MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	1	43
	PROJECT FILE NO.	608762	

TITLE SHEET & INDEX

REPAIR PLANS AND DETAILS FOR

ELIOT BRIDGE

(BRIDGE NO. B-16-246 = BRIDGE NO. C-01-029)

IN THE CITY/TOWN OF

BOSTON & CAMBRIDGE

SUFFOLK & MIDDLESEX COUNTIES

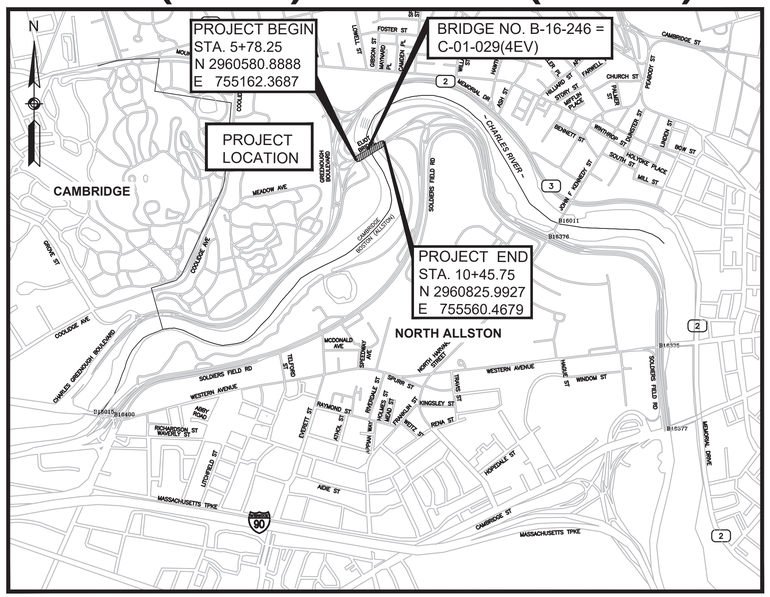
FEDERAL AID PROJECT NO.

HIP(BR)-0036(018)X

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

INDEX

TRAFFIC CONTROL PLANS ARE INCLUDED IN THE BRIDGE PLANS



0 1000 2000 3000 4000

SCALE: 1" = 1000'

LENGTH OF PROJECT = 467.50 FEET = 0.089 MILES

DESIGN DESIGNATION (ELIOT BRIDGE)

DESIGN SPEED	25 MPH
ADT (2022)	46,415 VPD
ADT (2040)	55,519 VPD
K	9%
D	51% NB
T (PEAK HOUR)	N/A*
T (AVERAGE DAY)	N/A*
DHV	5412
DDHV	2760 NB
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL

*HEAVY TRAFFIC PROHIBITED

COMMONWEALTH OF MASSACHUSETTS
ANTHONY M. RICHARDSON
CIVIL
No. 31810
PROFESSIONAL ENGINEER

Richardson, Anthony Michael
Digitally signed by Richardson, Anthony Michael
Date: 2024.01.22 17:43:45 -05'00'

DATE	DESCRIPTION	REV #

massDOT
Massachusetts Department of Transportation
Highway Division

Jacobs
120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116

APPROVED

John Bechard
Digitally signed by John Bechard
Date: 2024.01.23 11:37:34 -05'00'

01/23/2024

CHIEF ENGINEER **DATE**

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
x	x	CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
	20'	MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	CW	CROSSWALK
	SWL	SOLID 6" WHITE LINE
	SYL	SOLID 6" YELLOW LINE
	BWL	BROKEN 6" WHITE LINE (MATCH EXISTING SPACING)
	BYL	BROKEN 6" YELLOW LINE (MATCH EXISTING SPACING)
	DWL	DOTTED 6" WHITE LINE (MATCH EXISTING SPACING)
	DYL	DOTTED 6" YELLOW LINE (MATCH EXISTING SPACING)
	DWLEx	DOTTED 6" WHITE LINE EXTENSION
	DYLEx	DOTTED 6" YELLOW LINE EXTENSION
	DBWL	DOUBLE 6" WHITE LINE
	DBYL	DOUBLE 6" YELLOW LINE

LIGHTING SYMBOLS

	PROP. LIGHT POLE
	PROP. 12"X12" PULL BOX
	PROP. 12"X24" HANDHOLE
	PROP. 12"X12" BARRIER MOUNTED JUNCTION BOX
E	PROP. 3" PVC CONDUIT (1" PVC CONDUIT BETWEEN HH AND LIGHT POLE)
	PROP. LOAD CENTER
1.0	RESULTANT LUMINAIRE (ALL LIGHT SOURCES)
1.0 0.50	LUMINAIRE TEMPLATE - 0.5 FC & 1.0 FC (SINGLE LIGHT SOURCE)

FIXTURE #	1	* *EXISTING CIRCUIT
STATION	7+52	
OFFSET	24.0' RT	
ARM LENGTH	5'	III DISTRIBUTION TYPE
MOUNTING HEIGHT	27'	2X-60W NUMBER OF FIXTURES-WATTAGE

*REFER TO PLAN FOR ACTUAL LIGHTING INFORMATON

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDSTRIAN CURB RAMP
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

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LEGENDS AND ABBREVIATIONS

ABBREVIATIONS (cont.)

GENERAL

PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

2-608762_LEGEND AND ABBREVIATIONS.DWG Plotted on 10-Jan-2024 10:53 AM

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	3	43
	PROJECT FILE NO. 608762		

GENERAL NOTES

GENERAL NOTES:

1. THE EXISTING BASE MAPPING IS BASED ON FIELD SURVEY PERFORMED BY GPI IN JULY AND AUGUST 2020. TRANSVERSE TIE INFORMATION CAN BE FOUND IN FIELD BOOK 41472.
2. HORIZONTAL COORDINATES REFER TO THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM MAINLAND ZONE REFERENCED IN US FEET TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83). ALL VERTICAL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. RIGHT OF WAYS AND PROPERTY LINES SHOWN HEREON WERE COMPILED FROM ASSESSORS MAPS, RECORDED DEEDS AND PLANS, AND FIELD EVIDENCE (PERFORMED BY GPI).
4. IT IS THE INTENT OF THE DESIGN TO PROVIDE A MINIMUM CONSTRUCTED SIDEWALK WIDTH FOR A PATH OF TRAVEL PAST ALL OBSTRUCTIONS OF 36". THE CONTRACTOR SHALL VERIFY THAT ALL POTENTIAL OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO SIGNS, MAILBOXES, UTILITY POLES, HYDRANTS, AND TRAFFIC SIGNAL EQUIPMENT ARE LOCATED AS TO PROVIDE THIS MINIMUM PATH OF TRAVEL CLEARANCE.
5. THE LOCATIONS OF THE EXISTING UTILITIES ARE SHOWN AS APPROXIMATE LOCATION ONLY. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO THE START OF CONSTRUCTION.
6. ALL EXISTING STATE HIGHWAY LAYOUT LINES, COUNTY, CITY AND TOWN LOCATION LINES, AND PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED.
7. PRIOR TO THE START OF WORK THE CONTRACTOR SHALL CONFORM TO ALL OF THE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS WITH REGARD TO UTILITY NOTIFICATIONS AND TO SUBMITTALS REQUIRED BY THE CONTRACTOR REGARDING THE MAINTENANCE AND PROTECTION OF TRAFFIC.
8. THE CONTRACTOR IS HEREBY NOTIFIED THAT ADDITIONAL WORK WITHIN THE PROJECT LIMITS MAY BE PERFORMED BY OTHERS.
9. THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH OTHER CONTRACTORS PERFORMING WORK WITHIN AND AT THE PROJECT LIMITS.
10. THE CONTRACTOR MAY BE REQUIRED TO PERFORM ITEMS OF WORK OUT OF NORMAL SEQUENCE AND SCHEDULE, AS DIRECTED BY THE ENGINEER, IN ORDER TO MEET THE OVERALL PROJECT SCHEDULE.
11. THE CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233), AT LEAST 72 BUSINESS HOURS BEFORE ANY CONSTRUCTION BEGINS.
12. THE CONTRACTOR SHALL BE REQUIRED TO PROCURE PROJECT RELATED ITEMS WITHOUT ADVERSELY IMPACTING THE PROJECT SCHEDULE; THEREFORE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT THE APPROPRIATE SHOP DRAWINGS WITH SUFFICIENT LEAD TIME FOR PROCESSING IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.
13. DAMAGE TO PRIVATE PROPERTIES BEYOND THE WORK LIMITS AS CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED "IN-KIND" BY THE CONTRACTOR AT THE CONTRACTOR'S SOLE EXPENSE.
14. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED, BY THE CONTRACTOR, TO THEIR ORIGINAL CONDITION, AT THE CONTRACTOR'S SOLE EXPENSE.
15. LIMITS OF CLEARING AND GRUBBING ARE 1 FOOT BEYOND PROPOSED TOP OR TOE OF SLOPE UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION PLANS.
16. GRANITE CURB: EXISTING CURB MARKED AS (R&R) SHALL BE RESET AS SHOWN IF, IN THE OPINION OF THE ENGINEER, IT IS IN GOOD CONDITION AND REUSABLE. OTHERWISE, IT SHALL BE DISCARDED BY THE CONTRACTOR AS PER DIRECTION OF THE ENGINEER.
17. ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL BE REPLANTED AS INDICATED ON THE CONSTRUCTION PLANS.
18. TREES AND SHRUBS WITHIN THE LIMITS OF WORK NOT SCHEDULED FOR REMOVAL AS INDICATED ON THE PLANS SHALL ONLY BE REMOVED UPON APPROVAL OF THE ENGINEER.
19. LIMITS OF BORDERING VEGETATED WETLANDS AND OTHER ENVIRONMENTAL RESOURCE AREAS WERE DELINEATED BY JACOBS IN SEPTEMBER 2020.
20. ALL EROSION CONTROLS MUST BE CHECKED/REPAIRED, AND ANY SILTATION REMOVED AFTER EACH RAIN EVENT.
21. THE CONTRACTOR SHALL COORDINATE ALL ARRANGEMENTS FOR THE ALTERATION AND/OR ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITY THROUGH THE MASSDOT HIGHWAY DIVISION UTILITY SECTION.
22. UTILITIES: LOCATIONS OF M.H., G.G. W.G., ETC. ARE APPROXIMATE AND ARE SHOWN ONLY AS AN AID TO ASSIST BIDDERS IN DETERMINING LOCATIONS OR EXISTING UTILITIES AND SUBSURFACE STRUCTURES. THE CONTRACTOR IS FULLY RESPONSIBLE FOR MAKING REQUIRED FIELD INVESTIGATIONS AND OBTAINING INFORMATION FROM UTILITY COMPANIES AND INDIVIDUALS TO PINPOINT THE EXACT LOCATIONS AND ELEVATIONS OF ALL SUBSURFACE UTILITIES AND STRUCTURES.
23. SHOULD AN EXISTING UTILITY BE FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE LOCATION, SIZE AND TYPE SHALL BE ACCURATELY DETERMINED WITHOUT DELAY, BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
24. SHOP DRAWINGS OF ALL CASTINGS, PRECAST CONCRETE STRUCTURES, PIPE AND OTHER MANUFACTURED ITEMS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER, IN CONFORMANCE WITH CONTRACT SPECIFICATIONS, AND SAID APPROVAL SHALL BE REQUIRED PRIOR TO INITIATING PROCUREMENT OF MATERIALS.
25. FINAL LOCATION OF TRAFFIC SIGNS AND SUPPORTS AS SHOWN IN THE PLANS SHALL BE FIELD-CONFIRMED BY THE ENGINEER PRIOR TO INSTALLATION.
26. SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS AND WORKZONE PROTECTION SHALL BE IN ACCORDANCE WITH CURRENT MASSDOT AND MUTCD REQUIREMENTS AND SPECIFICATIONS.
27. ALL CONSTRUCTION SIGNS IN PLACE BUT NOT PERTINENT TO THE ONGOING CONSTRUCTION PHASING SHALL BE “BAGGED”.
28. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF VEHICULAR AND PEDESTRIAN TRAFFIC IN AREAS UNDER CONSTRUCTION.
29. ANY AND ALL TRAFFIC RELATED ITEMS REQUIRED TO MAINTAIN TRAFFIC FLOW THROUGH OR AROUND THE PROJECT AREA SHALL BE MAINTAINED IN A CONDITION ACCEPTABLE TO THE ENGINEER. FURTHER, THE CONTRACTOR SHALL REPLACE THOSE ITEMS AS REQUIRED BY THE SPECIFICATIONS OR AS DEEMED NECESSARY BY THE ENGINEER.
30. ALL PROPOSED PAVEMENT MARKINGS SHALL MATCH EXISTING SPACING AND STRIPE LENGTH. CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING EXISTING SPACING AND STRIPE LENGTH PRIOR TO REMOVAL OF EXISTING PAVEMENT.
31. ALL PROPOSED PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
32. ALL TRANSVERSE JOINTS, AND ALL LONGITUDINAL JOINTS BETWEEN NEW SURFACE PAVEMENT AND EXISTING SURFACE PAVEMENT TO REMAIN SHALL BE COATED WITH A HOT POURED RUBBERIZED ASPHALT SEALANT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION NUMBER SS-S-1401.
33. ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM BORROW PLACED AND SEEDED. THE LOAM BORROW SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM, OR PAVEMENT SURFACE.
34. CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION OR DELIVERY OF MATERIAL TO THE SITE. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS NECESSARY TO ENSURE PROPER FIT OF FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THE ACCURACY WHEN SHOP DRAWINGS ARE BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL. THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE.
35. DUE TO THE NATURE OF REHABILITATION PROJECTS, THE EXACT EXTENT OF REHABILITATION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DRAWINGS HAVE BEEN PREPARED BASE ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATION TO CONSTRUCTION DETAILS, DIMENSIONS AND WORK QUANTITIES. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH FIELD CONDITIONS AND AS REQUIRED BY THE ENGINEER.
36. PRIOR TO THE COMMENCEMENT OF WORK CONTRACTOR SHALL COORDINATE WITH DIG SAFE. COORDINATION WITH DIG SAFE AND SUBSEQUENT MARKING OF ROADWAY AND BRIDGE SHALL BE COMPLETED PRIOR TO ALL WORK AND ANY UTILITY DISCREPANCIES REPORTED TO THE ENGINEER IMMEDIATELY.
37. CONTRACTOR SHALL COORDINATE WITH THE COAST GUARD, DEPARTMENT OF CONSERVATION AND RECREATION (DCR) AND ANY OTHER APPLICABLE ENTITIES PRIOR TO WORK IN THE WATERWAY (ON BARGE OR OTHERWISE). AT NO TIME MAY THE CONTRACTOR WORK IN THE WATER WITHOUT COORDINATION WITH THE COAST GUARD. AT ALL TIMES WHEN WORK HAS COMMENCED, TWO OF THE THREE NAVIGABLE SPANS (SPANS 3 THROUGH 5) MUST BE MAINTAINED AS OPEN FOR NAUTICAL TRAFFIC.

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

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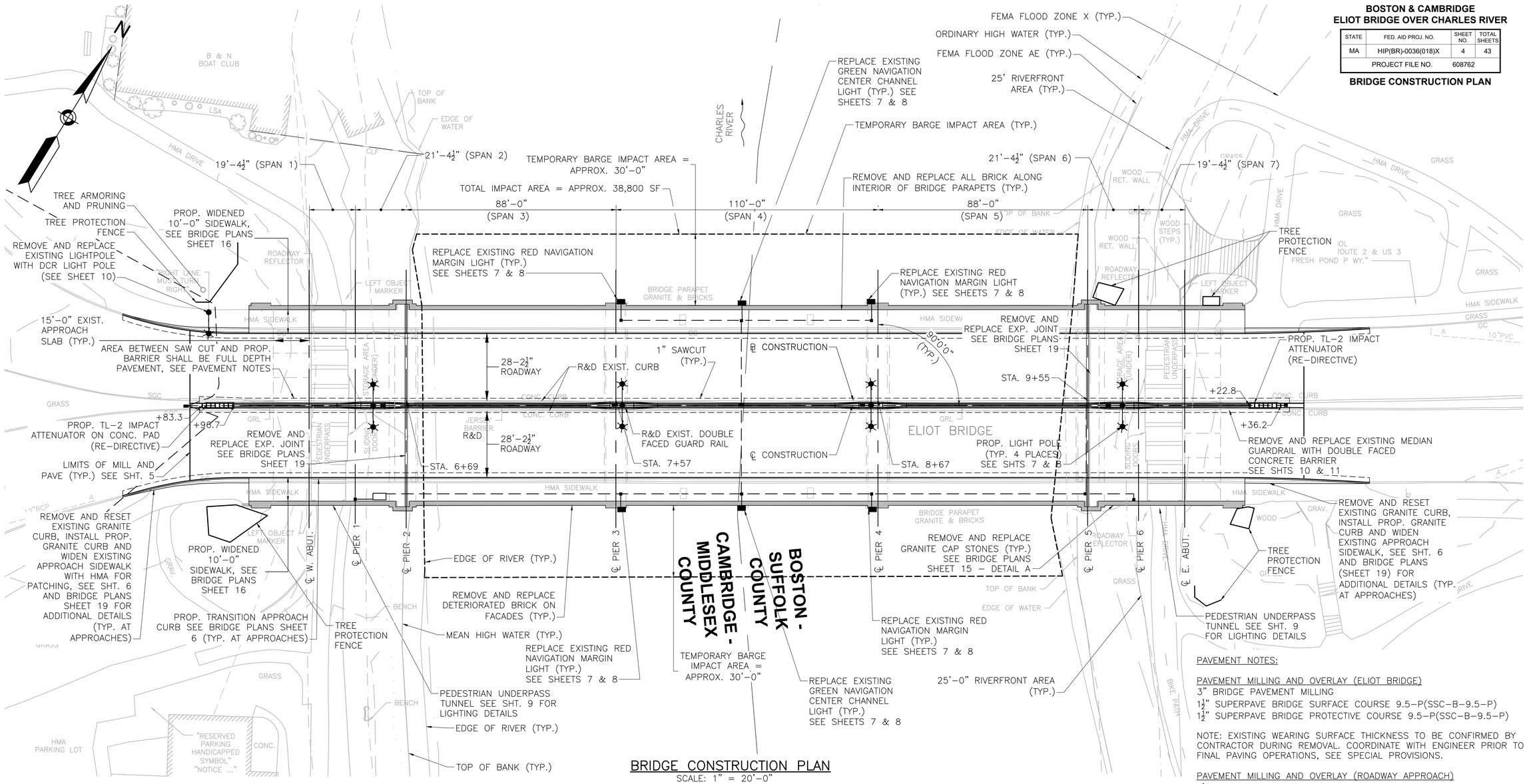
	PROJECT FILE NO. 608762		

BRIDGE CONSTRUCTION PLAN

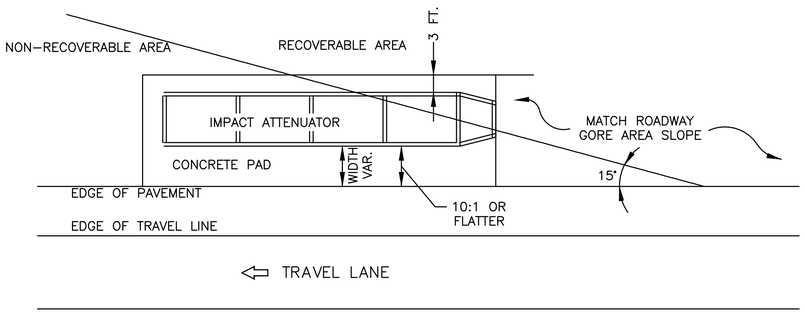


BRIDGE CONSTRUCTION PLAN

SCALE: 1" = 20'–0"

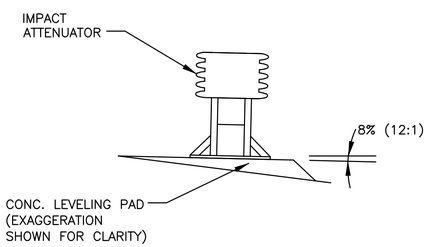
0 20 50 100

SCALE: 1" = 20'



IMPACT ATTENUATOR DETAIL

(NTS)



IMPACT ATTENUATOR LEVELING PAD DETAIL

(NTS)

PAVEMENT NOTES:

PAVEMENT MILLING AND OVERLAY (ELIOT BRIDGE)
3" BRIDGE PAVEMENT MILLING
1½" SUPERPAVE BRIDGE SURFACE COURSE 9.5–P(SSC–B–9.5–P)
1½" SUPERPAVE BRIDGE PROTECTIVE COURSE 9.5–P(SSC–B–9.5–P)

NOTE: EXISTING WEARING SURFACE THICKNESS TO BE CONFIRMED BY CONTRACTOR DURING REMOVAL. COORDINATE WITH ENGINEER PRIOR TO FINAL PAVING OPERATIONS, SEE SPECIAL PROVISIONS.

PAVEMENT MILLING AND OVERLAY (ROADWAY APPROACH)
1½" PAVEMENT MILLING
1½" SUPERPAVE SURFACE COURSE – 9.5 (SSC – 9.5)

FULL DEPTH CONSTRUCTION (ROADWAY APPROACH MEDIAN)
SURFACE COURSE: 1½" SUPERPAVE SURFACE U 12.5–P (SSC–12.5–P) OVER

INTERMEDIATE COURSE: 2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC–19.0) OVER

BASE COURSE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE OVER

SUBBASE: EXISTING MATERIAL

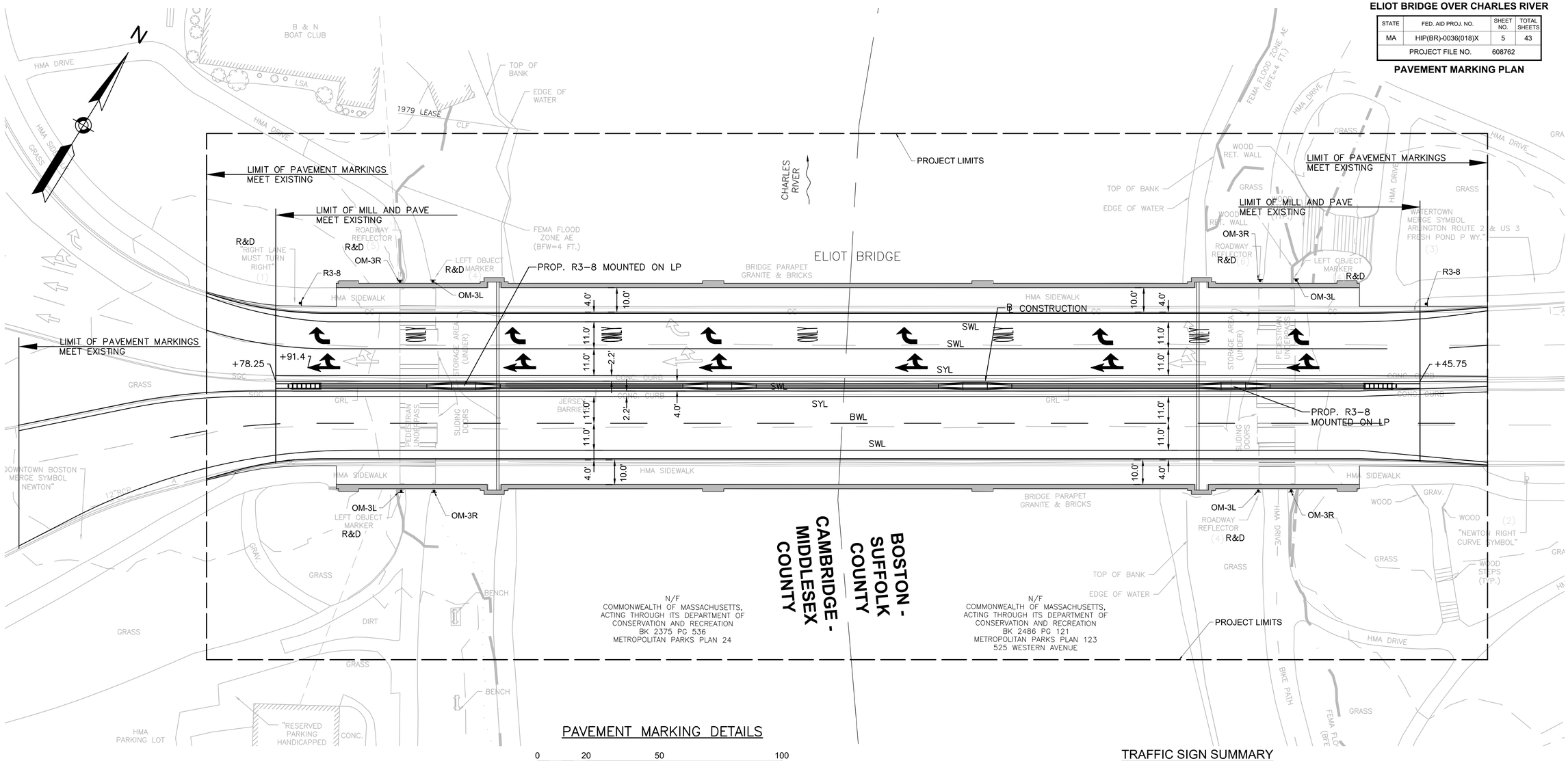
HOT MIX ASPHALT (APPROACH SIDEWALK)
2½" HMA IN TWO LAYERS 1¼" EACH OVER EXISTING BASE.

ALL SIDEWALK REPAIR SHALL INCLUDE THE FULL WIDTH OF THE SIDEWALK.

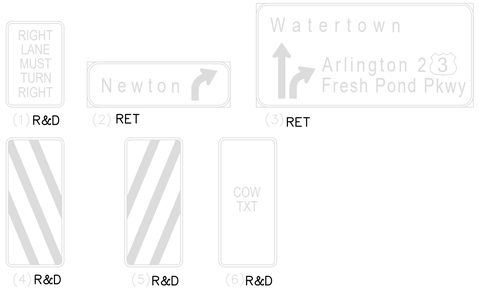
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	5	43
	PROJECT FILE NO. 608762		

PAVEMENT MARKING PLAN

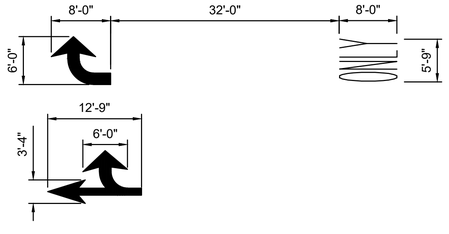


EXISTING SIGN LEGEND



PAVEMENT MARKING DETAILS

0 20 50 100
SCALE: 1" = 20'



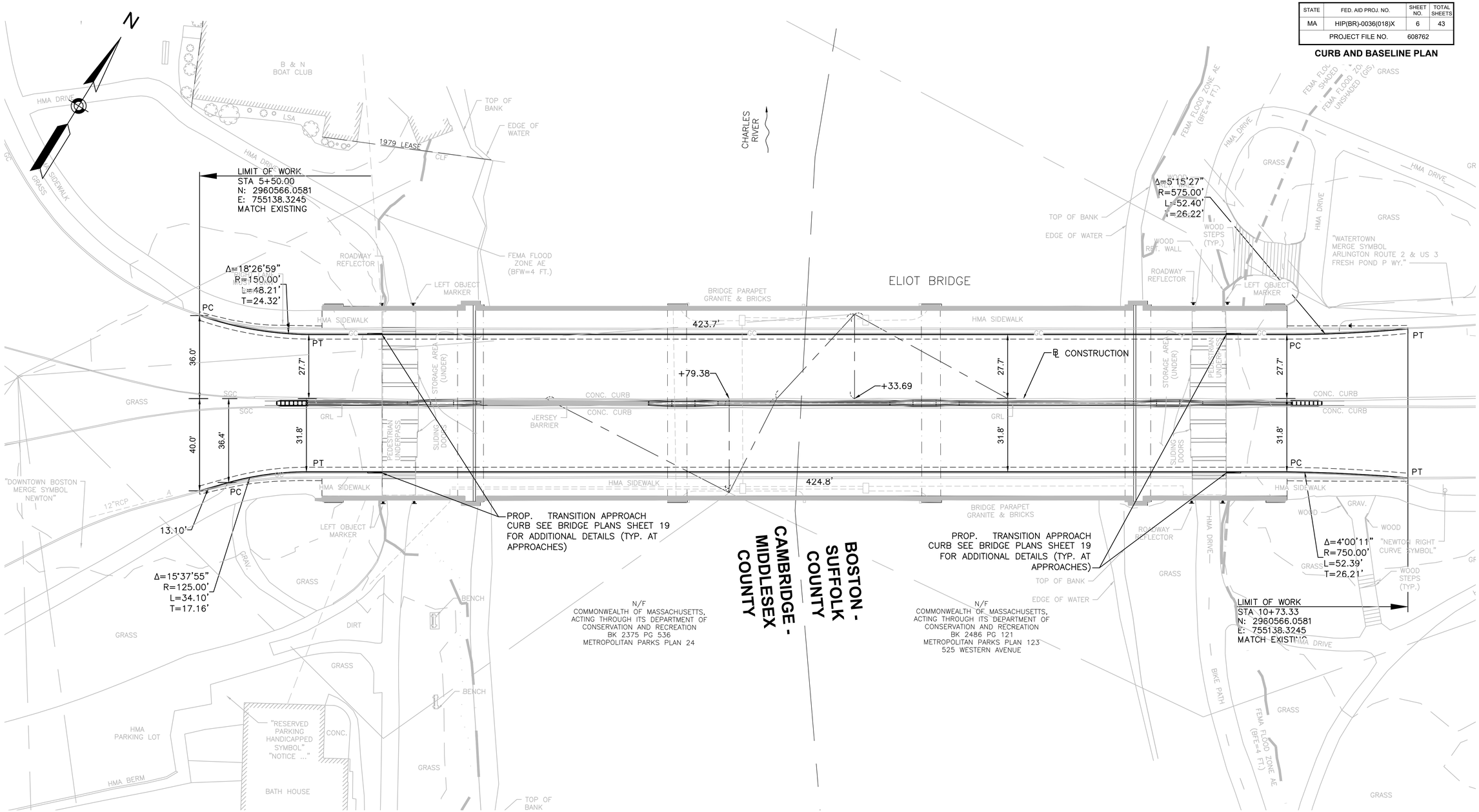
TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE WIDTH (IN)	SIZE HEIGHT (IN)	TEXT	DIMENSIONS (IN) LETTER HEIGHT	DIMENSIONS (IN) VERTICAL SPACING	DIMENSIONS (IN) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	POSTS	COLOR BACK-GROUND	COLOR LEGEND	COLOR BORDER	UNIT AREA (S.F.)	TOTAL AREA (S.F.)
OM-3L	12"	36"		1	1	1	4	P-5	YELLOW	BLACK	BLACK	3.00	12.0
OM-3R	12"	36"					4	P-5	YELLOW	BLACK	BLACK	3.00	12.0
R3-8	30"	30"	ONLY				2	P-5	WHITE	BLACK	BLACK	6.25	12.5

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	6	43
	PROJECT FILE NO. 608762		

CURB AND BASELINE PLAN



0 20 50 100

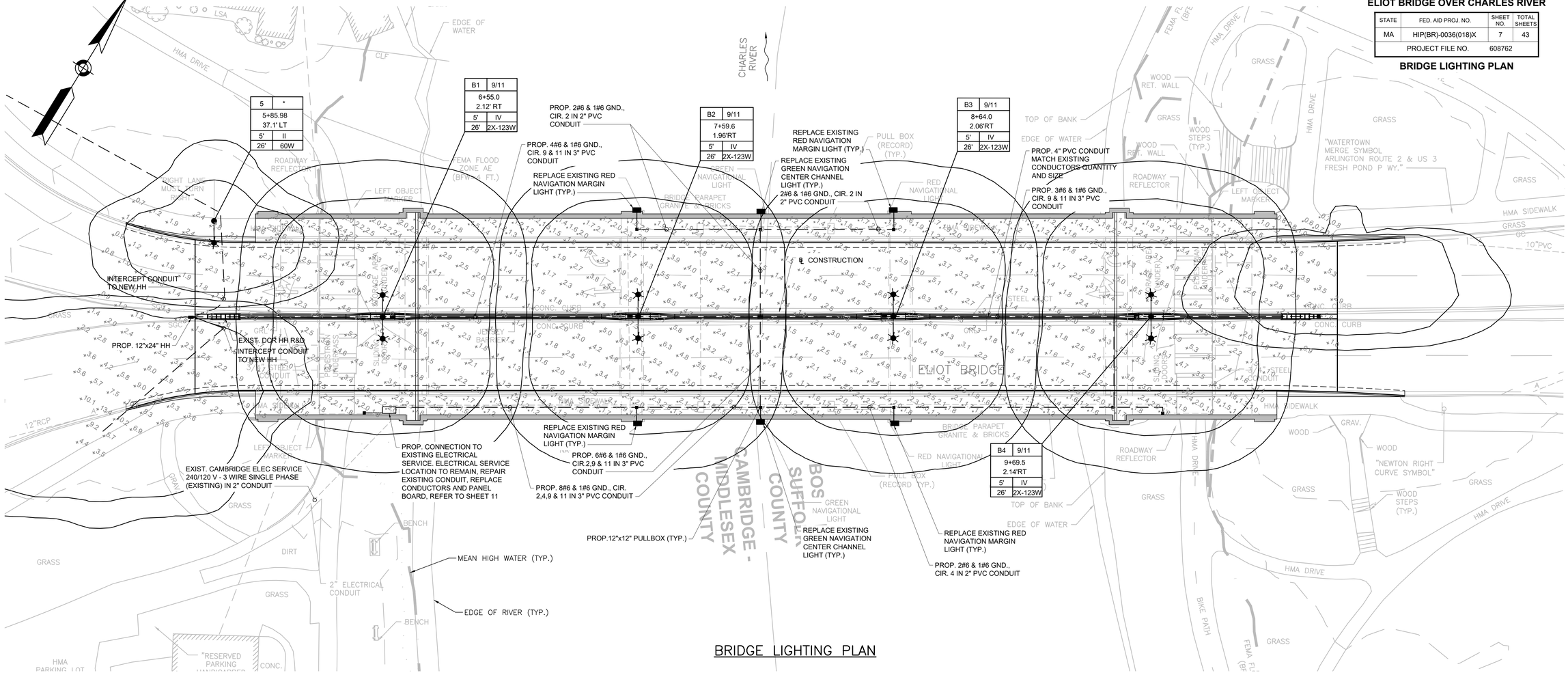
SCALE: 1" = 20'

6-608762_CURB AND BASELINE PLAN.DWG Plotted on 10-Jan-2024 11:14 AM

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	7	43
	PROJECT FILE NO. 608762		

BRIDGE LIGHTING PLAN



BRIDGE LIGHTING PLAN

0 20 50 100

SCALE: 1" = 20'

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	Lumen Multiplier	LLF	Wattage	Efficiency	Distribution
	60WLEDT PROPOSED LUMINAIRE	4	Leotek Electronics USA LLC	GCM3-60J-MV-40K-4-XX-185	Gray cast aluminum housing, plastic access panel, LED board with optics installed.	123 White LEDs	1	18016	1	0.9	246	100%	IV
	60WLEDT PROPOSED LUMINAIRE	1	Leotek Electronics USA LLC		Gray cast aluminum housing, plastic access panel, LED board with optics installed.	60 White LEDs	1	9709	1	0.9	58.68	100%	IV
	150hps EXISTING COBRAHEAD	1	GE LIGHTING SOLUTIONS www.gelighting solutions.com	M2RC15S___GMC3	M-250R2 CUTOFF	1; 150W HPS, CLEAR ED23.5, HORZ	1	16000	1	0.65	183	70%	MC3
	400hps EXISTING COBRAHEAD	1	GE LIGHTING SOLUTIONS www.gelighting solutions.com	M_RL40S____RMS3_	M-400	1; 400W HPS, CLEAR ED18, HORZ	1	51000	1	1	468	73%	MS3
	EXISTING DCR PENDANT	1	King Luminaire	K800-P4SH-III-150(SSL)-8084		SWITCHBOX 222D1829, SETTING: POS 1 - 100K	1	14954	1	0.9	149	100%	

LEGEND

- PROP. LIGHT POLE
- PROP. DOUBLE LIGHT POLE
- PROP. 12"X12" PULL BOX
- PROP. 12"X24" HANDHOLE
- PROP. 12"X12" BARRIER MOUNTED JUNCTION BOX
- PROP. 3" PVC CONDUIT (1" PVC CONDUIT BETWEEN HH AND LIGHT POLE)
- PROP. LOAD CENTER

FIXTURE #	1	* *USE EXISTING CIRCUIT
STATION	7+52	
OFFSET	24.0' RT	
ARM LENGTH	5'	III DISTRIBUTION TYPE
MOUNTING HEIGHT	27'	2X-60W NUMBER OF FIXTURES/WATTAGE

* REFER TO PLAN FOR ACTUAL LIGHT INFORMATION

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Elliot Bridge Roadway	+	3.3 fc	8.0 fc	0.9 fc	8.9:1	3.7:1
North Sidewalk	+	1.7 fc	2.7 fc	0.6 fc	4.5:1	2.8:1
South Sidewalk	+	1.7 fc	2.6 fc	1.0 fc	2.6:1	1.7:1
Camb. Approach	+	3.1 fc	13.4 fc	0.7 fc	19.1:1	4.4:1

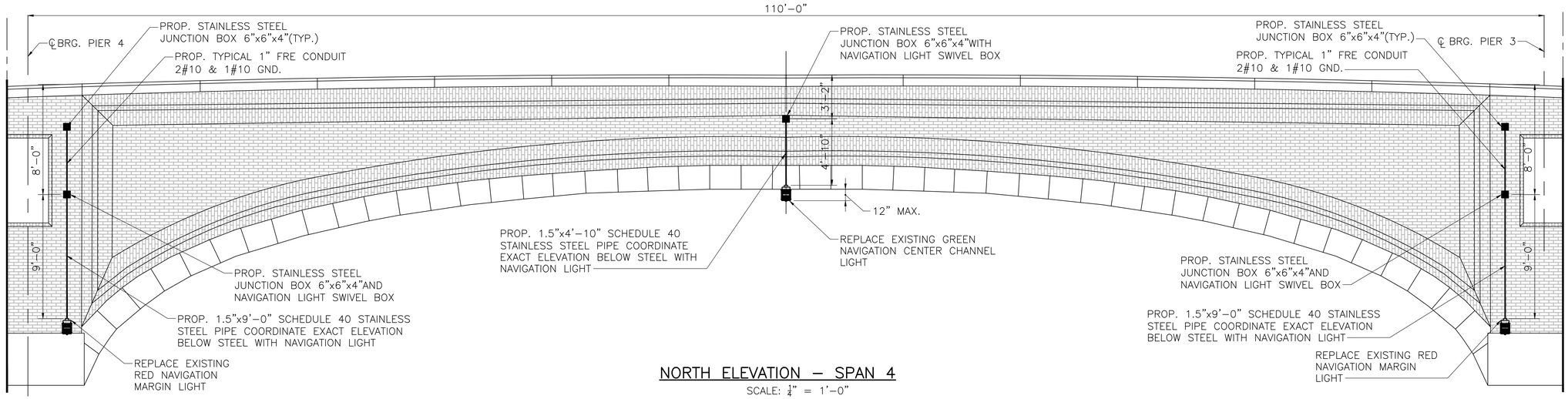
GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.
2. ALL CONDUIT UNDER GROUND SHALL BE 3" PVC UNLESS OTHERWISE NOTED. CONDUIT BETWEEN THE POLE AND THE ADJACENT HANDHOLE SHALL BE 1" PVC. ALL EXPOSED CONDUIT ON THE BRIDGE SHALL BE RTRC.
3. ALL WIRING SHALL BE WIRE TYPE 7 RHW.
4. ALL PROPOSED LIGHTING POLES SHALL HAVE MINIMUM 2 FEET CLEARANCE TO THE CURB FACE. UNLESS ON BARRIER.
5. CONDUIT SHOWN ON THESE PLANS IS DIAGRAMMATIC AND THE EXACT ROUTE AND MOUNTING SHALL BE DETERMINED BY THE CONTRACTOR.
6. POLE FOUNDATION SHALL BE PER MANUFACTURER'S REQUIREMENTS. MASSDOT STANDARD DRAWINGS AND/OR BARRIER DETAILS.
7. A GROUND ROD SHALL BE INSTALLED AT EACH POLE INSIDE THE ADJACENT HANDHOLE. EXCEPT LIGHT POLES ON THE BRIDGE WHICH SHALL BE BONDED.
8. THE LIGHT FIXTURES SHALL BE EQUIPPED WITH 7 PIN RECEPTACLES WITH SHORTING CAPS AND PHOTOCELLS.
9. SEE BRIDGE CONSTRUCTION PLAN FOR SIDEWALK AND TRENCH REPAIR AREAS.

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

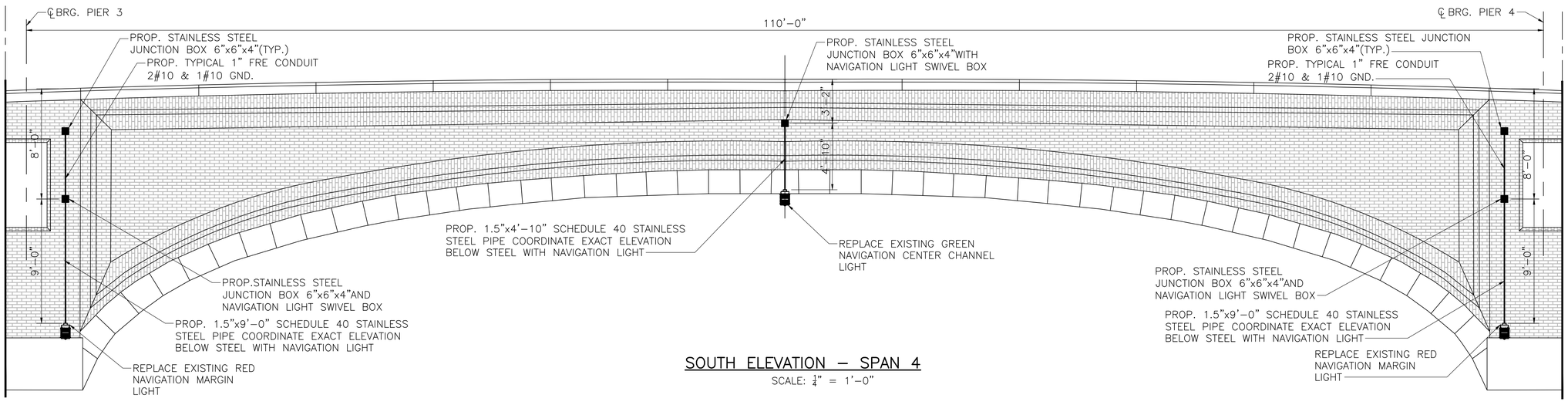
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	8	43
	PROJECT FILE NO. 608762		

BRIDGE LIGHTING ELEVATION



NORTH ELEVATION – SPAN 4

SCALE: ¼" = 1'-0"



SOUTH ELEVATION – SPAN 4

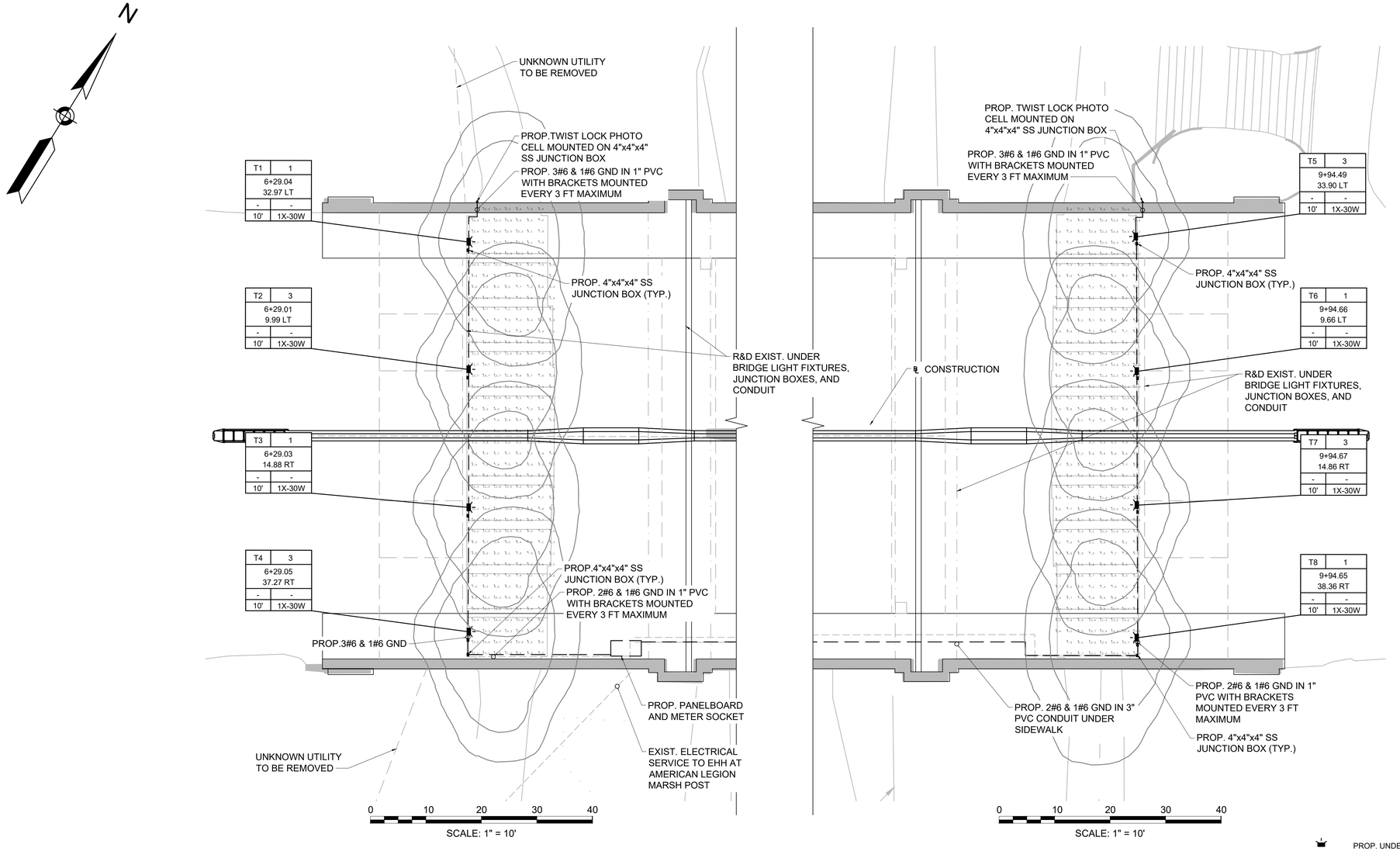
SCALE: ¼" = 1'-0"

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	9	43
	PROJECT FILE NO. 608762		

PEDESTRIAN TUNNEL LIGHTING PLAN

Plotted on 10-Jan-2024 11:22 AM
9-608762_PEDESTRIAN TUNNEL LIGHTING PLAN.DWG



Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	Lumen Multiplier	LLF	Wattage	Efficiency	Distribution
	Wall	8	Lumecon	BLS-FTW-62-1-ADJ-D-G	FIXTURE PROVIDED WITH ADJUSTABLE SYSTEM WATTS AND COLOR TEMPERATURE. SETTINGS ARE FROM 40% TO 100%. CALCULATION BASED ON 60%, 37.17 WATTS/5187 LUMENS AT 5,000K WITH GLASS DIFFUSER.	LED	1	5186	1	0.99	39.17	100%	

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Bos Ped Tunnel 0 Ft	+	8.9 fc	15.5 fc	5.4 fc	2.87	1.65
Camb Ped Tunnel 0 FT	+	8.63 fc	14.9 fc	5.4 fc	2.76	1.60

LEGEND

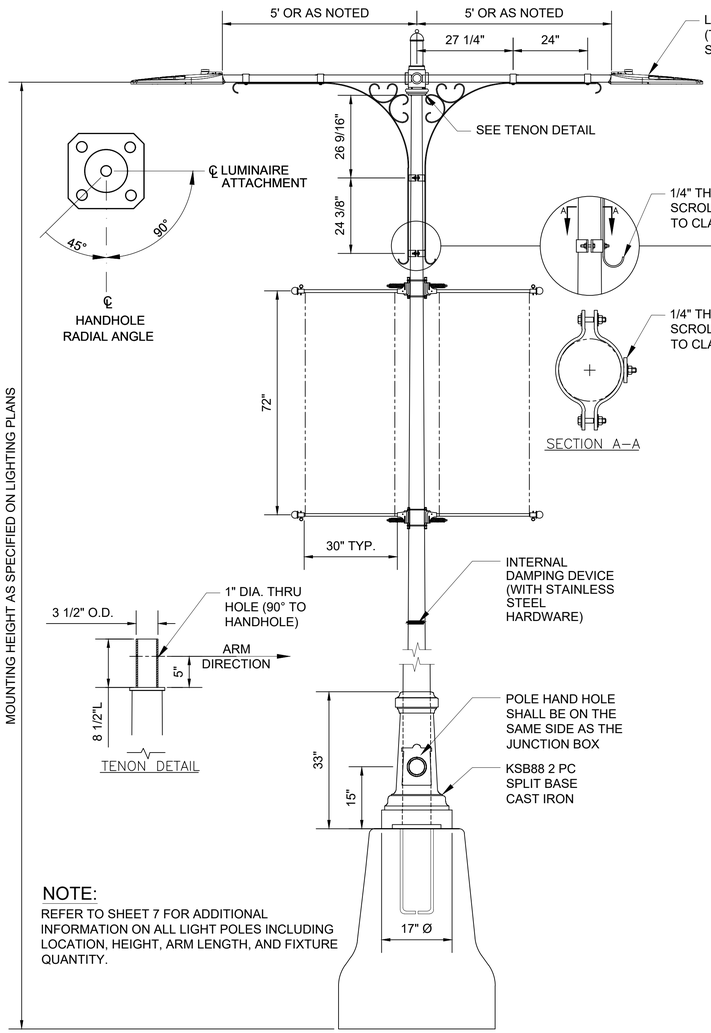
- PROP. UNDERPASS FIXTURE
- PROP. 6"X6"X4" JUNCTION BOX
- PROP. 1" CONDUIT

FIXTURE #	T1	3	CIRCUIT NUMBER
STATION	7+52		
OFFSET	24.0' RT		
ARM LENGTH	-	-	DISTRIBUTION TYPE
MOUNTING HEIGHT	10'	1X-30W	NUMBER OF FIXTURES/WATTAGE

* REFER TO PLAN FOR ACTUAL LIGHT INFORMATION

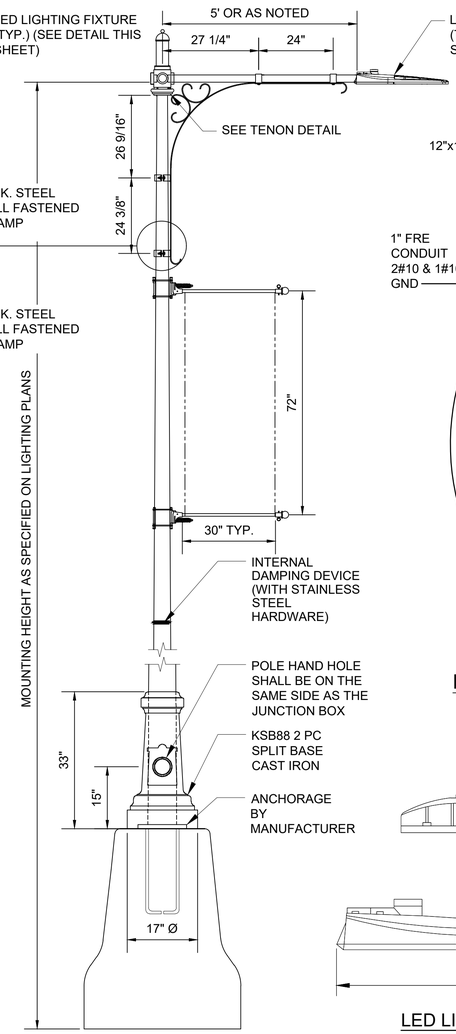
GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE.
2. ALL CONDUIT UNDER SIDEWALK SHALL BE 3" PVC UNLESS OTHERWISE NOTED. CONDUIT BETWEEN THE POLE AND THE ADJACENT HANDHOLE SHALL BE 1" PVC.
3. ALL WIRING SHALL BE WIRE TYPE 7 XHHW2 WITH XLP JACKET.
4. CONDUIT SHOWN ON THESE PLANS IS DIAGRAMMATIC AND THE EXACT ROUTE AND MOUNTING SHALL BE DETERMINED BY THE CONTRACTOR.
5. LIGHT POLE FIXTURES SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. MASSDOT STANDARD DRAWINGS AND/OR BARRIER DETAILS.
6. SEE BRIDGE CONSTRUCTION PLAN FOR SIDEWALK AND TRENCH REPAIR AREAS.
7. PHOTOCELL SHALL BE POINTED TOWARD THE NORTHERN SKY.
8. R&D EXISTING UNDER BRIDGE LIGHTING IN THE PEDESTRIAN TUNNEL INCLUDING ALL CONDUIT AND JUNCTION BOXES.



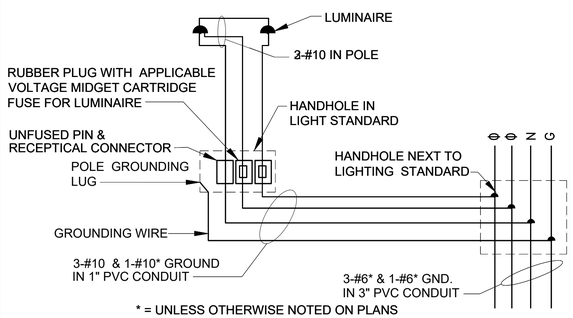
NOTE:
REFER TO SHEET 7 FOR ADDITIONAL INFORMATION ON ALL LIGHT POLES INCLUDING LOCATION, HEIGHT, ARM LENGTH, AND FIXTURE QUANTITY.

ROADWAY LIGHTING - DOUBLE ARM POLE ASSEMBLY (STEEL)
N.T.S.



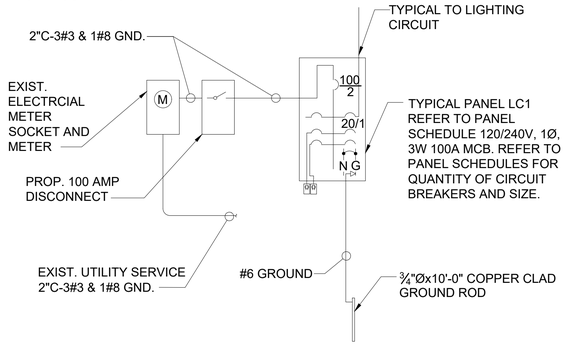
ROADWAY LIGHTING - SINGLE ARM POLE ASSEMBLY (STEEL)
N.T.S.

NOTES:
1. REFER TO SHEET 11 FOR MEDIAN BARRIER MOUNTED LIGHT POLE FOUNDATION DETAILS.

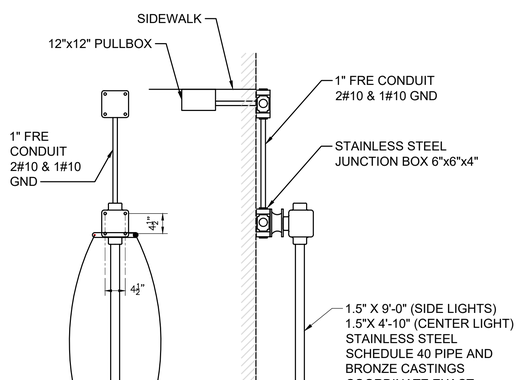


* = UNLESS OTHERWISE NOTED ON PLANS

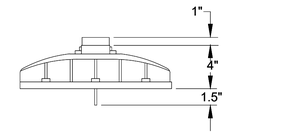
WIRING DIAGRAM FOR LUMINAIRE
N.T.S.

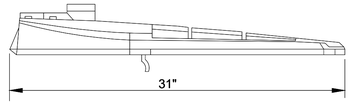


LOAD CENTER WIRING DETAIL
NOT TO SCALE

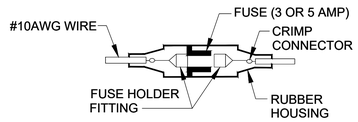


NAVIGATION LIGHT DETAIL
SCALE: 3/4" = 1'-0"

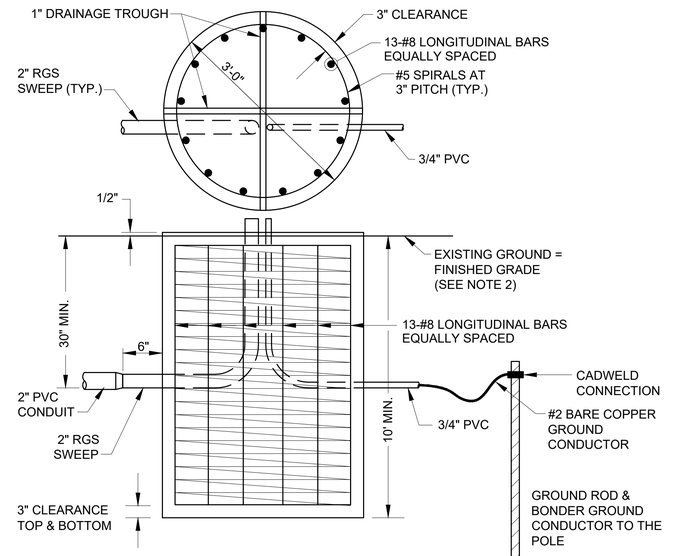




LED LIGHTING FIXTURE
N.T.S.



FUSE DETAIL FOR LUMINAIRE
N.T.S.



LIGHT STANDARD FOUNDATION
N.T.S.

NOTES:
1. CEMENT CONCRETE FOR FOUNDATIONS TO BE 4,000 PSI, 1-1/2 IN, 565 LB CEMENT CONCRETE MASONRY. A MINIMUM SLOPE OF 1/8" PER FT FROM EDGE OF BASE PLATE TO FACE OF CONCRETE. THE ACTUAL DEPTH OF FOUNDATION WILL BE THE DEPTH DIMENSION ABOVE PLUS THE 1/2" REVEAL. THE ANCHOR BOLTS SHALL BE SUPPLIED BY THE LIGHT STANDARD MANUFACTURER. THE MANUFACTURER SHALL ALSO SUPPLY A TEMPLATE FOR SETTING THE BOLTS AND SHALL INDICATE THE NECESSARY PROJECTION.
2. LEVEL GRADES SHOWN. FOR AREAS WITH SLOPED EXISTING GRADE MAINTAIN A ½ INCH REVEAL ON THE HIGH SIDE OF SLOPE AT FOUNDATION. MEASURE MINIMUM 10-FOOT EMBEDMENT FROM THE LOW SIDE OF SLOPE AT FOUNDATION AND INCREASE LENGTH ACCORDINGLY.
3. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, EPOXY COATED.
4. ANCHOR BOLTS, BASES PLATES, AND POLES SHALL BE DESIGNED AND PROVIDED BY POLE MANUFACTURER.
5. LIGHT POLE, BASE PLATE, AND ANCHORAGE DESIGN SHALL BE IN ACCORDANCE WITH THE 2023 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIAL STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS WITH CURRENT INTERIM SPECIFICATIONS THROUGH 2015. DESIGN WIND SPEED = 130 MPH PER MASSDOT SPECIFICATIONS. CONTRACTOR ALTERATION OR ADJUSTMENT OF THE FOUNDATION DESIGN SHOWN MAY BE REVIEWED AND APPROVED BY THE ENGINEER AND MASSDOT WITH APPROPRIATE PRE-APPROVAL.

PANEL "LC1" (LIGHTING PANEL)

AIC 18,000 MIN.

SPACES	MOUNTING	LOCATION	MAIN BREAKER	VOLTAGE	MAIN BUS RAT.	MAIN BUS	FEED
20	SURFACE	LGT. CABINET	100A - 2P	120/240V.	225AMP		BOTTOM

CKT. NO.	DESCRIPTION	LOADS A Ø	LOADS B Ø	BKR SIZE	POLE	A B	BKR SIZE	POLE	LOADS A Ø	LOADS B Ø	DESCRIPTION	CKT. NO.
1	PED TUNNEL LIGHTS CAMB. SIDE	*254		20	1		20	1	10		NAVIGATION LIGHTS NORTH SIDE	2
3	PED TUNNEL LIGHTS BOSTON SIDE		*254	20	1		20	1		10	NAVIGATION LIGHTS SOUTH SIDE	4
5	PANEL GFCI 1	2000		20	1		20	1	1000		**INSIDE LIGHTS CAMBRIDGE SIDE	6
7	PANEL GFCI 2		2000	20	1		20	1		1000	**INSIDE LIGHTS BOSTON SIDE	8
9	MEDIAN LIGHTS	492		20	1		20	1	-		SPARE	10
11	MEDIAN LIGHTS		492	20	1		20	1		-	SPARE	12
13							20	1	-		SPARE	14
15							20	1		-	SPARE	16
17												18
19												20
	TOTAL	2612	2612				TOTAL		1010	1010		
									3622	3622		

(3622+3622=7244VA x 1.25 = 9055 VA)

** EXISTING LIGHT LOCATED WITHIN EXISTING STORAGE ROOM UNDER BRIDGE
* LOAD ARE BASED ON FIXTURE SETTING OF 100%

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

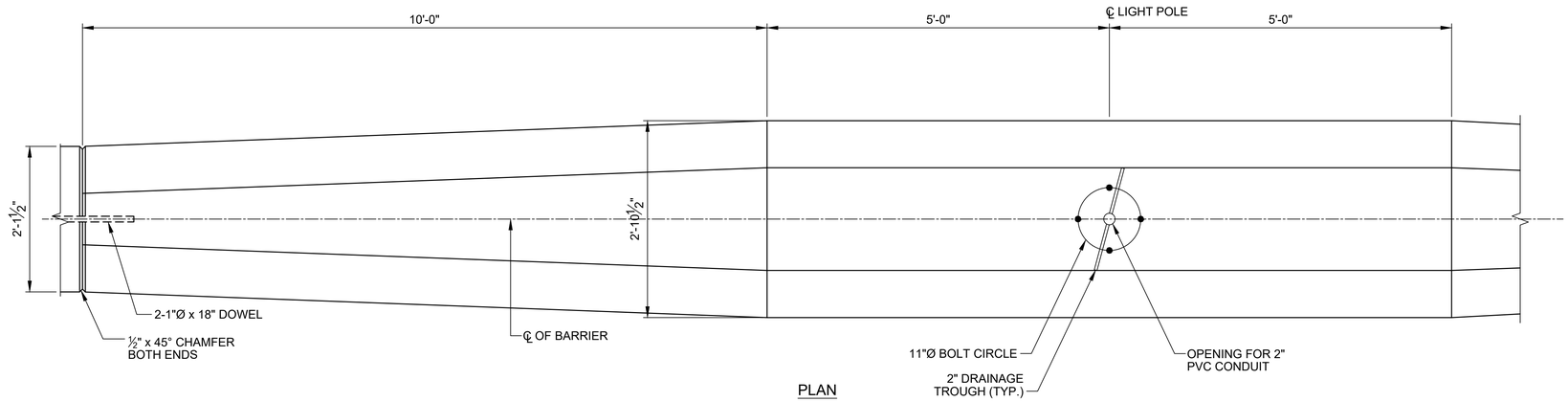
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	10	43
	PROJECT FILE NO. 608762		

LIGHTING DETAILS (SHEET 1 OF 2)

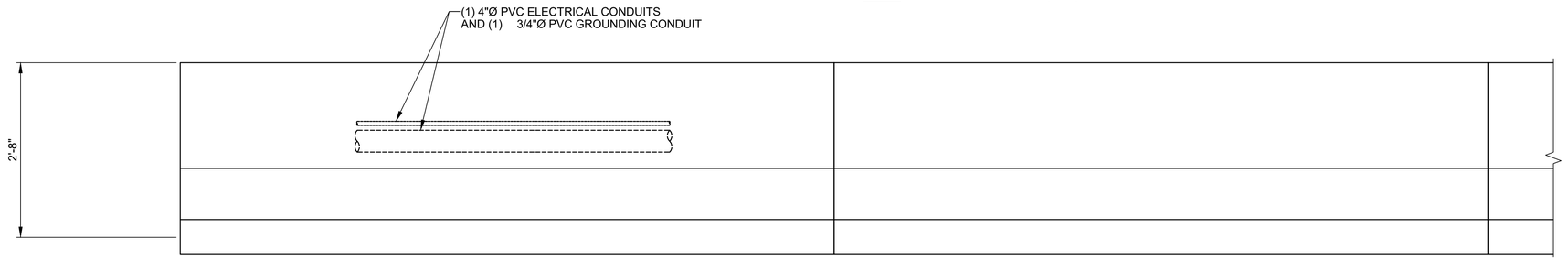
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	11	43
	PROJECT FILE NO. 608762		

LIGHTING DETAILS (SHEET 2 OF 2)



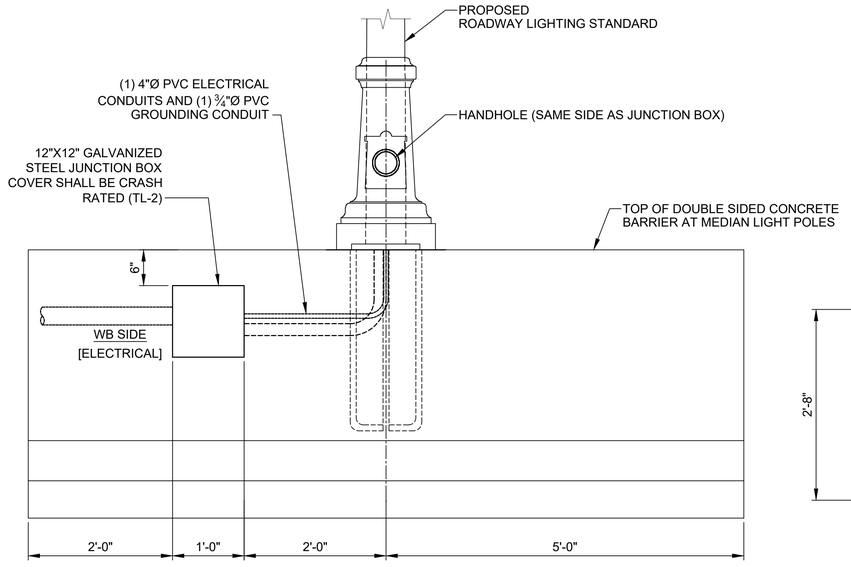
PLAN



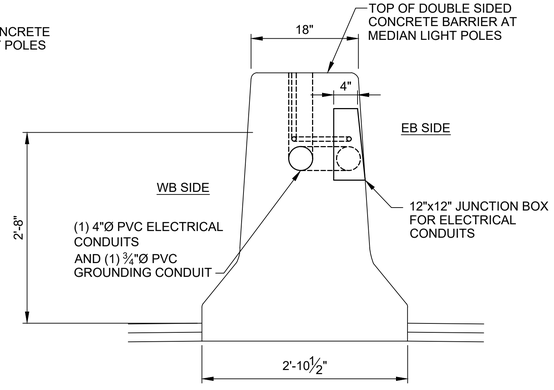
ELEVATION

MEDIAN BARRIER AT LIGHT POLE

SCALE: 1" = 1'-0"



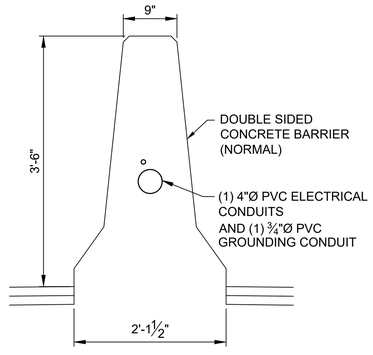
ELEVATION



SECTION

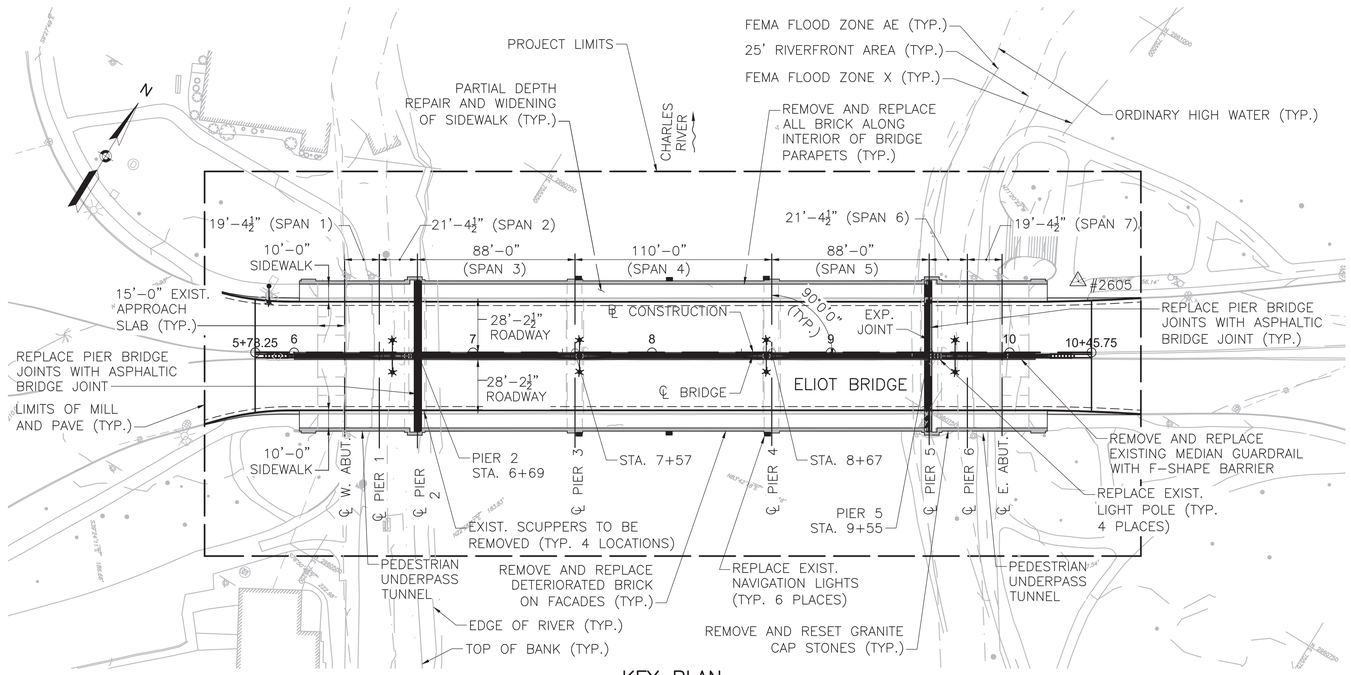
MEDIAN BARRIER JUNCTION BOX AND CONDUIT FEED DETAILS AT LIGHT POLE

SCALE: 1" = 1'-0"



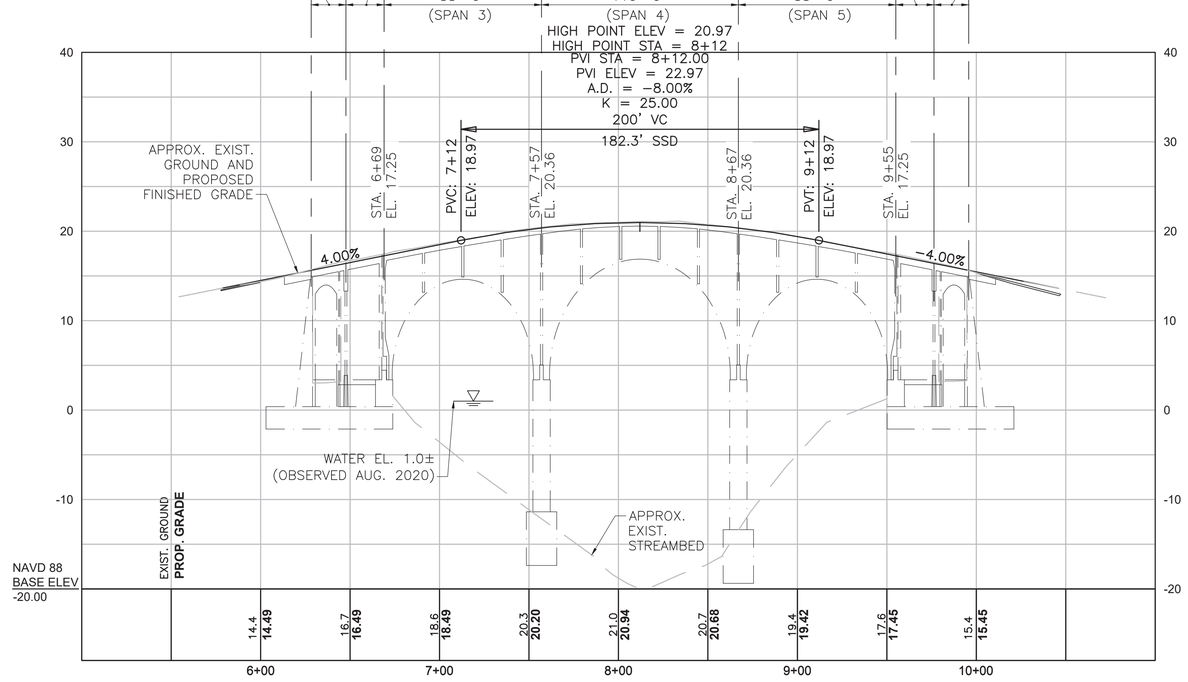
MEDIAN BARRIER DETAIL

SCALE: 1" = 1'-0"



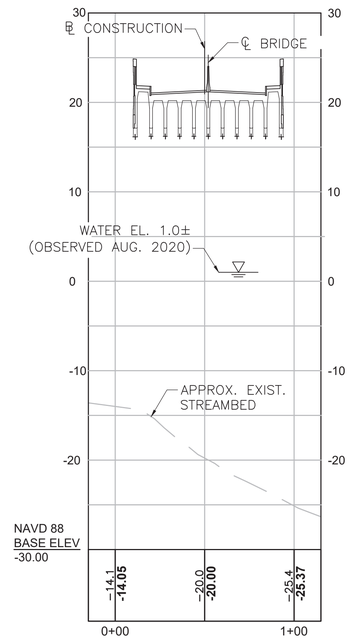
KEY PLAN

SCALE: 1" = 40'



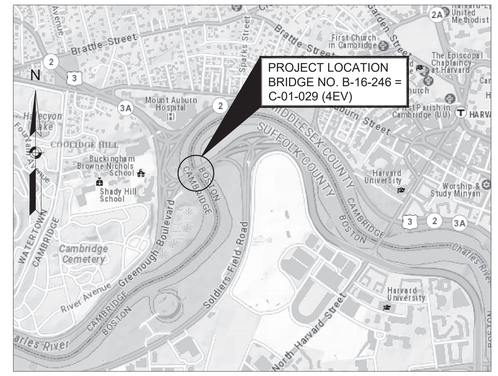
PROFILE ALONG ELIOT BRIDGE

HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 8'



PROFILE ALONG CHARLES RIVER

HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 8'



LOCUS

SCALE: 1" = 1000'

INDEX OF BRIDGE SHEETS

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	12	43
	PROJECT FILE NO. 608762		

PLAN AND PROFILE

PROJECT INFORMATION	
PROJECT FILE NO.:	608762
PROJECT DESCRIPTION:	PROPOSED BRIDGE REPAIR
BRIDGE DESIGN LOADING:	H–15
SURVEY:	FIELD BOOK NO. 41472
ELEVATION REFERENCE:	NAVD OF 1988
BENCH MARK:	#2605 N: 2960855.885, E: 755533.380, EL.=13.405' (MASSDOT GPS MAG FND)

TRAFFIC DATA	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2040	
AVERAGE DAILY TRAFFIC – PRESENT	46415	
AVERAGE DAILY TRAFFIC – DESIGN YEAR	55519	
DESIGN HOURLY VOLUME	5412	
DIRECTIONAL DISTRIBUTION	51%	
TRUCK PERCENTAGE – AVERAGE DAY	9%	
TRUCK PERCENTAGE – PEAK HOUR	9%	
DESIGN SPEED	24	
DIRECTIONAL DESIGN HOURLY VOLUME	2760	

DESIGN:

ALL REPAIRS INTENDED TO RESTORE FUNCTION AND CAPACITY OF ORIGINAL CONSTRUCTION. BRIDGE WAS DESIGNED TO AASHTO H–15 LOADING.

GENERAL NOTES:

1. NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
2. PLAN AND PROFILE ARE BASED ON SURVEY DATED AUGUST 2020 AND SUPPLEMENTED WITH PROFILE INFORMATION FROM EXISTING DESIGN DRAWINGS.

UTILITIES:

1. THERE IS NO PROPOSED UNDERGROUND UTILITY WORK.

TRAFFIC CONTROL:

1. SEE SHEETS 23 THROUGH 32 FOR TRAFFIC CONTROL DRAWINGS.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS
1. NONE	16"	19"	23"
2. 12" OF CONCRETE BELOW BAR	20"	25"	30"
3. EPOXY COATED BARS, COVER < $3d_b$, OR CLEAR SPACING < $6d_b$	23"	29"	34"
4. COATED BARS, ALL OTHER CASES	18"	23"	27"
5. CONDITION 2. AND 3.	26"	32"	39"
6. CONDITION 2. AND 4.	24"	30"	36"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

EPOXY COATED BARS:

ALL REINFORCING BARS, GROUTED SPLICE COUPLERS, AND SUPPORTING DEVICES SHALL BE EPOXY COATED, EXCEPT AS OTHERWISE NOTED.

DEC. 30, 2023 | ISSUED FOR CONSTRUCTION

COMMONWEALTH OF MASSACHUSETTS — ANTHONY M. RICHARDSON — CIVIL — No. 51810 — PROFESSIONAL ENGINEER

Richardson, Anthony Michael — Digitally signed by Richardson, Anthony Michael Date: 2024.01.22 10:53:54 -05'00'

Jacobs
120 ST. JAMES AVENUE, 5TH FLOOR
BOSTON, MA 02116

MassDOT Massachusetts Department of Transportation Highway Division

PROPOSED BRIDGE REHABILITATION
BOSTON=CAMBRIDGE
ELIOT BRIDGE
OVER CHARLES RIVER
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

Alexander K. Bardow, P.E. — Digitally signed by Alexander K. Bardow, P.E. Date: 2024.01.24 14:39:43 -05'00' — STATE BRIDGE ENGINEER

Carrie Lavallee, P.E. — Digitally signed by Carrie Lavallee, P.E. Date: 2024.01.24 13:42:46 -05'00' — CHIEF ENGINEER

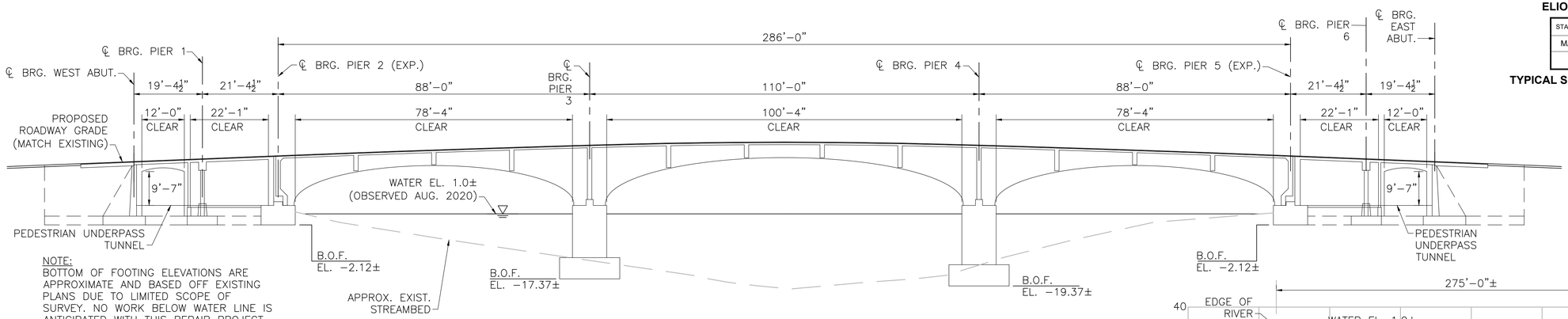
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

12-608762_PLAN AND PROFILE.DWG Plotted on 17-Jan-2024 1:38 PM

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

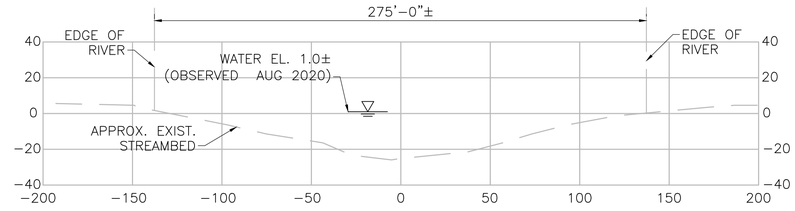
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	13	43
	PROJECT FILE NO. 608762		

TYPICAL SECTIONS AND ESTIMATED QUANTITIES

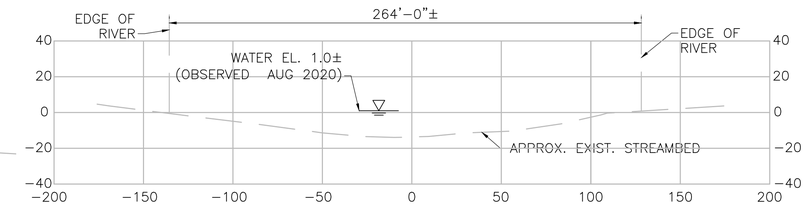


NOTE:
BOTTOM OF FOOTING ELEVATIONS ARE APPROXIMATE AND BASED OFF EXISTING PLANS DUE TO LIMITED SCOPE OF SURVEY. NO WORK BELOW WATER LINE IS ANTICIPATED WITH THIS REPAIR PROJECT.

LONGITUDINAL SECTION
SCALE: $\frac{1}{16}$" = 1'–0"

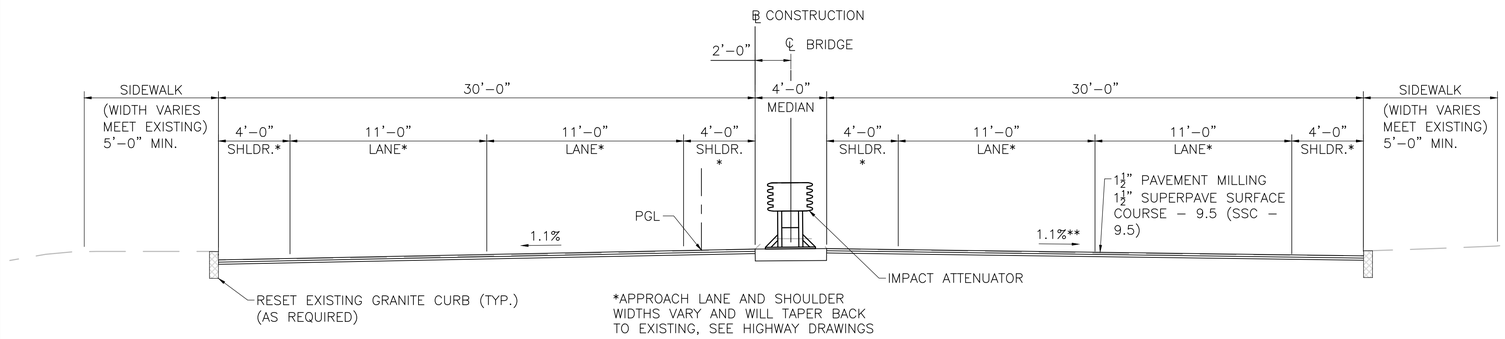


DOWNSTREAM CHANNEL CROSS SECTION (50' LT)
SCALE: 1" = 40'



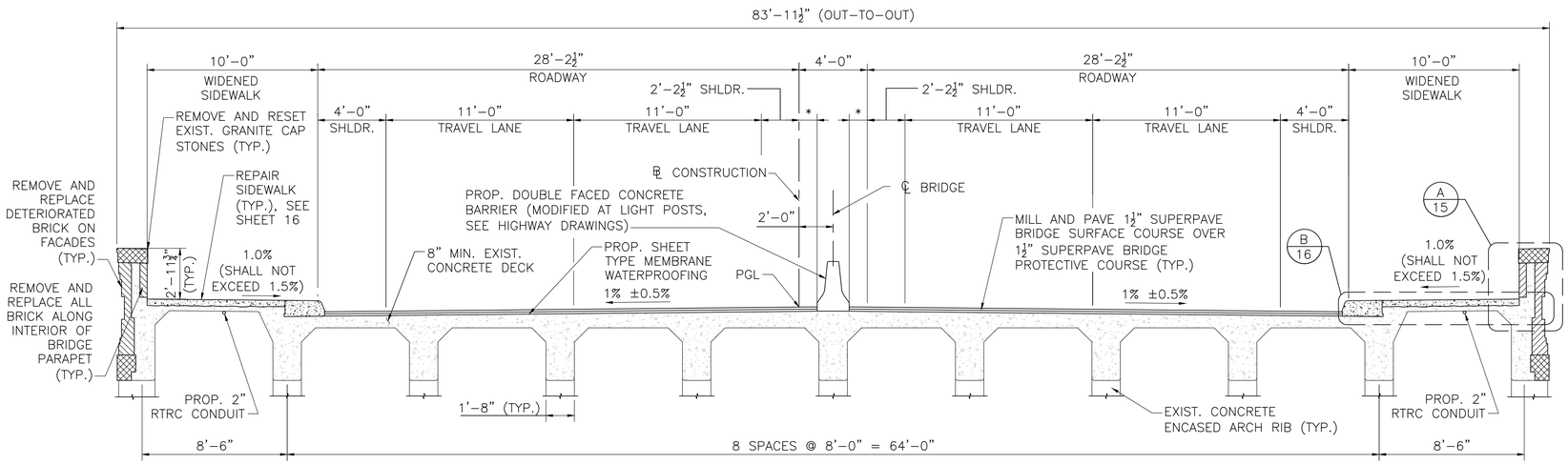
UPSTREAM CHANNEL CROSS SECTION (50' RT)
SCALE: 1" = 40'

NOTE:
HYDRAULIC INFORMATION LIMITED. THERE IS NO WORK PROPOSED BELOW THE WATER LINE. ALL INFORMATION SHOWN IS TAKEN FROM EXISTING DRAWINGS OR OBSERVED WATER DURING SURVEY.



*APPROACH LANE AND SHOULDER WIDTHS VARY AND WILL TAPER BACK TO EXISTING, SEE HIGHWAY DRAWINGS

APPROACH SECTION
SCALE: $\frac{1}{4}$" = 1'–0"



* VARIES 6¾"–1'–0¾"

TRANSVERSE SECTION (BRIDGE SPANS 3, 4 AND 5)
SCALE: $\frac{1}{4}$" = 1'–0"

ESTIMATED QUANTITIES
(NOT GUARANTEED)

GRANITE CAP STONE REMOVE AND RESET	840 FT
BRICK VENEER REMOVAL	6010 SF
GRANITE CAPSTONE REPLACEMENT	3 EA
BRICK VENEER NEW, INTERIOR OF PARAPETS	2010 SF
BRICK VENEER REPAIR, EXTERIOR FACADES	4000 SF
BRICK MASONRY/GRANITE END POST RECONSTRUCTION	1 LS
BRICK VENEER, MASONRY REPOINTING	4500 SF
BRICK VENEER, ARCH REPAIR	4 EA
BRIDGE PAVEMENT EXCAVATION	920 SY
HMA SIDEWALK	20 TONS
GRANITE CURB	320 FT
CAST–IN–PLACE SIDEWALK – REPAIR AND WIDEN	9200 SF
CAST–IN–PLACE CONCRETE MEDIAN BARRIER – DOUBLE FACED	430 FT
MEMBRANE WATERPROOFING FOR BRIDGE DECKS	25100 SF
REINFORCED CONCRETE DECK EXCAVATION (FULL DEPTH)	20 SY
REINFORCED CONCRETE DECK EXCAVATION (PARTIAL DEPTH)	55 CY
REINFORCED CONCRETE EXCAVATION	55 CY
TRUSS ENCASEMENT REPAIRS – DEEP	10 CY
TRUSS ENCASEMENT REPAIRS – SHALLOW	35 SY
CONCRETE BEAM REPAIRS	5 CY
CONCRETE DIAPHRAGM REPAIRS	5 CY
4000 PSI, ⅜ INCH, 660 CEMENT CONCRETE	5 CY
CEMENTITIOUS MORTAR FOR PATCHING	615 SF
STEEL REINFORCEMENT – EPOXY COATED	23550 LBS

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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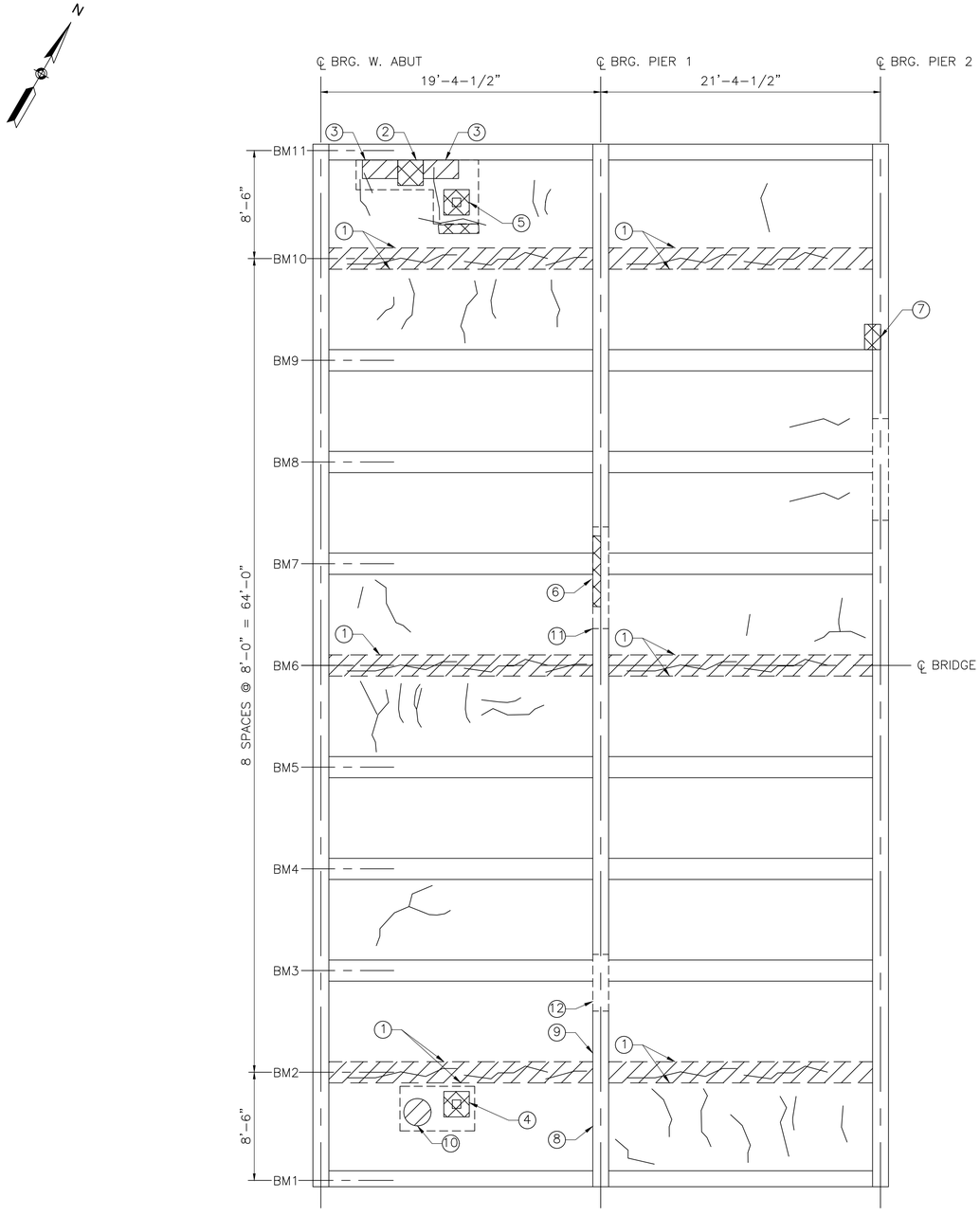
USE ONLY PRINTS OF LATEST DATE

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	14	43
	PROJECT FILE NO. 608762		

UNDERSIDE REPAIR AREAS - SPANS 1 AND 2 (SHEET 1 OF 1)



SPANS 1 AND 2
SCALE: 3/16" = 1'-0"

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
1	BEAM	FULL LENGTH	FULL WIDTH	N/A	DELAMINATION	SHALLOW
2	DECK	1'-3"	8"	1"	SPALL WITH EXPOSED REBAR	FULL DEPTH
3	DECK	2'-0"	2'-0"	N/A	DELAMINATION	FULL DEPTH
4	DECK	1'-8"	9"	1-1/2"	SPALL WITH EXPOSED REBAR/DELAMINATION	FULL DEPTH
5	DECK	2'-0"	2'-0"	2"	SPALL	DEEP
6	DIAPHRAGM	2'-6"	3"	2"	SPALL	DEEP
7	PIER CAP	3'-7"	FULL WIDTH	3"	PATCH WITH SPALL	DEEP
8	DIAPHRAGM	FULL LENGTH	1/8"	N/A	CRACK WITH ADJACENT DELAMINATION	SHALLOW
9	DIAPHRAGM	4'-6"	4"	1-1/2"	SPALL	DEEP
10	DECK	6" DIA.	N/A	N/A	HOLLOW AREA	SHALLOW
11	DIAPHRAGM	1'-1"	3"	2"	SPALL WITH EXPOSED REBAR	FULL DEPTH
12	DIAPHRAGM	4'-7"	1'-4"	3"	SPALL WITH EXPOSED REBAR	FULL DEPTH

UNDERSIDE REPAIR NOTES:

1. REPAIR AREAS ARE APPROXIMATE AND BASED ON ROUTINE BRIDGE INSPECTION CONDUCTED IN AUGUST 2023.
2. ALL REPAIR AREAS SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
3. ALL AREAS SHALL BE SOUNDED FOR LOOSE CONCRETE AND MARKED PRIOR TO REPAIR.
4. SEE SHEETS 15 TO 18 FOR REPAIR DETAILS.

LEGEND:

~~~ = HAIRLINE CRACK WITH EFFLORESCENCE
XXXX = SPALL
//// = HOLLOW SOUNDING AREA
BM = BEAM
[---] = PROPOSED REPAIR AREA

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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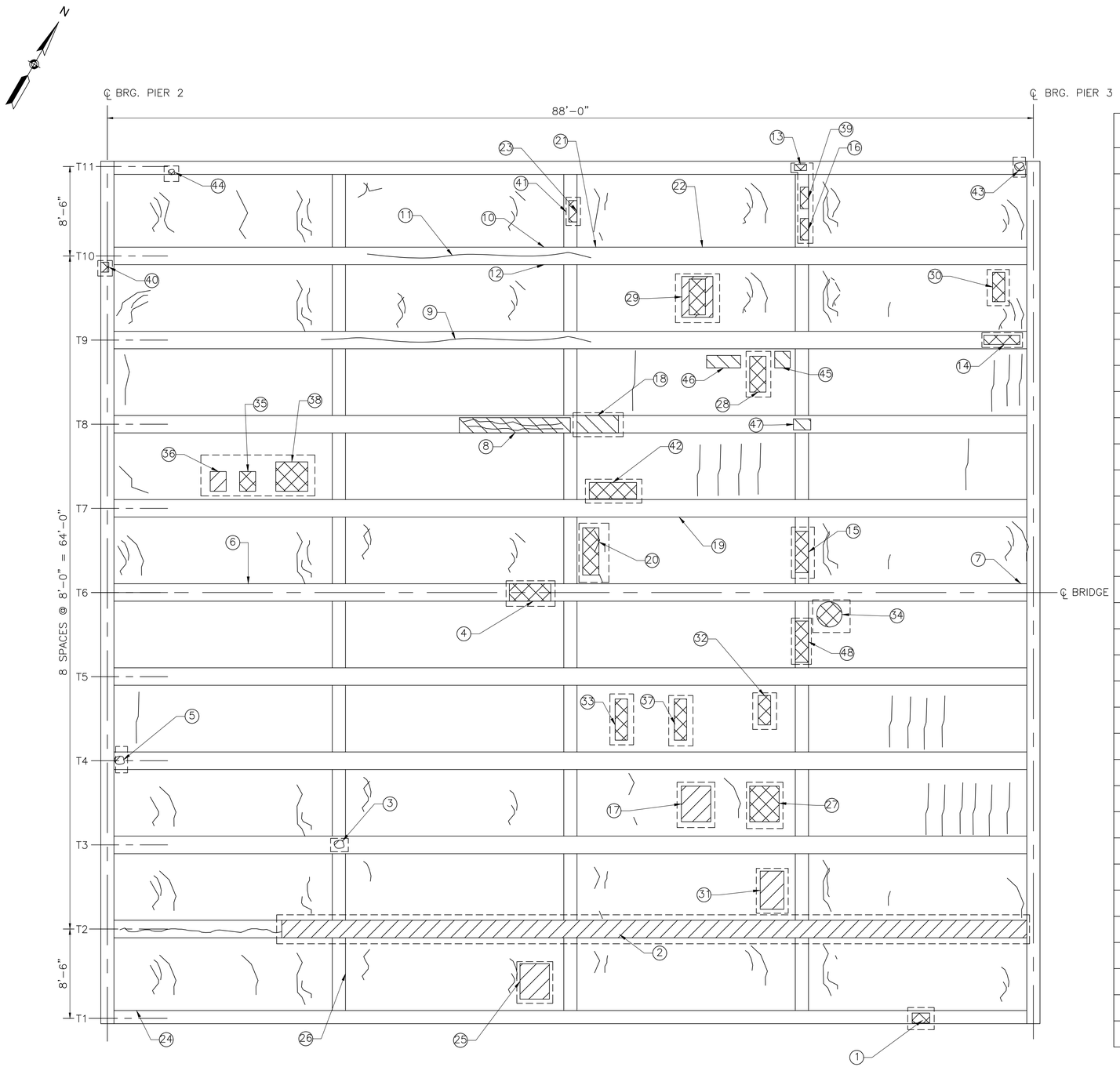
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	15	43
	PROJECT FILE NO. 608762		

UNDERSIDE REPAIR AREAS - SPAN 3 (SHEET 1 OF 2)

LEGEND:

- ~~~ = HAIRLINE CRACK WITH EFFLORESCENCE
- XXXX = SPALL
- //// = HOLLOW SOUNDING AREA
- T = TRUSS
- [ ] = PROPOSED REPAIR AREA



SPAN 3
SCALE: 3⁄16" = 1'-0"

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
1	TRUSS	1'-11"	1'-1/2"	2"	HOLLOW AREA/SPALL	FLANGE
2	TRUSS	45'-0"	FULL WIDTH	4-1/2"	HOLLOW AREA W/EDGE SPALLING	SHALLOW
3	TRUSS	1'-1"	10"	1-1/2"	SPALL W/EXPOSED REBAR	FLANGE
4	TRUSS	6'-0"	1'-6"	3-1/2"	HOLLOW AREA/SPALL	FLANGE
5	TRUSS	8"	N/A	N/A	POPOUT	DEEP
6	TRUSS	8"	3"	4"	SPALL	DEEP
7	TRUSS	8"	8"	N/A	HOLLOW AREA	SHALLOW
8	TRUSS	8'-6"	FULL WIDTH	4"	HOLLOW AREA	SHALLOW
9	TRUSS	13'-0"	1"	N/A	SPALL	SHALLOW
10	TRUSS	1'-0"	N/A	N/A	POPOUT	DEEP
11	TRUSS	2'-8"	2"	4-1/2"	SPALL	DEEP
12	TRUSS	8"	3"	1'-1/2"	CRACK	FULL DEPTH
13	TRUSS	1'-5"	8"	1-1/2"	SPALL	FLANGE
14	TRUSS	2'-0"	10"	1/2"	SPALL W/EXPOSED REBAR	FLANGE
15	DIAPHR.	9"	2'-6"	2"	SPALL	FLANGE
16	DIAPHR.	10"	6"	1"	SPALL	SHALLOW
17	DECK	5'-4"	3'-2"	N/A	HOLLOW AREA	SHALLOW
18	TRUSS	4'-0"	4"	N/A	DELAMINATION	SHALLOW
19	TRUSS	3"	5"	1/2"	POPOUT	DEEP
20	DECK	7"	7"	2"	3 SPALLS	FULL DEPTH
21	TRUSS	6-1/2"	1-1/2"	N/A	POPOUT	DEEP
22	TRUSS	1'-8"	2-1/2"	N/A	POPOUT	DEEP
23	DIAPHR.	6"	4"	1/2"	SPALL	SHALLOW
24	TRUSS	8"	8"	1/2"	SPALL	SHALLOW
25	DECK	2'-8"	5"	1/2"	POPOUT	FULL DEPTH
26	DIAPHR.	7"	1'-8"	1/2"	SPALL	SHALLOW
27	DECK	1'-1"	4'-0"	1"	SPALL/HOLLOW AREA	SHALLOW
28	DECK	9"	3'-4"	1"	SPALL/HOLLOW AREA	SHALLOW
29	DECK	2'-10"	3'-4"	2"	SPALL/HOLLOW AREA	FULL DEPTH
30	DECK	1'-4"	2'-6"	2"	SPALL	FULL DEPTH
31	DECK	6"	1'-8"	N/A	HOLLOW AREA	SHALLOW
32	DECK	2'-6"	3'-0"	N/A	HOLLOW AREA	SHALLOW
33	DECK	1'-4"	4'-0"	1-1/2"	SPALL	FULL DEPTH
34	DECK	6"	6"	2"	SPALL	FULL DEPTH

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
35	DECK	2'-4"	6"	1"	SPALL	SHALLOW
36	DECK	6"	1'-0"	N/A	HOLLOW AREA	SHALLOW
37	DECK	7"	1'-6"	1/2"	SPALL	SHALLOW
38	DECK	3'-4"	8"	1"	HOLLOW AREA/SPALL	SHALLOW
39	DIAPHR.	2'-0"	1'-6"	1"	SPALL	SHALLOW
40	DIAPHR.	1'-0"	1'-6"	2"	SPALL W/EXPOSED REBAR	DEEP
41	DIAPHR.	1'-8"	2"	1/2"	SPALL	SHALLOW
42	DECK	N/A	N/A	N/A	POPOUTS	DEEP
43	TRUSS	N/A	N/A	N/A	POPOUTS	DEEP
44	TRUSS	4"	N/A	2"	POPOUT	DEEP
45	DECK	1'-0"	1'-0"	N/A	HOLLOW AREA	SHALLOW
46	DECK	2'-6"	1'-11"	N/A	HOLLOW AREA	SHALLOW
47	TRUSS	5"	3"	1-1/2"	SPALL	DEEP
48	DIAPHR.	2'-8"	1'-0"	2-1/2"	SPALL W/EXPOSED REBAR	DEEP

SPAN 3 CONTINUED

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	16	43
	PROJECT FILE NO. 608762		

UNDERSIDE REPAIR AREAS - SPAN 3
(SHEET 2 OF 2)

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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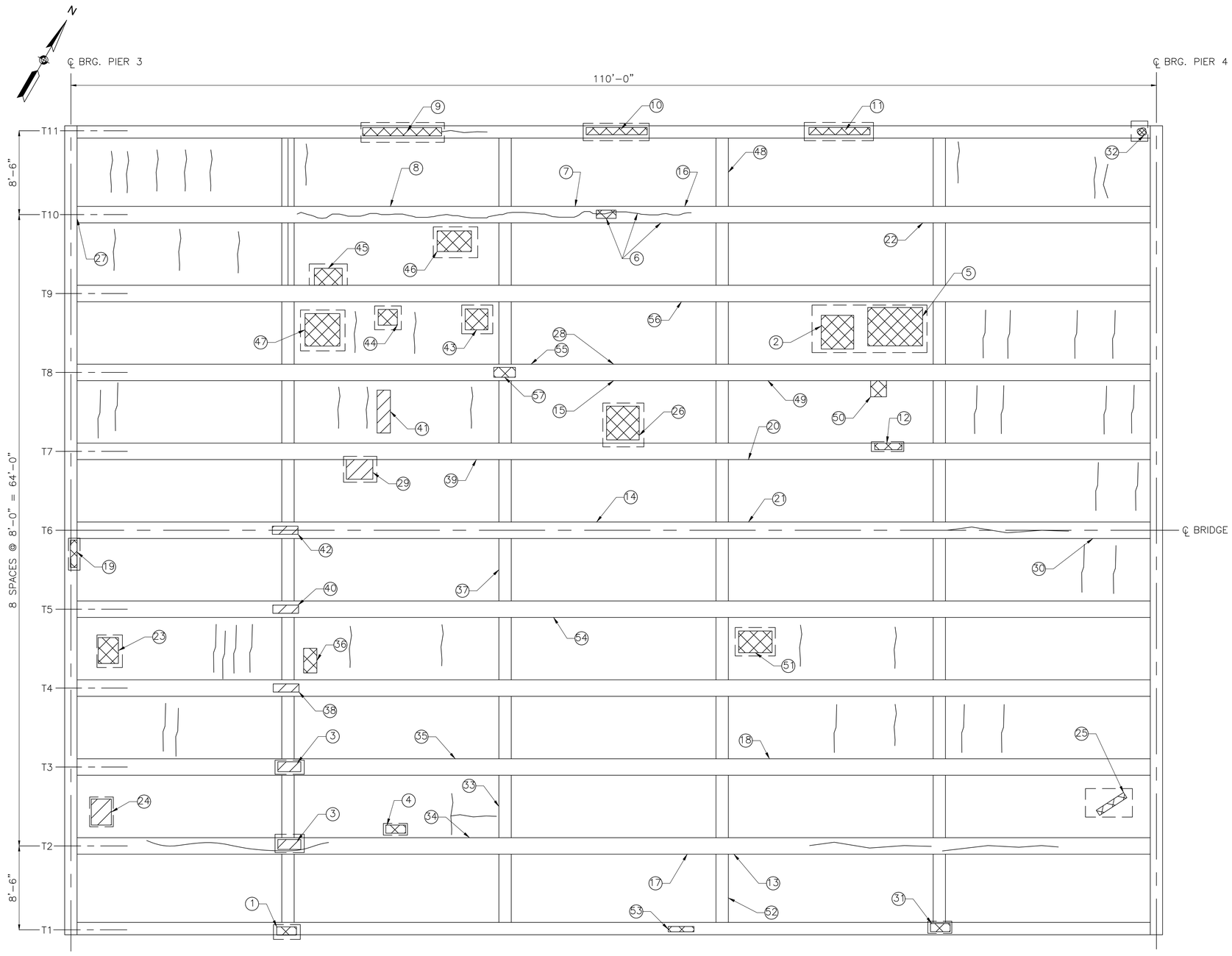
14-21-608762_UNDERSIDE REPAIR AREAS.DWG Plotted on 10-Jan-2024 2:37 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023



SPAN 4

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

LEGEND:

~~~ = HAIRLINE CRACK WITH EFFLORESCENCE

▨ = SPALL

▨ = HOLLOW SOUNDING AREA

T = TRUSS

⌐¬ = PROPOSED REPAIR AREA

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	17	43
	PROJECT FILE NO. 608762		

UNDERSIDE REPAIR AREAS - SPAN 4
(SHEET 1 OF 2)

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
1	TRUSS	2'-6"	10"	3-1/2"	SPALL W/EXPOSED REBAR	FLANGE
2	DECK	2'-6"	1'-9"	1-1/2"	SPALL W/EXPOSED REBAR	FULL DEPTH
3	TRUSS	2'-4"	1'-0"	N/A	HOLLOW AREA	SHALLOW
4	DECK	9"	9"	1/2"	SPALL W/EXPOSED REBAR	SHALLOW
5	DECK	4'-6"	2'-10"	1"	SPALL/HOLLOW AREA	FULL DEPTH
6	TRUSS	7'-0"	FULL WIDTH	3"	SPALL	DEEP
7	TRUSS	7"	N/A	N/A	HOLLOW AREA	SHALLOW
8	TRUSS	8'-0"	2'-6"	10"	SPALL/HOLLOW AREA	DEEP
9	TRUSS	10'-0"	11"	4"	SPALL W/EXPOSED REBAR	FLANGE
10	TRUSS	8'-0"	8"	1-1/2"	SPALL	FLANGE
11	TRUSS	10'-0"	1'-0"	1-1/2"	SPALL	FLANGE
12	TRUSS	3'-0"	7"	1"	SPALL W/EXPOSED REBAR	FLANGE
13	TRUSS	1'-7"	4"	3"	SPALL	DEEP
14	TRUSS	6'-0"	FULL WIDTH	4"	SPALL/HOLLOW AREA	DEEP
15	TRUSS	1'-6"	6"	1"	12 SPALLS/ POPOUTS	DEEP
16	TRUSS	1'-6"	8"	1/2"	SPALL W/EXPOSED REBAR	SHALLOW
17	TRUSS	1'-3"	2"	2"	SPALL	DEEP
18	TRUSS	4"	2"	1/2"	POPOUT	DEEP
19	DIAPHR.	1'-8"	1'-8"	1"	2 SPALLS	SHALLOW
20	TRUSS	6"	6"	1/2"	SPALL W/EXPOSED REBAR	SHALLOW
21	TRUSS	1'-9"	3"	1/2"	SPALL W/EXPOSED REBAR	SHALLOW
22	TRUSS	9"	9"	1-1/2"	SPALL	SHALLOW
23	DECK	8"	1'-0"	1"	SPALL W/EXPOSED REBAR AND ADJ. HOLLOW AREA	SHALLOW
24	DECK	1'-0"	2'-0"	N/A	HOLLOW AREA	SHALLOW

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~~~

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
25	DECK	1'-0"	N/A	N/A	POPOUT	SHALLOW
26	DECK	2'-0"	1'-4"	1-1/2"	SPALL W/EXPOSED REBAR	FULL DEPTH
27	DIAPHR.	9"	9"	1"	SPALL	SHALLOW
28	TRUSS	1'-6"	7-1/2"	1/2"	SPALL W/EXPOSED REBAR AND ADJ. HOLLOW AREA	DEEP
29	DECK	9"	9"	N/A	HOLLOW AREA	SHALLOW
30	TRUSS	6"	6"	2"	SPALL	DEEP
31	TRUSS	1'-1"	1'-5"	4"	SPALL	FLANGE
32	TRUSS	N/A	N/A	N/A	SPALL	FLANGE
33	DIAPHR.	8"	10"	N/A	HOLLOW AREA	SHALLOW
34	TRUSS	8"	2"	1/2"	POPOUT	SHALLOW
35	TRUSS	5"	3"	N/A	POPOUT	SHALLOW
36	DECK	10"	1'-3"	1"	SPALL	SHALLOW
37	DIAPHR.	7-1/2"	5"	1/2"	POPOUT	SHALLOW
38	TRUSS	1'-9"	FULL WIDTH	N/A	HOLLOW AREA	FLANGE
39	TRUSS	7"	7"	1"	SPALL	SHALLOW
40	TRUSS	2'-6"	FULL WIDTH	N/A	HOLLOW AREA	FLANGE
41	DECK	1'-3"	4'-5"	N/A	HOLLOW AREA	SHALLOW
42	TRUSS	2'-4"	FULL WIDTH	N/A	HOLLOW AREA	FLANGE

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
43	DECK	1'-6"	1'-6"	2"	SPALL W/EXPOSED REBAR	DEEP
44	DECK	1'-9"	2'-1"	1"	SPALL/HOLLOW AREA	SHALLOW
45	DECK	7"	4"	1/2"	POPOUT	SHALLOW
46	DECK	1'-1"	11"	1"	SPALL W/EXPOSED REBAR	SHALLOW
47	DECK	2'-7"	2'-9"	1-1/2"	SPALL W/EXPOSED REBAR	SHALLOW
48	DIAPHR.	7"	11"	1"	SPALL W/EXPOSED REBAR	SHALLOW
49	TRUSS	8"	8"	1"	SPALL W/EXPOSED REBAR	SHALLOW
50	DECK	1'-8"	6"	2"	SPALL W/ ADJ. HOLLOW AREA	DEEP
51	DECK	1'-11"	2'-8"	1-1/2"	SPALL/HOLLOW AREA	SHALLOW
52	DIAPHR.	1'-1"	3"	1/4"	POPOUT	SHALLOW
53	TRUSS	10"	7"	1/2"	POPOUT	SHALLOW
54	TRUSS	4'-9"	7"	1/2"	SPALL/HOLLOW AREA	SHALLOW
55	TRUSS	4"	1'-5"	1"	SPALL W/EXPOSED REBAR	SHALLOW
56	TRUSS	1'-1"	7"	1"	SPALL/HOLLOW AREA	SHALLOW
57	TRUSS	1'-2"	1-1/2"	1/2"	POPOUT	SHALLOW

SPAN 4 CONTINUED

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	18	43
PROJECT FILE NO.	608762		

UNDERSIDE REPAIR AREAS - SPAN 4 (SHEET 2 OF 2)

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

DATE	DESCRIPTION
DEC. 30, 2023	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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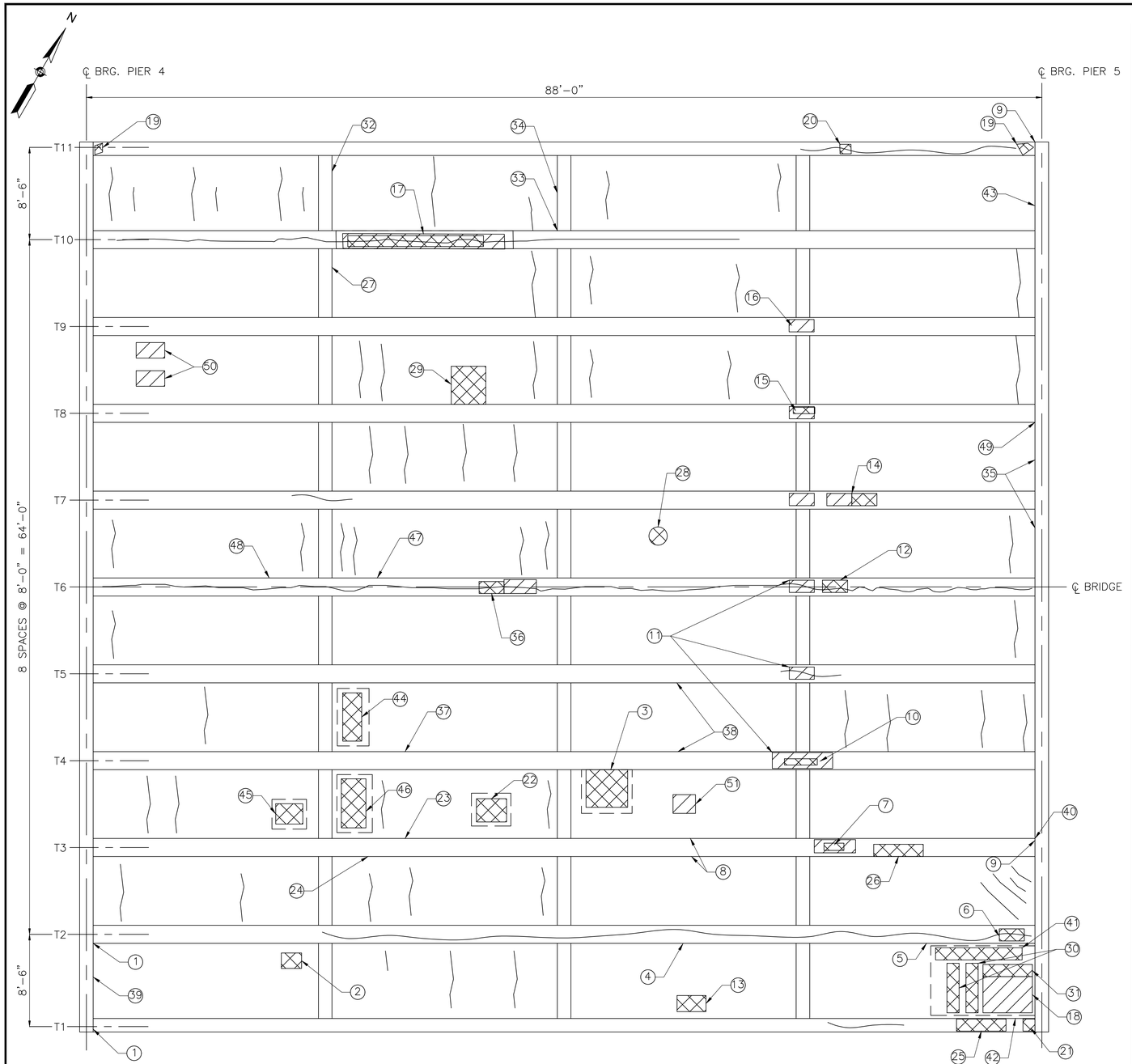
14-21-608762_UNDERSIDE REPAIR AREAS.DWG Plotted on 10-Jan-2024 2:38 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023



SPAN 5
SCALE: 3/16" = 1'-0"

LEGEND:

~~~ = HAIRLINE CRACK WITH EFFLORESCENCE

▨ = SPALL

▨ = HOLLOW SOUNDING AREA

T = TRUSS

▭ = PROPOSED REPAIR AREA

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
1	DIAPHR.	1'-6"	6"	5"	SPALL	DEEP
2	DECK	4"	1'-0"	1/2"	SPALL	SHALLOW
3	DECK	2'-0"	2'-10"	1-1/2"	SPALL W/EXPOSED REBAR	DEEP
4	TRUSS	2'-6"	4"	2"	SPALL	DEEP
5	TRUSS	12'-0"	1'-2"	8"	SPALL	DEEP
6	TRUSS	2'-8"	1'-0"	1"	SPALL W/EXPOSED REBAR	SHALLOW
7	TRUSS	5'-0"	1'-1"	6"	SPALL/HOLLOW AREA	DEEP
8	TRUSS	8"	1'-7"	1"	SPALL W/EXPOSED REBAR	DEEP
9	DIAPHR.	2'-0"	N/A	N/A	SPALL	SHALLOW
10	TRUSS	6'-0"	FULL WIDTH	4"	SPALL/HOLLOW AREA	DEEP
11	TRUSS	N/A	N/A	4"	SPALL	DEEP
12	TRUSS	1'-6"	1'-0"	4"	SPALL	DEEP
13	DECK	9"	1'-4"	0'-1/2"	SPALL W/EXPOSED REBAR	SHALLOW
14	TRUSS	5'-0"	FULL WIDTH	4"	SPALL/HOLLOW AREA	DEEP
15	TRUSS	6'-0"	FULL WIDTH	4"	SPALL/HOLLOW AREA	DEEP
16	TRUSS	1'-0"	FULL WIDTH	N/A	HOLLLOW AREA	SHALLOW
17	TRUSS	18'-6"	FULL WIDTH	4"	SPALL	DEEP
18	DECK	3'-0"	2'-0"	N/A	HOLLOW AREA	SHALLOW
19	TRUSS	1'-4"	8"	1"	SPALL W/EXPOSED REBAR	SHALLOW
20	TRUSS	5"	1'-0"	1"	SPALL W/EXPOSED REBAR	DEEP
21	TRUSS	10"	FULL WIDTH	6"	SPALL	DEEP
22	DECK	1'-4"	2'-0"	2"	SPALL W/EXPOSED REBAR	DEEP
23	TRUSS	1'-6"	4"	1"	8 POPOUTS	SHALLOW
24	TRUSS	1'-11"	0'-7"	1"	9 POPUTS	DEEP
25	TRUSS	3'-0"	5"	1"	SPALL W/EXPOSED REBAR	SHALLOW
26	TRUSS	2'-9"	6"	5"	SPALL	DEEP
27	DIAPHR.	1'-10"	4"	1/2"	POPOUTS	DEEP
28	DECK	1'-3"	1'-3"	3"	SPALL W/EXPOSED REBAR	SHALLOW
29	DECK	1'-0"	2'-0"	1-1/2"	SPALL W/EXPOSED REBAR	SHALLOW

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	19	43
PROJECT FILE NO. 608762			

UNDERSIDE REPAIR AREAS - SPAN 5
(SHEET 1 OF 2)

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
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REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
30	DECK	2'-8"	5"	1"	2 SPALLS/ DELAMINATION	DEEP
31	DECK	6"	1'-0"	1"	SPALL	SHALLOW
32	DIAPHR.	2'-0"	4"	1/2"	POPOUT	DEEP
33	DIAPHR.	9"	6"	1/2"	SPALL	SHALLOW
34	DIAPHR.	6"	3"	1/2"	3 POPOUTS	DEEP
35	DIAPHR.	3'-0"	FULL WIDTH	2"	SPALL W/EXPOSED REBAR	DEEP
36	TRUSS	1'-3"	6"	1"	2 SPALLS W/EXPOSED REBAR	DEEP
36	TRUSS	4'-0"	4"	N/A	HOLLOW AREA	SHALLOW
37	TRUSS	6"	6"	1"	6 POPOUTS	DEEP
38	TRUSS	1'-6"	2"	1/2"	6 POPOUTS	DEEP
39	DIAPHR.	5"	1'-0"	1/2"	2 SPALLS WITH EXPOSED REBAR	DEEP
40	DIAPHR.	3'-0"	2'-0"	2"	SPALL W/EXPOSED REBAR	DEEP
41	DECK	12'-0"	1'-6"	8"	SPALL W/EXPOSED REBAR	DEEP
42	TRUSS	1'-0"	4"	9"	SPALL	SHALLOW
43	DIAPHR.	3'-0"	1'-0"	1"	SPALL W/EXPOSED REBAR	SHALLOW
44	DECK	8"	3'-0"	1"	SPALL W/EXPOSED REBAR	SHALLOW
45	DECK	8"	2'-3"	1"	SPALL W/EXPOSED REBAR	SHALLOW
46	DECK	1'-2"	4'-0"	1"	SPALL W/EXPOSED REBAR	SHALLOW
47	TRUSS	8"	1'-0"	1"	SPALL W/EXPOSED REBAR	SHALLOW
48	TRUSS	1'-0"	3"	3"	SPALL W/EXPOSED REBAR	DEEP
49	DIAPHR.	10"	2'-6"	4"	SPALL W/EXPOSED REBAR	DEEP
50	DECK	1'-0"	2'-0"	N/A	HOLLOW AREA	SHALLOW
51	DECK	6"	1'-6"	N/A	HOLLOW AREA	SHALLOW

SPAN 5 CONTINUED

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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UNDERSIDE REPAIR AREAS - SPAN 5
(SHEET 2 OF 2)

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
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14-21-608762_UNDERSIDE REPAIR AREAS.DWG Plotted on 10-Jan-2024 2:58 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

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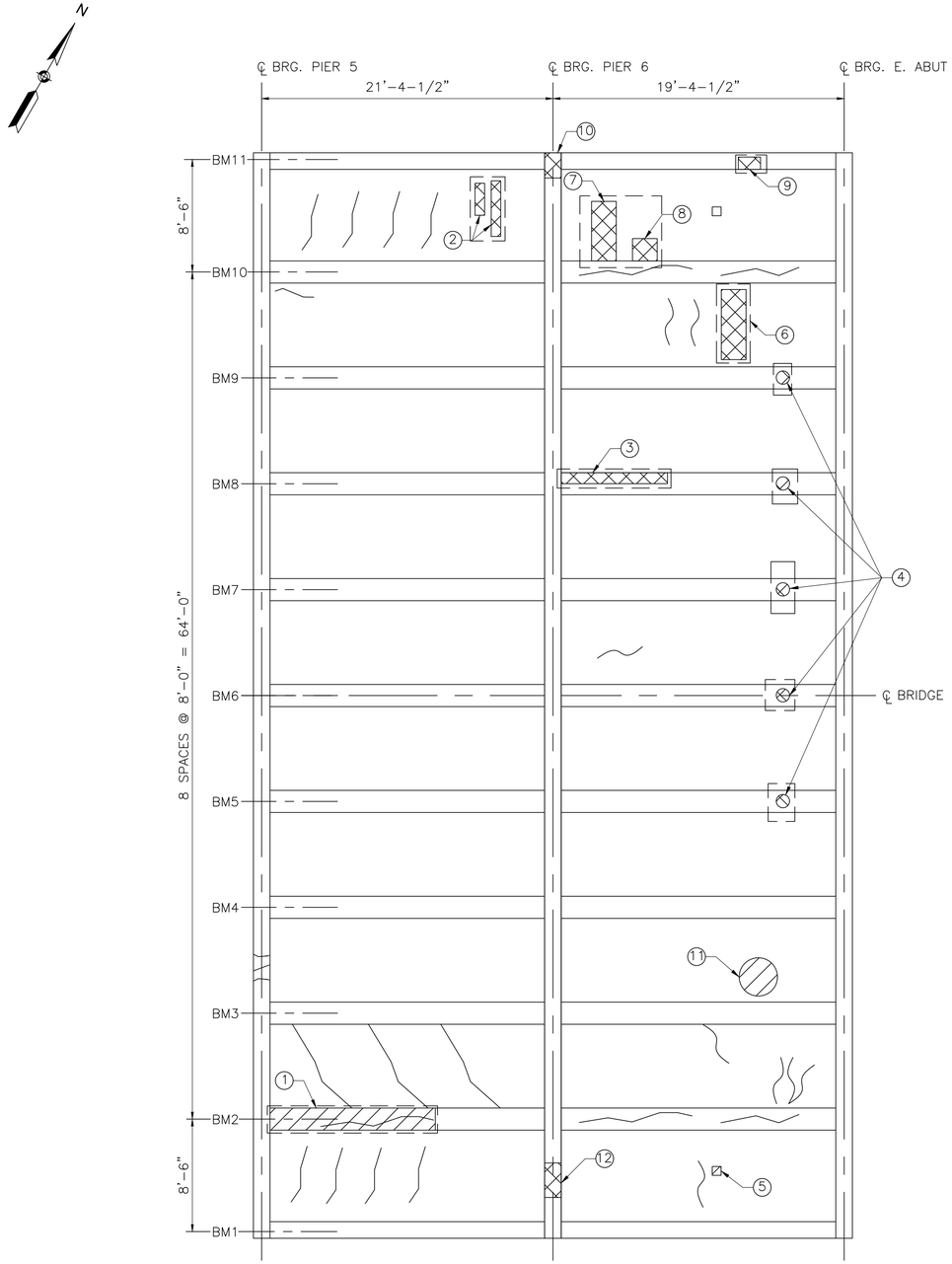
MA	HIP(BR)-0036(018)X	21	43
PROJECT FILE NO.	608762		

UNDERSIDE REPAIR AREAS - SPANS 6 AND 7 (SHEET 1 OF 1)



SPANS 6 AND 7
SCALE: 3/16" = 1'-0"

REPAIR AREA #	LOCATION	LENGTH	WIDTH	DEPTH	DEFICIENCY	REPAIR TYPE
1	BEAM	8'-0"	FULL WIDTH	N/A	CRACK WITH DELAMINATION	SHALLOW
2	DECK	3'-0"	4"	1"	2 SPALLS WITH EXPOSED REBAR	FULL DEPTH
3	BEAM	9"	6"	3/4"	5 SPALLS WITH EXPOSED REBAR	DEEP
4	BEAM	1'-0"	3"	1/2"	5 SPALLS	SHALLOW
5	DECK	6" DIA.	N/A	1"	SPALL	DEEP
6	DECK	2'-6"	1'-0"	2"	SPALL WITH EXPOSED REBAR/DELAMINATION	FULL DEPTH
7	DECK	4'-6"	8"	1"	SPALL WITH EXPOSED REBAR	FULL DEPTH
8	DECK	1'-8"	4"	1"	SPALL WITH EXPOSED REBAR	FULL DEPTH
9	BEAM	1'-0"	6"	1"	SPALL WITH EXPOSED REBAR	DEEP
10	DIAPHRAGM	2'-2"	4"	3"	SPALL	DEEP
11	DECK	1'-0" DIA.	N/A	N/A	DELAMINATION	SHALLOW
12	DIAPHRAGM	2'-6"	4"	1-1/2"	SPALL WITH EXPOSED REBAR	DEEP

UNDERSIDE REPAIR NOTES:

1. SEE SHEET 3 FOR REPAIR NOTES.

LEGEND:

~~~ = HAIRLINE CRACK WITH EFFLORESCENCE
XXXX = SPALL
//// = HOLLOW SOUNDING AREA
BM = BEAM
[- - -] = PROPOSED REPAIR AREA

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
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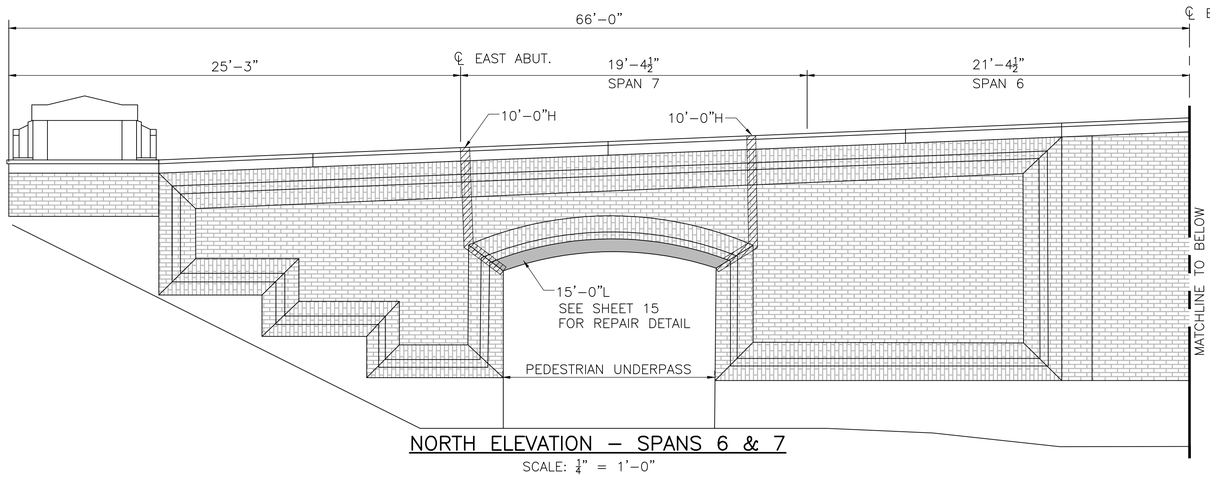
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

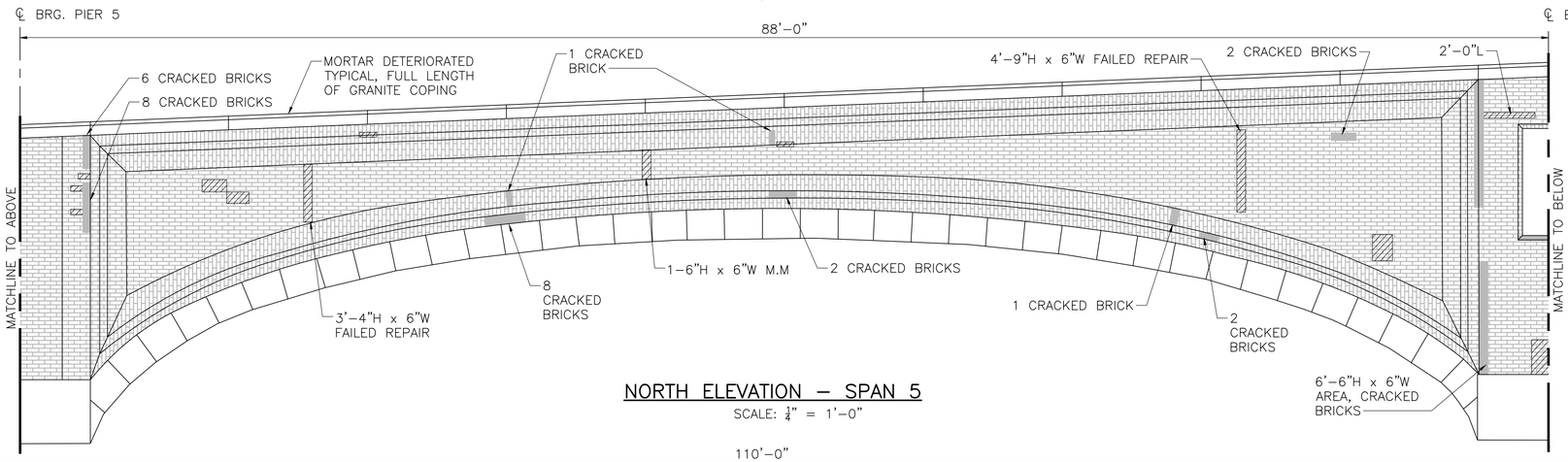
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	22	43
PROJECT FILE NO.	608762		

BRIDGE ELEVATION (SHEET 1 OF 4)



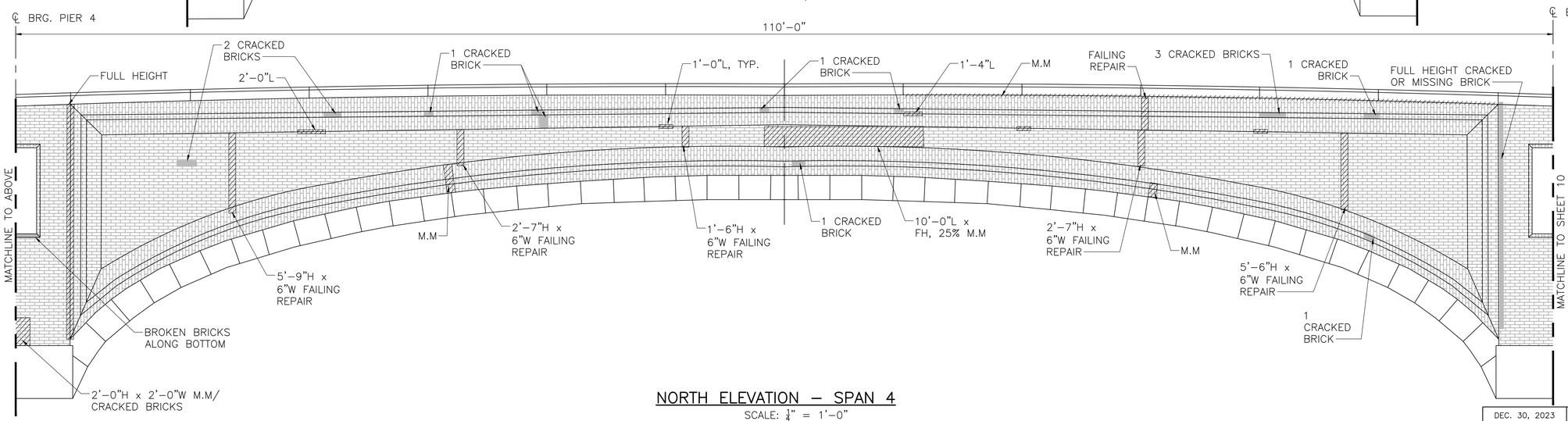
NORTH ELEVATION – SPANS 6 & 7

SCALE: ¼" = 1'-0"



NORTH ELEVATION – SPAN 5

SCALE: ¼" = 1'-0"



NORTH ELEVATION – SPAN 4

SCALE: ¼" = 1'-0"

BRICK REPAIR NOTES:

1. REPAIR AREAS ARE APPROXIMATE AND BASED ON ROUTINE BRIDGE INSPECTION CONDUCTED IN AUGUST 2023.
2. CONTRACTOR SHALL LOCATE ALL AREAS OF DETERIORATION PRIOR TO START OF WORK.
3. AREAS OF REPAIR ON FACADES SHALL USE SALVAGED BRICK FROM INTERIOR OF BRIDGE PARAPET.
4. SEE SHEETS 15 TO 18 FOR REPAIR DETAILS.

LEGEND:

- MISSING/DAMAGED BRICK
- MISSING MORTAR (M.M.)
- L – LONG
- H – HIGH
- W – WIDE

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
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THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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22-25-608762_BRIDGE ELEVATIONS.DWG Plotted on 10-Jan-2024 3:00 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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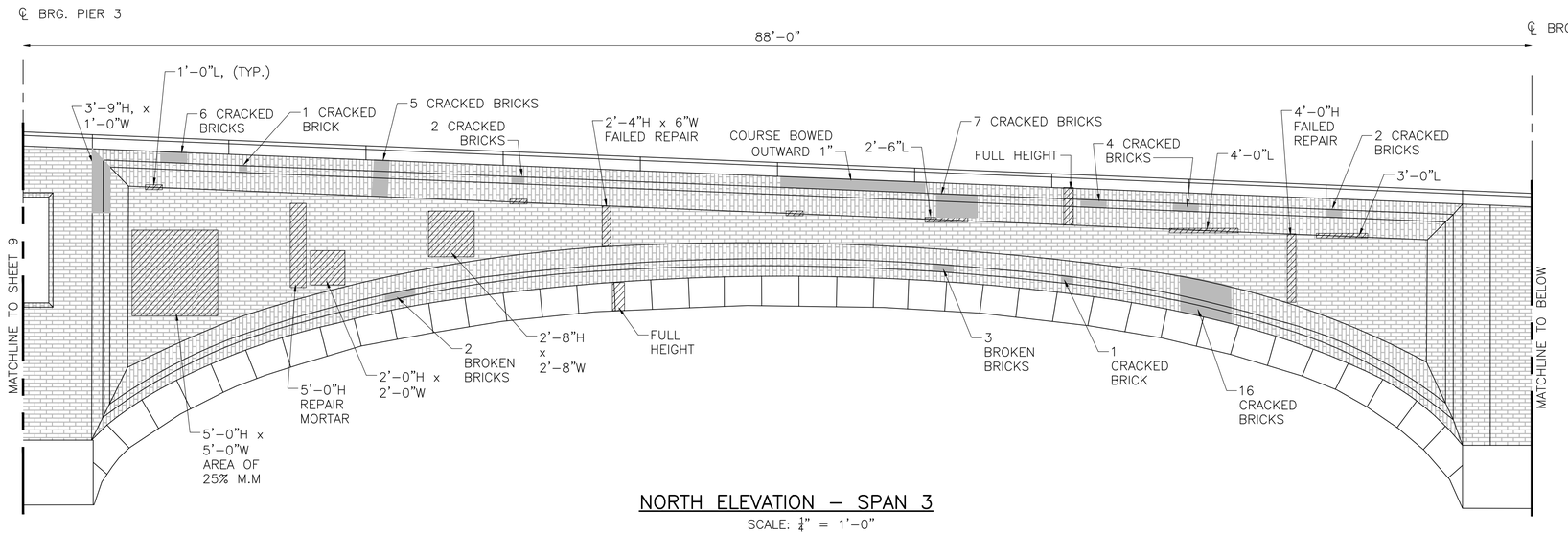
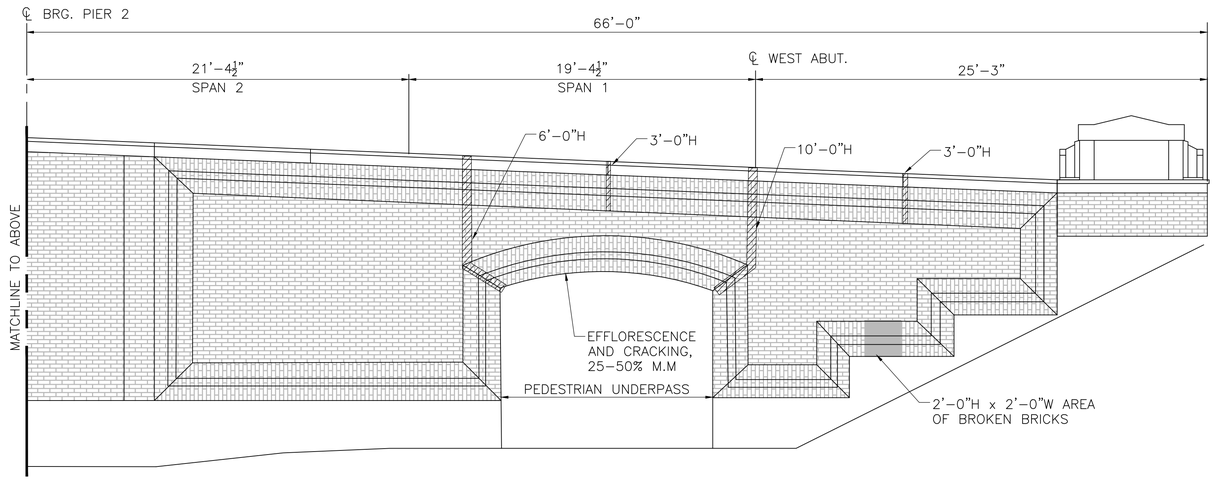
BRIDGE ELEVATION (SHEET 2 OF 4)



NORTH ELEVATION – SPAN 3

SCALE: $\frac{1}{4}$" = 1'–0"



NORTH ELEVATION – SPANS 1 & 2

SCALE: $\frac{1}{4}$" = 1'–0"

REPAIR NOTES:

1. SEE SHEET 11 FOR NOTES.

LEGEND:

- MISSING/DAMAGED BRICK
- MISSING MORTAR (M.M.)
- L – LONG
- H – HIGH
- W – WIDE

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BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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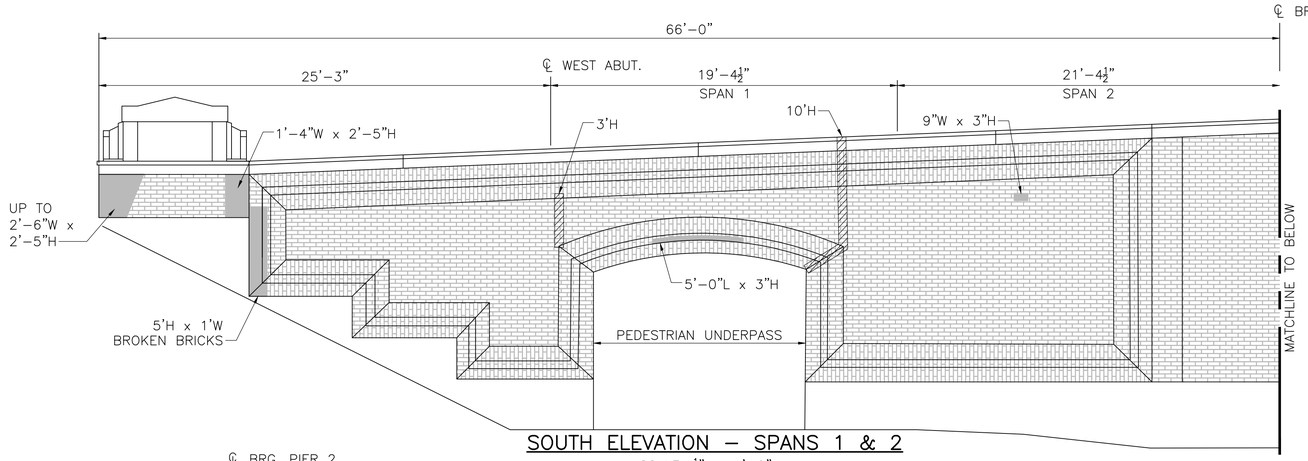
BRIDGE ELEVATION (SHEET 3 OF 4)

REPAIR NOTES:

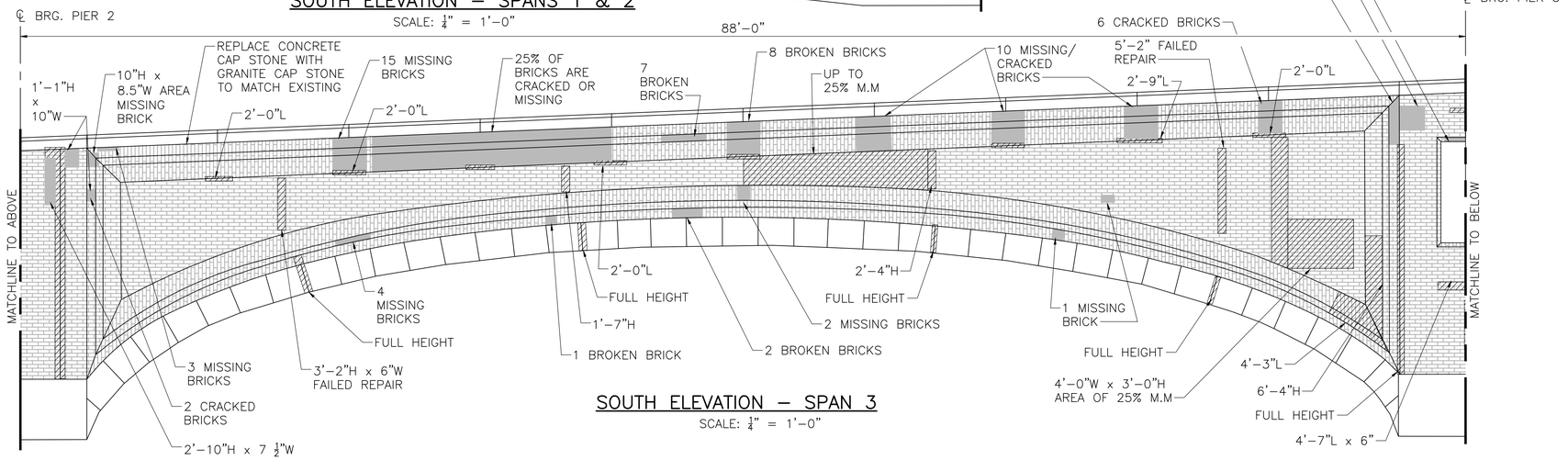
1. SEE SHEET 11 FOR NOTES.

LEGEND:

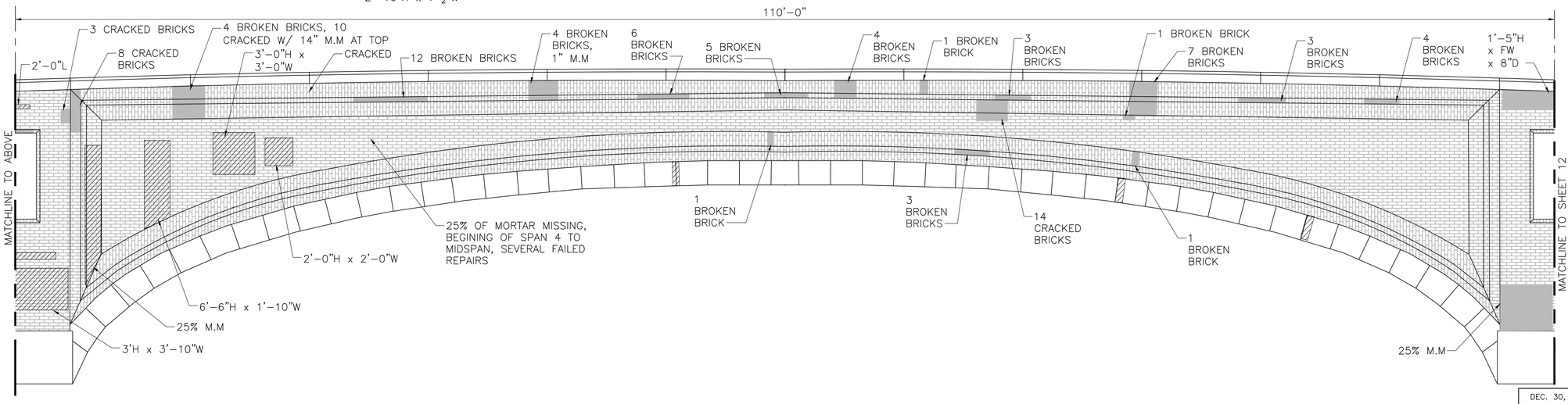
- MISSING/DAMAGED BRICK
- MISSING MORTAR (M.M.)
- L – LONG
- H – HIGH
- W – WIDE



SOUTH ELEVATION – SPANS 1 & 2
SCALE: ¼" = 1'–0"



SOUTH ELEVATION – SPAN 3
SCALE: ¼" = 1'–0"



SOUTH ELEVATION – SPAN 4
SCALE: ¼" = 1'–0"

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BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

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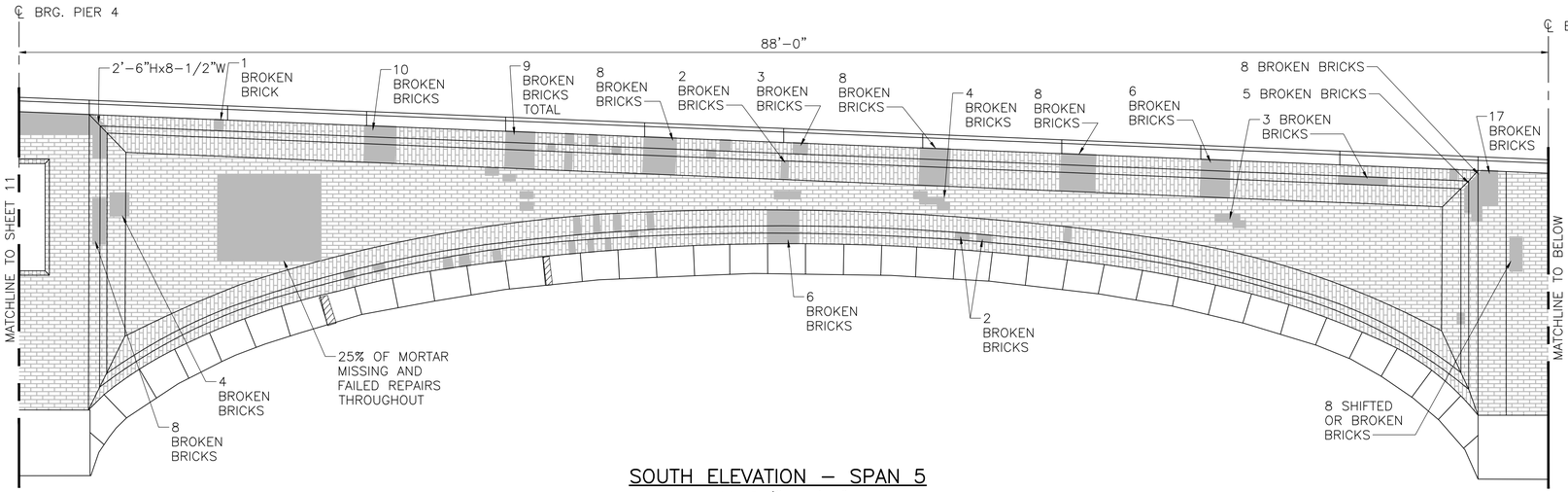
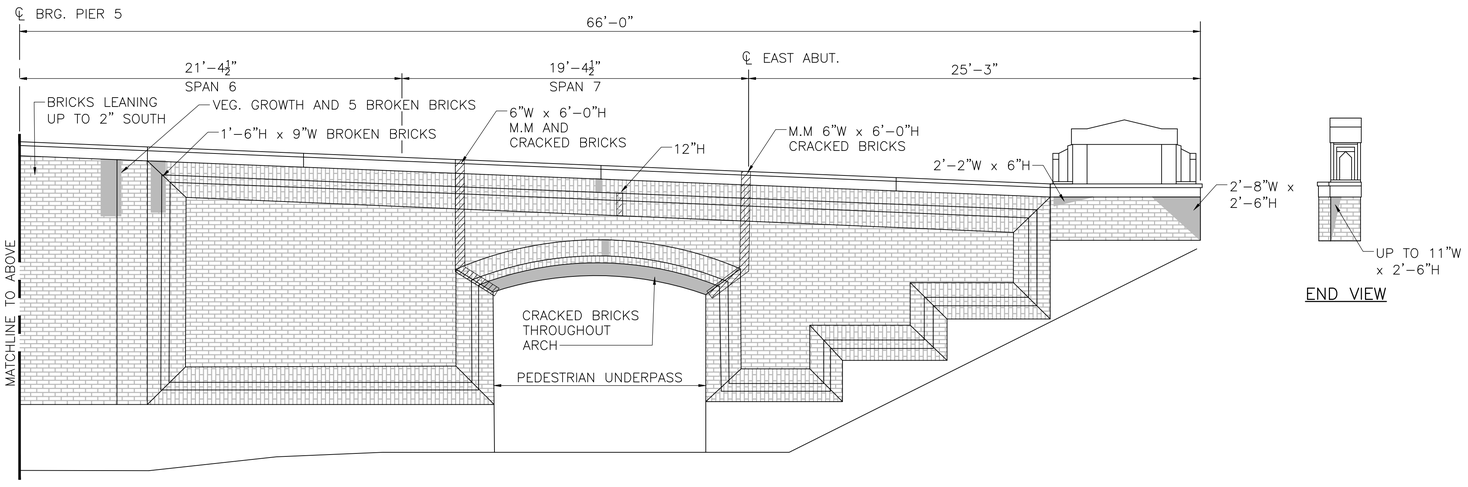
BRIDGE ELEVATION (SHEET 4 OF 4)



SOUTH ELEVATION – SPAN 5
SCALE: $\frac{1}{4}$" = 1'–0"



SOUTH ELEVATION – SPANS 6 & 7
SCALE: $\frac{1}{4}$" = 1'–0"

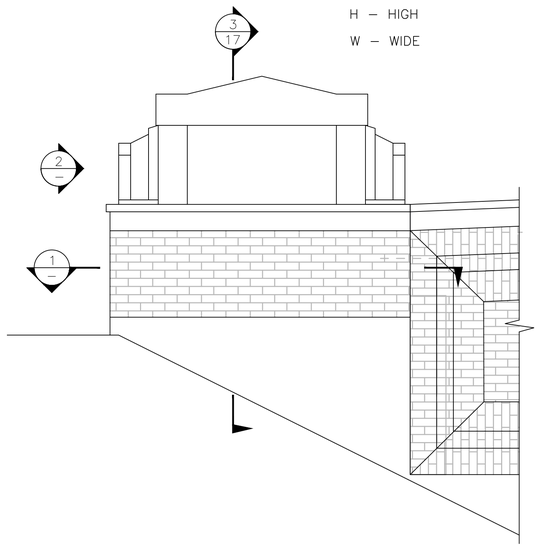
END VIEW

REPAIR NOTES:

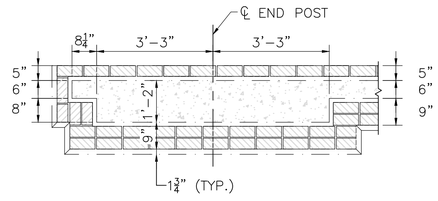
1. SEE SHEET 11 FOR NOTES.

LEGEND:

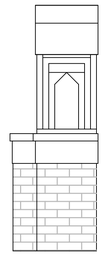
- MISSING/DAMAGED BRICK
- MISSING MORTAR (M.M.)
- L – LONG
- H – HIGH
- W – WIDE



TYPICAL END POST ELEVATION
SCALE: $\frac{1}{2}$" = 1'–0"



SECTION 1 – (1)
SCALE: $\frac{1}{2}$" = 1'–0"



ELEVATION 2 – (2)
SCALE: $\frac{1}{2}$" = 1'–0"

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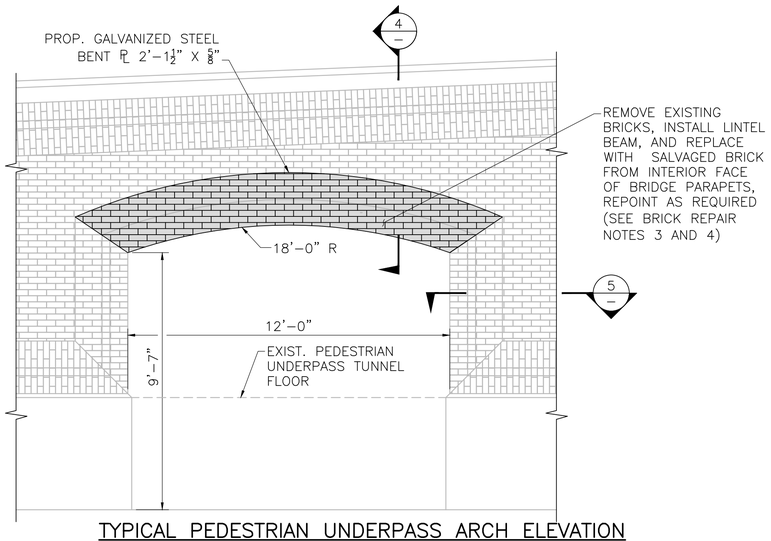
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

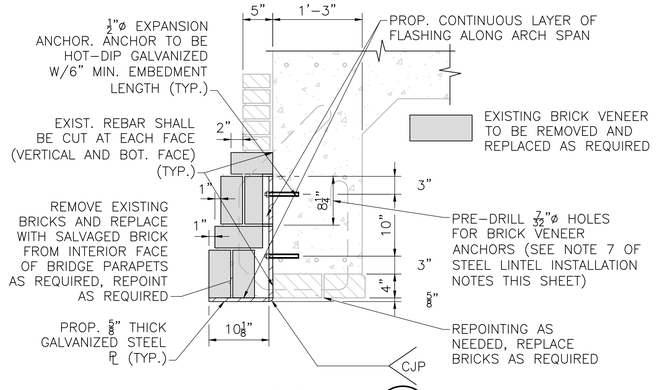
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	26	43
	PROJECT FILE NO. 608762		

REPAIR DETAILS (SHEET 1 OF 4)

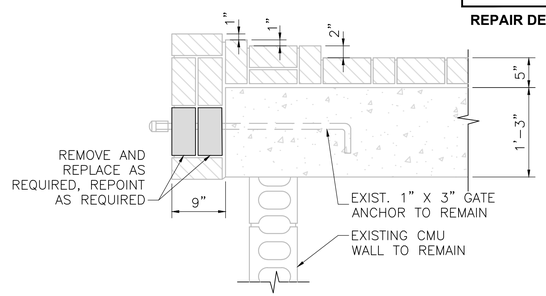


TYPICAL PEDESTRIAN UNDERPASS ARCH ELEVATION

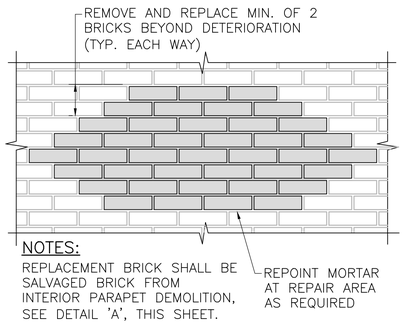
SCALE: ⅜" = 1'-0"



SECTION 4
SCALE: 1" = 1'-0"



SECTION 5
SCALE: 1" = 1'-0"

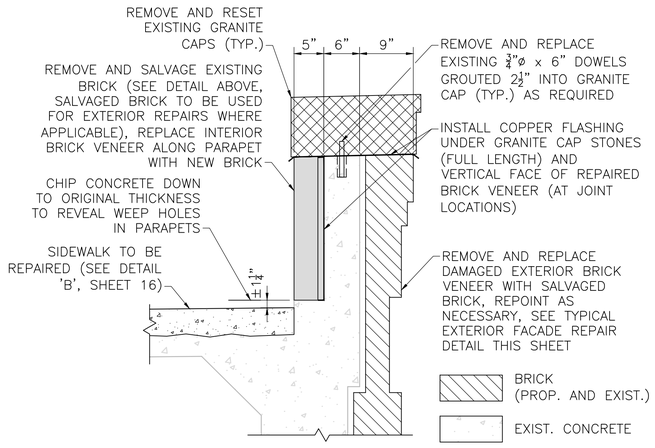


NOTES:

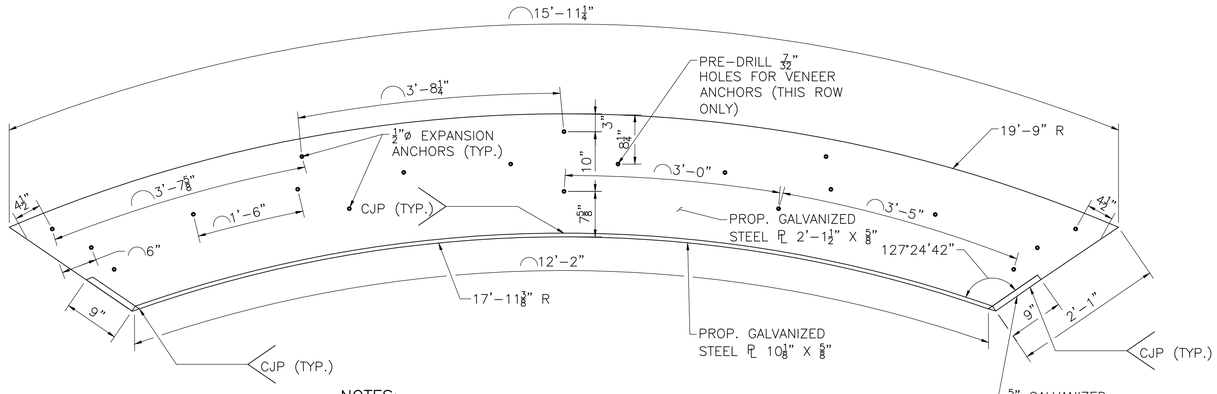
REPLACEMENT BRICK SHALL BE SALVAGED BRICK FROM INTERIOR PARAPET DEMOLITION, SEE DETAIL 'A', THIS SHEET.

TYPICAL EXTERIOR FACADE REPAIR DETAIL

SCALE: 1" = 1'-0"



DETAIL A
SCALE: 1" = 1'-0" 2



NOTES:

ALL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50 AND BE GALVANIZED AND PAINTED (MOCK UP PAINT TO MATCH BRICK COLOR. SEE SPECIFICATIONS).

STEEL LINTEL DETAIL

SCALE: 1" = 1'-0"

BRICK REPAIR NOTES:

1. SEE SHEETS 11 THROUGH 14 FOR SPECIFIC LOCATIONS OF BRICK DETERIORATION.
2. BRICK USED FOR INTERIOR FACE OF RAILING SHALL BE NEW BRICK PER ITEM 706.41. NO SALVAGED BRICK SHALL BE USED FOR INTERIOR FACE OF PARAPET REPAIRS.
3. SALVAGED BRICK SHALL BE USED FOR ALL EXTERIOR FACADE REPAIRS. IF NO SALVAGED BRICK IS AVAILABLE, NEW BRICK MAY BE USED.
4. SALVAGED BRICK SHALL BE TAKEN FROM INTERIOR FACE OF PARAPETS DURING REMOVAL OF EXISTING BRICK VENEER. EXTERIOR BRICK IS NOT INTENDED TO BE SALVAGED DUE TO THE NATURE OF THE EXTERIOR REPAIRS.

STEEL LINTEL INSTALLATION NOTES:

1. INSTALL TEMPORARY SHORING FOR THE BOTTOM LAYERS OF BRICK UNDER THE ARCH. TEMPORARY SHORING PLAN SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
2. REMOVE AND DISCARD BROKEN BRICKS FROM THE ARCH RING AND REMOVE AND SALVAGE INTACT BRICKS FOR FUTURE USE.
3. INSTALL EXPANSION ANCHORS AS SHOWN ABOVE. CONTRACTOR SHALL AVOID EXISTING REBAR WHEN INSTALLING ANCHORS.
4. INSTALL 9" LONG STEEL PLATES FLUSH TO THE TOP OF THE LINTEL PLATE TO COVER THE REMAINDER OF THE CONCRETE SURFACE.
5. INSTALL FLASHING ONTO THE PLATES. OVERLAP THE FLASHING AND SEAL WITH MASTIC PAPER.
6. CONTRACTOR SHALL PRE-DRILL HOLES AS REQUIRED TO PLACE VENEER ANCHORS. VENEER ANCHORS SHALL BE HOT-DIP GALVANIZED STEEL AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
7. ALL WELDING AND FABRICATION SHALL BE IN CONFORMANCE WITH THE AASHTO/AWS WELDING CODE (AASHTO/AWS D1.5).
8. ALL STEEL SHALL MEET THE REQUIREMENTS OF AASHTO M 270, GRADE 50 KSI.

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BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

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MA	HIP(BR)-0036(018)X	27	43
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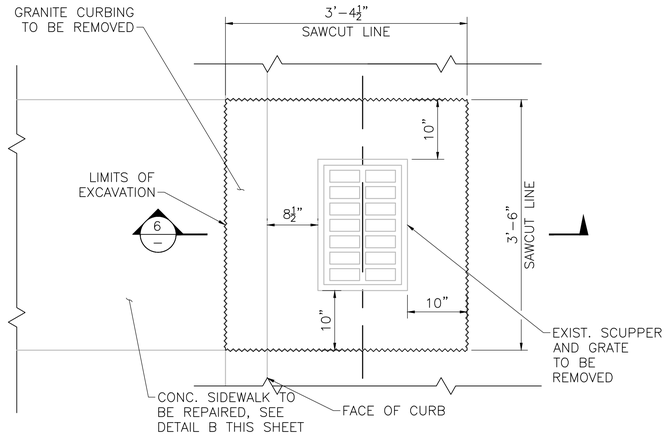
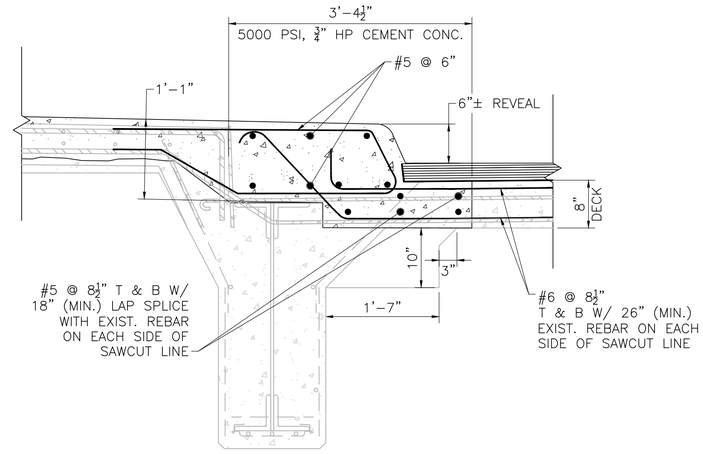
REPAIR DETAILS (SHEET 2 OF 4)



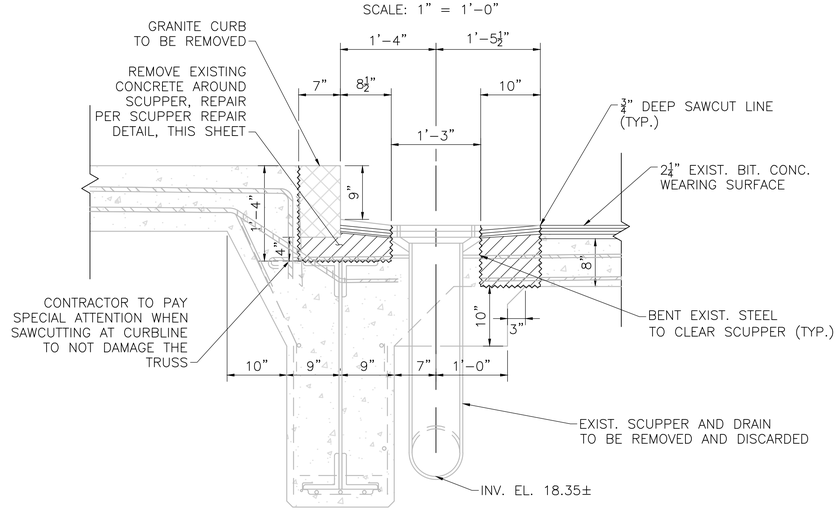
SCUPPER REMOVAL PLAN

SCALE: 1" = 1'–0"



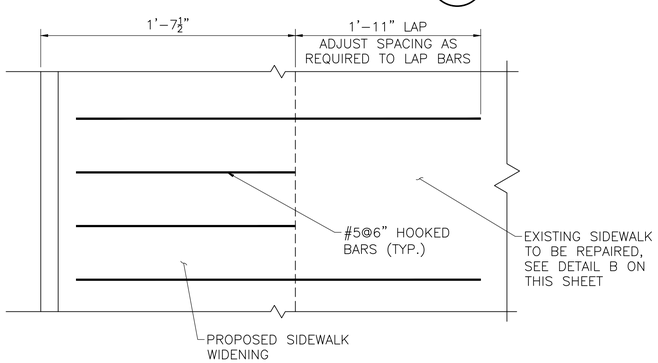
SCUPPER REPAIR DETAIL

SCALE: 1" = 1'–0"



SECTION 6 / –

SCALE: 1" = 1'–0"

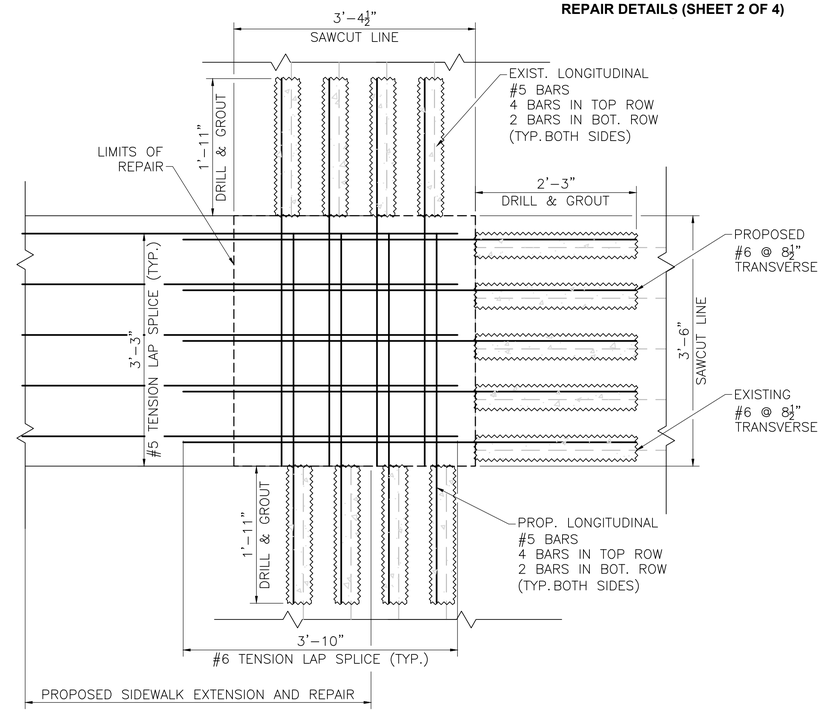


SIDEWALK WIDENING PLAN

SCALE: 1½" = 1'–0"

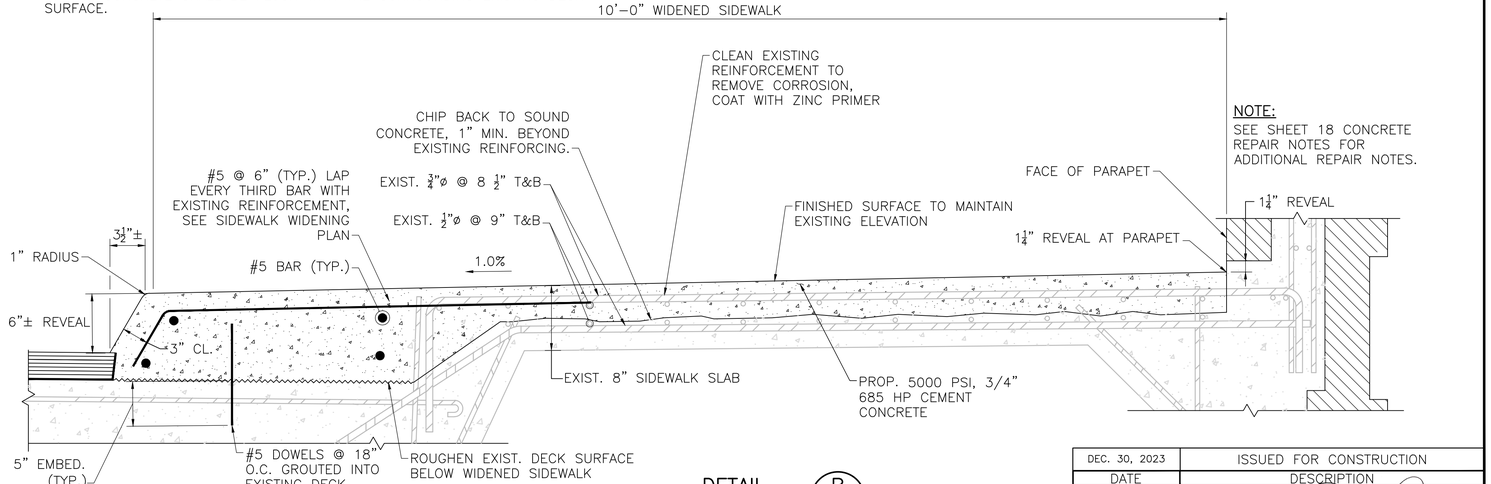
SCUPPER REPAIR SEQUENCE NOTES:

1. THERE ARE FOUR (4) SCUPPER LOCATIONS ON THE ELIOT BRIDGE.
2. REMOVE DETERIORATED EXISTING PAVEMENT, WATERPROOFING MEMBRANE FROM THE BRIDGE DECK AREAS TO THE LIMITS DIRECTED BY THE ENGINEER. THE PERIMETERS OF THE EXCAVATED AREAS SHALL BE SAWCUT PRIOR TO THE PAVEMENT REMOVAL. THE SHAPE OF THE EXCAVATED AREAS SHALL BE RECTANGULAR WITH SQUARE CORNERS. THE PAVEMENT AND MEMBRANE REMOVAL ABOVE THE CONCRETE EXCAVATION AREAS SHALL BE CONSIDERED INCIDENTAL TO THE CONCRETE EXCAVATION.
3. EXCAVATE CONCRETE (FULL OR PARTIAL DEPTH) TO THE LIMITS DIRECTED ON THE REMOVAL DETAIL OR UNTIL SOUND CONCRETE. LIMITS SHALL BE APPROVED BY THE ENGINEER. CLEAN AND RE–TIE THE EXPOSED STEEL REINFORCEMENT IF NECESSARY.
4. REMOVE AND DISPOSE OF THE EXISTING SCUPPER, RELATED STEEL SUPPORT MATERIALS, AND DRAINAGE MATERIALS FROM THE DECK.
5. FORM THE REPAIR AREA AND INSTALL NEW STEEL REINFORCEMENT AS DIRECTED BY THE ENGINEER.
6. MIX AND PLACE CONCRETE IN THE EXCAVATED AREAS ASSOCIATED WITH FULL OR PARTIAL DEPTH REPAIR NOTES ON THE FOLLOWING SHEETS. THE TOP SURFACE OF THE CONCRETE SHALL BE FLUSH WITH THE SURROUNDING EXISTING DECK SURFACE.



SCUPPER REPAIR PLAN

SCALE: 1" = 1'–0"



NOTE:
SEE SHEET 18 CONCRETE REPAIR NOTES FOR ADDITIONAL REPAIR NOTES.

DETAIL B / 2

SCALE: 1½" = 1'–0"

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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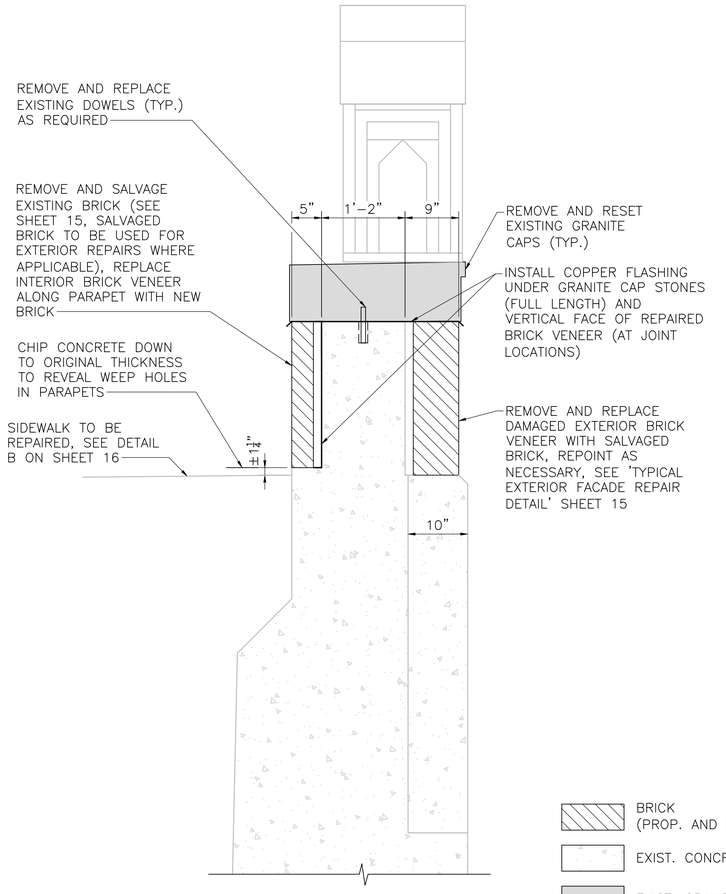
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	28	43
PROJECT FILE NO.	608762		

REPAIR DETAILS (SHEET 3 OF 4)



BRICK (PROP. AND EXIST.)

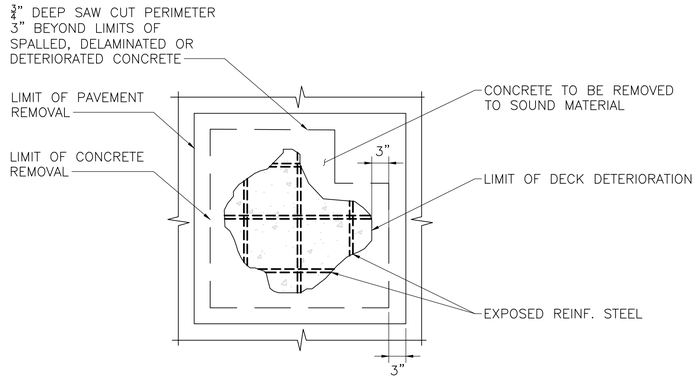
EXIST. CONCRETE

EXIST. GRANITE

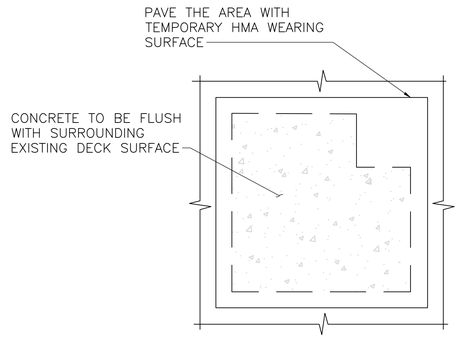
NOTES:

SEE SHEETS 11 THROUGH 14 FOR SPECIFIC LOCATIONS OF BRICK DETERIORATION.

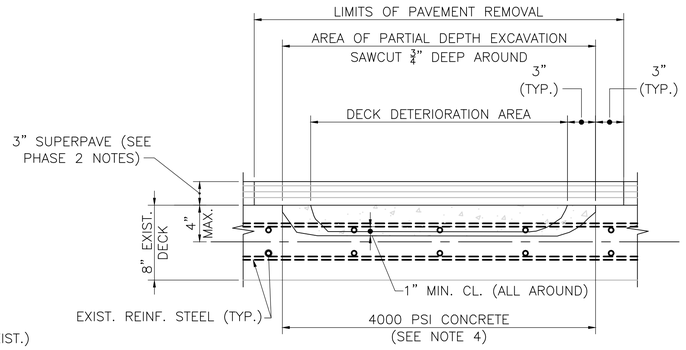
SECTION 3 / 14
SCALE: 1" = 1'-0"



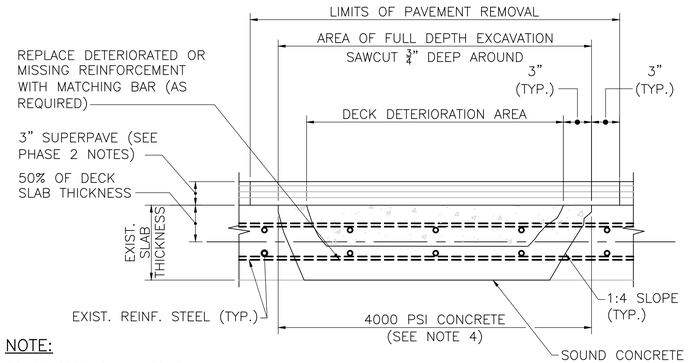
LIMITS OF REPAIR AREA – CONCRETE REMOVAL
SCALE: 1" = 1'-0"



REPAIRED AREA PRIOR TO MILL AND PAVE
SCALE: 1" = 1'-0"



PARTIAL DEPTH DECK REPAIR
SCALE: 1" = 1'-0"



NOTE:

CONTRACTOR SHALL CONTAIN ALL DEBRIS AND THAT NO DEBRIS SHALL BE ALLOWED TO FALL INTO THE CHARLES RIVER.

FULL DEPTH DECK REPAIR
SCALE: 1" = 1'-0"

BRIDGE DECK REPAIR SEQUENCE NOTES:

PHASE 1: DETERIORATED CONCRETE REMOVAL

1. REMOVE DETERIORATED EXISTING PAVEMENT, WATERPROOFING MEMBRANE FROM THE BRIDGE DECK AREAS TO THE LIMITS DIRECTED BY THE ENGINEER. THE PERIMETERS OF THE EXCAVATED AREAS SHALL BE SAWCUT PRIOR TO THE PAVEMENT REMOVAL. THE SHAPE OF THE EXCAVATED AREAS SHALL BE RECTANGULAR WITH SQUARE CORNERS. THE PAVEMENT AND MEMBRANE REMOVAL ABOVE THE CONCRETE EXCAVATION AREAS SHALL BE CONSIDERED INCIDENTAL TO THE CONCRETE EXCAVATION.
2. EXCAVATE EXISTING TEMPORARY DECK REPAIR MATERIAL AND/OR DETERIORATED CONCRETE (FULL OR PARTIAL DEPTH) TO THE LIMITS DIRECTED BY THE ENGINEER. CLEAN AND RE-TIE THE EXPOSED STEEL REINFORCEMENT.
3. INSTALL NEW STEEL REINFORCEMENT AS DIRECTED BY THE ENGINEER.
4. MIX AND PLACE CONCRETE IN THE EXCAVATED AREAS. THE TOP SURFACE OF THE REPAIR MATERIAL SHALL BE FLUSH WITH THE SURROUNDING EXISTING DECK SURFACE. CONTRACTOR MAY SUBSTITUTE RAPID SET REPAIR MORTAR WITH APPROVAL FROM THE ENGINEER FOR SOME REPAIR AREAS.
5. PAVE REPAIR AREA WITH HMA FOR PATCHING UNTIL FINAL MILLING AND PAVING WORK. (SEE PHASE 2)

PHASE 2: FINAL PAVING

1. REPAIR AREA TO BE PERMANENTLY PAVED AS PART OF THE BRIDGE MILLING AND PAVING ITEM. REFER TO SHEET 5 FOR MILL AND PAVING NOTES AND LIMITS.
2. ALL DECK REPAIRS SHALL BE COMPLETED PRIOR TO FINAL MILL AND PAVE.

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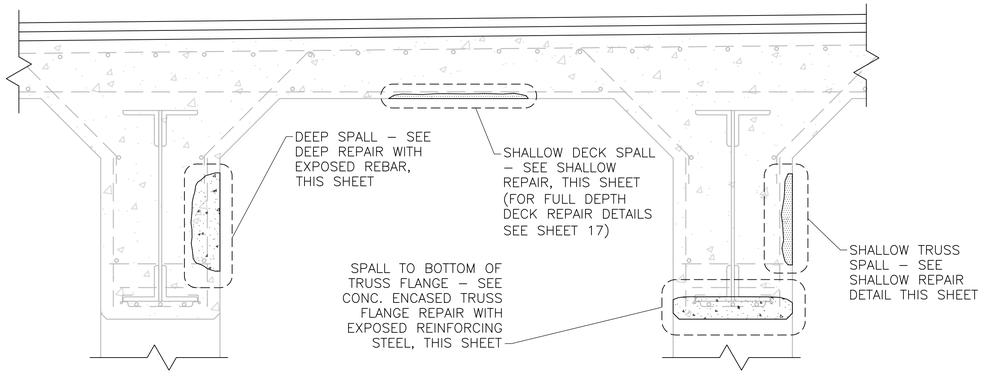
26-29-608762_REPAIR DETAILS.DWG Plotted on 10-Jan-2024 3:28 PM

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	29	43
	PROJECT FILE NO. 608762		

REPAIR DETAILS (SHEET 4 OF 4)

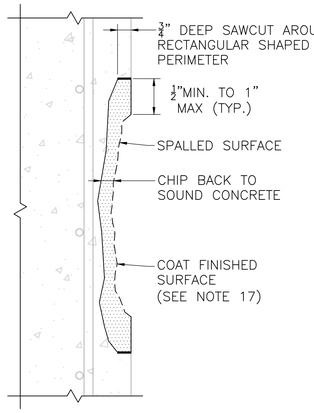


NOTES

1. SEE UNDERSIDE REPAIR AREAS, SHEETS 3 THROUGH 10 FOR LOCATIONS OF REPAIR AREAS.
2. CONTRACTOR SHALL CONTAIN ALL DEBRIS AND NO DEBRIS SHALL BE ALLOWED TO FALL INTO THE CHARLES RIVER.

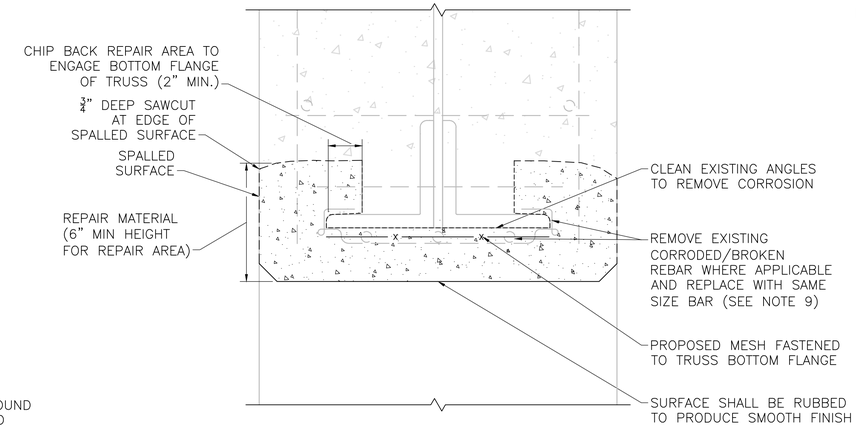
TYPICAL TRUSS AND DECK REPAIR SECTION

SCALE: 1" = 1'–0"



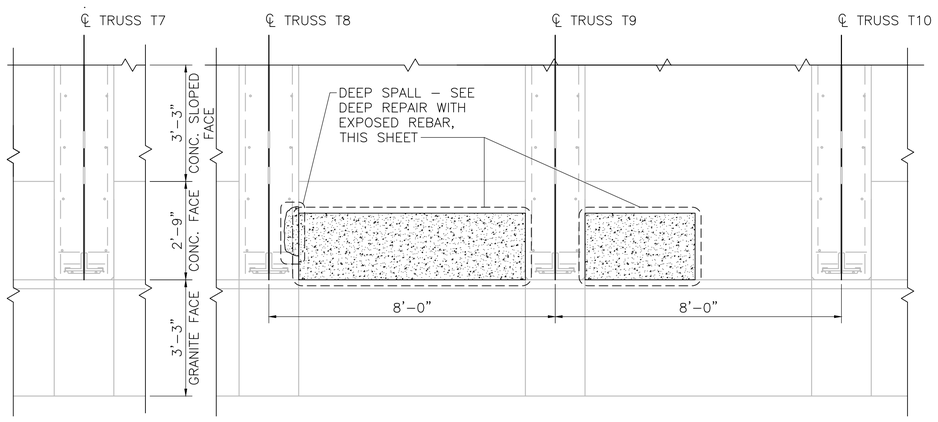
SHALLOW REPAIR

(AVERAGE DEPTH OF REPAIR IS LESS THAN 2" AND NO EXPOSED REBAR)



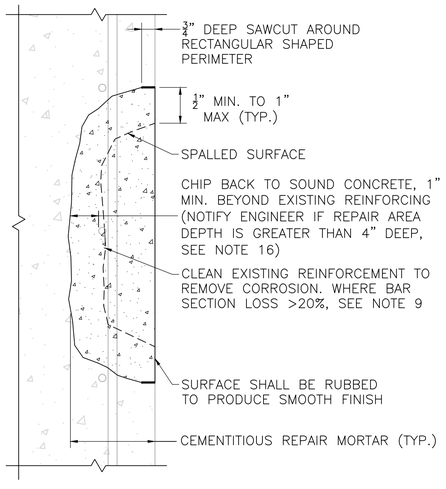
CONCRETE ENCASED TRUSS FLANGE REPAIR WITH EXPOSED REINFORCING STEEL

SCALE: 3" = 1'–0"



PIER 5 WEST FACE TRUSS BASE REPAIR ELEVATION

SCALE: ½" = 1'–0"



DEEP REPAIR WITH EXPOSED REBAR

(AVERAGE DEPTH OF REPAIR IS GREATER THAN 2" OR SPALL WITH EXPOSED REBAR)

CONCRETE REPAIR NOTES:

1. FOR GENERAL NOTES, SEE HIGHWAY DRAWINGS.
2. FOR LOCATIONS OF CONCRETE REPAIRS, SEE UNDERSIDE REPAIR AREAS, SHEETS 3 THROUGH 10.
3. CONCRETE DEFICIENCIES REQUIRING REPAIR AS INDICATED ON THE PLANS HAVE BEEN DETERMINED BY A FIELD INSPECTION. ALL OF THE DEFICIENCY LOCATIONS, KNOWN TO EXIST AT THE TIME, HAVE BEEN SHOWN TO INDICATE THE APPROXIMATE EXTENT OF DETERIORATION THAT WILL HAVE TO BE REPAIRED BY THE CONTRACTOR.
4. THE ANTICIPATED EXTENT OF CONCRETE REPAIR HAS BEEN INDICATED ON THE CONTRACT PLANS. PRIOR TO COMMENCING REPAIR WORK, THE CONTRACTOR SHALL PERFORM SOUNDING AND INSPECTION OF THE EXISTING CONCRETE ENCASED TRUSSES TO DEFINE THE EXTENTS AND THE TYPES OF REPAIRS TO BE PERFORMED AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
5. SAWCUT A RECTANGULAR OUTLINE AROUND THE LIMITS OF SPALLING/DELAMINATION. THE SAWCUT IS TO BE PERPENDICULAR TO THE FACE OF CONCRETE.
6. REMOVE ALL LOOSE AND DELAMINATED CONCRETE TO PROVIDE A SOUND BOND BETWEEN EXISTING CONCRETE AND NEW CONCRETE REPAIR/MORTAR. IF REQUIRED, CONTINUE CHIPPING TO PROVIDE A MINIMUM CLEAR DISTANCE OF 1" BEHIND THE INNERMOST LAYER OF EXPOSED REINFORCING BARS AS SHOWN IN THE DEEP REPAIR DETAIL.
7. CEMENTITIOUS MORTAR FOR PATCHING SHALL BE CHOSEN FROM MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.
8. IN DEEP REPAIRS, EXISTING REINFORCING STEEL, IF EXPOSED, SHALL BE THOROUGHLY CLEANED OF CORROSION. EXISTING EPOXY COATED STEEL SHALL BE COATED WITH AN EPOXY ZINC PRIMER AND THEN BONDING COMPOUND AFTER CLEANING AND IMMEDIATELY PRIOR TO INSTALLATION OF NEW CONCRETE REPAIR/MORTAR. SEE SPECIAL PROVISIONS ITEM 127.411.
9. IN DEEP REPAIRS WITH EXPOSED REINFORCEMENT WHERE BAR SECTION LOSS IS GREATER THAN 20%, ADDITIONAL REINFORCEMENT IS REQUIRED. IN SITUATIONS WHERE THE ENGINEER DETERMINES THAT THE DETERIORATED REINFORCEMENT MUST BE REPLACED, A NEW SECTION OF REBAR, MATCHING THE ORIGINAL SIZE OF THE DETERIORATED REBAR, SHALL BE SPLICED ONTO THE EXISTING BAR. NEW REINFORCEMENT SHALL MATCH EXISTING.
10. AT THE TIME THE REPAIR MORTAR IS APPLIED, THE EXISTING CONCRETE SUBSTRATE SHOULD BE SATURATED SURFACE DRY.
11. WHERE CONCRETE REMOVAL AND REPLACEMENT NECESSITATES ADJACENT SEPARATE CONCRETE PLACEMENTS, CONCRETE REMOVAL SHALL NOT BE ALLOWED WITHIN 1 FOOT OF ADJACENT REPAIR AREAS. ADJACENT AREAS WHERE THIS 1 FOOT BUFFER IS NOT ATTAINABLE SHALL BE COMBINED INTO A SINGLE REPAIR AREA.
12. IN SEQUENCING WORK, THE CONTRACTOR SHALL NOT BEGIN CONCRETE REMOVAL AT A LOCATION ADJACENT TO A COMPLETED REPAIR UNTIL A MINIMUM OF 7 CURING DAYS HAVE PASSED.
13. ALL CRACKS EQUAL TO OR GREATER THAN 0.125" IN WIDTH, OR AS OTHERWISE DIRECTED BY THE ENGINEER, SHALL BE REPAIRED.
14. EXISTING CRACKS WITH SURROUNDING SOUND CONCRETE SHALL BE REPAIRED BY EPOXY INJECTION AS DIRECTED BY THE ENGINEER. SEE SPECIFICATION ITEM 107.855.
15. EXISTING CRACKS WITH SURROUNDING UNSOUND CONCRETE SHALL BE REPAIRED AS SHOWN IN THE TYPICAL DEEP OR SHALLOW REPAIR DETAILS, AS DIRECTED BY THE ENGINEER.
16. IN AREAS WHERE CONCRETE DETERIORATION EXTENDS DEEPER THAN 4", CONTRACTOR SHALL CONTACT ENGINEER BEFORE PROCEEDING WITH ADDITIONAL CONCRETE REMOVAL.
17. IN SHALLOW REPAIRS, COAT REPAIRED SURFACE AFTER LOOSE CONCRETE REMOVAL.

TYPICAL SPALL AND/OR DELAMINATED CONCRETE REPAIR DETAILS

(DETAILS APPLY TO BOTH VERTICAL AND HORIZONTAL SURFACES)
SCALE: 3" = 1'–0"

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26-29-608762_REPAIR DETAILS.DWG Plotted on 10-Jan-2024 3:31 PM
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STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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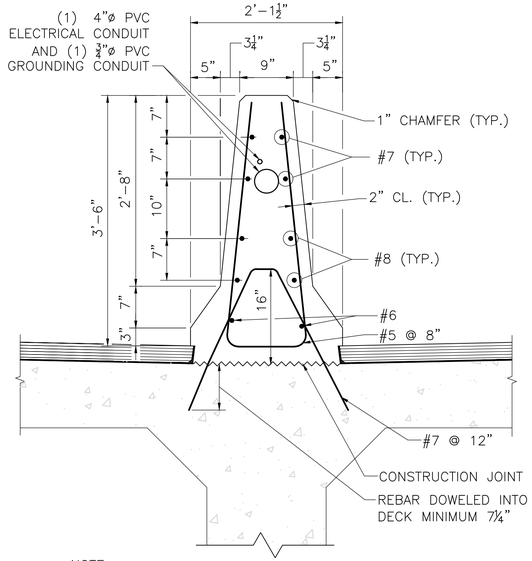
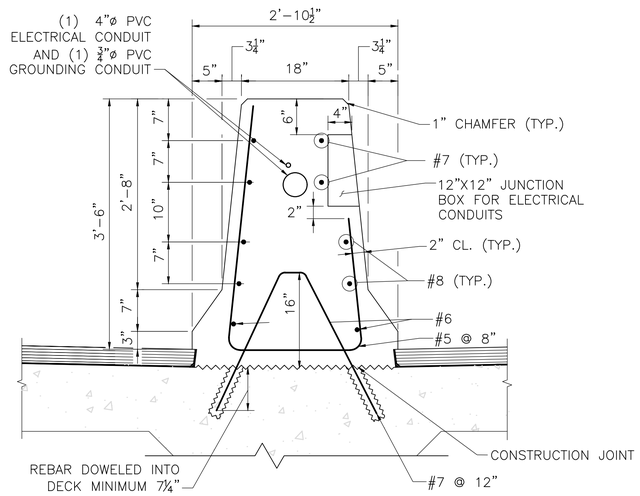
MEDIAN AND JOINT DETAILS

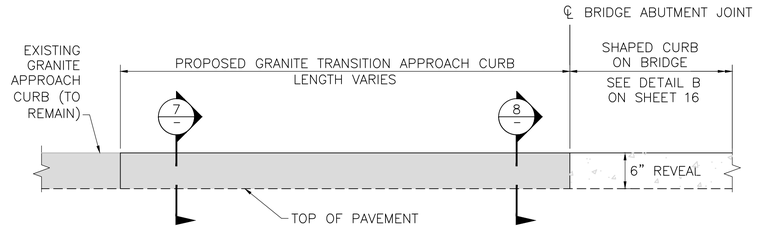


NOTE:
CAST–IN–PLACE DOUBLE FACE MEDIAN BARRIER SHALL BE 5000 PSI, ¾ IN, 685 HP CEMENT CONCRETE.

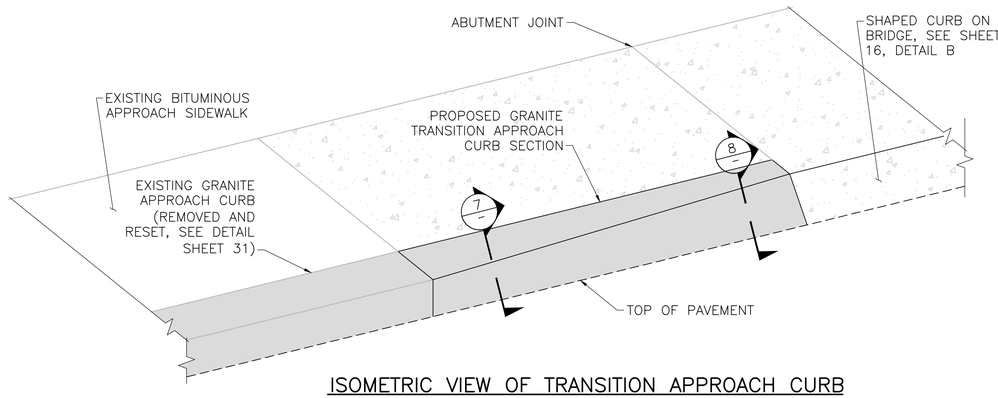
DOUBLE FACE MEDIAN BARRIER
SCALE: 1" = 1'–0"



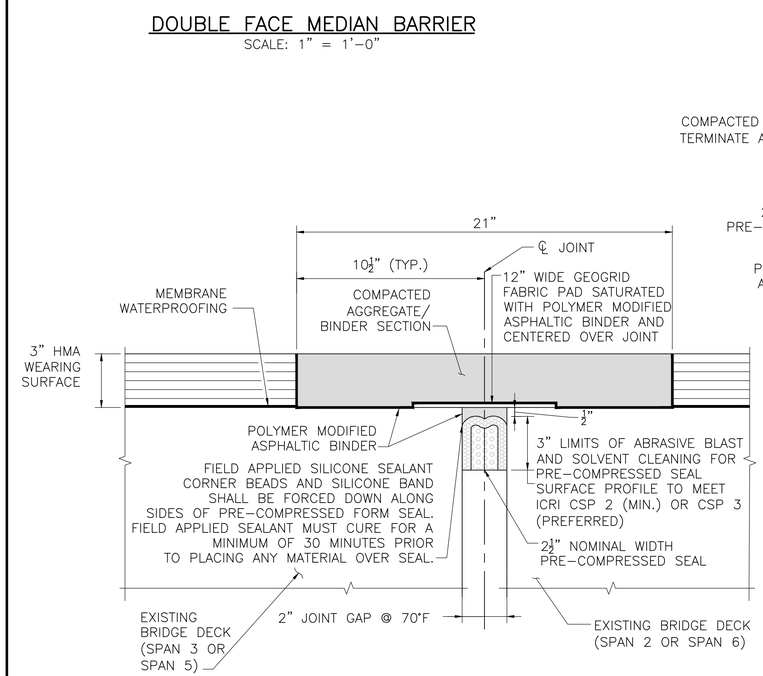
REINFORCEMENT DETAILS AT JUNCTION BOX
SCALE: 1" = 1'–0"



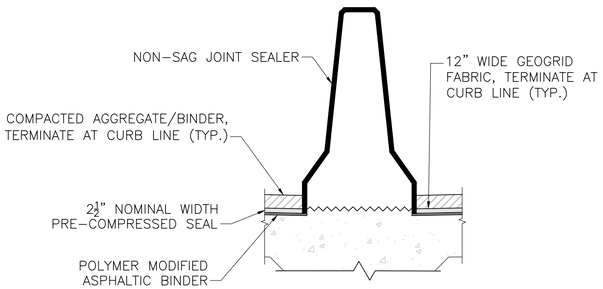
TRANSITION APPROACH CURB DETAIL – ELEVATION VIEW
SCALE: 1" = 1'–0"



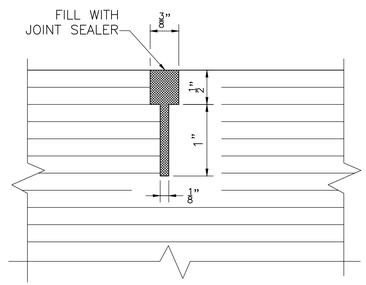
ISOMETRIC VIEW OF TRANSITION APPROACH CURB
SCALE: 1" = 1'–0"



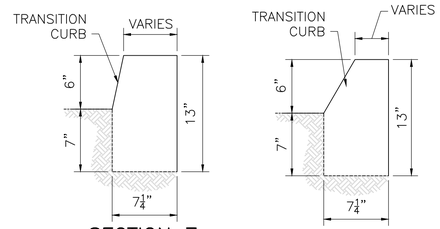
MODIFIED ASPHALTIC PLUG SECTION
SCALE: 3" = 1'–0"



BARRIER JOINT DETAIL
SCALE: ¾" = 1'–0"



PAVEMENT SAWCUT DETAIL
FULL SIZE



SECTION 7
SCALE: 1½" = 1'–0"

SECTION 8
SCALE: 1½" = 1'–0"

MODIFIED ASPHALTIC BRIDGE JOINT CONSTRUCTION SEQUENCE:

1. EXISTING JOINT REMOVAL, DECK RECONSTRUCTION, AND WEARING SURFACE PLACEMENT SHALL BE CONSTRUCTED IN ADVANCE OF NEW JOINT INSTALLATION.
2. MARK OUT THE PROPOSED EDGES OF THE ASPHALTIC JOINT AT THE PARAPETS.
3. IMPLEMENT TRAFFIC CONTROL PLAN FOR THE EXISTING JOINT REPLACEMENT.
4. SAWCUT THE PERIMETERS OF THE PROPOSED ASPHALTIC PLUG JOINT, AND REMOVE THE HMA WEARING SURFACE, MEMBRANE WATERPROOFING, ELASTOMERIC CONCRETE, NEOPRENE STRIP SEAL, STEEL EXTRUSIONS, AND ANCHORAGES.
5. THE JOINT OPENING SHALL BE FREE OF ALL CONTAMINANTS SUCH AS GREASE, DUST, AND DIRT. PRIOR TO JOINT SYSTEM INSTALLATION, THE JOINT WALLS SHALL BE BLOWN CLEAN WITH OIL–FREE COMPRESSED AIR AND WIPED CLEAN WITH A CLEAN WET CLOTH TO THE BOTTOM OF THE PRE–COMPRESSED SEAL MATERIAL PLUS 1" TO REMOVE ANY DUST REMAINING. THE SUBSTRATE PREP SHALL FOLLOW THE ICRI CONCRETE SURFACE PROFILE STANDARDS TO ACHIEVE A SURFACE PROFILE OF CSP 2 (MIN.) OR 3 (PREFERRED) IN ORDER TO ACCEPT THE JOINT SYSTEM.
6. INSTALL THE PRE–COMPRESSED SEAL JOINT SYSTEM PER THE MANUFACTURER'S RECOMMENDATIONS.
7. COAT THE SURFACES OF THE BLOCKOUT AND THE REMAINING JOINT OPENING WITH THE POLYMER MODIFIED ASPHALTIC BINDER.
8. PLACE THE 12" WIDE GEOGRID FABRIC PAD SATURATED WITH POLYMER MODIFIED ASPHALTIC BINDER CENTER OVER THE JOINT.
9. PLACE COMPACTED AGGREGATE/BINDER TO FILL ALL VOIDS AND OBTAIN A FINAL AND EVEN SURFACE WITH THE ADJACENT WEARING SURFACE.
10. IMPLEMENT APPROVED TRAFFIC CONTROL PLAN FOR NEXT PHASE OF CONSTRUCTION AND REPEAT STEPS 3 THROUGH 8.
11. IT IS NOT NECESSARY TO CONSTRUCT THE JOINT AT MEAN TEMPERATURE; HOWEVER, THE MANUFACTURER SHOULD BE CONSULTED FOR INSTALLATION GUIDELINES FOR EXTREME CLIMATE CONDITIONS.
12. THE PRE–COMPRESSED SEAL JOINT SYSTEM SHALL BE CONTINUOUS THROUGH BARRIERS AS APPROPRIATE TO THE CONDITIONS AT HAND. CONTINUITY OF THE SEAL SHALL BE ACHIEVED THROUGH THE USE OF FACTOR–FABRICATED UNIVERSAL OR CUSTOM TRANSITIONS SUPPLIED BY THE PRE–COMPRESSED JOINT SEAL MANUFACTURER. THE FIELD SPLICE OF THE PRE–COMPRESSED SEAL SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

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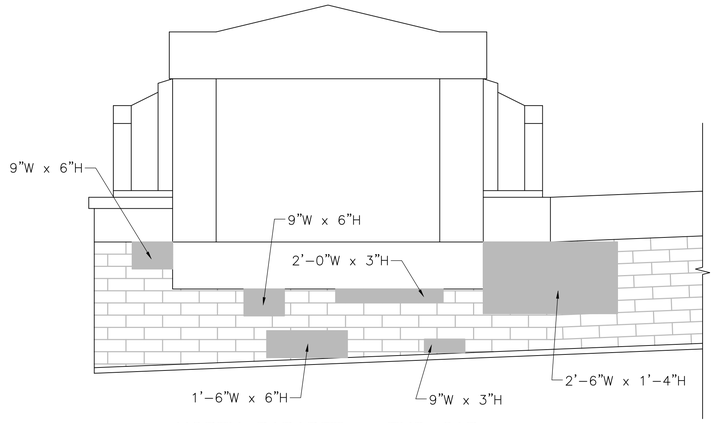
	PROJECT FILE NO. 608762		

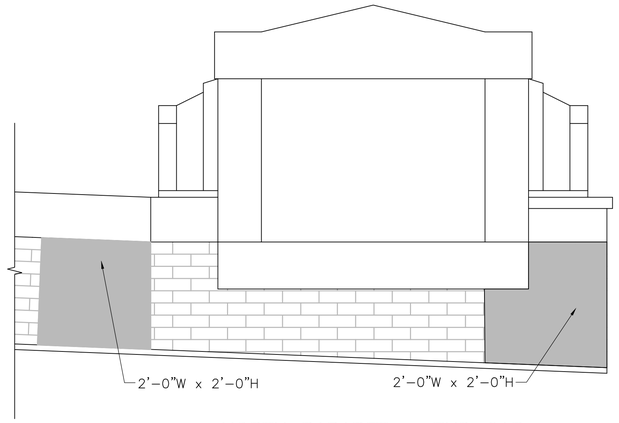
END POST DETAILS

NOTES:

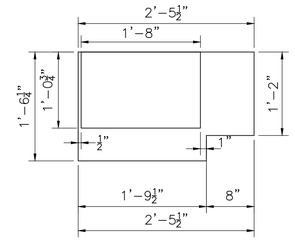
1. SEE SHEET 15 FOR REPAIR DETAILS AND REQUIREMENTS OF BRICK REMOVAL.



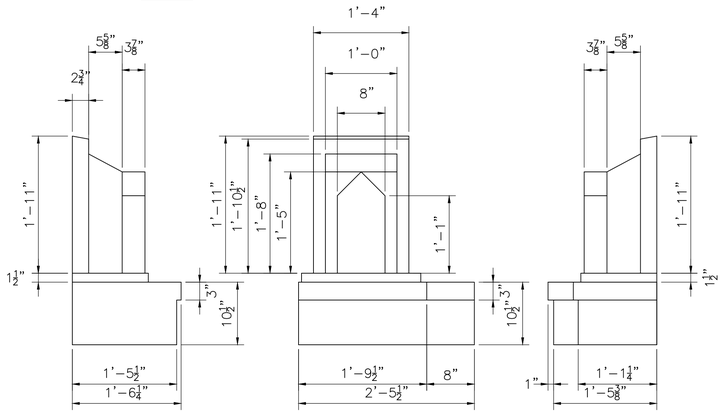
NORTH PARAPET – END CAP
WEST END (SOUTH FACE SHOWN)
SCALE: ¾" = 1'–0"



NORTH PARAPET – END CAP
EAST END (SOUTH FACE SHOWN)
SCALE: ¾" = 1'–0"

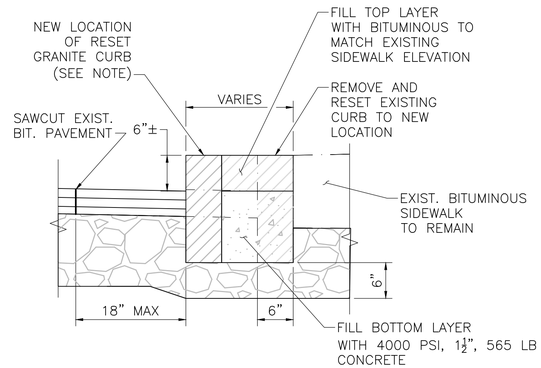


PLAN



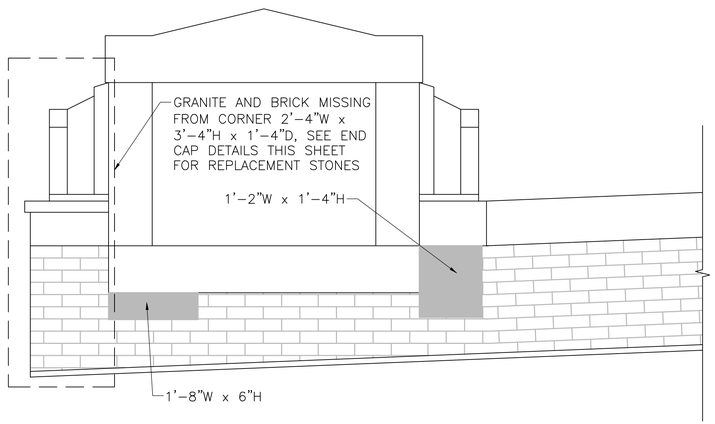
SIDE ELEVATION — FRONT ELEVATION — SIDE ELEVATION

END CAP DETAILS
SCALE: 1" = 1'–0"

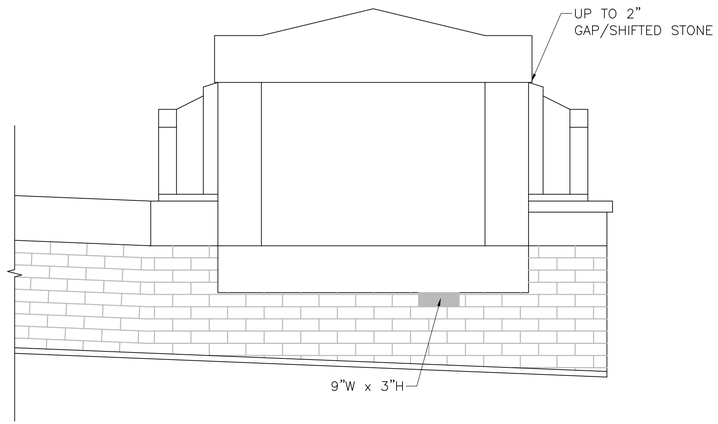


NOTE: AT BRIDGE JOINTS DISCARD EXISTING CURB AND REPLACE WITH TRANSITION CURB, SEE SHEET 19

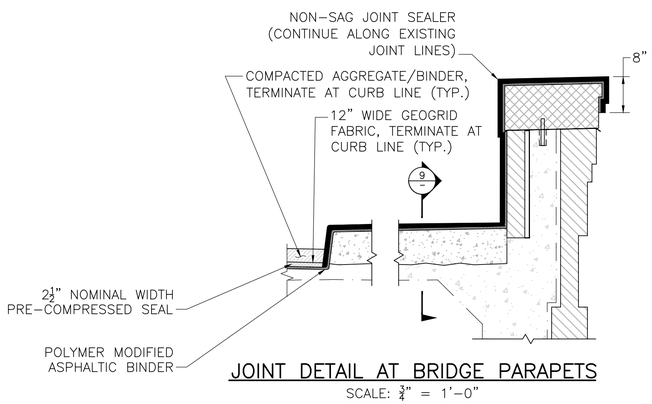
GRANITE CURB – REMOVE AND RESET
SCALE: 1" = 1'–0"



SOUTH PARAPET – END CAP
EAST END (NORTH FACE SHOWN)
SCALE: ¾" = 1'–0"



SOUTH PARAPET – END CAP
WEST END (NORTH FACE SHOWN)
SCALE: ¾" = 1'–0"

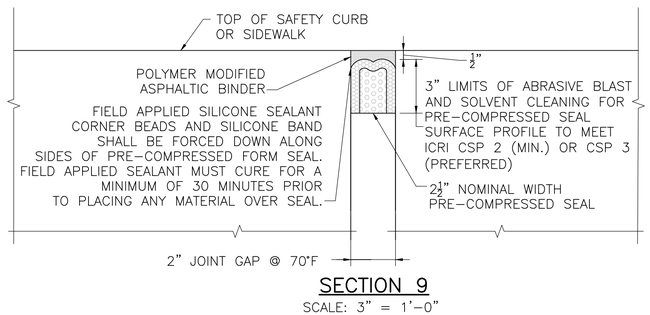


JOINT DETAIL AT BRIDGE PARAPETS
SCALE: ¾" = 1'–0"

LEGEND:

MISSING/DAMAGED BRICK L – LONG W – WIDE

MISSING MORTAR (M.M.) H – HIGH



SECTION 9
SCALE: 3" = 1'–0"

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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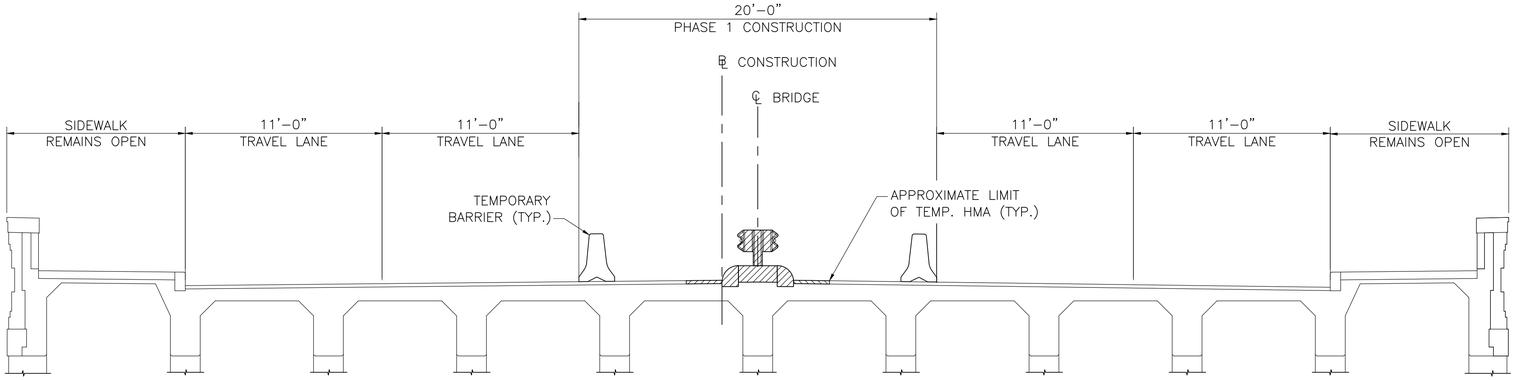
USE ONLY PRINTS OF LATEST DATE

30-31-608762_MEDIAN, JOINT & END POST DETAILS.DWG Plotted on 8-Feb-2024 1:04 PM
30-DECEMBER-2023 ISSUED FOR CONSTRUCTION

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	32	43
	PROJECT FILE NO. 608762		

CONSTRUCTION PHASING (SHEET 1 OF 2)



PHASE 1 CONSTRUCTION

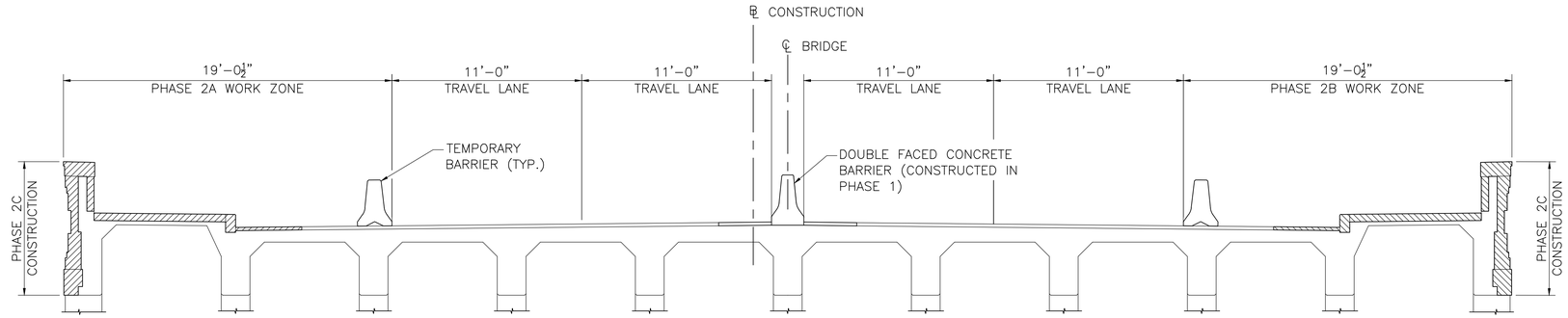
SCALE: $\frac{1}{4}$" = 1'–0"

PHASE 1 NOTES:

1. INSTALL TEMPORARY BARRIER ALONG BOTH SIDES OF MEDIAN.
2. REMOVE AND DISCARD EXISTING MEDIAN GUARDRAIL, LIGHTING, AND DEMOLISH EXISTING CONCRETE MEDIAN.
3. CONSTRUCT PROPOSED MEDIAN BARRIER.
4. INSTALL MEDIAN LIGHTING AND END TREATMENTS.
5. PERFORM FULL DEPTH DECK REPAIRS WITHIN PHASE 1 WORK AREA. SEQUENCE SUCH THAT ALL CURING OF REPAIR CONCRETE HAS BEEN COMPLETED PRIOR TO COMPLETION OF PHASE 1.
6. PLACE TEMPORARY HMA AS REQUIRED WITHIN WORK LIMITS UNTIL FINAL MILLING AND PAVING.

NOTES:

1. ROADWAY CLOSURES TO BE COORDINATED WITH MASSDOT DISTRICT 6 TRAFFIC ENGINEERS. DAYTIME OR NIGHTTIME WORK HOURS SHALL BE ALLOWED FOR PHASES 1 THROUGH 2C.
2. PHASE 1 MUST BE COMPLETED PRIOR TO THE IMPLEMENTATION OF PHASES 2A THROUGH 2C.
3. DEMOLITION OF EXISTING INTERIOR BRICK VENEER ALONG INSIDE FACE OF PARAPETS MUST BE COMPLETED PRIOR TO WORK ON BRIDGE FACADES (PHASE 2C) AS INTERIOR BRICK MUST BE SALVAGED TO REPAIR EXTERIOR FACADES, SEE REPAIR DETAILS.
4. ALL UNDERSIDE REPAIRS AT CONCRETE ENCASED TRUSSES AND DECK TO BE COORDINATED WITH DCR AND COAST GUARD. FOR REPAIRS LOCATED OUTSIDE THE CONSTRUCTION PHASES SHOWN ON THESE PLANS, CONTRACTOR SHALL DEVELOP PHASING AND TRAFFIC CONTROL PLAN TO COMPLETE FULL DEPTH REPAIRS. PHASING TO BE PER CONTRACTOR AND REPAIRS SHALL BE COORDINATED WITH WORK ON ROADWAY, BARRIER AND SIDEWALKS. STANDARD TEMPORARY LANE CLOSURES ARE SHOWN ON SHEETS 26 TO 28.
5. NAVIGATION LIGHTING CONDUITS TO BE INSTALLED DURING PHASE 2C.
6. INSTALLATION OF BRIDGE JOINTS AND MILLING AND PAVING SHALL BE COMPLETED UTILIZING NIGHTTIME SINGLE LANE CLOSURES ONCE PHASES 1 THROUGH 2C ARE COMPLETED, SEE SHEETS 24 AND 25.
7. ALL TEMPORARY BARRIERS AND DEVICES SHALL BE TL–2.



PHASE 2 CONSTRUCTION

SCALE: $\frac{1}{4}$" = 1'–0"

PHASE 2A AND 2B NOTES:

1. INSTALL TEMPORARY BARRIER ALONG FACE OF SIDEWALK.
2. REMOVE GRANITE CAP STONES AND INTERIOR BRICK. SALVAGE INTERIOR BRICK FOR USE ALONG EXTERIOR FACADES. STORE GRANITE CAP STONES.
3. REMOVE EXISTING WEARING SURFACE ALONG SIDEWALKS, CHIP AWAY DETERIORATED CONCRETE, AND REPAIR AND WIDEN CONCRETE SIDEWALK.
4. REPLACE INTERIOR BRICK VENEER ON BRIDGE PARAPET.
5. RESET GRANITE CAP STONES. NOTE THAT SOME GRANITE CAP STONES MAY NEED TO BE RESET AFTER EXTERIOR FACADE REPAIRS IN PHASE 2C, SEE PHASE 2C NOTES. IN LOCATIONS WHERE CAP STONES ARE NOT RESET, SIDEWALK SHALL REMAIN CLOSED TO PEDESTRIANS OR TEMPORARY BARRIER SHALL BE PLACED ALONG RAILING TO PROVIDE ADEQUATE PROTECTION FOR PEDESTRIANS ON BRIDGE.
6. PERFORM FULL DEPTH DECK REPAIRS WITHIN PHASE 2 WORK AREA. SEQUENCE SUCH THAT ALL CURING OF REPAIR CONCRETE HAS BEEN COMPLETED PRIOR TO COMPLETION OF PHASE 2.
7. PLACE TEMPORARY HMA UNTIL FINAL MILLING AND PAVING.

PHASE 2C NOTES:

1. REMOVE AND REPLACE DETERIORATED BRICK ALONG EXTERIOR.
2. RESET REMAINING GRANITE CAP STONES AS REQUIRED.
3. REPLACE EXISTING NAVIGATION LIGHTING AND OTHER CONDUITS ON EXTERIOR FACE.

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
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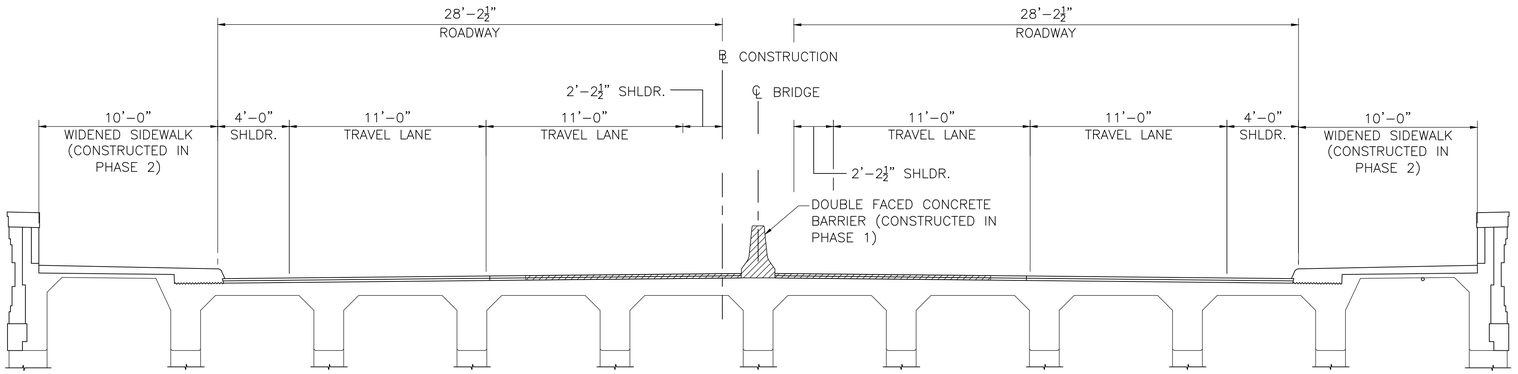
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	33	43
	PROJECT FILE NO. 608762		

CONSTRUCTION PHASING (SHEET 2 OF 2)



REPAIRED BRIDGE CROSS SECTION
SCALE: ¼" = 1'–0"

NOTES:

1. ROADWAY CLOSURES TO BE COORDINATED WITH MASSDOT DISTRICT 6 TRAFFIC ENGINEERS. NIGHTTIME HOURS ONLY FOR ALL LANE CLOSURES.
2. AFTER THE COMPLETION OF PHASES 1 THROUGH 2C, CONTRACTOR MAY PERFORM SINGLE LANE CLOSURE AT NIGHT TO PERFORM REMAINING FULL DEPTH DECK REPAIRS. RAPID SET CEMENTITIOUS MORTAR FROM QCML SHALL BE UTILIZED FOR THESE REPAIR AREAS.
3. ALL UNDERSIDE REPAIRS AT CONCRETE ENCASED TRUSSES AND DECK TO BE COORDINATED WITH DCR AND COAST GUARD.
4. INSTALLATION OF BRIDGE JOINTS AND MILLING AND PAVING SHALL BE COMPLETED UTILIZING NIGHT SINGLE LANE CLOSURES ONCE PHASES 1 THROUGH 2C ARE COMPLETED.

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
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32-33-608762_CONSTRUCTION PHASING (SHEET 2 OF 2).DWG Plotted on 10-Jan-2024 3:44 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE WIDTH (IN)	SIZE HEIGHT (IN)	TEXT	DIMENSIONS (IN) LETTER HEIGHT	DIMENSIONS (IN) VERTICAL SPACING	DIMENSIONS (IN) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND	COLOR BORDER	UNIT AREA (S.F.)	TOTAL AREA (S.F.)
MA-R2-10a	48"	36"	WORK ZONE SPEEDING FINES DOUBLED	(2)	(2)	(2)	5	FLUOR. ORANGE/ WHITE	BLACK	BLACK	12.00	60.0
MA-R2-10e	36"	48"	END ROAD WORK / DOUBLE FINES END				2	FLUOR. ORANGE/ WHITE	BLACK	BLACK	12.00	24.0
M4-8a	24"	18"	END DETOUR	(1)	(1)	(1)	2	FLUOR. ORANGE	BLACK	BLACK	3.0	6.0
M4-9bL	30"	24"	DETOUR ←				6	FLUOR. ORANGE	BLACK	BLACK	5.0	30.0
M4-9bR	30"	24"	DETOUR →				7	FLUOR. ORANGE	BLACK	BLACK	5.0	35.0
R9-9	24"	12"	SIDEWALK CLOSED				4	WHITE	BLACK	BLACK	2.00	8.0
W16-8P	36"	24"	ELIOT BRIDGE				5	FLUOR. ORANGE	BLACK	BLACK	6.0	30.0
W1-4bL	36"	36"					2	FLUOR. ORANGE	BLACK	BLACK	9.0	18.0
W1-4bR	36"	36"					5	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
W4-2L	36"	36"					4	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
W4-2R	36"	36"					3	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
W5-1	36"	36"	ROAD NARROWS				4	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
~~W20-5bL~~	36"	36"	ROAD WORK AHEAD				5	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
W20-5cR	36"	36"	LEFT LANE CLOSED AHEAD				5	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
	36"	36"	RIGHT LANE CLOSED AHEAD				4	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0
W4-1	36"	36"					1	FLUOR. ORANGE	BLACK	BLACK	9.0	45.0

NOTES:

1. SEE THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND REVISIONS, MASSDOT MASSACHUSETTS AMENDMENTS TO THE 2009 MUTCD, 1990 MASSDOT HIGHWAY DIVISION STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, 2012 SUPPLEMENT TO THE 2004 HIGHWAY STANDARD SIGNS, AND MASSDOT STANDARD SIGN BOOK.
2. RETROREFLECTIVE SHEETING FOR ALL GUIDE AND TRAFFIC SIGNS SHALL CONFORM TO MASSDOT STANDARD SPECIFICATION SECTION M9.30.0.
3. (1) SEE THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD HIGHWAY SIGNS" BY FEDERAL HIGHWAY ADMINISTRATION (LATEST EDITIONS) FOR TEXT DIMENSIONS AND COLORS. SEE ALSO THE "MASSACHUSETTS MUTCD AMENDMENTS".

   (2) SEE THE "MASSDOT SIGN STANDARDS" LATEST EDITION.

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
7. THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
13. EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED TRAFFIC PHASING SHALL BE ERADICATED.
14. EXISTING PAVEMENT MARKINGS SHALL BE REPLACED IN-KIND WHEN NO LONGER IN CONFLICT WITH PROPOSED PHASING AND/OR TEMPORARY PAVEMENT MARKINGS.

LEGEND

•	REFLECTORIZED PLASTIC DRUM		IMPACT ATTENUATOR
P/F	POLICE/FLAGGER DETAIL		MEDIAN BARRIER
P	POLICE		MEDIAN BARRIER WITH WARNING LIGHTS
	TYPE III BARRICADE		WORK VEHICLE
	CHANGEABLE MESSAGE SIGN		MOVEABLE IMPACT ATTENUATOR
	FLASHING ARROW PANEL		TRUCK MOUNTED ATTENUATOR
	WORK ZONE		TRAFFIC OR PEDESTRIAN SIGNAL
	DIRECTION OF TRAFFIC		SIGN

TAPER LENGTH FORMULAS	
SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	L = WS

L = TAPER LENGTH IN FEET
W = WIDTH OFFSET IN FEET
S = DESIGN SPEED (30 MPH)

BUFFER SPACING	
SPEED (MPH)	DISTANCE (FEET)
20	115
25	155
30	200
35	250
40	305
45	360
50	425

DATE	DESCRIPTION
DEC. 30, 2023	ISSUED FOR CONSTRUCTION

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BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	34	43
	PROJECT FILE NO. 608762		

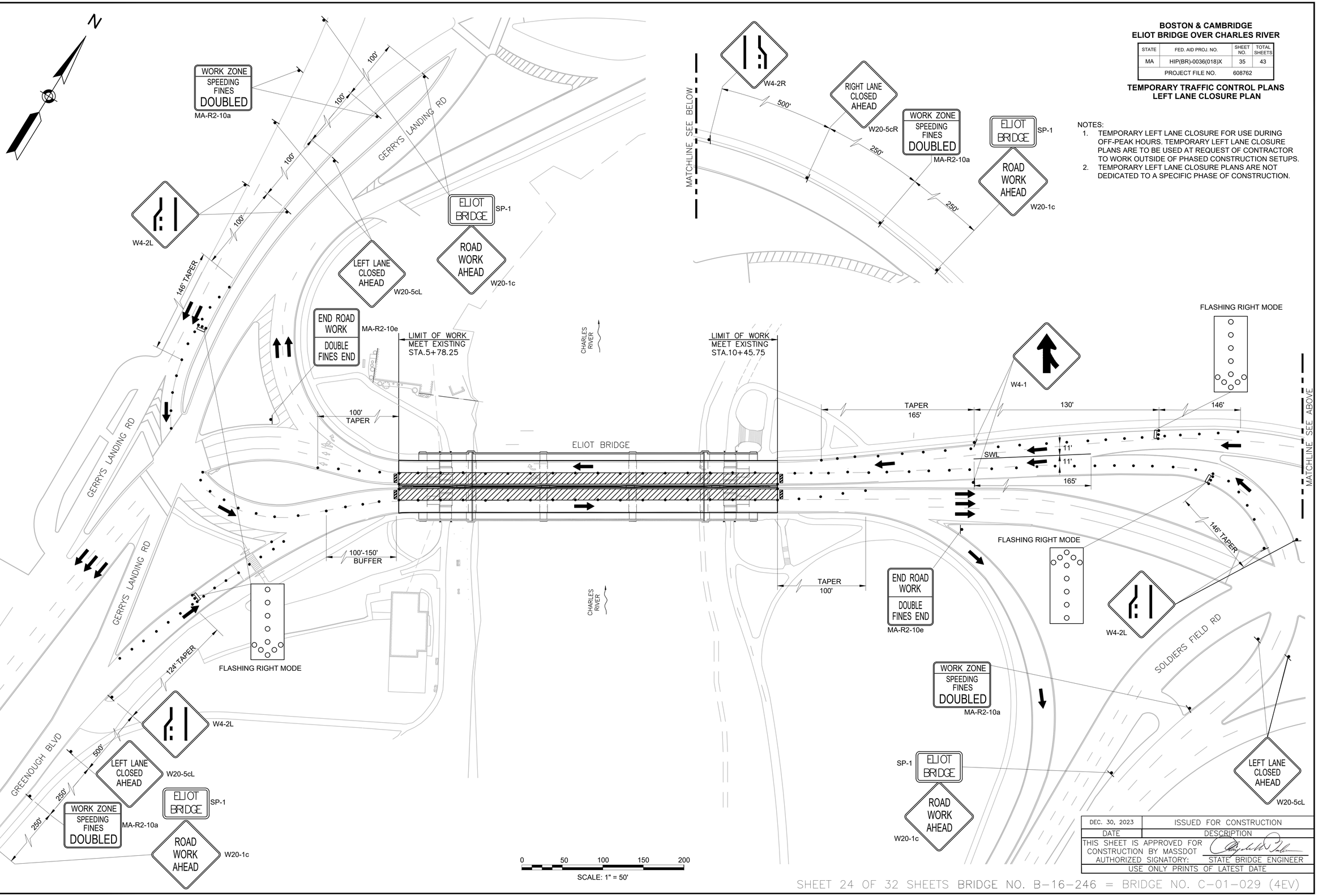
TEMPORARY TRAFFIC CONTROL PLANS
SIGN SUMMARY AND NOTES

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	35	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
LEFT LANE CLOSURE PLAN

NOTES:
1. TEMPORARY LEFT LANE CLOSURE FOR USE DURING OFF-PEAK HOURS. TEMPORARY LEFT LANE CLOSURE PLANS ARE TO BE USED AT REQUEST OF CONTRACTOR TO WORK OUTSIDE OF PHASED CONSTRUCTION SETUPS.
2. TEMPORARY LEFT LANE CLOSURE PLANS ARE NOT DEDICATED TO A SPECIFIC PHASE OF CONSTRUCTION.



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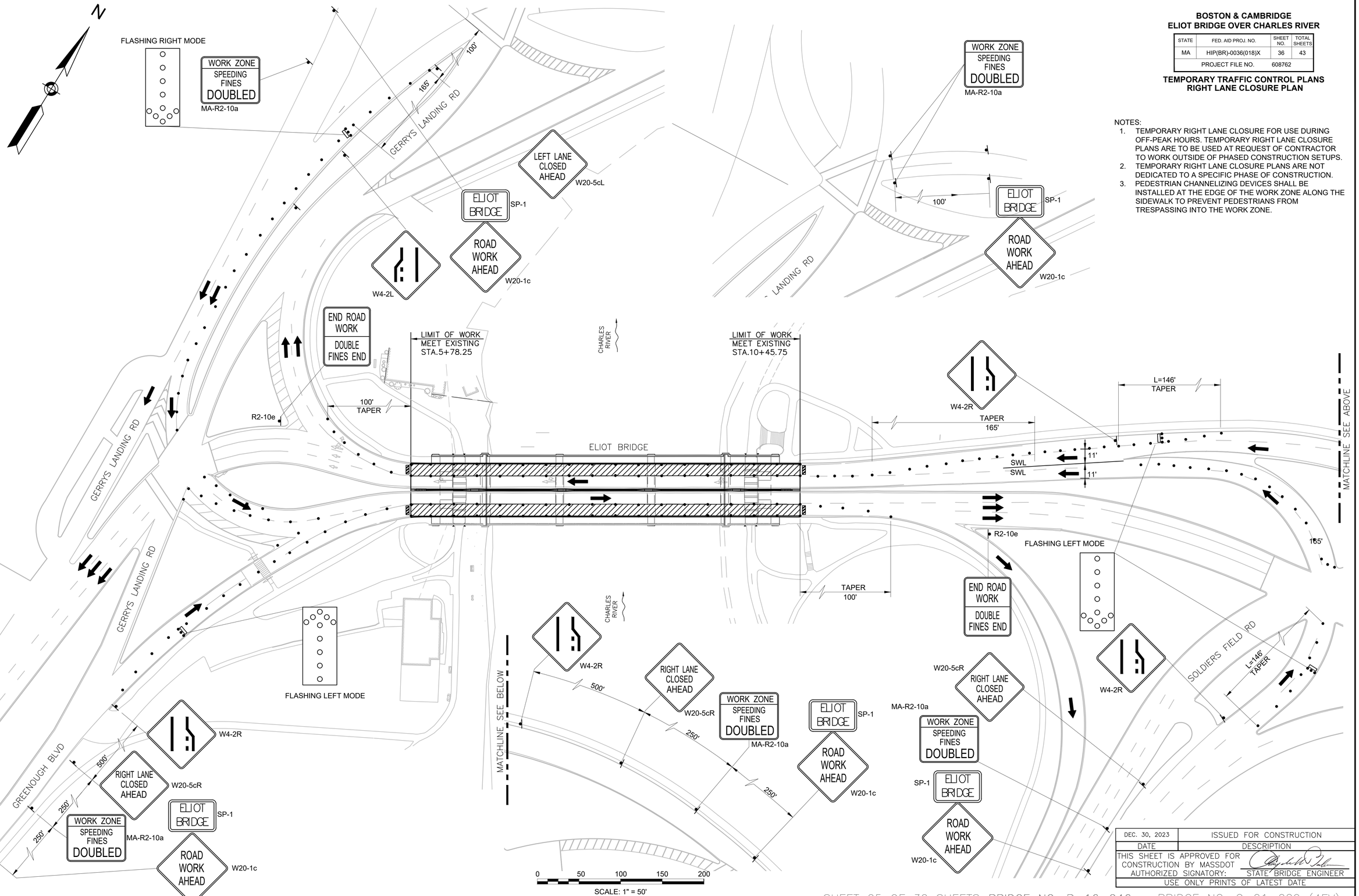
34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 3:54 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	36	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
RIGHT LANE CLOSURE PLAN

NOTES:
1. TEMPORARY RIGHT LANE CLOSURE FOR USE DURING OFF-PEAK HOURS. TEMPORARY RIGHT LANE CLOSURE PLANS ARE TO BE USED AT REQUEST OF CONTRACTOR TO WORK OUTSIDE OF PHASED CONSTRUCTION SETUPS.
2. TEMPORARY RIGHT LANE CLOSURE PLANS ARE NOT DEDICATED TO A SPECIFIC PHASE OF CONSTRUCTION.
3. PEDESTRIAN CHANNELIZING DEVICES SHALL BE INSTALLED AT THE EDGE OF THE WORK ZONE ALONG THE SIDEWALK TO PREVENT PEDESTRIANS FROM TRESPASSING INTO THE WORK ZONE.



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BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	37	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
MEDIAN CLOSURE PLAN
(PHASE 1 CONSTRUCTION)

NOTES:
1. ALL TEMPORARY BARRIERS AND ATTENUATORS SHALL BE TL-2 CRASH TESTED BARRIERS.

N

ELIOT BRIDGE SP-1
ROAD WORK AHEAD W20-1c
100'
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
100'
ROAD NARROWS W5-1
100'
W1-4bR
GERRYS LANDING RD
END ROAD WORK DOUBLE FINES END MA-R2-10e
LIMIT OF WORK MEET EXISTING STA.5+78.25
100' TAPER
REMOVE EXISTING PAVEMENT MARKINGS IN TRAVEL PATH, TEMPORARY WHITE MARKINGS
TEMPORARY MEDIAN BARRIER
ELIOT BRIDGE
11'
20'
PROP. TEMPORARY IMPACT ATTENUATOR (RE-DIRECTIVE)
100'-150' BUFFER
CHARLES RIVER
LIMIT OF WORK MEET EXISTING STA.10+45.75
PROP. TEMPORARY IMPACT ATTENUATOR (RE-DIRECTIVE)
TAPER 100'
MATCHLINE SEE BELOW
W1-4bR
500'
ROAD NARROWS W5-1
250'
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
250'
ELIOT BRIDGE SP-1
ROAD WORK AHEAD W20-1c
MATCHLINE SEE ABOVE
146' TAPER
FLASHING RIGHT MODE
END ROAD WORK DOUBLE FINES END MA-R2-10e
W4-2L
SOLDIERS FIELD RD
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
SP-1 ELIOT BRIDGE
ROAD WORK AHEAD W20-1c
LEFT LANE CLOSED AHEAD W20-5cL
GREENOUGH BLVD
250'
250'
ROAD NARROWS W5-1
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
ELIOT BRIDGE SP-1
ROAD WORK AHEAD W20-1c

0 50 100 150 200
SCALE: 1" = 50'

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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34-41-608702_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 4:06 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	38	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
LANE SHIFT TO MEDIAN PLAN
(PHASE 2A CONSTRUCTION)

NOTES:
1. PHASES 2A AND 2B CANNOT BE PERFORMED AT THE SAME TIME. CONTRACTOR SHALL MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

N

ELIOT BRIDGE SP-1
ROAD WORK AHEAD W20-1c
100'
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
100'
ROAD NARROWS W5-1
100'
W1-4bL
SIDEWALK CLOSED R9-9
END DETOUR M4-8a
DETOUR M4-9bL
LIMIT OF WORK MEET EXISTING STA.5+78.25
GERRYS LANDING RD
REMOVE EXISTING PAVEMENT MARKINGS IN TRAVEL PATH, TEMPORARY WHITE MARKINGS
TYPE III BARRICADE (TYP.)
TEMPORARY MEDIAN BARRIER
ELIOT BRIDGE
11'
WALKWAY BELOW
CHARLES RIVER
SIDEWALK CLOSED R9-9
DETOUR M4-9bR
LIMIT OF WORK MEET EXISTING STA.10+45.75
DETOUR M4-9bL
END DETOUR M4-8a
PROP. TEMPORARY IMPACT ATTENUATOR (RE-DIRECTIVE)
MATCHLINE SEE BELOW
W4-2R
500'
RIGHT LANE CLOSED AHEAD W20-5cR
250'
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
250'
ELIOT BRIDGE SP-1
ROAD WORK AHEAD W20-1c
FLASHING LEFT MODE
MATCHLINE SEE ABOVE
146' TAPER
END ROAD WORK
DOUBLE FINES END MA-R2-10e
PROP. TEMPORARY IMPACT ATTENUATOR (RE-DIRECTIVE)
124' TAPER
FLASHING LEFT MODE
GREENOUGH BLVD
SOLDIERS FIELD RD
TAPER 100'
DETOUR M4-9bL
DETOUR M4-9bR
END ROAD WORK
DOUBLE FINES END MA-R2-10e
WORK ZONE SPEEDING FINES DOUBLED MA-R2-10a
SP-1 ELIOT BRIDGE
ROAD WORK AHEAD W20-1c
RIGHT LANE CLOSED AHEAD W20-5cR

0 50 100 150 200
SCALE: 1" = 50'

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34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 4:10 PM

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

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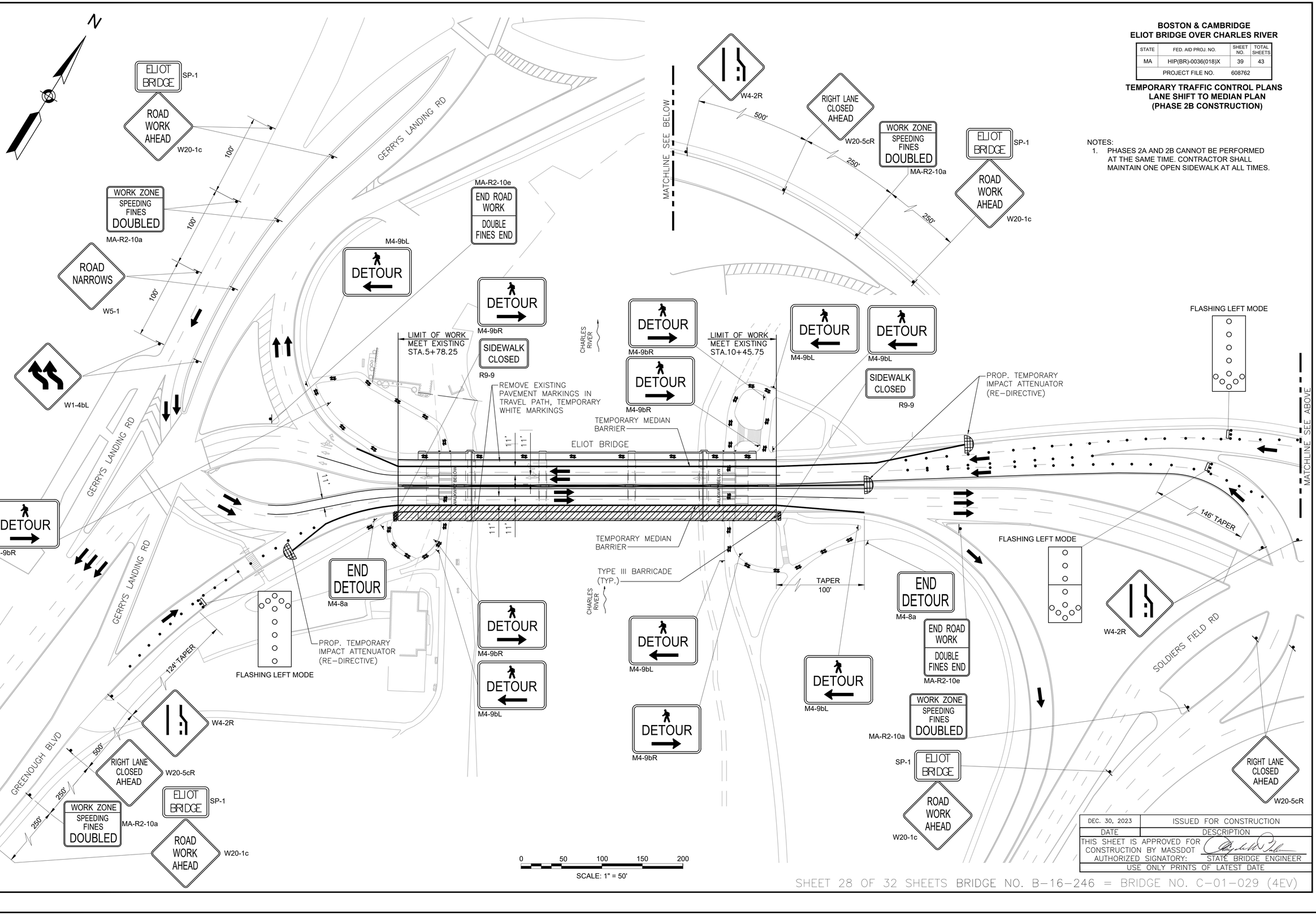
MA	HIP(BR)-0036(018)X	39	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
LANE SHIFT TO MEDIAN PLAN
(PHASE 2B CONSTRUCTION)

NOTES:
1. PHASES 2A AND 2B CANNOT BE PERFORMED AT THE SAME TIME. CONTRACTOR SHALL MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.



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DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

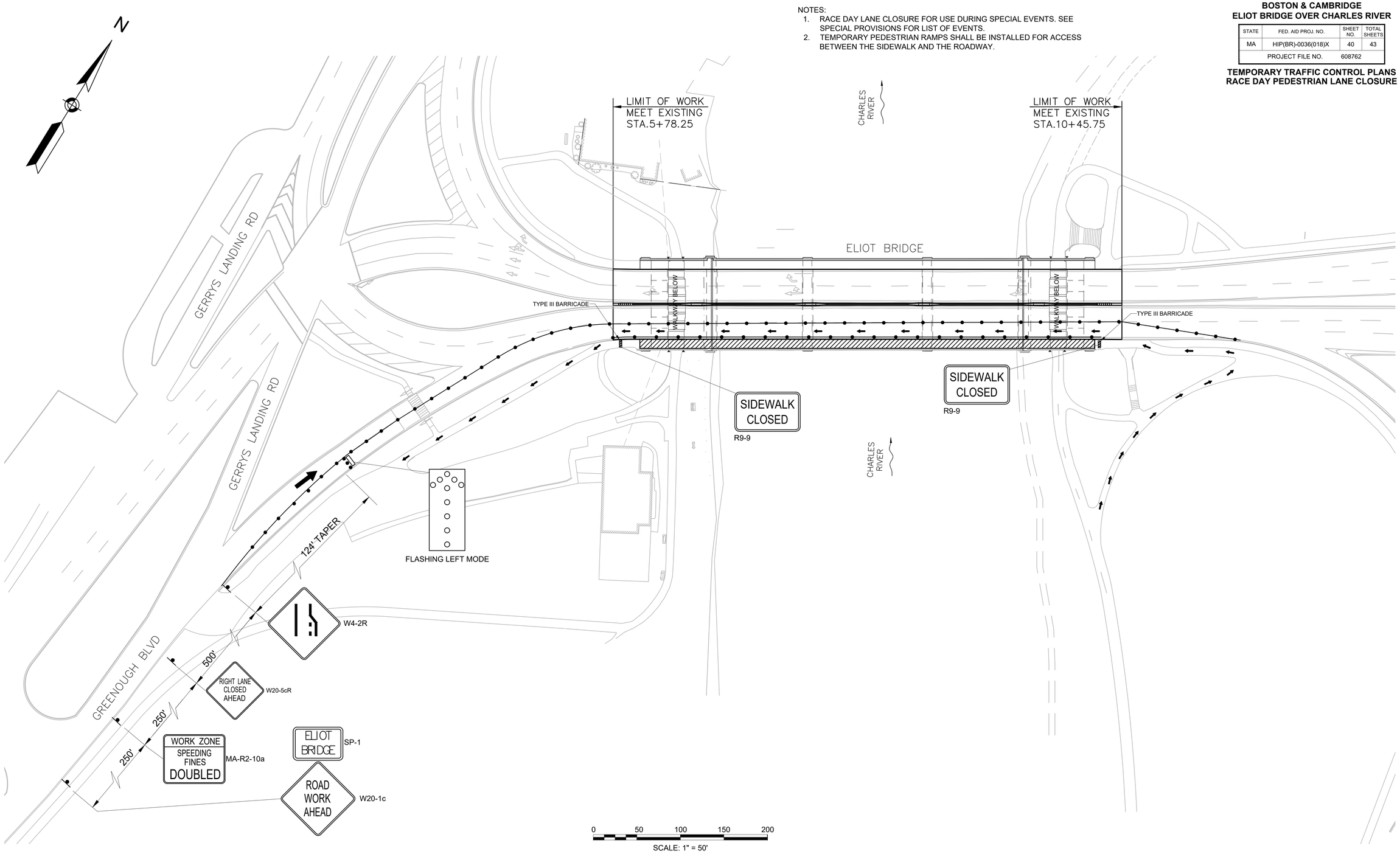
34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 4:13 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

NOTES:
1. RACE DAY LANE CLOSURE FOR USE DURING SPECIAL EVENTS. SEE SPECIAL PROVISIONS FOR LIST OF EVENTS.
2. TEMPORARY PEDESTRIAN RAMPS SHALL BE INSTALLED FOR ACCESS BETWEEN THE SIDEWALK AND THE ROADWAY.

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	40	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
RACE DAY PEDESTRIAN LANE CLOSURE



DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

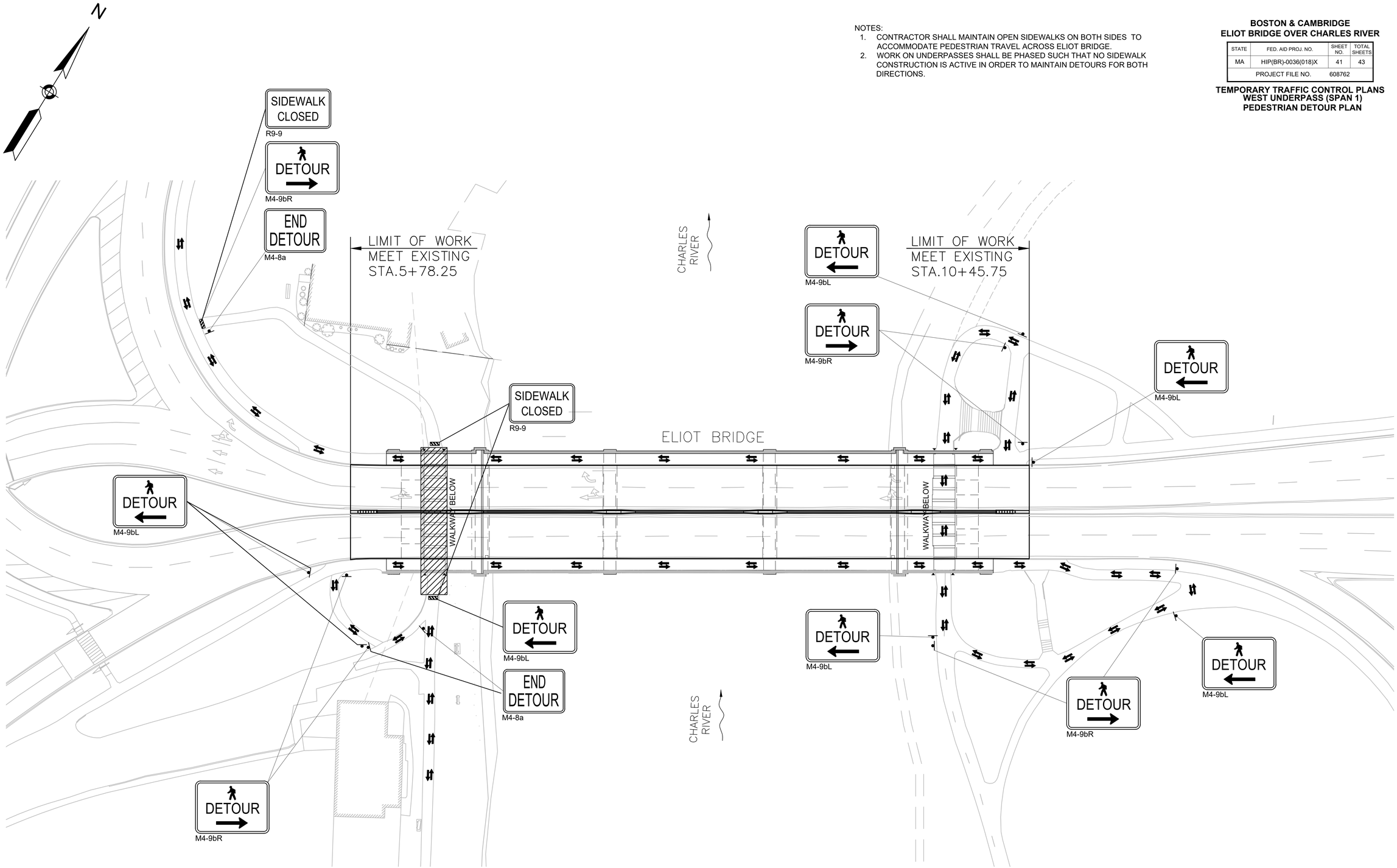
34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 4:18 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

NOTES:
1. CONTRACTOR SHALL MAINTAIN OPEN SIDEWALKS ON BOTH SIDES TO ACCOMMODATE PEDESTRIAN TRAVEL ACROSS ELIOT BRIDGE.
2. WORK ON UNDERPASSES SHALL BE PHASED SUCH THAT NO SIDEWALK CONSTRUCTION IS ACTIVE IN ORDER TO MAINTAIN DETOURS FOR BOTH DIRECTIONS.

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	41	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
WEST UNDERPASS (SPAN 1)
PEDESTRIAN DETOUR PLAN



0 30 60 100
SCALE: 1" = 30'

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

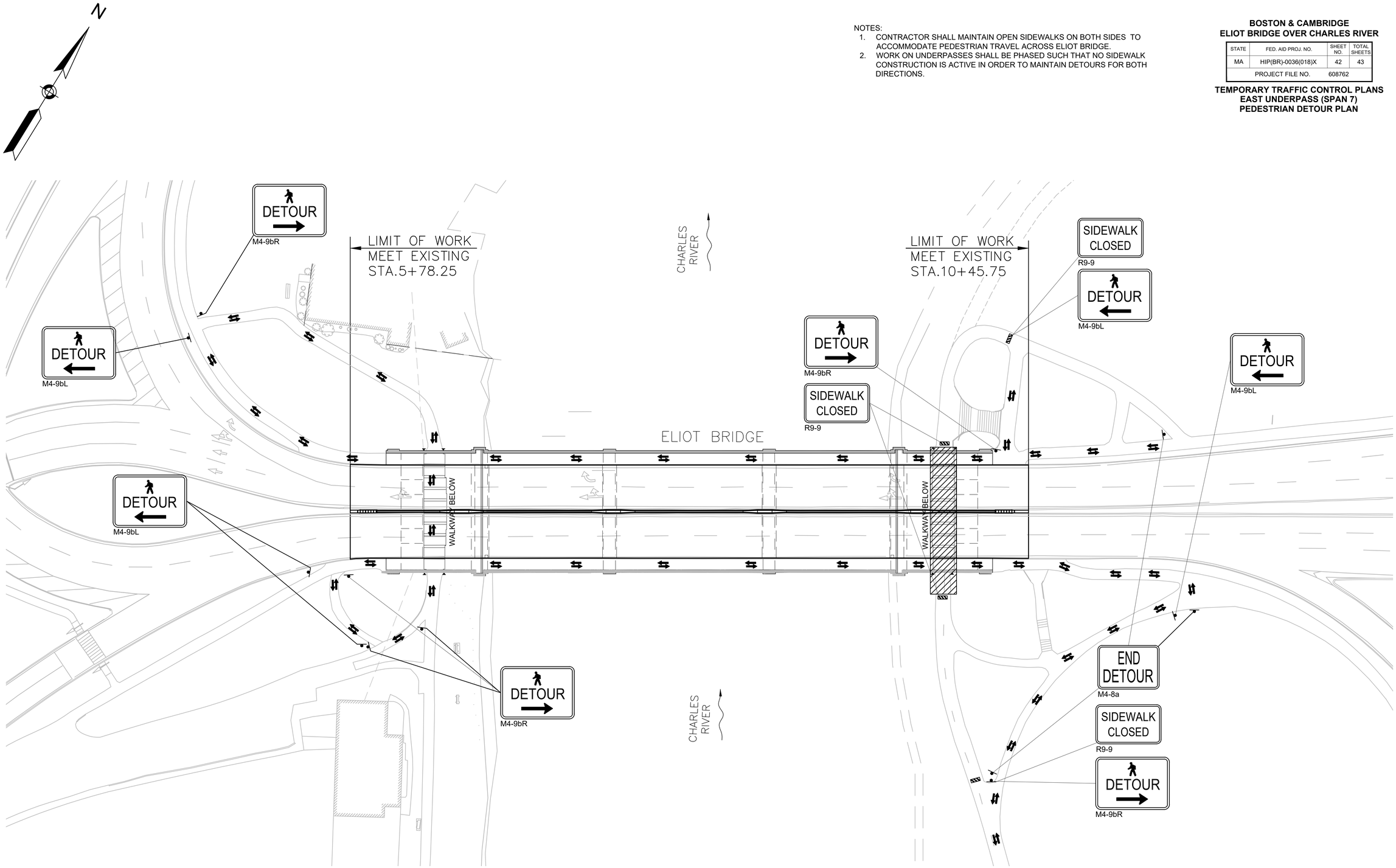
34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 4:20 PM
ISSUED FOR CONSTRUCTION 30-DECEMBER-2023

NOTES:
1. CONTRACTOR SHALL MAINTAIN OPEN SIDEWALKS ON BOTH SIDES TO ACCOMMODATE PEDESTRIAN TRAVEL ACROSS ELIOT BRIDGE.
2. WORK ON UNDERPASSES SHALL BE PHASED SUCH THAT NO SIDEWALK CONSTRUCTION IS ACTIVE IN ORDER TO MAINTAIN DETOURS FOR BOTH DIRECTIONS.

BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	42	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
EAST UNDERPASS (SPAN 7)
PEDESTRIAN DETOUR PLAN



0 30 60 100
SCALE: 1" = 30'

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

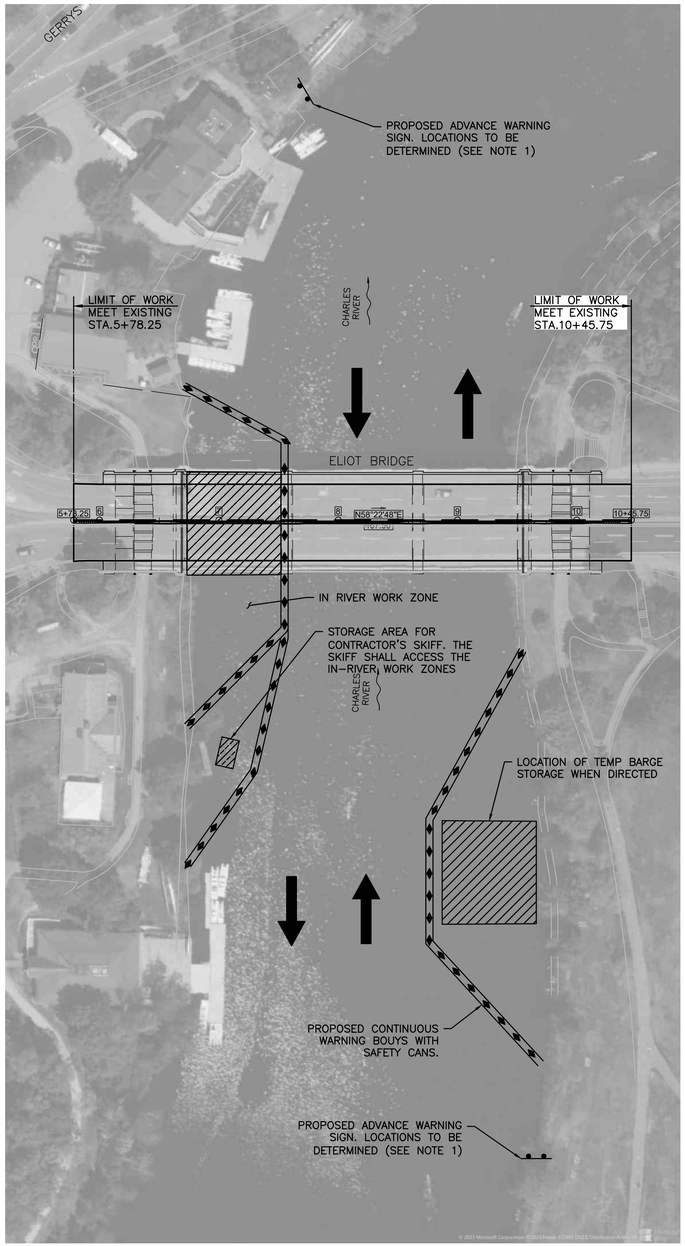
34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 10-Jan-2024 4:27 PM
30-DECEMBER-2023 ISSUED FOR CONSTRUCTION

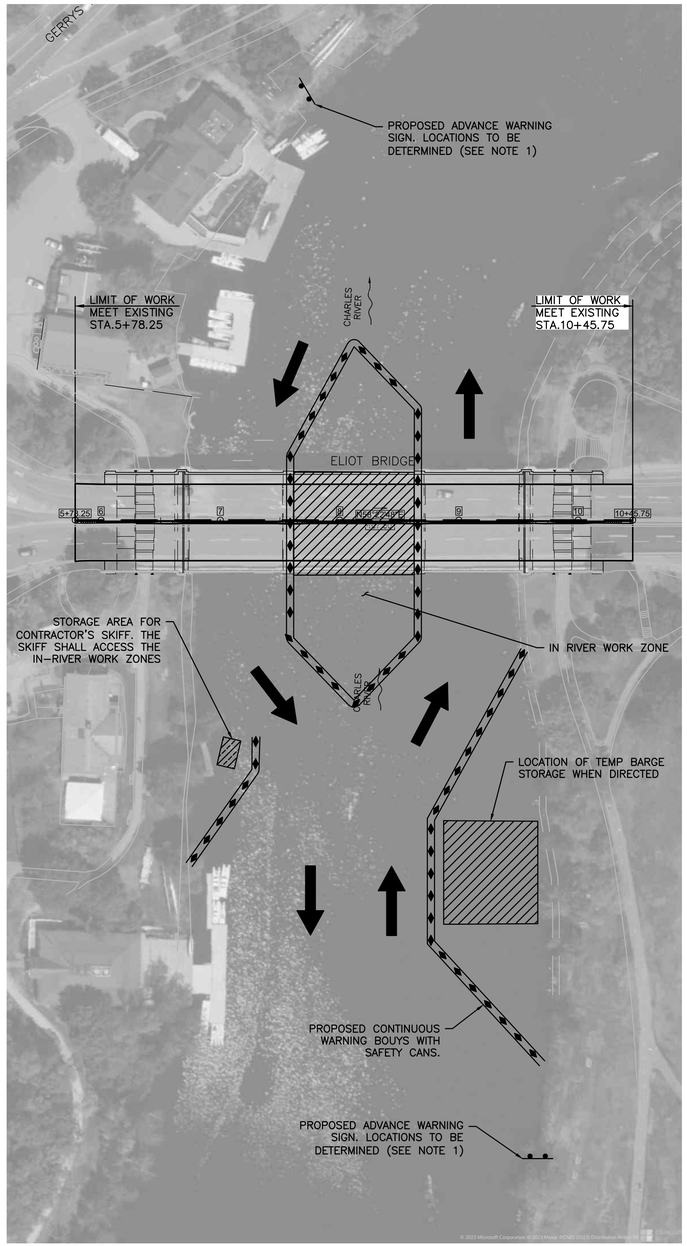
NOTES:
1. PLAN SHOWN IS SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH COAST GUARD TO DEVELOP AN APPROVED PLAN FOR WATERWAY TRAFFIC MANAGEMENT.
2. WORK IN THE CENTER SPAN (SPAN 4) IS NOT PERMITTED DURING THE MONTHS OF SEPTEMBER TO NOVEMBER.

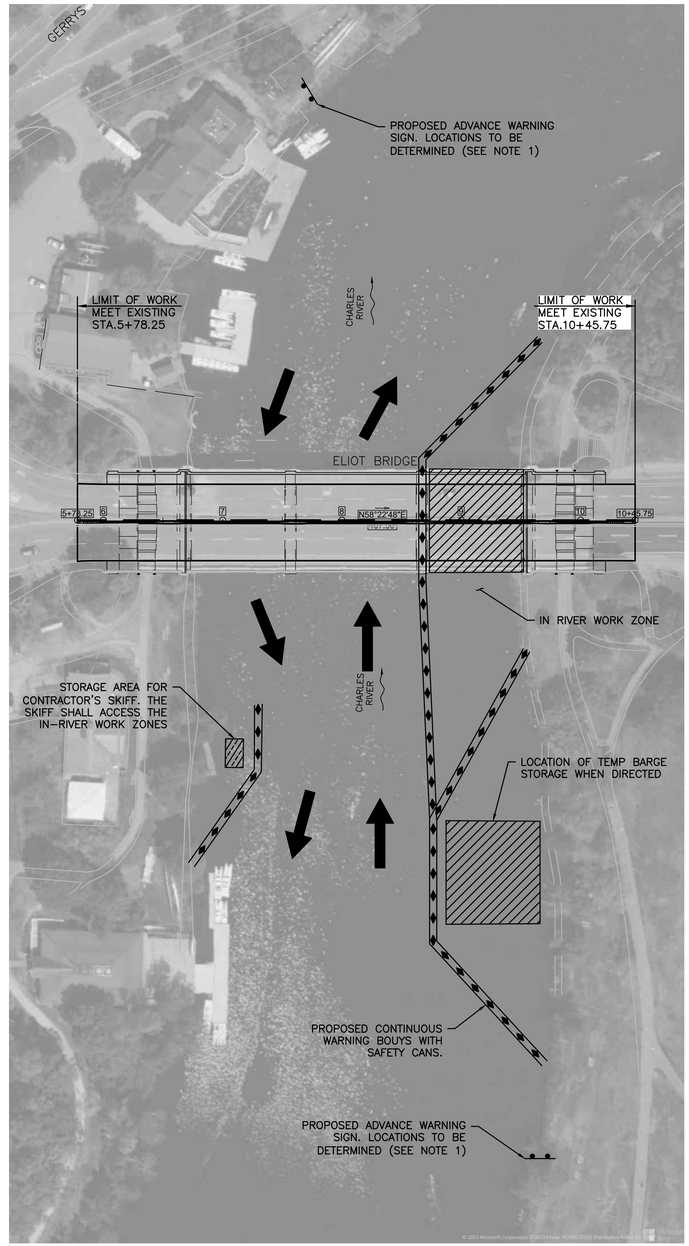
BOSTON & CAMBRIDGE
ELIOT BRIDGE OVER CHARLES RIVER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(BR)-0036(018)X	43	43
	PROJECT FILE NO. 608762		

TEMPORARY TRAFFIC CONTROL PLANS
WATERWAY TRAFFIC MANAGEMENT PLAN







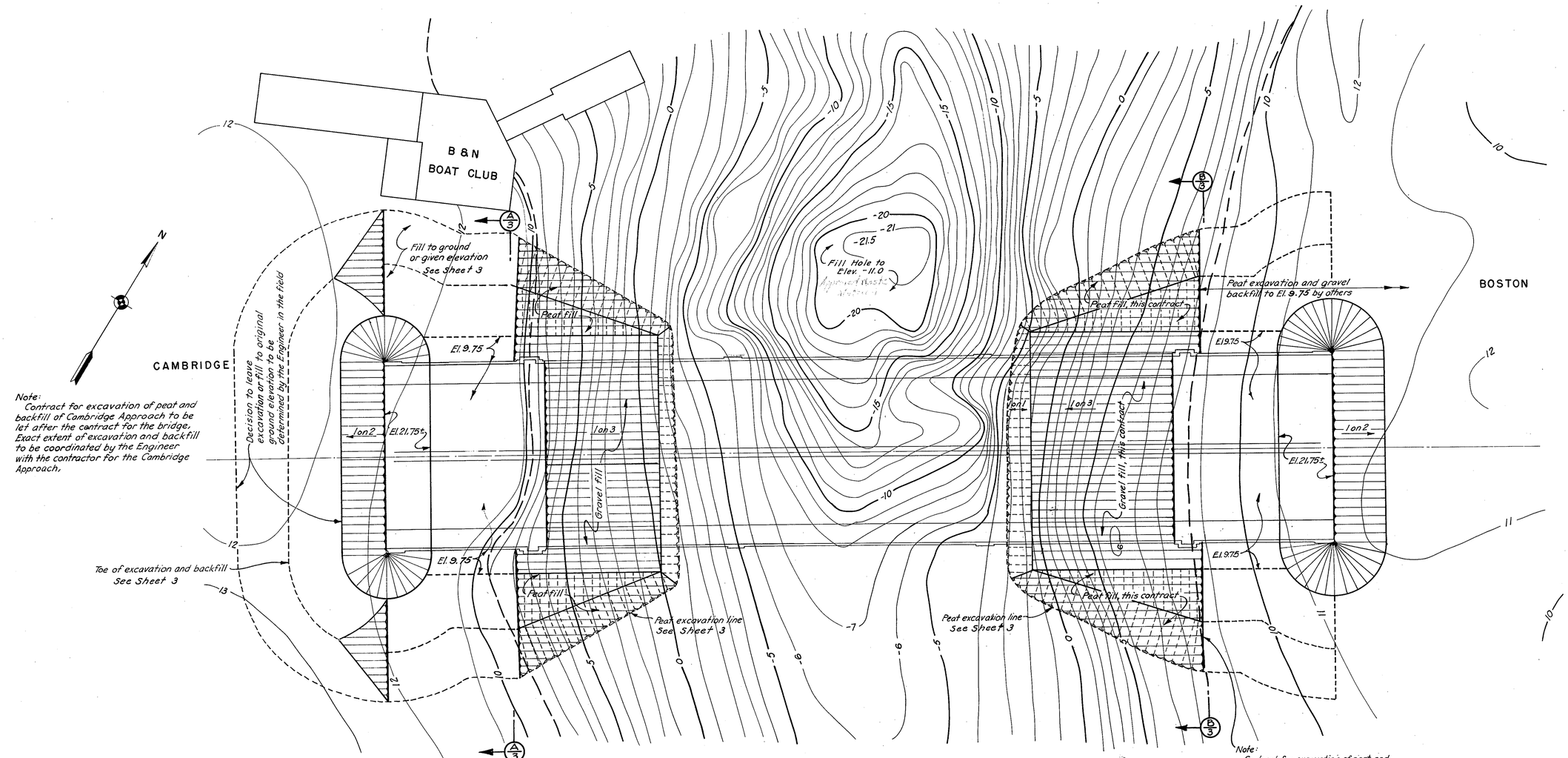
0 30 60 100
SCALE: 1" = 30'

DEC. 30, 2023	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

34-41-608762_TEMPORARY TRAFFIC CONTROL PLANS.DWG Plotted on 8-Feb-2024 3:28 PM
30-DECEMBER-2023 ISSUED FOR CONSTRUCTION


EXISTING ROTARY
To Route 2
MEMORIAL DRIVE EXT.
To Boston
CHARLES
CAMBRIDGE
CAMBRIDGE BOAT CLUB
B&N BOAT CLUB
Fence
Drive
Property Line (Chain-Link Fence)
NEW ROTARY By M.D.C.
B&N SCHOOL
BATH HOUSE
Temp. B.M. Platform El. 14.08
Temp. B.M. Fireplace S.E. Corner El. 13.79
D-I = 255.00'
I-Q = 60.29'
Q-E = 335.74'
Q-O = 426.39'
138° 59'-45"
36° 56'-37.5"
N-Q = 278.93'
97° 34'-11"
G-B = 362.59'
97° 43'-52"
G-H = 201.60'
123° 41'-30"
Excavated to El. -3± & Filled
I-T = 240.73'
Sidewalk
Safety Strip
418' (LIMIT OF WORK)
THE ELIOT BRIDGE
T-H = 388.14'
83' 11/2"
86° 01'-00"
46° 10'-30"
Traverse Lines to determine bridge location
J-L = 361.33'
50° 02'-38"
H-K = 378.28'
41° 45'-30"
RIVER
BOSTON
NEW ROTARY By M.D.C.
To Boston
ROAD
EXISTING SOLDIERS FIELD
Property Line (Iron Fence)
HARVARD UNIVERSITY
To Watertown
GENERAL LOCATION
VICINITY MAP
SCALE: 1" = 1750'
Fresh Pond
CAMBRIDGE
THE ELIOT BRIDGE
CONCORD
MASSACHUSETTS AVE.
OXFORD ST.
BRATTLE
CRAIGIE ST
MOUNT
AUBURN
ST
Mt. Auburn Cemetery
Cambridge Cemetery
COOLIDGE
CHARLES RIVER
SOLDIERS FIELD ROAD
Soldiers Field
MEMORIAL DR.
WATERTOWN
WESTERN
HARVARD
AVE
FRANKLIN ST.
BRIGHTON
CAMBRIDGE ST.
ARSENAL ST.
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS DIVISION
CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE
SCALE: 1 IN. = 40 FT.
AUGUST 1949
H. I. Kenerson
BURNS AND KENERSON, INC., Consulting Engineers
MAURICE E. WITMER, Architect
DIRECTOR OF PARK ENGINEERING
B. and K., Inc.
DRAWN: K.H.W.
TRACED: C.M.A.
CHECKED: J.A.S.
REVISION
DATE
DESCRIPTION
BY
SHEET 1 OF 25 SHEETS



Note:
Contract for excavation of peat and backfill of Cambridge Approach to be let after the contract for the bridge. Exact extent of excavation and backfill to be coordinated by the Engineer with the contractor for the Cambridge Approach.

Note:
Contract for excavation of peat and filling to grade of Boston Approach to be completed prior to bridge contract and to extend approximately to here. Exact position to be determined in the field.

PLAN

SCALE 1" = 20'

20' 0 20' 40'

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: 1 IN. = 20 FT. AUGUST 1949

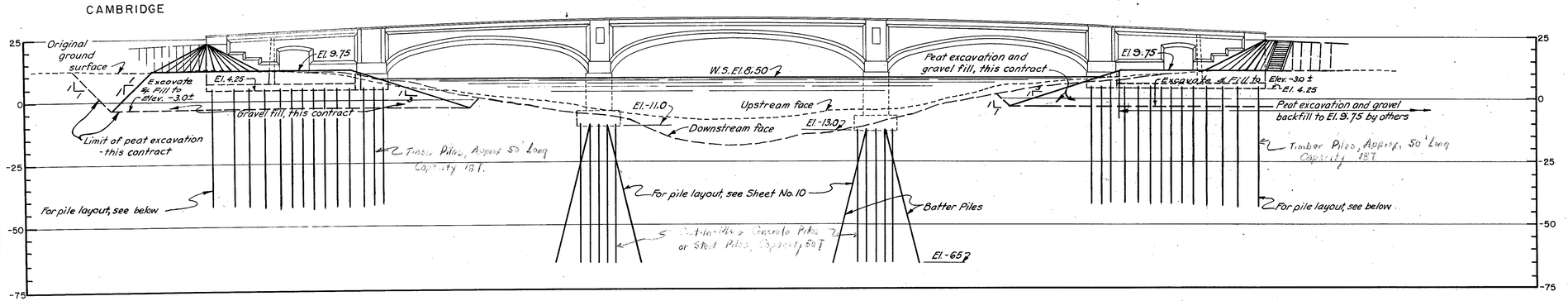
H. J. Kenerson BURNS and KENERSON, Inc.

DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: K.H.W.				
TRACED: A.J.H.				
CHECKED: J.F.S.	REVISION	DATE	DESCRIPTION	BY

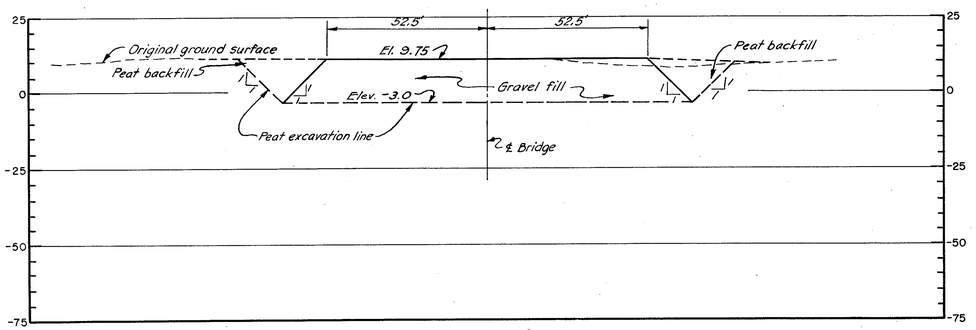
CAMBRIDGE

BOSTON



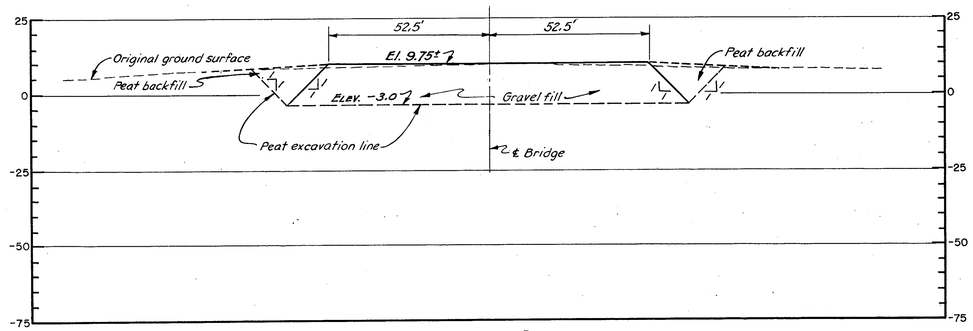
DOWNSTREAM PROFILE

SCALE: 1" = 20'



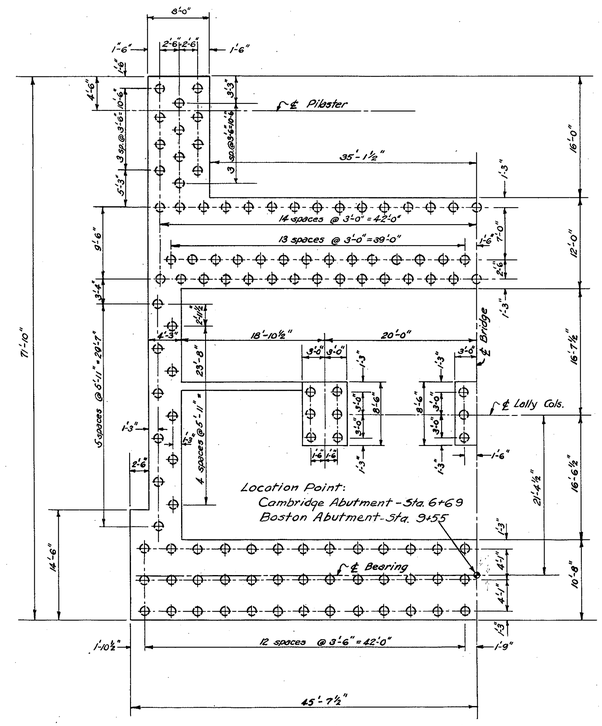
SECTION A/2

SCALE: 1" = 20'



SECTION B/2

SCALE: 1" = 20'



HALF PLAN OF PILE LAYOUT

TYPICAL FOR BOSTON AND CAMBRIDGE ABUTMENTS

SCALE — 1/8 = 1'-0"

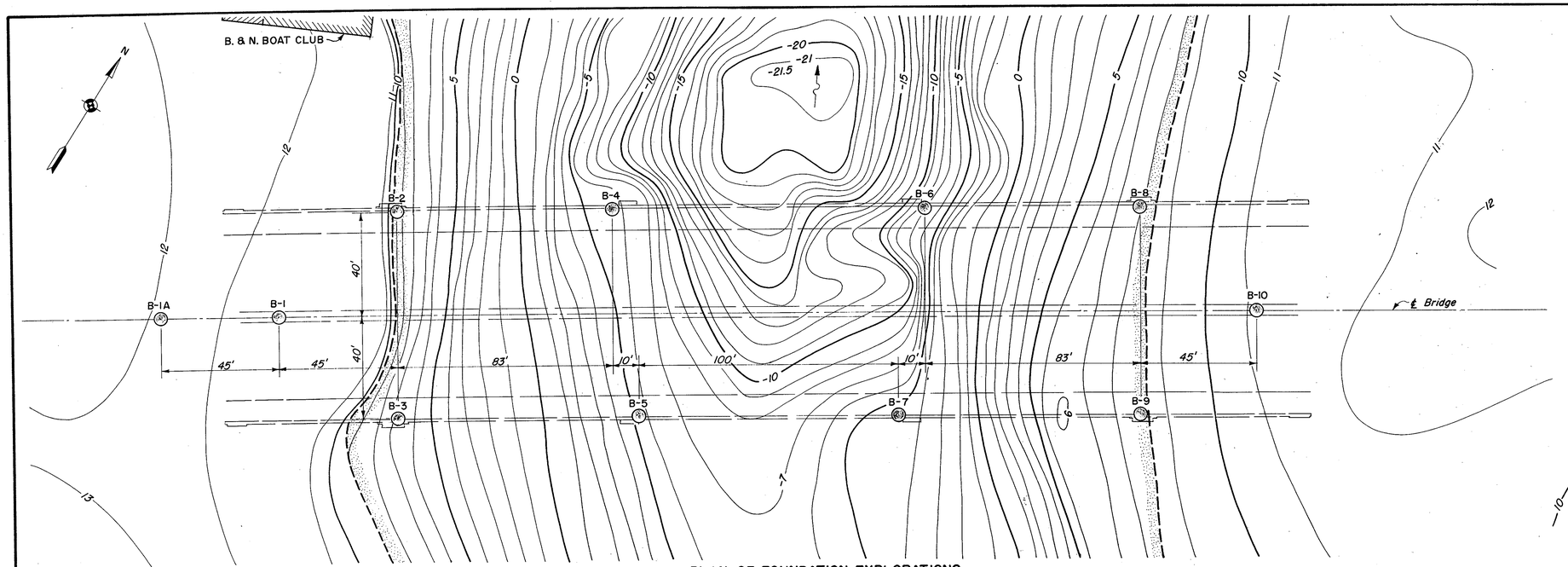
CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

AUGUST 1949

N. J. Kinnerson — BURNS and KENERSON, Inc.

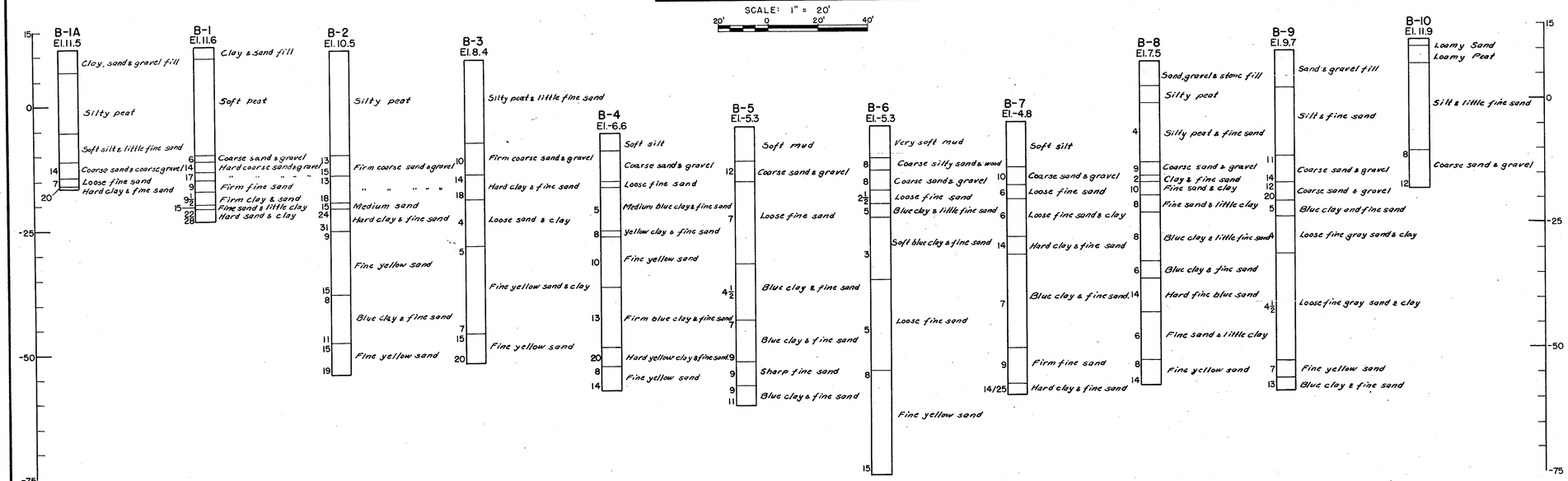
DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: K.H.W.				
CHECKED: J.C.R.S.	REVISION	DATE	DESCRIPTION	BY



PLAN OF FOUNDATION EXPLORATIONS

SCALE: 1" = 20'



LOG OF BORINGS

SCALE: 1" = 10'

NOTES:

Elevations refer to Boston City Base.

Boring data taken from logs of test borings completed by the Charles A. Leary Co., Boston Mass for the Metropolitan District Commission.

Figures in left hand column represent blows per foot on 1" inside diameter spoon. Weight hammer 125 lbs. Fall 30".

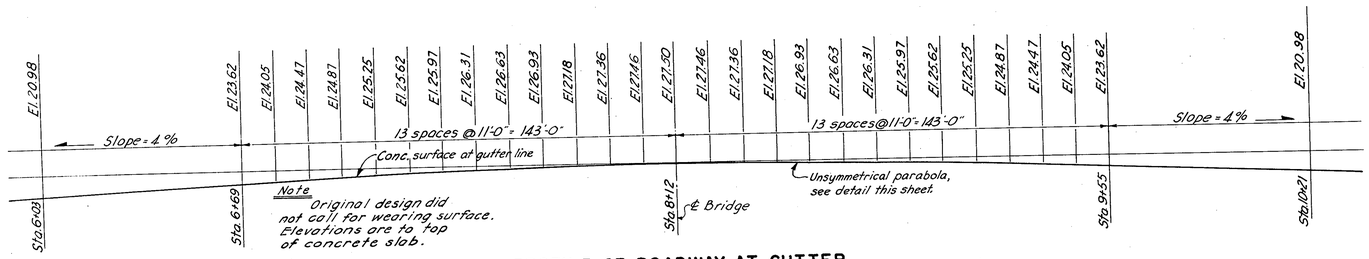
B. and K., Inc.				
DRAWN: K.H.W.				
TRACED: K.H.W.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: AS SHOWN 1948

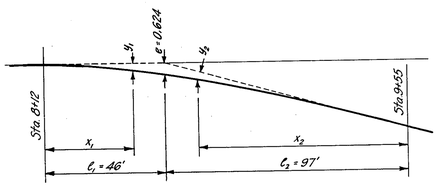
J. J. Kenerson BURNS and KENERSON, Inc.

DIRECTOR OF PARK ENGINEERING



PROFILE OF ROADWAY AT GUTTER

NOT TO SCALE



DETAIL OF UNSYMMETRICAL PARABOLA

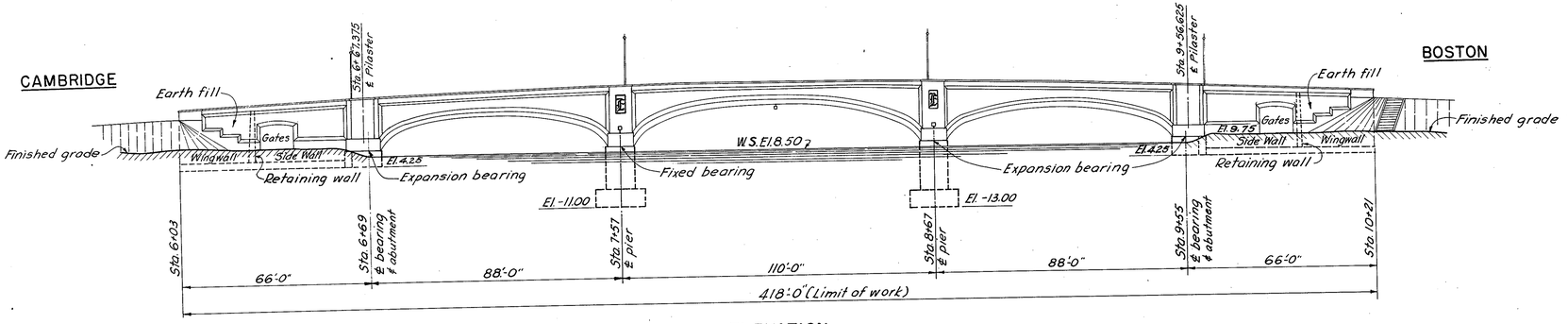
NOT TO SCALE

EQUATION DATA

$y_1 = e\left(\frac{x_1}{\ell_1}\right)^2$

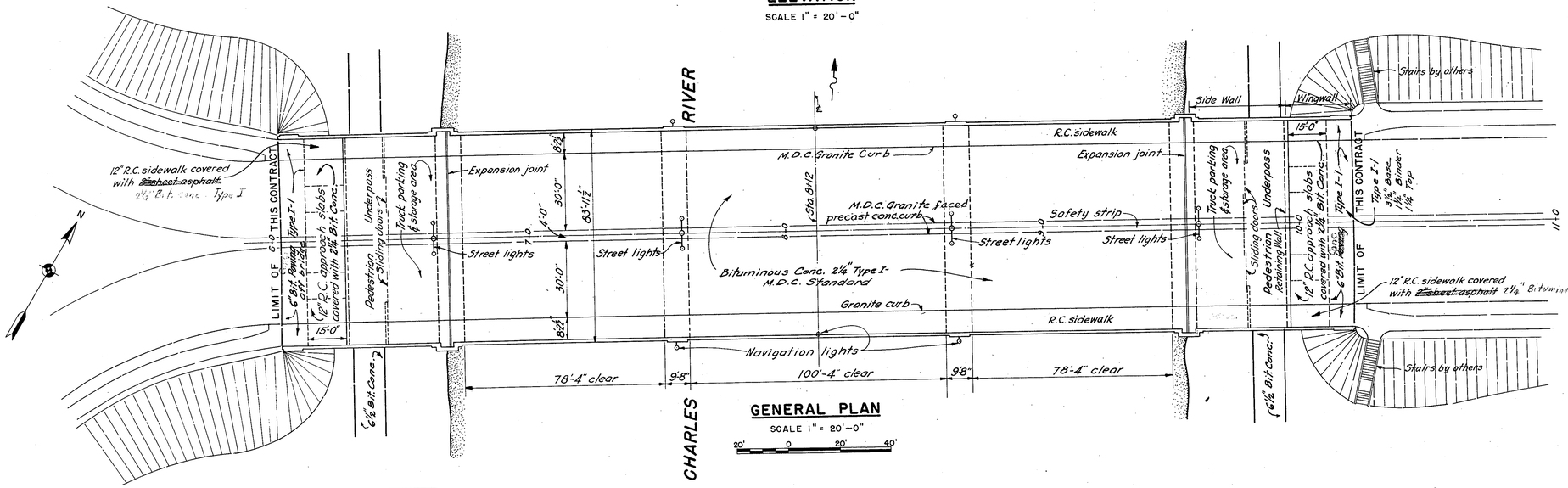
$y_2 = e\left(\frac{x_2}{\ell_2}\right)^2$

$e = \frac{\ell_1 \times \ell_2}{2(\ell_1 + \ell_2)} \times \%\ \text{Max. Slope}\ (4\%)$



ELEVATION

SCALE 1" = 20'-0"



GENERAL PLAN

SCALE 1" = 20'-0"

20' 0 20' 40'

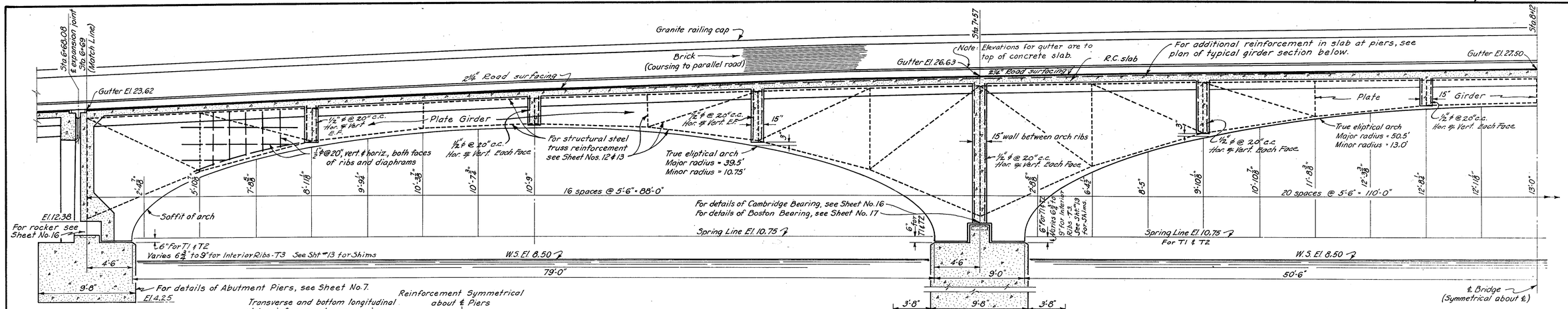
CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: 1 IN. = 20 FT. AUGUST 1949

H. J. Kenerson BURNS and KENERSON, Inc.

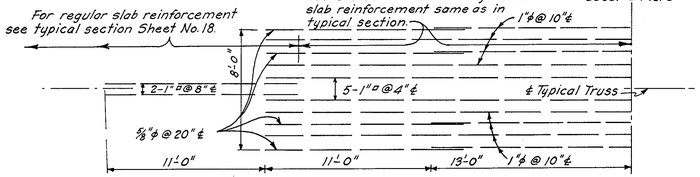
DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: K.H.W.				
TRACED: A.J.H.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

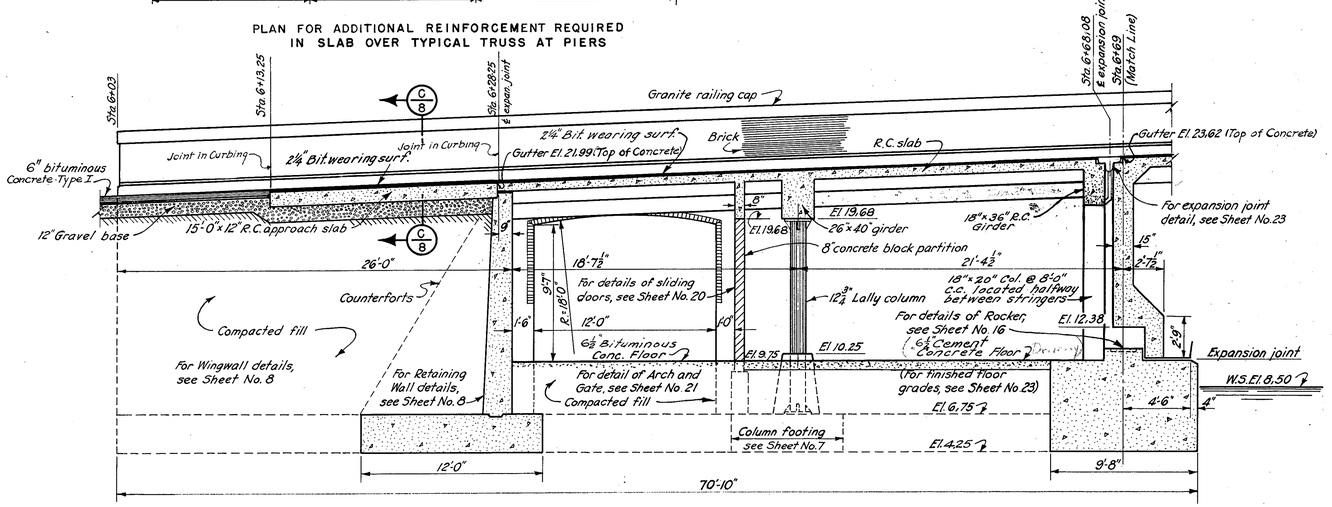


LONGITUDINAL SECTION A/6

SCALE: 1" = 1'-0"

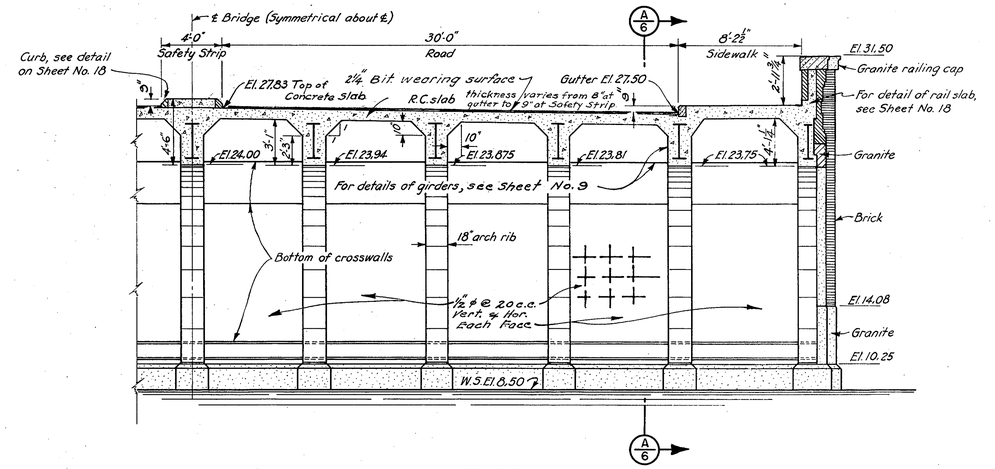


PLAN FOR ADDITIONAL REINFORCEMENT REQUIRED IN SLAB OVER TYPICAL TRUSS AT PIERS



LONGITUDINAL SECTION A/6 (Continued)

SCALE: 1" = 1'-0"



CROSS SECTION AT ℄ BRIDGE

SCALE: 1" = 1'-0"

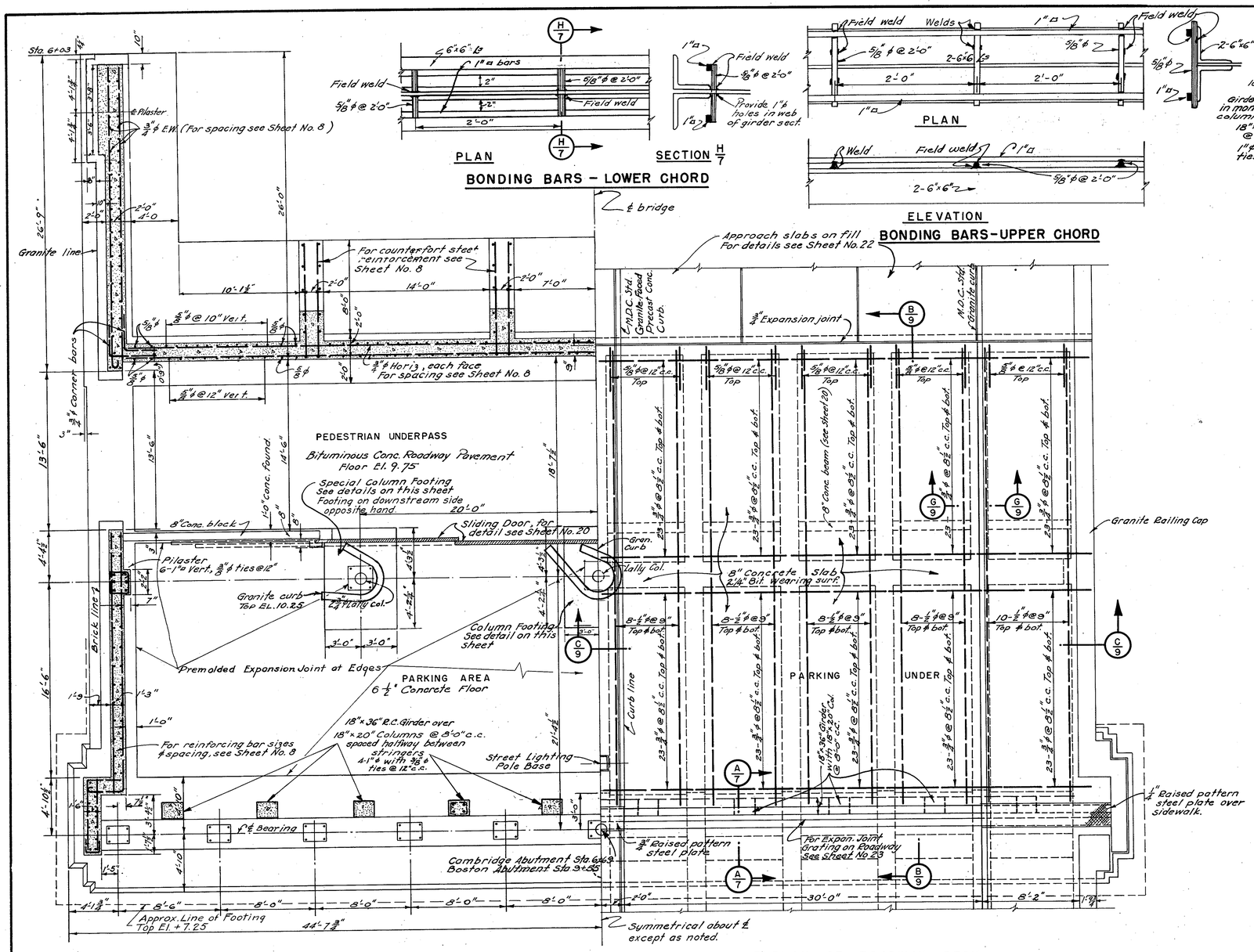
Note: Elevations shown are to concrete, not road surfacing.

B. and K., Inc.				
DRAWN: K.H.W.				
TRACED: K.H.W.				
CHECKED: J.A.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE
SCALE: 1/4 IN. = 1 FT. AUGUST 1949

W. J. Kenerson BURNS and KENERSON, Inc.

DIRECTOR OF PARK ENGINEERING



BONDING BARS – LOWER CHORD

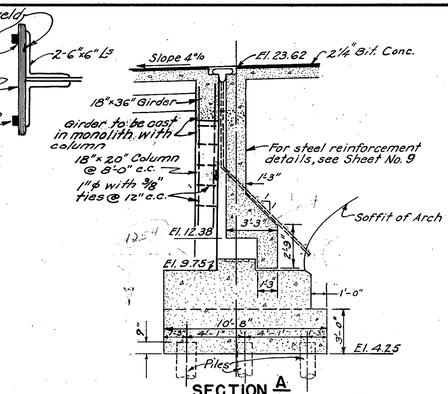
PLAN

SECTION H/7

BONDING BARS – UPPER CHORD

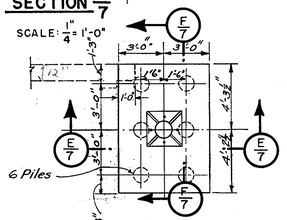
PLAN

ELEVATION

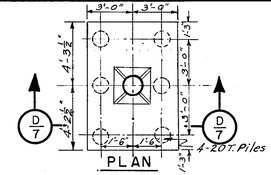


SECTION A/7

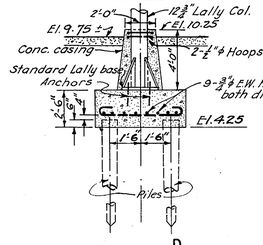
SCALE: 1" = 1'-0"



PLAN



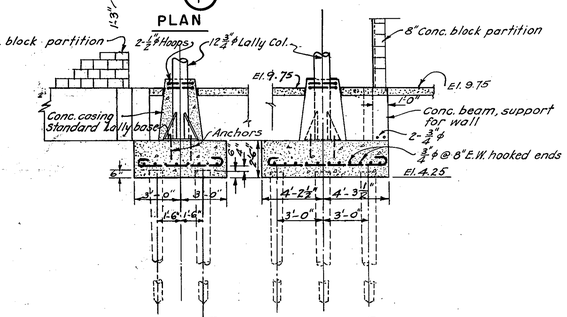
PLAN



SECTION D/7

DETAIL OF CENTER COLUMN FOOTING

SCALE: 1" = 1'-0"



SECTION E/7 SECTION F/7

DETAIL OF SPECIAL COLUMN FOOTING

SCALE: 1" = 1'-0"

5' 0 5' 10'

HALF PLAN OF FOUNDATION & WALLS

HALF PLAN OF ROADWAY DECK

PLAN OF CAMBRIDGE ABUTMENT

SCALE: 1" = 1'-0"

BOSTON ABUTMENT OPP. HAND

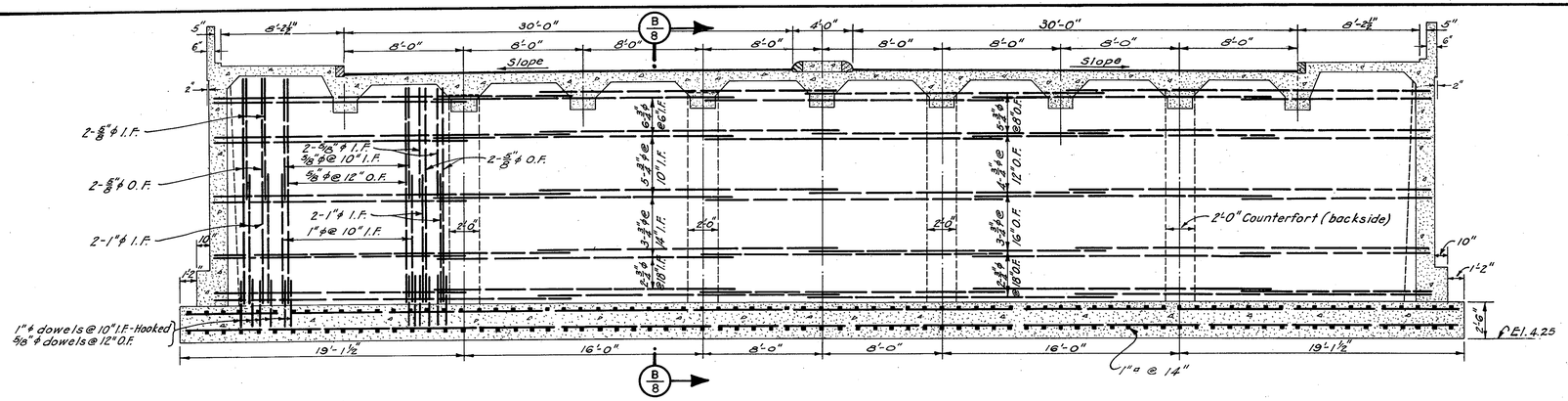
B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

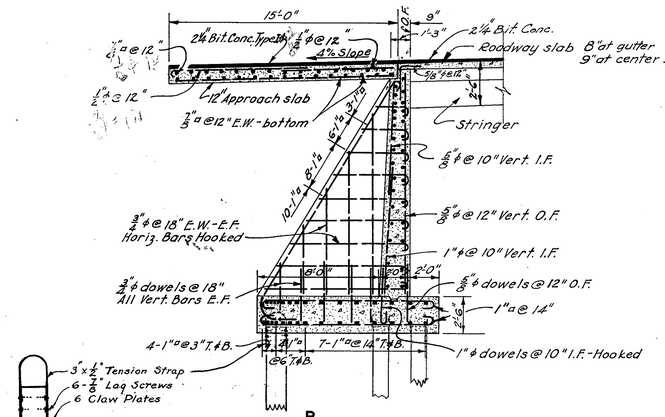
SCALE: 1/4 IN. = 1 FT. AUGUST 1949

H. J. Kennison BURNS and KENERSON, Inc.

DIRECTOR OF PARK ENGINEERING

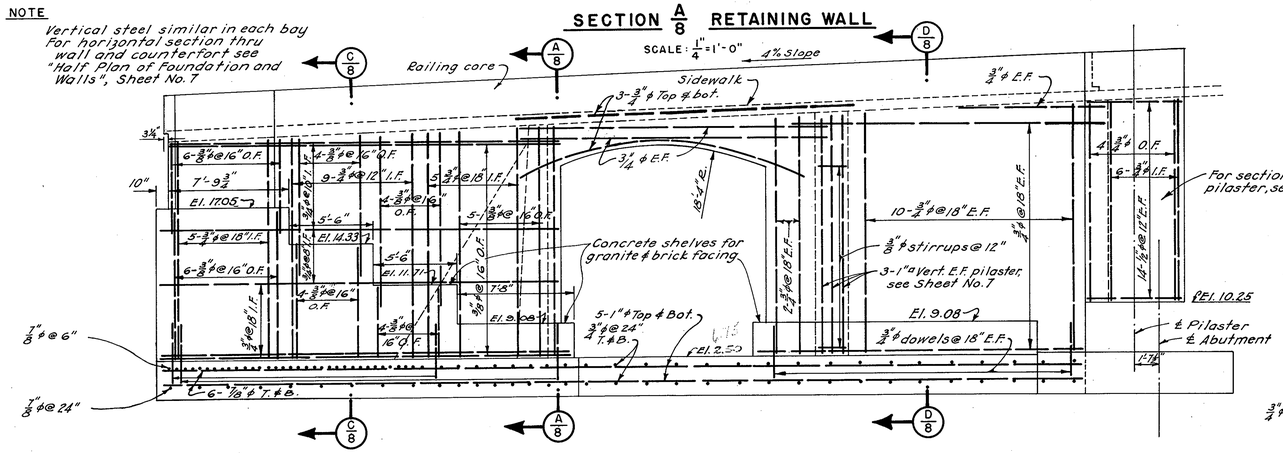


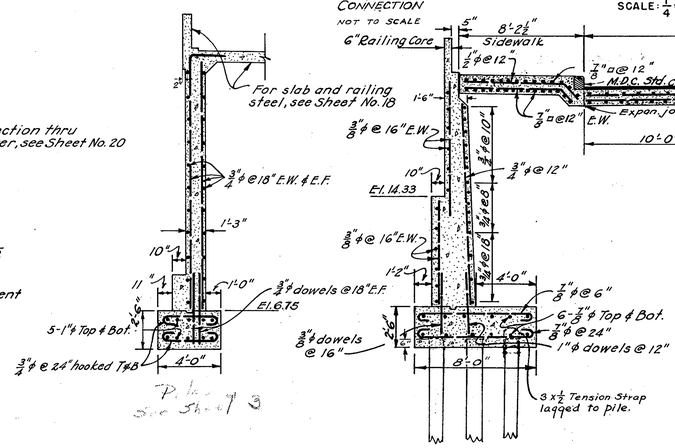
SECTION B/8 RETAINING WALL



NOTE
Vertical steel similar in each bay For horizontal section thru wall and counterfort see "Half Plan of Foundation and Walls", Sheet No. 7

SECTION A/8 RETAINING WALL
SCALE: 1"=1'-0"

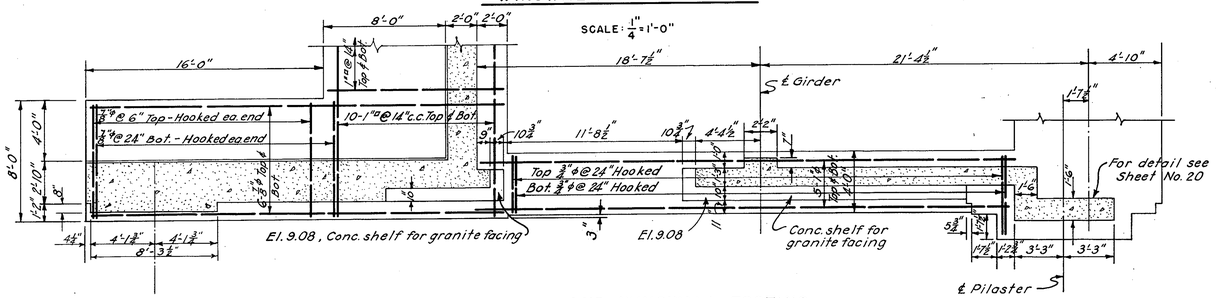




SECTION D/8 SIDEWALL
SCALE: 1"=1'-0"

SECTION C/8 WINGWALL
SCALE: 1"=1'-0"

WINGWALL AND SIDEWALL
SCALE: 1"=1'-0"

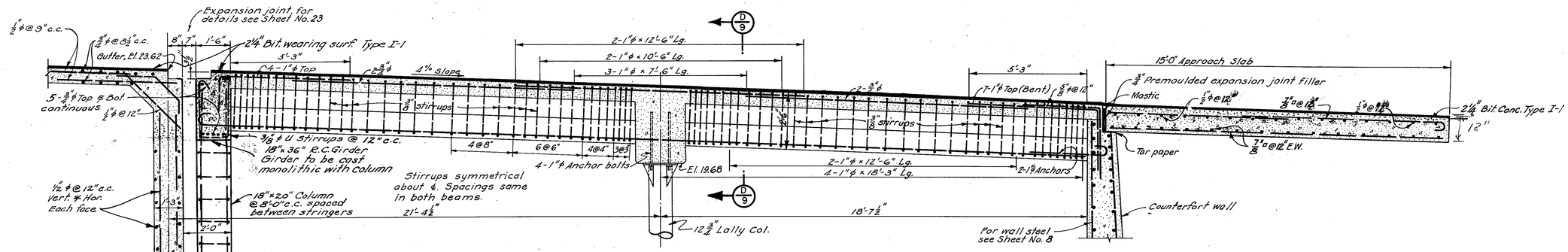


PLAN OF SIDEWALL AND WINGWALL FOOTING
SCALE: 1"=1'-0"

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE
SCALE: 1/4 IN. = 1 FT. AUGUST 1949

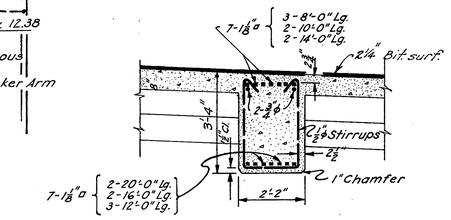
W. J. Kenerson BURNS and KENERSON, Inc.
DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.F.S.	REVISION	DATE	DESCRIPTION	BY

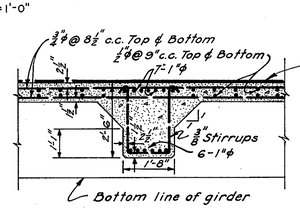


DETAIL OF STRINGERS – (SECTION B/7)

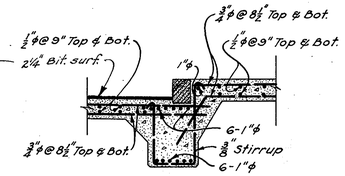
SCALE: 1" = 1'-0"



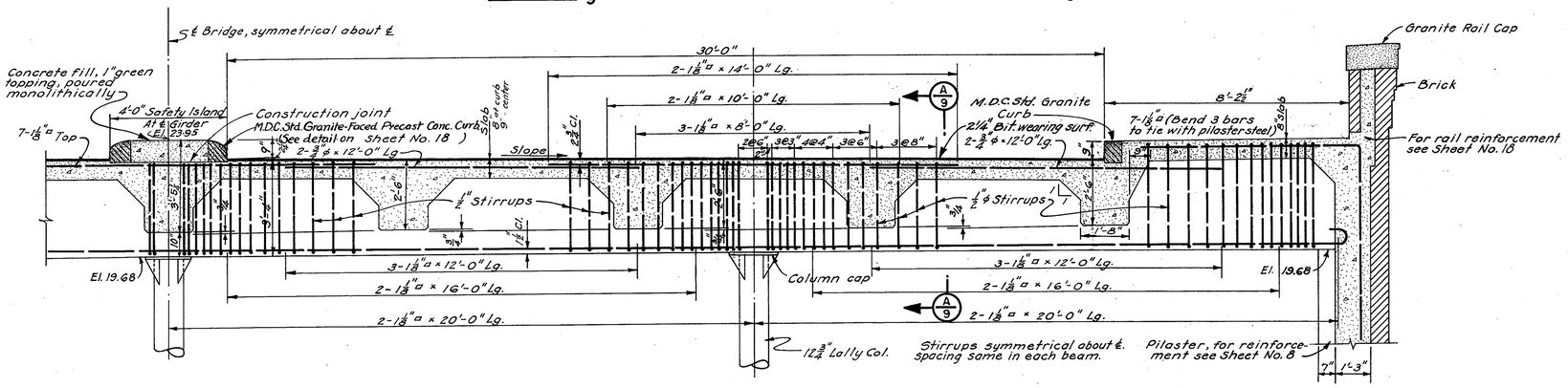
SECTION A/9



SECTION D/9



SECTION G/7



DETAIL OF GIRDER – (SECTION C/7)

SCALE: 1" = 1'-0"

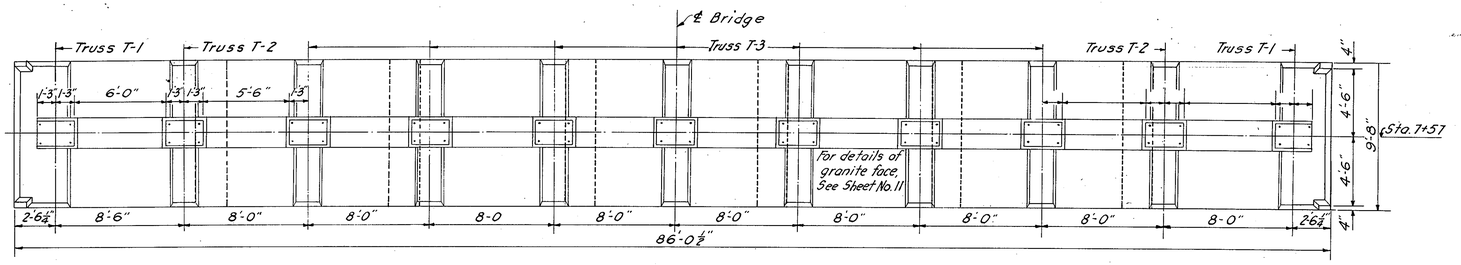
B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

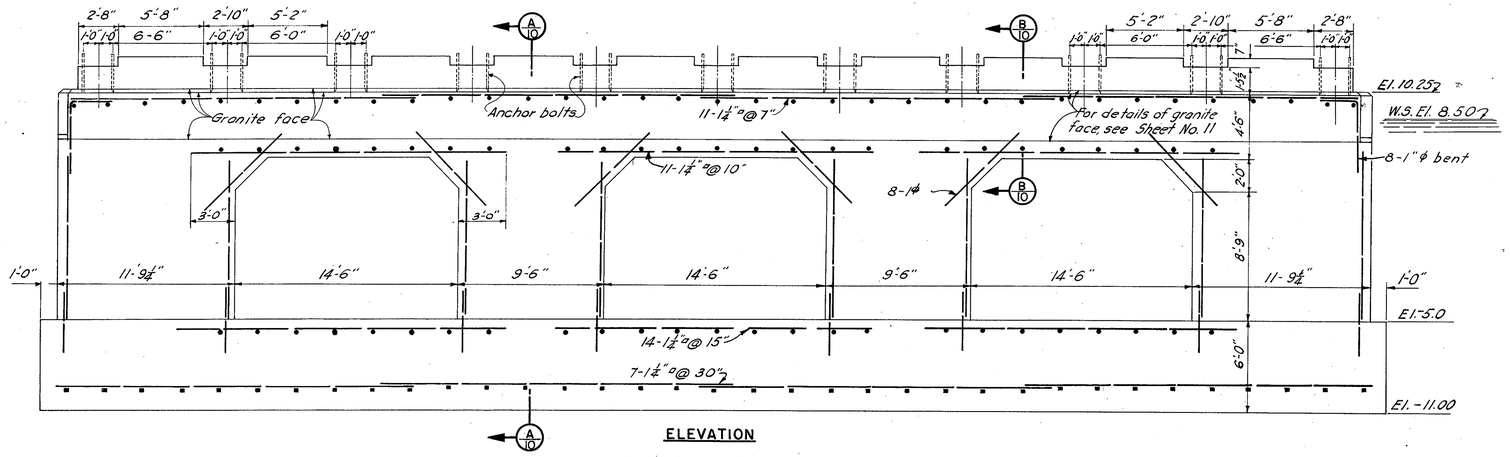
SCALE: AS SHOWN — AUGUST 1949

H. J. Kenerson — BURNS and KENERSON, Inc.

DIRECTOR OF PARK ENGINEERING



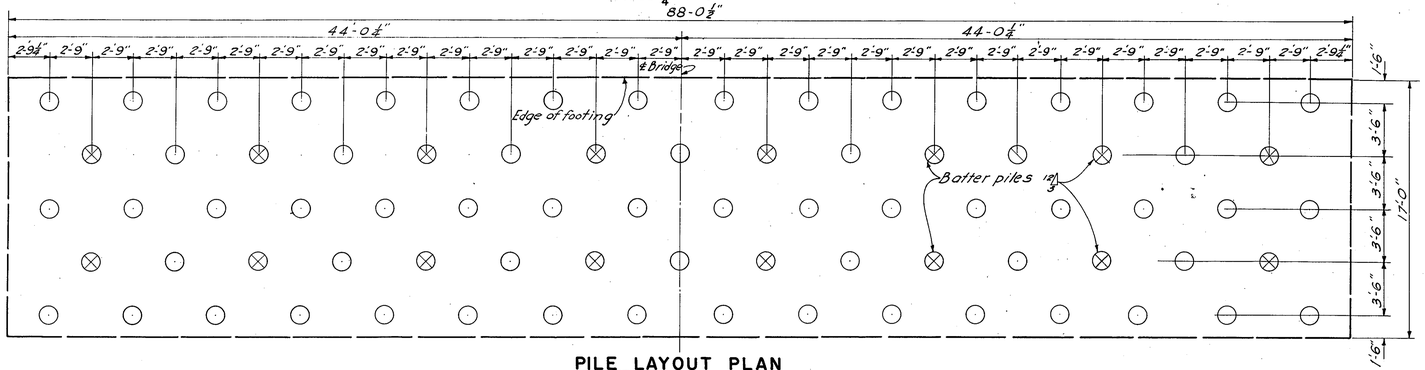
PLAN



ELEVATION

CAMBRIDGE PIER

SCALE ¼" = 1'-0"

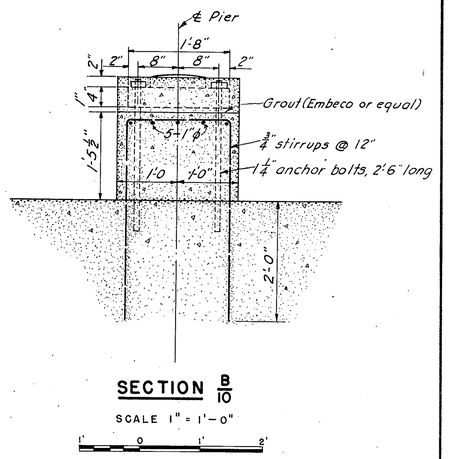


PILE LAYOUT PLAN

SCALE ¼" = 1'-0"

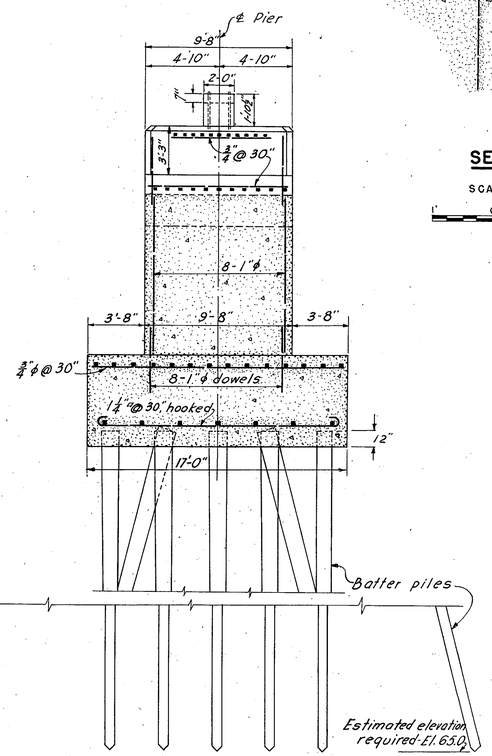
5' 0 5' 10'

TYPICAL FOR BOSTON AND CAMBRIDGE PIERS



SECTION B/10

SCALE 1" = 1'-0"



SECTION A/10

SCALE ¼" = 1'-0"

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

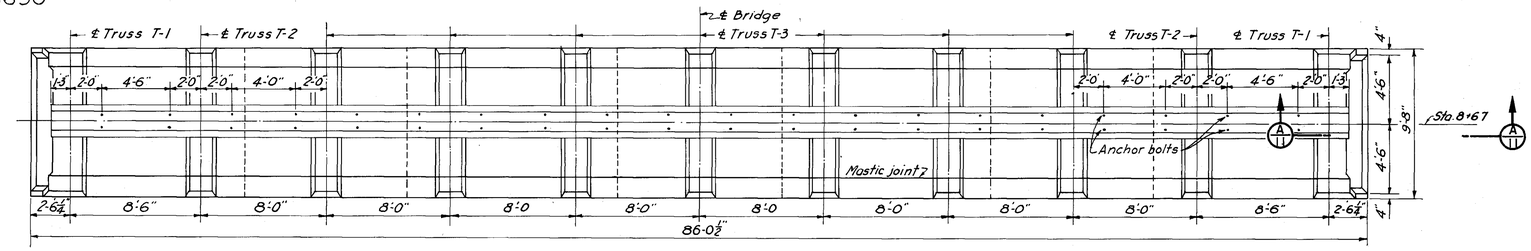
SCALE: AS SHOWN AUGUST 1949

H. J. Kenerson BURNS and KENERSON, Inc.

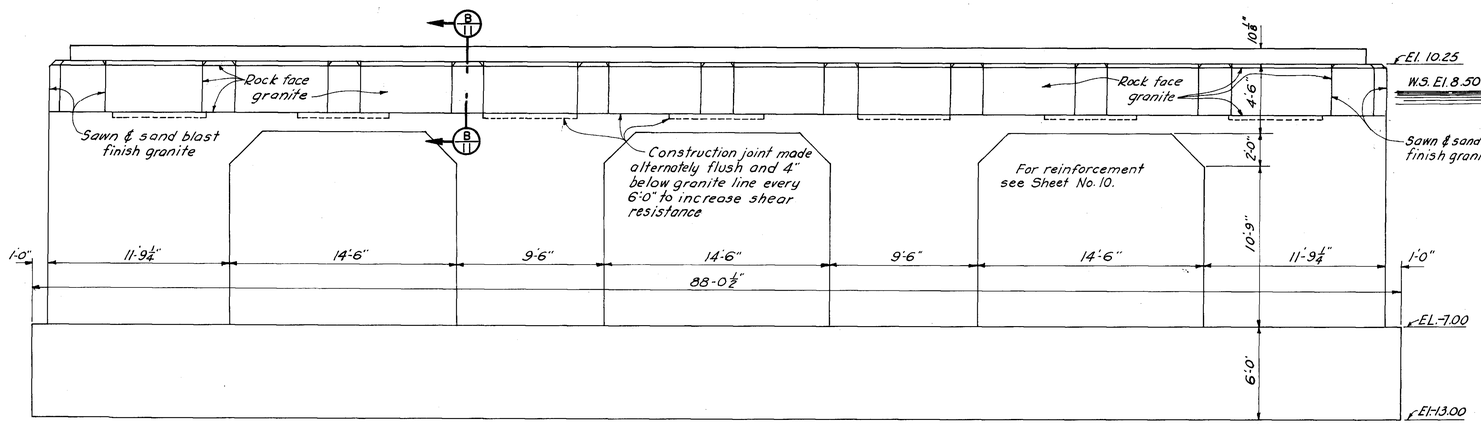
DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: K.H.W.				
TRACED: A.J.H.				
CHECKED: J. R. S.	REVISION	DATE	DESCRIPTION	BY

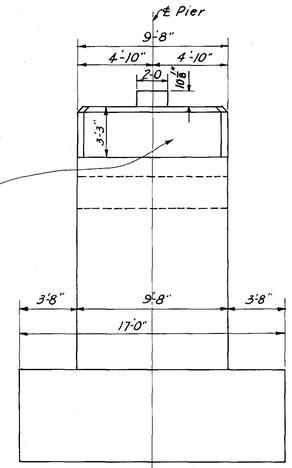
28650X



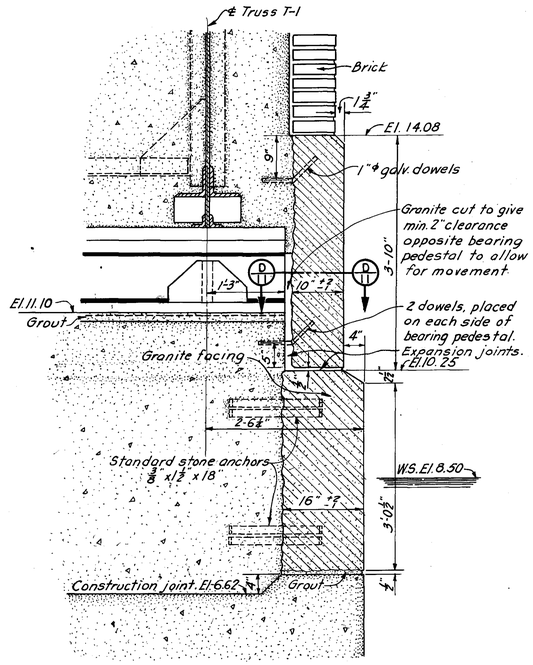
PLAN



SIDE ELEVATION

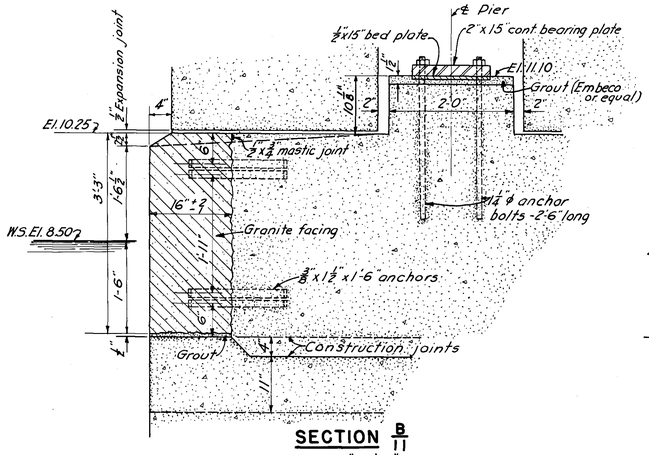


END ELEVATION



SECTION A/11

SCALE 1"- 1'-0"



SECTION B/11

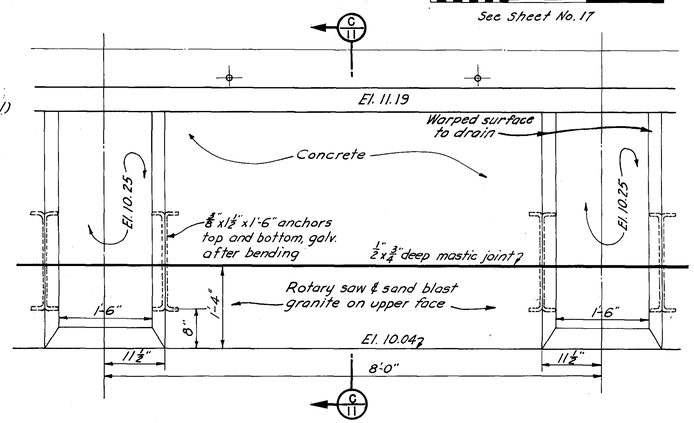
SCALE 1" = 1'-0"

BOSTON PIER

SCALE ¼" = 1'-0"

5' 0 5' 10'

See Sheet No. 17

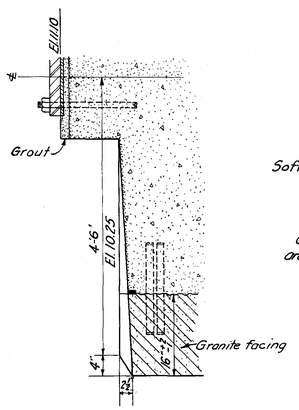


PLAN

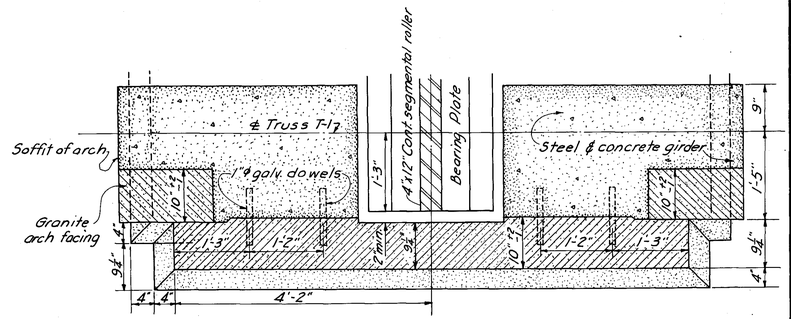
DETAIL OF TOP OF PIER

SCALE 1" = 1'-0"

1' 0 1' 2'



SECTION C/11



SECTION D/11

SCALE 1" = 1'-0

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: AS SHOWN AUGUST 31, 1949

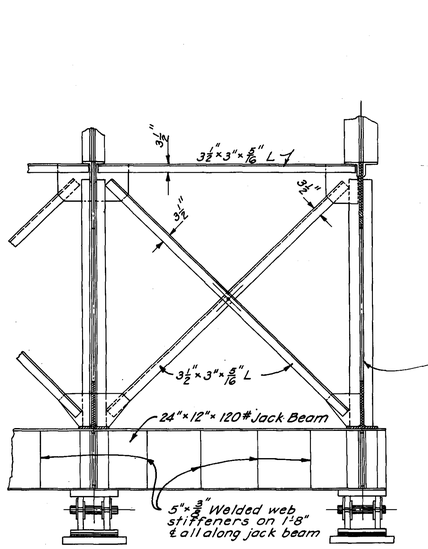
H. D. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Pink DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: A.J.H.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

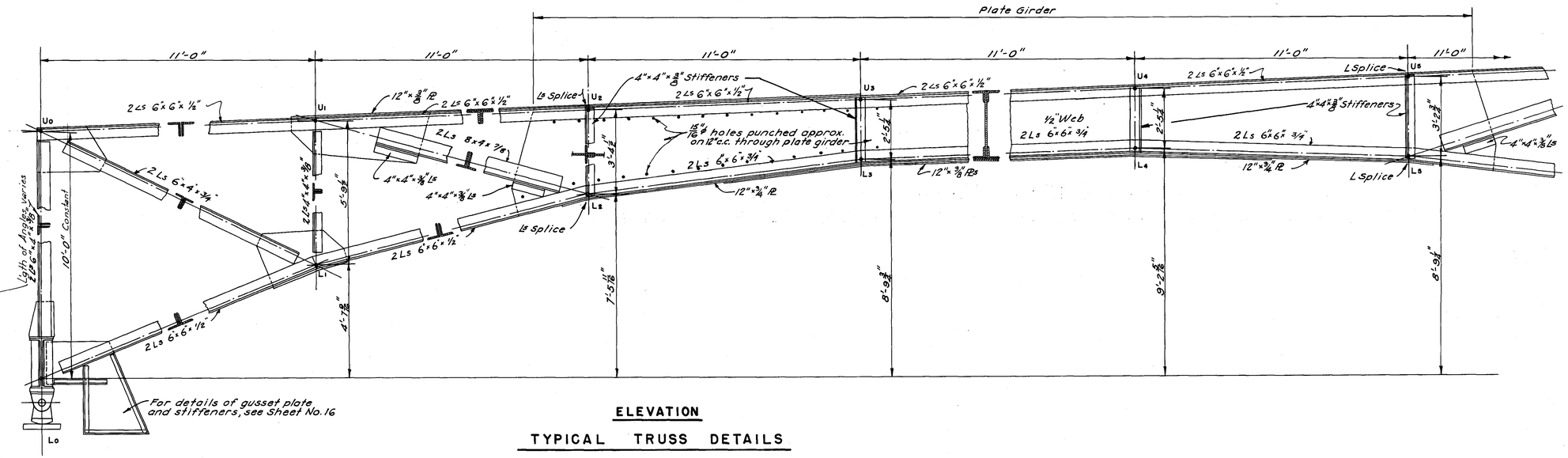
28650X

28651 X



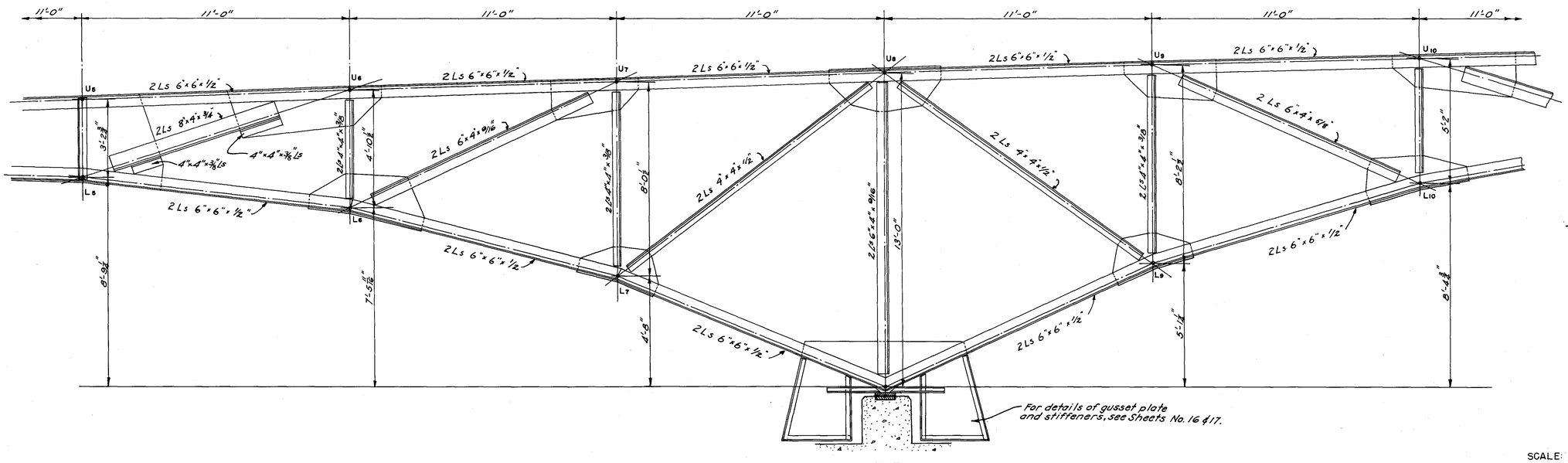
TYPICAL X BRACING AT ABUTMENTS

TO BE PROVIDED IN ALL BAYS



ELEVATION

TYPICAL TRUSS DETAILS



ELEVATION

TYPICAL TRUSS DETAILS

See Section D/16

NOTE

For general notes applying to this sheet, see Sheet No. 13

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: 1/2 IN. = 1 FT. AUGUST 31, 1949

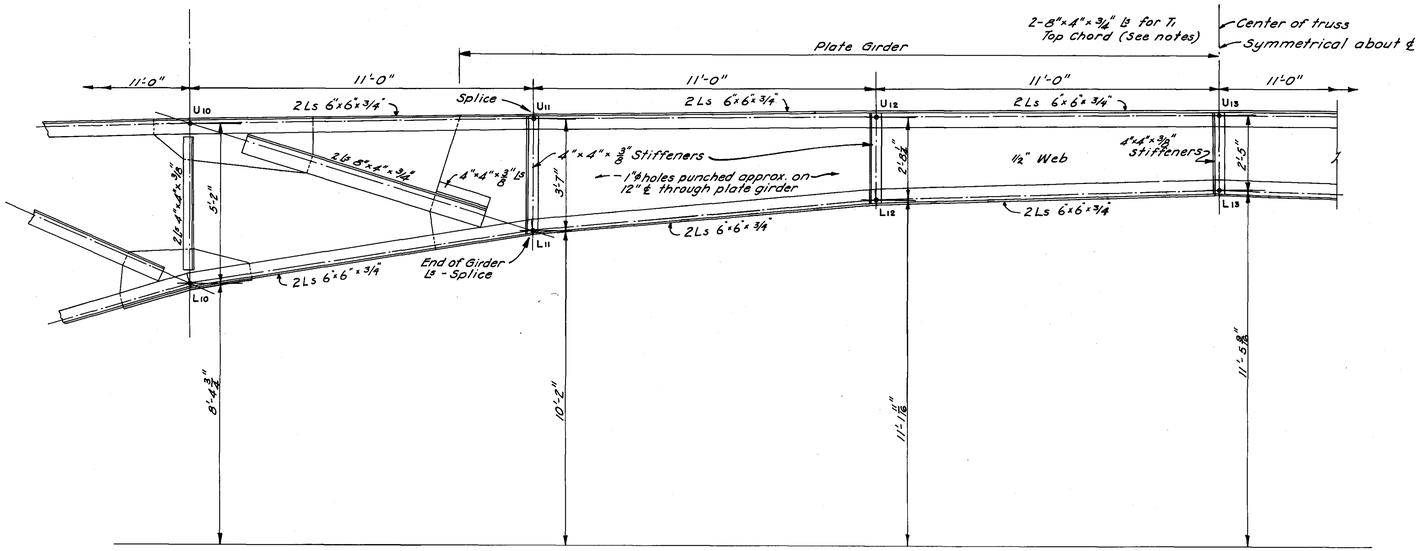
H. S. Kenerson BURNS and KENERSON, Inc.

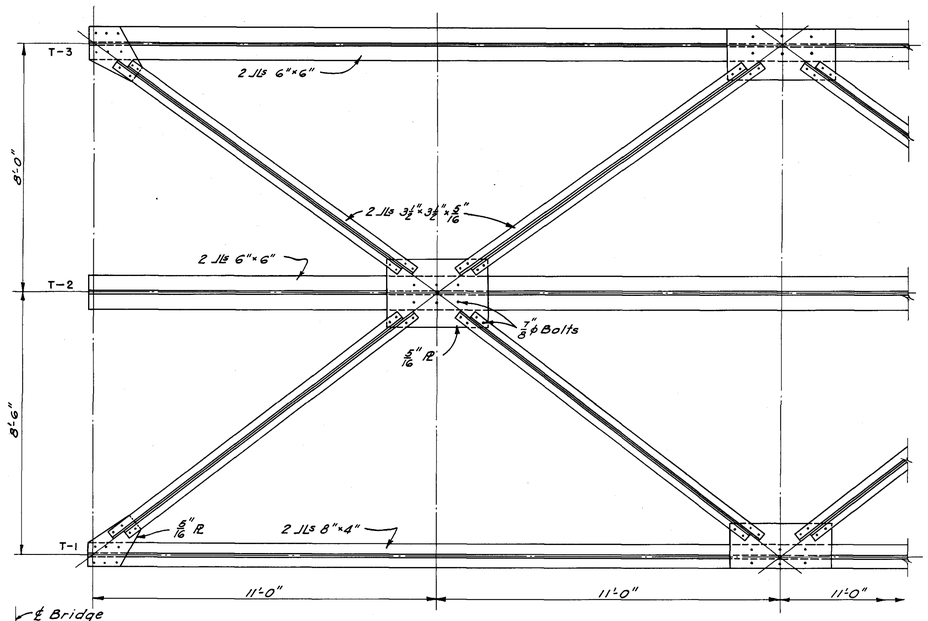
Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

SHEET 12 OF 25 SHEETS

28651 X

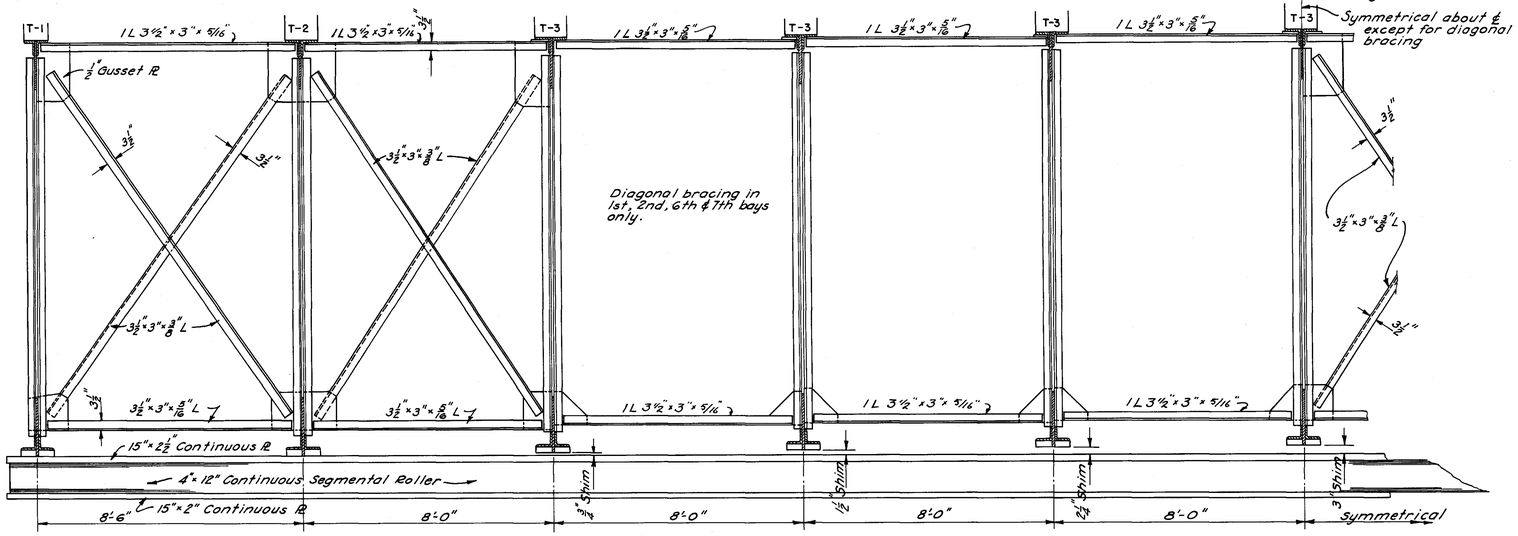
28652x





TYPICAL TEMPORARY LATERAL BRACING

TO BE PROVIDED IN 1ST & 2ND AND 6TH & 7TH BAYS ONLY



TYPICAL X BRACING AT PIERS

NOTES

All trusses are the same except as noted.
Truss T1 has two 8"×4" Ls along upper chord instead of 6"×6" Ls.
Sway bracing to be placed in 1st & 2nd bays and 6th & 7th bays except at abutments where it is continuous. Intermediate sway bracing not detailed will be made up of 3 1/2"×3"×3/8" Ls.
Welded bonding bars detailed on Sheet No. 7 will be welded in the field to the upper and lower chord members as indicated. They will also be provided, on vertical members over supports.
5/8 inch ϕ bars will be inserted through holes punched on ±12" ℄s on plate girder to provide additional bond. All web and gusset plates are 1/2" thick, except as otherwise shown for lateral plates.
Steel encased in concrete - not painted.
Rivets to be 7/8" ϕ, open holes 15/16" ϕ unless otherwise noted.
All trusses to be cambered for full dead load.
Structural Steel to be O.H. in accordance with A.S.T.M-A7-46
Reinforcing Steel to be of Intermediate Grade in accordance with A.S.T.M A-184-37, A15-39 or A160-39.

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: 1/2 IN. = 1 FT. AUGUST 31, 1949

H. D. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

28652x

28653x

STRESS TABLE TRUSS T1

STRESSES IN KIPS

MEMBER	DEAD LOAD D1	DEAD LOAD D2	DEAD LOAD D3	SIDEWALK L.L. COMP.	SIDEWALK L.L. TENS.	DESIGN STRESS COMP.	DESIGN STRESS TENS.
U_0 U_1	- 84	- 29	- 36	- 16	+ 6	-164	
U_1 U_2	-202	- 75	- 92	- 46	+ 19	-415	
U_2 U_3	-244	-101	-124	- 75	+ 40	-544	
U_3 U_4	-156	- 64	- 79	- 76	+ 53	-375	
U_4 U_5	-156	- 64	- 79	- 76	+ 53	-375	
U_5 U_6	+ 8	+ 6	+ 7	- 48	+ 51	- 27	+ 72
U_6 U_7	+123	+ 58	+ 71	- 27	+ 47		+299
U_7 U_8	+190	+ 78	+ 97	- 15	+ 43		+408
U_8 U_9	+200	+ 83	+103	- 13	+ 42		+429
U_9 U_{10}	+159	+147	+ 91	- 18	+ 44		+442
U_{10} U_{11}	+103	+ 46	+ 57	- 24	+ 40		+247
U_{11} U_{12}	+ 37	+ 13	+ 16	- 41	+ 46		+ 112
U_{12} U_{13}	+ 14	- 3	- 4	- 52	+ 51	- 45	+ 58
U_{13} U_{14}	+ 14	- 3	- 4	- 52	+ 51	- 45	+ 58
U_{14} U_{15}	+ 37	+ 13	+ 16	- 41	+ 46		+ 112
U_{15} U_{16}	+103	+ 46	+ 57	- 24	+ 40		+247
U_{16} U_{17}	+159	+147	+ 91	- 18	+ 44		+442
U_{17} U_{18}	+200	+ 83	+103	- 13	+ 42		+429
U_{18} U_{19}	+190	+ 78	+ 97	- 15	+ 43		+408
U_{19} U_{20}	+123	+ 58	+ 71	- 27	+ 47		+299
U_{20} U_{21}	+ 8	+ 6	+ 7	- 48	+ 51	- 27	+ 72
U_{21} U_{22}	-156	- 64	- 79	- 76	+ 53	-375	
U_{22} U_{23}	-156	- 64	- 79	- 76	+ 53	-375	
U_{23} U_{24}	-244	-101	-124	- 75	+ 40	-544	
U_{24} U_{25}	-202	- 75	- 92	- 46	+ 19	-415	
U_{25} U_{26}	- 84	- 29	- 36	- 16	+ 6	-164	
L_0 L_1	0	0	0	0	0	0	0
L_1 L_2	+ 87	+ 30	+ 37	- 6	+ 16		+170
L_2 L_3	+203	+ 75	+ 93	- 19	+ 46		+416
L_3 L_4	+244	+101	-124	- 40	+ 75		+544
L_4 L_5	- 8	- 6	- 7	- 51	+ 48	- 72	+ 27
L_5 L_6	-124	- 58	- 72	- 48	+ 27	-301	
L_6 L_7	-196	- 81	-100	- 45	+ 16	-422	
L_7 L_8	-238	- 96	-118	- 45	+ 11	-496	
L_8 L_9	-242	- 97	-120	- 45	+ 11	-504	
L_9 L_{10}	-209	- 87	-107	- 44	+ 13	-447	
L_{10} L_{11}	-161	-150	- 92	- 45	+ 18	-448	
L_{11} L_{12}	-103	- 46	- 57	- 40	+ 24	-247	
L_{12} L_{13}	- 37	- 13	- 16	- 46	+ 41	-112	
L_{13} L_{14}	- 37	- 13	- 16	- 46	+ 41	-112	
L_{14} L_{15}	-103	- 46	- 57	- 40	+ 24	-247	
L_{15} L_{16}	-161	-150	- 92	- 45	+ 18	-448	
L_{16} L_{17}	-209	- 87	-107	- 44	+ 13	-447	
L_{17} L_{18}	-242	- 97	-120	- 45	+ 11	-504	
L_{18} L_{19}	-238	- 96	-118	- 45	+ 11	-496	
L_{19} L_{20}	-196	- 81	-100	- 45	+ 16	-422	
L_{20} L_{21}	-124	- 58	- 72	- 48	+ 27	-301	
L_{21} L_{22}	- 8	- 6	- 7	- 51	+ 48	- 72	+ 27
L_{22} L_{23}	+244	+101	-124	- 40	+ 75		+544
L_{23} L_{24}	+203	+ 75	+ 93	- 19	+ 46		+416
L_{24} L_{25}	+ 87	+ 30	+ 37	- 6	+ 16		+170
L_{25} L_{26}	0	0	0	0	0	0	0
U_0 L_1	139	75	94		21		330
U_1 L_2	212	114	91		40		457
U_2 L_3	—	—	—		—		—
U_3 L_4	—	—	—		—		—
L_4 U_5	—	—	—		—		—
L_5 U_6	122	66	39		61		288
L_6 U_7	74	40	28		51		193
L_7 U_8	35	19	0		38		92
U_8 L_9	155	84	8		35		282
U_9 L_{10}	128	69	36		44		278
U_{10} L_{11}	166	90	67		50		372
U_{11} L_{12}	—	—	—		—		—
U_{12} L_{13}	—	—	—		—		—
L_{13} U_{14}	—	—	—		—		—
L_{14} U_{15}	—	—	—		—		—
L_{15} U_{16}	166	90	67		50		372
L_{16} U_{17}	128	69	36		44		278
L_{17} U_{18}	155	84	8		35		282
U_{18} L_{19}	35	19	0		38		92
U_{19} L_{20}	74	40	28		51		193
U_{20} L_{21}	122	66	39		61		288
U_{21} L_{22}	—	—	—		—		—
L_{22} U_{23}	—	—	—		—		—
L_{23} U_{24}	—	—	—		—		—
L_{24} U_{25}	212	114	91		40		457
L_{25} U_{26}	139	75	94		21		330

SECTIONS

MEMBER	AREA GROSS	AREA NET	RADIUS OF GYRATION
U_0 U_1	11.5	10.5	1.86
U_1 U_2	16.0	15.0	2.40
U_2 U_3	19.0	17.5	2.68
U_3 U_4	14.5	13.0	2.36
U_4 U_5	14.5	13.0	2.36
U_5 U_6	18.9	17.4	1.83
U_6 U_7	21.9	20.4	1.83
U_7 U_8	26.6	25.0	1.83
U_8 U_9	26.6	25.0	1.83
U_9 U_{10}	23.5	22.0	1.83
U_{10} U_{11}	17.9	16.4	1.83
U_{11} U_{12}	19.9	17.9	2.40
U_{12} U_{13}	19.9	17.9	2.40
U_{13} U_{14}	19.9	17.9	2.40
U_{14} U_{15}	17.9	16.4	1.83
U_{15} U_{16}	23.5	22.0	1.83
U_{16} U_{17}	26.6	25.0	1.83
U_{17} U_{18}	26.6	25.0	1.83
U_{18} U_{19}	21.9	20.4	1.83
U_{19} U_{20}	19.9	17.4	1.83
U_{20} U_{21}	14.5	13.0	2.36
U_{21} U_{22}	14.5	13.0	2.36
U_{22} U_{23}	19.0	17.5	2.68
U_{23} U_{24}	16.0	15.0	2.40
U_{24} U_{25}	11.5	10.5	1.86
L_0 L_1	11.5	10.5	1.86
L_1 L_2	11.5	10.5	1.86
L_2 L_3	28.9	26.9	2.88
L_3 L_4	34.4	31.4	2.98
L_4 L_5	28.9	26.9	2.88
L_5 L_6	16.9	15.4	1.83
L_6 L_7	16.9	15.4	1.83
L_7 L_8	16.9	15.4	1.83
L_8 L_9	16.9	15.4	1.83
L_9 L_{10}	16.9	15.4	1.83
L_{10} L_{11}	16.9	15.4	1.83
L_{11} L_{12}	19.9	17.9	2.60
L_{12} L_{13}	19.9	17.9	2.60
L_{13} L_{14}	19.9	17.9	2.60
L_{14} L_{15}	19.9	17.9	2.60
L_{15} L_{16}	16.9	15.4	1.83
L_{16} L_{17}	16.9	15.4	1.83
L_{17} L_{18}	16.9	15.4	1.83
L_{18} L_{19}	16.9	15.4	1.83
L_{19} L_{20}	16.9	15.4	1.83
L_{20} L_{21}	16.9	15.4	1.83
L_{21} L_{22}	28.9	26.9	2.88
L_{22} L_{23}	34.4	31.4	2.98
L_{23} L_{24}	28.9	26.9	2.88
L_{24} L_{25}	11.5	10.5	1.86
L_{25} L_{26}	11.5	10.5	1.86
U_0 L_1	13.9	12.4	1.84
U_1 L_2	19.5	17.7	1.76
U_2 L_3	—	—	—
U_3 L_4	—	—	—
L_4 U_5	—	—	—
L_5 U_6	19.5	17.7	1.76
L_6 U_7	13.9	12.4	1.84
L_7 U_8	7.5	6.5	1.22
U_8 L_9	7.5	6.5	1.22
U_9 L_{10}	11.7	10.5	1.76
U_{10} L_{11}	16.9	15.4	1.69
U_{11} L_{12}	—	—	—
U_{12} L_{13}	—	—	—
L_{13} U_{14}	—	—	—
L_{14} U_{15}	—	—	—
L_{15} U_{16}	16.9	15.4	1.69
L_{16} U_{17}	11.7	10.5	1.76
L_{17} U_{18}	7.5	6.5	1.22
U_{18} L_{19}	7.5	6.5	1.22
U_{19} L_{20}	13.9	12.4	1.84
U_{20} L_{21}	19.5	17.7	1.76
U_{21} L_{22}	—	—	—
L_{22} U_{23}	—	—	—
L_{23} U_{24}	—	—	—
L_{24} U_{25}	19.5	17.7	1.76
L_{25} U_{26}	13.9	12.4	1.84

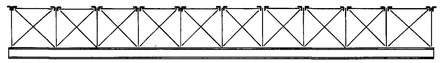
STRESS TABLE TRUSS T1

STRESSES IN KIPS

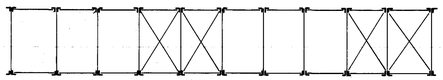
MEMBER	DEAD LOAD D1	DEAD LOAD D2	DEAD LOAD D3	SIDEWALK L.L. COMP.	SIDEWALK L.L. TENS.	DESIGN STRESS COMP.	DESIGN STRESS TENS.
U_0 L_0	66	36	45	10		156	
U_1 L_1	63	34	27	12		135	
U_2 L_2	—	—	—	—		—	
U_3 L_3	—	—	—	—		—	
U_4 L_4	—	—	—	—		—	
U_5 L_5	—	—	—	—		—	
U_5 L_6	34	18	11	17		81	
U_7 L_7	30	16	11	20		77	
U_8 L_8	115	62	5	43		225	
U_9 L_9	55	30	15	19		119	
U_{10} L_{10}	56	28	21	15		120	
U_{11} L_{11}	—	—	—	—		—	
U_{12} L_{12}	—	—	—	—		—	
U_{13} L_{13}	—	—	—	—		—	
U_{14} L_{14}	—	—	—	—		—	
U_{15} L_{15}	—	—	—	—		—	
U_{15} L_{16}	56	28	21	15		120	
U_{17} L_{17}	55	30	15	19		119	
U_{18} L_{18}	115	62	5	43		225	
U_{19} L_{19}	30	16	11	20		77	
U_{20} L_{20}	34	18	11	17		81	
U_{21} L_{21}	—	—	—	—		—	
U_{22} L_{22}	—	—	—	—		—	
U_{23} L_{23}	—	—	—	—		—	
U_{24} L_{24}	—	—	—	—		—	
U_{25} L_{25}	63	34	27	12		135	
U_{26} L_{26}	66	36	45	10		156	

SECTIONS

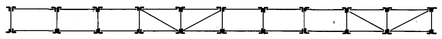
MEMBER	AREA GROSS	AREA NET	RADIUS OF GYRATION
U_0 L_0	7.2	6.5	1.93
U_1 L_1	5.7	5.0	1.23
U_2 L_2	—	—	—
U_3 L_3	—	—	—
U_4 L_4	—	—	—
U_5 L_5	—	—	—
U_5 L_6	5.7	5.0	1.23
U_7 L_7	5.7	5.0	1.23
U_8 L_8	10.6	9.5	1.90
U_9 L_9	5.7	5.0	1.23
U_{10} L_{10}	5.7	5.0	1.23
U_{11} L_{11}	—	—	—
U_{12} L_{12}	—	—	—
U_{13} L_{13}	—	—	—
U_{14} L_{14}	—	—	—
U_{15} L_{15}	—	—	—
U_{15} L_{16}	5.7	5.0	1.23
U_{17} L_{17}	5.7	5.0	1.23
U_{18} L_{18}	10.6	9.5	1.90
U_{19} L_{19}	5.7	5.0	1.23
U_{20} L_{20}	5.7	5.0	1.23
U_{21} L_{21}	—	—	—
U_{22} L_{22}	—	—	—
U_{23} L_{23}	—	—	—
U_{24} L_{24}	—	—	—
U_{25} L_{25}	5.7	5.0	1.23
U_{26} L_{26}	7.2	6.5	1.93



SWAY BRACING AT ABUTMENTS (A-A)



SWAY BRACING AT PIERS (B-B)



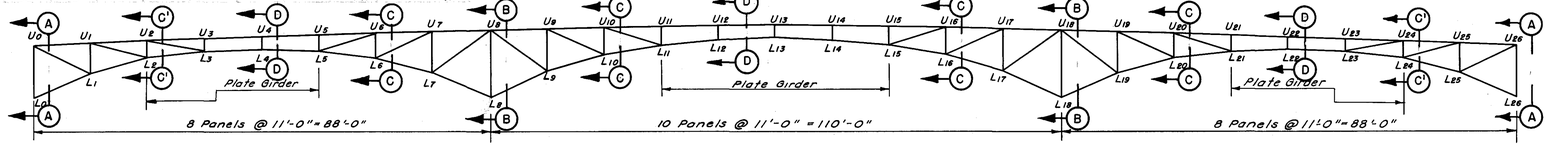
TYPICAL INTERMEDIATE BRACING (C-C)

SECTION C'-C' SAME BETWEEN PLATE GIRDER SECTIONS

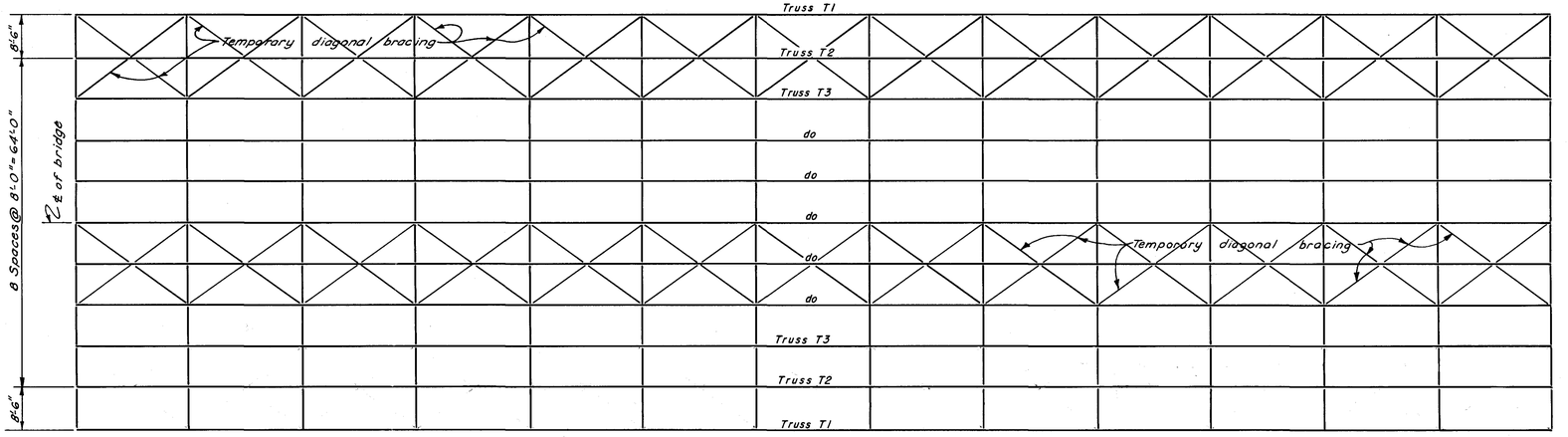
TYPICAL SWAY BRACING AT CENTER OF ARCHES (D-D)

REACTIONS IN KIPS

	T-1 Lo or L26	T-1 L1 or L25	T-2 L1 or L25	T-2 L2 or L24	T-3 L2 or L24	T-3 L3 or L23
Dead Load	+165	+495	+111	+331	+102	+309
Live Load	+11	+34	+35	+90	+48	+111
Impact	—	—	+6	+12	+11	+25
Total	+176	+529	+152	+433	+161	+445



ELEVATION OF TRUSSES



PLAN OF TRUSSES

Dead Load stresses shown on tables are for full dead load in place and may be exceeded during erection for partial loading.

Wind Load as shown at 30 lbs. per sq. ft. will not result in stresses higher than 25% of design stress and therefor is omitted for design. For bracing during erection the wind load must be considered.

NOTES

Diagonals and lateral plates of the Bracing System, on top flanges only are temporary and are to be removed after interior slab has been poured.

Struts, connected to K-Frames, are to remain encased in diaphragm walls.

Substitute bracing, equivalent to that shown must be consistent with approved erection plans. All cross frames are to remain.

B. and K., Inc.				
DRAWN: H.K.M.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: NOT TO SCALE AUGUST 31, 1949

H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fuck DIRECTOR OF PARK ENGINEERING

28653x

28654X

STRESS TABLE TRUSS T2

STRESSES IN KIPS

MEMBER	DEAD LOAD D1	DEAD LOAD D2	SIDEWALK L.L. COMP.	SIDEWALK L.L. TENS.	ROADWAY L.L. COMP.	ROADWAY L.L. TENS.	IMPACT COMP.	IMPACT TENS.	DESIGN STRESS COMP.	DESIGN STRESS TENS.	MEMBER
Uo U1	- 56	- 44	- 16	+ 6	- 29	+ 8	- 7	+ 2	-151		
U1 U2	-135	-113	- 46	+ 19	- 80	+ 28	- 19	+ 7	-393		
U2 U3	-162	-152	- 75	+ 40	-128	+ 58	- 30	+ 14	-548		
U3 U4	-104	- 97	- 76	+ 53	-127	+ 77	- 30	+ 18	-432		
U4 U5	-104	- 97	- 76	+ 53	-127	+ 77	- 30	+ 18	-432		
U5 U6	+ 5	+ 9	- 48	+ 50	- 84	+ 73	- 20	+ 16	-138	+152	
U6 U7	+ 82	+ 87	- 27	+ 47	- 49	+ 72	- 12	+ 17		+305	
U7 U8	+126	+118	- 15	+ 43	- 27	+ 66	- 6	+ 16		+370	
U8 U9	+133	+126	- 12	+ 42	- 23	+ 65	- 5	+ 14		+380	
U9 U10	+106	+111	- 18	+ 44	- 37	+ 70	- 8	+ 15		+346	
U10 U11	+ 69	+ 69	- 24	+ 40	- 47	+ 64	- 10	+ 14		+256	
U11 U12	+ 24	+ 20	- 41	+ 46	- 72	+ 71	- 15	+ 16	- 84	+176	
U12 U13	+ 9	- 5	- 52	+ 51	- 87	+ 79	- 19	+ 17	-153	+151	
U13 U14	+ 9	- 5	- 52	+ 51	- 87	+ 79	- 19	+ 17	-153	+151	
U14 U15	+ 24	+ 20	- 41	+ 46	- 72	+ 71	- 15	+ 15	- 84	+176	
U15 U16	+ 69	+ 69	- 24	+ 40	- 47	+ 64	- 10	+ 14		+256	
U16 U17	+106	+111	- 18	+ 44	- 37	+ 70	- 8	+ 15		+346	
U17 U18	+133	+126	- 12	+ 42	- 23	+ 65	- 5	+ 14		+380	
U18 U19	+126	+118	- 15	+ 43	- 27	+ 66	- 6	+ 16		+370	
U19 U20	+ 82	+ 87	- 27	+ 47	- 49	+ 72	- 12	+ 17		+305	
U20 U21	+ 5	+ 9	- 48	+ 50	- 84	+ 73	- 20	+ 16	-138	+152	
U21 U22	-104	- 97	- 76	+ 53	-127	+ 77	- 30	+ 18	-432		
U22 U23	-104	- 97	- 76	+ 53	-127	+ 77	- 30	+ 18	-432		
U23 U24	-162	-152	- 75	+ 40	-128	+ 58	- 30	+ 14	-548		
U24 U25	-135	-113	- 46	+ 19	- 80	+ 28	- 19	+ 7	-393		
U25 U26	- 56	- 44	- 16	+ 6	- 29	+ 8	- 7	+ 2	-151		
Lo L1	0	0	0	0	0	0	0	0	0	0	
L1 L2	+ 58	+ 45	- 6	+ 16	- 9	+ 30	- 2	+ 7		+156	
L2 L3	+136	+113	- 19	+ 46	- 28	+ 81	- 7	+ 19		+395	
L3 L4	+163	+152	- 40	+ 75	- 58	+128	- 14	+ 30		+548	
L4 L5	- 5	- 9	- 50	+ 48	- 73	+ 84	- 16	+ 20	-152	+138	
L5 L6	- 82	- 88	- 48	+ 27	- 73	+ 49	- 17	+ 12	-307		
L6 L7	-131	-122	- 45	+ 16	- 69	+ 28	- 16	+ 7	-382		
L7 L8	-159	-144	- 45	+ 11	- 66	+ 16	- 16	+ 4	-429		
L8 L9	-161	-146	- 45	+ 11	- 67	+ 17	- 16	+ 4	-434		
L9 L10	-139	-131	- 44	+ 13	- 68	+ 24	- 15	+ 5	-396		
L10 L11	-107	-112	- 45	+ 18	- 71	+ 37	- 15	+ 8	-351		
L11 L12	- 69	- 69	- 40	+ 24	- 64	+ 47	- 14	+ 10	-256		
L12 L13	- 24	- 20	- 46	+ 41	- 71	+ 72	- 15	+ 15	-176	+ 84	
L13 L14	- 24	- 20	- 46	+ 41	- 71	+ 72	- 15	+ 15	-176	+ 84	
L14 L15	- 69	- 69	- 40	+ 24	- 64	+ 47	- 14	+ 10	-256		
L15 L16	-107	-112	- 45	+ 18	- 71	+ 37	- 15	+ 8	-351		
L16 L17	-139	-131	- 44	+ 13	- 68	+ 24	- 15	+ 5	-396		
L17 L18	-161	-146	- 45	+ 11	- 67	+ 17	- 16	+ 4	-434		
L18 L19	-159	-144	- 45	+ 11	- 66	+ 16	- 16	+ 4	-429		
L19 L20	-131	-122	- 45	+ 16	- 69	+ 28	- 16	+ 7	-382		
L20 L21	- 82	- 88	- 48	+ 27	- 73	+ 49	- 17	+ 12	-307		
L21 L22	- 5	- 9	- 50	+ 48	- 73	+ 84	- 16	+ 20	-152	+138	
L22 L23	+163	+152	- 40	+ 75	- 58	+128	- 14	+ 30		+548	
L23 L24	+136	+113	- 19	+ 46	- 28	+ 81	- 7	+ 19		+395	
L24 L25	+ 58	+ 45	- 6	+ 16	- 9	+ 30	- 2	+ 7		+156	
L25 L26	0	0	0	0	0	0	0	0	0	0	
Uo L1	93	115		21		45		11		284	
U1 L2	141	111		40		40		9		341	
U2 L3	—	—		—		—		—		—	
U3 L4	—	—		—		—		—		—	
L4 U5	—	—		—		—		—		—	
L5 U6	81	48		61		112		26		329	
L6 U7	49	34		51		87		20		242	
L7 U8	24	0		38		50		12		123	
U8 L9	104	10		35		48		10		206	
U9 L10	86	44		44		75		16		265	
U10 L11	111	82		50		90		19		351	
U11 L12	—	—		—		—		—		—	
U12 L13	—	—		—		—		—		—	
L13 U14	—	—		—		—		—		—	
L14 U15	—	—		—		—		—		—	
L15 U16	111	82		50		90		19		351	
L16 U17	86	44		44		75		16		265	
L17 U18	104	10		35		48		10		206	
U18 L19	24	0		38		50		12		123	
U19 L20	49	34		51		87		20		242	
U20 L21	81	48		61		112		26		329	
U21 L22	—	—		—		—		—		—	
L22 U23	—	—		—		—		—		—	
L23 U24	—	—		—		—		—		—	
L24 U25	141	111		40		40		9		341	
L25 U26	93	115		21		45		11		284	

For sizes of members see T3

STRESS TABLE TRUSS T2

STRESSES IN KIPS

MEMBER	DEAD LOAD D1	DEAD LOAD D2	SIDEWALK L.L. TENS.	ROADWAY L.L. COMP.	ROADWAY L.L. TENS.	IMPACT COMP.	IMPACT TENS.	DESIGN STRESS COMP.	DESIGN STRESS TENS.	MEMBER
Uo Lo	44	54		10		21	5	135		
U1 L1	42	33		12		12	3	101		
U2 L2	—	—		—		—	—	—		
U3 L3	—	—		—		—	—	—		
U4 L4	—	—		—		—	—	—		
U5 L5	—	—		—		—	—	—		
U6 L6	23	13		17		31	7	92		
U7 L7	20	14		20		35	8	97		
U8 L8	76	6		43		59	13	197		
U9 L9	37	19		19		32	7	114		
U10 L10	34	25		15		28	6	109		
U11 L11	—	—		—		—	—	—		
U12 L12	—	—		—		—	—	—		
U13 L13	—	—		—		—	—	—		
U14 L14	—	—		—		—	—	—		
U15 L15	—	—		—		—	—	—		
U16 L16	34	25		15		28	6	109		
U17 L17	37	19		19		32	7	114		
U18 L18	76	6		43		59	13	197		
U19 L19	20	14		20		35	8	97		
U20 L20	23	13		17		31	7	92		
U21 L21	—	—		—		—	—	—		
U22 L22	—	—		—		—	—	—		
U23 L23	—	—		—		—	—	—		
U24 L24	—	—		—		—	—	—		
U25 L25	42	33		12		12	3	101		
U26 L26	44	54		10		21	5	135		

For sizes of members see T3

STRESS TABLE TRUSS T3

STRESSES IN KIPS — SECTIONS

MEMBER	DEAD LOAD D1	DEAD LOAD D2	LIVE LOAD COMP.	LIVE LOAD TENS.	IMPACT COMP.	IMPACT TENS.	DESIGN STRESS COMP.	DESIGN STRESS TENS.	AREA GROSS	AREA NET	RADIUS OF GYRATION
Uo U1	- 56	- 36	- 57	+ 16	- 13	+ 4	-163		11.5	10.5	1.86
U1 U2	-135	- 92	-161	+ 56	- 38	+ 13	-426		16.0	15.0	2.40
U2 U3	-162	-124	-256	+115	- 60	+ 27	-603		19.0	17.5	2.68
U3 U4	-104	- 79	-253	+154	- 59	+ 36	-496	+ 7	14.5	13.0	2.35
U4 U5	-104	- 79	-253	+154	- 59	+ 36	-496	+ 7	14.5	13.0	2.35
U5 U6	+ 5	+ 7	-169	+146	- 40	+ 34	-196	+193	18.9	17.4	1.83
U6 U7	+ 82	+ 71	- 98	+144	- 23	+ 34		+331	21.9	20.4	1.83
U7 U8	+126	+ 97	- 54	+133	- 13	+ 31		+386	26.6	25.1	1.83
U8 U9	+133	+103	- 46	+132	- 10	+ 28		+396	26.6	25.1	1.83
U9 U10	+106	+ 91	- 71	+140	- 15	+ 30		+367	23.5	22.0	1.83
U10 U11	+ 69	+ 57	- 95	+127	- 20	+ 27		+280	17.9	16.4	1.83
U11 U12	+ 24	+ 16	-144	+143	- 31	+ 30	-134	+214	18.9	17.9	2.60
U12 U13	+ 9	- 4	-174	+158	- 37	+ 34	-206	+197	19.9	17.9	2.60
U13 U14	+ 9	- 4	-174	+158	- 37	+ 34	-206	+197	19.9	17.9	2.60
U14 U15	+ 24	+ 16	-144	+143	- 31	+ 30	-134	+214	19.9	17.9	2.60
U15 U16	+ 69	+ 57	- 95	+127	- 20	+ 27		+280	17.9	16.4	1.83
U16 U17	+106	+ 91	- 71	+140	- 15	+ 30		+367	23.5	22.0	1.83
U17 U18	+133	+103	- 46	+132	- 10	+ 28		+396	26.6	25.1	1.83
U18 U19	+126	+ 97	- 54	+133	- 13	+ 31		+386	26.6	25.1	1.83
U19 U20	+ 82	+ 71	- 98	+144	- 23	+ 34		+331	21.9	20.4	1.83
U20 U21	+ 5	+ 7	-169	+146	- 40	+ 34	-196	+193	18.9	17.4	1.83
U21 U22	-104	- 79	-253	+154	- 59	+ 36	-496	+ 7	14.5	13.0	2.35
U22 U23	-104	- 79	-253	+154	- 59	+ 36	-496	+ 7	14.5	13.0	2.35
U23 U24	-162	-124	-256	+115	- 60	+ 27	-603		19.0	17.5	2.68
U24 U25	-135	- 92	-161	+ 56	- 38	+ 13	-426		16.0	15.0	2.40
U25 U26	- 56	- 36	- 57	+ 16	- 13	+ 4	-163		11.5	10.5	1.86
Lo L1	0	0	0	0	0	0	0	0	11.5	10.5	1.86
L1 L2	+ 58	+ 37	- 17	+ 59	- 4	+ 14		+168	11.5	10.5	1.86
L2 L3	+135	+ 93	- 56	+162	- 13	+ 38		+428	28.9	26.9	2.88
L3 L4	+162	+124	-115	+256	- 27	+ 60		+603	34.4	31.4	2.98
L4 L5	- 5	- 7	-146	+169	- 34	+ 40	-193	+196	28.9	26.9	2.88
L5 L6	- 82	- 72	-145	+ 99	- 34	+ 23	-333		16.9	15.4	1.83
L6 L7	-131	-100	-137	+ 56	- 32	+ 13	-400		16.9	15.4	1.83
L7 L8	-159	-118	-132	+ 33	- 31	+ 8	-440		16.9	15.4	1.83
L8 L9	-161	-120	-135	+ 33	- 32	+ 8	-447		16.9	15.4	1.83
L9 L10	-139	-107	-137	+ 48	- 29	+ 10	-413		16.9	15.4	1.83
L10 L11	-107	- 92	-142	+ 72	- 30	+ 15	-372		16.9	15.4	1.83
L11 L12	- 69	- 57	-127	+ 95	- 27	+ 20	-280		19.9	17.9	2.60
L12 L13	- 24	- 16	-143	+144	- 30	+ 31	-214	+134	19.9	17.9	2.60
L13 L14	- 24	- 16	-143	+144	- 30	+ 31	-214	+134	19.9	17.9	2.60
L14 L15	- 69	- 57	-127	+ 95	- 27	+ 20	-280		19.9	17.9	2.60
L15 L16	-107	- 92	-142	+ 72	- 30	+ 15	-372		16.9	15.4	1.83
L16 L17	-139	-107	-137	+ 48	- 29	+ 10	-413		16.9	15.4	1.83
L17 L18	-161	-120	-135	+ 33	- 32	+ 8	-447		16.9	15.4	1.83
L18 L19	-159	-118	-132	+ 33	- 31	+ 8	-440		16.9	15.4	1.83
L19 L20	-131	-100	-137	+ 56	- 32	+ 13	-400		16.9	15.4	1.83
L20 L21	- 82	- 72	-145	+ 99	- 34	+ 23	-333		16.9	15.4	1.83
L21 L22	- 5	- 7	-146	+169	- 34	+ 40	-193	+196	28.9	26.9	2.88
L22 L23	+162	+124	-115	+256	- 27	+ 60		+603	34.4	31.4	2.98
L23 L24	+135	+ 93	- 56	+162	- 13	+ 38		+428	26.9	26.9	2.88
L24 L25	+ 58	+ 37	- 17	+ 59	- 4	+ 14		+168	11.5	10.5	1.86
L25 L26	0	0	0	0	0	0	0	0	11.5	10.5	1.86
Uo L1	93	94		90		21		299	13.9	12.4	1.84
U1 L2	141	91		79		19		330	19.5	17.7	1.76
U2 L3	—	—		—		—		—	—	—	—
U3 L4	—	—		—		—		—	—	—	—
L4 U5	—	—		—		—		—	—	—	—
L5 U6	81	39		224		53		397	19.5	17.7	1.76
L6 U7	49	28		173		41		291	13.9	12.4	1.84
L7 U8	24	0		100		24		147	7.5	6.5	1.22
U8 L9	104	8		95		20		227	7.5	6.5	1.22
U9 L10	86	36		150		32		303	11.7	10.5	1.76
U10 L11	111	67		180		38		395	16.9	15.4	1.69
U11 L12	—	—		—		—		—	—	—	—
U12 L13	—	—		—		—		—	—	—	—
L13 U14	—	—		—		—		—	—	—	—
L14 U15	—	—		—		—		—	—	—	—
L15 U16	111	67		180		38		395	16.9	15.4	1.69
L16 U17	86	36		150		32		303	11.7	10.5	1.76
L17 U18	104	8		95		20		227	7.5	6.5	1.22
U18 L19	24	0		100		24		147	7.5	6.5	1.22
U19 L20	49	28		173		41		291	13.9	12.4	1.84
U20 L21	86	39		224		53		397	19.5	17.7	1.76
U21 L22	—	—		—		—		—	—	—	—
L22 U23	—	—		—		—		—	—	—	—
L23 U24	—	—		—		—		—	—	—	—
L24 U25	141	91		79		19		330	19.5	17.7	1.76
L25 U26	93	94		90		21		299	13.9	12.4	1.84

STRESS TABLE TRUSS T3

STRESSES IN KIPS — SECTIONS

MEMBER	DEAD LOAD D1	DEAD LOAD D2	LIVE LOAD TENS.	IMPACT COMP.	IMPACT TENS.	DESIGN STRESS COMP.	DESIGN STRESS TENS.	AREA GROSS	AREA NET	RADIUS OF GYRATION
Uo Lo	44	45		43	11	142		7.2	6.5	1.99
U1 L1	42	27		23	6	98	5.7	5.0	1.23	
U2 L2	—	—		—	—	—	—	—	—	
U3 L3	—	—		—	—	—	—	—	—	
U4 L4	—	—		—	—	—	—	—	—	
U5 L5	—	—		—	—	—	—	—	—	
U6 L6	23	11		63	15	111	5.7	5.0	1.23	
U7 L7	20	11		69	16	116	5.7	5.0	1.23	
U8 L8	76	5		117	26	225	10.6	9.5	1.90	
U9 L9	37	15		64	14	130	5.7	5.0	1.23	
U10 L10	34	21		56	12	123	5.7	5.0	1.23	
U11 L11	—	—		—	—	—	—	—	—	
U12 L12	—	—		—	—	—	—	—	—	
U13 L13	—	—		—	—	—	—	—	—	
U14 L14	—	—		—	—	—	—	—	—	
U15 L15	—	—		—	—	—	—	—	—	
U16 L16	34	21		56	12	123	5.7	5.0	1.23	
U17 L17	37	15		64	14	130	5.7	5.0	1.23	
U18 L18	76	5		117	26	225	10.6	9.5	1.90	
U19 L19	20	11		69	16	116	5.7	5.0	1.23	
U20 L20	23	11		63	15	111	5.7	5.0	1.23	
U21 L21	—	—		—	—	—	—	—	—	
U22 L22	—	—		—	—	—	—	—	—	
U23 L23	—	—		—	—	—	—	—	—	
U24 L24	—	—		—	—	—	—	—	—	
U25 L25	—	—		—	—	—	—	—	—	
U26 L26	42	27		23	6	98	5.7	5.0	1.23	
U26 L26	44	45		43	11	142	7.2	6.5	1.93	

B. and K., Inc.				
DRAWN: H.K.M.				
TRACED: G.F.B.				
CHECKED: J.F.S.	REVISION	DATE	DESCRIPTION	BY

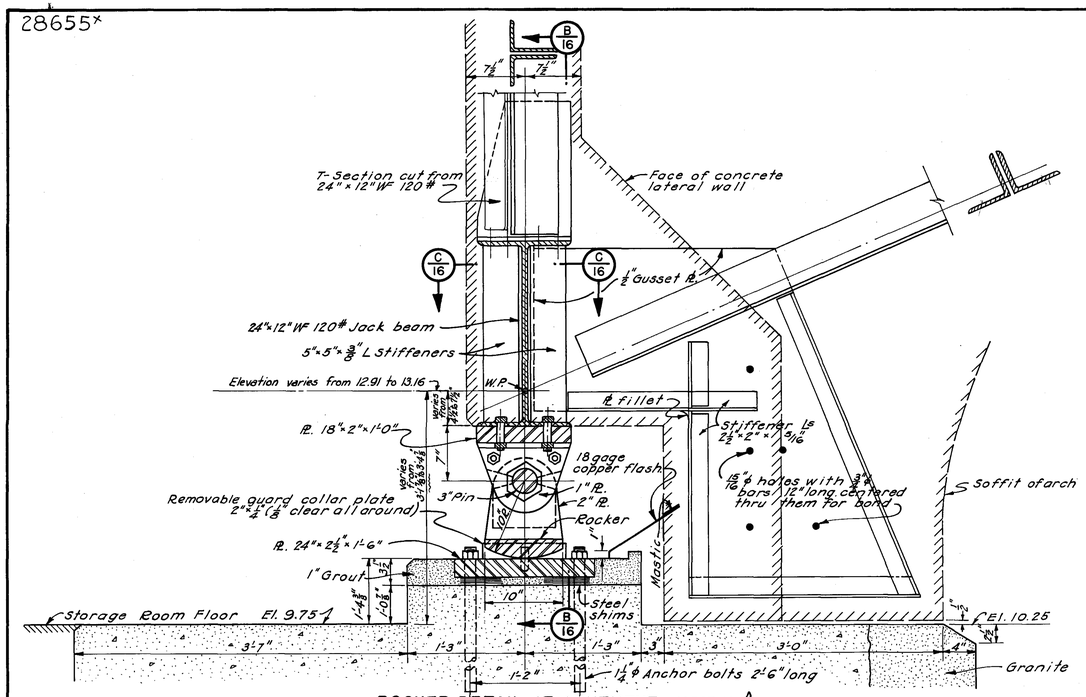
CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: NOT TO SCALE AUGUST 31 1949

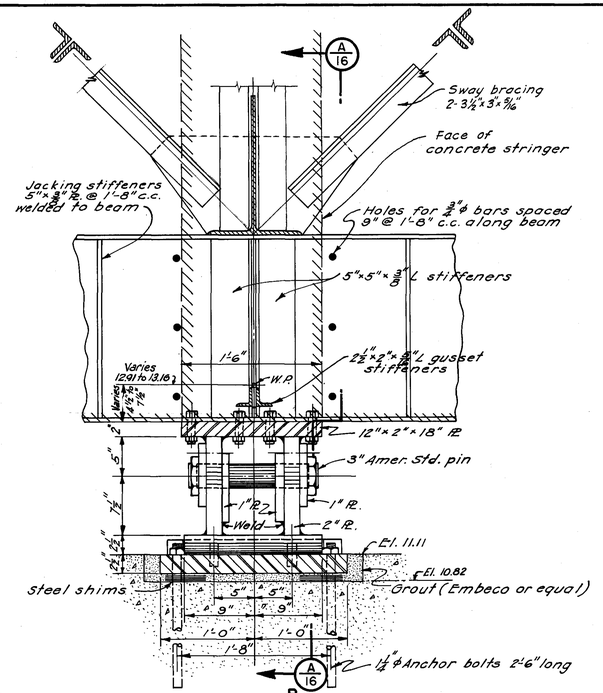
H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

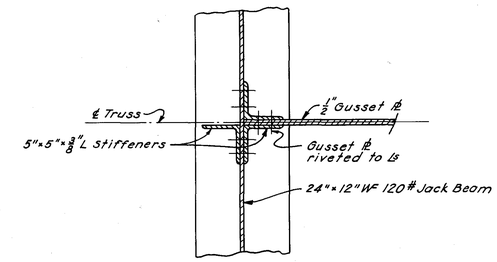
28654X



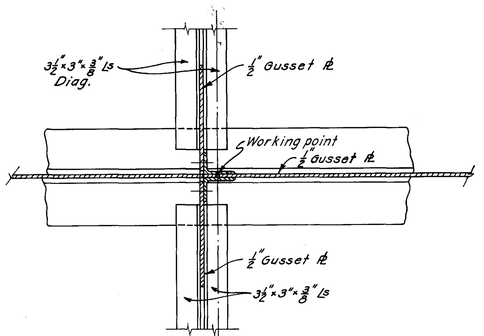
ROCKER DETAIL AT ABUTMENT – (SECTION A/16)



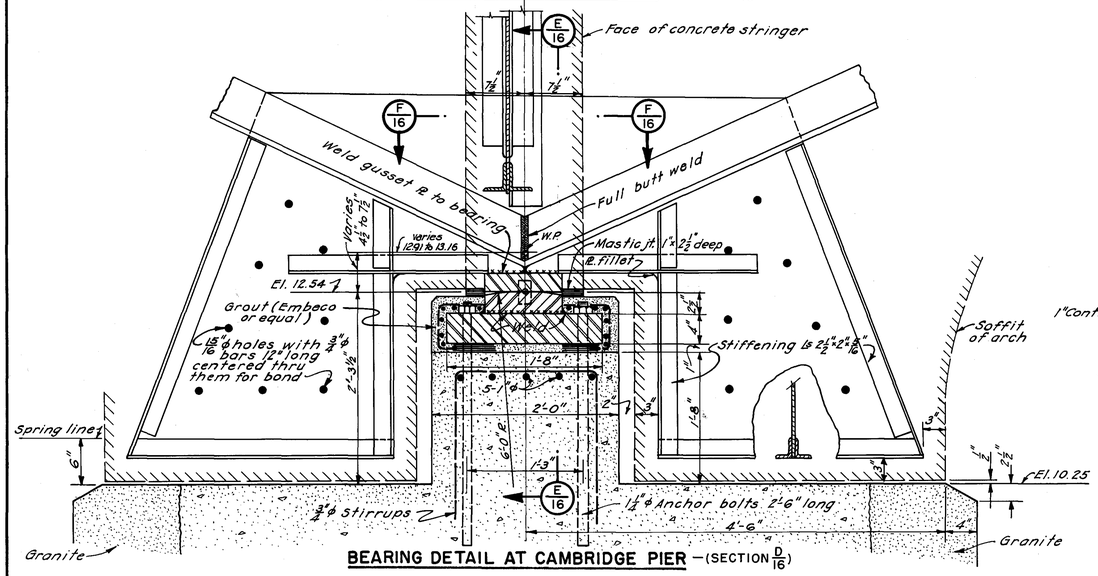
SECTION B/16



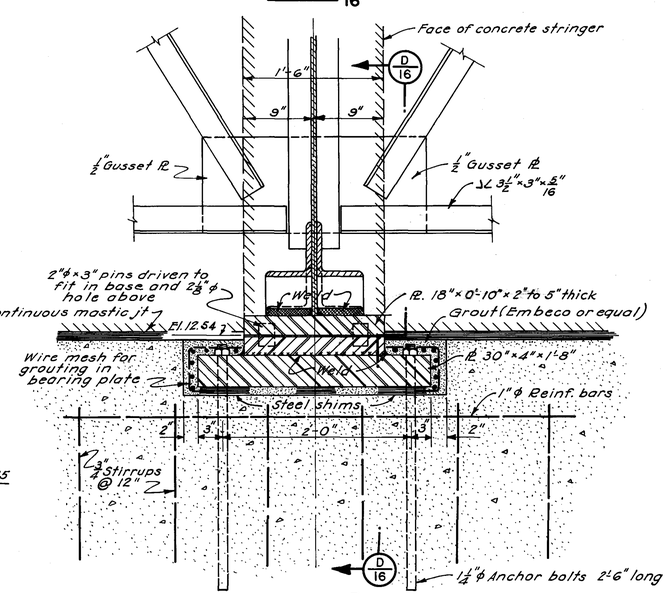
SECTION C/16



SECTION F/16



BEARING DETAIL AT CAMBRIDGE PIER – (SECTION D/16)



SECTION E/16

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.A.S.	REVISION	DATE	DESCRIPTION	BY

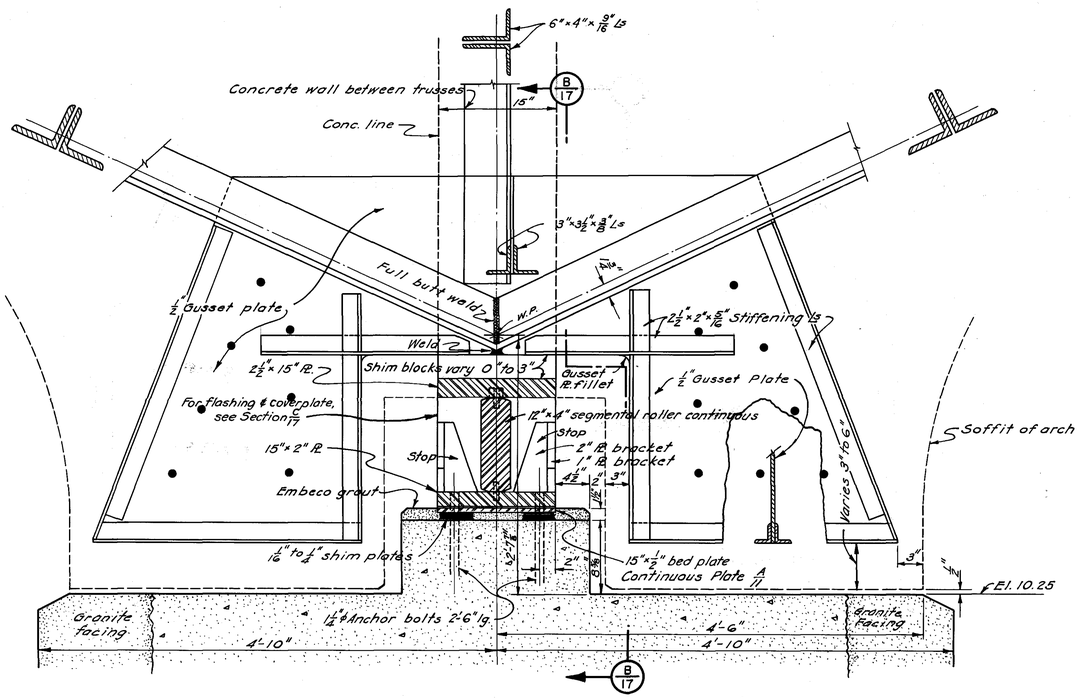
CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: 1 1/2 IN. = 1 FT. AUGUST 31, 1949

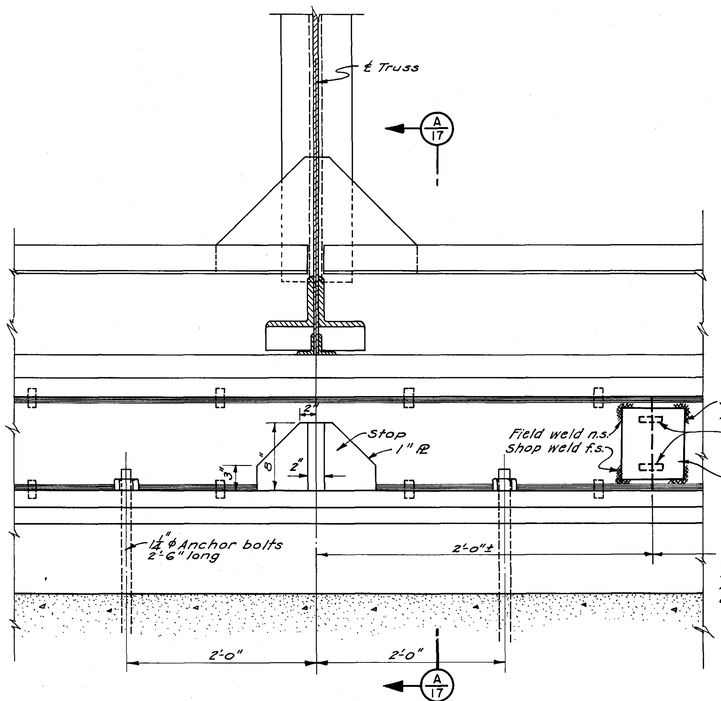
W. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

28656ˣ

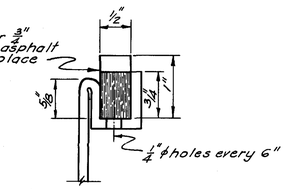


BEARING DETAIL AT BOSTON PIER – (SECTION A/17)



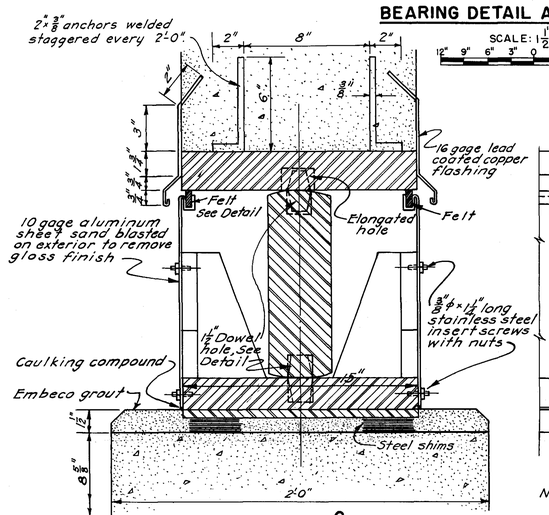
SECTION B/17

SCALE: 1½" = 1'-0"



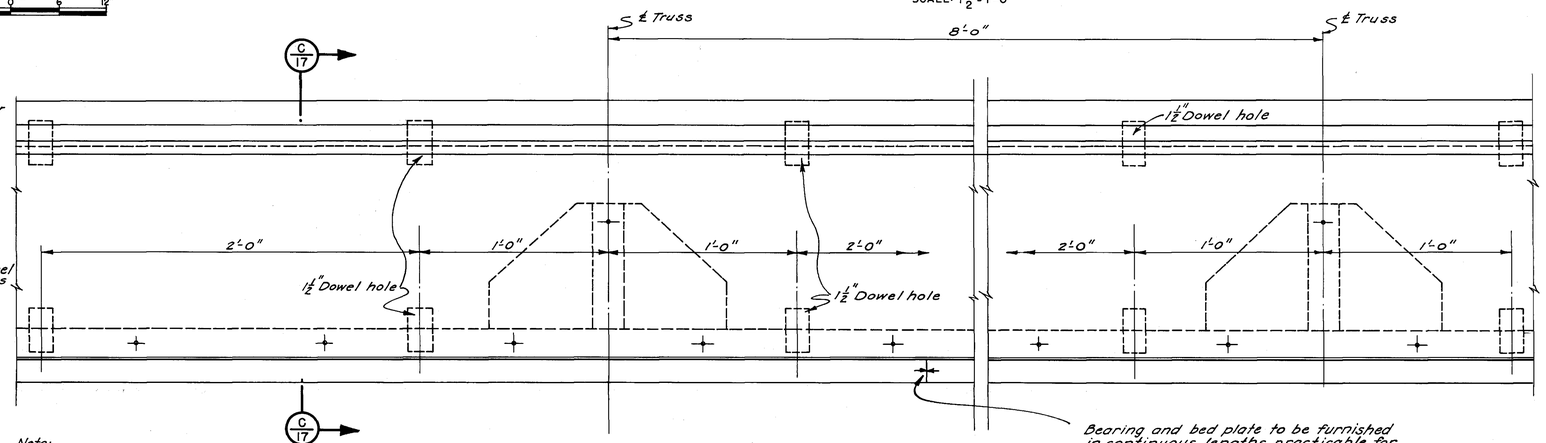
WEATHERSTRIP DETAIL

FULL SCALE



SECTION C/17

SCALE: 3" = 1'-0"



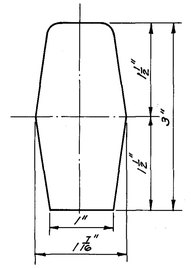
Note:
Upper and Lower Bearing Plate, Segmental Roller and Bed Plate shall be 83'-6" in length laid continuous. They may be satisfactorily spliced at any quarter point between trusses, with a minimum length of 12'-0".
Ends of Plates and Roller shown in Section A/11.

WEATHERPROOFING ELEVATION

SCALE: 3" = 1'-0"

3" 0 3" 6" 9"

Bearing and bed plate to be furnished in continuous lengths practicable for shipment, using a minimum of butt joints. Joints to be located near quarter point of spacing between trusses and stagger with roller splices.



DOWEL DETAIL

FULL SCALE

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.A.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

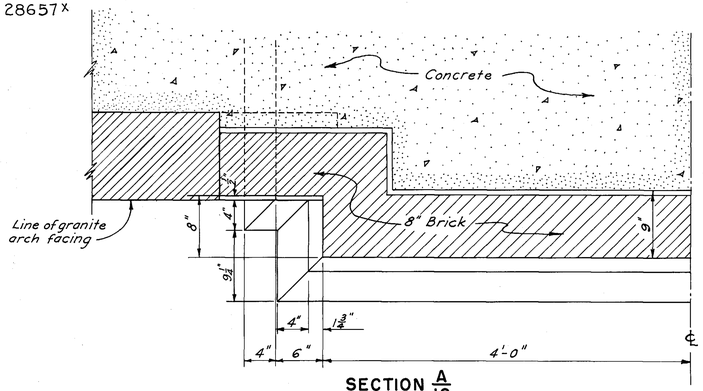
SCALE: AS SHOWN AUGUST 31, 1949

H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

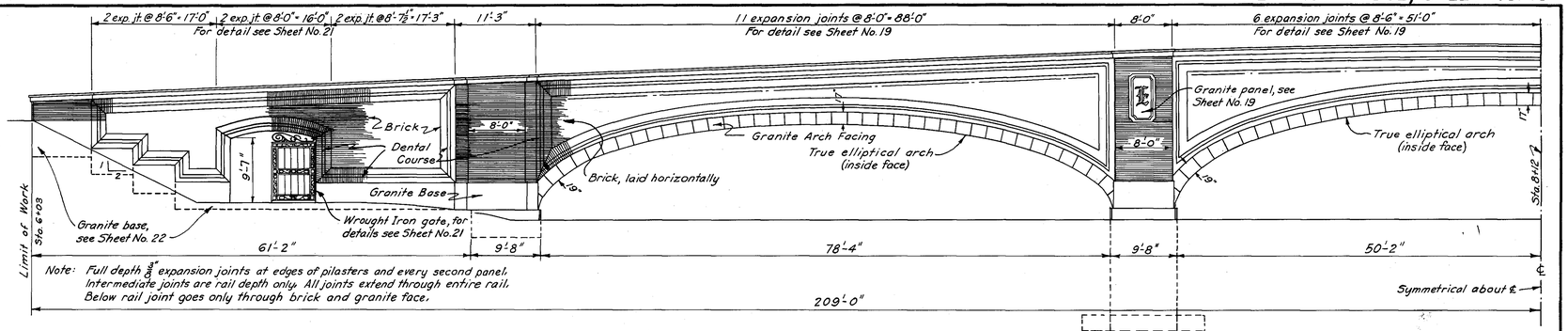
28656ˣ

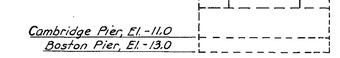
28657X



SECTION A/18

SCALE: 1½" = 1'-0"



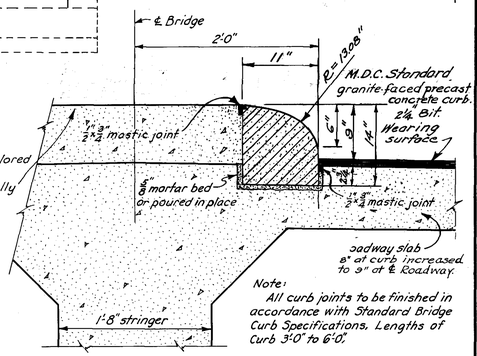


HALF ELEVATION

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

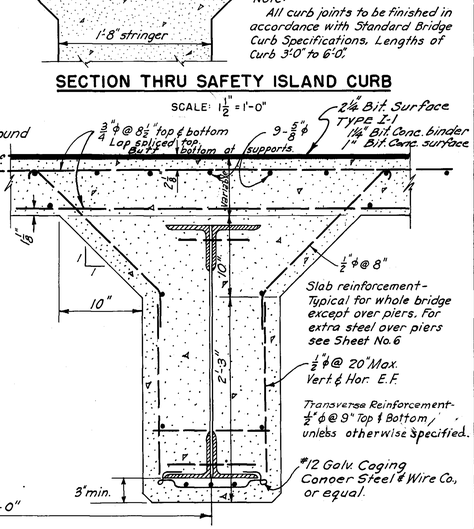
5' 0 5' 10' 15' 20'

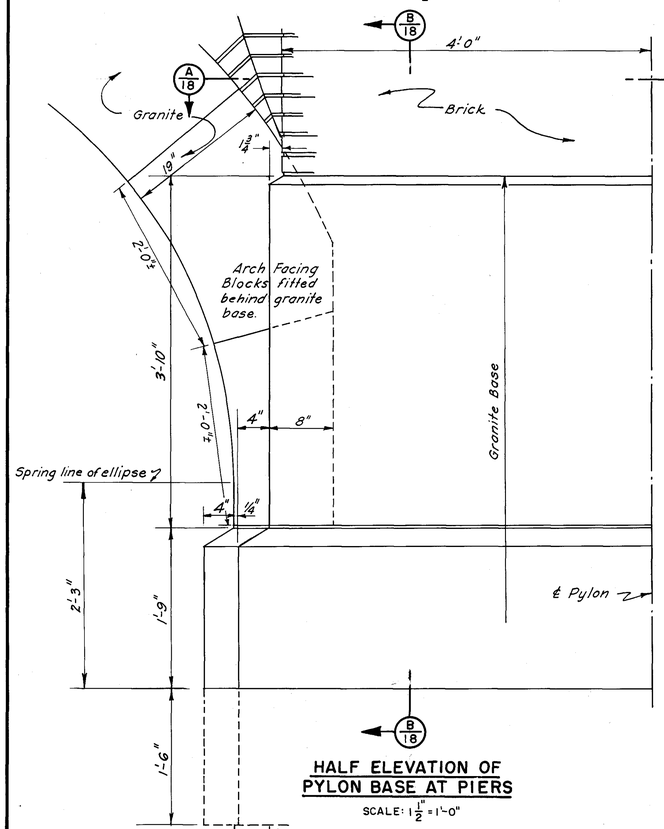
Top 1" of concrete colored grass green and poured monolithically



SECTION THRU SAFETY ISLAND CURB

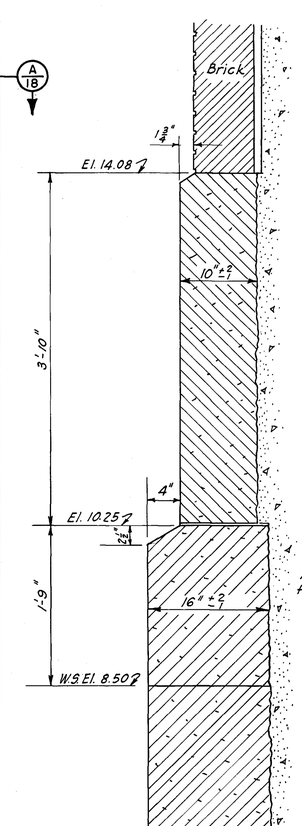
SCALE: 1½" = 1'-0"





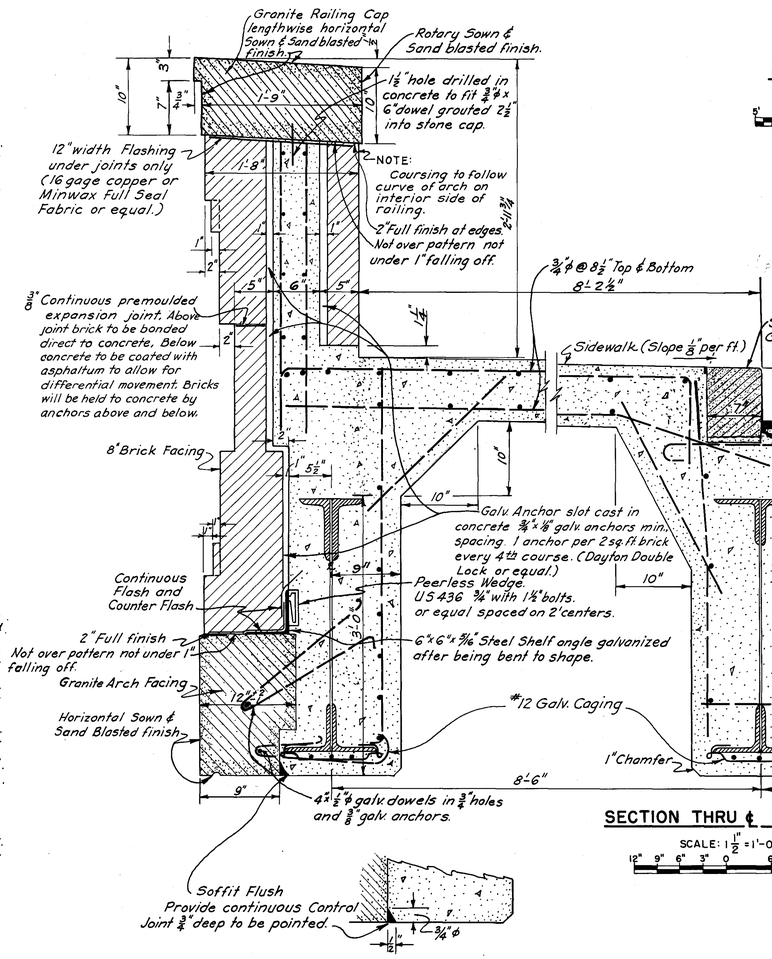
HALF ELEVATION OF PYLON BASE AT PIERS

SCALE: 1½" = 1'-0"



SECTION B/18

SCALE: 1½" = 1'-0"



SECTION THRU ℄ BRIDGE

SCALE: 1½" = 1'-0"

12" 9" 6" 3" 0 6" 12"

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: AS SHOWN AUGUST 31, 1949

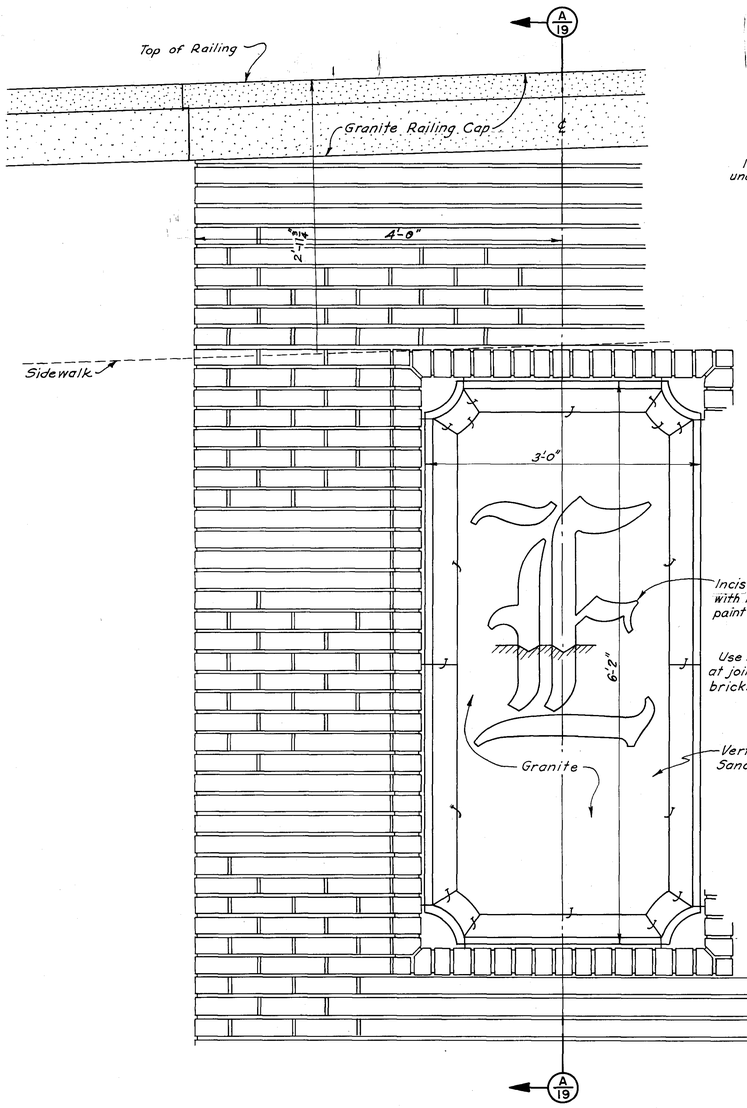
N. L. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Pink DIRECTOR OF PARK ENGINEERING

B and K, Inc.				
DRAWN: M.E.W.				
TRACED: C.M.A.				
CHECKED: J.A.S.	REVISION	DATE	DESCRIPTION	BY

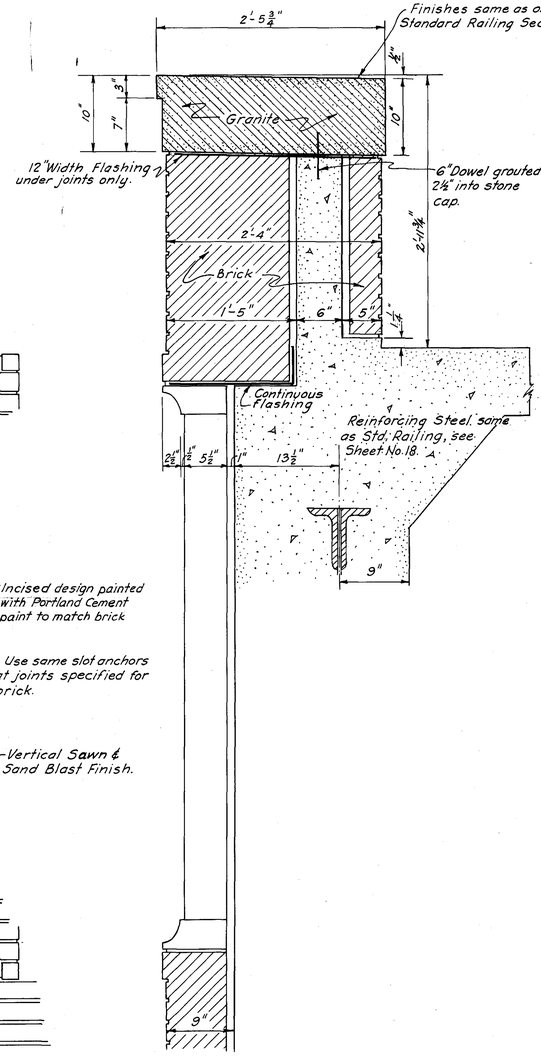
28657X

28658×



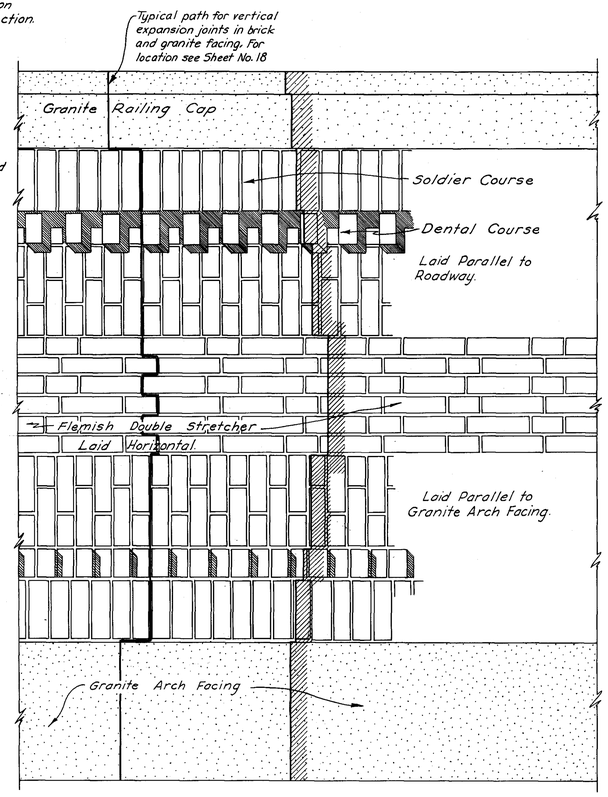
ORNAMENT DETAIL ON PIER PYLONS

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



SECTION A/19

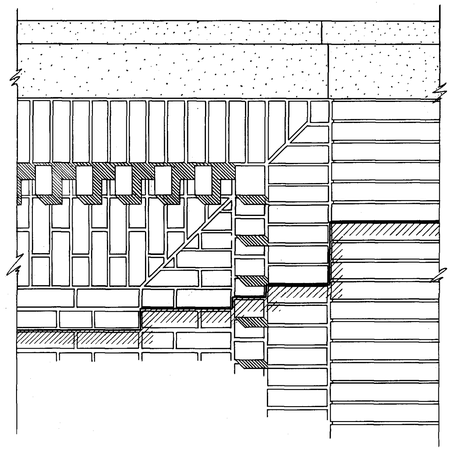
SCALE: 1 1/2" = 1'-0"



ELEVATION OF BALUSTRADE

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

12" 9" 6" 3" 0 6" 12"



BRICK WORK TREATMENT AT PYLON

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

B. and K., Inc.				
DRAWN: M.E.W.				
TRACED: C.M.A.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: 1 1/2 IN. = 1 FT. AUGUST 31, 1949

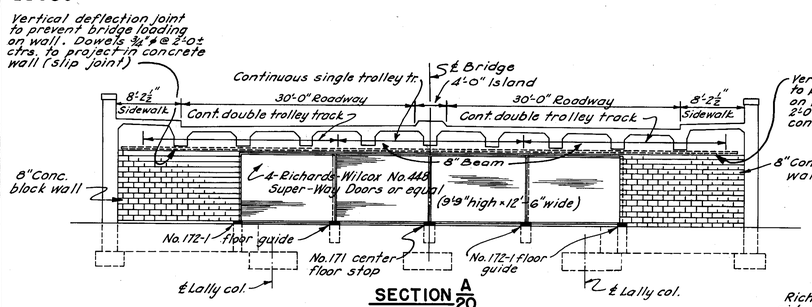
H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Frick DIRECTOR OF PARK ENGINEERING

SHEET 19 OF 25 SHEETS

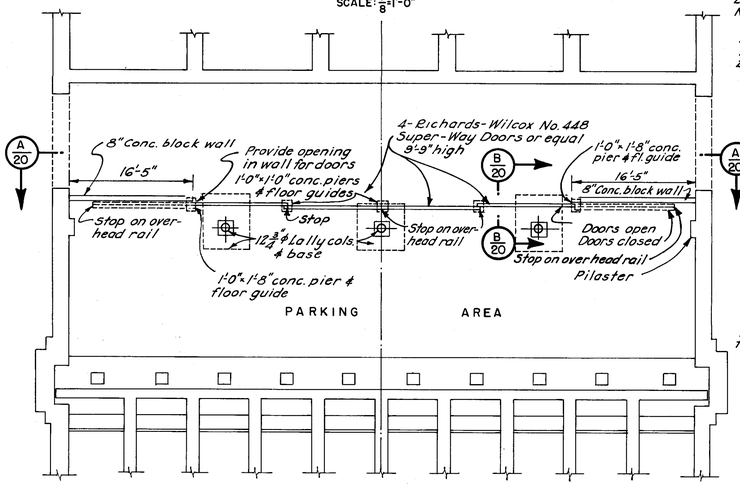
28658×

28659x



SECTION A/20

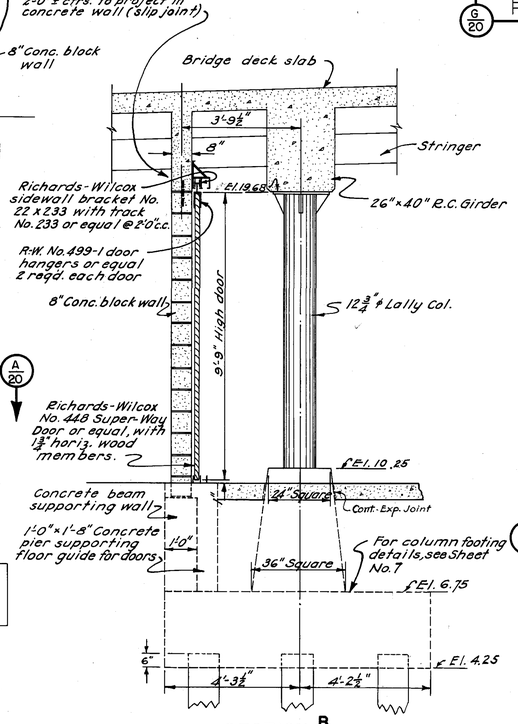
SCALE: 1"=1'-0"



PLAN

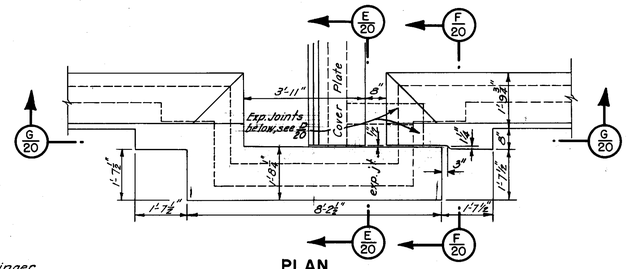
SCALE: 1"=1'-0"

OPPOSITE ABUTMENT SIMILAR



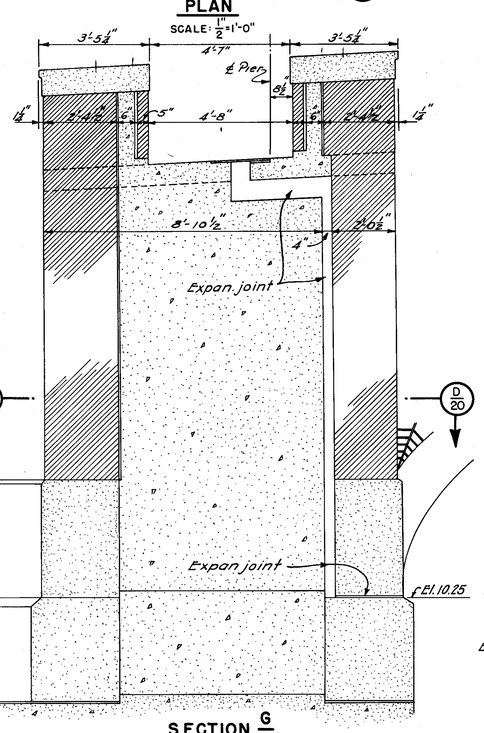
SECTION B/20

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



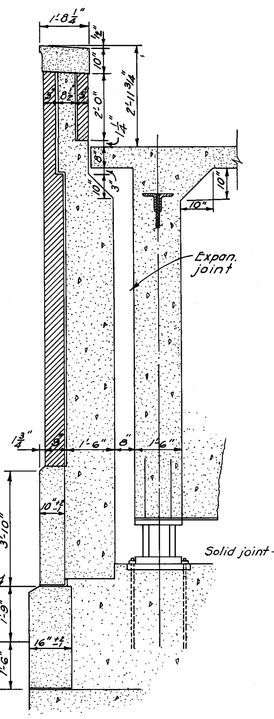
PLAN

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



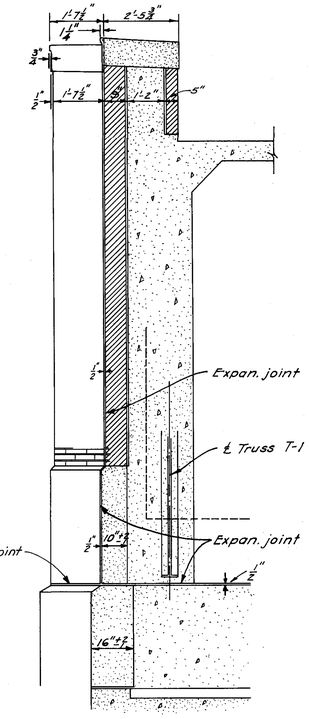
SECTION G/20

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



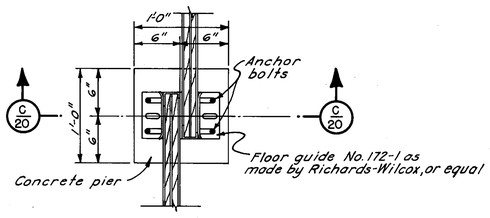
SECTION E/20

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



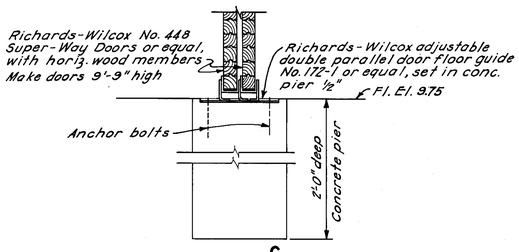
SECTION F/20

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



PLAN OF FLOOR GUIDE

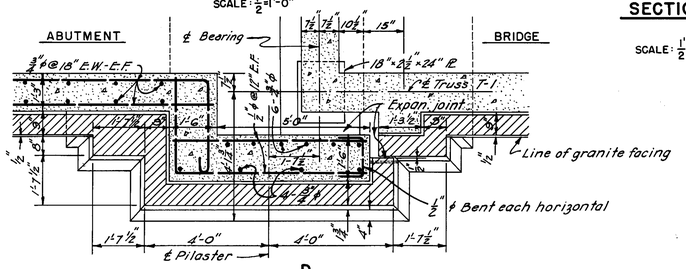
SCALE: 1"/2=1'-0"



SECTION C/20

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

12" 9" 6" 3" 0" 6" 12"



SECTION D/20

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

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: AS SHOWN

AUGUST 31, 1949

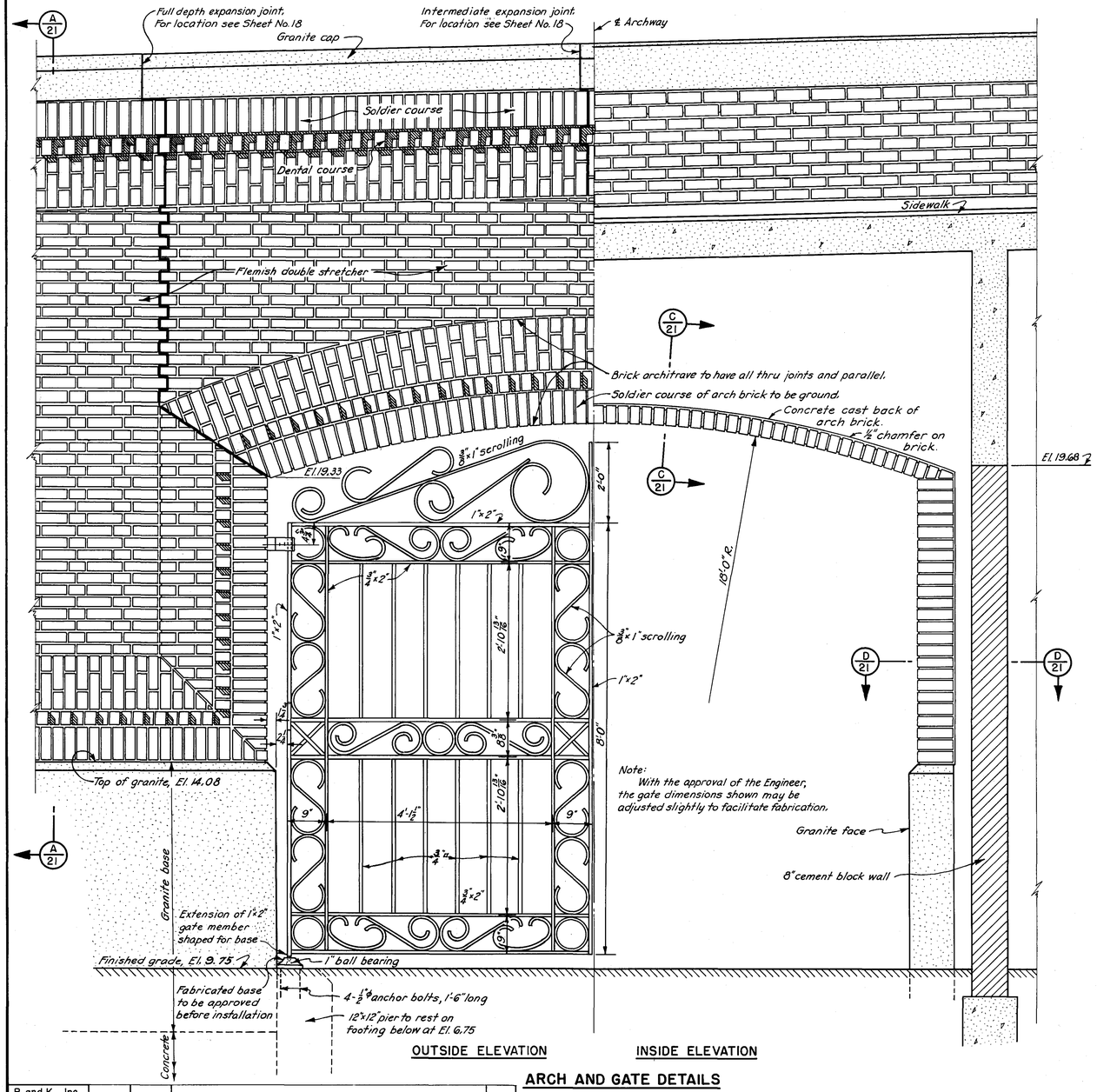
H. J. Kenerson — BURNS and KENERSON, Inc.

Benjamin W. Fink — DIRECTOR OF PARK ENGINEERING

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

28659x

28660x



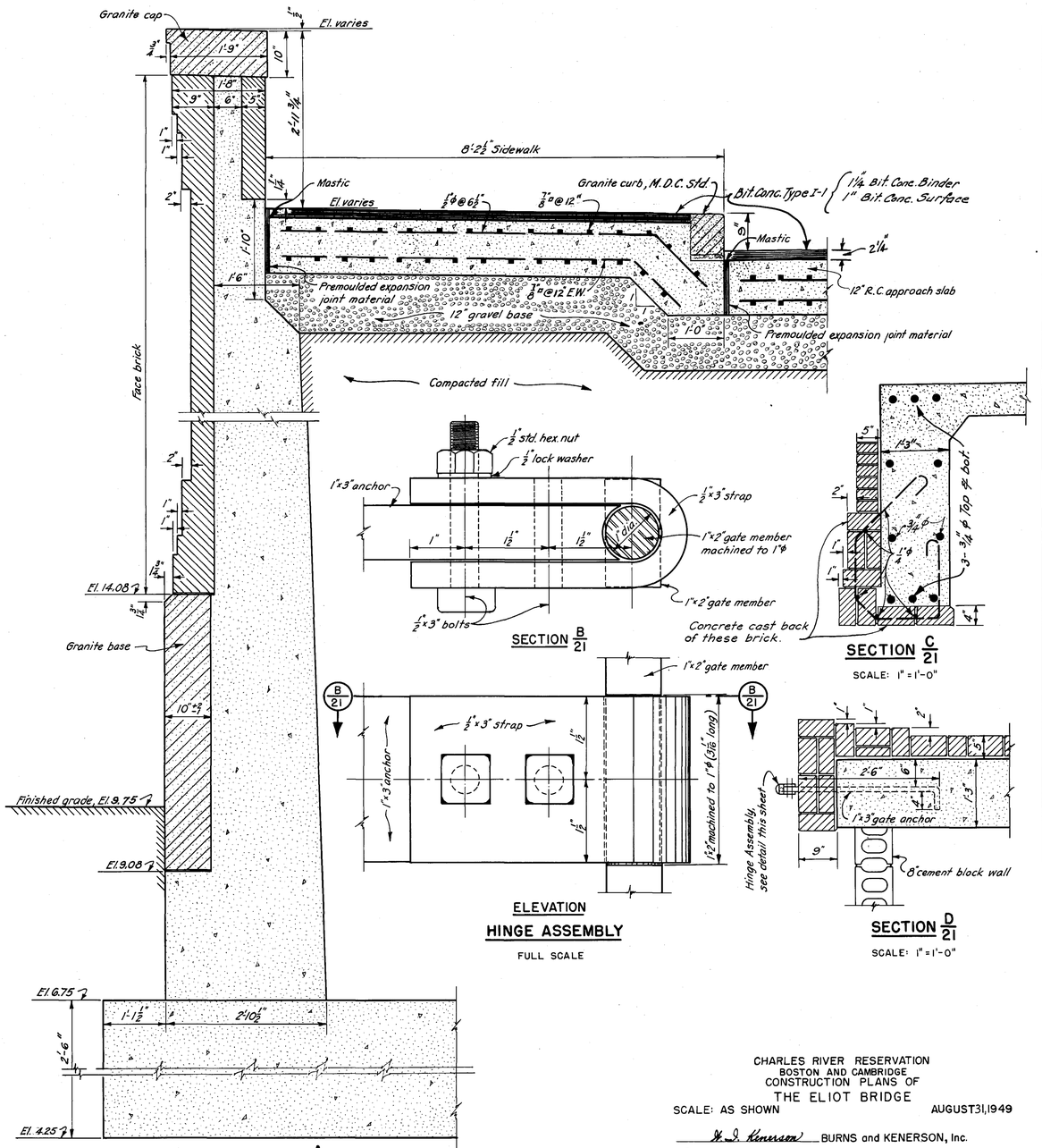
OUTSIDE ELEVATION

INSIDE ELEVATION

ARCH AND GATE DETAILS

SCALE: 1" = 1'-0"

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: K.H.W.				
CHECKED: J.A.S.	REVISION	DATE	DESCRIPTION	BY



SECTION A/21

SCALE: 1" = 1'-0"

SECTION B/21

SECTION C/21

SCALE: 1" = 1'-0"

ELEVATION

HINGE ASSEMBLY

FULL SCALE

SECTION D/21

SCALE: 1" = 1'-0"

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

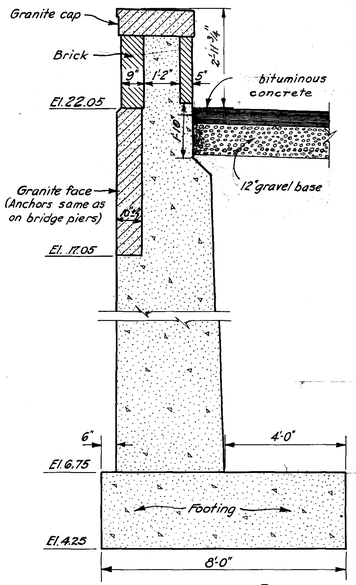
SCALE: AS SHOWN AUGUST 31, 1949

H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

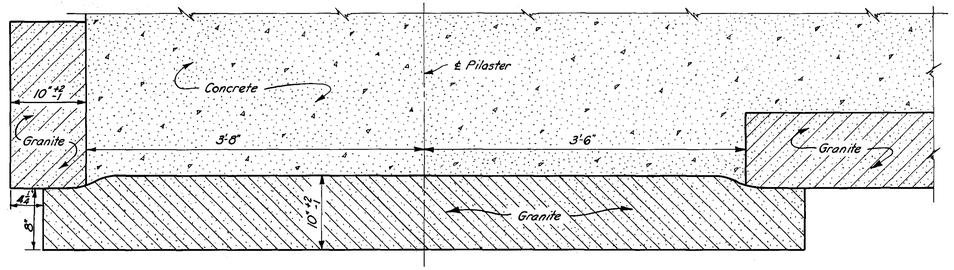
28660x

28661X



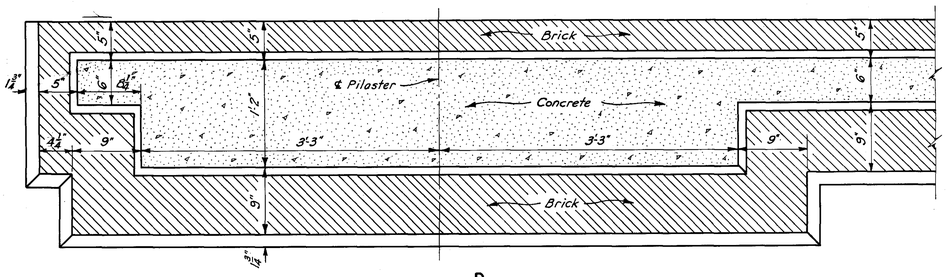
SECTION B/22

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



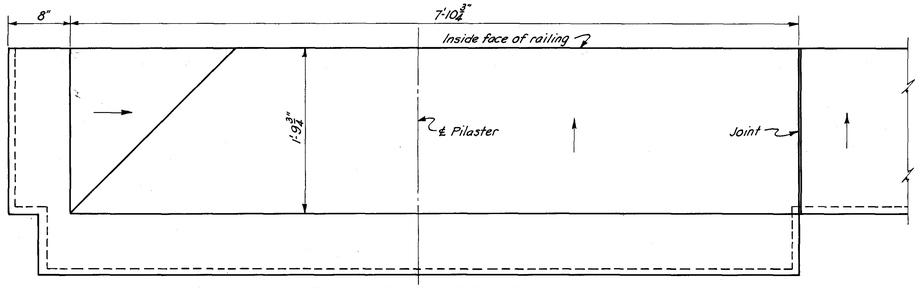
SECTION C/22

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



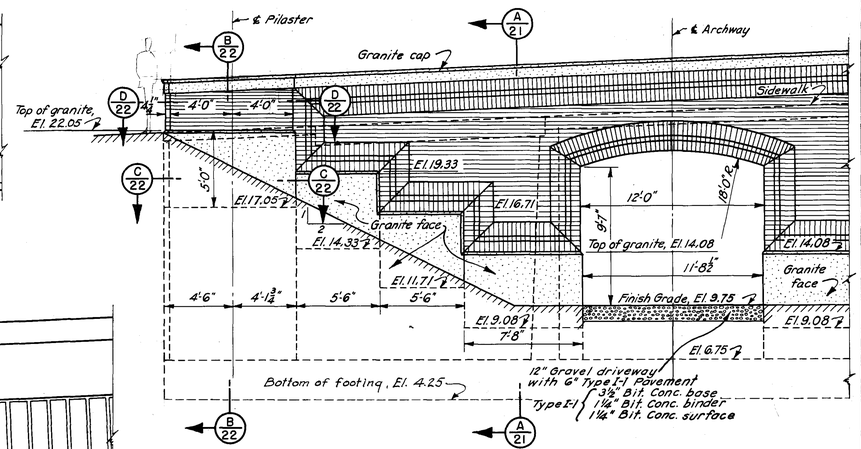
SECTION D/22

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



PLAN OF GRANITE CAP

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



ELEVATION OF WINGWALL

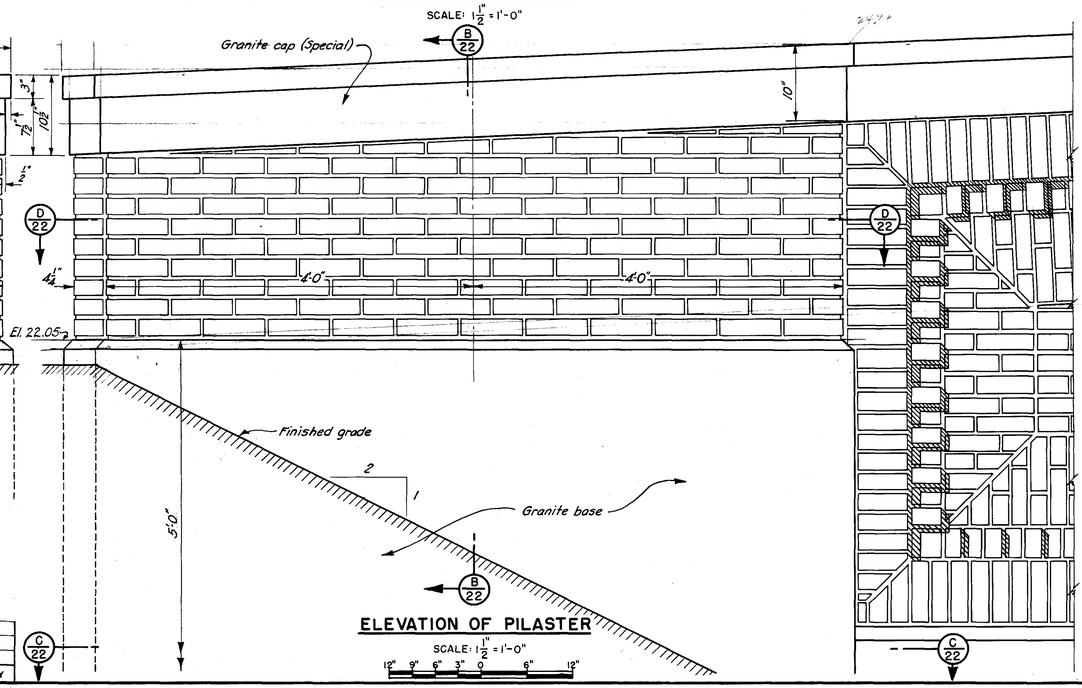
SCALE: 1/4" = 1'-0"

INSIDE ELEVATION OF RAILING

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

END ELEVATION OF RAILING

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



ELEVATION OF PILASTER

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

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: K.H.W.				
CHECKED: J.A.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

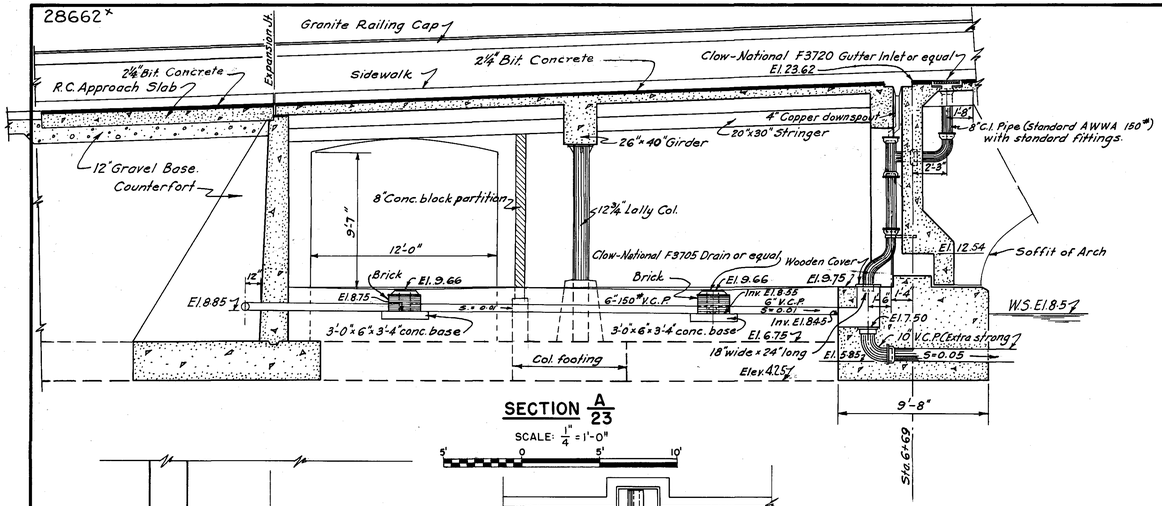
SCALE: AS SHOWN AUGUST 31, 1949

H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Fink DIRECTOR OF PARK ENGINEERING

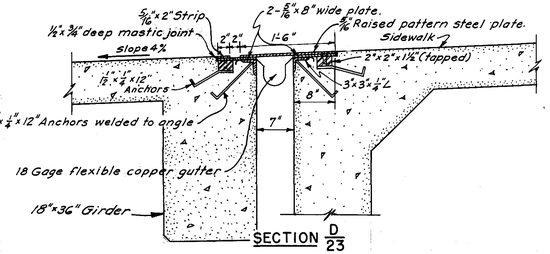
28661X

28662*

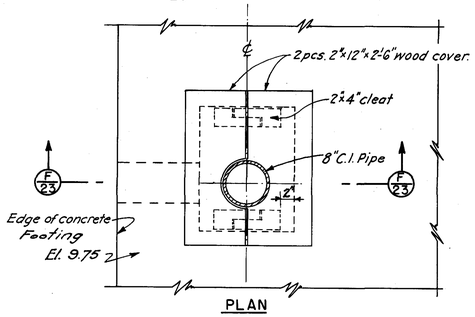


SECTION A/23

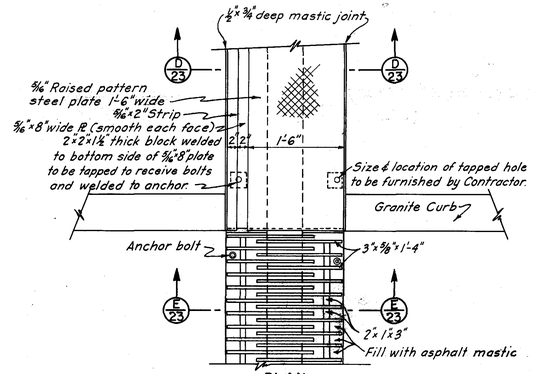
SCALE: 1" = 1'-0"



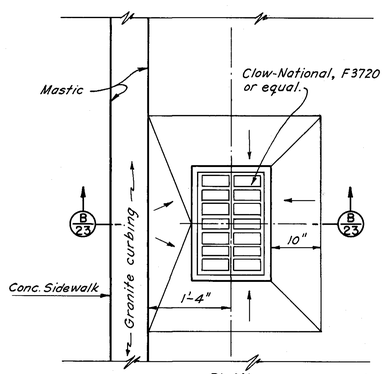
SECTION D/23



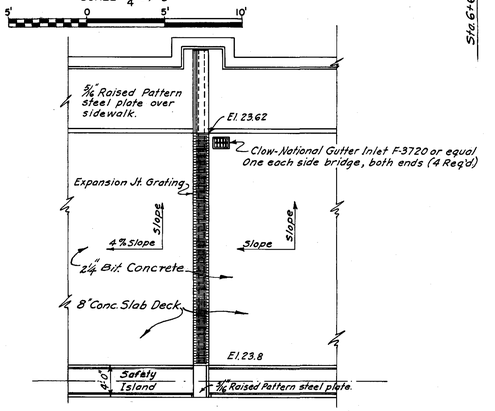
PLAN



PLAN



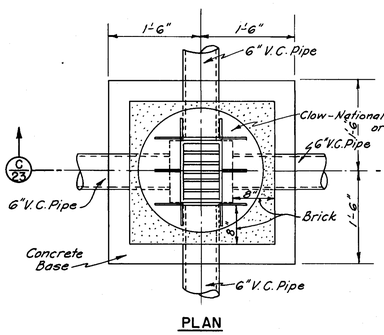
PLAN



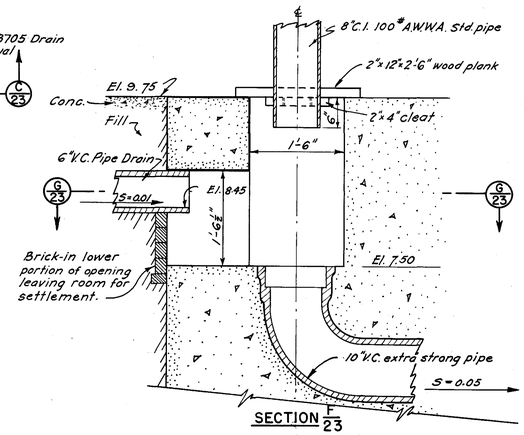
PART PLAN OF BRIDGE DECK

(SHOWING LOCATION OF GUTTER INLETS)

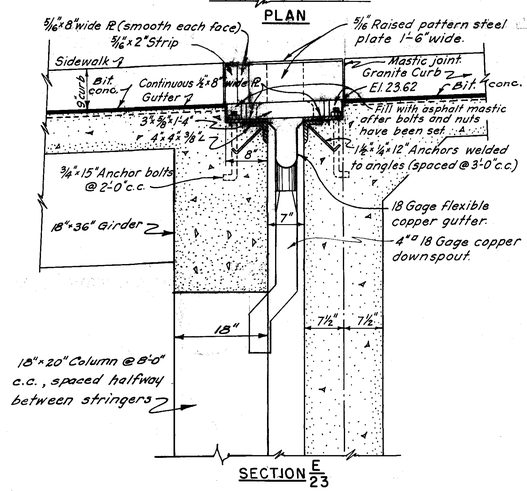
SCALE: 1/8" = 1'-0"



PLAN



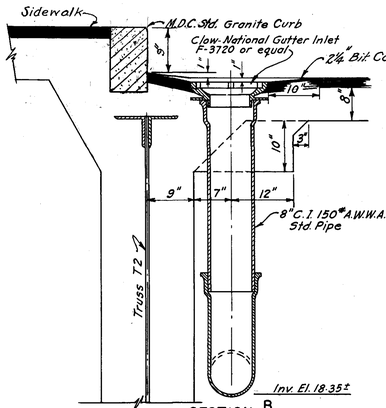
SECTION F/23



SECTION E/23

DETAIL OF EXPANSION JOINT PLATE AND GRATING

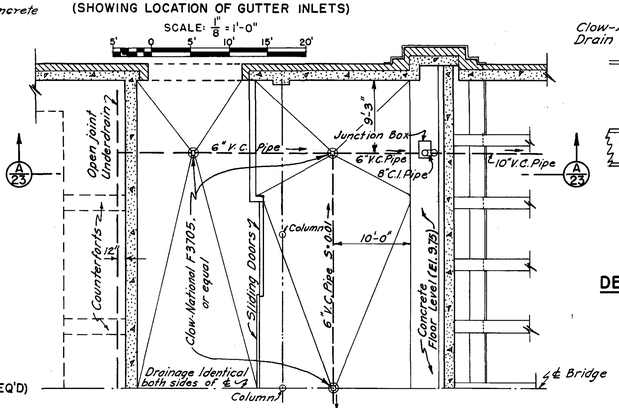
SCALE: 1" = 1'-0"



SECTION B/23

DETAIL OF GUTTER INLET (4 REQ'D)

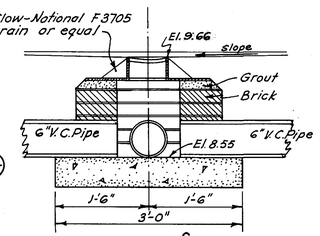
SCALE: 1" = 1'-0"



DRAINAGE PLAN

(IDENTICAL DRAINAGE FOR BOTH ABUTMENTS)

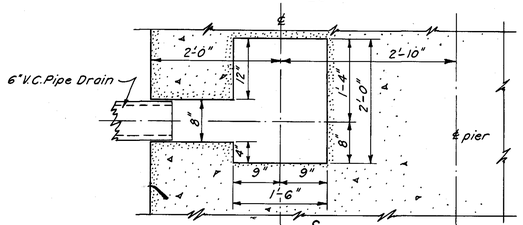
SCALE: 1/8" = 1'-0"



SECTION C/23

DETAIL OF DRAINAGE MANHOLE

SCALE: 1" = 1'-0"



SECTION G/23

DETAIL OF JUNCTION BOX

SCALE: 1" = 1'-0"

Note: Elevations are to Concrete and not to road surfacing.

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: AS SHOWN — AUGUST 31 1949

H. J. Kenerson — BURNS and KENERSON, Inc.

Benjamin W. Fink — DIRECTOR OF PARK ENGINEERING

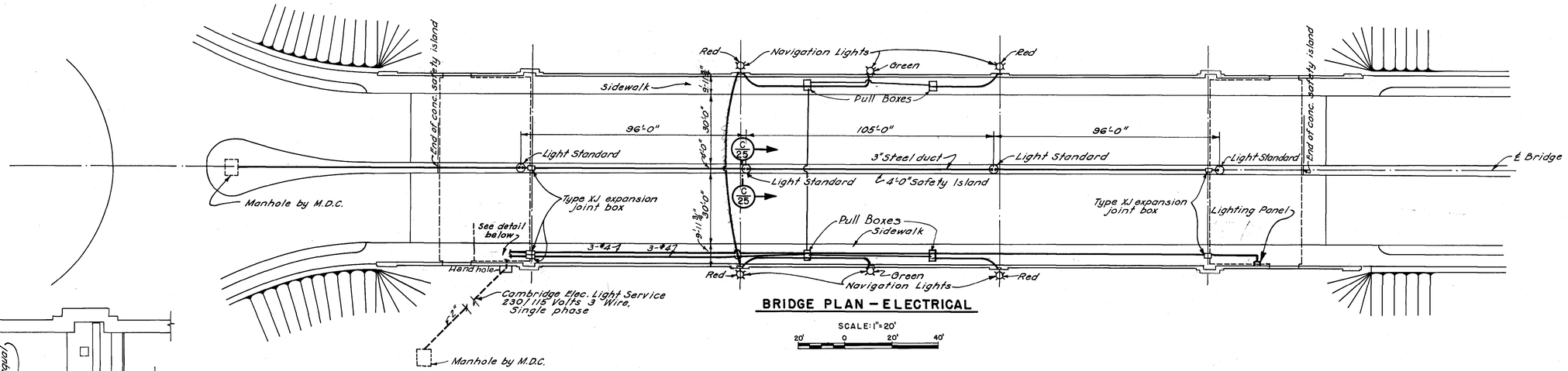
B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: C.M.A.				
CHECKED: J.F.S.	REVISION	DATE	DESCRIPTION	BY

SHEET 23 OF 25 SHEETS

28662*

N-13

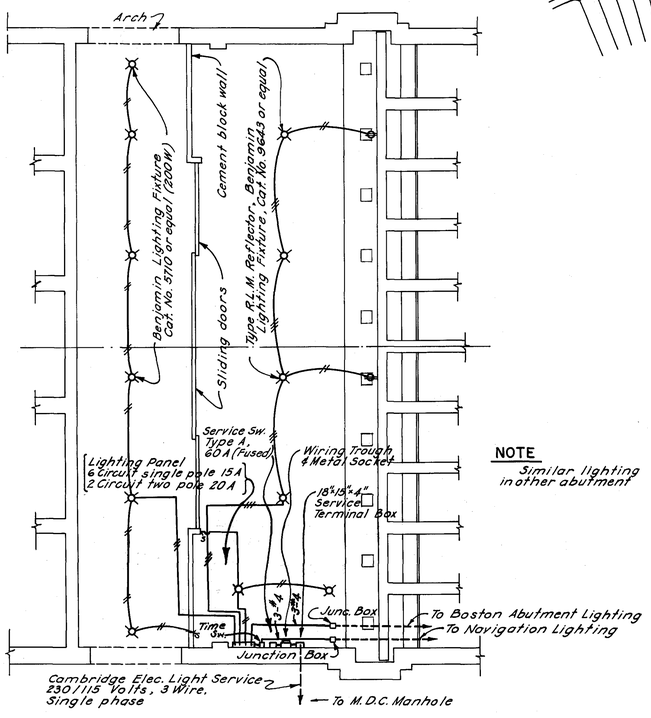
28663x



BRIDGE PLAN – ELECTRICAL

SCALE: 1" = 20'

20' 0 20' 40'

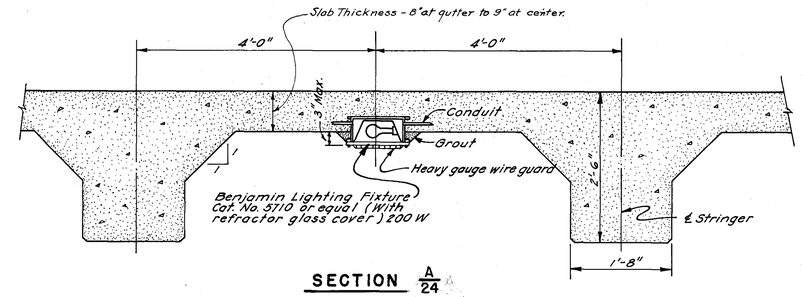


NOTE
Similar lighting in other abutment

ABUTMENT ELECTRICAL PLAN

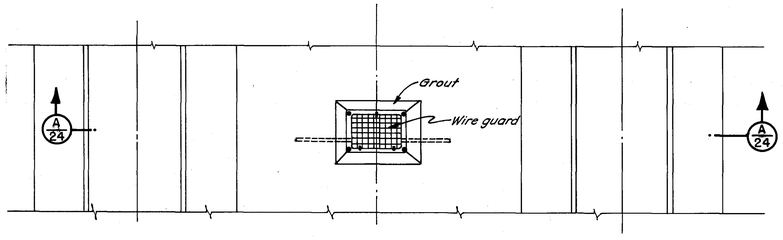
SCALE: 1/8" = 1'-0"

5' 0 5' 10' 15' 20'



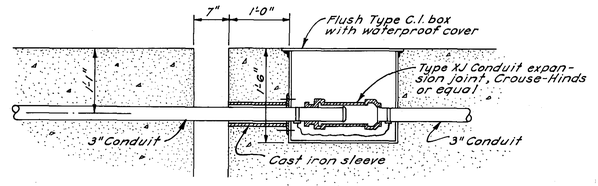
SECTION A/24

SCALE: 1" = 1'-0"



REFLECTED PLAN

SCALE: 1" = 1'-0"



CONDUIT EXPANSION JOINT DETAIL

SCALE: 1" = 1'-0"

1' 0 1' 2'

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

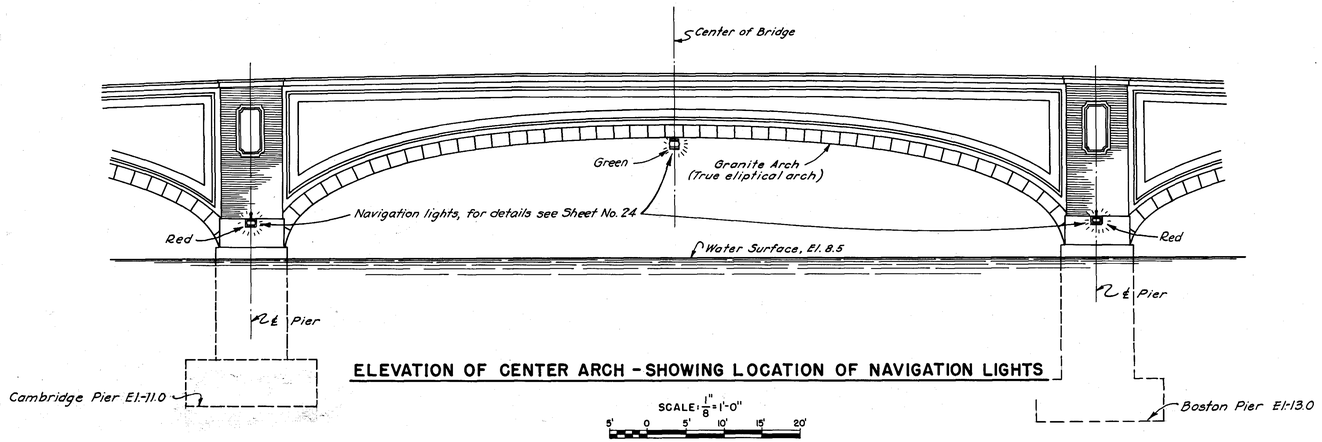
SCALE: AS SHOWN AUGUST 31, 1949

H. J. Kenerson BURNS and KENERSON, Inc.

Benjamin W. Frisk DIRECTOR OF PARK ENGINEERING

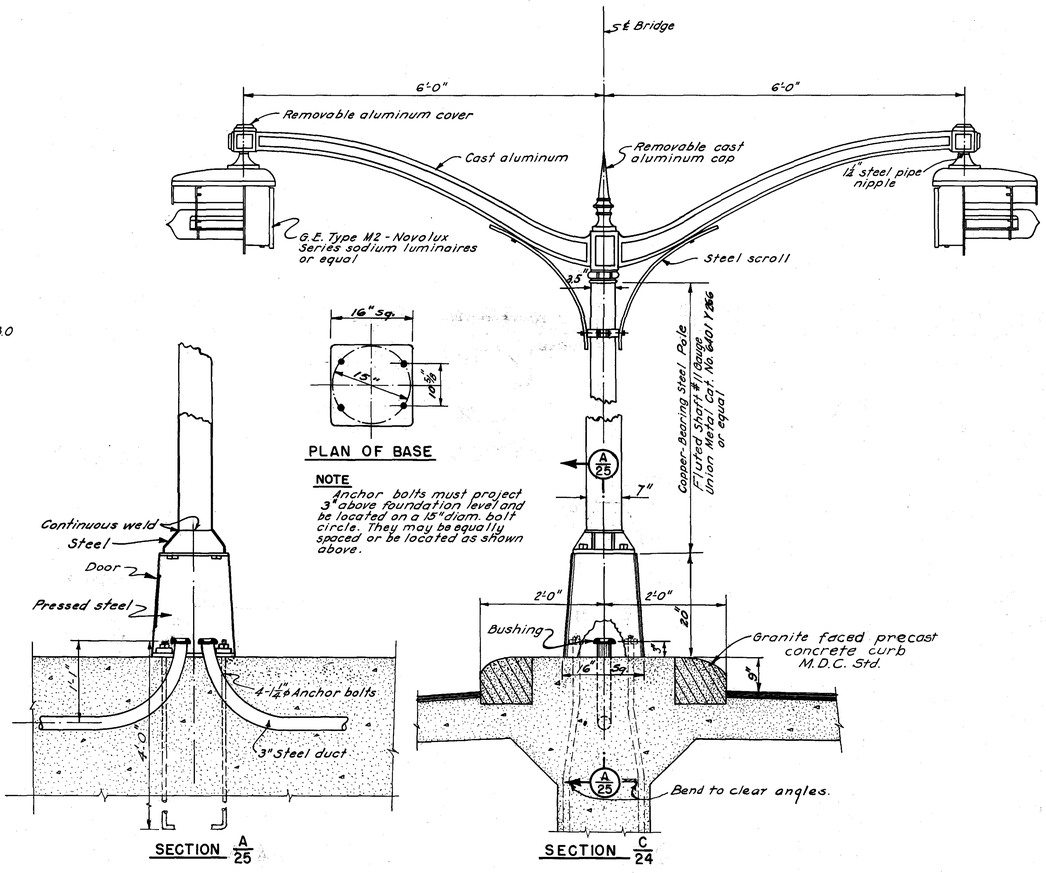
28663x

28664x



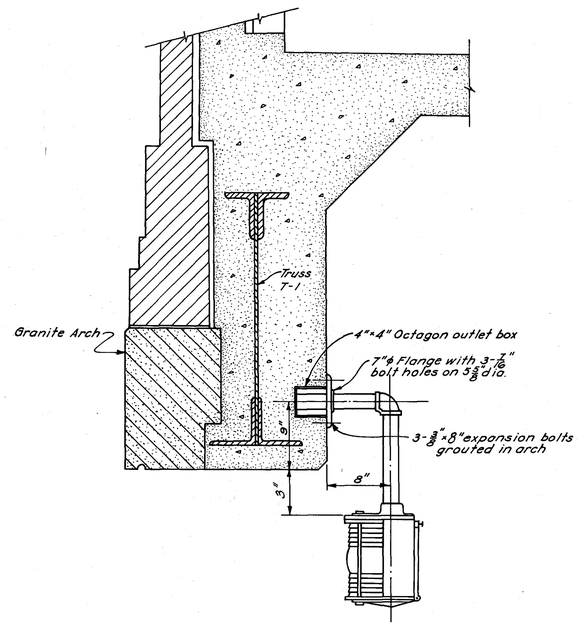
ELEVATION OF CENTER ARCH - SHOWING LOCATION OF NAVIGATION LIGHTS

SCALE: 1" = 1'-0"



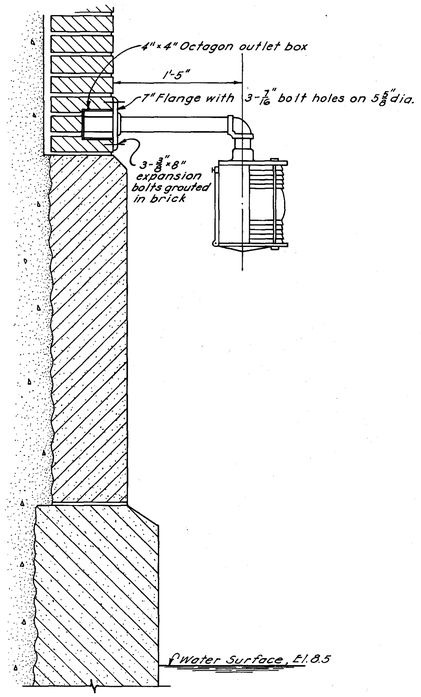
DETAIL OF LIGHTING STANDARD

SCALE: 1" = 1'-0"



NAVIGATION LIGHT AT CENTER OF ARCH

SCALE: 1½" = 1'-0"



NAVIGATION LIGHT AT PIER

SCALE: 1½" = 1'-0"

B. and K., Inc.				
DRAWN: H.E.B.				
TRACED: G.F.B.				
CHECKED: J.R.S.	REVISION	DATE	DESCRIPTION	BY

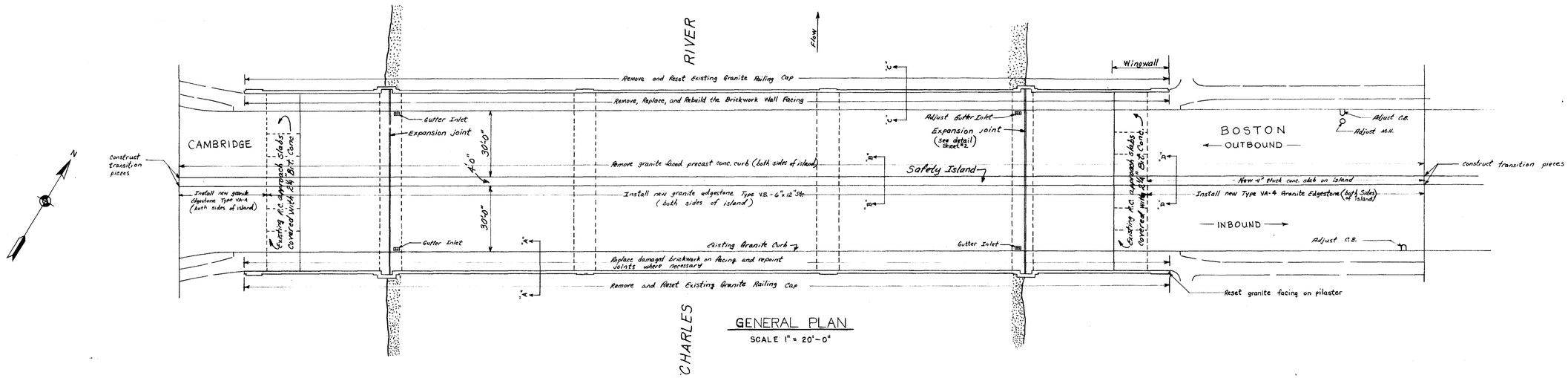
CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

SCALE: AS SHOWN AUGUST 31, 1949

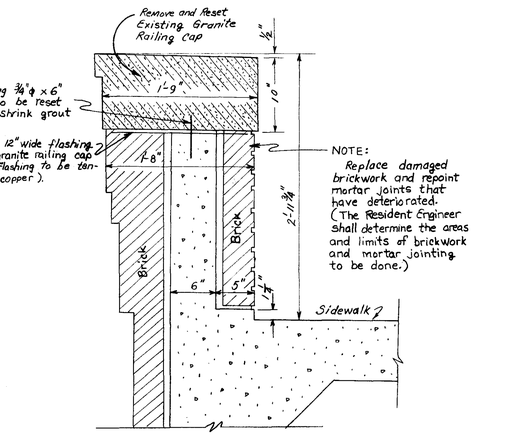
N. J. Keneson BURNS and KENERSON, Inc.

Benjamin W. Pink DIRECTOR OF PARK ENGINEERING

28664x

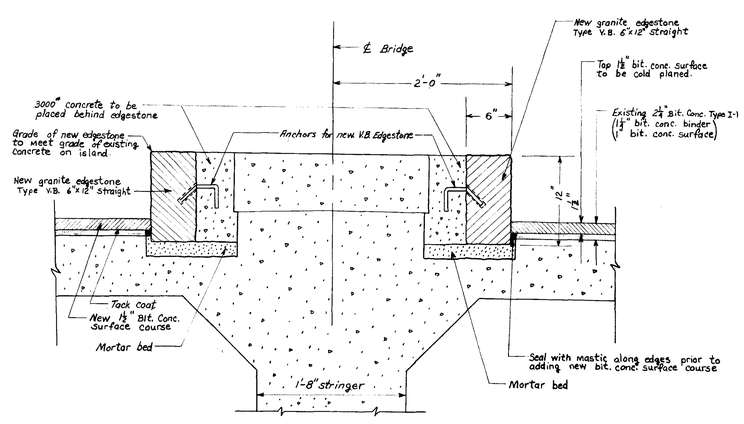


GENERAL PLAN
SCALE 1" = 20'-0"



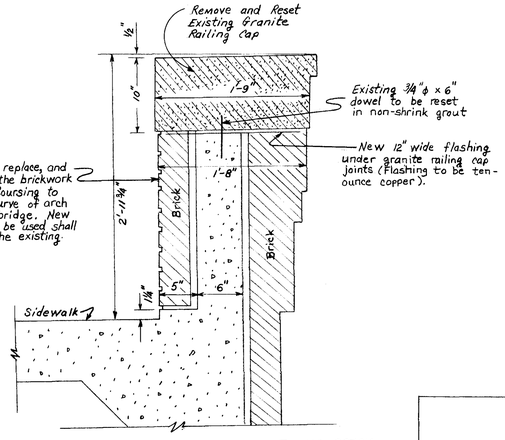
DETAIL "A-A" MASONRY REPAIRS TO THE INSIDE BRICK FACING & GRANITE RAILING CAP ON THE UPSTREAM PARAPET WALL ON BRIDGE

SCALE: 1½" = 1'-0"



DETAIL "B-B" NEW GRANITE EDGESTONE TYPE V.B. - 6"x 12" STRAIGHT AT SAFETY ISLAND ON BRIDGE

SCALE: 1½" = 1'-0"



DETAIL "C-C" MASONRY REPAIRS TO THE INSIDE BRICK FACING AND GRANITE RAILING CAP ON THE DOWN-STREAM PARAPET WALL ON THE ELIOT BRIDGE

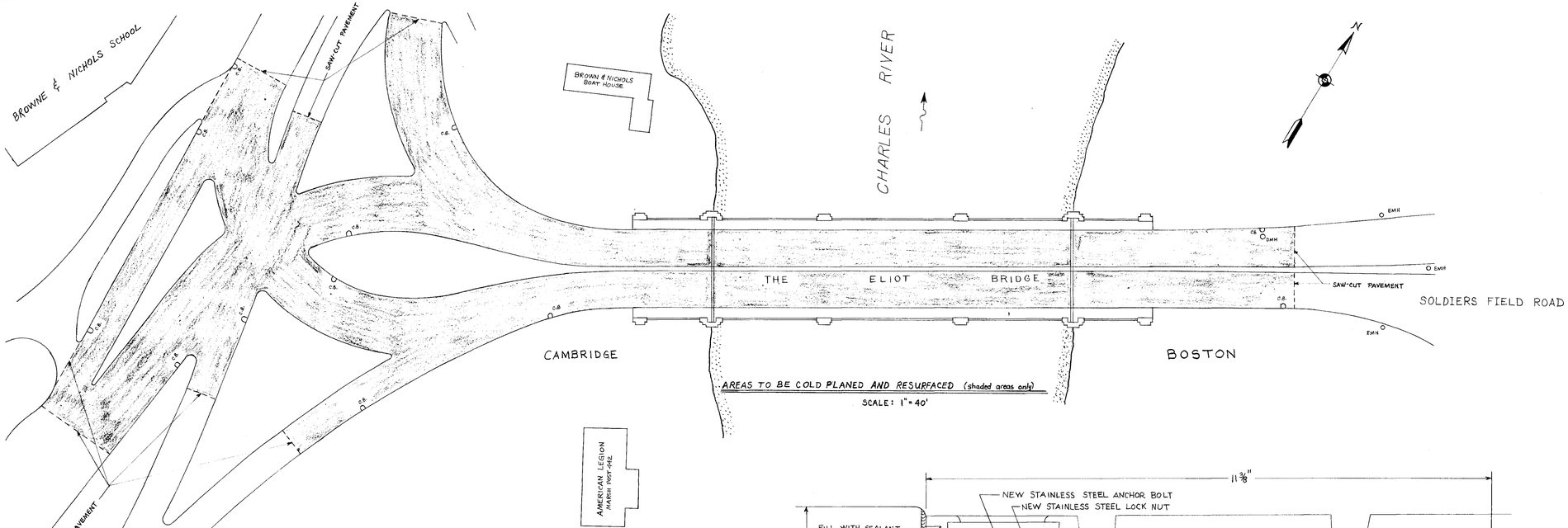
SCALE: 1½" = 1'-0"

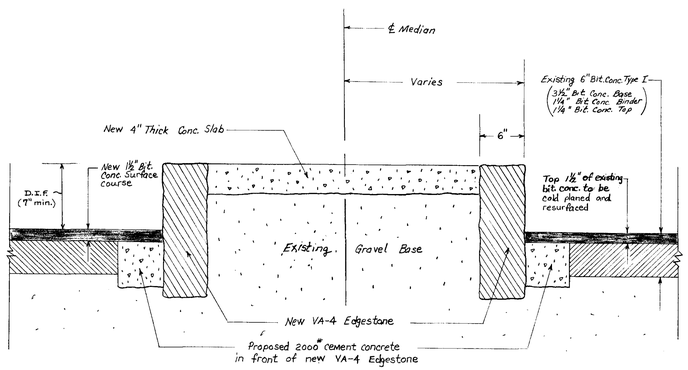
DIRECTOR OF PARKS

PARKS DIVISION

REPAIRS TO ELIOT BRIDGE APPROACHES AND ROADWAY INTERSECTIONS BOSTON AND CAMBRIDGE

DESIGNED: L.C.S. CHECKED:	GENERAL PLAN & DETAILS		DRAWING NO. 1
DRAWN: L.C.S. CHECKED:	REF. CONT. P82-1049	SCALE: As Noted	OF 3
	ACC. 50367	DATE: 1-12-82	

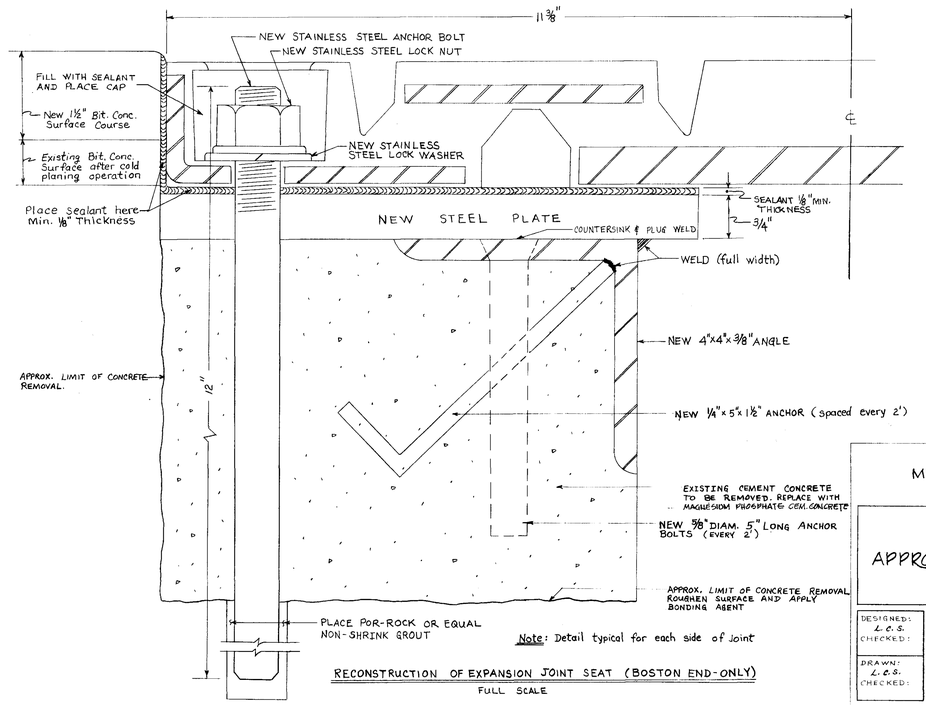




DETAIL "D-D" NEW GRANITE EDGESTONE TYPE VA-4

6" x 18" - STRAIGHT AT SAFETY ISLAND

Scale: 1½" = 1'-0"



Note: Detail typical for each side of joint

RECONSTRUCTION OF EXPANSION JOINT SEAT (BOSTON END-ONLY)

FULL SCALE

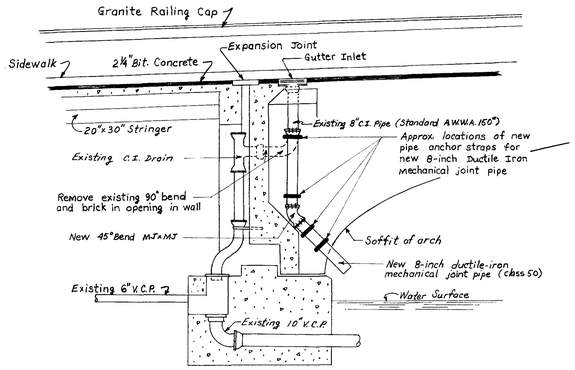
COMMONWEALTH OF MASSACHUSETTS

METROPOLITAN DISTRICT COMMISSION

PARKS DIVISION

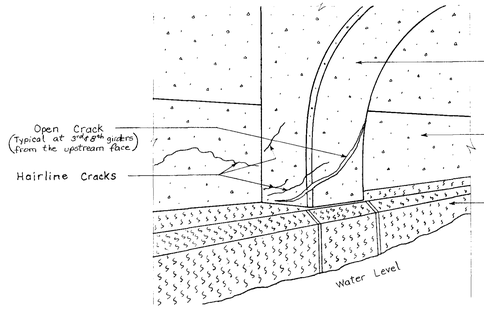
REPAIRS TO ELIOT BRIDGE APPROACHES AND ROADWAY APPROACHES BOSTON AND CAMBRIDGE

DESIGNED: L.C.S. CHECKED:	DETAILS			DRAWING NO. 2
DRAWN: L.C.S. CHECKED:	REF.	CONT. P82-1049	SCALE: As Noted	OF: 3
	ACC. 50368		DATE:	



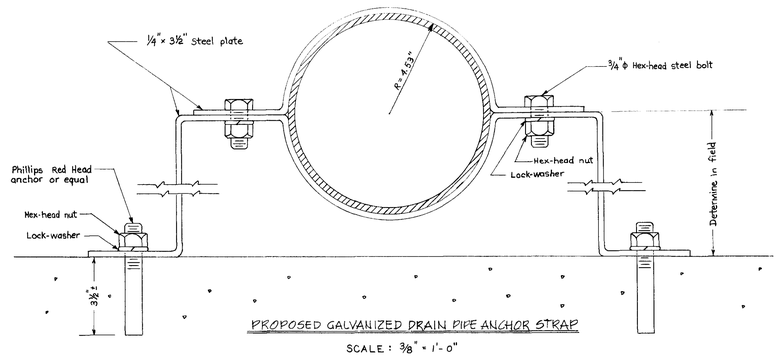
SCALE: $\frac{1}{4}$" = 1'-0"

NEW DRAIN PIPING FOR BRIDGE SCUPPERS



TYPICAL CRACKS IN CONCRETE ENCASEMENT AT BOSTON ABUTMENT TO BE EPOXY GROUTED

(NOT TO SCALE)



PROPOSED GALVANIZED DRAIN PIPE ANCHOR STRAP

SCALE: ⅜" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS DIVISION

REPAIRS TO ELIOT BRIDGE
APPROACHES AND ROADWAY INTERSECTIONS
BOSTON AND CAMBRIDGE

DESIGNED: J. C. S. CHECKED:	DRAIN PIPE DETAILS		DRAWING NO. 3
DRAWN: J. C. S. CHECKED:	REF. CONT. P82-1049	SCALE: As Noted	OF: 3
	ACC. 50369	DATE:	

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION

ELIOT BRIDGE

BOSTON AND CAMBRIDGE
NO. MDC-896-043-100

CONTRACT NO. P84-1276-C4A

LOCATION PLAN
SCALE: 1:25,000

PREPARED BY:

HOYLE, TANNER & ASSOCIATES, INC.

ENGINEERS · ARCHITECTS · PLANNERS
121 MIDDLESEX TURNPIKE
BURLINGTON, MASSACHUSETTS 01803

MISTRY ASSOCIATES, INC.
STRUCTURAL ENGINEERS
315 MAIN STREET
READING, MASSACHUSETTS 01867

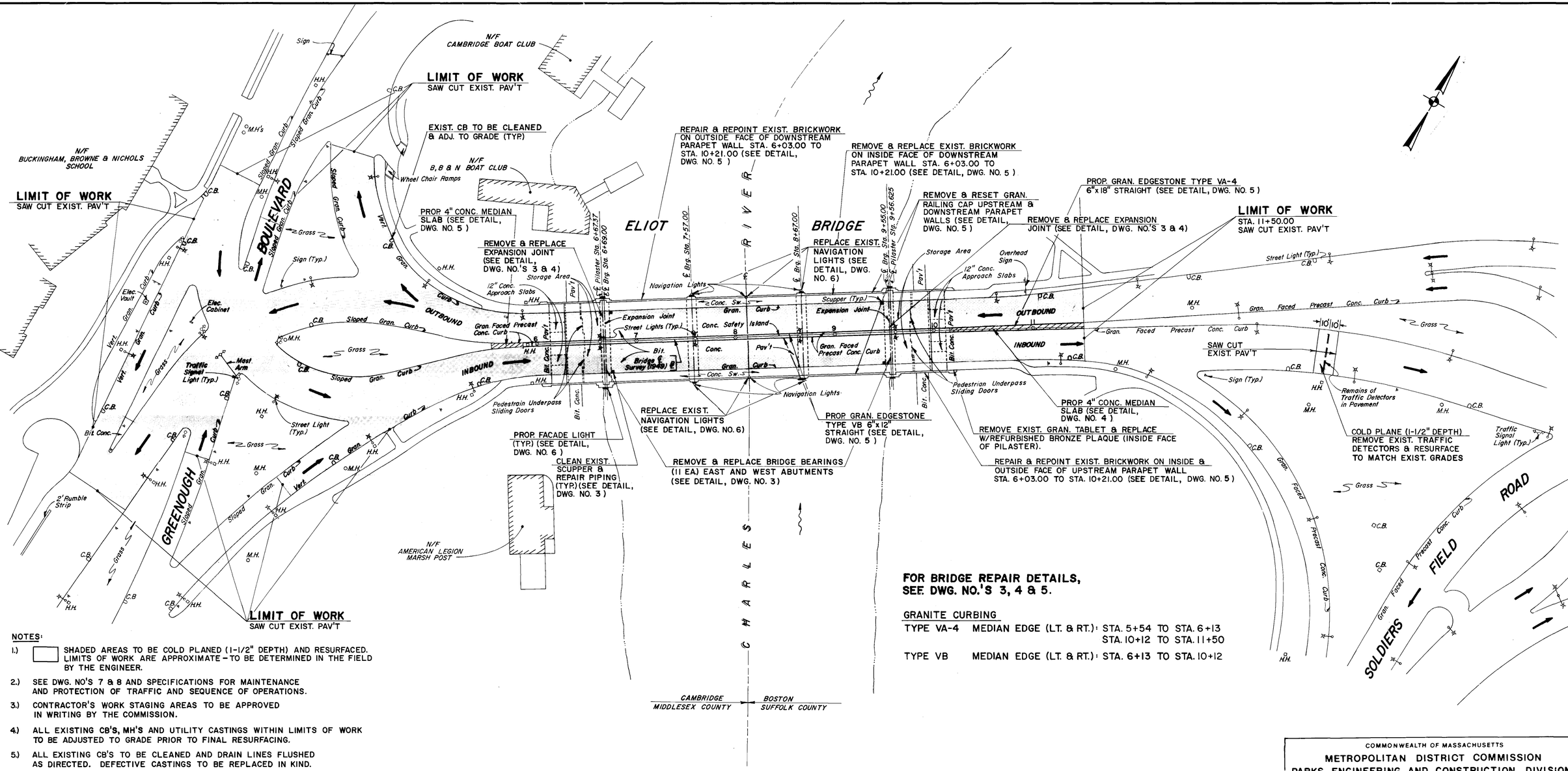
CAROL R. JOHNSON AND ASSOCIATES, INC.
LANDSCAPE ARCHITECTS AND SITE PLANNERS
1100 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS 02138

INDEX OF DRAWINGS

WILLIAM J. GEARY — COMMISSIONER

DWIGHT M. SCANDRETT
WILLIAM J. JONES
JOVITA FONTANEZ
JOHN A. WHELAN — ASSOCIATE COMMISSIONERS

DIRECTOR PARKS ENGINEERING & CONSTRUCTION DIVISION



NOTES:

1.) ☐ SHADED AREAS TO BE COLD PLANED (1-1/2" DEPTH) AND RESURFACED. LIMITS OF WORK ARE APPROXIMATE – TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

2.) SEE DWG. NO'S 7 & 8 AND SPECIFICATIONS FOR MAINTENANCE AND PROTECTION OF TRAFFIC AND SEQUENCE OF OPERATIONS.

3.) CONTRACTOR'S WORK STAGING AREAS TO BE APPROVED IN WRITING BY THE COMMISSION.

4.) ALL EXISTING CB'S, MH'S AND UTILITY CASTINGS WITHIN LIMITS OF WORK TO BE ADJUSTED TO GRADE PRIOR TO FINAL RESURFACING.

5.) ALL EXISTING CB'S TO BE CLEANED AND DRAIN LINES FLUSHED AS DIRECTED. DEFECTIVE CASTINGS TO BE REPLACED IN KIND.

6.) ANY DAMAGE CAUSED BY THE CONTRACTOR TO THE EXISTING BRIDGE, PARAPET WALLS AND OTHER FEATURES WITHIN THE LIMITS OF WORK SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

FOR BRIDGE REPAIR DETAILS, SEE DWG. NO.'S 3, 4 & 5.

GRANITE CURBING

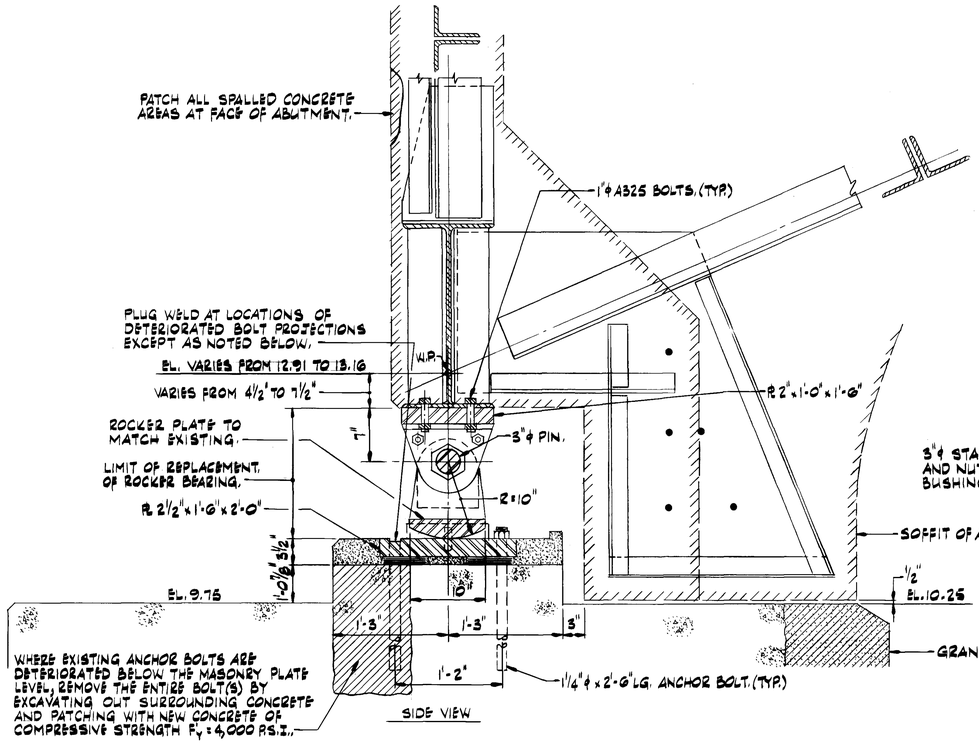
TYPE VA-4	MEDIAN EDGE (LT. & RT.):	STA. 5+54 TO STA. 6+13 STA. 10+12 TO STA. 11+50
TYPE VB	MEDIAN EDGE (LT. & RT.):	STA. 6+13 TO STA. 10+12

PLAN
SCALE: 1" = 40'

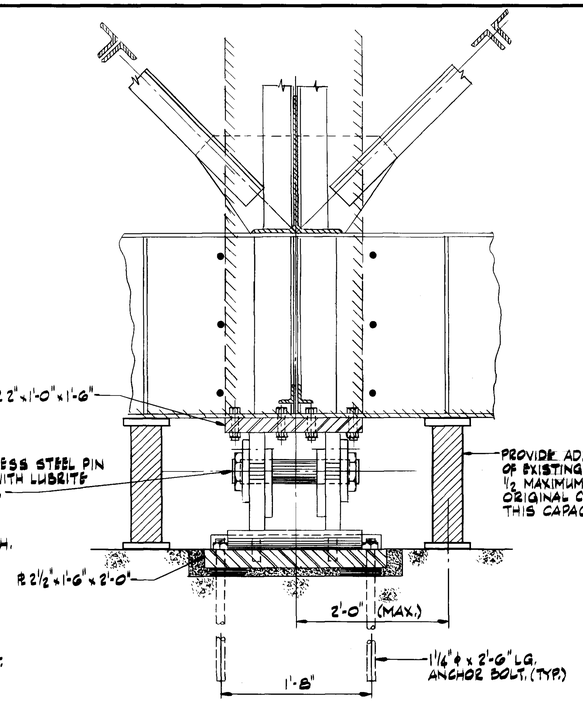
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

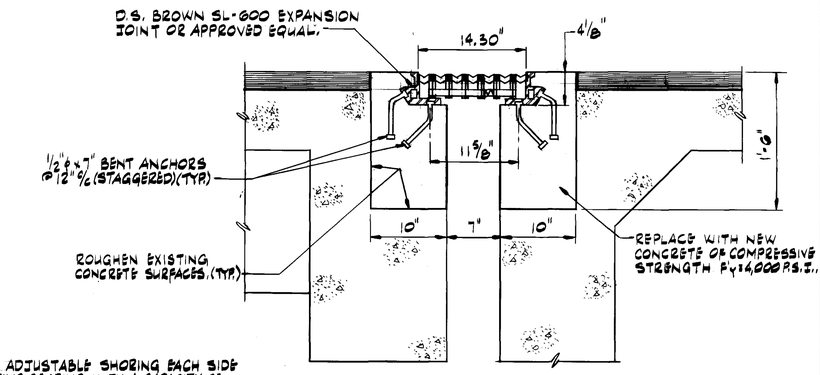
DESIGNED TPL CHECKED FCL	GENERAL PLAN		DRAWING NO. 2
DRAWN FGM CHECKED TPL	REF.	CONT. P84-1276-C4A	SCALE AS NOTED
	ACC.	DATE :	OF 9



SIDE VIEW



FRONT VIEW



NOTE:

EXISTING REINFORCING STEEL SHALL NOT BE CUT; CLEAN RUST FROM EXPOSED REINFORCING STEEL PRIOR TO NEW CONCRETE PLACEMENT.

NEW EXPANSION JOINT DETAIL

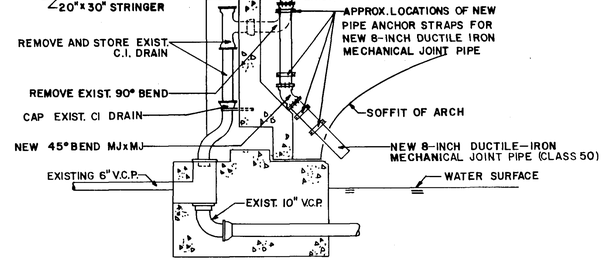
N.T.S

NOTES:

1. SHORE BELOW BEAM BOTH SIDES OF EXISTING ROCKER BEARING. (TYP.)
2. REMOVE EXISTING ROCKER ASSEMBLY AND CONNECTIONS.
3. DISENGAGE NUTS AT ANCHOR BOLTS AND REMOVE BEARING PLATES.
4. REPLACE BEARING PLATES TO MATCH EXISTING; PLACE OVER EXISTING ANCHOR BOLTS AND PLUG WELD AROUND ANCHOR BOLTS WHERE EXISTING BOLT PROJECTIONS ARE DETERIORATED.
5. REPLACE ROCKER BEARING ASSEMBLY TO MATCH EXISTING.
6. BOLT NEW TOP PLATE OF ROCKER BEARING TO BOTTOM FLANGE OF EXISTING STEEL WIDE FLANGE.
7. PATCH SPALLED CONCRETE AREAS.

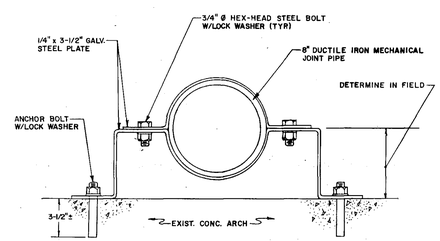
NEW ROCKER BEARING DETAIL

N.T.S.



NEW DRAIN PIPING FOR BRIDGE SCUPPERS

SCALE: 1/4"=1'-0"



DRAIN PIPE ANCHOR STRAP DETAIL

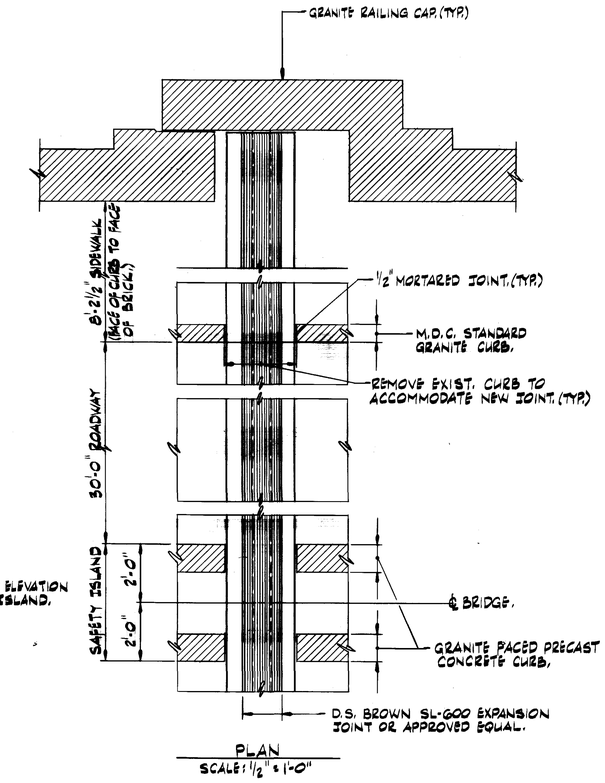
NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

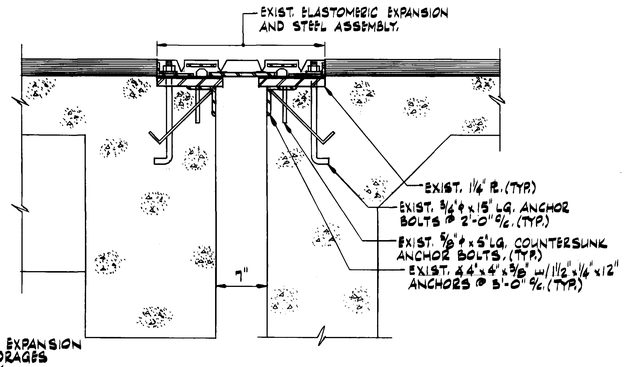
DESIGNED: SD CHECKED: NMM	STRUCTURAL DETAILS		DRAWING NO. 3
DRAWN: AP CHECKED: SD	REF.	CONT. P84-1276-C4A	SCALE: AS NOTED
	ACC.		DATE:

OF: 9



NOTE:
MAINTAIN ROADWAY ELEVATION THROUGH SAFETY ISLAND.

PLAN
SCALE: 1½" = 1'-0"



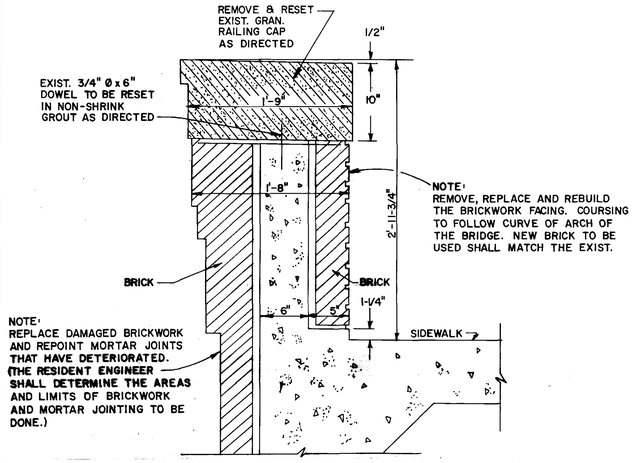
NOTE:
REMOVE EXISTING EXPANSION JOINTS AND ANCHORAGES IN THEIR ENTIRETY.

EXISTING EXPANSION JOINT
SCALE: 1½" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

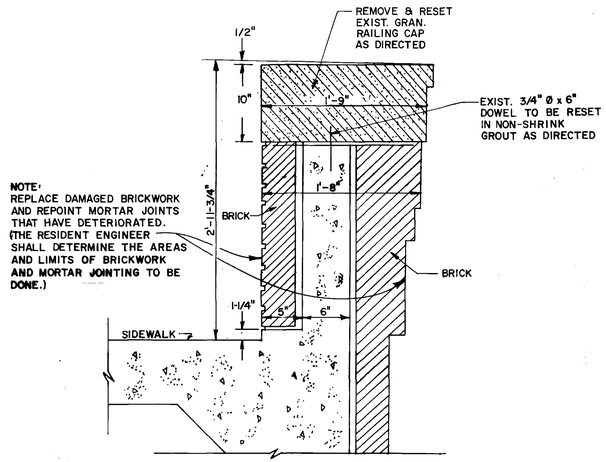
BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

DESIGNED: SD CHECKED: NMM	**STRUCTURAL DETAILS**		DRAWING NO. 4
DRAWN: AP CHECKED: SD	REF. / CONT. P84-1276-C4A	SCALE: AS NOTED	
	ACC.	DATE:	OF: 9



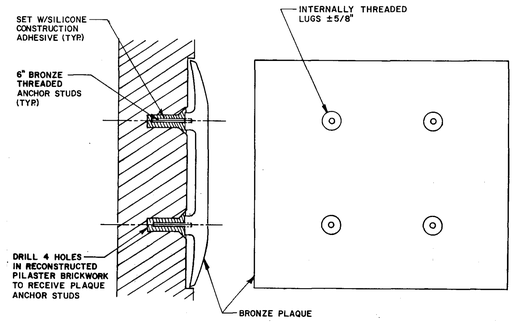
MASONRY REPAIRS TO THE BRICK FACING & GRANITE RAILING CAP ON THE DOWNSTREAM PARAPET WALL ON BRIDGE

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



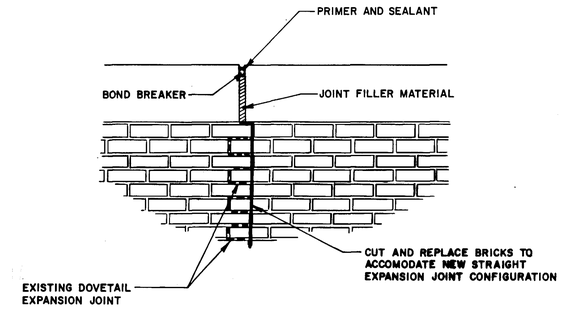
MASONRY REPAIRS TO THE BRICK FACING & GRANITE RAILING CAP ON THE UPSTREAM PARAPET WALL ON BRIDGE

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



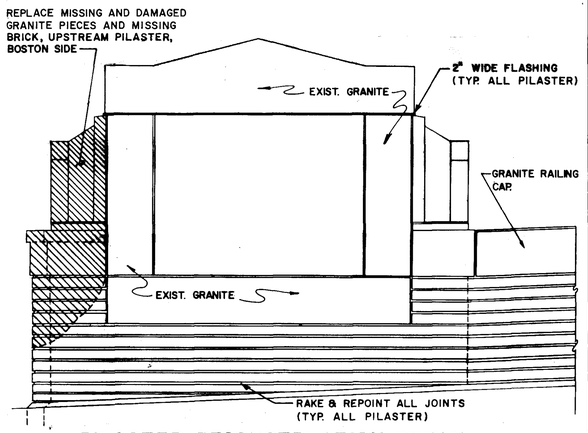
PLAQUE INSTALLATION PLAN

N.T.S.



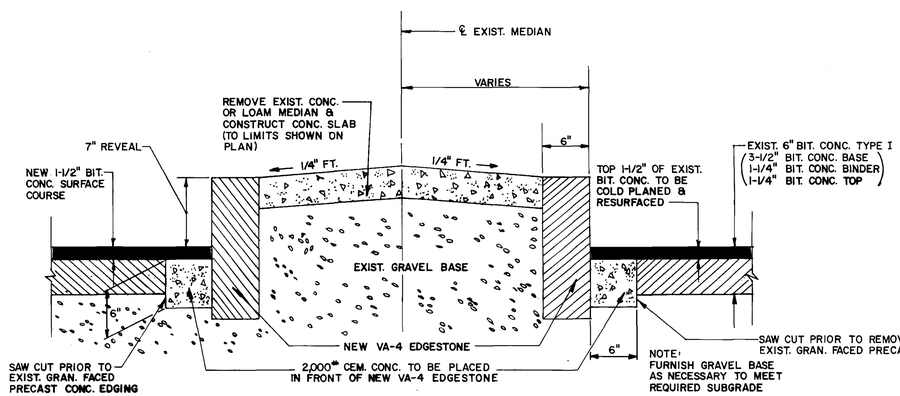
MASONRY EXPANSION JOINT DETAIL

N.T.S.



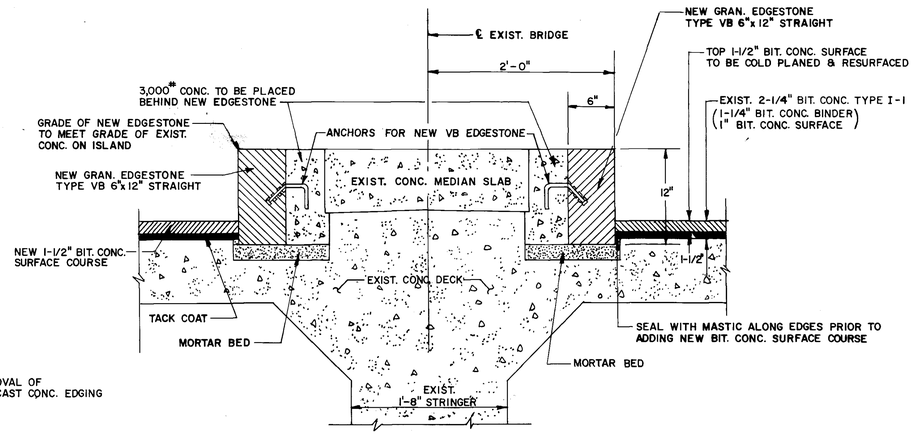
PILASTER RECONSTRUCTION DETAIL

N.T.S.



NEW GRANITE EDGESTONE & CONCRETE MEDIAN ON BRIDGE APPROACHES

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



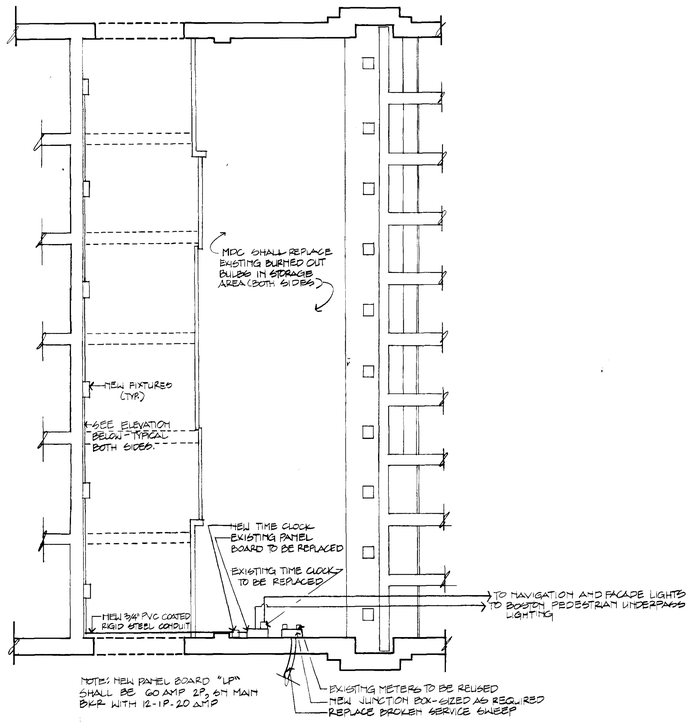
NEW GRANITE EDGESTONE CONCRETE MEDIAN TYPE VB-6"x12" ON BRIDGE

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

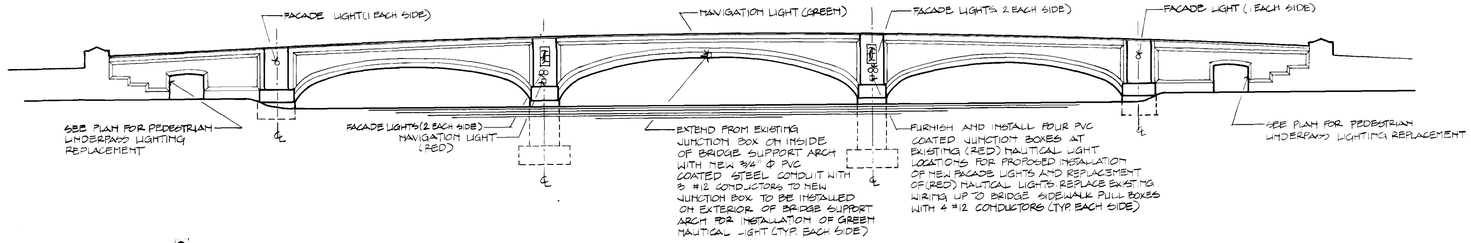
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

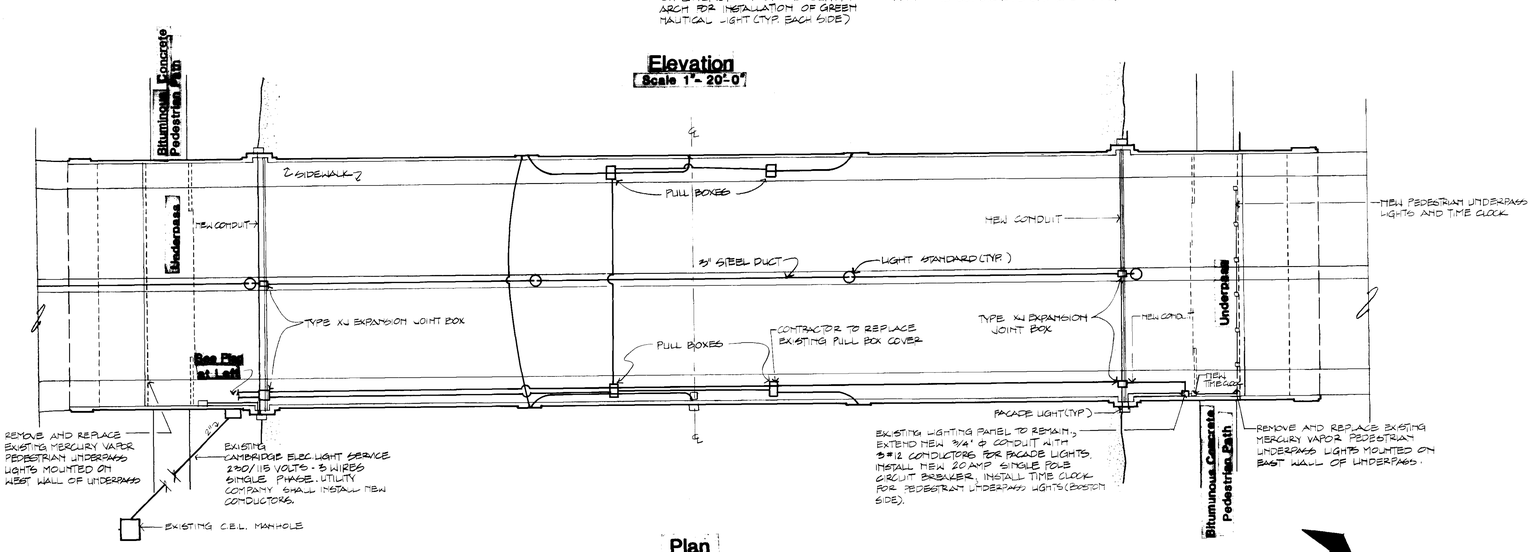
DESIGNED: TPL CHECKED: FCL	MISCELLANEOUS DETAILS			DRAWING NO. 5
DRAWN: FGM CHECKED: TPL	REF.	CONT. P84-1276-C4A	SCALE: AS NOTED	OF: 9
	ACC.		DATE:	



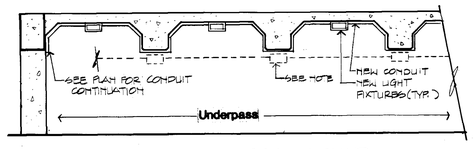
Plan
Scale 1/8"= 1'-0"



Elevation
Scale 1"= 20'-0"

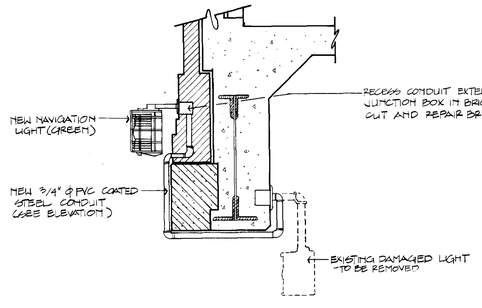


Plan
Scale 1" = 20'-0"

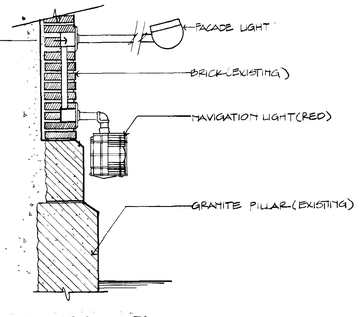


NOTE: REMOVE ALL EXISTING FIXTURES AND CONDUITS, TIME CLOCK AND JUNCTION BOXES ASSOCIATED WITH EXISTING MERCURY VAPOR UNDERPASS LIGHTING SYSTEMS.

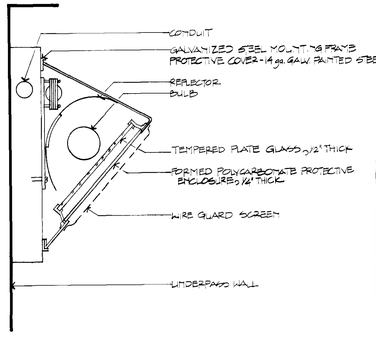
Wall Elevation/Pedestrian Underpass Lighting Replacement
Scale 1/4"=1'-0"



Light at Center of Arch
Not To Scale



Navigation Light at Pier
Not To Scale

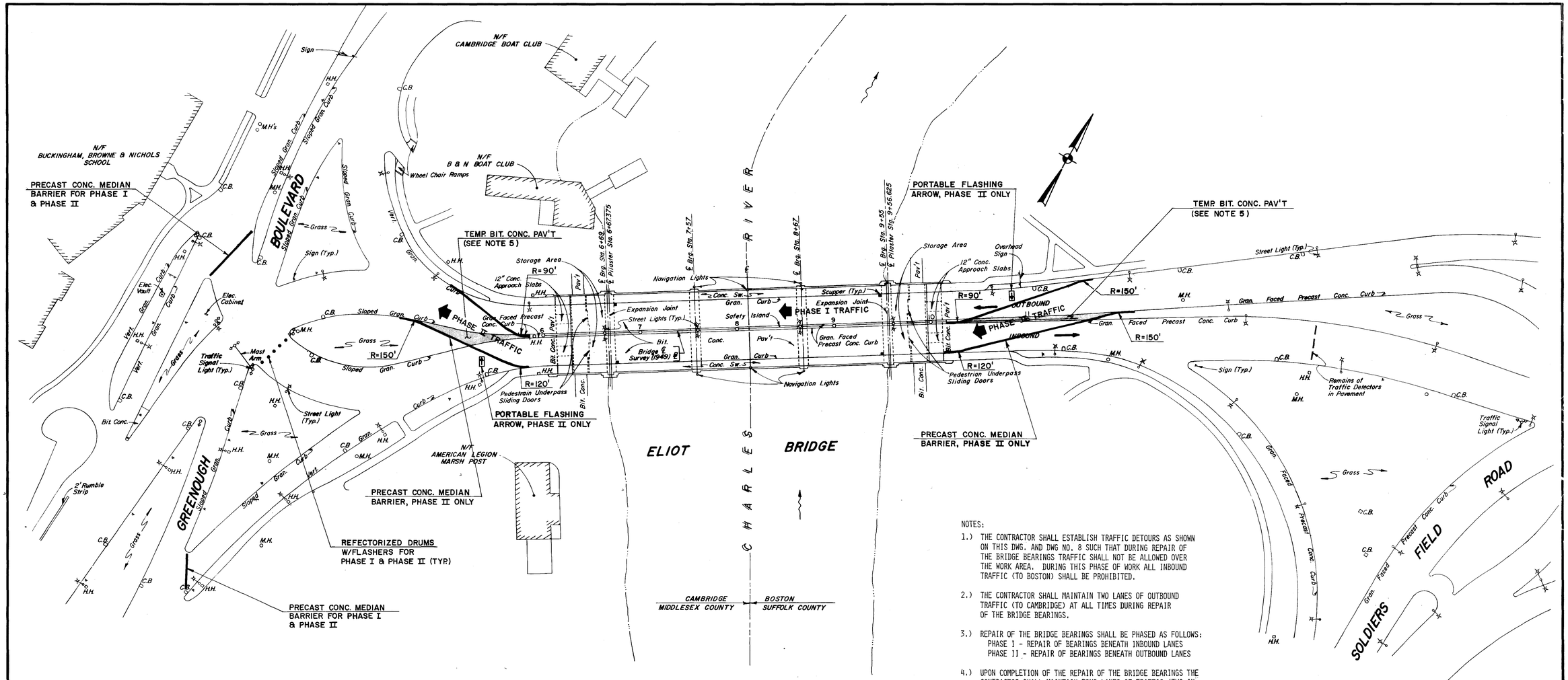


Pedestrian Underpass Light
Not To Scale

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

DESIGNED: CRJ CHECKED: FCL	ELECTRICAL DETAILS		DRAWING NO. 6
DRAWN CRJ CHECKED: FCL	REF.	CONT. P84-1276-C4A	SCALE: AS NOTED
	ACC.		DATE: OF: 9



PLAN
SCALE: 1" = 40'

NOTES:

1.) THE CONTRACTOR SHALL ESTABLISH TRAFFIC DETOURS AS SHOWN ON THIS DWG. AND DWG NO. 8 SUCH THAT DURING REPAIR OF THE BRIDGE BEARINGS TRAFFIC SHALL NOT BE ALLOWED OVER THE WORK AREA. DURING THIS PHASE OF WORK ALL INBOUND TRAFFIC (TO BOSTON) SHALL BE PROHIBITED.

2.) THE CONTRACTOR SHALL MAINTAIN TWO LANES OF OUTBOUND TRAFFIC (TO CAMBRIDGE) AT ALL TIMES DURING REPAIR OF THE BRIDGE BEARINGS.

3.) REPAIR OF THE BRIDGE BEARINGS SHALL BE PHASED AS FOLLOWS:
PHASE I - REPAIR OF BEARINGS BENEATH INBOUND LANES
PHASE II - REPAIR OF BEARINGS BENEATH OUTBOUND LANES

4.) UPON COMPLETION OF THE REPAIR OF THE BRIDGE BEARINGS THE CONTRACTOR SHALL MAINTAIN FOUR LANES OF TRAFFIC (TWO INBOUND/TWO OUTBOUND) OVER THE BRIDGE AT ALL TIMES EXCEPT THAT DURING WORK HOURS OF 9 AM TO 3 PM OR AS OTHERWISE APPROVED IN WRITING BY THE ENGINEER. TRAFFIC MAY BE REDUCED TO ONE LANE IN EACH DIRECTION.

5.) FOR CONSTRUCTION SIGNS, SEE DWG. NO. 8

6.) EXISTING MEDIAN (SHOWN SHADED) TO BE REMOVED AND TEMPORARY BIT. CONC. PAV'T TO BE INSTALLED PRIOR TO IMPLEMENTATION OF PHASE II. UPON COMPLETION OF PHASE II, TEMPORARY BIT. CONC. PAV'T SHALL BE REMOVED AND DISTURBED AREAS RETURNED TO PRECONSTRUCITON CONDITIONS OR REPAIRED AS SHOWN ON GENERAL PLAN. TEMP PAV'T SHALL BE 3" TYPE I-1 BIT. CONC. ON 12" GRAVEL BASE.

7.) THE CONTRACTOR SHALL NOTE THAT TRUCKS AND HEAVY EQUIPMENT ARE PROHIBITED FROM TRAVEL ON SOLDIERS FIELD ROAD/STORROW DRIVE.

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

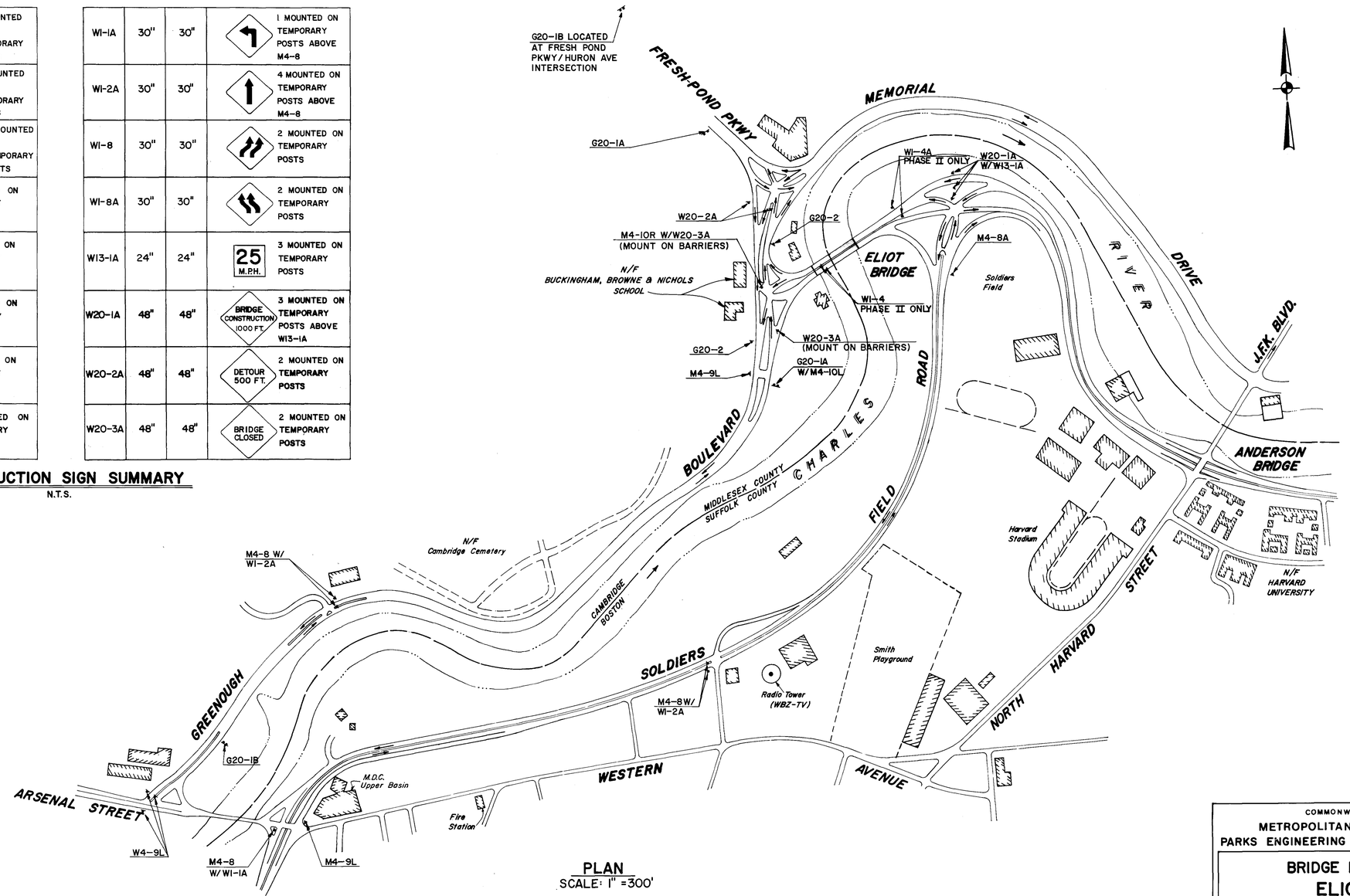
TRAFFIC MAINTENANCE PLAN

DESIGNED: TPL	REF.	CONT. P84-1276-C4A	DRAWING NO. 7
CHECKED: FCL			
DRAWN: FGM	ACC.	SCALE: AS NOTED	OF: 9
CHECKED: TPL		DATE:	

G20-1A	72"	48"	ELIOT BRIDGE TO STORROW DR. CLOSED SEEK ALTERNATE ROUTES	2 MOUNTED ON TEMPORARY POSTS	W1-1A	30"	30"	1 MOUNTED ON TEMPORARY POSTS ABOVE M4-8
G20-1B	72"	48"	ELIOT BRIDGE TO STORROW DR. CLOSED 1 MILE AHEAD SEEK ALTERNATE ROUTES	2 MOUNTED ON TEMPORARY POSTS	W1-2A	30"	30"	4 MOUNTED ON TEMPORARY POSTS ABOVE M4-8
G20-2	60"	24"	END CONSTRUCTION	2 MOUNTED ON TEMPORARY POSTS	W1-8	30"	30"	2 MOUNTED ON TEMPORARY POSTS
M4-8	24"	12"	DETOUR	5 MOUNTED ON TEMPORARY POSTS	W1-8A	30"	30"	2 MOUNTED ON TEMPORARY POSTS
M4-8A	24"	18"	DETOUR ENDS	1 MOUNTED ON TEMPORARY POSTS	W13-1A	24"	24"	25 M.P.H. 3 MOUNTED ON TEMPORARY POSTS
M4-10L	48"	18"	DETOUR	1 MOUNTED ON TEMPORARY POSTS	W20-1A	48"	48"	BRIDGE CONSTRUCTION 1000 FT. 3 MOUNTED ON TEMPORARY POSTS ABOVE W13-1A
M4-10R	48"	18"	DETOUR	1 MOUNTED ON TEMPORARY POSTS	W20-2A	48"	48"	DETOUR 500 FT. 2 MOUNTED ON TEMPORARY POSTS
M4-9L	30"	24"	DETOUR	5 MOUNTED ON TEMPORARY POSTS	W20-3A	48"	48"	BRIDGE CLOSED 2 MOUNTED ON TEMPORARY POSTS

CONSTRUCTION SIGN SUMMARY

N.T.S.



PLAN

SCALE: 1" = 300'

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

DESIGNED: TPL CHECKED: FCL	TRAFFIC MAINTENANCE PLAN		DRAWING NO. 8
DRAWN: FGM CHECKED: TPL	REF. CONT. P84-1276-C4A	SCALE: AS NOTED	OF 9
	ACC.	DATE:	

PLAN

SCALE: 1" = 40'

LEGEND

WSL — WHITE STOP LINE
SWEL — SOLID WHITE EDGE LINE
SWLL — SOLID WHITE LANE LINE
BWLL — BROKEN WHITE LANE LINE
SYEL — SOLID YELLOW EDGE LINE

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
PARKS ENGINEERING AND CONSTRUCTION DIVISION

BRIDGE REHABILITATION
ELIOT BRIDGE
BOSTON AND CAMBRIDGE

DESIGNED TPL CHECKED FCL	PAVEMENT MARKING PLAN		DRAWING NO. 9
DRAWN FGM CHECKED TPL	REF.	CONT. P84-1276-C4A	SCALE AS NOTED
	ACC.		DATE	OF 9

THIS BRIDGE COMMEMORATES

CHARLES WILLIAM ELIOT

1834 — 1926

PRESIDENT OF HARVARD UNIVERSITY

RESOLUTE AND TRUSTED LEADER IN THE LIFE OF

COLLEGE COMMUNITY AND COMMONWEALTH

AND HIS SON

CHARLES ELIOT

1859 — 1897

PERSUASIVE ADVOCATE AND DESIGNER OF THE

METROPOLITAN PARK SYSTEM

LOVER OF BEAUTY AND FAR SIGHTED SERVANT

OF THE COMMON GOOD

35 1/2"

49 1/2"

THIS BRIDGE COMMEMORATES

CHARLES WILLIAM ELIOT

1834 — 1926

PRESIDENT OF HARVARD UNIVERSITY
RESOLUTE AND TRUSTED LEADER IN THE LIFE OF
COLLEGE COMMUNITY AND COMMONWEALTH

AND HIS SON

CHARLES ELIOT

1859 — 1897

PERSUASIVE ADVOCATE AND DESIGNER OF THE
METROPOLITAN PARK SYSTEM
LOVER OF BEAUTY AND FAR SIGHTED SERVANT
OF THE COMMON GOOD

NOTE:
Traced from "LITE PLAN"
Drainage Traced from "LOCATION PLAN

SECTION AT A. A.
HOR. 1" = 20'
VER. 1" = 10'

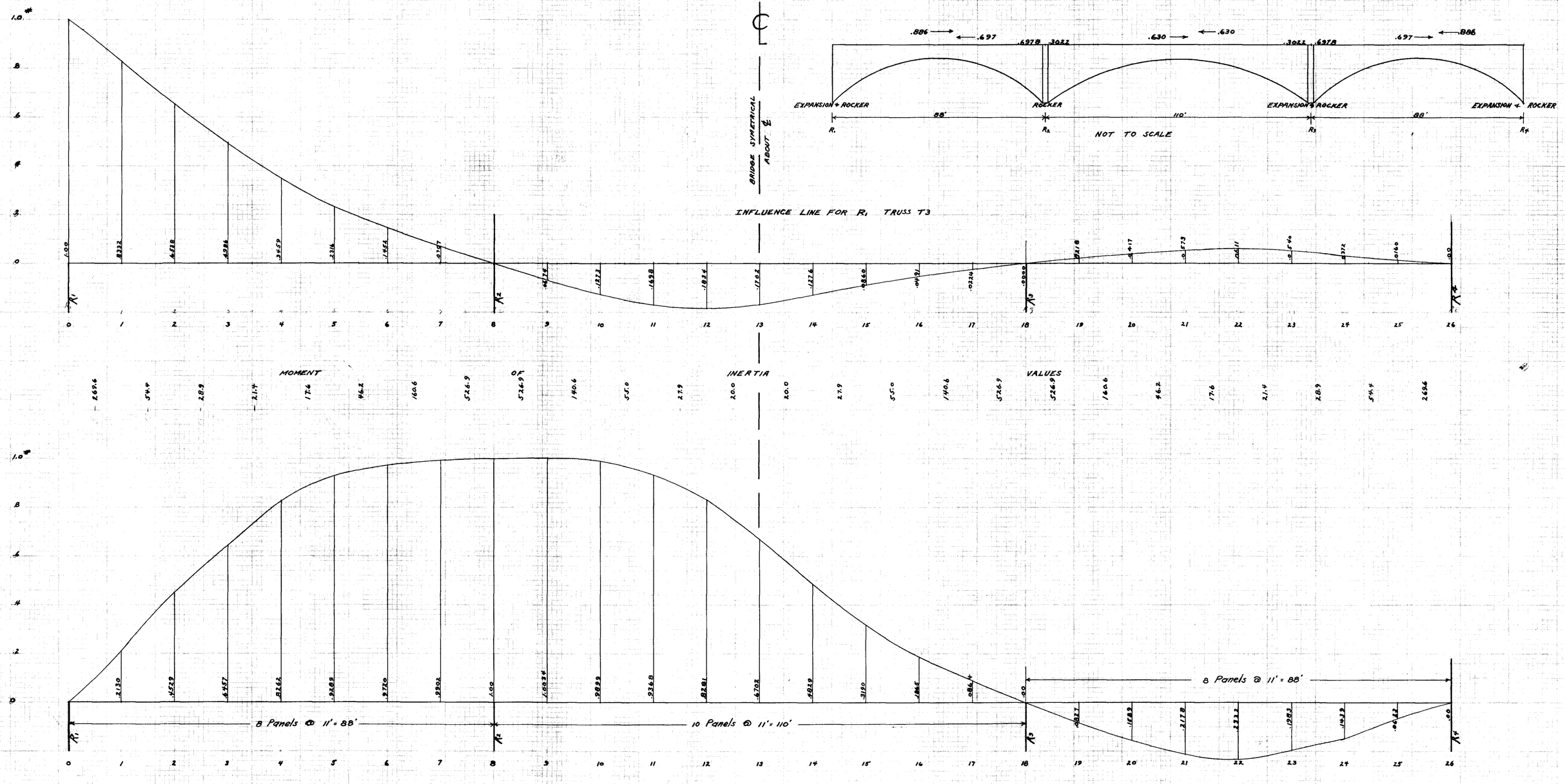
Commonwealth of Massachusetts
METROPOLITAN DISTRICT COMMISSION
Parks Division
CHARLES RIVER RESERVATION
BOSTON
CONSTRUCTION APPROACH TO
"THE ELIOT BRIDGE"
To Sub Grade
Scale as noted July 10, 19[illegible]
[illegible] Director of Park Engineering
28058

28058

SHEET 1 OF 1 SHEET

FILE IN N-5

28247-CD



Commonwealth of Massachusetts
METROPOLITAN DISTRICT COMMISSION
PARKS DIVISION

PROPOSED ELIOT BRIDGE
over
CHARLES RIVER

INFLUENCE LINES FOR REACTIONS

(Checking design submitted by Burns & Kennerson C.E.)

Scale Hor. 1" = 10'
Vert 1" = 0.2

Dec Dec. 30, 1948

28247-CD

A.G.

3

#28481

Settlement Levels of Pile "A" (50' pile)
Sta. 6+32.37 Rt 40-1½"
Vertical Scale 1" = ⅛"

Levels Referred to Boston City Base

DATA: McKIERNAN-TERRY CATALOGUE
McKiernan-Terry Pile Hammer
9-B-3 - Double Acting

Weight of Hammer = 7000 lbs
Weight of Ram = 1800 lbs
Lifting area of piston = 40.85 sq. ins.
Striking " " " = 56.75 " "
Length of stroke = 17 ins.

TABLE OF STROKES PER MINUTE & FOOT LBS. OF ENERGY PER BLOW

Strokes per minute	Foot lbs. per blow
145	8700
140	8100
135	7600
130	6800

Bearing Power of Piles for 9-B-3 Hammer
Using Eng. News Formula $L = \frac{2E}{S+1}$

Assumed factor of safety of formula is 6
E = Actual foot-pounds blows at speeds listed from tests - Not based on air pressure & area piston

Penetration per blow Inches	Bearing Power Pounds No. 9-B-3
.1	87,500
.2	58,333
.3	43,700
.4	35,000
.5	29,166
.6	25,000
.7	21,875
.8	19,444
.9	17,500
1.0	15,909

Pile "A"

Cir Butt	Diam Butt	Cir Tip	Diam Tip	Length
4.04'	16"	2.1'	8"	51'-10"

Pile set with tip at elevation +1.5 in 6'x6' exc hole
Original Ground El. 11.3±
Set at 2:15 P.M. May 9, 1949
When weight of hammer rested on pile it settled only 6".
4 Blows per ft. for first 3' - 100#/□ pressure 25 blows per min.
12 " " " " 5 ft.

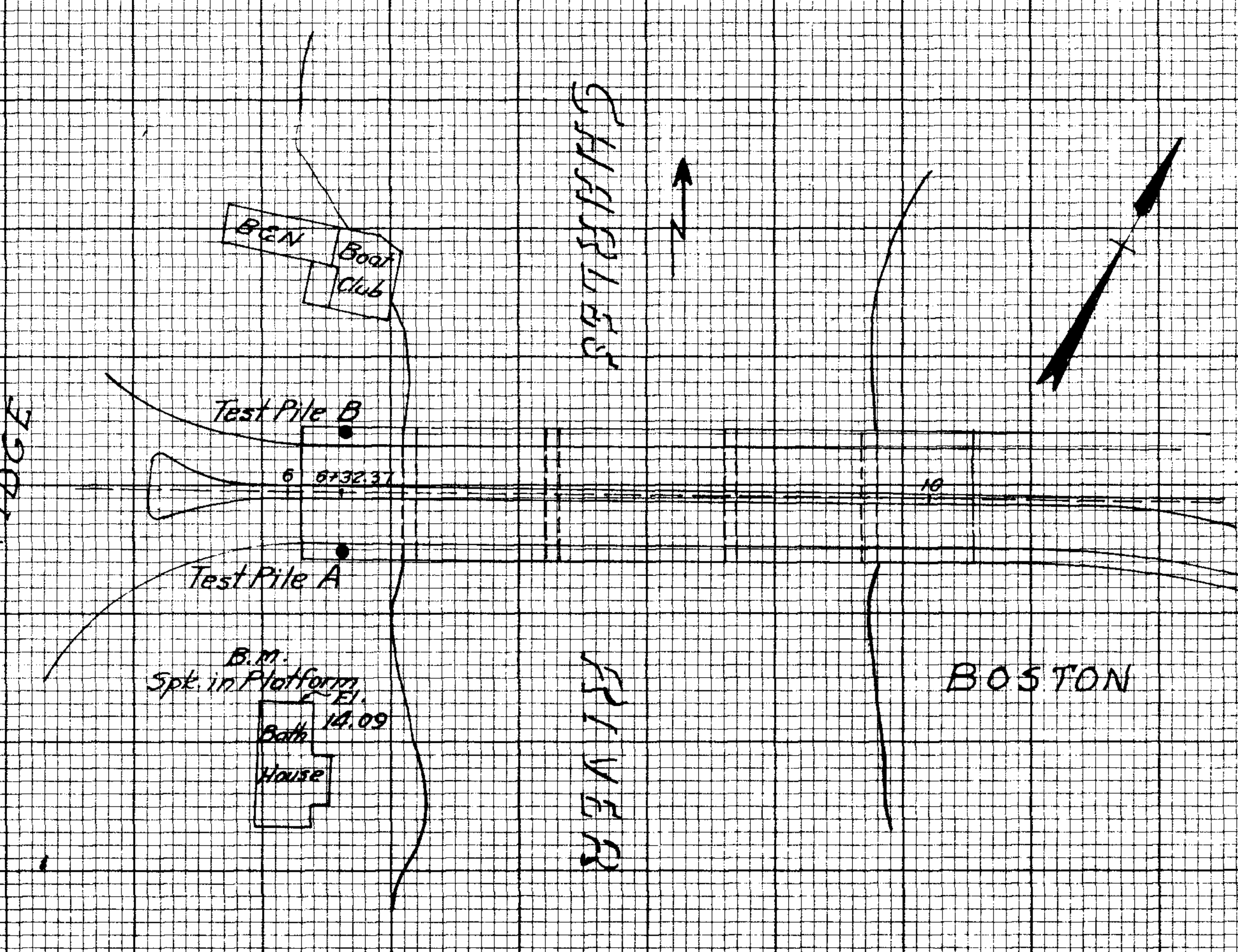
Blows per ft.	El. of Tip	Blows per Min	Pressure	Bearing Power
36	-13	100	100#/□	
18	-14			
30	-15			
64	-16	110	"	
64	-19			
140	-20	110	"	
227	-21			
145	-23			
270	-25	110	"	

Stopped at 3:45 PM to change air line to larger size To increase hammer speed
May 10, 1949

Blows per ft.	El. of Tip	Blows per Min	Pressure	Bearing Power
280	-28 to -29	140	90#/□	113,400 lbs
300	-29 " -30	"	"	115,700 "
200	-30 " -31	"	"	101,250 "
270	-31 " -32	"	"	113,400 "
200	-32 " -33	"	"	101,250 "
140	-33 " -34	"	"	87,233 "
130	-34 " -35	144	"	87,600 "
140	-35 " -36	"	"	87,233 lbs
260	-36 " -37	"	"	110,860 "
260	-37 " -38	"	"	110,860 "
260	-38 " -39	144	90#/□	110,800 "

Pile driven at 9:30 PM Tip at elevation -39

Air supplied by 2-315 Cu.Ft. Compressors to 600 Cu.Ft. Tank



LOCATION PLAN
Scale 1" = 80'

Pile "B"

Cir Butt	Diam Butt	Cir Tip	Dia Tip	Length
4.35'	16½"	2.0'	8"	69.5'

Pile set with bottom at elevation -5.0 in 6'x6' exc. hole
Note:- This hole remained dry despite its nearness to the river. After jetting the water from pumping remained higher than the river level showing impervious character of the clay.
Original Ground El. 11.0±

Set pile @ 11:30 A.M. May 17, 1949 - Driving started at 12:15 P.M. May 17 Light taps from -5 to -17

Blows per ft	El. of Tip	Blows per Min	Pressure	Bearing Power
160	-17 to -18	130	100#/□	
110	-22 " -23	100	90 "	
210	-27 " -28	128	"	
460 for 6"	-31 " -31.5	136	"	133,000 lbs
100 for 1"	-32.5	140	"	147,000 lbs

1000 blows no penetration - Top of pile caught fire from pounding. Driving stopped at 1:00 P.M. & preparations for jetting started.

Jet Equipment:-
Howe Centrifugal Pump - 500 gals. per minute & approximately 62 lbs/sq. in. at pump giving 50 lbs/sq. in. at nozzle.
2½" pipe 72' vertical length.
Water pressure applied with pipe supported by boom and revolved by laborers with wrenches. Tip of jet met stubborn resistance at el. -32 but after penetrating a few feet the pipe began to walk down fast. Jetting was stopped and the Hammer placed in position. Then the jet and hammer were used simultaneously. The jet was shut off with the tip of pile at elevation -50. The hammer was used alone to drive the tip of pile from El. -50 to -60

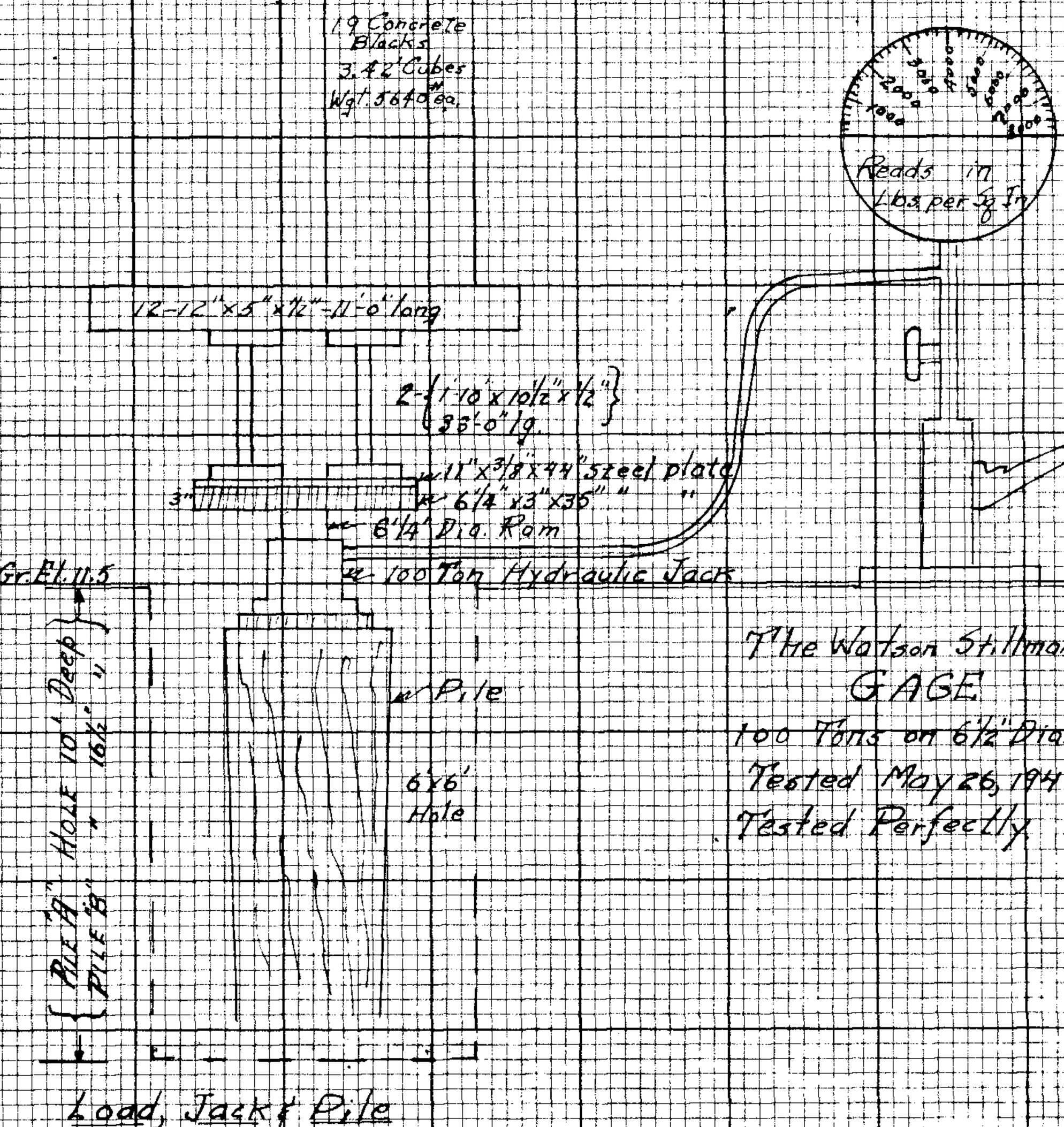
Jetting & driving simultaneously began at 1:20 P.M. - May 18, 1949

Blows per ft	El. of Tip	Blows per Min	Pressure	Bearing Power
25	-38	135	82 lbs/sq. in.	
12	-41	130	82 "	
12	-45	128	82 "	
18	-46	128	82 "	
17	-47	128	82 "	
17	-48	128	82 "	
22	-49	128	82 "	
22	-50	128	82 "	

Stopped jetting at 1:30 P.M. Started driving with hammer alone 1:55 P.M.

Blows per ft	El. of Tip	Blows per Min	Pressure	Bearing Power
32	-52	120	83 lbs/sq. in.	
34	-53	122	83 "	
19	-56	120	83 "	
21	-57	120	83 "	
24	-58	120	83 "	
38	-59	120	83 "	
Piston Under Water - 92	-60	120	83 "	

Pile driven at 2:05 P.M. - May 18, 1949 - Tip to elev. -60



Load, Jack & Pile

The Watson Stillman Co.
GAGE
100 Tons on 6½" Dia. Ram
Tested May 26, 1949
Tested Perfectly

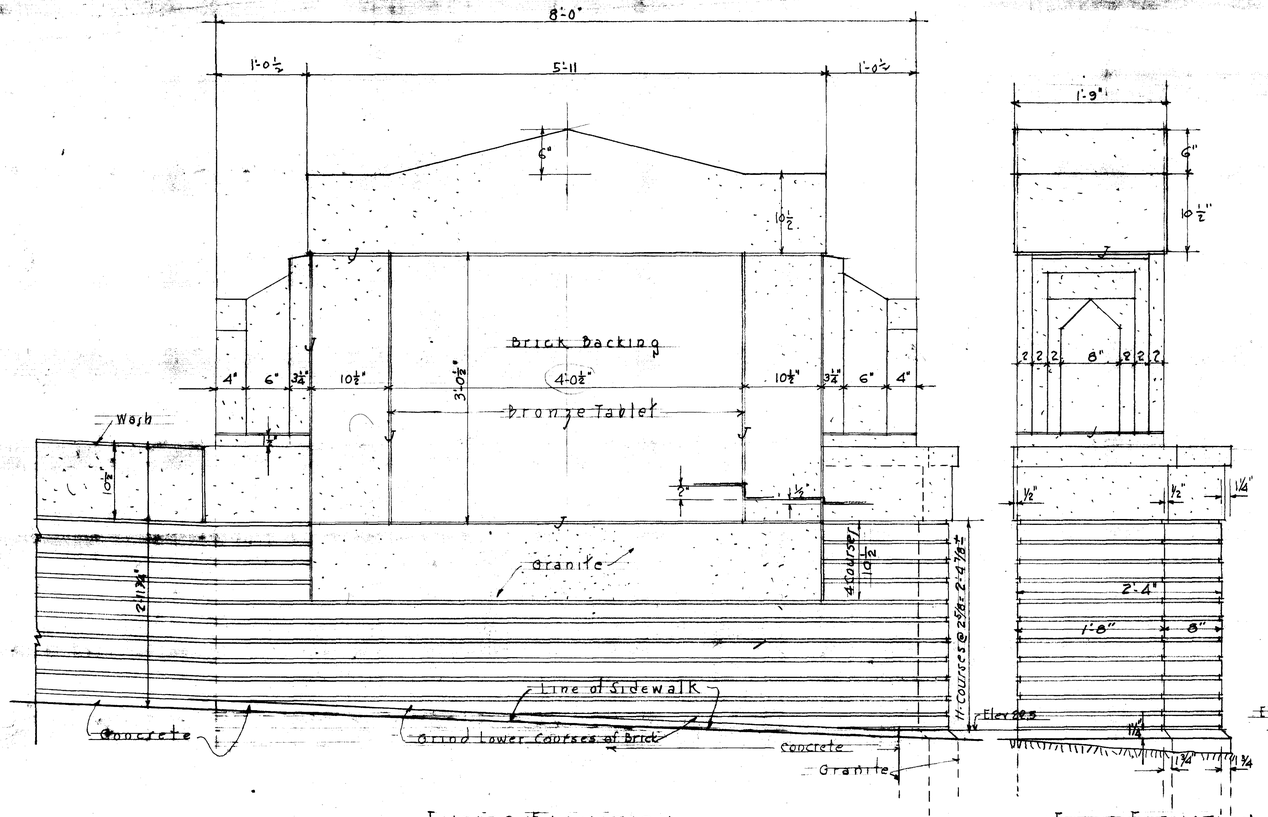
Settlement Levels of Pile B (70' Pile)
Sta. 6+32.37 Lt. 40-1½"
Vertical Scale 1" = ⅛"

Commonwealth of Massachusetts
METROPOLITAN DISTRICT COMMISSION
Parks Division
PROPOSED ELIOT BRIDGE
CAMBRIDGE
TEST PILE DATA
Scales as noted May 27, 1949
Benjamin W. Fink Director of Park Engineering

Heavy Rain

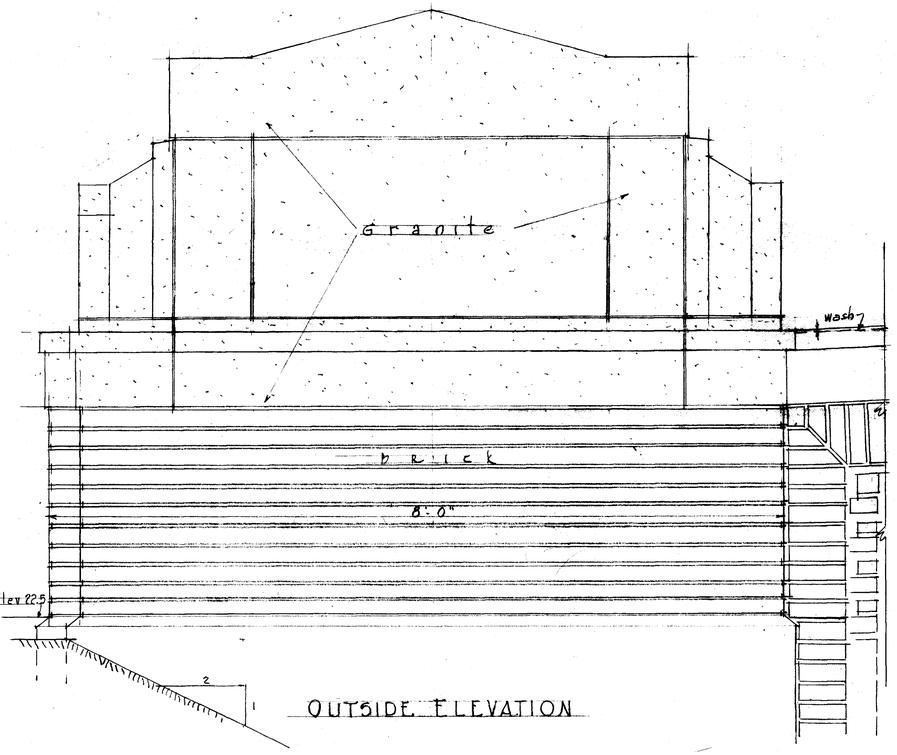
#28481

29241



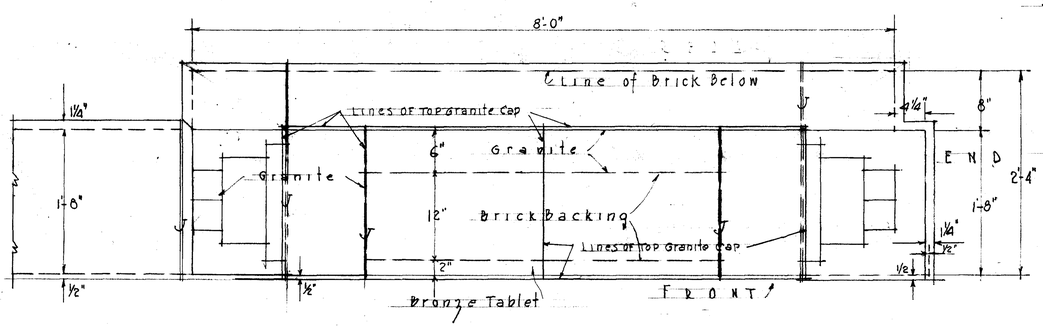
INSIDE ELEVATION

END ELEVATION



OUTSIDE ELEVATION

SCALE 1½" = 1'-0"



PLAN

CHARLES RIVER RESERVATION
BOSTON AND CAMBRIDGE
CONSTRUCTION PLANS OF
THE ELIOT BRIDGE

REVISED DETAILS OF END POSTS

SCALE AS SHOWN. JUNE 27 1950

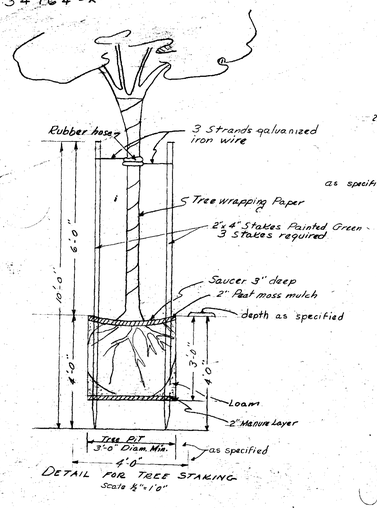
BURNS and KENERSON INC.

Benj. W. Frost DIRECTOR OF PARK ENGINEERING

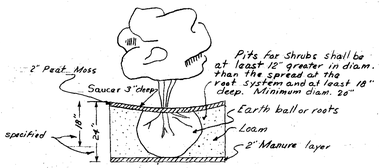
29241

29241

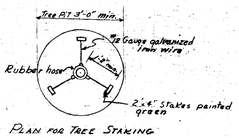
34764-x



DETAIL FOR TREE STAKING
Scale ½"=1'-0"



PLANTING DETAIL FOR SHRUBS
Scale ½"=1'-0"

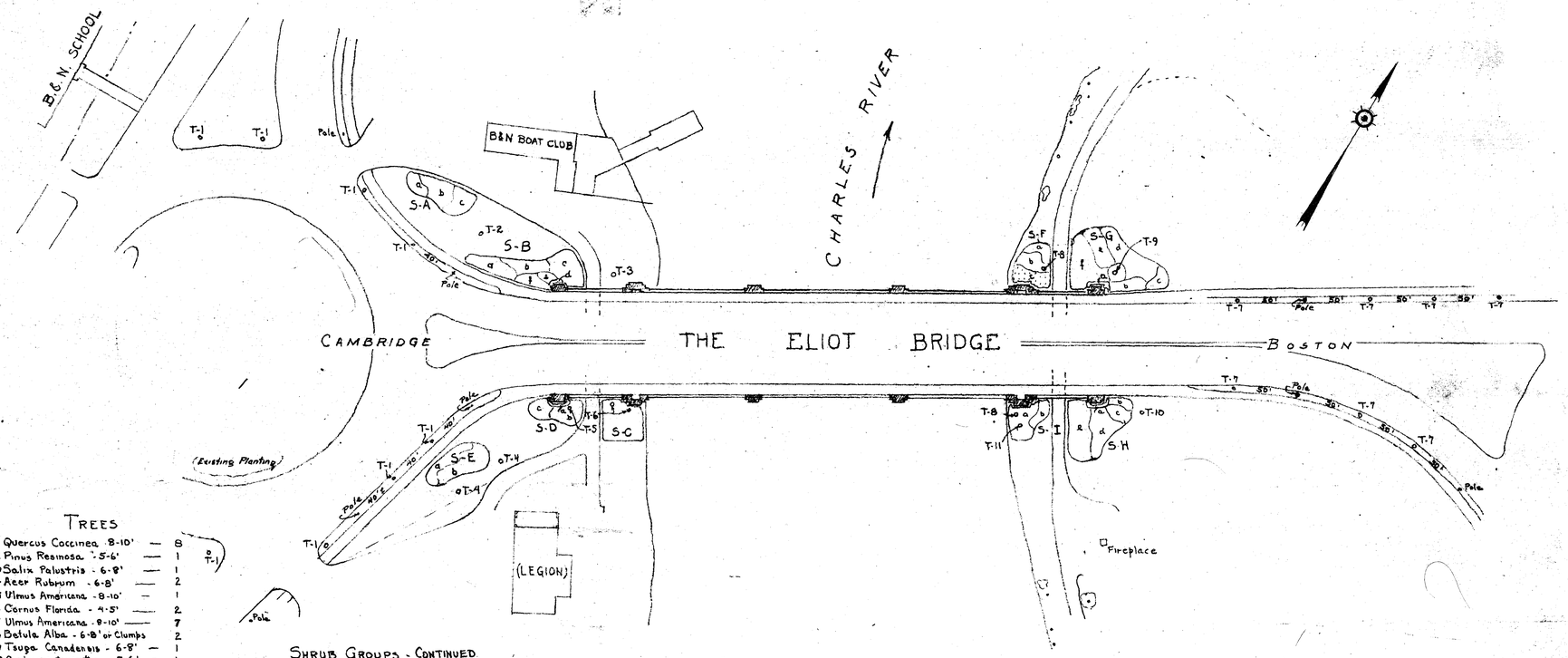


PLAN FOR TREE STAKING
Scale ½"=1'-0"

NOTES

- Tree pits for trees numbered T-3, T-5, T-8 and T-9 to be 4'-0" in diameter and 4'-0" deep. All other tree pits to be 3'-0" in diameter and 3'-0" deep
- Shrub beds S-C, S-F, and S-I to be excavated to a depth of 24". All other shrub beds to be excavated to a depth of 18"
- All trees to be balled and burlapped

Quan	SHRUB LIST Scientific Name	Common Name	Height
40	Azalea Kaempferi	Torch Azalea	12"-18"
44	Berberis Thunbergii	Japanese Barberry	18"-24"
15	Cornus Stolenifera	Golden Twig	2'-3'
16	Evonymus Radicans	Winter Creeper	2 yr.
55	Forsythia Suspensa	Forsythia	2'-3'
15	Ilex Opaca (male + female)	American Holly	2'-3'
26	Juniperus Communis	Creeping Juniper	18"-24"
65	Kalmia Latifolia	Mountain Laurel	15"-18"
20	Lonicera Tatarica	Honeysuckle	2'-3'
30	Pieris Floribunda	Andromeda	15"-18"
46	Rhododendron Catawbiense	Rhoda	18"-24"
5	Salix Discalor	Pussy Willow	2'-3'
15	Sambucus Canadensus	Elder	2'-3'
45	Spirea Van Houttei	Bridal Wreath	2'-3'
38	Taxus Cuspidata	Spreading Yew	3' Sp.
65	Viburnum Dentatum		2'-3'



TREES

WEST	T-1 Quercus Coccinea 8-10'	—	8
	T-2 Pinus Resinosa 5-6'	—	1
	T-3 Salix Palustris - 6-8'	—	1
	T-4 Acer Rubrum - 6-8'	—	2
	T-5 Ulmus Americana - 8-10'	—	1
	T-6 Cornus Florida - 4-5'	—	2
	T-7 Ulmus Americana - 8-10'	—	7
	T-8 Betula Alba - 6-8' or Clumps		2
	T-9 Tsuga Canadensis - 6-8'	—	1
	T-10 Crataegus Oxycantha 5-6'	-	1
EAST	T-11 Cercis Canadensis 5-6'	—	1

SHRUB GROUPS

S-A	a. Berberis Thunbergii	18-24"	24
	b. Spirea Van Houttei	2-3'	20
	c. Lonicera Tatarica	2-3'	20
S-B	a. Azalea Kaempferi	12-18"	20
	Pieris Floribunda	15-18"	20
	b. Viburnum Dentatum	2-3'	50
	c. Forsythia Suspensa	2-3	25
	d. Evonymus radicans	2 yr.	4
	e. Juniperus Communis	18-24"	4
	f. Taxus Cuspidata	3' Sp.	10

SHRUB GROUPS - CONTINUED

S-C	Sambucus Canadensis	2-3'	15
	Cornus Stolenifera	2-3'	15
	Viburnum Dentatum	2-3'	15
	Salix Discalor	2-3'	5
S-D	a. Evonymus Radicans	2 yr.	4
	b. Juniperes Communis	18-24"	12
	c. Taxus Cuspidata	3' Sp.	12
S-E	a. Berberis Thunbergii	18-24"	20
	b. Spirea Van Houttei	2-3'	25
S-F	a. Azalea Kaempferi	12-18	8
	b. Kalmia latifolia	15-18"	10
	c. Rhododendron Catawbiense	18-24"	16
S-G	a. Evonymus Radicans	2 yr.	4
	b. Azalea Kaempferi	12-18"	12
	c. Taxus Cuspidata	3' Sp.	8
	d. Kalmia latifolia	15-18"	20
	e. Ilex Opaca (male + female)	2-3'	15
	f. Rhododendron Catawbiense	18-24"	30
S-H	a. Evonymus Radicans	2 yr.	4
	b. Taxus Cuspidata	3' Sp.	8
	c. Juniperus Communis	18-24"	10
	d. Kalmia latifolia	15-18"	20
	e. Forsythia Suspensa	2-3'	30
S-I	a. Kalmia latifolia	15-18"	15
	b. Pieris Floribunda	15-18"	10

METROPOLITAN DISTRICT COMMISSION
CHARLES RIVER RESERVATION

PLANTING FOR ELIOT BRIDGE

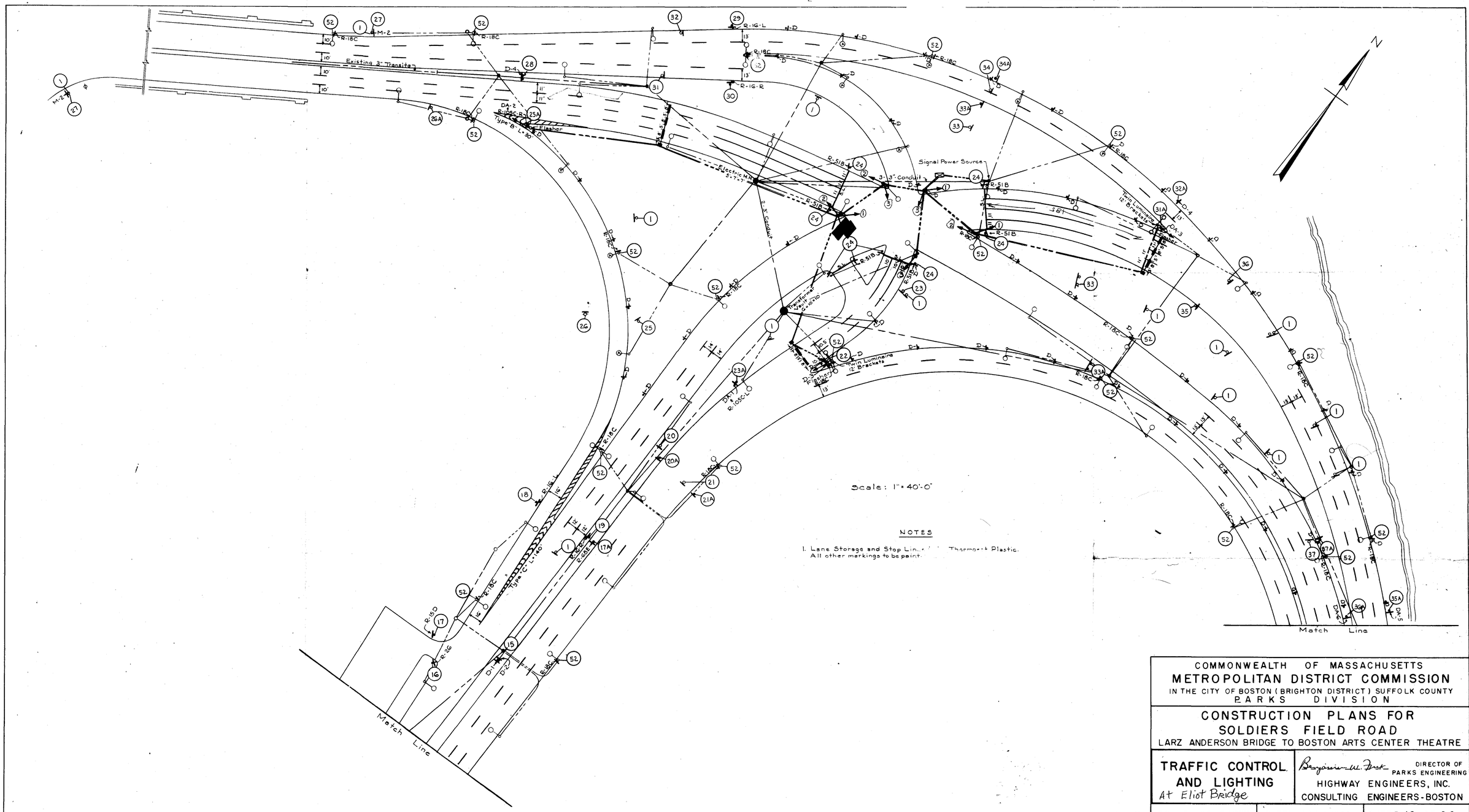
Scale - 1in = 40feet

Charles W. Eliot - Landscape Architect
March 1956

Benjamin W. Frie Director of Park Engineering

34764-x

N-5 C.R. & Upper Div



NOTES

1. Lane Storage and Stop Lin... Thermoset Plastic.
All other markings to be paint.

COMMONWEALTH OF MASSACHUSETTS

METROPOLITAN DISTRICT COMMISSION

IN THE CITY OF BOSTON (BRIGHTON DISTRICT) SUFFOLK COUNTY

PARKS DIVISION

CONSTRUCTION PLANS FOR SOLDIERS FIELD ROAD

LARZ ANDERSON BRIDGE TO BOSTON ARTS CENTER THEATRE

TRAFFIC CONTROL AND LIGHTING

At Eliot Bridge

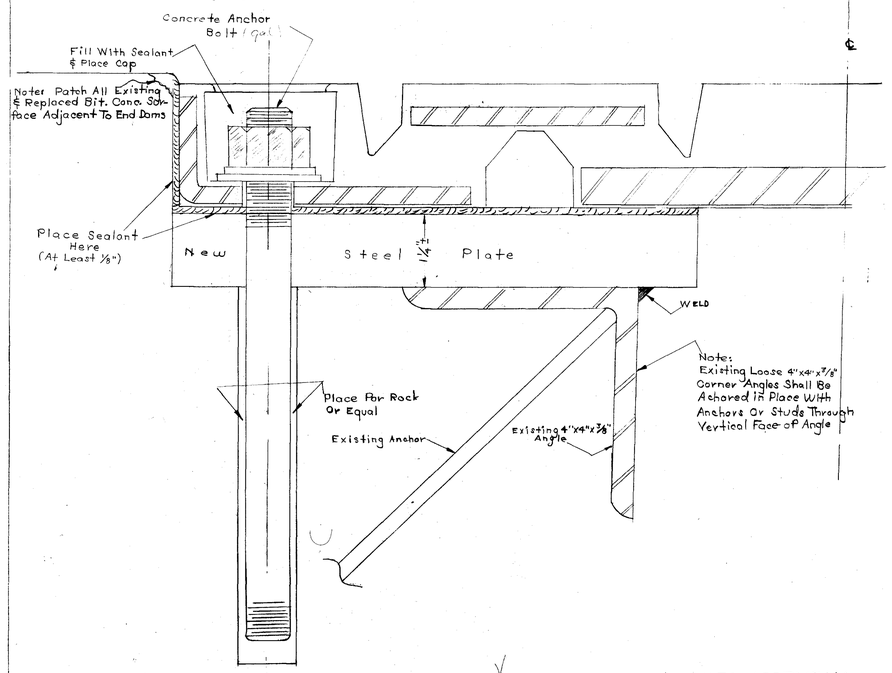
Benjamin W. Fisk
DIRECTOR OF PARKS ENGINEERING

HIGHWAY ENGINEERS, INC.
CONSULTING ENGINEERS-BOSTON

SCALE: AS SHOWN | DATE: JUNE 1, 1960 | SHEET 16 OF 20

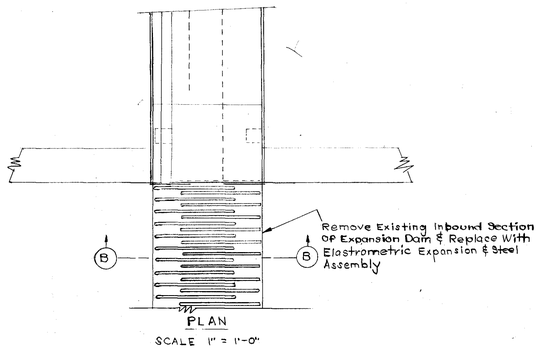
C-1-3

39077X



B DETAIL OF PROPOSED ELASTROMETRIC EXPANSION & STEEL ASSEMBLY B

SCALE: 1" = 1"



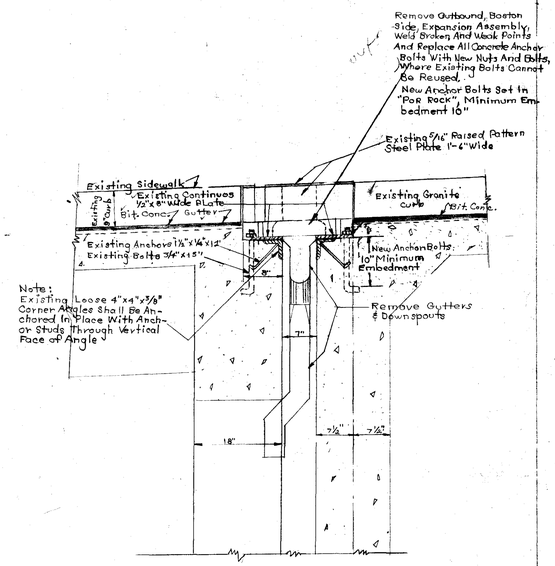
PLAN

SCALE 1" = 1'-0"

NOTES:

Contractor Shall Verify In The Field All Dimensions On This Plan.

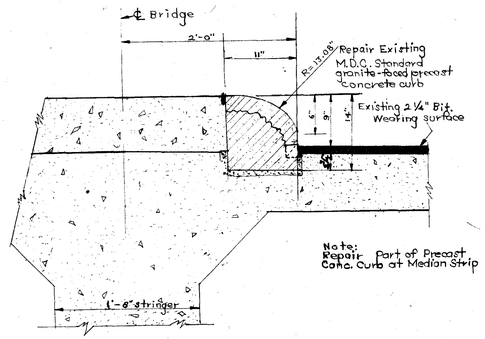
Where Necessary, Drill New Bolt Holes.



A DETAIL OF EXPANSION JOINT PLATE AND GRATING A

Scale: 1" = 1'-0"

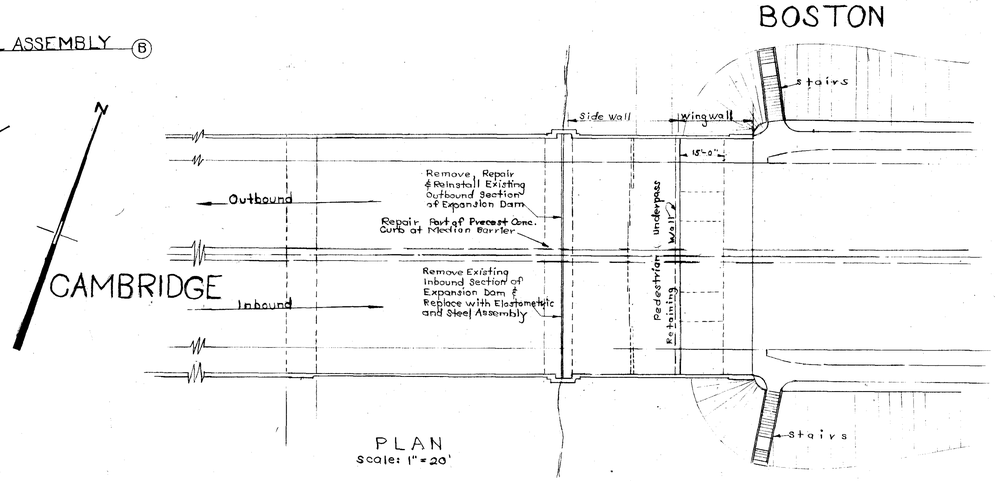
This Section Refers to Outbound Boston Side



Note: Repair part of Precast Conc. Curb at Median Strip

SECTION THRU SAFETY ISLAND CURB

Scale: 1½" = 1'-0"



PLAN

Scale: 1" = 20'

Commonwealth of Massachusetts
Metropolitan District Commission
Parks Division

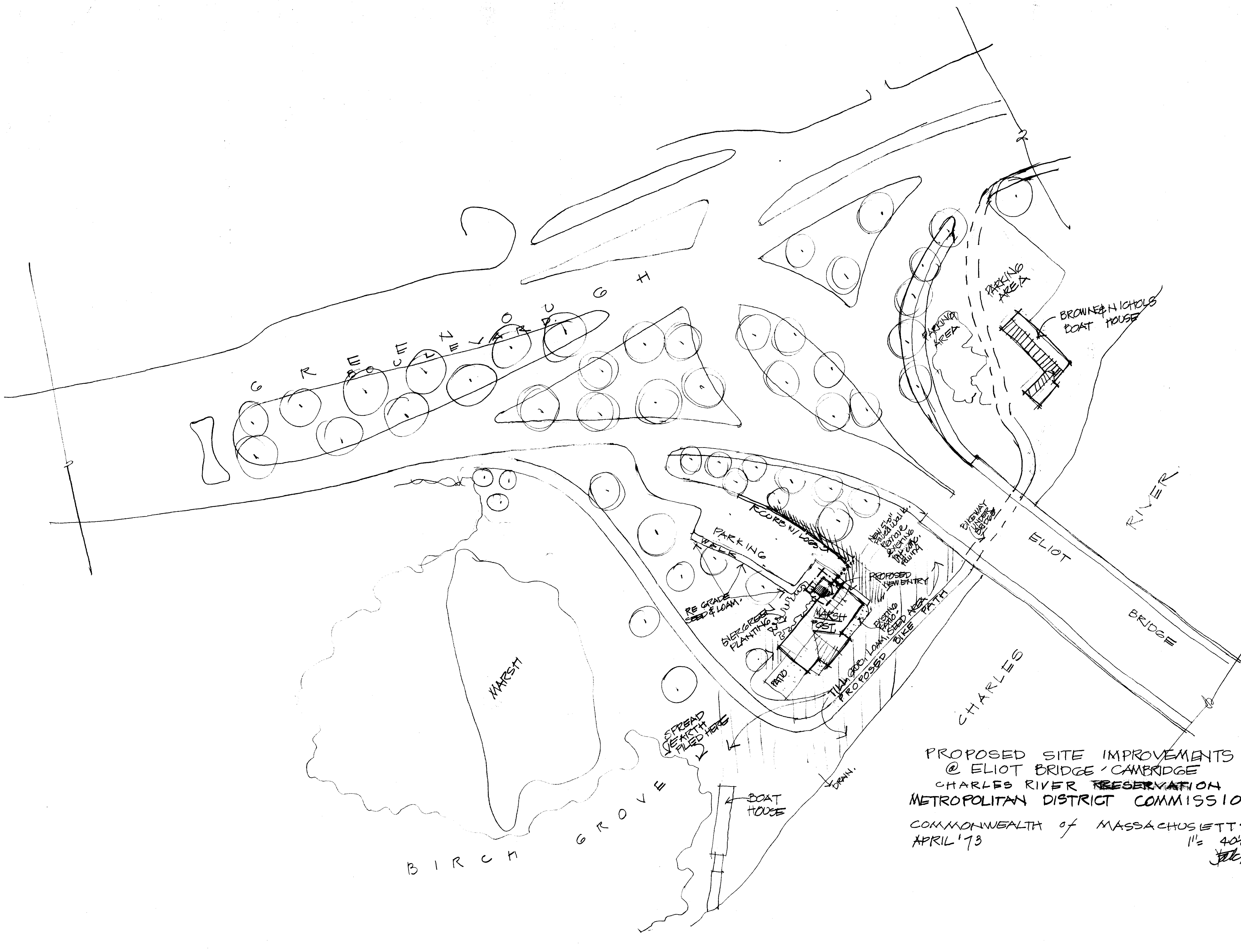
REPAIRS TO ELIOT BRIDGE EXPANSION JOINTS AND MEDIAN STRIP

SCALE AS SHOWN JULY 25, 1972

Director of Park Engineering

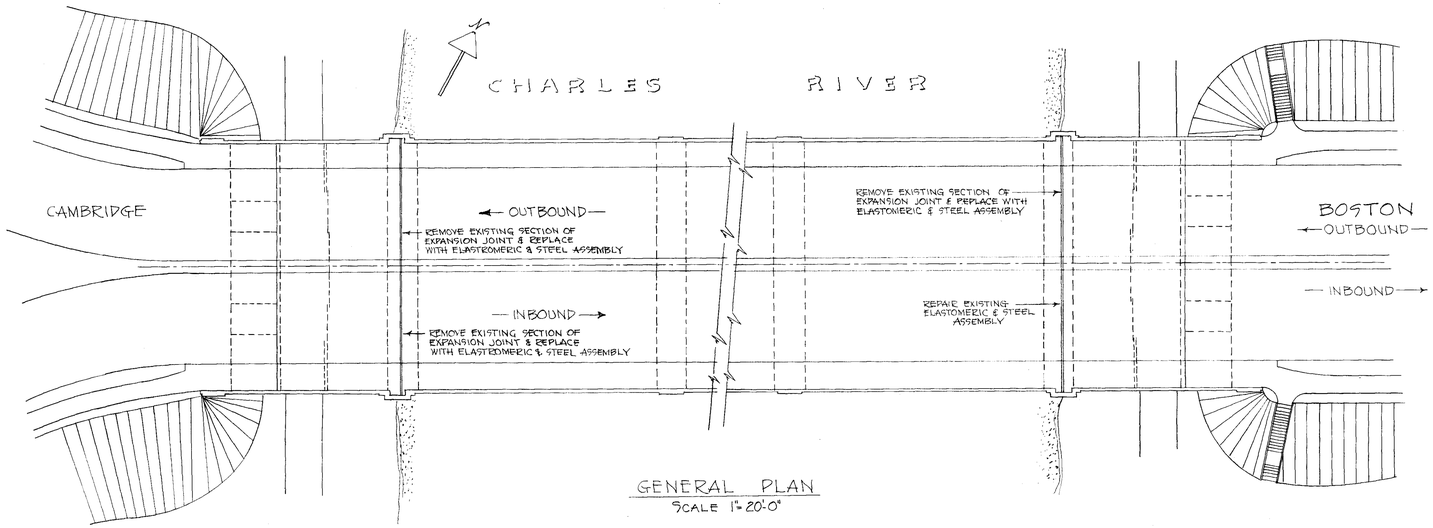
ACC. NO. 47771

N-13

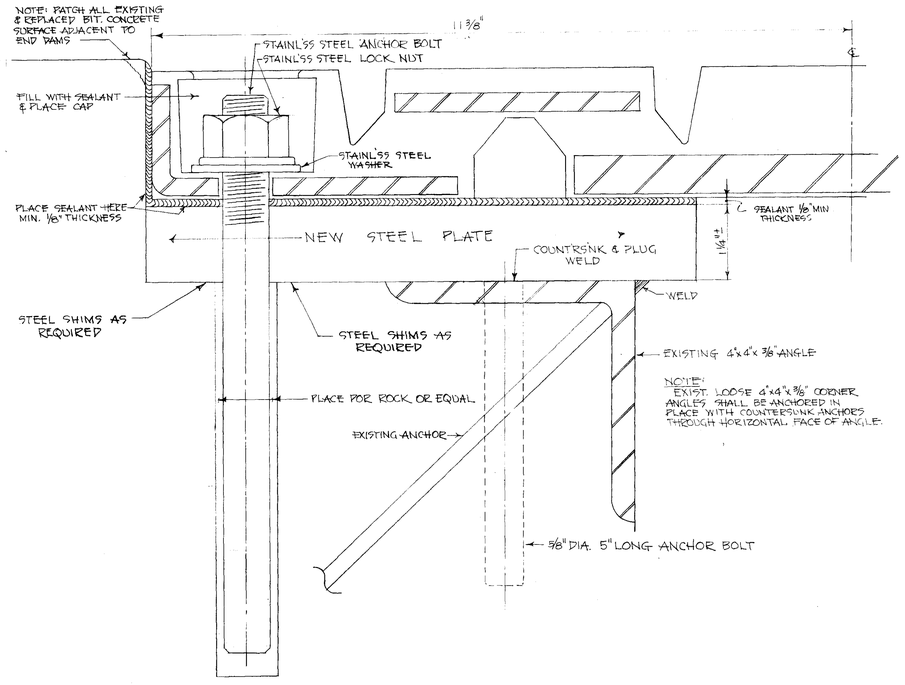


PROPOSED SITE IMPROVEMENTS
@ ELIOT BRIDGE - CAMBRIDGE
CHARLES RIVER ~~RESERVATION~~
METROPOLITAN DISTRICT COMMISSION
COMMONWEALTH of MASSACHUSETTS -
APRIL '73
1" = 40'0"
[illegible]

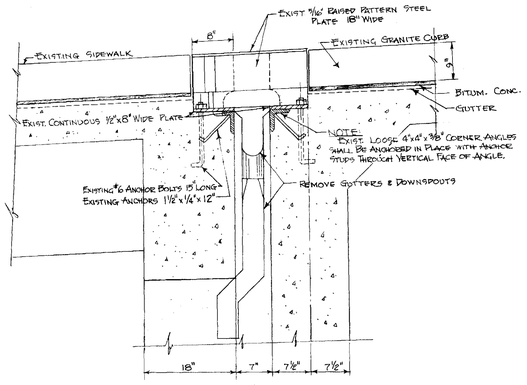
48679



GENERAL PLAN
SCALE 1"=20'-0"



ELASTOMERIC EXPANSION & STEEL ASSEMBLY
FULL SCALE



EXISTING EXPANSION JOINT PLATE & GRATING
SCALE: 1"=1'-0"

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
CHARLES RIVER RESERVATION - CAMBRIDGE - BOSTON
PARKS DIVISION

ELIOT BRIDGE

REPAIRS TO EXPANSION JOINTS

Mason J. Conlon — DIRECTOR OF PARKS ENGINEERING

SCALE: AS NOTED	DATE MAY 10, 1974	ACC. NO 48679