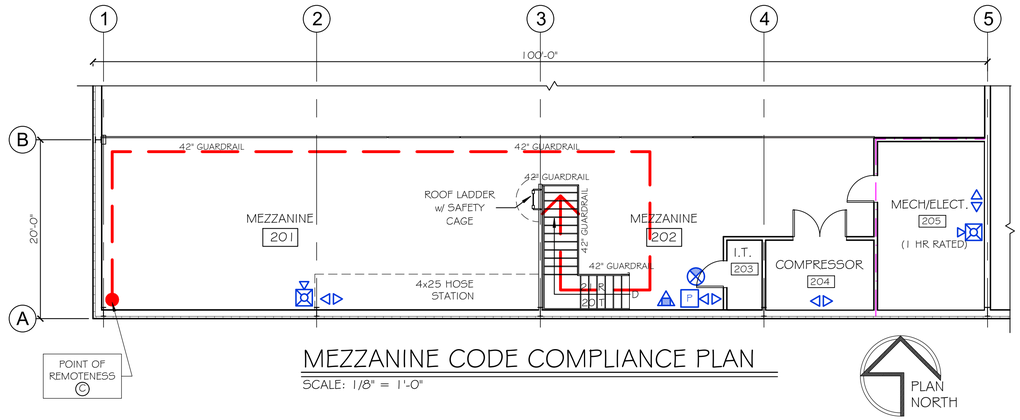
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ARCHITECTURAL COVER SHEET

CONTRACT: 2019.12

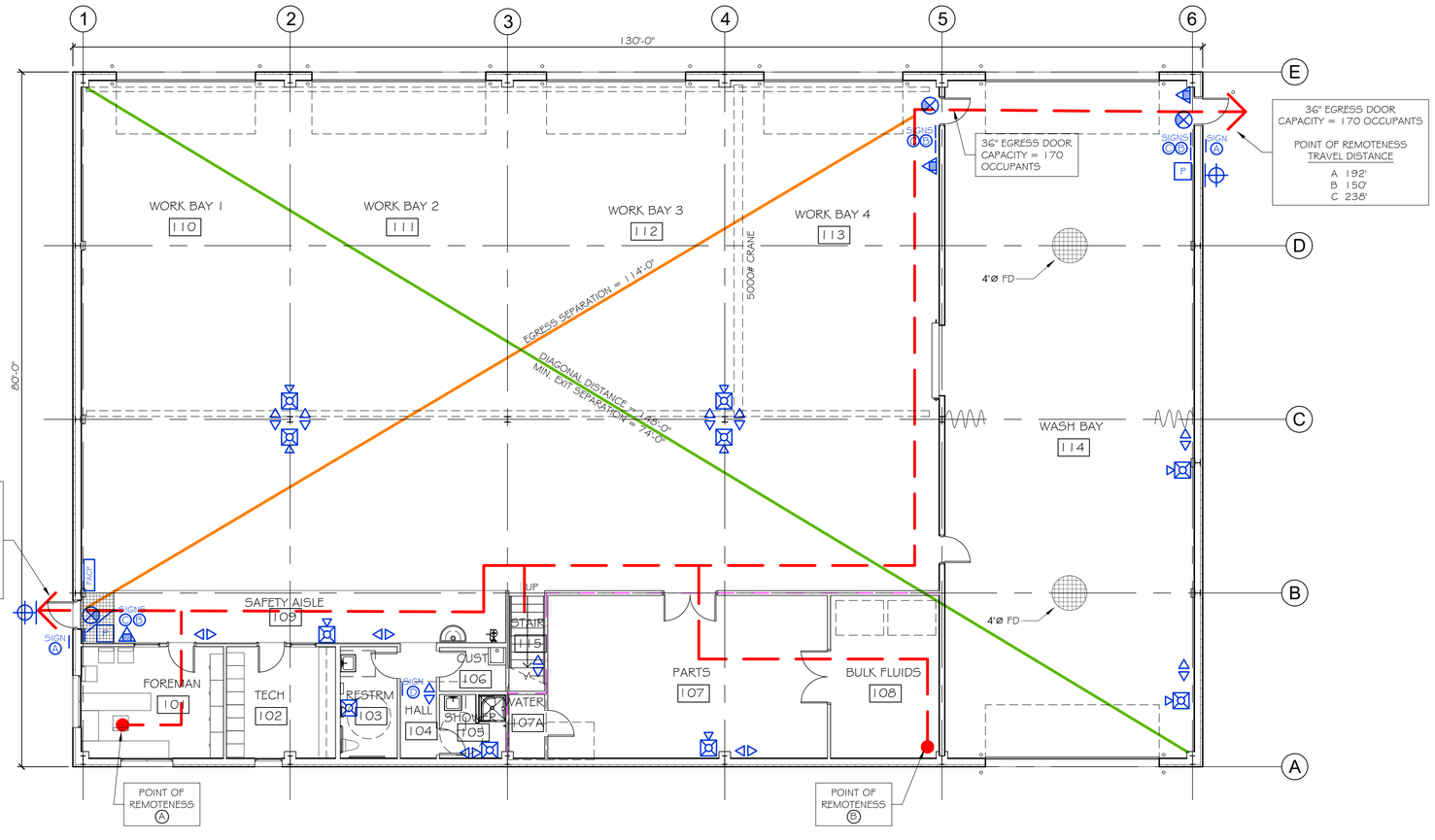
SHEET NUMBER: A-0
7 OF 41



MEZZANINE CODE COMPLIANCE PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH



36" EGRESS DOOR CAPACITY = 170 OCCUPANTS

POINT OF REMOTENESS TRAVEL DISTANCE

A 34'
B 124'
C 172'

FIRST FLOOR CODE COMPLIANCE PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

EGRESS SYMBOLS LEGEND

- DIAGONAL DISTANCE
- EGRESS SEPARATION
- EGRESS PATH
- 1 HR RATED

NFPA LEGEND

SYMBOL	DESCRIPTION
	EXIT LIGHT
	ABC FIRE EXTINGUISHER w/ BRACKET
	EMERGENCY LIGHT
S	SMOKE DETECTOR
	EMERGENCY / EXIT LIGHT
	HORN / STROBE UNIT
	STROBE UNIT
F	FIRE ALARM PULL STATION
FACP	FIRE ALARM PANEL
K	KNOX BOX
	"NOT AN EXIT" SIGN
	EXTERIOR EMERGENCY LIGHT

OCCUPANT LOADS

IBC 2015	124 (6 MAX. ACTUAL)
NFPA 2015	124 (6 MAX. ACTUAL)

ACCESSIBILITY NOTES

1. SEE SHEET A-14 FOR ACCESSIBILITY DETAILS & NOTES.
2. SEE SHEET A-14 FOR ADA SIGNAGE.

LIFE SAFETY NOTES

1. INSTALL A NEW FIRE ALARM SYSTEM AS REQUIRED FOR COMPLIANCE WITH NFPA 101 SAFETY CODE. VERIFY LOCATION OF ALARM AND NOTIFICATION PANELS WITH THE AUTHORITY HAVING JURISDICTION.
2. SEE SHEET A-14 ACCESSIBILITY DETAILS AND NOTES FOR MOUNTING HEIGHTS OF LIFE SAFETY DEVICES.

Scale:

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: Michael F. Hays, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

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AEI PROJECT NO. 18-080

MAINE TURNPIKE

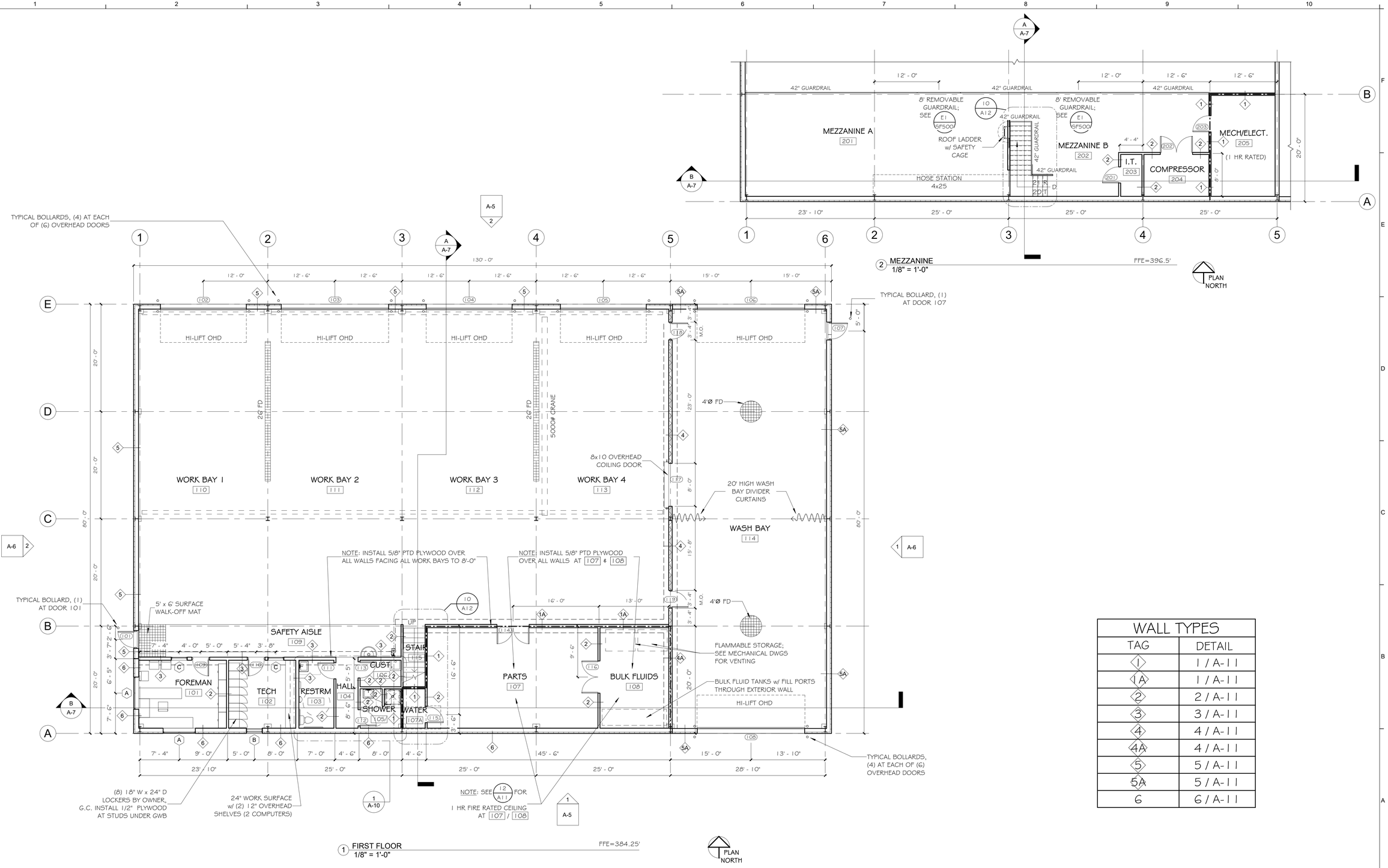
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 CODE COMPLIANCE PLANS

CONTRACT: 2019.12

SHEET NUMBER: A-1



WALL TYPES	
TAG	DETAIL
1	1 / A-11
1A	1 / A-11
2	2 / A-11
3	3 / A-11
4	4 / A-11
4A	4 / A-11
5	5 / A-11
5A	5 / A-11
6	6 / A-11

Scale: 1/8" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: MICHAEL F. HAYS, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

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AEI PROJ.NO.: 18-080 | CAD FILE:

MAINE TURNPIKE

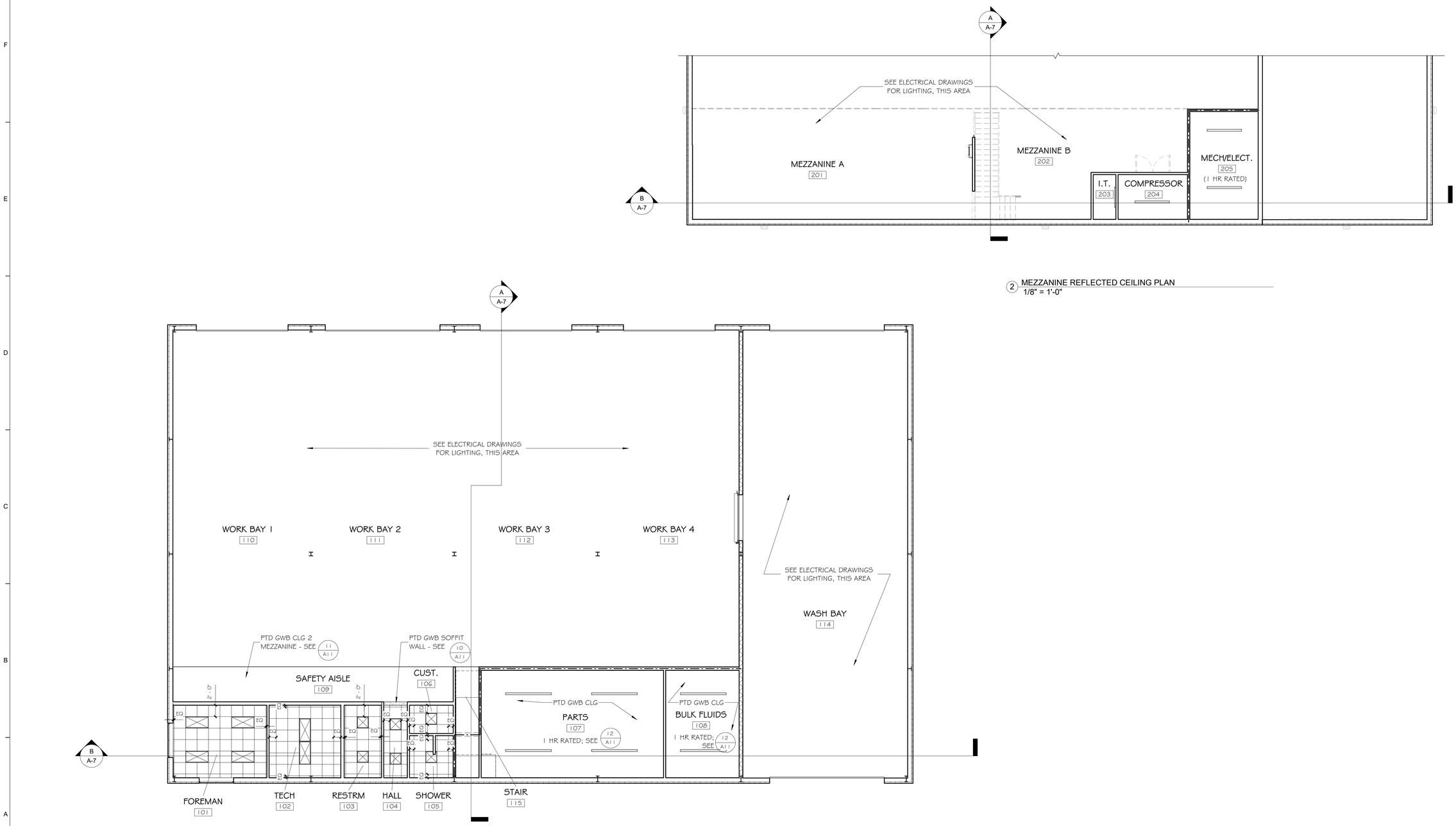
THE GOLD STAR MEMORIAL HIGHWAY

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 FIRST FLOOR & MEZZANINE PLANS

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT: 2019.12

SHEET NUMBER: A-2



2 MEZZANINE REFLECTED CEILING PLAN
1/8" = 1'-0"

1 FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

Scale: 1/8" = 1'-0"

Designed by: MICHAEL F. HAYS, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

GRANT HAYS ASSOCIATES
ARCHITECTURE & INTERIOR DESIGN
P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

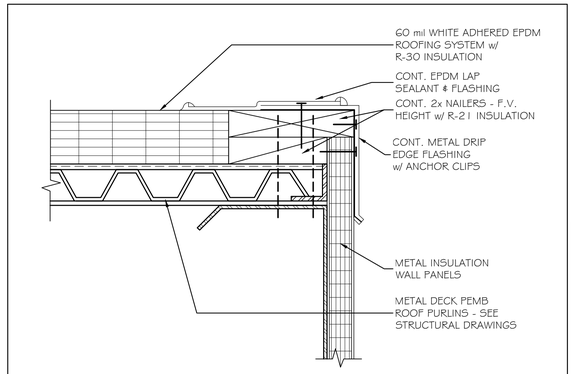
THE GOLD STAR MEMORIAL HIGHWAY

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 REFLECTED CEILING PLANS

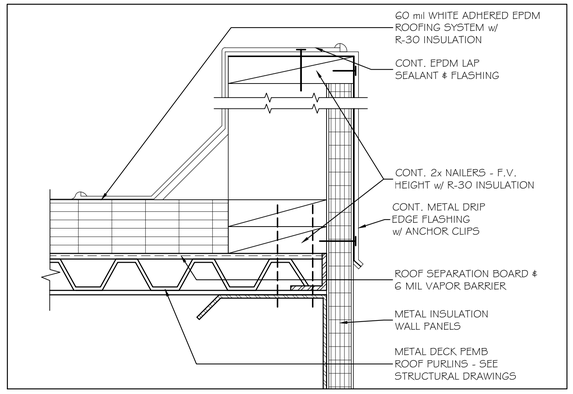
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT: 2019.12

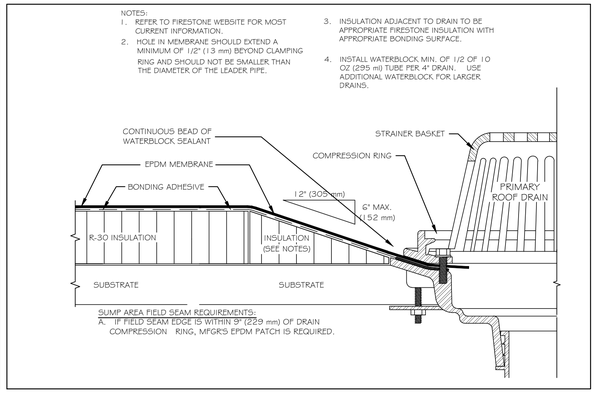
SHEET NUMBER: A-3



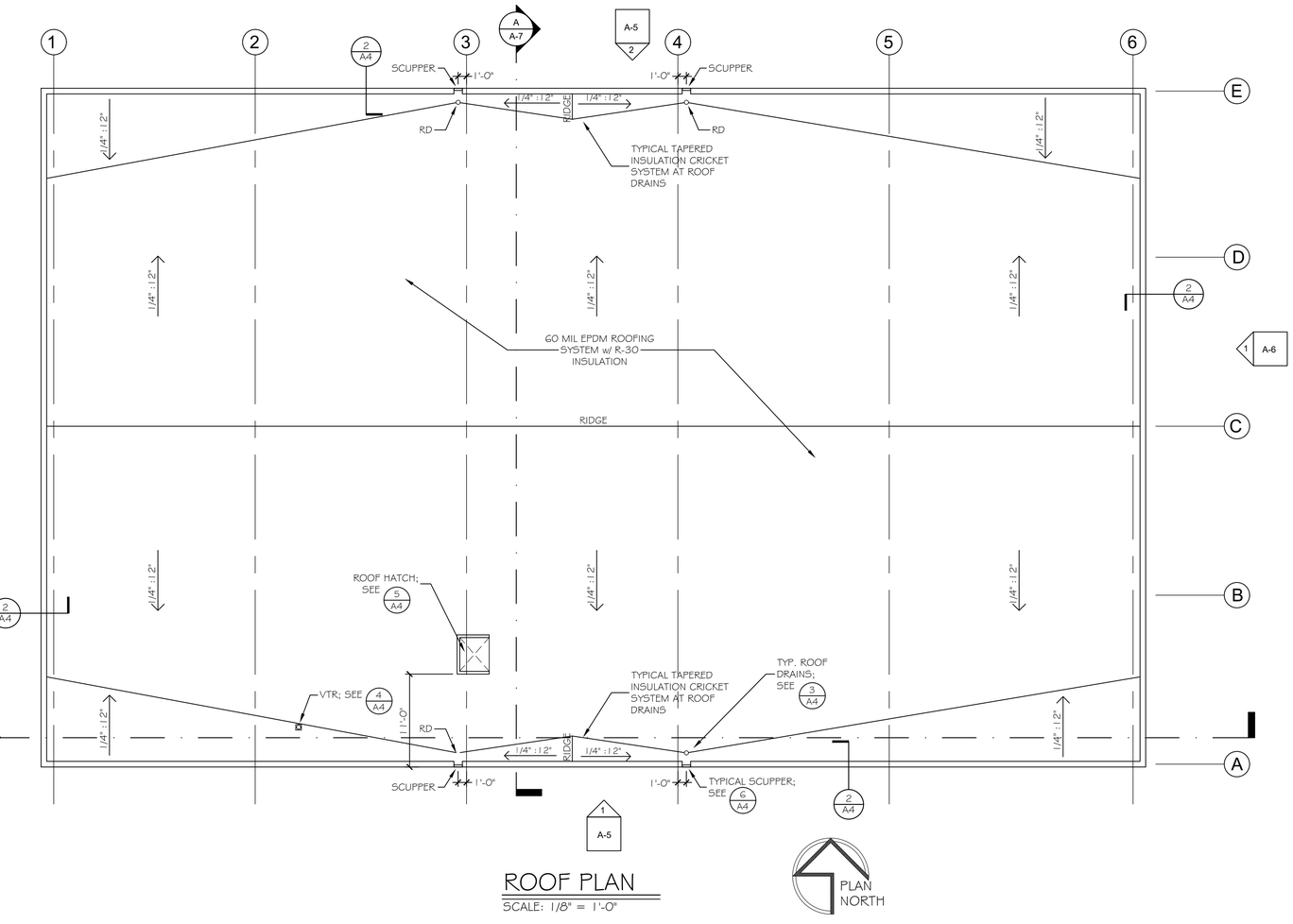
① ROOF EDGE DETAIL (HIGH POINT) NTS



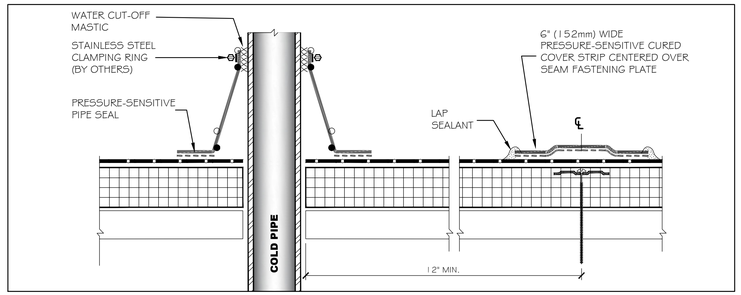
② ROOF EDGE DETAIL (LOW POINT) NTS



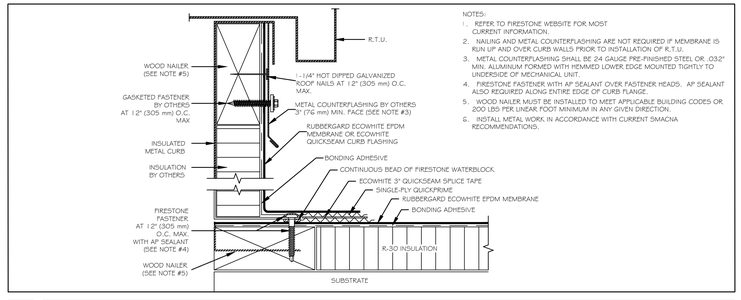
③ ROOF DRAIN DETAIL NTS



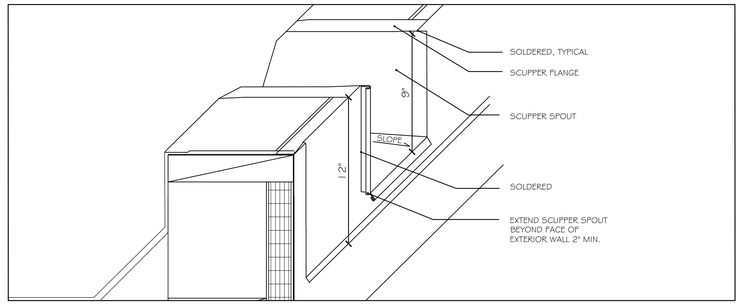
ROOF PLAN
SCALE: 1/8" = 1'-0"



④ PIPE / VENT THROUGH ROOF NTS



⑤ ROOF HATCH NTS



⑥ SCUPPER DETAIL NTS

Scale:

Designed by: Michael F. Hays, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

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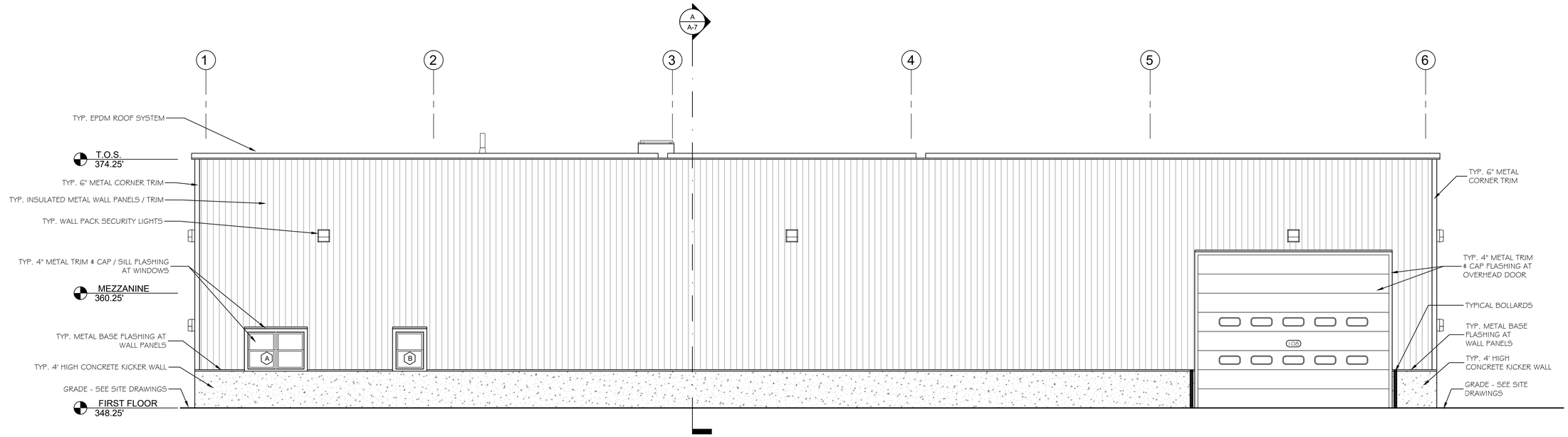
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ROOF PLAN & DETAILS

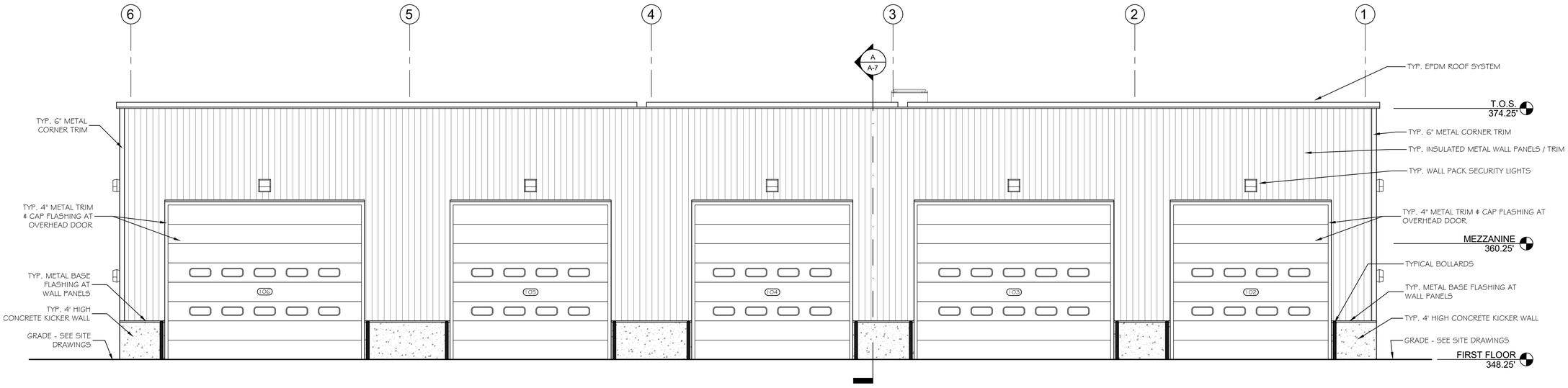
SHEET NUMBER: A-4

CONTRACT: 2019.12



1 PROPOSED SOUTH ELEVATION

SCALE: 3/16" = 1'-0"



2 PROPOSED NORTH ELEVATION

SCALE: 3/16" = 1'-0"

Scale:

Designed by:

Michael F. Hays, RA

MICHAEL F. HAYS No. 1724 LICENSED ARCHITECT STATE OF MAINE

No.	Revision	By	Date
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	By	Date		By	Date
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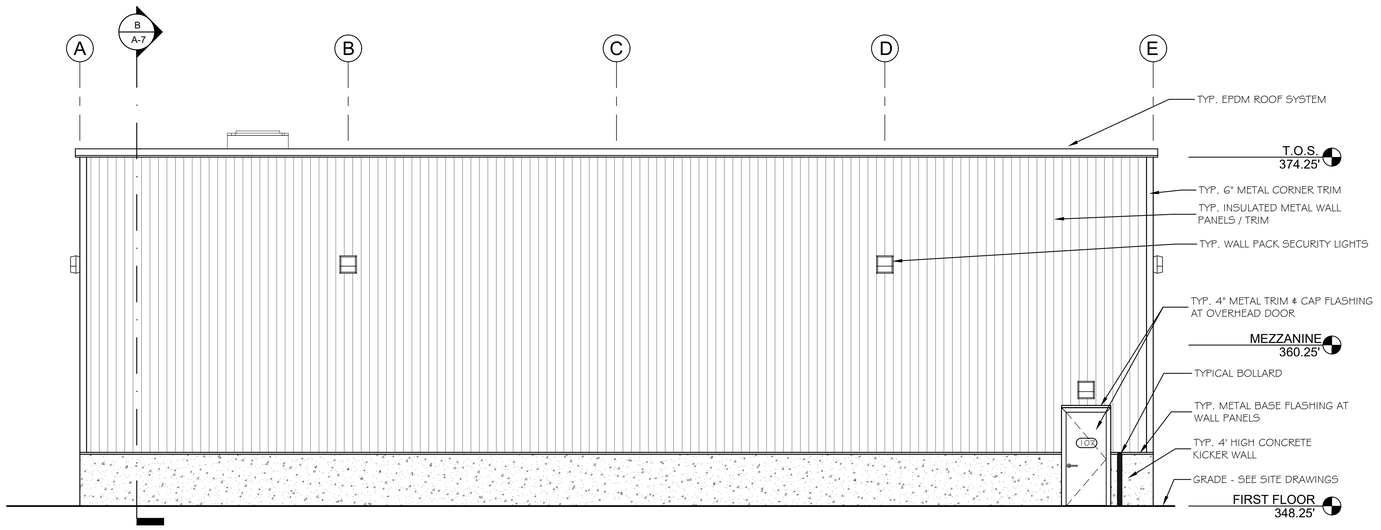
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
NORTH & SOUTH EXTERIOR ELEVATIONS

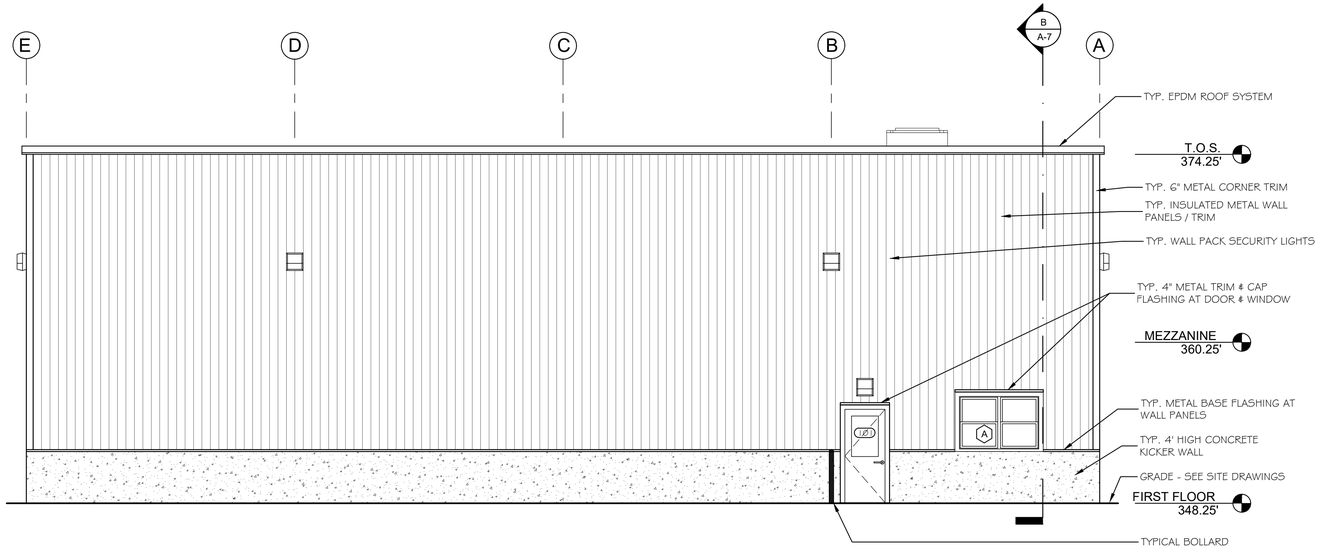
CONTRACT: 2019.12

SHEET NUMBER: A-5



1 PROPOSED EAST ELEVATION

SCALE: 3/16" = 1'-0"



2 PROPOSED WEST ELEVATION

SCALE: 3/16" = 1'-0"

Scale:

Designed by:

Michael F. Hays, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
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Drawn:	MGK	10/15/19			

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MAINE TURNPIKE

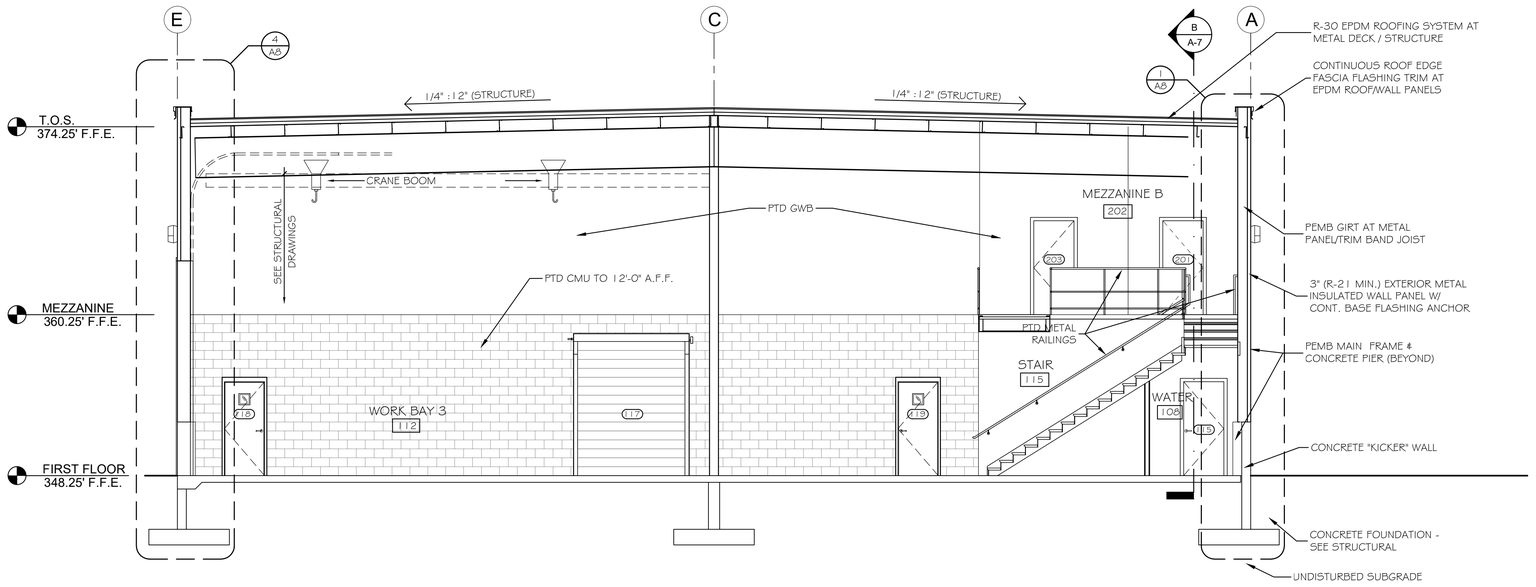
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
EAST & WEST EXTERIOR ELEVATIONS

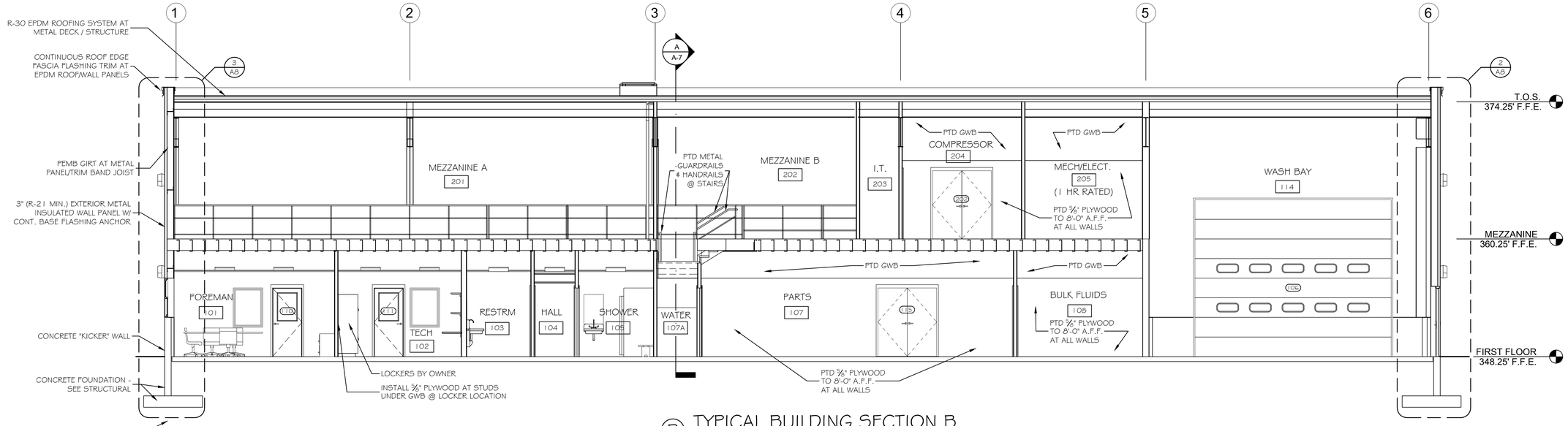
SHEET NUMBER: A-6

CONTRACT: 2019.12



(A) TYPICAL BUILDING SECTION A

SCALE: 3/16" = 1'-0"



(B) TYPICAL BUILDING SECTION B

SCALE: 3/16" = 1'-0"

Scale:

Designed by:

Michael F. Hays, RA

MICHAEL F. HAYS No. 1724 LICENSED ARCHITECT STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
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MAINE TURNPIKE

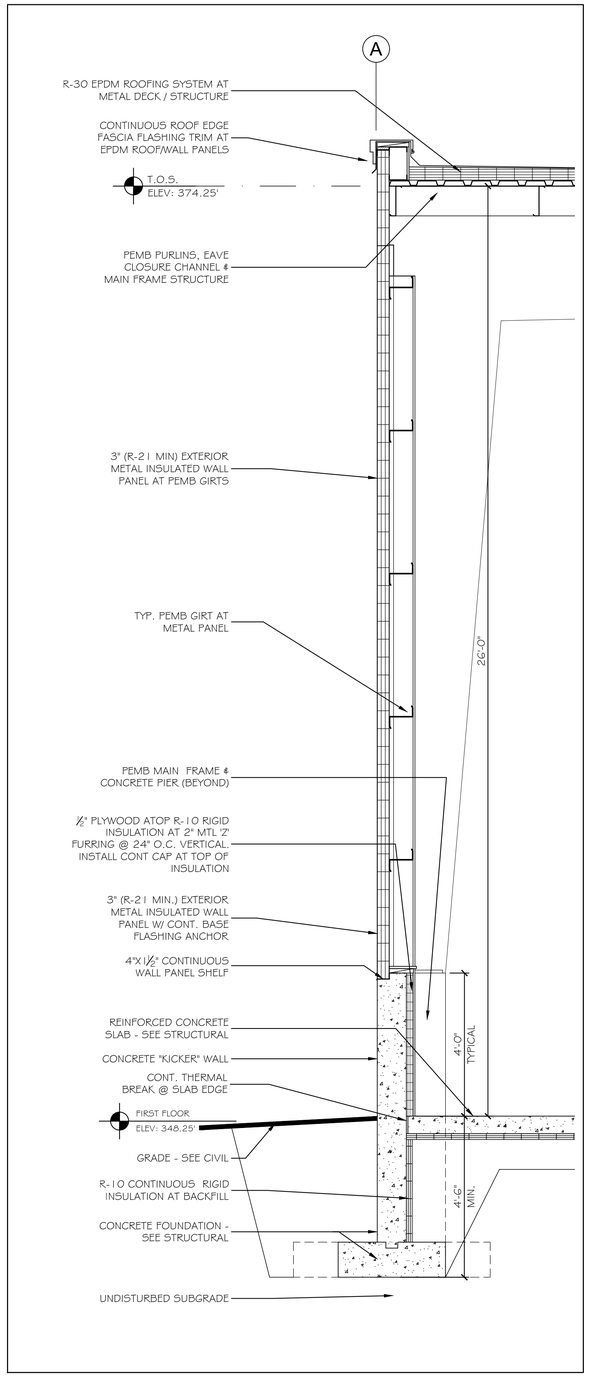
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

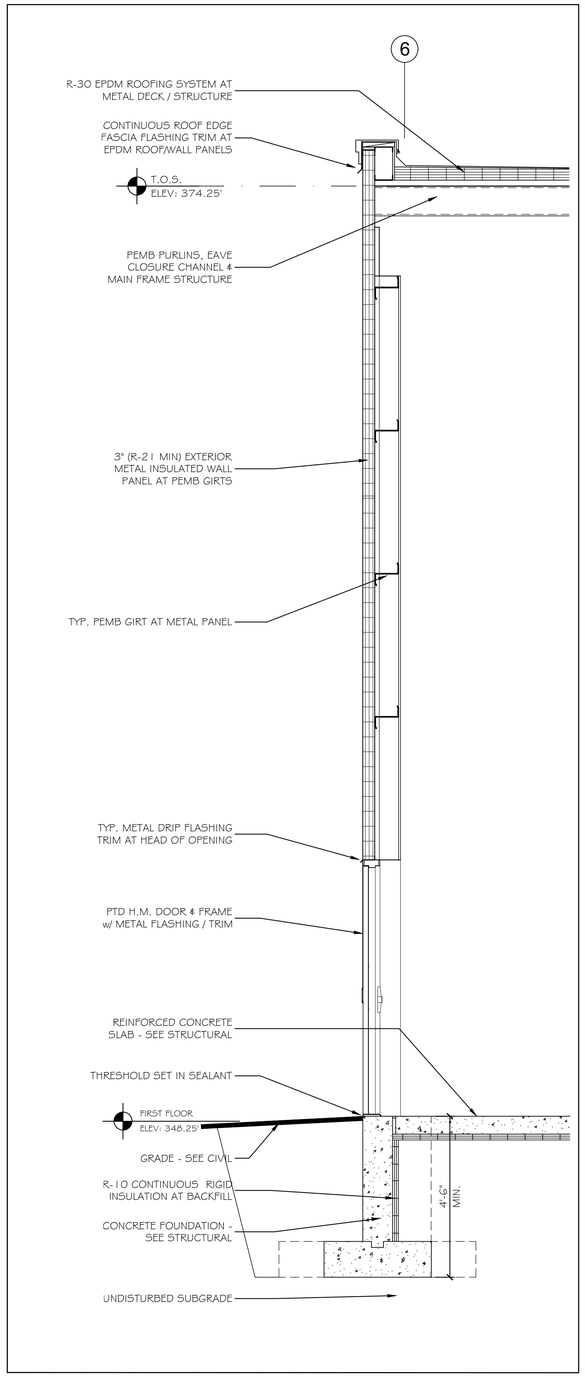
CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
BUILDING SECTIONS

SHEET NUMBER: A-7

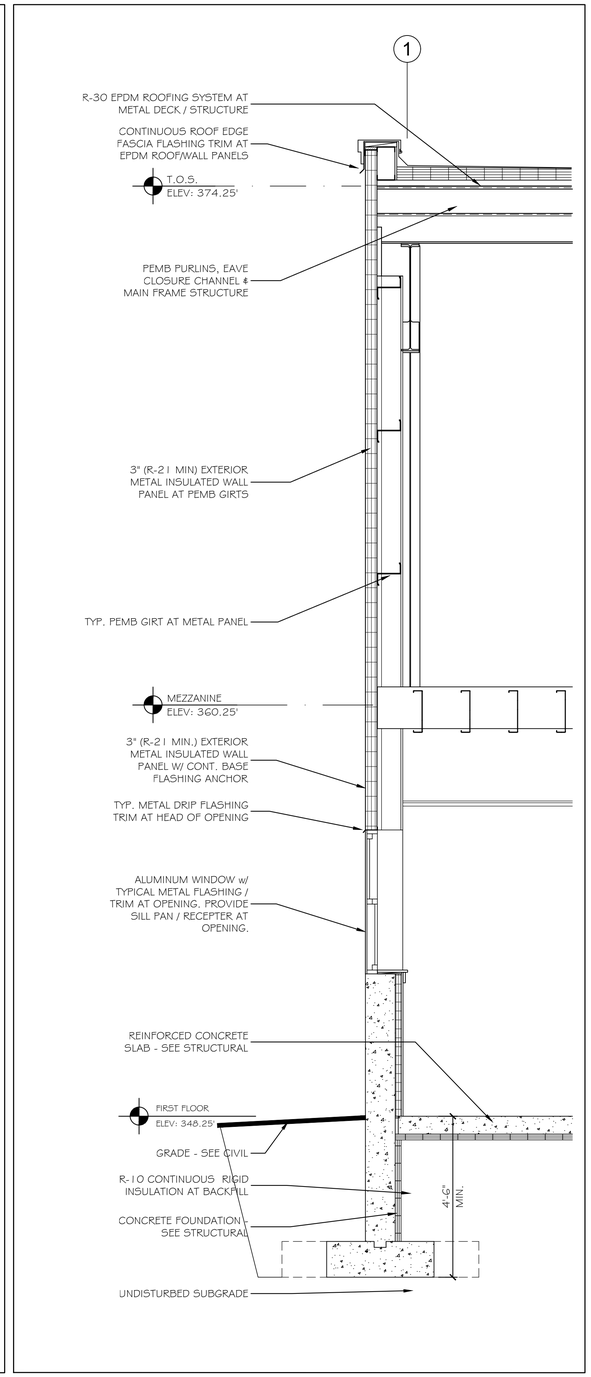
CONTRACT: 2019.12



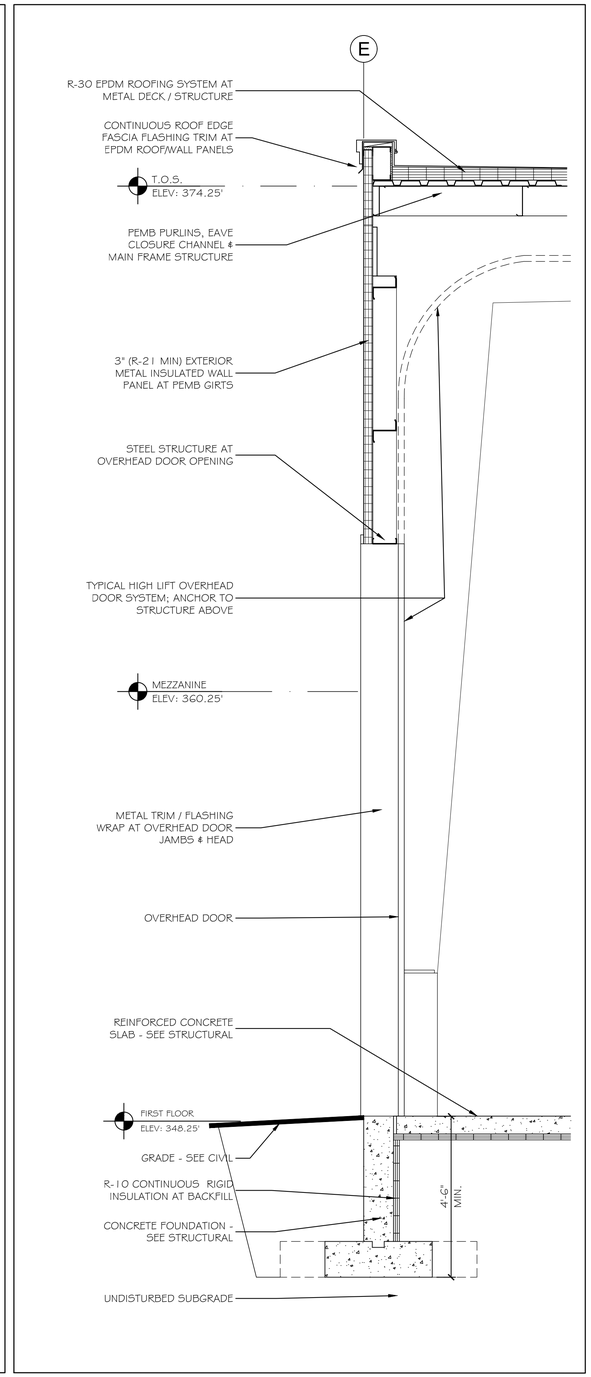
① TYPICAL WALL SECTION ½" = 1'-0"



② TYP. WALL SECTION AT H.M. DOOR ½" = 1'-0"



③ TYP. WALL SECTION AT WINDOW ½" = 1'-0"



④ TYP. WALL SECTION AT OVERHEAD DOOR ½" = 1'-0"

Scale:

Designed by:

Michael F. Hays, RA

REGISTERED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
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Drawn:	MGK	10/15/19			

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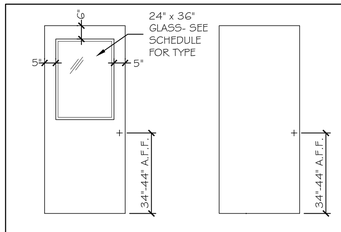
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
WALL SECTIONS

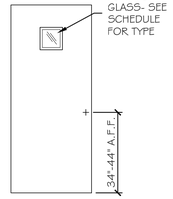
SHEET NUMBER: A-8

CONTRACT: 2019.12

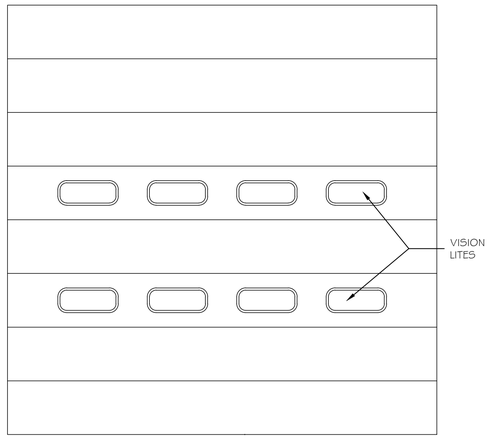


Ⓐ H.M. FLUSH DOOR

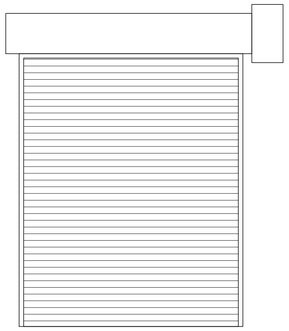
Ⓑ H.M. FLUSH DOOR



Ⓒ H.M. FLUSH DOOR

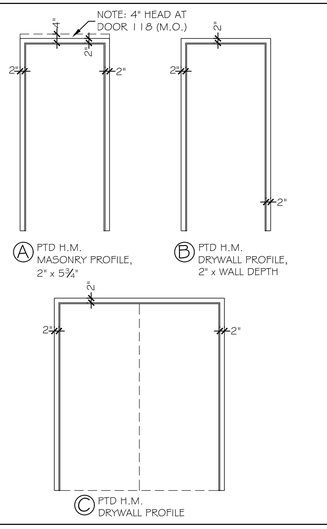


Ⓓ SECTIONAL OVERHEAD DOOR w/ RECTANGULAR VISION LITES



Ⓔ OVERHEAD COILING DOOR

DOOR TYPES — 3/8" = 1'-0"



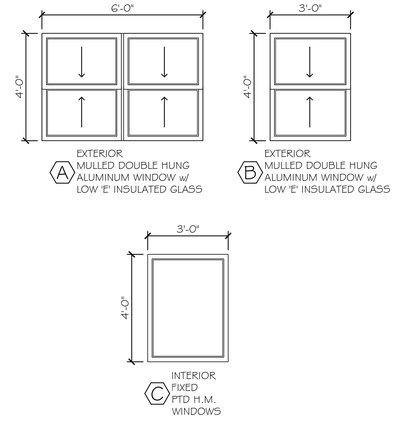
Ⓐ PTD H.M. MASONRY PROFILE, 2" x 5¾"

Ⓑ PTD H.M. DRYWALL PROFILE, 2" x WALL DEPTH

Ⓒ PTD H.M. DRYWALL PROFILE

Ⓓ PTD H.M. CHANNEL FRAME

FRAME TYPES — 3/8" = 1'-0"



Ⓐ EXTERIOR MULLED DOUBLE HUNG ALUMINUM WINDOW w/ LOW 'E' INSULATED GLASS

Ⓑ EXTERIOR MULLED DOUBLE HUNG ALUMINUM WINDOW w/ LOW 'E' INSULATED GLASS

Ⓒ INTERIOR FIXED PTD H.M. WINDOWS

WINDOW TYPES — 3/8" = 1'-0"

DOOR SCHEDULE

ABBREVIATIONS

ALUM	ALUMINUM	GL	GLASS	OCD	OVERHEAD COILING DOOR
DW	DRYWALL	HM	HOLLOW METAL	OHD	OVERHEAD DOOR
ES	EDGE STRIP	INSUL	INSULATED	T	TEMPERED
EMHO	ELECTRO MAGNETIC HOLD OPENER	MAS	MASONRY	T-BREAK	THERMAL BREAK
		MFGR	MANUFACTURER	TH	THERMAL INSULATED
				TS	TRANSITION STRIP

DOORS										FRAMES					THRESHOLDS		
NO.	TYPE	SIZE (w x h)	THK.	INSUL	HDWE	FR	GLASS TYPE	GLASS SIZE	REMARKS	TYPE	FR	PROFILE	DETAILS HEAD	DETAILS JAMB	MATERIAL	DETAILS SILL	DETAILS FIN
101	A	3070	1 ¾"	T-BREAK	HW-1	—	T / TH	FULL		A	—	MAS	4-A13	5-A13	ALUM	G-A13	—
102	D	16x16 OHD	MFGR	YES	MFGR	—	MFGR	MFGR		D	—	MAS	1-A13	2-A13	—	—	3-A13
103	D	20x16 OHD	MFGR	YES	MFGR	—	MFGR	MFGR		D	—	MAS	1-A13	2-A13	—	—	3-A13
104	D	16x16 OHD	MFGR	YES	MFGR	—	MFGR	MFGR		D	—	MAS	1-A13	2-A13	—	—	3-A13
105	D	16x16 OHD	MFGR	YES	MFGR	—	MFGR	MFGR		D	—	MAS	1-A13	2-A13	—	—	3-A13
106	D	20x16 OHD	MFGR	YES	MFGR	—	MFGR	MFGR		D	—	MAS	1-A13	2-A13	—	—	3-A13
107	A	3070	1 ¾"	YES	HW-2	—	T / TH	24" x 36"		A	—	MAS	4-A13	5-A13	ALUM	G-A13	—
108	D	20x16 OHD	MFGR	YES	MFGR	—	MFGR	MFGR		D	—	MAS	1-A13	2-A13	—	—	3-A13
109	A	3070	1 ¾"	NO	HW-3	—	T	24" x 36"		B	—	DW	17-A13	17-A13	—	—	18-A13
110	A	3070	1 ¾"	NO	HW-4	—	T	24" x 36"		B	—	DW	17-A13	17-A13	—	—	18-A13
111	B	3070	1 ¾"	NO	HW-5	—	—	—		B	—	DW	17-A13	17-A13	—	—	18-A13
112	B	3070	1 ¾"	NO	HW-5	—	—	—		B	—	DW	17-A13	17-A13	—	—	18-A13
113	B	3070	1 ¾"	NO	HW-8	—	—	—		B	—	DW	17-A13	17-A13	—	—	18-A13
114	B	6070 PR	1 ¾"	NO	HW-10	1 HR	—	—		C	1 HR	DW	17-A13	17-A13	—	—	19-A13
115	B	3070	1 ¾"	NO	HW-8	—	—	—		B	—	DW	17-A13	17-A13	—	—	19-A13
116	B	6070 PR	1 ¾"	NO	HW-6	—	—	—		C	—	DW	17-A13	17-A13	—	—	18-A13
117	E	8x10 OCD	MFGR	NO	MFGR	—	MFGR	MFGR		—	—	—	10-A13	11-A13	—	—	12-A13
118	C	3070	1 ¾"	NO	HW-4	—	T	10'x10"	*4" HEAD @ FRAME	B*	—	DW	13-A13	14-A13	—	—	15-A13
119	C	3070	1 ¾"	NO	HW-4	—	T	10'x10"	*4" HEAD @ FRAME	B*	—	DW	13-A13	14-A13	—	—	15-A13
201	B	3070	1 ¾"	NO	HW-9	—	—	—		B	—	DW	17-A13	17-A13	—	—	18-A13
202	B	6070 PR	1 ¾"	NO	HW-11	—	—	—		B	—	DW	17-A13	17-A13	—	—	18-A13
203	B	3070	1 ¾"	NO	HW-7	1 HR	—	—		B	1 HR	DW	17-A13	17-A13	—	—	19-A13

WINDOW SCHEDULE

ABBREVIATIONS

DW DRYWALL MFGR MANUFACTURER

NO.	TYPE	MANUFACTURER MFGR	MANUFACTURER MODEL	NOMINAL SIZE WIDTH	NOMINAL SIZE HEIGHT	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	DETAILS MUNT	DETAILS MULL	REMARKS
A	DOUBLE-HUNG	ALUMINUM	THERMAL-BREAK	6'-0"	4'-0"	7-A13	8-A13	9-A13	—	MFGR	LOW 'E' INSULATED GLASS
B	DOUBLE-HUNG	ALUMINUM	THERMAL-BREAK	3'-0"	4'-0"	7-A13	8-A13	9-A13	—	—	LOW 'E' INSULATED GLASS
C	FIXED	HOLLOW METAL	DW FRAME	3'-0"	4'-0"	16-A13	16-A13	16-A13	—	—	TEMPERED GLASS

FINISH SCHEDULE

ABBREVIATIONS

CH	CONCRETE w/ HARDENER	FRP	FIBERGLASS REINFORCED PANELS	P	PAINT	WD	WOOD
CMU	CONCRETE MASONRY UNIT	FV	FIELD VERIFY	RB	RUBBER BASE		
DFP	DRY FALL PAINT	GL	GLASS	RT	RUBBER TILE		
E	EXISTING	GWB	GYPSUM WALL BOARD	SAT	SUSPENDED ACOUSTICAL TILE		
EP	EPOXY PAINT	IMP	INSULATED METAL PANEL	SS	STAINLESS STEEL		

RM NO.	NAME	WALLS N	WALLS E	WALLS S	WALLS W	FLOORS MAT'L	FLOORS BASE	FLOORS MAT'L	FLOORS BASE	CEILING A TYPE	CEILING A HT.	CEILING B TYPE	CEILING B HT.	REMARKS
101	FOREMAN	P	P	P	P	CONC	RB	—	—	SAT	8'-8"	—	—	
102	TECH	P	P	P	P#	CONC	RB	—	—	SAT	8'-8"	—	—	#5/8" PLYWOOD @ LOCKERS
103	RESTROOM	P / FRP*	P / FRP*	P / FRP*	P / FRP*	CONC	RB	—	—	SAT	8'-8"	—	—	*FRP TO 48" A.F.F.
104	HALL	—	P / FRP*	P / FRP*	P / FRP*	CONC	RB	—	—	SAT	8'-8"	—	—	*FRP TO 48" A.F.F.
105	SHOWER	P / FRP*	P / FRP*	P / FRP*	P / FRP*	CONC	RB	—	—	SAT	8'-8"	—	—	*FRP TO 48" A.F.F.
106	CUSTODIAL	P / FRP*	P / FRP*	P / FRP*	P / FRP*	CONC	RB	—	—	SAT	8'-8"	—	—	*FRP TO 48" A.F.F.
107	PARTS	P	P	P	P	CONC	RB	—	—	P GWB	STRUCT.	—	—	
107A	WATER	P	P	P	P	CONC	RB	—	—	—	—	—	—	
108	BULK FLUIDS	P	P	P	P	CONC	RB	—	—	P GWB	STRUCT.	—	—	
109	SAFETY AISLE	—	P	P	P	CONC	RB	MAT*	RB	P	11'-0"(FV)	—	—	*SURFACE TYPE
110	WORK BAY 1	IMP	—	P	IMP	CONC	—	—	—	DFP	STRUCT.	—	—	
111	WORK BAY 2	IMP	—	P	—	CONC	—	—	—	DFP	STRUCT.	—	—	
112	WORK BAY 3	IMP	—	P	—	CONC	—	—	—	DFP	STRUCT.	—	—	
113	WORK BAY 4	IMP	P	P	—	CONC	—	—	—	DFP	STRUCT.	—	—	
114	WASH BAY (NOTE 1)	IMP*	IMP*	IMP*	P*	CONC	—	—	—	DFP	STRUCT.	—	—	*EPOXY PAINT AT STEEL
115	STAIR	—	P	P	P	RUBBER	RUBBER	RT*	RUBBER	DFP	STRUCT.	—	—	*SAFETY TREADS
201	MEZZANINE A	—	—	IMP	IMP	P / PLWD	—	—	—	DFP	STRUCT.	—	—	
202	MEZZANINE B	—	P	IMP	—	P / PLWD	—	—	—	DFP	STRUCT.	—	—	
203	I.T.	P	P	P	P	P / PLWD	RB	—	—	DFP	STRUCT.	—	—	
204	COMPRESSOR	P	P	P	P	P / PLWD	RB	—	—	DFP	STRUCT.	—	—	
205	MECH / ELECT.	P	P	P	P	P / PLWD	RB	—	—	DFP	STRUCT.	—	—	

#INSTALL 1/2" PLYWOOD @ LGMF ON LOCKER WALL UNDER PTD GWB

** INSTALL OSHA YELLOW PAINT STRIPES & BORDER AT CONCRETE FLOOR.

NOTE 1: INTALL EPOXY PAINT AT ALL EXPOSED STEEL STRUCTURE AT WASH BAY 114 UNLESS NOTED OTHERWISE.

Scale:

Designed by: Michael F. Hays, RA

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

GRANT HAYS ASSOCIATES

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AEI PROJECT NO. 18-080

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

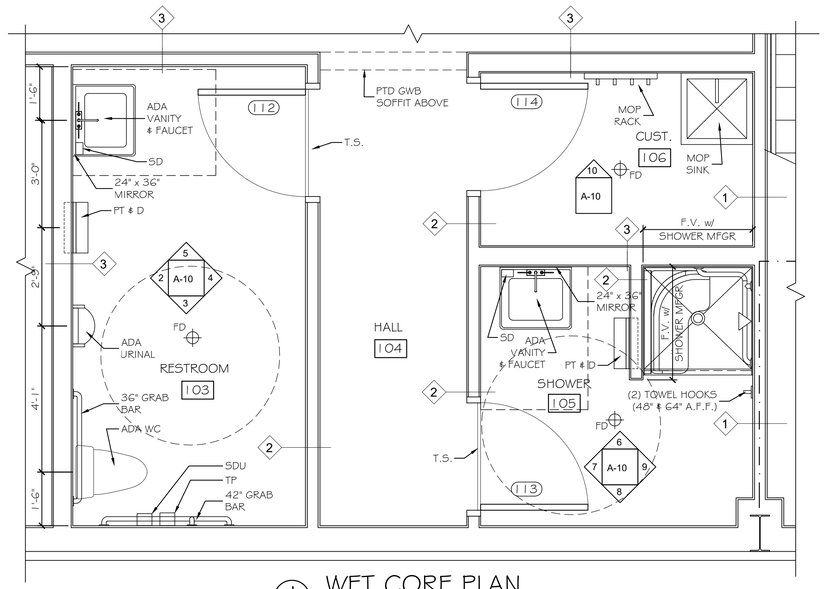
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
DOOR, WINDOW & FINISH SCHEDULES

SHEET NUMBER: A-9

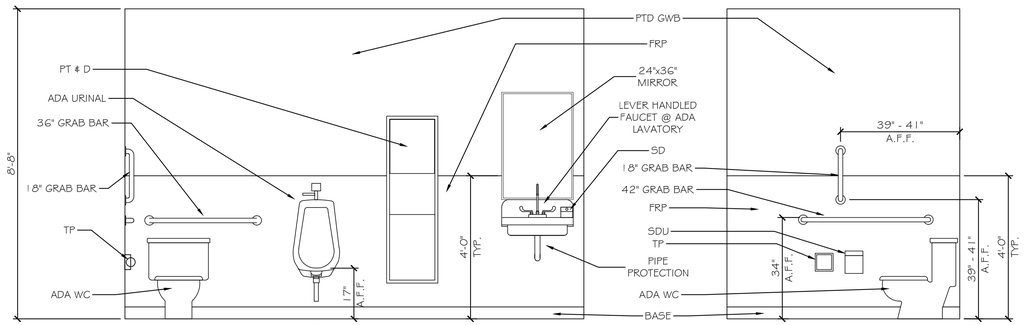
CONTRACT: 2019.12

16 OF 41



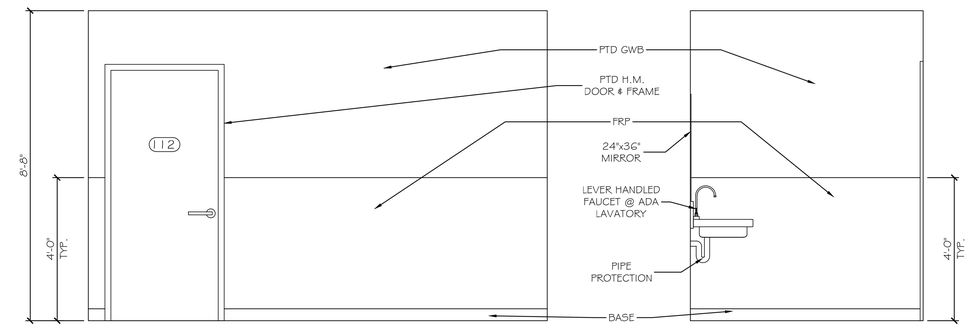
1 WET CORE PLAN
SCALE: 1/2" = 1'-0"

NOTE: SEE SHEET A-14 FOR ACCESSIBILITY NOTES AND DIMENSIONS.



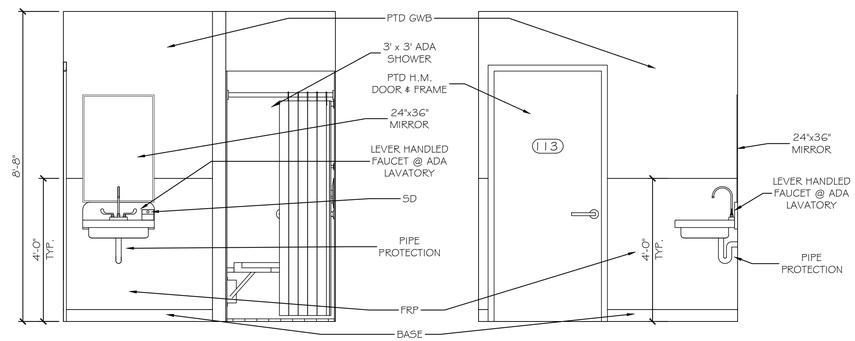
2 RESTROOM 103
SCALE: 1/2" = 1'-0"

3 RESTROOM 103
SCALE: 1/2" = 1'-0"



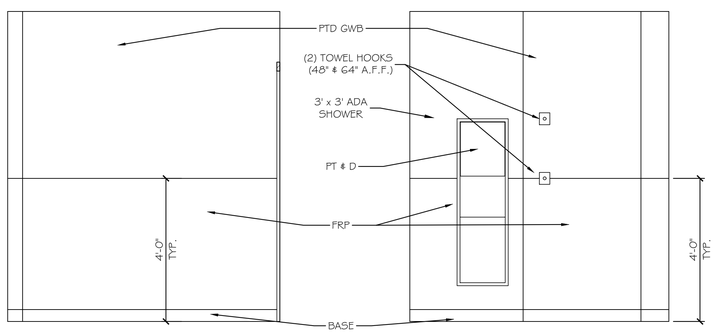
4 RESTROOM 103
SCALE: 1/2" = 1'-0"

5 RESTROOM 103
SCALE: 1/2" = 1'-0"



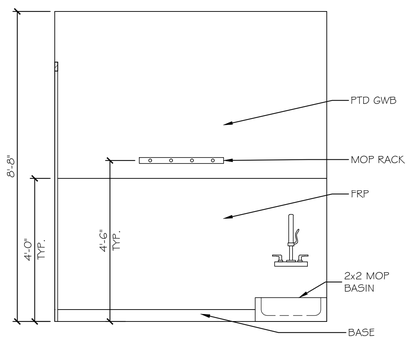
6 SHOWER 105
SCALE: 1/2" = 1'-0"

7 SHOWER 105
SCALE: 1/2" = 1'-0"



8 SHOWER 105
SCALE: 1/2" = 1'-0"

9 SHOWER 105
SCALE: 1/2" = 1'-0"



10 CUSTODIAL 106
SCALE: 1/2" = 1'-0"

Scale:

Designed by: Michael F. Hays, RA

MICHAEL F. HAYS No. 1724 LICENSED ARCHITECT STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MGK	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

GRANT HAYS ASSOCIATES
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AEI PROJECT NO. 18-080

MAINE TURNPIKE

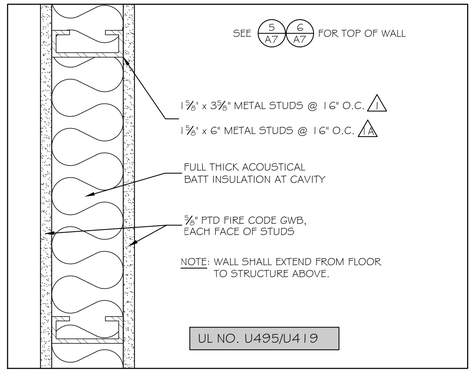
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

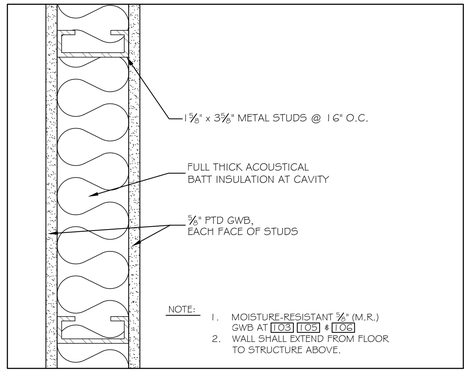
CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
WET CORE PLAN & ELEVATIONS

CONTRACT: 2019.12

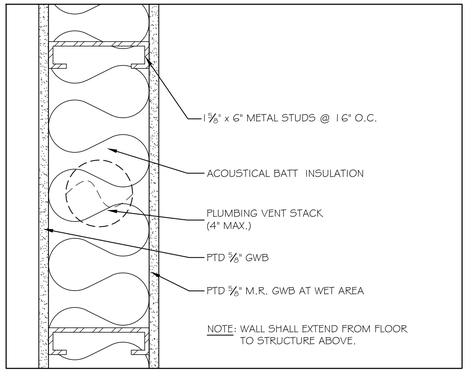
SHEET NUMBER: A-10



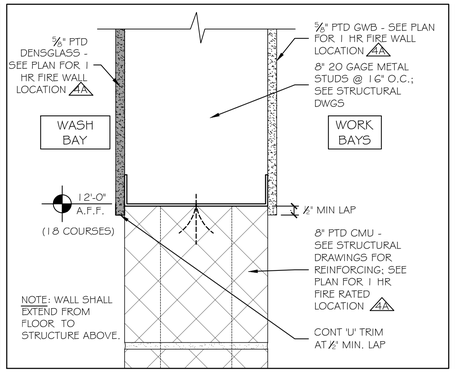
① INTERIOR 1 HR RATED STUD PARTITION 1 1A 3"=1'-0"



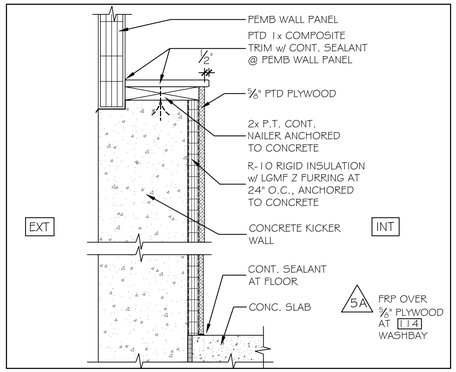
② INTERIOR STUD PARTITION 2 3"=1'-0"



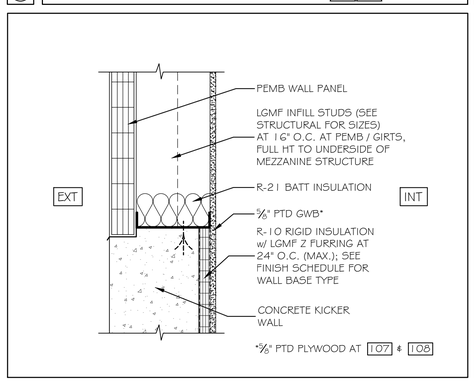
③ INTERIOR PARTITION 3 3"=1'-0"



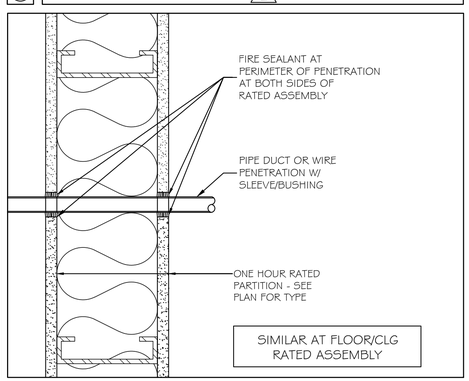
④ INTERIOR HYBRID PARTITION 4 4A 1 HR RATED 3"=1'-0"



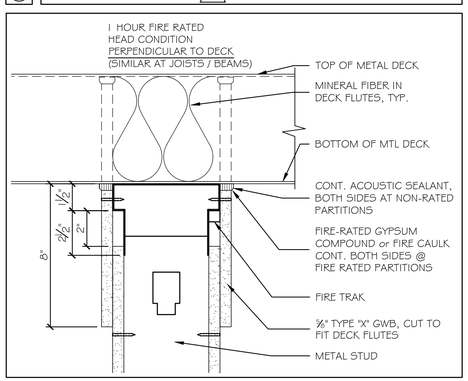
⑤ INTERIOR KICKER WALL PARTITION 5 5A 1 1/2"=1'-0"



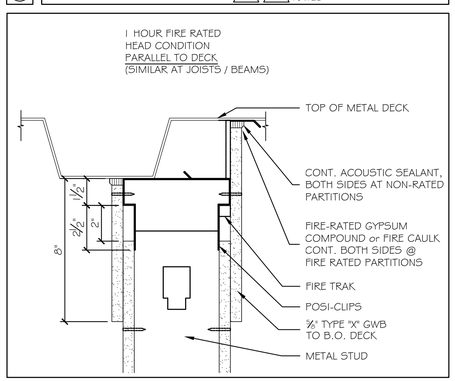
⑥ INTERIOR KICKER WALL PARTITION 6 1 1/2"=1'-0"



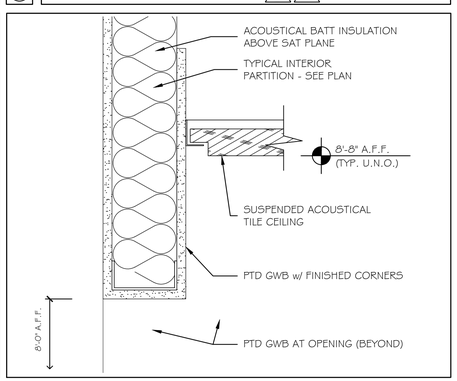
⑦ FIRE SEALANT AT PENETRATIONS 3"=1'-0"



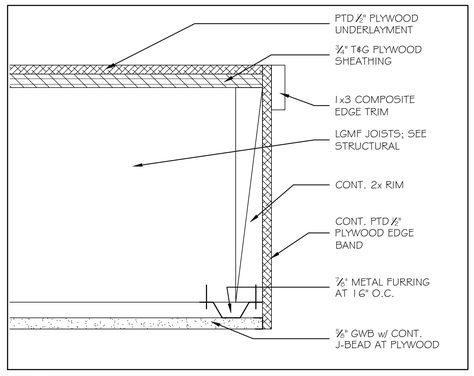
⑧ 1 HR RATED HEAD CONDITION PERPENDICULAR TO DECK 3"=1'-0"



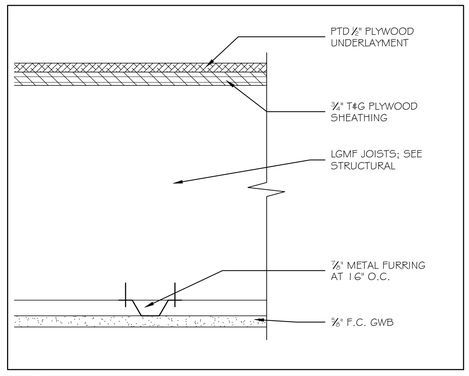
⑨ 1 HR RATED HEAD CONDITION PARALLEL TO DECK 3"=1'-0"



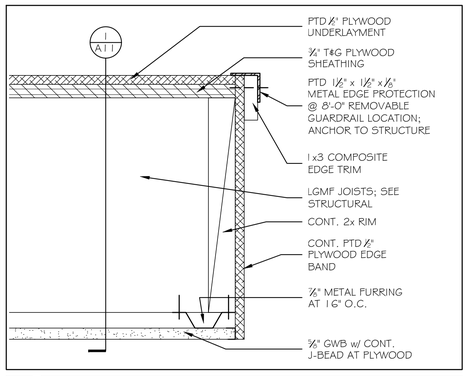
⑩ SAT AT GWB SOFFIT DETAIL 3"=1'-0"



⑪ GWB CEILING DETAIL (MEZZANINE EDGE) 3"=1'-0"



⑫ 1 HR FIRE RATED CEILING / FLOOR DETAIL 3"=1'-0"



⑬ EDGE PROTECTION DETAIL 3"=1'-0"

⑭

⑮

Scale:

Designed by:

Michael F. Hays, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

GRANT HAYS ASSOCIATES
ARCHITECTURE & INTERIOR DESIGN
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207.871.5900 www.granthays.com

AEI PROJECT NO. 18-080

MAINE TURNPIKE

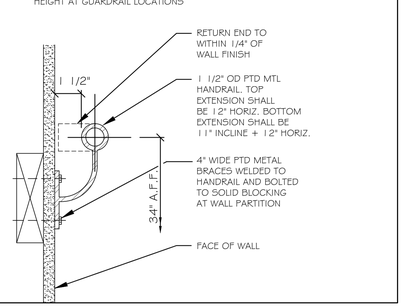
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

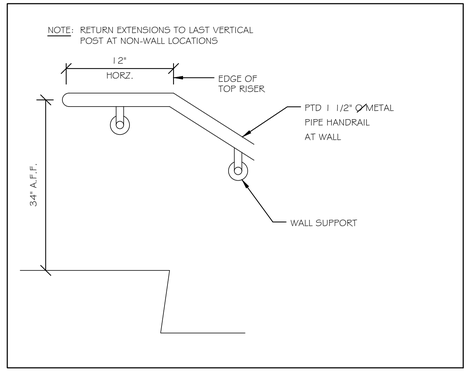
CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
PARTITION TYPES & DETAILS

CONTRACT: 2019.12

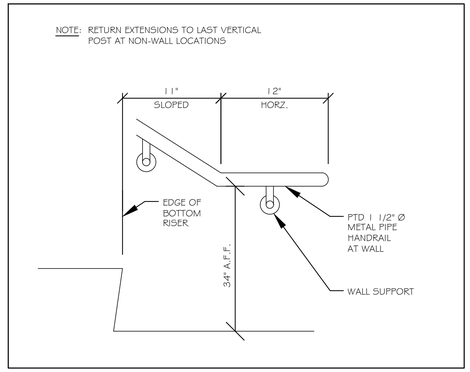
SHEET NUMBER: A-11



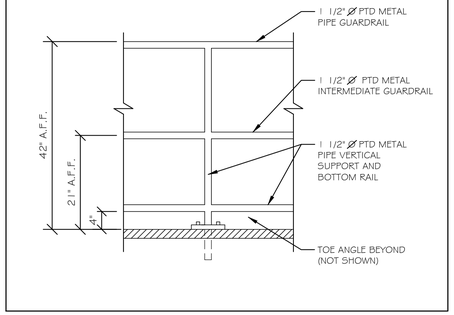
1 TYPICAL WALL HANDRAIL SECTION 3"= 1'-0"



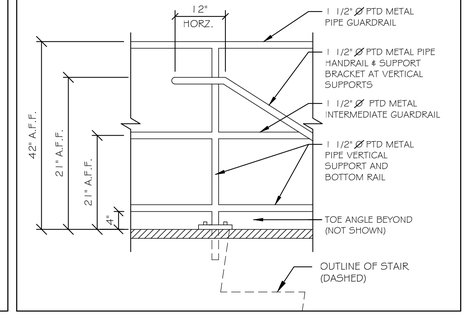
2 TYPICAL WALL HANDRAIL 1 1/2"= 1'-0"



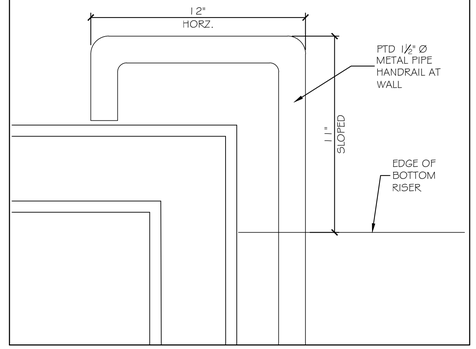
3 TYPICAL WALL HANDRAIL - BOTTOM 1 1/2"= 1'-0"



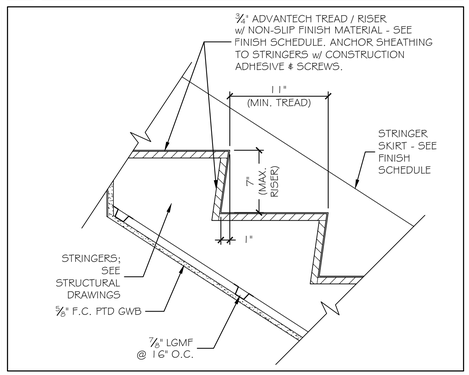
4 TYPICAL GUARDRAIL (OSHA) 3/4"= 1'-0"



5 TYPICAL GUARDRAIL/HANDRAIL (TOP) 3"= 1'-0"



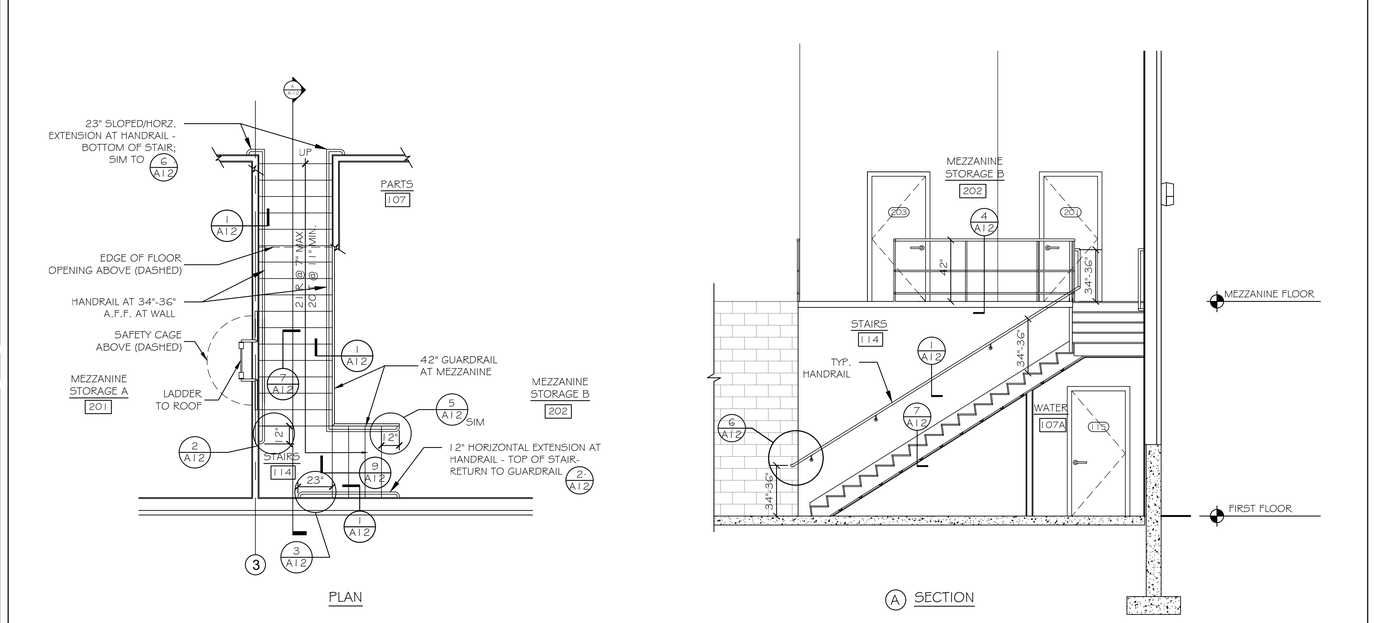
6 HANDRAIL RETURN AT CORNER 3"= 1'-0"



7 TYPICAL STAIR DETAIL 3"= 1'-0"

8

9



10 STAIR PLAN & SECTION 1/4" = 1'-0"

Scale:

Designed by: Michael F. Hays, RA

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
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LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

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AEI PROJECT NO. 18-080

MAINE TURNPIKE

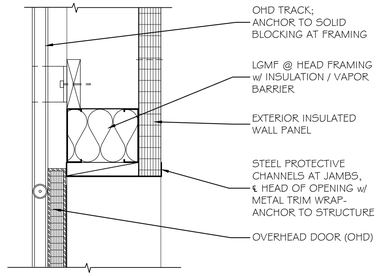
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

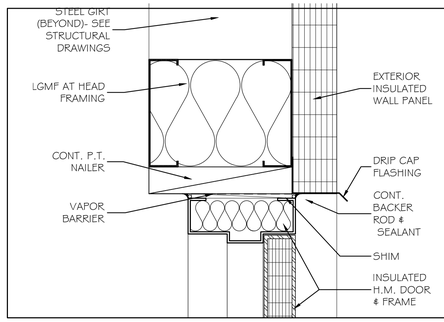
CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
STAIR PLAN, SECTION & DETAILS

SHEET NUMBER: A-12

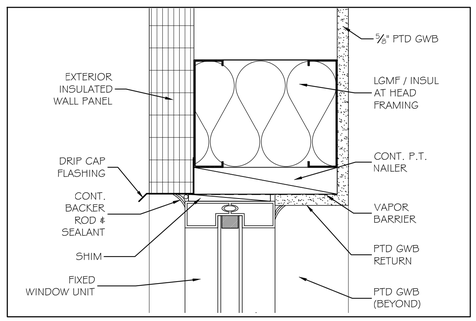
CONTRACT: 2019.12



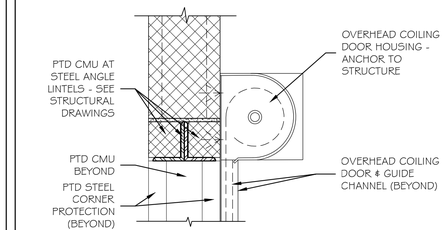
① HEAD AT OVERHEAD SECTIONAL DOOR/EXT. METAL PANEL 1½" = 1'-0"



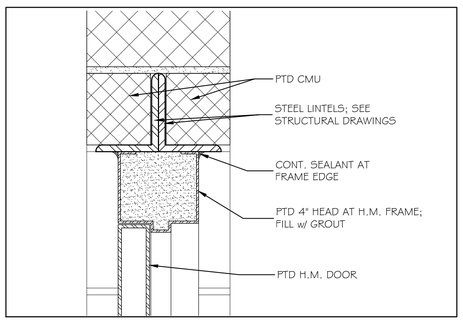
④ EXT. H.M. DOOR HEAD DETAIL 3"= 1'-0"



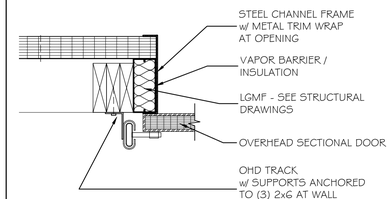
⑦ WINDOW HEAD DETAIL 3"= 1'-0"



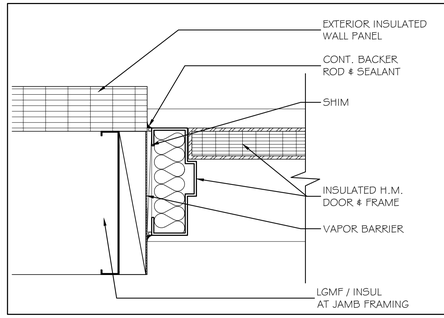
⑩ HEAD AT OVERHEAD COILING DOOR / CMU 1½" = 1'-0"



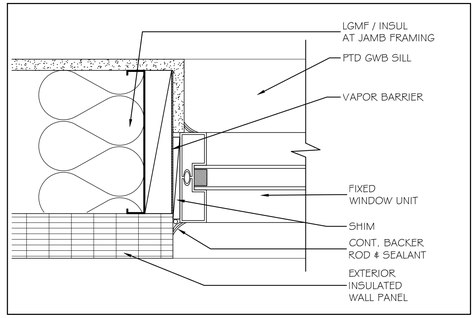
⑬ HEAD AT INTERIOR H.M. DOOR / CMU 3"= 1'-0"



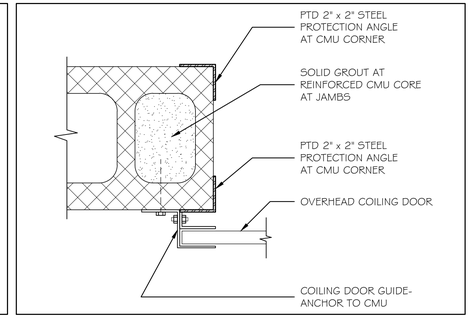
② JAMB AT OVERHEAD SECTIONAL DOOR/EXT. METAL PANEL 1½" = 1'-0"



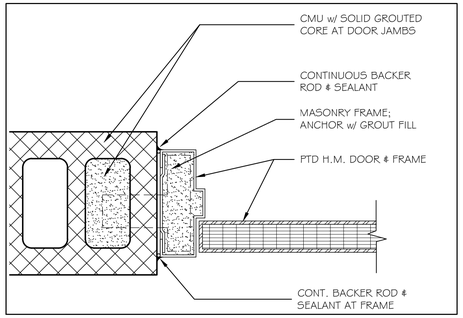
⑤ EXT. H.M. DOOR JAMB DETAIL 3"= 1'-0"



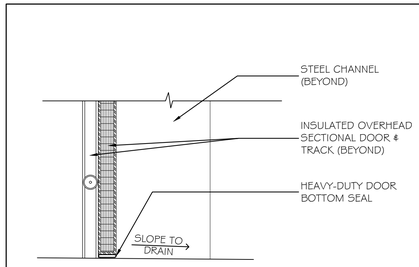
⑧ WINDOW JAMB DETAIL 3"= 1'-0"



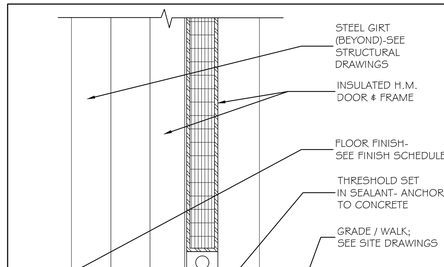
⑪ JAMB AT OVERHEAD COILING DOOR / CMU 3"= 1'-0"



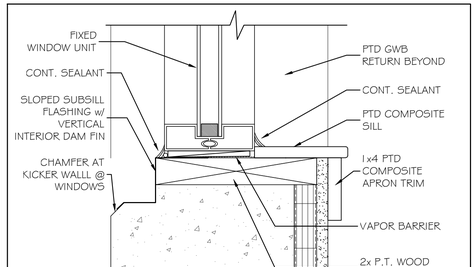
⑭ JAMB AT INTERIOR H.M. DOOR / CMU 3"= 1'-0"



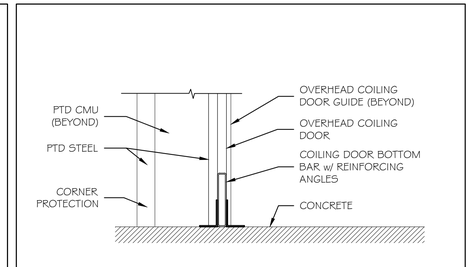
③ SILL AT OVERHEAD SECTIONAL DOOR/EXT. METAL PANEL 1½" = 1'-0"



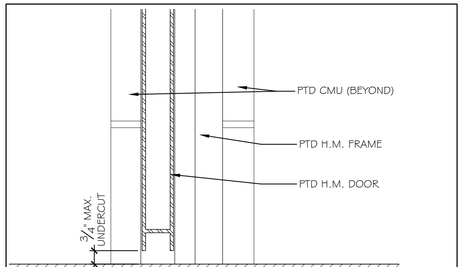
⑥ EXT. H.M. DOOR SILL DETAIL 3"= 1'-0"



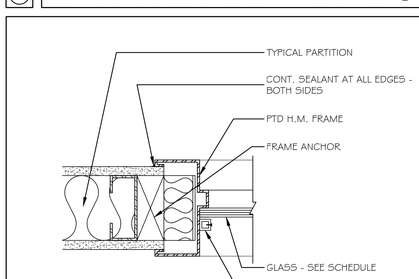
⑨ WINDOW SILL DETAIL 3"= 1'-0"



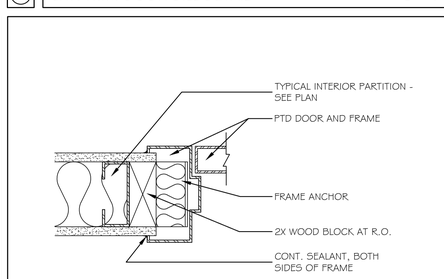
⑫ SILL AT OVERHEAD COILING DOOR / CMU 1½" = 1'-0"



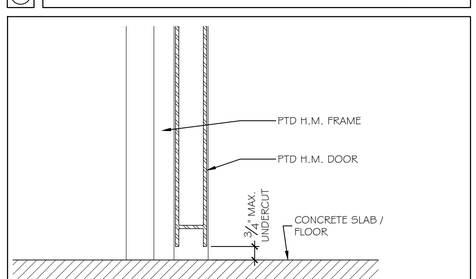
⑮ SILL AT INTERIOR H.M. DOOR / CMU 3"= 1'-0"



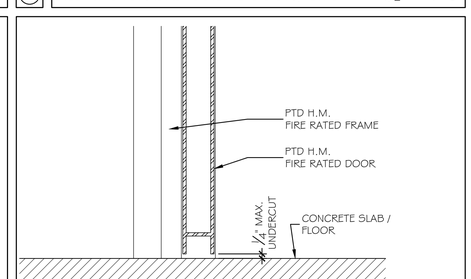
⑯ INTERIOR H.M. WINDOW (HEAD / JAMB / SILL) 3"= 1'-0"



⑰ TYP. H.M. DOOR JAMB (HEAD SIM.) 3"= 1'-0"



⑱ TYP. H.M. DOOR SILL 3"= 1'-0"



⑲ RATED H.M. DOOR SILL 3"= 1'-0"

⑳

Scale:

Designed by:

Michael F. Hays, RA

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

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AEI PROJECT NO. 18-080

MAINE TURNPIKE

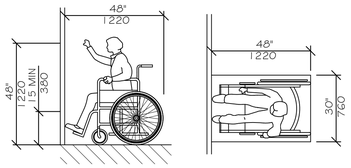
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
DETAILS

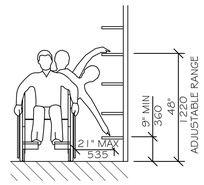
CONTRACT: 2019.12

SHEET NUMBER: A-13



HIGH FORWARD REACH LIMIT

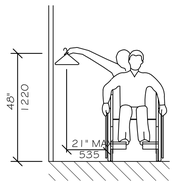
NTS



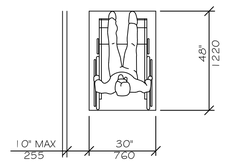
SHELVES

STORAGE SHELVES AND CLOSETS

NTS

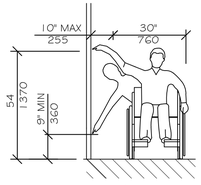


CLOSETS



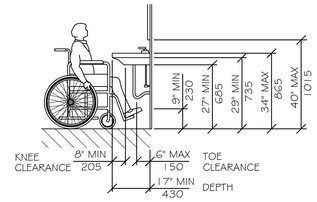
CLEAR FLOOR SPACE
PARALLEL APPROACH

NTS



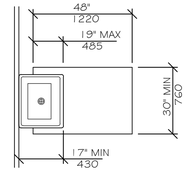
HIGH AND LOW
SIDE REACH LIMITS

NTS



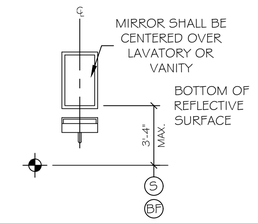
LAVATORY CLEARANCES

NTS



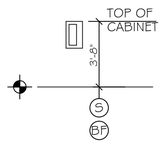
CLEAR FLOOR SPACE
AT LAVATORIES

NTS



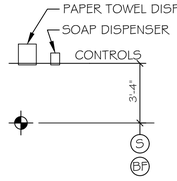
MIRROR OR MEDICINE CABINET

NTS



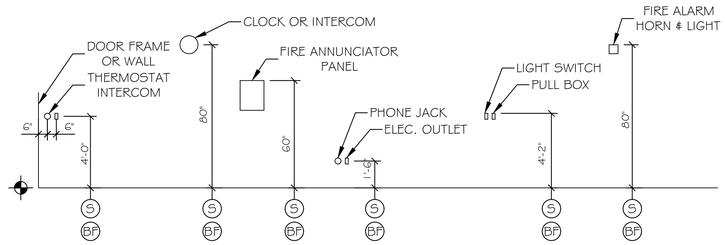
FIRE EXTINGUISHER
CABINET (FEC)

NTS



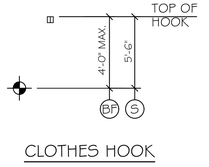
TOWEL & SOAP DISPENSERS

NTS



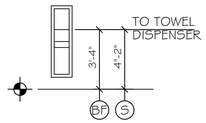
ELECTRICAL & FIRE PROTECTION DEVICES (TYPICAL U.O.N.)

NTS



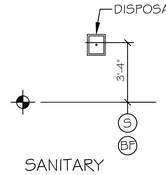
CLOTHES HOOK

NTS



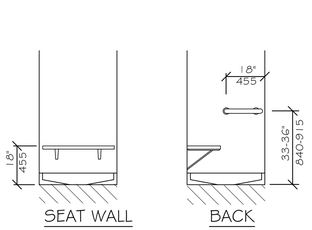
TOWEL DISPENSER
DISPOSAL UNIT

NTS



SANITARY
DISPOSAL UNIT

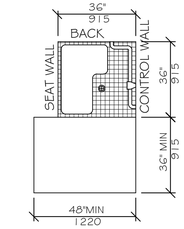
NTS



SEAT WALL BACK CONTROL WALL

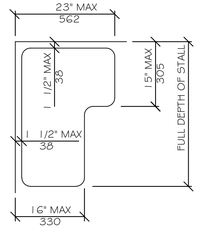
SHOWER SEAT ELEVATIONS

NTS



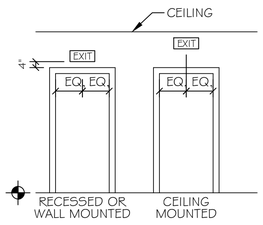
SHOWER STALL PLAN

NTS



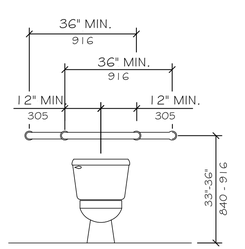
SHOWER SEAT DESIGN

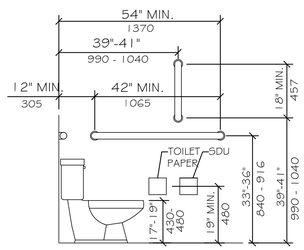
NTS



EXIT SIGNS
(TYPICAL UNLESS OTHERWISE NOTED)

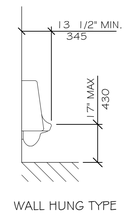
NTS





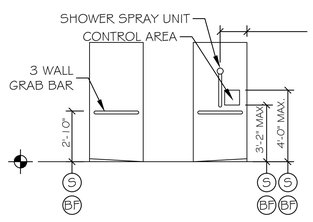
GRAB BARS AT WATER CLOSETS

NTS



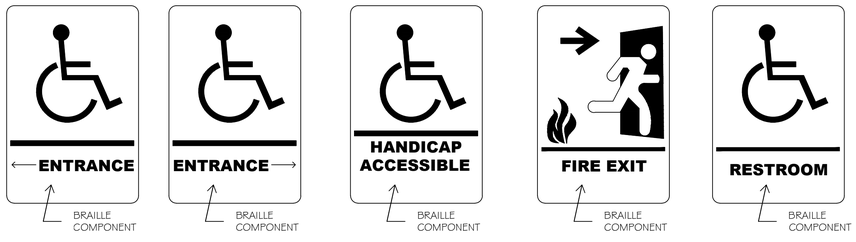
HEIGHT AND DEPTH OF URINAL

NTS



BARRIER FREE SHOWER

NTS



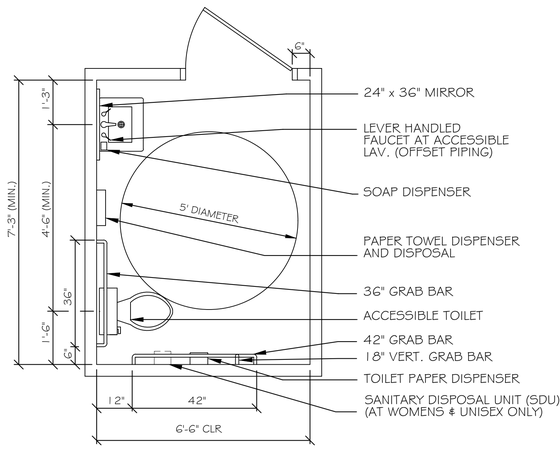
SIGN Ⓐ SIGN Ⓑ SIGN Ⓒ SIGN Ⓓ

LEGEND

- (S) STANDARD MOUNTING HEIGHT
- (BF) BARRIER FREE ADULT MOUNTING HEIGHT
- FINISH FLOOR LINE

NOTE

MOUNT ALL FIXTURES AT STANDARD MOUNTING HEIGHT UNLESS INDICATED ON PLAN BY A ♿ SYMBOL. A ♿ SYMBOL AT ANY ROOM SHALL INCLUDE ONE OF ANY FIXTURE AND ACCESSORY WITHIN THE ROOM.



1 TYPICAL ACCESSORIES

NTS

ACCESSIBILITY ACCESSORY MOUNTING HEIGHTS

GRAB BARS	33"-36"
TOILET PAPER HOLDER	19" MIN
TOWEL BAR/PAPER TOWEL DISPENSER	48" MAX
BUILT IN PAPER TOWEL DISPENSER	48" MAX
SOAP DISH/DISPENSER AT WALL	48" MAX
SANITARY DISPOSAL UNIT	19" MAX
MIRROR (BOTTOM)	40" MAX
SHELVES/STORAGE	48" MAX
ELECTRICAL SWITCHES/OUTLETS	48" MAX
COAT HOOKS/RODS	48" MAX
SIGNAGE (TO BRAILLE COMPONENT)	60" MAX

ACCESSIBILITY GENERAL NOTES

1. DOORWAYS SHALL HAVE A MINIMUM CLEAR WIDTH OF 32" WITH THE DOOR OPEN 90 DEGREES. MEASURED BETWEEN THE FACE OF THE DOOR AND THE OPPOSITE STOP.
2. ALL DOORS SHALL HAVE LEVER HANDLE HARDWARE, EXCEPT AT SECURED STORAGE ROOMS, MECHANICAL ROOMS, AND ELEVATOR MACHINE ROOMS.
3. ALL CLOSERS SHALL BE 5LB PULL MAXIMUM AT DOORS EQUIPPED WITH LEVER HANDLE HARDWARE.
4. ALL DOORS WITH CLOSERS SHALL HAVE 18" CLEAR DISTANCE FROM THE LATCHSIDE OF THE OPENING TO ANY ADJACENT WALL OR OBSTRUCTION ON THE PULL SIDE OF THE OPENING.
5. ALL DOORS WITH CLOSERS SHALL HAVE 12" CLEAR DISTANCE FROM THE LATCHSIDE OF THE OPENING TO ANY ADJACENT WALL OR OBSTRUCTION ON THE PUSH SIDE OF THE OPENING.
6. ALL SIGNAGE SHALL BE MOUNTED 60" AFF TO BRAILLE COMPONENT AT LATCH-SIDE WALL OF DOORS AND OPENINGS.
7. COMPLY WITH 2010 EDITION OF THE AMERICANS WITH DISABILITIES ACT.

Scale:

Designed by: Michael F. Hays, RA

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	MFH	10/15/19	Checked:	MFH	10/15/19
Drawn:	MGK	10/15/19			

LICENSED ARCHITECT MICHAEL F. HAYS No. 1724 STATE OF MAINE

GRANT HAYS ASSOCIATES
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AEI PROJECT NO. 18-080

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ACCESSIBILITY DETAILS & NOTES

SHEET NUMBER: A-14

CONTRACT: 2019.12

21 OF 41

FOUNDATIONS:

1. THE SITE SHALL BE PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY S.W. COLE ENGINEERING, INC., DATED APRIL 18, 2019. FOUNDATION DESIGNS SHALL BE BASED ON THE SOILS REPORT REFERENCED ABOVE. NET ALLOWABLE BEARING PRESSURE(S) LISTED BELOW SHALL BE VERIFIED BY THE OWNER'S TESTING AGENCY PRIOR TO PLACING FOOTING CONCRETE - 3.5 KSF.
2. EXTERIOR STRIP AND SPREAD FOOTINGS SHALL HAVE MINIMUM 5'-0" GRADE COVER TO BOTTOM OF FOOTING ELEVATIONS.
3. 10 MIL VAPOR BARRIER REQUIREMENTS BENEATH SLABS THROUGHOUT OFFICE AREA.
4. UNDERDRAINS SHALL BE PLACED AS SHOWN ON THE SITE DRAWINGS. UNDERDRAINS SHALL BE INSTALLED TO POSITIVELY DRAIN TO A SUITABLE DISCHARGE POINT AWAY FROM THE STRUCTURE. REFER TO SITE DRAWINGS FOR ADDITIONAL INFORMATION.
5. EXCAVATIONS FOR BUILDING FOUNDATIONS AND STRUCTURES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS. BRACED EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE. DO NOT UNDERMINE EXISTING ADJACENT FOUNDATIONS.
6. IN NO CASE SHALL HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION/BASEMENT WALL. IF THE CONTRACTOR DEEMS IT NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8'-0", THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND, AT HIS OWN EXPENSE, PROVIDE ADEQUATE SUPPORTS OR WALL BRACES TO WITHSTAND THE ADDITIONAL LOADS SUPERIMPOSED FROM SUCH EQUIPMENT.
7. CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND OR IN WATER.

CONCRETE:

1. CONCRETE WORK SHALL COMPLY WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS"; ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"; AND ACI 315 "ACI DETAIL MANUAL", AND CRSI "MANUAL OF STANDARD PRACTICE".
2. CONTRACTOR SHALL PROVIDE TIES AND BRACING WHERE NECESSARY DURING CONSTRUCTION, TO REMAIN IN PLACE UNTIL THE STRUCTURE(S) IS/ARE COMPLETE.
3. CONCRETE SHALL BE:
   A. FOOTINGS, PIERS AND FOUNDATION WALLS: 3,500 PSI AT (28) DAYS. SLUMP SHALL NOT EXCEED 6 INCHES (W/C RANGE: 0.48 – 0.52) – (AIR ENTRAINED).
   B. INTERIOR SLABS-ON-GRADE: (NO AIR)
      a. MAINTENANCE AREA - 4,000 PSI CONCRETE AT (28) DAYS. SLUMP SHALL NOT EXCEED 6 INCHES (W/C RANGE: 0.47 – 0.50).
      b. OFFICE AREAS - 3,500 PSI CONCRETE AT (28) DAYS. SLUMP SHALL NOT EXCEED 6-INCHES (W/C RANGE: 0.47 – 0.50).
   C. EXTERIOR SLABS ON GRADE SIDEWALKS, AND STAIRS SHALL BE 4000 PSI AT (28) DAYS. SLUMP SHALL NOT EXCEED 6-INCHES (W/C = 0.45 – 0.47) – (AIR ENTRAINED).
4. CONCRETE MATERIALS:
   A. PORTLAND CEMENT: ASTM C150, TYPE I OR II. USE ONE TYPE THROUGHOUT PROJECT.
   B. NORMAL WEIGHT AGGREGATES: ASTM C33. PROVIDE FROM SINGLE SOURCE FOR ENTIRE PROJECT. NO AGGREGATE CONTAINING SOLUBALE SALTS, IRON SULFIDES, PYRITE, MARCASITE, OR OCHRE WHICH CAN CAUSE STAINS ON EXPOSED CONCRETE SURFACES.
   C. LIGHTWEIGHT AGGREGATES: ASTM C330
   D. WATER: POTABLE
   E. AIR-ENTRAINING ADMIXTURE: ASTM C260
   F. HIGH RANGE WATER REDUCING ADMIXTURES (SUPER PLASTICIZER): ASTM C494, TYPE F OR G CONTAINING NOT MORE THAN 1% CHLORIDE IONS.
   G. NORMAL RANGE WATER REDUCING ADMIXTURES: ASTM C494 TYPE A CONTAINING NO CALCIUM CHLORIDE.
   H. ACCELERATING ADMIXTURES: ASTM C494, TYPE C OR E.
5. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH CONCRETE WALLS OR SLABS.
6. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS, AND SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH ACI 315-LATEST EDITION.
7. COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY CONTRACTOR AND SUBMITTED TO THE OWNER, FOR REVIEW BY EOR PRIOR TO COMMENCEMENT OF THAT PORTION OF THE WORK. ALL ACCESSORIES MUST BE SHOWN ON THE SHOP DRAWINGS.
8. WELDING OF REINFORCEMENT IS NOT PERMITTED.
9. ALL CONSTRUCTION JOINTS FOR SLABS SHALL BE KEY JOINTED AT MID-SPAN WITH REINFORCING DISCONTINUOUS AT JOINT AND FILLED WITH AN APPROPRIATE SEALANT FOR THE INTENDED USE.
10. CONTRACTOR WILL CHECK WITH EACH TRADE TO ASSURE CORRECT LOCATION, SIZE, LINE AND ELEVATION OF SLEEVES, BOND-OUTS, ETC. REQUIRED IN CONCRETE FLOORS AND WALLS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR FLOOR DRAIN SETTING AND EXTENTS OF AREA SLOPE TO DRAIN DEVELOPMENT. VERIFY WITH ARCHITECTURAL AND PLUMBING PLANS TO ENSURE COMPLETE AREA DRAINAGE PLAN MATCHES THE DESIGN INTENT, DEVELOPED BY DESIGN-BUILD TEAM.
12. MECHANICAL EQUIPMENT RESTING ON THE CONCRETE FLOOR SLAB SHALL HAVE A 4-INCH HIGH CONCRETE PAD UNDERNEATH; EXTENDING A MINIMUM OF 6-INCHES BEYOND UNIT EDGE (EACH DIRECTION), REINFORCED WITH #3 BARS AT 18-INCHES ON-CENTER, EACH WAY.
13. ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED. CONCRETE SHALL NOT BE IN DIRECT CONTACT WITH ALUMINUM.
14. PROVIDE IN SLABS-ON-GRADE: (2) #4 BARS, 4'-0" LONG, AT EACH REENTRANT CORNER AND BOTH SIDES OF EACH DOOR OPENING.
15. COORDINATE SLAB DEPRESSIONS AND ALL INTERIOR FLOOR SLOPES TO DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS.
16. SLAB THICKNESSES (ELEVATED OR ON-GRADE) INDICATED ON THE DRAWINGS ARE MINIMUMS. PROVIDE SUFFICIENT CONCRETE TO ACCOUNT FOR STRUCTURE DEFLECTION AND/OR SUBGRADE FLUCTUATIONS IN ORDER TO OBTAIN SPECIFIED SLAB ELEVATIONS AT THE FLATNESS AND LEVELNESS INDICATED IN THE SPECIFICATION.
17. ANCHOR BOLTS SHALL CONFORM TO ASTM A1554 – GRADE 36 UNLESS NOTED OTHERWISE ON PLAN.

GENERAL NOTES:

1. BUILDING CODE:
   A. INTERNATIONAL BUILDING CODE – 2015 EDITION
   B. ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2. CONTRACTOR SHALL CONFORM TO SAFETY REQUIREMENTS OF THE OWNER, AIA CONTRACT DOCUMENTS, OSHA SAFETY AND HEALTH STANDARDS, AND OTHER LOCAL AUTHORITIES IN CONNECTION WITH THE PERFORMANCE OF THIS PROJECT.
3. ALL REFERENCED STANDARDS OR PUBLICATIONS SHALL PERTAIN TO THE MOST CURRENT DATA, STANDARD OR PUBLICATION, UNLESS NOTED OTHERWISE.
4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND CIVIL DRAWINGS AND/OR NARRATIVES, WHICH DESCRIBE THE SCOPE OF WORK.
5. CONTRACTOR SHALL VISIT THE SITE AT A DESIGNATED TIME APPROVED BY THE OWNER, TO VERIFY EXISTING CONDITIONS, DIMENSIONS, LOCATION OF EXISTING UTILITIES, ETC. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES, WITHOUT EXCEPTION.
6. THE STRUCTURE SHALL BE DESIGNED AS A SELF-SUPPORTING SYSTEM ONCE ALL WORK HAS BEEN COMPLETED. CONTRACTOR IS SOLELY RESPONSIBLE FOR ERECTION PROCEDURES AND SEQUENCE OF INSTALLATION TO ENSURE SAFETY OF THE BUILDING AND ITS OCCUPANTS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS AND TEMPORARY SHORING, PRECAUTIONS DURING BUILDING OPERATIONS, PROTECTION OF PUBLIC AND WORKERS, REMOVAL OF WASTE MATERIAL, PROTECTION OF ADJACENT PROPERTY, PROTECTION OF HAZARDOUS OPENINGS, SAFETY PRECAUTIONS, AND SANITARY PROVISIONS OF EMPLOYEES AND SUB-CONTRACTORS, AS REQUIRED, FOR THE DURATION OF THE CONTRACT.
7. WORK SHALL BE DONE IN AN ORDERLY AND PROFESSIONAL MANNER. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK TO BE DONE BY SUB-CONTRACTORS, LOCAL AUTHORITIES, STATE AGENCIES AND/OR UTILITY COMPANIES WHICH MAY HAVE JURISDICTION OVER THIS PROJECT.
8. UTILITY EXTENSIONS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH STATE AND LOCAL CODES.
9. CONTRACTOR SHALL REVIEW AND SUBMIT COMPLETE SHOP DRAWINGS FOR ALL SPECIFIED PARTS OF THE WORK. NO PORTION OF THE WORK COVERED BY THESE SHOP DRAWINGS SHALL COMMENCE UNTIL RETURNED APPROVED SHOPS ARE RECEIVED BY CONTRACTOR. SHOP SUBMITTAL PACKAGES SHALL INCLUDE, BUT NOT BE LIMITED TO:
   A. SITE: SHORING AND CONSTRUCTION METHODS/SEQUENCING, WHERE APPLICABLE.
   B. CONCRETE: MIX DESIGNS, ADMIXTURES, MIX HISTORIES; REBAR ORIGIN STRENGTH/GRADE; REBAR PLACEMENT DRAWINGS.
   C. COLD-FORMED METAL FRAMING: COLD-FORMED METAL CUT SHEETS, CONNECTIONS, PLACEMENT DRAWINGS ALONG WITH HEADER/JAMB AT OPENINGS AND FRAMING ELEMENT CALCULATIONS SIGNED BY A PE, REGISTERED IN THE PROJECT STATE.
   D. PRE-ENGINEERED BUILDING: PRE-ENGINEERED BUILDING CALCULATIONS AND DRAWINGS, STEEL FRAMING COMPONENTS AND CONNECTIONS, ALL SEALED BY A PE REGISTERED IN THE PROJECT STATE.
   E. STRUCTURAL STEEL: MISCELLANEOUS STEEL FRAMING COMPONENT SHOP DRAWINGS, ALONG WITH APPLICABLE FRAMING COMPONENT AND CONNECTION CALCULATIONS, ALL SEALED BY A PE REGISTERED IN THE PROJECT STATE.
   F. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY EXISTING ITEMS DAMAGED BY NEW CONSTRUCTION, AND FOR ANY INCIDENTAL REPAIRS OF EXISTING FINISHED SURFACES DISTURBED BY NEW CONSTRUCTION; SUCH REPAIRS SHALL MATCH EXISTING TO THE OWNER'S SATISFACTION.
10. CONTRACTOR IS RESPONSIBLE FOR COORDINATING, HANDLING, AND STORAGE OF ITEMS/MATERIALS TO REMAIN THE PROPERTY OF THE OWNER WITH THE OWNER'S REPRESENTATIVE.
11. SPECIAL INSPECTIONS, AS REQUIRED BY IBC 2015 SECTION 1704, SHALL BE PERFORMED BY AN INSPECTION AGENCY CONTRACTED BY THE OWNER FOR ALL SPECIFIC REQUIREMENTS OFFERED IN THE STRUCTURAL NOTES SECTION OF S-000.

MASONRY NOTES:

1. PROVIDE AND INSTALL MASONRY LINTELS FOR MASONRY WALL OPENINGS.
2. CONCRETE MASONRY AND BLOCK VENEER LINTELS SHALL HAVE 8-INCH (MIN) END BEARING UNLESS OTHERWISE NOTED.
3. CONCRETE MASONRY BLOCK WALLS WITH VERTICAL REINFORCING SHALL HAVE CORES FILLED WITH 3000 PSI CONCRETE. INSTALLATION OF REINFORCEMENT SHALL BE CONTINUOUS AND RUN UNOBSTRUCTED BY BAR JOIST SEAT/BEARING PLATE ARRANGEMENTS. HORIZONTAL REINFORCEMENT SHALL BE PROVIDED @ 16-INCHES ON-CENTER VERTICALLY.
4. VERTICAL CONTROL, EXPANSION OR CONTRACTION JOINTS SHALL BE SHOWN ON THE CONTRACT DOCUMENTS AT LOCATIONS DETERMINED BY THE CONTRACTOR'S STRUCTURAL ENGINEER.
5. HOLLOW CONCRETE BLOCK UNITS: GRADE N, 3,250 PSI CMU NET AREA, DESIGN STRENGTH, F'M = 2,500 psi.
6. LAY UNITS IN RUNNING BOND - CORNERS SHALL HAVE A STANDARD BOND BY OVERLAPPING UNITS.
7. MORTAR: TYPE S.
8. MAXIMUM GROUT LIFT WITHOUT CLEANOUTS SHALL NOT EXCEED 4'-0" IN BLOCK WALLS.
9. IN 8-INCH WALLS, PROVIDE VERTICAL REINFORCING IN CENTER OF GROUT, AT CENTER OF WALL, CONTINUOUS FULL HEIGHT OF WALL AS FOLLOWS:
   A. (1) #5 VERTICAL AT CORNERS, INTERSECTIONS, WALL ENDS, JAMBS AND EACH SIDE OF EXPANSION OR CONTROL JOINTS.
   B. (1) #5 VERTICAL AT 48-INCHES ON-CENTER TYPICAL. (UNLESS NOTED ON PLAN)
   C. **(1) #5 VERTICAL IN EACH CORE WITHIN 12-INCHES OF WALL CORNERS.**
10. MASONRY LAID IN OUTSIDE AIR TEMPERATURES BELOW 40°F SHALL BE PROTECTED IN ACCORDANCE WITH THE PROVISIONS OF THE "IMIAWC RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY".
11. MASONRY BLOCK CORES BELOW FINISH FLOOR SHALL BE FILLED SOLID WITH CONCRETE.

STRUCTURAL NOTES:

1. MINIMUM LOADING REQUIREMENTS:
   A. DESIGN CODES:
      a. INTERNATIONAL BUILDING CODE – 2015
      b. ASCE/SEI 7-10 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
      c. AISC SEISMIC DESIGN MANUAL – 2012
      d. MBMA'S "METAL BUILDING SYSTEMS MANUAL
   B. DESIGN PARAMETERS
      a. ROOF SNOW LOADS: (EXCEPT AT DRIFTING SNOW LOCATIONS AND THOSE LISTED BELOW EOR TO DETERMINE DRIFTING SNOW LOCATIONS)
         1. GROUND SNOW LOAD: P_G = 60.0 PSF
            A. IMPORTANCE FACTOR: I_s = 1.20
            B. COLD ROOF SLOPE FACTOR: C_s = 1.0
            C. THERMAL FACTOR: C_t = 1.10
            D. EXPOSURE FACTOR: C_e= 1.0
            E. TERRAIN CATEGORY: "B"
         2. FLAT ROOF SNOW LOAD: P_f = 55.4 PSF
   C. ROOF DEAD LOAD: 20 PSF (INCL. 8.0 PSF, FOR FUTURE SOLAR ARRAY)
   D. ROOF LIVE LOAD:
      a. STANDARD ROOF LIVE LOAD: 20 PSF
   E. FLOOR LIVE LOADS:

		UNIFORM	CONCENTRATED	PARTITION
a.	OFFICE BUILDINGS			
1.	OFFICES	50 PSF	2,000#	15 PSF
2.	1ST FLOOR CORRIDORS	100 PSF	2,000#	
3.	CORRIDORS ABOVE 1ST FLOOR	80 PSF	2,000#	
4.	MEZZANINE/STORAGE - LIGHT	125 PSF		
5.	VEHICLE MAINTENANCE FLOOR – DESIGN FOR TRUCKS AND BUSES SHALL BE PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS; HOWEVER, PROVISIONS FOR FATIGUE AND DYNAMIC LOAD ALLOWANCE ARE NOT REQUIRED TO BE APPLIED.			

   F. WIND:
      a. FACTORS:
         1. ASCE-7-10: V_{ult} = 120 MPH, V_{asd} = 93 MPH
         2. EXPOSURE CATEGORY: B
         3. BUILDING HEIGHT: <30'
   G. SEISMIC
      a. DESIGN DATA:
         1. BUILDING RISK CATEGORY: IV – ESSENTIAL FACILITY
         2. MAPPED RESPONSE SPECTRAL ACC. (0.2 SEC.): S_S = 0.232G
         3. MAPPED RESPONSE SPECTRAL ACC. (1.0 SEC.): S_1 = 0.079G
         4. SOIL SITE CLASSIFICATION: D
         5. DESIGN RESPONSE SPECTRAL ACC. @ 5% DAMPED DESIGN: S_{DS} = 0.247GS_{D1} = 0.126G
         6. SEISMIC DESIGN CATEGORY: C
         7. BASIC SEISMIC FORCE-RESISTING SYSTEM: H1 (SEE BELOW)
         8. SEISMIC BASE SHEAR: 32 KIPS
         9. SEISMIC RESPONSE COEFFICIENT C_S = 0.124
         10. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
      b. DESIGN COEFFICIENTS AND FACTORS FOR SEISMIC FORCE RESISTING SYSTEMS
         1. STEEL SYSTEMS NOTE SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
            A. ORDINARY STEEL CONCENTRICALLY BRACED FRAMES
               a. RESPONSE MODIFICATION R = 3
               b. SYSTEM OVERSTRENGTH FACTOR Ω_0 = 3
               c. DEFLECTION AMPLIFICATION FACTOR C_D = 3

SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS: AN INDEPENDENT INSPECTIONS PROGRAM AND SCHEDULE SHALL BE INCLUDED AND ARRANGED FOR, BY THE CONTRACTOR.
2. A QUALIFIED PERSON APPROVED BY THE BUILDING OFFICIALS SHALL MAKE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC-2015, AND AS DEFINED. SPECIAL INSPECTOR SHALL OBSERVE WORK FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS.
3. INSPECTION REPORTS SHALL BE FURNISHED TO THE OWNER, BUILDING OFFICIAL, ARCHITECT AND SER. DISCREPENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR AND IF NOT CORRECTED, SHALL BE REPORTED TO THE OWNER, BUILDING OFFICIAL, ARCHITECT AND SER.
4. THE FOLLOWING TYPES OF WORK SHALL RECEIVE SPECIAL INSPECTION OVERSITE: STRUCTURAL STEEL FABRICATION, ERECTION AND CONNECTIONS, METAL DECK FASTENING, INSTALLATION OF REINFORCING STEEL FOR CONCRETE, ALL CONCRETE PLACEMENT AND STRENGTH TESTING, AND STRUCTURAL FILL PLACEMENT.

FIELD TESTING

1. BOLTED CONNECTIONS: 100% OF COMPONENTS AND FASTENERS IN SLIP CRITICAL CONNECTIONS, AS IDENTIFIED IN THE PROJECT CONTRACT DOCUMENTS, SHALL BE VISUALLY INSPECTED AND TESTED FOR TIGHTNESS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR STRUCTURAL JOINTS, PARTS 8 AND 9.
2. CHECK BY CALIBRATION TORQUE WRENCH: 25% OF BOLTS IN EACH NON-SC SHEAR CONNECTION, BUT NOT LESS THAN (2) PER CONNECTION.
3. FIELD-WELDED CONNECTIONS: PERFORM TESTING IN ACCORDANCE WITH ANSI/AWS D1.1, CHAPTER 6.
4. CONDUCT TESTING OF 10% OF WELDS ON STRUCTURAL STEEL BY DYE PENETRATION OR MAGNETIC PARTICLE TESTING.
5. CONDUCT TESTING OF 100% OF GROOVE, PLUG, OR SLOT WELDS IN STRUCTURAL STEEL BY ULTRASONIC TESTING OR OTHER NONDESTRUCTIVE TESTING, APPROVED BY ENGINEER OF RECORD.
6. RADIOGRAPHICALLY TEST 5% OF ALL FULL-PENETRATION WELDS.
7. WELDED SHEAR STUDS: 10% OF STUDS SHALL BE TESTED BY BENDING OR TORQUEING IN ACCORDANCE WITH ANSI/AWS D1.1 SECTION 7.8.
8. THE STRUCTURAL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE INSPECTION AND TESTING REQUIREMENTS TO BE COMPLETED.

COLD-FORMED (LIGHT-GAGE) STRUCTURAL STEEL

1. COLD-FORMED METAL FRAMING (CFMF) UNITS INCLUDE C-SHAPED STEEL STUDS, T-SHAPED TRACKS FOR LOAD AND NON-LOAD BEARING WALLS AND C-SHAPE JOISTS.
2. (PER DIVISION 05 54 00): THE FOLLOWING COLD-FORMED FRAMING SHALL BE PER THE SIZES SPECIFIED ON THE CONTACT DOCUMENTS. CFM DESIGNER SHALL INCLUDE SPECIFIED FRAMING SIZES AND INCLUDE ALL NECESSARY ACCESSORIES AND CONNECTIONS FOR THESE WALL AND FLOOR ELEMENTS IN THEIR SHOP SUBMITTAL. DRAWINGS AND CONNECTION REQUIREMENTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD FOR REVIEW FOR THE FOLLOWING ELEMENTS:
   A. BEARING WALL FRAMING SIZES.
   B. SHEAR WALL POSTS, STRAPS AND BOOT ASSEMBLIES.
   C. MEZZANINE FLOOR FRAMING JOISTS AND SUPPLEMENTAL FRAMING AT OPENINGS.
   D. BUILT-UP CFM POSTS AT SPECIFIC LOCATIONS THROUGHOUT THE BUILDING.
   E. ALL NECESSARY ACCESSORIES AND CONNECTIONS FOR THESE WALL AND FLOOR FRAMING ELEMENTS.
3. (PER DIVISION 05 54 00): THE FOLLOWING COLD-FORMED FRAMING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT LOCATION STATE. DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD FOR REVIEW FOR THE FOLLOWING ELEMENTS:
   A. INTERIOR, LOAD-BEARING AND NON-LOAD-BEARING WALL FRAMING, ALONG WITH WINDOW/DOOR HEADER, JAMB AND SILL ELEMENTS.
   B. MISCELLANEOUS SUPPORT FRAMING AT EXTERIOR CEILINGS AND/OR SOFFITS.
   C. CEILING JOIST FRAMING ALONG WITH ANY NECESSARY OPENINGS FOR MECHANICAL AND PLUMBING ELEMENTS.
   D. SOFFIT FRAMING.
   E. HEADERS, JAMBS AND SILLS FOR DOOR AND WINDOW OPENINGS IN BOTH BEARING AND NON-LOAD BEARING WALLS.
   F. ALL NECESSARY ACCESSORIES AND CONNECTIONS FOR THESE WALLS AND FLOOR FRAMING ELEMENTS.
4. ALL COMPONENTS SHALL CONFORM TO AISI "SPECIFICATIONS FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND ASTM A446. ALL STUD WALL COMPONENTS, FLOOR AND CEILING JOISTS, AND ACCESSORIES SHALL BE G-60 GALVANIZED (ASTM A525).
5. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S PRINTED OR WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
6. TEMPORARY BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE TEMPORARY BRACING AS REQUIRED MAINTAINING A PLUMB STRUCTURE UNTIL ERECTION IS COMPLETE. DO NOT REMOVE BRACING UNTIL WORK IS PERMANENTLY STABILIZED.
7. FIELD CUTTING OF LIGHT GAUGE FRAMING MEMBERS MAY BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF LIGHT GAUGE MEMBERS IS UNACCEPTABLE.
8. SPLICING OF WALL STUDS IS NOT ALLOWED, UNLESS OTHERWISE STATED.
9. WELDS SHALL CONFORM TO AWS D1.1, AWS D1. AND AISI MANUAL SECTION E2. WELDS SHALL BE TOUCHED-UP USING A ZINC-RICH PAINT. WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS.
10. NOTCHING OR COPING OF STUDS IS NOT ALLOWED, UNLESS OTHERWISE STATED.
11. USE A MINIMUM OF THREE STUDS AT THE CORNER OF ALL WALLS.
12. FASTEN BOTH FLANGES OF STUDS TO TOP AND BOTTOM TRACK, EXCEPT AT DEFLECTION TRACK LOCATIONS, UNLESS OTHERWISE STATED.
13. SQUARELY AND TIGHTLY SEAT STUDS AGAINST WEBS OF TOP AND BOTTOM TRACK, EXCEPT AT DEFLECTION TRACK LOCATIONS.
14. PROVIDE AT LEAST 12" OF UNPUNCHED STEEL AT ALL BEARING POINTS.
15. THE FRAMING ERECTOR IS TO ENSURE PUNCH OUT ALIGNMENT WHEN ASSEMBLING LATERAL BRACING AND FIELD CUTTING STUDS TO LENGTH. LATERAL BRACING MUST BE INSTALLED AT THE TIME THE WALL IS ERECTED. FAILURE TO INSTALL LATERAL BRACING AT THIS TIME MAY COMPROMISE THE STRUCTURAL INTEGRITY OF THE FRAMING ASSEMBLY AND/ OR BUILDING.
16. ALL HEADERS AND BUILT-UP BEAMS ARE TO BE CONSTRUCTED WITH CONTINUOUS, UNPUNCHED MATERIAL ONLY. SPLICING HEADER MEMBERS IS NOT ALLOWED, UNLESS OTHERWISE STATED.
17. STUDS SHALL BE SO POSITIONED THAT STUDS ALIGN ABOVE AND BELOW FLOOR AND ROOF FRAMING JOISTS.
18. FOR SPECIFIC REQUIREMENTS AND WARRANTY INFORMATION ON SYSTEMS OR MATERIAL OR MATERIALS CONNECTED AND APPURTENANT TO THE COLD FORMED STEEL FRAMING INCLUDING WINDOWS, CAULKING AND FLASHING, REFER TO MANUFACTURER'S DATA. THE INTEGRITY OF THE BUILDING ENVELOPE, INCLUDING SIDING, FLASHING, ETC, TO PREVENT WATER PENETRATION/DAMAGE, IS IN NO WAY THE RESPONSIBILITY OF THE ENGINEER.
19. DETAILS OF ALL FINISHES ARE FOR ARRANGEMENT AND REFERENCE. FOR SPECIFIC REQUIREMENTS, METHODS, MATERIAL, AND EXECUTION STANDARDS, REFER TO TECHNICAL DATA FROM PRODUCT MANUFACTURER. IN THE EVENT OF CONFLICT, MANUFACTURER'S INSTRUCTION SHALL DICTATE.
20. DESIGN PERFORMED IN ACCORDANCE WITH THE AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS".
21. ALL MEMBERS INDICATED ON THE CONTRACT DOCUMENTS ARE TO CONSIDERED MINIMUM PER STRUCTURAL DESIGN. INCREASES IN FLANGES AND GAUGES AS DESIRABLE OR AS OTHERWISE REQUIRED THROUGH COORDINATION BETWEEN OTHER TRADES, IS GENERALLY ACCEPTABLE PROVIDED AVAILABLE SPACE REQUIREMENTS ARE MAINTAINED.

MATERIALS:

1. ALL LIGHT GAUGE FRAMING MEMBERS SHALL BE MANUFACTURED FROM STEEL THAT MEETS THE REQUIREMENTS OF AISI SPECIFICATIONS, LATEST EDITION.
2. ALL DIAGONAL STRAP BRACING SHALL BE OF A FLAT STOCK. MATERIAL FROM A COILED STOCK IS NOT ALLOWED.
3. FRAMING COMPONENTS SHALL BE GALVANIZED PER ASTM A653, MINIMUM COATING PER PROJECT SPECIFICATIONS.
4. GALVANIZED STUDS, TRACKS, FLOOR JOISTS AND ACCESSORIES SHALL BE FORMED FROM THE FOLLOWING YIELD STRENGTH AND ITS RESPECTIVE GAUGE: 33 MIL-33 KSI, 43 MIL-33 KSI, 54 MIL AND HEAVIER – 50 KSI, UNLESS NOTED OTHERWISE.

CONNECTIONS:

1. FASTENER PENETRATION TROUGH JOINED MATERIALS SHALL NOT BE LESS THAN THREE EXPOSED THREADS. MINIMUM SPACING AND EDGE DISTANCE OF SCREW FASTENERS SHALL NOT BE LESS THAN 5/8"
2. PAF'S, EXPANSION ANCHOR SYSTEM, MASONRY SCREW SYSTEMS, AND ADHESIVE ANCHOR SYSTEMS DESIGN VALUES ARE BASED ON HILTI PUBLISHED VALUES, UNLESS OTHERWISE STATED.
3. SCREW DESIGN VALUES ARE BASED ON AISI/LGSEA PUBLISHED VALUES.
4. ALL WELDED CONNECTIONS ARE TO BE PERFORMED BY A QUALIFIED WELDER IN ACCORDANCE WITH THE LATEST VERSION OF AISI D1.3 SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES. REFER TO AWS D19.0 WELDING ZINC COATED STEEL AND ANSELF-TAPPING SCREWS SHALL HAVE A PROTECTIVE COATING AT LEAST EQUIVALENT TO CADMIUM OR ZINC PLATING (ASTM A165 TYPE NS) FOR USE IN EXTERIOR ASSEMBLIES.
5. FASTENING OF COMPONENTS SHALL BE WITH SELF-TAPPING SCREWS OR WELDING OF SUFFICIENT SIZE TO MEET OR EXCEED THE DESIGN LOADS AND TO ASSURE THE STRENGTH OF THE CONNECTION.
6. PROVIDE BRIDGING AT 4' ON-CENTER VERTICAL MAXIMUM SPACING. PROVIDE BLOCKING AS INDICATED, AND AS REQUIRED BY AISI.
7. ALL FIELD ABRASIONS TO MEMBERS FROM FIELD WELDING SHALL BE TOUCHED UP WITH ZINC-RICH PAINT.
8. AT TRACK BUTT JOINTS, TRACK MUST BE ANCHORED TO A COMMON STRUCTURAL ELEMENT WITHIN 6 INCHES OF END OF TRACK.
9. STUDS SHALL BE SEATED SQUARELY IN TRACK WITH STUD FLANGES ABUTTING THE TRACK FLANGES. STUDS SHALL BE PLUMBED, ALIGNED AND SQUARELY ATTACHED TO FLANGES OF TOP AND BOTTOM TRACK WITH 2-#10 TEK SCREWS MINIMUM UNLESS NOTED ON PLANS.

Scale:

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

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	By	Date		By	Date
Designed:	JPM	10/15/19	Checked:	WPF	10/15/19
Drawn:	PED	10/15/19			

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MAINE TURNPIKE

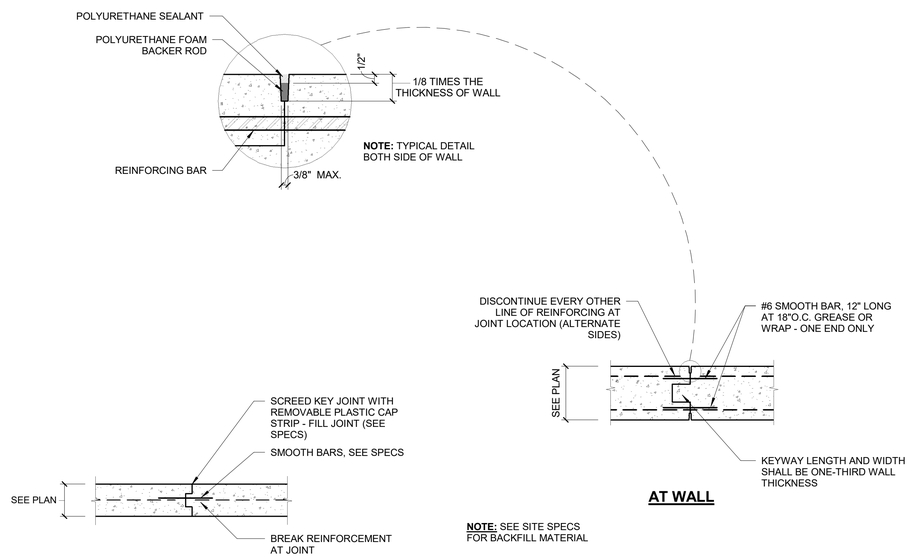
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

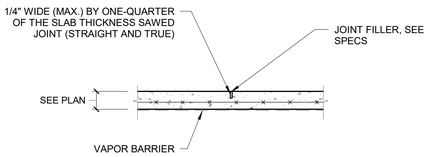
CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 STRUCTURAL - GENERAL INFORMATION

SHEET NUMBER: S-000

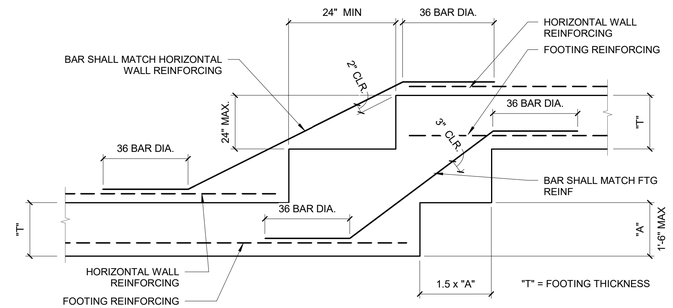
CONTRACT: 2019.12



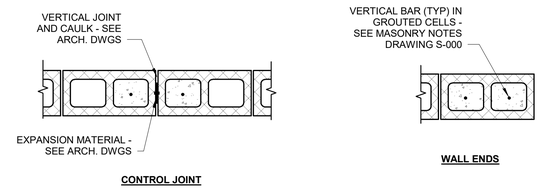
D1	TYPICAL WALL AND SLAB CONSTRUCTION JOINT DETAIL
3/4" = 1'-0"	



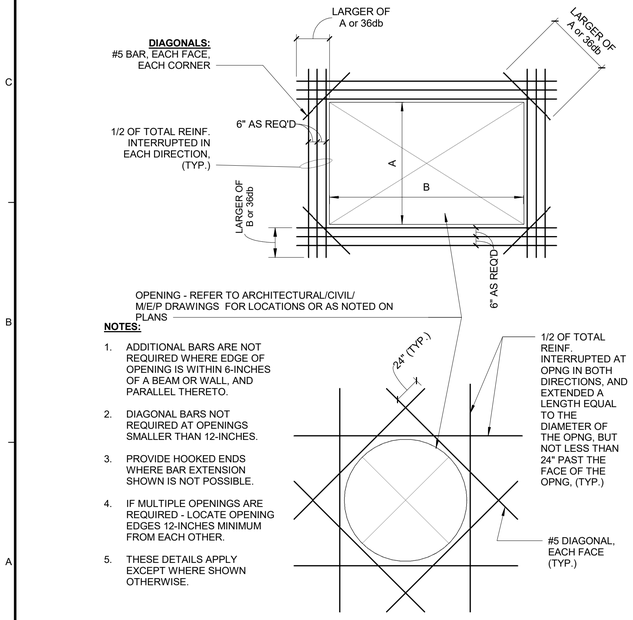
F5	TYPICAL CONTROL JOINT IN SLAB DETAIL
3/4" = 1'-0"	



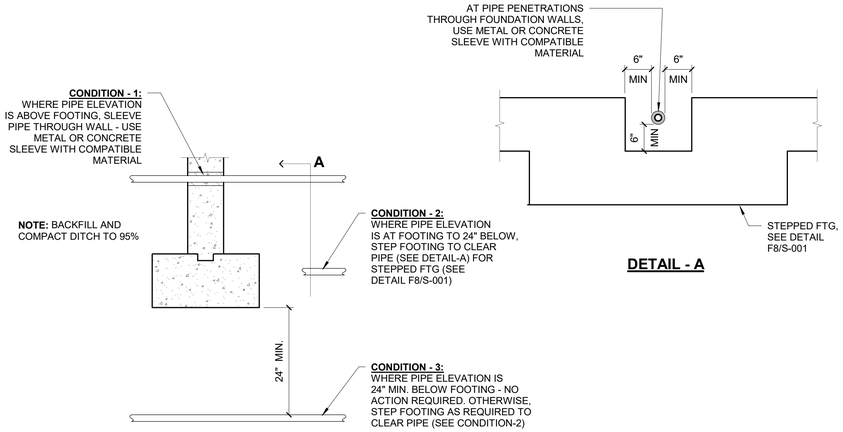
F8	TYPICAL STEPPED FOOTING DETAIL
3/4" = 1'-0"	



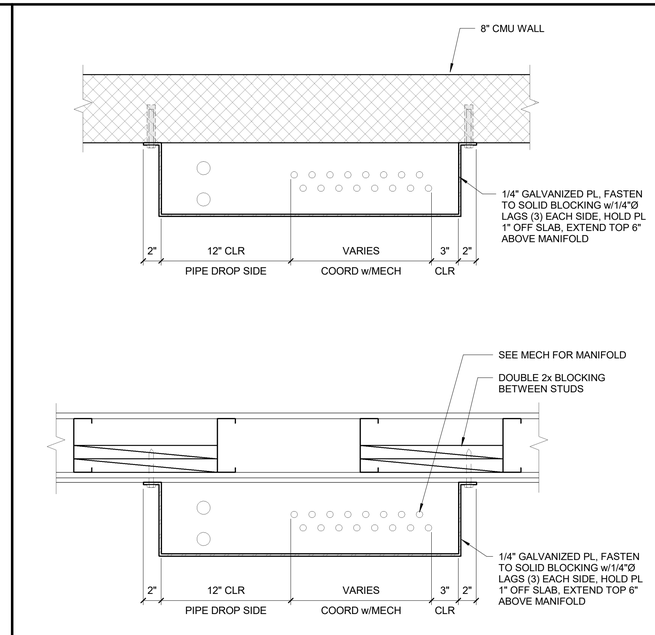
D5	TYPICAL CMU REINFORCING DETAILS
1" = 1'-0"	



A1	TYPICAL ADDITIONAL REINF. FOR OPENING IN CONCRETE WALL/SLAB
3/4" = 1'-0"	



A4	TYPICAL PIPE AT FOOTING DETAIL
3/4" = 1'-0"	



A8	MANIFOLD BARRIER DETAILS
1 1/2" = 1'-0"	

Scale: As indicated

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

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MAINE TURNPIKE

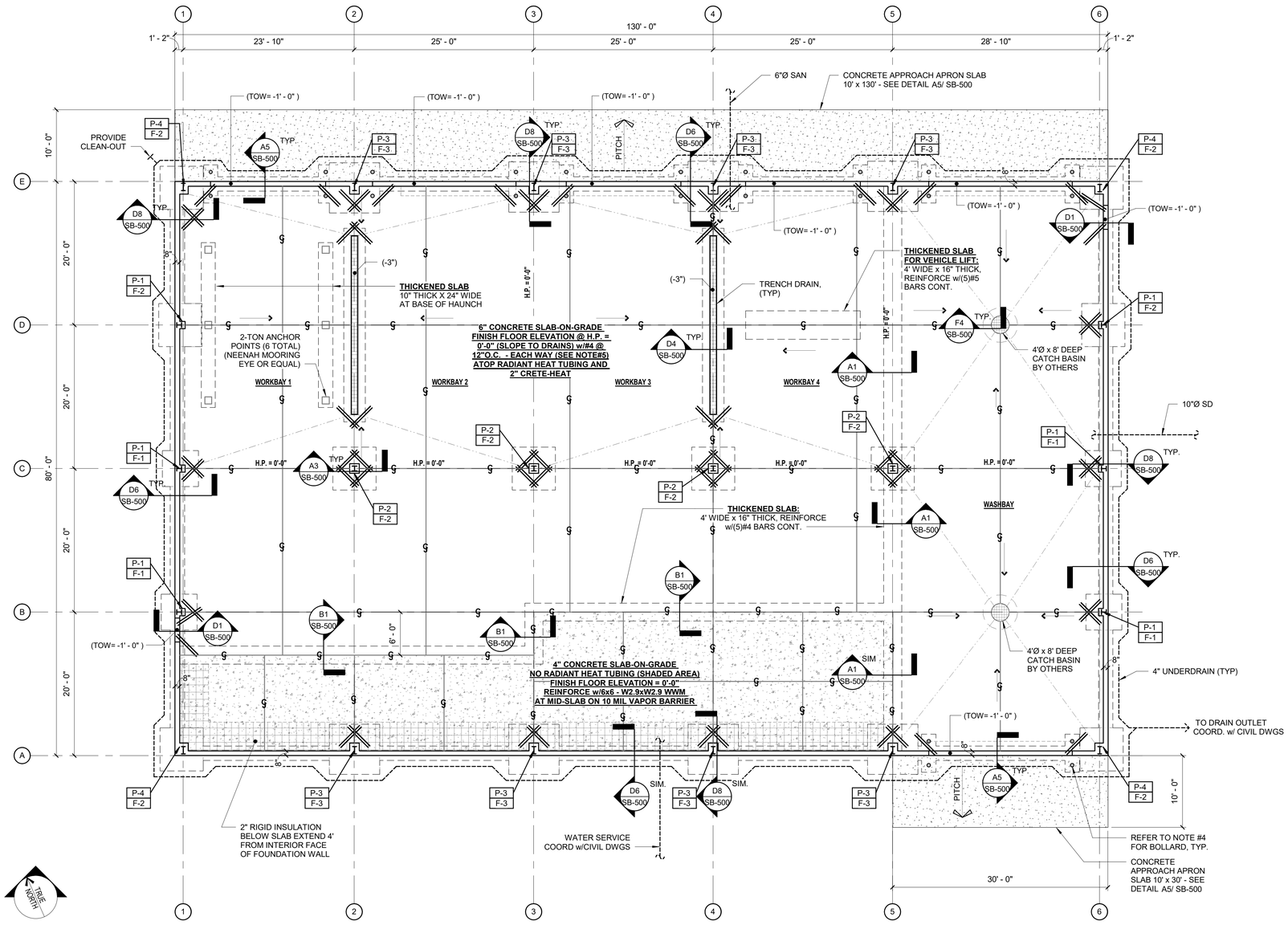
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
STRUCTURAL - TYPICAL DETAILS

SHEET NUMBER: S-001

CONTRACT: 2019.12



FOUNDATION PLAN NOTES:

1. FINISH SLAB ELEVATION = 348.25' (NOMINALLY REFERRED TO 0'-0" IN THESE DRAWINGS) UNLESS NOTED OTHERWISE.
2. TOP OF WALL ELEVATION = 4'-0" UNLESS NOTED OTHERWISE
3. BOTTOM OF FOOTING SHALL BE 5'-0" MIN. BELOW FINISHED GRADE
4. PROVIDE BOLLARDS AT EACH OVERHEAD DOOR AS SHOWN ON PLAN - SET BOLLARD ON A 2'-0" SQ. x 12-INCH THICK FOOTING MIN. REFER TO TYPICAL BOLLARD DETAIL A8/ SB-500
5. REINFORCING FOR 6" INTERIOR SLAB SHALL BE SET ATOP CRETE-HEAT INTEGRATED BOLSTERS. TYPICAL AT NON CRETE-HEAT AREAS (i.e. TRENCH DRAIN LOCATIONS) REINFORCING SHALL BE 1" CLEAR FROM BOTTOM OF SLAB.
6. COORDINATE WITH CIVIL DRAWINGS FOR INFORMATION REGARDING UTILITY LOCATIONS AND ELEVATION AT FOUNDATIONS. STEP FOOTINGS AT THESE LOCATIONS AS REQUIRED - REFER TO DETAIL F8/ S-001

F-# INDICATES FOOTING TYPE - SEE SB-100 FOR SCHEDULE

P-# INDICATES CONCRETE PIER - SEE SB-100 FOR SCHEDULE

PIER SCHEDULE		
MARK	SIZE	REINFORCING
P-1	12 x 16	(4)#6 BARS VERTICAL w/#3 TIES @ 12"O.C. (3) @ 3" AT TOP
P-2	16 x 16	(4)#6 BARS VERTICAL w/#3 TIES @ 12"O.C. (3) @ 3" AT TOP
P-3	16 x 21	(8)#6 BARS VERTICAL w/#3 TIES @ 12"O.C. (3) @ 3" AT TOP
P-4	22 x 21	(8)#6 BARS VERTICAL w/#3 TIES @ 12"O.C. (3) @ 3" AT TOP

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING
F-1	5'-0" x 5'-0" x 1'-2"	(4)#6 BARS, E.W. - BOTTOM
F-2	6'-0" x 6'-0" x 1'-2"	(5)#6 BARS, E.W. - BOTTOM
F-3	7'-0" x 7'-0" x 1'-2"	(6)#6 BARS, E.W. - BOTTOM

DIMENSIONAL LAYOUT / FOUNDATIONS / PIER SIZES ARE PRELIMINARY. FINAL DIMENSIONS / FOUNDATIONS / PIER SIZES SHALL BE DETERMINED UPON RECEIPT AND APPROVAL OF FINAL PRE-ENGINEERED METAL BUILDING (PEMB) SHOP DRAWING SUBMITTAL PACKAGE INCLUDING MEMBER SIZES AND REACTIONS.

A1 | STRUCTURAL ~ FOUNDATION PLAN

1/8" = 1'-0"

Scale: 1/8" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: WILLIAM P. FAUCHER, P.E.

STATE OF MAINE · WILLIAM P FAUCHER #7133 · REGISTERED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	JPM	10/15/19	Checked:	WPF	10/15/19
Drawn:	PED	10/15/19			

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AEI PROJ.NO.: 18-080 | CAD FILE: 18080_S-R19.rvt

MAINE TURNPIKE

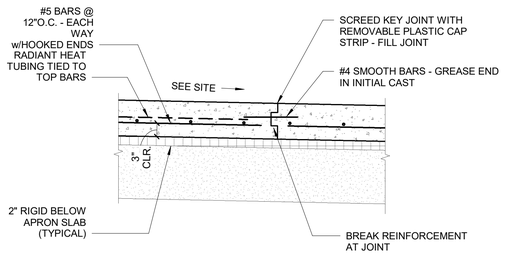
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

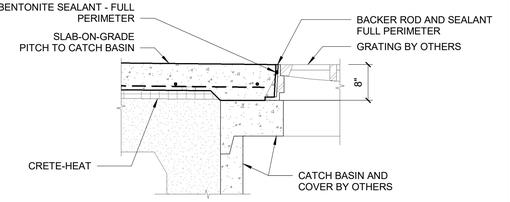
CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
STRUCTURAL - FOUNDATION PLAN

SHEET NUMBER: SB-100

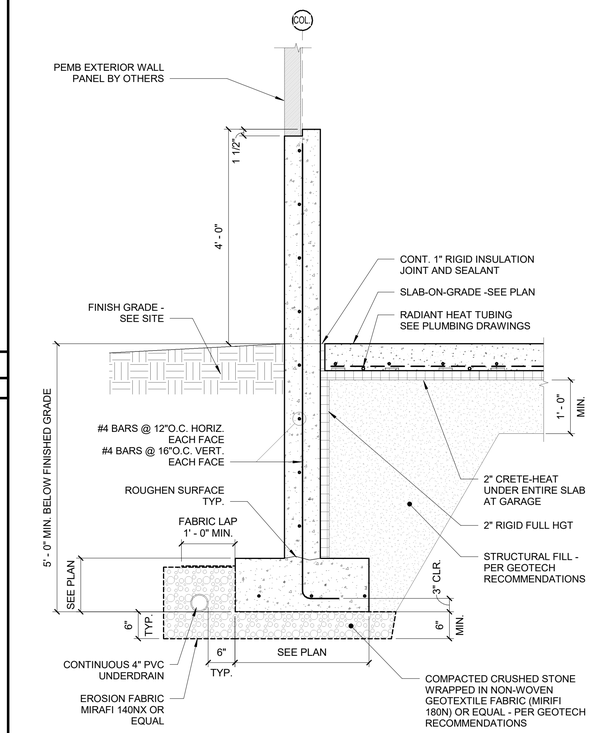
CONTRACT: 2019.12



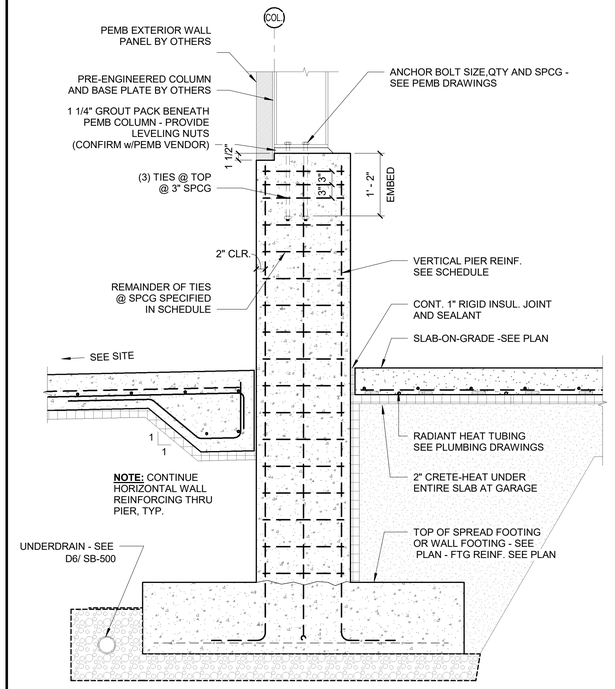
F1	CONSTRUCTION JOINT IN APRON SLAB
3/4" = 1'-0"	



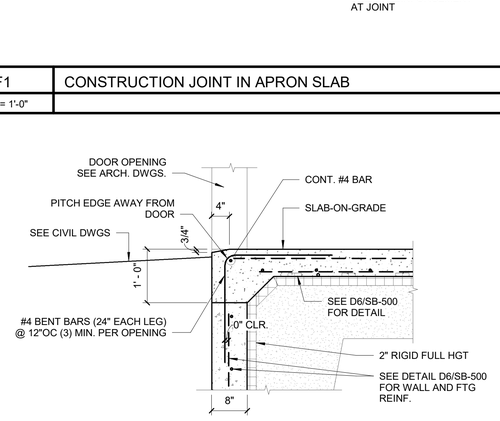
F4	SLAB AT CATCH BASIN
3/4" = 1'-0"	



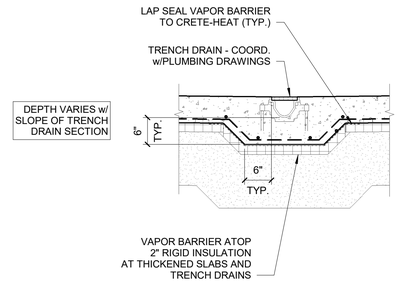
D6	TYPICAL FOUNDATION WALL SECTION
3/4" = 1'-0"	



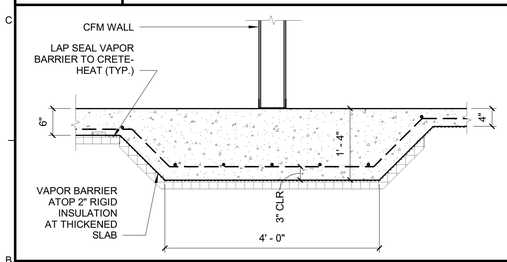
D8	SECTION THROUGH PIER AT WALL
3/4" = 1'-0"	



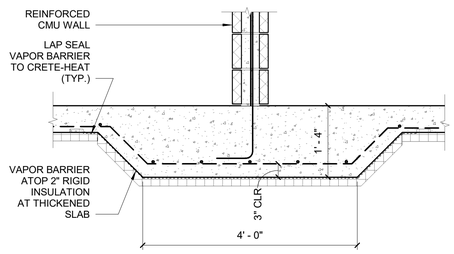
D1	TYPICAL EXTERIOR SLAB DETAIL AT ENTRY
3/4" = 1'-0"	



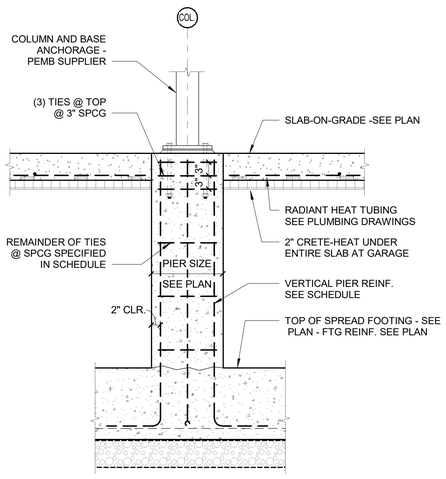
D4	DETAIL AT TRENCH DRAIN
3/4" = 1'-0"	



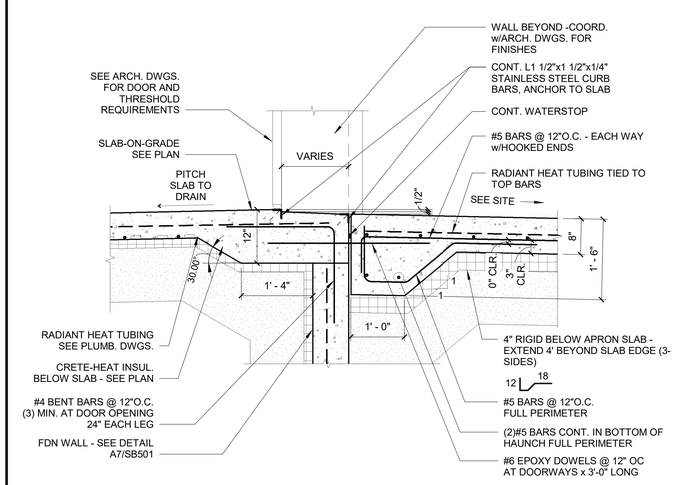
B1	DETAIL AT THICKENED SLAB AT CFM
3/4" = 1'-0"	



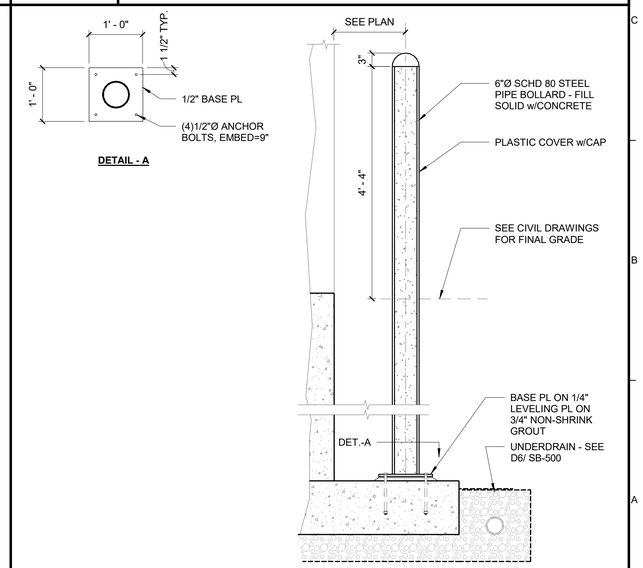
A1	DETAIL AT THICKENED SLAB AT CMU
3/4" = 1'-0"	



A3	TYPICAL PIER DETAIL
3/4" = 1'-0"	



A5	TYPICAL EXT. FND WALL AT OHD DOOR
3/4" = 1'-0"	



A8	TYPICAL BOLLARD DETAIL
3/4" = 1'-0"	

Scale: 3/4" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: WILLIAM P. FAUCHER, P.E.

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	By	Date		By	Date
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7

STRUCTURAL - FOUNDATION DETAILS

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT: 2019.12

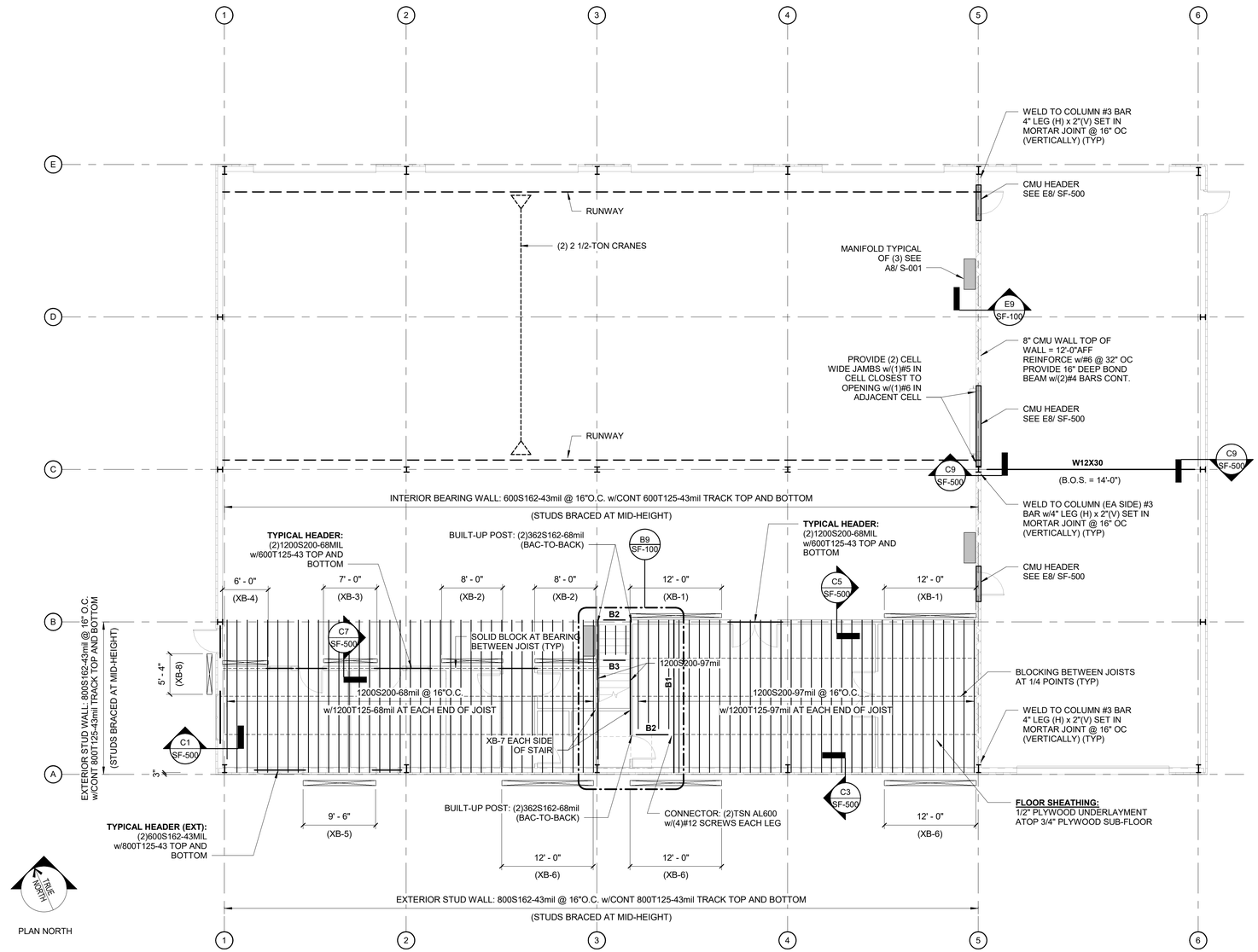
SHEET NUMBER: SB-500

FRAMING PLAN NOTES:

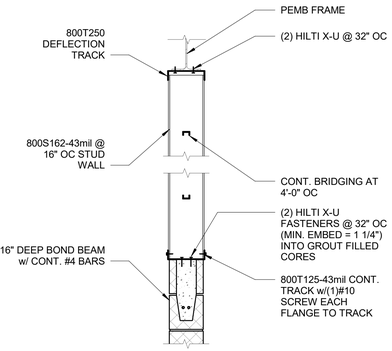
1. TOP OF CFM JOIST FRAMING ELEVATION = 111'-10 3/4", TOP OF MEZZANINE FINISH FLOOR ELEVATION = 112'-0"

2. FIRST WIND GIRT ELEVATION AT MEZZANINE WALLS SHALL BE SET AT 1'-0" ABOVE MEZZANINE FINISH FLOOR. PROVIDE (1) ROW OF 4"x18GA STEEL STRAP FASTENED TO OUTSIDE FACE OF EXTERIOR STUD WALL USING (3)#12 SCREWS PER STUD - CENTER STRAP BETWEEN FINISH FLOOR AND FIRST GIRT.

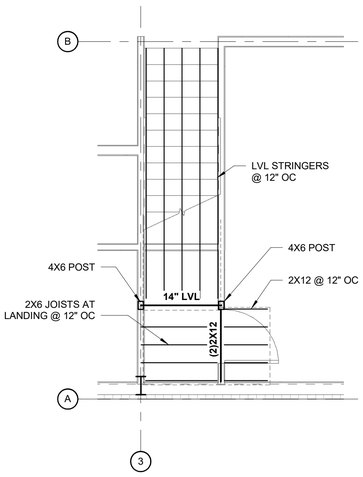
B1 (2)1200S200-97
B2 (1)1200T200-97+ (1)1200S200-97
B3 (1)1200S200-97



A1	STRUCTURAL ~ FLOOR FRAMING PLAN
1/8" = 1'-0"	



E9	CFMF ABOVE CMU DETAIL
3/4" = 1'-0"	



B9	STAIR FRAMING PLAN
1/4" = 1'-0"	

Scale:	Designed by:	Allied Engineering	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 STRUCTURAL - FRAMING PLAN
As indicated	WILLIAM P. FAUCHER, P.E.	Structural Mechanical Electrical Plumbing			SHEET NUMBER: SF-100

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

	By	Date		By	Date
Designed:	JPM	10/15/19	Checked:	WPF	10/15/19
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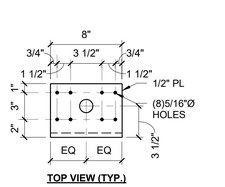
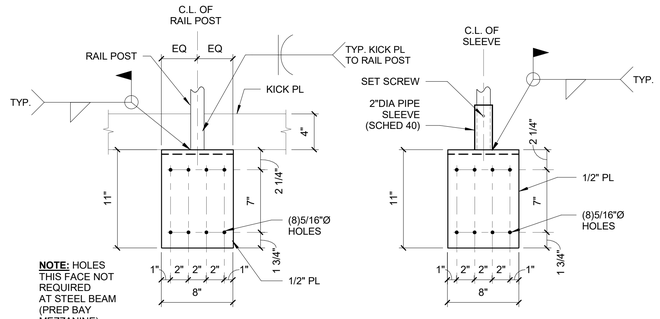
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT: 2019.12



TOP VIEW (TYP.)



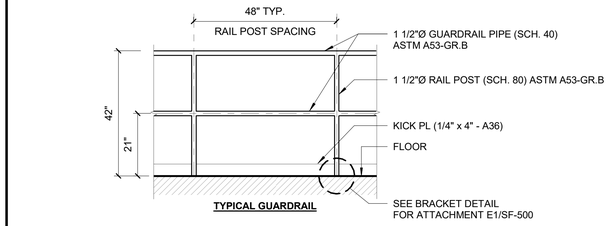
NOTE: HOLES THIS FACE NOT REQUIRED AT STEEL BEAM (PREP BAY MEZZANINE)

SINGLE RAIL POST

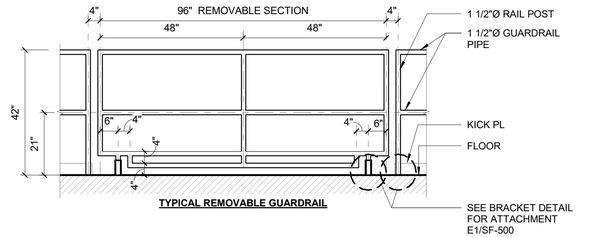
RAIL POST w/SLEEVE FOR REMOVABLE SECTION

NOTE: FILL ALL HOLES w/1/4"Ø x 3" LONG MIN. LAG SCREW

E1	BRACKET DETAIL
1 1/2" = 1'-0"	

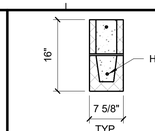


TYPICAL GUARDRAIL



TYPICAL REMOVABLE GUARDRAIL

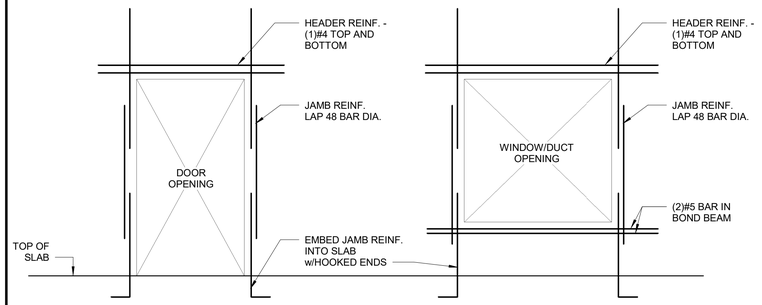
E5	GUARDRAIL DETAILS
1/2" = 1'-0"	



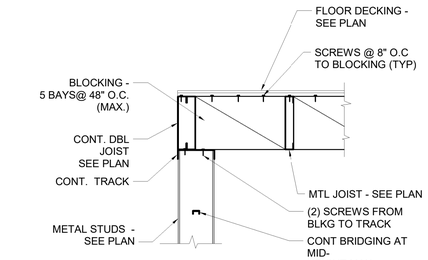
CMU HEADER

NOTES:

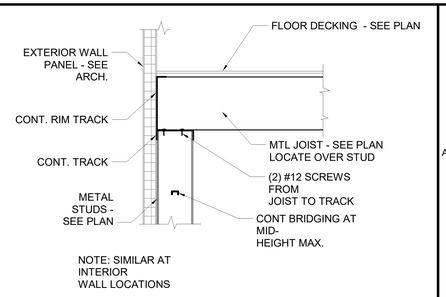
1. SEE MASONRY NOTES ON SHEET S-000
2. PROVIDE 48 BAR DIAMETER SPLICES IN MASONRY WALLS, 36 BAR DIAMETER BAR EMBEDMENT IN CONCRETE WALLS (HOOK BAR WHEN EMBEDDING INTO SLAB)
3. JAMB REINFORCING = (1)#5



E8	CMU HEADER SCHEDULE
3/4" = 1'-0"	

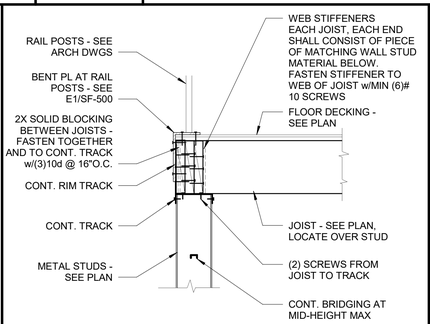


C1	CFMF NON BEARING JOIST
3/4" = 1'-0"	

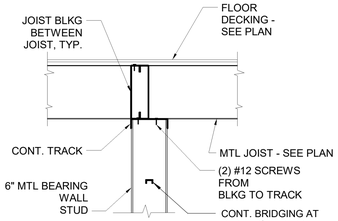


NOTE: SIMILAR AT INTERIOR WALL LOCATIONS

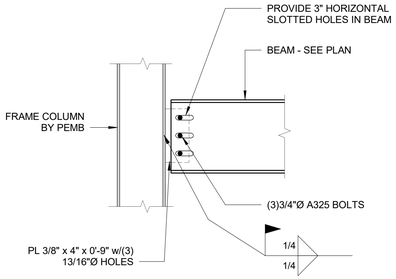
C3	CFMF BEARING DETAIL AT EXTERIOR WALL
3/4" = 1'-0"	



C5	CFMF BEARING DETAIL
3/4" = 1'-0"	



C7	CFMF AT INTERIOR BEARING WALL
3/4" = 1'-0"	



C9	DIVIDER SUPPORT BEAM TO PEMB FRAME COLUMN
1" = 1'-0"	

CFMF FASTENERS AND CONNECTORS:

CONNECTOR	SUBSTRATE	DESCRIPTION	PRODUCT
SCREWS	METAL TRACK	#12 x 5/8" PAN HEAD	GENERIC
	STUD-TO-STUD	#12 x 5/8" HEX HEAD	GENERIC
	METAL TO STRUCT. STEEL	#12-24 x 1 1/4" HEX HEAD, #5 TIP	BUILDEX "TEKS" HILTI KWIK-PRO
	WOOD FRMG or PLWD	#12-20 x 2 3/4" PHILLIPS FLAT HEAD, #4 WINGS	BUILDEX "TEKS" HILTI KWIK-PRO
P.A.F.'s	CONCRETE or GROUTED CMU	0.157"Ø x 1 1/4"	HILTI X-U
	STRUCTURAL STEEL	0.157"Ø x 5/8"	HILTI X-U

NOTES:

1. SEE SECTIONS AND DETAILS FOR LOCATION AND NUMBER OF CONNECTORS

MEMBER IDENTIFICATION:

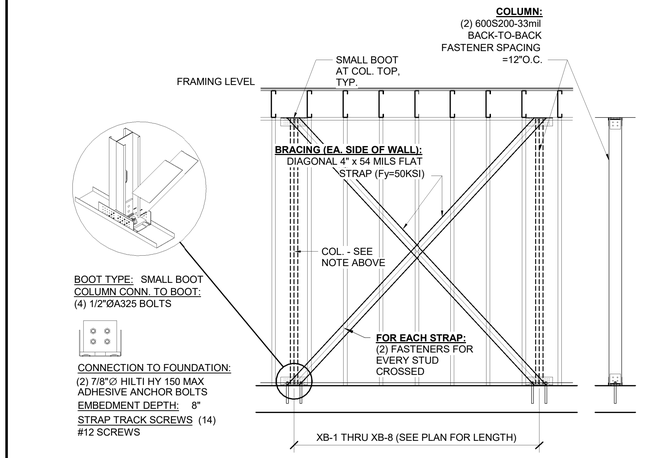
NOTES:

1. MEMBER TYPES AND SIZES SHOWN IN THIS DRAWING SET FOLLOW THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) STANDARDS. ANY MANUFACTURER WHOSE PRODUCT GEOMETRIES MEET OR EXCEED SSMA STANDARDS ARE ACCEPTABLE.

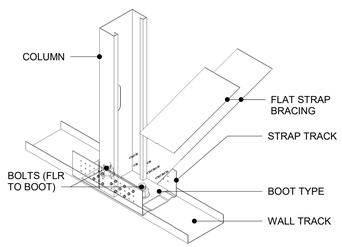
THE LAST TWO NUMBERS INDICATE THE STEEL THICKNESS

SSMA	GAUGE	DESIGN	MINIMUM	COLOR CODING
33 mils	20	0.0346"	0.0329"	WHITE
43 mils	18	0.0451"	0.0428"	YELLOW
54 mils	16	0.0566"	0.0538"	GREEN
68 mils	14	0.0713"	0.0677"	ORANGE
97 mils	12	0.1017"	0.0966"	RED

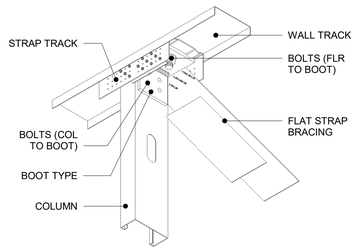
A1	TYP. CFMF CONNECTION SCHEDULE wMEMBER IDEN
1/8" = 1'-0"	



A4	CMFM (X-BRACE) SCHEMATIC
3/8" = 1'-0"	



A7	BASE OF COLUMN CONNECTION
3/4" = 1'-0"	



A9	TOP OF COLUMN CONNECTION
3/4" = 1'-0"	

Scale: As indicated

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: WILLIAM P. FAUCHER, P.E.

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 STRUCTURAL - DETAILS

SHEET NUMBER: SF-500

CONTRACT: 2019.12

PIPE ELBOW TURNED DN
PIPE ELBOW TURNED UP
PIPING TEE DOWN
PIPING TEE UP
PIPE RISER
45° ELBOW DOWN
PIPING TO BE REMOVED
CAPPED PIPING
CAPPED BELOW FINISHED FLOOR
CONCENTRIC REDUCER
ECCENTRIC REDUCER
DIRECTION OF FLOW
PIPE PITCHES DOWN
PIPE GUIDE
EXPANSION JOINT
PIPE ANCHOR
UNION
FLANGED CONNECTION
BACKFLOW PREVENTER
FLEXIBLE CONNECTION
SHUT-OFF/ISOLATION VALVE REFER TO SPECIFICATIONS
GATE VALVE ~ OUTSIDE SCREW & YOKE (OS&Y)

GLOBE VALVE
LOCKABLE BALL VALVE
PLUG VALVE
2-WAY CONTROL VALVE
3-WAY CONTROL VALVE
LOCK & SHIELD VALVE
CHECK VALVE
BALANCING VALVE CIRCUIT SETTER
AIR VENT ~ REFER TO SPECIFICATIONS
STRAINER WITH BLOWDOWN VALVE AND CAP
EXPANSION VALVE (AUTOMATIC)
RELIEF/SAFETY VALVE
PRESSURE GAUGE WITH COCK
SIGHT GLASS
PRESSURE REDUCING VALVE
FLOW SWITCH
SELF-CONTAINED TEMP. CONTROL VALVE WITH REMOTE SENSOR

STEAM TRAP (FLOAT & THERMOSTATIC INDICATED T.T.= THERMOSTATIC TRAP, B.T.= BUCKET TRAP)
PUMP ~ POINT OF TRIANGLE INDICATES DIRECTION OF FLOW
GAS SHUT-OFF VALVE
HOSE END DRAIN VALVE W/CAP
TEMPERATURE/PRESSURE TAP (PETE'S PLUG)
THERMOMETER WITH COCK
SOLENOID VALVE
ORIFICE FLOWMETER
DIFFERENTIAL PRESSURE TRANSMITTER
HUMIDIFIER (DUCT/AHU MOUNTED)
FINNED TUBE BASEBOARD
HOSE BIB/WALL HYDRANT
FLOOR CLEANOUT
FUSIBLE LINK VALVE
WALL CLEANOUT
AQUASTAT

EXPANSION LOOP
EXPANSION LOOP (BRAIDED/MANUFACTURED)
FLOOR DRAIN
SHOCK ABSORBER (WATER HAMMER ARRESTER)
FIRE DEPARTMENT CONNECTION
FREE STANDING FIRE DEPARTMENT CONNECTION
WATER GONG
DUCTWORK ~ FIRST DIMENSION IS SIDE SHOWN IN INCHES S= SUPPLY, R= RETURN, E= EXHAUST AIR, OA= OUTSIDE AIR F.O. = FLAT OVAL
ACCOUSTICAL LINING (DUCT DIMENSION FOR NET FREE AREA)
DUCTWORK TO BE REMOVED
SINGLE LINE DUCTWORK TO BE REMOVED
DUCT TRANSITION
SQUARE TO ROUND DUCT TRANSITION
FLEX DUCT ~ DOUBLE LINE
FLEX DUCT ~ SINGLE LINE

CHANGE IN ELEVATION (UP, DOWN, RISE OR DROP)
SUPPLY DUCT TURNED UP/DN
RETURN DUCT TURNED UP/DN
EXHAUST DUCT TURNED UP/DN
ROUND DUCT TURNED UP/DN
MITERED DUCT ELBOW W/TURNING VANES
RADIUS DUCT ELBOW
DUCT/PIPE CAP (SINGLE/DOUBLE LINE)
VOLUME DAMPER
FIRE DAMPER
SMOKE DAMPER
FIRE AND SMOKE DAMPER
BACKDRAFT DAMPER

MOTORIZED DAMPER
FLEXIBLE CONNECTION
TEMPERATURE SENSOR OR THERMOSTAT (AS SPECIFIED)
HUMIDISTAT OR HUMIDITY SENSOR (AS SPECIFIED)
CARBON DIOXIDE SENSOR
CARBON MONOXIDE SENSOR
ACCESS PANEL
DUCT SMOKE DETECTOR
ROOFTOP EXHAUST FAN
ROOFTOP SUPPLY FAN
CEILING DIFFUSER ~ 4-WAY BLOW
CEILING DIFFUSER ~ 3-WAY BLOW
CEILING DIFFUSER ~ 2-WAY BLOW
CEILING DIFFUSER ~ CORNER BLOW
CEILING RETURN GRILLE
CEILING EXHAUST GRILLE
POINT OF CONNECTION - EXISTING TO NEW
DIRECTION OF AIR FLOW

REGISTER, GRILLE & DIFFUSER TAG
DIFFUSER, REGISTER OR GRILLE No.
QUANTITY
CFM AIR FLOW

FINTUBE TAG
FINTUBE No.
LENGTH
GPM

VAV TAG
VAV No.
MINIMUM CFM
MAXIMUM CFM
GPM

EQUIPMENT TAG
TYPE DESIGNATOR
NUMBER

EQUIPMENT TAG (ON FLOOR/ROOF ABOVE)
TYPE DESIGNATOR
NUMBER

DETAIL REFERENCE SYMBOL
DETAIL No.
SHEET DETAIL LOCATED ON

SECTION REFERENCE SYMBOL
SECTION No.
SHEET SECTION LOCATED ON

NOTE

ALL GENERAL NOTES, SYMBOL LEGENDS AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL PLUMBING AND HVAC DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN.

E1 SYMBOLS LEGEND

NONE

A1 PIPING LINETYPE LEGEND

AW	ACID WASTE
ATV	AIR RELIEF
BBD	BOILER BLOWDOWN
C	CONDENSATE (HVAC DRAIN PAN)
CA	COMPRESSED AIR
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CTR	COOLING TOWER RETURN
CTS	COOLING TOWER SUPPLY
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRC.
D	DRAIN
FM	PUMP FORCE MAIN
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL TANK VENT
FW	FEEDWATER
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY
GW	GREASE WASTE
GWR	GEOTHERMAL WATER RETURN
GWS	GEOTHERMAL WATER SUPPLY
H	HUMIDIFICATION LINE
H2	HYDROGEN GAS
HCR	HEAT/COOL RETURN
HCS	HEAT/COOL SUPPLY
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HTWR	HIGH-TEMP HOT WATER RETURN
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IND	INDUSTRIAL WASTE
IW	INDIRECT WASTE
LN	LIQUID NITROGEN
LOX	LIQUID OXYGEN
LP	LIQUID PETROLEUM GAS
LPR	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MA	MEDICAL AIR
MPR	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
MUW	MAKE-UP WATER
N2	NITROGEN
NG	NATURAL GAS
NO	NITROUS OXIDE
NPW	NON-POTABLE WATER
OX	OXYGEN
PC	PUMPED CONDENSATE
PCWR	PROCESS COLD WATER RETURN
PCWS	PROCESS COLD WATER SUPPLY
RD	REFRIGERANT DISCHARGE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RO	REVERSE OSMOSIS WATER
RW	RAIN WATER - ABOVE FLOOR
RW	RAIN WATER - BELOW GRADE
RWO	RAIN WATER OVERFLOW - ABOVE FLOOR
RWO	RAIN WATER OVERFLOW - BELOW GRADE
SP	SPRINKLER MAIN PIPING
SWR	SOLAR WATER RETURN
SWS	SOLAR WATER SUPPLY
TP	TRAP PRIMER - ABOVE FLOOR
TP	TRAP PRIMER - BELOW GRADE
TWR	TEMPERED WATER RETURN
TWS	TEMPERED WATER SUPPLY
V	SANITARY SOIL VENT - ABOVE FLOOR
V	SANITARY SOIL VENT - BELOW GRADE
VAC	VACUUM (AIR)
VC	VACUUM CLEANING (HOUSE)
VPD	VACUUM PUMP DISCHARGE
W	SANITARY SOIL WASTE - ABOVE FLOOR
W	SANITARY SOIL WASTE - BELOW GRADE
WV	SANITARY WET VENT - ABOVE FLOOR
WV	SANITARY WET VENT - BELOW GRADE

A4 ABBREVIATIONS

NONE

AAV	AUTOMATIC AIR VENT
AC	ABOVE CEILING
ACC	AIR COOLED CONDENSER
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AD	ACCESS DOOR
AE	ACID EXHAUST
AW	ACID WASTE
AFF; A.F.F.	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APPROX.	APPROXIMATE; APPROXIMATELY
APMR	AS PER MFR'S RECOMMENDATIONS
ATC	AUTOMATIC TEMPERATURE CONTROL
AV	AIR VENT
BC	BALANCING COCK
BDD	BACKDRAFT DAMPER
BG	BLAST GATE
BF	BARRIER FREE
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
B.T.U.; BTU	BRITISH THERMAL UNIT
CONV.	CONVECTOR
CCW	COUNTER CLOCKWISE
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CM	CONSTRUCTION MANAGER
CNTR	COUNTER; COUNTER TOP
CONN	CONNECT; CONNECTION
CONT.	CONTINUE; CONTINUATION
COORD.	COORDINATE
CORR	CORRIDOR
CR	CHEMICAL RESISTING
CT	COOLING TOWER
CTE	CONNECT TO EXISTING
CTR	CENTER
CTRLN	CENTERLINE
CU	COPPER; CONDENSING UNIT
CUH	CABINET UNIT HEATER
C.V.	CONTROL VALVE
CW	COLD WATER; CLOCKWISE
DB	DRY BULB TEMPERATURE
DC	DOUBLE CONTAINED
DDC	DIRECT DIGITAL CONTROL
DET	DETAIL
DIA	DIAMETER
DIC	DOWN IN CHASE
DIW	DOWN IN WALL
DN	DOWN
DS	DOWNSPOUT
DT	DROP AND TRANSITION
DV	DRAIN VALVE
DWG	DRAWING
E	EXHAUST AIR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEV	ELEVATION
ELONG	ELONGATE
ENC	ENCLOSURE
ER	EXHAUST REGISTER
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
(E)	EXISTING
F&T	FLOAT AND THERMOSTATIC
FBO	FURNISHED BY OTHERS
FBP	FACE AND BYPASS
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD-#	FLOOR DRAIN TAG
FD	FIRE DAMPER
FDC	FIRE DEPT. CONNECTION
FIN	FINISH
FL; FLR	FLOOR
FP	FROST/FREEZE PROOF
FTG	FOOTING
FTR	FINNED TUBE RADIATION
FS	FLOW SWITCH
FM	FORCE MAIN
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GRV	GRAVITY ROOF VENTILATOR
H	HUMIDIFIER
HB	HOSE BIBB
HC; HDC	HANDICAP ACCESS
HGT; HT	HEIGHT
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HTR	HEATER
H&V	HEATING AND VENTILATION
HVAC	HEATING, VENTILATING AND AIR COND.
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
ID	INSIDE DIAMETER
IN WG	INCHES WATER GAUGE
INCL.	INCLUDING
INV. EL.	INVERT ELEVATION
IPS	IRON PIPE SIZE
KE-#	KITCHEN EQUIPMENT NUMBER
LD	LINEAR DIFFUSER
LE-#	SCIENCE LAB EQUIPMENT NUMBER
LP	LIQUID PETROLEUM GAS
LPR	LOW PRESSURE STEAM RETURN
LPS	LOW PRESSURE STEAM SUPPLY
MAX	MAXIMUM
MBH	1000 BTUH/hr.
MFR	MANUFACTURER
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
MPG	MEDIUM PRESSURE GAS
MPV	MULTI-PURPOSE VALVE
MTD	MOUNTED
MTG	MOUNTING
MUA	MAKE UP AIR
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
P-#	PLUMBING FIXTURE TAG
PD	PUMPED DISCHARGE
PP	PROCESS PIPING
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
R	RETURN AIR
RD	ROOF DRAIN
REC	RECOMMENDATION
REG	REGULAR
RF	RETURN FAN
RG	RETURN GRILLE
RHC	REHEAT COIL
RM	ROOM
RPZ	REDUCED PRESSURE BFP
RR	RETURN REGISTER
RV	RELIEF VALVE
RW	RAIN WATER
S	SUPPLY AIR
SA-" "	SHOCK ABSORBER OF PDI SIZE (" ") AS INDICATED
SCV	SELF-CONTAINED VALVE
SD	SMOKE DAMPER
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SGL	SINGLE
SHT	SHEET
SPLR	SPRINKLER
SQ. FT; SF	SQUARE FEET
SR	SUPPLY REGISTER
S/O	SHUT-OFF
S.S.	STAINLESS STEEL
TD	TRENCH DRAIN
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TP	TRAP PRIMER
TSP	TOTAL STATIC PRESSURE
TTS	TIGHT TO STEEL
TV	TURNING VANE
TW	TEMPERED WATER
TYP	TYPICAL
UH	UNIT HEATER
UIC	UP IN CHASE
UIW	UP IN WALL
UV	UNIT VENTILATOR
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCFF	VALVE & CAP FOR FUTURE
VD	VOLUME DAMPER - MANUAL
VLV	VALVE
VS	VENT STACK
VTR	VENT TO ROOF
W	WASTE
W/	WITH
WB	WET BULB TEMPERATURE, °F
WCO	WALL CLEANOUT
WH	WATER HEATER
WHYD	WALL HYDRANT

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: ANTHONY DAVIS, P.E.

STATE OF MAINE ANTHONY S. DAVIS No. 8834 LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	HAG	10/15/19	Checked:	ASD	10/15/19
Drawn:	REW	10/15/19			

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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

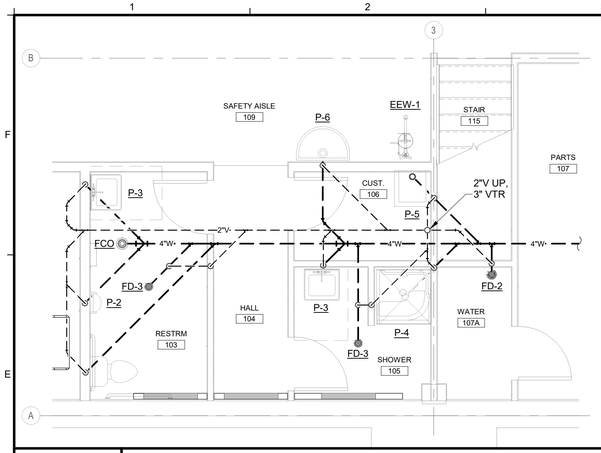
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7

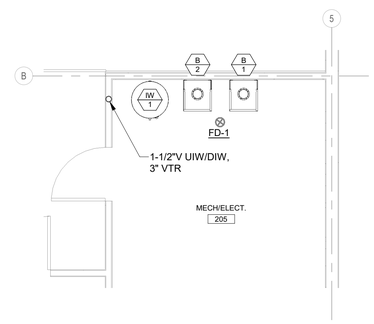
PLUMBING AND HVAC NOTES, LEGEND AND ABBREVIATIONS

SHEET NUMBER: P-000

CONTRACT: 2019.12



E1	DETAIL - SANITARY PIPING PART PLAN
1/4" = 1'-0"	



E3	DETAIL - SANITARY PART PLAN - MECH/ELEC 205
1/4" = 1'-0"	

DOMESTIC WATER BOOSTER PUMP PACKAGE

TAG	SYSTEM	MFR.	MODEL	TYPE	PUMPED FLUID	PERFORMANCE		ELECTRICAL		ELECTRICAL...		
						GPM	BOOST-HEAD (FT)	MOTOR HP	VOLTS/ PH (60 Hz.)	VFD FURN. BY	DISC. SW. FURN BY	NOTES
BP-1	DOMESTIC COLD WATER SUPPLY	GRUNDFOS	HYDRO MPC-EC 2CR 5-9	VERTICAL IN-LINE MULT-STAGE	WATER	35	185	3	208-230/1	INTEGRAL	DIV 26	1, 2,3
BP-2	DOMESTIC COLD WATER SUPPLY	GRUNDFOS	HYDRO MPC-EC 2CR 5-9	VERTICAL IN-LINE MULT-STAGE	WATER	35	185	3	208-230/1	INTEGRAL	DIV 26	1, 2, 3

NOTES:
1. LEAD/LAD CONTROL VIA BOOSTER PUMP CONTROL PANEL
2. SINGLE POINT POWER FEED TO BOOSTER PUMP CONTROL PANEL
3. PROVIDE 10 GALLON HYDRO-PNUEMATIC POTABLE WATER TANK EQUAL TO JOHN WOODS MFG. MODEL JAPR-20-601 (ONE TANK SERVES BOTH PUMPS)

INDIRECT WATER DOMESTIC WATER HEATER SCHEDULE

TAG	MFR / MODEL	ENT. CW °F	TEMP RISE DELTA °F	ENTERING BOILER WATER °F	LEAVING BOILER WATER °F	BOILER WATER DELTA-T	BOILER GPM	BOILER WATER HEAD LOSS	BOILER HEAT INPUT BTUH	BOILER HWS TEMP TO DHW	RECOVERY RATE, GPH	STORAGE CAPACITY GALLONS	COLD WATER INLET	HOT WATER OUTLET	BOILER SUPPLY/ RETURN CONN.	HEIGHT	DIA.	WEIGHT SHIP'G
DHW-1	VIESSMANN 300V	40	100	158	132	26	13.2	3.4'	171,600	176 °F	203	119	1-1/4"	1-1/4"	1-1/4"	69"	36"	245 LB.

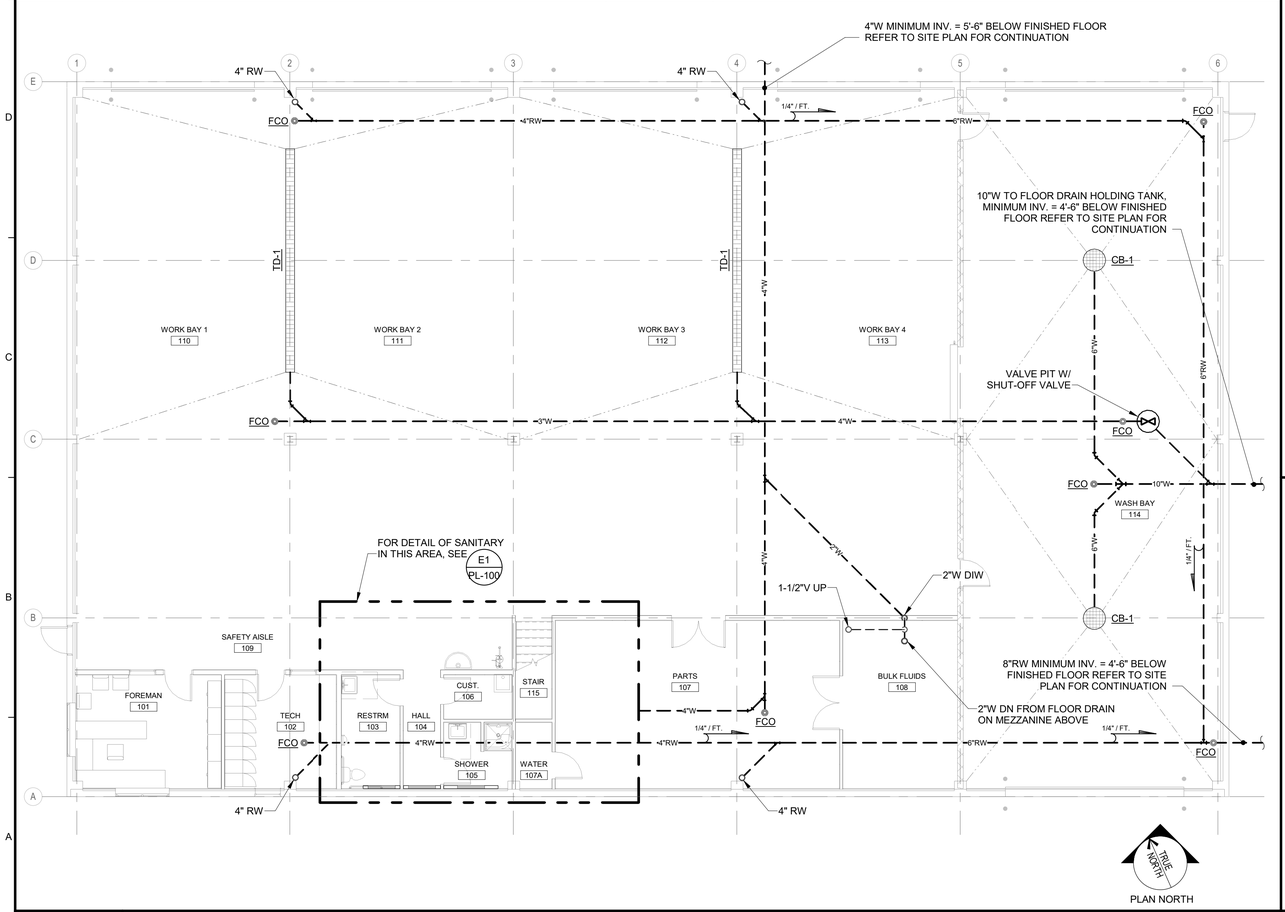
PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	BRANCH SIZES				NOTES
		CW	HW	VENT	WASTE	
P-1	WATER CLOSET-FLUSH VALVE, FLOOR MOUNT	1"	-----	1-1/2"	3"	
P-2	URINAL - FLUSH VALVE - 1/8 GAL/FLUSH	3/4"	-----	1-1/2"	2"	
P-3	WALL MOUNT LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	
P-4	ADA SHOWER	1/2"	1/2"	1-1/2"	2"	
P-5	MOP/SERVICE BASIN	3/4"	3/4"	1-1/2"	3"	PROVIDE CHECK VALVES AT WATER INLETS
P-6	ADA HAND WASHING STATION - SENSOR VALVE	1/2"	1/2"	1-1/2"	2"	
FD-1	FLOOR DRAIN	-----	-----	1-1/2"	2"	
FD-2	FLOOR DRAIN W/FUNNEL	-----	-----	1-1/2"	2"	
FD-3	FLOOR DRAIN	-----	-----	1-1/2"	2"	
EEW-1	EMERGENCY EYE/FACE WASH - WALL MOUNTED	1/2"	1/2"	-----	-----	TEMPERING VALVE WITH 1/2" INLETS AND OUTLET
WHYD	WALL HYDRANT	3/4"	-----	-----	-----	
HB	HOSE BIBB	1/2"	-----	-----	-----	

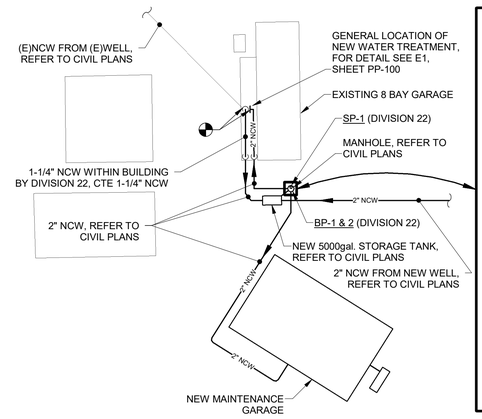
DOMESTIC INDOOR PUMP SCHEDULE

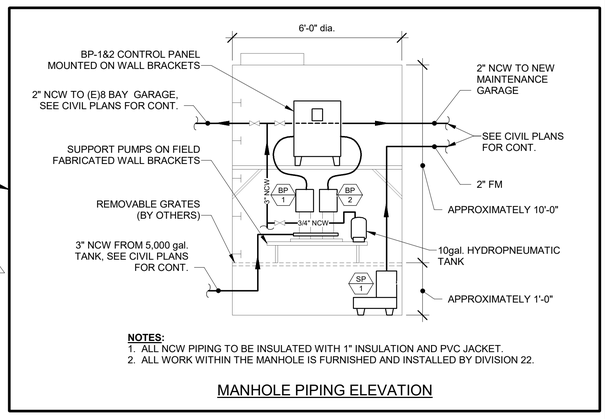
TAG	SERVES	MAKE & MODEL	TYPE	GPM	HEAD	DISCHARGE	ELECTRICAL		SUMP	NOTES
							MOTOR HP	VOLTS/PH		
RCP-1	DHW RECIRC	GRUNDFOS UPS 26-99 SFC	IN LINE CIRCULATOR	2	20	3/4" X 3/4"	197 W	115/1	-----	1
SP-1	PUMP MANHOLE AT UG TANK	ZOELLER M152	SUBMERSIBLE	6	20	3/4" X 3/4"	0.4	115/1		2

NOTES:
1. SEE SPEC SECTION 22 11 23.21
2. SEE SPEC SECTION 22 14 29



A1	SANITARY PIPING PLAN
1/8" = 1'-0"	





NOTES:
1. ALL NCW PIPING TO BE INSULATED WITH 1" INSULATION AND PVC JACKET.
2. ALL WORK WITHIN THE MANHOLE IS FURNISHED AND INSTALLED BY DIVISION 22.

MANHOLE PIPING ELEVATION

A6	DETAIL - SITE PIPING COORDINATION
NOT TO SCALE	

Scale: As indicated

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: ANTHONY DAVIS, P.E.

STATE OF MAINE — ANTHONY S. DAVIS — No. 8834 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	HAG	10/15/19	Checked:	ASD	10/15/19
Drawn:	REW	10/15/19			

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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

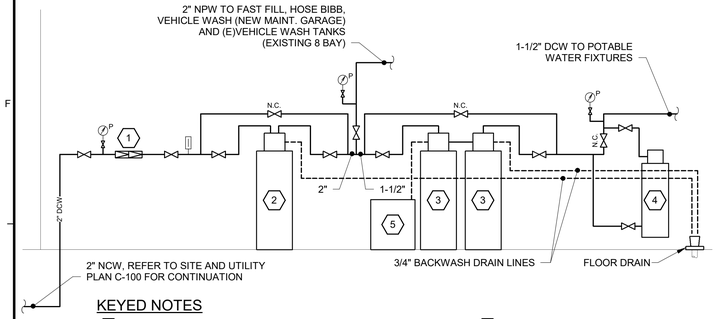
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
SANITARY PIPING PLAN

SHEET NUMBER: PL-100

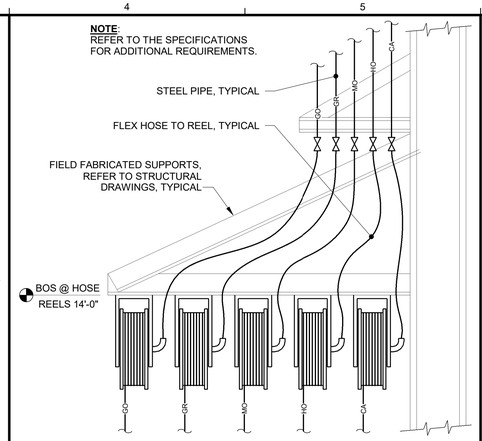
CONTRACT: 2019.12



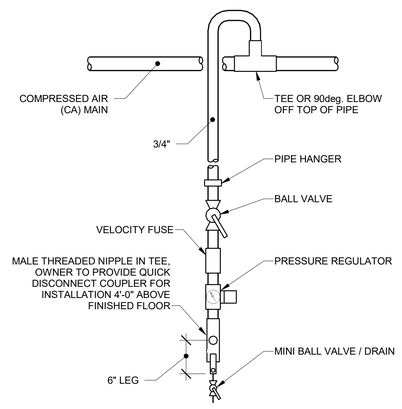
KEYED NOTES

1. DOUBLE CHECK BACKFLOW PREVENTER.
2. HIGH EFFICIENCY DEPTH FILTER EQUAL TO CULLIGAN HE 1.5 PF DF 16 PROGRESSIVE FLOW FILTER W/SMART METER AND BYPASS KIT.
3. TWIN WATER SOFTENER SYSTEM EQUAL TO CULLIGAN HE 1.5 TWIN WATER SOFTENER KIT W/SMART METER AND BYPASS KIT.
4. UV DISINFECTION SYSTEM EQUAL TO VIQUA MODEL VH410M.
5. WATER SOFTENER SALT TANK.

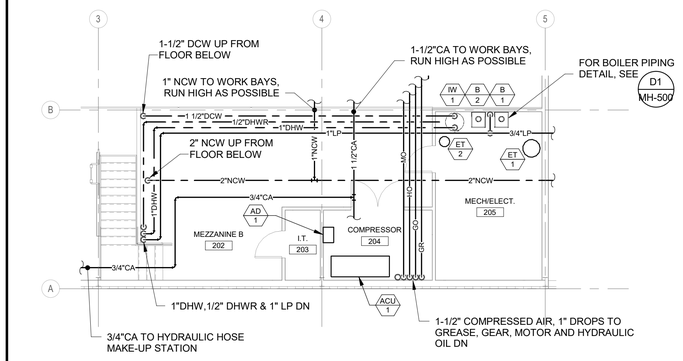
E1	DETAIL - DOMESTIC WATER ENTRANCE PIPING
NOT TO SCALE	TYPICAL FOR EXISTING 8 BAY GARAGE AND NEW MAINTENANCE GARAGE



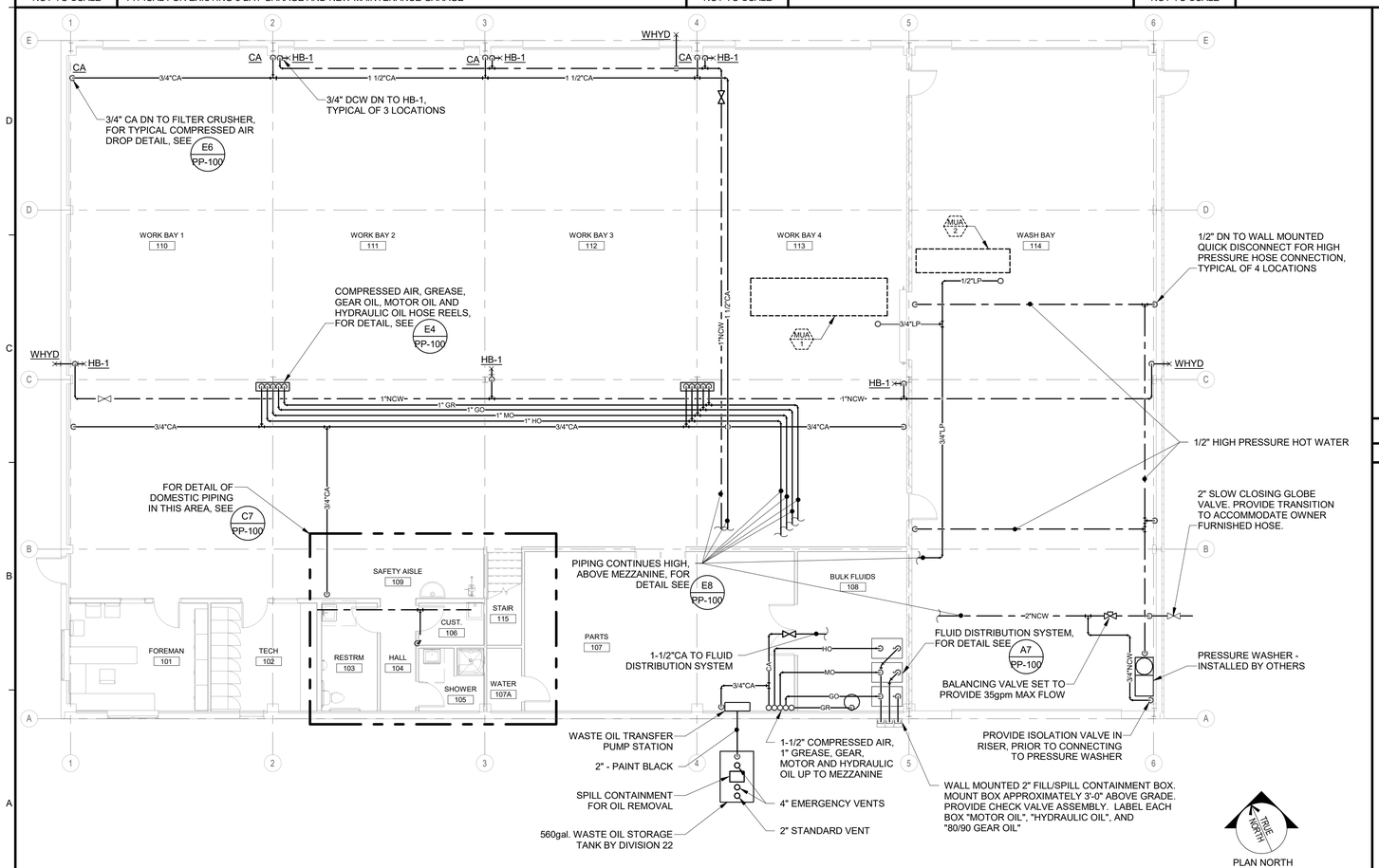
E4	DETAIL - HOSE REEL STATION
NOT TO SCALE	



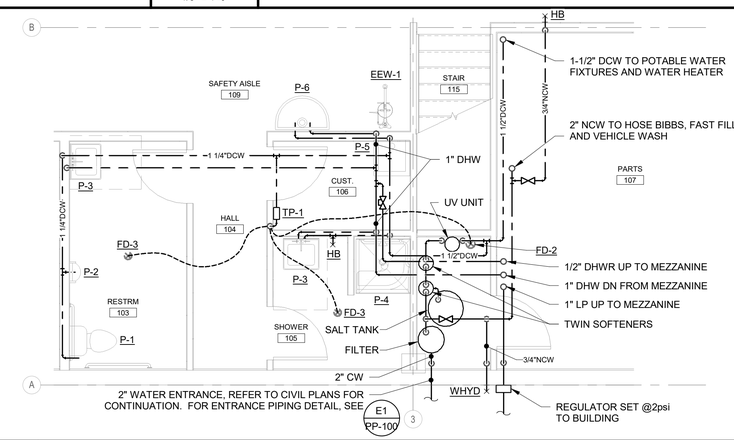
E6	DETAIL - TYPICAL CA DROP PIPING
NOT TO SCALE	



E8	DOMESTIC PIPING PART PLAN - MEZZANINE LEVEL
1/8" = 1'-0"	



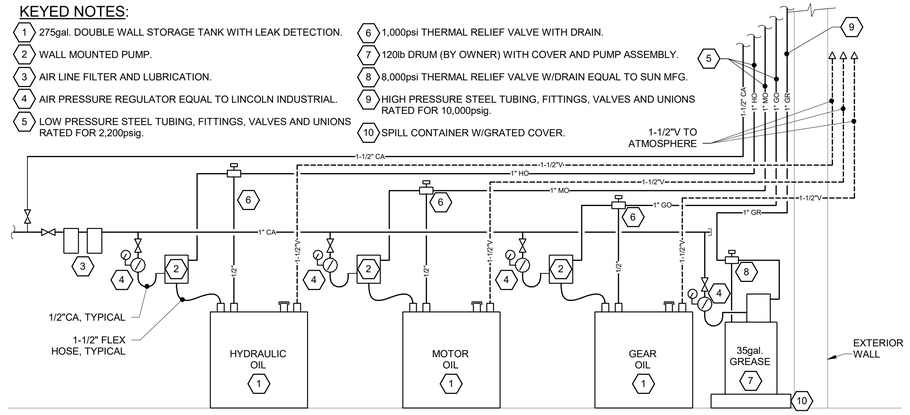
A1	DOMESTIC PIPING PLAN
1/8" = 1'-0"	



C7	DOMESTIC PIPING PART PLAN - FIRST FLOOR
1/4" = 1'-0"	

KEYED NOTES:

1. 275gal. DOUBLE WALL STORAGE TANK WITH LEAK DETECTION.
2. WALL MOUNTED PUMP.
3. AIR LINE FILTER AND LUBRICATION.
4. AIR PRESSURE REGULATOR EQUAL TO LINCOLN INDUSTRIAL.
5. LOW PRESSURE STEEL TUBING, FITTINGS, VALVES AND UNIONS RATED FOR 2,200psig.
6. 1,000psi THERMAL RELIEF VALVE WITH DRAIN.
7. 120lb DRUM (BY OWNER) WITH COVER AND PUMP ASSEMBLY.
8. 8,000psi THERMAL RELIEF VALVE W/DRAIN EQUAL TO SUN MFG.
9. HIGH PRESSURE STEEL TUBING, FITTINGS, VALVES AND UNIONS RATED FOR 10,000psig.
10. SPILL CONTAINER W/GRATED COVER.



A7	DETAIL - HYDRAULIC/FUEL OIL STORAGE TANK AND PUMP PIPING
NOT TO SCALE	

Scale: As indicated

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: ANTHONY DAVIS

STATE OF MAINE — ANTHONY S. DAVIS — No. 8834 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
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AEI PROJ.NO.: 18-080 | CAD FILE:

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

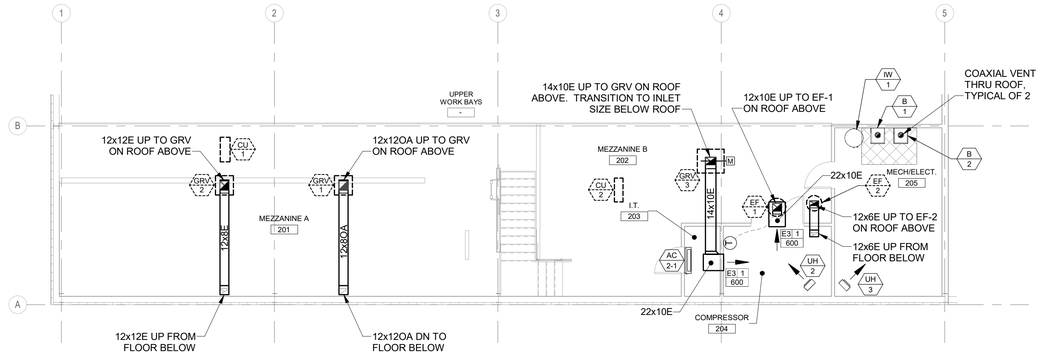
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7

DOMESTIC PIPING PLAN

SHEET NUMBER: PP-100

CONTRACT: 2019.12



E6	MECHANICAL PART PLAN - MEZZANINE
1/8" = 1'-0"	

HYDRONIC PUMP SCHEDULE

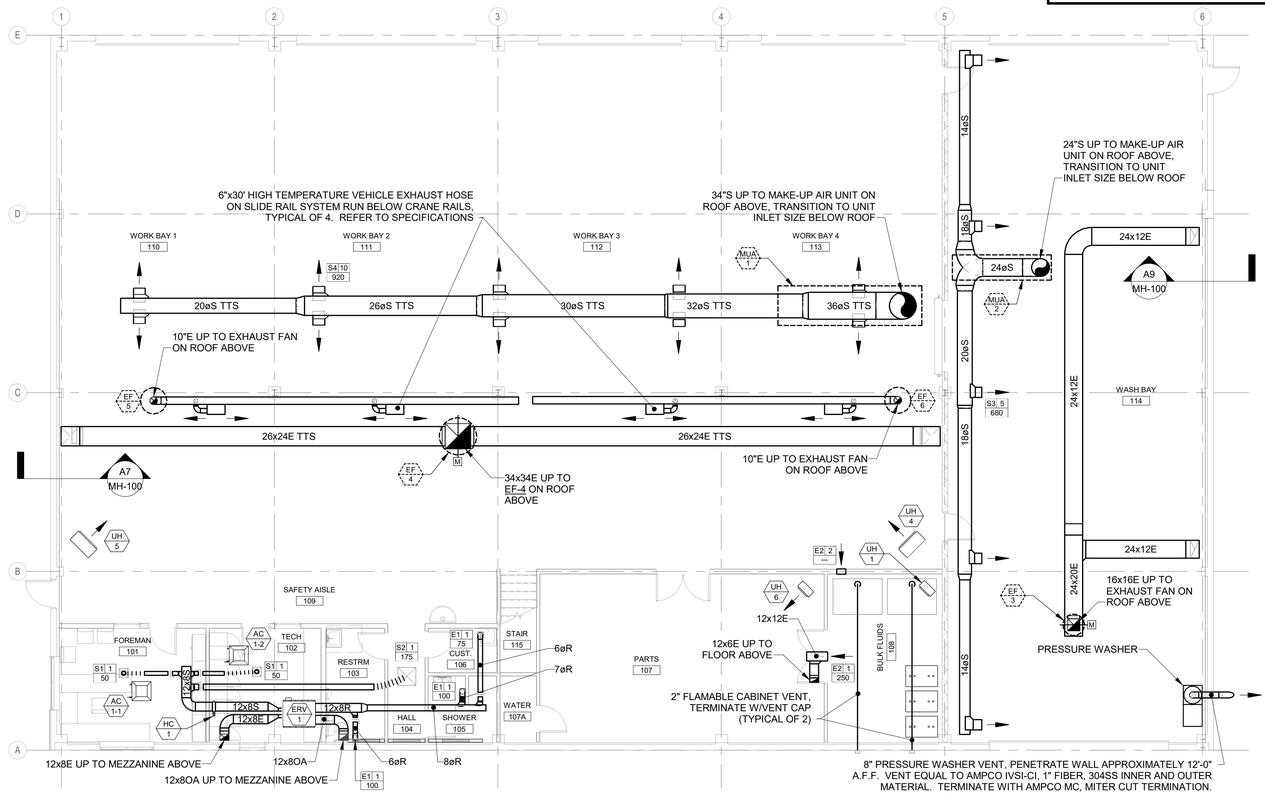
TAG	SYSTEM	MFR.	MODEL	SUCT X DISCH	TYPE	PUMPED FLUID	PERFORMANCE		ELECTRICAL			ELECTRICAL COORDINATION				NOTES
							GPM	HEAD	BHP	MOTOR HP	VOLTS/PH (60 Hz.)	VFD FURN. BY	STARTER FURN. BY	BOTH PUMPS RUN?	DISC. SWITCH FURN BY	
P-P1	BOILER PRIMARY PUMP	GRUNDFOS	UPS 26-99FC	1.25" X 1.25"	3 SPEED CIRCULATOR	WATER	20	14	NA	1/6	115/1	NA	NA	NO, LEAD-LAG	DIV 26	3
P-P2	BOILER PRIMARY PUMP	GRUNDFOS	UPS 26-99FC	1.25" X 1.25"	3 SPEED CIRCULATOR	WATER	20	14	NA	1/6	115/1	NA	NA	NA	DIV 26	3
HWP-1	HEATING SECONDARY PUMP	GRUNDFOS	MAGNA3 40-180-F	1.5" X 1.5"	INLINE	WATER	30	30	NA	347 W	115/1	INTEGRAL	NA	NO, LEAD-LAG	DIV 26	
HWP-2	HEATING SECONDARY PUMP	GRUNDFOS	MAGNA3 40-180-F	1.5" X 1.5"	INLINE	WATER	30	30	NA	347 W	115/1	INTEGRAL	NA	NO, LEAD-LAG	DIV 26	
P-DHW	INDIRECT WATER HEATER	GRUNDFOS	UPS 26-99FC	1.25" X 1.25"	3 SPEED CIRCULATOR	WATER	13.2	15	NA	179 W	115/1	NA	NA	NO, LEAD-LAG	DIV 26	
RP-1	RADIANT MF 1 WORK BAY	GRUNDFOS	MAGNA1 32-60	.75" X .75"	INLINE	WATER	4.5	18	NA	73W	115-230/1	NA	NA	NA	DIV 26	
RP-2	RADIANT MF 2 WORK BAY	GRUNDFOS	MAGNA1 32-60	.75" X .75"	INLINE	WATER	4	18	NA	73W	115-230/1	NA	NA	NA	DIV 26	
RP-3	RADIANT MF 3 WASH BAY	GRUNDFOS	MAGNA1 32-60	.75" X .75"	INLINE	WATER	3.5	18	NA	73W	115-230/1	NA	NA	NA	DIV 26	

NOTES:
1. PROVIDE VARIABLE FLOW MODE.
2. PROVIDE SUPPORT STAND
3. PROVIDE WITH BOILER PACKAGE

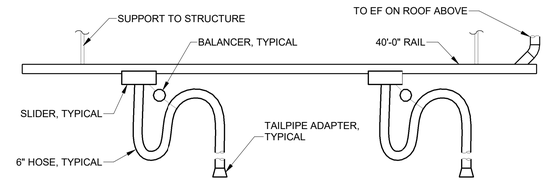
REGISTERS - GRILLES - DIFFUSERS (RGD) SCHEDULE

TAG	MFR.	MODEL	TYPE	NECK SIZE	FACE SIZE	MAX CFM	MAX TOTAL P.D. (IN.W.C.)	MAX NC LEVEL	BORDER TYPE	BLOW	NOTES
S-1	PRICE	SMDA	SQ. CEILING SUPPLY DIFFUSER, ADJUSTABLE	6 X 6 / 6" DIA	12" X 12"	100	0.07"	15	LAY-IN		ROUND NECK ADAPTER
S-2	PRICE	SMDA	SQ. CEILING SUPPLY DIFFUSER, ADJUSTABLE	9 X 9 / 8" DIA	24" X 24"	270	0.09"	20	LAY-IN		ROUND NECK ADAPTER
S-3	PRICE	520	STEEL DOUBLE DEFL. SUPPLY	18" X10"	19.75" X11.75"	680	0.10"	19	SURFACE MT.	ADJUSTABLE	
S-4	PRICE	520	STEEL DOUBLE DEFL. SUPPLY	24" X12"	19.75" X11.75"	950	0.10"	16	SURFACE MT.	ADJUSTABLE	
E-1	PRICE	530	STEEL RETURN, 3/4" SPACING, 45 DEG VANES	8" X 8"	9.75" X 9.75"	110	0.05"	20	SURFACE MT.	----------	6" DIA RUNOUT
E-2	PRICE	530	STEEL RETURN, 3/4" SPACING, 45 DEG VANES	12" X 12"	13.75" X 13.75"	360	0.05"	20	SURFACE MT.	----------	
E-3	PRICE	530	STEEL RETURN, 3/4" SPACING, 45 DEG VANES	16" X 16"	17.75" X 17.75"	850	0.05"	20	LAY-IN	----------	12" DIA RUNOUT
E-4	PRICE	530	STEEL RETURN, 3/4" SPACING, 45 DEG VANES	22" X 22"	23.75" X 23.75"	1,020	0.05"	20	SURFACE MT.	----------	SEE PLANS
E-5	PRICE	530	STEEL RETURN, 3/4" SPACING, 45 DEG VANES	46" X 22"	47.75" X 23.75"	2,300	0.02"	20	SURFACE MT.	----------	SEE PLANS, FACE BLADES PARALLEL TO SHORT DIMENSION

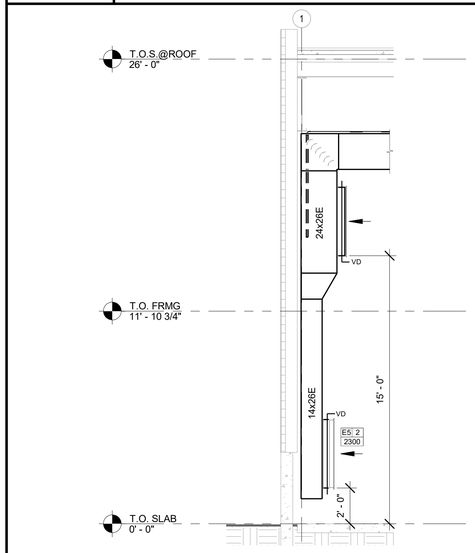
PLAN NORTH



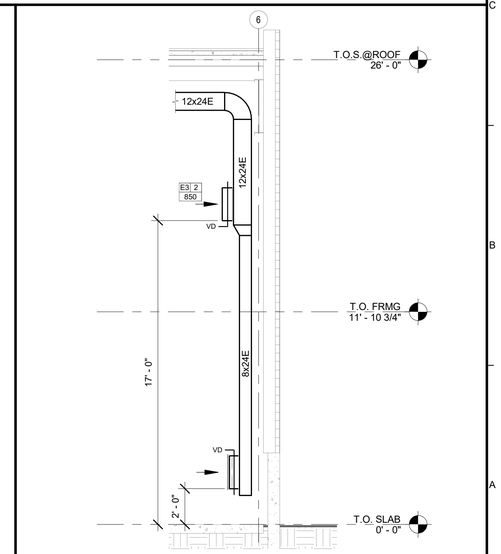
A1	MECHANICAL PLAN - FIRST FLOOR
1/8" = 1'-0"	



C7	DETAIL - VEHICLE EXHAUST EXTRACTION
NOT TO SCALE	



A7	DETAIL - WORK BAY HIGH/LOW RETURN
1/4" = 1'-0"	



A9	DETAIL - WASH BAY HIGH/LOW RETURN
1/4" = 1'-0"	

Scale: As indicated

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: ANTHONY DAVIS, P.E.

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	HAG	10/15/19	Checked:	ASD	10/15/19
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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

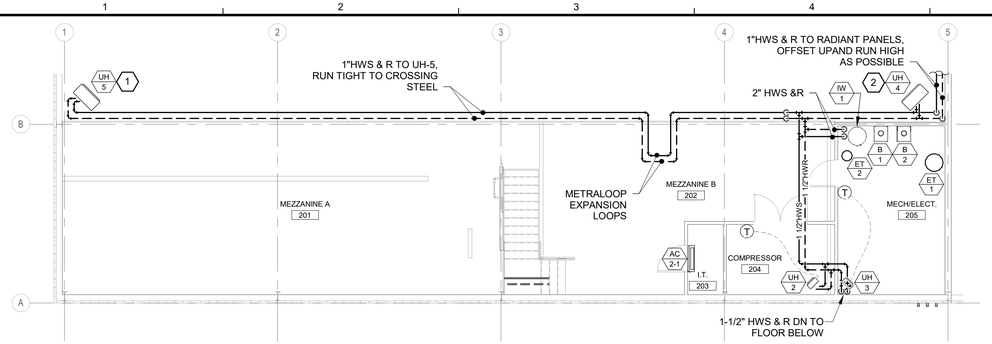
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 MECHANICAL PLANS

SHEET NUMBER: MH-100

CONTRACT: 2019.12

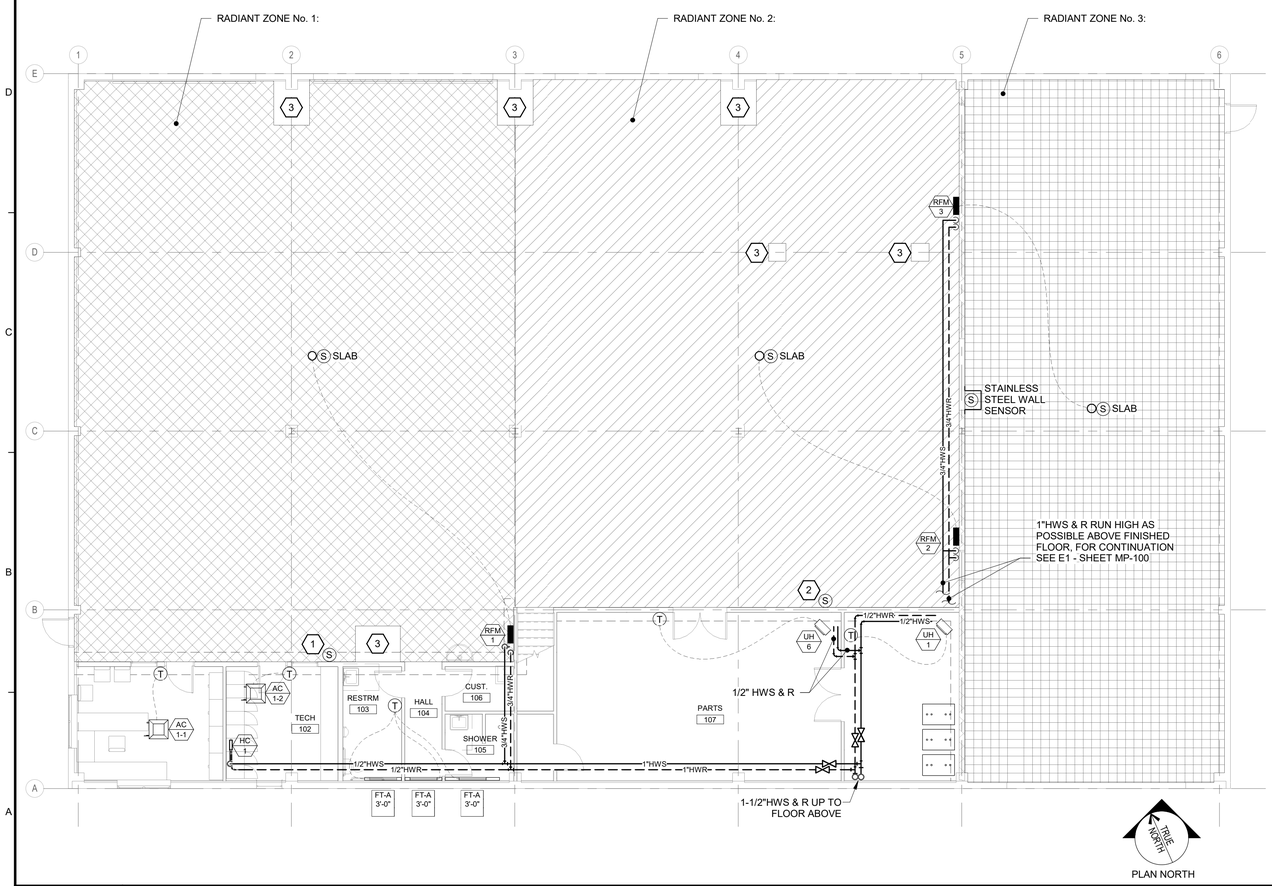


KEYED NOTES:

1. WALL SENSOR CONTROLS RADIANT FLOOR ZONE IN SEQUENCE WITH UNIT HEATER.
2. WALL SENSOR CONTROLS RADIANT FLOOR ZONE IN SEQUENCE WITH UNIT HEATER.
3. VOIDS IN RAIDIANT FLOOR PATTERN INDICATE EQUIPMENT LOCATIONS. CONTRACTOR TO COORDINATE EXACT FOOTPRINT AND POSITION WITH OWNER TO MAXIMIZE RADIANT TUBE COVERAGE.

E1 | MECHANICAL PIPING PLAN - MEZZANINE

1/8" = 1'-0"



A1 | MECHANICAL PIPING PLAN - FIRST FLOOR

1/8" = 1'-0"

DUCT HEATING COIL SCHEDULE

TAG	SERVES	AIRFLOW	LENGTH	HEIGHT	FACE VEL	EDB	LDB	MBH	MAX APD	GPM	EWT	LWT	MAX WPD
HC-1	ERV-1	275	12	8	413	40	75	10.4	0.2"	0.7	140	110	3'

NOTES:

AIR CONTROL - EXPANSION/BUFFER TANK SCHEDULE

SYSTEM	PRIMARY HEATING	DHW
PIPE MAIN SIZE	2"	NA
AIR SEPARATOR	AS-1	NA
MFR-MODEL	TACO 4902AD-125	NA
INLET/OUTLET	2"	NA
STRAINER	YES	NA
BLADDER-TYPE EXPANSION TANK	ET-1	ET-2
MFR-MODEL	TACO CA-450	TACO PAX-30
SYSTEM HEIGHT, FT	25	25
STATIC PRESSURE AT TANK, PSI.	10.8	10.8
PSI REQ'D. AT HIGHEST SYS POINT	10	5
TANK PRE-CHARGE PRESSURE	20.8	15.8
TANK DIAMETER	24	14
TANK HEIGHT	78	25
ACCEPTANCE VOLUME	119	8
WATERLOGGED WEIGHT (LBS.)	--	--
ASME PRESSURE RATING	125	150

BOILER SCHEDULE

TAG	B-1	B-2
TYPE	CONDENSING	CONDENSING
MANUFACTURER	VIESSMANN	VIESSMANN
BOILER MODEL	200W-B2HA-100	200W-B2HA-100
GROSS INPUT (MBH)	352	352
GROSS OUTPUT (MBH)	333	333
THERMAL EFFICIENCY (%)	93.9%	93.9%
TEMP RISE, DEG F	33.3	33.3
FLOW, GPM	20	20
WATER P.D., FT-H20	9	9
FLUID	WATER	WATER
WEIGHT (LBS)	194	194
OVERALL DEPTH (IN.)	21"	21"
WIDTH (IN.)	19"	19"
HEIGHT (IN.)	43-1/2"	43-1/2"
VENT CONN. DIA (IN.)	4-3/8"	4-3/8"
AIR INLET CONN. (IN.) - COAXIAL	6"	6"
HWS & R CONN. (IN.)	1 1/2"	1 1/2"
GAS CONN. (IN.)	1"	1"
COND. DRAIN CONN. (IN.)	3/4"	3/4"
2-STAGE or FULL MOD.	FULL MOD: 27% to 100%	FULL MOD: 27% to 100%
GAS	LP	LP
MIN / MAX GAS PRS. IN. WG.	4"/14"	4"/14"
ELECTRICAL	120/1/60	120/1/60
TOTAL AMPS		

Thermal Efficiency in accordance with: CSA thermal/combustion efficiency ANSI Z21,13/CSA 4.9

SPLIT A/C UNIT SCHEDULE - 238130

UNIT	AC-2-1
SERVES	IT
COOLING BTUH	12,000
COOLING BTUH, MINIMUM	5,800
HEATING AT 47F	--------
HEATING AT 5F	--------
REFRIGERANT	R410A
SEER	21.0
INDOOR UNIT:	WALL MOUNT
MITSUBISHI MODEL NO.	PKA-A12HA7
WEIGHT, LBS.	29
CFM	335
EXT. SP, IN. WC.	0"
VOLTAGE/PHASE	208/1
MCA	1.0
OUTDOOR COND. UNIT:	**CU-2**
MITSUBISHI MODEL NO.	PUY-A12NKA7-BS
WEIGHT, LBS.	92
LIQUID LINE SIZE	1/4"
HOT GAS LINE SIZE	1/2"
VOLTAGE/PHASE	208/1
MCA	11
MOCP	28
NOTES	1, 2, 3

NOTES:
1. POWER TO CU'S BY DIV 26. WIRING BETWEEN AC/CU PROVIDED BY DIV 23. TO THE ELECTRIC HEATER.
2. PROVIDE WIND BAFFLE OPTION; 100% CAPACITY COOLING SHALL BE AVAILABLE AT -20F OUTDOORS.
3. PROVIDE 3-POLE FUSED DISCONNECT SWITCH.

MULTI - SPLIT A/C UNIT SCHEDULE

INDOOR UNITS	AC-1-1	AC-1-2
SERVES	FOREMAN 101	TECH 102
ARRANGEMENT	CEILING CASSETTE	CEILING CASSETTE
COOLING BTUH	9,145	9,145
HEATING BTUH @ 47F	9,838	9,838
HEATING BTUH @ -5F		
MITSUBISHI MODEL NO.	SLZ-KF09NA	SLZ-KF09NA
DIMENSIONS - H X W X D	9 1/4" X 22 7/16" X 22 7/16"	9 1/4" X 22 7/16" X 22 7/16"
WEIGHT, LBS.	36	36
CFM	320	320
ELECTRICAL	208/230-1	208/230-1
ELECTRICAL, MCA	.23 A	.23 A
COND. DRAIN SIZE	3/4"	3/4"
LIQUID LINE SIZE	1/4"	1/4"
GAS LINE SIZE	3/8"	3/8"
OUTDOOR COND. UNIT:	**CU-1**	
MITSUBISHI COND UNIT MODEL NO.	MXZ-2C20NAHZ2-U1	
BRANCH SELECTOR BOX (BSB)...	NA	
COOLING BTUH	20,000	
HEATING BTUH	25,000	
REFRIGERANT	R410A	
ELECTRICAL	208/230	
MCA	17.2	
MOP	20	
SOUND dBA - HIGH	50	
DIMENSIONS (H x W x D)	27 15/16" X 33 1/16" X 13"	
WEIGHT, LBS.	66	

NOTES:
1. POWER TO CU'S BY DIV 26. WIRING BETWEEN AC AND CU PROVIDED BY DIV 23.

FINNED TUBE RADIATION SCHEDULE (HOT WATER)

TAG	STERLING MODEL No.	GRADE	ENCLOSURE HEIGHT	MOUNTING HEIGHT, TOP OF ENCLOSURE	DEPTH FROM WALL	No. OF TIERS	BTU / FT	GPM	AWT	EAT	ELEMENT	FIN DIMENSIONS	FINS/FT.	NOTES
FT-A	SYNERGY SG-500	LOW TEMP RESIDENTIAL...	9-1/16"	9-1/16"	3-13/16"	1	567	1.0	150	70	3/4"...	3-1/4" SQ.	51	

NOTES:
1. PROVIDE RETURNS WITHIN ENCLOSURE WHERE APPLICABLE.

UNIT HEATER SCHEDULE

TAG	SERVES	MFR. -MODEL	SIZE	TYPE	MBH	CFM	EAT (DEG.-F)	LAT (DEG.-F)	GPM	FLUID	EWT	LWT	MOTOR TYPE	MOTOR HP	ELECT	MAX WPD	CONTROL VALVE	NOTES
UH-1	BULK FLUIDS 108	TRANE UHS	18	HORIZ. UH	9.5	500	60	77.6	0.5	WATER	140	110.0	TEAO	16W	120-1-60	0.3	2-WAY	1
UH-2	COMPRESSOR 204	TRANE UHS	8	HORIZ. UH	4.1	245	60	75.5	0.5	WATER	140	110.0	TEAO	16 W	120-1-60	0.3	2-WAY	1
UH-3	MECH/ELEC 205	TRANE UHS	8	HORIZ. UH	4.1	245	60	75.5	0.5	WATER	140	110.0	TEAO	16 W	120-1-60	0.3	2-WAY	1
UH-4	WORKBAYS 3/4	TRANE UHS	108	HORIZ. UH	41.6	1,800	60	81.4	5.0	WATER	140	110.0	TEAO	1/12 HP	120-1-60	0.14	2-WAY	1
UH-5	WORK BAYS 4/5	TRANE UHS	108	HORIZ. UH	41.6	1,800	60	81.4	5.0	WATER	140	110.0	TEAO	1/12 HP	120-1-60	0.14	2-WAY	1
UH-6	PARTS 107	TRANE UHS	8	HORIZ. UH	4.1	245	60	75.5	0.5	WATER	140	110.0	TEAO	16 W	120-1-60	0.3	2-WAY	1

NOTES:
1. POWER WIRING TO UNIT HEATER BY DIV 26. ALL LOW VOLTAGE CONTROL WIRING, THERMOSTAT, RELAYS, AND TRANFORMERS BY DIV. 23. DISCONNECT SWITCH: PROVIDE BY UNIT HEATER MANUFACTURER.

Scale:			
1/8" = 1'-0"			
No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: ANTHONY DAVIS, P.E.

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — REGISTERED PROFESSIONAL ENGINEER

	By	Date		By	Date
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Drawn:	REW	10/15/19			

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AEI PROJ.NO.: 18-080 | CAD FILE:

MAINE TURNPIKE

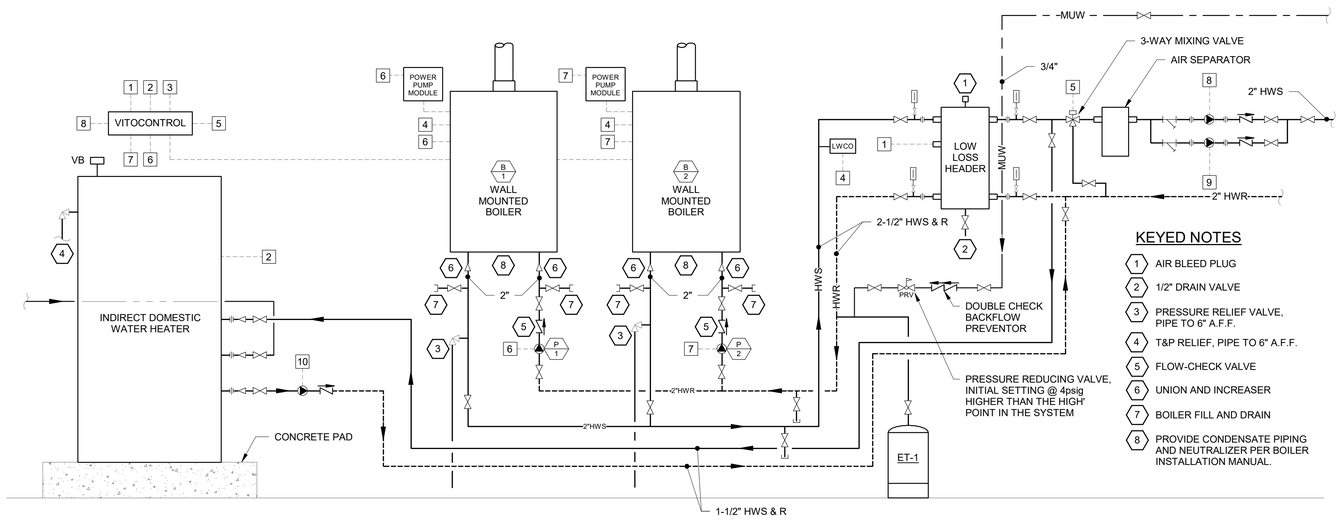
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
MECHANICAL PIPING PLANS

SHEET NUMBER: MP-100

CONTRACT: 2019.12



KEYED NOTES

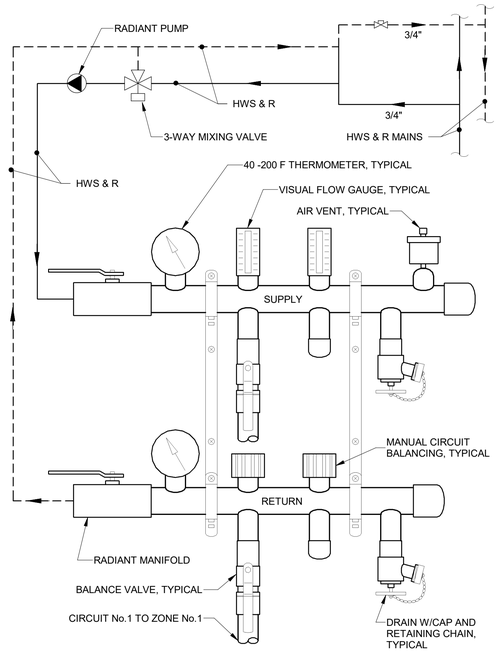
1. AIR BLEED PLUG
2. 1/2" DRAIN VALVE
3. PRESSURE RELIEF VALVE, PIPE TO 6" A.F.F.
4. T&P RELIEF, PIPE TO 6" A.F.F.
5. FLOW-CHECK VALVE
6. UNION AND INCREASER
7. BOILER FILL AND DRAIN
8. PROVIDE CONDENSATE PIPING AND NEUTRALIZER PER BOILER INSTALLATION MANUAL.

SENSORS - WIRE TO BOILER CONTROLLER

1. TEMPERATURE SENSOR - LOW LOSS HEADER
2. TEMPERATURE SENSOR - DHW
3. TEMPERATURE SENSOR - OUTSIDE AIR
4. LOW WATER CUT-OFF
5. MIXING VALVE
6. BOILER PUMP (P-P1)
7. BOILER PUMP (P-P2)
8. SECONDARY HEATING PUMP (HWP-1)
9. SECONDARY HEATING PUMP (HWP-2)
10. DHW PUMP (P-DHW)

D1 | DETAIL - HEATING PLANT PIPING SCHEMATIC

NOT TO SCALE



A1 | DETAIL - RADIANT MANIFOLD PIPING

NOT TO SCALE

ENERGY RECOVERY UNIT SCHEDULE

GENERAL	TAG	ERV-1
	SERVES	OFFICE AREA & RESTROOM AREA
	LOCATION	ABOVE TECH 103
	TYPE	FIXED-PLATE ENTHALPIC
	MFR	RENWAIRE
	MODEL	EV450IN
FILTER SECTION	FILTERS	2" MERV 8
(TYP-2, SUPPLY & EXH)	MIN. AREA, sf	3.9
	VELOCITY	71
OUTSIDE AIR FAN	TYPE	FC
	AIRFLOW, cfm	**275**
	ESP, in.wc.	0.5
	MOTOR SPEEDS	ECM
	HP	0.6
EXHAUST AIR FAN	TYPE	FC
	AIRFLOW, cfm	**275**
	ESP, in.wc.	0.5
	MOTOR SPEEDS	SAME MOTOR AS OA FAN
	HP	SAME MOTOR AS OA FAN
OVERALL DIMENSIONS	LENGTH	54"
	WIDTH	16-3/8"
	HEIGHT	44-1/8"
	OPERATING WEIGHT, lbs.	210
HEAT RECOVERY CORE	SUMMER OA DB/WB	88 / 72
	WINTER OA DB	-3
	SUMMER SA DB/WB	78 / 66
	WINTER SA DB	53 /41
	TOTAL EFFECTIVENESS-WINTER	75.0%
	TOTAL EFFECTIVENESS-SUMMER	65.0%
	FROST CONTROL	NONE REQUIRED
ELECTRICAL DATA		
	V-PH-HZ	208-230v 1ph
	UNIT FLA	3.9
	UNIT MCA	4.9
	MAX FUSE SIZE	15
	SUPPLY AND RETURN SMOKE DETECTORS	NO

NOTES:
1. ERU MFR. SHALL PROVIDE STARTERS, FUSED DISCONNECT, 24VAC TRANSFORMER/RELAY PACKAGE.

MAKE-UP AIR UNIT SCHEDULE

INDOOR UNIT:	MUA-1	MUA-2
MANUFACTURER	GREENHECK	GREENHECK
DESCRIPTION	ROOF TOP DIRECT FIRED	ROOF TOP DIRECT FIRED
MODEL	DGX-P127-H32-MF	DGX-P112-H12-MF
WEIGHT (w/ Curb)	1,750	715
AIRFLOW, cfm	**9,200**	**3,400**
MIN. AIRFLOW, cfm	**3,200**	**----**
ESP, in.wc.	1.2	1.2
HP	7.5	3
RPM	1,118	1,759
HEATING		
FUEL	LP GAS	LP GAS
TEMP RISE, deg-F.	65	70
INPUT (MBH)	700	250
OUTPUT (MBH)	640	220
EFFICIENCY	90%	90%
TURNDOWN	Full Mod down to 40%	Full Mod down to 40%
FILTERS	2" Pleated MERV 8	2" Pleated MERV 8
ELECTRICAL		
VOLTAGE/HZ/PHASE	208/1	208/1
STARTER TYPE	Note 1	Note 1
MCA/MOP	57.5 / 100	24 / 40

NOTES:
1. PROVIDE DANFOSS VFD FOR 208 SINGLE PHASE IN & 208 THREE PHASE OUT

AIR DRYER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	AIRFLOW @ 100F @ 37 F DP (CFM)	DRAIN CONN. (IN.)	COMPRESSOR		WEIGHT	NOTES
					FULL LOAD (KW)	VOLT/PH	LBS	
AD-1	QUINCY MODEL - QPNC-50	MEZZANINE RM 204	50	1/2	0.4	115/60/1	80	
REFRIGERANT: R134a								

RADIANT FLOOR CIRCUIT SCHEDULE

AREA SERVED / MANIFOLD NO.	CIRCUIT QUANTITY	FLOOR AREA (sf)	UNIT HEAT (BTU/hr)	LENGTH (ft) (Circuit + Tail)	FLOW RATE (gal/min)	HEAD LOSS (Ft of water)	SUPPLY TEMP (° F)	MAX. SURFACE TEMP (°F)	DESIGN TEMP DROP (°F)	TUBE SPACING (in)	TUBE SIZE
WORK BAYS 1 & 2 / RFM-1	9	3,200	38400	400	4.40	2.00	92	80	20	12	5/8"
WORK BAYS 3 & 4 / RFM-2	8	2,928	35100	400	4.00	2.00	92	80	20	12	5/8"
WASH BAY / RFM-3	7	2,277	27500	375	3.10	2.00	92	80	20	12	5/8"

NOTE:
Circuit lengths, tubing and manifold are based on WATTS Radiant Design (Emerson Swan, Inc.). Total Boiler Load = 114,300 BTUh, Total Volume = 125 gallons.

GRAVITY ROOF VENTILATOR SCHEDULE

TAG	MAKE - MODEL	ASSOICATED AIR SYSTEM	INTAKE OR RELIEF?	CFM	HOOD DIMENSIONS			THROAT DIMENSIONS			NUMBERS OF TIERS	MAX P.D. MAX W.C.	SCREEN	WEIGHT LBS	ROOF CURB
					LENGTH (in.)	WIDTH (in.)	HEIGHT (in.)	LENGTH (in.)	WIDTH (in.)	MIN. FREE AREA (SF)					
GRV-1	GREENHECK FGI	ERV-1	INTAKE	275	24	22	14	12.0	12	1.0	NA	.013	SEE SPEC	82	30"
GRV-2	GREENHECK FGR	ERV-1	EXHAUST	275	24	22	14	12.0	12	1.0	NA	.013	SEE SPEC	82	30"
GRV-3	GREENHECK FGI	COMPRESSOR	INTAKE	600	36	28	16	18.0	18	2.25	NA	.012	SEE SPEC	55	30"

FAN SCHEDULE

TAG	SERVES	MFR.	MODEL	TYPE	DRIVE	CFM	SP (IN. WC.)	MOTOR HP	MOTOR TYPE	SPEED CONTROL	DISC. SWITCH FURN BY	VOLTS/PH	MAX SONES	WEIGHT (LBS.)	DAMPER	NOTES
EF-1	COMPRESSOR	GREENHECK	CUE-099-VG	UPBLAST	DIRECT	600	0.5"	1/4	ECM	YES	FAN MFR	120/1/60	6.7	42	MOD	
EF-2	BULK FLUIDS	GREENHECK	CUE-090-VG	UPBLAST	DIRECT	250	0.5"	1/10	ECM	YES	FAN MFR	120/1/60	6.2	35	MOD	
EF-3	WASH BAY	GREENHECK	CUE-161-VG	UPBLAST	DIRECT	3,400	.75"	2	ECM	YES	FAN MFR	208/1/60	19.0	125	MOD	
EF-4	WORK BAYS	GREENHECK	CUE-300HP-50	UPBLAST	BELT	9,200	.75"	5	TEFC	YES - VFD	FAN MFR	208/3/60	26.0	325	MOD	1, 2
EF-5	VEHICLE EXHAUST	GREENHECK	CUBE-180-20	UPBLAST	BELT	1,200	2.2	2	TEFC	NO	FAN MFR	240/1/60	21.0	144	MOD	
EF-6	VEHICLE EXHAUST	GREENHECK	CUBE-180-20	UPBLAST	BELT	1,200	2.2	2	TEFC	NO	FAN MFR	240/1/60	21.0	144	MOD	

NOTES: 1. PROVIDE DANFOSS VFD FOR 208/1/60 & 208/3/60 OUTPUT.
2. PROVIDE 0-10 vdc FROM BAS FOR REMOTE FAN SPEED CONTROL AND AIR BALANCE.
3. PROVIDE SPEED DIAL ON MOTOR FOR SPEED CONTROL AND AIR BALANCE.

AIR COMPRESSOR SCHEDULE

TAG	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	MAXIMUM FLOW EA. PUMP (ACFM)	MAXIMUM PUMP PRESS. (PSIG)	RECEIVER		ELECTRICAL				PHYSICAL		NOTES
						SIZE (GAL.)	RECEIVER TYPE	MOTOR(S)	MOTOR SIZE (HP)	MOTOR SPEED (RPM)	VOLT/PH	LENGTH/ WIDTH/ HEIGHT (IN)	WEIGHT	
ACU-1	QUINCY MODEL QT-7.5 (DUPLEX)	MEZZANINE RM 204	RECIPRICATING DUPLEX	22.6	175	120	HORIZ. TANK	1	7.5	3600	230/1	78/28/55	1,200 lbs	DUAL POWER FEED REQUIRED
--	--	--	--	22.6	175	--	--	1	7.5	3600	230/1	--	--	

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: ANTHONY DAVIS, P.E.

STATE OF MAINE — ANTHONY S. DAVIS No. 8834 — LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	HAG	10/15/19	Checked:	ASD	10/15/19
Drawn:	REW	10/15/19			

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AEI PROJ.NO.: 18-080 | CAD FILE:

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 MECHANICAL DETAILS AND SCHEDULES

SHEET NUMBER: M-500

CONTRACT: 2019.12

A	AMPERE	MC	MICROPHONE
AC	ALTERNATING CURRENT	MW	MICROWAVE
AFF	ABOVE FINISHED FLOOR	MLO	MAIN LUG ONLY
AFG	ABOVE FINISHED GRADE	MT	MOUNT
AHU	AIR HANDLING UNIT	MTS	MANUAL TRANSFER SWITCH
AIC	AMPERES INTERRUPTING...	MCP	MOTOR CONTROL PANEL
ATS	AUTOMATIC TRANSFER SWITCH	MH	METAL HALIDE
AWG	AMERICAN WIRE GAUGE	MDP	MAIN DISTRIBUTION PANEL
BAS	BUILDING AUTOMATION SYSTEM	MIN	MINIMUM
BKBD	BACKBOARD	N	NEUTRAL
C	CONDUIT	NC	NORMALLY CLOSED
CAT	CATALOG, CATEGORY	NEC	NATIONAL ELECTRICAL CODE
CATV	CABLE TV	NEMA	NATIONAL ELECTRICAL...
CB	CIRCUIT BREAKER	NFPA	NATIONAL FIRE PROTECTION...
CCTV	CLOSED CIRCUIT TELEVISION	NIC	NOT IN CONTRACT
CM	CIRCULAR MILS	NF	NON-FUSED
COMM	COMMUNICATIONS	NO	NORMALLY OPEN
CU	MECH CONDENSING UNIT	NO., #	NUMBER
CU	COPPER	NTS	NOT TO SCALE
CUH	CABINET UNIT HEATER	OC	ON CENTER
CR	CORD REEL		
DC	DIRECT CURRENT	OCC	OCCUPANCY
DDC	DIGITAL DIRECT CONTROL	OH	OVERHEAD
DN	DOWN	P	POLE
DW	DISHWASHER	PA	PUBLIC ADDRESS
DWG	DRAWING	PB	PULLBOX
EF	EXHAUST FAN	PH, Ø	PHASE
ELEV	ELEVATOR	PIR	PASSIVE INFRARED
EMT	ELECTRICAL METALLIC TUBING	PNL	PANELBOARD
EP	EXPLOSION PROOF	P/O	PART OF
ERU	ENERGY RECOVERY UNIT	PV	PHOTOVOLTAIC
EWC	ELECTRIC WATER COOLER	PVC	POLY-VINYL CHLORIDE
FACP	FIRE ALARM CONTROL PANEL	REC	RECEPTACLE
FB	FLOOR BOX	REF	REFRIGERATOR
FLA	FULL LOAD AMPS	RF	RETURN FAN
FWE	FURNISHED WITH EQUIPMENT	RGS	RIGID GALVANIZED STEEL
G, GND	GROUND	RM	ROOM
GFCI	GROUND FAULT CIRCUIT...	RMC	RIGID METAL CONDUIT
GFP	GROUND FAULT PROTECTION	RTU	ROOFTOP UNIT
HID	HIGH INTENSITY DISCHARGE	REF	REFRIGERATOR
HOA	HAND-OFF-AUTO SELECTOR...	SF	SUPPLY FAN
HP	HORSEPOWER	SPDT	SINGLE POLE, DOUBLE THROW
HVAC	HEATING, VENTILATION AND...	SQ	SQUARE
IDS	INTRUSION DETECTION SYSTEM	TEL	TELEPHONE
IG	ISOLATED GROUND	TVSS	TRANSIENT VOLTAGE SURGE...
IMC	INTERMEDIATE METAL CONDUIT	TYP	TYPICAL
IR	INFRARED	UF	UNDER FLOOR
K	KILO	UG	UNDERGROUND
KCMIL	KILO CIRCULAR MILS	UH	UNIT HEATER
KW	KILOWATT	UL	UNDERWRITER'S LABORATORY
KVA	KILO VOLT-AMPS	UNO	UNLESS NOTED OTHERWISE
LAN	LOCAL AREA NETWORK	UPS	UNINTERRUPTIBLE POWER SUPPLY
LC	LIGHTING CONTACTOR	V	VOLTS
LF	LINEAR FEET	VFD	VARIABLE FREQUENCY DRIVE
LC	LOADCENTER	W	WATT
LCP	LIGHTING CONTROL PANEL	WP	WEATHERPROOF
LED	LIGHT EMITTING DIODE	WG	WIREGUARD
LTG	LIGHTING	XFMR	TRANSFORMER
LTS	LIGHTS		
MAX	MAXIMUM	(E)	EXISTING ITEM TO REMAIN
MCB	MAIN CIRCUIT BREAKER	(R)	REMOVE ITEM AND DISPOSE OF...
MECH	MECHANICAL	(ER)	RELOCATED ITEM AT NEW...
MH	MOUNTING HEIGHT	(RL)	REMOVE AND RELOCATE

LIGHTING SWITCHES

- S_a LIGHT SWITCH, 20A,125/277V
- S_3 THREE-WAY LIGHT SWITCH
- S_4 FOUR-WAY LIGHT SWITCH
- S_2 TWO-POLE SWITCH
- S_K KEY OPERATED SWITCH
- S_M MOTOR RATED SWITCH
- S_P SINGLE POLE SWITCH WITH RED PILOT LIGHT ~ RED LIGHT SHALL GLOW WHEN CIRCUIT IS ENERGIZED
- S_a S_b MULTI-GANGED SWITCHES, GANG UNDER ONE PLATE, LETTER INDICATES SWITCHING
- S_{OS} OCCUPANCY SENSOR SWITCH, WALL MOUNTED
- S_{OS2} 2-BUTTON OCCUPANCY SENSOR SWITCH
- S_{OS3} OCCUPANCY SENSOR SWITCH WIRED FOR 3-WAY OPERATION
- S_{OSD} OCCUPANCY SENSOR SWITCH WITH DIMMING ~ COORDINATE DIMMING TECHNOLOGY WITH LOAD TO BE DIMMED
- CS OCCUPANCY SENSOR, CEILING MOUNTED
- CS OCCUPANCY SENSOR, WALL MOUNTED
- DS DAYLIGHT SENSOR
- S_D DIMMER SWITCH ~ COORDINATE DIMMING TECHNOLOGY WITH LOAD TO BE DIMMED
- S_F S_L HANDICAP SWITCHES FOR HOOD LIGHT AND FAN
- S_T TIMER SWITCH
- S_{LV} LOW VOLTAGE LIGHT SWITCH, MOMENTARY CONTACT GROUPS
- S_{LVab} LOW VOLTAGE LIGHT SWITCH CONTROLLING MULTIPLE LIGHTING
- LTC LIGHTING TIME CLOCK
- LC LIGHTING CONTACTOR
- LCP LIGHTING CONTROL PANEL
- PC OUTDOOR PHOTOELECTRIC SWITCH

NOTES:

1. MOUNT LIGHT SWITCHES WITH CENTERLINE 48" AFF, UNO
2. LOWER CASE LETTER AT SWITCH INDICATES SWITCHING

EMERGENCY LIGHTING

HATCHING INDICATES EGRESS FIXTURE. PROVIDE UL924 RELAYS TO AUTOMATICALLY TURN EGRESS LIGHTING ON TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER REGARDLESS OF THE LIGHTING CONTROL STATUS~
"EM" INDICATES EMERGENCY WHERE SYMBOL HATCHING IS UNCLEAR

EXIT SIGN, CEILING MOUNTED, SHADING INDICATES FACE(S)
ARROWHEAD INDICATES CHEVRON(S) REQUIRED, CONNECT TO UNSWITCHED PORTION OF AREA LIGHTING BRANCH CIRCUIT, U.N.O.

EXIT SIGN, WALL MOUNTED, SHADING INDICATES FACE(S)
MOUNT AT 7'-6"AFF OR OVER DOOR, CONNECT TO UNSWITCHED PORTION OF AREA LIGHTING BRANCH CIRCUIT, U.N.O.

INV CENTRAL LIGHTING INVERTER

REFER TO LUMINAIRE SCHEDULE FOR FIXTURE TYPES

TYPICAL FOR ALL FIXTURE TYPES :

R1 INDICATES LUMINAIRE TYPE ON SCHEDULE
a LOWER CASE LETTER INDICATES SWITCH GROUP

SINGLE RECEPTACLES

MOUNT 48" AFF U.N.O.

A REFER TO SPECIAL RECEPTACLE SCHEDULE

CD A OVERHEAD SINGLE RECEPTACLE CORD DROP

NOTE:

PROVIDE MATCHING CORD AND PLUG FOR SINGLE RECEPTACLES FOR NEW EQUIPMENT AND WHERE NOTED FOR RELOCATED EQUIPMENT

FLOOR AND CEILING DEVICES

- F DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W, NEMA 5-20R, MOUNT IN FLUSH FLOOR BOX
- F DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W, NEMA 5-20R, MOUNT IN FLUSH FLOOR BOX
- P DUPLEX RECEPTACLE, PEDESTAL MOUNTED
- P SINGLE RECEPTACLE, PEDESTAL MOUNTED
- C DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
- C DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
- C DUPLEX GFCI RECEPTACLE, FLUSH MOUNTED IN CEILING
- C DOUBLE DUPLEX GFCI RECEPTACLE, FLUSH MOUNTED IN CEILING
- CR OVERHEAD RECEPTACLE DROP, DUPLEX ~ CR= CORD REEL
- CR OVERHEAD RECEPTACLE DROP, DOUBLE DUPLEX ~ CR= CORD REEL
- CR OVERHEAD RECEPTACLE DROP, GFCI ~ CR= CORD REEL

F MULTI-SERVICE FLUSH FLOOR BOX ~ WIREMOLD EFB45 SERIES OR APPROVED EQUAL. COVER SHALL BE FLUSH STYLE WITH FLOOR INSERT. COVER FINISH COLOR SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD FINISHES.

DATA OUTLET IN FLUSH FLOOR BOX

J2 2-GANG JUNCTION BOX IN FLUSH FLOOR BOX

RECEPTACLES

- DUPLEX RECEPTACLE ~ 20A, 125V, 2P, 3W, NEMA 5-20R
- DOUBLE DUPLEX RECEPTACLE
- HATCH INDICATES RECEPTACLE WITH INSULATED/ ISOLATED GROUND
- GFCI DUPLEX RECEPTACLE, MOUNT 46" AFF UNO
- GFCI DOUBLE DUPLEX RECEPTACLE, MOUNT 46" AFF UNO
- EWC GFCI RECEPTACLE FOR ELECTRIC WATER COOLER - COORDINATE LOCATION WITH DIVISION 22.
- WP GFCI RECEPTACLE WITH WEATHERPROOF COVER
- WP GFCI RECEPTACLE IN WP ENCLOSURE ON ROOF

SURFACE RACEWAY, MOUNT 44" AFF UNO. PROVIDE NEMA 5-20 RECEPTACLES AT 24" OC

P POWER POLE USED AS RACEWAY ~ VERTICAL POWER SYSTEMS SL-EXP

P POWER POLE WITH DEVICES ~ VERTICAL POWER SYSTEMS PP-EXP

NOTES:

1. MOUNT RECEPTACLES WITH CENTERLINE 18" AFF UNO
2. MOUNT EXTERIOR RECEPTACLES WITH CENTERLINE 24" AFG UNO

C CAMERA ~ PROVIDE CAMERA AND SINGLE GANG BOX WITH 3/4" CONDUIT. MOUNTING HEIGHT AND LOCATION SHALL BE CONFIRMED WITH OWNER PRIOR TO ROUGH IN.

CR CARD READER ~ PROVIDE RECESSED WALL MOUNTED SINGLE-GANG BOX 44" AFF WITH 3/4" CONDUIT. EXTERIOR BOXES SHALL BE WEATHERPROOF. DIVISION 26 TO PROVIDE 3/4" CONDUIT FROM CARD READER TO JUNCTION BOX FOR SECURITY PANEL LOCATED IN IO.T.203. FURNISH AND INSTALL ACCESS CONTROL CABLE (TAPPAN MODEL H91602-1) PER MTA REQUIREMENTS. COORDINATE LOCATION OF SECURITY PANEL WITH OWNER.

L DOOR LOCK ~ PROVIDE EMPTY 1/2" RECESSED CONDUIT WITH PULL STRING IN DOOR FRAME, RUN FROM DOOR LOCK LOCATION IN FRAME TO DOOR LOCK POWER LOCATION.

CA ACCESS CONTROL - PROVIDE JUNCTION BOX ABOVE CEILING WITH RECESSED CONDUITS WITH PULL STRINGS TO DOOR FRAME AT 50" AFF AT HINGE SIDE, 50" AFF AT LATCH SIDE AND AT HEADER 6" FROM LATCH SIDE.

DS DOOR POSITION SWITCH - PROVIDE 3/4" RECESSED CONDUIT TO DOOR FRAME HEADER 6" FROM LATCH SIDE.

SAA SECURITY PANEL ANNUNCIATOR (DIV 28)

NOTES:

1. DOOR HARDWARE BY DIV 8 U.N.O.
2. LOW VOLTAGE WIRING AND DEVICES BY OWNER UNLESS NOTED OTHERWISE.
3. CONDUITS SHALL BE RUN CONCEALED FROM EACH OUTLET BOX OR TERMINATION TO 6" ABOVE THE NEAREST ACCESSIBLE CORRIDOR CEILING THAT IS CONTIGUOUS TO THE NEAREST IT ROOM, J-HOOK OR CABLE TRAY PATHWAY,UNO. IN ROOMS WITHOUT CEILINGS, CONDUIT SHALL BE RUN AT UNDERSIDE OF DECK TO 6" ABOVE THE NEAREST ACCESSIBLE CORRIDOR CEILING THAT IS CONTIGUOUS TO THE NEAREST IT ROOM, J-HOOK OR CABLE TRAY PATHWAY, UNO. CONDUIT PATHWAYS SHALL BE PROVIDED FOR ANY PORTIONS OF THE PATH TO NEAREST IT ROOM, J-HOOK, OR CABLE TRAY THAT HAS EXPOSED DECK OR HAS INACCESSIBLE CEILINGS.
4. DIVISION 26 SHALL PROVIDE 120 VOLT POWER WHERE INDICATED. DIV 26 SHALL PROVIDE EMPTY BOXES AND CONDUITS WITH PULL STRING U.N.O.

D7 SECURITY LEGEND

12" = 1'-0"

- PANELBOARD ~ SURFACE MOUNTED
- PANELBOARD ~ FLUSH MOUNTED
- AS AF FUSED DISCONNECT SWITCH
- NON-FUSED DISCONNECT SWITCH
- 00 MOTOR STARTER ~ NUMBER INDICATES NEMA SIZE
- 00 COMBINATION MOTOR STARTER/FUSED DISCONNECT
- MOTOR OR FAN
- M METER AND CABINET
- J JUNCTION BOX
- J WALL JUNCTION BOX ~ WALL MOUNTED
- J2 DOUBLE GANG JUNCTION BOX ~ WALL MOUNTED 18" AFF
- C J JUNCTION BOX ~ FLUSH CEILING MOUNTED
- P J JUNCTION BOX ~ PEDESTAL MOUNTED
- T# TRANSFORMER ~ NUMBER INDICATES DESIGNATION SEE TRANSFORMER SCHEDULE
- VFD VARIABLE FREQUENCY DRIVE
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
- S POWER SHUTOFF SWITCH ~ WALL MOUNTED 48" TO CENTER LINE
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- WIRING UNDERGROUND OR UNDERSLAB
- HOMERUN ~ (2)#12+(1)#12G UNO (EXCEPT LIGHTING CIRCUITS: (1)#12+(1)#10N+(1)#12G UNO)
- SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT
- 3-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT
- FLEXIBLE CONNECTION
- GROUNDING SYSTEM
- P MOTORIZED DOOR OPERATOR AND PUSH PADDLE ~ FURNISHED BY DIV 08, WIRED BY DIV 26
- CB ENCLOSED CIRCUIT BREAKER
- ATS AUTOMATIC TRANSFER SWITCH
- H HAND DRYER, COORDINATE HEIGHT WITH ARCHITECTURAL PLANS
- C ENCLOSED CONTACTOR
- OVERHEAD DATA DROP
- C DATA OUTLET FLUSH IN CEILING

- FACP FIRE ALARM CONTROL PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- FAA FIRE ALARM ANNUNCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF, WIRED TO FACP
- S SMOKE DETECTOR, WIRED TO FACP
- S E SMOKE DETECTOR, "E" INDICATES CONNECTION FOR ELEVATOR RECALL, WIRED TO FACP
- S SS SINGLE STATION SMOKE DETECTOR WITH AUDIBLE INDICATING APPLIANCE, WALL MOUNTED
- S SS AV SINGLE STATION SMOKE DETECTOR WITH AUDIBLE/VISUAL INDICATING APPLIANCE, CEILING MOUNTED
- CO S SS SINGLE/MULTI-STATION SMOKE/CARBON MONOXIDE DETECTOR WITH AUDIBLE INDICATING APPLIANCE, CEILING MOUNTED
- SS CO S SINGLE/MULTI-STATION SMOKE/CARBON MONOXIDE DETECTOR WITH AUDIBLE INDICATING APPLIANCE, WALL MOUNTED
- H HEAT DETECTOR, WIRED TO FACP
- H E HEAT DETECTOR, "E" INDICATES CONNECTION FOR ELEVATOR RECALL, WIRED TO FACP
- D DUCT SMOKE DETECTOR, WIRED TO FACP
- G GAS DETECTOR, WIRED TO FACP
- FLAME DETECTOR, WIRED TO FACP
- RTS RTS REMOTE TEST/INDICATOR FOR DUCT SMOKES, MOUNT ON CEILING BENEATH UNIT, OR WALL MOUNT WHERE INDICATED ON PLANS
- F MANUAL PULL STATION, MOUNT 48" AFF
- F HORN/STROBE, WALL MOUNTED CANDELA AS NOTED ON PLANS, WIRED TO FACP
- F HORN/STROBE, CEILING MOUNTED, CANDELA AS NOTED ON PLANS, WIRED TO FACP
- F STROBE ONLY INDICATING APPLIANCE, WALL MOUNTED, CANDELA AS NOTED ON PLANS, WIRED TO FACP
- F STROBE ONLY INDICATING APPLIANCE, CEILING MOUNTED, CANDELA AS NOTED ON PLANS, WIRED TO FACP
- F F HORN/STROBE WITH PULL STATION DIRECTLY BELOW
- DH MAGNETIC DOOR HOLD OPEN DEVICE, WIRED TO FACP
- T TRANSFORMER
- F SPRINKLER SYSTEM WATER FLOW SWITCH, PROVIDED UNDER DIVISION 23, WIRED TO FACP UNDER DIVISION 26
- T SPRINKLER SYSTEM TAMPER SWITCH, PROVIDED UNDER DIVISION 23, WIRED TO FACP UNDER DIVISION 26
- C SPRINKLER SYSTEM CHECK VALVE PRESSURE SWITCH, FURNISHED AND INSTALLED UNDER DIVISION 23, WIRED TO FACP UNDER DIVISION 26
- P SPRINKLER SYSTEM PRE-ACTION VALVE, FURNISHED AND INSTALLED UNDER DIVISION 21, WIRED TO FACP UNDER DIVISION 26
- K KNOX BOX, MOUNT 60" AFF
- SD SMOKE DAMPER, WIRED TO FACP
- FSD FIRE AND SMOKE DAMPER, WIRED TO FACP HORN/STROBE, CANDELA AS NOTED ON PLANS, WIRED TO FACP
- S SPEAKER/STROBE, WALL MOUNTED, CANDELA AS NOTED ON PLANS, WIRED TO FACP
- S SPEAKER/STROBE, CEILING MOUNTED, CANDELA AS NOTED ON PLANS, WIRED TO FACP

A1	ABBREVIATIONS	A3	LIGHTING	A5	RECEPTACLES	A7	POWER DISTRIBUTION	A9	FIRE ALARM

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHY FAUCHER, P.E.

STATE OF MAINE CATHERINE A. FAUCHER No. 7575 LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
Drawn:	DLL	10/15/19			

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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ELECTRICAL ABBREVIATIONS AND LEGENDS

SHEET NUMBER: E-000

CONTRACT: 2019.12

PROJECT NOTES

1. THE SCOPE OF WORK SHALL INCLUDE PROVIDING ALL WORK INDICATED UNLESS OTHERWISE SPECIFICALLY INDICATED AS EXISTING OR WORK BY OTHERS, AND COORDINATION WITH ALL TRADES SCOPE OF WORK AS INDICATED ON THE CONTRACT DOCUMENTS INCLUDING BOTH THE DRAWINGS AND THE SPECIFICATIONS, WHICH ARE COMPLIMENTARY. WORK REQUIREMENTS INDICATED IN ANY CONTRACT DOCUMENT SHALL BE CONSIDERED PART OF THE SCOPE OF WORK, UNLESS SPECIFICALLY INDICATED AS EXISTING OR WORK BY OTHERS.
2. IN GENERAL, WORK REQUIREMENTS ARE NOT INDICATED IN BOTH DOCUMENTS. WHERE DOCUMENTS CONFLICT WITHIN THEMSELVES OR WITH CODES AND REGULATIONS. PROVIDE THE HIGHER QUANTITY AND QUALITY AND FOLLOW THE STRICTER REQUIREMENTS.
3. WORK AT A MINIMUM SHALL BE IN ACCORDANCE WITH OSHA, NFPA STANDARDS, THE ELECTRICAL CODE AND THE LOCAL GOVERNING AUTHORITIES. THE DRAWINGS AND SPECIFICATIONS DO NOT ATTEMPT TO INDICATE ALL WORK REQUIRED BY CODE AND AUTHORITIES. DO NOT INSTALL WORK THAT DOES NOT MEET THE MINIMUM REQUIREMENTS. IF NECESSARY, REQUEST CLARIFICATION FROM ARCHITECT AND ENGINEER BEFORE PROCEEDING.
4. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND PROFESSIONAL MANNER. RECTILINEAR TO BUILDING STRUCTURE.
5. ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS OR DETAILS, BUT NOT ON THE PLAN OR VICE VERSA SHALL BE INCLUDED AS IF SHOWN ON BOTH.
6. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO PROVIDE A WORKING INSTALLATION IN EVERY DETAIL AND ALL ITEMS REQUIRED FOR SUCH AN INSTALLATION SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY INDICATED OR MENTIONED.
7. VISIT THE SITE TO DETERMINE PRE-EXISTING CONDITIONS AND WORK NECESSARY PRIOR TO SUBMISSION OF BID PRICE. SUBMIT ANY QUESTIONS REQUIRED TO CLARIFY SCOPE PRIOR TO BID. INCLUDE ALL REQUIRED WORK IN BID PRICE.
8. INCLUDE IN BID WHATEVER IS REQUIRED TO MEET SCHEDULE INCLUDING OVERTIME, EXPRESS SHIPPING, EXPEDITING EQUIPMENT, ETC. PLAN FOR PROJECT AND SUBMIT SHOP DRAWING AND ORDER EQUIPMENT IN A TIMELY MANNER; EQUIPMENT SHALL BE BASED ON THE SPECIFIED EQUIPMENT.
9. ANY EQUIPMENT TO BE SUBSTITUTED SHALL BE IDENTIFIED AT THE TIME OF BID. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SUBSTITUTIONS.
10. ALL ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.
11. TEST ALL EQUIPMENT AND SYSTEMS INSTALLED TO CERTIFY COMPLIANCE WITH DRAWINGS, SPECIFICATIONS, CODES, LOCAL AUTHORITIES AND REGULATIONS, INCLUDE LABOR AND COSTS FOR TESTING, REVIEWS, COMMISSIONING, APPROVALS AND CERTIFICATIONS.
12. PROVIDE TRAINING TO OWNER ON ALL EQUIPMENT AND SYSTEMS INSTALLED.
13. TEMPORARY LIGHTING AND POWER SHALL BE PROVIDED AS REQUIRED BY OSHA, CODES AND LOCAL AUTHORITIES. REMOVE ALL TEMPORARY FACILITIES PROVIDED AT PROJECT COMPLETION.
14. ALL CUTTING AND PATCHING REQUIRED FOR INSTALLING THE ELECTRICAL WORK SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. ALL CUTTING SHALL BE PATCHED AND FINISHED TO MATCH SURROUNDING AREA AND SATISFACTORY TO THE OWNER.

INSTALLATION COORDINATION NOTES

1. PRIOR TO ROUGH-IN OF ELECTRICAL PROVISIONS FOR OWNER FURNISHED EQUIPMENT AND EQUIPMENT PROVIDED BY OTHER TRADES, COORDINATE WITH THE GENERAL CONTRACTOR, EQUIPMENT SHOP DRAWINGS AND APPLICABLE EQUIPMENT INSTALLER FOR EXACT LOCATION AND WIRING REQUIREMENTS. PROVIDE ALL NECESSARY EQUIPMENT, WIRING AND ACCESSORIES FOR A COMPLETE INSTALLATION. MAKE ALL FINAL CONNECTIONS AS REQUIRED, I.E. POWER, CONTROL, INTERLOCK, ETC.
2. DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE THE WORK OF DIVISION 26 AND OTHER DIVISIONS. THESE DRAWINGS ARE NOT INTENDED TO INDICATE ALL ITEMS TO BE REMOVED.
3. ELECTRICAL EQUIPMENT, RACEWAYS AND OUTLETS MOUNTED TO AND OR INSTALLED IN OWNER FURNISHED FURNITURE SHALL BE COORDINATED WITH THE EQUIPMENT AND FURNITURE INSTALLERS AND THE GENERAL CONTRACTOR PRIOR TO ROUGH-IN. EXCEPT WHERE INDICATED OR REQUIRED OTHERWISE.
4. THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET PROJECT REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.
5. IF EXACT LOCATION, MOUNTING OR RACEWAY ROUTING ARE NOT INDICATED OR ARE NOT CLEAR OR CONFLICT (LOCATION OR HEIGHT) COORDINATE WITH OTHER TRADES AND REQUEST CLARIFICATION PRIOR TO ROUGH-IN OR INSTALLATION. DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT LOCATION, MOUNTING HEIGHTS OR EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED WITH THE EQUIPMENT REQUIREMENTS AND FIELD CONDITIONS.
6. WHERE LOADS ARE ADDED TO EXISTING BRANCH CIRCUITS, VERIFY THAT THE EXISTING CIRCUITS HAVE ADEQUATE CAPACITY TO SUPPORT THE ADDITIONAL LOAD WITHOUT EXCEEDING SPECIFIED MAXIMUM LOAD.
7. UNLESS OTHERWISE DIRECTED, PROVIDE ALL NEW POWER DISTRIBUTION EQUIPMENT WITH AIC RATINGS THAT MATCH OR EXCEED THE AIC RATING OF THE NEXT ACTIVE EXISTING UPSTREAM OVER-CURRENT PROTECTIVE DEVICE SERVING THE PANEL WHEN SERVED DIRECTLY BY ITS SOURCE (E.G. NO TRANSFORMER) OR PROVIDE AIC RATING THAT EXCEEDS BY 10% THE MAXIMUM LET THROUGH FAULT CURRENT (UNDER INFINITE PRIMARY BUSS) OF THE NEXT ACTIVE UPSTREAM TRANSFORMER (EXISTING OR NEW) SERVING THE RESPECTIVE PANEL.
8. ALL NEW PANELS SHALL BE FULLY RATED FOR THE DESIGNATED AIC VALUE; PANELS UTILIZING SERIES RATINGS WILL NOT BE ACCEPTABLE. NEW CIRCUIT BREAKERS PROVIDED IN EXISTING PANELS SHALL BE PROVIDED WITH AIC RATINGS THAT MATCH OR EXCEED THE HIGHEST RATED OVER-CURRENT PROTECTIVE DEVICE WITHIN THE RESPECTIVE EXISTING PANEL.
9. SUBMIT SHORT CIRCUIT STUDY WITH POWER DISTRIBUTION EQUIPMENT SUBMITTALS FOR REVIEW AND APPROVAL. IN THE STUDY DEMONSTRATE THAT THE AIC RATING SELECTIONS ARE PROPERLY INTEGRATED AND COORDINATED WITH THE EXISTING AND NEW POWER DISTRIBUTION EQUIPMENT. CONFIRM THAT THE AIC RATING SELECTIONS HAVE INCORPORATED THE AVAILABLE FAULT DUTY VALUES OBTAINED FROM THE UTILITY COMPANY FOR THE PROJECTS ELECTRICAL SERVICE POINT OF COMMON COUPLING.
10. SUBMIT OVER-CURRENT PROTECTIVE DEVICE COORDINATION STUDY, FOR ALL NEW POWER DISTRIBUTION EQUIPMENT. WITH THE POWER DISTRIBUTION EQUIPMENT SUBMITTALS FOR REVIEW AND APPROVAL. INCLUDE THE NEXT ACTIVE EXISTING UPSTREAM OVER-CURRENT PROTECTIVE DEVICES, IN THE STUDY ANALYSIS, WHEN PROJECT IS WITHIN AN EXISTING FACILITY.
11. SUBMIT ARC FLASH REPORT, FOR ALL NEW POWER DISTRIBUTION EQUIPMENT, WITH POWER DISTRIBUTION EQUIPMENT SUBMITTALS FOR REVIEW AND APPROVAL.

WIRING NOTES

1. UNLESS OTHERWISE INDICATED ON PLANS OR IN SPECIFICATIONS; ALL POWER DISTRIBUTION EQUIPMENT BUSSING AND TRANSFORMER WINDINGS SHALL BE FABRICATED OF 98% CONDUCTIVE COPPER MATERIAL.
2. UNLESS OTHERWISE INDICATED ON PLANS OR IN SPECIFICATIONS; ALL CONDUCTORS, SHALL BE FABRICATED OF 98% CONDUCTIVE COPPER MATERIAL. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG FOR BRANCH CIRCUITS AND #14 AWG FOR CONTROL WIRING.
3. WIRING IS INDICATED ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS.
4. BRANCH CIRCUIT WIRING NOT SHOWN. CIRCUITING SHALL IN ACCORDANCE WITH APPLICABLE CODES AND STANDARD PRACTICE. PROVIDE A 20A, 1P CIRCUIT BREAKER FOR EACH LIGHTING AND RECEPTACLE CIRCUIT UNLESS OTHERWISE INDICATED OR NOTED. CONNECT NO MORE THAN SIX DUPLEX CONVENIENCE RECEPTACLES PER BRANCH CIRCUIT. CONNECTED LOAD ON LIGHTING CIRCUITS SHALL NOT EXCEED 12 AMPS.
5. ALL WIRING SHALL BE RUN CONCEALED UNLESS SPECIFIED OTHERWISE. ALL EXPOSED WIRING INCLUDING THAT WHICH IS INSTALLED ABOVE BUT IS VISIBLE FROM BELOW, PARTIALLY OR FULLY OPEN CEILING, SHALL BE INSTALLED IN CONDUIT OR RACEWAYS. REFER TO SPECIFICATIONS FOR ACCEPTABLE WIRING METHODS.
6. WIRING AND CONDUIT SHALL BE REQUIRED FOR ALL SWITCHES, AND OUTLETS INDICATED WITH CIRCUIT NUMBERS. PROVIDE ¾" CONDUIT, 3#12 UNLESS OTHERWISE INDICATED (1 PHASE, 1 NEUTRAL AND 1 GROUND). WIRE AND CONDUIT SIZES ON HOME RUNS SHALL BE CONTINUOUS THROUGHOUT CIRCUIT, REFER TO VOLTAGE DROP CHART ON SCHEDULE SHEET. ALTHOUGH ALL BRANCH CIRCUIT WIRE AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
7. RACEWAYS SHALL BE LIMITED TO SIX CURRENT CARRYING CONDUCTORS (PHASE AND NEUTRALS) AND GROUNDING CONDUCTOR. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH SINGLE-PHASE RECEPTACLE OR LIGHTING CIRCUIT, UNLESS OTHERWISE INDICATED OR IF AN OVERSIZED NEUTRAL IS SPECIFIED. CIRCUITS WITH SHARED NEUTRALS SHALL BE PROVIDED WITH CIRCUIT BREAKERS THAT HAVE A COMMON TRIP (E.G. FURNITURE WHIPS)
8. A SEPARATE GROUNDING CONDUCTOR SHALL BE RUN IN EVERY FEEDER AND BRANCH CIRCUIT CONDUIT.
9. MARK ALL CONDUITS AND JUNCTION BOXES WITH PERMANENT MARKER INDICATING PANEL AND CIRCUIT NUMBER OF CONDUCTORS CONTAINED WITHIN. LABEL WHERE CONDUITS ENTER PANELS, WIRE WAYS, PULL BOXES, ETC. LABEL EMPTY CONDUITS WITH SYSTEM (VOICE, DATA, SECURITY, ETC.) AND SOURCE OF CONDUIT.
10. COORDINATE WITH OWNER TO DETERMINE WHICH RECEPTACLES AND ITEMS OF EQUIPMENT REQUIRE STANDBY GENERATOR POWER.
11. ELECTRICAL WORK NOT SERVING STAIRWELLS SHALL NOT PASS THROUGH A STAIR ENCLOSURE UNLESS AN APPROVED RATED SOFFIT IS PROVIDED TO MAINTAIN FIRE AND SMOKE RATING.
12. ALL RACEWAYS CROSSING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
13. PROVIDE WATERTIGHT AND GAS TIGHT SEALS INSIDE AND OUTSIDE OF CONDUITS THAT PENETRATE THE BUILDING BELOW GRADE, O.Z. GEDNEY OR APPROVED EQUAL. PROVIDE WEATHER TIGHT SEAL AT PENETRATIONS ABOVE GRADE.
14. PROVIDE NRTL LISTED SMOKE AND FIRE SEALS AT ALL PENETRATIONS THROUGH FLOORS OR FULL HEIGHT (FLOOR TO FLOOR) WALLS.

SYSTEM POWER WIRING NOTES

1. ALL VIDEO PROJECTOR, CAMERA AND MONITOR POWER OUTLETS AND THEIR ASSOCIATED COMPUTER POWER OUTLETS FEEDING THE VIDEO SOURCE ARE TO BE CONNECTED TO THE SAME PHASE TO ELIMINATE THE POTENTIAL FOR VIDEO INTERFERENCE BETWEEN VIDEO SOURCE AND EQUIPMENT. COORDINATE ALL POWER WIRING FOR SYSTEM EQUIPMENT WITH THE SYSTEM INSTALLER PRIOR TO INSTALLATION

RECEPTACLE COLOR CODE NOTES

UNLESS OTHERWISE INDICATED PROVIDE 20A HEAVY DUTY GRADE RECEPTACLES WITH COLOR CODE AS FOLLOWS:

1. ON GENERATOR POWER – RED
2. ON UPS POWER – BLUE
3. ISOLATED GROUND – ORANGE
4. ON NORMAL POWER – IVORY OR AS SELECTED BY ARCHITECT

MOUNTING NOTES

DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS FOR EXACT DIMENSIONS.

INSTALL ALL ELECTRICAL DEVICES (FIRE ALARM, SWITCHES, RECEPTACLES, WORK BOXES, JUNCTION BOXES, EXIT SIGNS, LUMINAIRES, ETC.) IN THE LOCATIONS IDENTIFIED OR DIMENSIONS ON THE ARCHITECTURAL PLANS, DETAILS, OR ELEVATIONS.

IF THE DEVICE LOCATION IS NOT SPECIFICALLY SHOWN ON ARCHITECTURAL DRAWINGS, FOLLOW THE GUIDELINES LISTED BELOW:

1. INSTALL NEARBY DEVICES ON ONE COMMON VERTICAL CENTERLINE
2. INSTALL ADJACENT TO DEVICES LINED UP WITH A COMMON BOTTOM LINE.
3. INSTALL DEVICES AT INDICATED HEIGHT AS APPLICABLE UNLESS OTHERWISE NOTED. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT AS INDICATED BY NOTE 7.
4. ON MASONRY WALLS LINE UP THE BOTTOM OF THE DEVICE WITH A MASONRY JOINT AS CLOSE TO THE INDICATED HEIGHT AS PRACTICAL.
5. INSTALL DEVICES IN SAME AREA AT THE SAME HEIGHT.
6. MOUNT PANELS SIX FEET TO THE TOP OF THE PANEL OR ANNUNCIATOR/ FA GRAPHIC.
7. MOUNT AT 8 FOOT TO BOTTOM FOR SIGNAGE, EMERGENCY LIGHTING, CLOCKS, SECURITY SENSORS, WALL MOUNTED OCCUPANCY SENSORS MODIFIED AS FOLLOWS: 4' FROM TOP OF DEVICE TO CEILING AND 4' ABOVE DOOR FRAMES.
8. LOCATE CONTROL DEVISE AT LEAST 18" FROM AN INSIDE CORNER.
9. SUPPORT WORK FROM THE BUILDING STRUCTURE.
10. IN FINISHED AREAS ELECTRICAL WORK SHALL BE INSTALLED CONCEALED, RECESSED INTO WALLS OR INSTALLED ABOVE HUNG CEILINGS UNLESS OTHERWISE INDICATED.
11. DO NOT INSTALL OUTLETS BACK TO BACK. PROVIDE 24" SPACING IN FIRE RATED WALLS.
12. PROVIDE ELECTRICAL OUTLET PLATE GASKETS SEALS AT RECEPTACLES, SWITCHES AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.

C1 ELECTRICAL GENERAL NOTES

TECHNOLOGY MATRIX

TECHNOLOGY GENERAL NOTES:
1. DIVISION 26 SHALL PROVIDE EMPTY BOXES AND CONDUITS WITH PULL STRINGS UNO.
2. FOR EACH TECHNOLOGY OUTLET, PROVIDE CONCEALED CONDUIT FROM EACH OUTLET BOX TO 6" ABOVE THE NEAREST ACCESSIBLE CORRIDOR CEILING THAT IS CONTIGUOUS TO THE NEAREST IT ROOM OR J-HOOK PATHWAY,UNO. IN ROOMS WITHOUT CEILINGS, CONDUIT SHALL BE RUN AT UNDERSIDE OF DECK TO 6" ABOVE THE NEAREST ACCESSIBLE CORRIDOR CEILING THAT IS CONTIGUOUS TO THE NEAREST IT ROO OR J-HOOK UNO. CONDUIT PATHWAYS SHALL BE PROVIDED FOR ANY PORTIONS OF THE PATH TO NEAREST IT ROOM OR J-HOOK, THAT HAS EXPOSED DECK OR HAS INACCESSIBLE CEILINGS.

SYMBOL	MTG HT AFF UNO	DESCRIPTION	KEY NOTE	CONDUIT SIZE	BOX TYPE: SINGLE GANG BOX	BOX TYPE: DOUBLE GANG BOX	RJ-45 WITH SS WALL PHONE PLATE
▼▽	18"	(1) VOICE AND (1) DATA OUTLETS		1"		X	
▽	18"	(1) DATA OUTLET		1"		X	
▼	45"	WALL PHONE OUTLET		1"			1
WA	NOTE 3	DATA OUTLET FOR WIRELESS ACCESS POINT	3	1" (KEY NOTE 3)	X		

KEY NOTES:

1. MOUNTING HEIGHT AS NOTED ON PLANS
2. NOT USED
3. FOR AREAS WITH SUSPENDED CEILINGS, INSTALL BOX ABOVE CEILING. WIRING SHALL BE CONCEALED ABOVE CEILINGS OR IN CONDUIT WHERE EXPOSED. FOR AREAS WITHOUT CEILINGS, MOUNT BOX AT UNDERSIDE OF DECK.

VOLTAGE DROP CHART

MAXIMUM LOAD (VA)	MAXIMUM LENGTH PER CONDUCTOR... #12	#10	#8
120 VOLT CIRCUITS			
800	155	245	390
1000	125	195	310
1200	105	165	260
1400	90	140	220
1600	80	125	195
1800	70	110	175
277 VOLT CIRCUITS			
2000	330	525	830
2500	265	420	665
3000	220	350	555
3500	190	300	475
4000	165	260	415

BRANCH CIRCUITS SCHEDULE

CIRCUIT BREAKER	CONDUCTOR
120 OR 277 VOLT, 1 PH., 2W CIRCUITS	
15A-1P, 20A-1P	2#12 & 1#12 GND - 3/4" C.
30A-1P	2#10 & 1#10 GND - 3/4" C.
40A-1P	2#8 & 1#10 GND - 3/4" C.
50A-1P	2#6 & 1#10 GND - 3/4" C.
60A-1P	2#6 & 1#10 GND - 3/4" C.
208 OR 480 VOLT, 1PH., 2W CIRCUITS	
15A-2P, 20A-2P	2#12 & 1#12 GND - 3/4" C.
30A-2P	2#10 & 1#10 GND - 3/4" C.
40A-2P	2#8 & 1#10 GND - 3/4" C.
50A-2P	2#6 & 1#10 GND - 3/4" C.
60A-2P	2#6 & 1#10 GND - 3/4" C.
208 OR 480 VOLT, 3PH., 3W CIRCUITS	
15A-3P, 20A-3P	3#12 & 1#12 GND - 3/4" C.
30A-3P	3#10 & 1#10 GND - 3/4" C.
40A-3P	3#8 & 1#10 GND - 3/4" C.
50A-3P	3#6 & 1#10 GND - 3/4" C.
60A-3P	3#6 & 1#10 GND - 3/4" C.

BRANCH CIRCUIT SCHEDULE NOTES:

1. TYPE MC CABLE SHALL INCLUDE FULL SIZE INSULATED GROUND CONDUCTOR. SIZES AS INDICATED IN SCHEDULE
2. WIRING BASED ON MAXIMUM FEEDER LENGTH OF 150 FEET FOR 120 VOLT CIRCUITS AND 300 FEET FOR 277...
3. UPGRADE WIRE AND CONDUIT SIZE AS REQUIRED TO ADDRESS VOLTAGE DROP

SPECIAL RECEPTACLE SCHEDULE

TAG	NEMA	DESCRIPTION (SINGLE DEVICE)	OCPD	BRANCH CIRCUIT
A	5-15R	15A-125V,2P,3W	15A-1P	2#12 & 1#12GND - 3/4" C
B	5-20R	20A-125V,2P,3W	20A-1P	2#12 & 1#12GND - 3/4" C
C	5-30R	30A-125V,2P,3W	30A-1P	2#10 & 1#10GND - 3/4" C
D	5-50R	50A-125V,2P,3W	50A-1P	2#6 & 1#10GND - 3/4" C
E	6-15R	15A-250V,2P,3W	15A-2P	2#12 & 1#12GND - 3/4" C
F	6-20R	20A-250V,2P,3W	20A-2P	2#12 & 1#12GND - 3/4" C
G	6-30R	30A-250V,2P,3W	30A-2P	2#10 & 1#10GND - 3/4" C
H	6-50R	50A-250V,2P,3W	50A-2P	2#6 & 1#10GND - 3/4" C
I	14-20R	20A-125/250V,3P,4W	20A-2P	3#12 & 1#12GND - 3/4" C
J	14-30R	30A-125/250V,3P,4W	30A-2P	2#10 & 1#10GND - 3/4" C
K	14-50R	50A-125/250V,3P,4W	50A-2P	3#6 & 1#10GND - 1" C
L	14-60R	60A-125/250V,3P,4W	60A-2P	3#6 & 1#10GND - 1" C
M	15-20R	20A-250V,3PH,3P,4W	20A-3P	3#12 & 1#12GND - 3/4" C
N	15-30R	30A-250V,3PH,3P,4W	30A-3P	3#10 & 1#10GND - 3/4" C
P	15-50R	50A-250V,3PH,3P,4W	50A-3P	3#6 & 1#10GND - 1" C
Q	15-60R	60A-250V,3PH,3P,4W	60A-3P	3#6 & 1#10GND - 1" C
R	L5-20R	20A-125V,2P,3W, TWIST LOCK	20A-1P	2#12 & 1#12GND - 3/4" C
S	L5-30R	30A-125V,2P,3W, TWIST LOCK	30A-1P	2#10 & 1#10GND - 3/4" C
T	L6-15R	15A-250V,2P,3W, TWIST LOCK	15A-2P	2#12 & 1#12GND - 3/4" C
U	L6-20R	20A-250V,2P,3W, TWIST LOCK	20A-2P	2#12 & 1#12GND - 3/4" C
V	L6-30R	30A-250V,2P,3W, TWIST LOCK	30A-2P	2#10 & 1#10GND - 3/4" C
W	L14-20R	20A -125/250V,3P,4W,TWIST LOCK	20A-2P	3#12 & 1#12GND - 3/4" C
X	L14-30R	30A -125/250V,3P,4W,TWIST LOCK	30A-2P	3#10 & 1#10GND - 3/4" C
Y	L16-20R	20A-480V, 3P,4W, TWIST LOCK	20A-3P	3#12 & 1#12GND - 3/4" C
Z	L16-30R	30A-480V, 3P,4W, TWIST LOCK	30A-3P	3#10 & 1#10GND - 3/4" C

A1 ELECTRICAL SCHEDULES

Scale:

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHY FAUCHER, P.E.

STATE OF MAINE CATHERINE A. FAUCHER No. 7575 LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
Drawn:	DLL	10/15/19			

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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

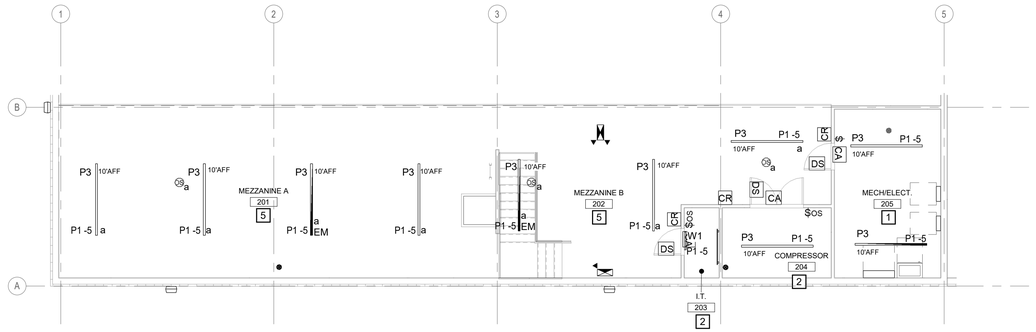
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ELECTRICAL GENERAL NOTES AND SCHEDULES

SHEET NUMBER: E-001

CONTRACT: 2019.12



E1 — LIGHTING PLAN - MEZZANINE

1/8" = 1'-0"

1. PROVIDE TIME CLOCK FOR EXTERIOR LIGHTING CONTROL WITH PHOTOCELL (TYP.)
2. PROVIDE RELAYS TO CONTROL ALL LIGHTING TOGETHER IN ROOM BY SWITCHES SHOWN.

E8 — LIGHTING KEYNOTES

A1 — LIGHTING PLAN - FIRST FLOOR

1/8" = 1'-0"

LIGHTING CONTROL NOTES SCHEDULE

TAG #	DESCRIPTION OF LIGHTING CONTROL DEVICES AND OPERATION	DETAIL NUMBER
1	WALL SWITCH - MANUAL ON/MANUAL OFF	**NO DETAIL**
2	WALL SWITCH WITH OCCUPANCY SENSOR - MANUAL ON AND OFF/AUTO OFF	**NO DETAIL**
3	NOT USED	
4	NOT USED	**NO DETAIL**
5	AUTO ON/AUTO OFF VIA OCCUPANCY SENSOR(S)	**A1/EL500**

Scale: 1/8" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHY FAUCHER, P.E.

STATE OF MAINE — CATHERINE A. FAUCHER — No. 7575 — LICENSED PROFESSIONAL ENGINEER

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CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
LIGHTING PLAN

SHEET NUMBER: EL-100

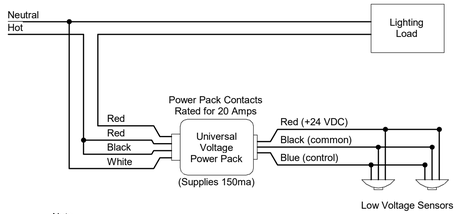
CONTRACT: 2019.12

LUMINAIRE SCHEDULE- KEY NOTE 1,2

TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER - SEE KEY NOTE 1	MOUNTING	VOLTS	LAMP/LIGHT ENGINE			KEY NOTES
						WATTS	DELIVERED LUMENS	TYPE	
R1	2x2 LED TROFFER	METALUX	22FP	RECESSED	120V	20.1	2610	LED 3500K	
R2	2x4 LED TROFFER	METALUX	24FP	RECESSED	120V	40.3	4990	LED 3500K	
P1	20"x4' LED HIGH BAY	METALUX	HBLED-LD5-W	PENDANT	120V	211	36000	LED 4000K	4
P2	15"x4' LED VAPORTIGHT	METALUX	VT4	PENDANT	120V	133	18000	LED 4000K	5
P3	8' PENDANT	STARTEK	SP8L	PENDANT	120V	33	4380	LED 3500K	
W1	2' SURFACE LENSED	METALUX	SN	WALL 8' AFF	120V	15	900	LED 3500K	
W2	EXTERIOR WALL MOUNT	MCGRAW EDISON	GWC-AF-01-LED-E1-T4W	WALL 18' AFF	120V	67	7084	LED 4000K	6
	EXIT LIGHT	SURELITES	LPX		120VAC/ 12VDC	1		LED	3

KEY NOTES

1	**NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. PROVIDE ALL REQUIREMENTS ON SCHEDULE, NOTES, SPECS, AND DRAWINGS COMBINED.**
2	VERIFY CEILING STRUCTURE AND MOUNTING HEIGHT PRIOR TO ORDERING ANY LIGHT FIXTURES.
3	PROVIDE WALL,CEILING, OR PENDANT MOUNTING AS INDICATED ON PLANS. PROVIDE NUMBER OF FACES AND ARROWS AS INDICATED.
4	PROVIDE POLYCARBONATE LENS
5	PROVIDE PRISMATIC LENS
6	PROVIDE INTEGRAL PHOTOCELL AND MOTION SENSOR THAT WILL BE AUTO ON/AUTO OFF VIA MOTION SENSOR ONLY AFTER DUSK



Note:

Do NOT power more than 4 devices, sensor or slave packs, from a single power pack.

A1 LIGHTING CONTROL DETAIL - NOTE 5

12" = 1'-0"

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHY FAUCHER, P.E.

STATE OF MAINE · CATHERINE A FAUCHER No. 7575 · LICENSED PROFESSIONAL ENGINEER

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Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
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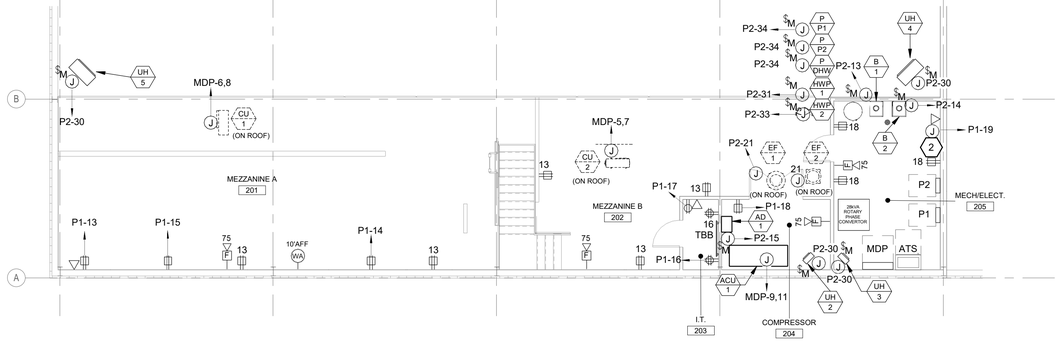
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
LIGHTING FIXTURE SCHEDULE AND DETAILS

SHEET NUMBER: EL-500

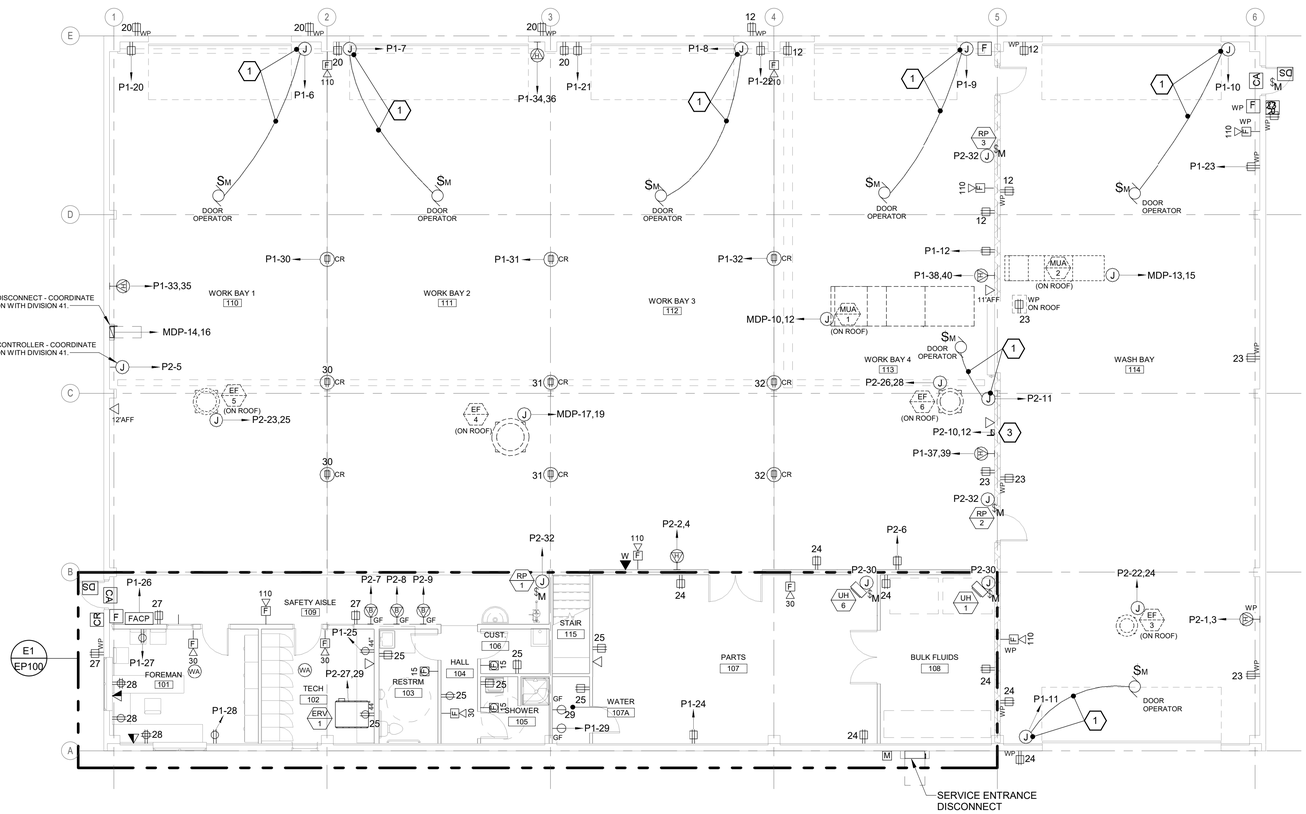
CONTRACT: 2019.12



1. PROVIDE SINGLE GANG J-BOX FOR CONTROLS 44" AFF AND 1-1/2" CONDUIT TO DOOR OPERATOR. CONTROLS AND CONTROL WIRING BY OTHERS.
2. HVAC CONTROLS CIRCUIT. PROVIDE J-BOX 44" AFF.
3. 2 POST LIFT- 2POLE DISCONNECT 30A/30A, WIRING SHALL BE 2 #10, 1 #10G

E1	POWER PLAN - MEZZANINE
1/8" = 1'-0"	

E8	ELECTRICAL KEYNOTES



A1	POWER AND SYSTEMS PLAN - FIRST FLOOR
1/8" = 1'-0"	

Scale: 1/8" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHERINE A. FAUCHER, No. 7575, LICENSED PROFESSIONAL ENGINEER, STATE OF MAINE

	By	Date		By	Date
Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

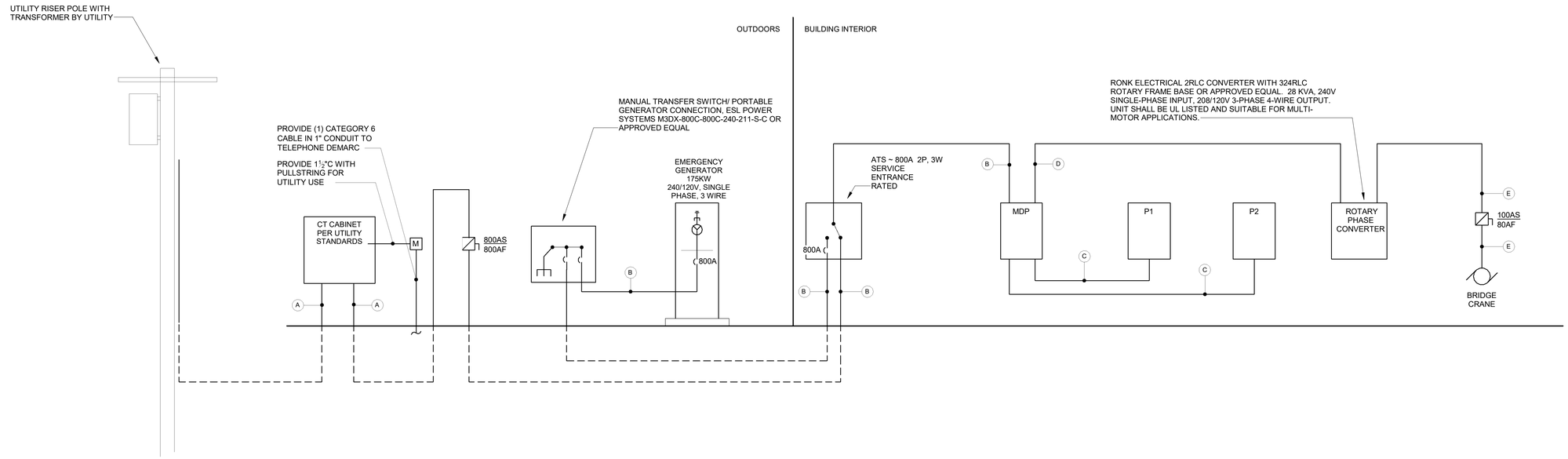
MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 POWER AND SYSTEMS PLANS

SHEET NUMBER: EP-100

CONTRACT: 2019.12

FEEDER SCHEDULE			
TAG	DESCRIPTION	CONDUCTORS (NOTE 1)	CONDUIT (NOTE 2)
A	800 AMP SERVICE ENTRANCE FEEDER - UNDERGROUND	(3) 500 KCMIL	IN EACH OF (2) 4"
B	800 AMP SECONDARY/FEEDER	(3) 500 KCMIL, (1) #2/0 G	IN EACH OF (2) 3"
C	225 AMP SECONDARY/FEEDER	(3) #4/0, (1) #4 G	2"
D	150 AMP PRIMARY/FEEDER	(2) #1/0, (1) #6G	1 1/2"
E	100 AMP SECONDARY/FEEDER	(4) #2, (1) #8 G	1 1/4"
	FEEDER SCHEDULE NOTES:		
	1. WIRING BASED ON COPPER THWN/THHN		
	2. CONDUIT SIZE BASED ON EMT		



A1 POWER RISER DIAGRAM

Scale: 12" = 1'-0"

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHY FAUCHER, P.E.

STATE OF MAINE * CATHERINE A. FAUCHER No. 7575 * LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
Drawn:	PMC	10/15/19			

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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ELECTRICAL RISER DIAGRAM

SHEET NUMBER: EP-500

CONTRACT: 2019.12

MDP

Location: **Volts:** 120/240 Single **A.I.C. Rating:** 30kA
Supply From: **Phases:** 1 **Mains Type:** MLO
Mounting: Surface **Wires:** 3 **Bus Rating:** 800 A
MCB Rating: 800A

Notes:

CKT	Circuit Description	Trip Amps	Poles	A (kVA)		B (kVA)		Poles	Trip Amps	Circuit Description	CKT
1	P1 PANEL	225	2	24.6	21.8			2	225	P2 PANEL	2
3						25.6	20.7				4
5	HVAC-CU-2	20	2	1.3	2.1			2	20	HVAC-CU-1	6
7						1.3	2.1				8
9	HVAC-CU-1	30	2	4.8	4.8			2	100	HVAC-MAU-1	10
11						4.8	4.8				12
13	HVAC-MUA-2	40	2	2.0	13.5			2	150	CRANE	14
15						2.0	13.5				16
17	HVAC - EF-4	40	2	3.4	0.0			2	40	WELL PUMP-CONFIRM PUMP SIZE AND BREAKER SIZING	18
19						3.4	0.0				20
21	Spare	100	2	0.0	0.0			2	200	Spare	22
23						0.0	0.0				24
25	Spare	20	1	0.0	0.0			2	100	Spare	26
27	Spare	20	1			0.0	0.0				28
29	Spare	20	1	0.0	0.0			1	20	Spare	30
31	Spare	20	1			0.0	0.0	1	20	Spare	32
33	Spare	20	1	0.0	0.0			1	20	Spare	34
35	Spare	20	1			0.0	0.0	1	20	Spare	36
37	Spare	20	1	0.0	0.0			1	20	Spare	38
39	Spare	20	1			0.0	0.0	1	20	Spare	40
41	Spare	20	1	0.0							42
			Total Load:	78.2 kW		78.1 kW					
			Total Amp:	652 A		651 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	61076 VA	100.00%	61076 VA		
Lighting	6973 VA	125.00%	8716 VA	**Total Conn. Load:**	156.4 kW
Power	42106 VA	100.00%	42106 VA	**Total Est. Demand:**	140.2 kW
Receptacle	45780 VA	60.92%	27890 VA	**Total Conn.:**	652 A
				Total Est. Demand:	584 A

P1

Location: **Volts:** 120/240 Single **A.I.C. Rating:** 30kA
Supply From: MDP **Phases:** 1 **Mains Type:** MLO
Mounting: Surface **Wires:** 3 **Bus Rating:** 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip Amps	Poles	A (kVA)		B (kVA)		Poles	Trip Amps	Circuit Description	CKT
1	LTG-GARAGE BAY 8 FIXTURES	20	1	1.7	1.7			1	20	LTG-GARAGE BAY 8 FIXTURES	2
3	LTG-GARAGE BAY 4 FIXTURES	20	1			0.8	1.6	1	20	LTG-WASH BAY	4
5	LTG-101-108,201-205	20	1	0.8	1.2			1	20	DOOR OPERATOR	6
7	DOOR OPERATOR	20	1			1.2	1.2	1	20	DOOR OPERATOR	8
9	DOOR OPERATOR	20	1	1.2	1.2			1	20	DOOR OPERATOR	10
11	DOOR OPERATOR	20	1			1.2	1.1	1	20	RECEPTACLES	12
13	RECEPTACLES-MEZZANINE	20	1	1.1	1.0			1	20	RECEPTACLE-MEZZANINE	14
15	RECEPTACLE-MEZZANINE	20	1			1.0	0.7	1	20	RECEPTACLES- IT 203	16
17	DDC CONTROLLER POWER	20	1	0.2	0.7			1	20	RECEPTACLES	18
19	Power-HVAC Controls	20	1			0.5	1.1	1	20	RECEPTACLES	20
21	RECEPTACLE	20	1	1.0	1.0			1	20	RECEPTACLE	22
23	RECEPTACLES	20	1			1.3	1.4	1	20	RECEPTACLES	24
25	RECEPTACLES	20	1	1.4	0.5			1	20	Fire Alarm Control Panel	26
27	RECEPTACLES	20	1			0.7	1.1	1	20	RECEPTACLES	28
29	WATER PROCESSING RECEPTS	20	1	0.4	0.5			1	20	CORD REELS	30
31	CORD REELS	20	1			0.5	0.5	1	20	Power Space 4	32
33	WELDER	50	2	2.4	2.4			2	50	WELDER	34
35						2.4	2.4				36
37	WELDER	50	2	2.4	2.4			2	50	WELDER	38
39						2.4	2.4				40
41	Spare	20	1	0.0	0.0			1	20	Spare	42
			Total Load:	24.6 kW		25.6 kW					
			Total Amp:	205 A		213 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	6210 VA	125.00%	7762 VA		
Power	9320 VA	100.00%	9320 VA	**Total Conn. Load:**	50.2 kW
Receptacle	34200 VA	64.62%	22100 VA	**Total Est. Demand:**	39.6 kW
				Total Conn.:	209 A
				Total Est. Demand:	165 A

P2

Location: MECH/ELECT. 205 **Volts:** 120/240 Single **A.I.C. Rating:** 30kA
Supply From: MDP **Phases:** 1 **Mains Type:** MLO
Mounting: Surface **Wires:** 3 **Bus Rating:** 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip Amps	Poles	A (kVA)		B (kVA)		Poles	Trip Amps	Circuit Description	CKT
1	PRESSURE WASHER	50	2	2.4	2.4			2	50	WELDER	2
3						2.4	2.4				4
5	CRANE CONTROLLER	20	1	0.2	0.2			1	20	RECEPTACLE	6
7	RECEPTACLE	20	1			0.6	0.6	1	20	RECEPTACLE	8
9	RECEPTACLE	20	1	0.6	1.2			2	20	2 POST LIFT	10
11	DOOR OPERATOR	20	1			1.2	1.2				12
13	HVAC-BOILER 1	20	1	0.5	1.0			1	20	HVAC-BOILER 2	14
15	HVAC-AD-1	20	1			0.0	4.1	2	40	HVAC - BOOSTER PUMPS	16
17	HVAC - SUMP PUMP	20	1	1.0	4.1						18
19	Power - SUM PIT RECEPT/LGT	20	1			0.5	1.0	1	20	HVAC - SEPTIC PUMP	20
21	HVAC - EF 1/EF2	20	1	0.9	1.4			2	20	HVAC - EF 3	22
23	HVAC - EF-5	20	2			1.4	1.4				24
25				1.4	1.4			2	20	HVAC - EF-6	26
27	HVAC - ERV-1	20	2			0.6	1.4				28
29				0.6	0.3			1	20	HVAC - UNIT HEATERS 1-6	30
31	HVAC - HWP-1	20	1			0.4	0.2	1	20	HVAC - PUMPS RP1,RP2,RP3	32
33	HVAC - HWP-2	20	1	0.4	0.7			1	20	HVAC - PUMPS P1,P2,DHW	34
35	Lighting - EXTERIOR WALL LIGHTING	20	1			0.8	0.5	1	20	GENERATOR - STRIP HEATER	36
37	GENERATOR - JACKET HEATER	20	1	0.5	0.5			1	20	GENERATOR - BATTERY CHARGER	38
39	Spare	20	1			0.0	0.0	1	20	Spare	40
41	Spare	20	1	0.0	0.0			1	20	Spare	42
			Total Load:	21.8 kW		20.7 kW					
			Total Amp:	181 A		173 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	24308 VA	100.00%	24308 VA		
Lighting	804 VA	125.00%	1005 VA	**Total Conn. Load:**	42.5 kW
Power	5840 VA	100.00%	5840 VA	**Total Est. Demand:**	41.8 kW
Receptacle	11580 VA	93.18%	10790 VA	**Total Conn.:**	177 A
				Total Est. Demand:	174 A

ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT- REFER TO PANEL SCHEDULES FOR CIRCUITING

TAG	DESCRIPTION/ AREA SERVED	VOLTS	PH	LOAD	FLA	MCA	MOPD	DISCONNECT SWITCH					STARTER...		CBD	WIRING IN CONDUIT (2 #12, 1#12 G UNO)	NOTES
								FRAME	POLES	FUSE	NEMA ENCL	FBD	SIZE/ VFD	FBD			
ACU-1	AIR COMPRESSOR	230	1	7.5 HP	40		-					23		23	23	2 #8, 1 # 10G	
		230	1	7.5 HP	40		-					23		23	23	2 #8, 1 # 10G	
AD-1	AIR DRYER	120	1	40W								23		23	23		
B-1	BOILER	120	1		8							23		23	23		
B-2	BOILER	120	1		8							23		23	23		
CU-1	CONDENSING UNIT OUTDOOR	240	1		17.2	20	30	30	2	15	3R	26		23	23	2 #10, 1 #10G	3
CU-2	CONDENSING UNIT OUTDOOR	240	1		11	14	20					23		23	23		3
EF-1	FAN	120	1	1/4 HP	5.8							23		23	23		
EF-2	FAN	120	1	1/10 HP	2							23		23	23		
EF-3	FAN	240	1	2 HP	12							23		23	23		
EF-4	FAN	240	1	5 HP	28		40					23		23	23	2 #8, 1 #10G	4,9
EF-5	FAN	240	1	2 HP	12							23		23	23		
EF-6	FAN	240	1	2 HP	12							23		23	23		
ERV-1	ENERGY RECOVERY UNIT	240	1		4	5	15					23		23	23		
MUA-1	MAKE UP AIR UNIT	240	1	7 HP	40		100					23	23	23	23	2 #2, 1 #8G	4,9
MUA-2	MAKE UP AIR UNIT	240	1	3 HP	17		40					23	23	23	23	2 #8, 1 # 10G	4,8
P-P1	BOILER PRIMARY PUMP	120	1	1/6	2.2							26			23		1
P-P2	BOILER PRIMARY PUMP	120	1	1/6	2.2							26			23		1
HWP-1	HEATING SECONDARY PUMP	120	1	347W	2.9							26			23		1
HWP-2	HEATING SECONDARY PUMP	120	1	347W	2.9							26			23		1
P-DHW	INDIRECT WATER HEATER PUMP	120	1	179W	1.5							26			23		
RP-1	RADIANT MF 1 PUMP-WORK BAY	120	1	73W	0.6							26			23		
RP-2	RADIANT MF 2 PUMP-WORK BAY	120	1	73W	0.6							26			23		
RP-3	RADIANT MF 3 PUMP-WASH BAY	120	1	73W	0.6							26			23		
UH-1	UNIT HEATER	120	1	16W	0.14							23			23		
UH-2	UNIT HEATER	120	1	16W	0.14							23			23		
UH-3	UNIT HEATER	120	1	16W	0.14							23			23		
UH-4	UNIT HEATER	120	1	1/12 HP	1							23			23		
UH-5	UNIT HEATER	120	1	1/12 HP	1							23			23		
UH-6	UNIT HEATER	120	1	16W	0.14							23			23		

NOTES:

1. LEAD/LAG
2. DUCT SMOKE DETECTORS FURNISHED BY DIVISION 26, INSTALLED BY DIVISION 23, WIRED TO FIRE ALARM BY DIVISION 26.
3. POWER TO CU BY DIVISION 26, WIRING BETWEEN AC AND CU PROVIDED BY DIVISION 23
4. 1 PHASE TO 3 PHASE CONVERTER VFD FURNISHED AND INSTALLED BY DIV 23, WIRED AND CONNECTED BY DIV 26
5. UNIT IS CONSISTS OF MULTIPLE MOTORS FACTORY WIRED FOR SINGLE-POINT POWER CONNECTION.
6. REFER TO DETAIL D1/SHEET EP2.1 FOR WIRING AND DEVICE REQUIREMENTS.
7. CORD AND PLUG CONNECTION. PROVIDE NEMA 5-20 SINGLE GFI WEATHERPOOF RECEPTACLE.
8. PROVIDE 3 #12, 1# 12G FROM 3 PHASE CONVERTER VFD TO HVAC EQUIPMENT
9. PROVIDE 3 #10, 1# 10G FROM 3 PHASE CONVERTER VFD TO HVAC EQUIPMENT

ABBREVIATIONS:

FWE	FURNISHED WITH EQUIPMENT
NF	NOT FUSED
SWBD	SWITCHBOARD
FBD	FURNISHED BY DIVISION
CBD	CONTROL WIRING BY DIVISION

Scale:

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHERINE A. FAUCHER, P.E.

STATE OF MAINE · CATHERINE A. FAUCHER · No. 7575 · LICENSED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
Drawn:	PMC	10/15/19			

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AEI PROJ.NO.: 18-080 CAD FILE:

MAINE TURNPIKE

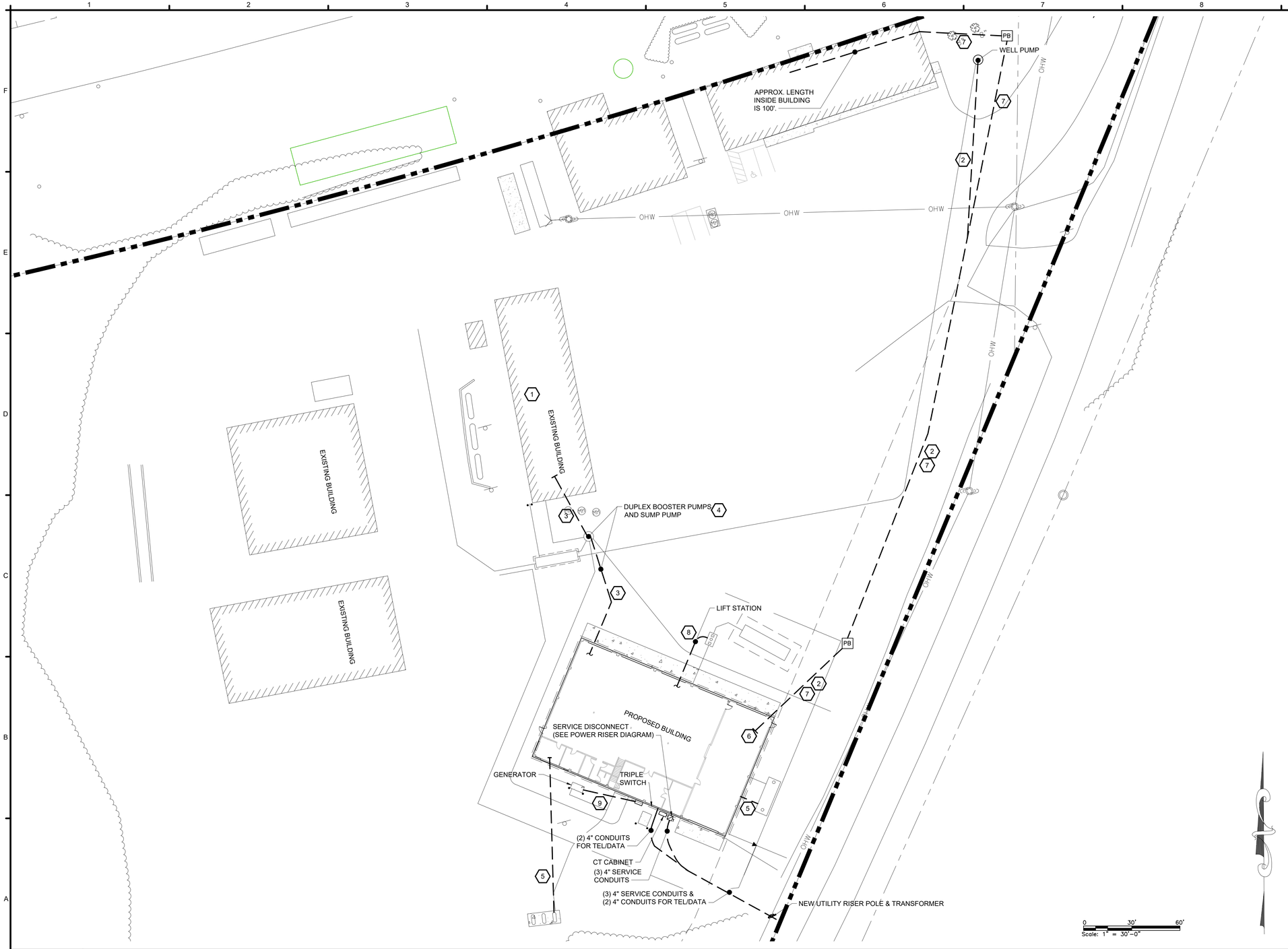
THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE
LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7
ELECTRICAL SCHEDULES

SHEET NUMBER: EP-600

CONTRACT: 2019.12



1. PROVIDE (2) SINGLE NEMA 5-20R GFI RECEPTACLES. WIRE AND CONNECT TO EXISTING 20A-1P CB IN BUILDING.
2. PROVIDE (1) 2" CONDUIT WITH 2 #6, 1 #8G FOR POWER TO WELL PUMP. CIRCUIT TO PANEL MDP.
3. PROVIDE 1-1/2" EMPTY CONDUIT WITH PULL STRING FOR CONTROLS. CONTROL WIRING BY OTHERS.
4. SUMP PUMP -
   PROVIDE WP GFI 20A, 120V AND 1" CONDUIT. CIRCUIT TO PANEL P2
   (2) BOOSTER PUMPS, 3HP EACH-
   PROVIDE 2 #8, 1 #10G WITHIN 1" CONDUIT. CIRCUIT TO PANEL P2,
   PROVIDE WEATHERPROOF WALL MOUNTED LED LIGHT AND GFI RECEPTACLE IN THE PIT AND A MANUAL LIGHT SWITCH INSIDE AT THE TOP OF THE PIT. PROVIDE 1" CONDUIT, WIRE AND CONNECT TO PANEL P2.
5. 1" EMPTY CONDUIT WITH PULL STRING FOR ALARM/MONITORING ALARM.
6. STUB UP INTO IT ROOM.
7. (1) 3" CONDUIT FOR FIBER BACKBONE. (1) SPARE 3" CONDUIT W/ PULL STRING. CONTRACTOR SHALL ROUTE TO IT ROOM IN EXISTING BUILDING AT LOCATION AS DIRECTED BY OWNER.
8. SEPTIC PUMP-
   PROVIDE 1" CONDUIT AND WP GFI RECEPTACLE WIRED TO P2, 20A, 1P.
   PROVIDE 1" EMPTY CONDUIT WITH PULL STRING FOR CONTROLS.
9. GENERATOR
   PROVIDE (3) 120V, 20A CIRCUITS FOR BATTERY, STRIP HEATER AND WATER JACKET HEATER. PROVIDE 1" CONDUIT, WIRE AND CONNECT TO PANEL P2.
   PROVIDE (2) 1" EMPTY CONDUIT WITH PULL STRING FOR GENERATOR CONTROL WIRING.
   SEE ONE-LINE DIAGRAM FOR FEEDER SIZING TO BUILDING.

E8 SITE KEYNOTES

DO NOT SCALE

- OVERHEAD WIRING, TYPE AS INDICATED
- UNDERGROUND OR UNDERSLAB WIRING, TYPE AS INDICATED
- UTILITY POLE
- FUSED DISCONNECT SWITCH
- NON-FUSED DISCONNECT SWITCH
- MOTOR
- GROUNDING SYSTEM
- JUNCTION BOX, WALL MOUNTED
- J — JUNCTION BOX, IN-GROUND
- M — ELECTRICAL MANHOLE, COORDINATE LOCATION WITH OTHER UNDERGROUND UTILITIES
- T — PADMOUNT TRANSFORMER
- PB — PULL BOX - SIZE AS REQUIRED
- P — PEDESTAL LOCATION, PEDESTAL BY SERVICE PROVIDER, STUB UP (2) 2" CONDUITS WITH CONNECTORS AND BUSHINGS FROM HANDHOLE
- H — HANDHOLE, MINIMUM 18"x36"x24", SIZE PER NEC FOR NUMBER OF CONDUITS INSTALLED
- M — METER & CT CABINET, PEDESTAL MOUNTED
- SINGLE POLE MOUNTED LIGHT
- DOUBLE POLE MOUNTED LIGHT
- WALL MOUNTED LIGHT FIXTURE
- SINGLE POLE HOMERUN: (2)#12+(1)#12G UNO, CONNECT TO PANEL INDICATED
- SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT, CONNECT TO PANEL INDICATED
- 3-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT, CONNECT TO PANEL INDICATED

AFF	ABOVE FINISHED FLOOR	(E)	EXISTING ITEM TO REMAIN
AFG	ABOVE FINISHED GRADE	(R)	REMOVE ITEM AND DISPOSE OF PROPERLY
BAS	BUILDING AUTOMATION SYSTEM	(ER)	RELOCATED ITEM AT NEW LOCATION
CATV	CABLE TV	(RL)	REMOVE AND RELOCATE
CB	CIRCUIT BREAKER		
P/O	PART OF		
MT	MOUNT		
NEC	NATIONAL ELECTRICAL CODE		
TEL	TELEPHONE		
UNO	UNLESS NOTED OTHERWISE		
WP	WEATHERPROOF		
WG	WIREGUARD		

A1 ELECTRICAL SITE PLAN

SCALE: 1"=30'

A8 SITE ELECTRICAL LEGEND & ABBREVIATIONS

DO NOT SCALE

Scale:

No.	Revision	By	Date
1	ISSUED FOR BID	AEI	10/15/19

Designed by: CATHY FAUCHER, P.E.

STATE OF MAINE — CATHERINE A. FAUCHER — No. 7575 — REGISTERED PROFESSIONAL ENGINEER

	By	Date		By	Date
Designed:	SRM	10/15/19	Checked:	CAF	10/15/19
Drawn:	PMC	10/15/19			

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AEI PROJ.NO.: 18-080 | CAD FILE: 18080_ES.dwg

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Brian A. Taddeo, P.E.

CONTRACT 2019.12, NEW MECHANICS GARAGE LITCHFIELD MAINTENANCE YARD, MILE MARKER 92.7 ELECTRICAL SITE PLAN

CONTRACT: 2019.12

SHEET NUMBER: ES-100