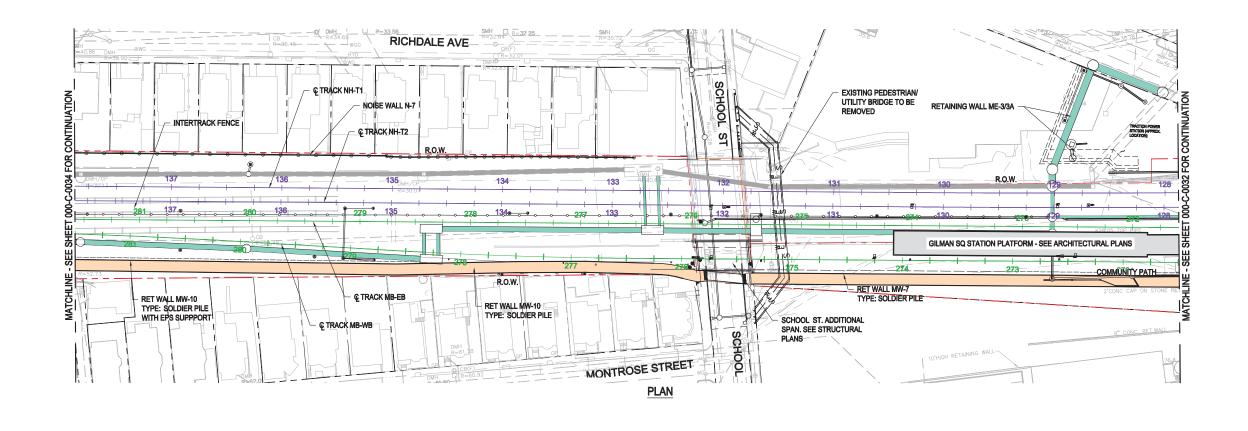
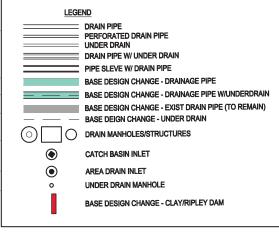
GILMAN ST CTRACK NH-T1 © TRACK NH-T2 INTERTRACK FENCE COMMUNITY PATH

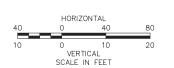
RETAINING WALL MW-2

TYPE: SOLDIER PILE RETWALL MW-7 RETAINING WALL MW-2 Ç TRACK MB-EB − TYPE: MODULAR BLOCK © TRACK MB-WB MEDEO LEGEND DRAIN PIPE PERFORATED DRAIN PIPE
UNDER DRAIN MASSACHUSETTS BAY TRANSPORTATION AUTHORITY ■ DRAIN PIPE W/ UNDER DRAIN GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS HORIZONTAL PIPE SLEVE W/ DRAIN PIPE BASE DESIGN CHANGE - DRAINAGE PIPE BASE DESIGN CHANGE - DRAINAGE PIPE W/UNDERDRAIN VERTICAL SCALE IN FEET MEDFORD BRANCH BASE DESIGN CHANGE - EXIST DRAIN PIPE (TO REMAIN) DRAINAGE PLAN BASE DEIGN CHANGE - UNDER DRAIN STA MB-EB 256+50 TO STA MB-EB 265+25 O DRAIN MANHOLES/STRUCTURES massDOT CATCH BASIN INLET AREA DRAIN INLET UNDER DRAIN MANHOLE Lane • SI • Judlau • LMH-CMC JV BASE DESIGN CHANGE - CLAY/RIPLEY DAM SCALE: AS NOTED 000-C-0031

© TRACK NH-T1 - ETRACK NH-T2 SKILTON AVE MEDFORD ST R.O.W. CIH ROW. COMMUNITY PATH © TRACK MB-WB -MEDFORD ST. UNDERPASS. SEE STRUCTURAL PLANS © TRACK MB-EB <u>PLAN</u> LEGEND DRAIN PIPE
PERFORATED DRAIN PIPE UNDER DRAIN MASSACHUSETTS BAY TRANSPORTATION AUTHORITY DRAIN PIPE W/ UNDER DRAIN GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS PIPE SLEVE W/ DRAIN PIPE BASE DESIGN CHANGE - DRAINAGE PIPE 0 10 VERTICAL SCALE IN FEET BASE DESIGN CHANGE - DRAINAGE PIPE W/UNDERDRAIN MEDFORD BRANCH BASE DESIGN CHANGE - EXIST DRAIN PIPE (TO REMAIN) DRAINAGE PLAN BASE DEIGN CHANGE - UNDER DRAIN STA MB-EB 265+25 TO STA MB-EB 271+50 O DRAIN MANHOLES/STRUCTURES massDOT CATCH BASIN INLET \odot AREA DRAIN INLET UNDER DRAIN MANHOLE BASE DESIGN CHANGE - CLAY/RIPLEY DAM SCALE: AS NOTED | DRAWN | DESIGN | CHECK | BY | PLAN NO. BY CHKD APP. DATE: 28SEPT2017 SMD SMD CD SHEET: 000-C-0032







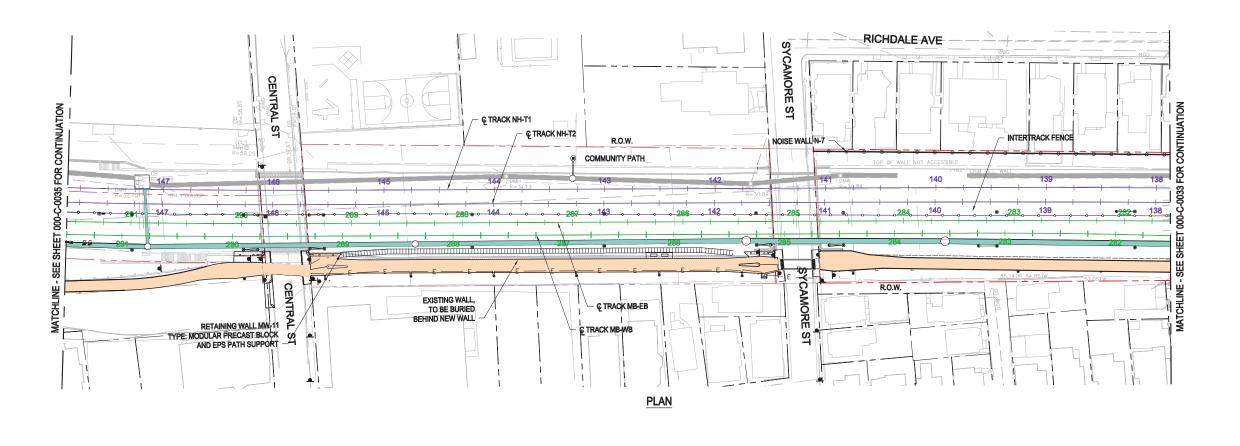
GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

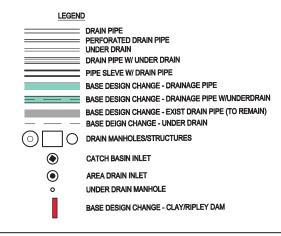
MEDFORD BRANCH DRAINAGE PLAN STA MB-EB 271+50 TO STA MB-EB 281+50

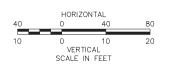
massD07 BY CHKD APP. DATE: 28SEPT2017 SMD SMD CD SHEET:













GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

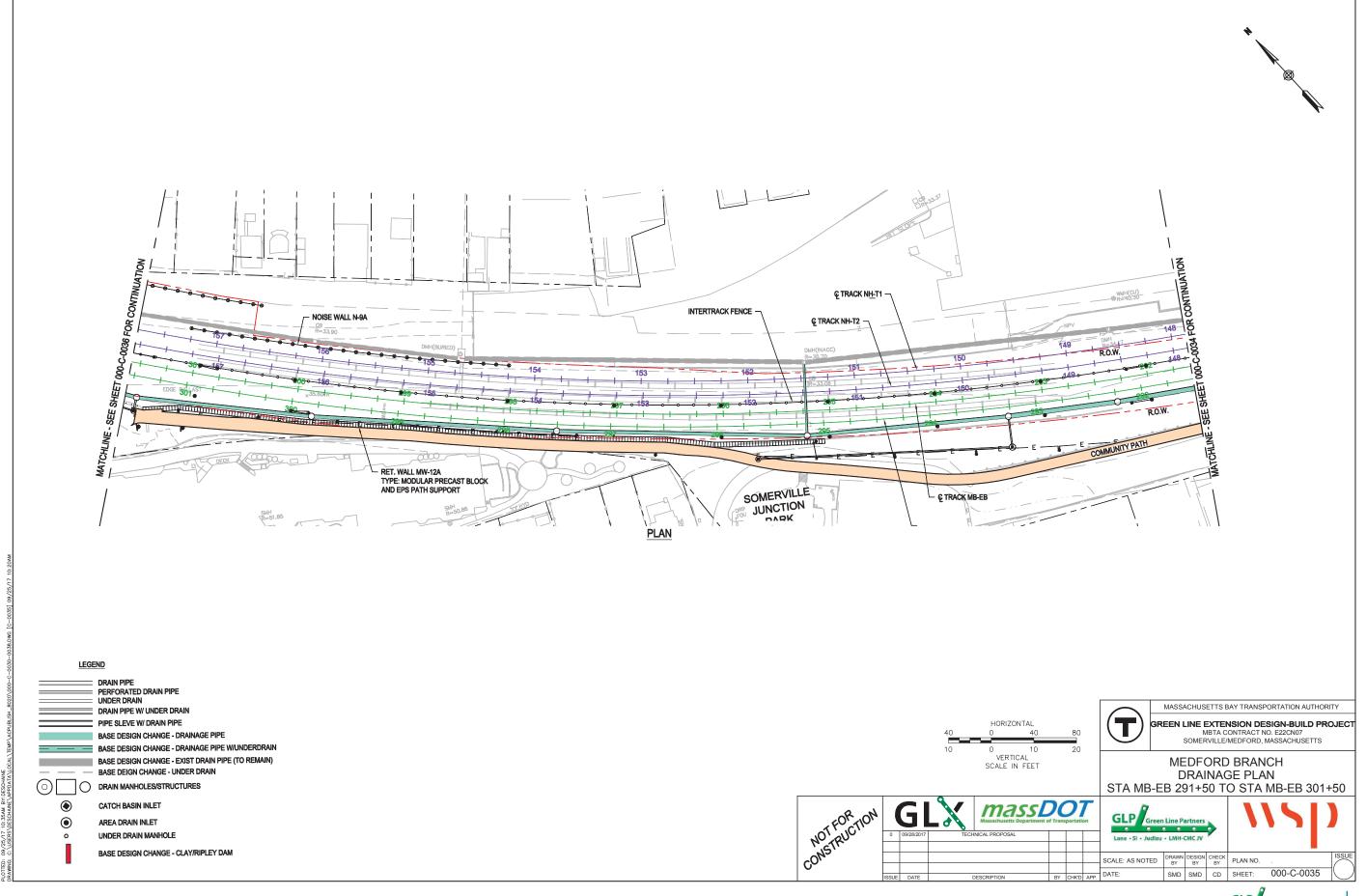
MEDFORD BRANCH DRAINAGE PLAN STA MB-EB 281+50 TO STA MB-EB 291+50

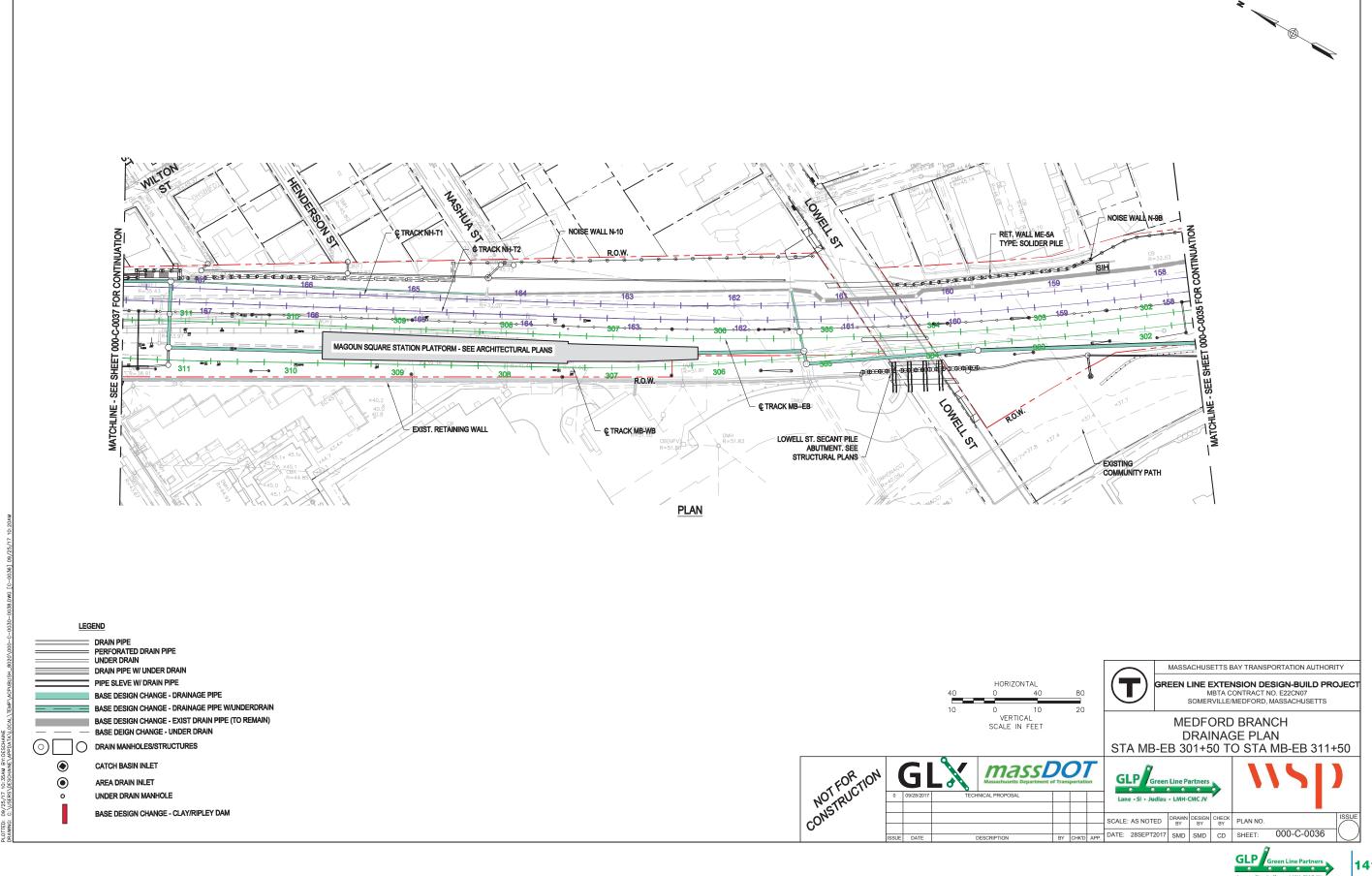
massD07

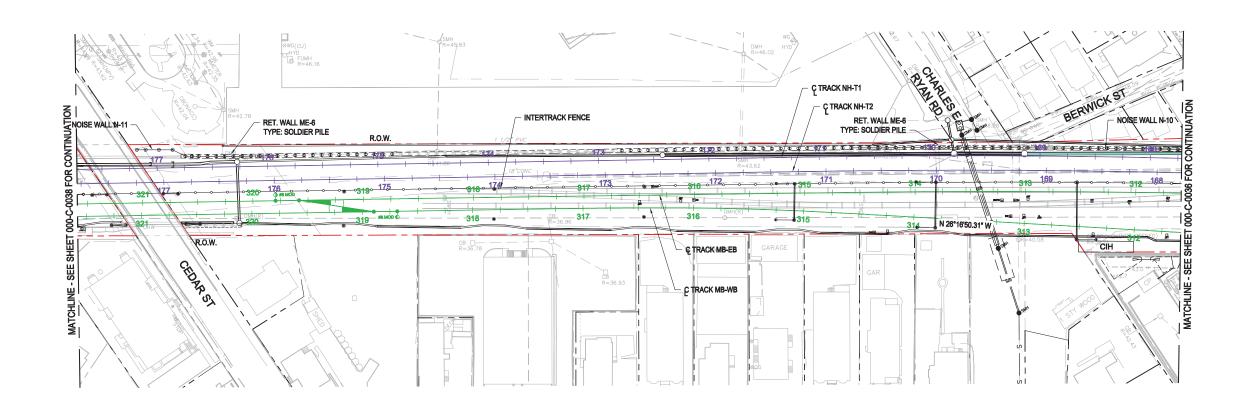


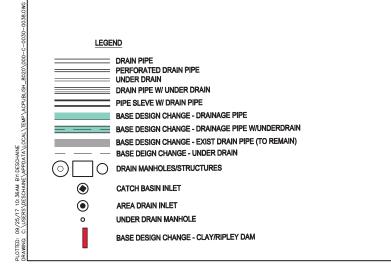


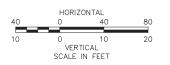
BY CHKD APP. DATE: 28SEPT2017 SMD SMD CD SHEET: 000-C-0034













GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

MEDFORD BRANCH DRAINAGE PLAN STA MB-EB 311+50 TO STA MB-EB 321+50

massD01 BY CHKD APP. DATE: 28SEPT2017 SMD SMD CD SHEET:





QUANTITY	LOCATION	TYPE OF SPECIAL TRACKWORK	TRACK CENTERS (FT.)	FROG TYPE	SWITCH LENGTH
30	VMF	150 FT. CURVED RADIUS TURNOUT	N/A	FLANGE BEARING	13'-0"
1	BRICK BOTTOM INTERLOCKING	NO. 6 MODIFIED DIAMOND CROSSOVER	15	FLANGE BEARING	17'-6"
1	WASHINGTON STREET INTERLOCKING	NO. 8 LH TURNOUT	N/A	FLANGE BEARING	26'-0"
1	WASHINGTON STREET INTERLOCKING	NO. 8 CROSSOVER	18	FLANGE BEARING	26'-0"
2	WASHINGTON STREET INTERLOCKING	NO. 6 MODIFIED CROSSOVER	11.5	FLANGE BEARING	17'-6"
1	LOWELL STREET INTERLOCKING	NO. 6 MODIFIED CROSSOVER	11.33	JUMP	17'-6"
2	COLLEGE AVE INTERLOCKING	NO. 8 CROSSOVER	12	FLANGE BEARING	26'-0"
1	RED BRIDGE INTERLOCKING	NO. 6 MODIFIED CROSSOVER	11.5	FLANGE BEARING	17'-6"
1	RED BRIDGE INTERLOCKING	NO. 6 MODIFIED TURNOUT	N/A	FLANGE BEARING	17'-6"
1	MCGRATH INTERLOCKING	NO. 10 TURNOUT	N/A	FLANGE BEARING	26'-0"
1	YL4 TO US-EB	NO. 6 MODIFIED TURNOUT	N/A	FLANGE BEARING	17'-6"
1	UNION SQUARE INTERLOCKING	NO. 8 DIAMOND CROSSOVER	15	FLANGE BEARING	26'-0"

- All special trackwork units shall be designed and manufactured in accordance with the most current MBTA MOW standards.
 All special trackwork units shall be comprised of wood tie and ballasted track construction.
 All headblock ties shall be made from Azobe grade tropical hardwood, conforming to MBTA Specification No. 9260.
 Rail size shall be 115RE.
 All switches shall be fully guarded and include a manganese switch point housing (cover guard).
 All special trackwork components and materials must be fully compliant with Buy America requirements.



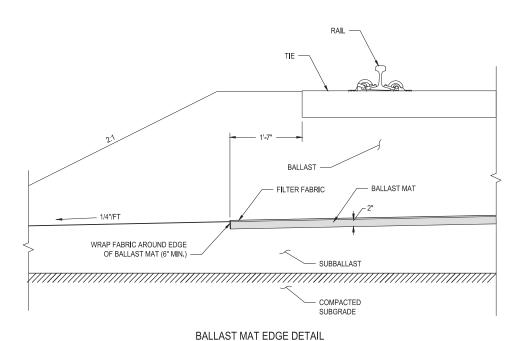
GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

SPECIAL TRACKWORK SCHEDULE









NOT TO SCALE

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GREEN LINE EXTENSION DESIGN-BUILD PROJECT MBTA CONTRACT NO. E22CN07 SOMERVILLE/MEDFORD, MASSACHUSETTS

> TRACK DETAILS BALLAST MAT

NOT FOR TON

O 09282017 TECHNICAL PROPOSAL

SCALE: NO SCALE DRAWN DESIGN CHECK BY BY CHECK BY DATE: 28SEPT2017 SMM IMM ECD SHEET: 000-K-3101

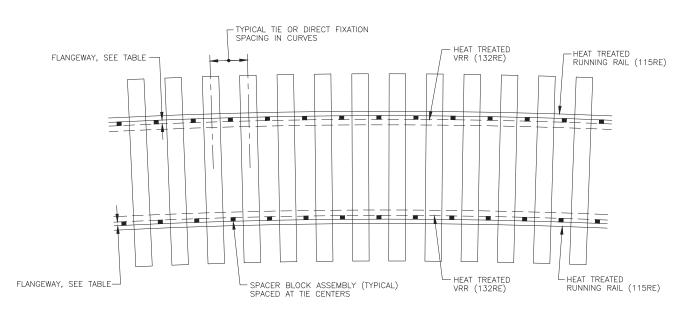
VERICAL RESTRAINING RAIL CRITERIA ON CURVES (DF AND BALLASTED TRACK)

CENTERLINE CURVE RADIUS (FEET)

1000 AND ABOVE 100 TO 999 LESS THAN 100

VERTICAL RESTRAINING RAIL REQUIREMENT

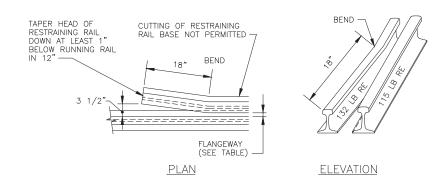
NONE
SINGLE VRR ON INSIDE RAIL OF CURVE
DOUBLE VRR



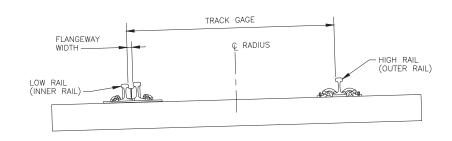
LOCATION OF VERTICAL RESTRAINING RAIL SPACER BLOCKS

NOTES:

- REFER TO RAIL CRITERIA AS GIVEN IN THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY TRACK MAINTENANCE STANDARDS.
- 2. RUNNING RAIL AND VERTICAL RESTRAINING RAIL TO BE FULLY HEAT TREATED RAILS.
- 3. LIMITS OF VERTICAL RESTRAINING RAIL AND LOCATION OF SPACER BLOCKS ARE TYPICAL AND MAY BE CHANGED ONLY WITH THE APPROVAL OF THE ENGINEER.
- . VERTICAL RESTRAINING RAILS SHALL HAVE FLARED ENDS BENT TOWARDS THE CENTERLINE OF THE TRACK (SEE DETAIL THIS SHEET).
- 5. ADJUST HOLES FOR SPACER BLOCK ASSEMBLIES IN THE FIELD SO THAT NO HOLES ARE DRILLED WITHIN 6" OF A WELD IN THE RUNNING RAIL.
- 6. ENDS OF RESTRAINING RAIL IN BALLASTED TRACK MAY BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 505-59 IN LIEU OF BENDING THE RAIL ENDS. RESTRAINING RAIL IN "DF" TRACK SHALL HAVE BEVELED ENDS.
- 7. CONTRACTOR SHALL FURNISH AND INSTALL FOUR (4) RAIL LUBRICATORS AS DIRECTED BY THE AUTHORITY. LUBRICATORS SHALL BE M & S 761 HYDROTUBE OR APPROVED EQUAL. POWER BLOCK PLUNGER TO BE MODIFIED FOR GAGE SIDE USE. LUBRICATOR SHALL BE CAPABLE OF SUPPLYING LUBRICANT TO BACK OF WHEEL FLANGES AND/OR GAGE FACE OF PAUL



VERTICAL RESTRAINING RAIL END BENDING DETAILS/BALLASTED TRACK (SEE NOTE 6)



TRACK GAGE AND FLANGEWAY WIDTH CRITERIA WITH VERTICAL RESTRAINING RAIL (DF AND BALLASTED TRACK)

FLANGEWAY WIDTH

CENTERLINE CURVE	RADIUS (FEET)	TRACK GAGE	SINGLE INNER VRR	OUTER DOUBLE GUARD RAIL
50 TO	74	4'-9"	1 3/4"	1 3/4"
75 TO	99	4'-9"	1 5/8"	1 3/4"
100 TO	999	4'-8 7/8"	1 5/8"	NONE REQ'D
1000 AND	ABOVE	4'-8 1/2"	NONE REQ'D	NONE REQ'D

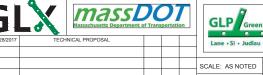


MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

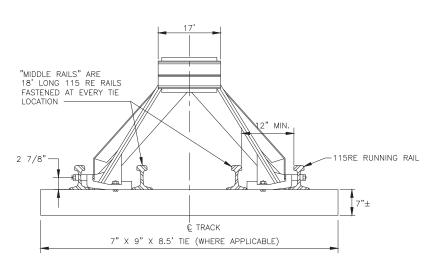
GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

TRACKWORK DETAILS
VERTICAL RESTRAINING RAIL/
BALLASTED AND DIRECT FIXATION TRACK

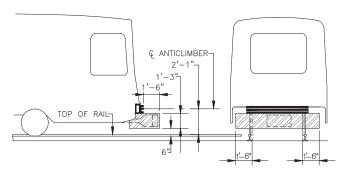


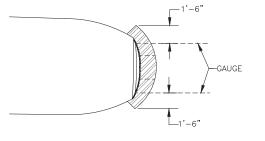






TYPICAL LRV BUMPING POST DETAIL





NOTES:

- 1. SPRINGS ARE SHOWN IN COMPRESSED POSITION.
- 2. BUMPING POST TO BE WESTERN-CULLEN-HAYES TYPE "WCTS" OR EQUIVALENT.
- 3. RUNNING RAIL AND MIDDLE RAILS WITHIN AREA OF BUMPING POST TO BE RESTRAINED WITH TWO TWIN HOOK TIE PLATES AT EACH RAIL SEAT LOCATION. TIE SPACING IS NOMINAL 24" FOR WOOD TIES.
- 4. CONTRACTOR TO PROVIDE SHOP DRAWING OF BUMPING POST, PLATE AND FASTENER DETAILS.
- 5. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF POST HEAD AREA AND HEIGHT BASED ON FIELD MEASUREMENTS OF EXISTING AND NEW LOW FLOOR LRV'S.
- 6. CONTRACTOR TO PROVIDE LOCATION AND TYPE OF INSULATED JOINTS ON SHOP DRAWINGS FOR BUMPING POST
- 7. BUMPING POST MUST BE DETAILED TO CATCH THE ANTICLIMBER ON THE STRIKING FACE PLATE AND CLEAR THE SHADED AREAS SHOWN BELOW.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

TRACKWORK DETAILS BALLASTED TRACK BUMPING POST

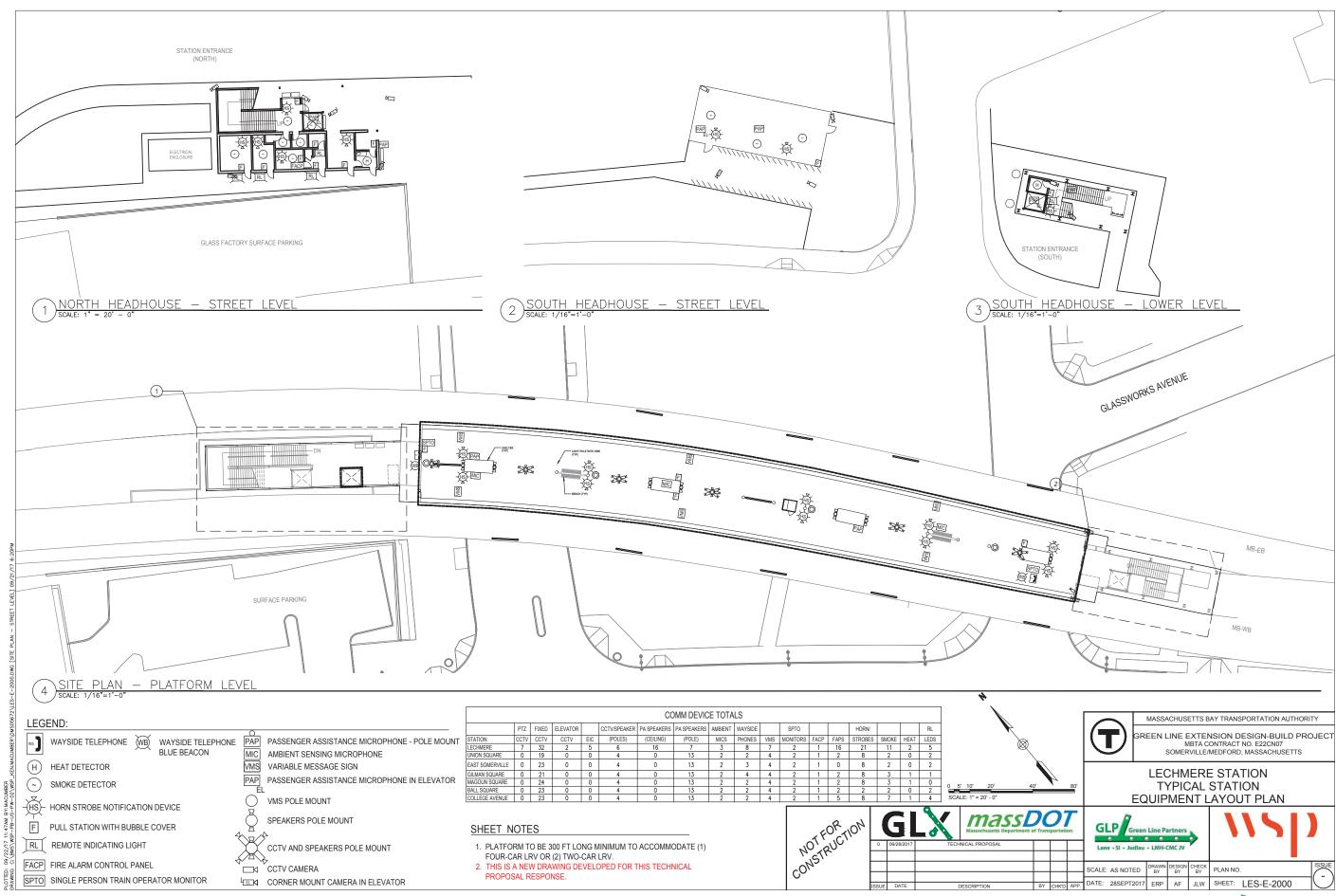
BUMPING POST CLEARANCE REQUIREMENTS N.T.S.

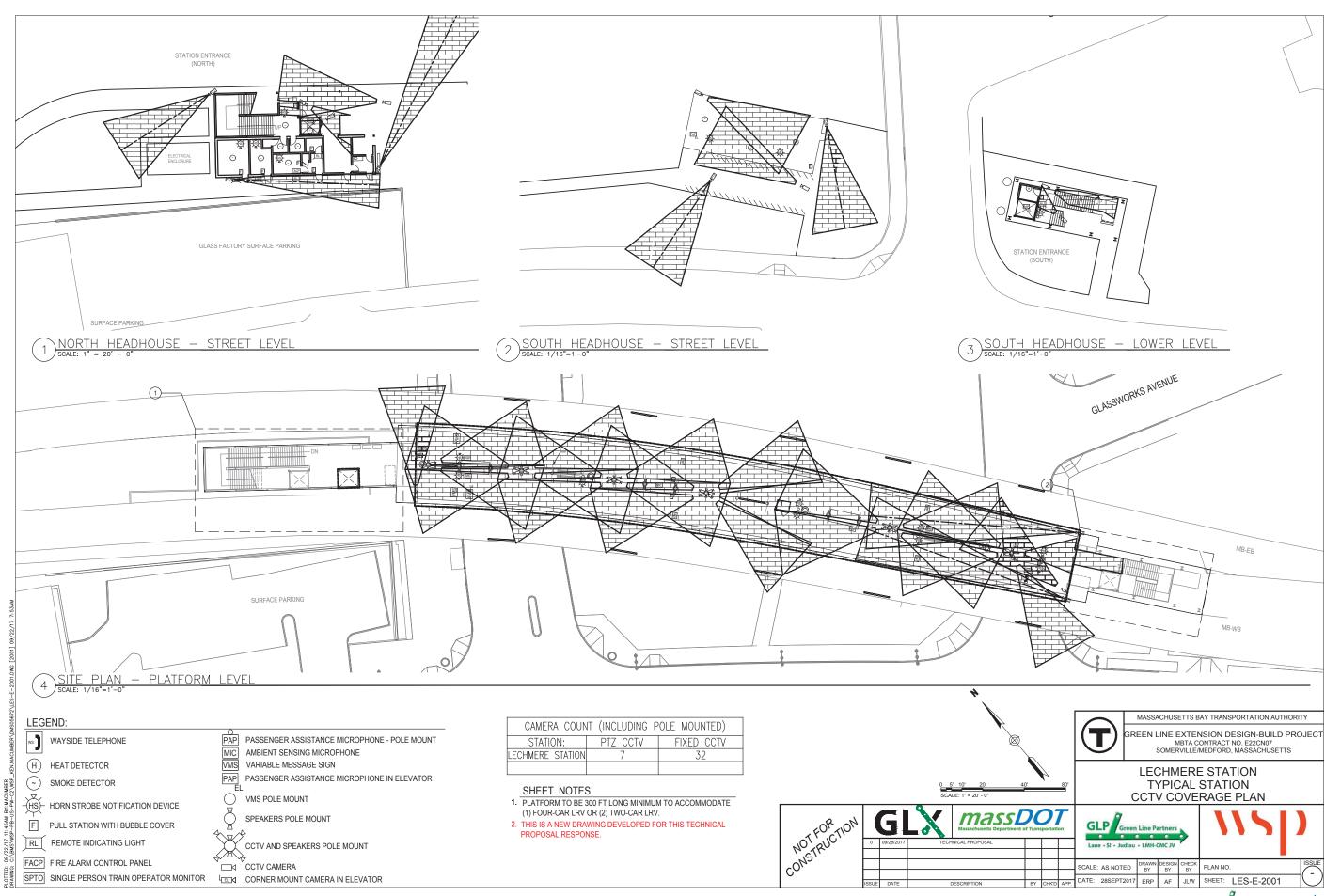


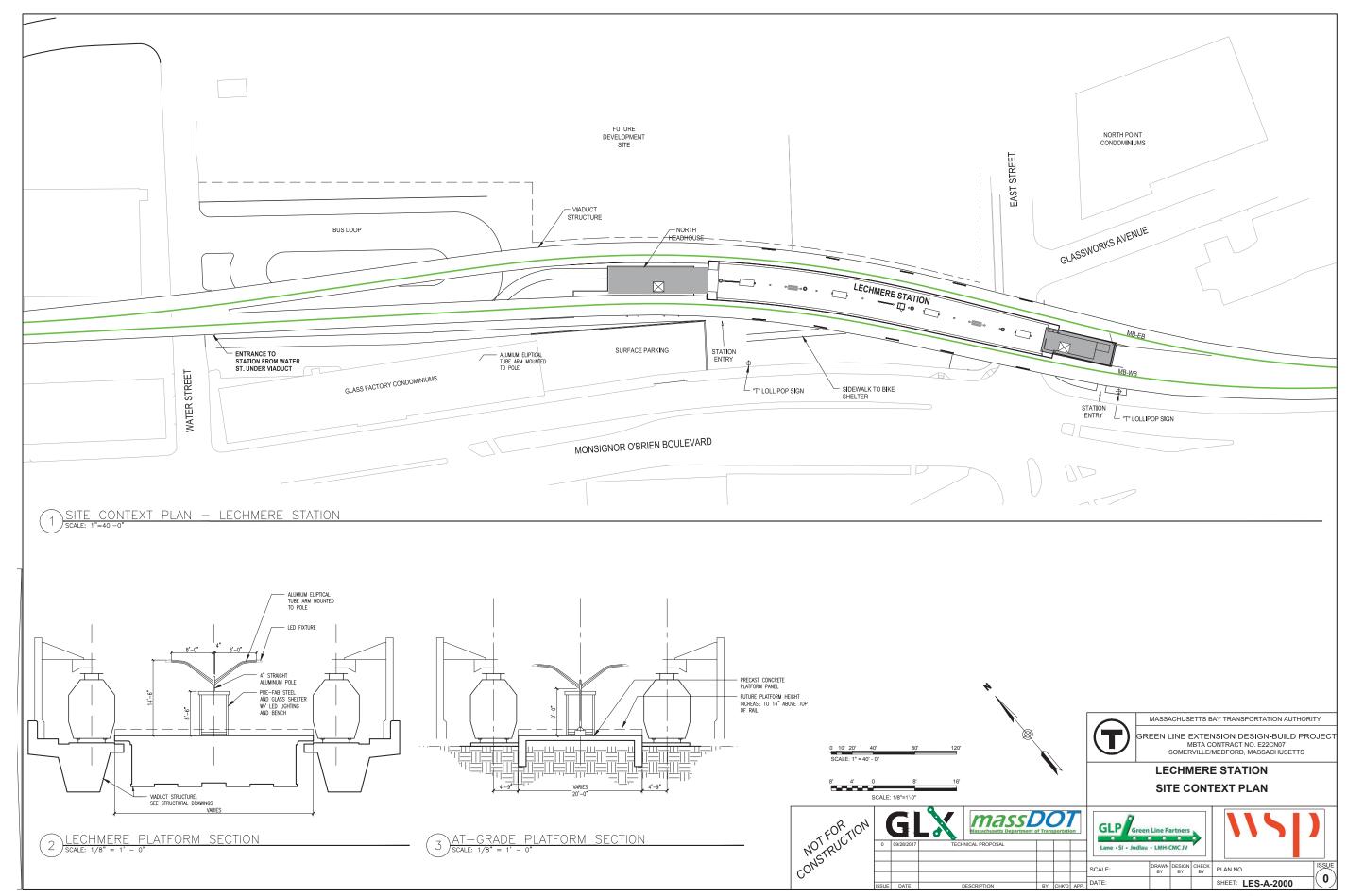


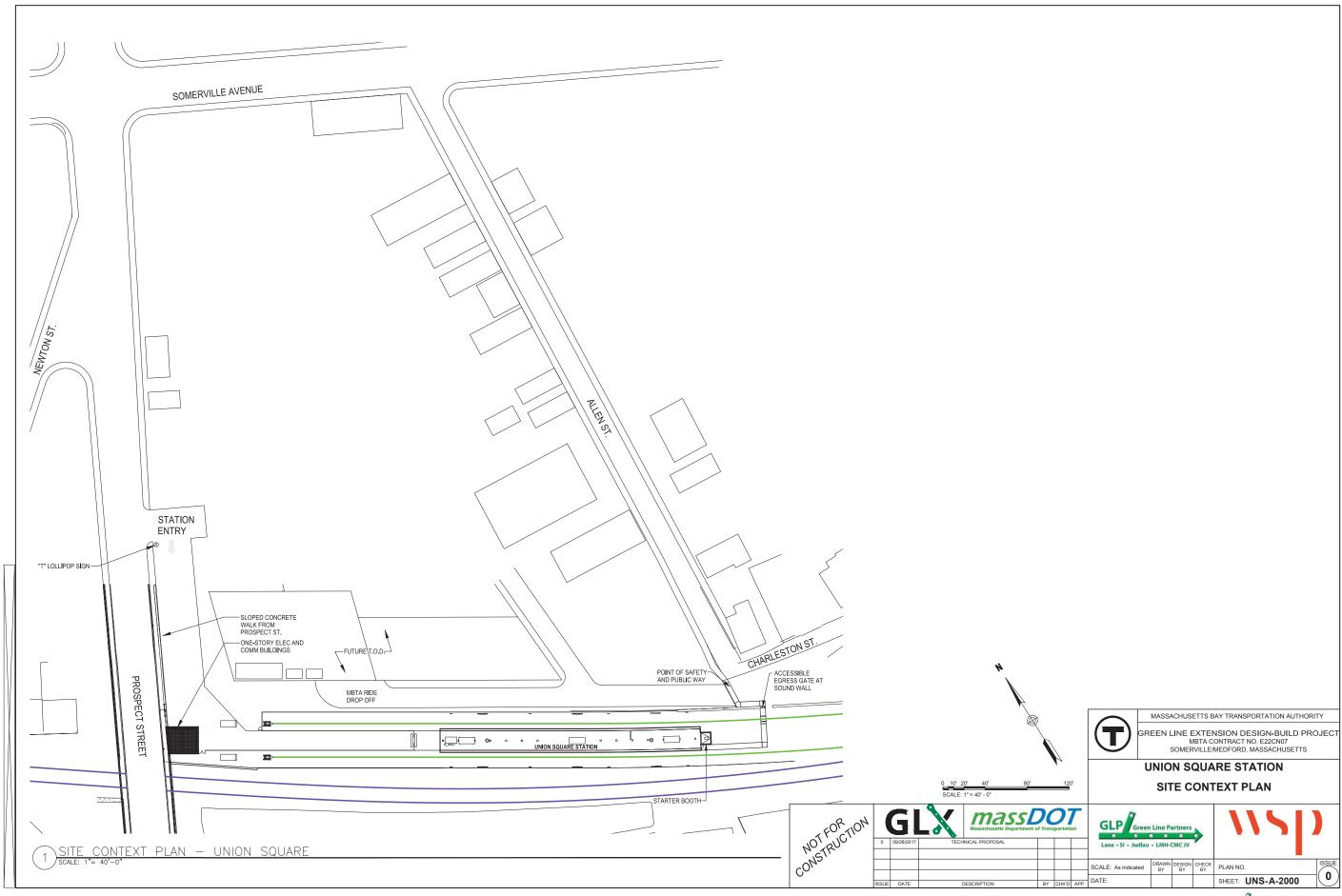


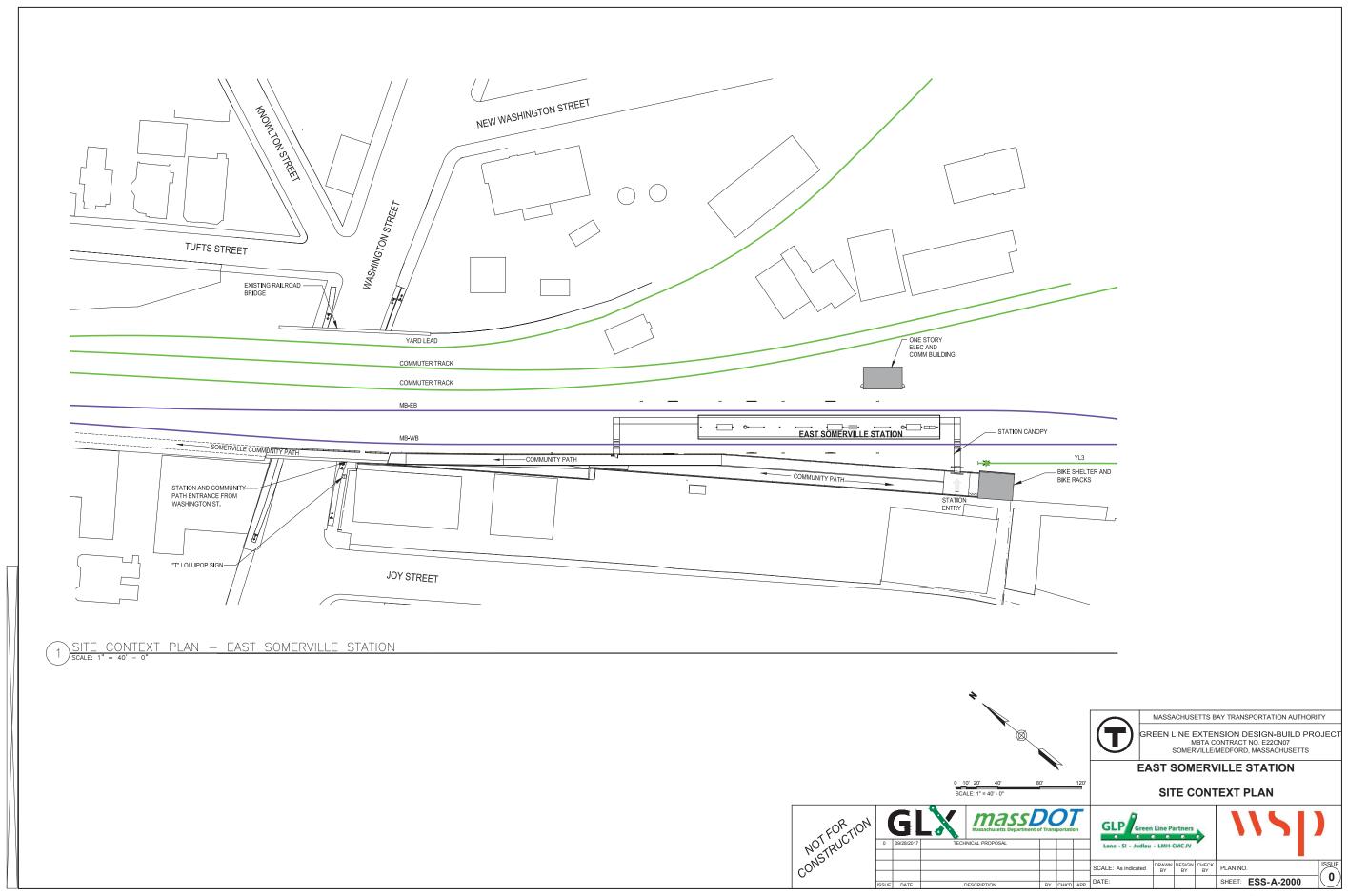
Lane • SI • Judlau • LMH-CMC JV

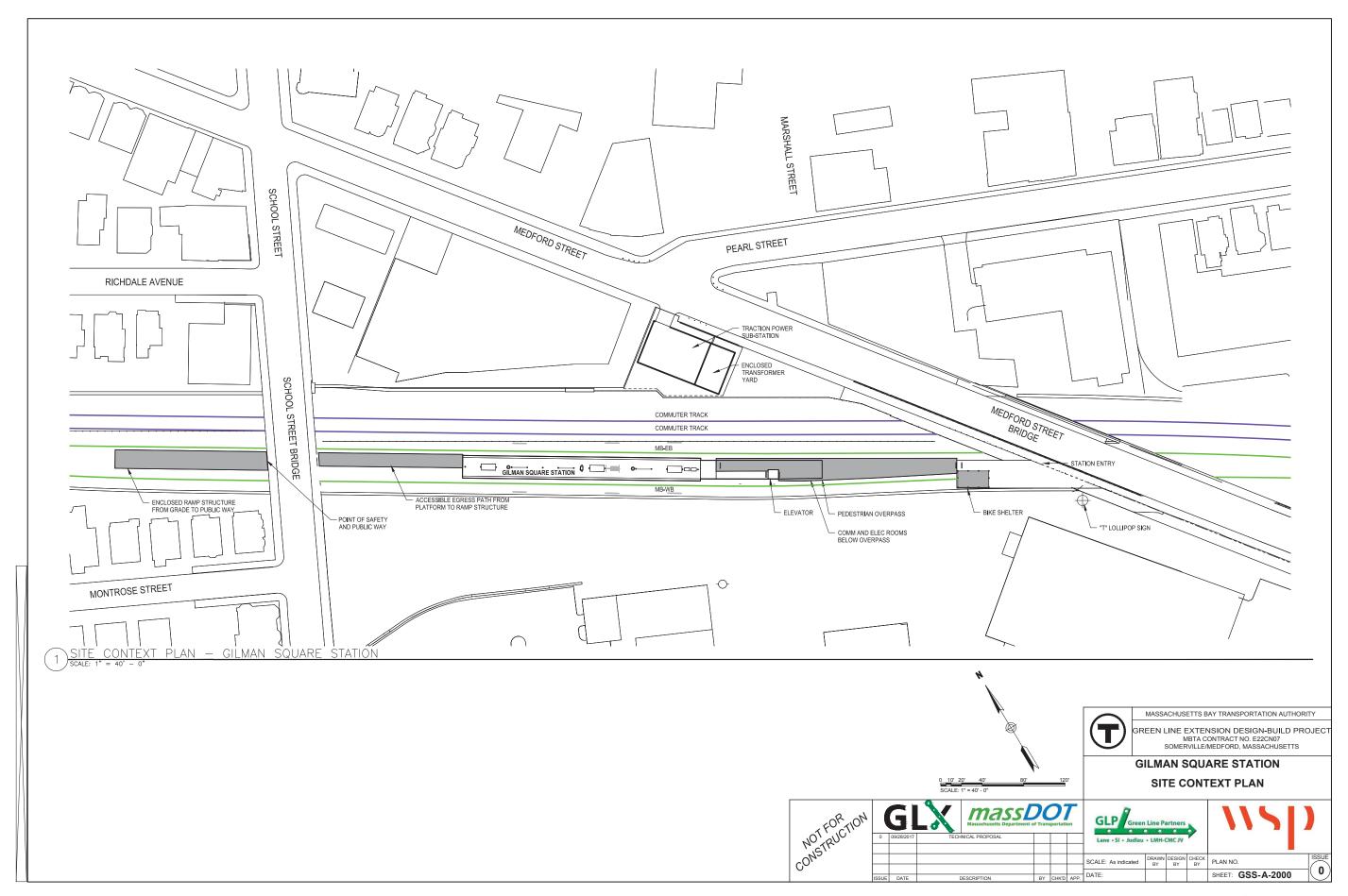




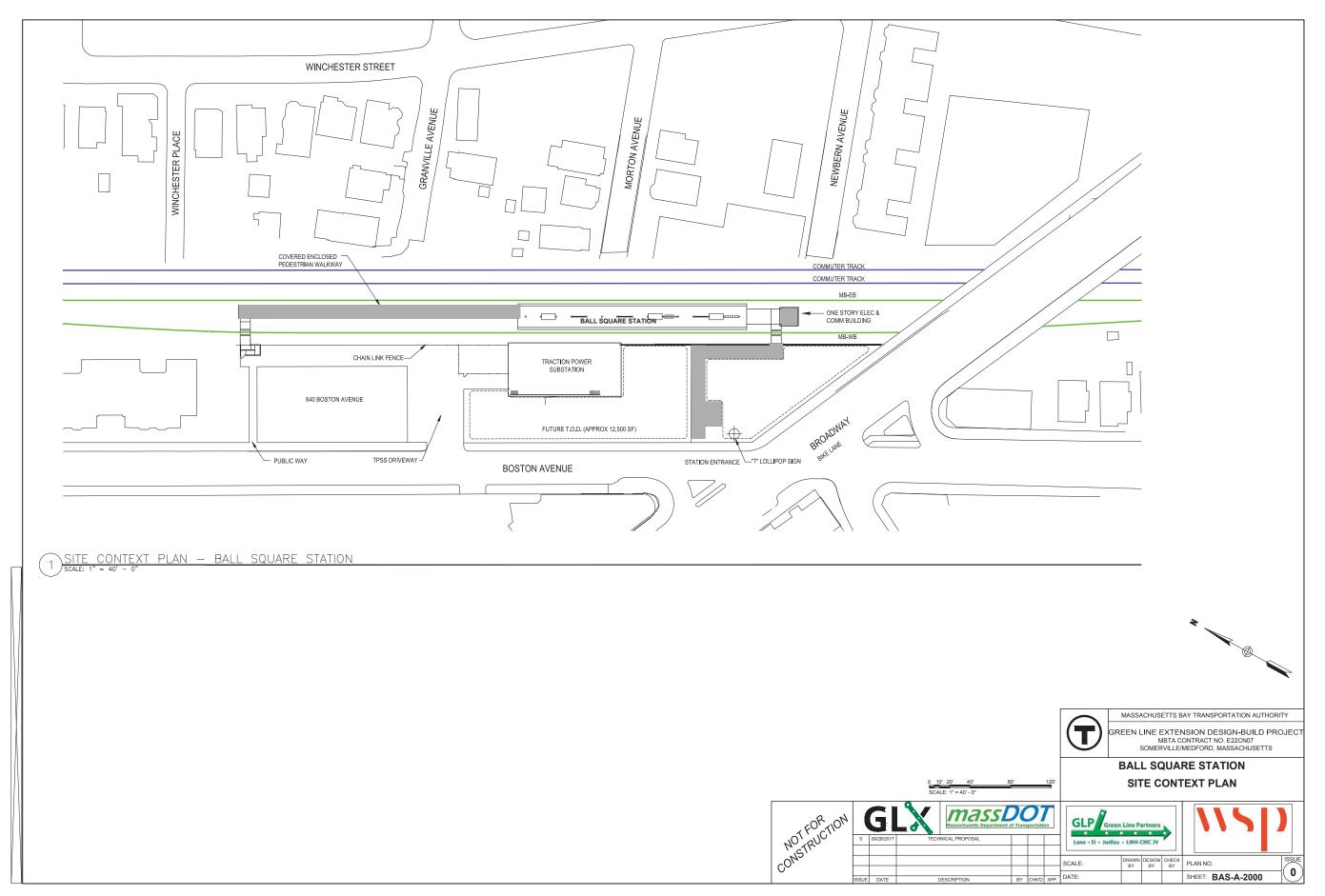


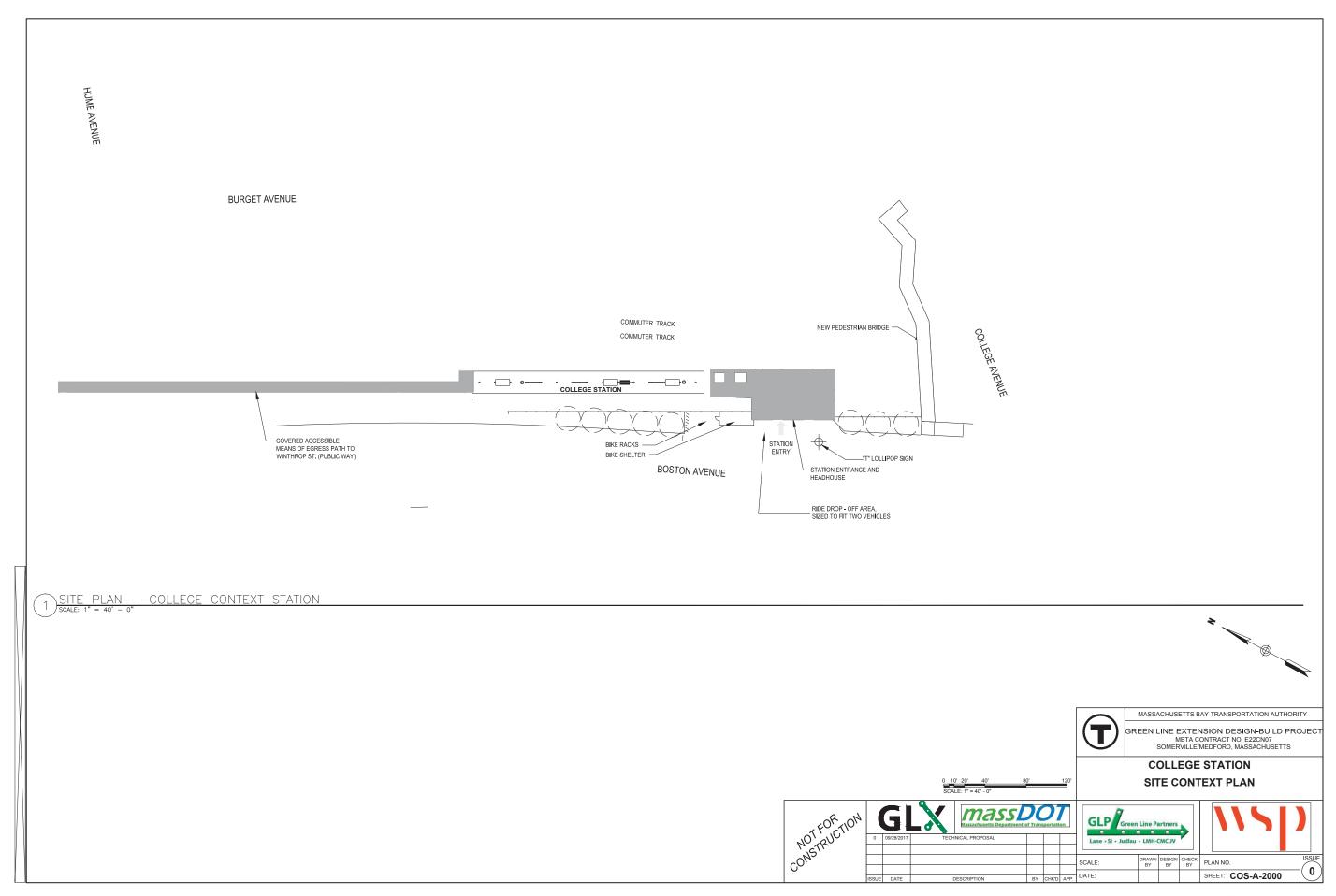


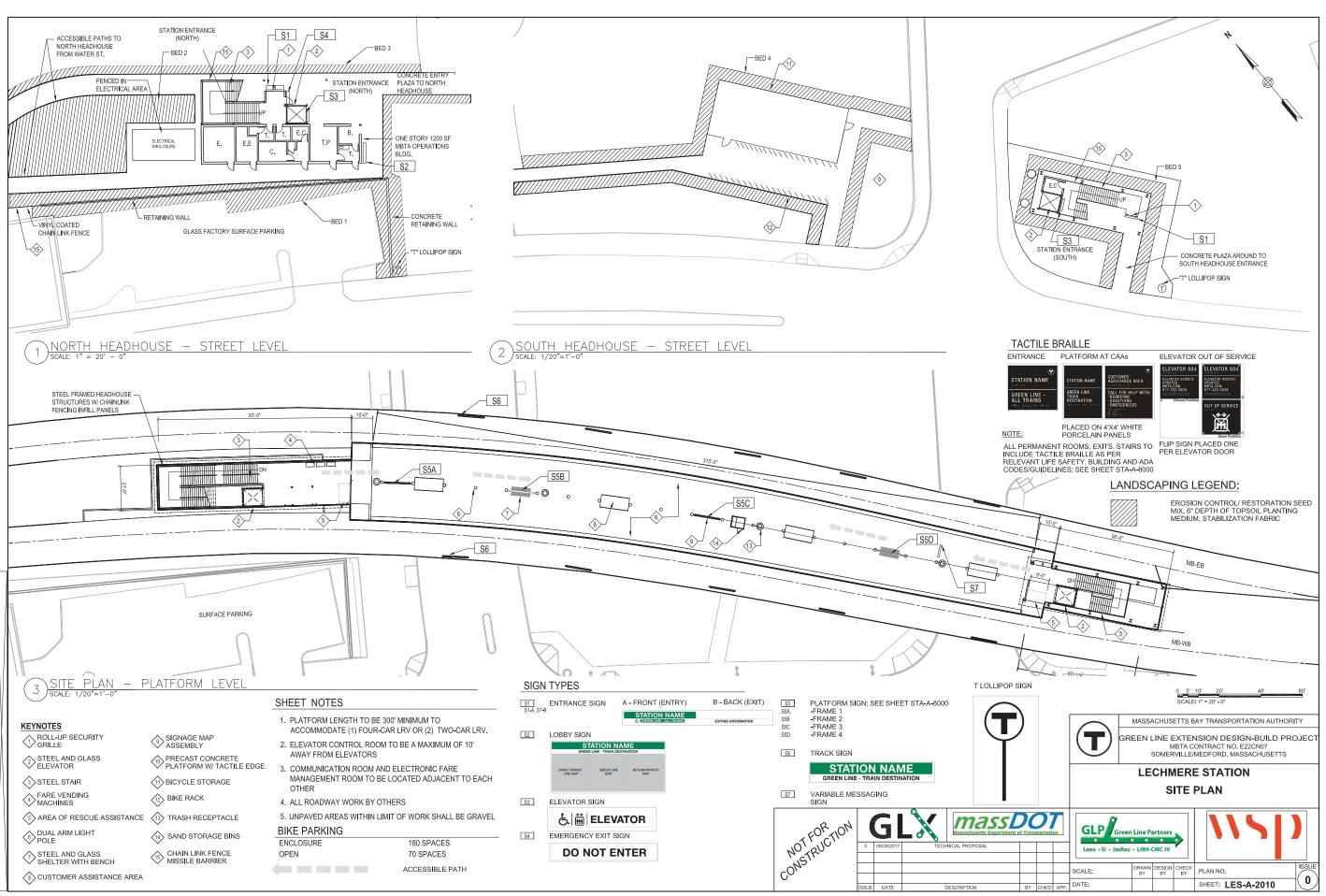






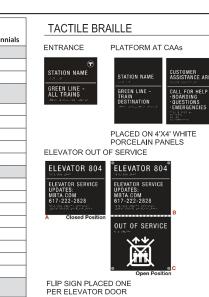


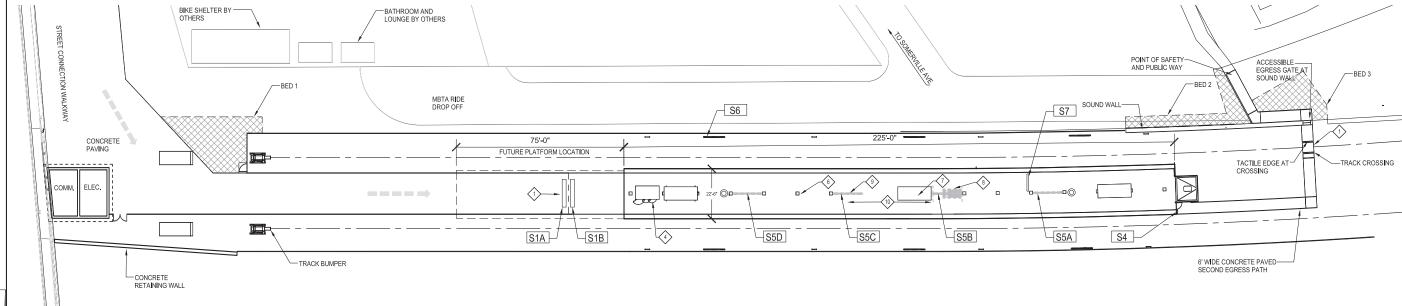


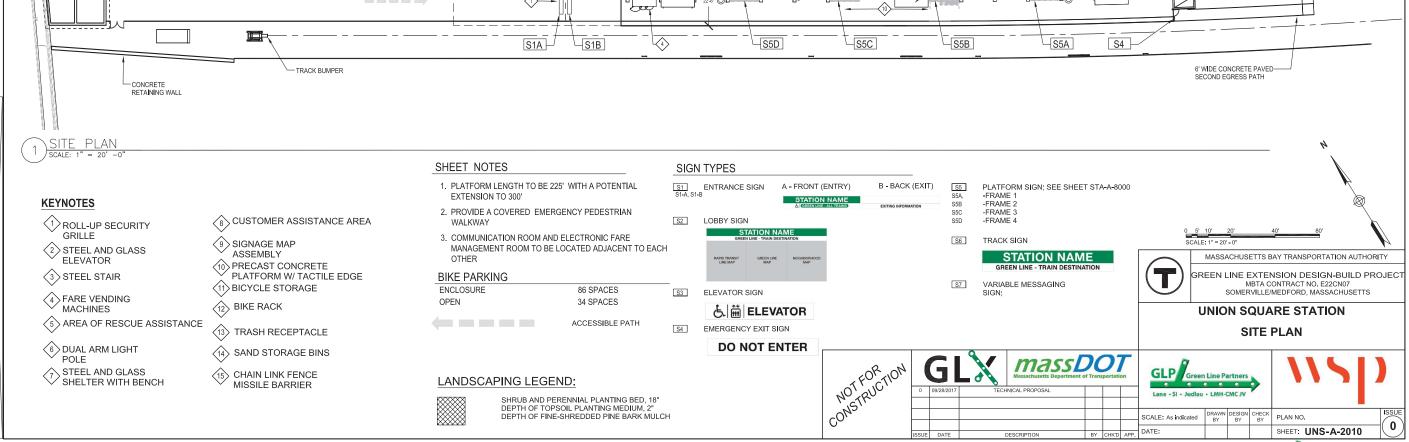


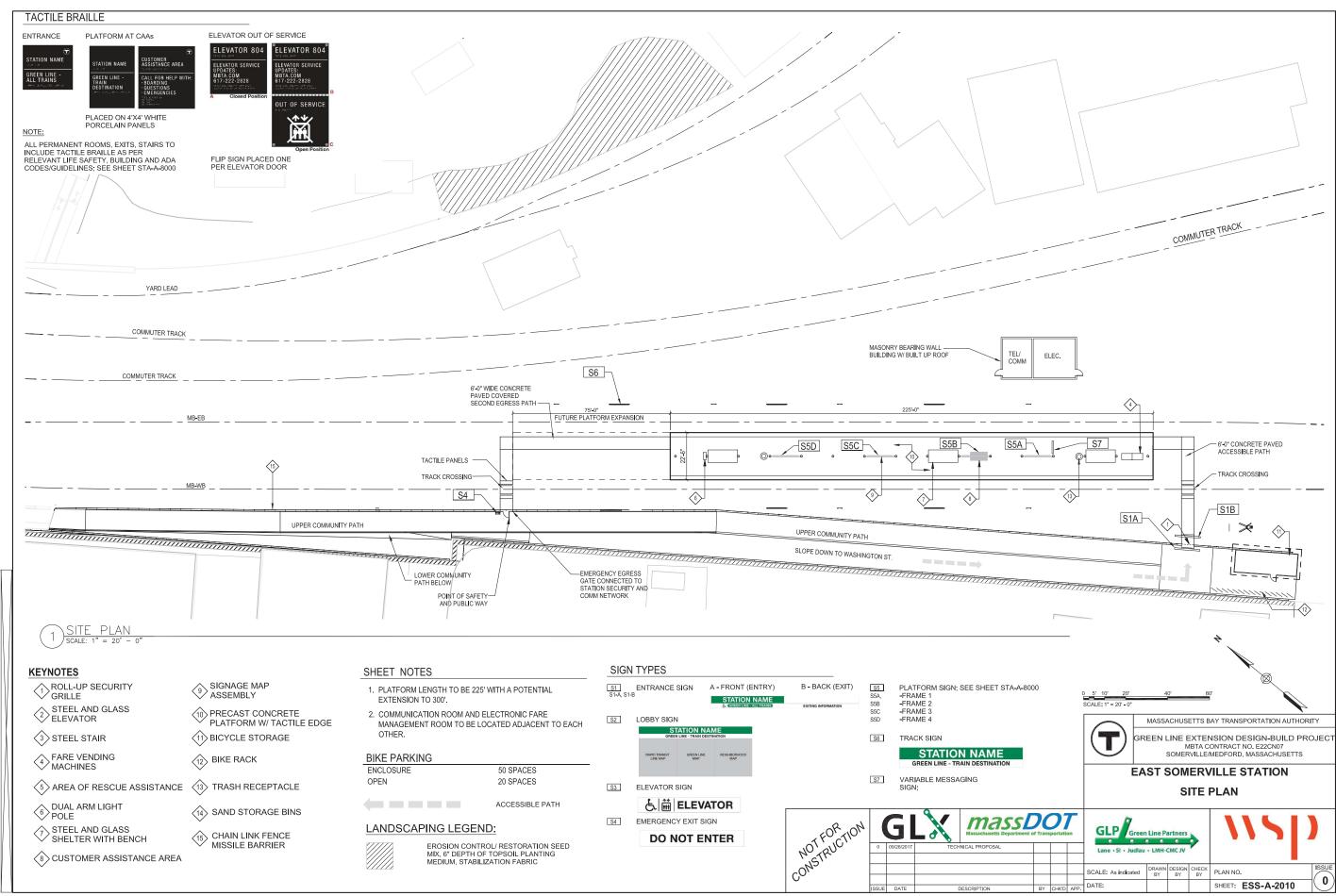
MBTA Green Line Extension DB (GLX)										
Landscape Quantity Summary 8-31-2017										
Location	Landscape Bed No.	Total Area SF	Sawcut Asphalt	Excavation/ Topsoil Depth	Seeding/ Fabric SF	2" Mulch SF	Flowering Trees 13'-15' Ht.	3" Cal. Trees	24"-36" Shrubs	Native Grasses/ Perennials
Lechmere Station										
Perimeter Seeding	1	5729		6						
Perimeter Seeding	2	2828		6						
Perimeter Seeding	3	2600		6						
Perimeter Seeding	4	1414		6						
Perimeter Seeding	5	719		6						
East Somerville Station										
Perimeter Seeding		1254		6	1254					
Seeding/Stabiliz. Fabric		6032		12	6032					
Union Square Station										
	1	559		18		559			34	90
R&R 15' Curb/Gutter	2	333	18	18		333			12	100
R&R 25' Curb/Gutter	3	319	28	18		319			20	62
Gilman Square Station										

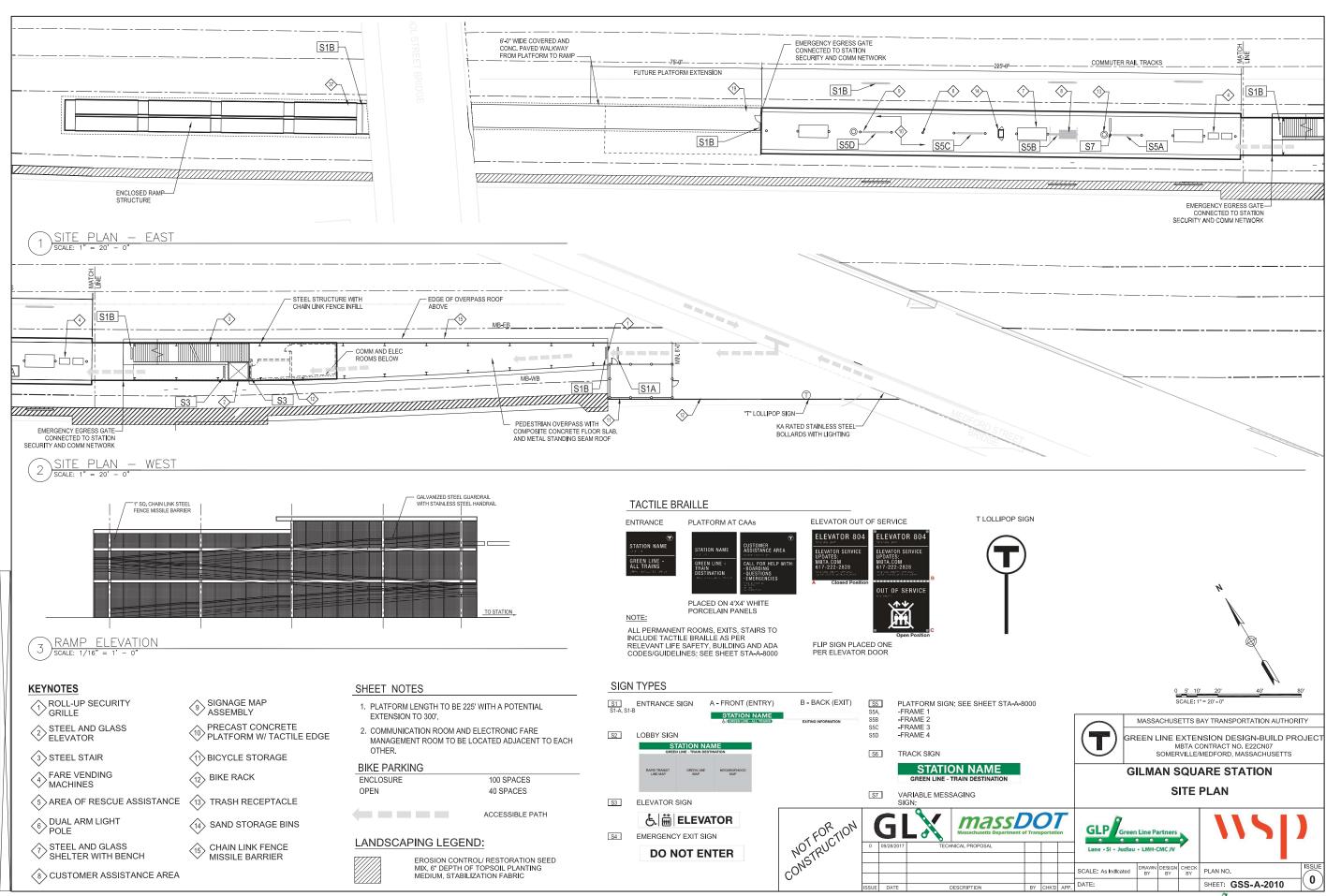
Location	Landscape Bed No.	Total Area SF	Sawcut Asphalt	Excavation/ Topsoil Depth	Seeding/ Fabric SF	2" Mulch SF	Flowering Trees 13'-15' Ht.	3" Cal. Trees	24"-36" Shrubs	Native Grasses/ Perennials
Ball Square Station										
Perimeter Seeding		1085		6	1085					
(gravel surfs. per 2B.2)										
College Avenue Station										
	1	1207		36		1207	3		61	244
	2	2163		36		2163		5	110	440
	3	2528		18		2528			187	375
	4	7000		18		7000			260	1037
Perimeter Seeding	5	75			75					
Vehicle Maint. Facility										
	1	1187		36		1187		3	60	240
	2	359		18		406			20	80
	3	2,907		36		2,907		3	155	622
	4	521		36		521		1	27	108
	5	439		36		439		1	22	89
	6	497		36		497		1	26	106
Perimeter Seeding		2511		6	2511					
Perimeter Seeding		10343		6	10343					
Magoun Square Station										
Perimeter Seeding		304		6	304					

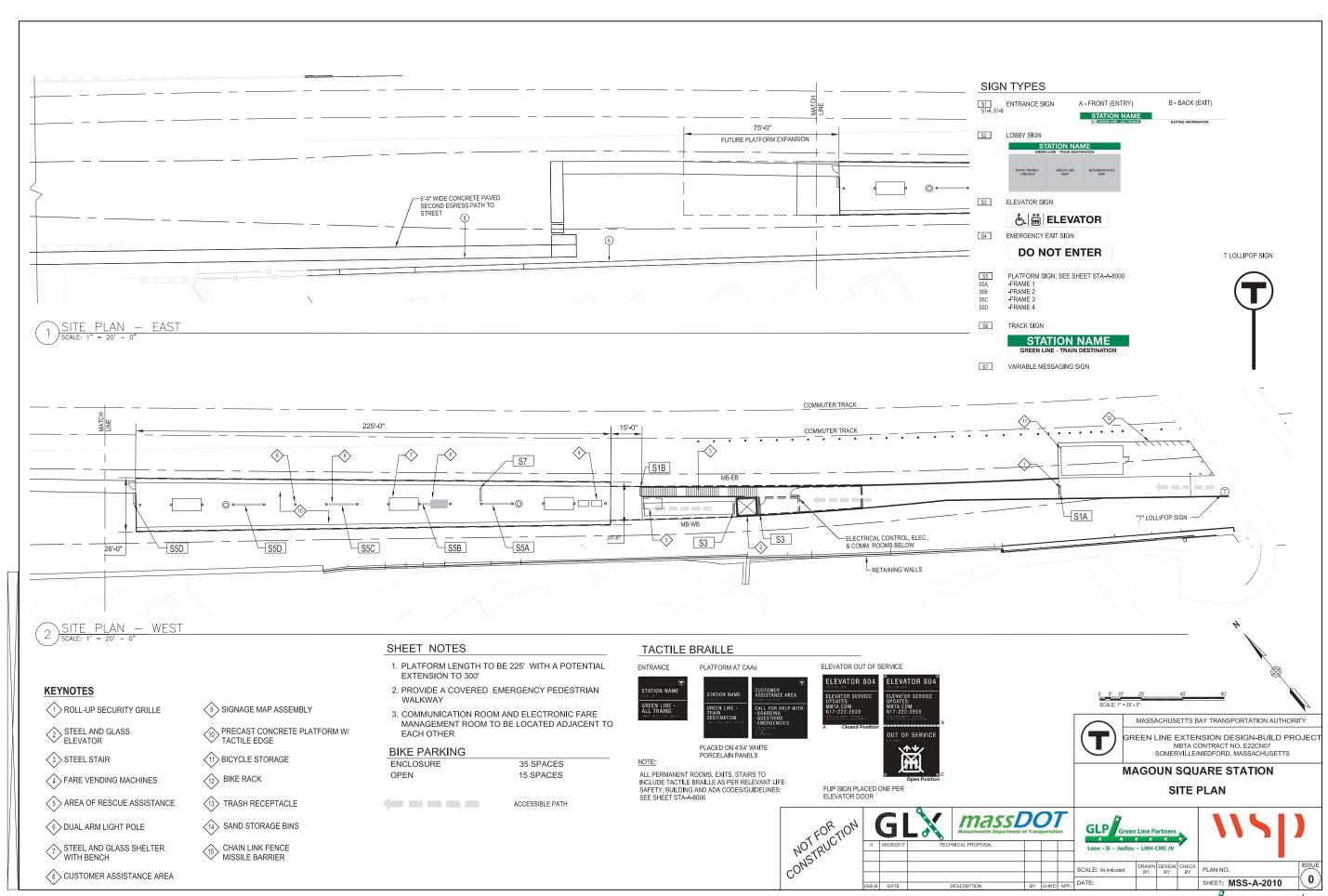


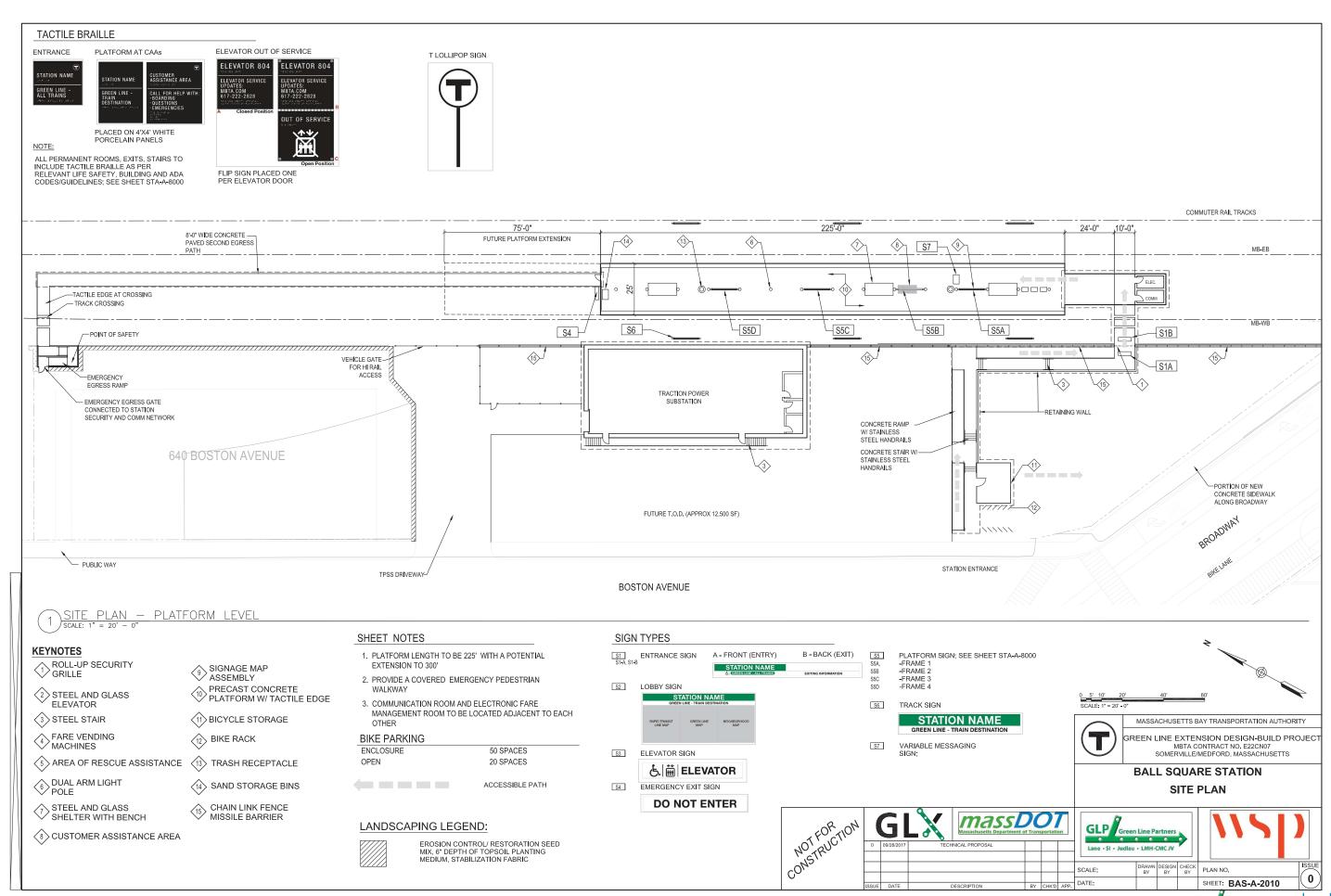


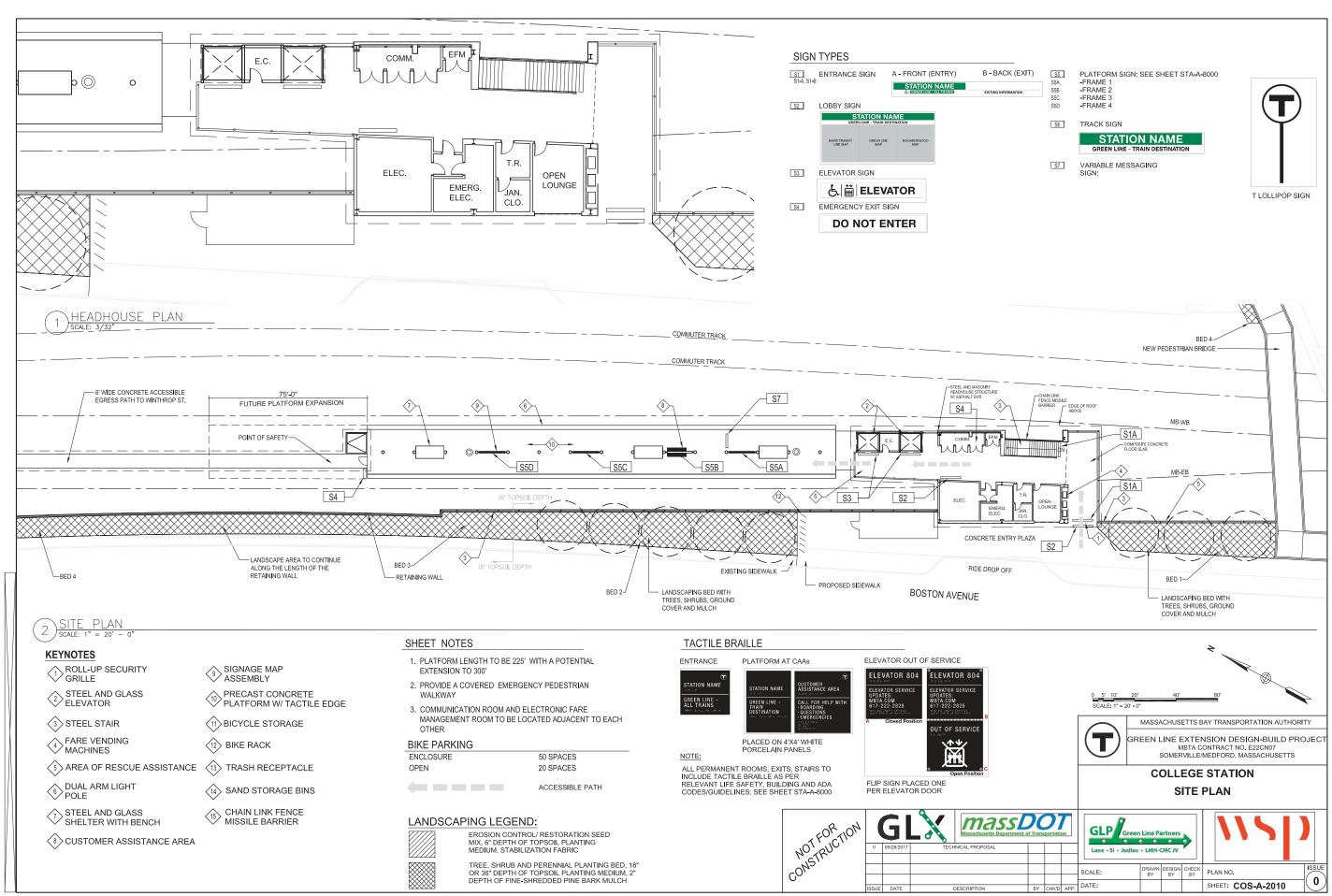


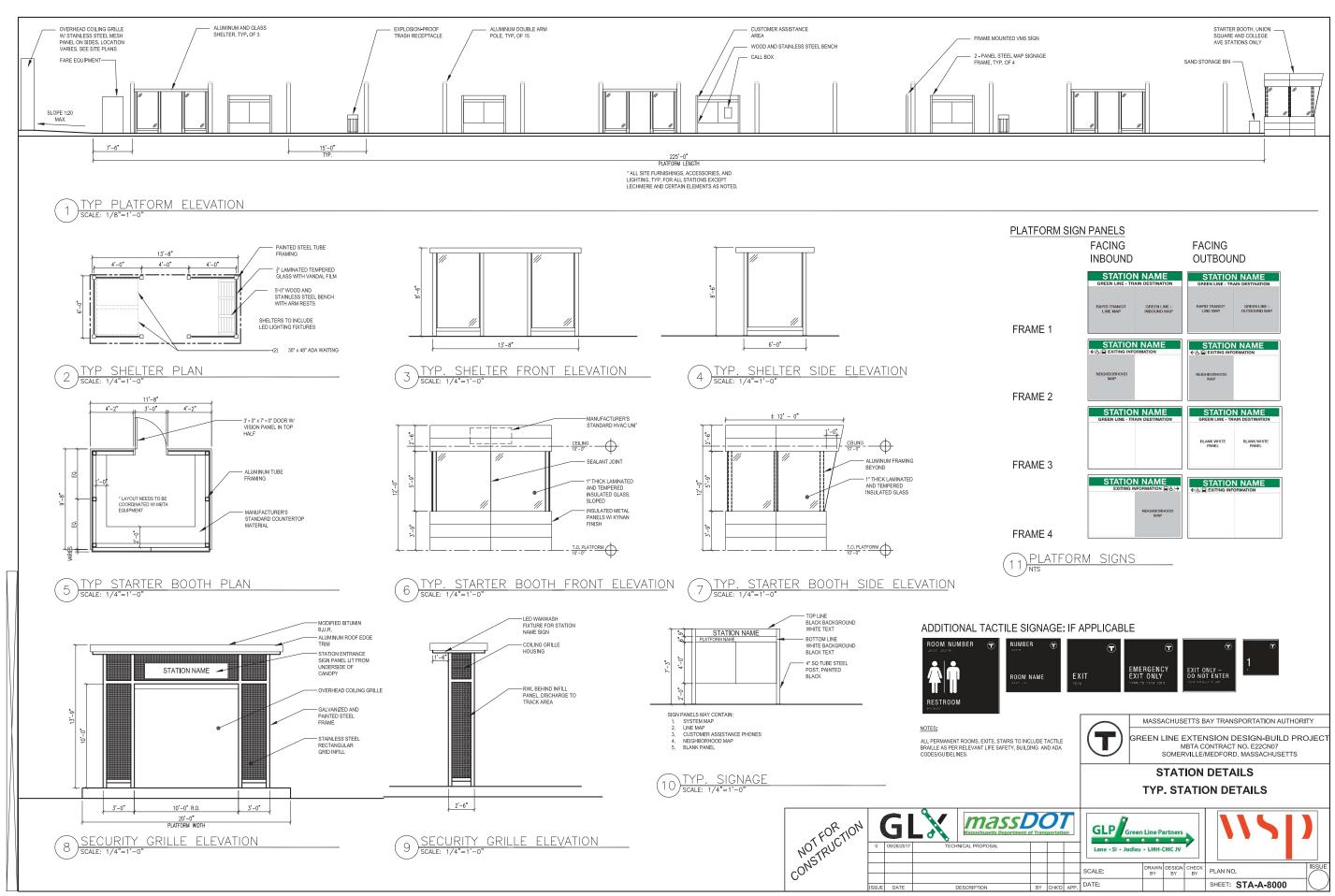




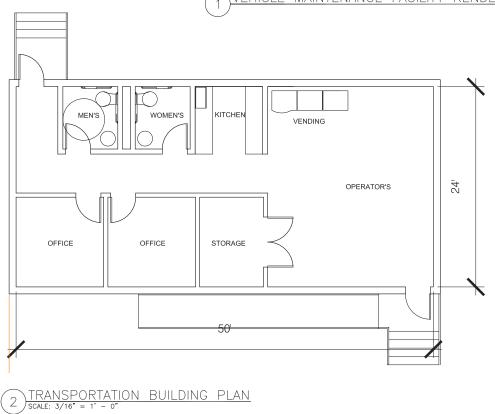














GREEN LINE EXTENSION DESIGN-BUILD PROJECT MBTA CONTRACT NO. E22CN07 SOMERVILLE/MEDFORD, MASSACHUSETTS

VEHICLE MAINTENANCE FACILITY

ARCHITECTURAL RENDER

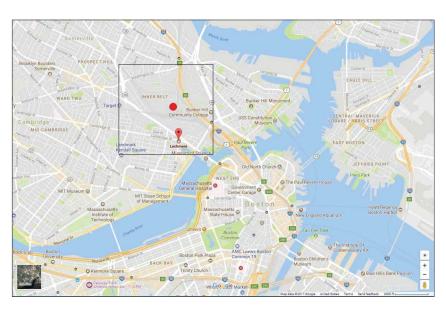
NOT FOR TON O 19/28/2017

GL Massachusetts Department of Transportation

0 09/28/2017 TECHNICAL PROPOSAL

GLP Green Line Partners
Lane - SI - Judlau - LMH-CMC JV

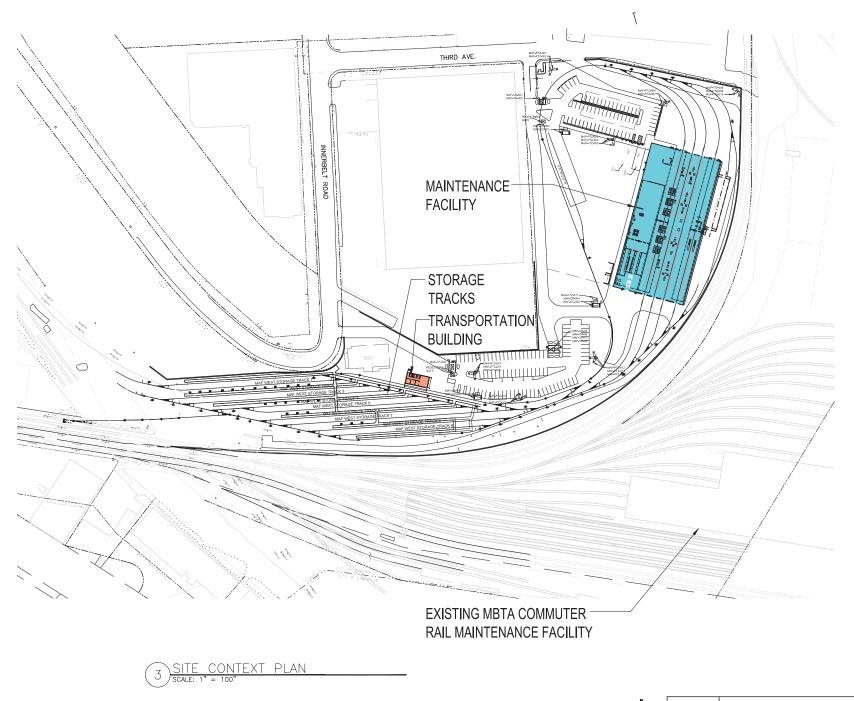
SHEET: MAF-A-0000



1 SITE VICINITY MAP



2 SITE VICINITY MAP





GREEN LINE EXTENSION DESIGN-BUILD PROJECT MBTA CONTRACT NO. E22CN07 SOMERVILLE/MEDFORD, MASSACHUSETTS

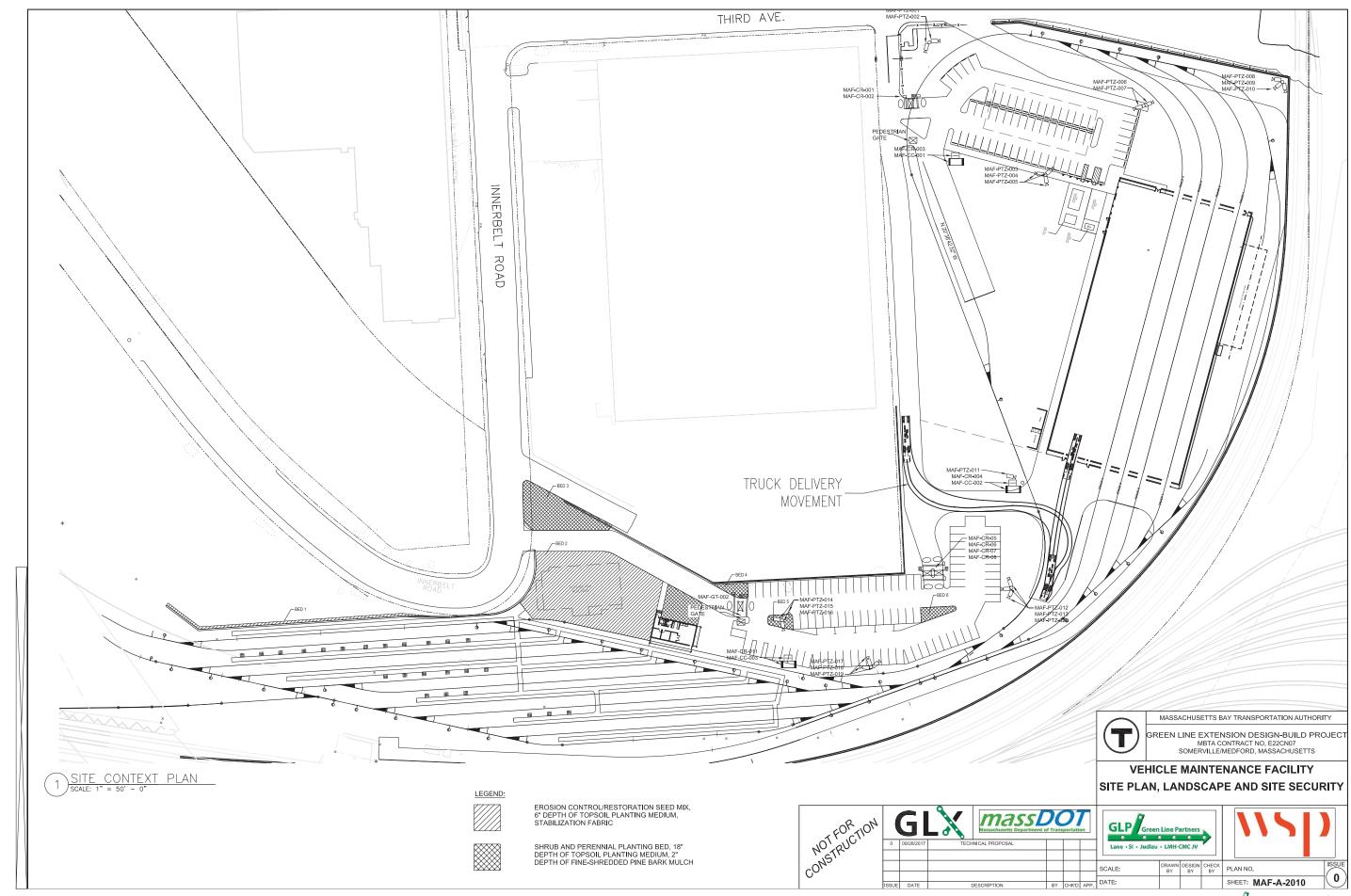
VEHICLE MAINTENANCE FACILITY
SITE PLAN

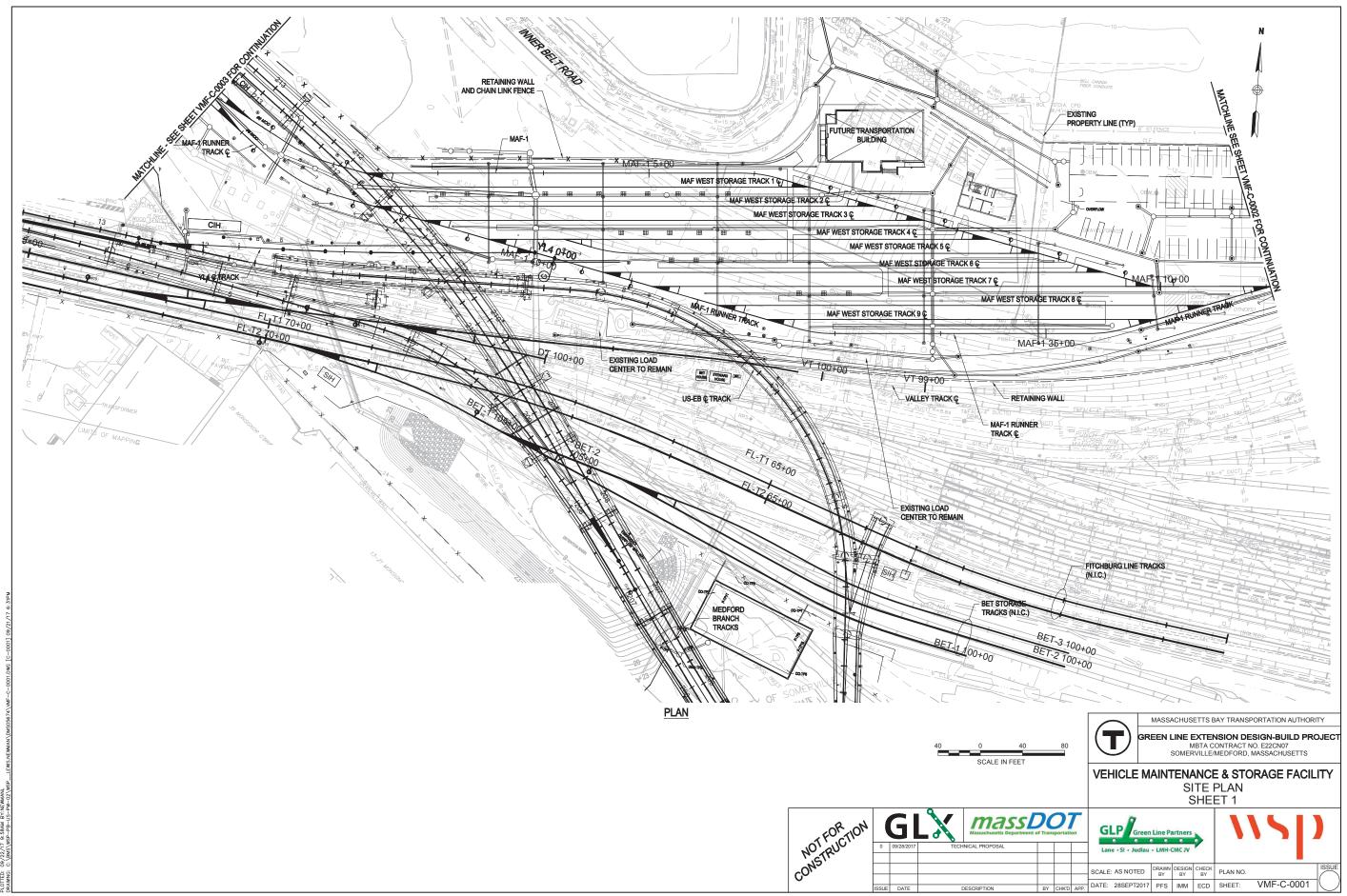
NOT FOR TION CONSTRUCTION

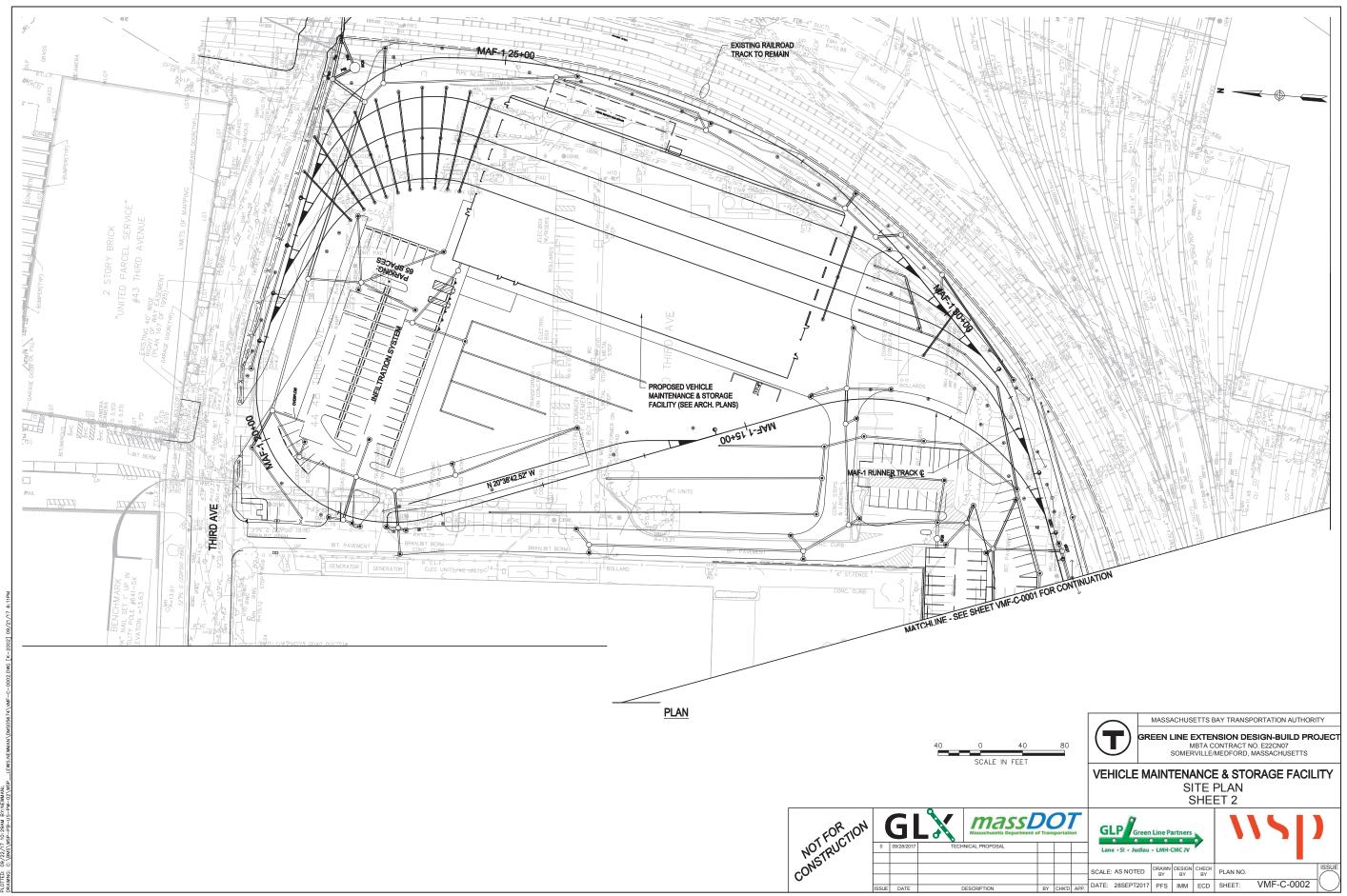


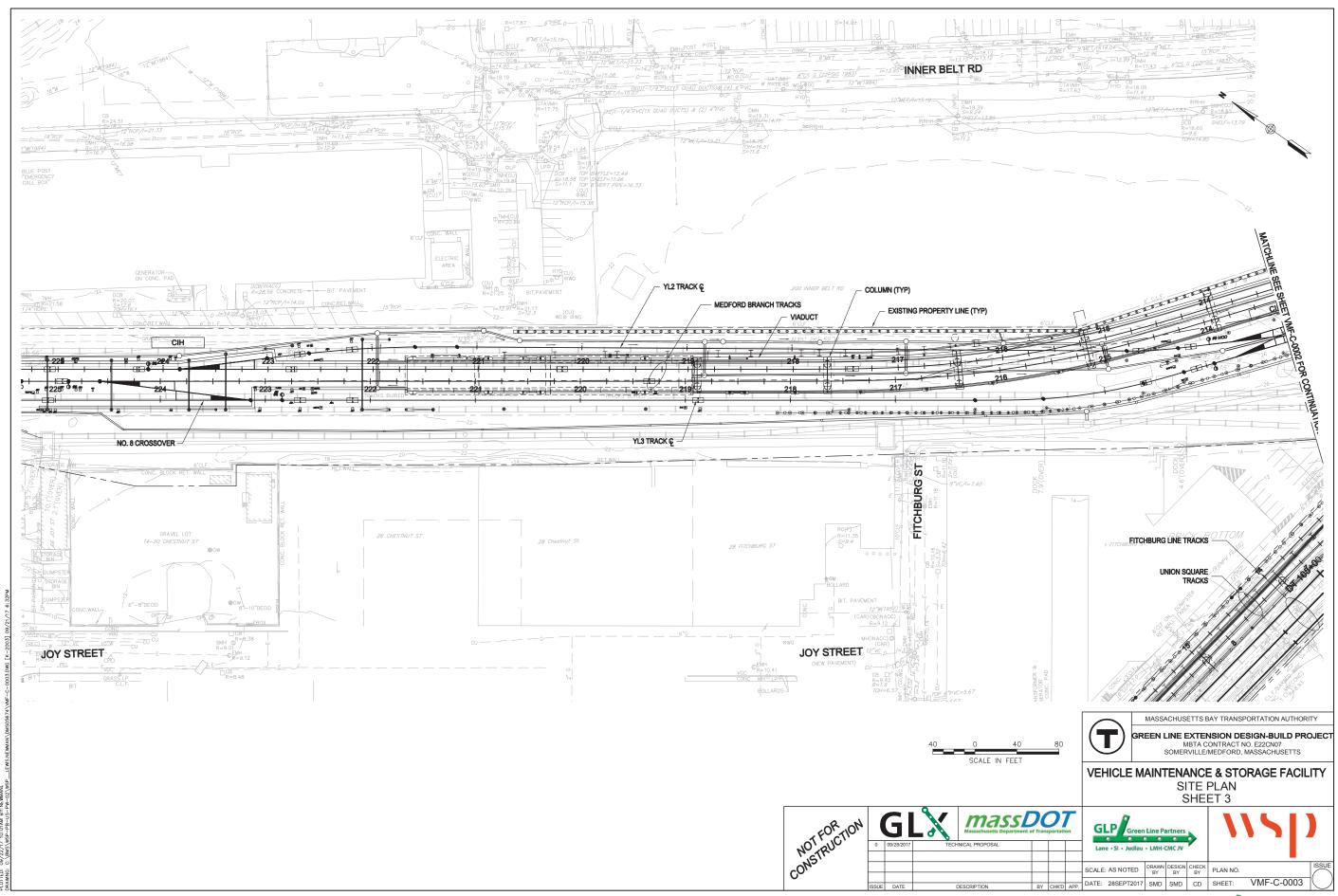


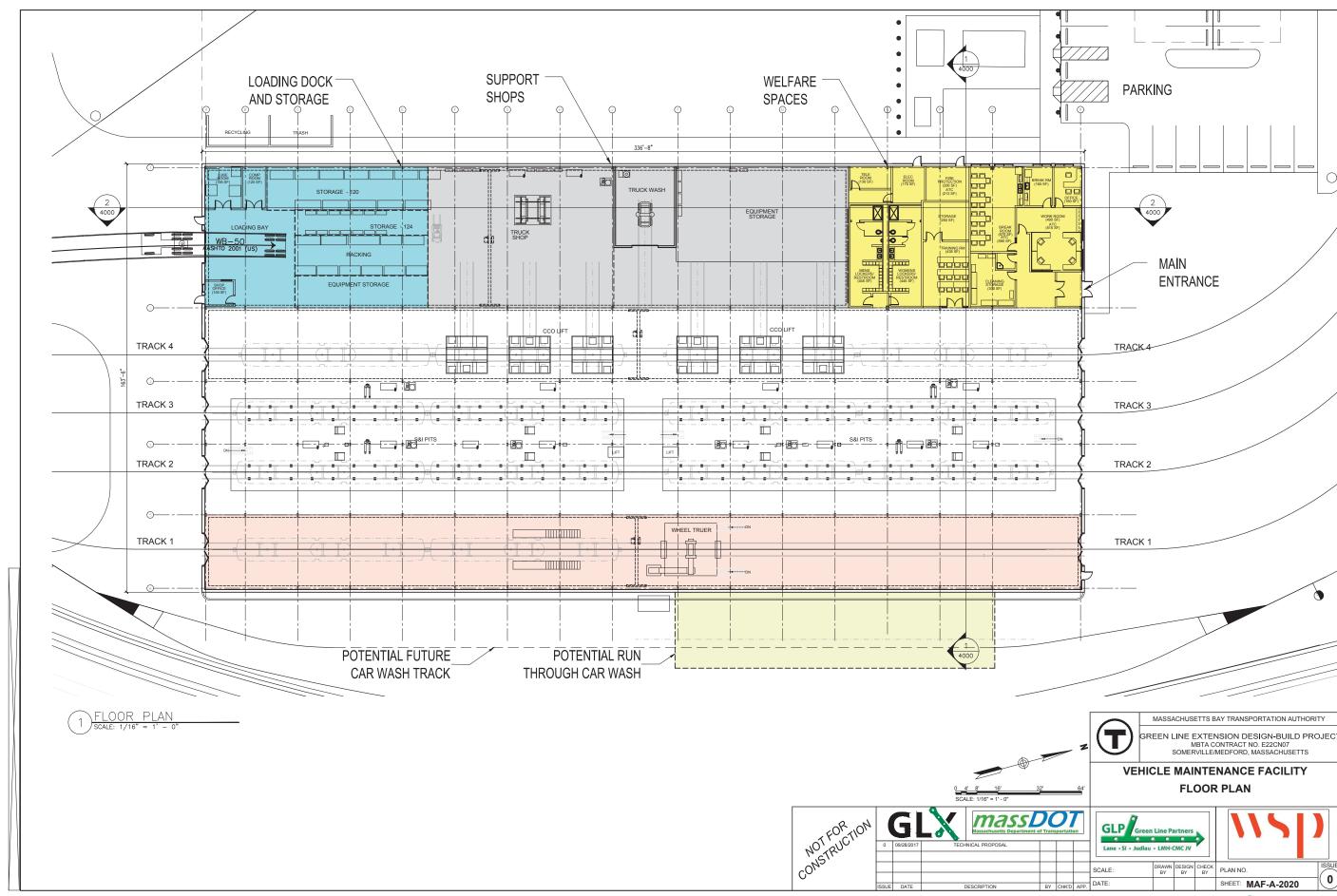


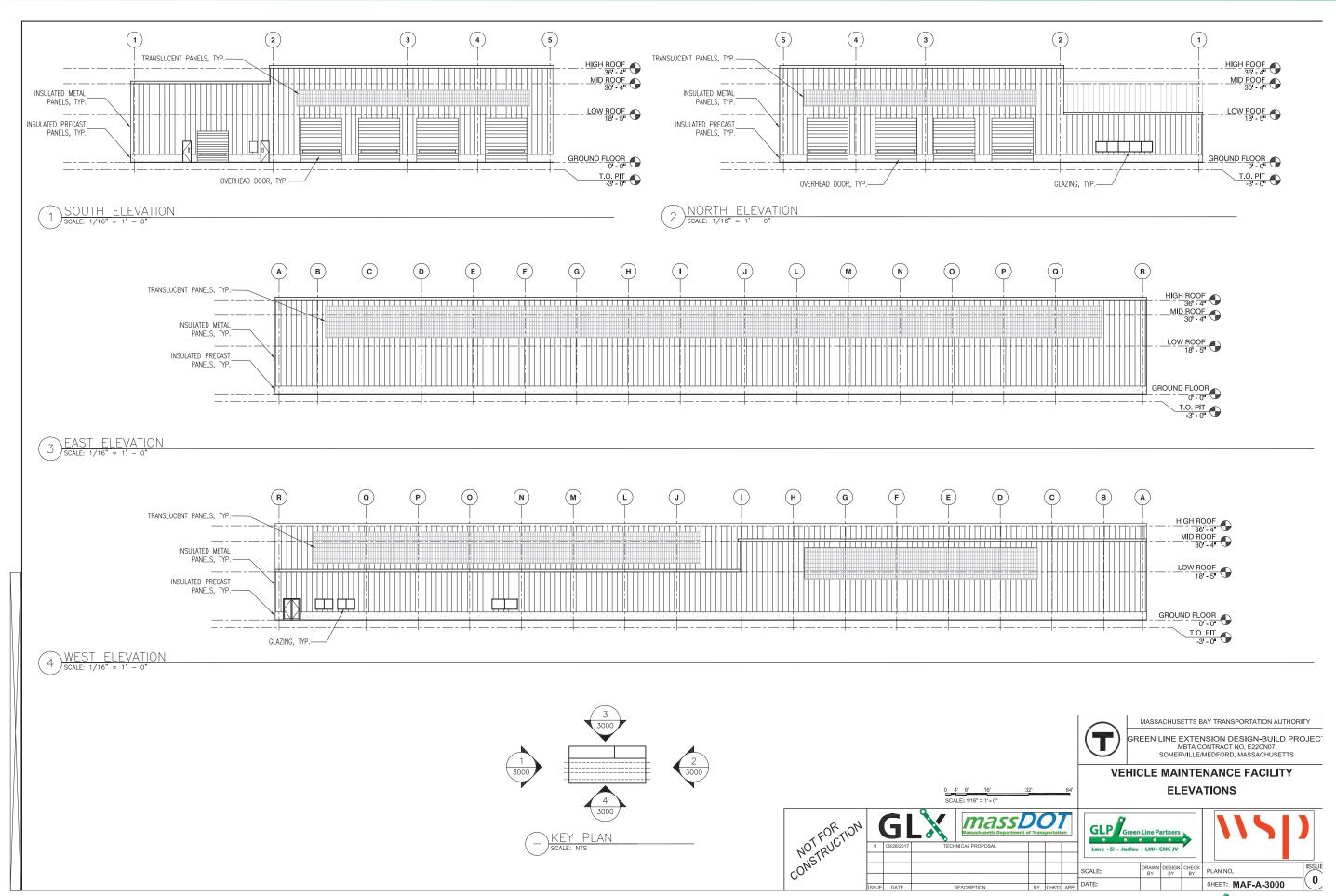


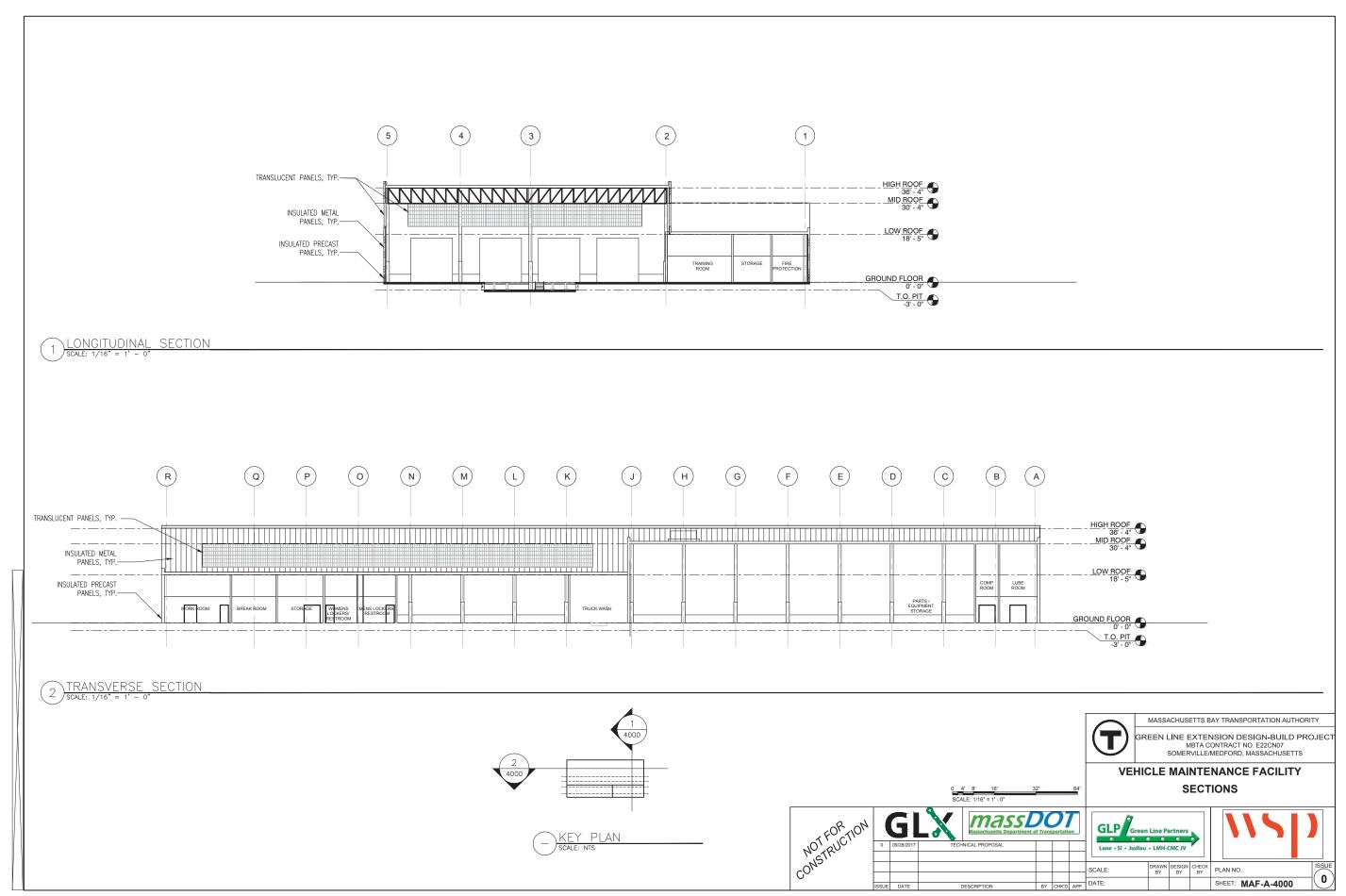


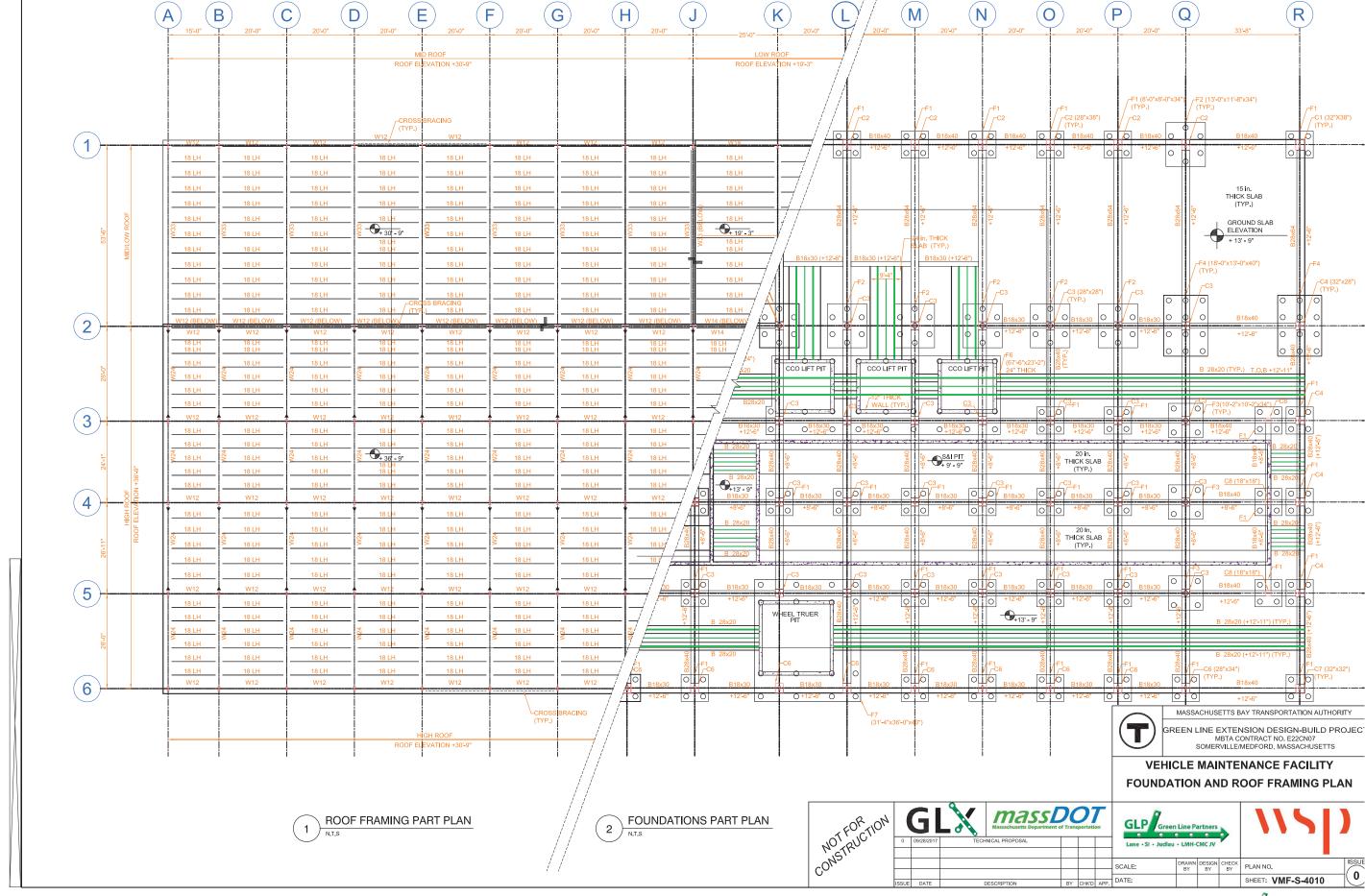


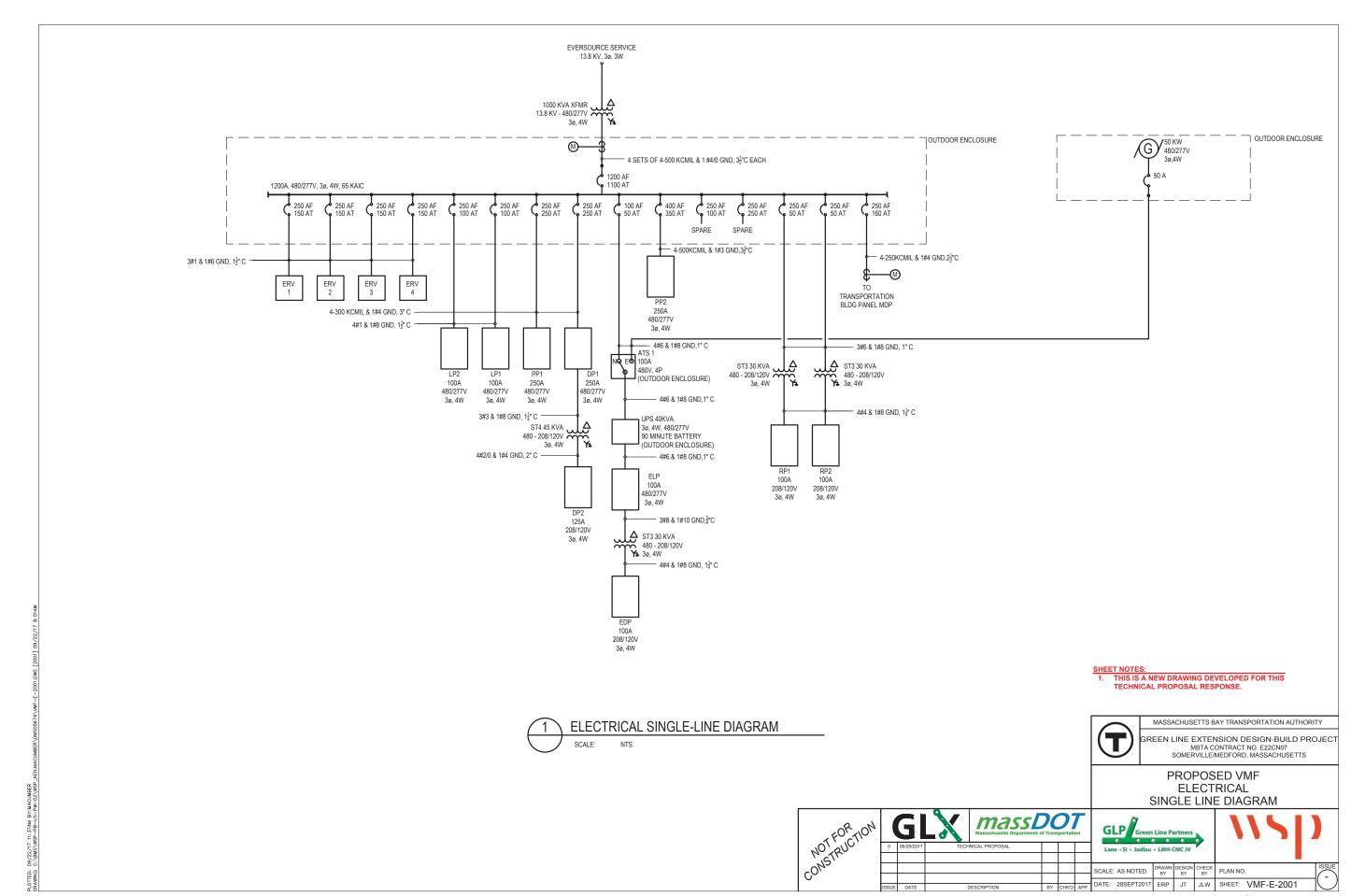


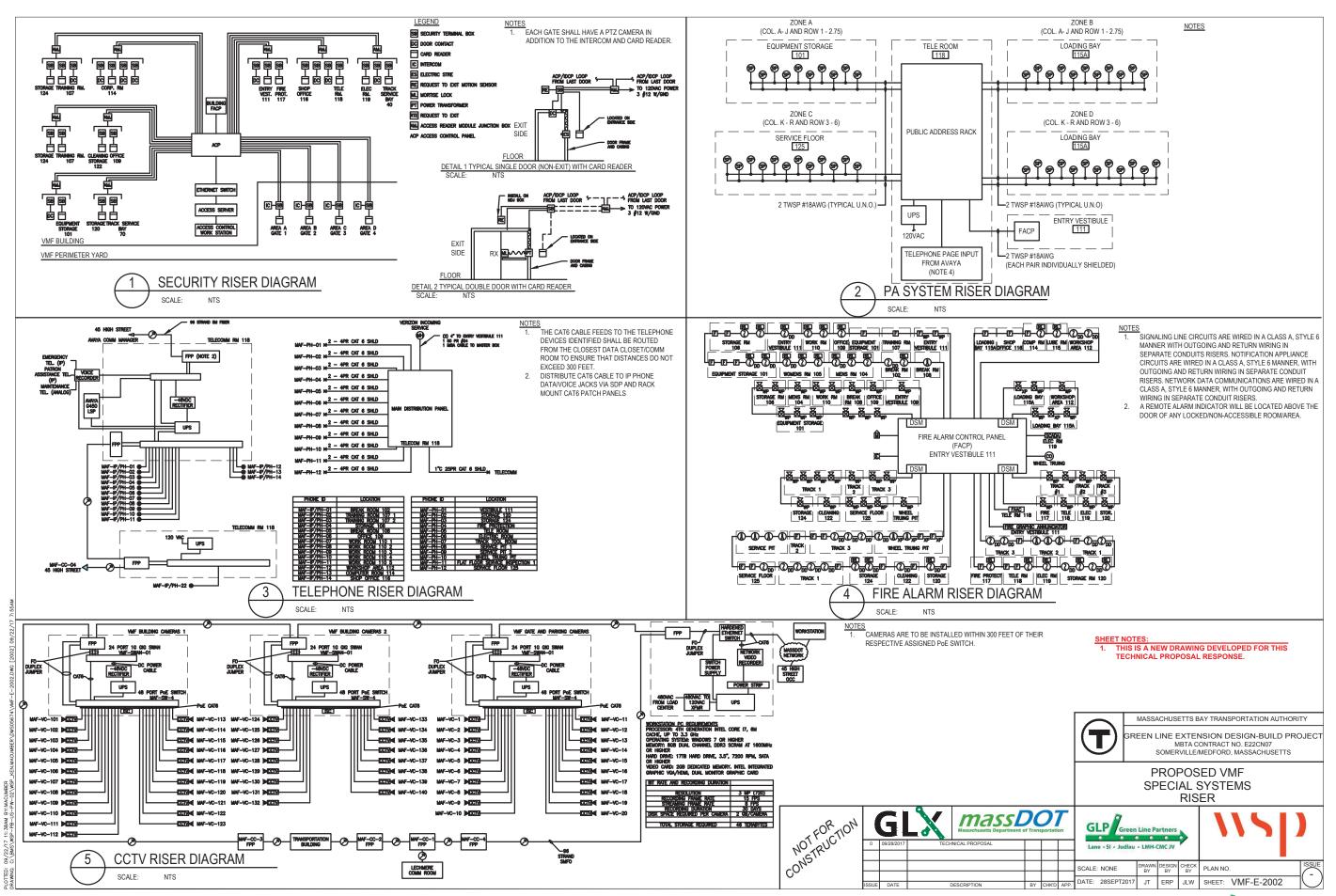


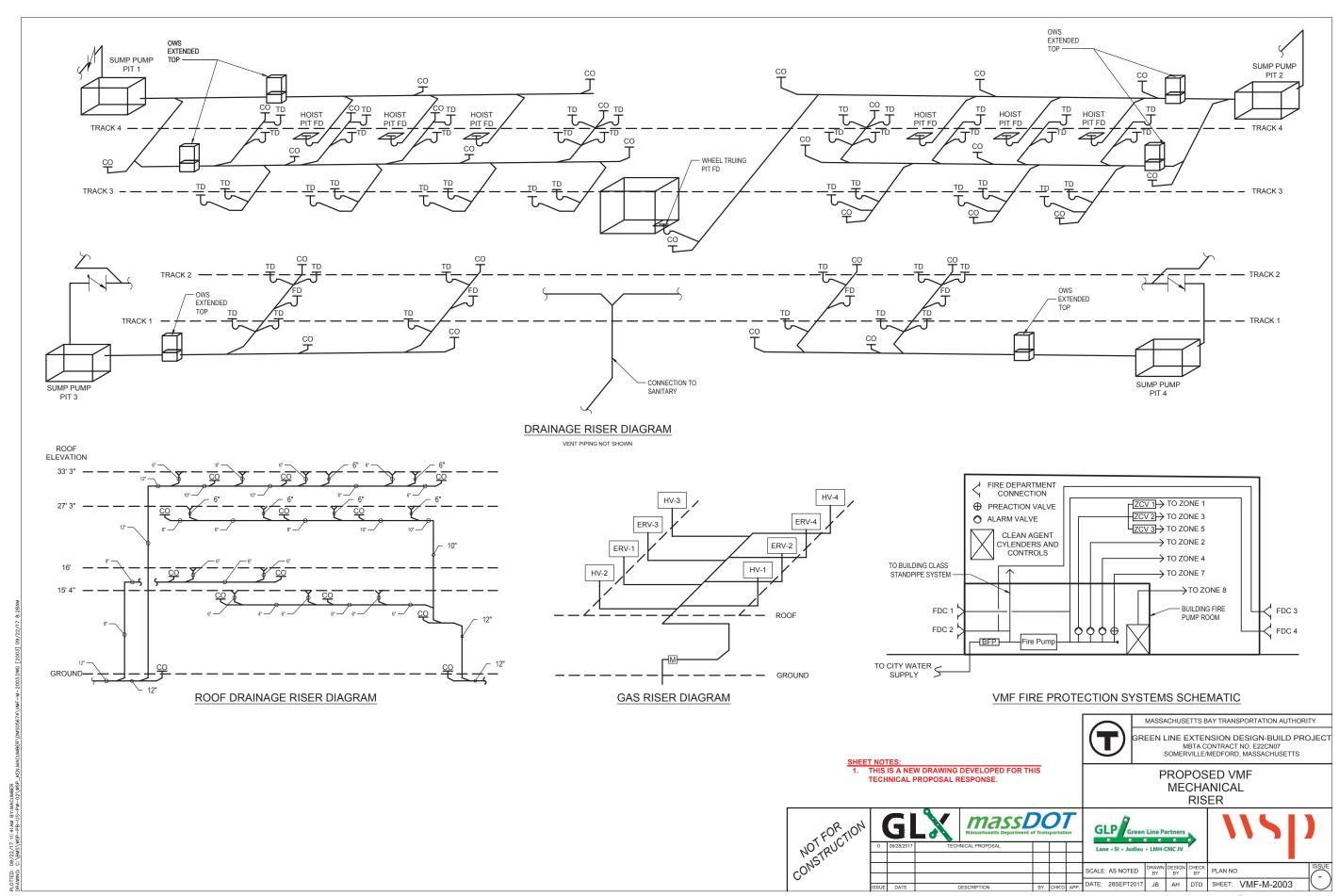


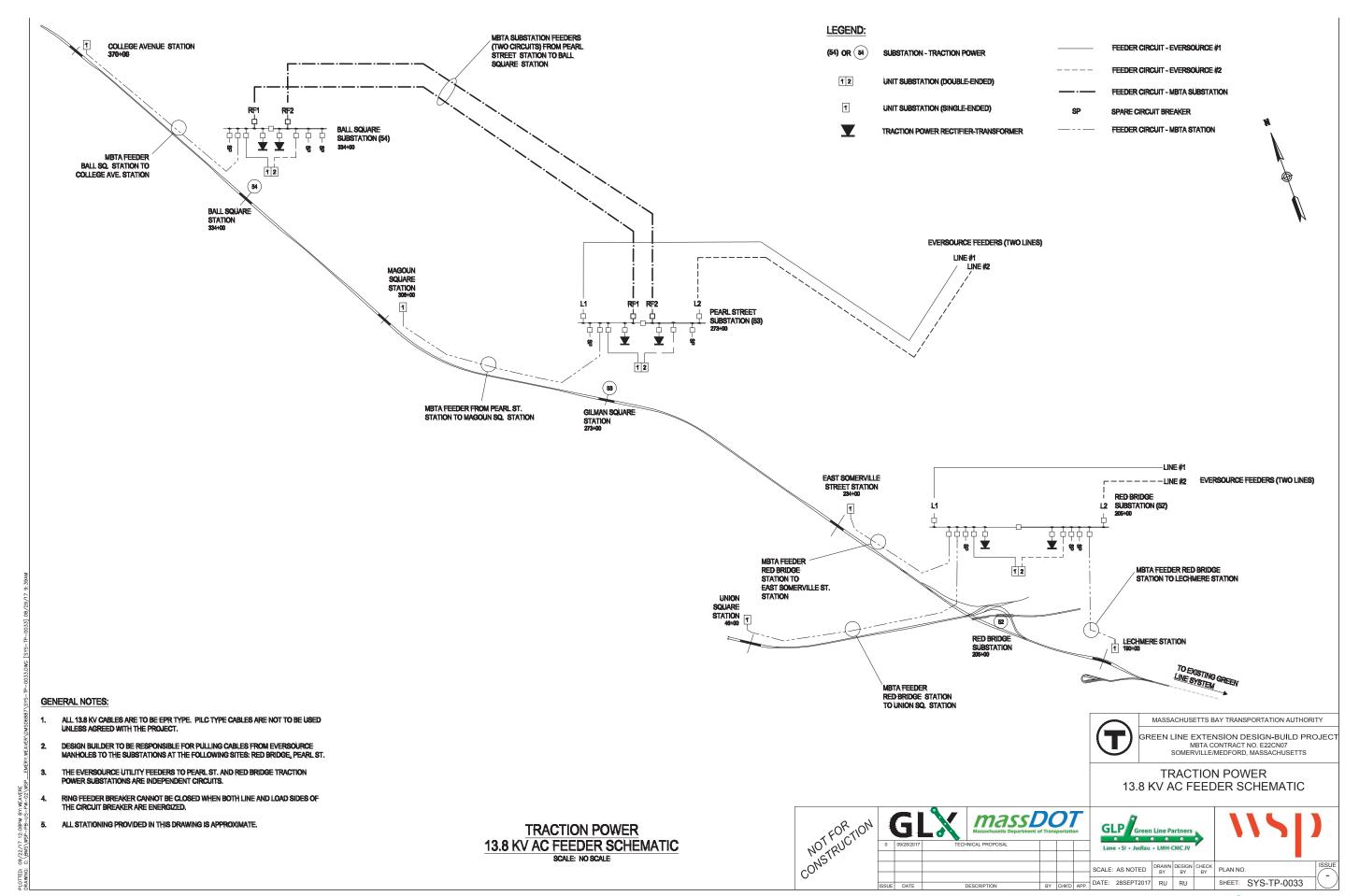


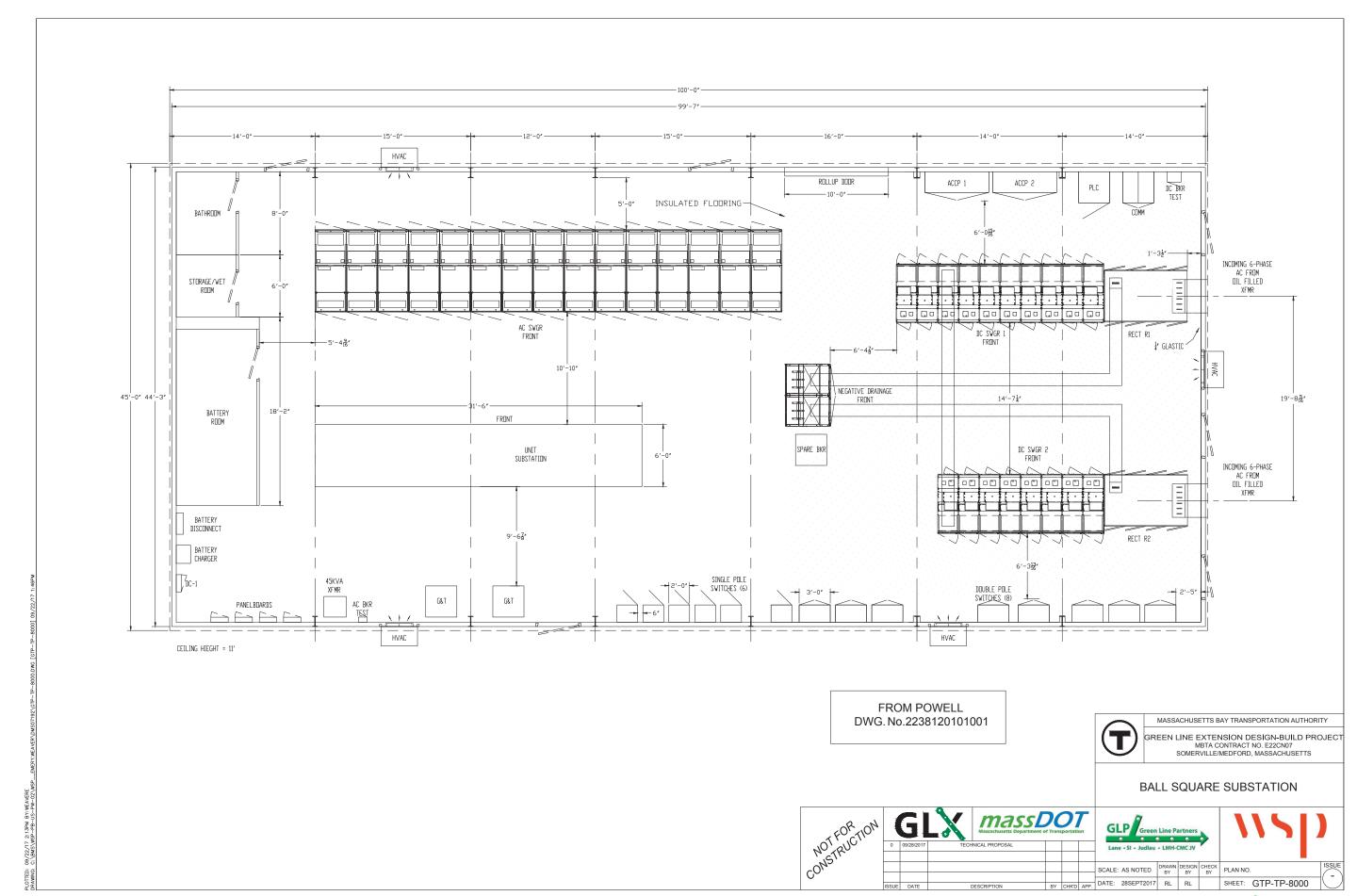


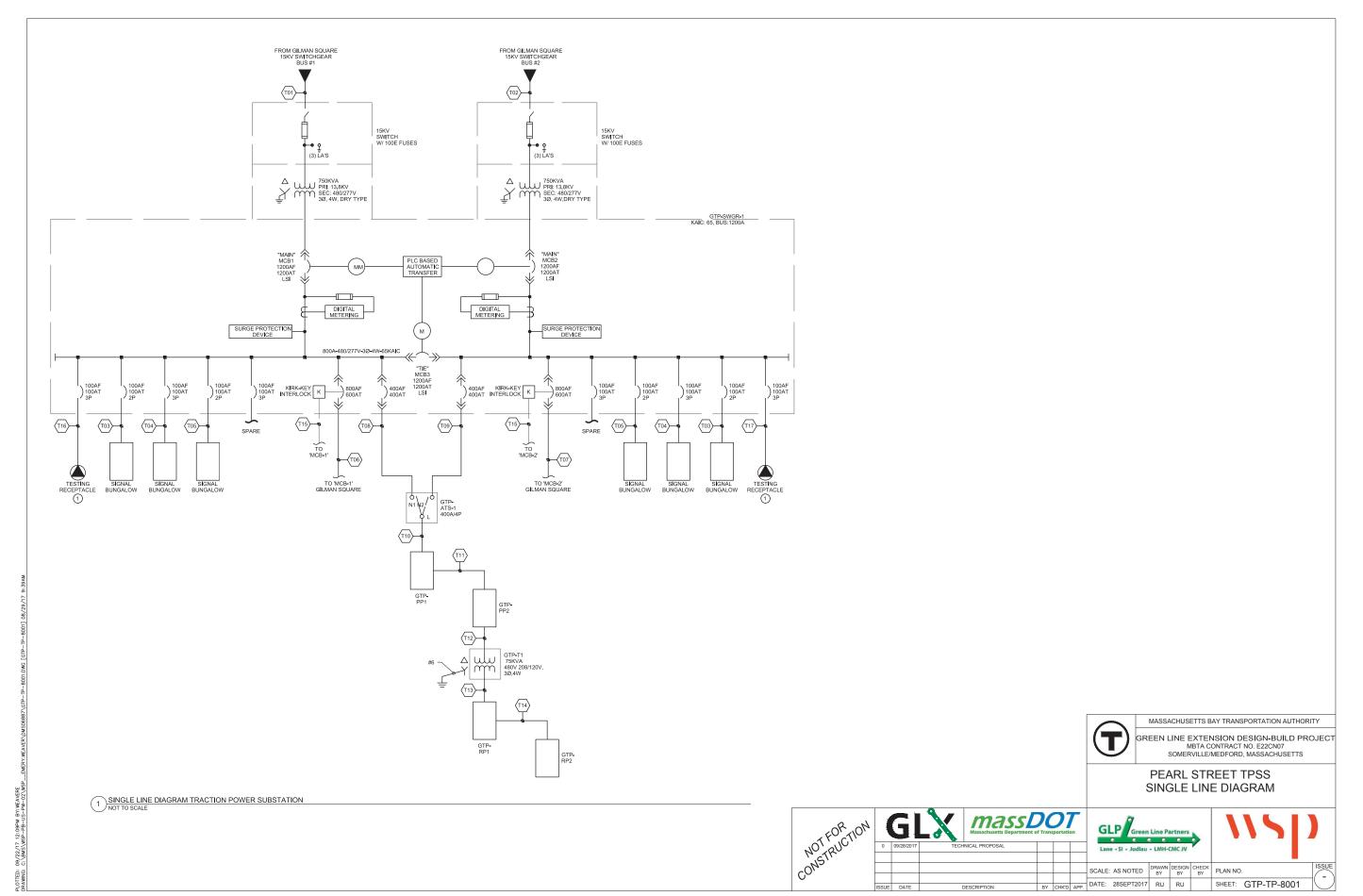


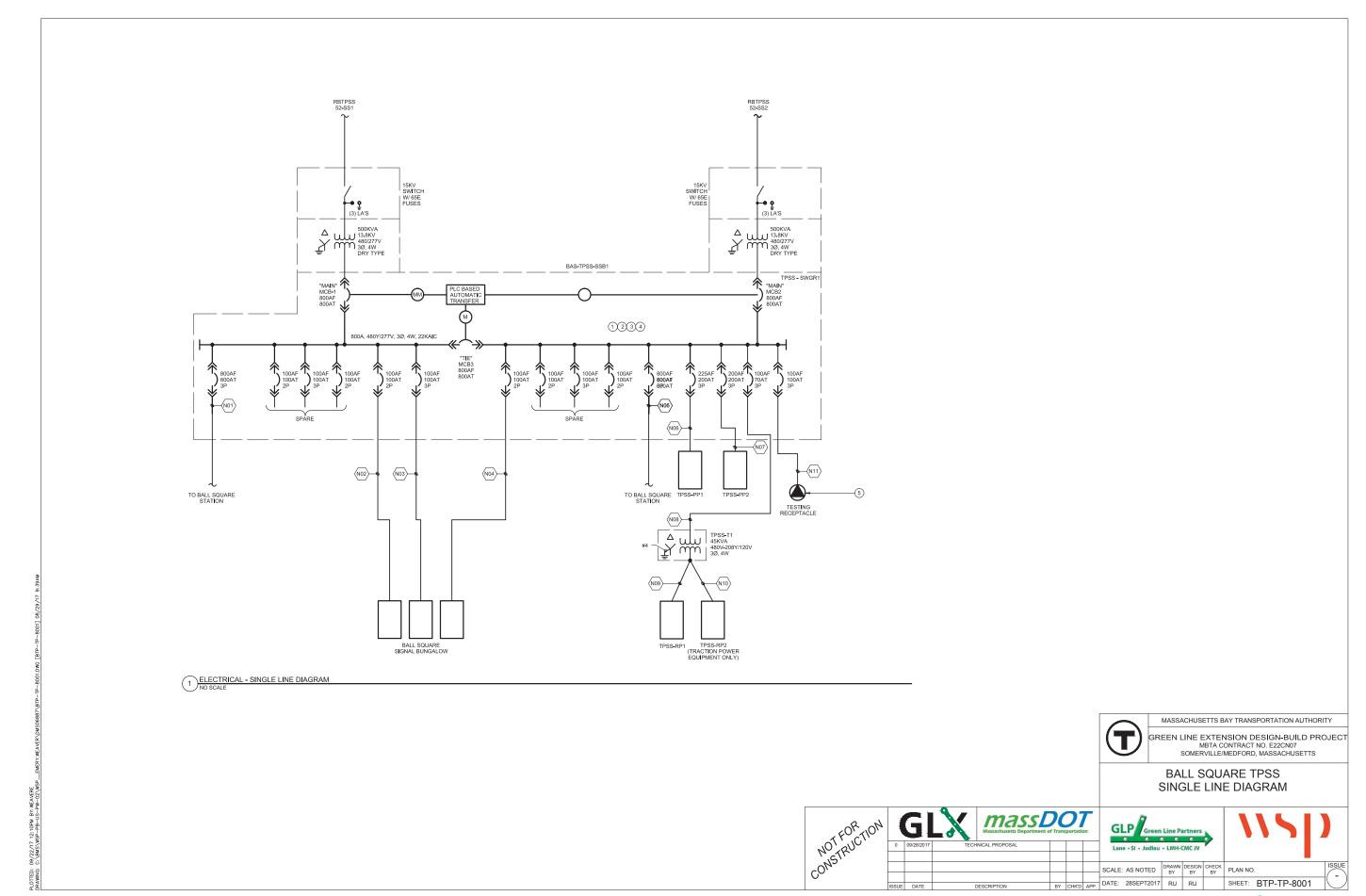


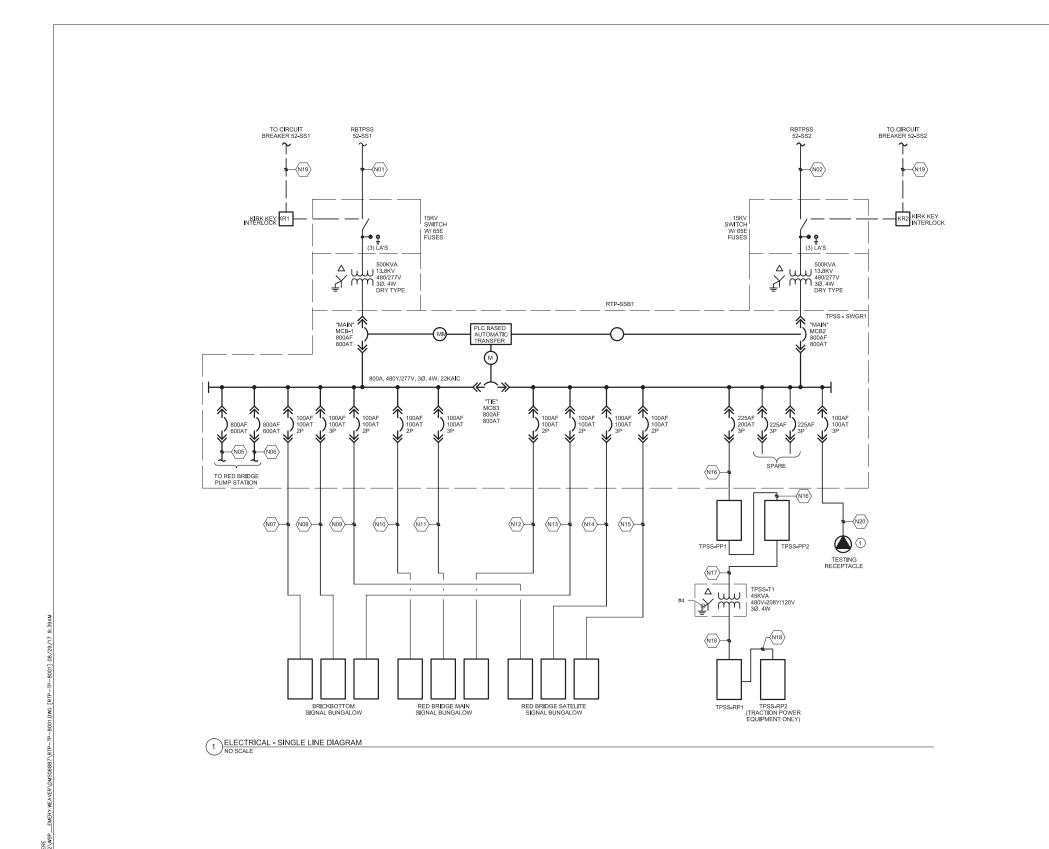












GRE

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GREEN LINE EXTENSION DESIGN-BUILD PROJECT
MBTA CONTRACT NO. E22CN07
SOMERVILLE/MEDFORD, MASSACHUSETTS

RED BRIDGE TPSS SINGLE LINE DIAGRAM