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MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

PLAN AND PROFILE OF
CORRIDOR IMPROVEMENTS ON WASHINGTON STREET (ROUTE 138)
IN THE TOWN OF
STOUGHTON
NORFOLK COUNTY

FEDERAL AID PROJECT NO.

STOUGHTON
WASHINGTON STREET (ROUTE 138)

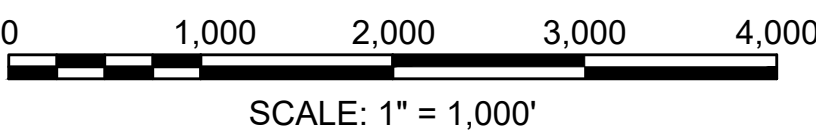
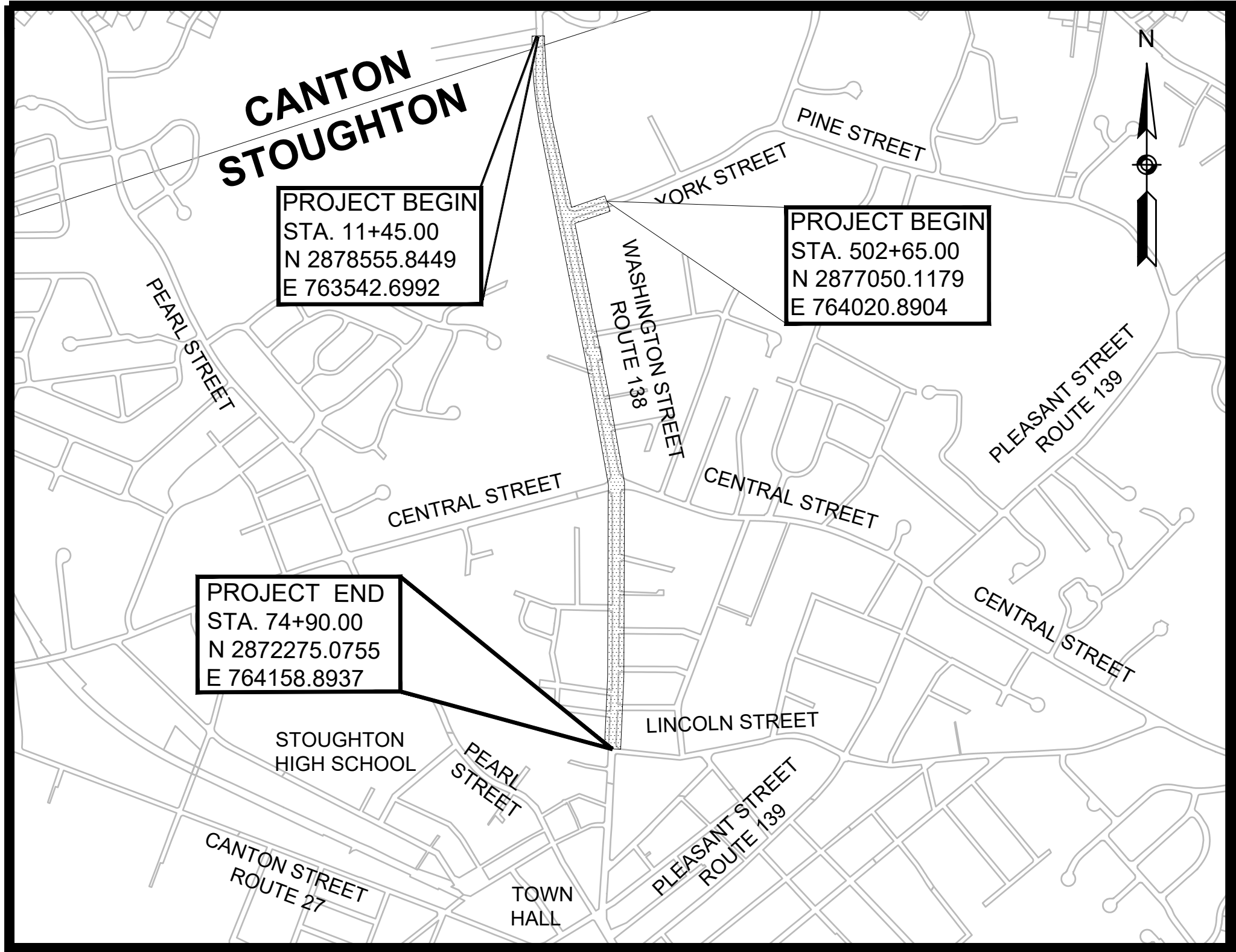
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | - | 1 | 104 |
| PROJECT FILE NO. | | 607403 | |

TITLE SHEET & INDEX

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.

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LENGTH OF PROJECT = 6,345.00 FEET = 1.202 MILES

DESIGN DESIGNATION (WASHINGTON STREET (ROUTE 138))


| | |
|---------------------------|--------------------------|
| DESIGN SPEED | 40/50 MPH |
| ADT (2017) | 23,394 |
| ADT (2027) | 25,842 |
| K | 7.5% |
| D | 52% NB |
| T (PEAK HOUR) | 4.6% |
| T (AVERAGE DAY) | 3.8% |
| DHV | 1,940 |
| DDHV | 1,331 |
| FUNCTIONAL CLASSIFICATION | URBAN PRINCIPAL ARTERIAL |

DESIGN DESIGNATION (YORK STREET)

| | |
|---------------------------|-----------------|
| DESIGN SPEED | 30 MPH |
| ADT (2017) | 5,229 |
| ADT (2027) | 5,776 |
| K | 8.8% |
| D | 50% WB |
| T (PEAK HOUR) | 4.7% |
| T (AVERAGE DAY) | 3.0% |
| DHV | 506 |
| DDHV | 324 |
| FUNCTIONAL CLASSIFICATION | URBAN COLLECTOR |

 **Nitsch Engineering**
www.nitschang.com
2 Center Plaza, Suite 430
Boston, MA 02108
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| 10/9/20 | 25% RESUBMISSION | |
|---|------------------|---------------|
| 12/21/18 | 25% SUBMISSION | |
| DATE | DESCRIPTION | REV # |
|  | | |
| APPROVED | | |
| _____ CHIEF ENGINEER | | _____ DATE |

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| GENERAL SYMBOLS | | | TRAFFIC SYMBOLS | | | ABBREVIATIONS | | |
|-----------------|----------|---|-----------------|----------|--|---------------|--------------------------------------|--|
| EXISTING | PROPOSED | DESCRIPTION | EXISTING | PROPOSED | DESCRIPTION | GENERAL | | |
| | | JERSEY BARRIER | | | CONTROLLER PHASE ACTUATED | AADT | ANNUAL AVERAGE DAILY TRAFFIC | |
| | | CATCH BASIN | | | TRAFFIC SIGNAL HEAD (SIZE AS NOTED) | ABAN | ABANDON | |
| | | CATCH BASIN WITH CURB INLET | | | WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED) | ADJ | ADJUST | |
| | | SPECIAL (SP) CATCH BASIN | | | VIDEO DETECTION CAMERA | APPROX. | APPROXIMATE | |
| | | FIXED END SECTION | | | MICROWAVE DETECTOR | A.C. | ASPHALT CONCRETE | |
| | | FLAG POLE | | | PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE | ACCM PIPE | ASPHALT COATED CORRUGATED METAL PIPE | |
| | | GAS PUMP | | | EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT | BIT. | BITUMINOUS | |
| | | MAIL BOX | | | VEHICULAR SIGNAL HEAD | BC | BOTTOM OF CURB | |
| | | POST SQUARE | | | VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED | BD. | BOUND | |
| | | POST CIRCULAR | | | FLASHING BEACON | BL | BASELINE | |
| | | WELL | | | PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED) | BLDG | BUILDING | |
| | | ELECTRIC HANDHOLE | | | RAILROAD SIGNAL | BM | BENCHMARK | |
| | | FENCE GATE POST | | | SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED) | BO | BY OTHERS | |
| | | GAS GATE | | | MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED) | BOS | BOTTOM OF SLOPE | |
| | | BORING HOLE | | | HIGH MAST POLE OR TOWER | BR. | BRIDGE | |
| | | MONITORING WELL | | | SIGN AND POST | CB | CATCH BASIN | |
| | | TEST PIT | | | SIGN AND POST (2 POSTS) | CBCI | CATCH BASIN WITH CURB INLET | |
| | | HYDRANT | | | MAST ARM WITH LUMINAIRE | CC | CEMENT CONCRETE | |
| | | LIGHT POLE | | | OPTICAL PRE-EMPTION DETECTOR | CCM | CEMENT CONCRETE MASONRY | |
| | | COUNTY BOUND | | | CONTROL CABINET, GROUND MOUNTED | CEM | CEMENT | |
| | | GPS POINT | | | CONTROL CABINET, POLE MOUNTED | CI | CURB INLET | |
| | | CABLE MANHOLE | | | FLASHING BEACON CONTROL AND METER PEDESTAL | CIP | CAST IRON PIPE | |
| | | DRAINAGE MANHOLE | | | LOAD CENTER ASSEMBLY | CLF | CHAIN LINK FENCE | |
| | | ELECTRIC MANHOLE | | | PULL BOX 12"x12" (OR AS NOTED) | CL | CENTERLINE | |
| | | GAS MANHOLE | | | ELECTRIC HANDHOLE 12"x24" (OR AS NOTED) | CMP | CORRUGATED METAL PIPE | |
| | | MISC MANHOLE | ----- | | | CSP | CORRUGATED STEEL PIPE | |
| | | SEWER MANHOLE | ----- | | | CO. | COUNTY | |
| | | TELEPHONE MANHOLE | ----- | | | CONC | CONCRETE | |
| | | WATER MANHOLE | ----- | | | CONT | CONTINUOUS | |
| | | MASSACHUSETTS HIGHWAY BOUND | ----- | | | CONST | CONSTRUCTION | |
| | | MONUMENT | ----- | | | CR GR | CROWN GRADE | |
| | | STONE BOUND | ----- | | | DHV | DESIGN HOURLY VOLUME | |
| | | TOWN OR CITY BOUND | ----- | | | DI | DROP INLET | |
| | | TRAVERSE OR TRIANGULATION STATION | ----- | | | DIA | DIAMETER | |
| | | TROLLEY POLE OR GUY POLE | ----- | | | DIP | DUCTILE IRON PIPE | |
| | | TRANSMISSION POLE | ----- | | | DW | STEADY DON'T WALK - PORTLAND ORANGE | |
| | | UTILITY POLE W/ FIREBOX | ----- | | | DWY | DRIVEWAY | |
| | | UTILITY POLE WITH DOUBLE LIGHT | ----- | | | ELEV (or EL.) | ELEVATION | |
| | | UTILITY POLE W / 1 LIGHT | ----- | | | EMB | EMBANKMENT | |
| | | UTILITY POLE | ----- | | | EOP | EDGE OF PAVEMENT | |
| | | BUSH | ----- | | | EXIST (or EX) | EXISTING | |
| | | TREE | ----- | | | EXC | EXCAVATION | |
| | | STUMP | ----- | | | F&C | FRAME AND COVER | |
| | | SWAMP / MARSH | ----- | | | F&G | FRAME AND GRATE | |
| | | WATER GATE | ----- | | | FDN. | FOUNDATION | |
| | | PARKING METER | ----- | | | FDP | FULL DEPTH PAVEMENT | |
| | | OVERHEAD CABLE/WIRE | ----- | | | FLDSTN | FIELDSTONE | |
| | | CURBING | ----- | | | GAR | GARAGE | |
| | | CONTOURS (ON-THE-GROUND SURVEY DATA) | ----- | | | GD | GROUND | |
| | | CONTOURS (PHOTOGRAMMETRIC DATA) | ----- | | | GFS | GREEN FRICTION SURFACE | |
| | | UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER) | ----- | | | GG | GAS GATE | |
| | | UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER) | ----- | | | GI | GUTTER INLET | |
| | | UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER) | ----- | | | GIP | GALVANIZED IRON PIPE | |
| | | UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER) | ----- | | | GRAN | GRANITE | |
| | | UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER) | ----- | | | GRAV | GRAVEL | |
| | | UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER) | ----- | | | GRD | GUARD | |
| | | BALANCED STONE WALL | ----- | | | HDW | HEADWALL | |
| | | GUARD RAIL - STEEL POSTS | ----- | | | HMA | HOT MIX ASPHALT | |
| | | GUARD RAIL - WOOD POSTS | ----- | | | HOR | HORIZONTAL | |
| | | CHAIN LINK OR METAL FENCE | ----- | | | HYD | HYDRANT | |
| | | WOOD FENCE | ----- | | | INV | INVERT | |
| | | COMPOST MULCH FILTER TUBES FOR EROSION CONTROL | ----- | | | JCT | JUNCTION | |
| | | TREE LINE | ----- | | | L | LENGTH OF CURVE | |
| | | SAWCUT LINE | ----- | | | LB | LEACH BASIN | |
| | | TOP OR BOTTOM OF SLOPE | ----- | | | LP | LIGHT POLE | |
| | | EDGE OF PAVEMENT | ----- | | | LSA | LANDSCAPE AREA | |
| | | LIMIT OF MICROMILLING AND OVERLAY | ----- | | | LT | LEFT | |
| | | BANK OF RIVER OR STREAM | ----- | | | MAX | MAXIMUM | |
| | | BORDER OF WETLAND | ----- | | | MB | MAILBOX | |
| | | 100 FT WETLAND BUFFER | ----- | | | MH | MANHOLE | |
| | | 200 FT RIVERFRONT BUFFER | ----- | | | MHB | MASSACHUSETTS HIGHWAY BOUND | |
| | | STATE HIGHWAY LAYOUT | ----- | | | MIN | MINIMUM | |
| | | TOWN OR CITY LAYOUT | ----- | | | NIC | NOT IN CONTRACT | |
| | | COUNTY LAYOUT | ----- | | | NO. | NUMBER | |
| | | RAILROAD SIDELINE | ----- | | | PC | POINT OF CURVATURE | |
| | | TOWN OR CITY BOUNDARY LINE | ----- | | | PCC | POINT OF COMPOUND CURVATURE | |
| | | PROPERTY LINE OR APPROXIMATE PROPERTY LINE | ----- | | | P.G.L. | PROFILE GRADE LINE | |
| | | EASEMENT | ----- | | | 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 | ANGLE POINT | |
| | | | ----- | | | PT | POINT OF TANGENCY | |
| | | | ----- | | | PUE | PERMANENT UTILITY EASEMENT | |

| PAVEMENT MARKINGS SYMBOLS | | |
|---------------------------|----------|--|
| EXISTING | PROPOSED | DESCRIPTION |
| | | PAVEMENT ARROW - WHITE |
| | | LEGEND "ONLY" - WHITE |
| | | STOP LINE - 12 WIDE |
| | | CROSSWALK -12" WIDE |
| | | SOLID WHITE LINE - 6" WIDE |
| | | SOLID YELLOW LINE - 6" WIDE |
| | | BROKEN WHITE LINE - 6" WIDE - 10' LINE AND 30' GAP |
| | | BROKEN YELLOW LINE - 6" WIDE - 10' LINE AND 30' GAP |
| | | DOTTED WHITE LINE - 6" WIDE - 3' LINE AND 9' GAP |
| | | DOTTED YELLOW LINE - 6" WIDE - 3' LINE AND 9' GAP |
| | | DOTTED WHITE LINE EXTENSION - 6" WIDE - 2' LINE AND 6' GAP |
| | | DOTTED YELLOW LINE EXTENSION - 6" WIDE - 2' LINE AND 6' GAP |
| | | DOUBLE WHITE LINE - 6" WIDE |
| | | DOUBLE YELLOW LINE - 6" WIDE |
| | | DOTTED DOUBLE YELLOW LINE EXTENSION - 6" WIDE - 2' LINE AND 6' GAP |
| | | GREEN FRICTION SURFACE |

| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 2 | 104 |
| PROJECT FILE NO. | | 607403 | |

| LEGEND AND ABBREVIATES | |
|------------------------|-----------------------------------|
| ABBREVIATIONS (cont.) | |
| GENERAL | |
| PVC | POINT OF VERTICAL CURVATURE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVT | POINT OF VERTICAL TANGENCY |
| PVMT | PAVEMENT |
| PWW | PAVED WATERWAY |
| 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 |
| SHALT | STATE HIGHWAY LAYOUT ALTERATION |
| 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 |
| WCR | WHEEL CHAIR RAMP |
| WG | WATER GATE |
| WIP | WROUGHT IRON PIPE |
| WM | WATER METER/WATER MAIN |
| WGL | WHITE GORE LINE |
| YGL | YELLOW GORE LINE |

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GENERAL NOTES

1. THE EXISTING CONDITIONS SHOWN ON THESE PLANS ARE THE OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY BAY COLONY GROUP, INC.IN JANUARY OF 2014 AND WERE SUPPLEMENTED BY ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY NITSCH ENGINEERING FROM SEPTEMBER TO OCTOBER OF 2017, AND IN FEBRUARY 2020 .
2. THE LOCATION OF STATE, COUNTY, MUNICIPAL AND PRIVATE RIGHT OF WAY LINES SHOWN HEREON ARE POSITIONED ON RECOVERED RECORD MONUMENTS LOCATED WITH ON-THE-GROUND INSTRUMENT SURVEY, DIVISIONS OF OWNERSHIPS ARE COMPILED FROM AVAILABLE RECORDS PLANS, DEEDS AND ASSESSOR'S MAPS.
3. COORDINATES SHOWN HEREON ARE RESULTANT FROM GPS OBSERVATIONS TO THE MacORS NETWORK, CONVENTIONAL TOTAL STATION TRAVERSING AND DIFFERENTIAL LEVELING AND ARE RELATED TO THE NORTH AMERICAN DATUM OF 1983-NAD83(2011),SPC83- MASSACHUSETTS (MAINLAND ZONE), EPOCH 2010.00. SOURCE CONTROL POINTS' COORDINATES, ELEVATIONS AND COMBINED SCALE FACTOR WERE ESTABLISHED BY MASS DOT GEODETIC AND ARE LISTED BELOW:

| PNTS | NORTHING | EASTING | ELEV. | COMBINED SCALE FACTOR |
|------|------------|-----------|--------|-----------------------|
| 516 | 2875014.07 | 764111.09 | 237.50 | 0.99995774 |
| 517 | 2875356.36 | 764051.47 | 238.45 | 0.99995768 |
| 518 | 2875585.69 | 764010.05 | 236.32 | 0.99995777 |
| 533 | 2872368.48 | 764141.82 | 242.09 | 0.99995767 |

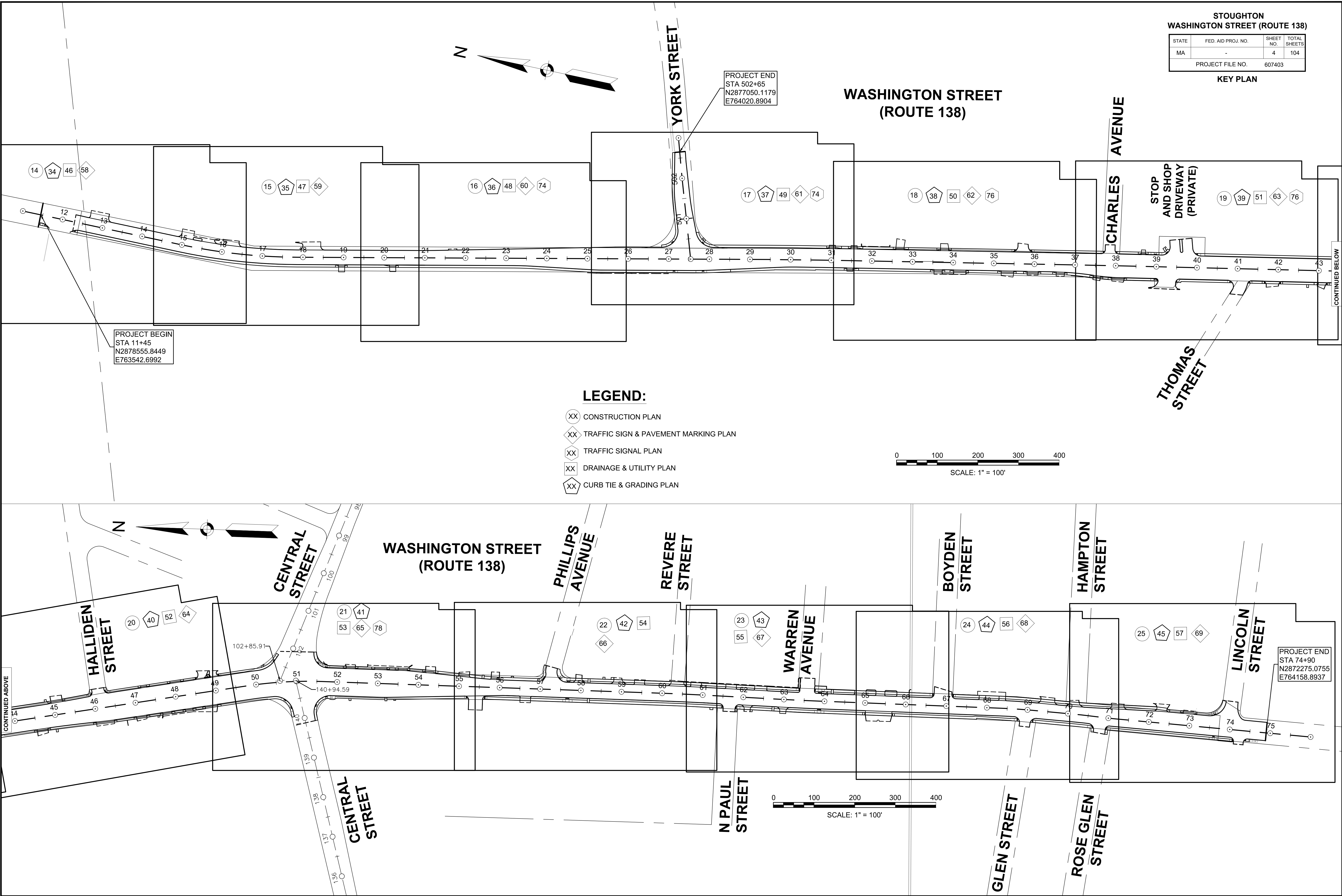
4. ELEVATION SHOWN HEREON ARE RESULTANT FROM GPS OBSERVATIONS TO MacORS NETWORK AND DIFFERENTIAL LEVELING AND ARE RELATED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988(NAVD 88) AND RELATIVE TO POINTS 516, 517, 518, AND 533 AS SHOWN ABOVE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE HIS OWN DETERMINATION OF SUBSURFACE CONDITIONS INCLUDING THE LOCATION OF ROCK AND THE ACTUAL LOCATION OF UTILITIES OR OTHER FEATURES WHICH MAY AFFECT HIS WORK.
6. EXISTING UTILITIES SHOWN ON THESE PLANS WERE COMPILED FROM FIELD SURVEYS AND VARIOUS OTHER SOURCES. LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND ACTUAL FIELD CONDITIONS ENCOUNTERED. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THIS INFORMATION FURNISHED TO THE ENGINEER.
7. THE RELOCATION, INSTALLATION OR REMOVAL OF PRIVATE UTILITIES SHALL BE ACCOMPLISHED BY THEIR OWNERS, EXCEPT AS OTHERWISE NOTED. THE CONTRACTOR WILL BE REQUIRED TO COOPERATE WITH THE PRIVATE UTILITY COMPANIES AND ALLOW THEM ADEQUATE TIME TO COMPLETE THEIR WORK IN ADVANCE OF PERFORMING ANY PAVING OPERATIONS OR OTHER FINISHED WORK.
8. AREAS OUTSIDE OF THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE ENGINEER.
9. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-888-DIG-SAFE AT LEAST 72 HOURS PRIOR TO COMMENCING WORK ON THE PROJECT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND FOR MAINTAINING SEDIMENT CONTROL BARRIER, SILT FENCE(S), AND OTHER EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE CONTRACT AS SHOWN ON THE PLANS AND AS REQUIRED BY THE ENGINEER.
11. NO EXISTING DRAINAGE SYSTEMS SHALL BE ABANDONED, PLUGGED OR REMOVED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
12. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY CODES AND LEGAL REQUIREMENTS, IN THE CONSTRUCTION OF IMPROVEMENTS.
13. ALL EXISTING PIPING AND STRUCTURES EXPOSED DURING EXCAVATION SHALL BE ADEQUATELY SUPPORTED, BRACED OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES. EXCAVATIONS SHALL BE BACK FILLED DAILY AT THE COMPLETION OF WORK.
14. UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE AT ALL TIMES. IF THE CONTRACTOR DAMAGES UTILITY SYSTEMS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY COMPANY AND SHALL REPAIR/REPLACE THE AFFECTED SYSTEM AT HIS OWN EXPENSE.
15. ALL MATERIALS TO BE REMOVED AND DISCARDED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
16. CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND SHORING OF ALL EXCAVATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING CODES AND REGULATIONS.
17. THE TEMPORARY TRAFFIC CONTROL PLANS INDICATE THE GENERAL REQUIREMENTS FOR THE VARIOUS PHASES OF WORK. THE CONTRACTOR SHALL SUBMIT DETAILED TRAFFIC MANAGEMENT PLANS TO THE ENGINEER FOR APPROVAL.
18. ALL PROPOSED EXCAVATION SUPPORT SYSTEMS SHALL BE CONSIDERED INCIDENTAL TO THE APPLICABLE ITEMS.
19. THE FLOW OF TRAFFIC THROUGH THE SITE MUST BE MAINTAINED AS SHOWN ON THE TRAFFIC CONTROL PLANS AND SPECIFIED IN THE SPECIAL PROVISIONS. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL NOT BE PARKED OR STOCKPILED SO AS TO OBSTRUCT THE FLOW OF VEHICLES.
20. ALL CATCH BASIN RIM ELEVATIONS ARE GIVEN AT THE CENTER OF THE BACK OF THE GRATE. THE CATCH BASIN RIM SHALL BE SET FLUSH WITH THE ROADWAY FINISHED GRADE.
21. ALL PROPOSED CATCH BASINS, UNLESS NOTED OTHERWISE, SHALL HAVE A 4' DEEP SUMP PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COMPENSATION.
22. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED SHALL BE MADE AS APPROVED OR REQUIRED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.

23. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IN SUITABLE CONDITION IDENTIFIED AS "REMOVE AND RESET" (R&R).
24. SURFACE JOINTS BETWEEN NEW HOT MIX ASPHALT ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH HMA JOINT SEALANT.
25. ALL LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
26. ALL EXISTING GRANITE CURB & EDGING IN SUITABLE CONDITION SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
27. IN AREAS OF FULL DEPTH PAVEMENT AND SIDEWALK RECONSTRUCTION WHERE PROPOSED MEETS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAWCUT TO OBTAIN A CLEAN VERTICAL FACE.
28. THE LAYOUT OF ALL NEW PEDESTRIAN RAMPS SHALL CONFORM TO ADA/AAB STANDARDS AND CURRENT MASSDOT STANDARDS AND DIRECTIVES.
29. ALL UTILITY AND DRAINAGE FRAMES, GRATES, AND COVERS SHALL BE INSTALLED FLUSH WITH SURROUNDING PAVEMENT.
30. THE CONTRACTOR SHALL PROVIDE INLET PROTECTION DURING CONSTRUCTION FOR ALL EXISTING AND PROPOSED CATCH BASINS/AREA DRAINS WITHIN THE LIMIT OF WORK. REFER TO THE DETAIL ENTITLED "INLET PROTECTION FOR CATCH BASIN WITH SILTATION SACK" ON THE CONSTRUCTION DETAIL SHEETS.
31. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF DRAINAGE STRUCTURE SEDIMENTS WITHIN THE STATE HIGHWAY LAYOUT AND LIMIT OF WORK AS REQUIRED BY THE ENGINEER AND IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF SECTION 227 OF THE MASSDOT STANDARD SPECIFICATIONS, AS AMENDED.
32. ALL EXISTING/PROPOSED FRAMES AND COVERS/GRATES WITHIN THE PROJECT LIMITS SHALL COMPLY WITH MASSDOT ENGINEERING DIRECTIVE E-16-003. BOLT DOWN MANHOLE COVER ASSEMBLIES SHALL BE INSTALLED ON ALL MANHOLES FROM STA 12+70 TO 40+00. EXISTING COVERS THAT DO NOT COMPLY WITH E-16-003 SHALL BE REMOVED AND DISCARDED AND REPLACED WITH NEW FRAMES AND COVERS.

| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 3 | 104 |
| PROJECT FILE NO. | | 607403 | |

GENERAL NOTES

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| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 5 | 104 |
| PROJECT FILE NO. | | 607403 | |

TYPICAL SECTIONS & PAVEMENT NOTES

PAVEMENT NOTES:

PROPOSED PAVEMENT MICRO MILLING & OVERLAY

| | |
|---------------|--|
| SURFACE: | 1.5" ASPHALT RUBBER GAP GRADED - 12.5 (ARGG - 12.5) OVER |
| INTERMEDIATE: | 1.5" ASPHALT RUBBER GAP GRADED - 12.5 (ARGG - 12.5) OVER |
| MILLING: | VARIABLE DEPTH PAVEMENT MICRO MILLING (4" MAX DEPTH) |

PROPOSED FULL DEPTH PAVEMENT

| | |
|---------------|---|
| SURFACE: | 1.5" ASPHALT RUBBER GAP GRADED - 12.5 (ARGG - 12.5) OVER |
| INTERMEDIATE: | 1.5" ASPHALT RUBBER GAP GRADED - 12.5 (ARGG - 12.5) OVER |
| BASE: | 4.5" SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) OVER |
| SUBBASE: | 4" DENSE GRADED CRUSHED STONE FOR SUBBASE OVER 8" GRAVEL BORROW, TYPE b* |

PROPOSED FULL DEPTH PAVEMENT WIDENING LESS THAN 4 FEET

| | |
|---------------|--|
| SURFACE: | 1.5" ASPHALT RUBBER GAP GRADED - 12.5 (ARGG - 12.5) OVER |
| INTERMEDIATE: | 1.5" ASPHALT RUBBER GAP GRADED - 12.5 (ARGG - 12.5) OVER |
| BASE: | 6" HIGH EARLY STRENGTH CEMENT CONCRETE OVER |
| SUBBASE: | 8" GRAVEL BORROW, TYPE b* |

PROPOSED CEMENT CONCRETE SIDEWALK/WCR/ISLAND

| | |
|----------|---|
| SURFACE: | 4" CEMENT CONCRETE SIDEWALK (4000 PSI, 3/4", 610) |
| SUBBASE: | 8" GRAVEL BORROW, TYPE b* |

PROPOSED CEMENT CONCRETE SIDEWALK AT DRIVEWAY

| | |
|----------|---|
| SURFACE: | 6" CEMENT CONCRETE SIDEWALK (4000 PSI, 3/4", 610) |
| SUBBASE: | 8" GRAVEL BORROW, TYPE b* |

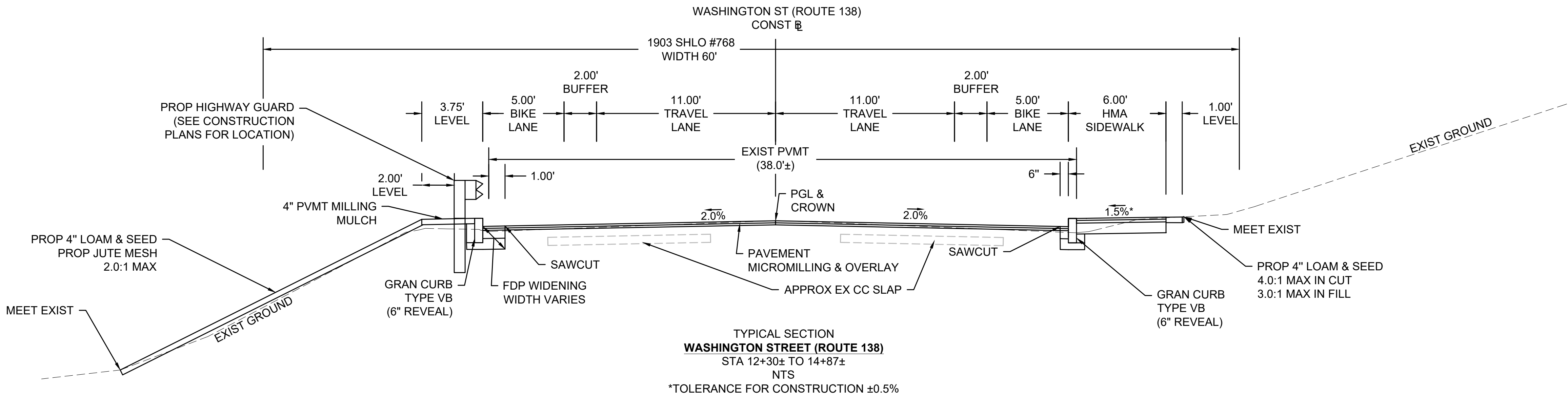
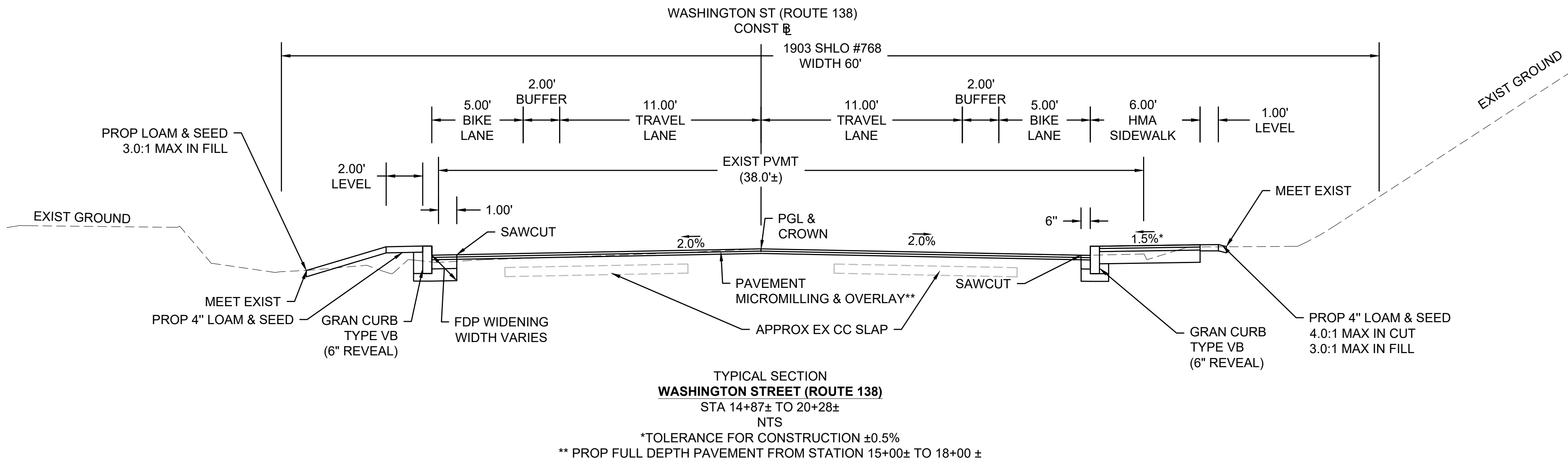
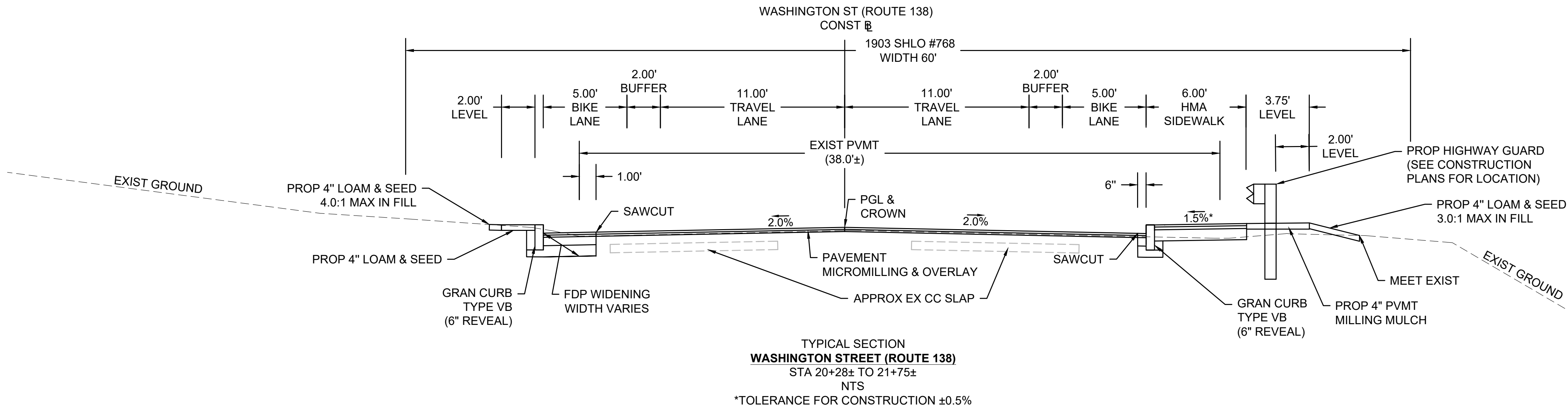
PROPOSED HOT MIX ASPHALT SIDEWALK OR DRIVEWAY

| | |
|----------|--|
| SURFACE: | 3.5" HOT MIX ASPHALT PLACED IN TWO LIFTS: (1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) OVER 2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5)) OVER |
| SUBBASE: | 8" GRAVEL BORROW, TYPE b* |

*EXISTING GRAVEL BORROW SHALL BE RE-USED IF DETERMINED SUITABLE BY THE ENGINEER.

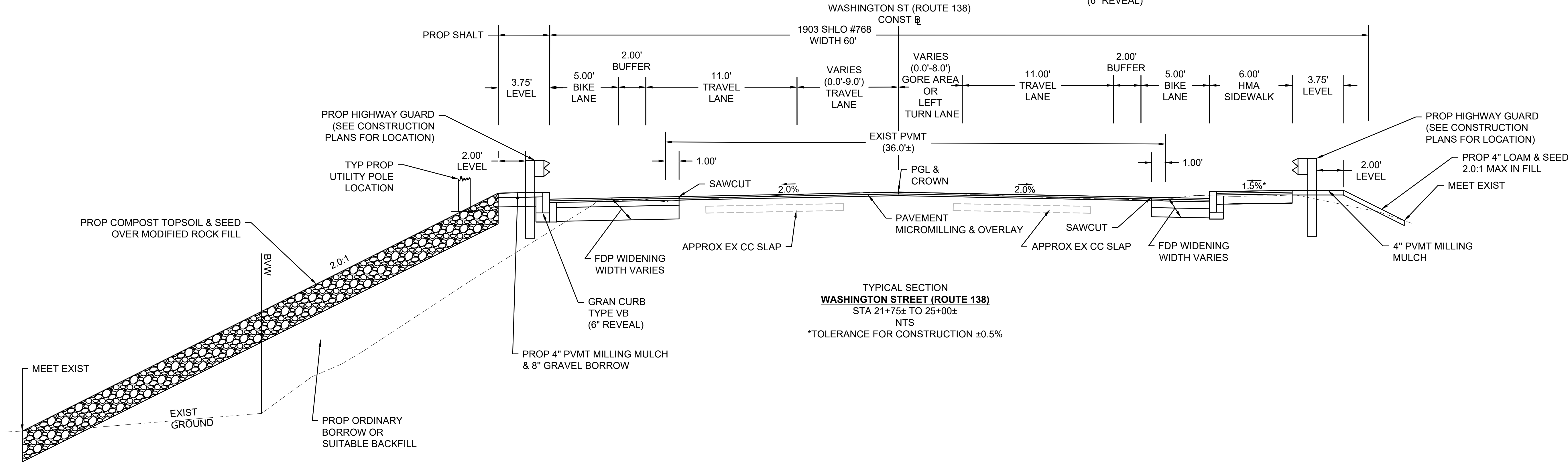
NOTES:

- PAVING OPERATION SHALL SCHEDULE PAVING INTERMEDIATE COURSE TO PROTECT MILLED SURFACE WITHIN SAME WORK SCHEDULE OR WEEK.
- ALL STEEL FRAMES, GATES, COVERS ,AND SERVICE BOXES SHALL BE ADJUSTED TWICE TO THE INTERMEDIATE COURSE AND TO LEVEL TO THE FINAL SURFACE COURSE.
- EMBANKMENT AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

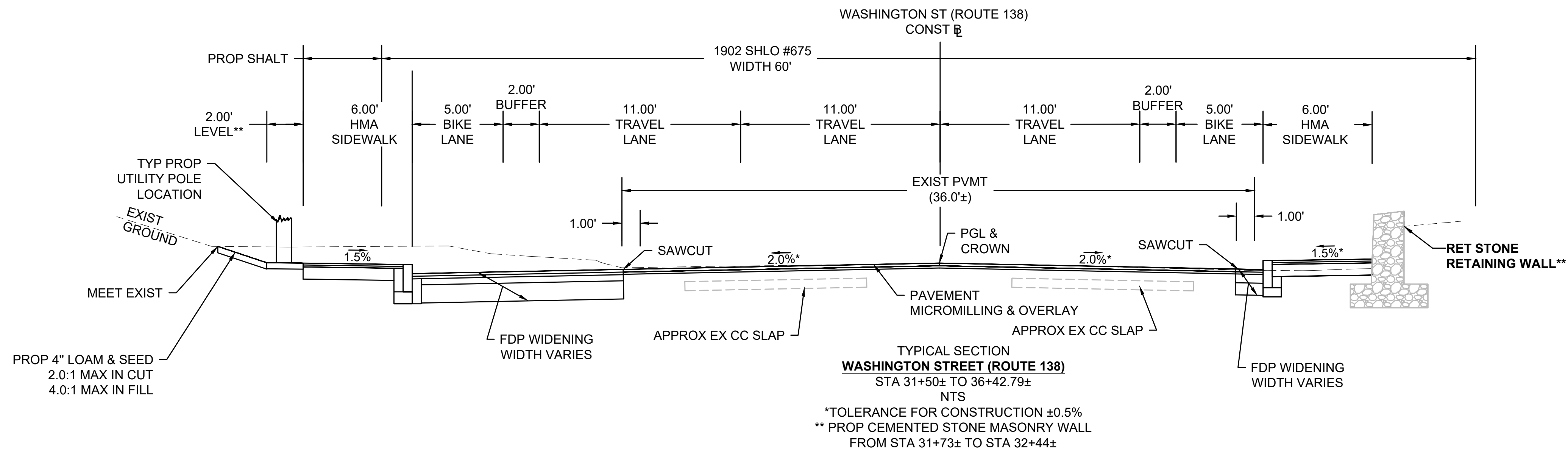
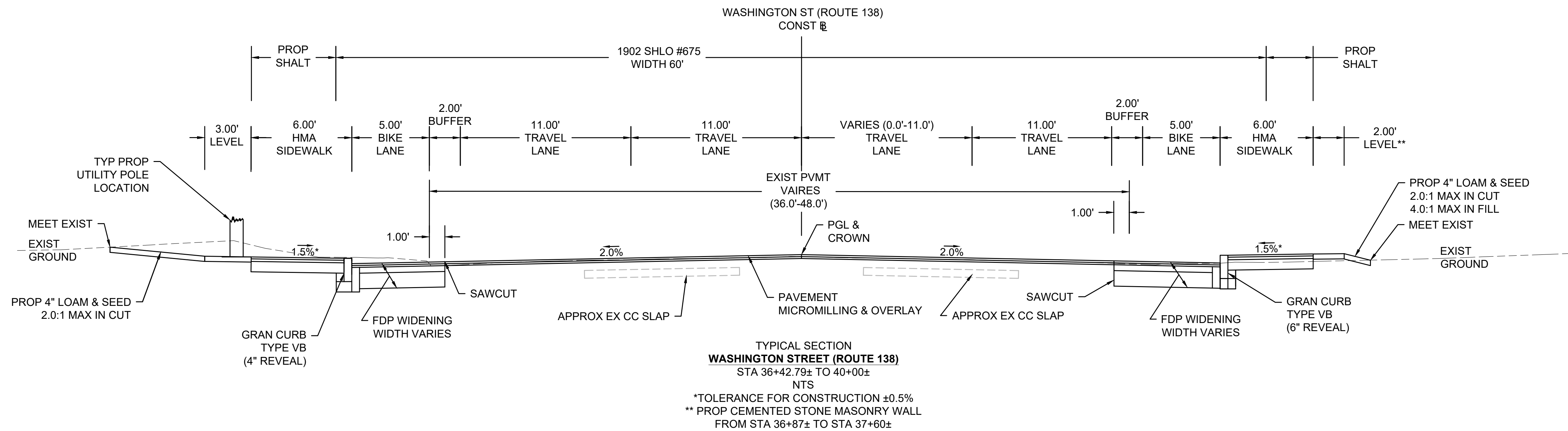
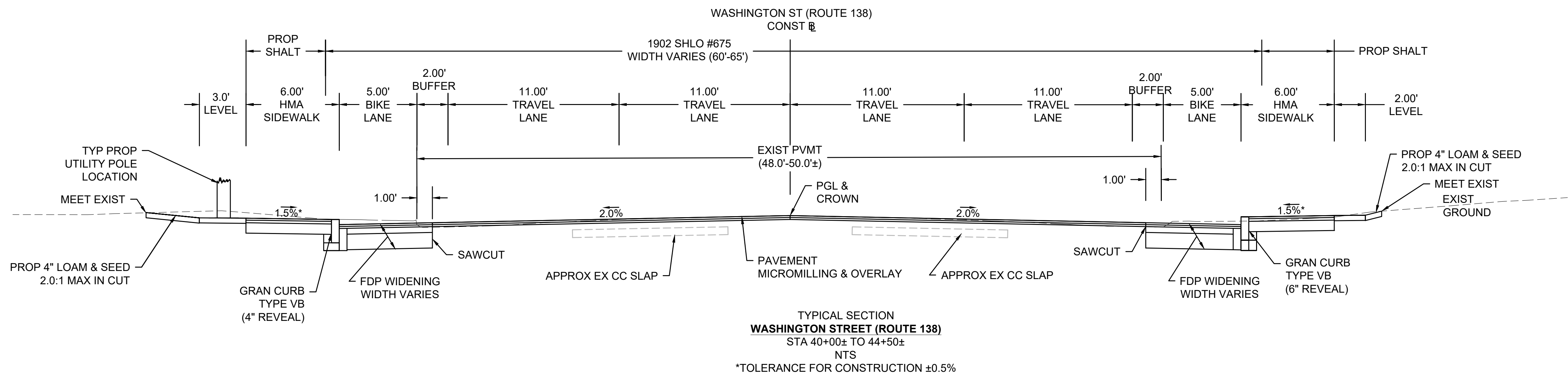


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| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 6 | 104 |
| PROJECT FILE NO. | | 607403 | |

SEE SHEET 5 FOR PAVEMENT NOTES:



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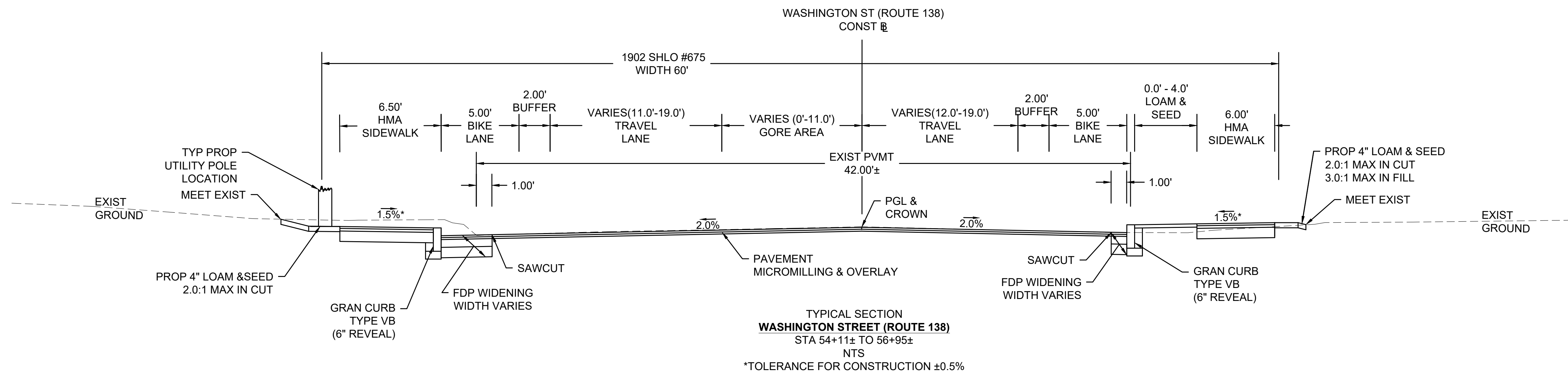


| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 7 | 104 |
| PROJECT FILE NO. | | 607403 | |

TYPICAL SECTIONS & PAVEMENT NOTES

SEE SHEET 5 FOR PAVEMENT NOTES:

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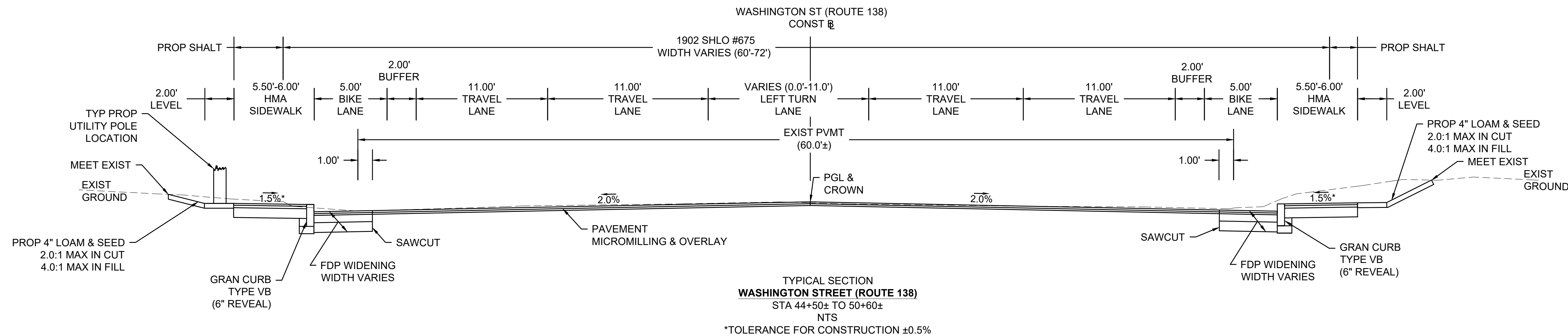
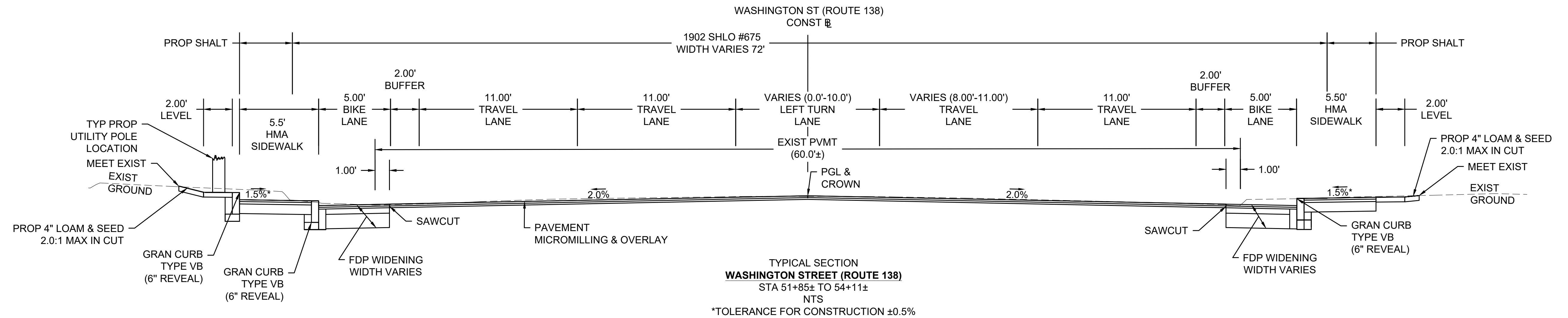
STOUGHTON
WASHINGTON STREET (ROUTE 138)

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| MA | - | 8 | 104 |

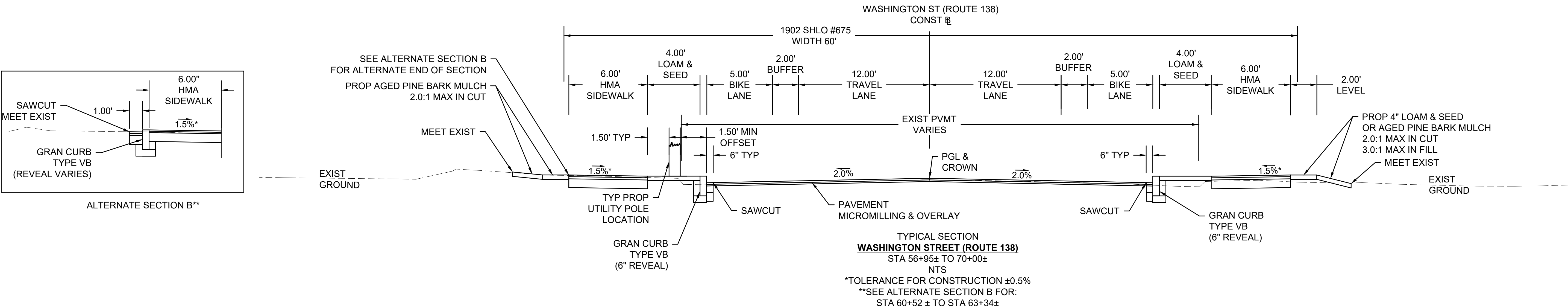
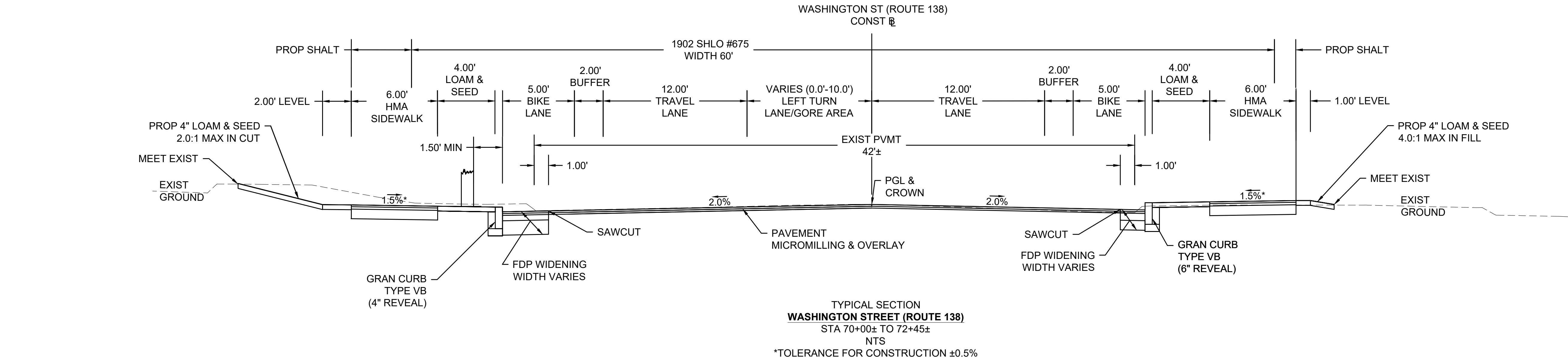
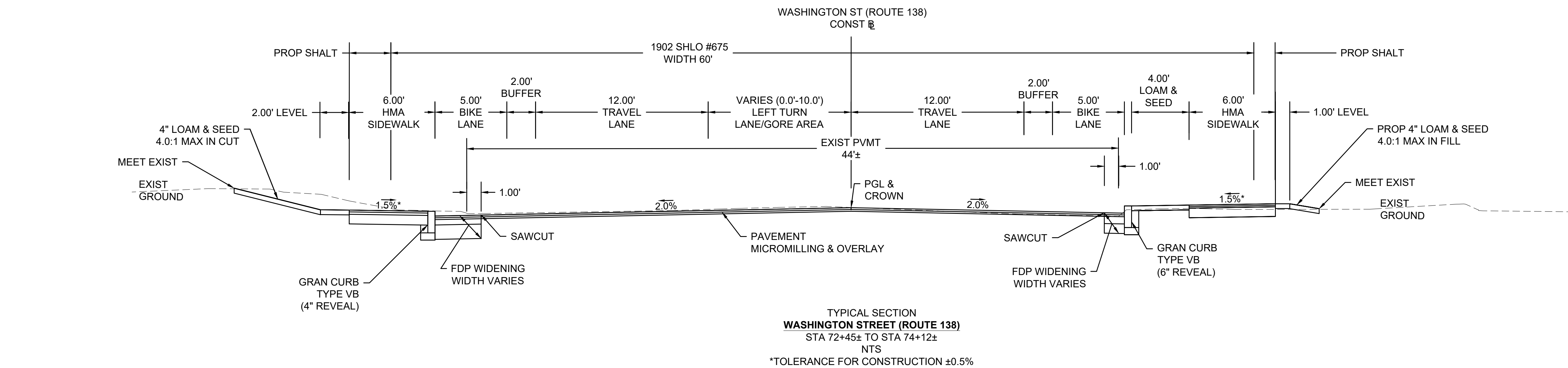
PROJECT FILE NO. 607403

TYPICAL SECTIONS & PAVEMENT NOTES

SEE SHEET 5 FOR PAVEMENT NOTES:



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| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
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| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 9 | 104 |
| PROJECT FILE NO. | | 607403 | |

TYPICAL SECTIONS & PAVEMENT NOTES

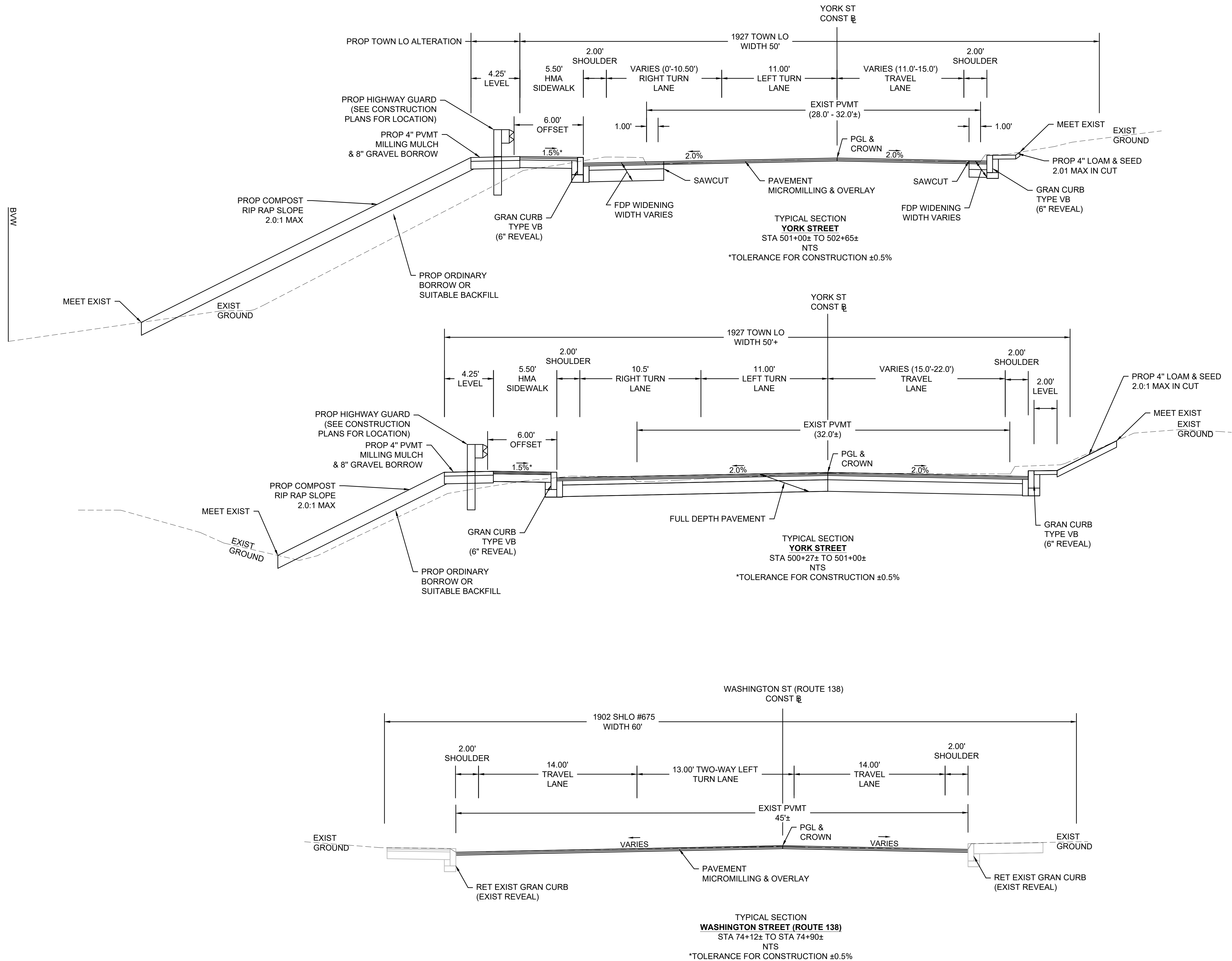
SEE SHEET 5 FOR PAVEMENT NOTES:

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| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
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TYPICAL SECTIONS & PAVEMENT NOTES

SEE SHEET 5 FOR PAVEMENT NOTES:



TRAFFIC SIGN AND PAVEMENT MARKINGS NOTES

1. ALL EXISTING SIGNS AND SIGN POSTS WITHIN THE PROJECT LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED ON THE PLANS.

2. ALL PROPOSED PAVEMENT MARKINGS WITHIN THE LIMIT OF WORK SHALL BE THERMOPLASTIC. ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED BY MASSDOT APPROVED METHOD.

3. ALL PROPOSED SIGN POSTS SHALL BE P-5 TYPE (TELESCOPIC POST) UNLESS NOTED OTHERWISE.

4. PROPOSED PAVEMENT MARKINGS (LEGENDS & ARROWS) SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF MUTCD & MASSDOT STANDARD DRAWINGS.

5. ALL PROPOSED SIGNS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MUTCD AND MASSDOT STANDARDS.

6. EXACT LOCATIONS OF PROPOSED SIGNS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
7. ALL SIGN PANELS SHALL BE 90° TO THE CURB AND FACING THE FLOW OF TRAFFIC EXCEPT PARKING REGULATION SIGNS.

8. ALL SIGNS TO BE R&R SHALL BE MOUNTED ON NEW POSTS, UNLESS OTHERWISE NOTED.

9. SIGNS TO BE MOUNTED NEAR THE CURB LINE SHALL BE SET BACK 12" FROM THE EDGE OF THE SIGN PANEL TO THE CURB LINE. NO SIGN SHALL OVERHANG THE CURB LINE.

10. ALL SIGNS SHALL BE MOUNTED TO PROVIDE A 7.0' MINIMUM CLEARANCE BETWEEN THE BOTTOM OF THE SIGN AND FINISH GRADE EXCEPT OBJECT MARKER SIGNS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TREE TRIMMING WHERE NECESSARY TO IMPROVE VISIBILITY OF PROPOSED SIGNS.

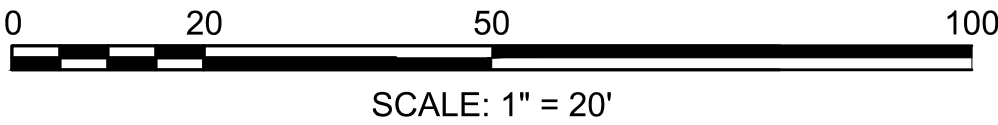
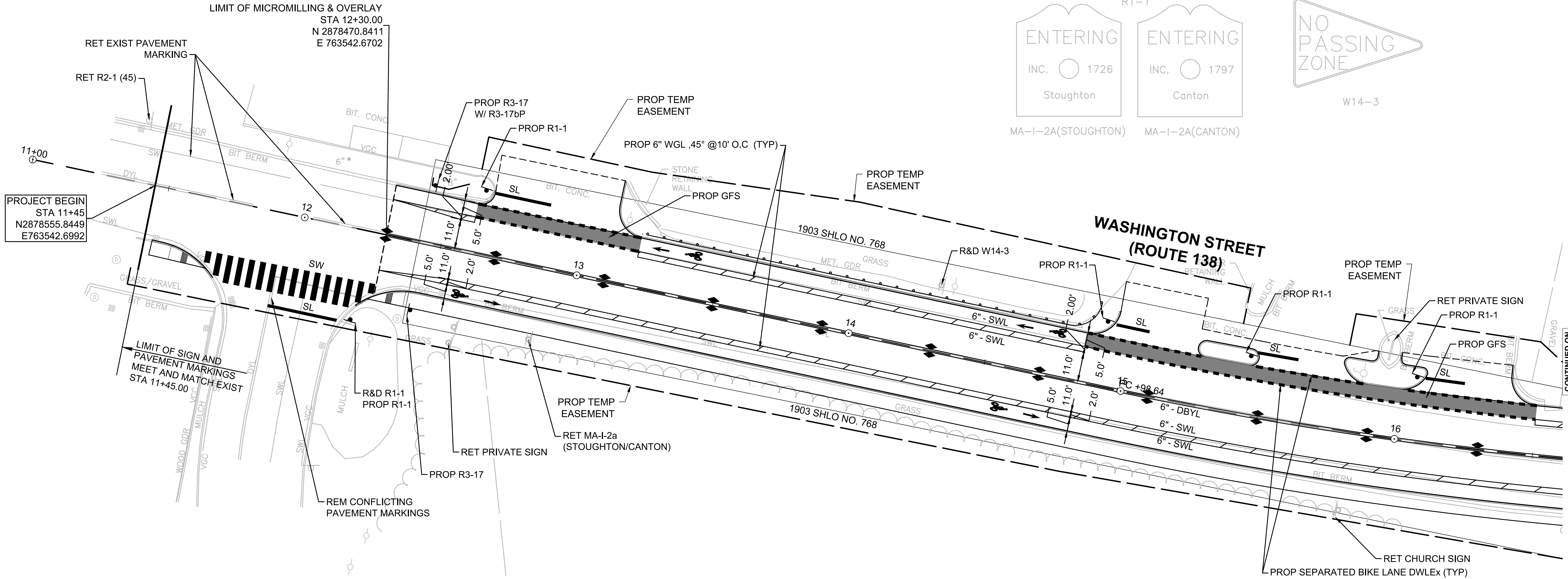
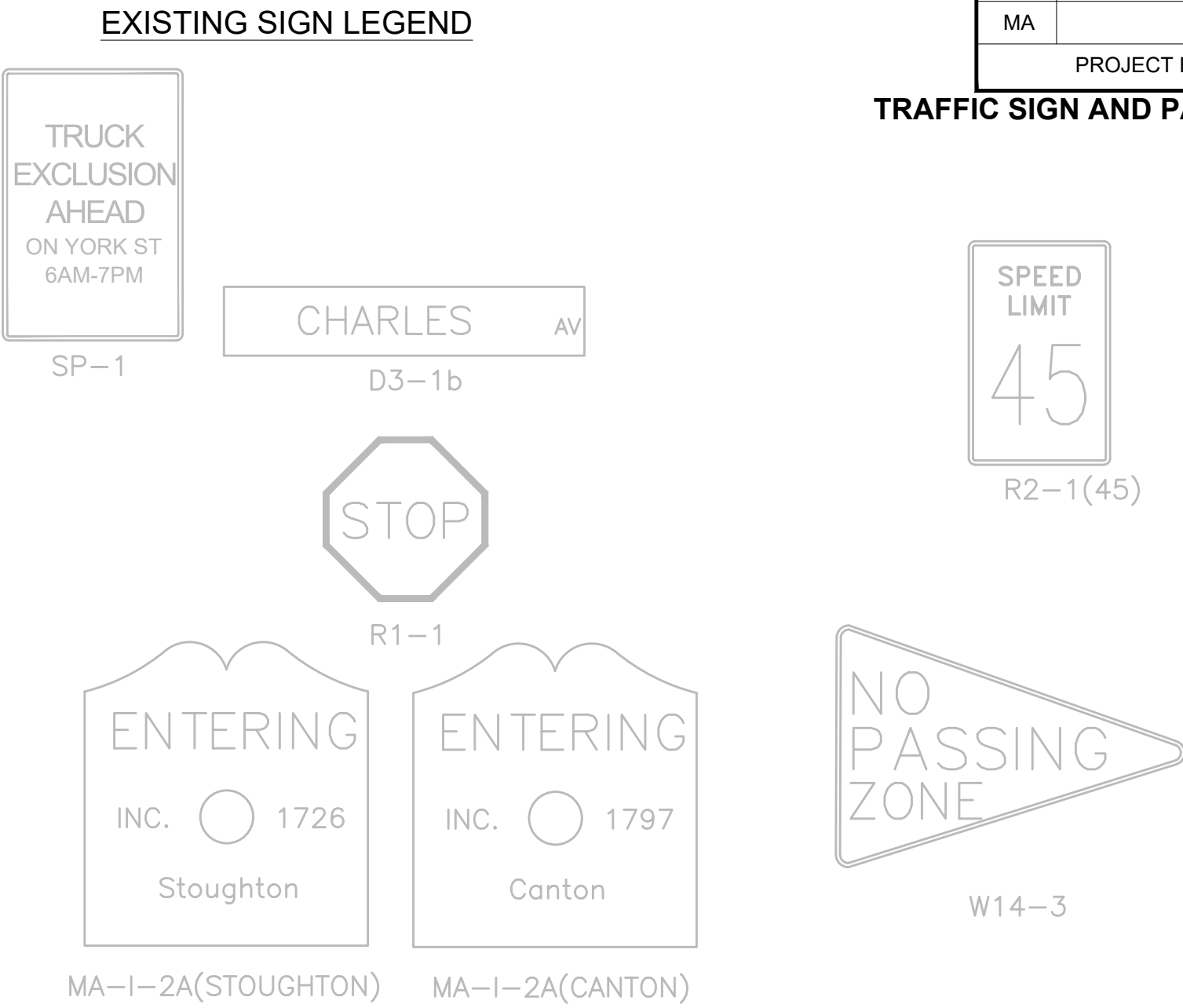
12. SEE SHEET 70-71 FOR PROPOSED SIGN LEGENDS.

13. SEE SHEET 2-3 FOR LEGENDS, ABBREVIATIONS, AND GENERAL NOTES.

STOUGHTON
WASHINGTON STREET (ROUTE 138)

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TRAFFIC SIGN AND PAVEMENT MARKINGS PLAN



- SLOTTED PAVEMENT MARKER LEGEND:
- ◆ TWO WAY YELLOW/YELLOW
 - ◄ ONE WAY WHITE

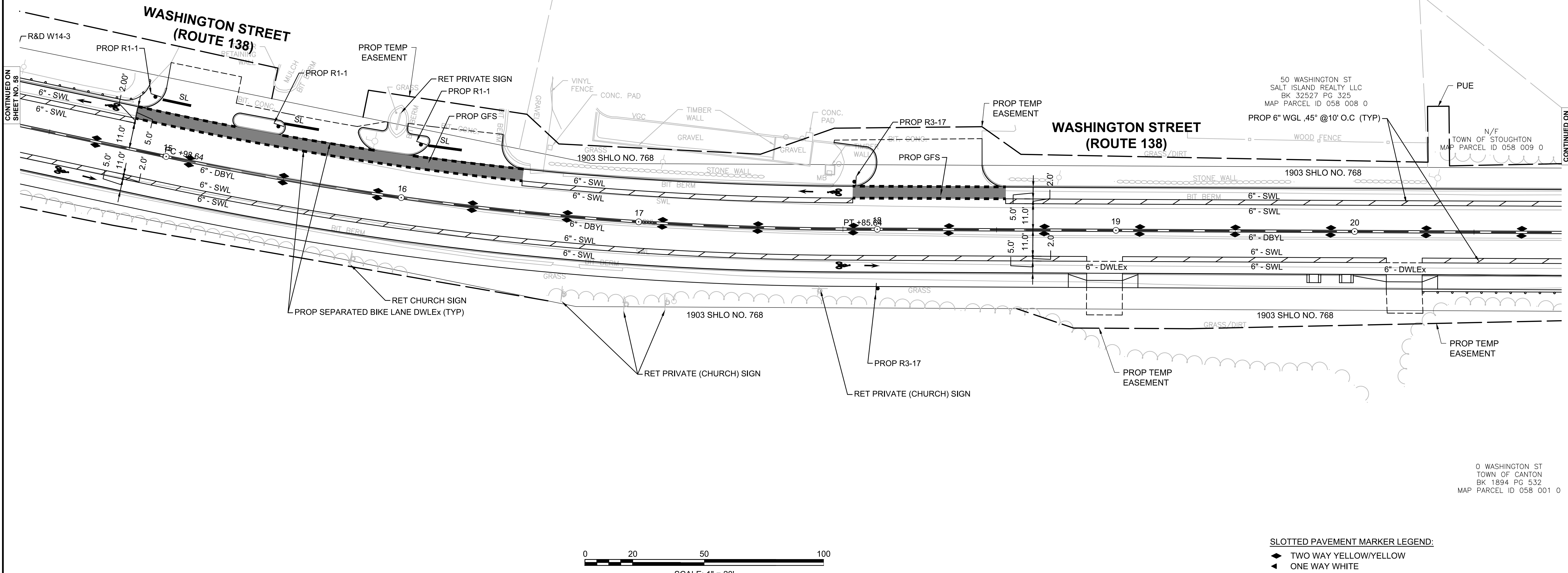
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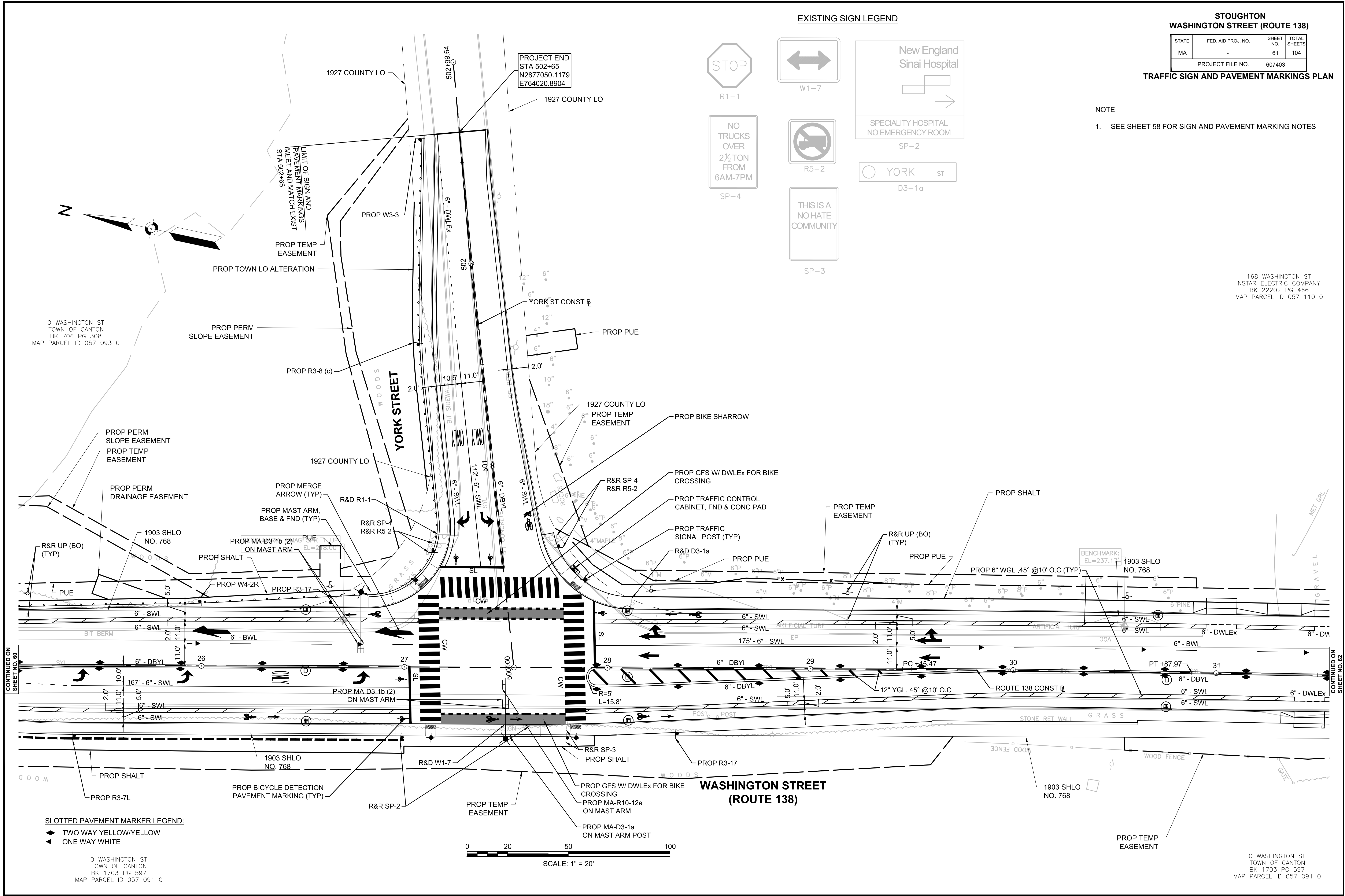
STOUGHTON
WASHINGTON STREET (ROUTE 138)

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| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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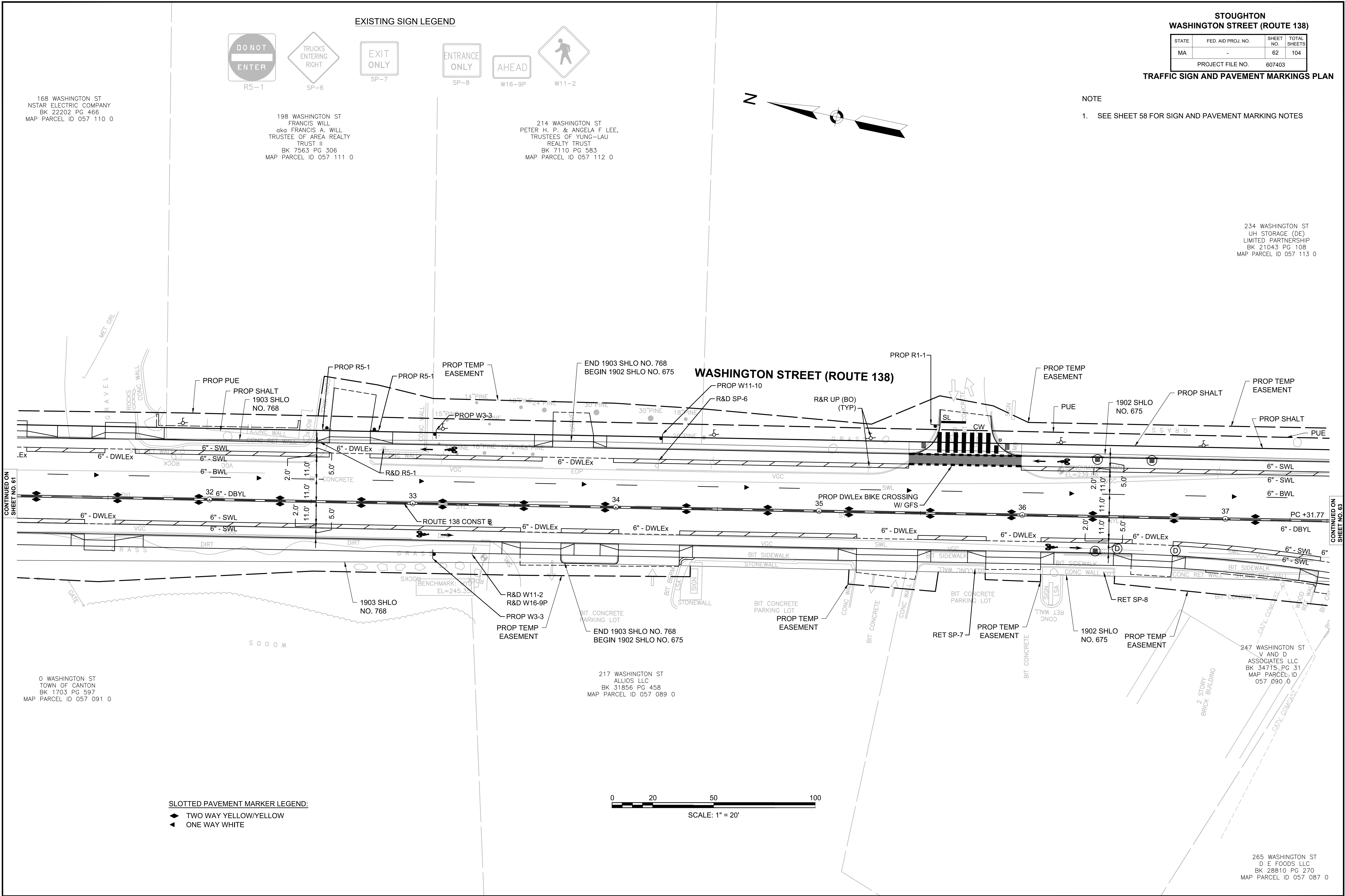
TRAFFIC SIGN AND PAVEMENT MARKINGS PLAN

- NOTE
1. SEE SHEET 58 FOR SIN AND PAVEMENT MARKING NOTES.





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STOUGHTON
WASHINGTON STREET (ROUTE 138)

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| PROJECT FILE NO. | | 607403 | |

TRAFFIC SIGN AND PAVEMENT MARKINGS PLAN

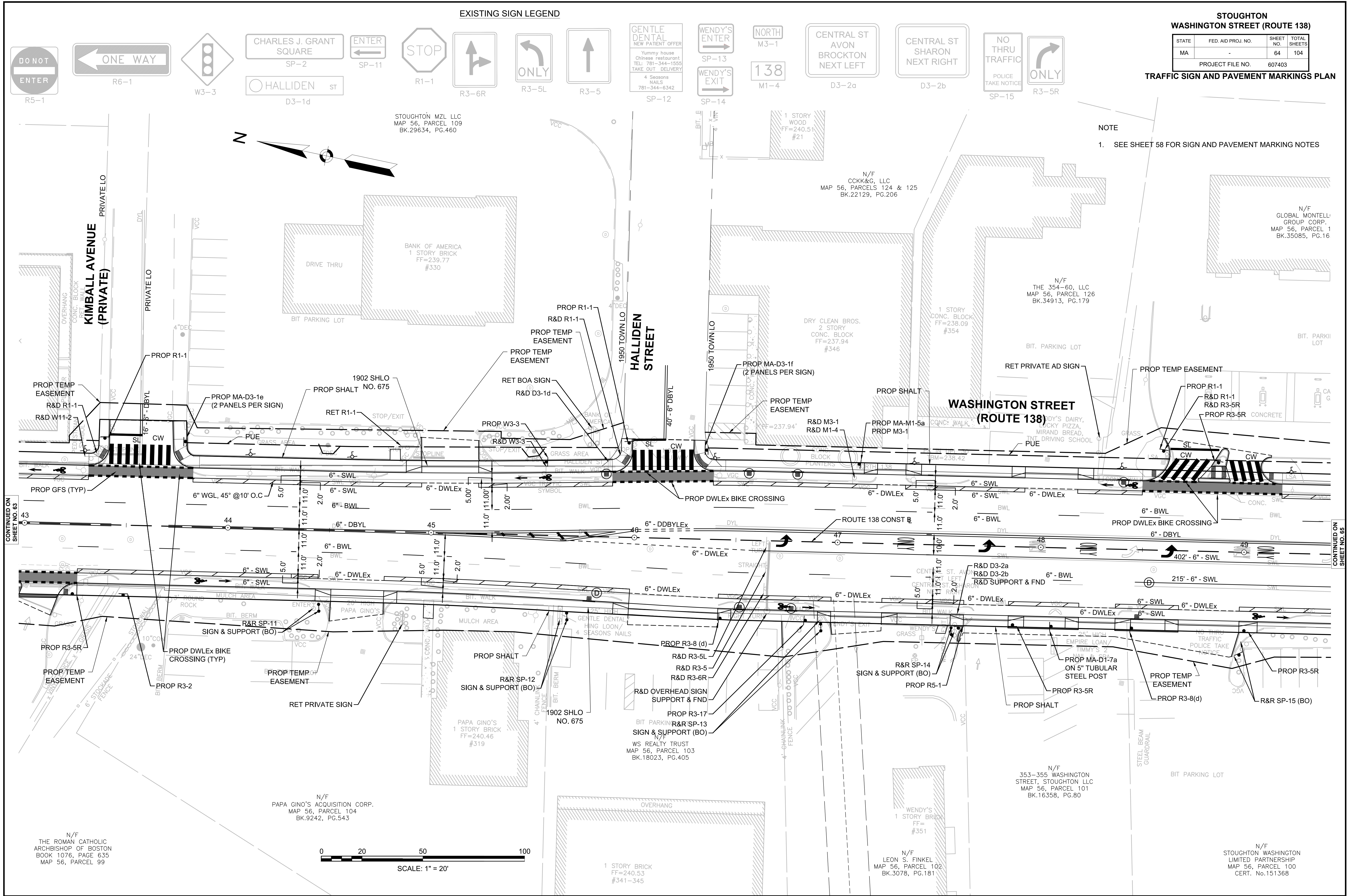


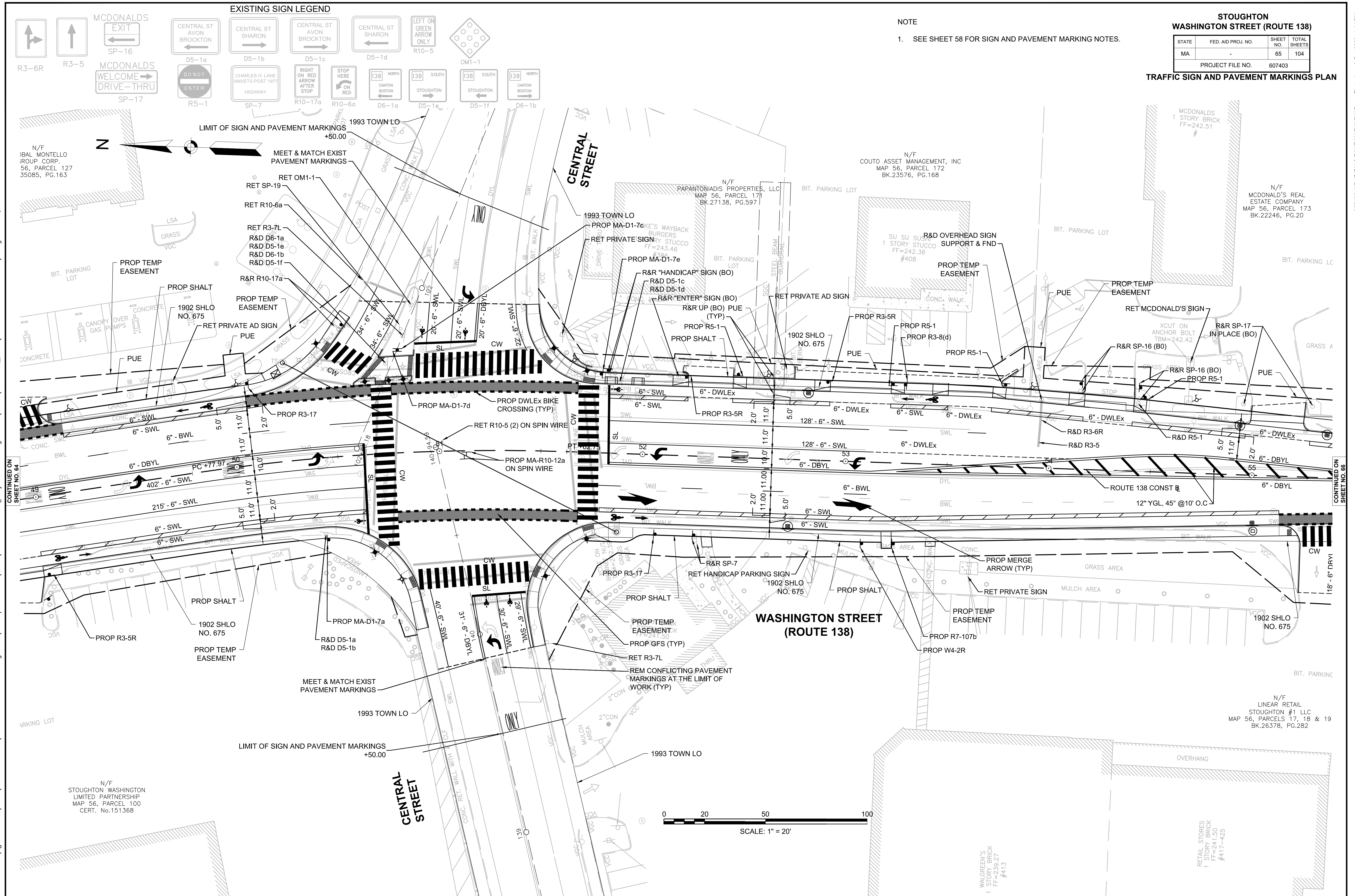
0 WASHINGTON ST
STOUGHTON MZL LLC
BK 29634 PG 451
CERT. 183805
MAP PARCEL ID 056 108 0

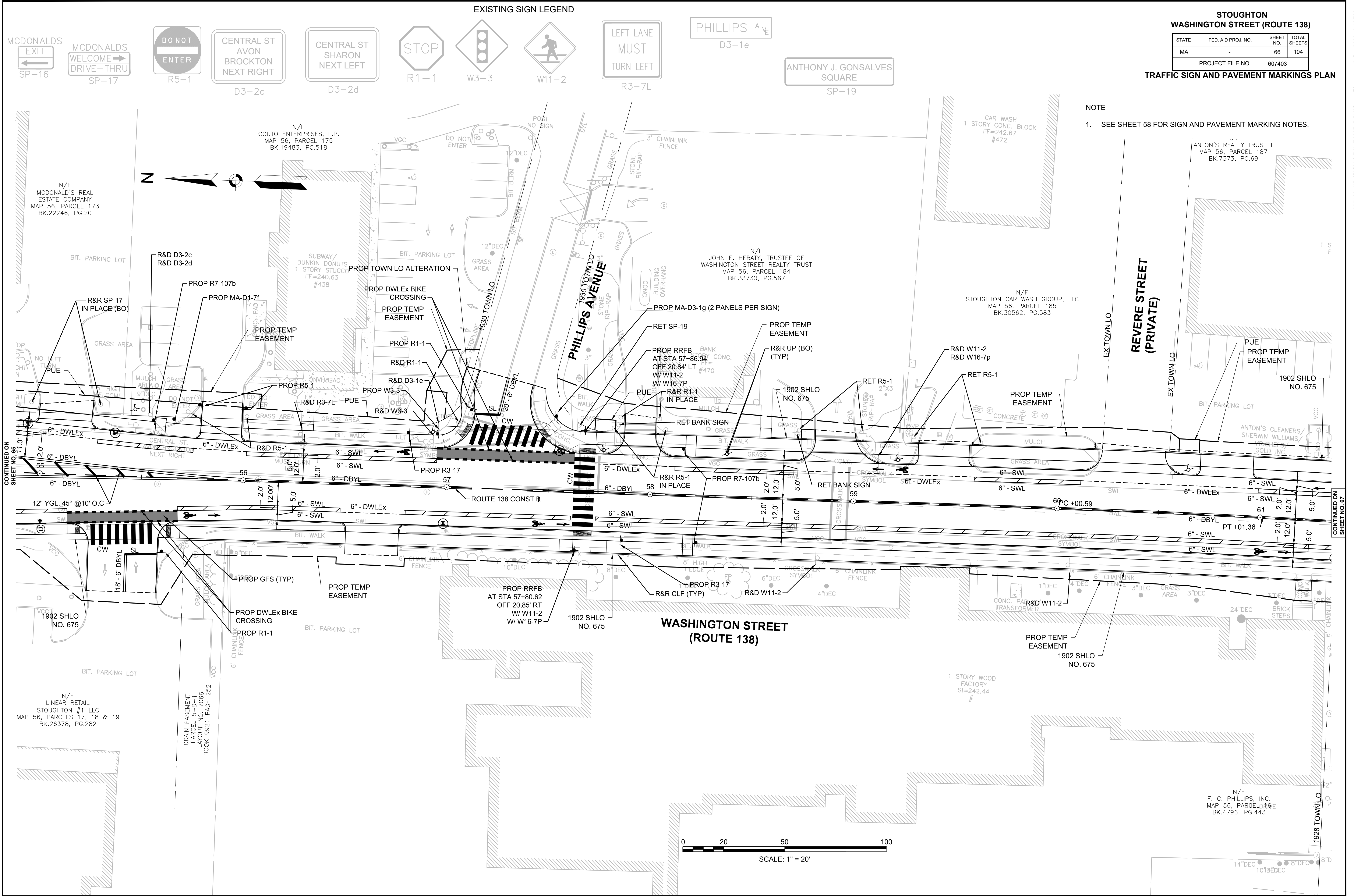


265 WASHINGTON ST
D E FOODS LLC
BK 28810 PG 270
MAP PARCEL ID 057 087 0

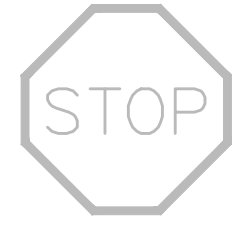
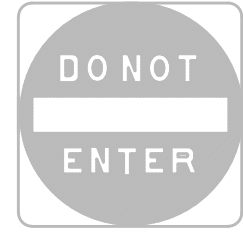
N/F
THE ROMAN CATHOLIC
ARCHBISHOP OF BOSTON
BOOK 1076, PAGE 635
MAP 56, PARCEL 99







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EXISTING SIGN LEGEND



NOTE

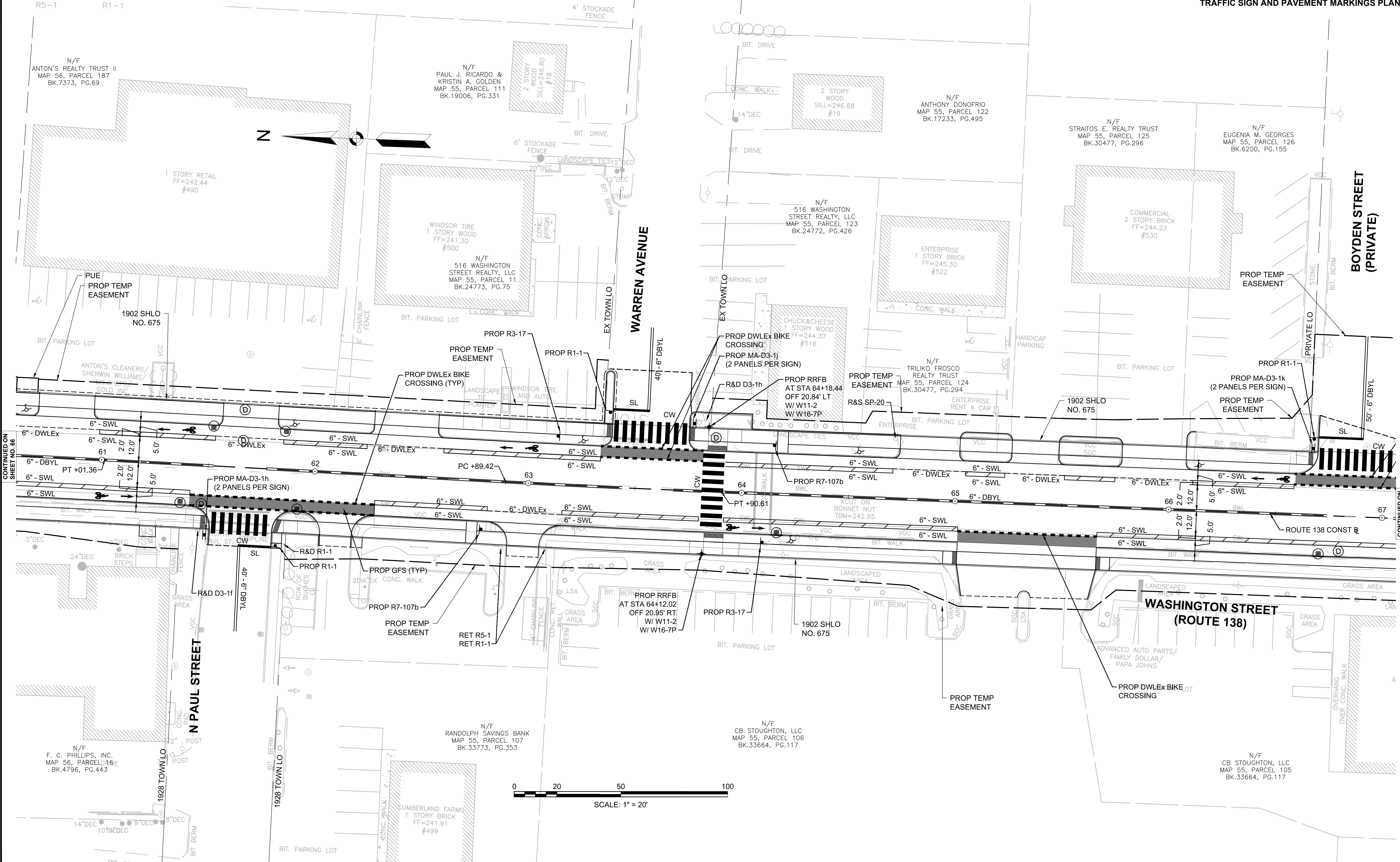
1. SEE SHEET 58 FOR SIGN AND PAVEMENT MARKING NOTES.

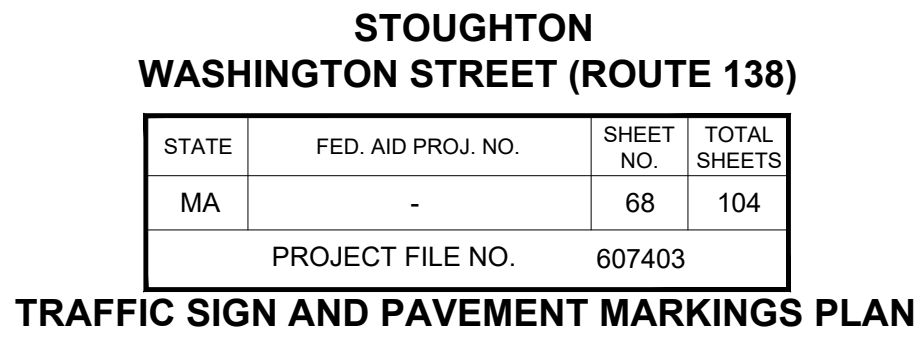
STOUGHTON
WASHINGTON STREET (ROUTE 138)

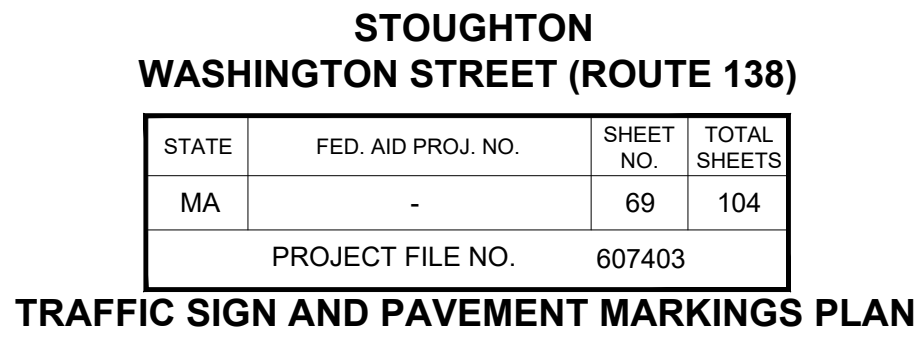
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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| MA | - | 67 | 104 |

PROJECT FILE NO. 607403

TRAFFIC SIGN AND PAVEMENT MARKINGS PLAN







PROPOSED TRAFFIC SIGN SUMMARY

| IDENTIFI- CATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS | | | NUMBER OF SIGNS REQUIRED | COLOR | | | POST SIZE AND NUMBER REQUIRED ② | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-------------------------------|--------------|--------|---|-----------------------------|-------------------------|--------------------------------|-----------------------------------|-----------------|--------|--------|---|--------------------------------|---------------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | (INCHES) ARROW RTE. MKR. | | BACK- GROUND | LEGEND | BORDER | | | |
| MA-D3-1a ③ | 62" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | ① | 3 | GREEN | WHITE | WHITE | 1 MOUNT ON MAST ARM SHAFT (PBS) P-5 2 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1b | 48" | 18" |  | 8D/5.33D | 5" 8D/5.33D 5" | | 4 | GREEN | WHITE | WHITE | 4 MOUNT ON MAST ARM | INCLUDED UNDER ITEM 874. | |
| MA-D3-1c ③ | 52" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1d ③ | 52" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1e ③ | 44" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1f ③ | 50" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1g ③ | 52" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1h ③ | 58" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1j ③ | 44" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1k ③ | 40" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1m ③ | 38" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1n ③ | 56" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D3-1p ③ | 48" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | | 2 | GREEN | WHITE | WHITE | 2 MOUNT W/ MA-D3-1a | INCLUDED UNDER ITEM 874. | |
| MA-D3-1q ③ | 48" | 12" |  | 6D/4D | 2.75" 6D/4D 3.25" | ⬇ | 2 | GREEN | WHITE | WHITE | P-5 1 REQ'D | INCLUDED UNDER ITEM 874. | |
| MA-D1-7a | 66" | 96" | SEE SIGN DETAIL SHEET 72 | SEE SIGN DETAIL SHEET 72 | | | 1 | GREEN | WHITE | WHITE | 1-5" TUBULAR STEEL POST (ITEM 841.1) | 44.00 | 44.00 |
| MA-D1-7b | 66" | 90" | SEE SIGN DETAIL SHEET 72 | SEE SIGN DETAIL SHEET 72 | | | 1 | GREEN | WHITE | WHITE | 1-5" TUBULAR STEEL POST (ITEM 841.1) | 44.00 | 44.00 |
| MA-D1-7c | 66" | 108" | SEE SIGN DETAIL SHEET 72 | SEE SIGN DETAIL SHEET 72 | | | 1 | GREEN | WHITE | WHITE | 1-5" TUBULAR STEEL POST (ITEM 841.1) | 44.00 | 44.00 |
| MA-D1-7d | 66" | 108" | SEE SIGN DETAIL SHEET 72 | SEE SIGN DETAIL SHEET 72 | | | 1 | GREEN | WHITE | WHITE | 1 MOUNT BACK TO BACK W/MA-D1-7c | 44.00 | 44.00 |
| MA-D1-7e | 66" | 90" | SEE SIGN DETAIL SHEET 72 | SEE SIGN DETAIL SHEET 72 | | | 1 | GREEN | WHITE | WHITE | 1-5" TUBULAR STEEL POST (ITEM 841.1) | 44.00 | 44.00 |
| MA-D1-7f | 66" | 96" | SEE SIGN DETAIL SHEET 72 | SEE SIGN DETAIL SHEET 72 | | | 1 | GREEN | WHITE | WHITE | 1-5" TUBULAR STEEL POST (ITEM 841.1) | 44.00 | 44.00 |

- ① SEE MUTCD 2009 EDITION, THE 2012 SUPPLEMENT TO THE 2004 EDITION OF THE STANDARD HIGHWAY SIGNS AND SECTION M9.30.0 TYPE III OF THE MASSDOT STANDARD SPECIFICATION FOR TEXT DIMENSIONS AND COLOR.
- ② SEE STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, 1990.
- ③ STREET NAME SIGNS THAT ARE MOUTHED ON P-5 POSTS SHALL BE ORDERED TWO SIGNS PER LOCATION AND SHALL BE MOUNTED WITH BOLT-THROUGH METHOD.
- ④ CONTRACTOR TO COORDINATE WITH BROCKTON AREA TRANSIT AUTHORITY (BAT) FOR BUS STOP SIGN STANDARDS.
- ⑤ CONTRACTOR TO COORDINATE WITH TOWN OF STOUGHTON FOR SEAL

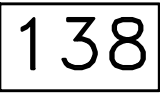




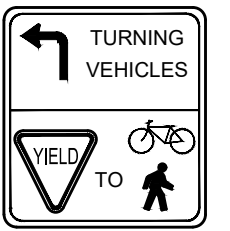

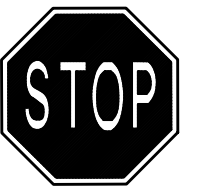
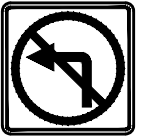



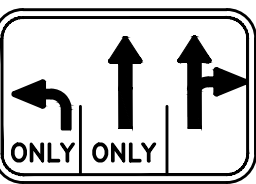
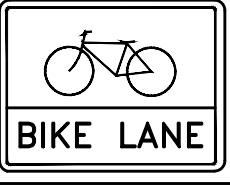
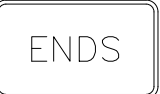


STOUGHTON
WASHINGTON STREET (ROUTE 138)

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| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 70 | 104 |
| PROJECT FILE NO. | | 607403 | |

STOUGHTON TOWN SEAL
NOT TO SCALE





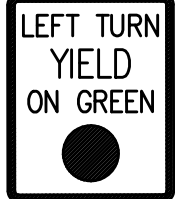
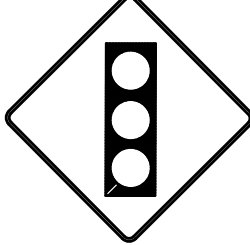
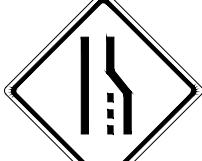

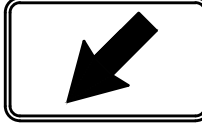


TRAFFIC SIGN SUMMARY

| IDENTIFI- CATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | BACK- GROUND | COLOR | BORDER | POST SIZE AND NUMBER REQUIRED ② | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-------------------------------|--------------|--------|---|--|---------------------|--------------------|-----------------------------------|-----------------|---------------|--------|---|------------------------|---------------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | | | | | | |
| MA-M1-5a | 30" | 24" |  | SEE MASSDOT STANDARD SIGN DETAIL | | | 1 | WHITE | BLACK | BLACK | P-5 1 REQ'D | 5.00 | 5.00 |
| M3-1 | 24" | 12" |  | ① | ① | ① | 1 | WHITE | BLACK | BLACK | 1 MOUNT W/ MA-M1-5a | 2.00 | 2.00 |
| MA-R10-12a | 30" | 36" |  | SEE MASSDOT STANDARD SIGN DETAIL | | | 3 | WHITE | BLACK | BLACK | 1 MOUNT ON MAST ARM 2 MOUNT ON SPAN WIRE | 7.50 | 22.50 |
| MA-I-13 | 24" | 30" |  | | | | 1 | GREEN | WHITE | WHITE | P-5 1 REQ'D | 5.00 | 5.00 |
| MA-I-14 | 24" | 30" |  | | | | 1 | GREEN | WHITE | WHITE | P-5 1 REQ'D | 5.00 | 5.00 |
| R10-15L ALT | 30" | 30" |  | ① | ① | ① | 1 | WHITE | BLACK | BLACK | P-5 1 REQ'D | 6.25 | 6.25 |
| R10-15R ALT | 30" | 30" |  | | | | 1 | WHITE | BLACK | BLACK | P-5 1 REQ'D | 6.25 | 6.25 |
| R1-1 | 30" | 30" |  | | | | 23 | RED | WHITE | WHITE | P-5 23 REQ'D | 6.25 | 143.75 |
| R3-2 | 36" | 36" |  | | | | 1 | WHITE | RED/ BLACK | BLACK | P-5 1 REQ'D | 9.00 | 9.00 |
| R3-5R | 30" | 36" |  | | | | 6 | WHITE | BLACK | BLACK | P-5 6 REQ'D | 7.50 | 45.00 |
| R3-7L | 30" | 30" |  | | | | 3 | WHITE | BLACK | BLACK | P-5 2 REQ'D 1 MOUNT ON SIGNAL POST | 6.25 | 18.75 |
| R3-8 (c) | 30" | 30" |  | | | | 1 | WHITE | BLACK | BLACK | P-5 1 REQ'D | 6.25 | 6.25 |
| R3-8 (d) | 48" | 30" |  | | | | 3 | WHITE | BLACK | BLACK | P-5 3 REQ'D | 10.00 | 30.00 |
| R3-17 | 24" | 18" |  | | | | 18 | BLACK | WHITE | WHITE | P-5 18 REQ'D | 3.00 | 54.00 |
| R3-17bP | 24" | 8" |  | | | | 2 | WHITE | BLACK | BLACK | 2 MOUNTED W/ R3-17 | 1.33 | 2.66 |

PBS -- PAINTED BOTH SIDES

Nitsch - \\jnel.local\DFS\8000-9999\9720.16 rt138 stoughton\transportation\CAD\607403 cad\project drawing data\DWG\607403_HD (SIGN & PAVE MARK).dwg Oct 9, 2020 4:45 PM

PROPOSED TRAFFIC SIGN SUMMARY

| IDENTIFI- CATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | POST SIZE AND NUMBER REQUIRED ② | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-------------------------------|--------------|--------|---|--------------------------|---------------------|--------------------|-----------------------------------|--------------------------------|-----------------|--------|--|----------------------------|---------------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACKGROUND | LEGEND | BORDER | | | |
| R4-7 | 24" | 36" |  | ① | ① | ① | 1 | WHITE | BLACK | BLACK | 1 MOUNTED ON SIGNAL POST | 5.00 | 5.00 |
| R4-11 | 30" | 30" |  | | | | 1 | WHITE | BLACK | BLACK | P-5 1 REQ'D | 6.25 | 6.25 |
| R5-1 | 30" | 30" |  | | | | 6 | RED | WHITE | WHITE | P-5 6 REQ'D | 6.25 | 37.50 |
| R7-107b ④ | 12" | 30" |  | ④ | ④ | ④ | 6 | ④ | ④ | ④ | P-5 6 REQ'D | 2.50 | 15.00 |
| R10-12 | 30" | 36" |  | ① | ① | ① | 1 | WHITE | BLACK /GREEN | BLACK | 1 MOUNT ON SPAN WIRE | 7.50 | 7.50 |
| W3-3 | 30" | 30" |  | | | | 6 | FLUORESCENT YELLOW | BLACK | BLACK | P-5 6 REQ'D | 6.25 | 37.50 |
| W4-2R | 36" | 36" |  | | | | 2 | FLUORESCENT YELLOW | BLACK | BLACK | P-5 2 REQ'D | 9.00 | 18.00 |
| W11-2 | 36" | 36" |  | | | | 2 | FLUORESCENT YELLOW GREEN | BLACK | BLACK | P-5 2 REQ'D | 9.00 | 18.00 |
| W16-7P | 24" | 12" |  | | | | 2 | FLUORESCENT YELLOW GREEN | BLACK | BLACK | 2 MOUNT W/W11-2 | 2.00 | 4.00 |
| W11-2 | 36" | 36" |  | | | | 4 | FLUORESCENT YELLOW GREEN | BLACK | BLACK | 4 MOUNT W/ RRFB | PAID UNDER ITEM 824.221 | |
| W16-7P | 24" | 12" |  | | | | 4 | FLUORESCENT YELLOW GREEN | BLACK | BLACK | 4 MOUNT W/ RRFB | PAID UNDER ITEM 824.221 | |

① SEE MUTCD 2009 EDITION, THE 2012 SUPPLEMENT TO THE 2004 EDITION OF THE STANDARD HIGHWAY SIGNS AND SECTION M9.30.0 TYPE III OF THE MASSDOT STANDARD SPECIFICATION FOR TEXT DIMENSIONS AND COLOR.

② SEE STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, 1990.

④ CONTRACTOR TO COORDINATE WITH BROCKTON AREA TRANSIT AUTHORITY (BAT) FOR BUS STOP SIGN STANDARDS.

STOUGHTON
WASHINGTON STREET (ROUTE 138)

| | | | |
|------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 71 | 104 |
| PROJECT FILE NO. | | 607403 | |

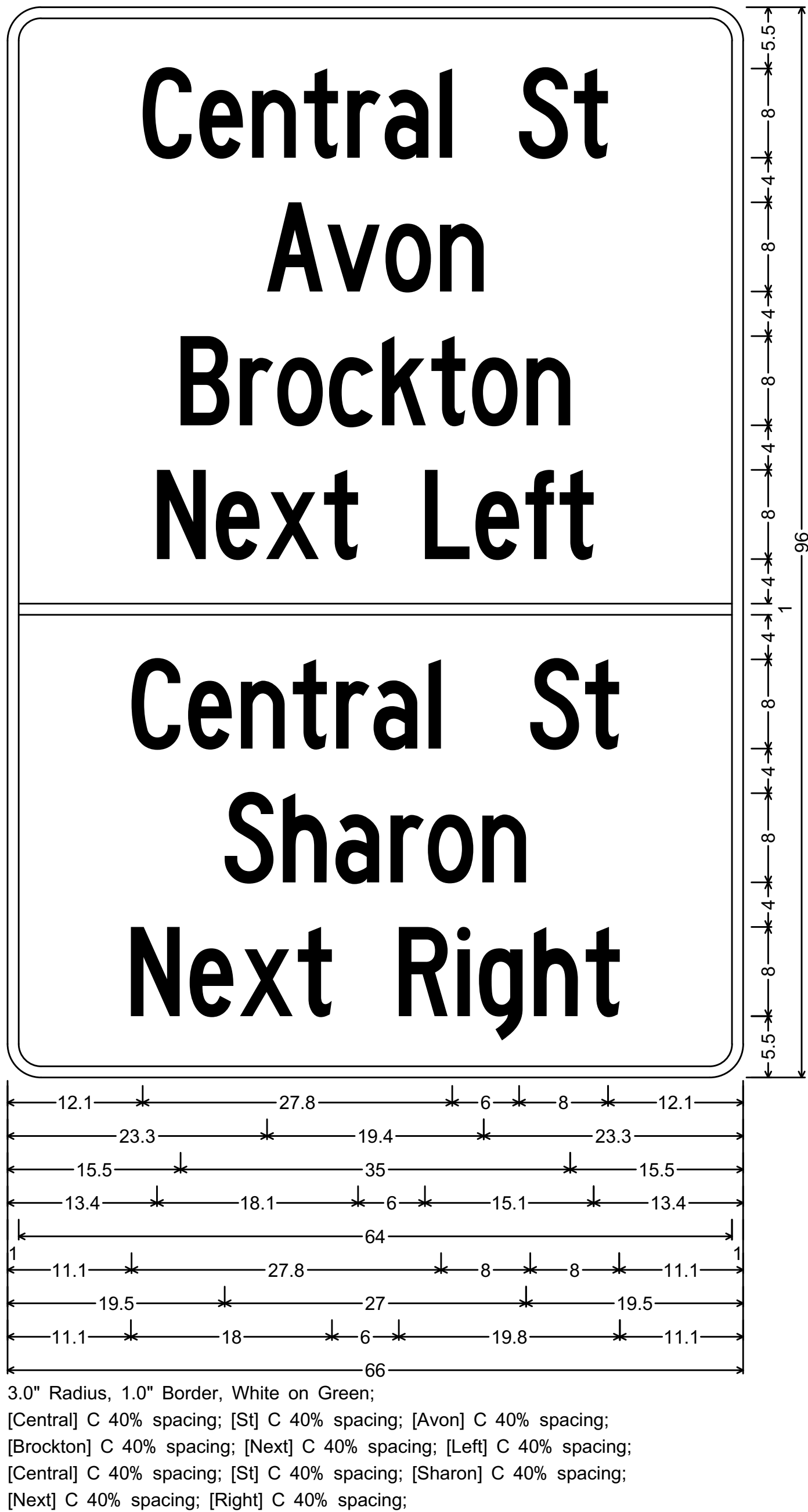
TRAFFIC SIGN SUMMARY

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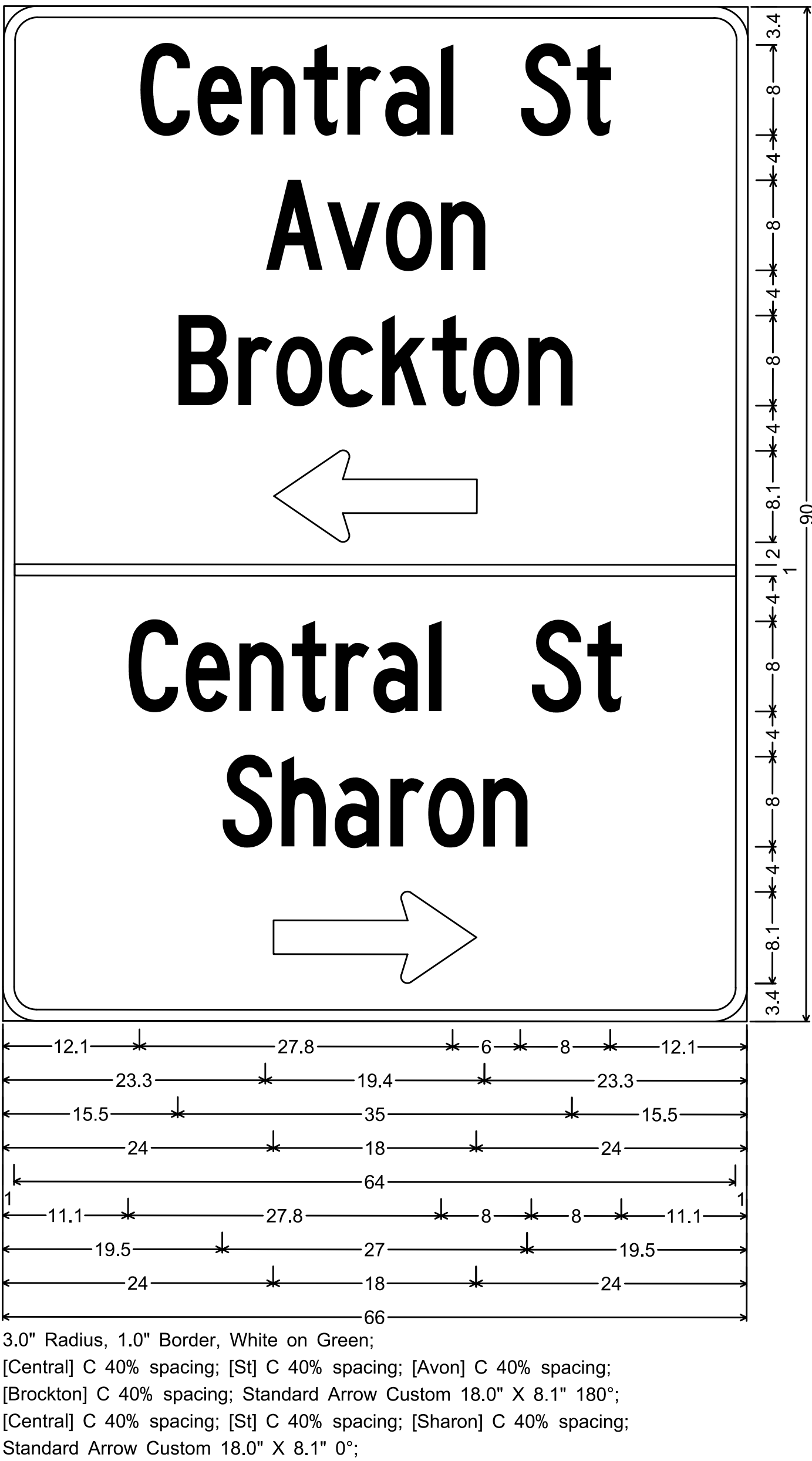
| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 72 | 104 |
| PROJECT FILE NO. | | 607403 | |

TRAFFIC SIGN DETAIL

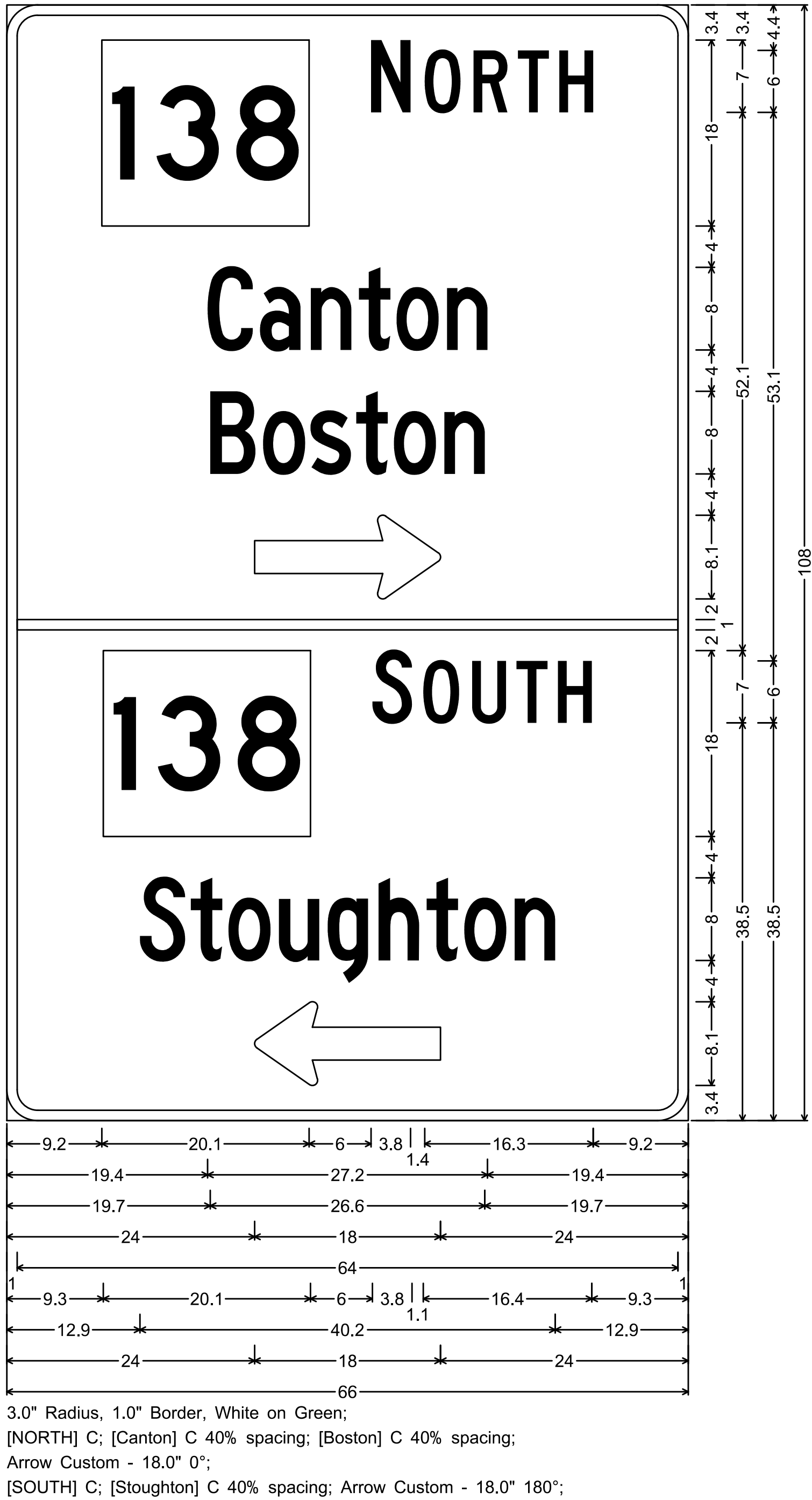
MA-D1-7a



MA-D1-7b



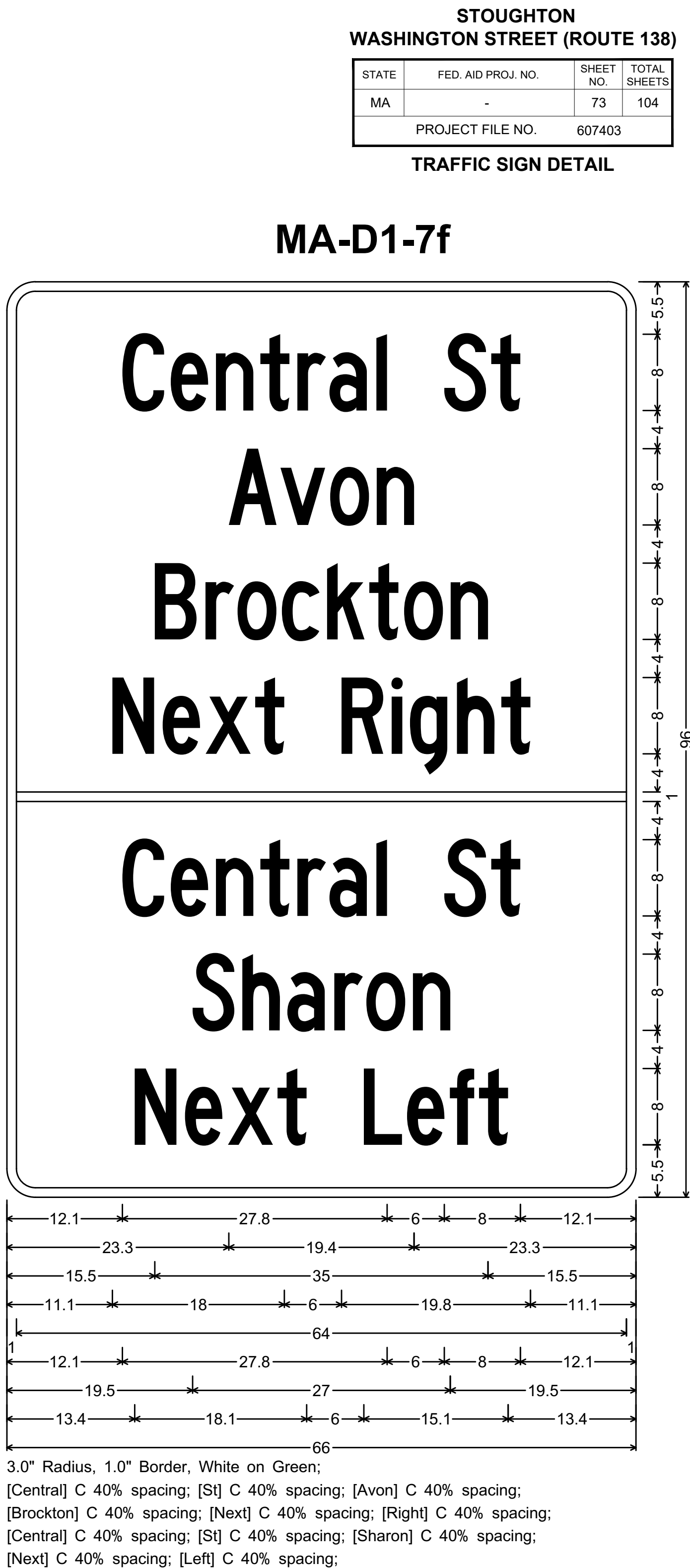
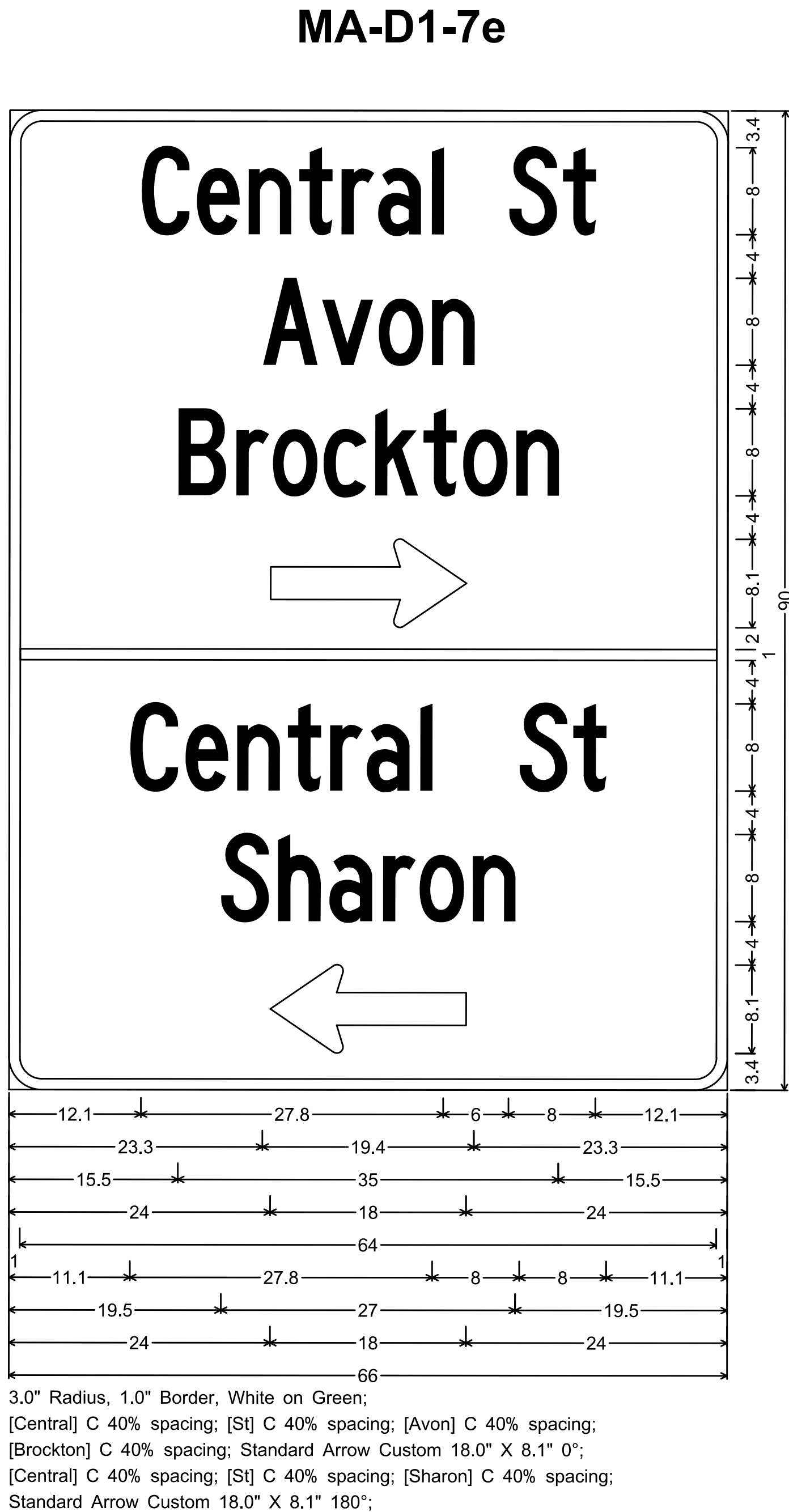
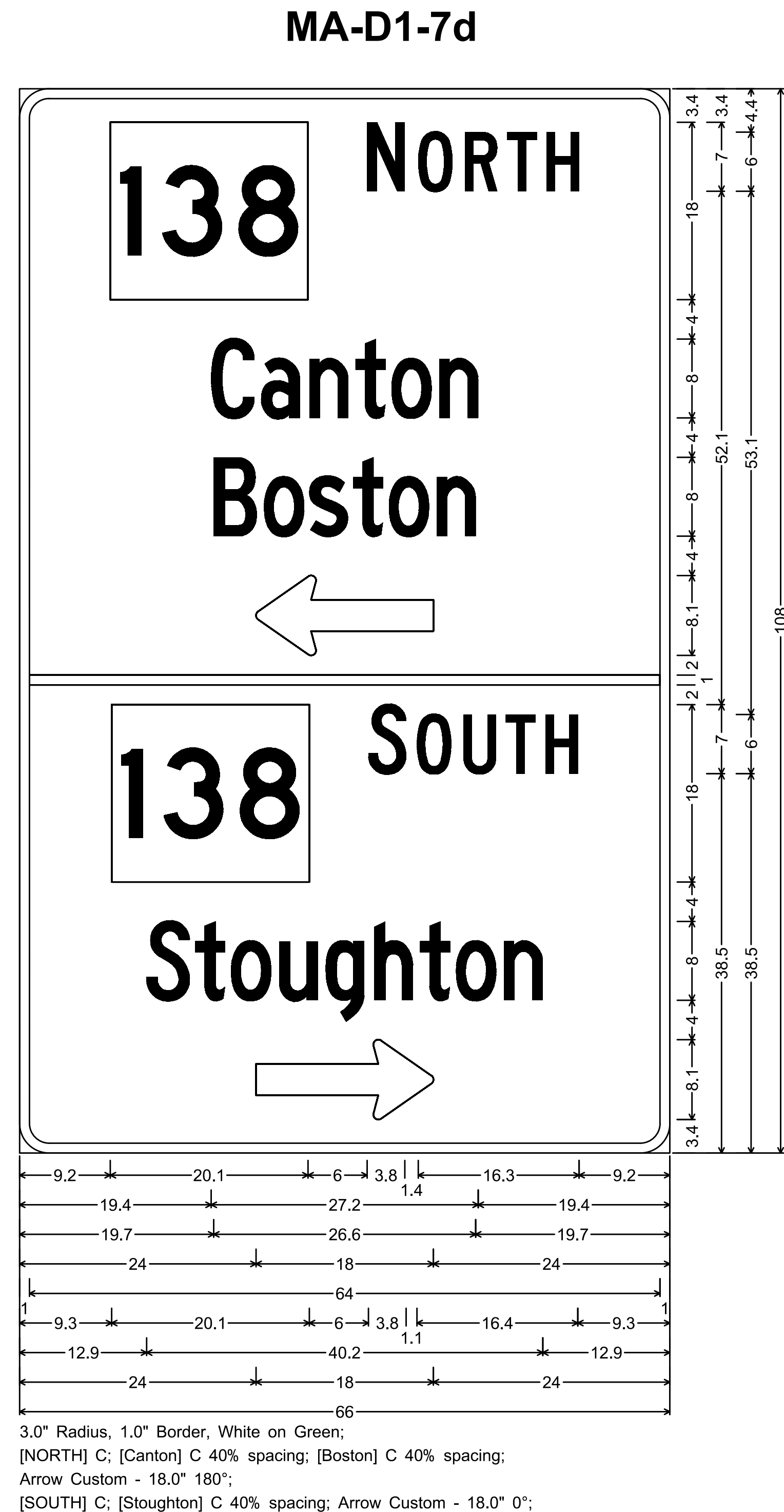
MA-D1-7c



NOT TO SCALE

NOTE: ALL DIMENSION IN INCHES UNLESS OTHERWISE NOTED.

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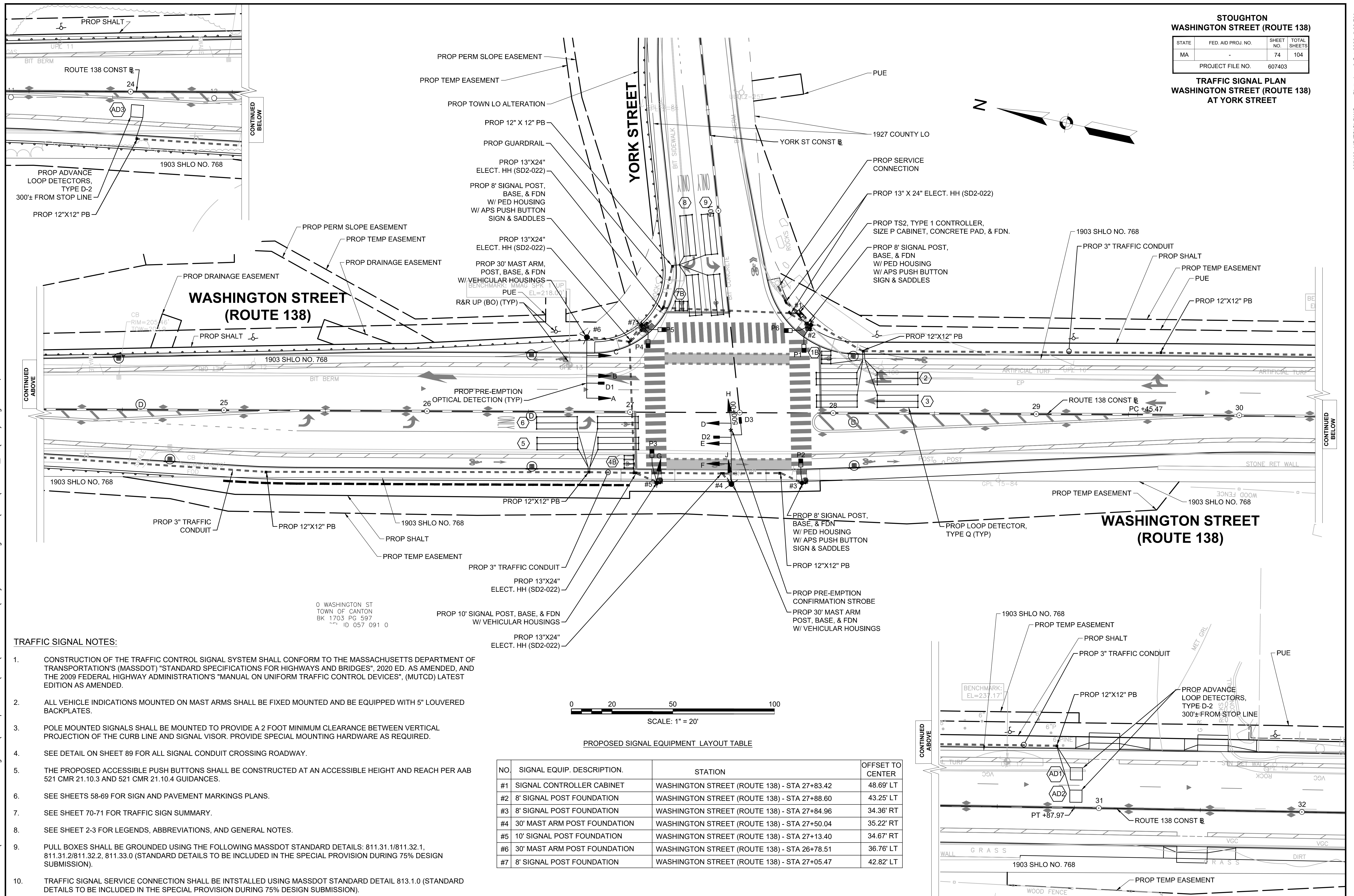


| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 73 | 104 |
| PROJECT FILE NO. | | 607403 | |

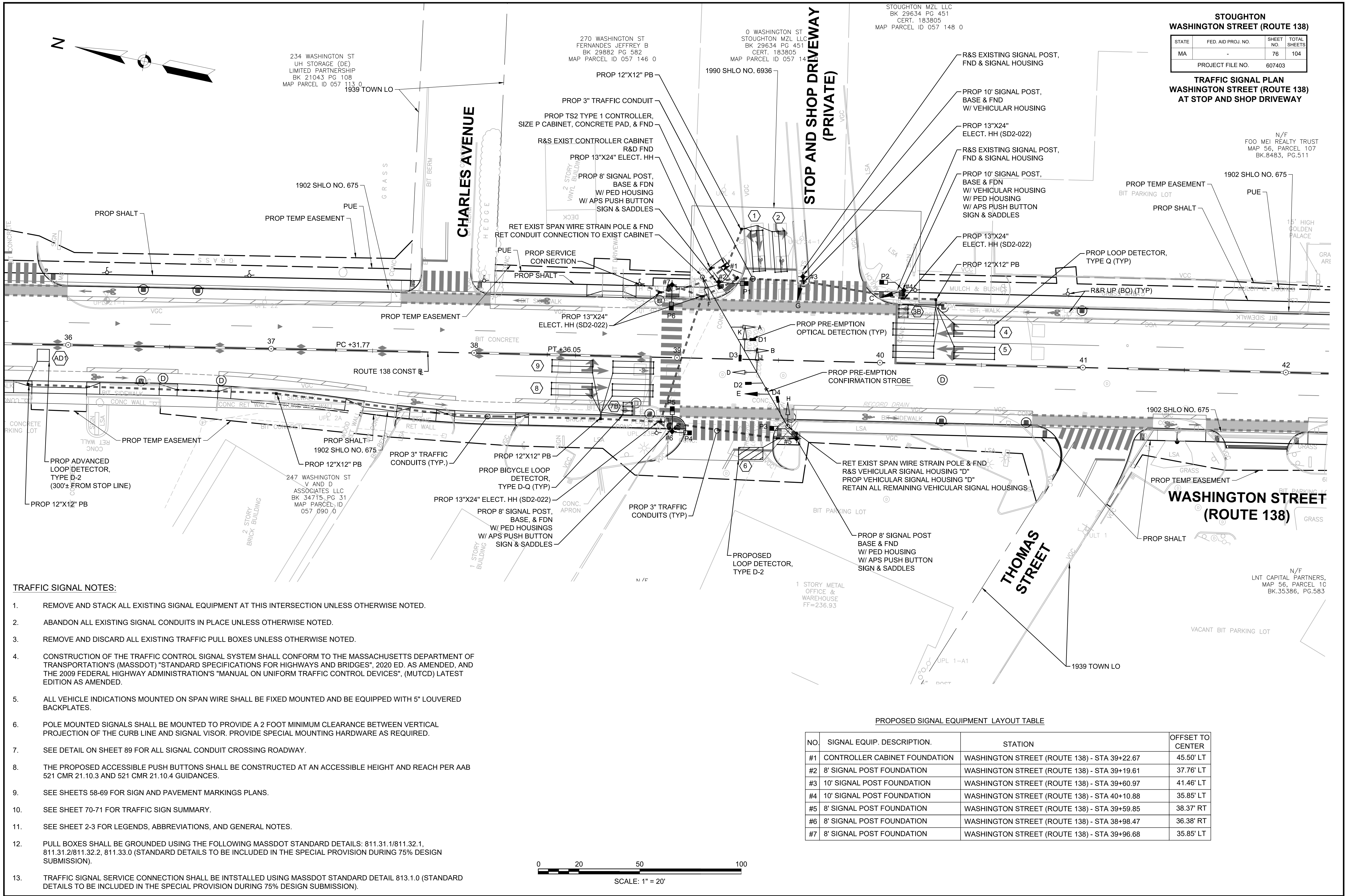
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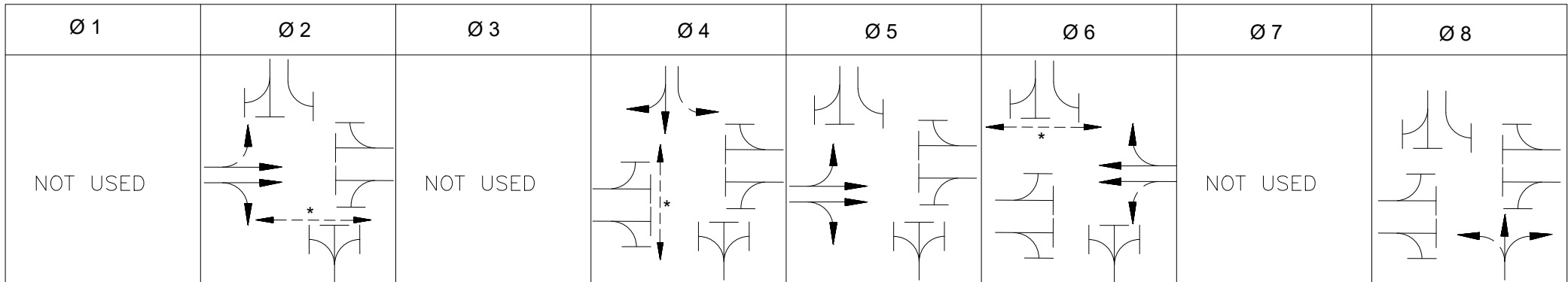
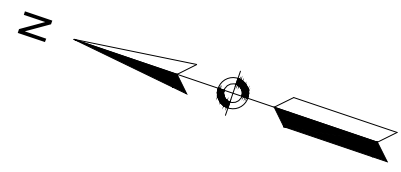
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NOTE: ALL DIMENSION IN INCHES UNLESS OTHERWISE NOTED.



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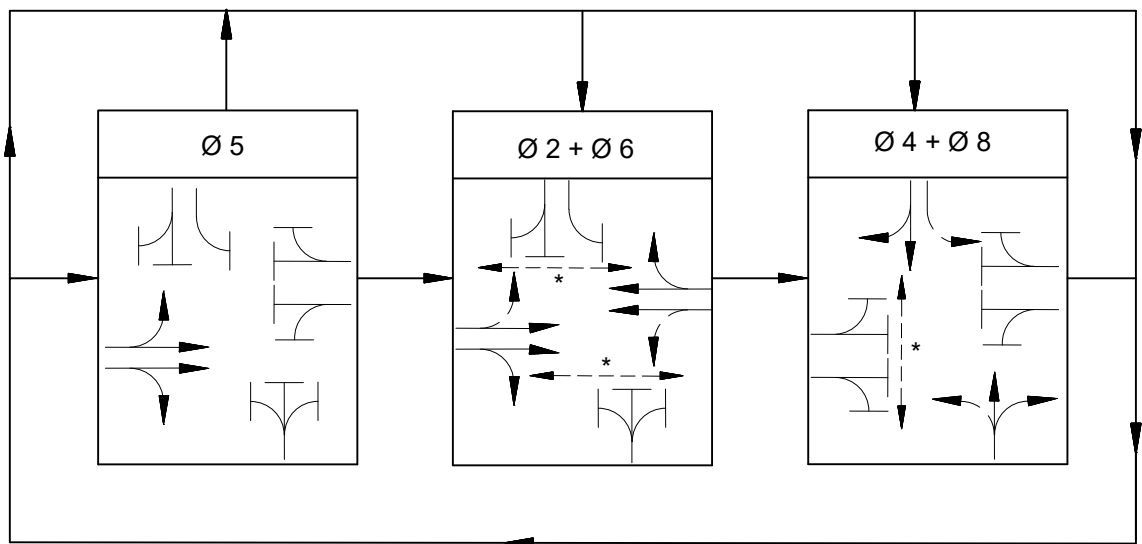




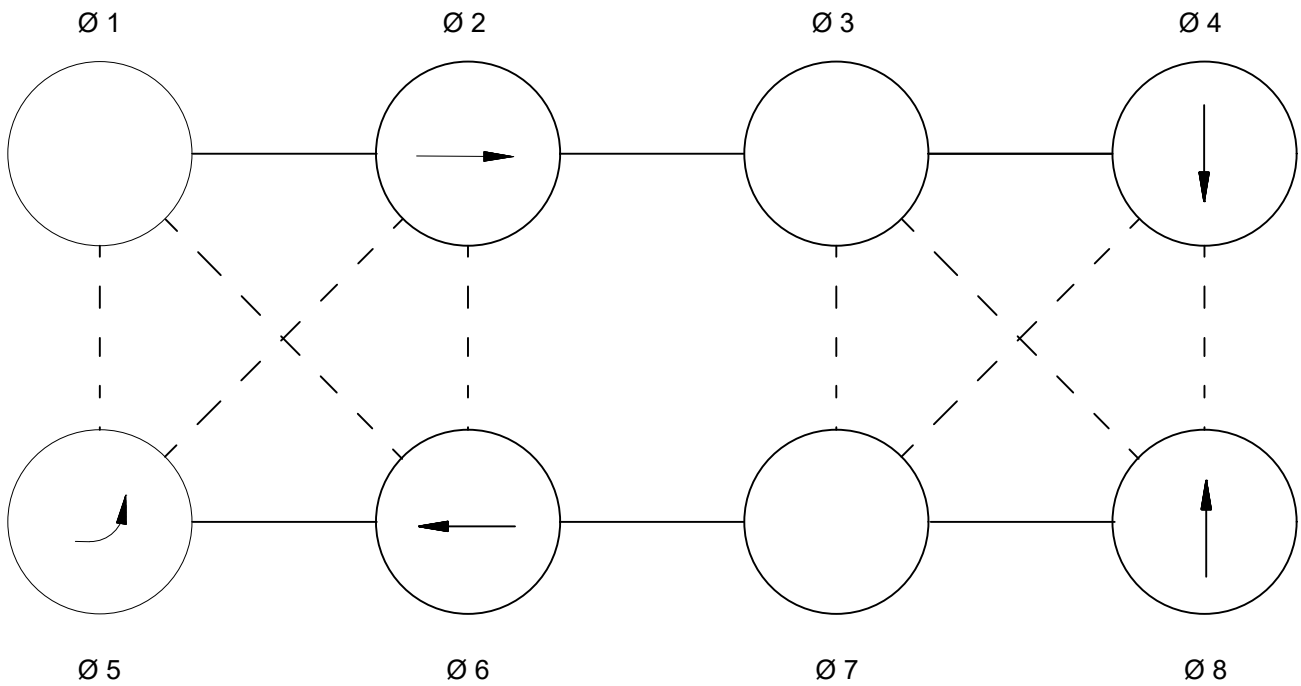
| SEQUENCE AND TIMING FOR FULLY-ACTUATED CONTROL (COORDINATED) | | | | | | | | | | | | | | | | | | | | | | | | | | FLASH OPER. |
|--|--------------|------------|------|---|------|-------|------|-------------|------|---|------|-------|-------------|----|------|-------------|------|-------|-------------|----|------|----|------|----|-------------|-------------------|
| STREET | DIRECTION | HOUSINGS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | |
| WASHINGTON STREET (ROUTE 138) | NB | A,B | | | | R | R | R | | | | R | R | R | R | R | R | G | Y | R | | | | R | R | R |
| WASHINGTON STREET (ROUTE 138) | SB-LT | C,D | | | | G | Y | R | | | | R | R | R | GL/G | YL/Y | R | R | R | R | | | | R | R | R |
| WASHINGTON STREET (ROUTE 138) | SB-T | E | | | | G | Y | R | | | | R | R | R | G | Y | R | R | R | R | | | | R | R | R |
| DRIVEWAY | EB | F,G | | | | R | R | R | | | | R | R | R | R | R | R | R | R | R | | | | G | Y | R |
| STOP AND SHOP DRIVEWAY | WB | H,J,K | | | | R | R | R | | | | G | Y | R | R | R | R | R | R | R | | | | R | R | R |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PEDESTRIAN CROSSING | NB-SB | P1, P2 | | | | DW | DW | DW | | | | DW | DW | DW | DW | DW | DW | W/FDW | FDW | DW | | | | DW | DW | DW |
| PEDESTRIAN CROSSING | NB-SB | P3, P4 | | | | W/FDW | FDW | DW | | | | DW | DW | DW | DW | DW | DW | DW | DW | DW | | | | DW | DW | DW |
| PEDESTRIAN CROSSING | EB-WB | P5, P6 | | | | DW | DW | DW | | | | W/FDW | FDW | DW | DW | DW | DW | DW | DW | DW | | | | DW | DW | DW |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TIMING IN SECONDS | | | | | | | | | | | | | | | | | | | | | | | | | | EMERGENCY ONLY |
| MINIMUM GREEN (INITIAL) | | | | | | 20 | | | | | | 6 | | | 6 | | | 20 | | | | | | 6 | | |
| PASSAGE TIME (VEHICLE) | | | | | | 3 | | | | | | 3 | | | 3 | | | 3 | | | | | | 3 | | |
| MAXIMUM 1 | | | | | | 45 | | | | | | 18 | | | 7 | | | 45 | | | | | | 18 | | |
| MAXIMUM 2 | | | | | | - | | | | | | - | | | - | | | - | | | | | | - | | |
| YELLOW CLEARANCE | | | | | | | 4 | | | | | | 3 | | | 4 | | | 4 | | | | | 3 | | |
| RED CLEARANCE | | | | | | | | 3 | | | | | | 3 | | | 3 | | | 3 | | | | | 3 | |
| WALK (W) | | | | | | 7 | | | | | | 7 | | | | | 7 | | | 3 | | | | | | |
| PEDESTRIAN CLEARANCE | | | | | | 14 | 4 | | | | | 11 | 3 | | | | | 14 | 4 | | | | | | | |
| RECALL | | | | | | | | SOFT | | | | | OFF | | | OFF | | | SOFT | | | | | | OFF | |
| MEMORY | | | | | | | | NON-LOCKING | | | | | NON-LOCKING | | | NON-LOCKING | | | NON-LOCKING | | | | | | NON-LOCKING | |
| **COORDINATION DATA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COORDINATION PHASE TIMING | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TIMING PLAN | CYCLE LENGTH | REF/OFFSET | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | | SEC. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 (6 AM - 10 AM) | 75 | 10 | | | 37 | | | | 24 | | 13 | | 38 | | | | 24 | | | | | | 24 | | | |
| 2 (3 PM - 7 PM) | 75 | 44 | | | 37 | | | | 24 | | 14 | | 37 | | | | | | | | | | 24 | | | |

NOTES:
MAX 1: ALL OTHER TIMES
* PEDESTRIAN PHASE PUSH BUTTON ACTUATED ONLY.
**SEE SHEET 80 FOR TIME-SPACE DIAGRAM AND COORDINATION PLAN

PREFERENTIAL PHASING SEQUENCE



NEMA DUAL RING PHASING NOTES:



- PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
- PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
- THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.

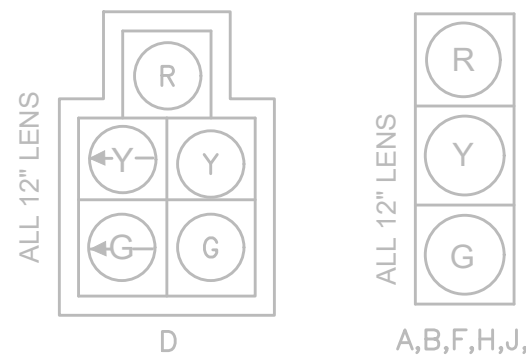
FIRE PREEMPTION SCHEDULE

| APPROACH | DETECTOR | PREEMPTION PHASE | NEXT PHASE CALLED |
|------------|----------|------------------|-------------------|
| NORTHBOUND | D1 | 6 | 2 + 6 |
| SOUTHBOUND | D2 | 5 | 2 + 6 |
| EASTBOUND | D3 | 8 | 4 + 8 |
| WESTBOUND | D4 | 4 | 4 + 8 |

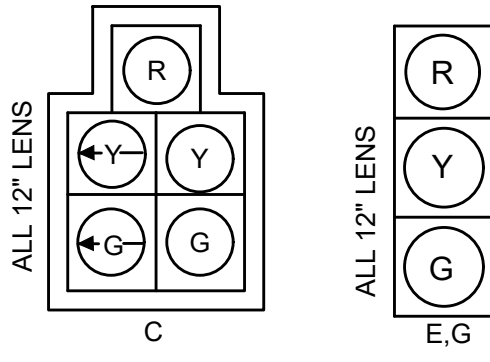
EMERGENCY VEHICLE PREEMPTION OPERATION:

- EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH. PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
- IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
- PREEMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
- NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
- ACTUAL TIMMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MASSDOT PRIOR TO OPERATION.

EXISTING SIGNAL IDENTIFICATION TO BE RETAINED



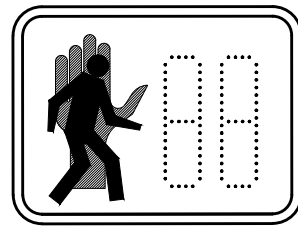
PROPOSED SIGNAL IDENTIFICATION



NOTES:

- ALL SIGNALS SHALL HAVE CUT AWAY VISORS.
- ALL SIGNALS SHALL HAVE 12" LED WITH 5" LOUVERED BACK PLATES.
- ALL PEDESTRIAN INDICATIONS SHALL HAVE SUN CAP VISORS

ONE SECTION DUAL DISPLAY W/ COUNTDOWN



16" L.E.D
P1, P2, P3,
P4, P5, P6

STOUGHTON
WASHINGTON STREET (ROUTE 138)

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | - | 77 | 104 |
| PROJECT FILE NO. | | 607403 | |

TRAFFIC SIGNAL DATA PLAN
WASHINGTON STREET (ROUTE 138)
AT STOP AND SHOP DRIVEWAY

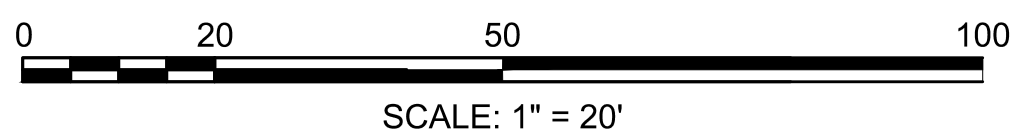
| PAY ITEM | QUANTITY | ITEM |
|---|----------|---|
| 816.02 | 1 | CONTROLLER NEMA 8 PHASE TS2-TYPE 1, CAB., CONCRETE PAD, & FDN. |
| | 1 | SERVICE CONNECTION, TYPE OVERHEAD |
| | 2 | 8' SIGNAL POLE, BASE, & FDN. |
| | 4 | 10' SIGNAL POLE, BASE, & FDN. |
| | 2 | 1 WAY, 3 SECTION, SIGNAL HOUSING (12" L.E.D.) |
| | 1 | 1 WAY, 5 SECTION, SIGNAL HOUSING (12" L.E.D.) |
| | 2 | 5" 3-SECTION BACKPLATES (LOUVERED) WITH 3" RETROREFLECTIVE BORDER |
| | 1 | 5" 5-SECTION BACKPLATES (LOUVERED) WITH 3" RETROREFLECTIVE BORDER |
| | 6 | 16" PEDESTRIAN COUNTDOWN HOUSING, TYPE L.E.D. (INT'L SYMBOL) |
| | 6 | PEDESTRIAN PUSH BUTTON, SIGN & SADDLES (APS) |
| | 7 | DUAL CHANNEL LOOP DETECTOR AMPLIFIER (CARD RACK) |
| | 14 | ROADWAY LOOP DETECTOR (SEE LOOP DETECTOR DATA TABLE) |
| | 4 | EMERGENCY VEHICLE PRE-EMPTION RECEIVER-SINGLE CHANNEL |
| | 2 | EMERGENCY VEHICLE PRE-EMPTION PHASE SELECTOR MODULE-DUAL CHANNEL |
| | 1 | PRE-EMPTION CARD RACK |
| | 1 | EMERGENCY VEHICLE PRE-EMPTION CONFIRMATION STROBE (WHITE) |
| | 1 | GPS TIME UNIT |
| | | |
| 811.22 | 8 | 13" X 24" ELECTRIC HANDHOLE - SD2.022 |
| 811.31 | 5 | 12" X 12" PULL BOX |
| Plus all necessary duct, cable, labor, miscellaneous material and equipment to complete the installation. | | |

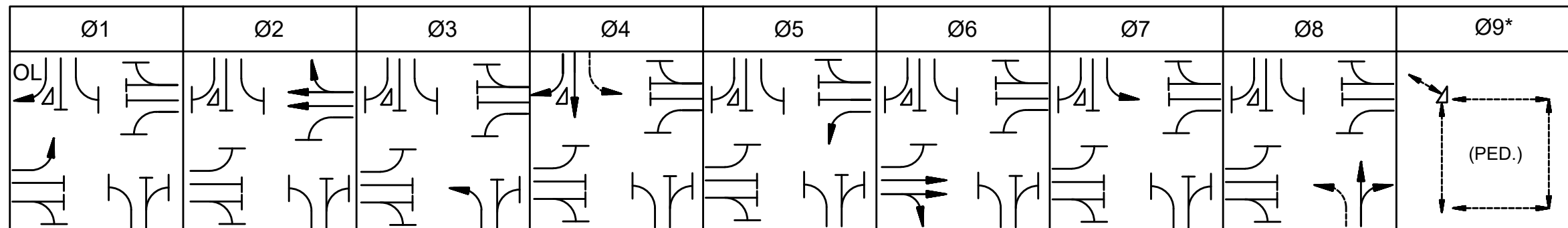
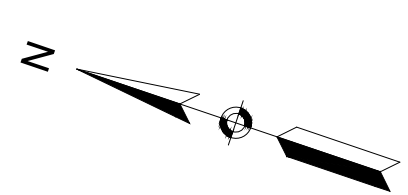
LOOP DETECTOR DATA

SEE PLAN SHEET-LOOP DETECTOR DETAILS FOR LOOP CONSTRUCTION, SPlicing,
DETAILS & NOTES. DELAY TIME EFFECTIVE ONLY DURING CALLED Ø RED. TIME IN SEC.

| DETECTOR NUMBER | AMPLIFIER NUMBER | CHANNEL NUMBER | LOOP SIZE (LXW) | NUM. OF TURNS | Ø CALLED | Ø EXT. | MODE A=PULSE B=PRES. | DELAY TIME | EXT. TIME |
|-----------------|------------------|----------------|-----------------|---------------|----------|------------|----------------------|------------|-----------|
| 1 | 1 | 1 | 1@20'X6' | 2-4-2 | 4 | 4 | B | - | - |
| 2 | 1 | 2 | 1@20'X6' | 2-4-2 | 4 | 4 | B | - | - |
| 3B | 2 | 1 | 1@4.5'X6' | 4-8-4 | 6 | 6 | B | - | - |
| 4 | 3 | 1 | 2@20'X6' | 2-4-2 | 6 | 6 | B | - | - |
| 5 | 3 | 2 | 2@20'X6' | 2-4-2 | 6 | 6 | B | - | - |
| 6 | 4 | 1 | 1@6'X16' | 3 | 8 | 8 | B | - | - |
| 7B | 5 | 1 | 1@4.5'X6' | 4-8-4 | 2 | 2 | B | - | - |
| 8 | 6 | 1 | 2@20'X6' | 2-4-2 | 2 | 2 | B | - | - |
| 9 | 6 | 2 | 2@20'X6' | 2-4-2 | 5 | 5 SWITCH 2 | B | - | - |
| AD1 | 7 | 1 | 1@6'X6' | 3 | 2 | 2 | A | - | 3 |

DETECTOR #9 SHALL CALL AND EXTEND Ø5, AND SWITCH TO EXTEND Ø2 ONLY DURING Ø2.





SEQUENCE AND TIMING FOR SEMI-ACTUATED CONTROL (COORDINATE-MASTER)

| STREET | DIRECTION | HOUSINGS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|-------------------------------|-----------|-------------|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|-----|-----|----|
| WASHINGTON STREET (ROUTE 138) | NB-LT | A | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | GL | YL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL |
| WASHINGTON STREET (ROUTE 138) | NB | B | R | R | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| WASHINGTON STREET (ROUTE 138) | SB-LT | D | GL | YL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL |
| WASHINGTON STREET (ROUTE 138) | SB | E,F | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | G | Y | R | R | R | R | R | R | R | R | R | R |
| CENTRAL STREET | EB-LT | G | RL | RL | RL | RL | RL | RL | GL | YL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | RL | FYL | YL | RL | RL | RL | RL |
| CENTRAL STREET | EB | H,J | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | G | Y | R | R | R | R |
| CENTRAL STREET | WB-LT | K | RL | RL | RL | RL | RL | RL | RL | RL | RL | FYL | YL | RL | RL | RL | RL | RL | RL | RL | GL | YL | RL | RL | RL | RL | RL | RL | RL |
| CENTRAL STREET | WB-T | L,M | R | R | R | R | R | R | R | R | RL | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| CENTRAL STREET | WB-R | N,P | GR | YR | RR | RR | RR | RR | RR | RR | RR | GR | YR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR | RR |
| PEDESTRIAN CROSSING | NB-SB | P1,P2,P3,P4 | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | W | FDW | DW | |
| PEDESTRIAN CROSSING | EB-WB | P5,P6 | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | W | FDW | DW |
| PEDESTRIAN CROSSING | NB-SB | P7,P8 | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | W | FDW | DW |
| PEDESTRIAN CROSSING | EB-WB | P9,P10 | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | W | FDW | DW |

TIMING IN SECONDS

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------|---|-------------|----|-------------|---|-------------|---|-------------|----|-------------|---|-------------|---|-------------|----|-------------|---|---------|---|---|----|---|---|----|---|
| MINIMUM GREEN (INITIAL) | 6 | | | 8 | | | 6 | | | 6 | | | 8 | | | 6 | | | 6 | | | - | | | | |
| PASSAGE TIME (VEHICLE) | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | - | | | | |
| MAXIMUM 1 | 12 | | | 27 | | | 6 | | | 37 | | | 15 | | | 24 | | | 6 | | | 35 | | | - | |
| MAXIMUM 2 | - | | | - | | | - | | | - | | | - | | | - | | | - | | | - | | | - | |
| YELLOW CLEARANCE | | 3 | | | 4 | | | 4 | | | 4 | | | 3 | | | 4 | | | 4 | | | 4 | | | - |
| RED CLEARANCE | | | 3 | | | 1 | | | 2 | | | 2 | | | 3 | | | 1 | | | 2 | | | 2 | | 4 |
| WALK (W) | | | | | | | | | | | | | | | | | | | | | | | | 7 | | |
| PEDESTRIAN CLEARANCE | | | | | | | | | | | | | | | | | | | | | | | | | 26 | |
| RECALL | OFF | | SOFT | | OFF | | OFF | | OFF | | SOFT | | OFF | | OFF | | OFF | | LOCKING | | | | | | | |
| MEMORY | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | NON-LOCKING | | LOCKING | | | | | | | |

**COORDINATION DATA

| TIMING PLAN | CYCLE LENGTH | REF/OFFSET | SEC. | SEC. | SEC. | SEC. | SEC. | SEC. | SEC. | SEC. | SEC. |
|------------------|--------------|------------|------|------|------|------|------|------|------|------|------|
| 1 (6 AM - 10 AM) | 150 | 0 | 14 | 38 | 15 | 46 | 29 | 23 | 12 | 49 | 37 |
| 2 (3 PM - 7 PM) | 150 | 0 | 34 | 27 | 12 | 40 | 17 | 44 | 12 | 40 | 37 |

NOTES:

MAX 1: ALL OTHER TIMES
* PEDESTRIAN PHASE PUSH BUTTON ACTUATED ONLY.
**SEE SHEET 80 FOR TIME-SPACE DIAGRAM AND COORDINATION PLAN
MASTER CONTROLLER: LOCATED AT THIS LOCATION

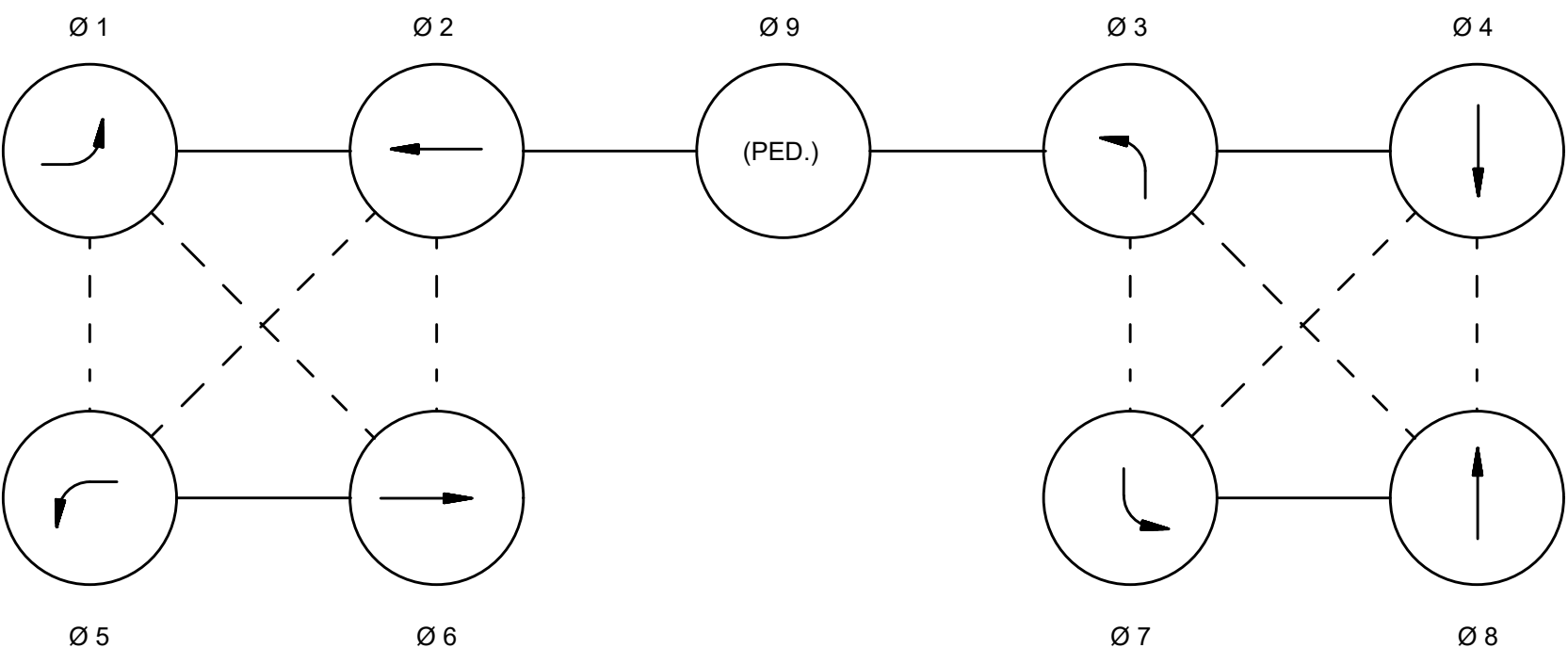
FIRE PREEMPTION SCHEDULE

| APPROACH | DETECTOR | PREEMPTION PHASE | NEXT PHASE CALLED |
|------------|----------|------------------|-------------------|
| WESTBOUND | D2 | 4 | 4 + 8 |
| EASTBOUND | D4 | 8 | 4 + 8 |
| NORTHBOUND | D1 | 2 | 2 + 6 |
| SOUTHBOUND | D3 | 6 | 2 + 6 |

EMERGENCY VEHICLE PREEMPTION OPERATION:

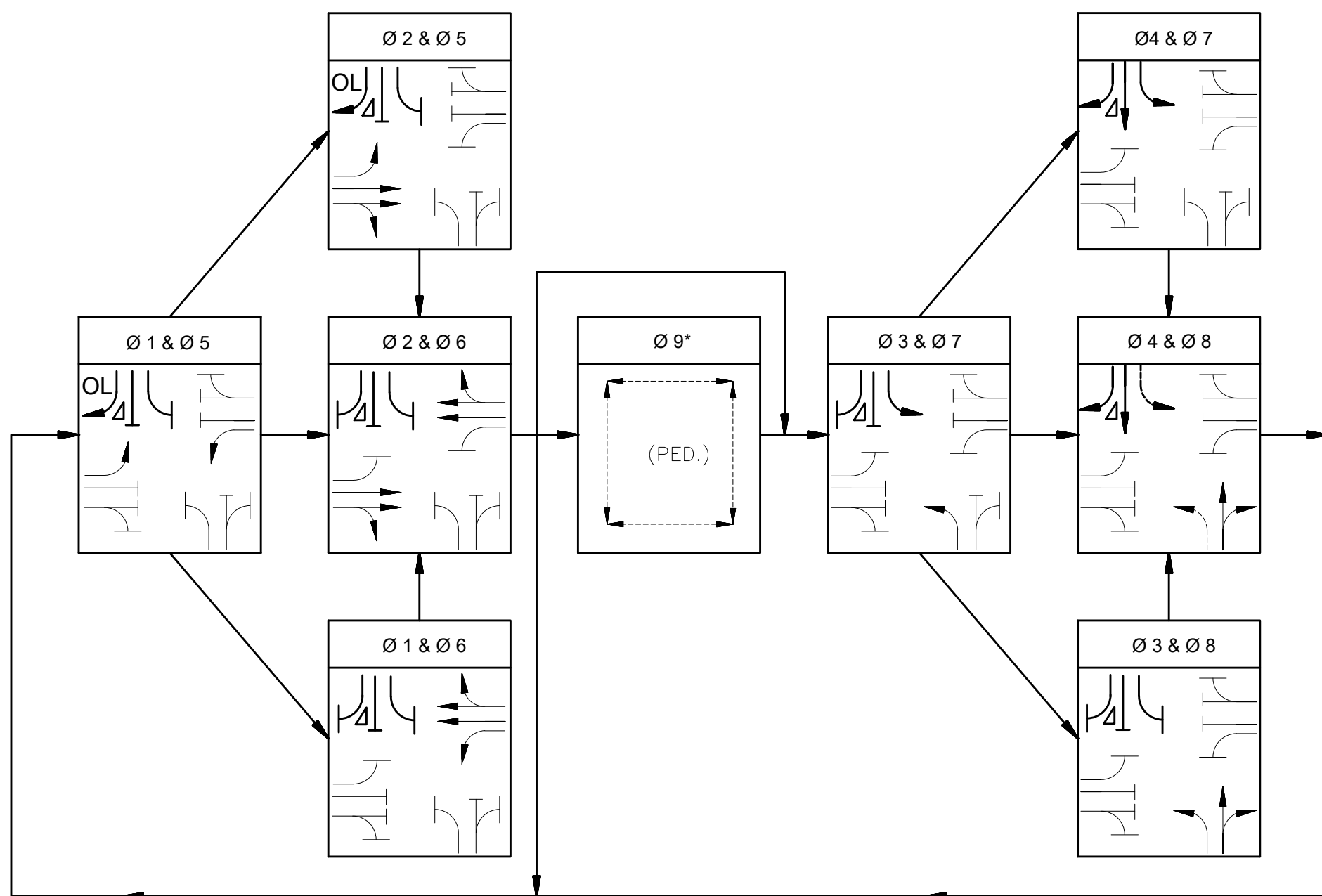
- EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
- PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
- IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
- PREEMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
- NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
- ACTUAL TIMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MHD PRIOR TO OPERATION.

NEMA DUAL RING PHASING NOTES:

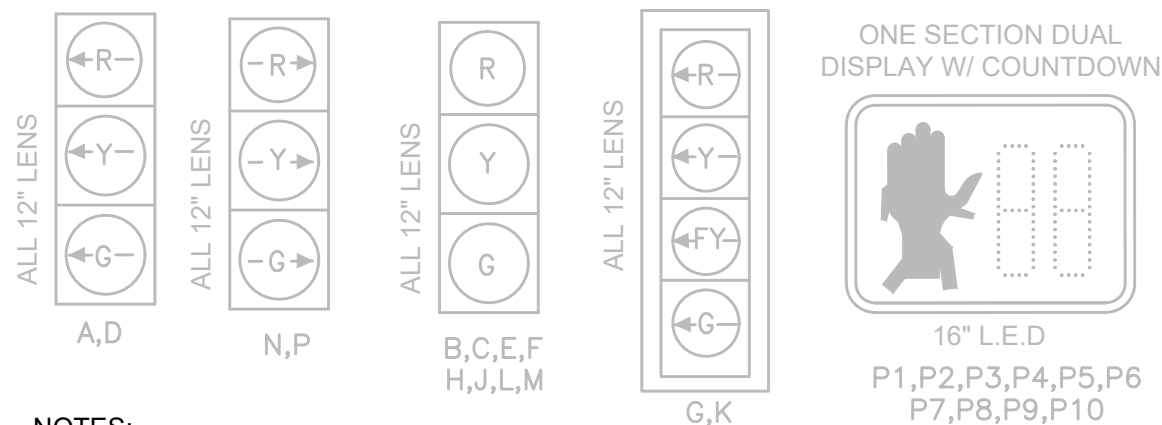


- PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
- PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
- THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.

PREFERENTIAL PHASING SEQUENCE



EXISTING SIGNAL IDENTIFICATION TO BE RETAINED



NOTES:

- RET ALL SIGNAL INDICATIONS
- ALL SIGNAL INDICATIONS ON SIGNAL POSTS THAT TO BE REMOVED AND RESET SHALL BE ADJUSTED IF DETERMINED BY THE ENGINEER.

| PAY ITEM | QUANTITY | ITEM |
|---|----------|--|
| 816.03 | 1 | MODIFY & RE-PROGRAM TRAFFIC SIGNAL CONTROLLER |
| | 1 | SERVICE CONNECTION, TYPE OVERHEAD |
| | 9 | REMOVED AND RESET TRAFFIC SIGNAL POST |
| | 9 | SIGNAL POST FDN. |
| | 10 | DUAL CHANNEL LOOP DETECTOR AMPLIFIER (CARD RACK) |
| | 24 | ROADWAY LOOP DETECTOR (SEE LOOP DETECTOR DATA TABLE) |
| | 1 | GPS TIME UNIT |
| 811.31 | 11 | 12" X 12" PULL BOX |
| 811.32 | 1 | 13" X 24" ELECTRIC HANDHOLE - SD2.022 |
| Plus all necessary duct, cable, labor, miscellaneous material and equipment to complete the installation. | | |

LOOP DETECTOR DATA

SEE PLAN SHEET-LOOP DETECTOR DETAILS FOR LOOP CONSTRUCTION, SPlicing, DETAILS & NOTES. DELAY TIME EFFECTIVE ONLY DURING CALLED Ø RED. TIME IN SEC.

| DETECTOR NUMBER | AMPLIFIER NUMBER | CHANNEL NUMBER | LOOP SIZE (LxW) | NUM. OF TURNS | Ø CALLED | Ø EXT. | MODE A=PULSE B=PRES. | DELAY TIME | EXT. TIME |
|-----------------|------------------|----------------|------------------------|---------------|----------|--------|----------------------|------------|-----------|
| 1 | 1 | 1 | 3@20'X6' | 2-4-2 | 4 | 4 | B | - | - |
| 2 | 1 | 2 | 2@20'X6' | 2-4-2 | 4 | 4 | B | - | - |
| 3 | 2 | 1 | 2@20'X6' | 2-4-2 | 7 | 7 | B | - | - |
| 4B | 3 | 1 | 1@4.5'X6' | 4-8-4 | 4 | 4 | B | - | - |
| 5B | 4 | 1 | 1@4.5'X6' | 4-8-4 | 2 | 2 | B | - | - |
| 6 | 5 | 1 | 2@20'X6' | 2-4-2 | 2 | 2 | B | - | - |
| 7 | 5 | 2 | 2@20'X6' | 2-4-2 | 2 | 2 | B | - | - |
| 8 | 6 | 1 | 2@20'X6' | 2-4-2 | 5 | 5 | B | - | - |
| 9 | 7 | 1 | 1@20'X6' 1@20'X6' (EX) | 2-4-2 | 8 | 8 | B | - | - |
| 10 | 7 | 2 | 1@20'X6' 1@20'X6' (EX) | 2-4-2 | 3 | 3 | B | - | - |
| 11B | 8 | 1 | 1@4.5'X6' | 4-8-4 | 6 | 6 | B | - | - |
| 12 | 9 | 1 | 2@20'X6' | 2-4-2 | 6 | 6 | B | - | - |
| 13 | 9 | 2 | 2@20'X6' | 2-4-2 | 6 | 6 | B | - | - |
| 14 | 10 | 1 | 2@20'X6' | 2-4-2 | 1 | 1 | B | - | - |

STOUGHTON
WASHINGTON STREET (ROUTE 138)

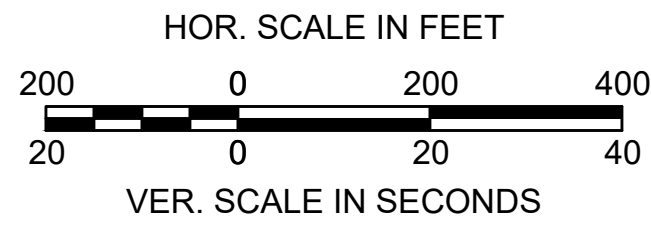
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | - | 79 | 104 |
| PROJECT FILE NO. | | 607403 | |

TRAFFIC SIGNAL DATA PLAN
WASHINGTON STREET (ROUTE 138)
AT CENTRAL STREET

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LEGEND

- COORDINATED PHASE(S) GREEN TIME
- NON-COORDINATED PHASE(S) GREEN TIME
- CLEARANCE TIME (YELLOW + RED+PED)
- INTERSECTION-INTERSECTION COORDINATION BAND
- PHASE MOVEMENT

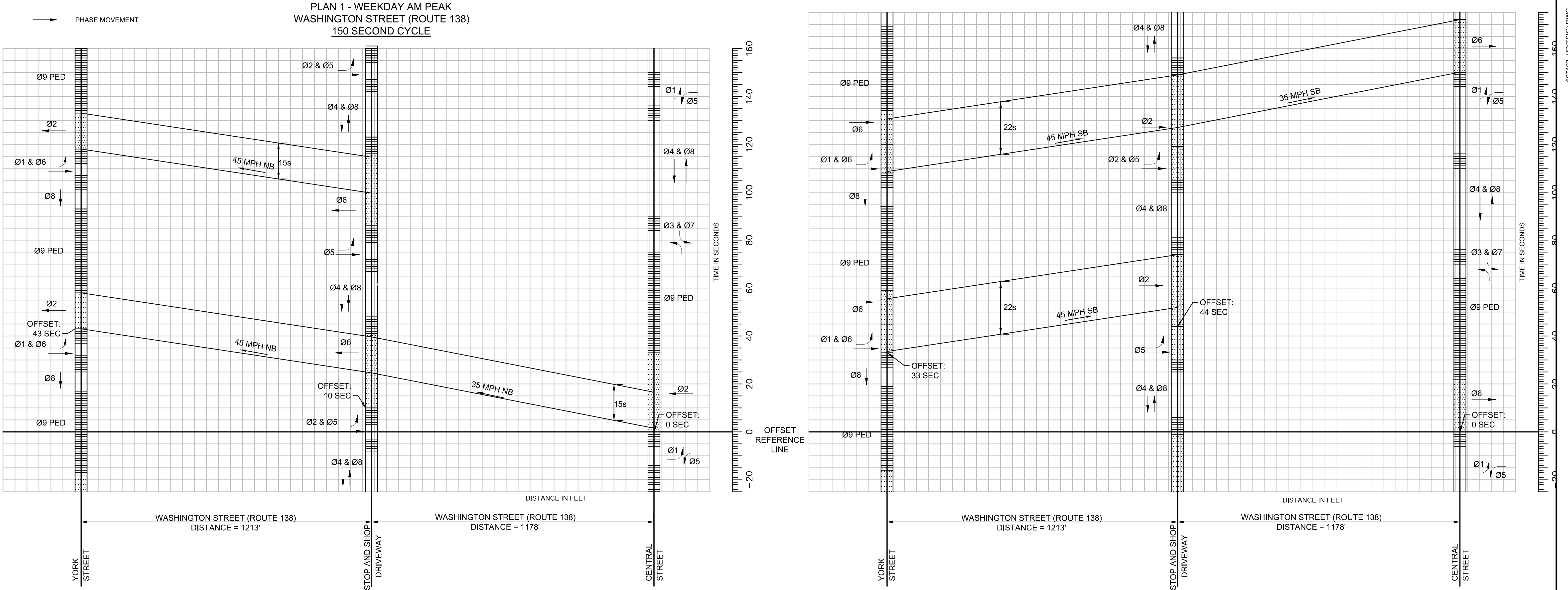


STOUGHTON
WASHINGTON STREET (ROUTE 138)

| | | | |
|------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 80 | 104 |
| PROJECT FILE NO. | | 607403 | |

TRAFFIC SIGNAL PLAN
TIME-SPACE DIAGRAM

PLAN 1 - WEEKDAY PM PEAK
WASHINGTON STREET (ROUTE 138)
150 SECOND CYCLE



WASHINGTON STREET (ROUTE 138)
AT YORK STREET
COORDINATION DATA (SECONDS)

| | PLAN 1 (AM) | PLAN 2 (PM) |
|-------------------|-------------|-------------|
| CYCLE LENGTH | 75 | 75 |
| OFFSET | 43 | 33 |
| SPLIT Ø1 & Ø6 | 11 | 12 |
| SPLIT Ø2 & Ø6 | 22 (50) | 21 (49) |
| SPLIT Ø8 | 14 | 14 |
| SPLIT Ø9 PED | 28 | 28 |
| COORDINATED PHASE | Ø2 & Ø6 | Ø2 & Ø6 |

YORK STREET COORDINATION NOTES:

- ALL OFFSETS REFERENCED TO THE BEGINNING OF GREEN OF THE COORDINATED PHASES.
- TIMING IN PARENTHESES REPRESENTS SPLITS WITHOUT PEDESTRIAN PHASE ACTUATION.

WASHINGTON STREET (ROUTE 138)
AT STOP AND SHOP DRIVEWAY
COORDINATION DATA (SECONDS)

| | PLAN 1 (AM) | PLAN 2 (PM) |
|-------------------|-------------|-------------|
| CYCLE LENGTH | 75 | 75 |
| OFFSET | 10 | 44 |
| SPLIT Ø5 | 14 | 14 |
| SPLIT Ø2 & Ø6 | 37 | 37 |
| SPLIT Ø4 & Ø8 | 24 | 24 |
| COORDINATED PHASE | Ø2 & Ø6 | Ø2 & Ø6 |

STOP AND SHOP DRIVEWAY COORDINATION NOTES:

- ALL OFFSETS REFERENCED TO THE BEGINNING OF GREEN OF THE COORDINATED PHASES.

WASHINGTON STREET (ROUTE 138)
AT CENTRAL STREET
COORDINATION DATA (SECONDS)

| | PLAN 1 (AM) | PLAN 2 (PM) |
|-------------------|-------------|-------------|
| CYCLE LENGTH | 150 | 150 |
| OFFSET | 0 | 0 |
| SPLIT Ø1 | 14 | 34 |
| SPLIT Ø2 | 38 (75) | 27(64) |
| SPLIT Ø3 | 15 | 12 |
| SPLIT Ø4 | 46 | 40 |
| SPLIT Ø5 | 29 | 17 |
| SPLIT Ø6 | 23 (60) | 44 (81) |
| SPLIT Ø7 | 12 | 12 |
| SPLIT Ø8 | 49 | 40 |
| SPLIT Ø9 PED | 37 | 37 |
| COORDINATED PHASE | Ø2 & Ø6 | Ø2 & Ø6 |

CENTRAL STREET COORDINATION NOTES:

- MASTER CONTROLLER TO BE LOCATED AT THIS LOCATION (CENTRAL STREET).
- ALL OFFSETS REFERENCED TO THE BEGINNING OF GREEN OF THE COORDINATED PHASES.
- TIMING IN PARENTHESES REPRESENTS SPLITS WITHOUT PEDESTRIAN PHASE ACTUATION.

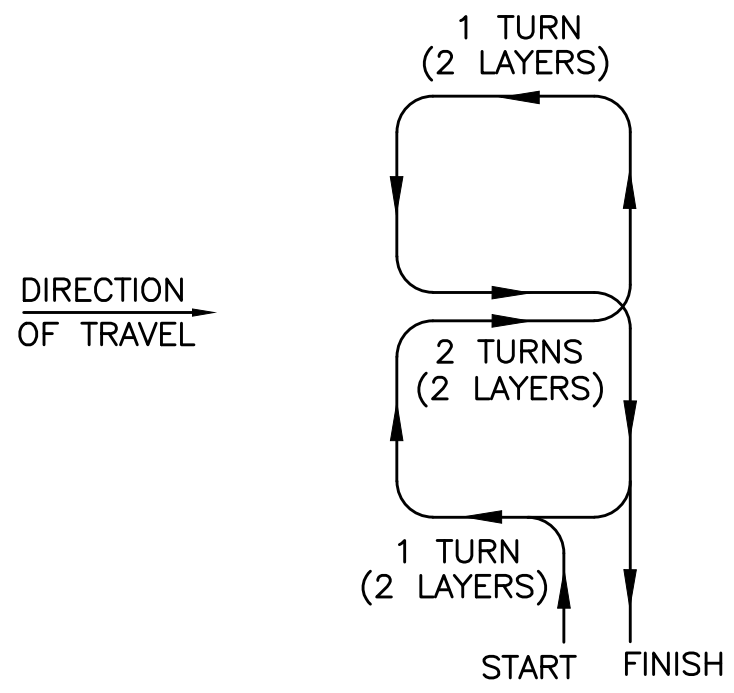
DAILY COORDINATION PROGRAM

| | MONDAY THRU FRIDAY | SATURDAY | SUNDAY |
|-------------------|--------------------|----------|--------|
| PLAN 1 150" CYCLE | 06:00 - 10:00 | - | - |
| PLAN 2 150" CYCLE | 15:00 - 19:00 | - | - |
| FREE OPERATION | ALL OTHER TIMES | - | - |
| FLASH OPERATION | - | - | - |

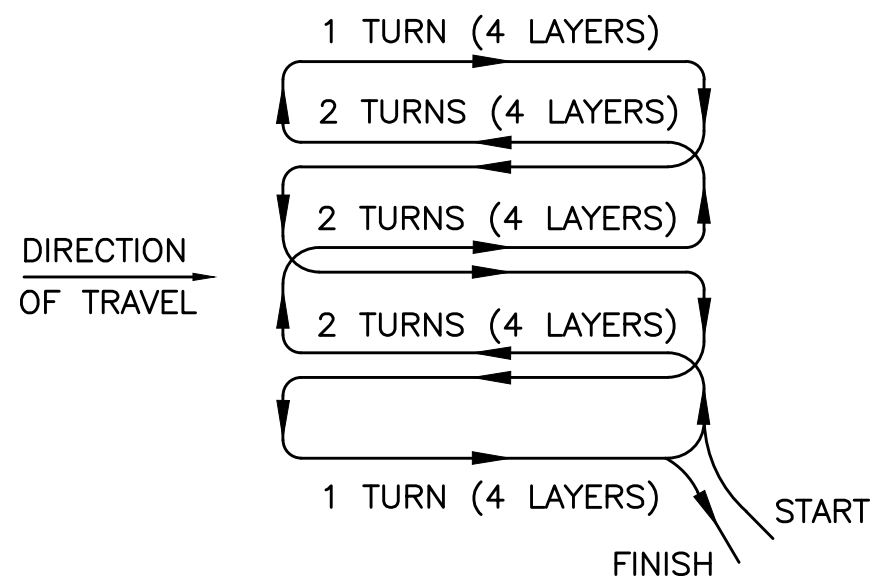
DAILY COORDINATION NOTES:

- MAX 1 TO RUN DURING FREE OPERATION.

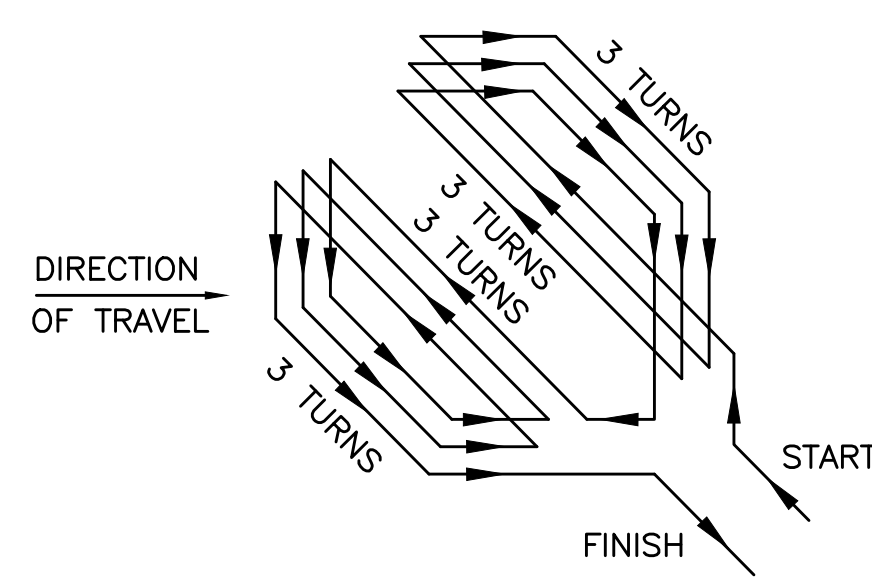
WINDING DETAILS



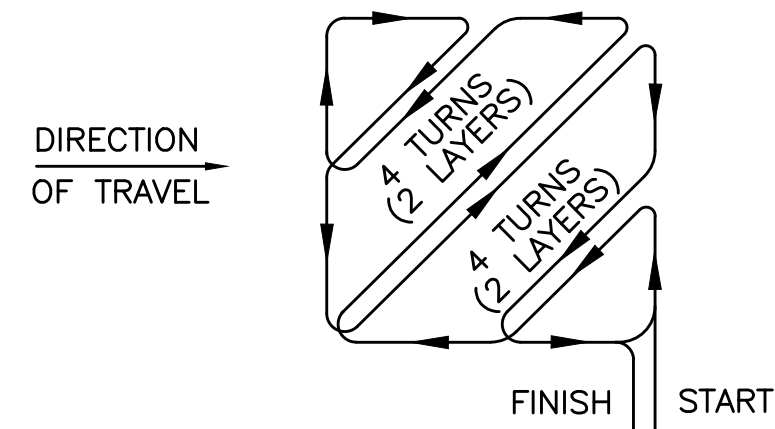
TYPE Q DETECTOR



TYPE D-Q DETECTOR

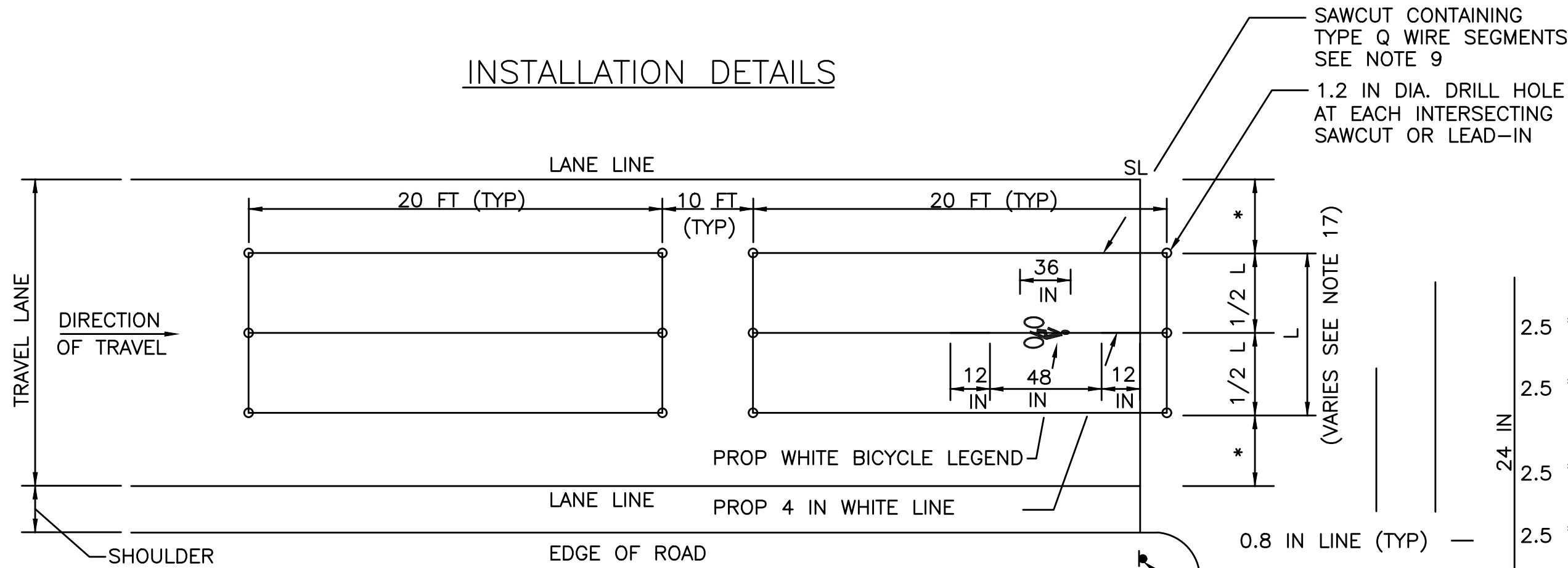


TYPE D-1 DETECTOR

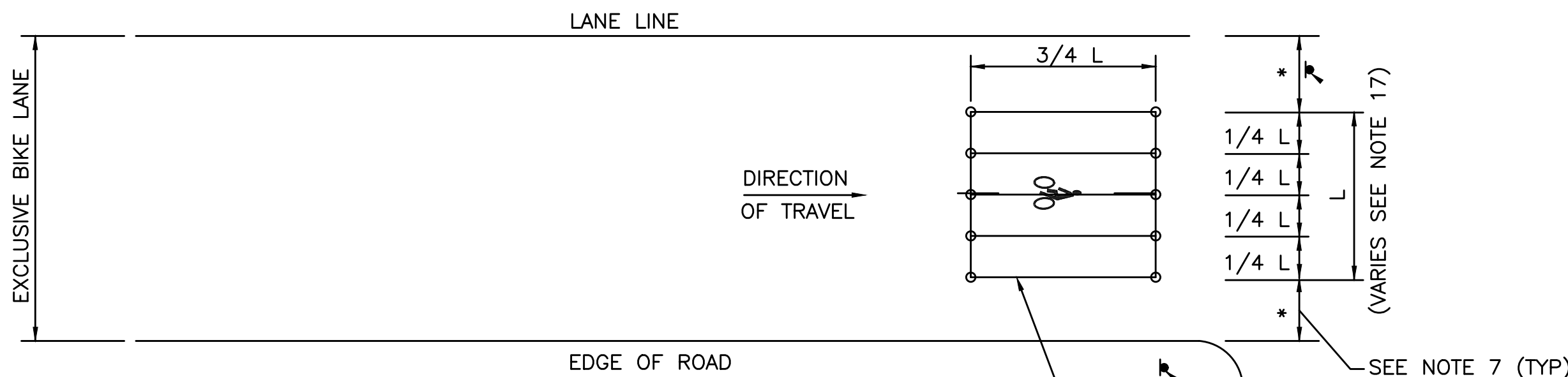


TYPE D-2 DETECTOR

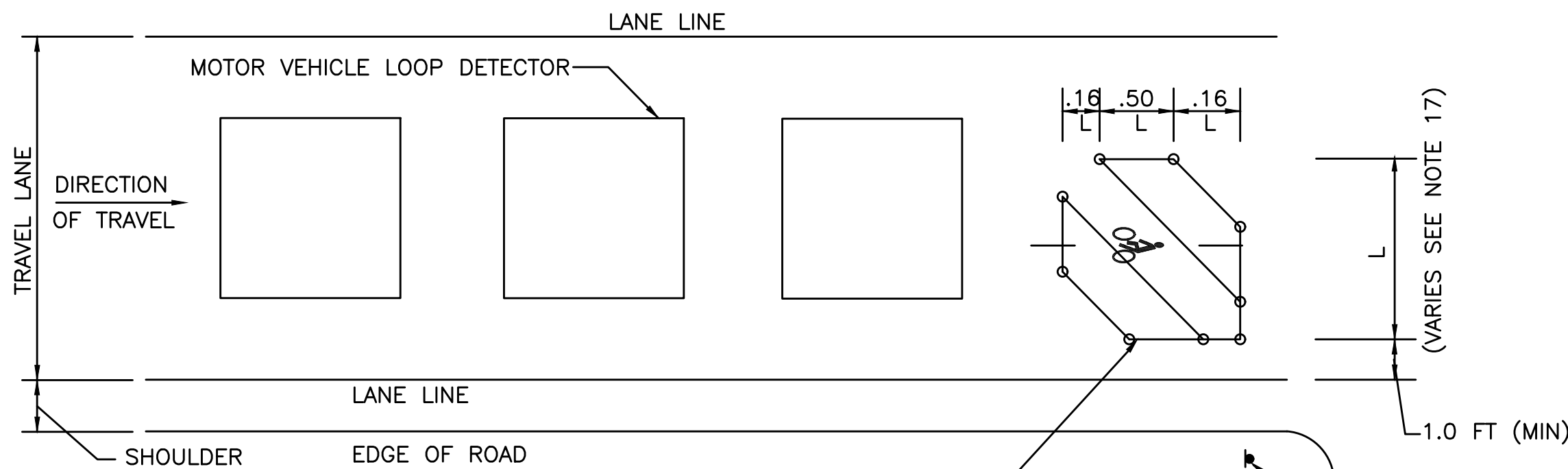
INSTALLATION DETAILS



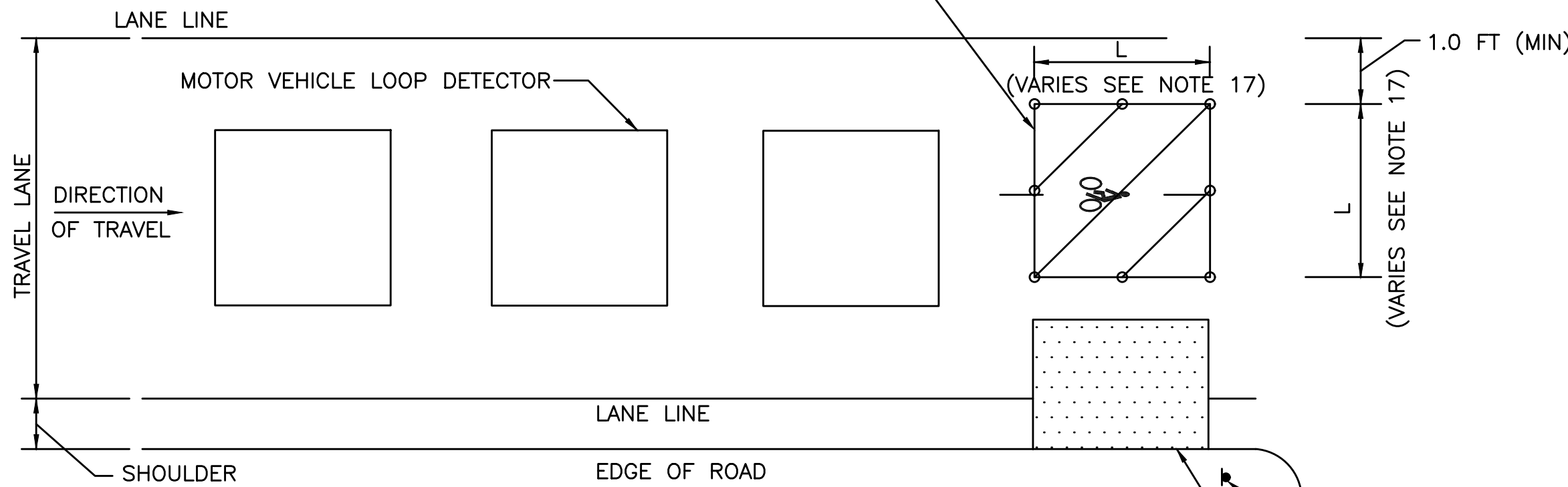
TYPE Q DETECTOR-STANDARD QUADRUPOLE WITH STANDARD PAVEMENT MARKINGS AND SIGNING



TYPE D-Q DETECTOR-DOUBLE QUADRUPOLE



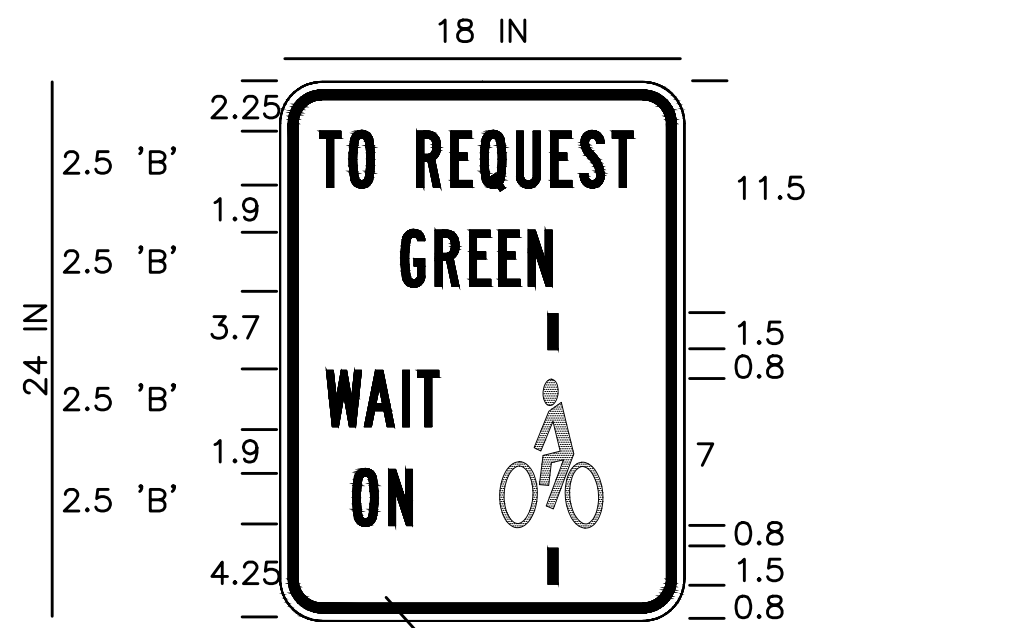
RIGHT JUSTIFIED (SEE NOTE 12) TYPE D-1 AND D-2 DETECTORS (TYPE D1 SHOWN)



LEFT JUSTIFIED (SEE NOTE 13) TYPE D-1 AND D-2 DETECTORS (TYPE D2 SHOWN)

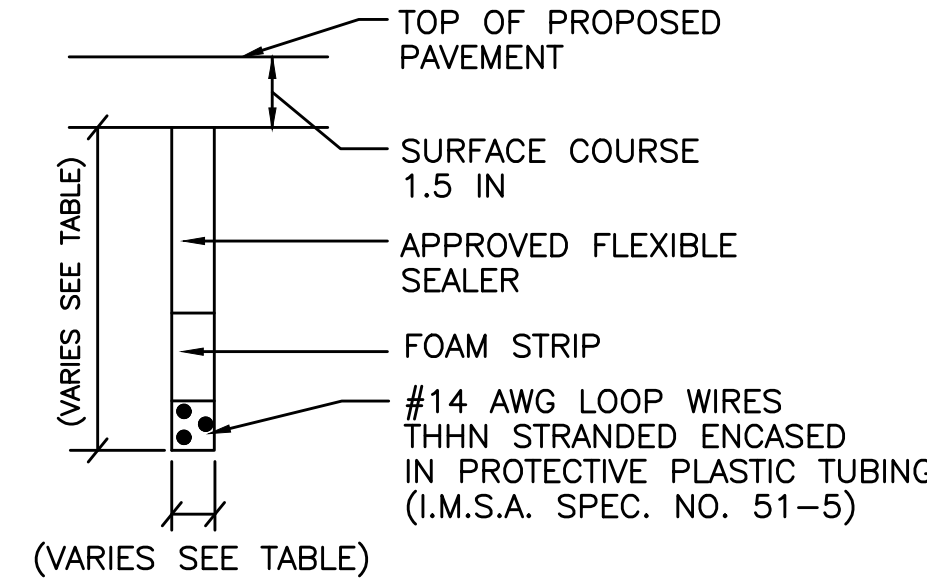
PROPOSED AREA OF DETECTION
A LARGER AREA OF DETECTION MAY BE REQUIRED BASED ON FIELD CONDITIONS AND SHALL BE DETERMINED BY THE DESIGNER.

SIGN R10-22



SIGN BORDER: R=1.5, TH=0.5, INS=.38 WHITE BACKGROUND BLACK LEGEND AND LINES

NOTE: ALL SIGN DIMENSIONS IN INCHES
NOTE: SIGN PANEL NOT SHOWN TO SCALE



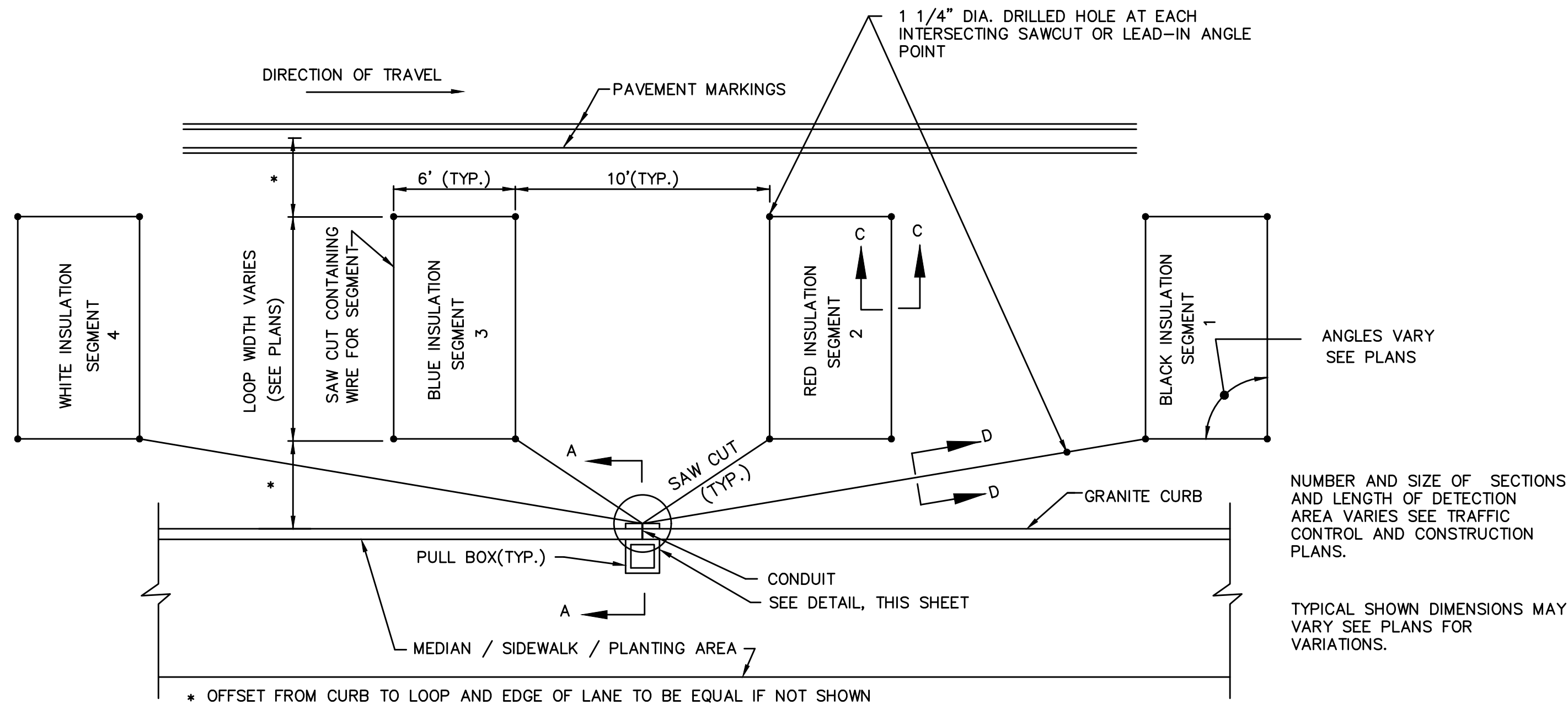
SECTION THRU LOOP DETECTOR

| SAWCUT SLOT DEPTH GUIDE | | |
|-------------------------|------------|------------|
| TURNS OF WIRE | SLOT SIZE | |
| | DEPTH (IN) | WIDTH (IN) |
| 1 | 1.5 | 0.5 |
| 2 | 1.5 | 0.5 |
| 3 | 1.5 | 0.5 |
| 4 | 2.0 | 0.5 |
| 5 | 2.0 | 0.5 |
| 6 | 2.0 | 0.5 |
| 7 | 2.0 | 0.5 |
| 8 | 2.0 | 0.5 |

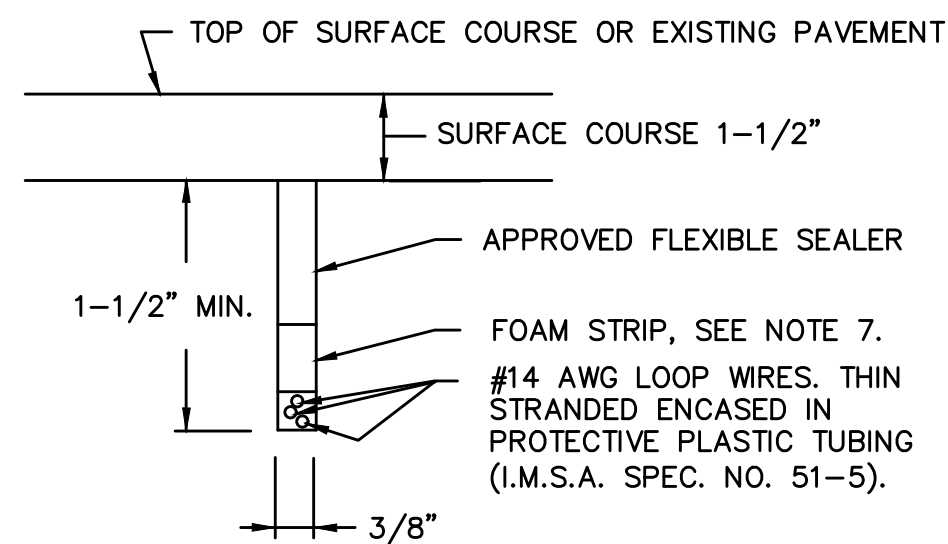
NOTES:

- REFER TO VEHICLE LOOP DETECTOR DETAIL SHEET FOR ADDITIONAL NOTES AND CONSTRUCTION DETAILS.
- ALL DETAILS ARE GRAPHICAL WITH NO SCALE.
- THE NUMBER, SIZE, LOCATION AND LENGTH OF DETECTION AREA VARIES AND SHALL BE DETERMINED BY THE DESIGNER REFER TO TRAFFIC SIGNAL PLAN.
- BICYCLE LOOPS SHALL BE CONNECTED TO SEPARATE LOOP DETECTOR AMPLIFIERS CAPABLE OF HIGHER LEVELS OF SENSITIVITY.
- BICYCLE LOOPS SHALL BE INSTALLED IN THE BASE COURSE OF EXISTING PAVEMENT. THE EXISTING PAVEMENT SHALL BE COLD PLANED TO THE BASE COURSE AND SAWCUT FOR LOOP INSTALLATION.
- SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED FOR ALL BICYCLE DETECTORS TO INFORM CYCLISTS OF THE DETECTION AREA.
- OFFSETS FROM LANE LINE EQUAL UNLESS OTHERWISE NOTED. SEE PLANS.
- TYPE Q DETECTORS SHALL BE WIRED IN A FIGURE EIGHT PATTERN WITH A DOUBLE LAYER DESIGN (2-4-2) WITH 2 TURNS IN THE PERIMETER SLOTS AND 4 TURNS IN THE CENTER SLOT AS SHOWN IN THE WINDING DETAIL.
- BICYCLES WILL BE DETECTED WITHIN 4 IN. OF THE INTERIOR LONGITUDINAL LOOP WIRES FOR TYPE Q AND D-Q DETECTORS.
- PROVIDE 3 TURNS FOR TYPE D-1 DETECTORS.
- INSTALL 2 LAYERS OF WIRE WOUND IN THE SAME DIRECTION IN BOTH LAYERS FOR TYPE D-2 DETECTORS. THE RESULT IS 4 TURNS IN EACH DIAGONAL.
- RIGHT JUSTIFIED LOOP DETECTORS SHALL BE CONSIDERED FOR THE FOLLOWING CONDITIONS:
 - BICYCLE STOPPING ON THE RIGHT SIDE OF A THRU TRAVEL LANE.
 - BICYCLE STOPPING ON THE RIGHT SIDE OF AN EXCLUSIVE LEFT TURN LANE.
- LEFT JUSTIFIED LOOP DETECTORS SHALL BE CONSIDERED FOR THE FOLLOWING CONDITIONS:
 - BICYCLE STOPPING ON THE LEFT SIDE OF A SHARED LEFT/THRU LANE.
 - BICYCLE STOPPING JUST TO THE RIGHT OF THE CENTERLINE WHEN TURNING LEFT ON A TWO-LANE ROADWAY.
- RECTANGULAR LOOP DETECTORS SHALL BE CONSIDERED FOR BICYCLES STOPPING ON EITHER THE LEFT OR RIGHT SIDE OF A TWO-LANE ROADWAY. THE MINIMUM OFFSET FROM LANE LINE OR CURB LINE SHALL BE 1.0 FT.
- PAVEMENT CORES OR TEST PITS MAY BE REQUIRED TO DETERMINE THE DEPTH OF EXISTING PAVEMENT AND CONFIRM THAT THE DETECTION OPTION CHOSEN AND CORRESPONDING WINDING PATTERN CAN BE ACCOMMODATED.
- THESE DETAILS APPLY TO BICYCLE LOOPS INSTALLED IN ROADWAYS. PUSH BUTTON ACTUATION SHALL BE CONSIDERED FOR RECREATIONAL BIKE PATHS.
- THE MINIMUM DIMENSION FOR L SHALL BE 6 FT MIN. FOR DETECTORS TYPE D-Q, D-1 & D-2. FINAL DIMENSIONS SHALL BE DETERMINED BY THE DESIGN ENGINEER.

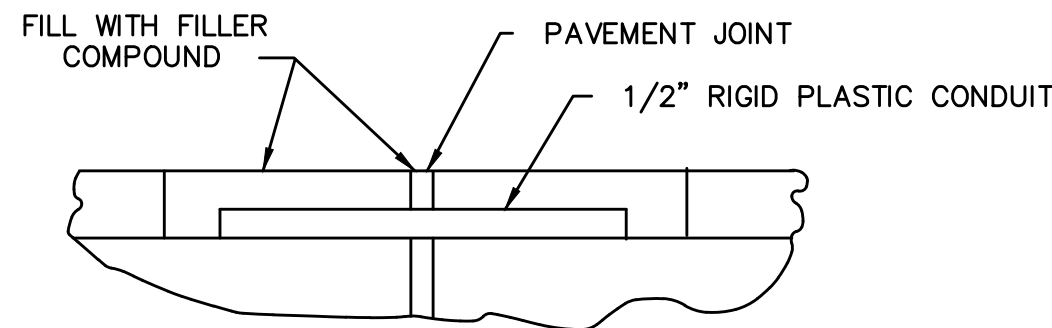
Nitech - \\jnei.local\DFS\8000-9999\9720.16 rt138 stoughton\transportation\CAD\607403 cad\project drawing data\DWG\607403_HD(TR_DET).dwg Oct 9, 2020 4:47 PM



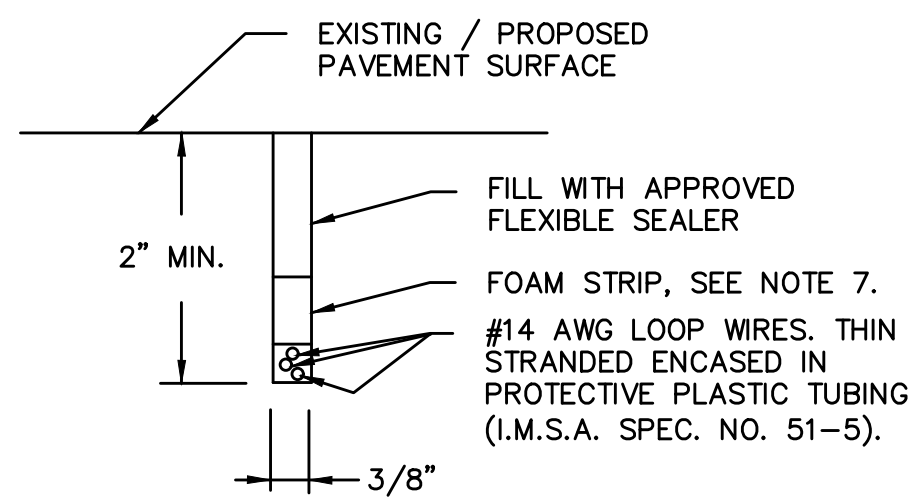
PLAN OF SEGMENTED DETECTOR DETAIL
NOT TO SCALE



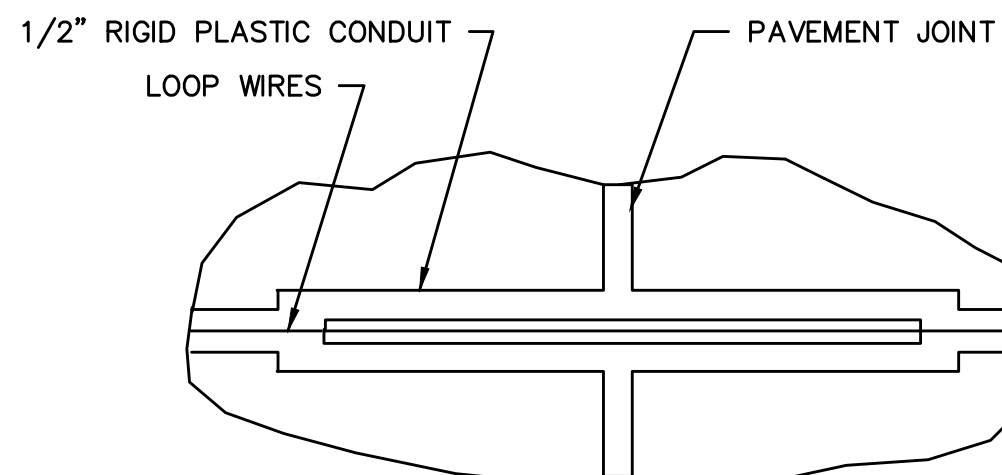
SECTION C-C & D-D
LOOPS IN BINDER COURSE OR EXISTING PAVEMENT TO BE RESURFACED.
NOT TO SCALE



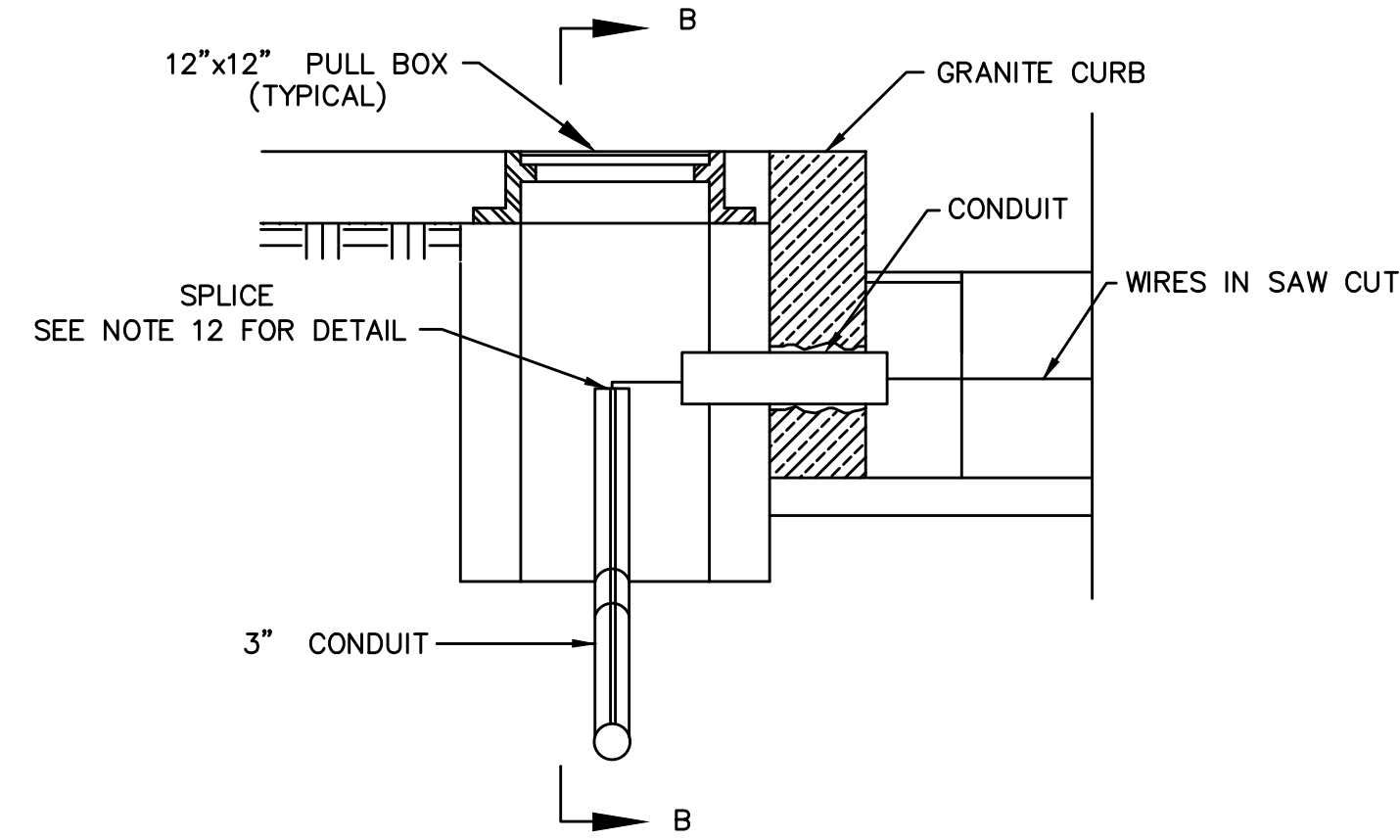
VERTICAL SECTION
TREATMENT AT PAVEMENT JOINTS
NOT TO SCALE



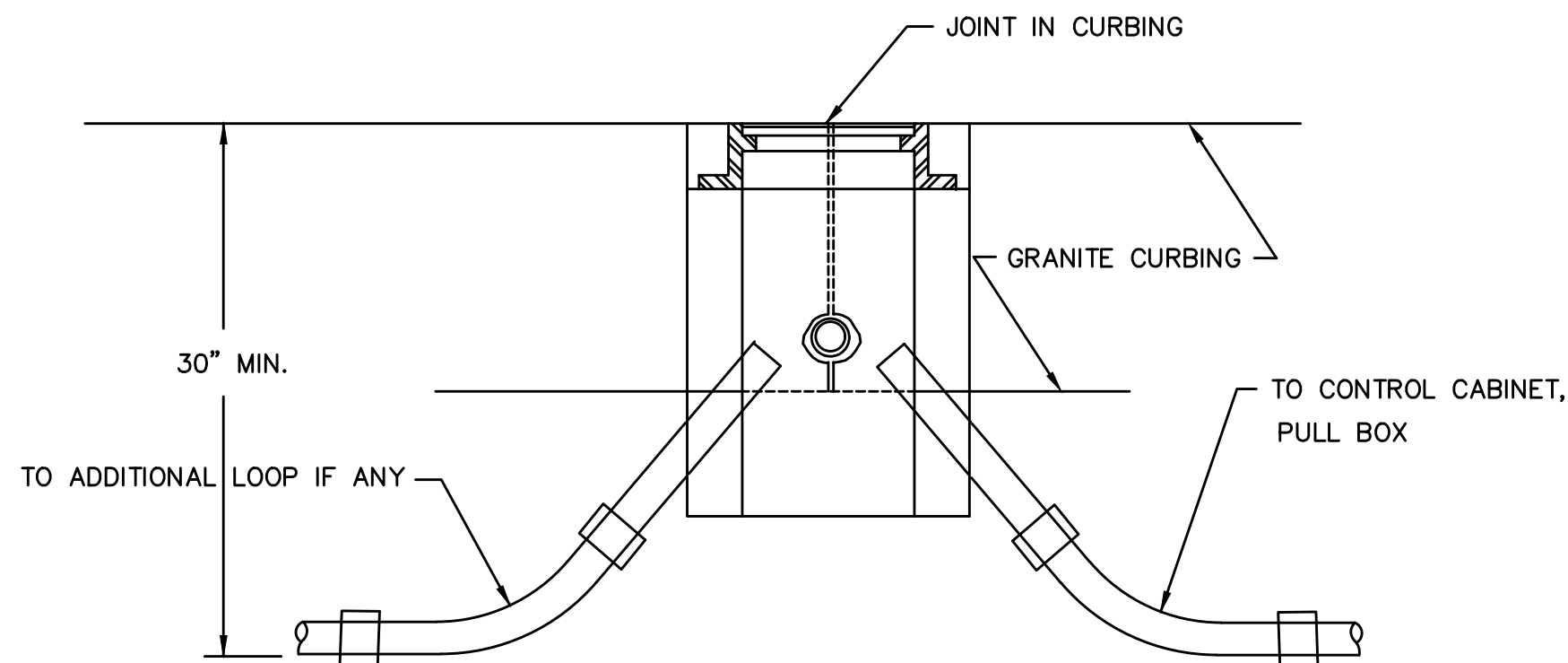
SECTION C-C & D-D
LOOPS IN SURFACE COURSE
(FOR AREAS OUTSIDE LIMITS OF PAVEMENT WORK ONLY)
NOT TO SCALE



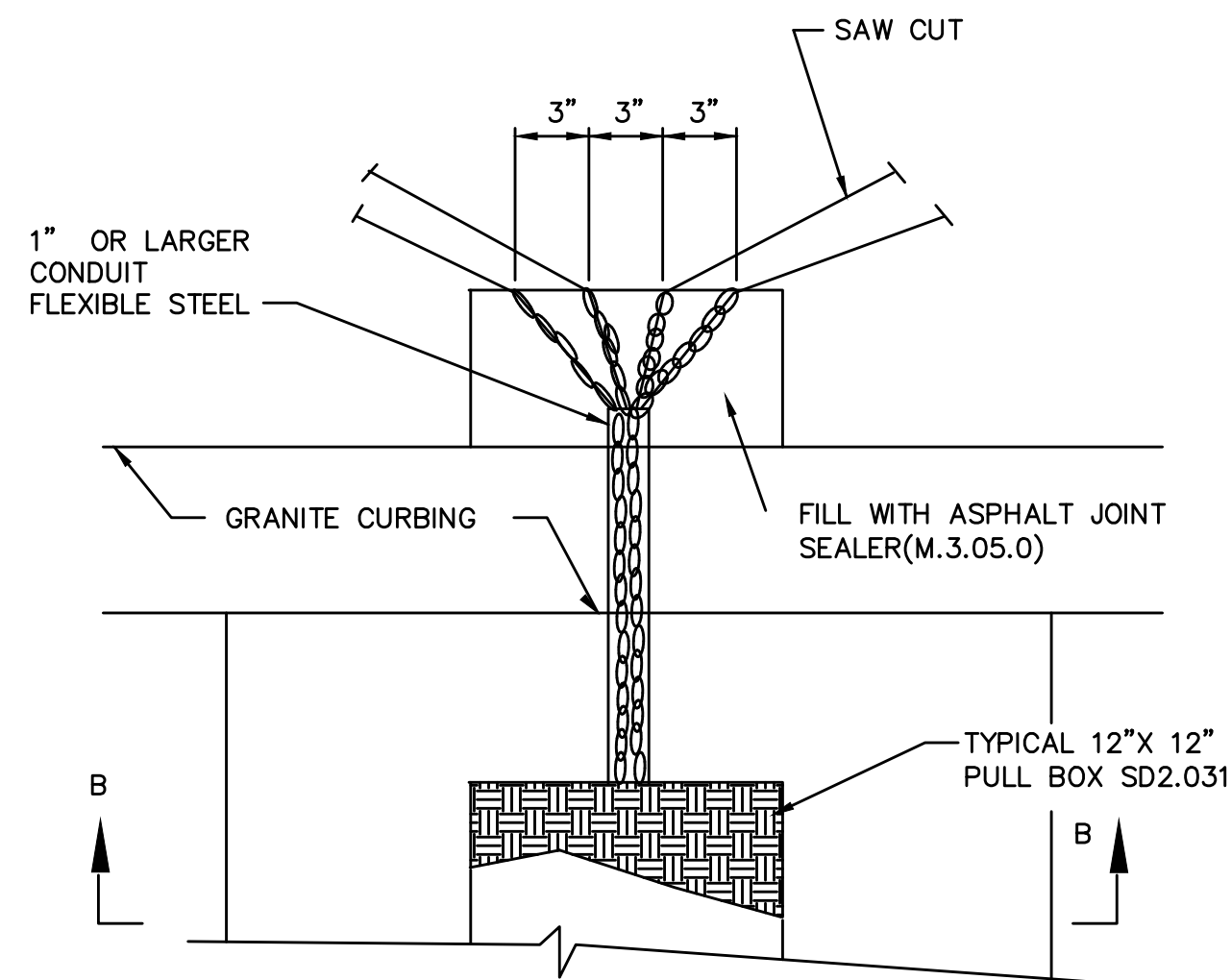
PLAN
TREATMENT AT PAVEMENT JOINTS
NOT TO SCALE



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



DETAIL - PLAN VIEW
NOT TO SCALE

STOUGHTON
WASHINGTON STREET (ROUTE 138)

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | - | 82 | 104 |
| PROJECT FILE NO. | | 607403 | |

TRAFFIC SIGNAL DETAILS
ROADWAY LOOP DETECTOR DETAILS

DETECTOR NOTES

- IN HANDHOLE, SPLICE ALL SEGMENTS TO TYPE II-SHIELDED LOOP DETECTOR LEAD-IN CABLE. SEGMENTS SHALL BE SPLICED IN PARALLEL, IN SERIES, OR IN A COMBINATION OF PARALLEL & SERIES AS SHOWN ON THE PLAN SHEET FOR EACH DETECTOR. NUMBER OF TURNS OF WIRE SHALL ALSO BE AS SHOWN ON THE PLAN SHEET FOR EACH DETECTOR. SEE NOTE 12.
 - SEE SPECIAL PROVISIONS FOR REQUIREMENTS OF DETECTOR AMPLIFIER.
 - LEAD IN WIRES SHALL BE TWISTED FROM SEGMENT TO SPLICE WITH SHIELDED CABLE. FIVE TURNS PER FOOT. LEAD-IN SHALL BE TYPE II (M8.16. II).
 - BEFORE STARTING ANY SPLICING, THE ELECTRICAL CONTRACTOR SHALL FURNISH DATA SHEETS ON THE MATERIALS AND/OR METHODS TO BE USED IN ACCORDANCE WITH THE DEPARTMENTS STANDARD OPERATING PROCEDURES FOR APPROVAL OF SHOP DRAWINGS, SEE SECTION 815.64, ESPECIALLY PARAGRAPH 1.
 - THE METALLIC SHIELD WHICH SHALL ENCASE THE DETECTOR LEADS FROM A SPLICE (TYPICALLY LOCATED IN A PULL BOX NEAR THE ROADWAY COMPONENT OF THE DETECTOR) TO THE CONTROLLER, AND THE DRAIN WIRE UNDER THE METALLIC SHIELD, SHALL NOT BE GROUNDED TO THE EARTH GROUNDING BUS IN THE CONTROLLER, AND THE SHIELD AND DRAIN WIRE SHALL BE CAREFULLY INSULATED FROM THE TRANSFORMER NEUTRAL OR FROM EARTH GROUND AT ALL OTHER POINTS ALONG ITS LENGTH. SPECIFICALLY, THIS INCLUDES CAREFUL INSULATION OF THE EXPOSED PORTION OF THE SHIELD AND THE DRAIN WIRE AT THE END AWAY FROM THE CONTROLLER WHERE IT IS SPLICED TO WIRES LEADING TO THE ROADWAY COMPONENT OF THE DETECTOR. THIS IS IMPORTANT TO AVOID A GROUND RETURN LOOP.
 - FILL ALL CONDUIT OPENINGS WITH DUCT SEAL.
 - AFTER SAW CUTS ARE COMPLETE, BLOW OUT WATER WITH OIL-FREE COMPRESSED AIR UNTIL CUTS ARE CLEAN AND DRY. INSERT WIRE INTO CLEAN SLOT WITH A BLUNT, SMOOTH, ROUND-EDGED TOOL OF WOOD OR PLASTIC SUCH AS PAINT STIRRER. DO NOT USE A SCREWDRIVER, THEN INSERT FOAM PLASTIC HOLD DOWN STRIPS, SIMILAR TO ETHA FOAM SB. STRIPS SHALL BE ABOUT 2" LONG, PLACED IN THE SLOT ABOUT EVERY 2 FEET THEN POUR SEALER, TAKING CARE TO ELIMINATE BUBBLES.
 - THE COMBINED ROADWAY LOOP, TWISTED LEAD-IN WIRES, SPLICE AND SHIELDED LEAD-IN CABLE SHALL HAVE A RESISTANCE TO GROUND AT LEAST 100 MEGA OHMS. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
 - DETAIL IS THE SAME FOR INSTALLATION OF SINGLE (ONE SEGMENT) SMALL WIRE LOOP DETECTOR.
 - CUT LOOPS IN BINDER AND FILL WITH APPROVED FLEXIBLE SEALER.
 - DETECTOR WIRE SHALL BE A DIFFERENT COLOR FOR EACH SEGMENT OF A DETECTOR GROUP. SEE DETAIL.
 - SPLICING PATTERN P= SERIES/PARALLEL: SPLICE SEGMENTS 1 AND 3 OF AN INDIVIDUAL DETECTOR IN SERIES. SPLICE SEGMENTS 2 AND 4 IN SERIES. SPLICE THE RESULTANT TWO GROUPS IN PARALLEL. SPLICE THE RESULTANT COMBINATION TO ONE LEAD-IN CABLE. CONNECT THIS CABLE TO AN OTHERWISE UNUSED AMPLIFIER CHANNEL.
- SPLICING PATTERN S= SERIES: SPLICE ALL SEGMENTS (TYPICALLY FOUR, BUT MAY BE LESS) OF AN INDIVIDUAL DETECTOR IN SERIES. SPLICE THE RESULTANT COMBINATION TO ONE LEAD-IN CABLE TO AN OTHERWISE UNUSED AMPLIFIER CHANNEL.

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TRAFFIC MANAGEMENT NOTES:

1. ALL TRAFFIC MANAGEMENT AND WORK ZONE TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION WITH MASSACHUSETTS AMMENDMENTS, THE STANDARD SPECIFICATIONS, THE PROJECT SPECIAL PROVISIONS, AND THE FOLLOWING NOTES.
2. THE TRAFFIC MANAGEMENT PLANS CONTAINED HEREIN ARE GIVEN AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS FOR THE TYPES OF WORK ANTICIPATED FOR THIS PROJECT. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY CHOOSE TO EMPLOY. WORK ZONE TRAFFIC CONTROL FOR OTHER CONSTRUCTION OPERATIONS OR OTHER TRAFFIC SITUATIONS IF APPLICABLE SHALL BE IN ACCORDANCE WITH THE MUTCD AND AS APPROVED OR DIRECTED BY THE ENGINEER.
3. NO CONSTRUCTION VEHICLES SHALL BE PARKED WITHIN THE TRAVEL WAY WITHOUT PROPER PROTECTION AND APPROVAL OF THE ENGINEER.
4. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
5. ALL WARNING SIGNS SHALL BE BLACK LEGEND ON A REFLECTIVE ORANGE BACKGROUND AND IN ACCORDANCE WITH THE MUTCD. ALL REGULATORY SIGNS SHALL BE BLACK LEGEND ON A WHITE REFLECTIVE BACKGROUND. ALL CONSTRUCTION SIGNS SHALL BE ATTACHED TO THEIR OWN INDEPENDENT SUPPORTS UNLESS SHOWN OTHERWISE.
6. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID PLACING TEMPORARY TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY. IF SUCH PLACEMENT ON PRIVATE PROPERTY IS UNAVOIDABLE, IT SHALL BE DONE WITH THE EXPLICIT APPROVAL OF THE PROPERTY OWNER AND THE ENGINEER.
7. ABUTTER ACCESS SHALL NOT BE CLOSED EXCEPT FOR SHORT PERIODS AND ONLY WITH THE APPROVAL OF THE ENGINEER. THE CONTRACTOR 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.
8. THE CONTRACTOR SHALL PROVIDE IMMEDIATE ACCESS TO EMERGENCY VEHICLES AT ALL TIMES.
9. GRADE DIFFERENCES IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
10. GRADE DIFFERENCES IN EXCESS OF 4" DURING NON-WORKING HOURS SHALL BE PROTECTED BY BACKFILLING WITH A TRANSITION OF GRAVEL OR OTHER MATERIAL TO BE COMPACTED AT A 4:1 SLOPE, AND DELINEATED BY DRUMS.
11. CONSTRUCTION SIGNS NOT APPLICABLE TO VARIOUS STAGES OF CONSTRUCTION SHALL BE REMOVED OR COVERED.
12. USE MA-W20-7b SIGNS ONLY WHEN POLICE OFFICER IS DIRECTING TRAFFIC. THEY SHALL BE TAKEN DOWN OR COVERED AT THE CLOSE OF EACH OPERATION.
13. MAINTAIN PEDESTRIAN ACCESS THROUGH THE WORK AREA AT ALL TIMES. THE POLICE DETAIL SHALL PROVIDE CONTROL TO CROSS PEDESTRIANS ON ROADWAY TO SIDEWALK. PROVIDE TEMPORARY CROSSWALKS AND RAMPS AS NEEDED AND AS DIRECTED BY THE ENGINEER.
14. ALL CONSTRUCTION SIGNING AND OTHER TRAFFIC MAINTENANCE DEVICES SHALL CONFORM WITH THE 2009 MUTCD AS AMENDED, NCHRP 350, AND MASSDOT STANDARDS.
15. ADVANCE WARNING SIGNS NO LONGER APPLICABLE, WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS, SHALL EITHER BE COVERED OR REMOVED AS SOON AS POSSIBLE. NO SIGN SHALL BE VISIBLE TO TRAFFIC THAT MAY CONFLICT WITH ACTUAL ROADWAY CONDITIONS.
16. ALL DISTANCES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.HOWEVER, MINIMUM DISTANCES, WHERE INDICATED, SHOULD BE MAINTAINED.
17. THE CONTRACTOR SHALL USE TEMPORARY PATCHING OR BEVELED STEEL PLATES TO COVER PIPE TRENCHES AND OTHER EXCAVATED HOLES NOT COMPLETED BY THE END OF EACH WORK DAY.
18. 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).
19. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH WILL BE MEASURED FROM THE EDGE OF DRUMS OR CONES OR MEDIAN BARRIER.
20. ORANGE CONSTRUCTION FLAGS MAY BE USED ON ADVANCE WARNING SIGNS AS DIRECTED BY THE ENGINEER. FLAGS SHALL BE A MINIMUM OF 16" X 16".
21. MAINTAIN EXISTING PAVEMENT MARKINGS WHERE APPLICABLE. WHEN LANES SHIFT, IF NECESSARY, EXISTING MARKINGS SHALL BE REMOVED AND TEMPORARY PAVEMENT MARKING SHALL BE PROVIDED.
22. AT THE END OF EACH WORK DAY, NO TRAFFIC CONTROL DEVICES SHALL REMAIN IN THE ROADWAY AND ALL LANES SHALL BE OPEN FOR TRAFFIC FLOW.
23. THE CONTRACTOR MAY PROPOSE TO USE A DIFFERENT SEQUENCE OF WORK AREAS THAN WHAT IS BEING PROPOSED IN THESE DOCUMENTS. THE CONTRACTOR SHALL SUBMIT PHASING AND TRAFFIC MANAGEMENT PLANS FOR APPROVAL BY THE ENGINEER.
24. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
25. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH. (20' SPACING TYPICAL ON TAPER, 35' SPACING TYPICAL ON TANGENTS.)
26. CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS.
27. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING WARNING LIGHTS.
28. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
29. POLICE DETAIL SHALL BE USED WHILE SETTING UP THE TEMPORARY TRAFFIC CONTROL DEVICES ON THE ROADWAY.
30. EACH WORK ZONE SHALL HAVE MA-R2-10a, MA-R2-10e, AND W-20 SERIES SIGNS WHERE APPLICABLE.
31. POLICE DETAILS SHALL BE EMPLOYED AND SHALL BE SUBSTITUTED WITH CERTIFIED ROADWAY FLAGGERS AS DIRECTED BY THE ENGINEER AND PER SECTION 850 "TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS" IN THE MASSDOT SUPPLEMENTAL SPECIFICATIONS DATED JUNE 12, 2012.
32. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
33. ALL DRIVEWAYS AND STREETS SHALL REMAIN OPEN AT ALL TIMES EXCEPT FOR SHORT PERIODS AS APPROVED BY THE ENGINEER.
34. SEE SHEETS 84 AND 85 FOR ADDITIONAL TYPICAL TEMPORARY TRAFFIC CONTROL PLAN DETAILS.

SUGGESTED WORK ZONE WARNING SIGN SPACING

| ROAD TYPE | DISTANCE BETWEEN SIGNS ** | | |
|-------------------------------|---------------------------|-------------|-------------|
| | A | B | C |
| LOCAL OR LOW VOLUME ROADWAYS* | 350 (100) | 350 (100) | 350 (100) |
| MOST OTHER ROADWAYS* | 500 (150) | 500 (150) | 500 (150) |
| FREEWAYS AND EXPRESSWAYS* | 1,000 (300) | 1,500 (450) | 2,640 (800) |

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

MA-R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

MA-R2-10a, MA-R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

| TYPE OF TAPER | TAPER LENGTH (L)* |
|---------------------------------|---|
| MERGING TAPER | AT LEAST L |
| SHIFTING TAPER | AT LEAST 0.5L |
| SHOULDER TAPER | AT LEAST 0.33L |
| ONE-LANE, TWO-WAY TRAFFIC TAPER | 50 FT MIN.(15 m) 100 FT(30 m) MAX. |
| DOWNSTREAM TAPER | 50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE |

FORMULAS FOR DETERMINING TAPER LENGTHS

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

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

| SPEED* (mph) | DISTANCE (ft) |
|--------------|---------------|
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |
| 65 | 645 |
| 70 | 730 |
| 75 | 820 |

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE

P/F POLICE/FLAGGER DETAIL

TYPE III BARRICADE

CHANGEABLE MESSAGE SIGN

ARROW BOARD
- WORK ZONE

DIRECTION OF TRAFFIC

IMPACT ATTENUATOR

MEDIAN BARRIER

MEDIAN BARRIER WITH WARNING LIGHTS

WORK VEHICLE

TRUCK MOUNTED ATTENUATOR

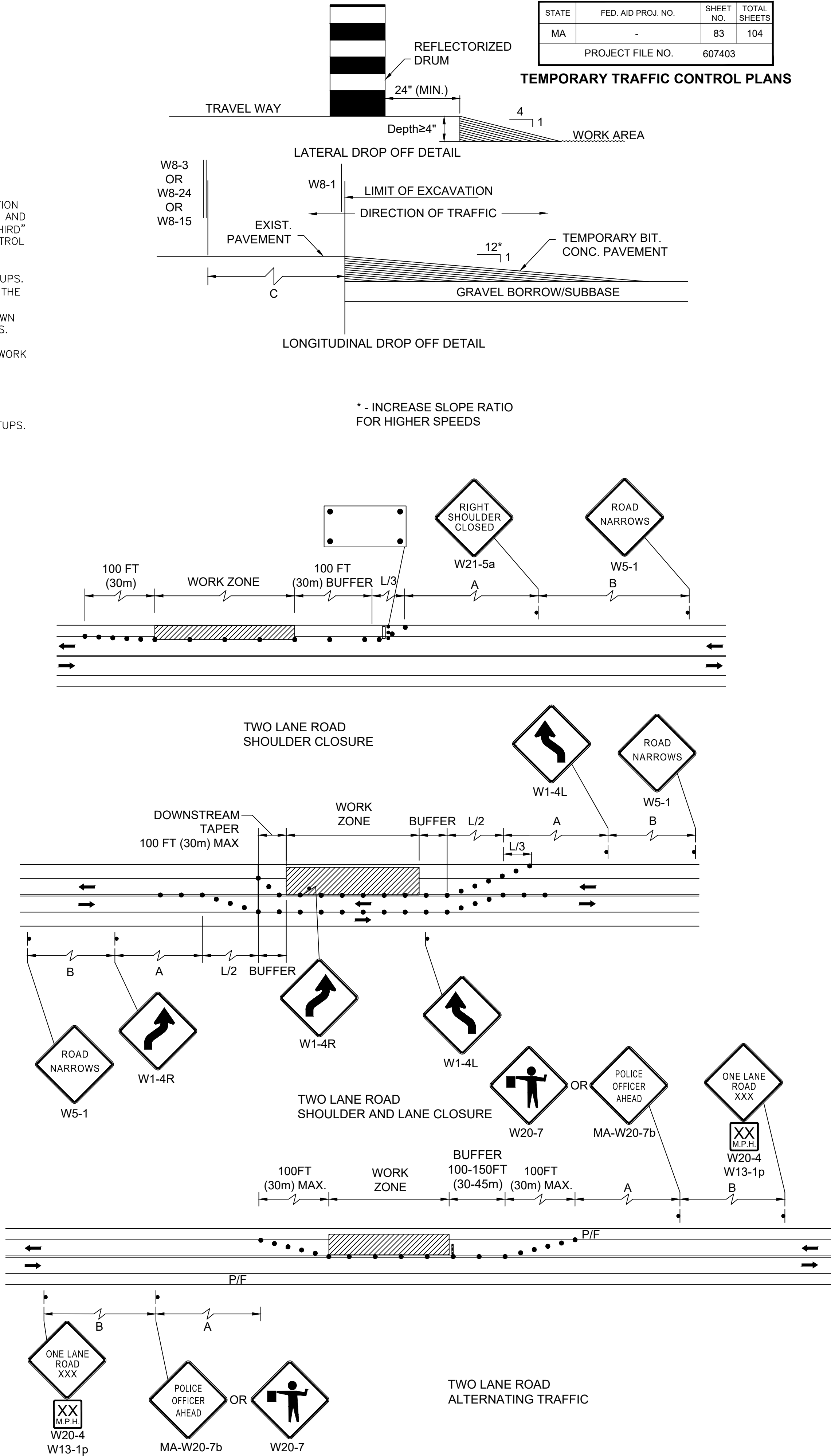
TRAFFIC OR PEDESTRIAN SIGNAL

SIGN

STOUGHTON
WASHINGTON STREET (ROUTE 138)

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | - | 83 | 104 |
| PROJECT FILE NO. | | 607403 | |

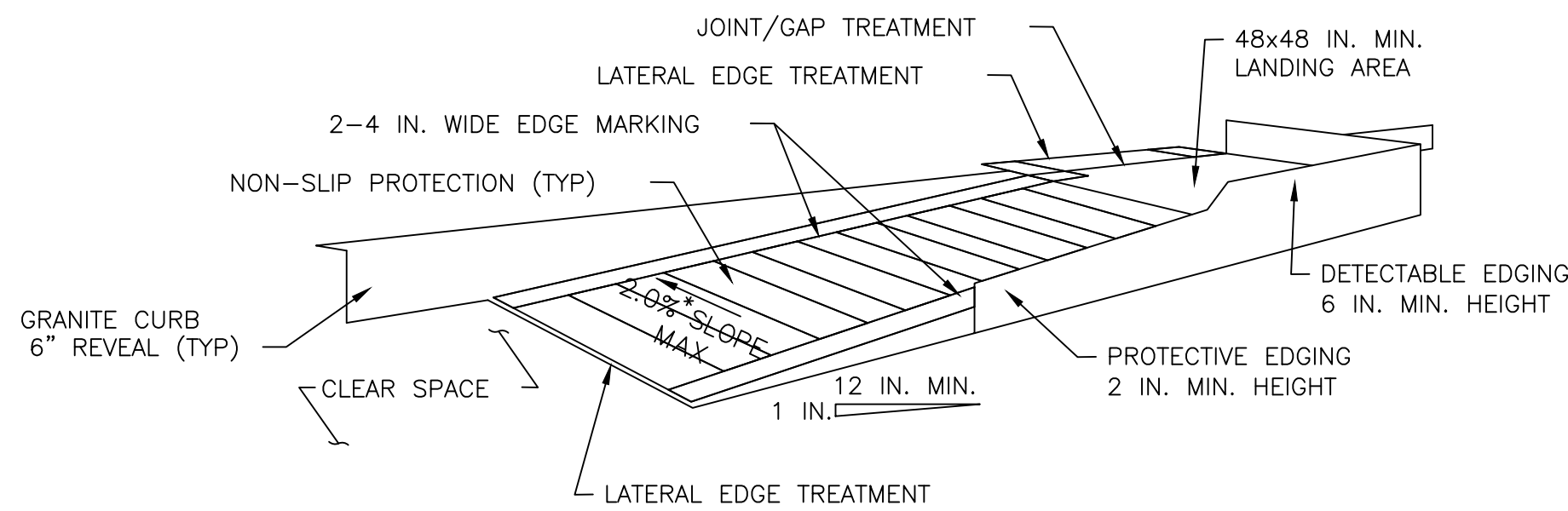
TEMPORARY TRAFFIC CONTROL PLANS



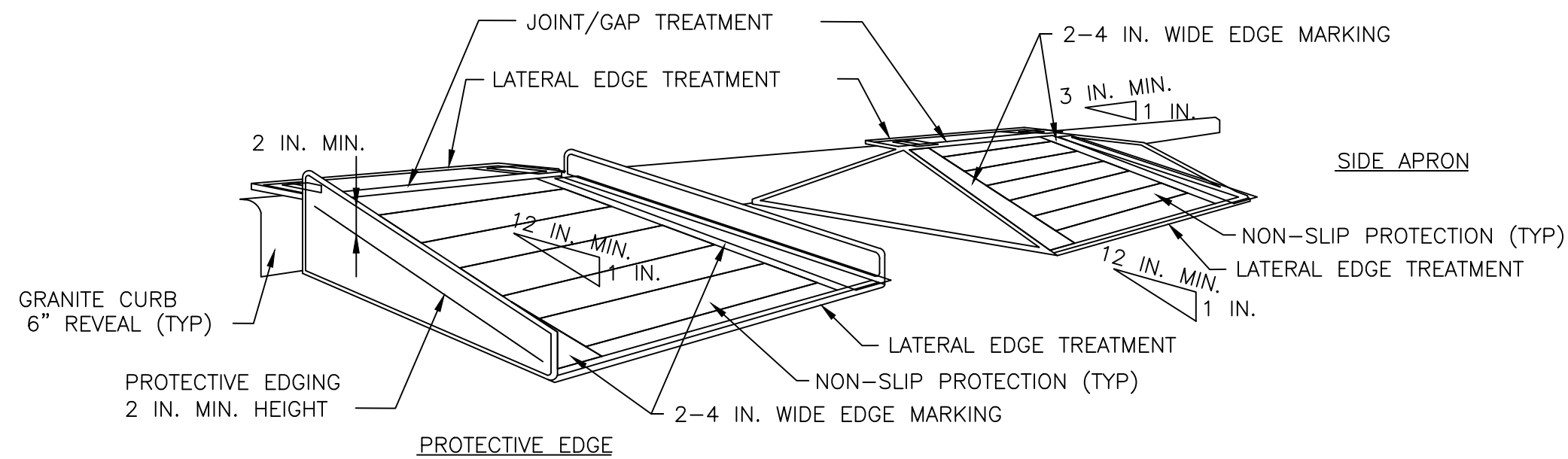
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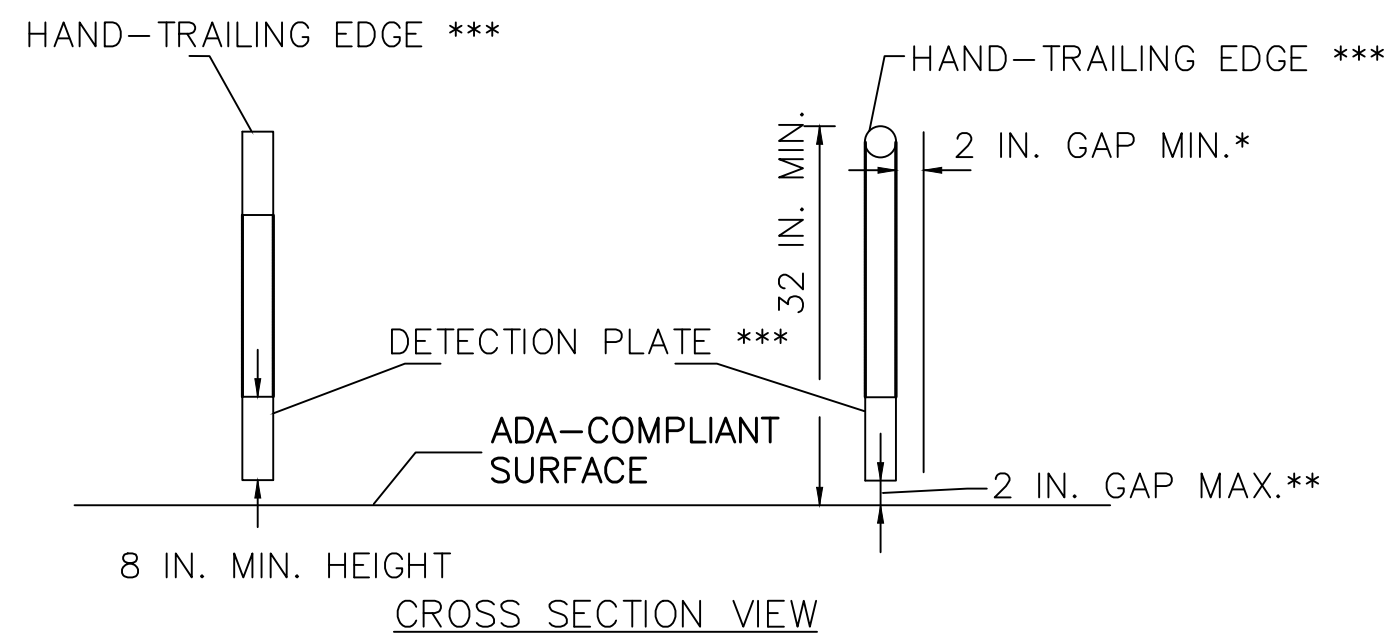
1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
5. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR 2 TO 4 IN. WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.



TEMPORARY CURB RAMP-PARALLEL TO CURB



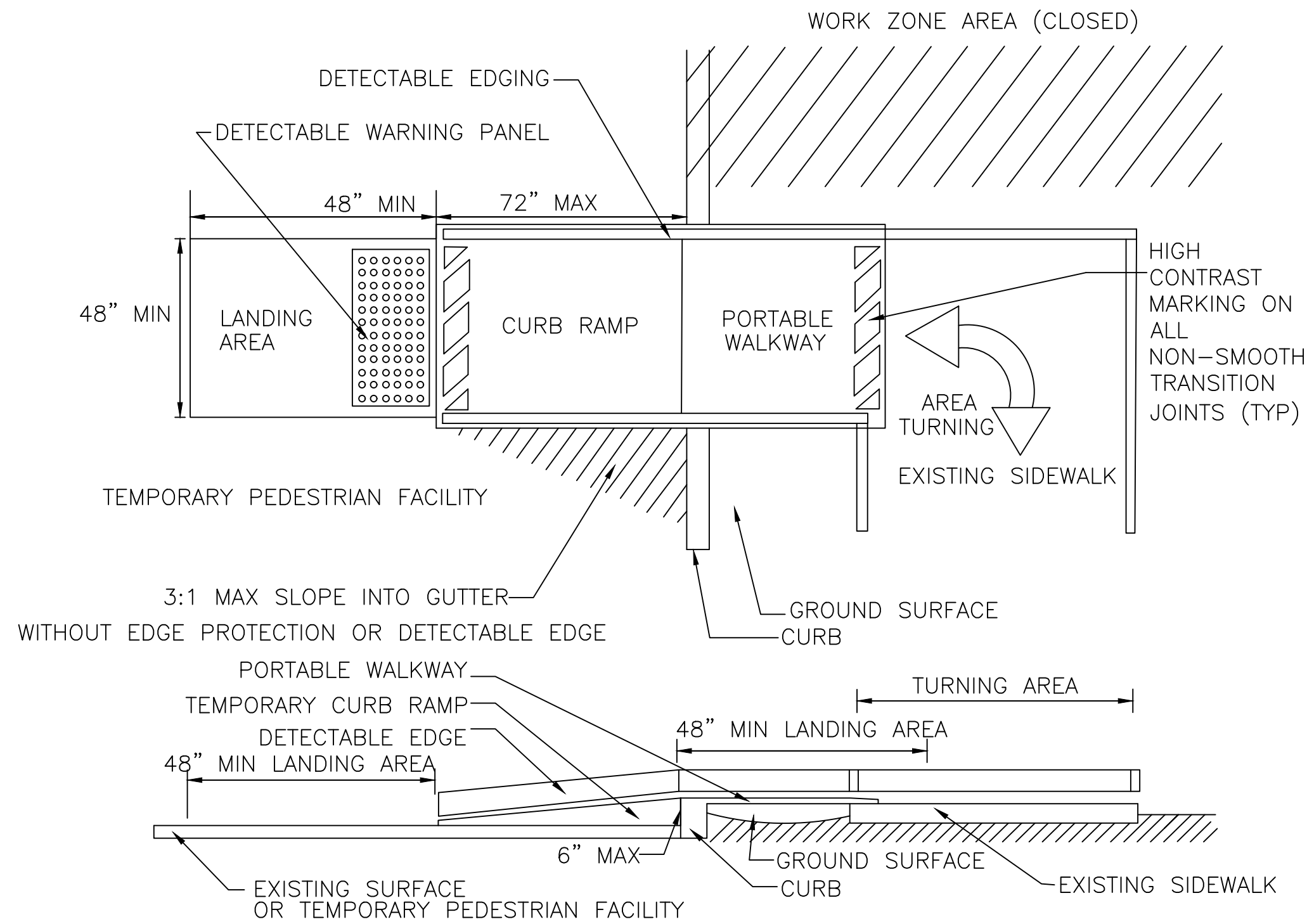
TEMPORARY CURB RAMP-PERPENDICULAR TO CURB



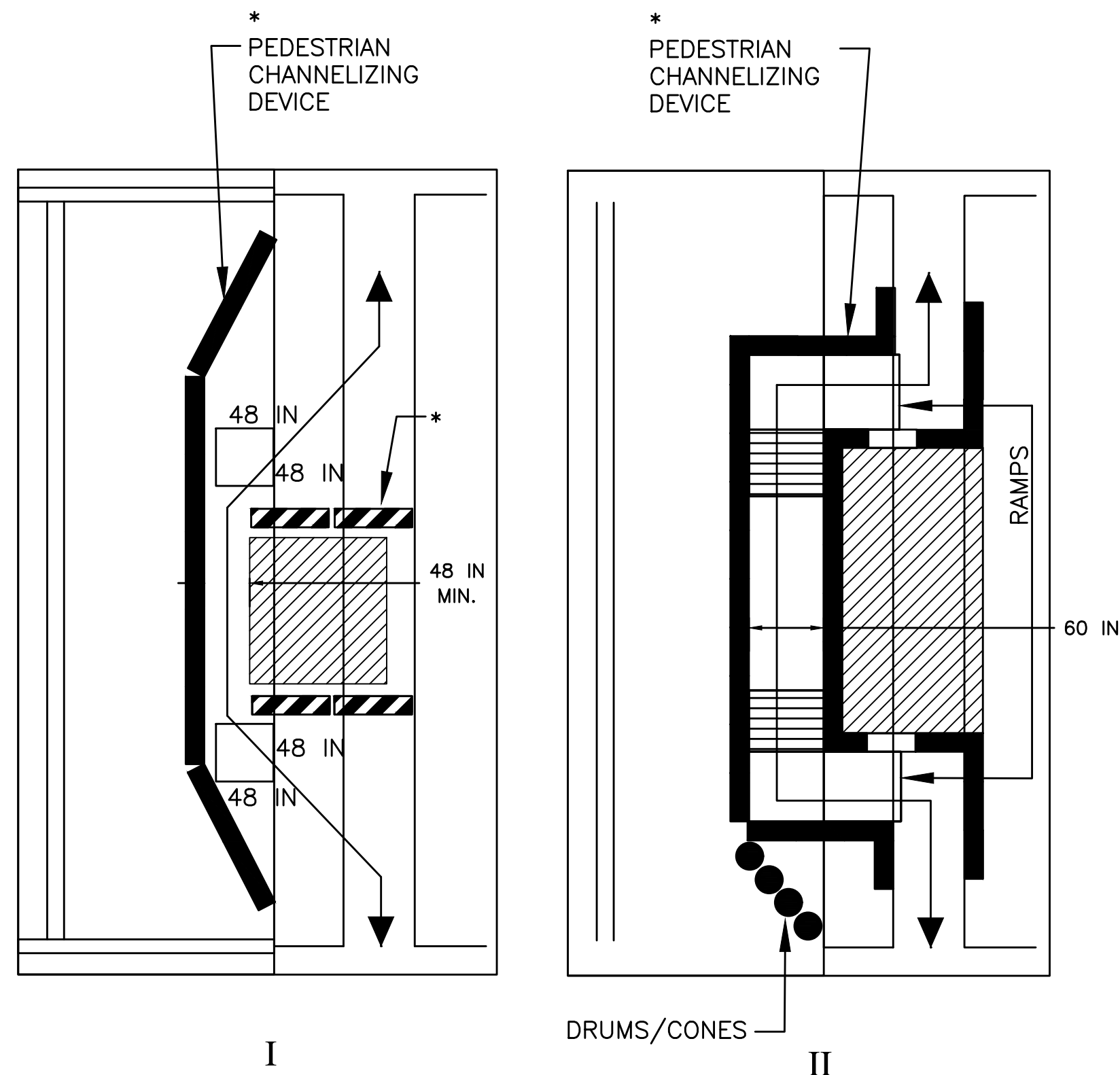
PEDESTRIAN CHANNELIZING DEVICE

NOTES:

- * THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.
- ** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.
- *** THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.



TEMPORARY CURB RAMP - TYPE 2



TEMPORARY PEDESTRIAN DELINEATION DETAILS

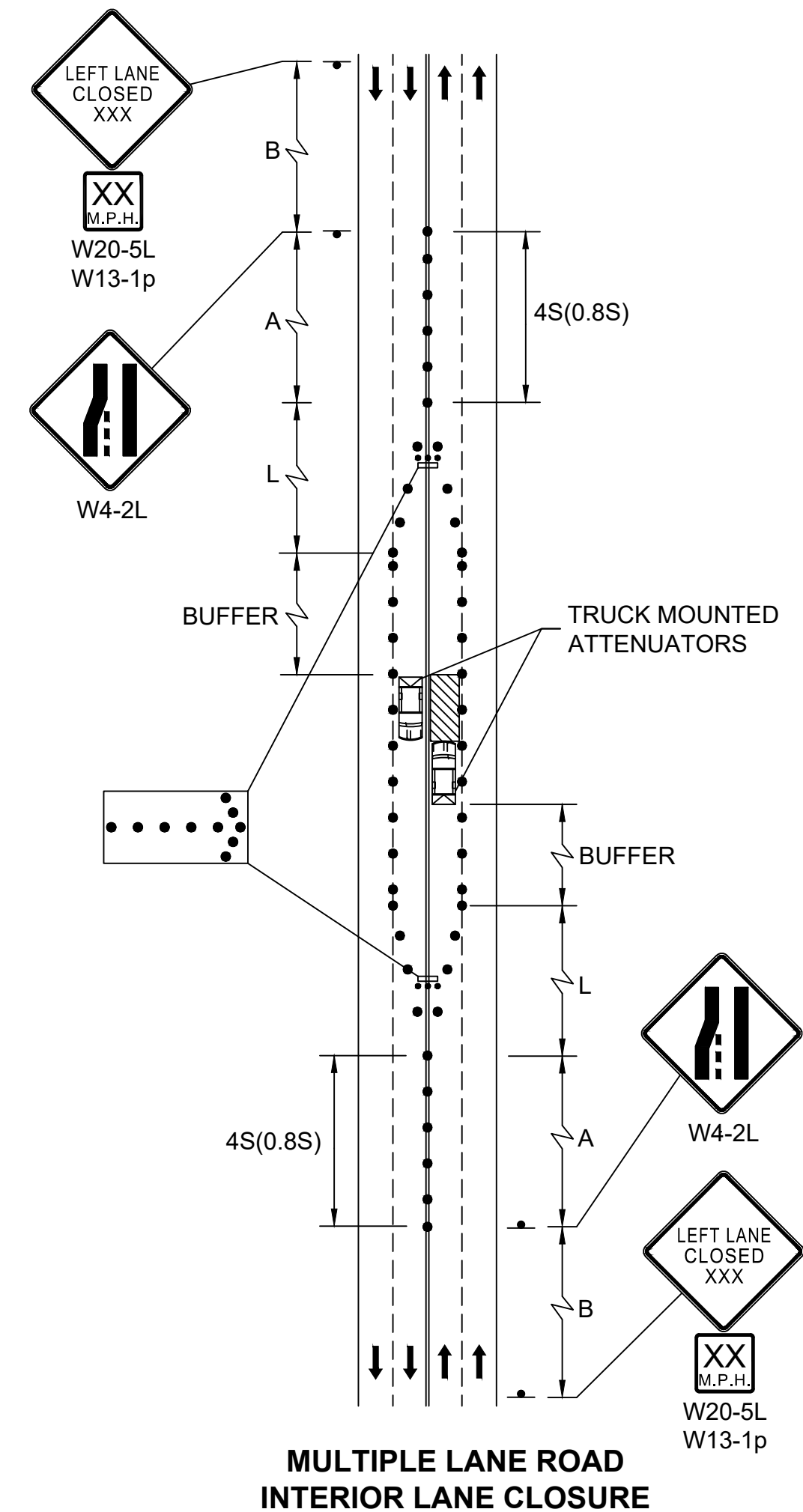
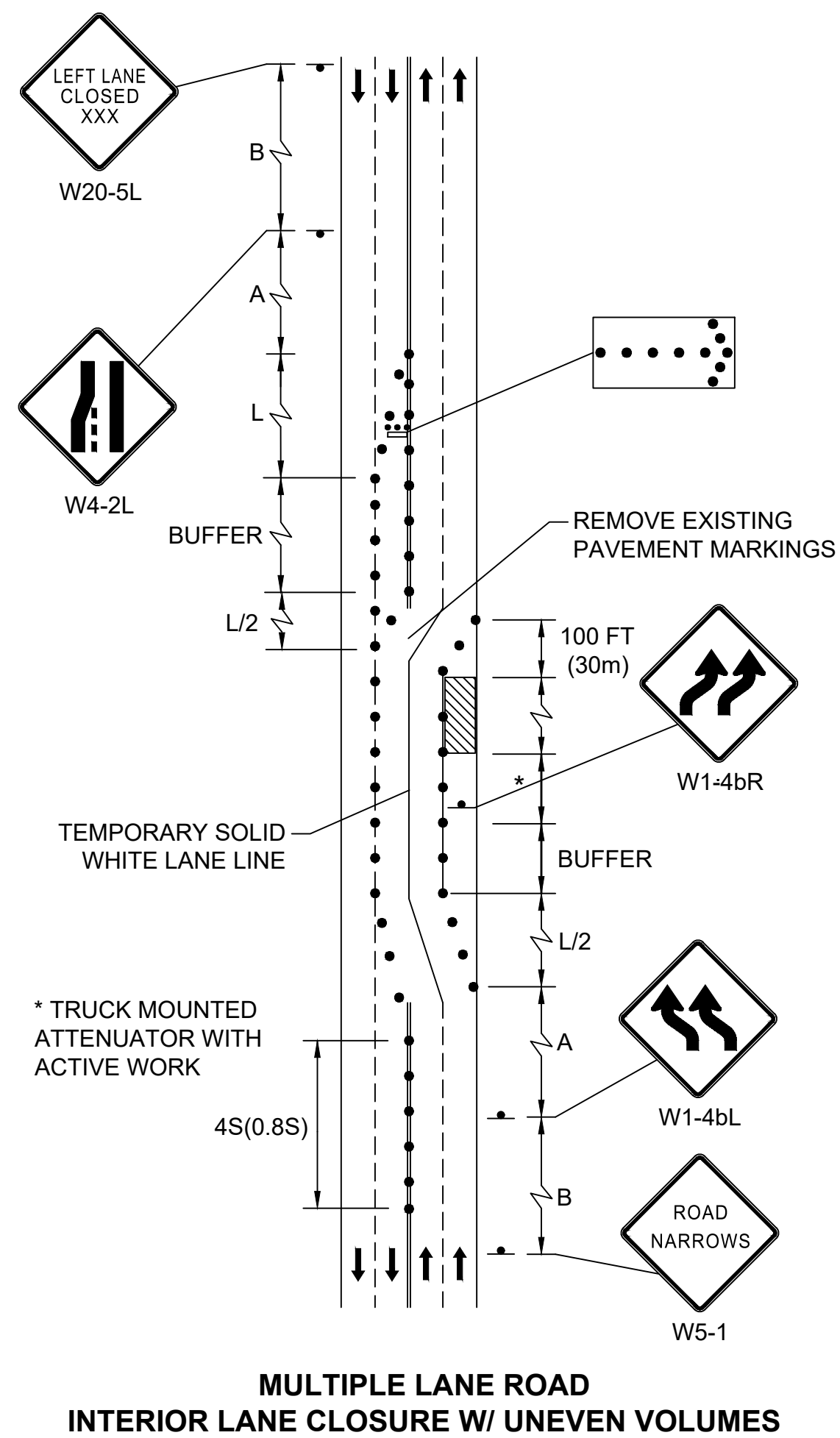
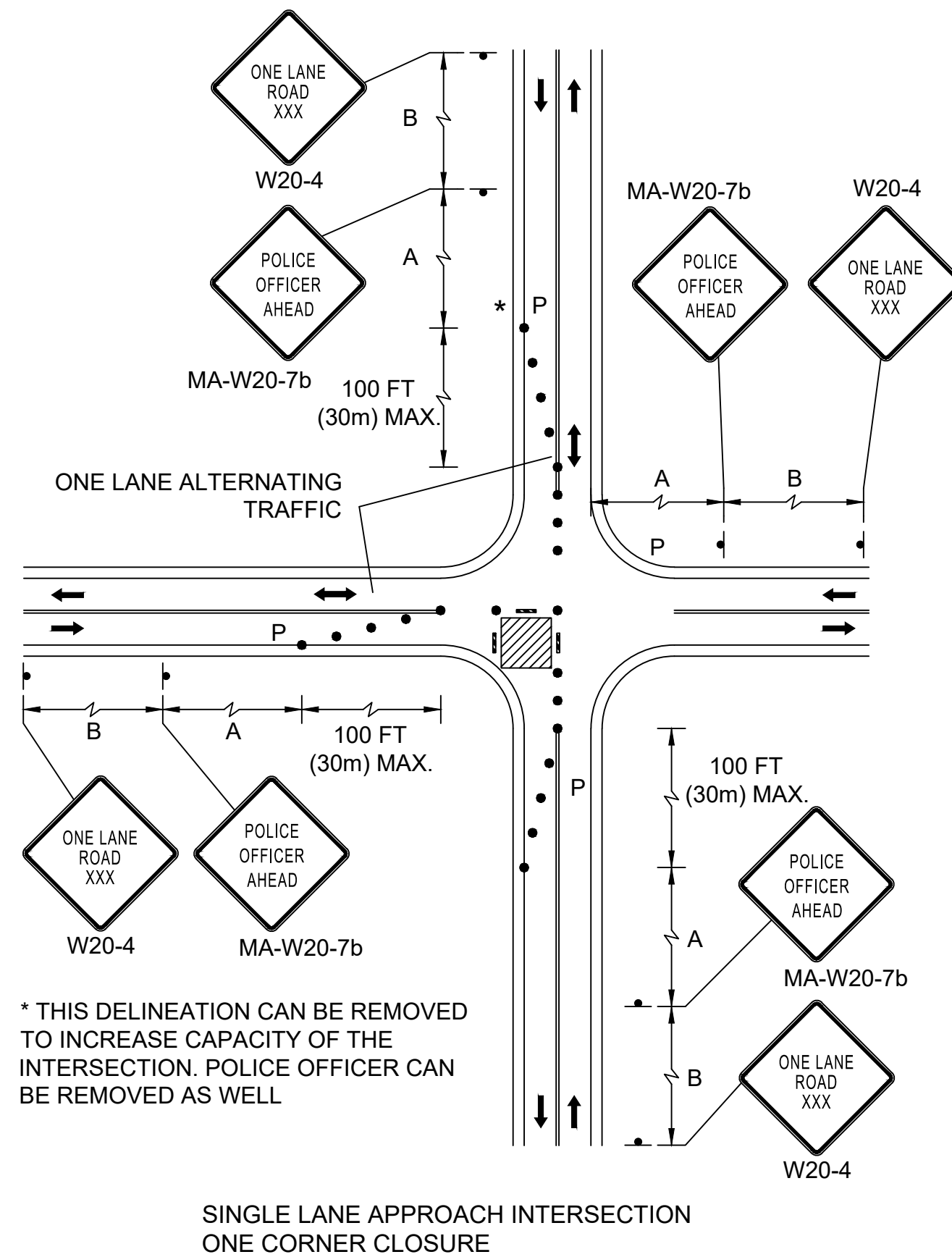
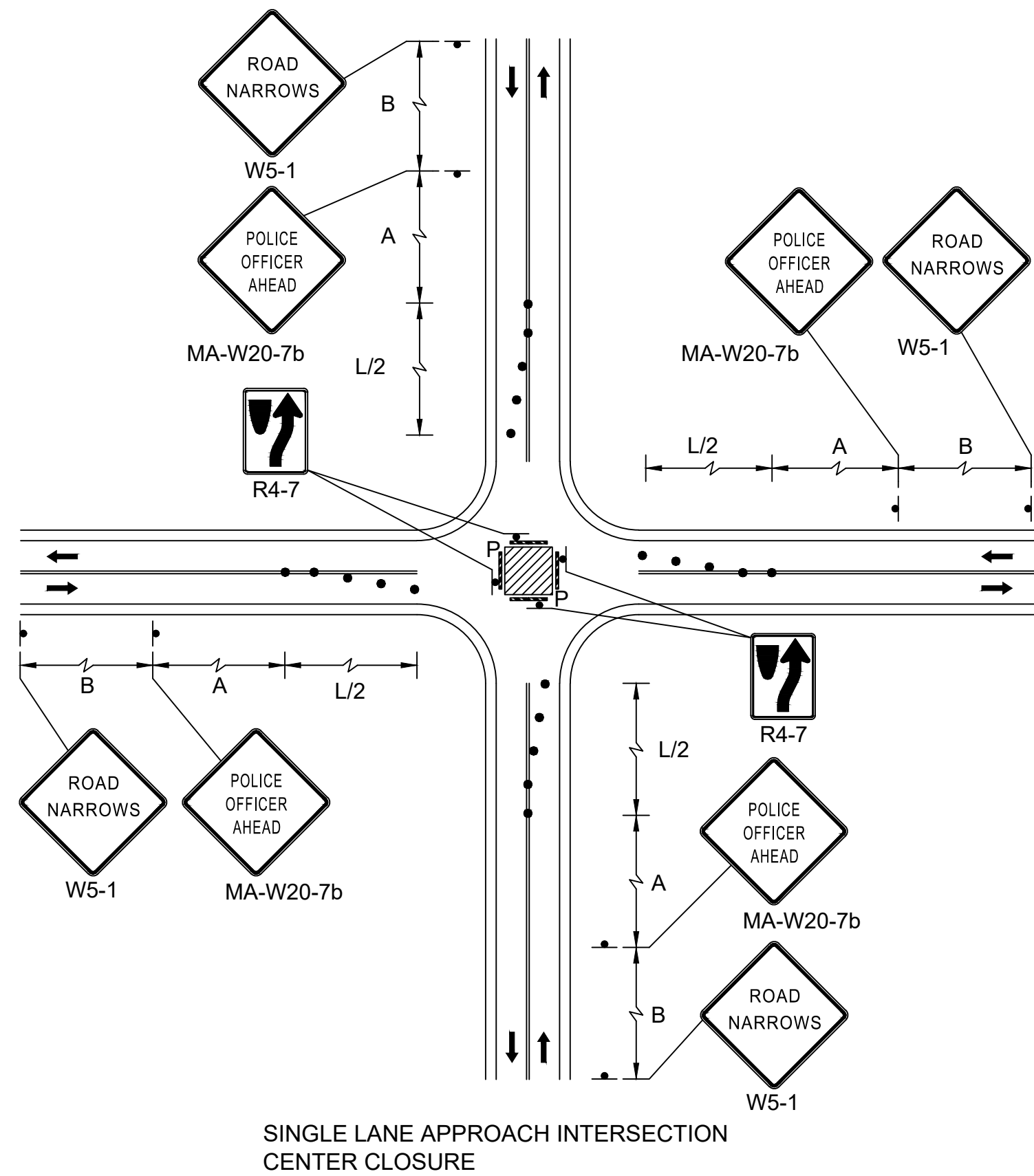
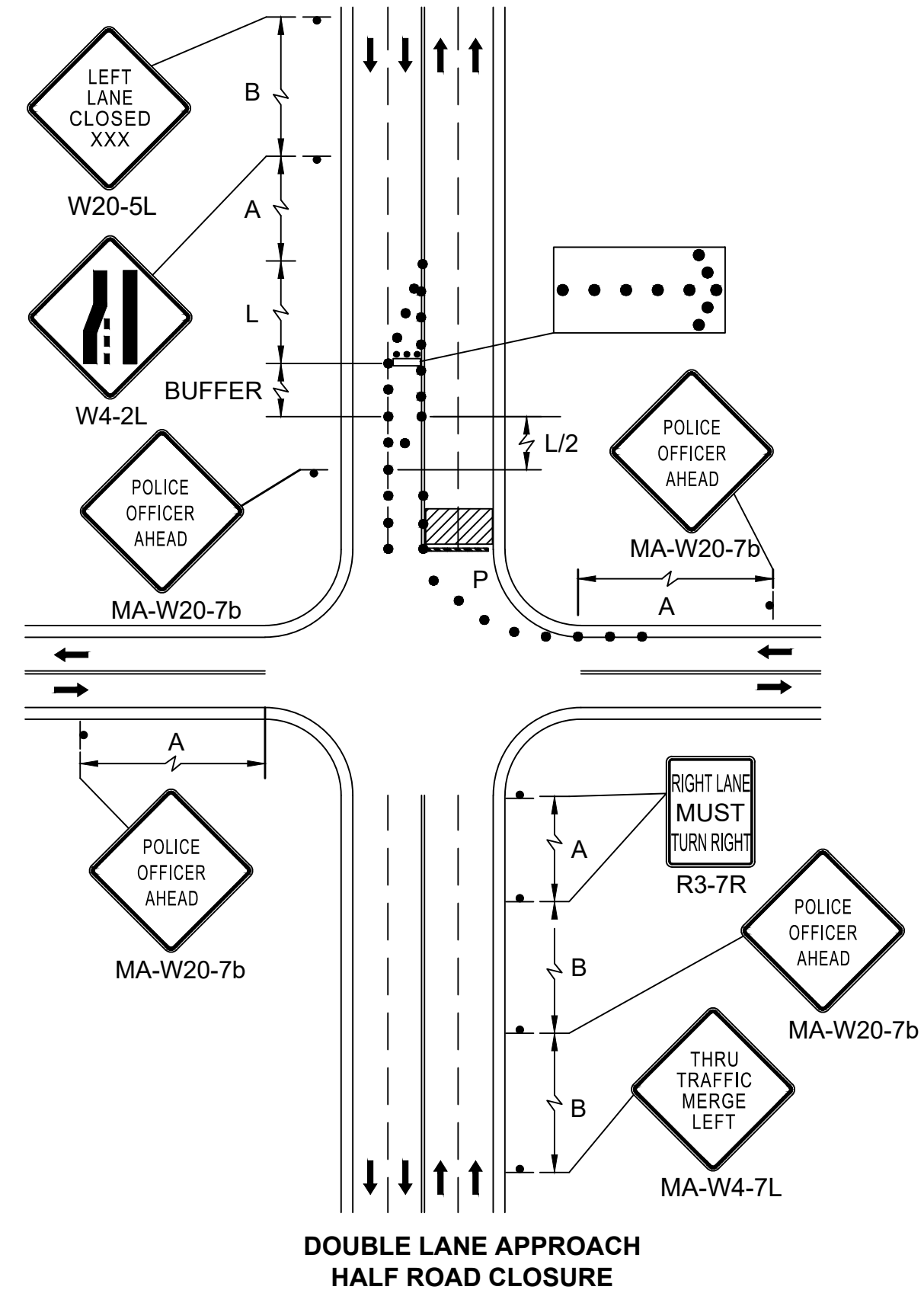
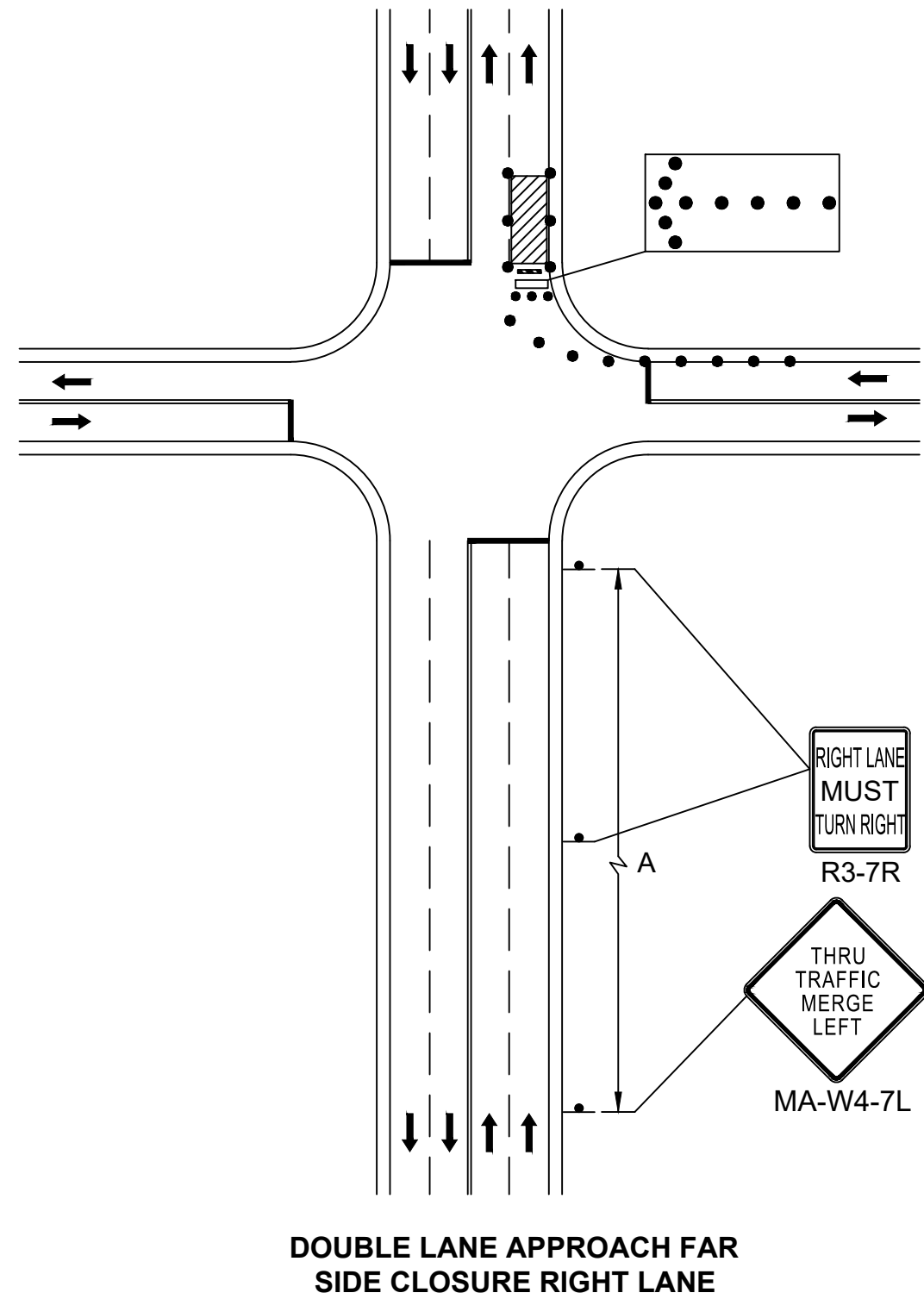
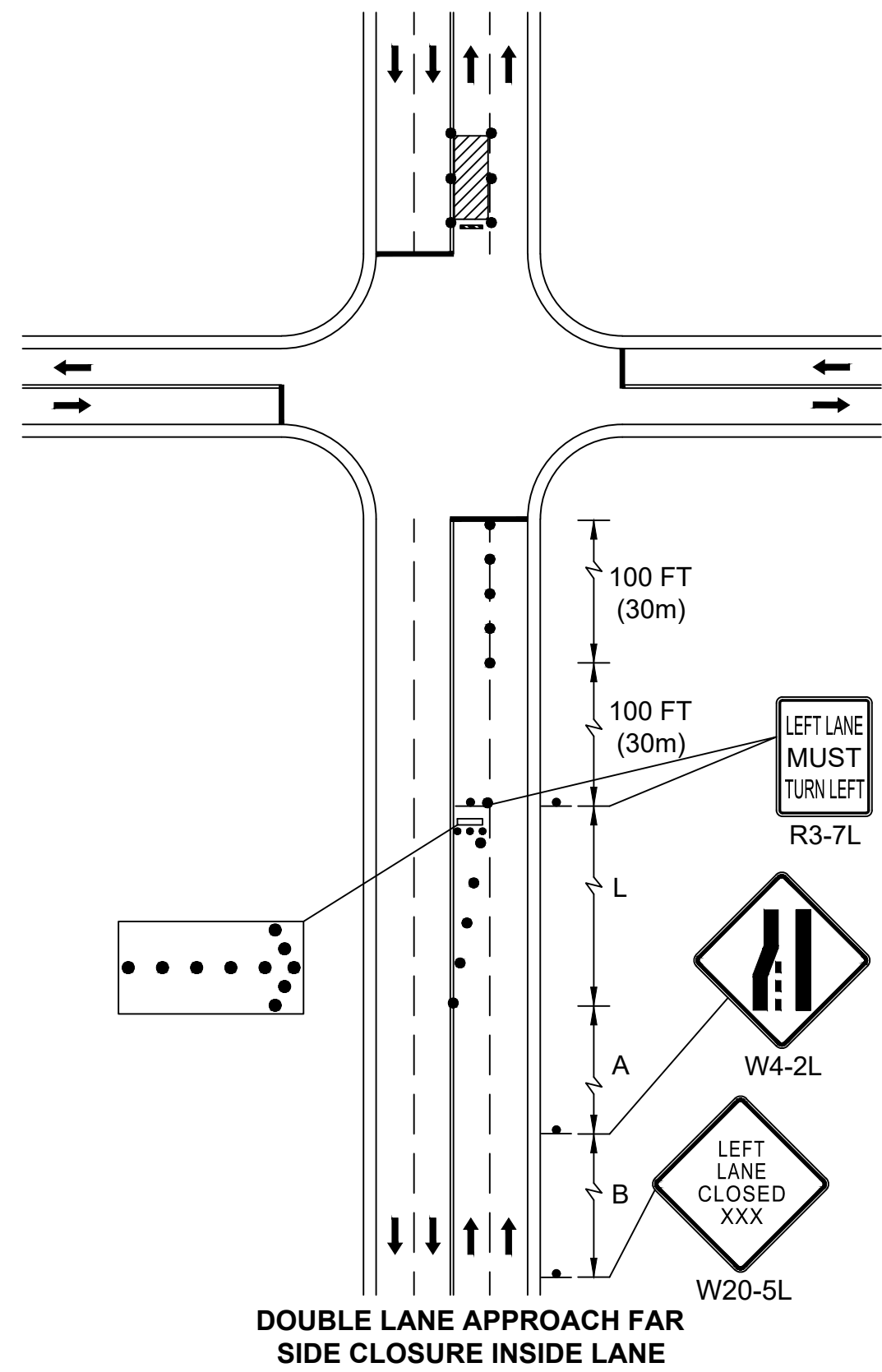
| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
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| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 84 | 104 |
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TEMPORARY TRAFFIC CONTROL PLANS

- WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
- A PEDESTRIAN CHANNELIZING DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
- WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (SEE FIGURES PED-1 & PED-2).
- THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
- THE PROTECTIVE REQUIREMENTS OF A TTC SITUATION HAVE PRIORITY IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN THIS SITUATION SHOULD BE BASED ON ENGINEERING JUDGMENT.
- AUDIBLE INFORMATION DEVICES SHOULD BE CONSIDERED WHERE MIDBLOCK CLOSINGS AND CHANGED CROSSWALK AREAS CAUSE INADEQUATE COMMUNICATION TO BE PROVIDED TO PEDESTRIANS WHO HAVE VISUAL DISABILITIES.

AUDIBLE DEVICES

FOR LONG TERM SIDEWALK CLOSURES (AT A MINIMUM OVERNIGHT) A FORM OF SPEECH MESSAGING FOR PEDESTRIANS WITH VISUAL DISABILITIES SHALL BE PROVIDED. AUDIBLE INFORMATION DEVICES SUCH AS DETECTABLE BARRIERS OR BARRICADES AND OTHER PASSIVE PEDESTRIAN ACTIVATION (MOTION ACTIVATED) DEVICES SHOULD BE CONSIDERED FOR THESE CASES. THESE AUDIBLE DEVICES CAN BE MOUNTABLE OR STAND ALONE.



LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN

| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
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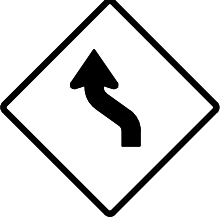
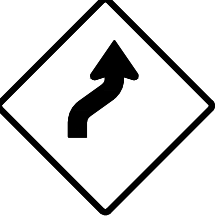
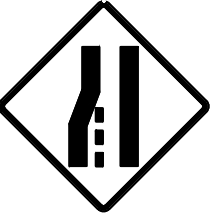










TEMPORARY TRAFFIC CONTROL PLANS


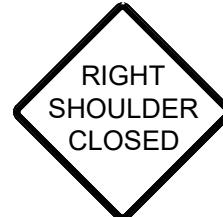
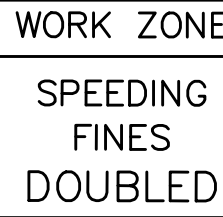
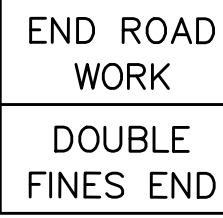


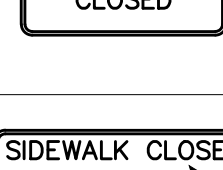
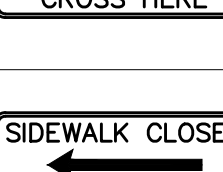
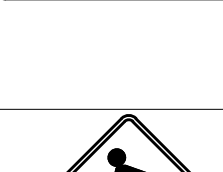
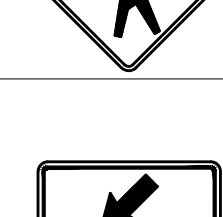

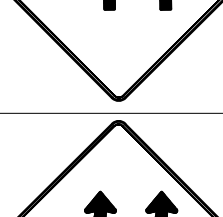

CONSTRUCTION SIGN SUMMARY

STOUGHTON
WASHINGTON STREET (ROUTE 138)

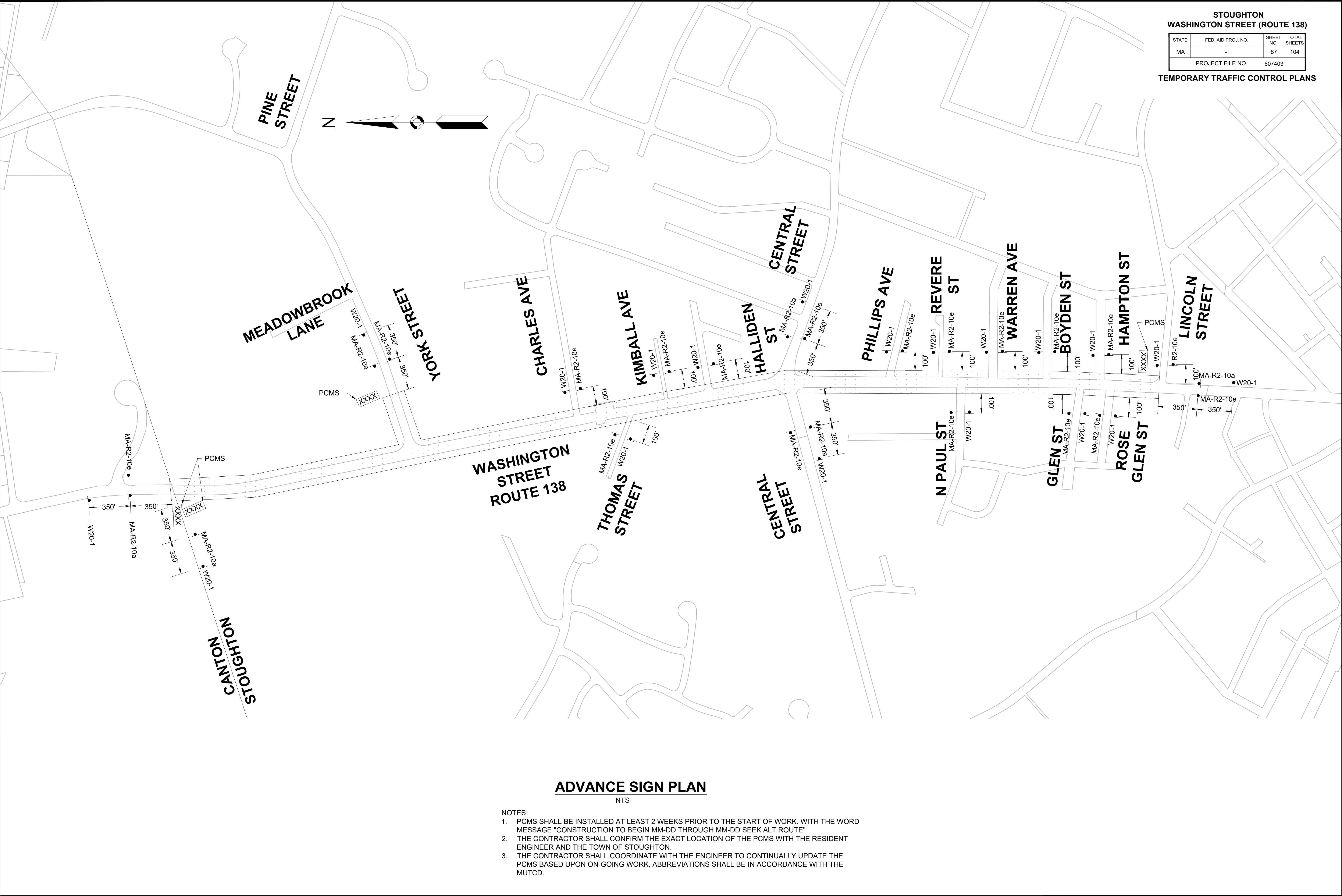
| | | | |
|------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 86 | 104 |
| PROJECT FILE NO. | | 607403 | |

TEMPORARY TRAFFIC CONTROL PLANS

| IDENTIFI- CATION NUMBER | SIZE OF SIGN | | SIGN DIAGRAM | COLOR | | | # REQ'D * | UNIT AREA S.F. | AREA IN SQUARE FEET |
|-------------------------------|--------------|--------|---|----------------------------|--------|--------|-----------------|----------------------|---------------------------|
| | WIDTH | HEIGHT | | BACK- GROUND | LEGEND | BORDER | | | |
| W1-4L | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W1-4R | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W4-2L | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| MA-W4-7L | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 1 | 9.00 | 9.00 |
| W5-1 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 4 | 9.00 | 36.00 |
| W8-1 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W8-3 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W8-15 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W8-24 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W13-1p | 24" | 24" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 4.00 | 8.00 |
| W20-1 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 19 | 9.00 | 63.00 |
| W20-4 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 4 | 9.00 | 36.00 |
| W20-5L | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |

| IDENTIFI- CATION NUMBER | SIZE OF SIGN | | SIGN DIAGRAM | COLOR | | | # REQ'D | UNIT AREA S.F. | AREA IN SQUARE FEET |
|-------------------------------|--------------|--------|---|-------------------------------------|----------------|----------------|------------|----------------------|---------------------------|
| | WIDTH | HEIGHT | | BACK- GROUND | LEGEND | BORDER | | | |
| MA-W20-7b | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 4 | 9.00 | 36.00 |
| W21-5a | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| MA-R2-10a | 48" | 36" |  | FLUOR- ESCENT ORANGE WHITE | BLACK BLACK | BLACK BLACK | 6 | 12.00 | 60.00 |
| MA-R2-10e | 36" | 48" |  | FLUOR- ESCENT ORANGE WHITE | BLACK BLACK | BLACK BLACK | 18 | 12.00 | 216.00 |
| R3-7L | 30" | 30" |  | WHITE | BLACK | BLACK | 2 | 6.25 | 12.50 |
| R3-7R | 30" | 30" |  | WHITE | BLACK | BLACK | 2 | 6.25 | 12.50 |
| R4-7 | 24" | 30" |  | WHITE | BLACK | BLACK | 2 | 5.00 | 10.00 |
| R9-9 | 24" | 12" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 4 | 2.00 | 8.00 |
| R9-11aR | 24" | 12" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 2.00 | 4.00 |
| R9-11aL | 24" | 12" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 2.00 | 4.00 |
| W11-2 | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 4 | 9.00 | 36.00 |
| W16-7p | 24" | 12" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 4 | 2.00 | 8.00 |
| W1-4bL | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |
| W1-4R | 36" | 36" |  | FLUOR- ESCENT ORANGE | BLACK | BLACK | 2 | 9.00 | 18.00 |

* NO. OF SIGNS ARE ESTIMATED FOR BIDDING PURPOSES ONLY



ADVANCE SIGN PLAN

NTS

- NOTES:
1. PCMS SHALL BE INSTALLED AT LEAST 2 WEEKS PRIOR TO THE START OF WORK. WITH THE WORD MESSAGE "CONSTRUCTION TO BEGIN MM-DD THROUGH MM-DD SEEK ALT ROUTE"
 2. THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF THE PCMS WITH THE RESIDENT ENGINEER AND THE TOWN OF STOUGHTON.
 3. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO CONTINUALLY UPDATE THE PCMS BASED UPON ON-GOING WORK. ABBREVIATIONS SHALL BE IN ACCORDANCE WITH THE MUTCD.

| STOUGHTON WASHINGTON STREET (ROUTE 138) | | | |
|--|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | - | 87 | 104 |
| PROJECT FILE NO. | | 607403 | |

TEMPORARY TRAFFIC CONTROL PLANS