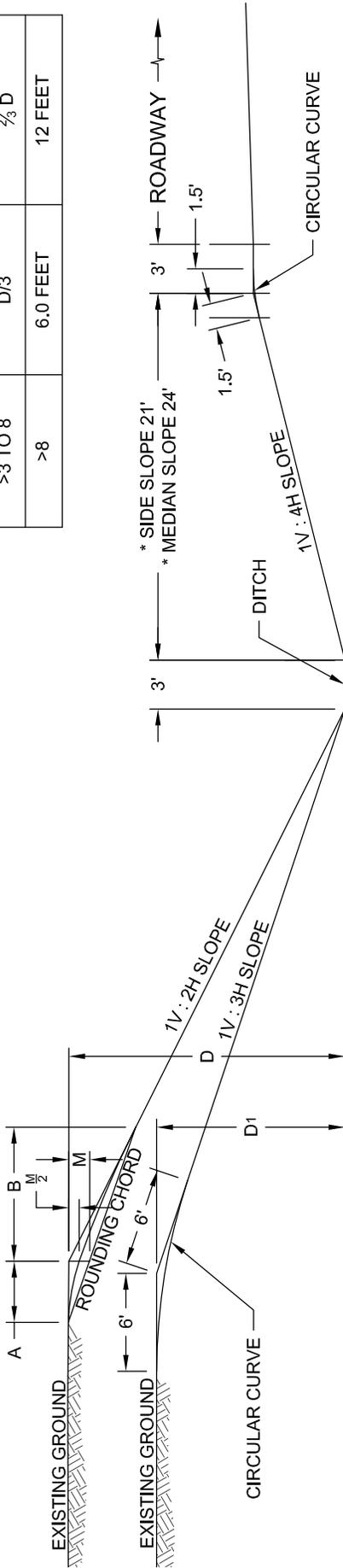


| BITUMINOUS CONCRETE PAVEMENT SCHEDULE | | | |
|---------------------------------------|-------|-----------|----------|
| MINIMUM THICKNESS (INCH) | LOCAL | COLLECTOR | ARTERIAL |
| SURFACE COURSE | 1.5 | 2 | 3 |
| BINDER COURSE | 2.5 | 4 | 5 |
| DENSE GRADED CRUSHED STONE | 4 | 4 | 4 |
| GRAVEL BASE | 8 | 8 | 8 |
| PREPARED SUBGRADE | - | 4 | 4 |

NOT TO SCALE

ROUNDING TABLE FOR 1V : 2H SLOPE

| D (FEET) | A | B |
|----------|-----------|-----------------|
| 3 < | 12 INCHES | 24 INCHES |
| >3 TO 8 | D/3 | $\frac{2}{3}$ D |
| >8 | 6.0 FEET | 12 FEET |

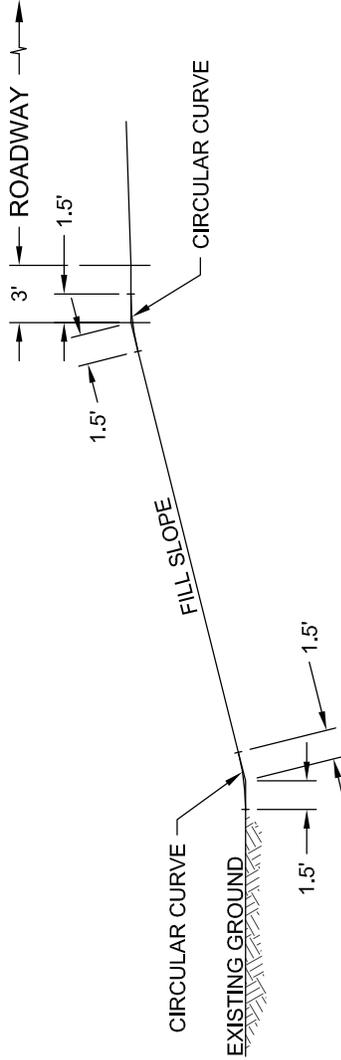


1V : 3H SLOPE ROUNDING

1. WHEN "D" IS 1.5 FEET OR MORE ROUND AS SHOWN IN ROUNDING TABLE.
2. WHEN "D" IS LESS THAN 1.5 FEET ROUND FULL LENGTH OF SLOPE.

CUT SLOPES

* USE SLOPE LENGTHS FOR LIMITED ACCESS OR HIGH SPEED ROADWAYS.



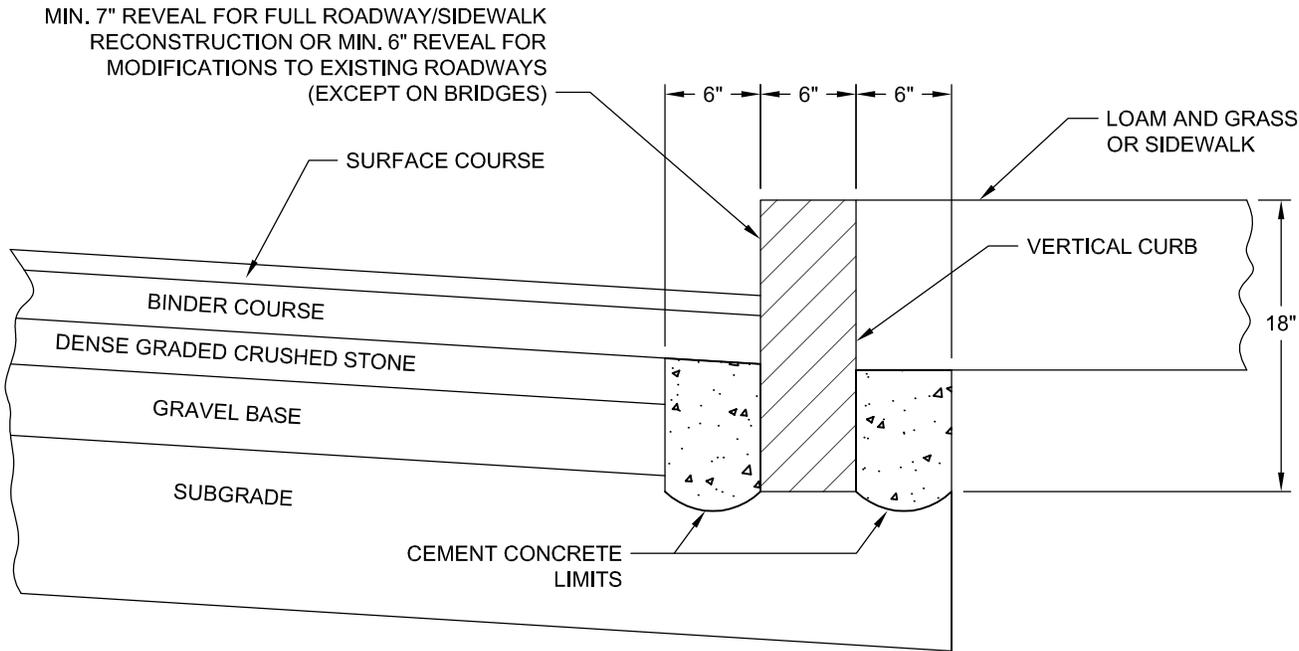
FILL SLOPES

NOTE:

1. THE DIMENSIONS SHOWN FOR ROUNDING CUT AND FILL SLOPES ARE APPROXIMATE, THEY ARE TO BE USED AS GUIDES.

NOT TO SCALE





NOTES:

1. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BASE AND SUBGRADE, REPLACE WITH CEMENT CONCRETE. COVER WITH BINDER AND TOP COURSE TO CURB.
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD MHD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. BITUMINOUS CONCRETE SHALL NOT BE USED AS A SUBSTITUTE.

NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

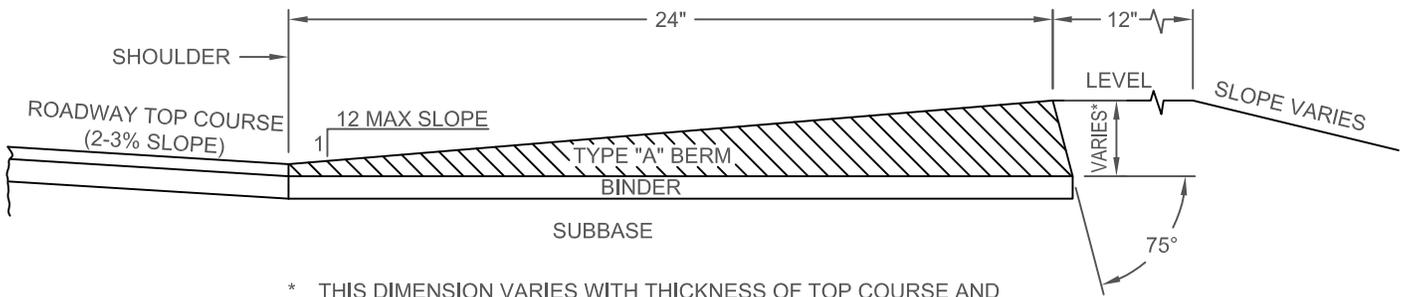
GRANITE CURBS

DATE:
MARCH 2011

REV:
2

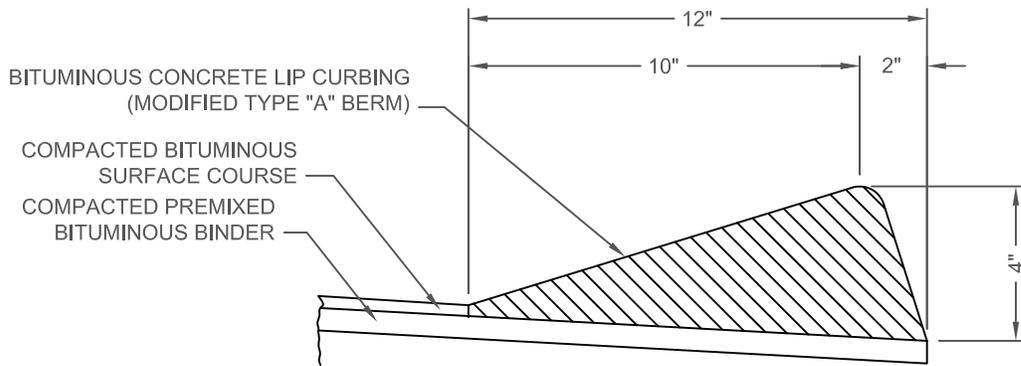
DETAIL NO.

R-5.1.2

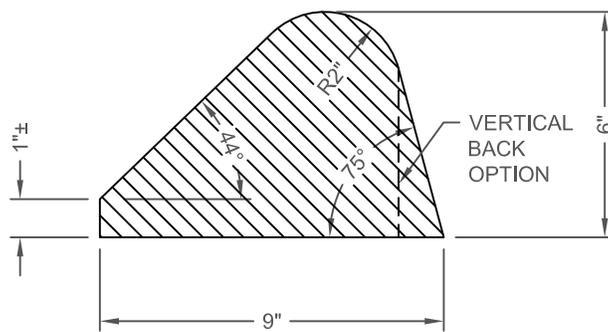


* THIS DIMENSION VARIES WITH THICKNESS OF TOP COURSE AND SLOPE OF SHOULDER.

TYPE "A" BERM



MODIFIED TYPE "A" BERM



TYPE - 2 BERM

NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

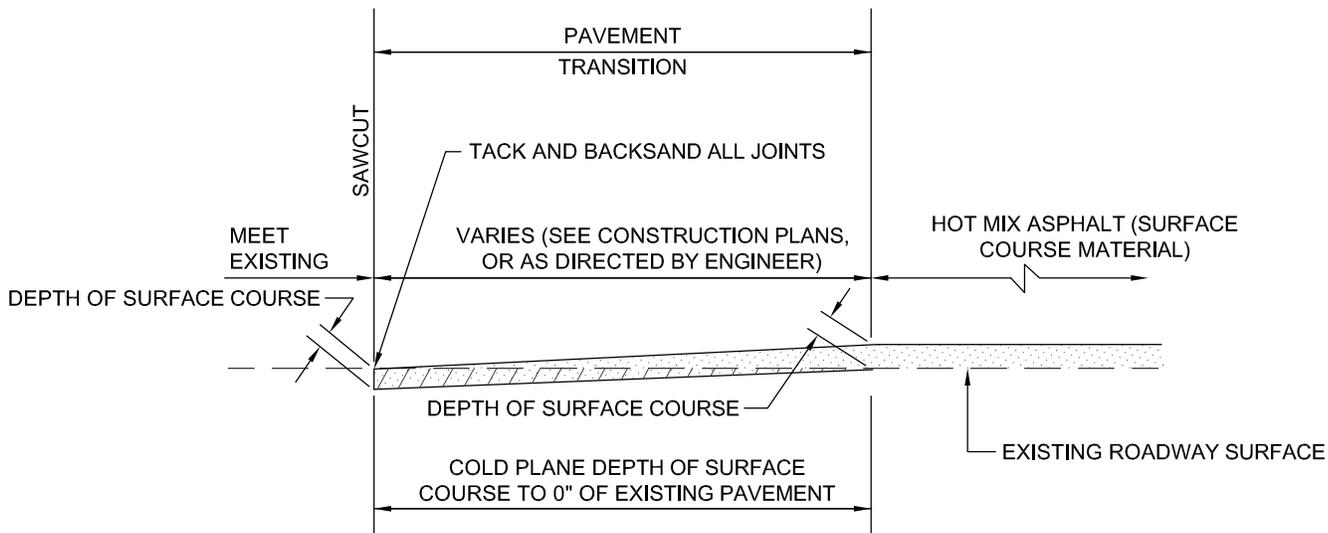
BITUMINOUS BERMS

DATE:
JAN. 2016

REV:
1

DETAIL NO.

R-5.1.3



NOTE:
 CLEAN SURFACE AND APPLY ASPHALT EMULSION TACK COAT PRIOR TO PLACING HOT MIX ASPHALT SURFACE OVERLAY.



TOWN OF FRAMINGHAM
 DEPARTMENT OF PUBLIC WORKS

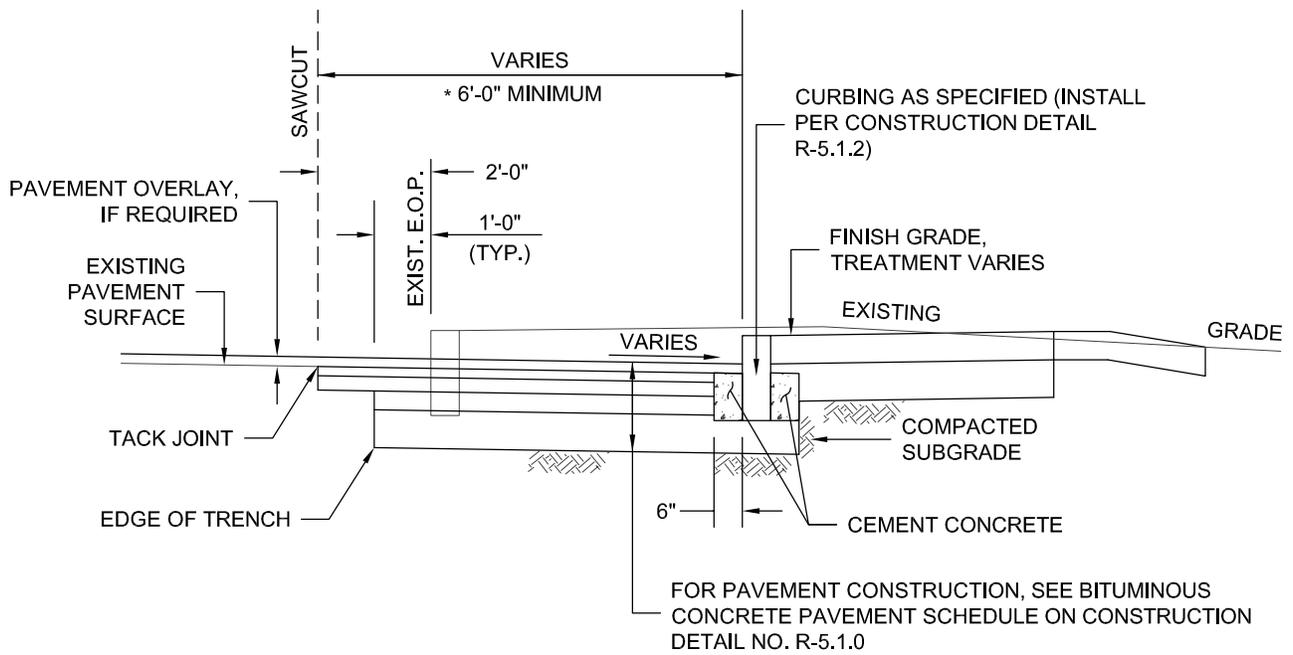
PAVEMENT TRANSITION

DATE:
 FEB. 2010

REV:
 0

DETAIL NO.

R-5.1.4



* NOTE: FOR PROPOSED WIDENING LESS THAN 6 FEET IN WIDTH, SEE CONSTRUCTION DETAIL R-5.1.6



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

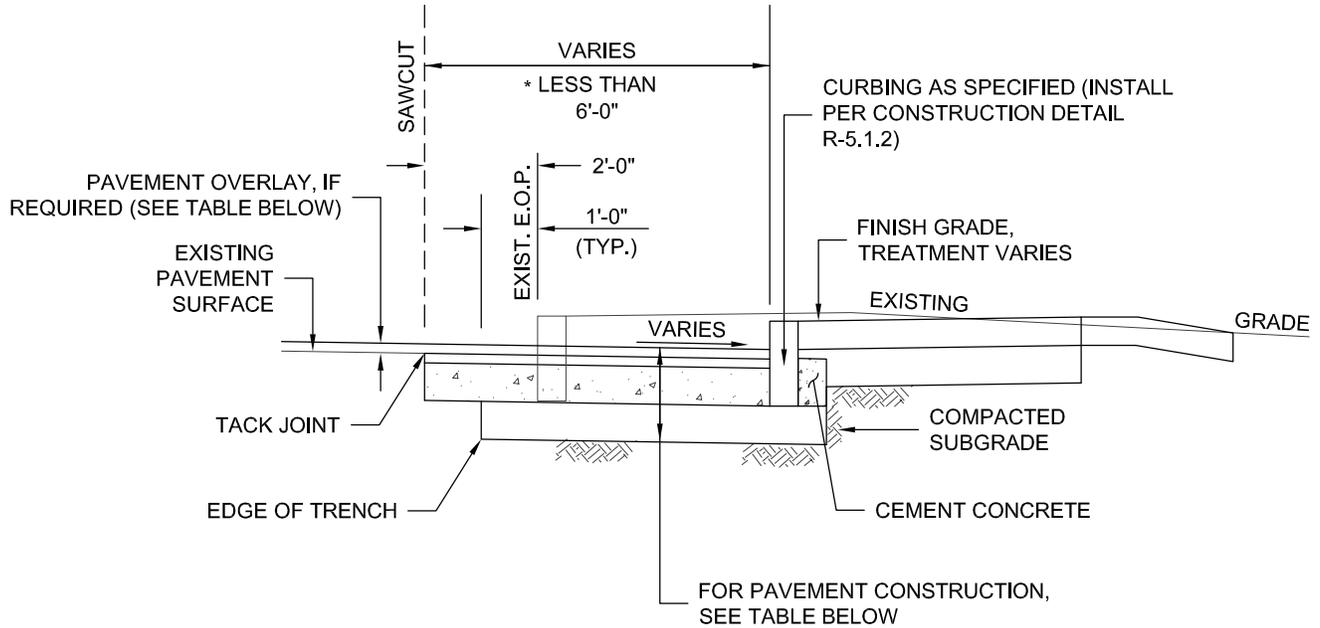
ROADWAY WIDENING AND OVERLAY
6 FT WIDE OR GREATER

DATE:
FEB. 2010

REV:
0

DETAIL NO.

R-5.1.5



* NOTE: FOR PROPOSED WIDENING OF 6 FEET OR GREATER IN WIDTH, SEE CONSTRUCTION DETAIL R-5.1.5

| PAVEMENT CONSTRUCTION FOR WIDENING 6 FEET OR LESS | | |
|---|--|---|
| | FULL DEPTH CONSTRUCTION | PAVEMENT OVERLAY CONSTRUCTION |
| SURFACE: | 4" HOT MIX ASPHALT (2" SURFACE COURSE MATERIAL OVER 2" BINDER COURSE MATERIAL) | 2" HOT MIX ASPHALT, OR AS DIRECTED (SURFACE MATERIAL) |
| BASE: | 8" HIGH-EARLY-STRENGTH CEMENT CONCRETE BASE COURSE | |
| SUBBASE: | 8" GRAVEL BORROW (TYPE "B") | |



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

ROADWAY WIDENING AND OVERLAY
6 FT WIDE OR LESS

DATE:
FEB. 2010

REV:
0

DETAIL NO.

R-5.1.6

CONTINUOUS ZONE (CZ) RESTORATION

PERMANENT TRENCH RESTORATION

REMOVE TEMPORARY SURFACE COURSE AND GRAVEL AS REQUIRED. RESHAPE AND COMPACT GRAVEL SUB-BASE, INSTALL BASE AND PERMANENT RESURFACING. MATCH EXISTING PAVEMENT THICKNESS. SEE DETAIL R-5.1.0 FOR MIN PAVEMENT THICKNESS.

COLD PLANE AND OVERLAY (2" DEPTH) BETWEEN TRENCHES, AS REQUIRED, AND MIN 6" BEYOND BINDER COURSE

REMOVE TEMPORARY SURFACE COURSE AND GRAVEL AS REQUIRED. RESHAPE AND COMPACT GRAVEL SUB-BASE, INSTALL BASE AND PERMANENT RESURFACING. SEE DETAIL R-5.1.0 FOR PAVEMENT THICKNESS.

UNDISTURBED EXISTING PAVEMENT

6" MIN

SAW CUT AND TACK COAT ALL EDGES AND EXIST. PAVEMENT WITH ASPHALT EMULSION

REMOVE, REPLACE, COMPACT, AND GRADE SUB-BASE AS REQUIRED OR AS DIRECTED

SAW CUT AND TACK COAT ALL EDGES AND EXIST. PAVEMENT WITH ASPHALT EMULSION

UNDISTURBED EARTH

TRENCH WIDTH

TRENCH FILL AND SUB-BASE PLACED DURING TEMPORARY PAVEMENT RESTORATION

PERMANENT PAVEMENT RESTORATION

COMPACT TRENCH BACKFILL, INSTALL GRAVEL SUB-BASE, INSTALL 4" MIN DEPTH OF HOT MIX ASPHALT TYPE I (IF EXISTING DEPTH >8" THEN INSTALL 6" MIN DEPTH OF HOT MIX ASPHALT). BITUMINOUS CONCRETE SHALL BE INSTALLED IN 2 COURSES.

UNDISTURBED EXISTING PAVEMENT

SAW CUT AND TACK COAT ALL EDGES AND EXIST. PAVEMENT WITH ASPHALT EMULSION

12" PROCESSED GRAVEL SUBBASE OR DENSE GRADED CRUSHED STONE FOR SUBBASE

UNDISTURBED EARTH

1'-0" (TYP.)

TRENCH WIDTH

1'-0" (TYP.)

SEE PIPE TRENCH DETAIL, BACK FILL TO BE COMPACTED IN 4" LIFTS MAX TO 95% MAX DRY DENSITY.

TEMPORARY PAVEMENT RESTORATION



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

PAVEMENT DETAILS FOR TRENCH RESTORATION

DATE:
FEB 2016

REV:
2

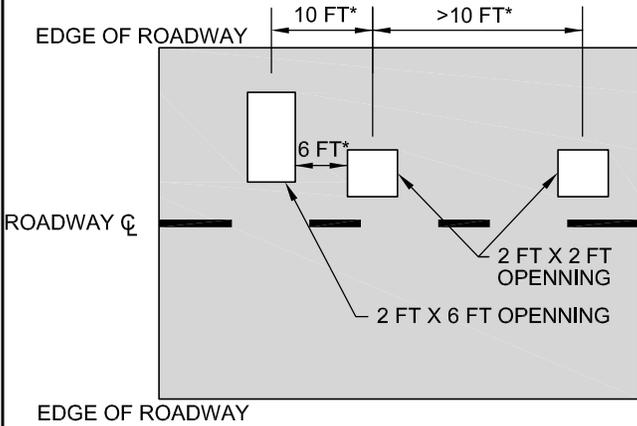
DETAIL NO.

R-5.1.7

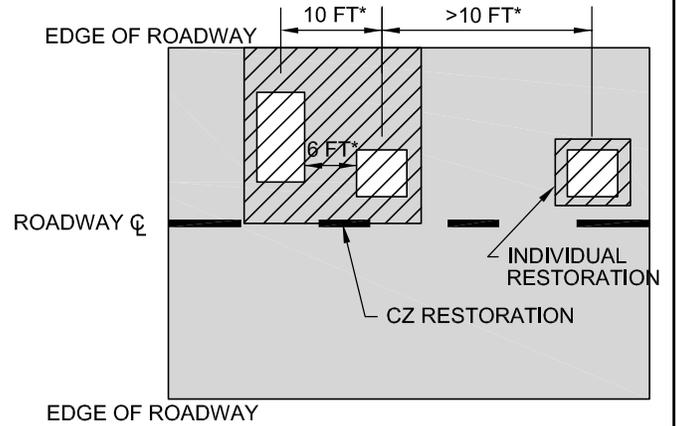
TEMPORARY PAVEMENT RESTORATION

PERMANENT PAVEMENT RESTORATION

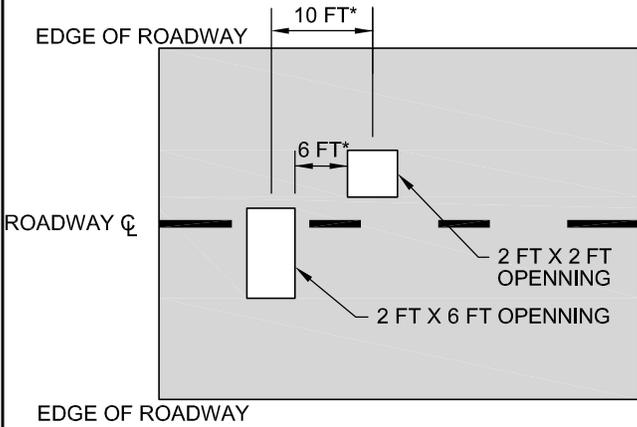
EXAMPLE OF THREE INDIVIDUAL EXCAVATIONS



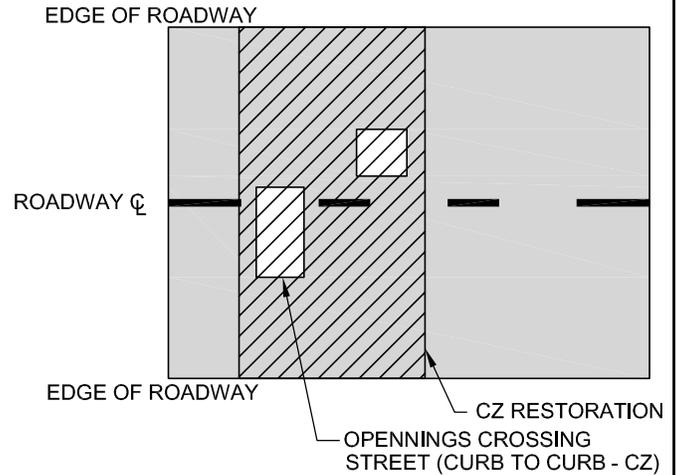
CONTINUOUS ZONE (CZ) RESTORATION: SAWCUT AND COLD PLANE MINIMUM 2 INCH DEPTH, REMOVE TEMPORARY PAVEMENT TO GRAVEL BASE UNLESS OTHERWISE APPROVED BY DPW, PLACE PERMANENT PAVEMENT.



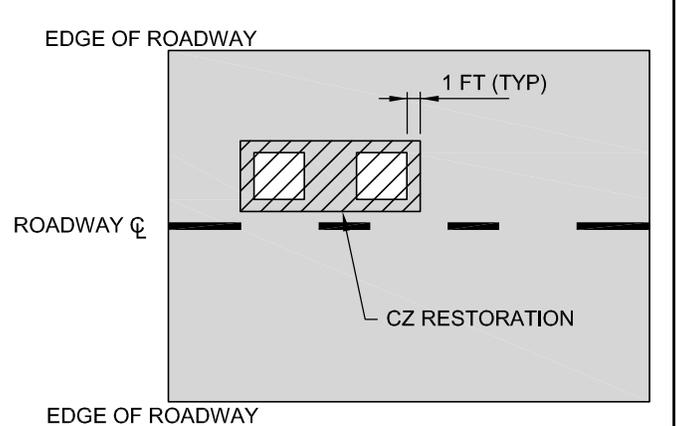
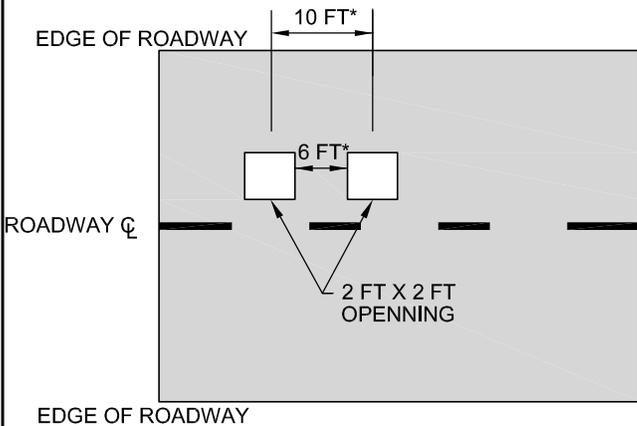
EXAMPLE OF TWO INDIVIDUAL EXCAVATIONS



CONTINUOUS ZONE (CZ) RESTORATION: SAWCUT AND COLD PLANE MINIMUM 2 INCH DEPTH, REMOVE TEMPORARY PAVEMENT TO GRAVEL BASE, PLACE PERMANENT PAVEMENT.



EXAMPLE OF TWO INDIVIDUAL EXCAVATIONS



* CONTINUOUS ZONE (CZ) RESTORATION REQUIRED WHEN C OF TRENCH OPENNINGS ARE <10 FEET OR IF OUTER EDGE OF TRENCH OPENNINGS ARE <6 FEET.

** FOR PAVEMENTS RECENTLY REHABILITATED, THE TOWN MAY REQUIRE HIEGHTENED PAVEMENT RESTORATION REQUIREMENTS.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

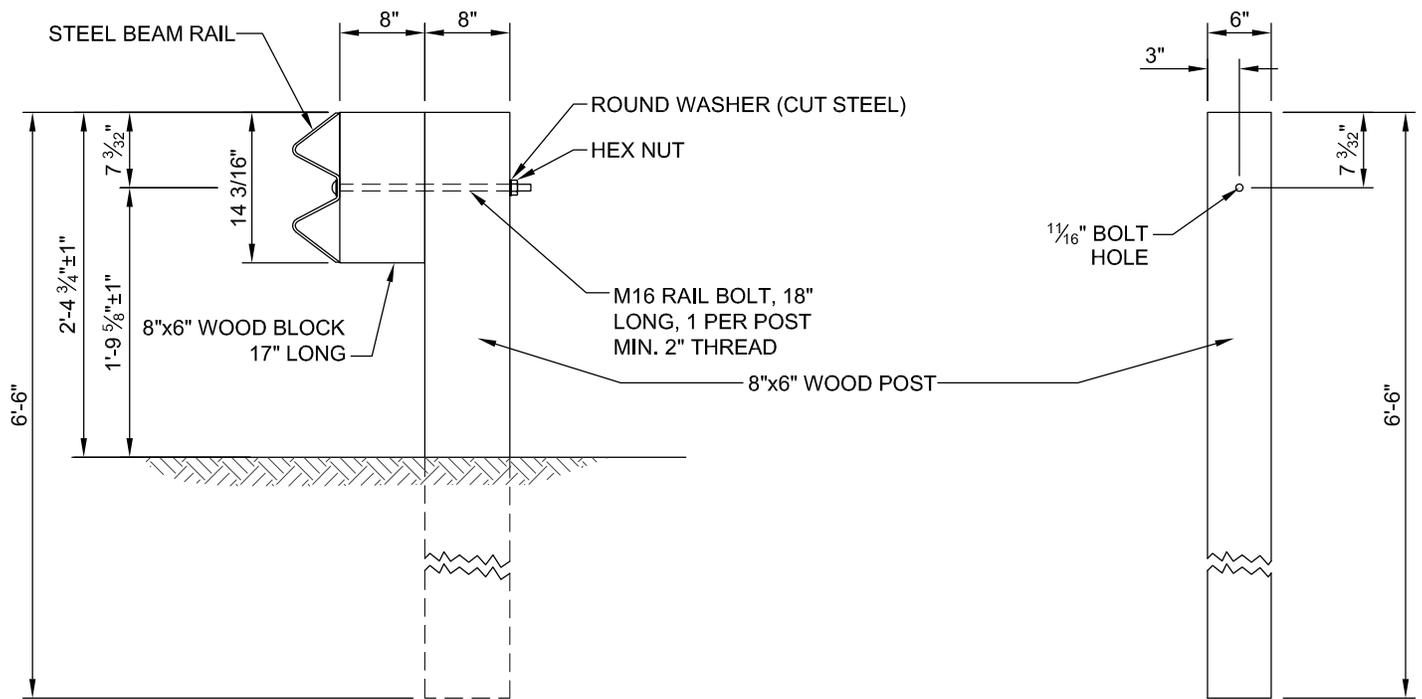
CONTINUOUS ZONE (CZ)
TRENCH RESTORATION

DATE:
MARCH 2011

REV:
0

DETAIL NO.

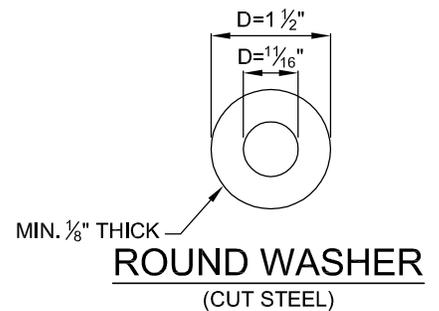
R-5.1.8



SINGLE FACE*

POST DETAIL

* WHEN PLACED IN MEDIAN, CHANGE TO THRIE BEAM, AND CHANGE HEIGHT TO 2'-8 1/2" ± 1"



NOTES:

1. POST SPACING, APPROACH END & TRAILING ENDS ARE THE SAME AS THOSE SHOWN FOR STEEL "H" POSTS PER MHD 401.9.0.
2. ALL NUTS, BOLTS & WASHERS ARE TO BE GALVANIZED.
3. ALL SPLICES ARE TO BE MADE AT POSTS.

NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

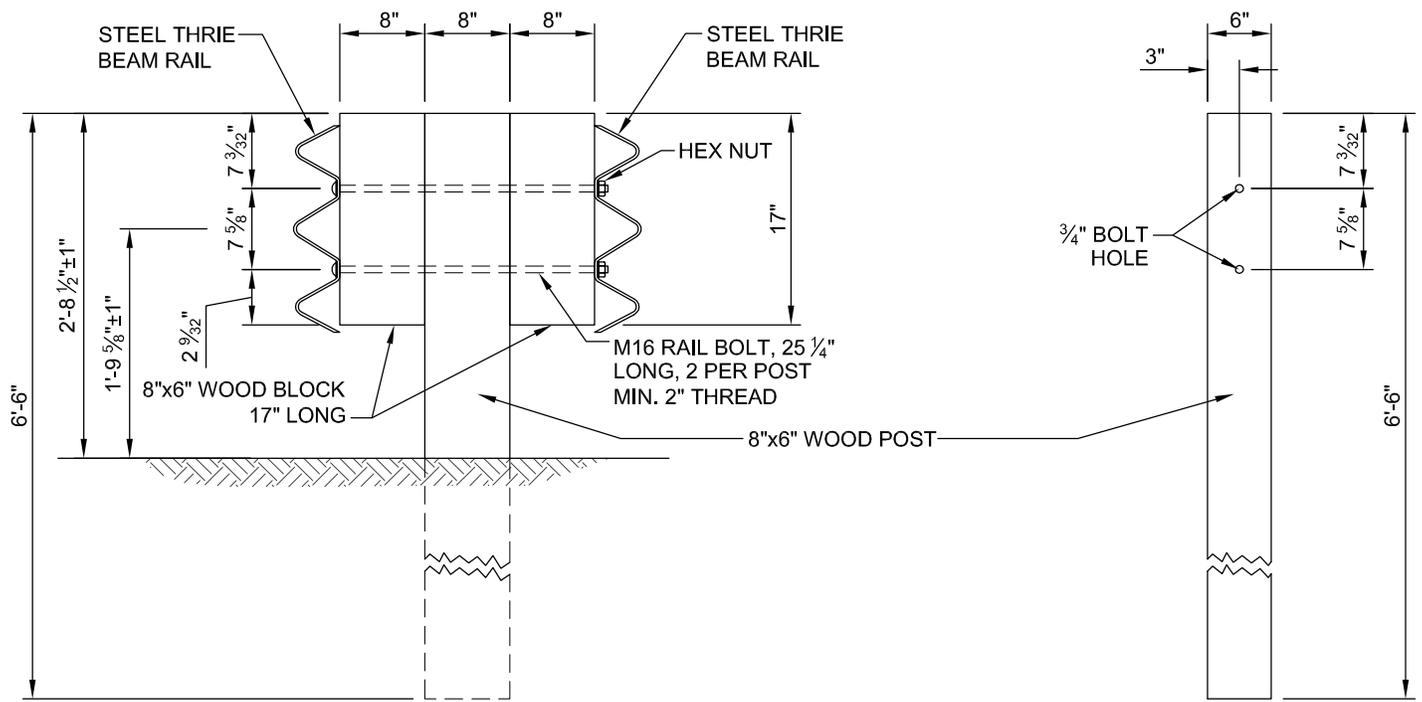
GUARD RAIL
(SINGLE FACE)

DATE:
SEPT. 2008

REV:
0

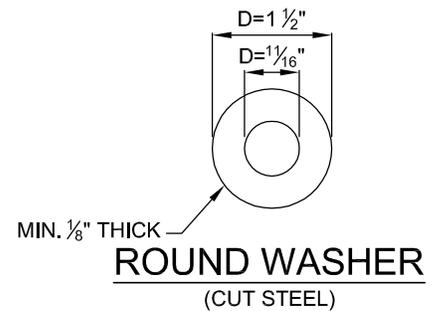
DETAIL NO.

R-5.2.0



DOUBLE FACE

POST DETAIL



NOTES:

1. POST SPACING, APPROACH END & TRAILING ENDS ARE THE SAME AS THOSE SHOWN FOR STEEL "H" POSTS PER MHD 401.9.0.
2. ALL NUTS, BOLTS & WASHERS ARE TO BE GALVANIZED.
3. ALL SPLICES ARE TO BE MADE AT POSTS.

NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

GUARD RAIL
(DOUBLE FACE)

DATE:
SEPT. 2008

REV:
0

DETAIL NO.

R-5.2.1

1. ROADWAY SIDEWALK CROSS SLOPES, FOR BRICK, CEMENT CONCRETE, AND BITUMINOUS CONCRETE, AS INDICATED IN THE CONSTRUCTION STANDARDS, WILL BE 1.5%. A CONSTRUCTION TOLERANCE OF $\pm 0.5\%$ IS ACCEPTABLE ON ROADWAY SIDEWALKS. SIDEWALKS ON BRIDGES WILL BE CONSTRUCTED TO A CROSS SLOPE OF 1.0% IN ACCORD WITH MASSDOT BRIDGE POLICY. IN ACCORDANCE WITH 521 CMR THE RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD (AAB), THE SIDEWALK CROSS SLOPE CANNOT EXCEED 2.0%.
2. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-3" (PREFERED MINIMUM WIDTH OF 5'-0" FOR SIDEWALK MAINTENANCE) SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, SIGNAL FOUNDATIONS, MASTS, MAILBOXES, ALONG DRIVE OPENINGS, ETC.).
3. THE WHEELCHAIR RAMP SLOPES AND SIDE SLOPES (TRANSITIONS) WILL BE MAXIMUM OF 7.5% WITH A CONSTRUCTION TOLERANCE OF $\pm 0.5\%$. HOWEVER THESE SLOPES MAY BE FLATTER WHEN WARRANTED BY SURROUNDING CONDITIONS.
4. WHERE THE ROADWAY PROFILE EXCEEDS 4%, THE HIGH SIDE TRANSITION LENGTH UNDER ANY CONDITIONS NEED NOT EXCEED 15'-0".
5. IN NO CASE WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED ON THE TRAFFIC APPROACH SIDE OF THAT STOP LINE.
6. FIXED OBJECTS (I.E. UTILITY POLES, HYDRANTS, SIGNS, SIGNAL FOUNDATIONS, ETC.) MUST NOT ENCROACH ON ANY PART OF THE WHEELCHAIR RAMP INCLUDING TRANSITION SLOPES.
7. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP, EXCLUDING CURB TRANSITIONS TO BE LOCATED OUTSIDE THE CROSSWALK. THE WHEELCHAIR RAMP ENTRANCE IS TO BE CENTERED IN THE CROSSWALK WHENEVER POSSIBLE.
8. CATCH BASINS WHICH ARE TO BE LOCATED IN THE VICINITY OF A WHEELCHAIR RAMP SHALL BE LOCATED UPGRADE OF THE RAMP ENTRANCE.
9. THE ENTRANCE OF A WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. TESTING SURFACE: WHEN TESTING WITH A STRAIGHTEDGE PLACED PARALLEL TO THE LINE OF THE SLOPE THERE SHALL BE NO DEVIATION FROM A TRUE SURFACE IN EXCESS OF $\frac{1}{4}$ ".
11. WHEELCHAIR RAMPS ON BRIDGES SHOULD BE AVOIDED. IF A WHEELCHAIR RAMP IS REQUIRED TO BE PLACED ON A BRIDGE, PRIOR WRITTEN APPROVAL IS REQUIRED. SPECIAL DETAILING OF THE REINFORCEMENT AND CURB SYSTEM WILL BE REQUIRED TO MAINTAIN THE PREFORMANCE OF THE RAILING/BARRIER SYSTEM.

CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS

| ROADWAY PROFILE GRADE | *HIGH SIDE TRANSITION LENGTH (HST) 6" REVEAL | *HIGH SIDE TRANSITION LENGTH (HST) 7" REVEAL |
|-----------------------|--|--|
| % | | |
| 0 | 6'-6" | 7'-10" |
| > 0 TO 1 | 7'-8" | 9'-0" |
| > 1 TO 2 | 9'-0" | 10'-8" |
| > 2 TO 3 | 11'-0" | 13'-0" |
| > 3 TO 4 | 14'-0" | 16'-8" |
| > 4 | 15'-0" MAX | 17'-0" MAX |

* BASED ON A DESIGN SLOPE OF 7.5%. VARYING CURB REVEAL MAY ALTER HST LENGTH.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

WHEELCHAIR RAMP NOTES

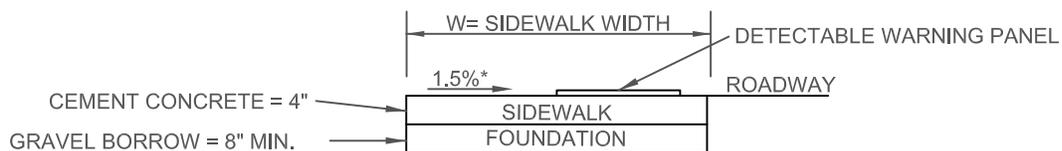
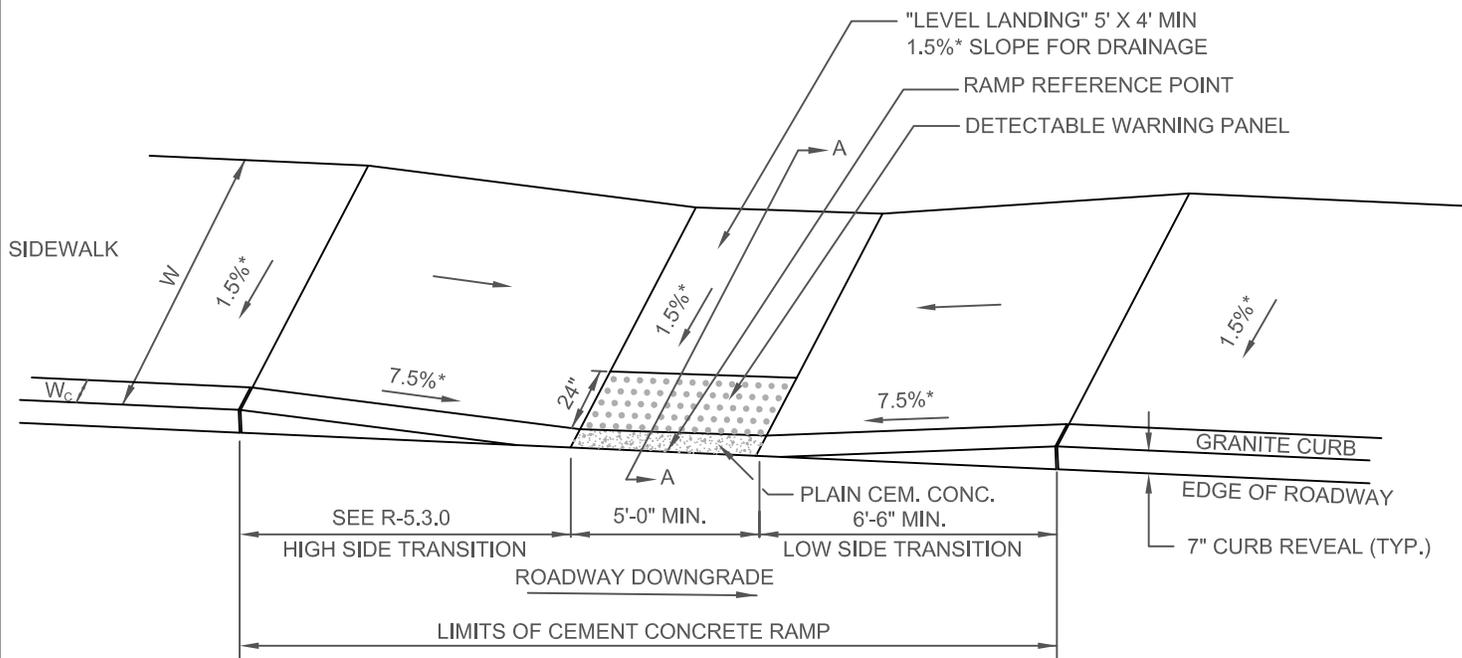
DATE:
JAN 2016

REV:
3

DETAIL NO.

R-5.3.0

WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.



SECTION A-A

WHEELCHAIR RAMP TYPE A

NOT TO SCALE

LEGEND:

W = SIDEWALK WIDTH

W_c = CURB WIDTH

* = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$

USABLE SIDEWALK WIDTH PER AAB = $W - W_c$

USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0"

NOTE:

FOR DETECTABLE WARNING PANEL DETAIL SEE STANDARD DRAWING R-5.3.6



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

WHEELCHAIR RAMP TYPE A

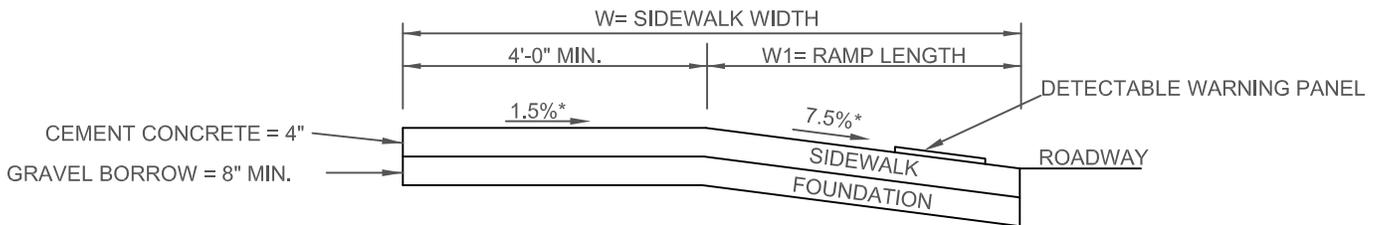
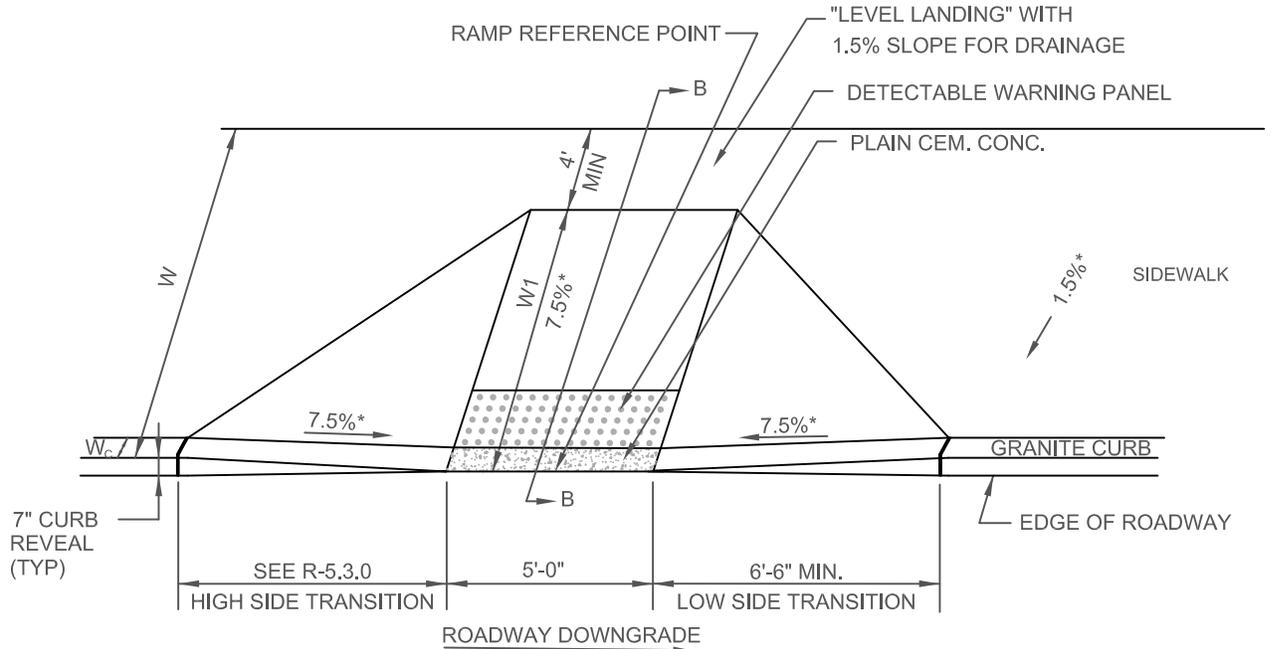
DATE:
JAN. 2016

REV:
1

DETAIL NO.

R-5.3.1

WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.



SECTION B-B
WHEELCHAIR RAMP TYPE B
 NOT TO SCALE

LEGEND:

W = SIDEWALK WIDTH

W_c = CURB WIDTH

* = TOLERANCE FOR CONSTRUCTION ±0.5%

USABLE SIDEWALK WIDTH PER AAB = W - W_c

USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0"

NOTE:

FOR DETECTABLE WARNING PANEL DETAIL SEE STANDARD DRAWING R-5.3.6



TOWN OF FRAMINGHAM
 DEPARTMENT OF PUBLIC WORKS

WHEELCHAIR RAMP TYPE B

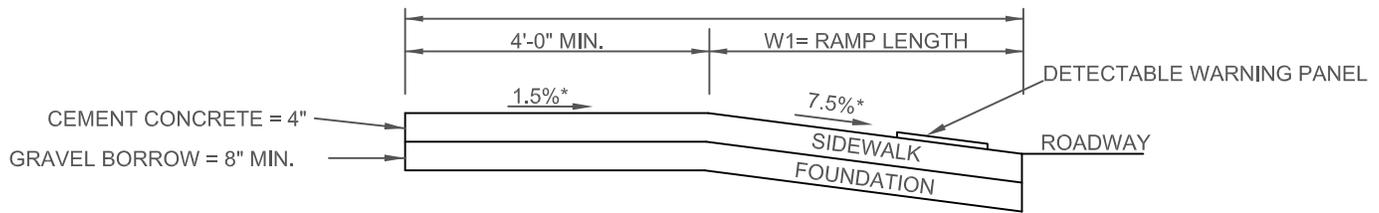
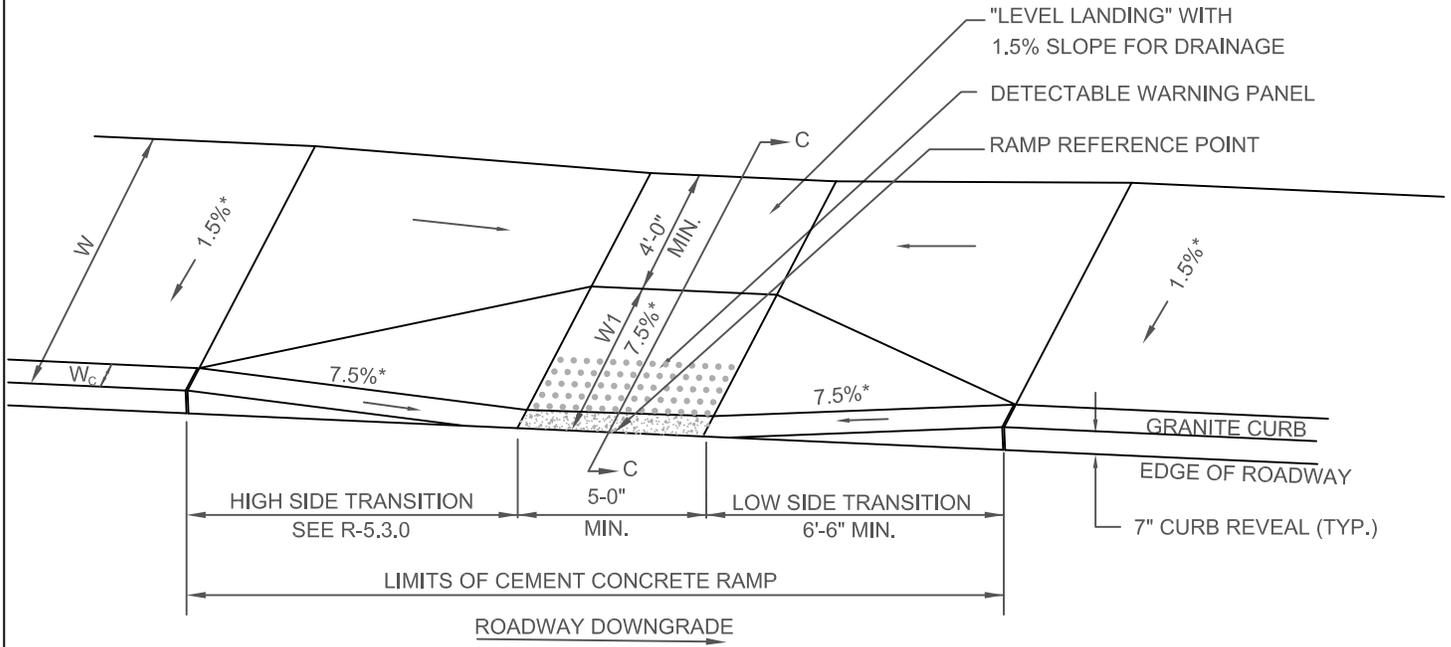
DATE:
 JAN. 2016

REV:
 1

DETAIL NO.

R-5.3.2

WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.



SECTION C-C

WHEELCHAIR RAMP TYPE C

NOT TO SCALE

LEGEND:

W = SIDEWALK WIDTH

W_c = CURB WIDTH

* = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$

USABLE SIDEWALK WIDTH PER AAB = $W - W_c$

USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0"

NOTE:

FOR DETECTABLE WARNING PANEL DETAIL SEE STANDARD DRAWING R-5.3.6



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

WHEELCHAIR RAMP TYPE C

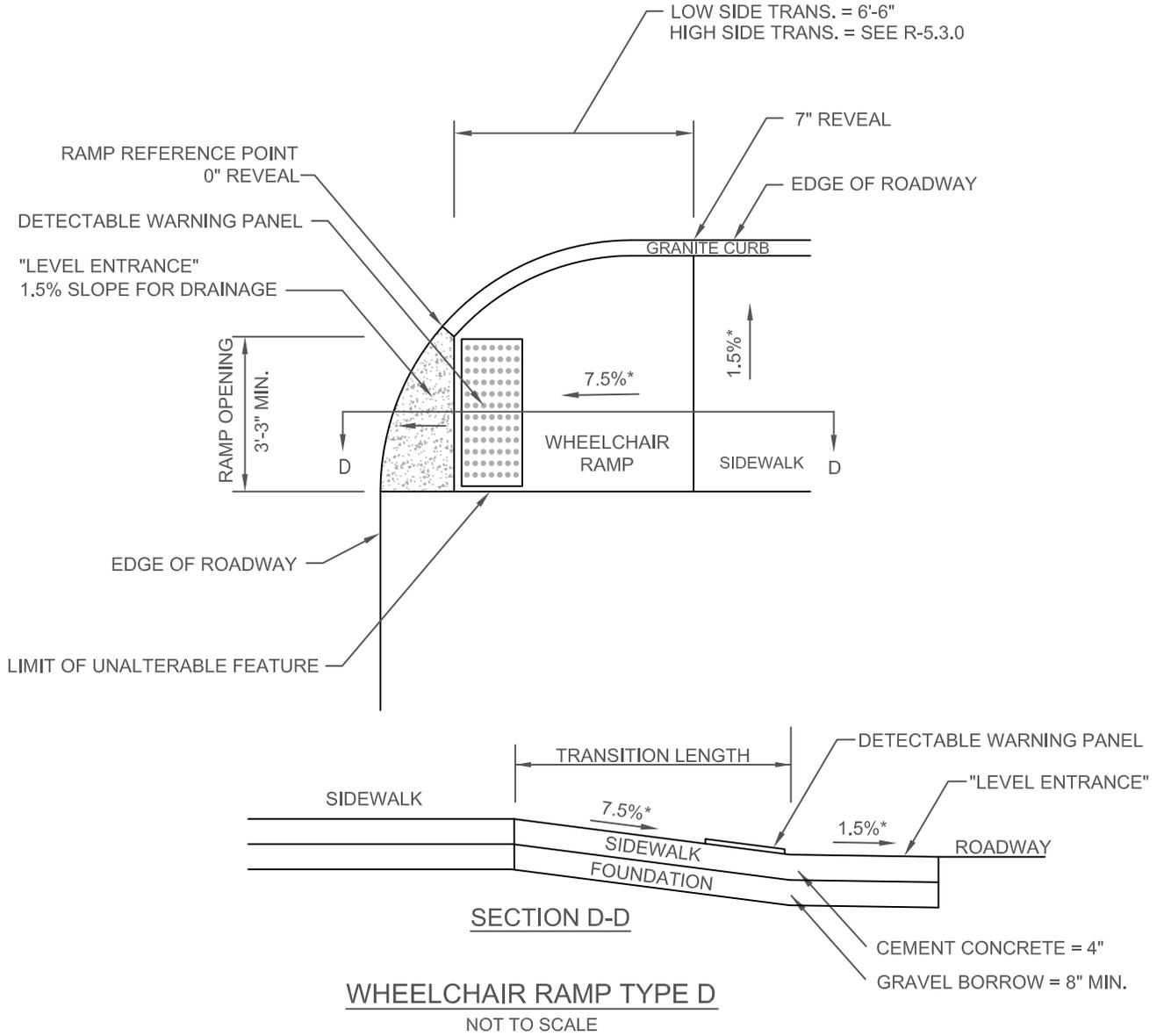
DATE:
JAN. 2016

REV:
1

DETAIL NO.

R-5.3.3

WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.



* = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$

NOTE:
FOR DETECTABLE WARNING
PANEL DETAIL SEE
STANDARD DRAWING R-5.3.6



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

WHEELCHAIR RAMP TYPE D

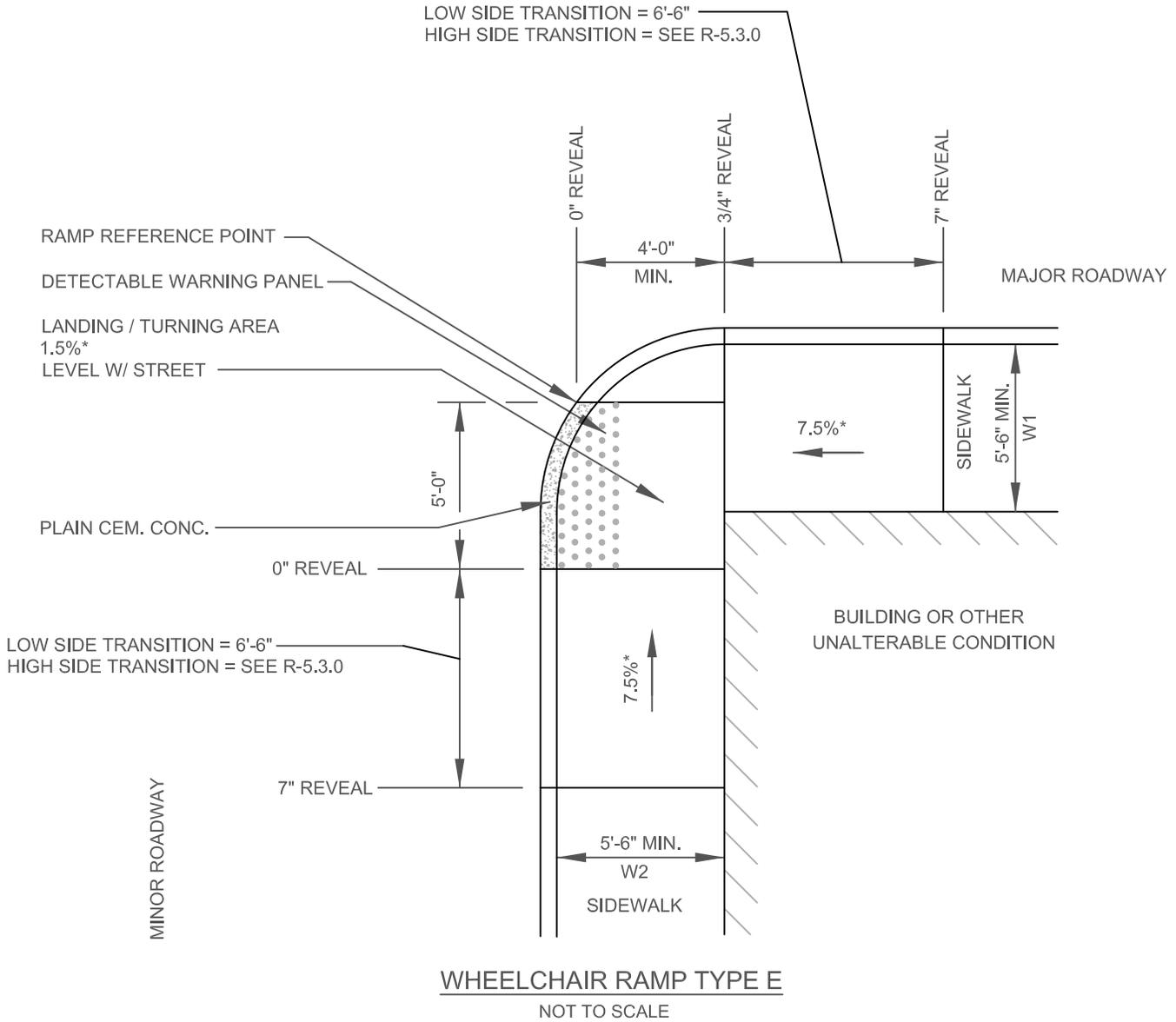
DATE:
JAN. 2016

REV:
1

DETAIL NO.

R-5.3.4

WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.



NOTE:
FOR DETECTABLE WARNING
PANEL DETAIL SEE
STANDARD DRAWING R-5.3.6

* = TOLERANCE FOR CONSTRUCTION ±0.5%



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

WHEELCHAIR RAMP TYPE E

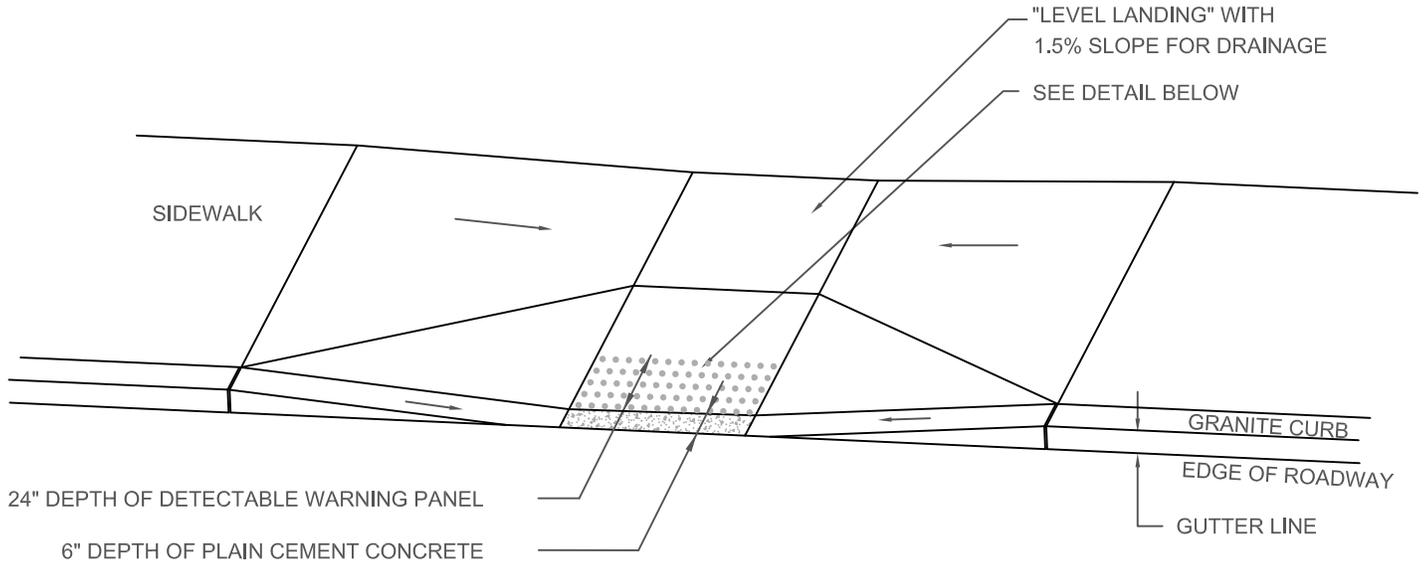
DATE:
JAN. 2016

REV:
1

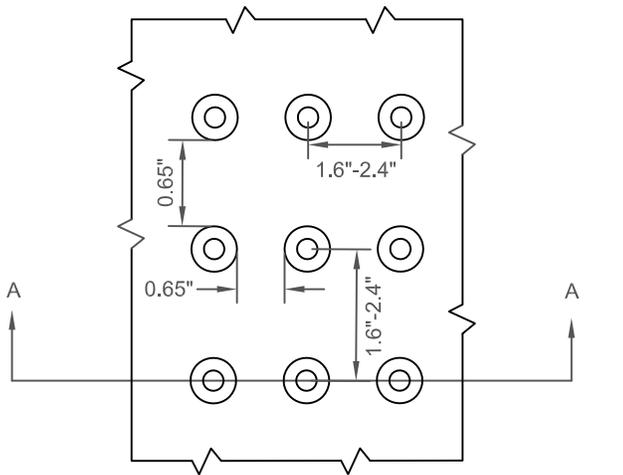
DETAIL NO.

R-5.3.5

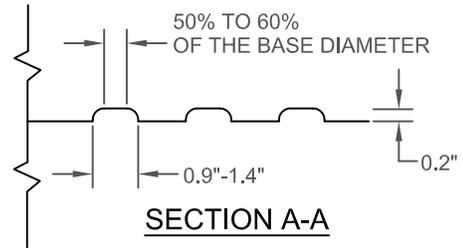
WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.



TYPICAL INSTALLATION



DETAIL OF DETECTABLE WARNING PANEL



NOTE:

PANELS SHALL BE "BRICK RED" IN COLOR AND SHALL BE CAST-IN-PLACE WITH WHEELCHAIR RAMP CEMENT CONCRETE. SURFACE APPLIED TACTILE PANELS SHALL NOT BE UTILIZED.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

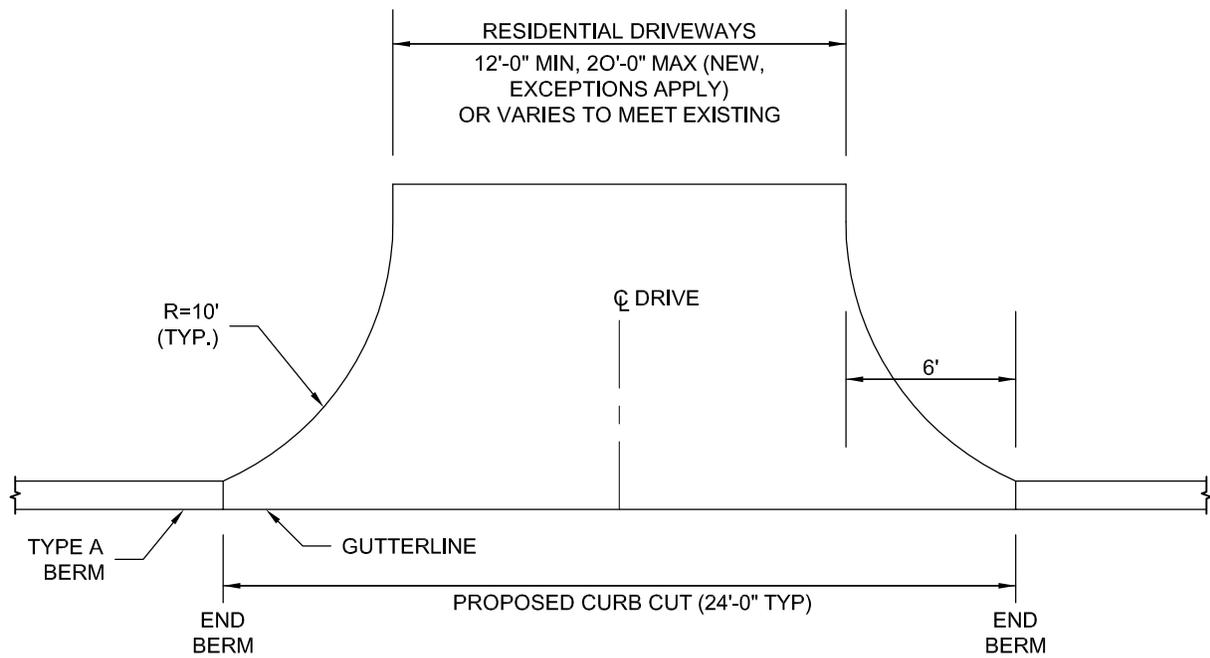
DETECTABLE WARNING PANEL

DATE:
FEB. 2016

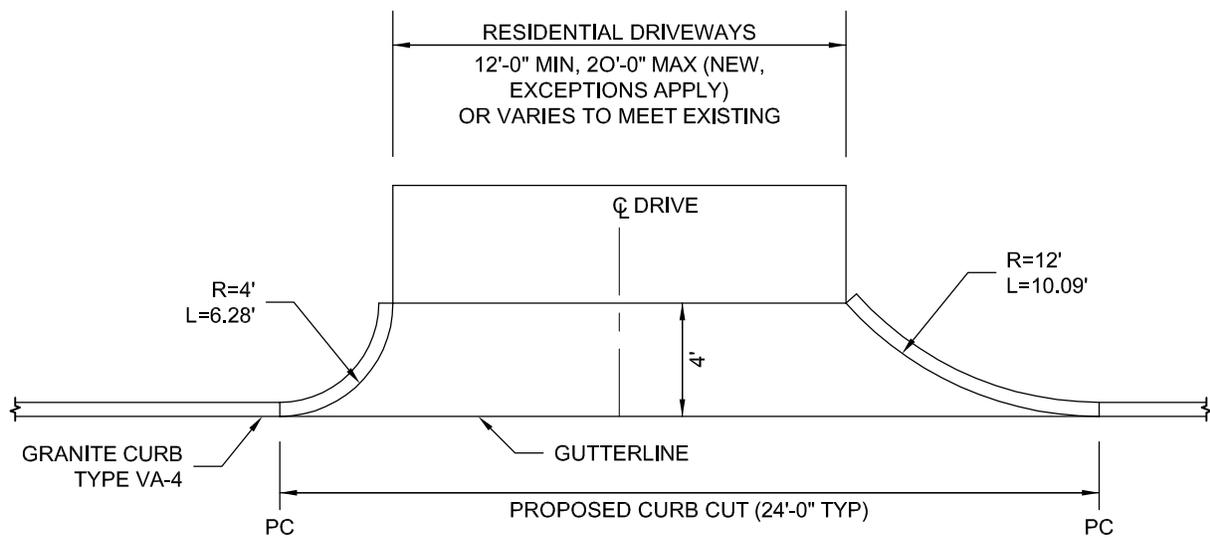
REV:
2

DETAIL NO.

R-5.3.6



TYPE "A" BITUMINOUS BERM



GRANITE CURB OR TYPE 2 BITUMINOUS BERM



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

TYPICAL CURB CUT PLAN -
RESIDENTIAL DRIVEWAYS
NO SIDEWALK

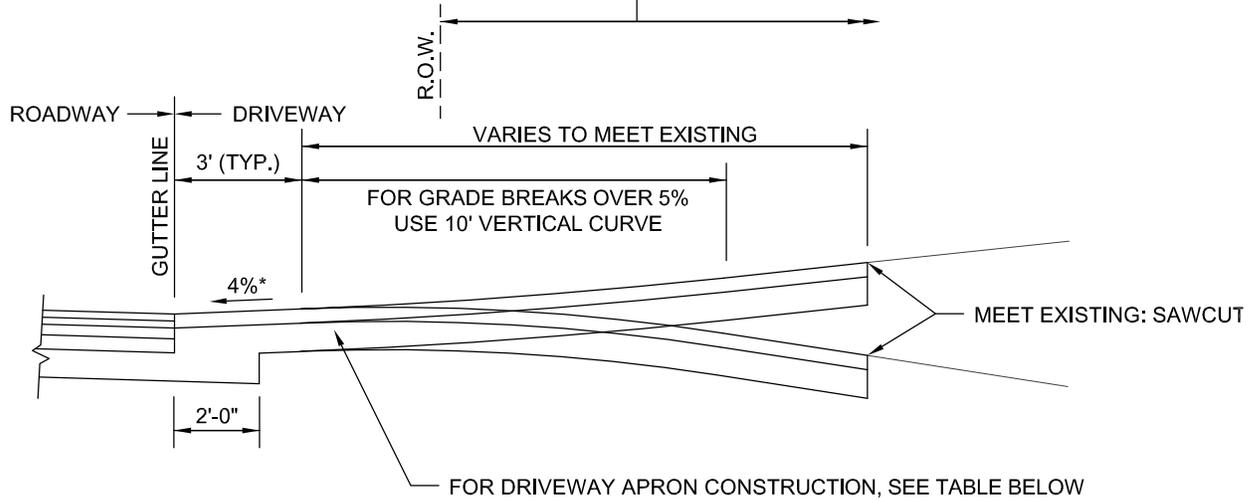
DATE:
FEB. 2010

REV:
0

DETAIL NO.

R-5.4.0

FOR TREATMENT OUTSIDE R.O.W. COORDINATE
WITH ENGINEER & OBTAIN RIGHTS OF ENTRY



NOTE: FOR PLAN, SEE DRAWING RS.09

| DRIVEWAY APRON CONSTRUCTION | | |
|-----------------------------|---|--|
| | CEMENT CONCRETE CONSTRUCTION | HOT MIX ASPHALT |
| SURFACE: | 6" CEMENT CONCRETE, 4,000 PSI, FIBER MESH PER CONSTRUCTION STANDARDS SECTION 5.2.10 | 4" HOT MIX ASPHALT (2" TOP COURSE MATERIAL OVER 2" BINDER COURSE MATERIAL) |
| SUBBASE: | 8" GRAVEL BORROW (TYPE "B") | 8" GRAVEL BORROW (TYPE "B") |

R.O.W. = RIGHT OF WAY

* - DRIVEWAY APRON SLOPE TOWARDS ROADWAY MAY VARY TO MEET FIELD CONDITIONS; 1" LIP FOR CEMENT CONCRETE DRIVEWAYS

DRIVEWAY APRONS SHALL BE CONSTRUCTED OF HOT MIX ASPHALT OR CEMENT CONCRETE, UNLESS PRIOR WRITTEN APPROVAL IS GRANTED BY DPW.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

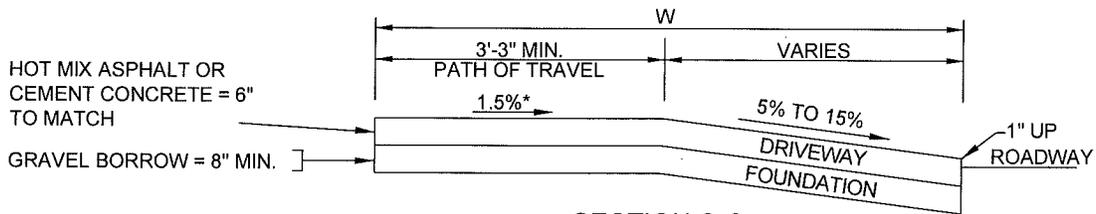
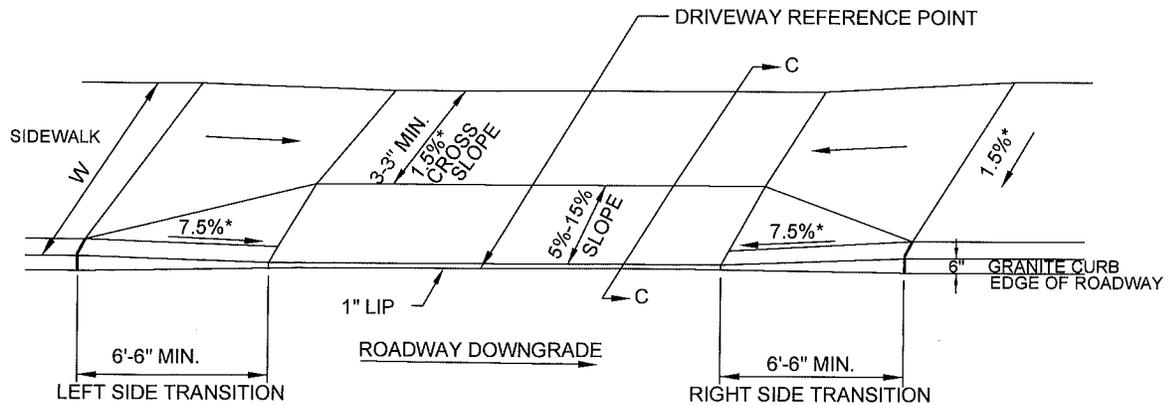
FULL DEPTH DRIVEWAY
APRON - SECTION
NO SIDEWALK

DATE:
FEB. 2010

REV:
0

DETAIL NO.

R-5.4.1



SECTION C-C

SIDEWALK THROUGH DRIVEWAYS WITHOUT CURB RETURNS (PREFERRED)

NOT TO SCALE

LEGEND:

HSL = HIGH SIDE TRANSITION LENGTH (AS REQUIRED TO MEET 7.5% MAX SLOPE)

W = SIDEWALK WIDTH

* = TOLERANCE FOR CONSTRUCTION ±0.5%

NOTES:

1. DRIVEWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE CURRENT REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD, THE AMERICANS WITH DISABILITIES ACT AND THE CURRENT MASSDOT CONSTRUCTION STANDARDS.
2. WHERE NEW DRIVEWAYS CROSS EXISTING SIDEWALKS, THE SIDEWALK PORTION SHALL MATCH EXISTING.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

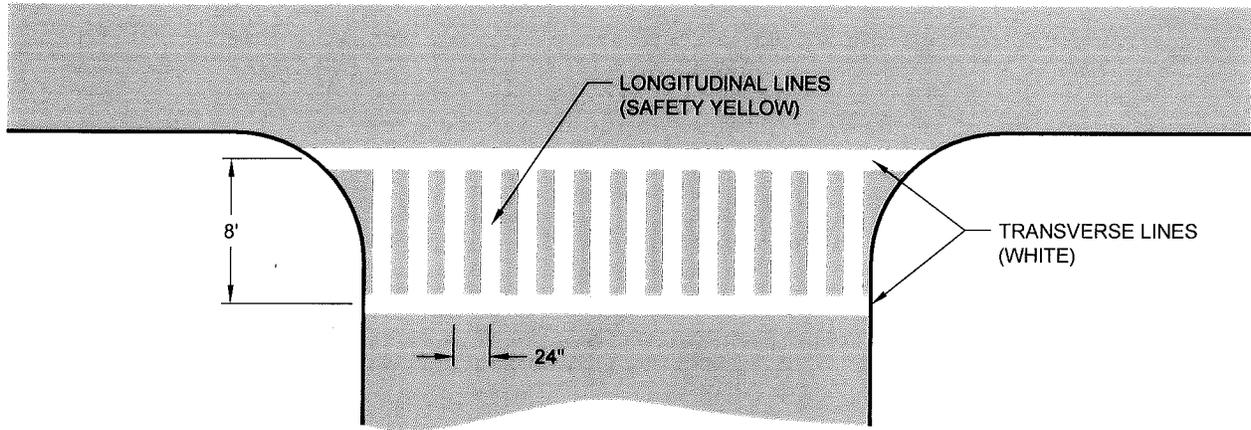
SIDEWALK THROUGH DRIVEWAY

DATE:
MAR 2014

REV:
2

DETAIL NO.

R-5.4.2



PAVEMENT MARKING - FAST DRYING WATER-BORNE OR OTHER TRAFFIC PAINT

NOT TO SCALE

NOTES:

1. CROSSWALK MARKINGS SHALL CONSIST OF SOLID WHITE OR YELLOW (AS INDICATED) LINES (BOTH TRANSVERSE AND LONGITUDINAL) 12 INCHES IN WIDTH.
2. CROSSWALKS SHALL BE 8 FEET WIDE.
3. LONGITUDINAL LINES SHALL BE SPACED 24" APART ON CENTER FOR ALL NEW CROSSWALKS. EXISTING CROSSWALK REPAIRS SHALL MATCH EXISTING SPACING.
4. CROSSWALK LINES SHALL EXTEND ACROSS THE FULL WIDTH OF PAVEMENT OR TO THE EDGE OF THE INTERSECTING CROSSWALK.
5. CROSSWALKS SHALL BE MARKED AT ALL INTERSECTIONS WHERE THERE IS SUBSTANTIAL CONFLICT BETWEEN VEHICULAR AND PEDESTRIAN MOVEMENT.
6. CROSSWALK MARKINGS FOR NEW ROADWAYS SHALL BE INSTALLED USING EPOXY PAVING MARKING MATERIAL CONFORMING TO MASSDOT ENGINEERING DIRECTIVE E-05-003, DATED JUNE 16, 2005 AND TO MASSDOT STANDARD SECTION 860.
7. CROSSWALK MARKINGS FOR EXISTING ROADWAYS SHALL BE INSTALLED USING FAST DRYING WATER-BORNE TRAFFIC PAINT PAVING MARKING MATERIAL TO MEET MASSDOT SPECIFICATIONS M07.01.23 (WHITE) AND M07.01.24 (YELLOW).
8. THERMOPLASTIC SHALL NOT BE USED FOR ANY PAVEMENT MARKINGS.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

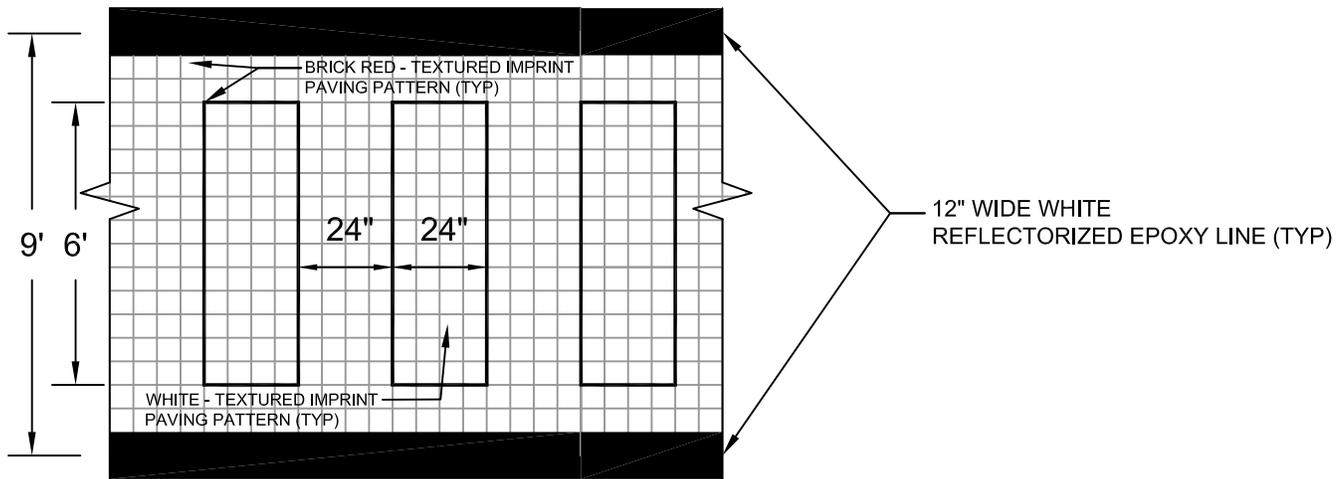
CROSS WALK

DATE:
MAR. 2014

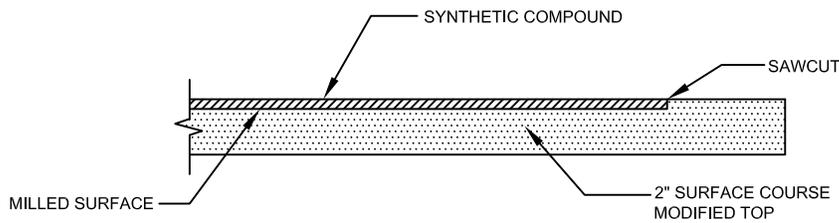
REV:
2

DETAIL NO.

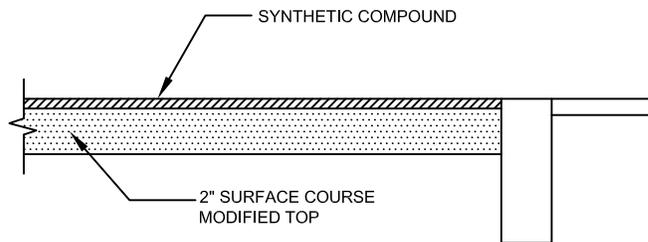
R-5.5.0



PLAN



TRANSVERSE SECTION



LONGITUDINAL SECTION

NOTES:

1. BRICK PATTERN TO BE STAMPED INTO MECHANICALLY HEATED SYNTHETIC COMPOUND.
2. REFER TO ITEM 706.9 FOR SPECIFICATIONS FOR TEXTURED DECORATIVE PAVEMENT CROSSWALK WHICH IS ON FILE WITH THE TOWN OF FRAMINGHAM'S MUNICIPAL ENGINEERING DEPARTMENT.
3. CROSSWALK MARKINGS FOR NEW ROADWAYS SHALL BE INSTALLED USING EPOXY PAVING MARKING MATERIAL CONFORMING TO MASSDOT ENGINEERING DIRECTIVE E-05-003, DATED JUNE 16, 2005 AND TO MASSDOT STANDARD SECTION 860.
4. CROSSWALK MARKINGS FOR EXISTING ROADWAYS SHALL BE INSTALLED USING FAST DRYING WATER-BORNE TRAFFIC PAINT PAVING MARKING MATERIAL TO MEET MASSDOT SPECIFICATIONS M07.01.23 (WHITE)
5. THERMOPLASTIC SHALL NOT BE USED FOR ANY PAVEMENT MARKINGS.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

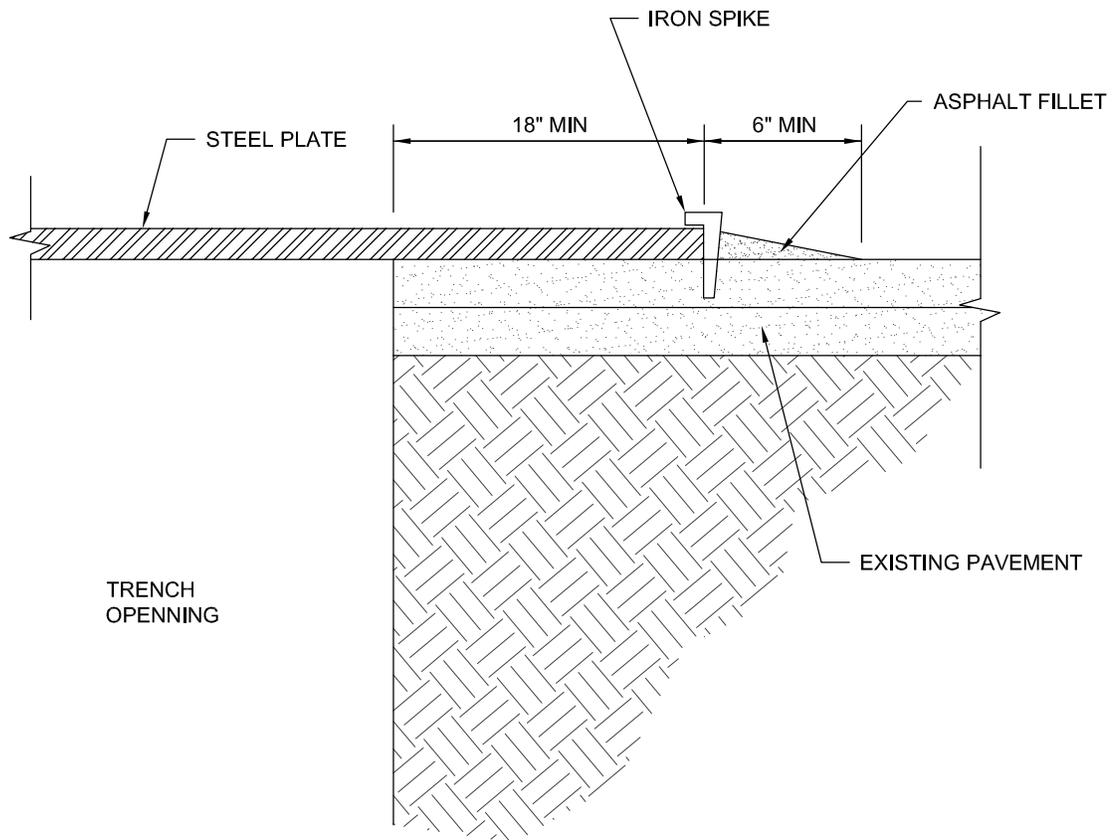
DECORATIVE CROSS WALK

DATE:
JAN. 2016

REV:
0

DETAIL NO.

R-5.5.1



NOTES:

1. USE OF STEEL PLATES ALLOWED ON A CASE BY CASE BASIS, PENDING WRITTEN APPROVAL BY TOWN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES OR CLAIMS RESULTING FROM THE USE OF STEEL PLATES.
3. MUTCD COMPLIANT RETROREFLECTIVE ORANGE CONSTRUCTION WARNING SIGNS (48"X48") WITH WORDING "STEEL PLATE AHEAD" SHALL BE INSTALLED IN ADVANCE OF STEEL PLATE INSTALLATION.
4. THE CONTRACTOR SHALL DESIGN AND UTILIZE STEEL PLATES OF ADEQUATE DIMMENSIONS AND THICKNESS FOR INTENDED USE AND VEHICLE LOADING. MAXIMUMUM ALLOWABLE DEFLECTION SHALL BE 0.025". IRON SPIKE FASTENERS SHALL BE INSTALLED AROUND THE PERIMETER OF THE STEEL PLATE.
5. SEE CONSTRUCTION STANDARDS SECTION 6.3 SPECIAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

STEEL PLATE INSTALLATION

DATE:
FEB. 2010

REV:
0

DETAIL NO.

R-5.6.0

1. ALL NEW SIGNS SHALL BE INSTALLED ONLY UPON RESOLUTION OF THE BOARD OF SELECTMEN OR ORDER OF THE TRAFFIC AND ROADWAY SAFETY COMMITTEE, AS APPLICABLE.
2. TYPICALLY, SIGNS SHOULD BE ERECTED INDIVIDUALLY ON SEPARATE POSTS EXCEPT WHERE ONE SIGN SUPPLEMENTS ANOTHER OR WHERE DIRECTIONAL SIGNS MUST BE GROUPED. WHEN USING SUPPLEMENTAL SIGNS, DO NOT OVERLAP WITH THE PRIMARY SIGN. WARNING AND REGULATORY SIGNS SHALL NOT BE COMBINED. IF IN DOUBT ABOUT COMBINING SIGNS, CHECK WITH THE TOWN ENGINEER.
3. THE ENTIRE SIGN SHAPE MUST BE VISIBLE.
4. SIGNS SHALL BE LOCATED SO THEY ARE VISIBLE AT NIGHT.
5. SIGNS SHALL BE LOCATED SO THAT THEY DO NOT BLOCK OR OBSCURE OTHER SIGNS.
6. THE OUTER EDGE OF A SIGN SHALL BE OFFSET A MINIMUM OF TWO FEET HORIZONTALLY FROM THE FACE OF CURB. WHERE SIDEWALK IS LESS THAN FIVE FEET WIDE, ONE FOOT FROM FACE OF CURB IS PERMISSIBLE.
7. SIGNS SHALL BE INSTALLED TO PROVIDE 7 FEET OF VERTICAL CLEARANCE ABOVE SIDEWALKS OR ANY LOCATION WHERE PEDESTRIANS MAY BE PRESENT (8 FEET OF VERTICAL CLEARANCE SHALL BE PROVIDED ON DESIGNATED BICYCLE ROUTES).
8. IF NO SIDEWALK IS PRESENT, SIGNS SHALL BE LOCATED SIX FEET FROM THE EDGE OF PAVEMENT, MEASURED FROM OUTER SIGN EDGE.
9. SIGNS MAY BE INSTALLED ON EXISTING STREET LIGHT POLES, TRAFFIC SIGNAL POLES, ETC., USING METRO WING BRACKETS, WHEN APPROPRIATE AND AS APPROVED, TO REDUCE THE NUMBER OF POSTS. SIGNS SHALL NOT BE INSTALLED ON POWER POLES.
10. SIGNS SHALL BE INSTALLED AT APPROXIMATELY A RIGHT ANGLE TO THE TRAFFIC APPROACH DIRECTION. SIGNS SHALL BE TURNED SLIGHTLY AWAY FROM ROAD TO PREVENT "FLASHBACK" OF REFLECTION.
11. UPON COMPLETION OF SIGN INSTALLATION, THE CONTRACTOR AND ENGINEER SHALL INSPECT THE SIGN'S VISIBILITY AND SHALL CHECK THE SIGN'S LOCATION FOR SUFFICIENT ADVANCE WARNING. THIS SHALL BE ACCOMPLISHED BY DRIVING TOWARDS THE SIGN AT A SAFE AND PRUDENT SPEED, OR AT A SPEED NEAR TO THE SPEED LIMIT.
12. STREET SIGNS ARE TO BE MOUNTED ON A 2" X 2" SQUARE GALVANIZED POST. ALL OTHER SIGNS ARE TO BE MOUNTED ON A U-CHANNEL POST.
13. ALL SIGN POSTS MOUNTED IN CONCRETE MUST BE SLEEVED WITH A CAST-IN-PLACE 4" PVC PIPE.
14. PROPOSED SIGN LOCATIONS SHALL BE STAKED IN THE FIELD FOR REVIEW AND APPROVED BY TOWN, PRIOR TO INSTALLATION.
15. ALL PEDESTRIAN CROSSING SIGNAGE SHALL BE FLUORESCENT YELLOW-GREEN (FYG) IN COLOR.
16. BEFORE ANY SIGNS ARE REMOVED OR COVERED, NOTIFICATION SHALL BE GIVEN TO HIGHWAY DIRECTOR OR OPERATIONS MANAGER.
17. ALL MID-BLOCK CROSSWALKS SHALL HAVE BACK-TO-BACK SIGNS WITH APPROPRIATE SUPPLEMENTAL DOWNWARD FACING ARROW.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

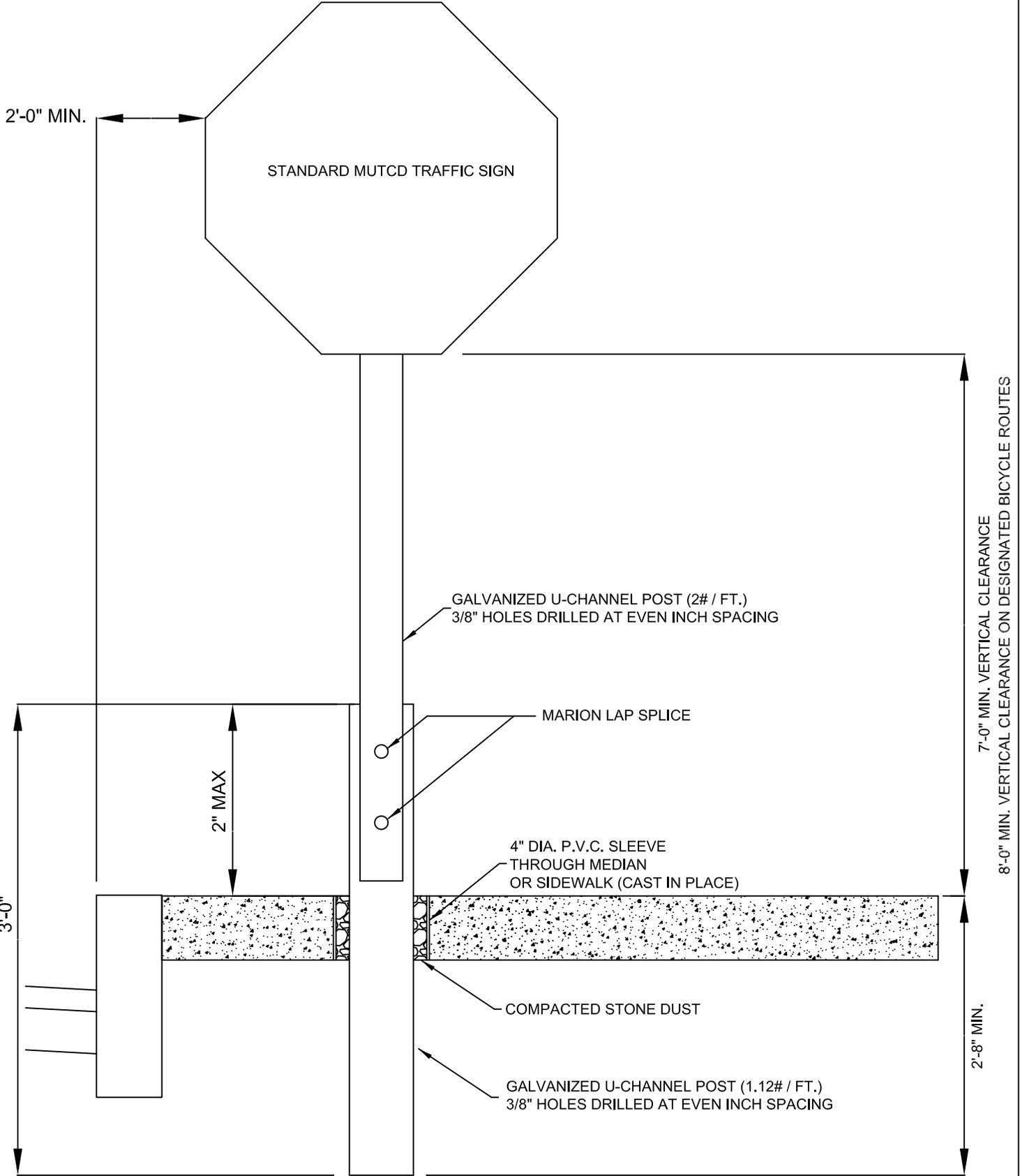
TRAFFIC SIGN INSTALLATION
NOTES

DATE:
MARCH 2013

REV:
1

DETAIL NO.

R-5.7.0



NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

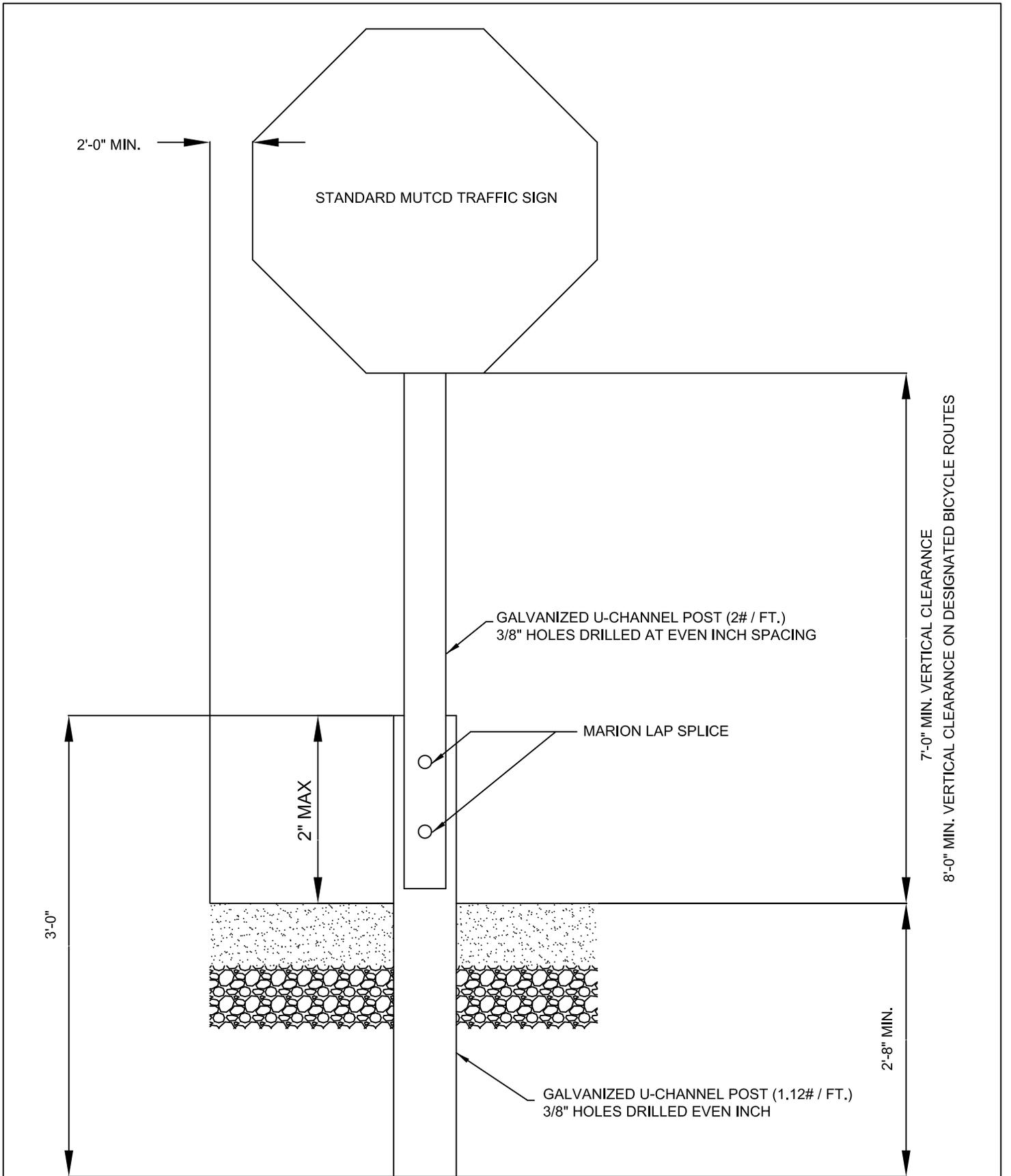
TRAFFIC SIGN DETAIL
SIDEWALK OR MEDIAN INSTALLATION

DATE:
FEB. 2016

REV:
2

DETAIL NO.

R-5.7.1



NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

TRAFFIC SIGN DETAIL
NON-SIDEWALK INSTALLATION

DATE:
FEB. 2016

REV:
2

DETAIL NO.

R-5.7.2

1. EACH SIGN SHALL CONSIST OF (2) SINGLE SIDED PLATES USING DRIVE PINS TO SECURE PLATES TO POST.
2. OUTER EDGE OF SIGN SHALL BE SECURED WITH POP RIVETS AND 2" SPACER BETWEEN THE 2 PLATES.
3. FONT SHALL BE HIGHWAY GOTHIC B.
4. PLATES SHALL HAVE ROUNDED CORNERS.
5. WHITE AVERY-DENNISON PRISMATIC PLATE SHALL BE UTILIZED.
6. THE SIGNS SHALL INCLUDE 5.5" TOWN SEALS (2 REQUIRED).
7. THE SIGNS SHALL INCLUDE A 0.5" WHITE BORDER.



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

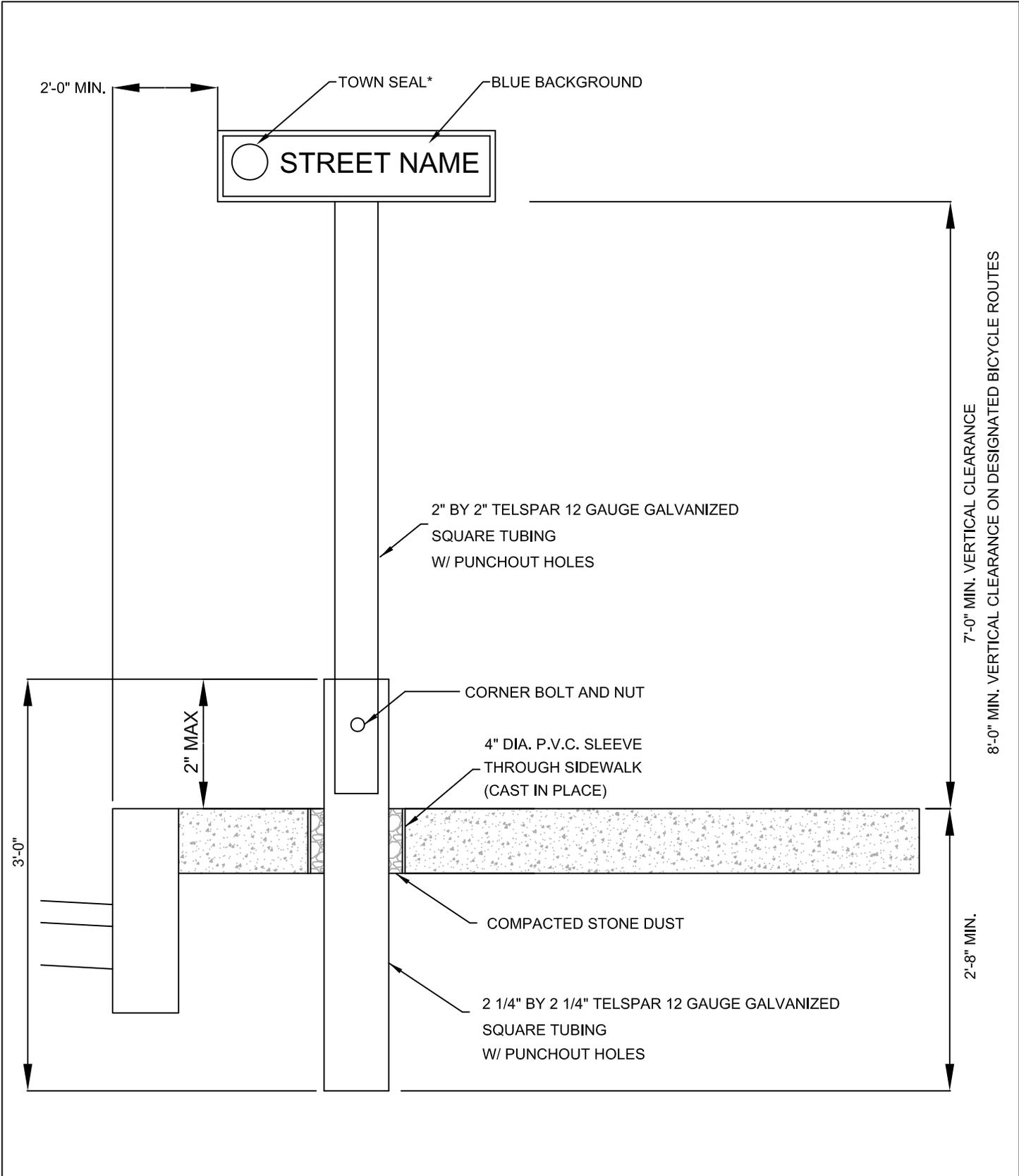
STREET NAME SIGN INSTALLATION
NOTES

DATE:
MARCH 2011

REV:
0

DETAIL NO.

R-5.7.3



*OMIT TOWN SEAL IF SIGN IS LABELING A PRIVATE ROAD



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

STREET SIGN DETAIL
SIDEWALK INSTALLATION

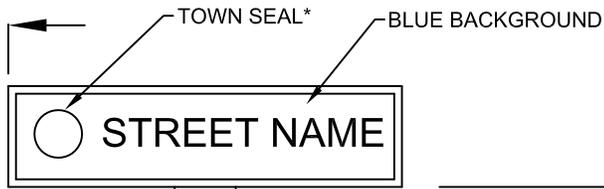
DATE:
FEB 2016

REV:
3

DETAIL NO.

R-5.7.4

2'-0" MIN.



2" BY 2" TELSPAR 12 GAUGE GALVANIZED SQUARE TUBING W/ PUNCHOUT HOLES

CORNER BOLT AND NUT

2" MAX

3'-0"

2 1/4" BY 2 1/4" TELSPAR 12 GAUGE GALVANIZED SQUARE TUBING W/ PUNCHOUT HOLES

7'-0" MIN. VERTICAL CLEARANCE
8'-0" MIN. VERTICAL CLEARANCE ON DESIGNATED BICYCLE ROUTES

2'-8" MIN.

NOT TO SCALE

*OMIT TOWN SEAL IF SIGN IS LABELING A PRIVATE ROAD



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

STREET SIGN DETAIL
NON-SIDEWALK INSTALLATION

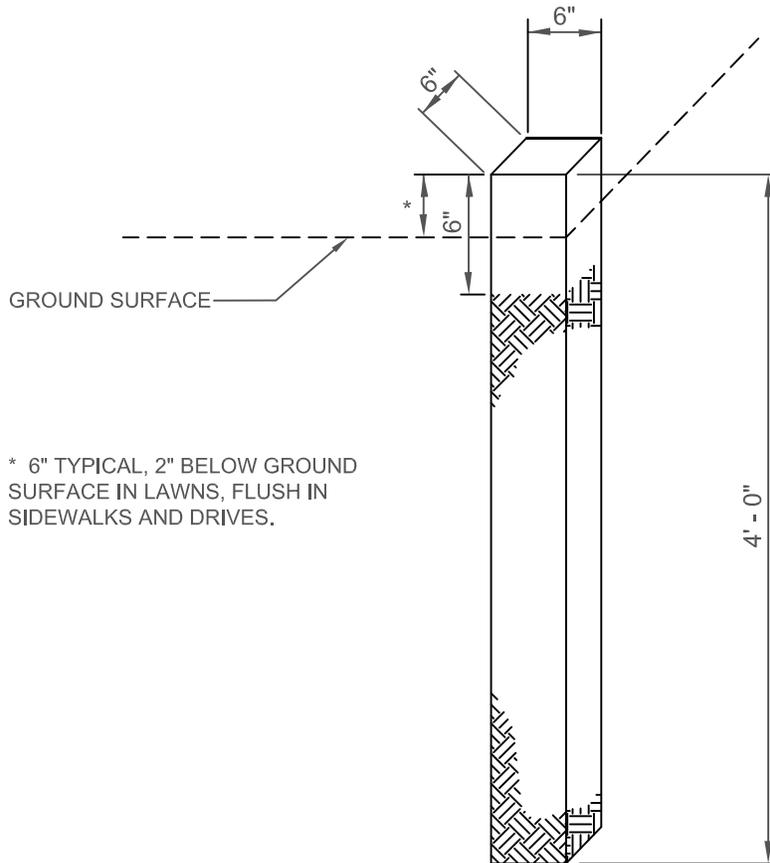
DATE:
FEB. 2016

REV:
2

DETAIL NO.

R-5.7.5

REPLACEMENT AND NEW BOUND INSTALLATION SHALL BE DIRECTLY OVERSEEN BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE COMMONWEALTH. SURVEYOR'S NOTES AND SETTING DATA SHALL BE PROVIDED TO THE ENGINEERING DIVISION.



NOTES:

1. TOP AND 4 SIDES FOR A DISTANCE OF 6" FROM TOP SHALL BE HAMMERED SMOOTH.
2. FOR DESCRIPTIONS, MATERIALS AND CONSTRUCTION METHODS SEE STANDARD SPECIFICATIONS.
3. ALL EXISTING ROADWAY MONUMENTATION SHALL BE INVENTORIED AND PROTECTED. ANY AND ALL PROPOSED IMPACTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEERING DIVISION IMMEDIATELY.
4. PLEASE REFERENCE ADDITIONAL GRANITE BOUND INFORMATION IDENTIFIED UNDER THE TOF CONSTRUCTION STANDARDS: SECTION 1.3.4 A AND B (ROADWAY BOUNDS AND MONUMENTS), SECTION 1.7.A.12 (CONDITIONS FOR STREET ACCEPTANCE - BOUND LAYOUT AND EASEMENT INSPECTION REPORT), SECTION 5.2.15 A (GRANITE BOUNDS), AND SECTION 5.3.12 A, B, AND C (GRANITE BOUNDS - INVENTORY AND REQUIREMENTS FOR SETTING OR REPLACING BOUNDS).

NOT TO SCALE



TOWN OF FRAMINGHAM
DEPARTMENT OF PUBLIC WORKS

GRANITE BOUND DETAIL

DATE:
MAR. 2015

REV:
1

DETAIL NO.

R-5.7.6

