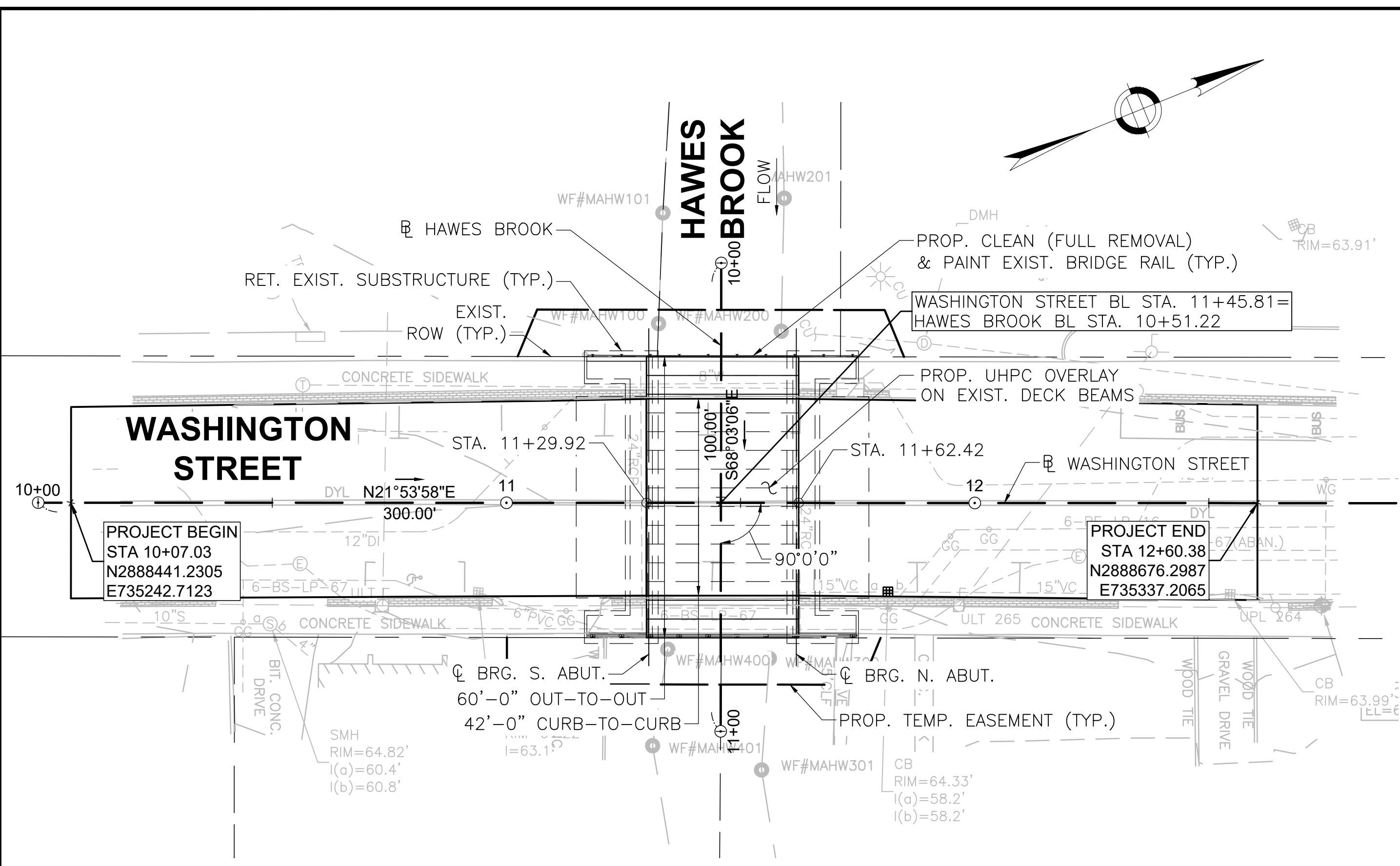
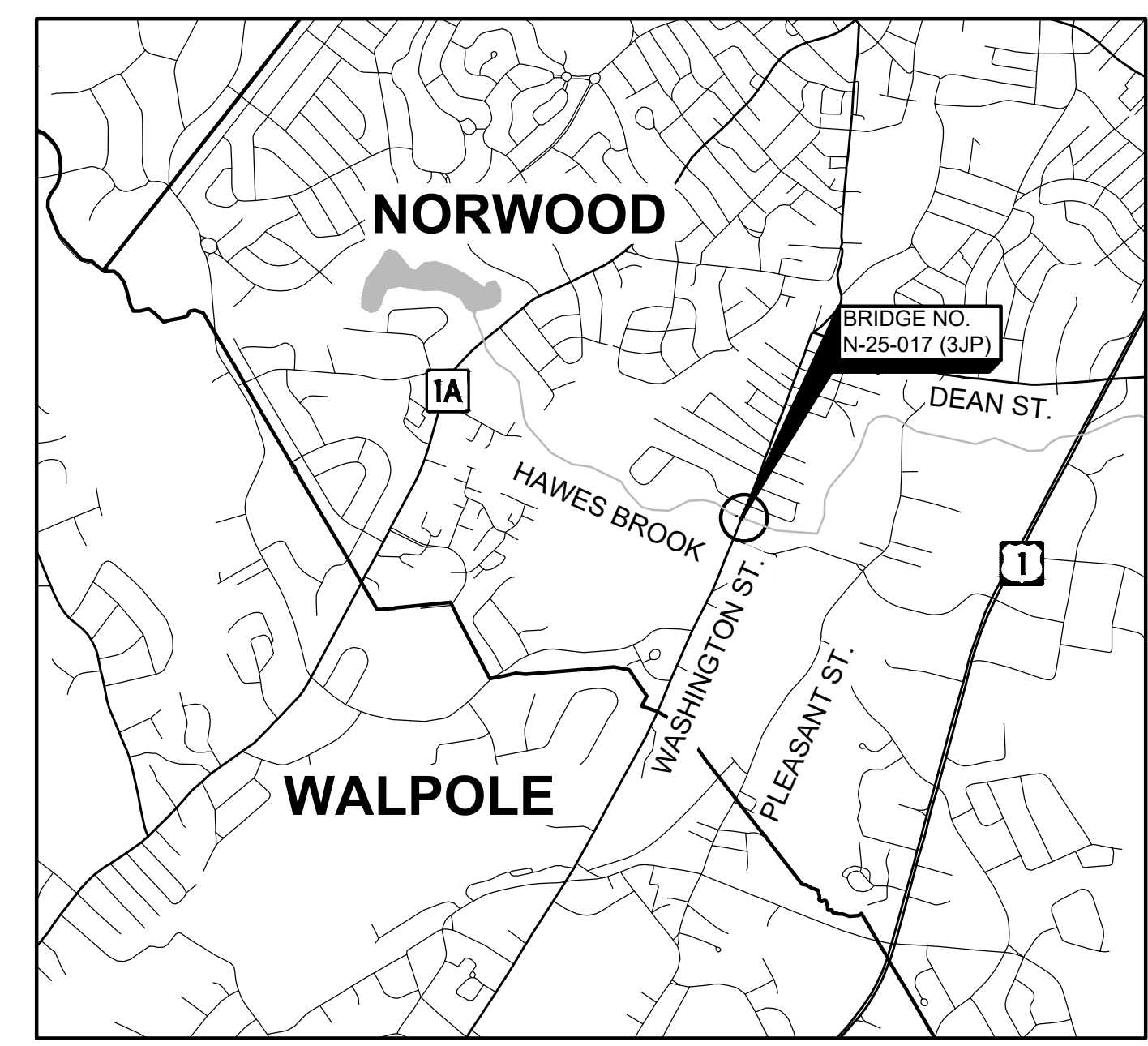


**NORWOOD  
WASHINGTON STREET OVER HAWES BROOK**

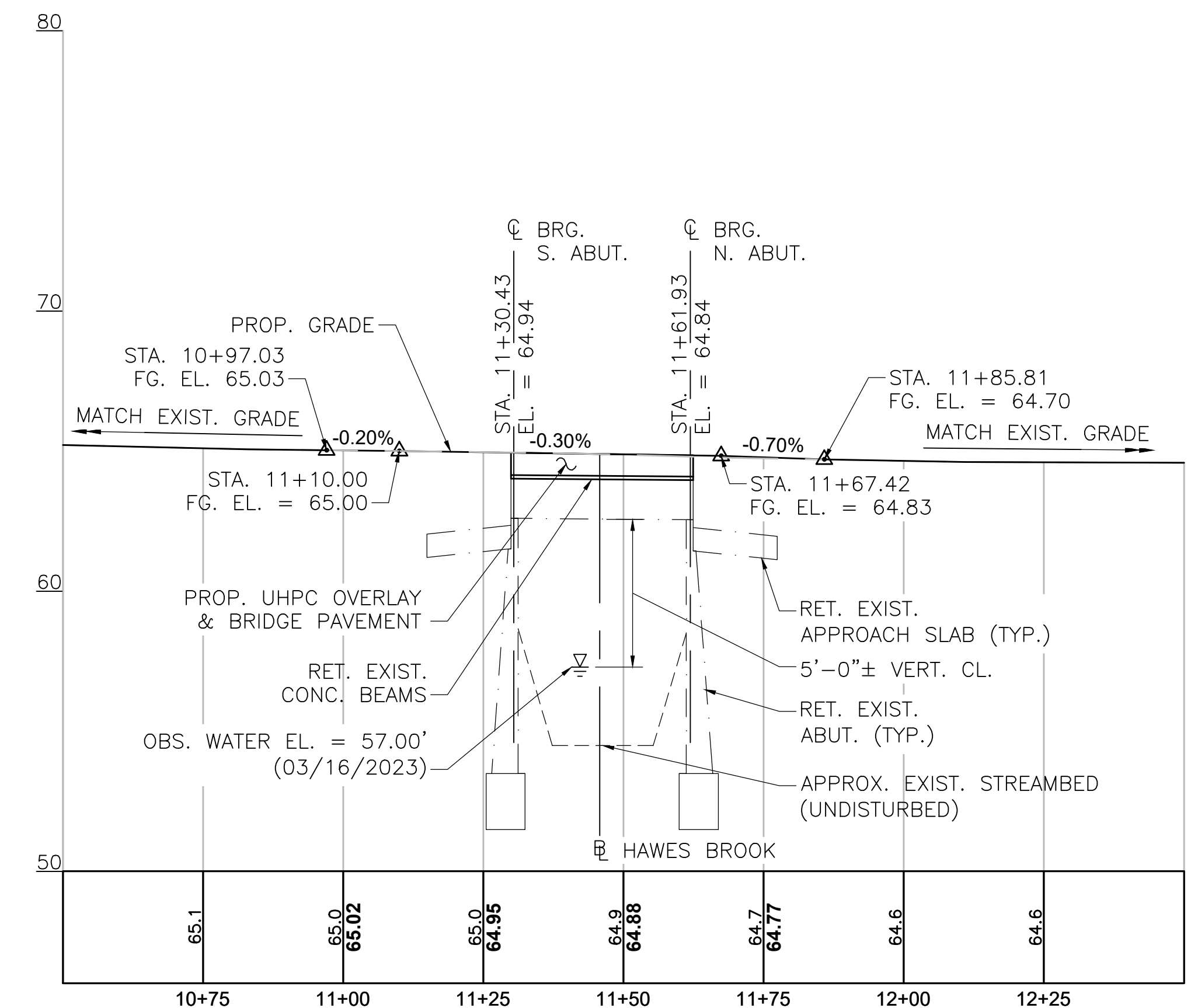
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	17
TEC PROJECT NO.		T1304	

**KEY PLAN PROFILE AND LOCUS**



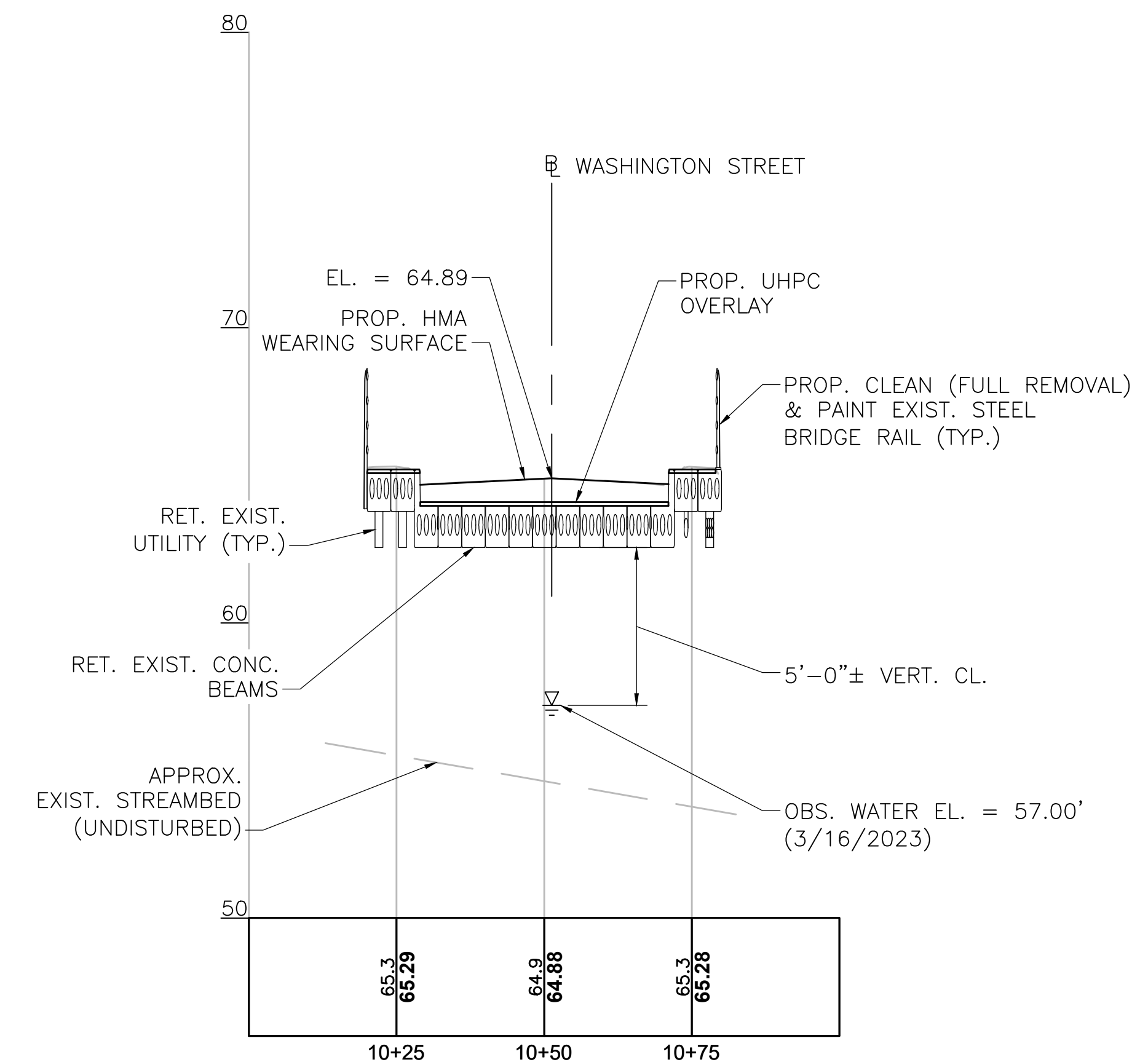
INDEX

SHEET NO.	TITLE
1	KEY PLAN PROFILE AND LOCUS
2	GENERAL NOTES
3	PLAN AND ELEVATION
4	DEMOLITION LIMITS
5	SUPERSTRUCTURE REPAIR SCHEDULE
6	GRADING & CONSTRUCTION PLAN (1 OF 2)
7	GRADING & CONSTRUCTION PLAN (2 OF 2)
8	CONSTRUCTION DETAILS (1 OF 2)
9	CONSTRUCTION DETAILS (2 OF 2)
10	SUPERSTRUCTURE REPAIR DETAILS
11	PAVEMENT MARKING PLAN
12	TRAFFIC MANAGEMENT PLAN (1 OF 6)
13	TRAFFIC MANAGEMENT PLAN (2 OF 6)
14	TRAFFIC MANAGEMENT PLAN (3 OF 6)
15	TRAFFIC MANAGEMENT PLAN (4 OF 6)
16	TRAFFIC MANAGEMENT PLAN (5 OF 6)
17	TRAFFIC MANAGEMENT PLAN (6 OF 6)



**WASHINGTON STREET PROFILE**

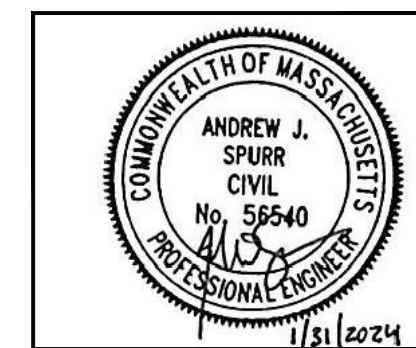
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 4'



**HAWES BROOK PROFILE**

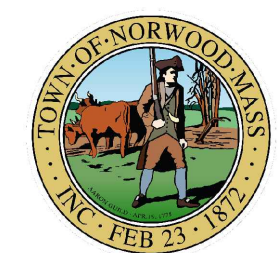
HORIZONTAL SCALE: 1" = 20'  
VERTICAL SCALE: 1" = 4'

**COMMONWEALTH OF MASSACHUSETTS**  
**MassDOT, Highway Division**  
 APPROVED UNDER PROVISIONS OF  
 MASS. GEN. LAWS CH 85 S 35  
*She Sam* 1/31/2024  
 DISTRICT 5 BRIDGE ENGINEER DATE



**TEC**  
 The Engineering Corp  
 282 Merrimack Street,  
 2nd Floor  
 Lawrence, MA 01843

JANUARY 31, 2024 ISSUED FOR CONSTRUCTION



**PROPOSED BRIDGE PRESERVATION  
 NORWOOD**  
 WASHINGTON STREET  
 OVER HAWES BROOK  
 TOWN OF NORWOOD  
 1 LYMAN PLACE  
 NORWOOD, MA 02062

**NORWOOD  
WASHINGTON STREET OVER HAWES BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	2	17
TEC PROJECT NO.		T1304	

**GENERAL NOTES**

GENERAL NOTES:

DESIGN:

IN ACCORDANCE WITH THE 1983 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, MANUAL FOR MAINTENANCE INSPECTIONS OF BRIDGES, AND INTERIM SPECIFICATIONS, 1984 THROUGH 1988 FOR H2O LOADING AS REFERENCED IN THE EXISTING RATING REPORT.

EXISTING CONDITIONS:

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING DETAILS NECESSARY TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF AND SHALL NOT ORDER ANY MATERIALS UNTIL THE REQUIRED MEASUREMENTS HAVE BEEN MADE ON THE STRUCTURE. ALL EXISTING BRIDGE DIMENSIONS SHOWN THROUGHOUT THESE PLANS ARE TAKEN FROM THE EXISTING BRIDGE PLANS, DATED 1966.

EXISTING BRIDGE PLANS:

PLANS FOR THE EXISTING BRIDGE ARE AVAILABLE AND HAVE BEEN INCLUDED IN THE BIDDING PACKAGE.

SCALES:

DRAWINGS ARE TO SCALE FOR FULL SIZED SHEETS (24"x36") BUT ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

BENCHMARK:

HYDRANT-BOLT OVER MAIN OUTLET  
EL. 66.62'  
N: 2888680.8185  
E: 735362.5930

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

MATERIALS:

SELF-CONSOLIDATING REPAIR MORTAR: CONCRETE SIDEWALK RESURFACING, PARTIAL AND FULL DEPTH CONCRETE BEAM REPAIRS

ULTRA HIGH PERFORMANCE CONCRETE: PROTECTICE OVERLAY ON TOP OF EXISTING ROADWAY BEAMS (SEE ITEM 476.36)

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60. ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED. 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 < 3db, OR CLEAR SPACING < 6db	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.

STEEL REINFORCEMENT MATS SHALL BE SECURED AGAINST DISPLACEMENT BY TYING INTERSECTION POINTS WITH A MAXIMUM OF TWELVE (12) INCHES BETWEEN TIED JOINTS.

REINFORCEMENT IS TO BE PLACED AT A CLEAR DISTANCE OF TWO (2) INCHES FROM THE FACE OF CONCRETE, UNLESS OTHERWISE SHOWN ON THE PLANS.

MEMBRANE WATERPROOFING:

MEMBRANE WATERPROOFING APPLIED BETWEEN THE UHPC OVERLAY AND BRIDGE PAVEMENT SHALL BE MEMBRANE WATERPROOFING FOR BRIDGE DECKS, SPRAY APPLIED.

UTILITIES:

THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES. ALL EXISTING UTILITIES SHALL REMAIN IN PLACE AND ACTIVE THROUGHOUT THE DURATION OF CONSTRUCTION.

SHOP DRAWINGS:

THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS AS REQUIRED BY THE STANDARD SPECIFICATIONS AND THE LATEST MASSDOT BRIDGE MANUAL.

TRAFFIC CONTROL:

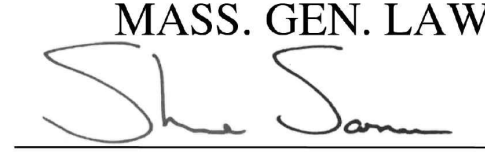
THE CONTRACTOR SHALL MAINTAIN TWO LANES OF TRAFFIC THROUGH THE DURATION OF BRIDGE CONSTRUCTION. NO WORK SHALL OCCUR IN EACH PHASE UNTIL ALL TEMPORARY TRAFFIC CONTROL FEATURES ARE COMPLETED IN PLACE. REPAIRS TO THE SUPERSTRUCTURE SHALL TAKE PLACE CONCURRENTLY WITH TOPSIDE WORK.

LANE CLOSURE WITH ALTERNATING TRAFFIC FOR PHASE 4 AND 5 (MILLING AND PAVING AT APPROACHES) SHALL BE COMPLETED DURING NIGHT TIME WITH POLICE DETAIL BETWEEN 9:00 PM AND 6:00 AM.

CLEAN (FULL REMOVAL) AND PAINT STEEL RAILINGS:

THE EXISTING STEEL BRIDGE RAILINGS AND ALL RELATED ELEMENTS (I.E. POSTS, BASEPLATES, BOLTS, ETC.) SHALL BE PAINTED STRUCTURAL STEEL MEETING THE PROVISIONS OF MASSDOT STANDARD SPECIFICATIONS SECTION 960. THE CONTRACTOR SHALL PAINT THE STEEL RAILINGS ON-SITE. THE RAILINGS SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

ALL STEEL SHALL BE PAINTED USING A THREE-COAT SYSTEM WITH MATERIALS ACCEPTED BY THE NORTHEAST PROTECTIVE COATING COMMITTEE (NEPCOAT). THE FINISH COLOR SHALL BE DETERMINED AFTER CONTRACT AWARD AND SHALL BE COORDINATED WITH THE TOWN OF NORWOOD.

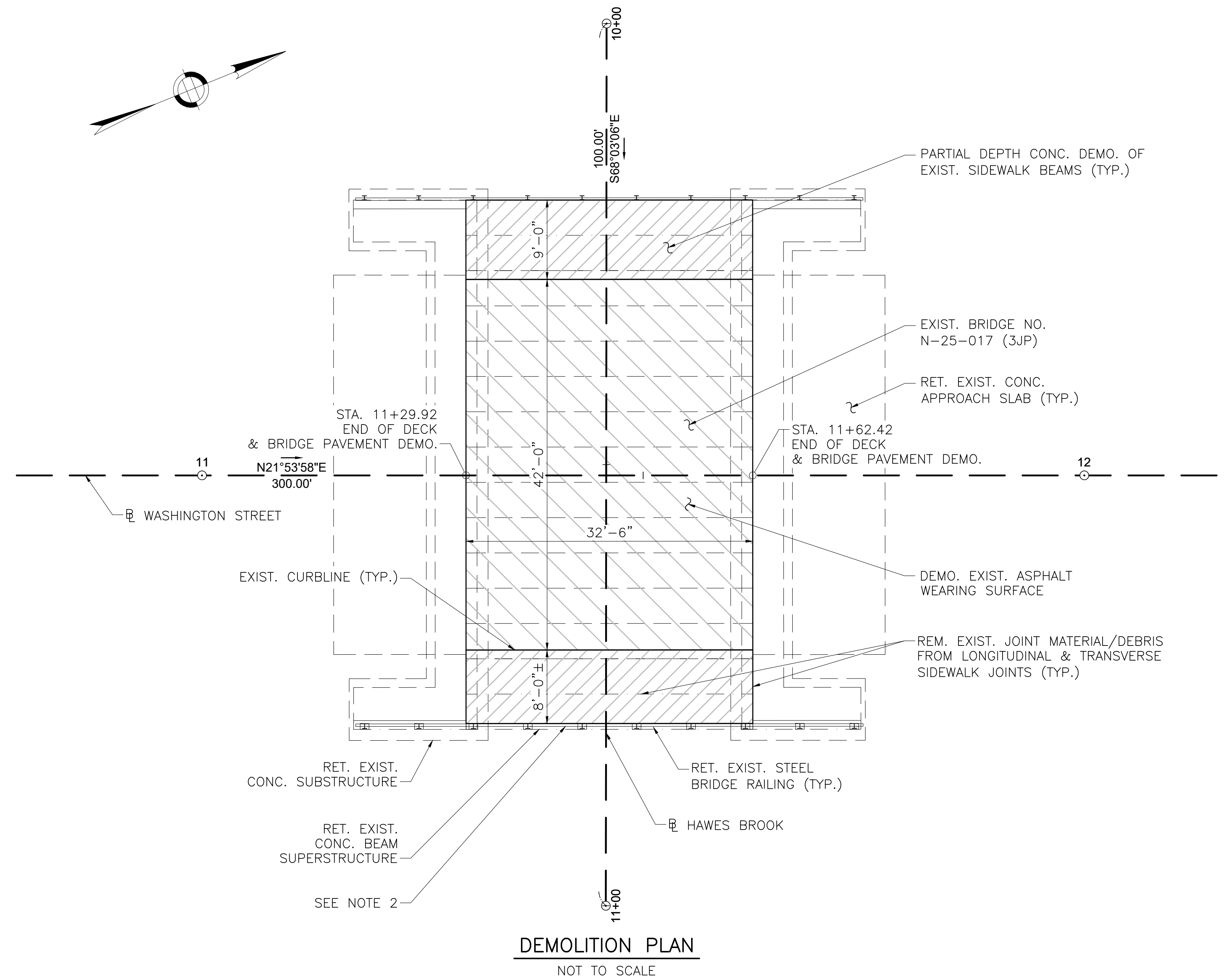
**COMMONWEALTH OF MASSACHUSETTS**  
MassDOT, Highway Division  
APPROVED UNDER PROVISIONS OF  
MASS. GEN. LAWS CH 85 S 35  
  
DISTRICT 5 BRIDGE ENGINEER      1/31/2024  
DATE



NORWOOD  
WASHINGTON STREET OVER HAWES BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	4	17
PROJECT FILE NO.		T1304	

DEMOLITION LIMITS

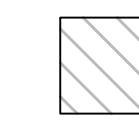
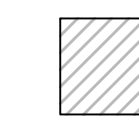


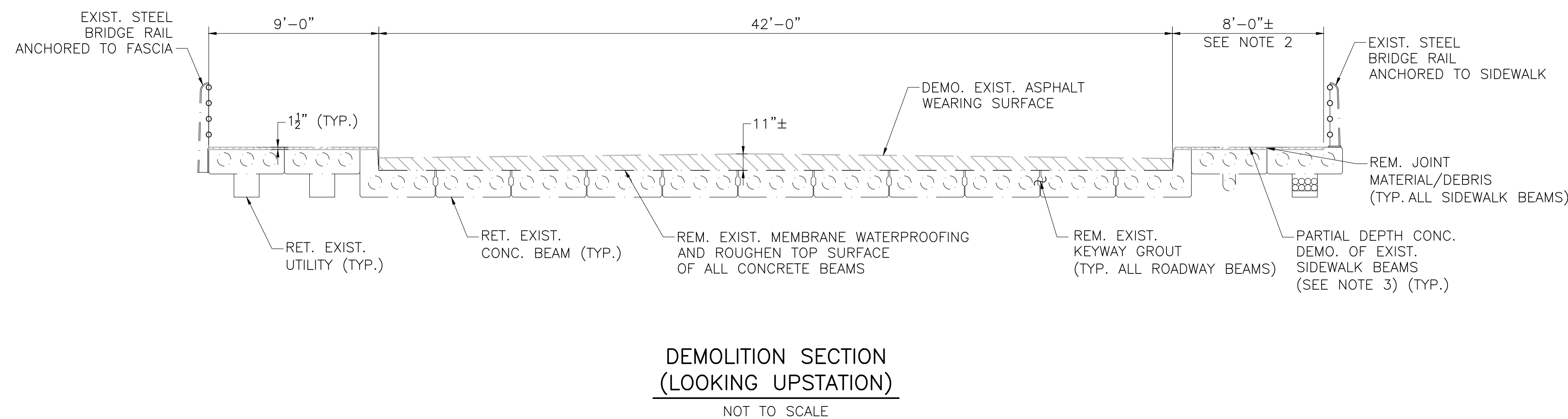
DEMOLITION PLAN  
NOT TO SCALE

DEMOLITION NOTES:

- EXISTING BRIDGE GEOMETRY SHOWN THROUGHOUT THIS SHEET IS BASED ON EXISTING BRIDGE PLANS AND FIELD OBSERVATIONS. CONTRACTOR SHALL VERIFY AS-BUILT BRIDGE DIMENSIONS PRIOR TO DEMOLITION.
- EAST SIDEWALK DEMOLITION SHALL TERMINATE AT THE FRONT EDGE OF THE GUARDRAIL BASEPLATE.
- CONTRACTOR SHALL TAKE CARE NOT TO EXPOSE PRESTRESSING STRANDS DURING CONCRETE BEAM EXCAVATION. ANY DAMAGE TO PRESTRESSING STRANDS DUE TO DEMOLITION OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- BRIDGE DEMOLITION SHALL BE PERFORMED IN PHASES THAT CORRESPOND WITH THE TEMPORARY TRAFFIC CONTROL PLANS. DEMOLITION SHALL NOT BEGIN UNTIL EXISTING UTILITIES ARE LOCATED AND PROTECTED FROM DAMAGE, TEMPORARY TRAFFIC SAFETY FEATURES ARE IN PLACE, AND TEMPORARY TRAFFIC SIGNAGE IS APPROVED BY THE ENGINEER.
- TEMPORARY SHIELDING SHALL BE INSTALLED BENEATH THE BRIDGE PRIOR TO BEGINNING ANY CONCRETE REPAIRS.

LEGEND:

-  LIMITS OF BRIDGE PAVEMENT DEMO.
-  LIMITS OF CONC. SIDEWALK BEAM DEMO.



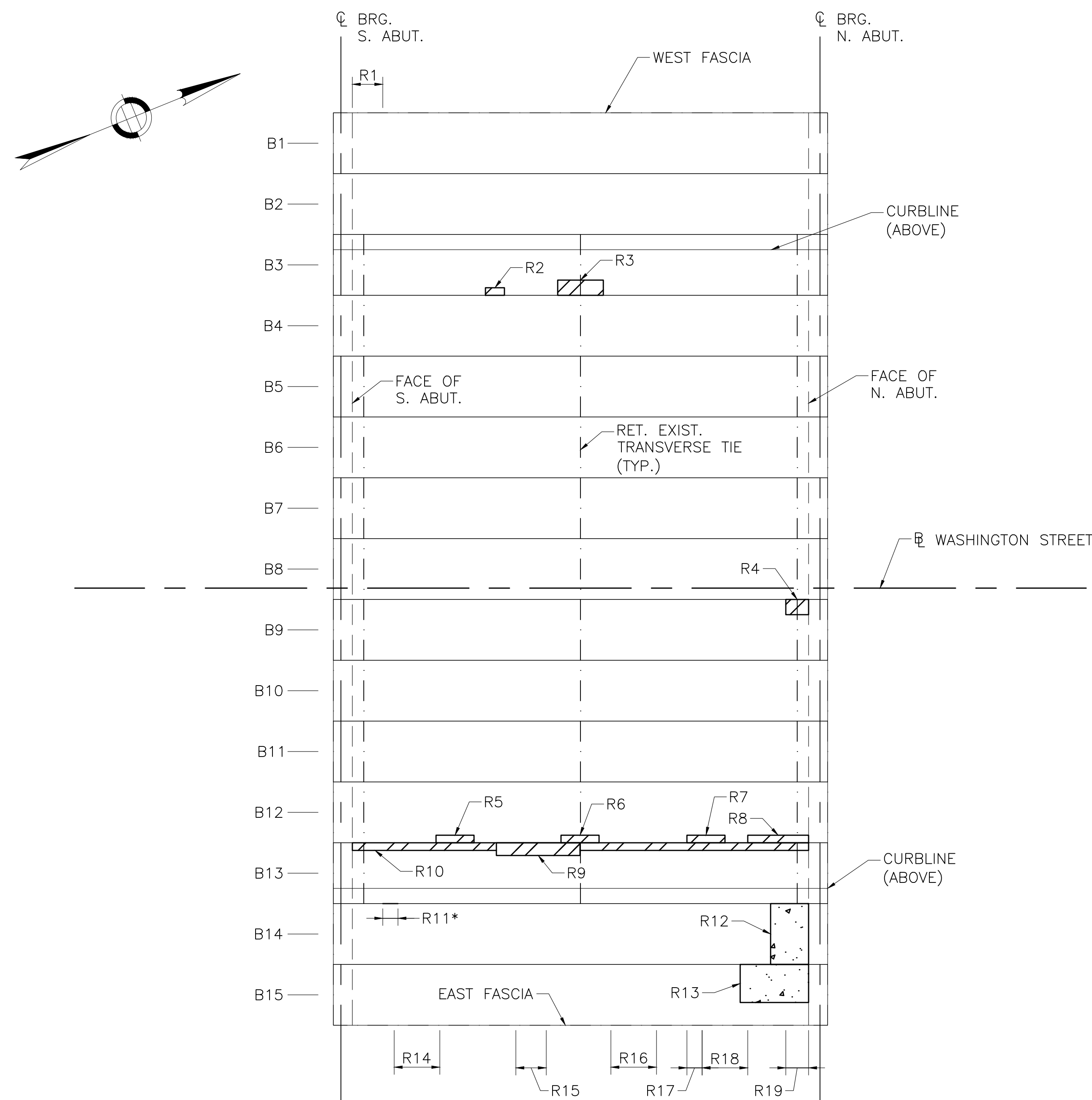
DEMOLITION SECTION  
(LOOKING UPSTATION)  
NOT TO SCALE

COMMONWEALTH OF MASSACHUSETTS  
MassDOT, Highway Division  
APPROVED UNDER PROVISIONS OF  
MASS. GEN. LAWS CH 85 S 35  
*She Sam* 1/31/2024  
DISTRICT 5 BRIDGE ENGINEER DATE

NORWOOD  
WASHINGTON STREET OVER HAWES BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	5	17
PROJECT FILE NO.		T1304	

SUPERSTRUCTURE REPAIR SCHEDULE



- NOTES:
- INTERNAL BEAM VOIDS NOT SHOWN FOR CLARITY.
  - DETERIORATION SHOWN ARE ALL LOCATED ON THE UNDERSIDE OF THE SUPERSTRUCTURE UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL TAKE CARE NOT TO EXPOSE TRANSVERSE TIES DURING CONCRETE BEAM EXCAVATION. ANY DAMAGE TO TRANSVERSE TIES DUE TO DEMOLITION OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

SUPERSTRUCTURE REPAIR PLAN

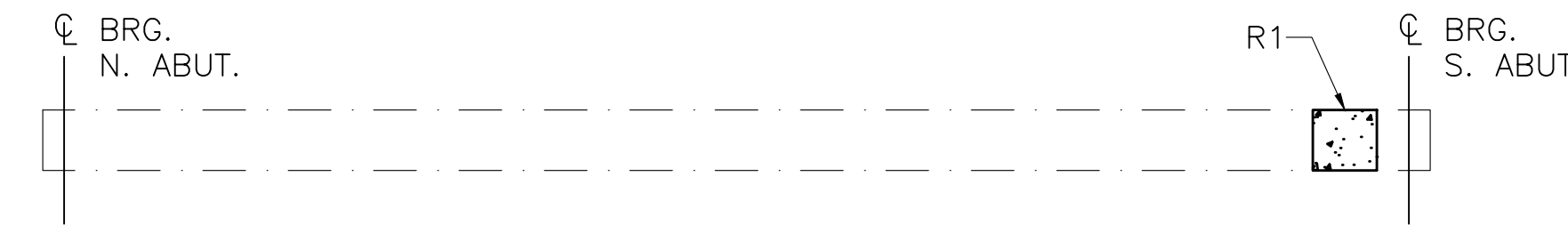
NOT TO SCALE

LEGEND:

- DELAMINATION
- CONCRETE CRACKING
- SPALL
- SPALL W/ EXPOSED REBAR

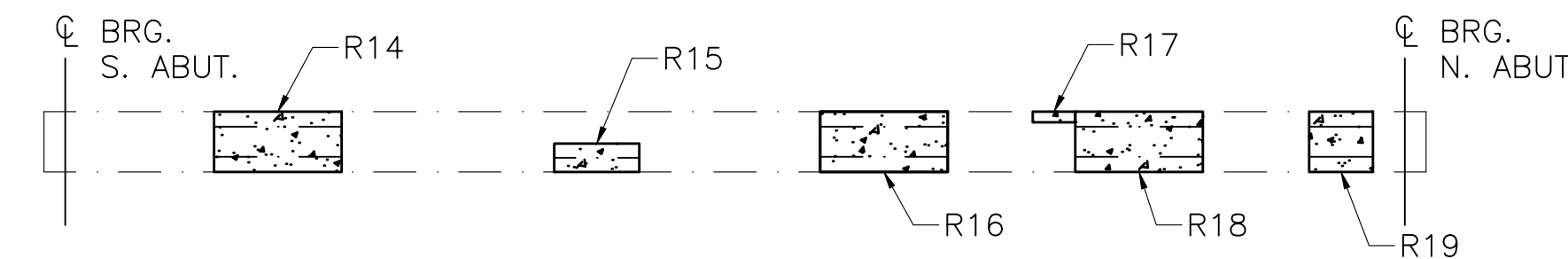
NOTES:

- BRIDGE ORIENTATION AND LABELING IS PER THE MASSDOT ROUTINE INSPECTION REPORT DATED 06-10-2021.
- THE DETERIORATED AREAS INDICATED HEREIN ARE BASED ON AVAILABLE INFORMATION AND ARE NOT INTENDED TO BE ALL INCLUSIVE, RATHER A REPRESENTATION OF THE REPAIRS TO BE PERFORMED. THE ENGINEER SHALL SOUND ALL CONCRETE SURFACES IN THE FIELD AND MARK OUT ALL REPAIR LOCATIONS BEFORE THE CONTRACTOR COMMENCES ANY REPAIRS.
- ALL DETERIORATED BEAM CONCRETE SHALL BE EXCAVATED TO THE LIMITS SPECIFIED ON SHEET 10.
- EXISTING BRIDGE PAVEMENT OVER BEAMS 3-13 OBSTRUCTS VIEW OF THE TOP SURFACE CONDITIONS. ENGINEER SHALL SOUND THE TOP SURFACE OF THE BEAMS TO IDENTIFY REPAIR LOCATIONS ONCE BRIDGE PAVEMENT DEMOLITION IS COMPLETE.



BEAM 1 REPAIR ELEVATION  
(LOOKING EAST)

NOT TO SCALE



BEAM 15 REPAIR ELEVATION  
(LOOKING WEST)

NOT TO SCALE

SUPERSTRUCTURE REPAIR SCHEDULE						
REPAIR NO.	BEAM NO.	DEFICIENCY	ASSUMED REPAIR TYPE	LENGTH (IN.)	WIDTH (IN.)	AREA (SF)
R1	B1	SPALL W/ EXPOSED REBAR	FULL DEPTH	24	17	3.00
R2	B3	DELAMINATION	PARTIAL DEPTH	15	6	1.00
R3	B3	DELAMINATION	PARTIAL DEPTH	36	12	3.00
R4	B9	DELAMINATION	PARTIAL DEPTH	18	12	2.00
R5	B12	DELAMINATION	PARTIAL DEPTH	30	6	2.00
R6	B12	DELAMINATION	PARTIAL DEPTH	30	6	2.00
R7	B12	DELAMINATION	PARTIAL DEPTH	30	6	2.00
R8	B12	DELAMINATION	PARTIAL DEPTH	48	6	2.00
R9	B13	DELAMINATION	PARTIAL DEPTH	66	10	5.00
R10	B13	DELAMINATION	PARTIAL DEPTH	FL	6	15.00
R11*	B13	SPALL	PARTIAL DEPTH	12	4	1.00
R12	B14	SPALL	PARTIAL DEPTH	30	FW	10.00
R13	B15	SPALL	PARTIAL DEPTH	54	30	12.00
R14	B15	SPALL W/ EXPOSED REBAR	FULL DEPTH	36	FH	12.00
R15	B15	SPALL W/ EXPOSED REBAR	FULL DEPTH	24	8	2.00
R16	B15	SPALL W/ EXPOSED REBAR	FULL DEPTH	36	FH	12.00
R17	B15	SPALL	PARTIAL DEPTH	18	4	1.00
R18	B15	SPALL W/ EXPOSED REBAR	FULL DEPTH	36	FH	12.00
R19	B15	SPALL W/ EXPOSED REBAR	FULL DEPTH	18	12	2.00

\*SPALL LOCATED ON THE EXPOSED VERTICAL FACE OF B13

REPAIR SUMMARY		
DEFICIENCY	QUANTITY	
DELAMINATION	34.00	SF
SPALL	24.00	SF
SPALL W/ EXPOSED REBAR	43.00	SF
ASSUMED TOPSIDE REPAIRS	60.00	SF

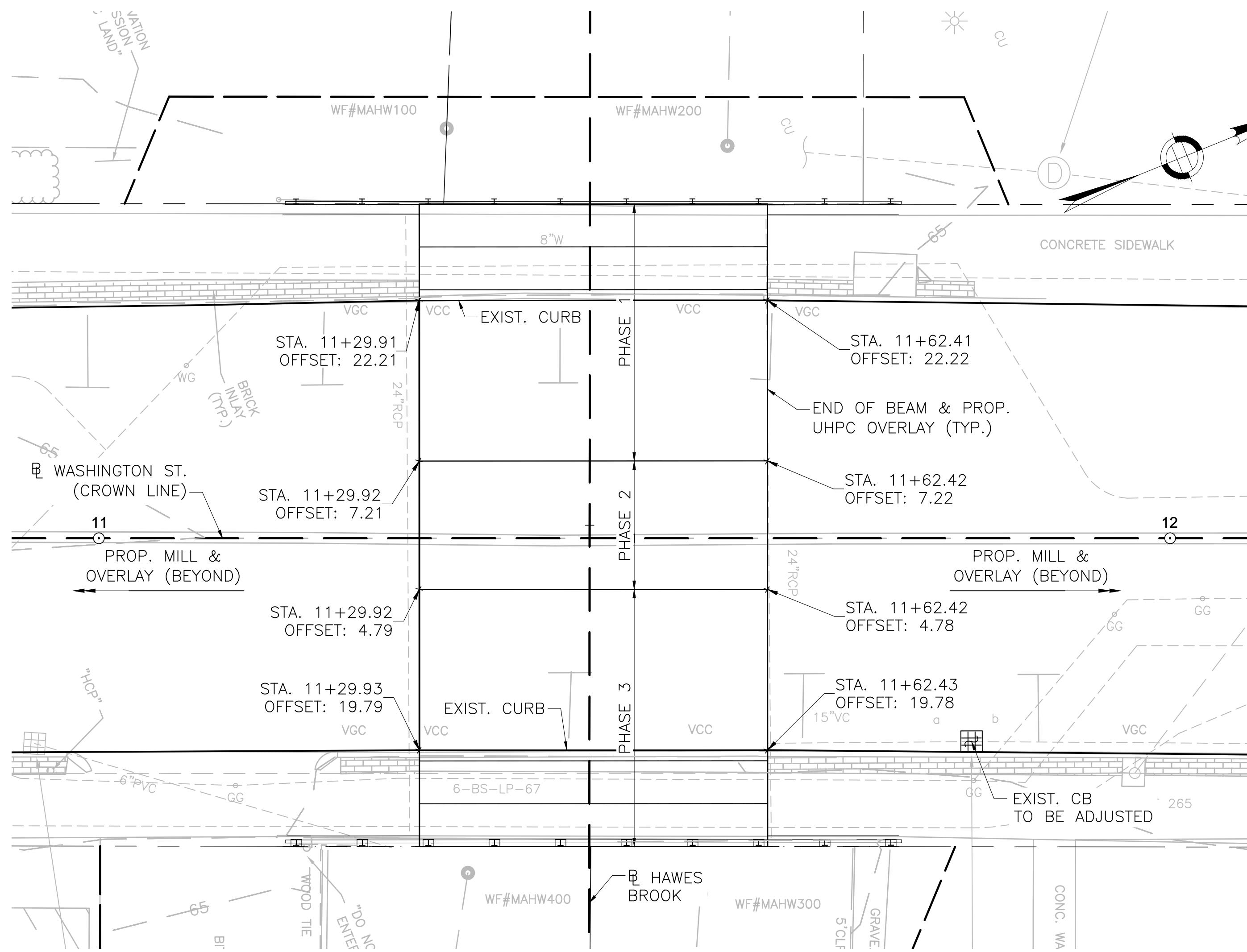
NOTE: TOPSIDE REPAIRS ASSUME PARTIAL DEPTH ONLY

COMMONWEALTH OF MASSACHUSETTS  
MassDOT, Highway Division  
APPROVED UNDER PROVISIONS OF  
MASS. GEN. LAWS CH 85 S 35  
  
DISTRICT 5 BRIDGE ENGINEER      DATE 1/31/2024

NORWOOD  
WASHINGTON STREET OVER HAWES BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	17
PROJECT FILE NO.		T1304	

GRADING & CONSTRUCTION PLAN (1 OF 2)



**CONSTRUCTION PLAN**

SCALE: 1" = 8'

**CONSTRUCTION NOTES:**

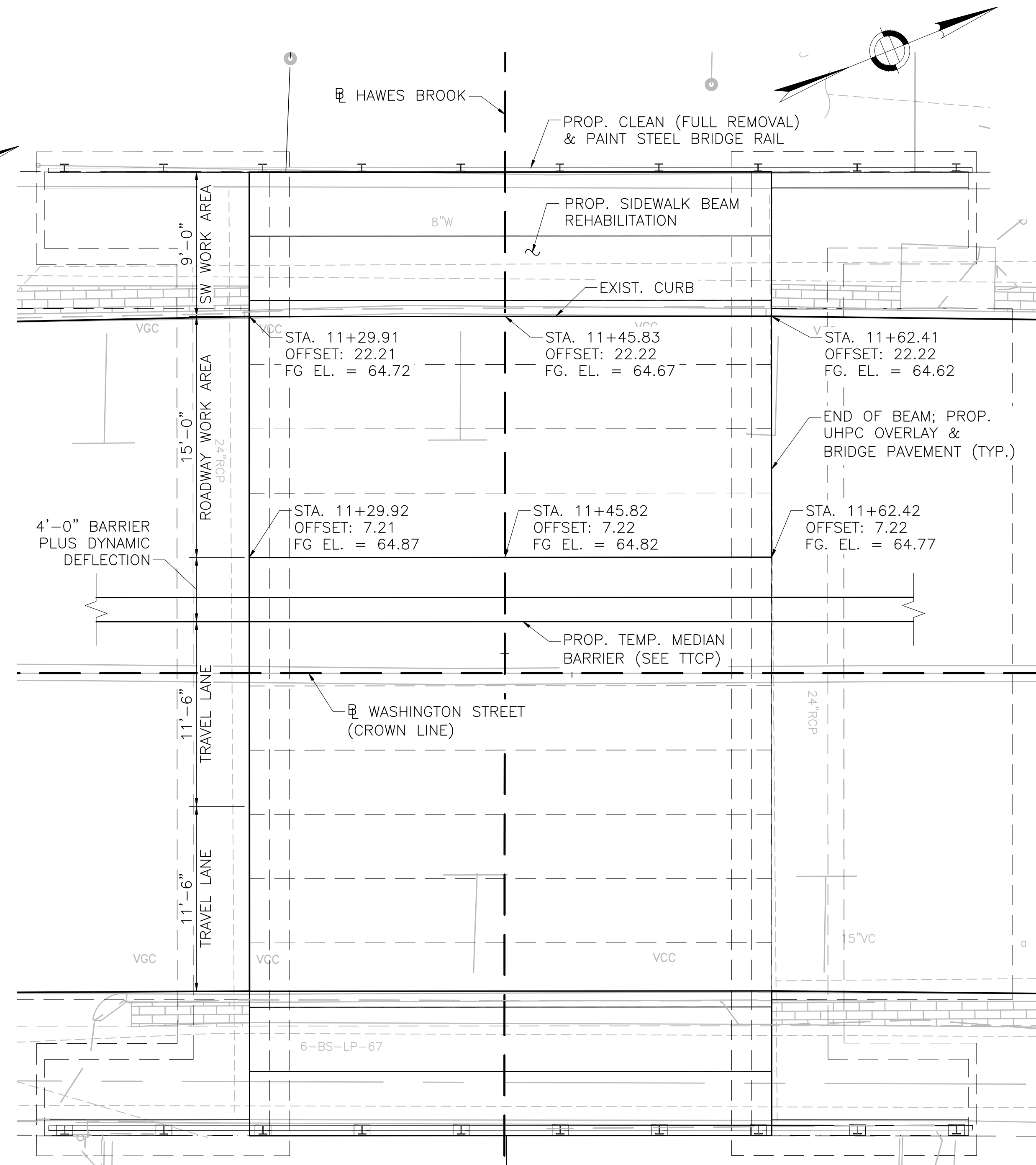
1. WORK FOR EACH PHASE SHALL NOT COMMENCE UNTIL TRAFFIC CONTROL DEVICES ARE COMPLETED IN PLACE.
2. NORTH AND SOUTH APPROACH WORK SHALL TAKE PLACE DURING PHASES 4 AND 5, SEE TTCP SHEET 15.
3. SUPERSTRUCTURE REPAIRS SHALL TAKE PLACE CONCURRENTLY WITH TOPSIDE WORK.
4. REFER TO TEMPORARY TRAFFIC CONTROL SHEETS FOR ADDITIONAL INFORMATION ON CONSTRUCTION PHASING.

**CONSTRUCTION PHASE NOTES:**

PHASE 1: WEST SIDEWALK CLOSURE FOR SIDEWALK SURFACE REHABILITATION  
WEST BRIDGE RAIL CLEAN & PAINT  
SOUTHBOUND CLOSURE FOR UHPC OVERLAY AND BRIDGE PAVEMENT

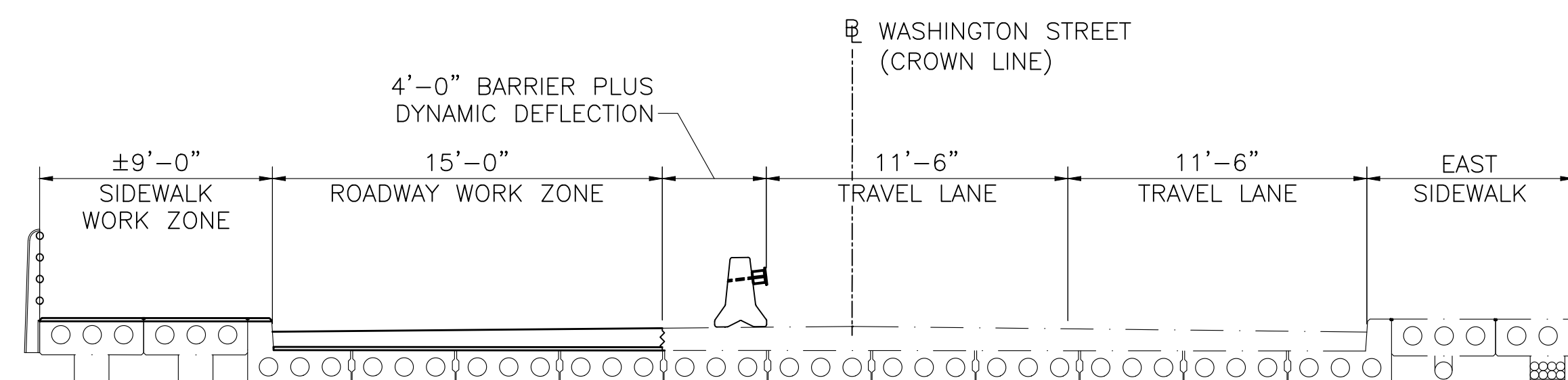
PHASE 2: CENTER CLOSURE FOR UHPC OVERLAY AND BRIDGE PAVEMENT

PHASE 3: EAST SIDEWALK CLOSURE FOR SIDEWALK SURFACE REHABILITATION  
EAST BRIDGE RAIL CLEAN & PAINT  
NORTHBOUND ROADWAY CLOSURE FOR UHPC OVERLAY AND BRIDGE PAVEMENT



**PHASE 1 GRADING PLAN**

SCALE: 1" = 5'



**PHASE 1 GRADING PLAN**

SCALE: 1" = 5'

COMMONWEALTH OF MASSACHUSETTS

MassDOT, Highway Division  
APPROVED UNDER PROVISIONS OF  
MASS. GEN. LAWS CH 85 S 35

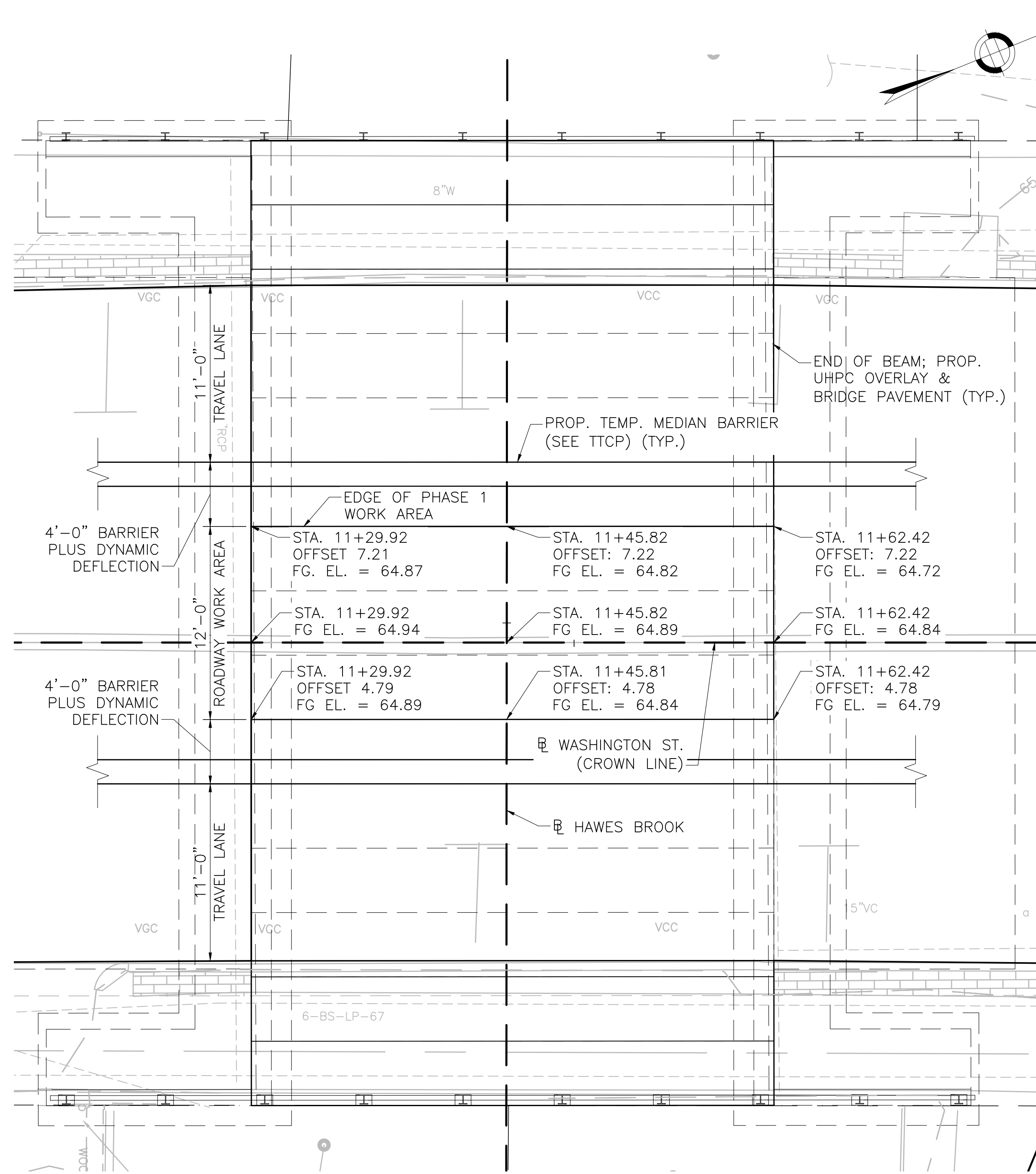
*She Sam* 1/31/2024

DISTRICT 5 BRIDGE ENGINEER DATE

NORWOOD  
WASHINGTON STREET OVER HAWES BROOK

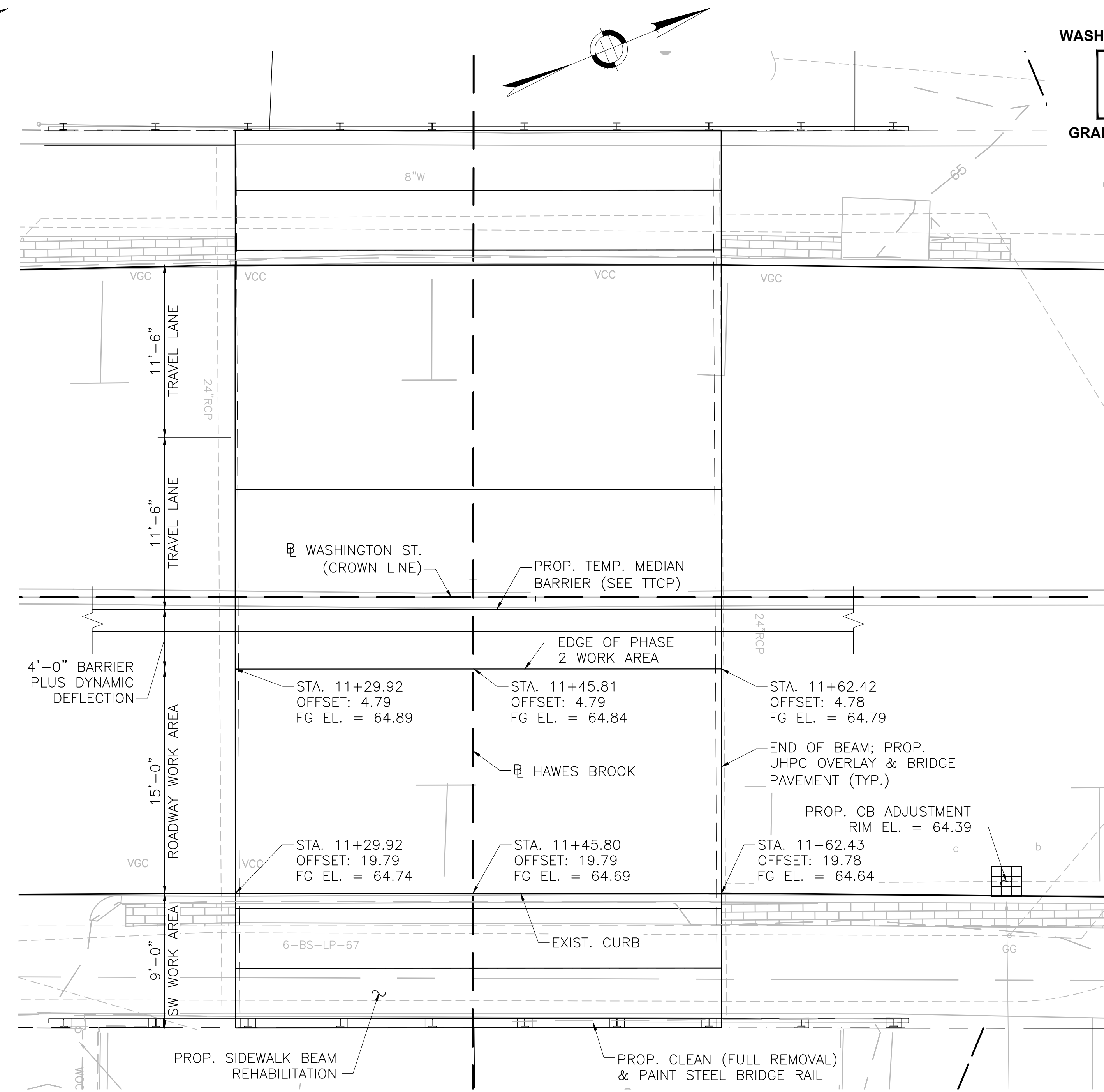
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	17
PROJECT FILE NO.		T1304	

GRADING & CONSTRUCTION PLAN (2 OF 2)



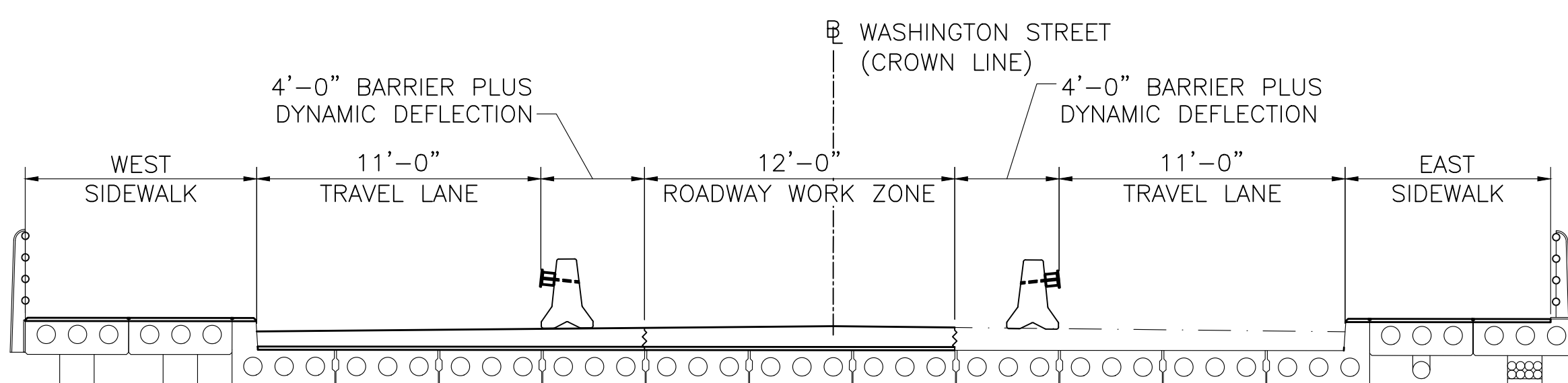
PHASE 2 GRADING PLAN

SCALE: 1" = 5'



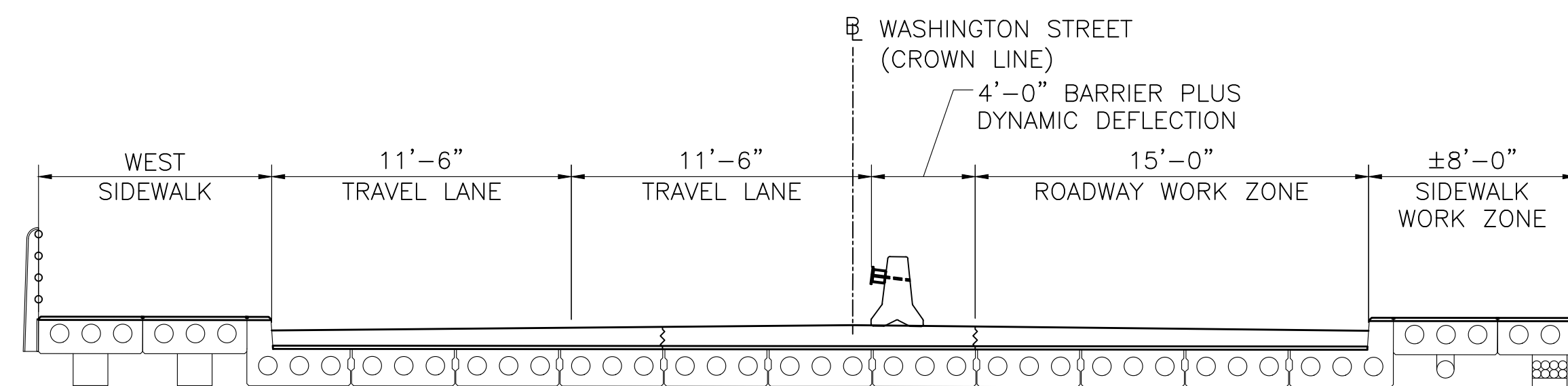
PHASE 3 GRADING PLAN

SCALE: 1" = 5'



PHASE 2 CROSS SECTION

SCALE: 1" = 5'



PHASE 3 CROSS SECTION

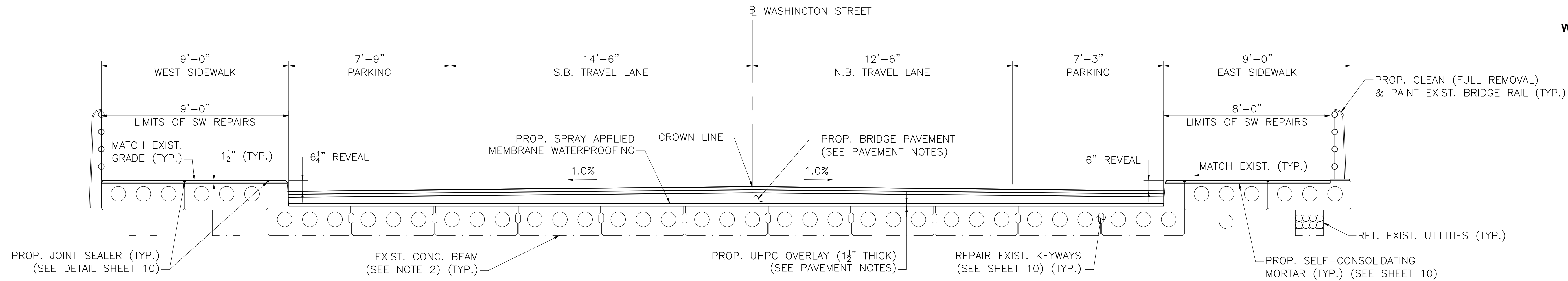
SCALE: 1" = 5'

COMMONWEALTH OF MASSACHUSETTS  
MassDOT, Highway Division  
APPROVED UNDER PROVISIONS OF  
MASS. GEN. LAWS CH 85 S 35  
*She Sam*  
DISTRICT 5 BRIDGE ENGINEER DATE 1/31/2024

**NORWOOD  
WASHINGTON STREET OVER HAWES BROOK**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	17
PROJECT FILE NO.		T1304	

**CONSTRUCTION DETAILS (1 OF 2)**

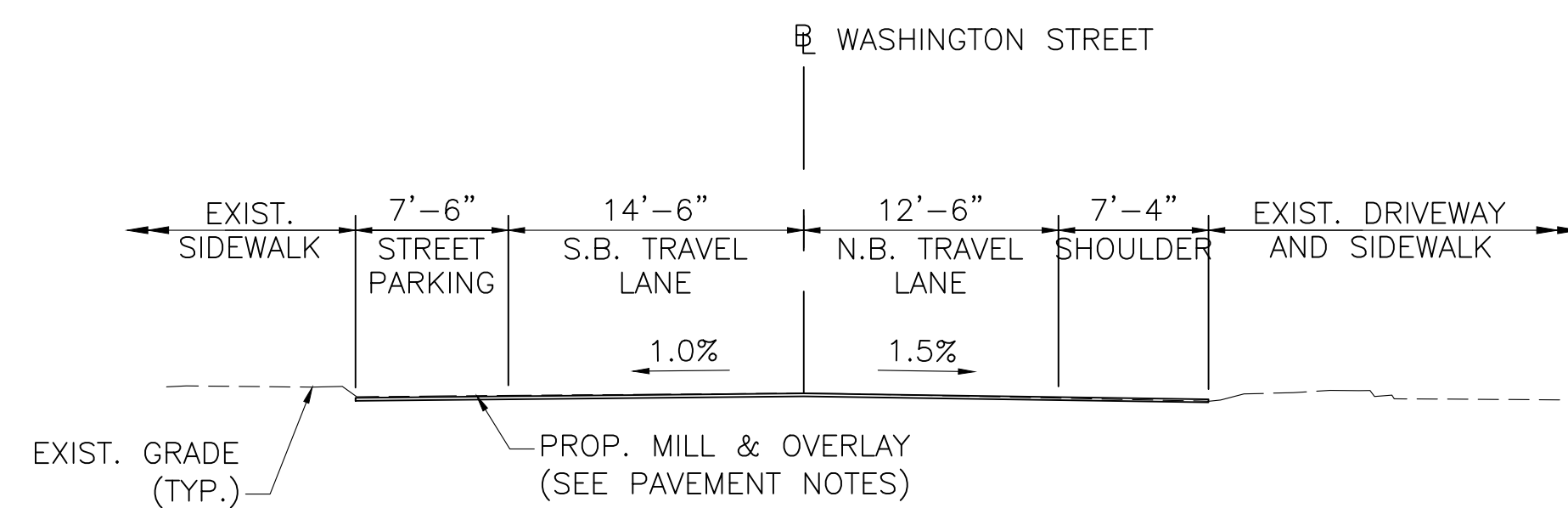


**NOTES:**

- EXISTING BRIDGE GEOMETRY SHOWN THROUGHOUT THIS SHEET IS BASED ON EXISTING BRIDGE PLANS AND FIELD OBSERVATIONS. THE CONTRACTOR SHALL VERIFY AS-BUILT BRIDGE DIMENSIONS PRIOR TO DEMOLITION.
- TOP SURFACE OF ALL CONCRETE BEAMS SHALL BE ROUGHENED AND SOUNDED FOR DEFICIENCIES PRIOR TO PLACEMENT OF PROPOSED OVERLAYS. REFER TO DEMOLITION DETAILS ON SHEET 4.

**TRANSVERSE SECTION**

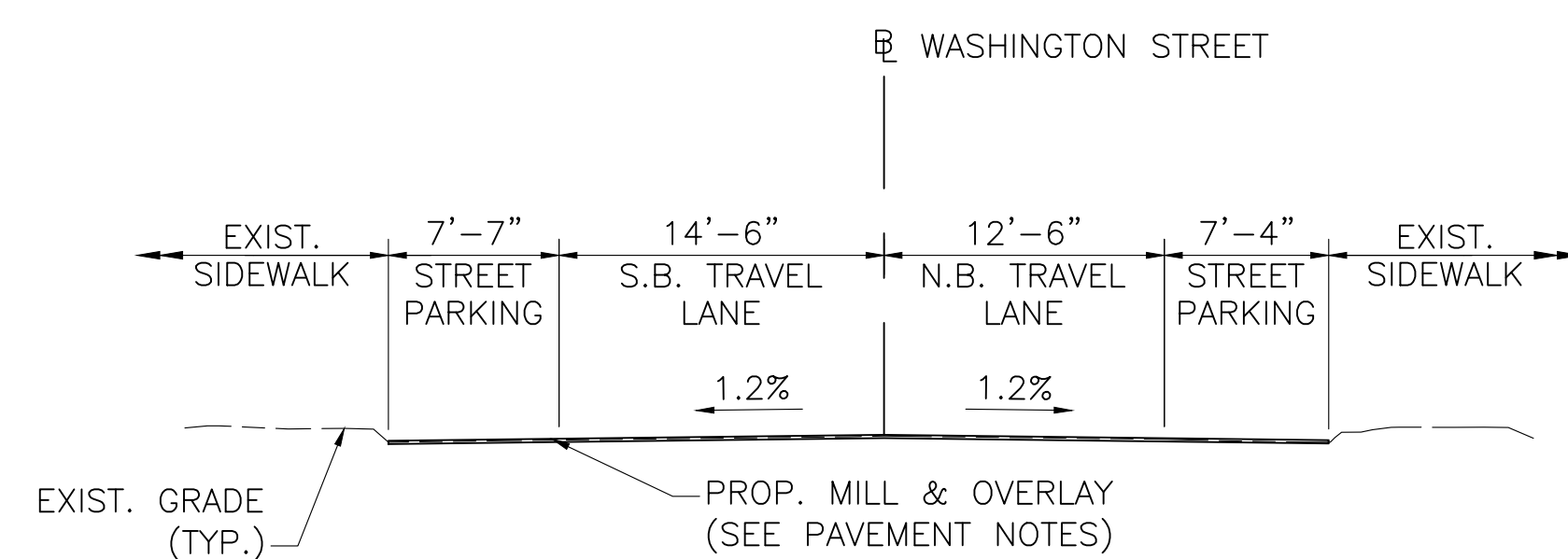
SCALE: 3/8" = 1'-0"



NOTE:  
SOUTH ROADWAY APPROACH SECTION TAKEN AT STATION 11+20.00 LOOKING UPSTATION.

**SOUTH ROADWAY APPROACH SECTION**

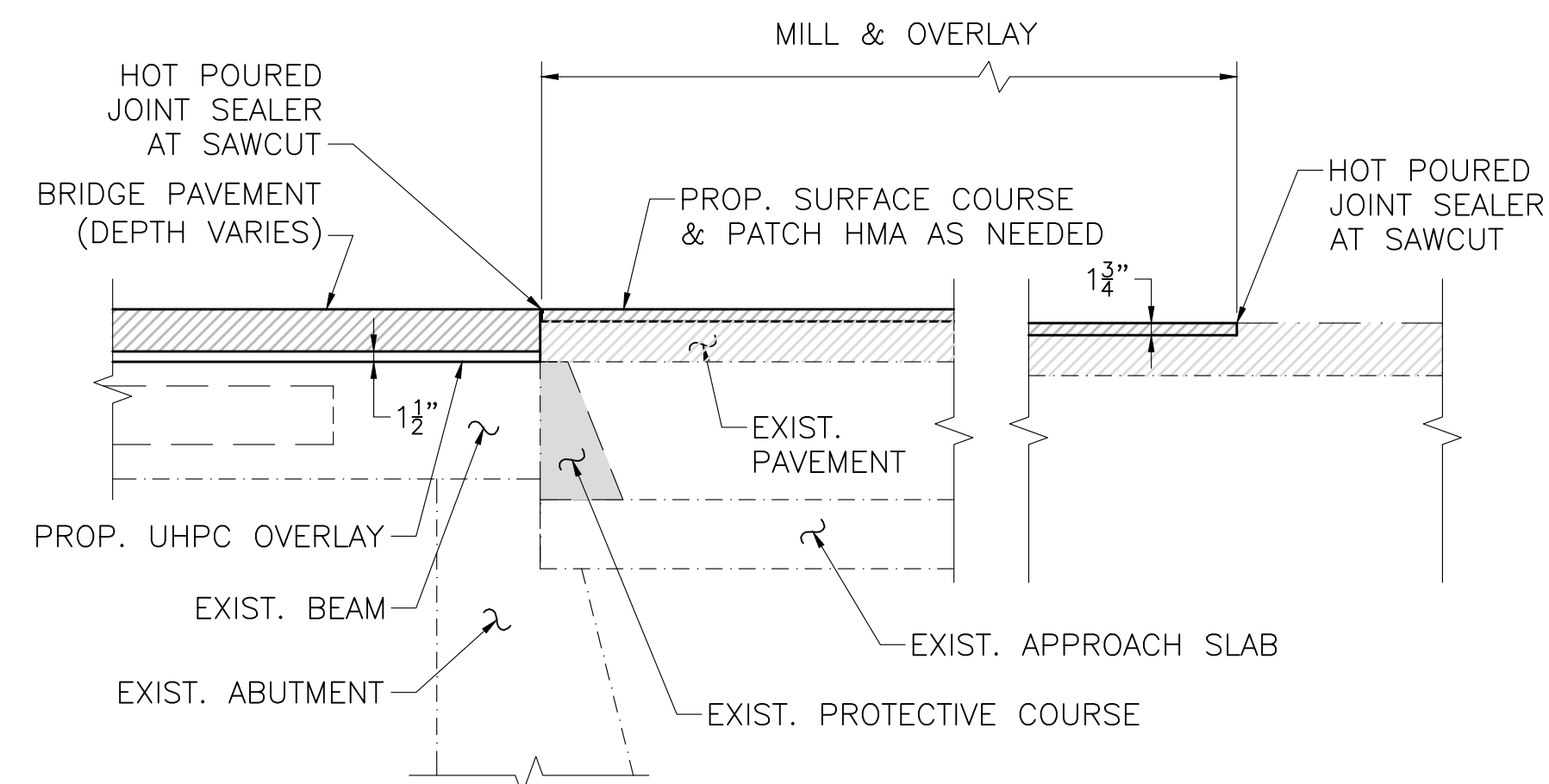
NOT TO SCALE



NOTE:  
NORTH ROADWAY APPROACH SECTION TAKEN AT STATION 11+70.00 LOOKING UPSTATION.

**NORTH ROADWAY APPROACH SECTION**

NOT TO SCALE

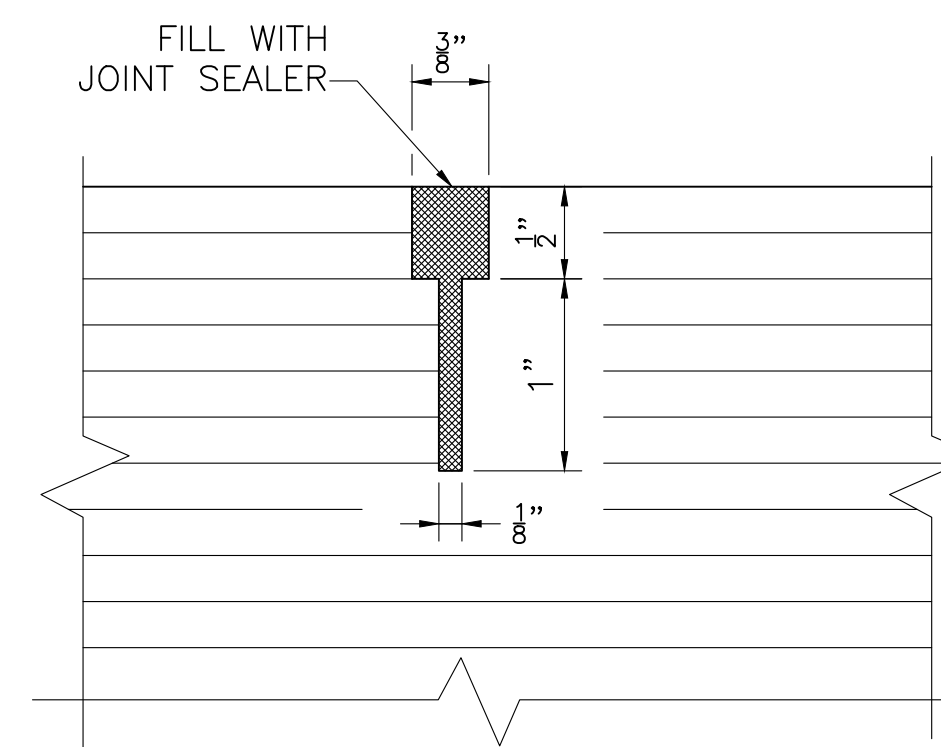


**NOTE:**

SEE LIMITS OF PAVEMENT NOTES FOR LENGTH OF PAVEMENT MILLING & OVERLAY.

**END OF DECK DETAIL**

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



**PAVEMENT SAWCUT DETAIL**

NOT TO SCALE

**LIMITS OF PAVEMENT:**

**PROPOSED BRIDGE PAVEMENT**  
STA 11+29.92 TO STA. 11+62.42

**PROPOSED HMA MILLING AND OVERLAY**  
STA. 10+07.03 TO STA. 11+29.92  
STA. 11+62.42 TO STA. 12+60.38

**PAVEMENT NOTES:**

**PROPOSED BRIDGE PAVEMENT**

SURFACE: 1 1/2" SUPERPAVE BRIDGE SURFACE COURSE 9.5 (SSC-B-9.5) OVER  
1 1/2" SUPERPAVE BRIDGE PROTECTIVE COURSE 9.5 (SPC-B-9.5)  
BASE: VARIABLE DEPTH SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC-19.0)  
(MIN. 3 1/2" AT CURB, MAX. 6" AT CROWN) OVER  
1 1/2" UHPC OVERLAY

**PROPOSED HMA MILLING AND OVERLAY**

SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER  
1 1/2" PAVEMENT FINE MILLING

**COMMONWEALTH OF MASSACHUSETTS**

MassDOT, Highway Division

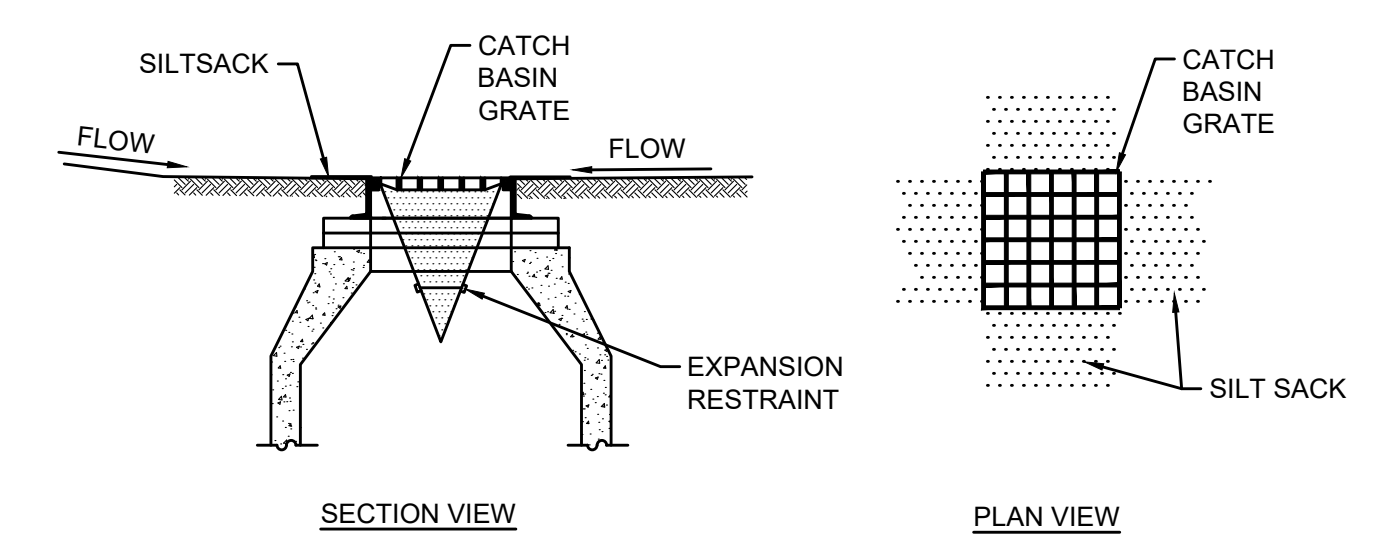
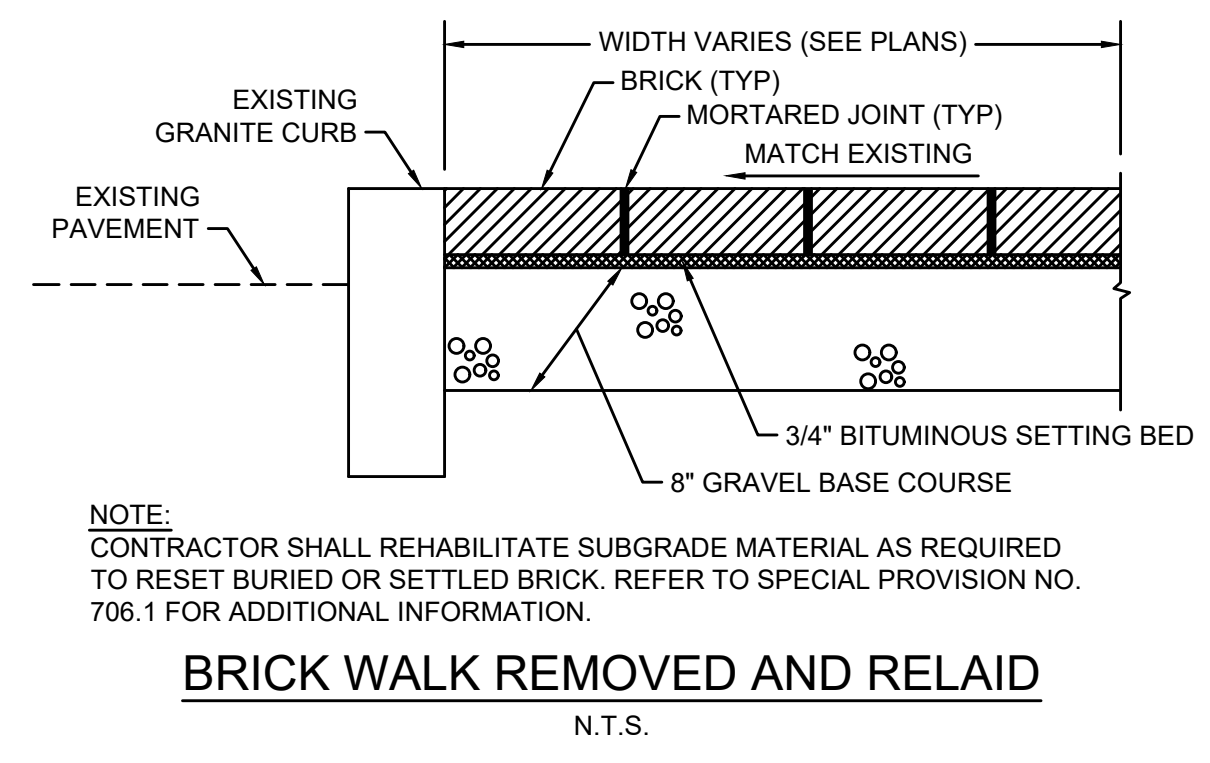
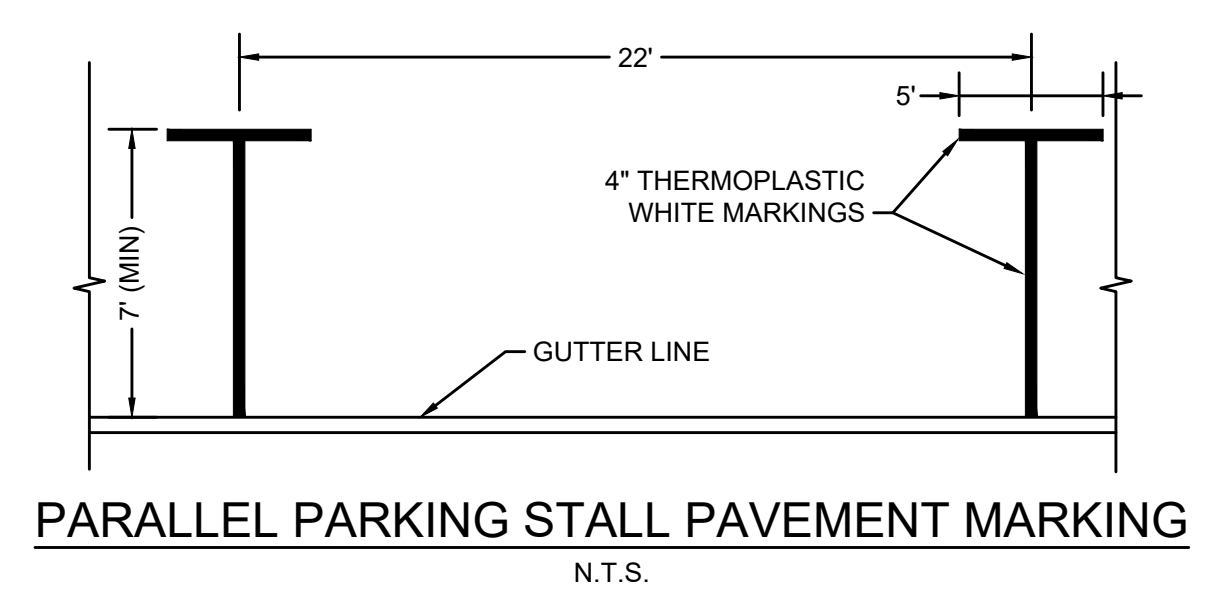
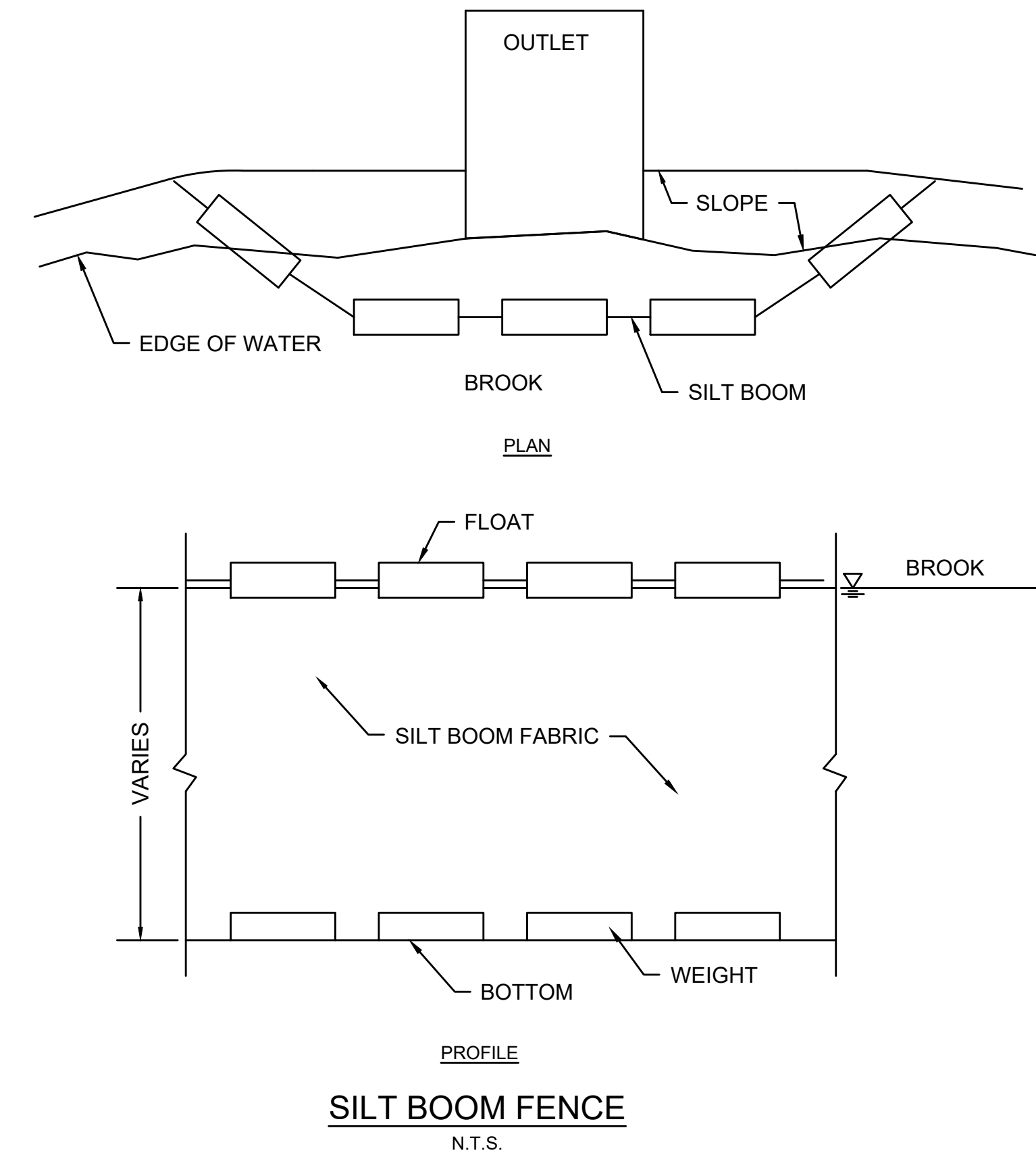
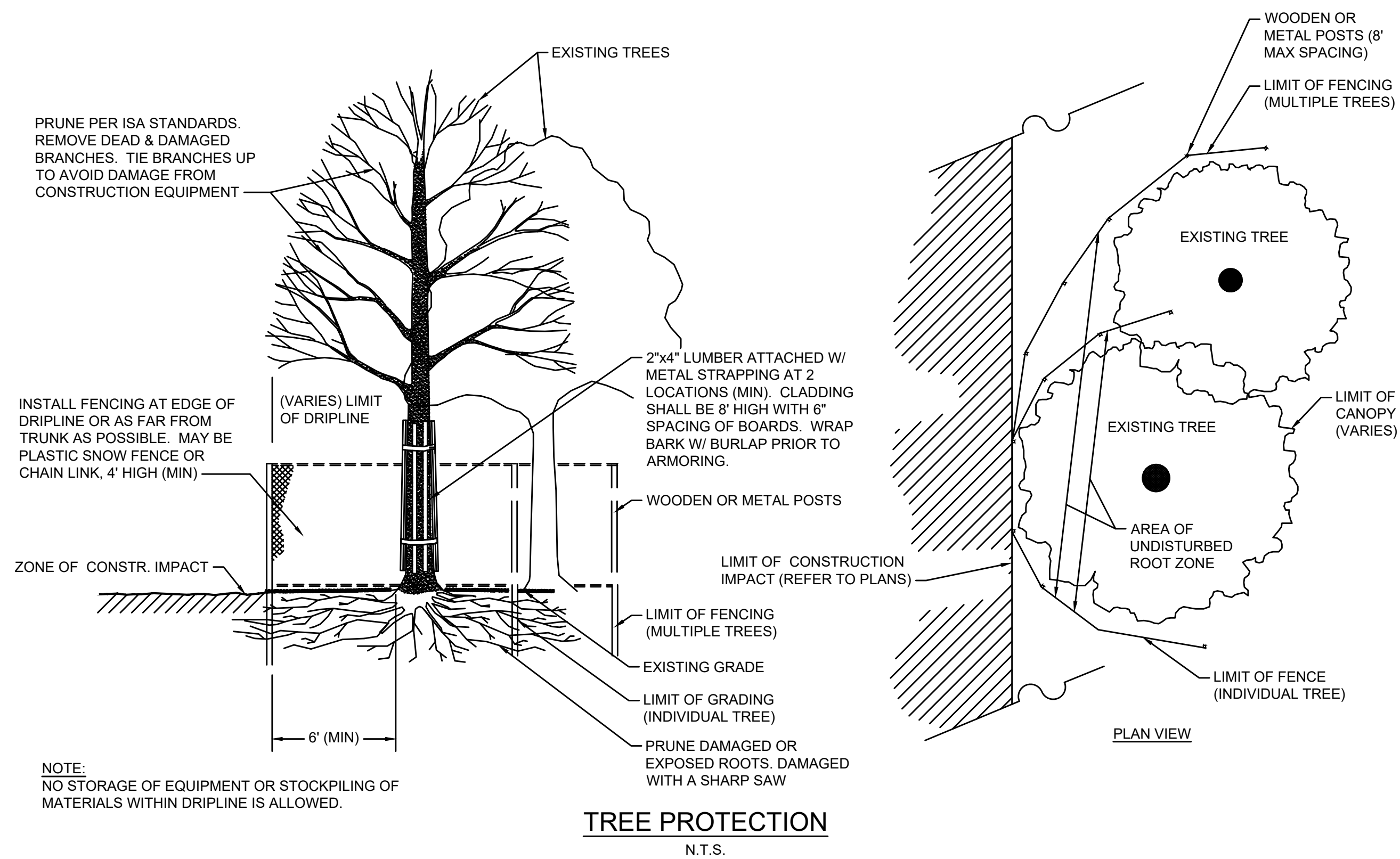
APPROVED UNDER PROVISIONS OF

MASS. GEN. LAWS CH 85 S 35

*She Sam* 1/31/2024  
DISTRICT 5 BRIDGE ENGINEER DATE



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	17
PROJECT FILE NO.		T1304	

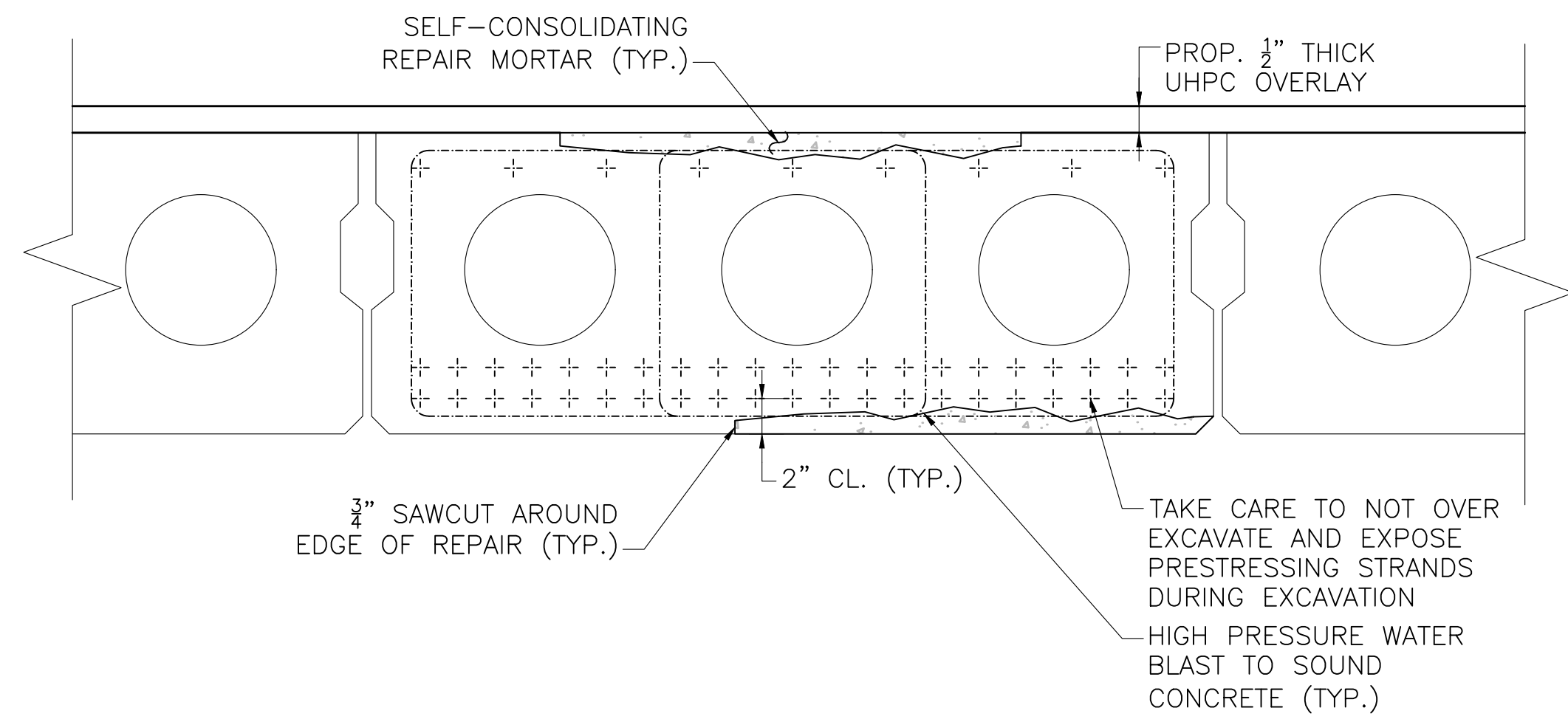


- NOTES:**
1. INSTALL SILT SACK IN EXISTING CATCH BASINS BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
  2. GRATE TO BE PLACED OVER SILT SACK.
  3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.

31 January 2024 9:50 AM  
8 CONSTRUCTION DETAILS (2 OF 2).DWG

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	17
PROJECT FILE NO.		T1304	

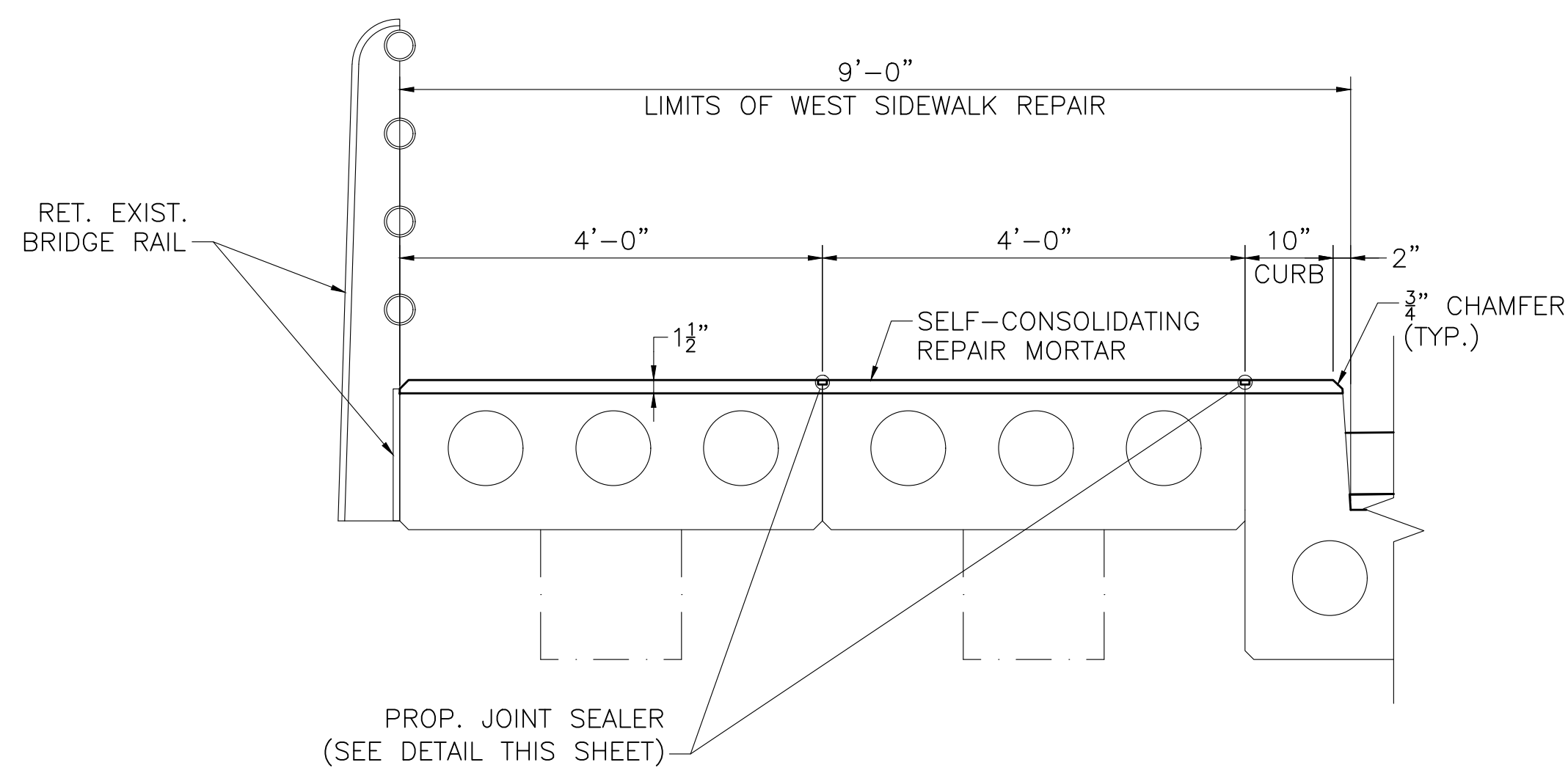
**SUPERSTRUCTURE REPAIR DETAILS**



NOTE:  
TOPSIDE DETERIORATION SHALL BE REPAIRED PRIOR TO PLACING THE UHPC OVERLAY. SEE REPAIR SEQUENCE NOTES.

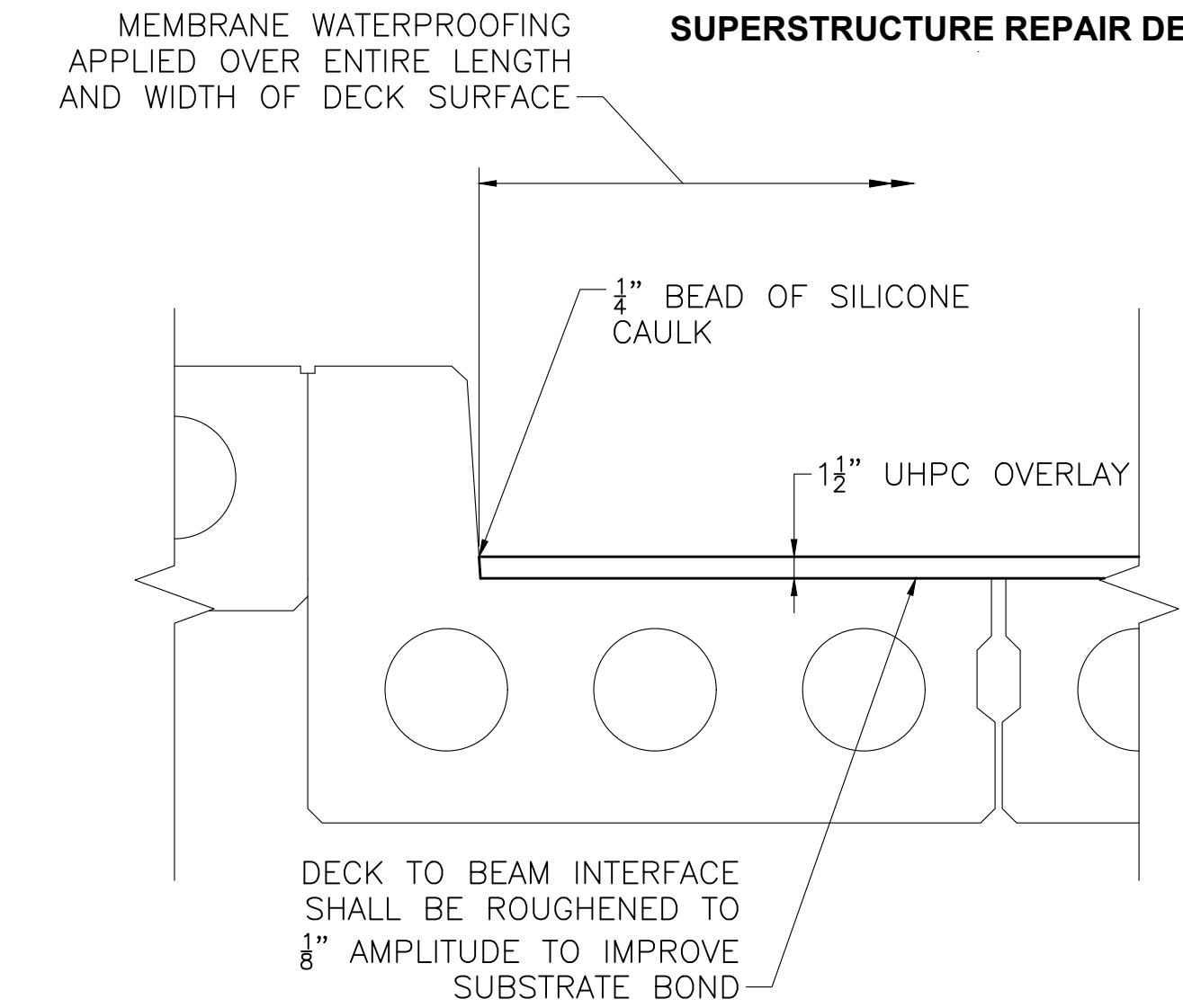
**PARTIAL DEPTH BEAM REPAIR**

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



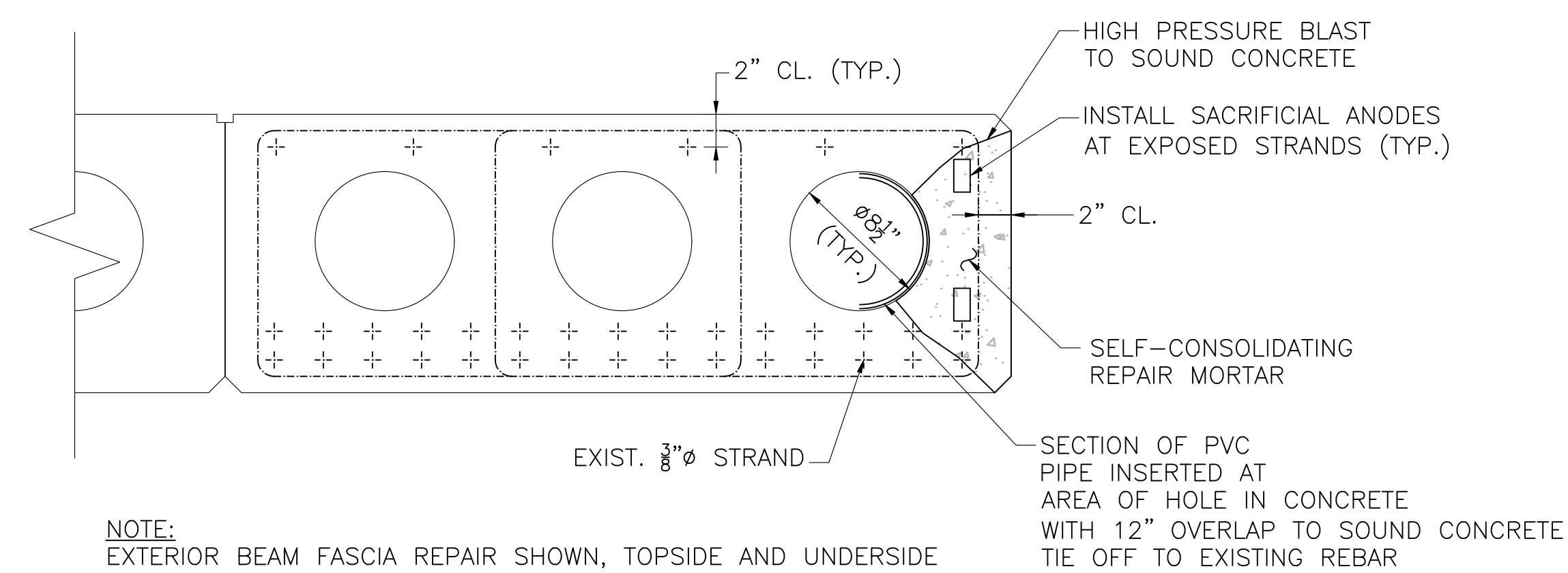
**WEST SIDEWALK REPAIR DETAIL**

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



**OVERLAY DETAIL AT CURB**

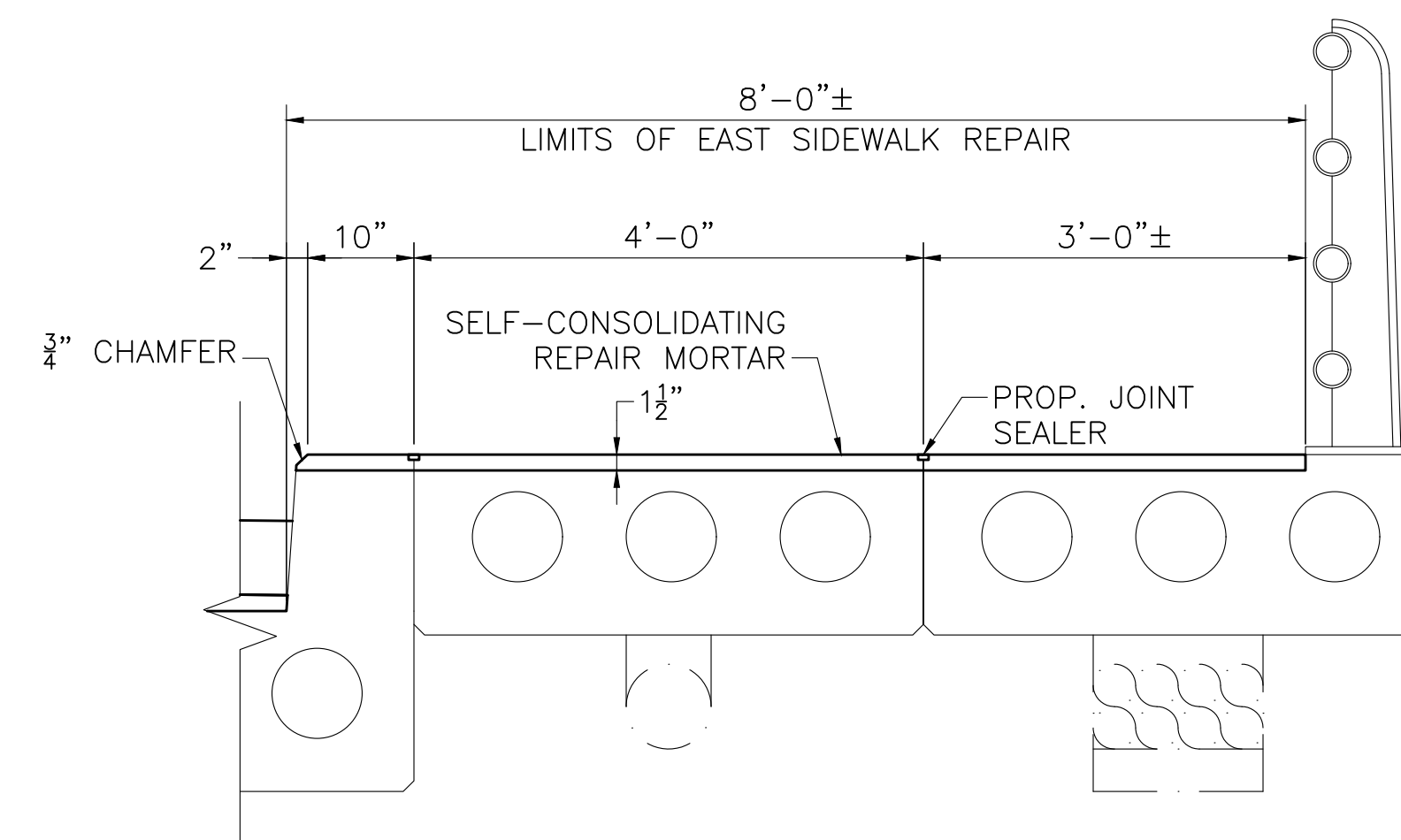
SCALE: 1" = 1'-0"



NOTE:  
EXTERIOR BEAM FASCIA REPAIR SHOWN, TOPSIDE AND UNDERSIDE REPAIR SIMILAR.

**FULL DEPTH BEAM REPAIR**

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

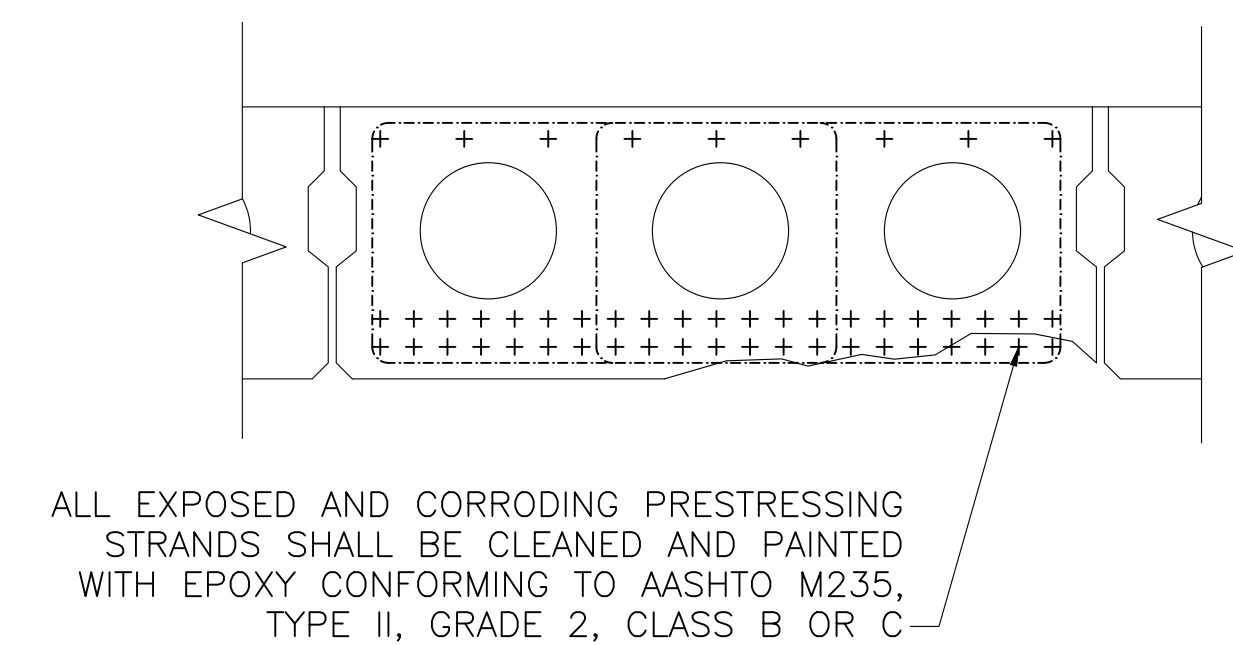


**EAST SIDEWALK REPAIR DETAIL**

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

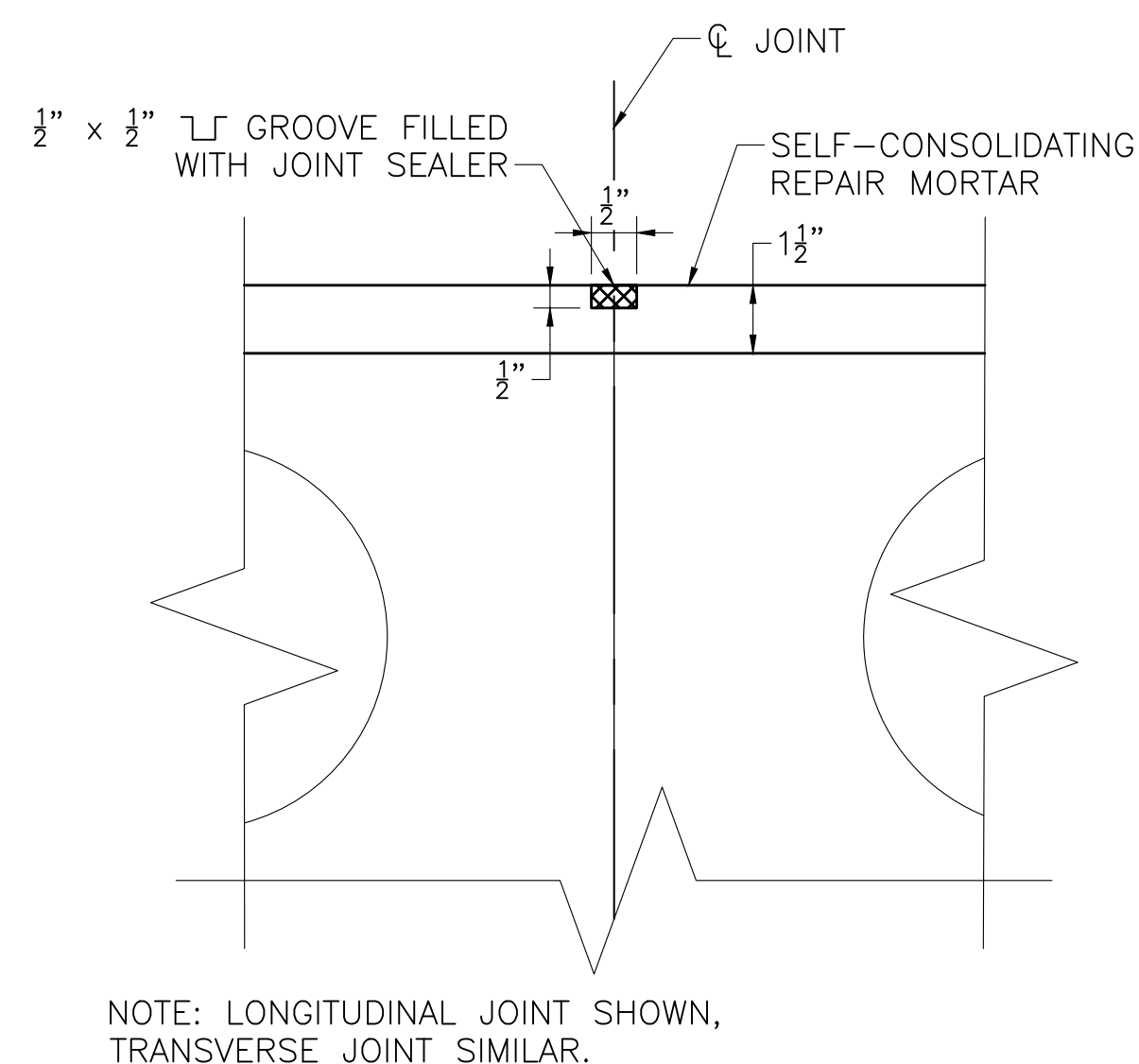
**TOPSIDE ROADWAY BEAM REPAIR SEQUENCE NOTES:**

1. IMPLEMENT APPROVED TEMPORARY TRAFFIC CONTROL PLAN PHASE 1.
2. EXCAVATE EXISTING ASPHALT WEARING SURFACE IN THE PHASE 1 WORK AREA DOWN TO THE EXISTING DECK BEAMS. REMOVE ANY EXISTING MEMBRANE WATERPROOFING.
3. INSPECT THE TOP SURFACE OF ROADWAY BEAMS AND MARK OUT DETERIORATED AREAS TO BE APPROVED FOR REPAIR BY THE ENGINEER.
4. REMOVE DETERIORATED CONCRETE AT APPROVED REPAIR LOCATIONS. USING HIGH PRESSURE WATER BLASTING, CLEAN CONCRETE SUBSTRATE AND ANY EXISTING REBAR THAT IS TO REMAIN AND TO BE BONDED TO THE NEW SELF-CONSOLIDATING REPAIR MORTAR.
5. FULL DEPTH REPAIR ONLY: INSERT PVC PIPE SECTION AT AREA OF EXPOSED ROADWAY DECK BEAM VOID AND INSTALL SACRIFICIAL ANODES AT ANY EXPOSED PRE-STRESSING STRANDS (SEE FULL DEPTH REPAIR DETAIL).
6. CONCRETE SUBSTRATE IS TO BE PRE SOAKED FOR 24 HOURS IMMEDIATELY PRIOR TO THE APPLICATION OF REPAIR AND OVERLAY MATERIAL.
7. PLACE AND FINISH FRESH SELF-CONSOLIDATING REPAIR MORTAR WHILE SUBSTRATE IS STILL SATURATED. WET CURE EXPOSED SURFACES FOR A MINIMUM OF 2 DAYS.
8. USING HIGH PRESSURE WATER BLASTING, BLOW OUT AND CLEAN SHEAR KEYS ONE JOINT AT A TIME BETWEEN THE CONCRETE DECK BEAMS.
9. PLACE AND FINISH FRESH KEYWAY MORTAR AND NEW FOAM BACKER ROD.
10. AFTER TOPSIDE PATCH REPAIRS HAVE CURED, HIGH PRESSURE WATER BLAST ENTIRE TOPSIDE SURFACE OF ROADWAY DECK BEAMS TO CLEAN THE CONCRETE SUBSTRATE. ROUGHEN TO THE REQUIRED AMPLITUDE PRIOR TO PLACEMENT OF UHPC OVERLAY.
11. POUR UHPC OVERLAY TO A UNIFORM THICKNESS OF 1 1/2". INSTALLATION OF THE UHPC OVERLAY SHALL BE IN STRICT COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
12. APPLY MEMBRANE WATERPROOFING ON THE CURED UHPC SURFACE.
13. PLACE HMA WEARING SURFACE TO THE PROPOSED FINISHED GRADES.
14. REPEAT STEPS 1 THROUGH 13 FOR EACH SUBSEQUENT PHASE OF CONSTRUCTION.



**EXPOSED STRAND REPAIR**

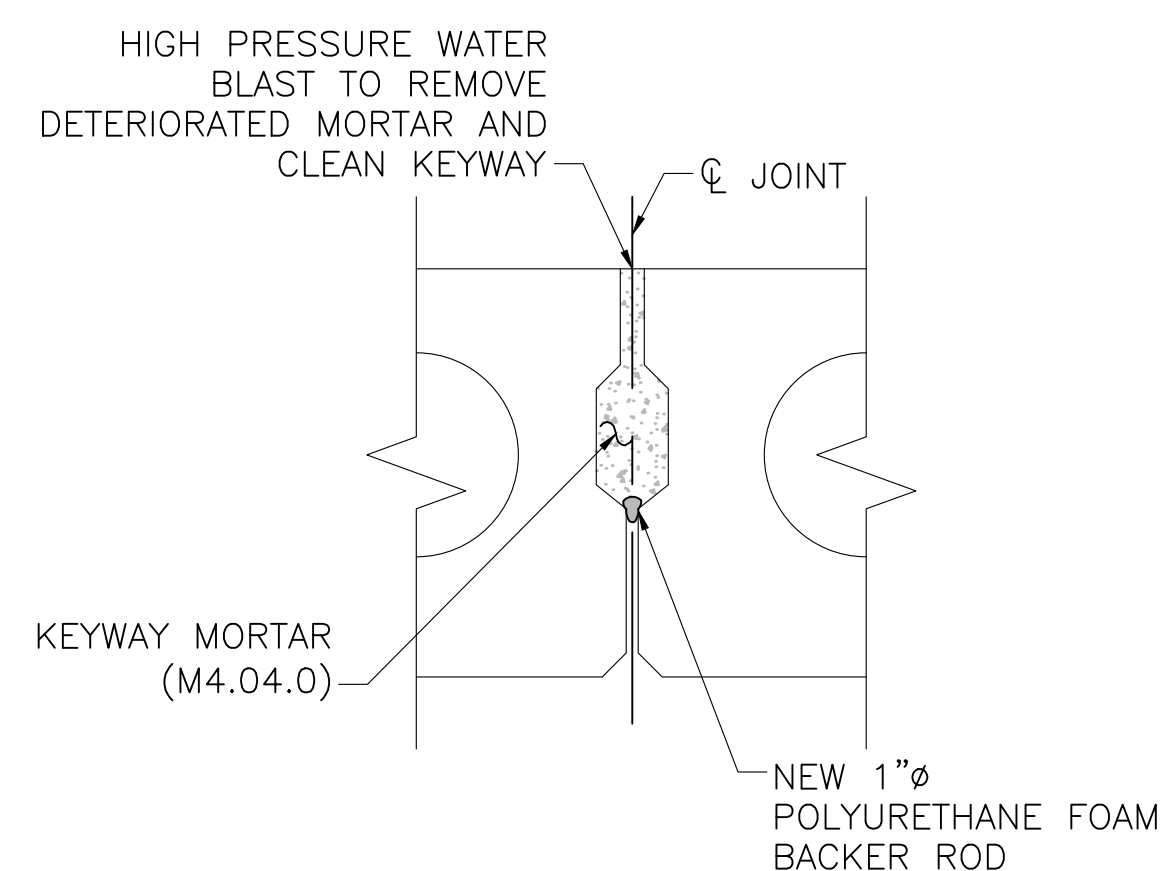
NOT TO SCALE



NOTE: LONGITUDINAL JOINT SHOWN, TRANSVERSE JOINT SIMILAR.

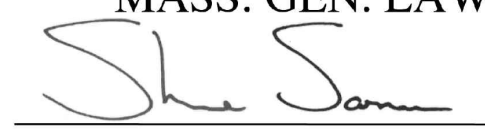
**SIDEWALK JOINT REPAIR DETAIL**

NOT TO SCALE



**SHEAR KEY REPAIR**

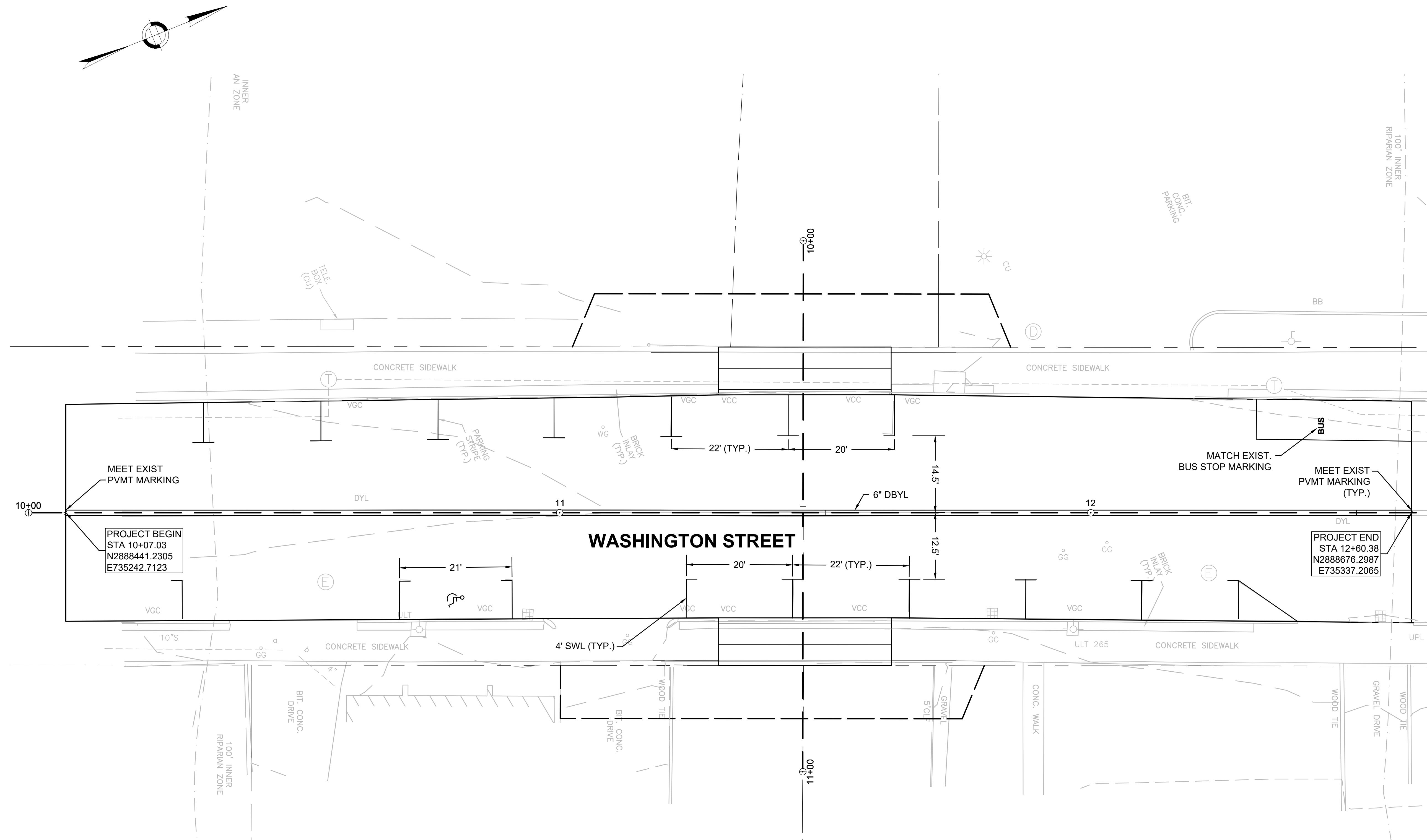
NOT TO SCALE

**COMMONWEALTH OF MASSACHUSETTS**  
**MassDOT, Highway Division**  
 APPROVED UNDER PROVISIONS OF  
 MASS. GEN. LAWS CH 85 S 35  
  
 DISTRICT 5 BRIDGE ENGINEER      DATE 1/31/2024

NORWOOD  
WASHINGTON STREET OVER HAWES BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	17
PROJECT FILE NO.		T1304	

PAVEMENT MARKING PLAN



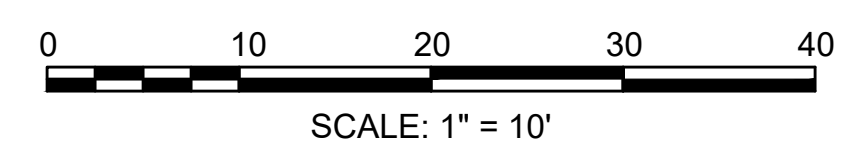
MEET EXIST.  
PVTM MARKING

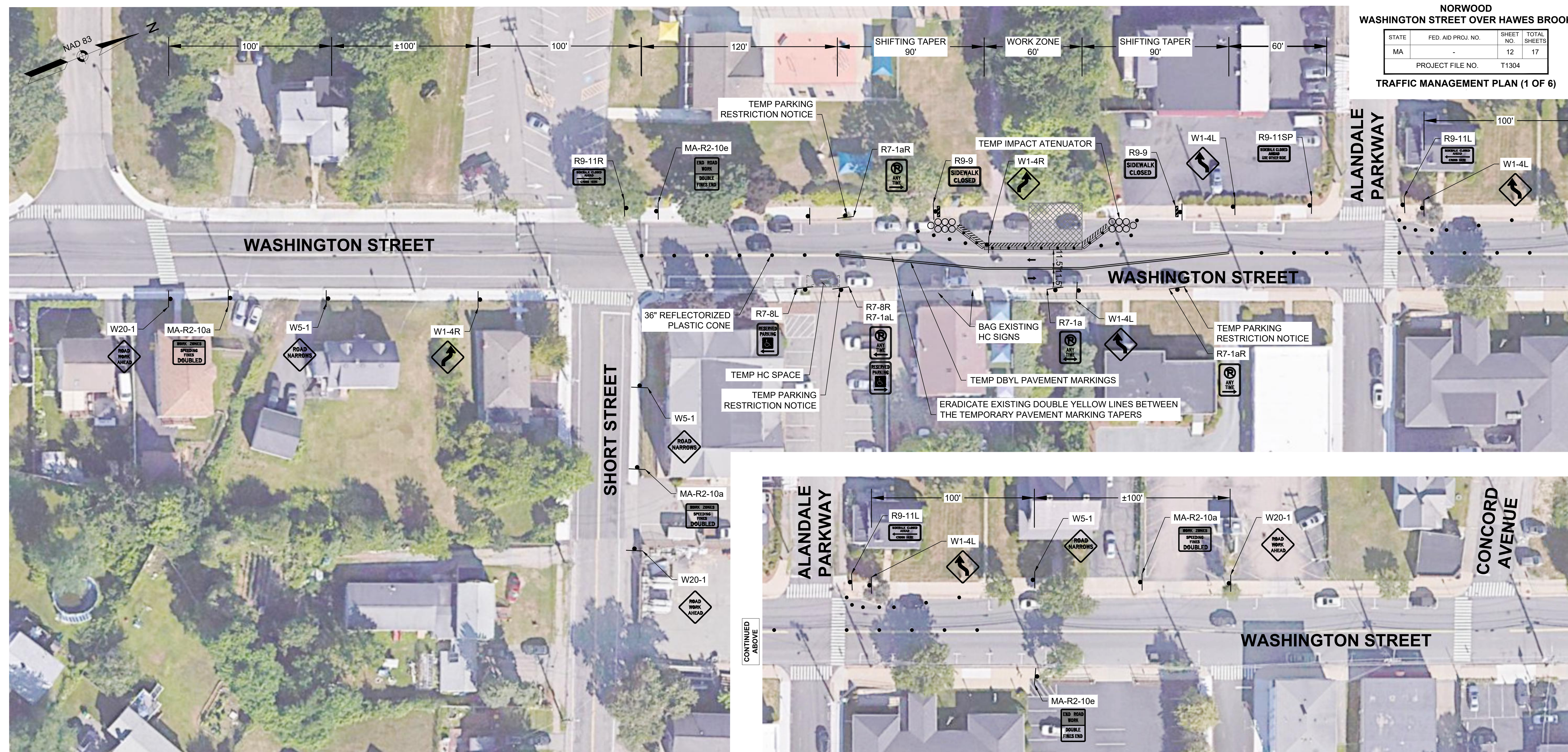
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WASHINGTON STREET

PROJECT END  
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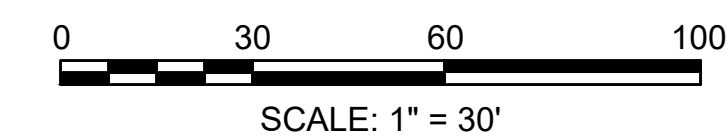
- NOTES:
1. ALL EXISTING PAVEMENT MARKINGS WITHIN THE LIMITS OF PROPOSED MILL & OVERLAY SHALL BE REPLACED.
  2. ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK SHALL BE THERMOPLASTIC MATERIALS.
  3. LANE WIDTH DIMENSIONS BASED ON LOCATION OF EXISTING LANE LINES.





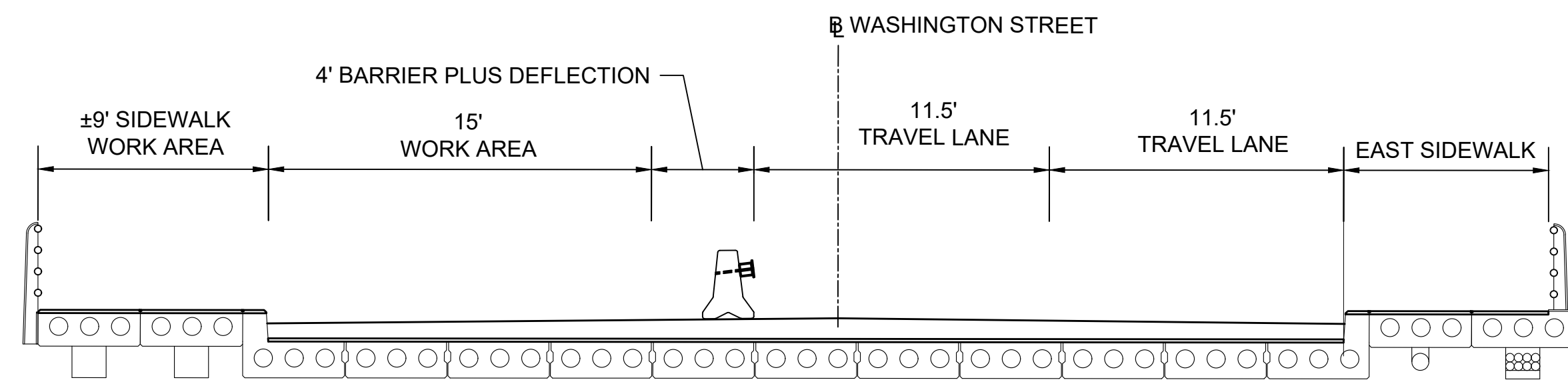
NOTE:  
 1. EXISTING PARKING MARKINGS IN DIRECT CONFLICT WITH THE WORK ZONE AND OUT TEMPORARY TRAFFIC CONTROL SHALL BE ERADICATED BY APPROVED METHODS OR COVERED.

PHASE 1 - TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED

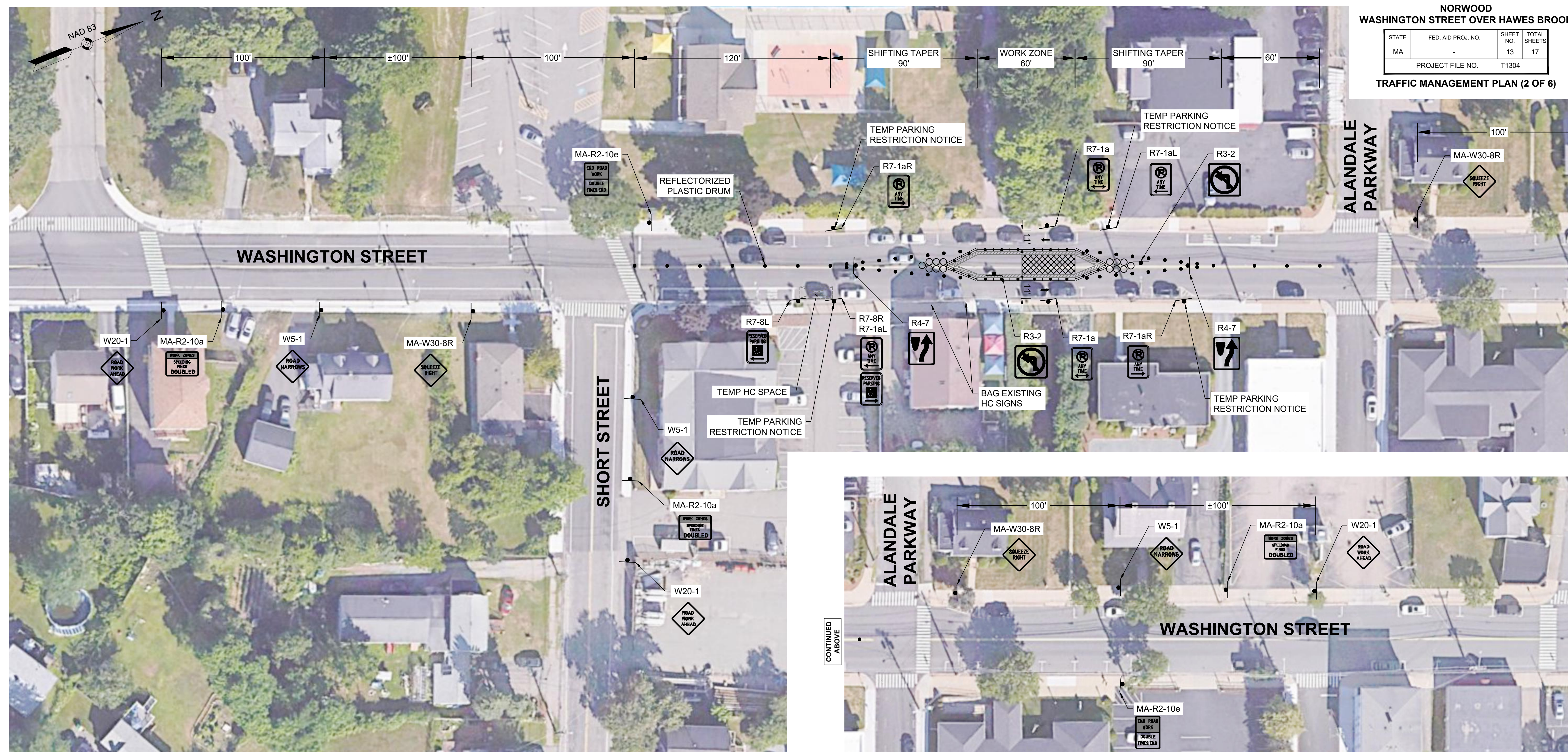


TEMPORARY TRAFFIC CONTROL LEGEND:

- BRIDGE AND SIDEWALK RECONSTRUCTION AREA
- MAXIMUM ALLOWABLE DEFLECTION AREA
- DIRECTION OF TRAVEL
- SIGN
- REFLECTORIZED PLASTIC DRUM
- CONSTRUCTION BARRIER W/ REFLECTORS OR WARNING LIGHTS
- TYPE III BARRICADE

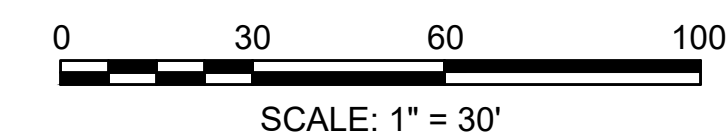


PHASE 1 - CROSS SECTION NORTHBOUND APPROACH



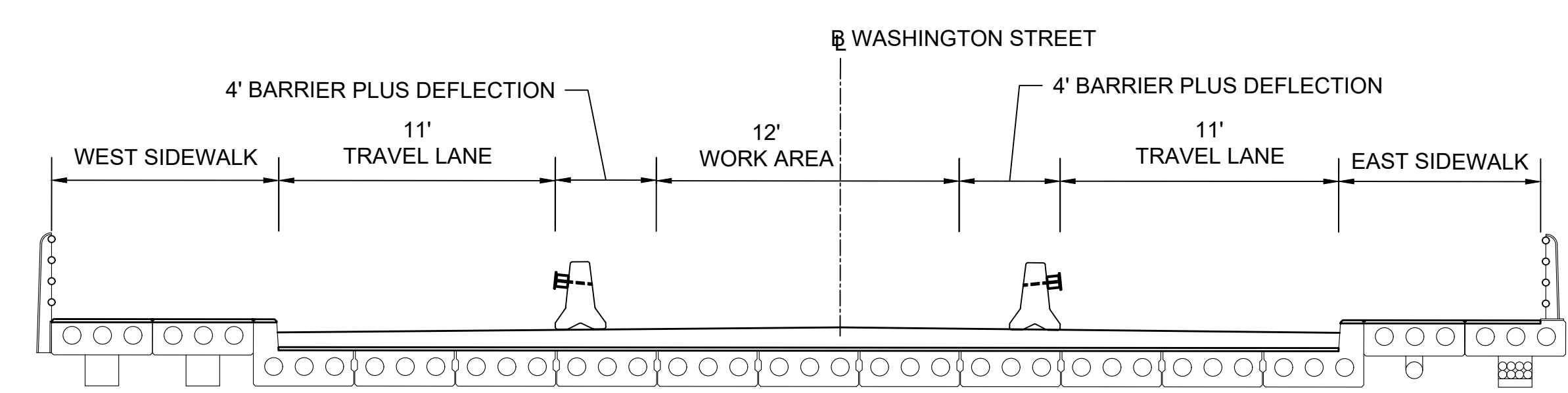
**NOTE:**  
 1. EXISTING PARKING MARKINGS IN DIRECT CONFLICT WITH THE WORK ZONE AND OUT TEMPORARY TRAFFIC CONTROL SHALL BE ERADICATED BY APPROVED METHODS OR COVERED.

**PHASE 2 - TWO LANE ROAD CENTER OF THE ROAD CLOSURE**

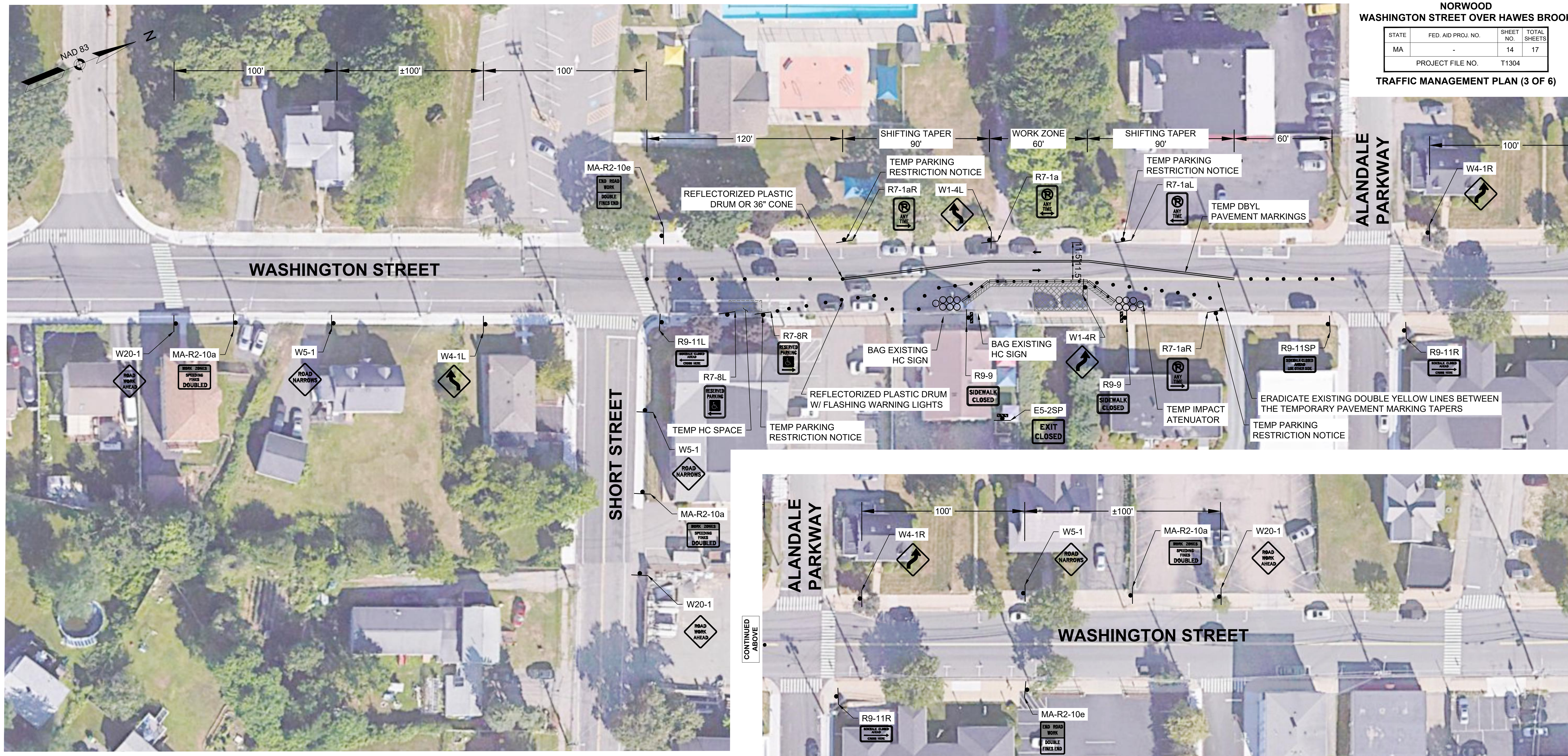


**TEMPORARY TRAFFIC CONTROL LEGEND:**

- BRIDGE AND SIDEWALK RECONSTRUCTION AREA
- MAXIMUM ALLOWABLE DEFLECTION AREA
- DIRECTION OF TRAVEL
- SIGN
- REFLECTORIZED PLASTIC DRUM
- CONSTRUCTION BARRIER W/ REFLECTORS OR WARNING LIGHTS
- TYPE III BARRICADE

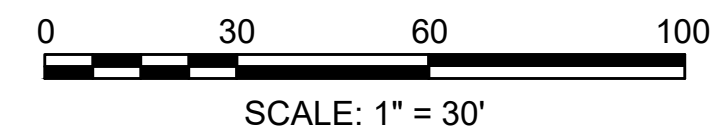


**PHASE 2 - CROSS SECTION NORTHBOUND APPROACH**



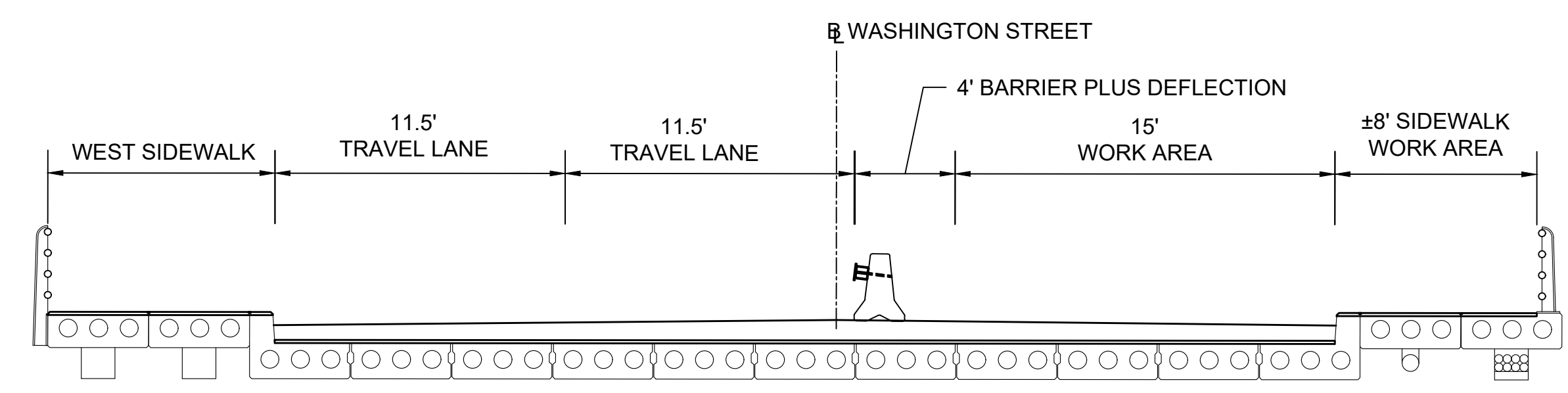
**NOTE:**  
 1. EXISTING PARKING MARKINGS IN DIRECT CONFLICT WITH THE WORK ZONE AND OUT TEMPORARY TRAFFIC CONTROL SHALL BE ERADICATED BY APPROVED METHODS OR COVERED.

**PHASE 3 - TWO LANE ROAD**  
**SHOULDER AND TRAVEL LANE CLOSED**



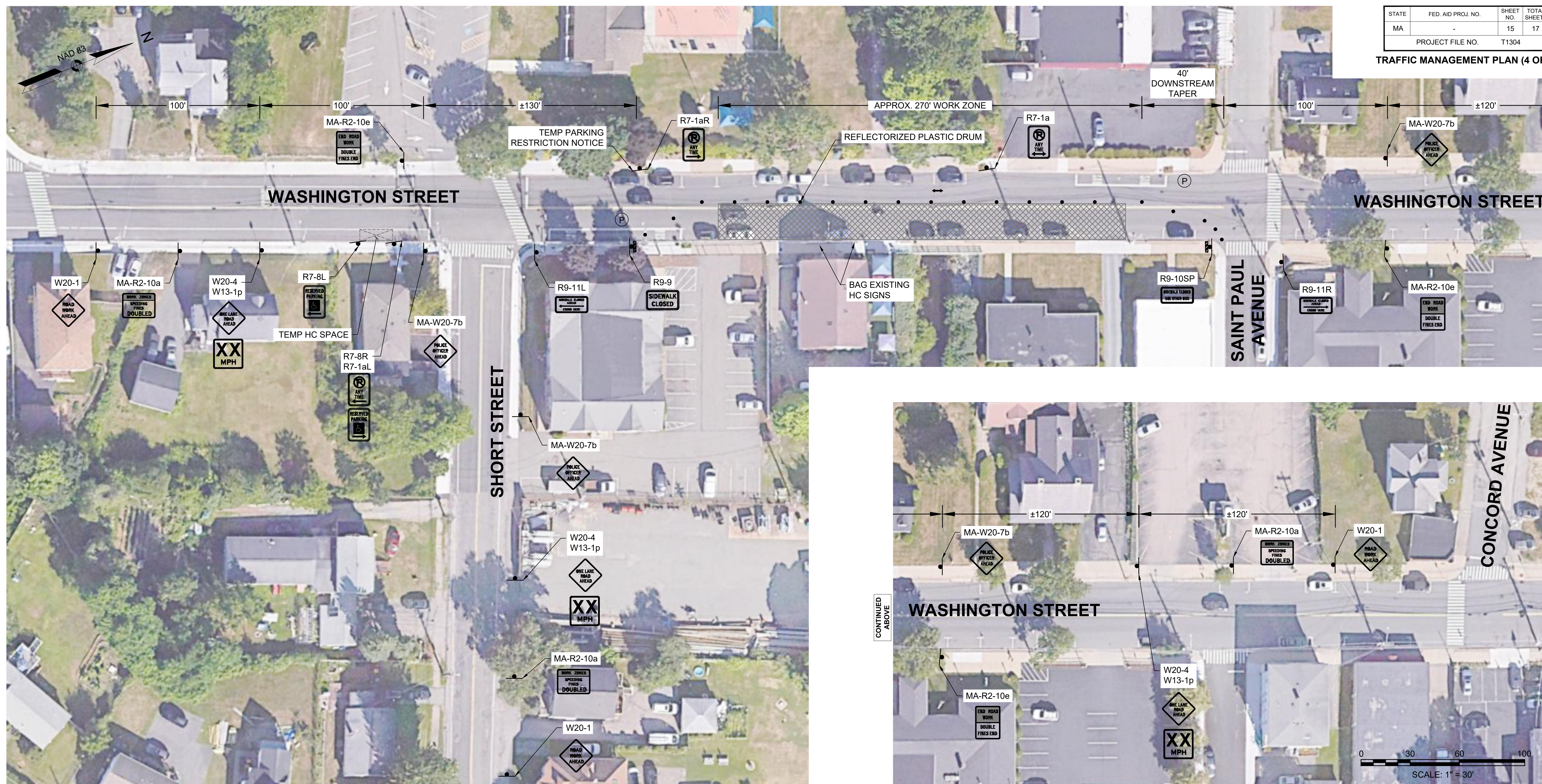
**TEMPORARY TRAFFIC CONTROL LEGEND:**

- BRIDGE AND SIDEWALK RECONSTRUCTION AREA
- MAXIMUM ALLOWABLE DEFLECTION AREA
- DIRECTION OF TRAVEL
- SIGN
- REFLECTORIZED PLASTIC DRUM
- CONSTRUCTION BARRIER W/ REFLECTORS OR WARNING LIGHTS
- TYPE III BARRICADE



**PHASE 3 - CROSS SECTION NORTHBOUND APPROACH**

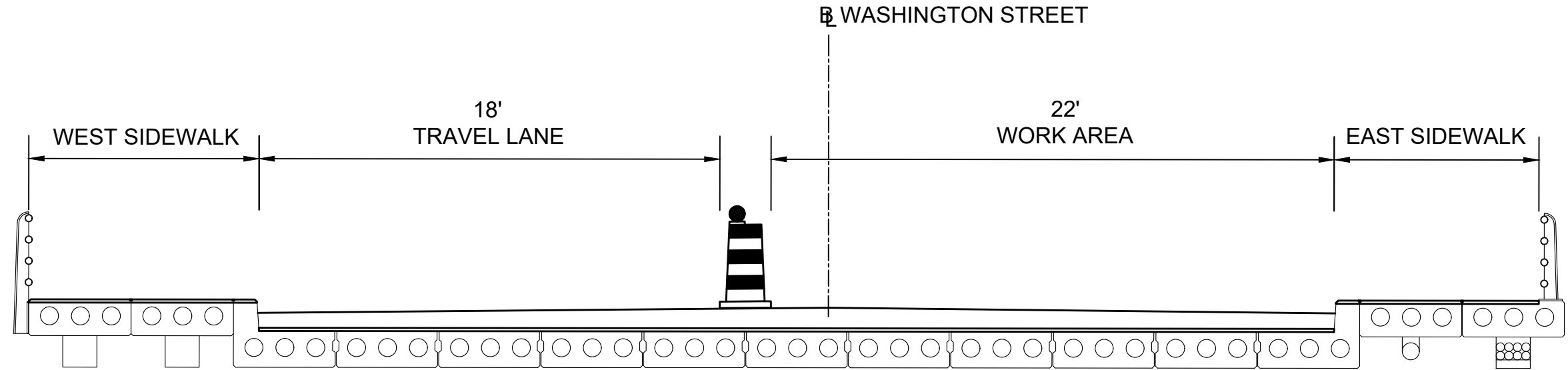
12-16 TRAFFIC MANAGEMENT PLAN.DWG Plotted on 28-Mar-2024 9:51 AM 31 January 2024



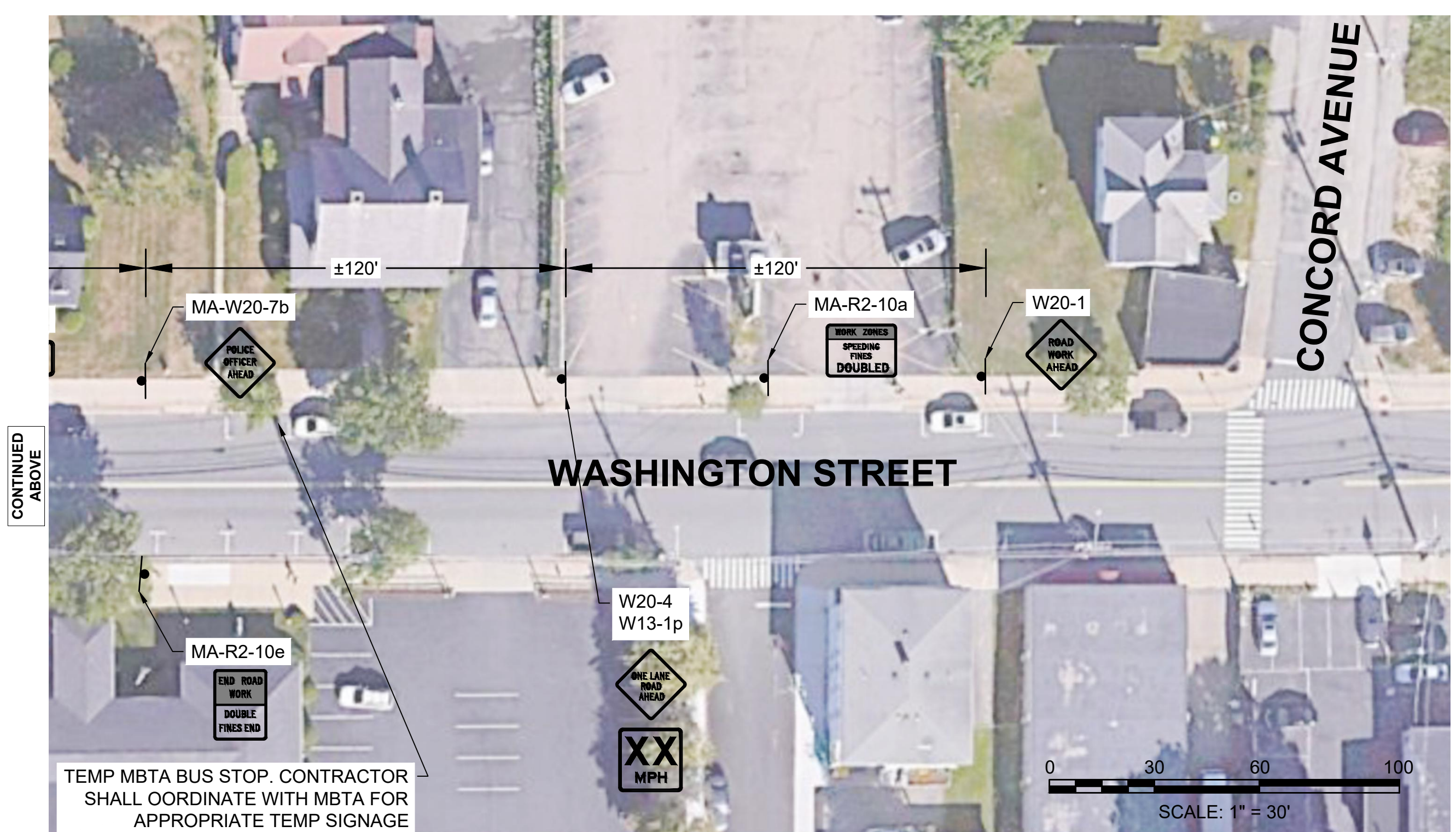
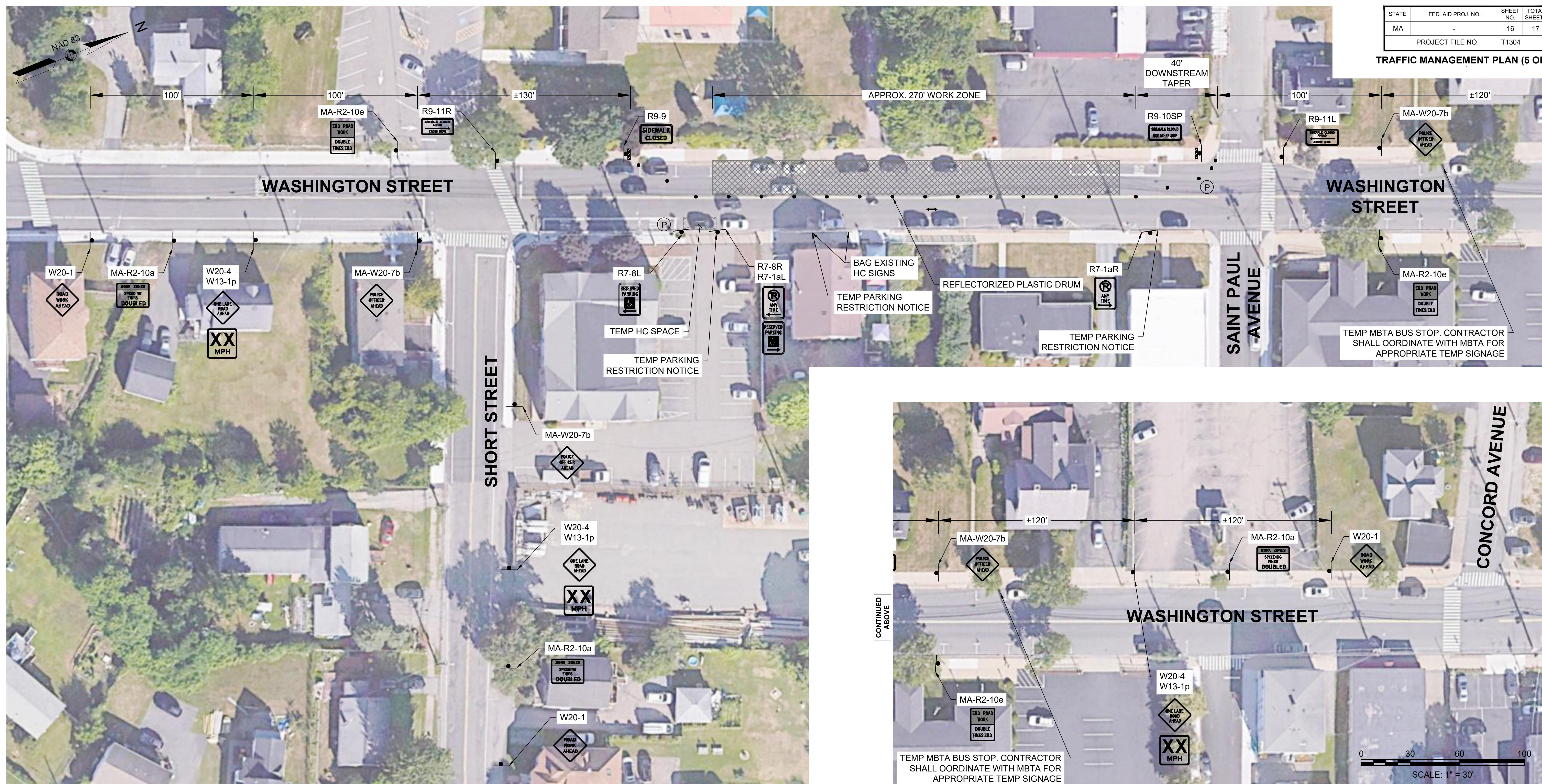
**PHASE 4 - TWO LANE ROAD**  
**ONE LANE ALTERNATING TRAFFIC WITH POLICE DETAIL**

**TEMPORARY TRAFFIC CONTROL LEGEND:**

- BRIDGE AND SIDEWALK RECONSTRUCTION AREA
- DIRECTION OF TRAVEL
- SIGN
- REFLECTORIZED PLASTIC DRUM
- POLICE DETAIL



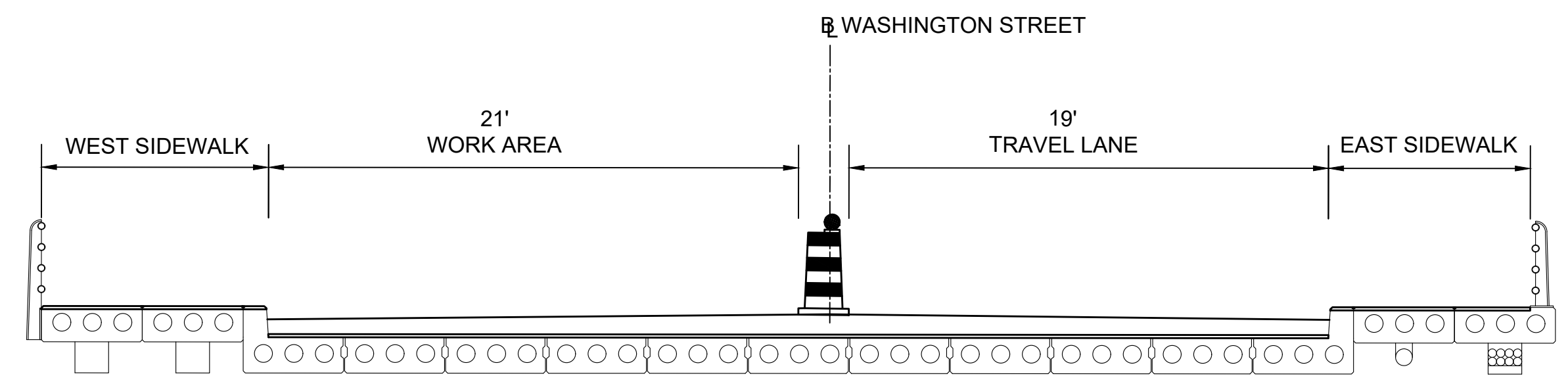
**PHASE 4 - CROSS SECTION NORTHBOUND APPROACH**



**PHASE 5 - TWO LANE ROAD**  
**ONE LANE ALTERNATING TRAFFIC WITH POLICE DETAIL**

**TEMPORARY TRAFFIC CONTROL LEGEND:**

- BRIDGE AND SIDEWALK RECONSTRUCTION AREA
- DIRECTION OF TRAVEL
- SIGN
- REFLECTORIZED PLASTIC DRUM
- POLICE DETAIL



**PHASE 5 - CROSS SECTION NORTHBOUND APPROACH**



TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		LEGEND	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			NUMBER OF SUPPORTS REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK GROUND	LEGEND	BORDER			
MA-R2-10a	48	36			①		3	FLUOR. ORANGE/ WHITE	BLACK	BLACK	3	12.00	36.00
MA-R2-10e	36	48			↓		2	FLUOR. ORANGE/ WHITE	BLACK	BLACK	2	12.00	24.00
R3-2	24	24			②		2	WHITE	RED BLACK	BLACK	2	4.00	8.00
R4-7	24	30					2	WHITE	RED	RED	2	5.00	10.00
R7-1a	12	18					2	WHITE	RED	RED	2	1.50	3.00
R7-1aL	12	18					2	WHITE	RED	RED	2	1.50	3.00
R7-1aR	12	18					2	WHITE	RED	RED	2	1.50	3.00
R7-8L	12	18					1	WHITE	GREEN/ BLUE	GREEN	1	1.50	1.50
R7-8R	12	18					1	WHITE	GREEN/ BLUE	GREEN	0 W/ R7-1aL	1.50	1.50
R9-9	24	12					2	WHITE	BLACK	BLACK	0 2 ON TYPE 3 BARRICADE	2.00	4.00
R9-11L	24	18					1	WHITE	BLACK	BLACK	1	3.00	3.00
R9-11R	24	18					1	WHITE	BLACK	BLACK	1	3.00	3.00
R9-10SP	24	18					1	WHITE	BLACK	BLACK	1	3.00	3.00
W1-4L	36	36					3	FLUOR. ORANGE	BLACK	BLACK	3	9.00	27.00
W1-4R	36	36					2	FLUOR. ORANGE	BLACK	BLACK	2	9.00	18.00
W5-1	36	36			↓		3	FLUOR. ORANGE	BLACK	BLACK	3	9.00	27.00

NOTES:

- MASSDOT STANDARD SIGN.
- CONTRACTOR TO FURNISH SIGNS CONSISTENT WITH 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. SEE MANUAL FOR TEXT AND LEGEND DIMENSIONS.

NORWOOD  
WASHINGTON STREET OVER HAWES BROOK

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	17
PROJECT FILE NO.		T1304	

TRAFFIC MANAGEMENT PLAN (6 OF 6)

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		LEGEND	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			NUMBER OF SUPPORTS REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK GROUND	LEGEND	BORDER			
W13-1p	36	36			①		3	FLUOR. ORANGE	BLACK	BLACK	0 W/ W20-4	9.00	27.00
W20-1	36	36					3	FLUOR. ORANGE	BLACK	BLACK	3	9.00	27.00
W20-4	36	36					3	FLUOR. ORANGE	BLACK	BLACK	3	9.00	27.00
E5-2aSP	30	18			↓		1	FLUOR. ORANGE	BLACK	BLACK	0 ON TYPE 3 BARRICADE	3.75	3.75
MA-W20-7b	36	36					3	FLUOR. ORANGE	BLACK	BLACK	3	9.00	27.00

GENERAL NOTES:

- LANE CLOSURE FOR PHASE 4 AND 5 (MILLING AND PAVING BRIDGE WORK) SHALL ONLY BE IN EFFECT DURING NIGHT TIME BETWEEN X:XX PM TO X:XX AM.
- ALL SIGNAGE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL (I.E. EXISTING HANDICAP PARKING SIGN) SHALL BE BAGGED DURING PERIODS WHERE WORK ZONE IS IN EFFECT.
- THE CONTRACTOR SHALL CONTACT THE TOWN OF NORWOOD FOR COORDINATION ON PARKING RESTRICTIONS AND ASSOCIATED SIGNAGE.
- THE TOWN OF NORWOOD SHALL COORDINATE WITH THE "BROOKSIDE CAFE" OWNER ON TEMPORARY BLOCKING THE DRIVEWAY EXITING DURING PHASE 3 CONSTRUCTION PHASE.
- THE TOWN OF NORWOOD SHALL COORDINATE WITH THE "DING DOCTOR OF GREATER BOSTON" FOR BLOCKING THE DRIVEWAY DURING THE PHASE 5 BRIDGE PAVING. THE BRIDGE WORK DURATION WILL BE ONLY ONE (1) NIGHT AND THE POLICE ON SITE SHALL GIVE ACCESS, IF FEASIBLE, ONLY TO THE "DING DOCTOR OF GREATER BOSTON" EMPLOYEES AS NEEDED.
- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM WITH TO THE LAST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE MASSACHUSETTS AMENDMENTS TO THE MUTCD.
- ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY 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).
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- ALL DRUMS AND/OR CONES SHALL BE SET @ 20' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
- THE FIRST TEN DRUMS OF ALL TAPERS SHALL BE MOUNTED WITH SEQUENTIAL FLASHING WARNING LIGHTS.
- MINIMUM LANE WIDTH TO BE 11'. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- PAVEMENT MARKING BETWEEN THE TEMPORARY DOUBLE YELLOW LINE TAPERS SHALL BE ERADICATED.
- PHASE 4 AND 5 SHALL INCLUDE TEMPORARY PARKING RESTRICTIONS STARTING AT NOON THE DAY OF PAVING AND ENDING NOON THE FOLLOWING DAY. THE RESTRICTIONS NOTICE SHALL NOTE THAT ANY VEHICLE PARKED DURING THIS TIME WILL BE TOWED.