THE CITY OF NEW YORK

Department of Transportation

STANDARD DETAILS

OF CONSTRUCTION

JUNE 2022

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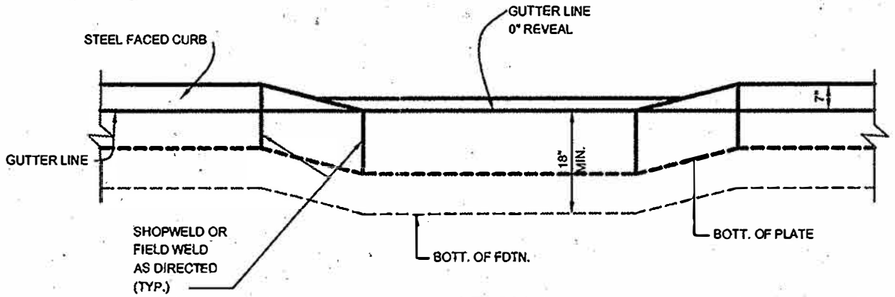
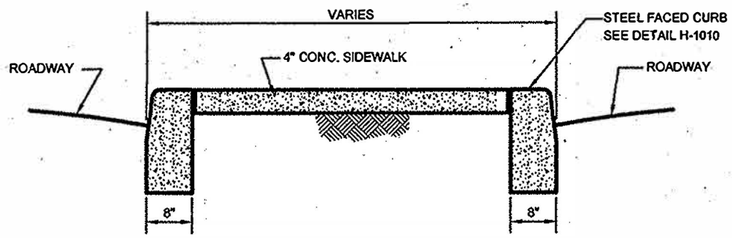
REVISION NO.	DESCRIPTION	DATE	APPROVED
2	REPLACED DRAWING H-1011	6/06/22	HS.P
1	ADDED DRAWING H-1042D	3/15/16	D. NG
1	REPLACED DRAWINGS H-1042A & H-1042C	3/15/16	D. NG

HWS-COVER

LIST OF DRAWINGS



ELEVATION
NOT TO SCALE



SECTION THRU MALL A-A
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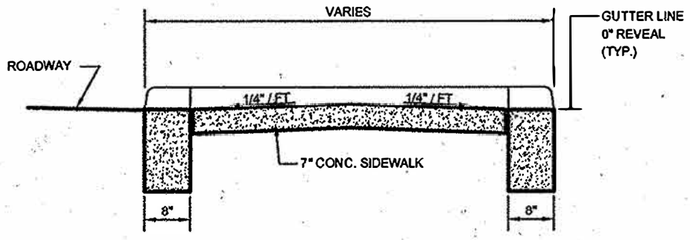
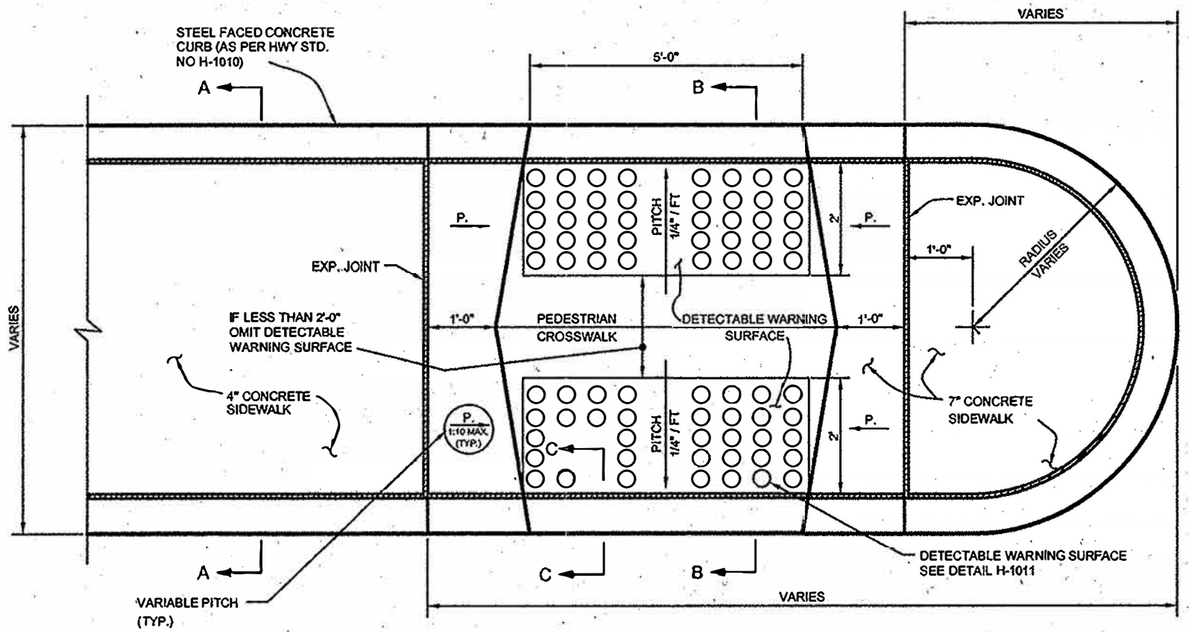


SECTION THRU CROSS WALK B-B
NOT TO SCALE



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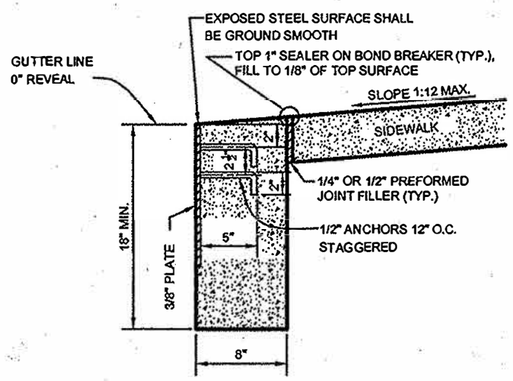
NOT TO SCALE



SECTION C-C
NOT TO SCALE

CHECKED BY: MZ

HWS-H1003A

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN CROSSWALKS-MALL
TYPE-A

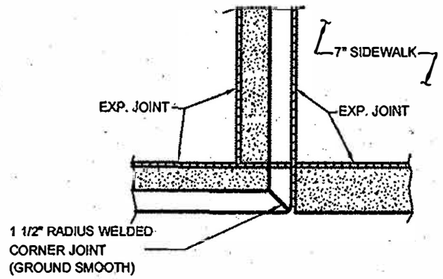
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

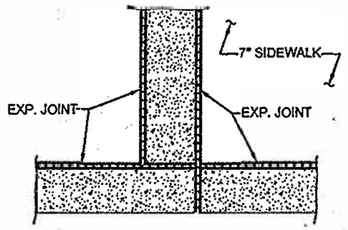
Date Issued: 7/1/10

Scale: None

Drawing # H-1003A

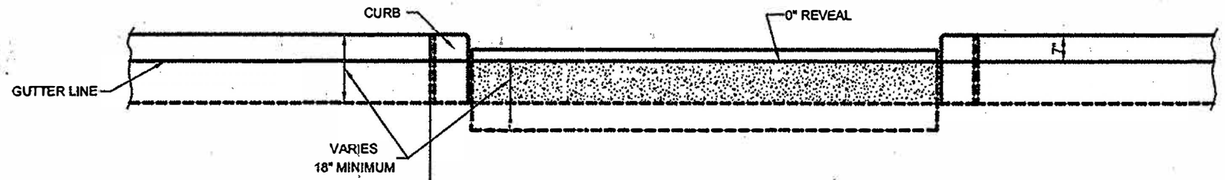


TOP VIEW - STEEL FACED CONC. CURB



TOP VIEW - CONCRETE CURB

DETAIL -A



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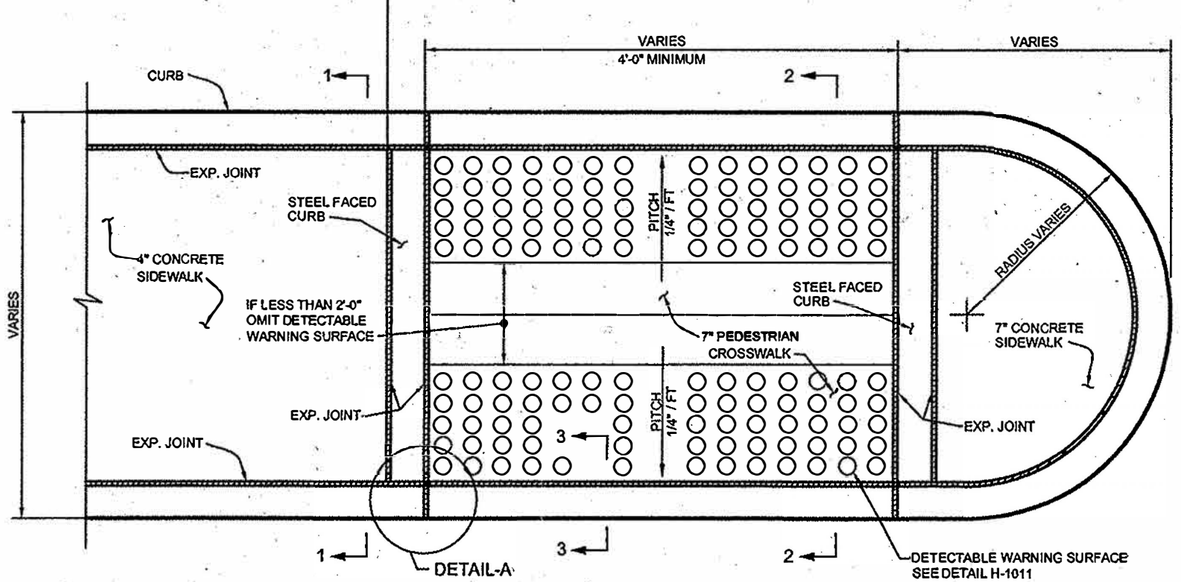

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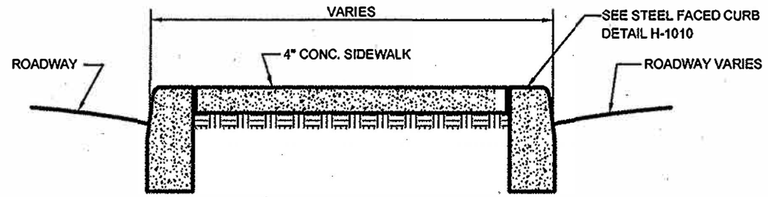

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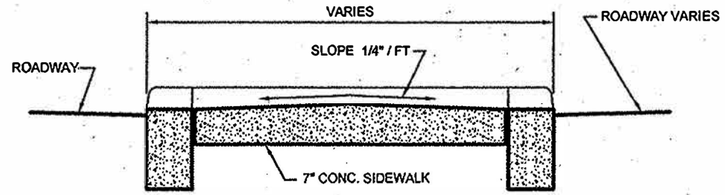

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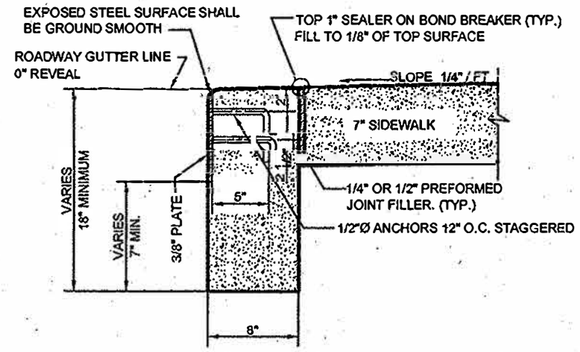


SECTION 3-3
STEEL FACED CONCRETE HEADER
N.T.S.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN CROSSWALKS-MALL
TYPE-B

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

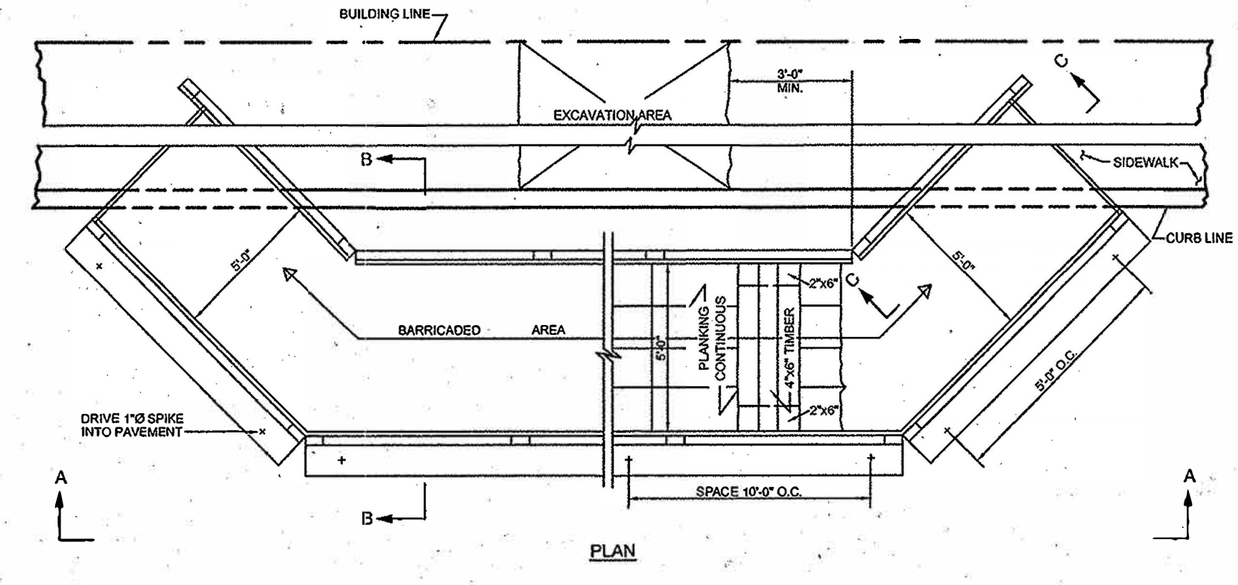
Date Issued: 7/1/10

Scale: None

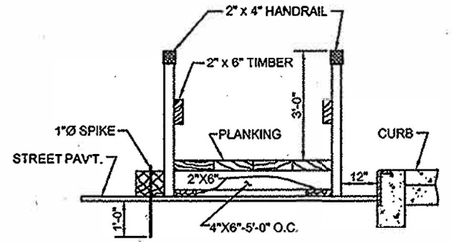
Drawing # H-1003B

CHECKED BY: MZ

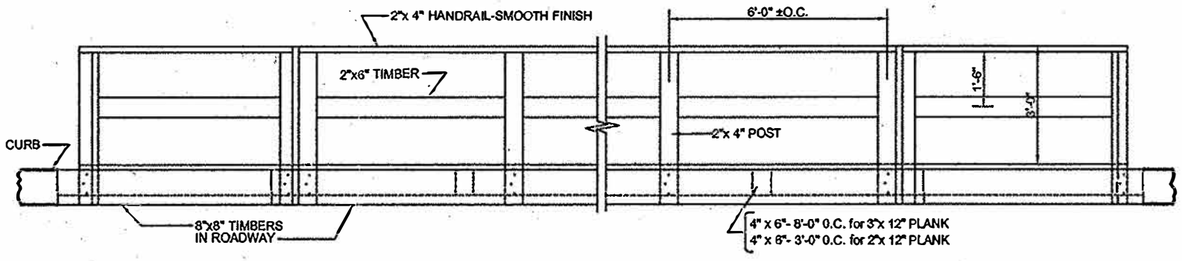
DWG-H1003B



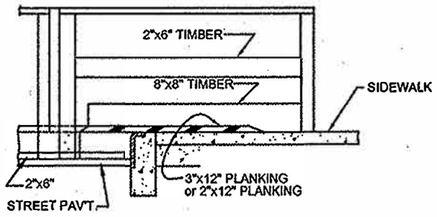
PLAN



SECTION B-B



ELEVATION A-A



SECTION C-C

NOTES

1. ALL TIMBER SHALL BE DOUGLAS FIR GRADE NO 1.
2. ALL WORK SHALL CONFORM WITH NATIONAL DESIGN SPECIFICATIONS FOR STRESS GRADE LUMBER AND ITS FASTENINGS.
3. LIGHTING FIXTURES CAN BE BATTERY TYPE FLASHER WARNING LIGHT OR AS DIRECTED BY THE ENGINEER.
4. RAILS & POSTS ARE TO RECEIVE TWO (2) COATS OIL PAINT, ORANGE & WHITE COLORS, IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. CONTRACTOR TO PROVIDE SHOP DRAWING CERTIFIED BY LICENSED PROFESSIONAL ENGINEER, CURRENTLY REGISTERED IN THE STATE OF NEW YORK, FOR APPROVAL.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MZ

NWS-H1004

NEW YORK CITY DOT

New York City
Department of Transportation

TYPICAL TEMPORARY PEDESTRIAN PASSAGEWAY IN ROADWAY AREA DURING CONSTRUCTION

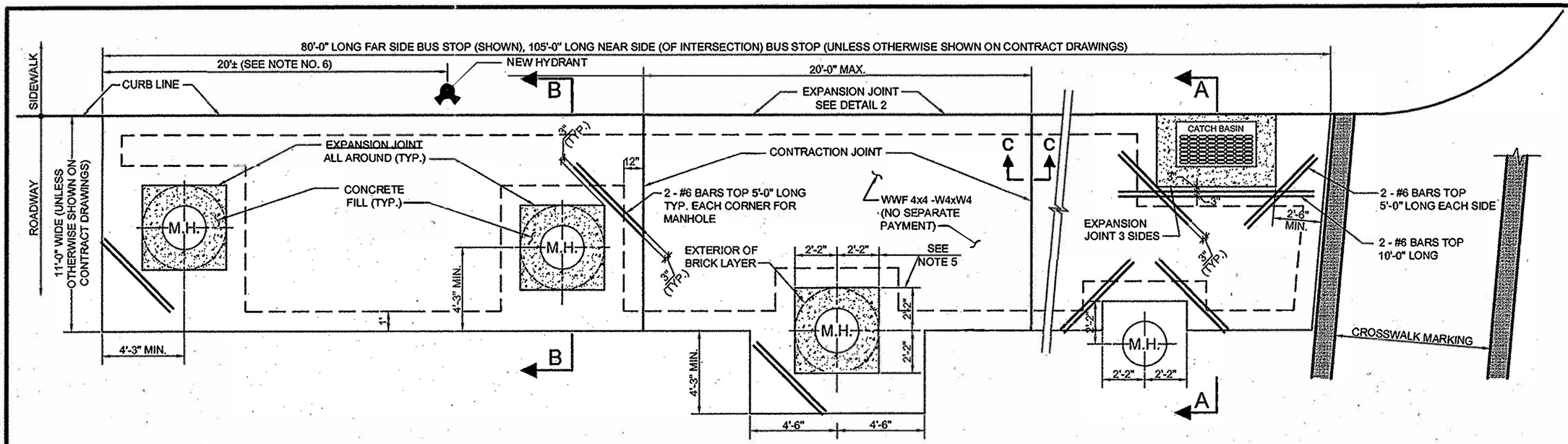
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

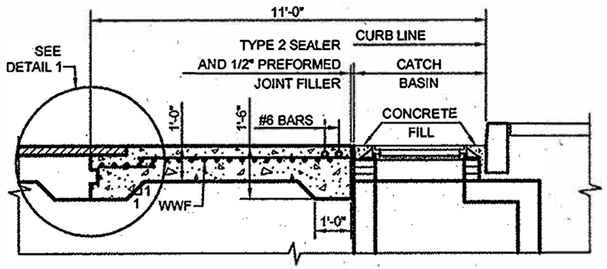
Date Issued: 7/1/10

Scale: None

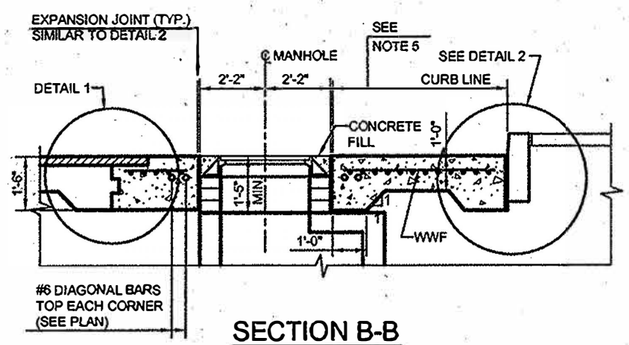
Drawing # H-1004



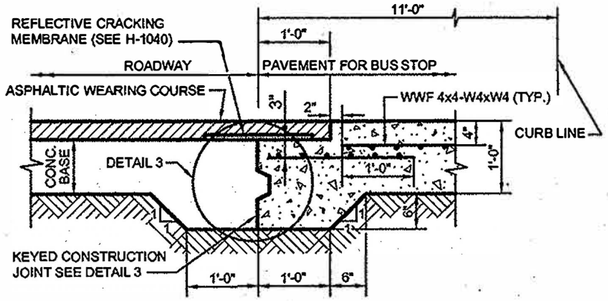
PLAN OF BUS STOP



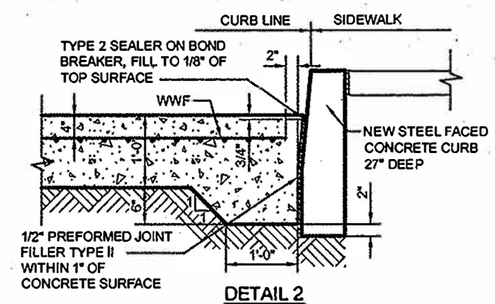
SECTION A-A



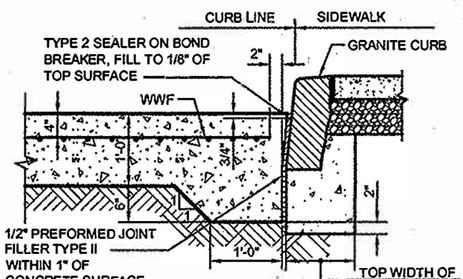
SECTION B-B



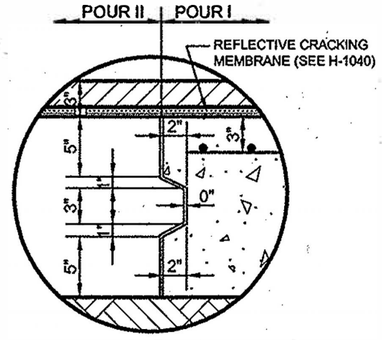
DETAIL 1
KEYED CONSTRUCTION JOINT
(EXCEPT CURB LINE)



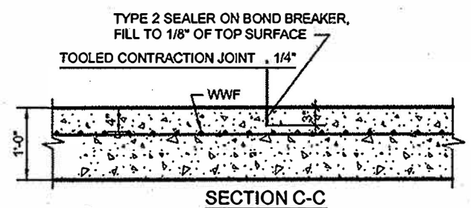
DETAIL 2
EXPANSION JOINT
AT STEEL FACED CONCRETE CURB
(FOR GRANITE CURB SEE DETAIL 2A)



DETAIL 2A
EXPANSION JOINT
AT GRANITE CURB



DETAIL 3
KEYED CONSTRUCTION JOINT



SECTION C-C
CONTRACTION JOINT

NOTES:

1. BUS PADS ARE NOT REQUIRED, WHEN REINFORCED CONCRETE PAVEMENT IS PLACED IN THE ROADWAY.
2. EDGE OF THE BUS PAD AT INTERSECTIONS SHALL BE PARALLEL TO CROSSWALK MARKING LINES OR INTERSECTING BUILDING LINE OR AS DETERMINED BY ENGINEER.
3. DRAINAGE STRUCTURES AND MANHOLES SHALL BE TOTALLY WITHIN OR TOTALLY OUTSIDE THE BUS PAD.
4. LAPS IN WELDED WIRE FABRIC SHALL BE A MINIMUM OF 12 INCHES.
5. DIMENSIONS SHOWN ARE FOR DEPARTMENT OF ENVIRONMENTAL PROTECTION 27"Ø STANDARD SEWER MANHOLE. ADJUST TO ACCOMMODATE OTHER SIZE HARDWARE, AS APPROVED BY THE ENGINEER.
6. THE EXACT LOCATION OF THE HYDRANT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MZ

MWS-H1005

NEW YORK CITY DOT

New York City
Department of Transportation

BUS STOP IN
NEW ROADWAY

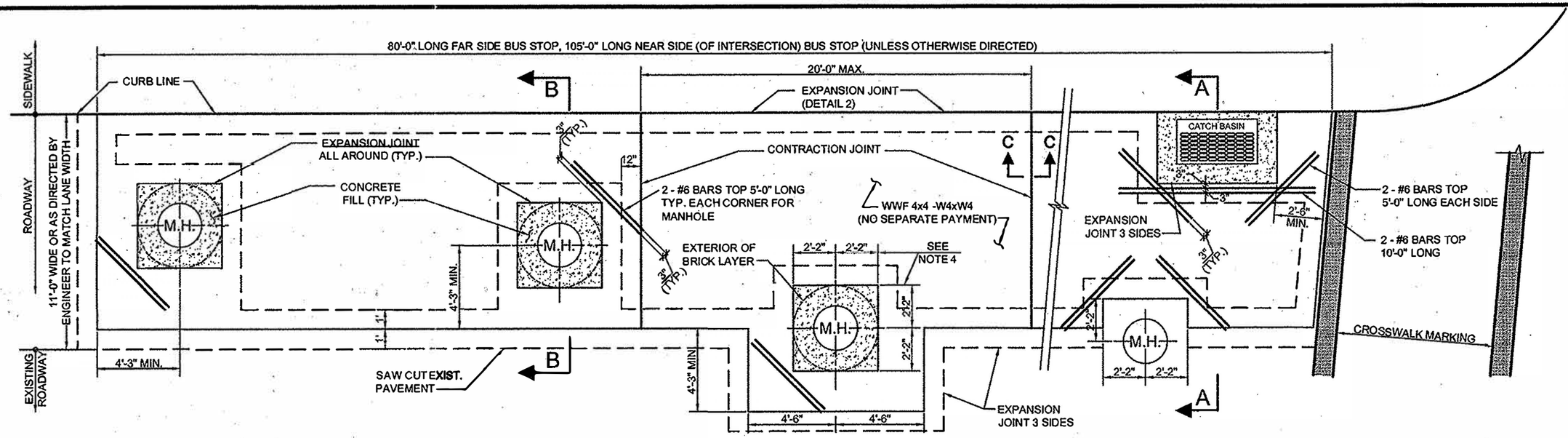
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

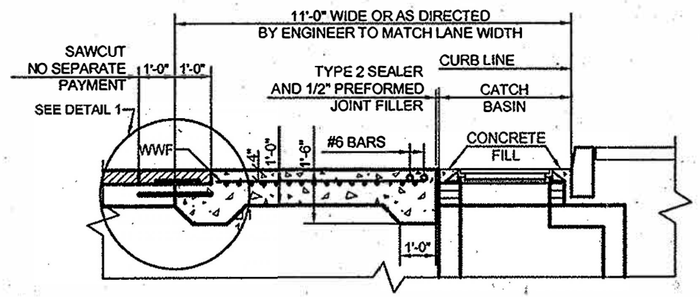
Date Issued: 7/1/10

Scale: None

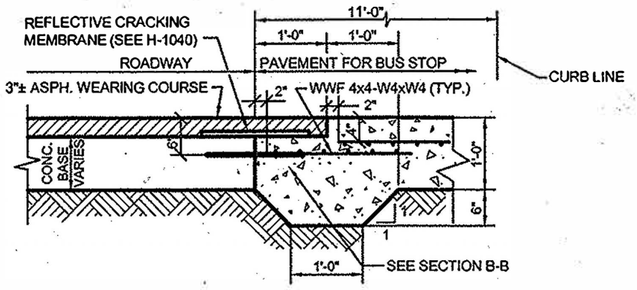
Drawing # H-1005



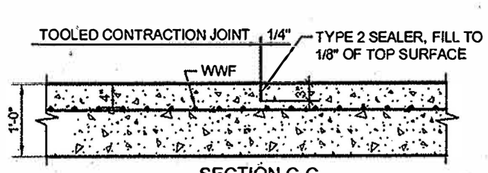
PLAN OF BUS STOP



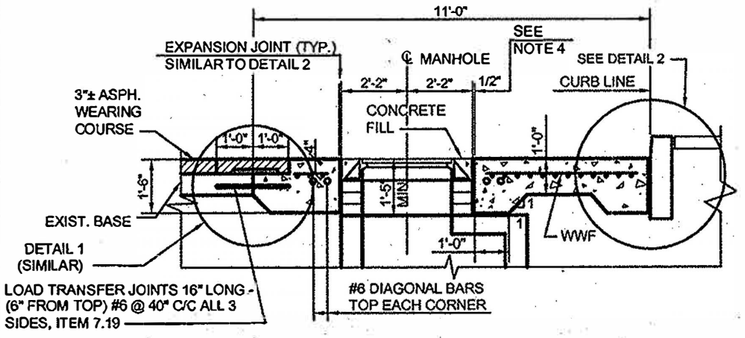
SECTION A-A



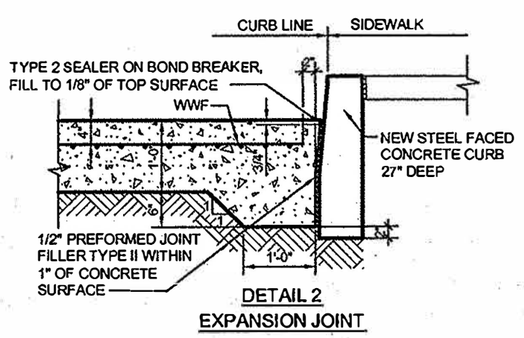
DETAIL 1



SECTION C-C CONTRACTION JOINT



SECTION B-B



DETAIL 2 EXPANSION JOINT

NOTES:

1. EDGE OF THE BUS PAD AT INTERSECTIONS SHALL BE PARALLEL TO CROSSWALK MARKING LINES OR INTERSECTING BUILDING LINE OR AS DETERMINED BY ENGINEER.
2. DRAINAGE STRUCTURES AND MANHOLES SHALL BE TOTALLY WITHIN OR TOTALLY OUTSIDE THE BUS PAD.
3. LAPS IN WELDED WIRE FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. DIMENSIONS SHOWN ARE FOR DEPARTMENT OF ENVIRONMENTAL PROTECTION 27"Ø STANDARD SEWER MANHOLE. ADJUST TO ACCOMMODATE OTHER SIZE HARDWARE, AS APPROVED BY THE ENGINEER.

CHECKED BY: MG

HWS-H1005A

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

BUS STOP IN EXISTING ROADWAY

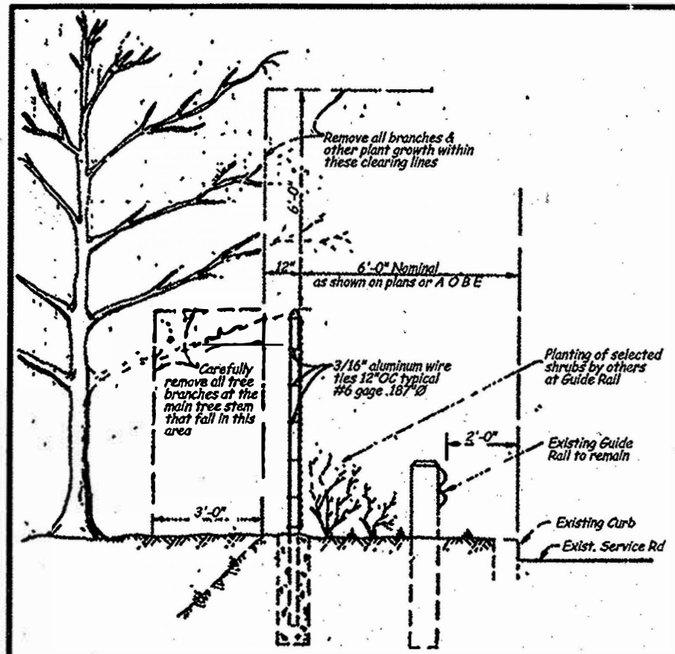
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

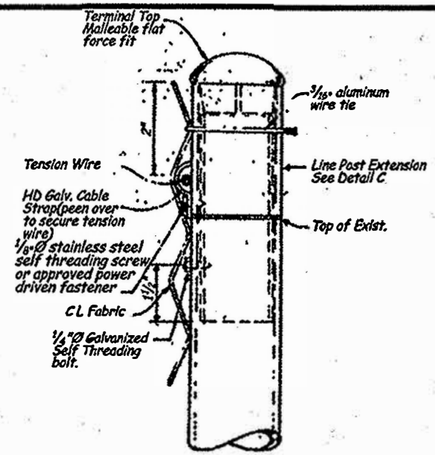
Date Issued: 3/1/10

Scale: None

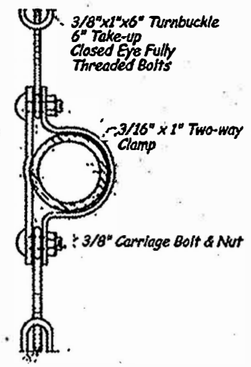
Drawing # H-1005A



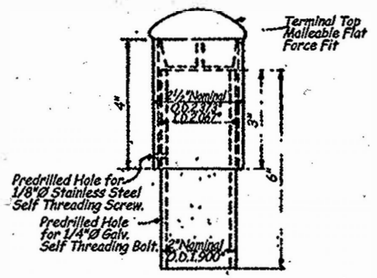
TYPICAL FENCE LOCATION



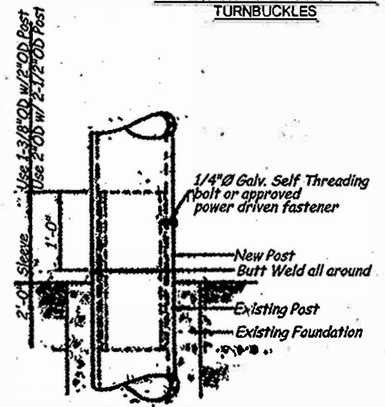
SECTION A-A
DETAIL OF POST EXTENSION AND TENSION WIERE ATTACHMENT TO POST



SECTION B-B
DETAIL OF TOP TWO WAY CLAMP OF TENSION WIRE TO POST AND TURNBUCKLES



DETAIL C
LINE POST EXTENSION



SECTION C-C
DETAIL OF RIGID SPLICE INSTALLATION OF NEW POST TO EXISTING POST BASE

NOTES

1. The tension wire shall be secured at the top with a two-way clamp at each seventh post for 6'-0" high or at each fifth post for 8'-0" high fencing so that the max. untied span of tension wire does not exceed 36'-0" for 6'-0" high or 32'-0" for 8'-0" high fence. Whereas, if the total length of damaged fabric to be replaced is less than 16'-0", no tension wire shall be installed, but the damaged top rail shall be replaced with new top rail. New tension wires shall be installed only when damages to top or bottom rails have been incurred and replacement is necessary.

2. Corner posts shall be used at sharp breaks in vertical grade and changes in horizontal alignment of 15° and over. Intermediate Pull Posts shall be installed along tangent fence runs and shall be spaced at intervals not exceeding 180'.

3. All fabrication and installation details of this fencing are shown on the contract plans. Any proposed changes by the Contractor shall be submitted in writing, explaining the reason for such requested change and supplemented by clear shop drawings defining the Contractors proposal.

4. Layout of chain link fence post locations shall be performed by the Contractor in accordance with the intent of the Contract Plans. All such layout shall be checked and approved by the Engineer prior to erection of fence.

5. The fence shall be carefully aligned to a uniform grade by the Contractor. Before the posts are permanently affixed, the Engineer shall inspect the line and grade, order any necessary adjustments and approve the final alignment in that section of fencing.

6. Materials: All new "Right-of-Way" fence to be no higher than six (6'-0") feet. All posts shall be standard weight galvanized steel pipe conforming to the requirements of A.S.T.M. designation A 120-6ST, except that the pipe shall be unthreaded and untested for water pressure. All new posts to be set-in-place with a concrete footing.

Line Post Top: Industrial grade galvanized malleable flat casting for 2" Nominal Dia. Line Post.

Gate, End, Corner & Pull Post Tops: Malleable flat arc terminal top galvanized casting inside fit for standard 2-1/2" Nominal Dia. Post.

Tension Bars: 72" long 1/4" x 1/2" flat galvanized steel tension bars.

Tension Bands: Heavy weight 1/8" x 1" galvanized steel tension bands for a 2-1/2" Nom. Dia., minimum wt. 42lbs. The carriage bolt to be supplied for each of those bands shall be gal. Steel 3/16" x 1-1/2" carriage bolt and nut.

The Contractor shall supply to the Engineer, catalog cuts of all fittings and connections to be used in the contract for the Engineers approval. The above list of fittings and connections shall be deemed only a listing of typical parts to be used in construction of fence, all other fittings and connections required for a proper fence installation shall be used by the Contractor. These undesignated fittings and connections shall be good grade galvanized steel of a quality comparable or superior to these fittings and connections designated.

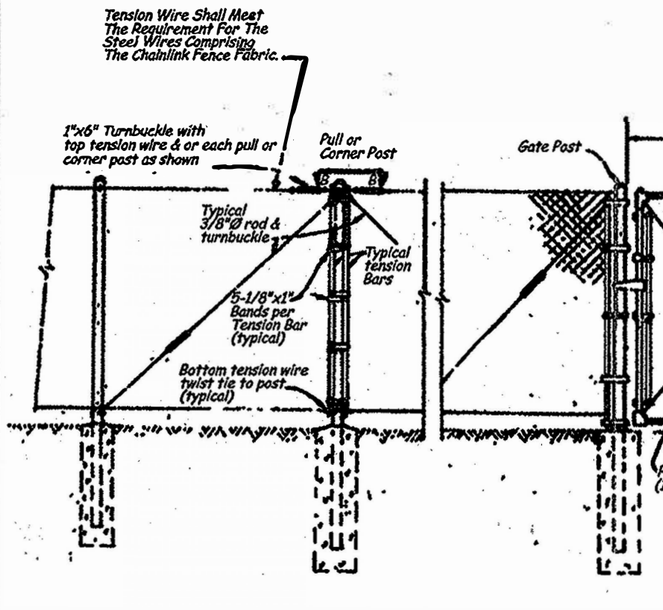
Fence Fabric: shall be hot-dipped galvanized steel fabric with the zinc coating not less the 2g per sq. ft. or aluminum-coated steel fabric meeting the requirements of A.A.S.H.O. Specification W181 except that base metal shall have a nominal strength of 80,000 p.s.i. after weaving.

The size of the mesh opening and nominal Dia. Of fabric wire shall be 2 inches and 0.148 inches respectively and shall be knuckled top and bottom.

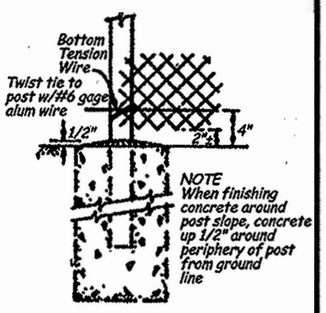
7. When fences terminate at structures, the clear spaces between the fences and structure shall not exceed 4".

8. Gore Treatment: 150'-0" of clear area from the point of gore will hereafter be maintained.

9. For fence heights other than those shown refer to H-1021 for size of fence posts and size of members and fabrics. Omit top and bottom rails.



DETAIL OF RIGHT OF WAY FENCING



FOOTING DETAIL

NEW YORK CITY DOT

New York City Department of Transportation

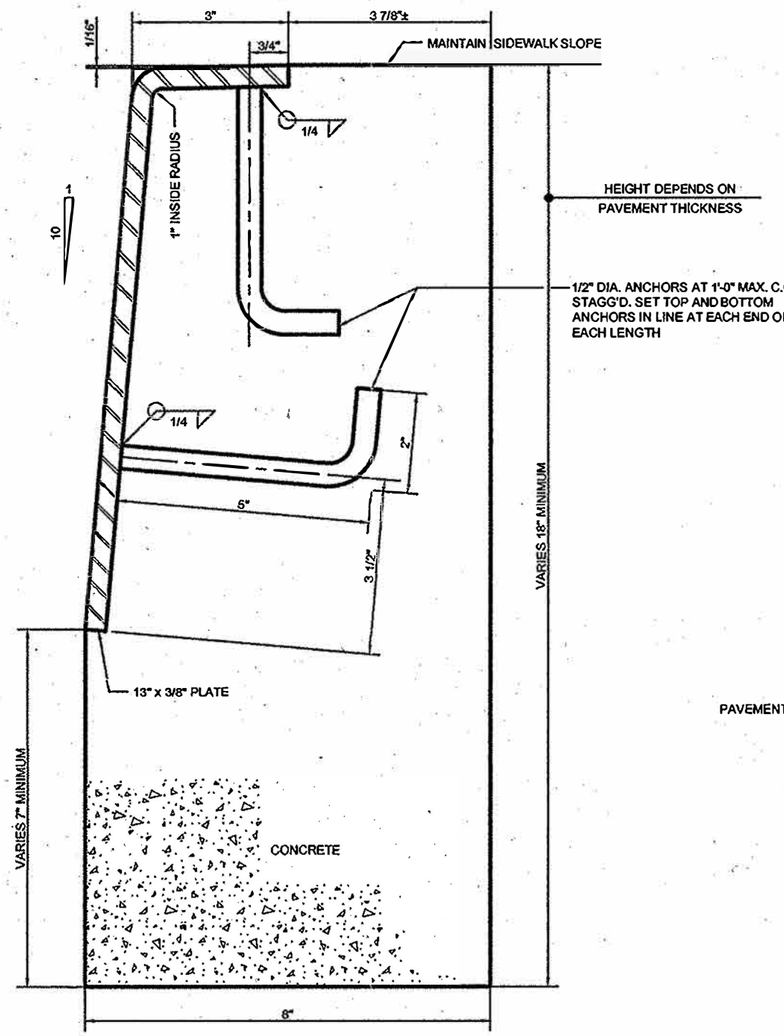
CHAIN LINK FENCE DETAILS
TENSION WIRES TOP AND / OR BOTTOM

Approved:	Approved:
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction
Date Issued: 7/1/10	Scale: None
	Drawing # H-1009

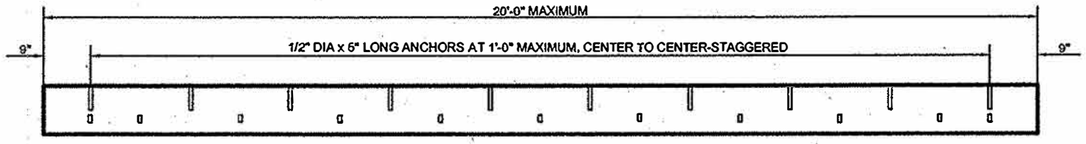
REVISION NO	DESCRIPTION	DATE	APPROVED

CHECKED BY: MA

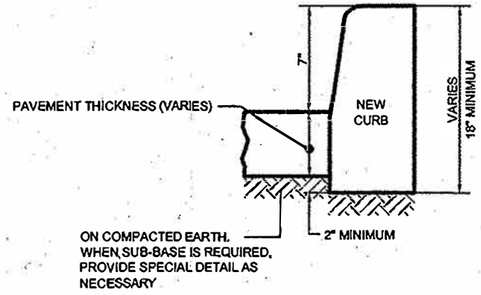
HWS-H1009



DETAIL
N.T.S.



ELEVATION-STEEL FACING
N.T.S.



TYPICAL SECTION
N.T.S.

NOTES:

1. EXPANSION JOINTS IN THE STEEL CURB FACING AND CONCRETE BACKING SHALL BE AT A MAXIMUM SPACING OF 24 FEET.
2. THE EXPANSION JOINTS OF THE CURB AND STEEL CURB FACING SHALL LINE UP WITH THE EXPANSION JOINTS OF THE CONCRETE SIDEWALKS, WHEREVER POSSIBLE.
3. NO PIECE OF STEEL CURB FACING HAVING LESS THAN TWO (2) WELDED DOWELS MAY BE INSTALLED UNLESS IT IS WELDED TO THE ADJACENT STEEL CURB FACING.
4. 1/2" DIA. x 6" HEADED ANCHOR STUDS (GRANULAR OR SOLID FLUX FILLED) MAY BE SUBSTITUTED.
5. STRUCTURAL STEEL (A.S.T.M. DESIGNATION A36).
6. SURFACE TO BE CLEANED AND PAINTED AS PER NYCDOT STANDARD HIGHWAY SPECIFICATIONS, SECTION 2.13. COLOR OF TOP COAT SHALL BE GRAY AS APPROVED BY THE ENGINEER.
7. WHERE TWO (2) PIECES OF STEEL CURB FACING ARE JOINED BUT NOT WELDED, TWO (2) ONE-HALF (1/2) INCH RODS, TWENTY FOUR (24) INCHES LONG SHALL BE INSERTED INTO THE CONCRETE BACKING, ONE-HALF (1/2) THE LENGTH AT EACH SIDE OF THE JOINT.
8. CONCRETE TO BE CLASS B-32, AIR-ENTRAINED.
9. CORNER CURB:-VERTICAL FACE WILL BE ACCEPTABLE FOR CORNER CURBS PROVIDING THE ENDS ARE WARPED TO FORM A TRANSITION WITH ADJACENT BATTERED FACE CURBS.

CHECKED BY: MZ

DWS-H1010

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

STEEL FACED CONCRETE CURB
STEEL FACING TYPE D

Approved:	Approved:
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction
Date Issued: 7/1/10	Scale: None
	Drawing # H-1010

H-1011 INDEX OF DRAWINGS

DRAWING #	PEDESTRIAN RAMPS DRAWING TITLE
H-1011-1	INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES
H-1011-2	CORNER CASES - PERPENDICULAR
H-1011-3	CORNER CASES - PARALLEL
H-1011-4	CORNER CASES - APPROVAL REQUIRED
H-1011-5	MIDBLOCK CASES
H-1011-6	ISLAND CASES
H-1011-7	TEMPORARY CASES
H-1011-8	MISCELLANEOUS DETAILS AND EXAMPLES
H-1011-9	DETECTABLE WARNING SURFACES

TABLE 1: DESIGN, LAYOUT AND WORK ACCEPTANCE SLOPE LIMITS

ELEMENTS	SLOPE LIMITS FOR DESIGN AND FIELD LAYOUT	SLOPE LIMITS FOR WORK ACCEPTANCE
• PEDESTRIAN ACCESS ROUTE CROSS SLOPE • RAMP CROSS SLOPE • LANDING (TURNING SPACE) RUNNING SLOPE AND CROSS SLOPE • ROADWAY GUTTER FLOW SLOPE (SEE GENERAL NOTE 26)	0.5% (1:200) MIN. (SEE GENERAL NOTE 22.) 1.5% (1:67) MAX.	2.0% (1:50) MAX.
• PEDESTRIAN ACCESS ROUTE RUNNING SLOPE (SEE GENERAL NOTE 23) • BLENDED TRANSITION RUNNING SLOPE • ROADWAY COUNTER SLOPE	0.5% (1:200) MIN. (SEE GENERAL NOTE 22.) 4.5% (1:22) MAX.	5.0% (1:20) MAX.
• PEDESTRIAN RAMP RUNNING SLOPE	5.0% (1:20) MIN. 7.5% (1:13.5) MAX.	8.3% (1:12) MAX.
• SIDE FLARE INSIDE PEDESTRIAN CIRCULATION PATH (SEE GENERAL NOTE 25)	5.0% (1:20) MIN. 9.5% (1:10.5) MAX.	10.0% (1:10) MAX.
• SIDE FLARE OUTSIDE PEDESTRIAN CIRCULATION PATH (SEE GENERAL NOTE 25)	5.0% (1:20) MIN. 25% (1:4) MAX.	

LEGEND

LIMIT OF 7 INCH CONCRETE SIDEWALK

DETAIL INDICATOR — XX (DETAIL NUMBER) / YY (H-1011 DRAWING #)

SLOPE ARROW

GLOSSARY

TERMS	DEFINITIONS
CLEAR SPACE	THE TERM "CLEAR SPACE" REFERS TO AN UNOBSTRUCTED AREA PROVIDED BEYOND THE BOTTOM GRADE BREAK OF A RAMP, FOUR FEET BY FOUR FEET (4' X 4') SQUARE MINIMUM, WITHIN THE WIDTH OF THE MARKED OR UNMARKED CROSSWALK, AND WHOLLY OUTSIDE OF ANY VEHICULAR TRAVEL LANE (NON-PARKING LANE) RUNNING PARALLEL TO THE CROSSWALK. THE CLEAR SPACE MAY OVERLAP BOTTOM LANDING AREAS, AND FLUSH CURBS. IF THE CLEAR SPACE IS ALSO A TURNING SPACE, THEN THE SLOPES OF THE CLEAR SPACE MUST COMPLY WITH THE REQUIREMENTS FOR TURNING SPACE.
COUNTER SLOPE	THE TERM "COUNTER SLOPE" REFERS TO THE SLOPE OF THE ROADWAY AT THE FLUSH CURB, PERPENDICULAR TO THE CURB LINE.
CROSS SLOPE	THE TERM "CROSS SLOPE" REFERS TO ANY SLOPE MEASURED PERPENDICULAR TO THE PREDOMINANT DIRECTION OF PEDESTRIAN TRAVEL. CROSS SLOPE MAY ALSO BE REFERRED TO AS TRANSVERSE SLOPE.
CROSSWALK	THE TERM "CROSSWALK" REFERS TO BOTH MARKED AND UNMARKED CROSSWALKS. REFER TO THE NYC TRAFFIC RULES, AND NYC DOT PAVEMENT MARKINGS STANDARDS.
GUTTER FLOW SLOPE	THE TERM "GUTTER FLOW SLOPE" REFERS TO THE ROADWAY SLOPE AT THE FLUSH CURB, PARALLEL TO THE CURB LINE.
LANDING	THE TERM "LANDING " REFERS TO AN UNOBSTRUCTED LEVEL AREA ADJOINING A RAMP THAT ALLOWS A PEDESTRIAN USING A WHEELCHAIR TO REST WHEN USING THE RAMP. A LANDING HAS CROSS SLOPES AND RUNNING SLOPES NO GREATER THAN TWO PERCENT (2.0%). A PERPENDICULAR RAMP TYPICALLY HAS A LANDING AT THE TOP OF THE RAMP RUN. A PARALLEL RAMP TYPICALLY HAS A LANDING AT THE BOTTOM OF THE RAMP RUN.
NON-WALKABLE AREA	THE TERM "NON-WALKABLE AREA" REFERS TO AN AREA EXCLUSIVE OF ANY PEDESTRIAN ACCESS ROUTE AND PEDESTRIAN CIRCULATION PATH WHICH IS NOT INTENDED FOR PEDESTRIAN TRAVEL. SOME EXAMPLES ARE PLANTING STRIPS, TREE PITS, AND ROUGH HEWN (NON-ADA COMPLIANT) GRANITE BLOCK PAVERS.
PARALLEL RAMP	THE TERM "PARALLEL RAMP" REFERS TO A PEDESTRIAN RAMP THAT HAS A RUNNING SLOPE PARALLEL TO THE CURB LINE.
PEDESTRIAN ACCESS ROUTE	THE TERM "PEDESTRIAN ACCESS ROUTE" REFERS TO A CONTINUOUS AND UNOBSTRUCTED PATH OF TRAVEL PROVIDED FOR PEDESTRIANS WITH DISABILITIES WITHIN OR COINCIDING WITH A PEDESTRIAN CIRCULATION PATH. THE PEDESTRIAN ACCESS ROUTE IS INCLUSIVE OF WALKING SURFACES WITH RUNNING SLOPES NOT STEEPER THAN FIVE PERCENT (5.0%), DOORWAYS, AND PEDESTRIAN RAMPS. ADDITIONALLY, THE PEDESTRIAN ACCESS ROUTE IS INCLUSIVE OF LANDINGS, TURNING SPACES, BLENDED TRANSITIONS, CUT THROUGHS, AND MAY INCLUDE FLUSH CASTINGS AND HARDWARE. THE PEDESTRIAN ACCESS ROUTE DOES NOT INCLUDE THE FLARED SIDES OF PEDESTRIAN RAMPS. THE CROSS SLOPE OF A PEDESTRIAN ACCESS ROUTE MUST NOT BE GREATER THAN TWO PERCENT (2.0%).
PEDESTRIAN CIRCULATION PATH	THE TERM "PEDESTRIAN CIRCULATION PATH" REFERS TO A PREPARED SURFACE PROVIDED FOR PEDESTRIAN TRAVEL IN THE PUBLIC RIGHT-OF-WAY. THIS MAY CONSIST OF CONCRETE SIDEWALK, ADA COMPLIANT GRANITE BLOCK PAVEMENT, BLUESTONE FLAGS, ASPHALT BLOCK PAVERS, AND BRICK PAVERS, NYC DOT STANDARD HIGHWAY SPECIFICATION SECTIONS 4.13, 6.04 ADA, 6.07, 6.60, 6.66, OR OTHER PREPARED WALKING SURFACES. FOR EXAMPLE, THE PEDESTRIAN CIRCULATION PATH DOES NOT INCLUDE TREE PITS, PLANTING STRIPS, OR OTHER NON-WALKABLE AREAS. THE PEDESTRIAN CIRCULATION PATH INCLUDES THE FLARED SIDES OF PEDESTRIAN RAMPS.
PERPENDICULAR RAMP	THE TERM "PERPENDICULAR RAMP" REFERS TO A PEDESTRIAN RAMP THAT HAS A RUNNING SLOPE THAT IS APPROXIMATELY PERPENDICULAR TO THE CURB LINE.
RUNNING SLOPE	THE TERM "RUNNING SLOPE" REFERS TO ANY SLOPE MEASURED PARALLEL TO THE PREDOMINANT DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE MAY ALSO BE REFERRED TO AS LONGITUDINAL SLOPE.
SIDE FLARE	THE TERM "SIDE FLARE" REFERS TO THE FLARED SIDE OF A PERPENDICULAR RAMP, WHOSE SLOPE IS MEASURED PARALLEL TO THE CURB LINE.
SIDEWALK TRANSITION RAMP	THE TERM "SIDEWALK TRANSITION RAMP" REFERS TO A PEDESTRIAN RAMP RUNNING PARALLEL TO THE CURB LINE TRANSITIONING BETWEEN DIFFERENT SIDEWALK GRADES. THE SLOPE OF A SIDEWALK TRANSITION RAMP IS GREATER THAN FIVE PERCENT (5.0%) AND IS NOT GREATER THAN 8.3%.
TURNING SPACE	THE TERM "TURNING SPACE" REFERS TO AN UNOBSTRUCTED LEVEL AREA IN A PEDESTRIAN ACCESS ROUTE THAT PROVIDES SUFFICIENT SPACE TO ALLOWS A PEDESTRIAN USING A WHEELCHAIR TO PERFORM A TURNING MOVEMENT. TURNING SPACES MAY OVERLAP OTHER AREAS WITHIN THE PEDESTRIAN ACCESS ROUTE, SUCH AS CLEAR SPACES AND LANDINGS. THE CROSS SLOPES AND RUNNING SLOPES OF A TURNING SPACE MUST BE NO GREATER THAN TWO PERCENT (2.0%).

GENERAL NOTES:

1. THESE DRAWINGS PROVIDE PEDESTRIAN RAMP (CURB RAMP), BLENDED TRANSITION, AND CUT THROUGH DESIGN GUIDANCE IN ACCORDANCE WITH THE 2010 AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN (ADA 2010), AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (PROWAG). ALL NEW YORK CITY DEPARTMENT OF TRANSPORTATION (NYC DOT) REQUIREMENTS MUST BE MET WHILE ACCOMMODATING EXISTING CONDITIONS. ANY DEVIATION FROM THESE NYC DOT STANDARDS MUST BE DOCUMENTED AND SUBMITTED TO NYC DOT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. PEDESTRIAN RAMPS, BLENDED TRANSITIONS, CUT THROUGHS, MATERIALS, AND CONSTRUCTION METHODS EMPLOYED MUST COMPLY WITH THE LATEST VERSION OF THE NYC DOT HIGHWAY RULES, NYC DOT STANDARD HIGHWAY SPECIFICATIONS, AND ADA 2010.

CONSTRUCTION NOTES:

3. THE SURFACE OF ALL PEDESTRIAN ACCESS ROUTES, INCLUDING RAMPS, AND DETECTABLE WARNING SURFACES, MUST BE FIRM, STABLE, AND SLIP RESISTANT. CONCRETE RAMP SURFACES MUST HAVE A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE RUNNING SLOPE.
4. FOR STEEL FACED CURB CONSTRUCTION AT PEDESTRIAN RAMPS, BLENDED TRANSITIONS, AND CUT THROUGHS, SEE DWG. NO. H-1060. FOR SIDEWALK CURB CONSTRUCTION, SEE DWG. NO. H-1060. FOR ROADWAY CURB CONSTRUCTION, SEE DWGS. H-1010, H-1035, H-1036, H-1044, H-1056, H-1056-A, AND H-1060.
5. ON CONCRETE SIDEWALKS, EXPANSION JOINTS MUST BE PLACED AT ALL BUILDING FAÇADES AND STRUCTURES. EXPANSION JOINTS, TOOLED, OR SAW-CUT JOINTS (DUMMY JOINTS) MUST COMPLY WITH THE REQUIREMENTS OF NYC DOT STANDARD HIGHWAY SPECIFICATION SECTION 4.13. JOINTS BETWEEN SIDEWALKS, PEDESTRIAN RAMPS, LANDING AREAS, AND ROADWAYS MUST BE FLUSH AND FREE FROM ABRUPT VERTICAL CHANGES.
6. DETECTABLE WARNING SURFACES MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS ON DWG. NO. H-1011-9.
7. PRIOR TO POURING CONCRETE OR LAYING PAVING, THE CONTRACTOR MUST MAKE AVAILABLE FOR INSPECTION BY THE ENGINEER, FORM WORK, GRADE STAKES, OR ROUGH GRADING, TO DEMONSTRATE THAT LAYOUT GRADES AND DIMENSIONS MATCH DESIGN GRADES AND DIMENSIONS.
8. ELEMENTS MUST BE CONSTRUCTED TO MEET THE SLOPE REQUIREMENTS OF TABLE 1 AND THE DIMENSIONAL REQUIREMENTS HEREIN. IF MEETING THESE REQUIREMENTS IS NOT POSSIBLE, A DOCUMENTATION OF TECHNICAL INFEASIBILITY MUST BE APPROVED PRIOR TO CONSTRUCTION, SEE GENERAL NOTE 11.
9. PEDESTRIAN ACCESS ROUTE SURFACES MUST BE CONSTRUCTED FLUSH. VERTICAL CHANGES IN LEVEL MUST NOT EXCEED ONE QUARTER INCH (1/4"). HORIZONTAL OPENINGS IN GROUND SURFACES MUST NOT EXCEED ONE HALF INCH (1/2"). ELONGATED OPENINGS, SUCH AS AT DRAINAGE INLETS, MUST BE PLACED PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.
10. EXPANSION JOINTS, TOOLED OR SAW-CUT JOINTS (DUMMY JOINTS), MUST BE CONSTRUCTED AT ALL GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE. INSTALL JOINTS WHERE PEDESTRIAN RAMPS, LANDINGS (TURNING SPACES), FLARES, AND SIDEWALKS ABUT.

DESIGN AND FIELD LAYOUT NOTES:

11. WHERE SITE CONSTRAINTS PROHIBIT PEDESTRIAN RAMP, BLENDED TRANSITION, AND CUT THROUGH ELEMENTS FROM BEING IN FULL AND STRICT COMPLIANCE WITH THE MINIMUM REQUIREMENTS, PEDESTRIAN RAMP, BLENDED TRANSITION, OR CUT THROUGH ELEMENTS MAY BE DESIGNED AND LAID OUT TO THE MAXIMUM EXTENT FEASIBLE. ANY PEDESTRIAN RAMP, BLENDED TRANSITION, OR CUT THROUGH THAT IS NOT IN FULL AND STRICT COMPLIANCE WITH THE MINIMUM REQUIREMENTS, MUST BE DOCUMENTED BY THE ENGINEER, ARCHITECT, OR LANDSCAPE ARCHITECT, AND APPROVED BY NYC DOT OR NYC DDC AS BEING TECHNICALLY INFEASIBLE.
12. LANDING (TURNING SPACE) REQUIREMENTS:
    - 12.1. A LANDING (TURNING SPACE) MUST BE PROVIDED AT THE TOP OF PERPENDICULAR RAMPS AND BLENDED TRANSITIONS, AND AT THE BOTTOM OF PARALLEL RAMPS.
    - 12.2. LANDINGS MAY OVERLAP WITH ADJACENT LANDINGS.
    - 12.3. WHERE MULTIPLE LANDINGS ARE SEPARATED BY A DISTANCE LESS THAN TWO FEET (2'), THEY MUST BE COMBINED INTO A SHARED LANDING.
    - 12.4. A SINGLE LANDING MAY SERVE MORE THAN ONE RAMP OR BLENDED TRANSITION.
    - 12.5. A LANDING MUST NOT OVERLAP A RAMP OR BLENDED TRANSITION.
    - 12.6. A LANDING CONSTRAINED BETWEEN A PEDESTRIAN RAMP OR BLENDED TRANSITION AND AN OBSTACLE MUST HAVE A MINIMUM LENGTH OF FIVE FEET (5') BETWEEN THE RAMP OR BLENDED TRANSITION AND OBSTACLE. A LANDING THAT IS UNCONSTRAINED MUST HAVE A MINIMUM LENGTH OF FOUR FEET (4').
    - 12.7. A LANDING MUST BE PROVIDED FOR THE FULL WIDTH OF A PEDESTRIAN RAMP OR BLENDED TRANSITION, EXCEPT WHERE INDICATED, BUT NOT LESS THAN FOUR FEET (4').
13. WHERE FEASIBLE, THE RUNNING SLOPE OF PERPENDICULAR RAMPS SHOULD ALIGN PARALLEL WITH THE MARKED OR UNMARKED CROSSWALK. IF A RAMP IS NOT ALIGNED WITH THE MARKED OR UNMARKED CROSSWALK, THE CLEAR SPACE MUST BE DESIGNED WITH 1.5% MAXIMUM RUNNING AND CROSS SLOPES.
14. AT MARKED CROSSWALKS, PEDESTRIAN RAMPS (EXCLUDING FLARES) AND CUT THROUGHS MUST BE LOCATED WITHIN THE CROSSWALK MARKINGS. BEYOND THE PEDESTRIAN RAMP BOTTOM GRADE BREAK, A FOUR FEET BY FOUR FEET (4' X 4') SQUARE CLEAR SPACE MUST BE PROVIDED WITHIN MARKED OR UNMARKED CROSSWALKS.
15. ALL DIMENSIONS AND NOTES WILL BE APPLICABLE TO ANY PEDESTRIAN RAMP CURB INSTALLATION (NYC DOT STANDARD HIGHWAY SPECIFICATION SECTION 4.07, 4.08, OR 4.09), INCLUDING INTEGRAL CURB AND GUTTER.
16. GRADE BREAKS AT THE TOP AND BOTTOM OF PEDESTRIAN RAMPS MUST BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN.
17. THE WIDTH OF A PEDESTRIAN RAMP SHOULD NOT BE LESS THAN FIVE FEET (5'). WHERE THERE ARE SITE CONSTRAINTS, THE WIDTH OF A PEDESTRIAN RAMP MAY BE LESS THAN FIVE FEET (5') BUT MUST NOT BE LESS THAN FOUR FEET (4'), AS APPROVED BY NYC DOT. PEDESTRIAN RAMPS MAY BE WIDER THAN FIVE FEET (5'), AS DIRECTED BY THE ENGINEER.
18. PEDESTRIAN RAMP LENGTH MAY BE LIMITED TO 15 FEET TO AVOID CHASING SIDEWALK GRADES. A 15 FOOT LONG PEDESTRIAN RAMP WITH A SLOPE THAT EXCEEDS 8.3% MAY BE CONSIDERED CONSTRUCTED TO THE MAXIMUM EXTENT FEASIBLE AS APPROVED (SEE NOTE 11.). THE MAXIMUM RISE OF ANY RAMP RUN MUST NOT EXCEED 30 INCHES.
19. FOR PERPENDICULAR RAMPS AND BLENDED TRANSITIONS, 5 FEET TO 15 FEET SIDEWALK TRANSITION RAMPS PARALLEL TO THE CURB LINE MAY BE USED TO CONNECT PROPOSED RAMP LANDINGS AND TURNING SPACES WITH EXISTING SIDEWALK APPROACHES, AS DIRECTED BY THE ENGINEER.
20. WHERE NEW SIDEWALK OR RAMP CONSTRUCTION ADJOINS EXISTING SIDEWALK WITH CROSS SLOPES THAT EXCEED ADA COMPLIANT DESIGN AND CONSTRUCTION LIMITS, NEW SIDEWALK CROSS SLOPES CAN TRANSITION TO EXISTING SIDEWALK CROSS SLOPES AT A RATE OF CHANGE NO GREATER THAN ONE PERCENT (1.0%) PER LONGITUDINAL FOOT, AS DIRECTED BY THE ENGINEER.
21. WHERE PROPOSED ON SHARED USE PATHS, PEDESTRIAN RAMPS, BLENDED TRANSITIONS AND CUT THROUGHS MUST EXTEND THE FULL WIDTH OF THE SHARED USE PATH. WHERE BICYCLE RAMPS WITHIN PEDESTRIAN CIRCULATION PATHS CONTAIN FLUSH CURBS AT STREET CROSSINGS, A DETECTABLE WARNING SURFACE MUST BE INSTALLED.
22. POSITIVE DRAINAGE MUST BE PROVIDED. RAMP CONSTRUCTION MUST NOT HINDER POSITIVE DRAINAGE.
23. SIDEWALK LONGITUDINAL SLOPES MUST BE DESIGNED AND LAID OUT TO NOT EXCEED 4.5%, EXCEPT AT RAMPS AND RAMP FLARES. WHERE LONGITUDINAL ROADWAY PROFILE EXCEED 4.5%, SIDEWALK LONGITUDINAL SLOPES MUST BE DESIGNED AND LAID OUT TO NOT EXCEED THE ROADWAY SLOPE.
24. THE DIFFERENCE IN SLOPE BETWEEN THE BOTTOM OF A PERPENDICULAR RAMP AND THE ADJOINING ROADWAY COUNTER SLOPE (CROSS SLOPE) SURFACE MUST NOT EXCEED 13.3%. A MINIMUM TWO FOOT (2') LONG LEVEL AREA MAY BE DESIGNED AND LAID OUT BETWEEN RAMP SLOPE AND ROADWAY COUNTER SLOPE, AS DIRECTED BY THE ENGINEER.
25. WHERE THE SIDE OF A PEDESTRIAN RAMP ADJOINS A PEDESTRIAN CIRCULATION PATH, A SIDE FLARE MUST BE DESIGNED AND LAID OUT WITH A SLOPE NO GREATER THAN 9.5%. WHERE THE SIDE OF A PEDESTRIAN RAMP ADJOINS A NON-WALKABLE AREA, A SIDE FLARE MAY BE DESIGNED AND LAID OUT WITH A SLOPE NO GREATER THAN 25%, OR A SIDEWALK CURB MAY BE DESIGNED AND LAID OUT, AS DIRECTED BY THE ENGINEER. FOR OBJECTS IN THE FLARE, SEE DWG NO. H-1011-8. FOR SIDEWALK CURB STANDARDS, SEE DWG. NO. H-1060. FOR SPECIFIC OPTIONS FOR EACH PEDESTRIAN RAMP CASE, SEE THE SIDE TREATMENT DETAILS FOR EACH CASE.
26. AT SIGNAL CONTROLLED OR UNCONTROLLED CROSSINGS WHERE THE EXISTING GUTTER FLOW SLOPE (ROADWAY PROFILE) EXCEED TWO PERCENT (2.0%) AND STREET RE-GRADING IS NOT FEASIBLE, THE SIDEWALK SLOPE AT THE FLUSH CURB (BOTTOM RAMP LANDING OR RAMP CROSS SLOPE) PARALLEL TO THE GUTTER FLOW SLOPE MUST MATCH THE EXISTING GUTTER FLOW SLOPE (ROADWAY PROFILE), AS DOCUMENTED AND APPROVED BY THE ENGINEER.

CASE SELECTION NOTES:

27. FOR CORNERS WHERE THE PEDESTRIAN CIRCULATION PATH IS EIGHT FEET (8') WIDE OR GREATER, USE PERPENDICULAR CASE C1 OR C2, DWG. NO. H-1011-2. FOR ADDITIONAL SELECTION CRITERIA FOR CASE C2 SEE NOTE 11. ON DWG. NO. H-1011-2. WHERE ARC LENGTH ALONG CURB RETURN IS LIMITED, USE CASE C5, DWG. NO. H-1011-4, AS DIRECTED BY THE ENGINEER.
28. FOR CORNERS WHERE THE PEDESTRIAN CIRCULATION PATH IS LESS THAN EIGHT FEET (8') WIDE, USE PARALLEL CASE C3, DWG. NO. H-1011-3. WHERE ARC LENGTH ALONG CURB RETURN IS LIMITED, USE CASE C4, DWG. NO. H-1011-4, AS DIRECTED BY THE ENGINEER.
29. FOR RAMPS NOT LOCATED AT A SIDEWALK CORNER, USE CASE M1 OR M2, DWG. NO. H-1011-5.
30. FOR ISLANDS WITHIN PEDESTRIAN CROSSINGS, USE ISLAND CASES: CASE IM1 OR IM2, DWG. NO. H-1011-6.
31. FOR TEMPORARY RAMPS, AND RAMP REQUIREMENTS IN CONSTRUCTION WORK ZONES, SEE TEMPORARY CASES: CASE T1, T2, OR T3, DWG. NO. H-1011-7.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: RR

HWS-H1011

NEW YORK CITY DOT

New York City Department of Transportation

PEDESTRIAN RAMPS

INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES

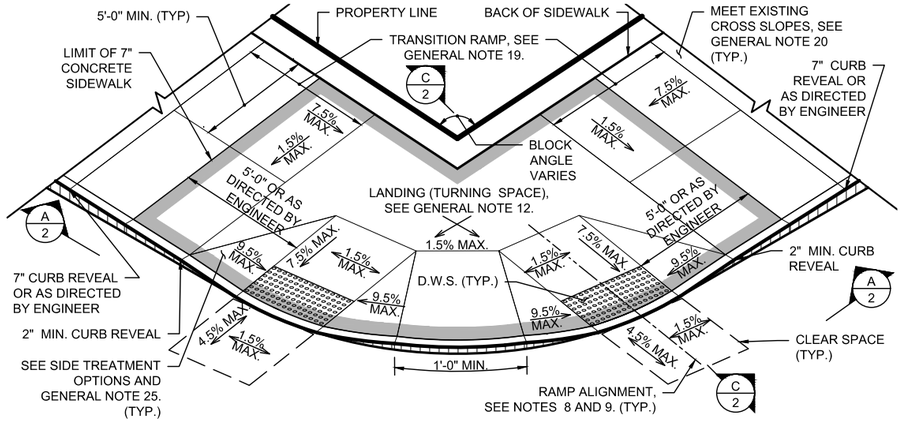
Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 6/06/2022

Scale:

Drawing #: H-1011-1



C1 CASE C1 - PERPENDICULAR - ISOMETRIC VIEW
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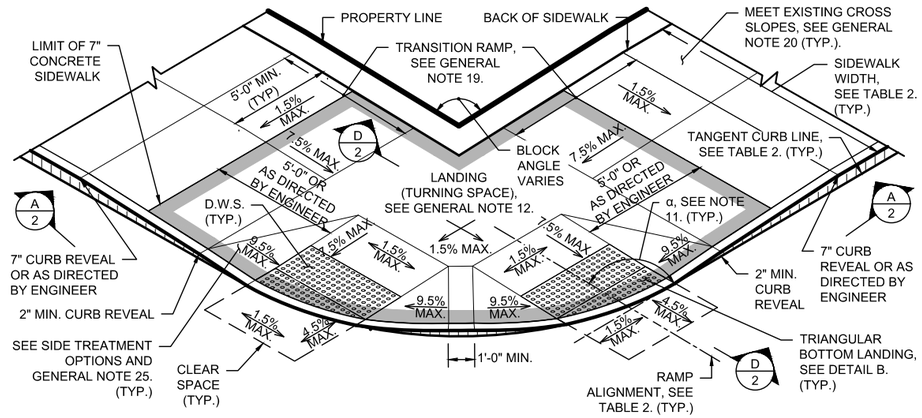


C2 CASE C2 - DIRECTIONAL - ISOMETRIC VIEW
SCALE: N.T.S.

NOTES:

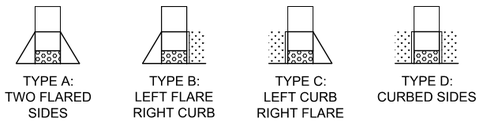
1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.
3. FOR OBJECTS IN THE FLARE, EXAMPLE SCORING PATTERNS, EXAMPLE SIDEWALK CURBS AT RAMPS, AND MEETING NON-COMPLIANT SLOPES SEE DWG. NO. H-1011-8.
4. CASE C1 AND C2 MAY BE USED WHERE ARC LENGTH BETWEEN EDGE OF OUTSIDE RAMPS, EXCLUDING FLARES, IS 13 FEET OR GREATER.
5. FOR LOCATIONS WHERE PEDESTRIAN CIRCULATION PATH IS EIGHT FEET (8') OR GREATER BUT SITE CONSTRAINTS PROHIBIT CONSTRUCTION OF CASE C1 OR CASE C2, CASE C5 MAY BE USED.
6. FOR CASE C1 AND C2, IF ONE SIDE OF A CORNER DOES NOT LEAD TO A MARKED OR UNMARKED CROSSWALK, THE RAMP AT THAT SIDE MAY BE OMITTED AS DIRECTED BY THE ENGINEER.

CASE C1 - PERPENDICULAR NOTES:

7. CASE C1 MAY BE USED WHERE THE PEDESTRIAN CIRCULATION PATH WIDTH IS EQUAL TO OR GREATER THAN EIGHT FEET (8').
8. CASE C1 SHOULD BE ALIGNED PARALLEL TO THE CROSSWALK DIRECTION TO THE MAXIMUM EXTENT FEASIBLE. TO ACHIEVE THIS, CASE C1 MAY BE PLACED OUTSIDE OF THE CURB RETURN RADIUS.
9. CASE C1 SHOULD NOT BE USED WHERE PLACEMENT WOULD RESULT IN RAMP ALIGNMENT GREATER THAN 45 DEGREES (45º) FROM THE DIRECTION OF THE CROSSWALK.

CASE C2 - DIRECTIONAL NOTES:

10. CASE C2 RAMPS SHOULD BE ALIGNED PARALLEL WITH THEIR RESPECTIVE CROSSWALKS.
11. CASE C2 SHOULD BE CONSIDERED FOR DESIGN AND LAYOUT IF THE SELECTION CRITERIA IN TABLE 2 BELOW ARE APPLICABLE, FOR A FIVE FOOT (5') WIDE RAMP AT A CORNER WITH A TWELVE FOOT (12') CURB RETURN RADIUS.
12. TRIANGULAR BOTTOM LANDING GRADING SHOWN IN DETAIL B, SHOULD BE USED WITH CASE C2.
13. DETECTABLE WARNING SURFACES ON CASE C2 MUST BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS FOR DIRECTIONAL RAMPS SHOWN IN DETAIL Y, SHEET H-1011-9.



CASE C1 AND C2 SIDE TREATMENT OPTIONS
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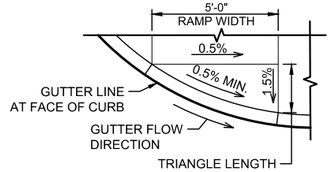
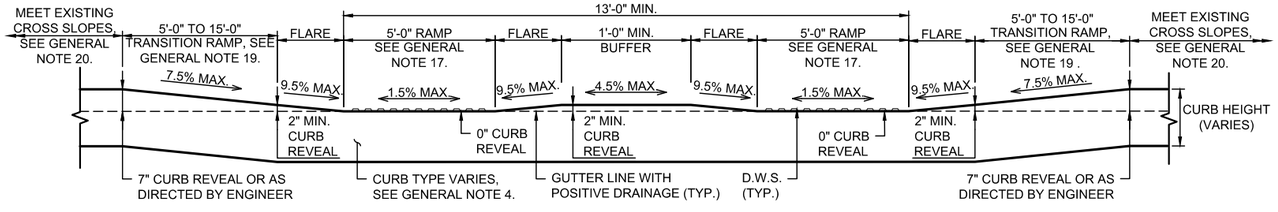
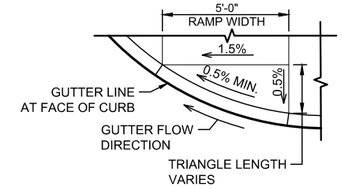


GUTTER FLOW TOWARDS WIDE EDGE OF TRIANGULAR BOTTOM LANDING



A ELEVATION VIEW
SCALE: N.T.S.

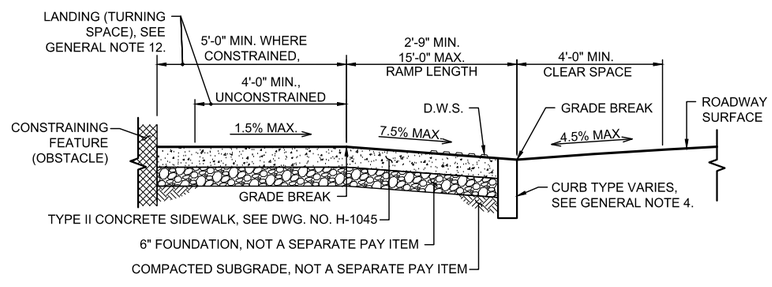


GUTTER FLOW TOWARDS NARROW EDGE OF TRIANGULAR BOTTOM LANDING

B TRIANGULAR BOTTOM LANDING GRADING DETAILS - PLAN
SCALE: N.T.S.

TABLE 2: CASE C2 SELECTION CRITERIA

α (DEGREES), ANGLE BETWEEN RAMP AND TANGENT CURB LINE	MINIMUM SIDEWALK WIDTH (INCHES)
75 TO LESS THAN 96	222 MINUS α
96 TO LESS THAN 120	126



C SECTION VIEW
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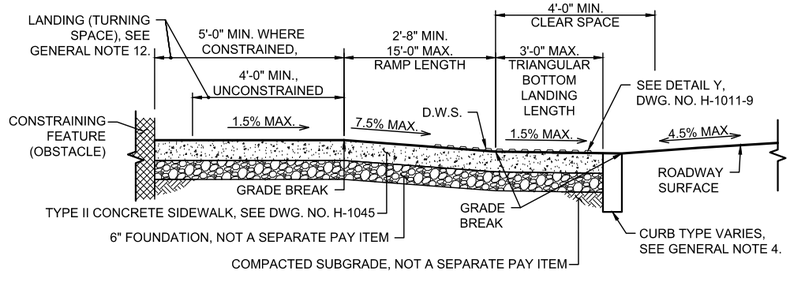


D SECTION VIEW
SCALE:N.T.S.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY:
HWS-H1011

New York City Department of Transportation

PEDESTRIAN RAMPS
CORNER CASES - PERPENDICULAR

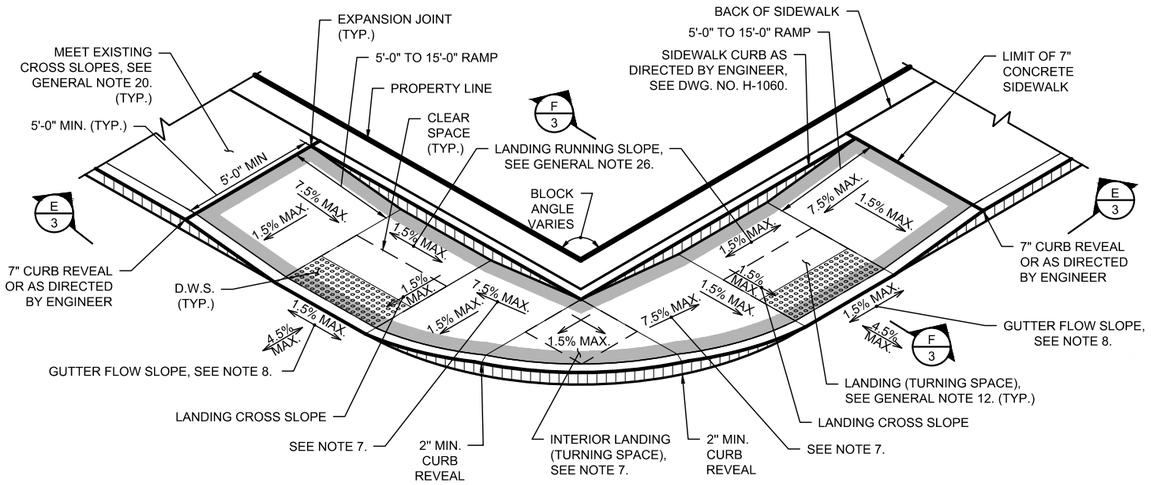
Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

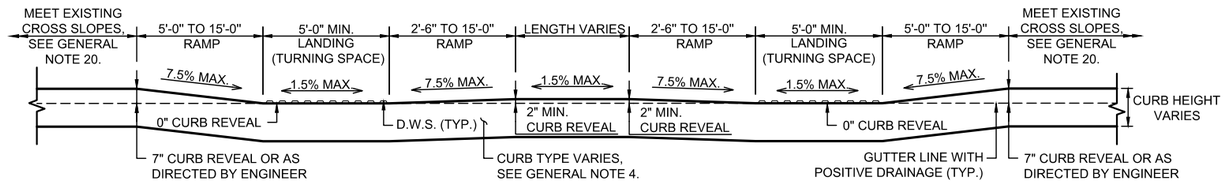
Date Issued: 6/06/2022

Scale: AS SHOWN

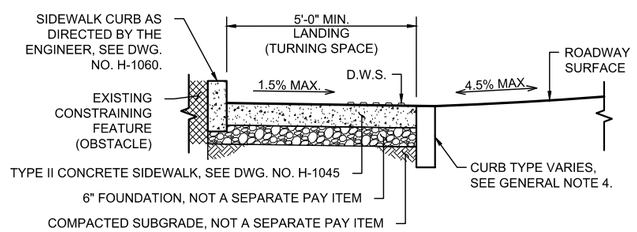
Drawing #: H-1011-2



C3 CASE C3 - PARALLEL- ISOMETRIC VIEW
SCALE: N.T.S.



E ELEVATION VIEW
SCALE: N.T.S.



F SECTION VIEW
SCALE: N.T.S.

NOTES:

1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.
3. FOR OBJECTS IN THE FLARE, EXAMPLE SCORING PATTERNS, EXAMPLE SIDEWALK CURBS AT RAMPS, AND MEETING NON-COMPLIANT SLOPES SEE DWG. NO. H-1011-8.
4. IF ONE SIDE OF A CORNER DOES NOT LEAD TO A MARKED OR UNMARKED CROSSWALK, THE RAMP AT THAT SIDE OF THE CORNER MAY BE OMITTED AS DIRECTED BY THE ENGINEER.
5. CASE C3 MAY BE USED AT CORNERS WHERE PROPOSED PEDESTRIAN CIRCULATION PATH WIDTH IS LESS THAN EIGHT FEET (8').
6. FOR LOCATIONS WHERE THE PROPOSED PEDESTRIAN CIRCULATION PATH WIDTH IS LESS THAN EIGHT FEET (8') AND BOTTOM LANDINGS CANNOT BE CONSTRUCTED WITHIN THE CROSSWALKS, USE CASE C4.
7. AN INTERIOR LANDING (TURNING SPACE) MUST BE PROVIDED WHERE DESIGNED APPROACH SLOPES EXCEED 4.5%, AND IN ACCORDANCE WITH GENERAL NOTE 12.
8. FOR CASE C3, THE GUTTER SLOPE MUST NOT BE LESS THAN ONE HALF PERCENT (0.5%).

CHECKED BY: ee
HWS-H1011

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN RAMPS
CORNER CASES - PARALLEL

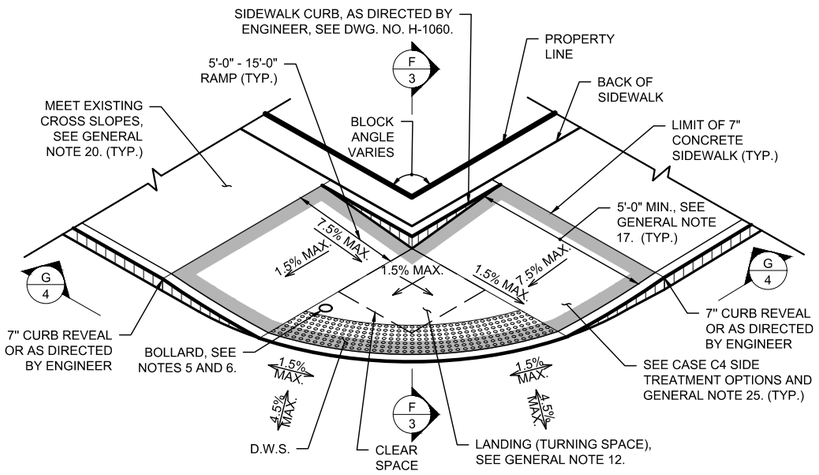
Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

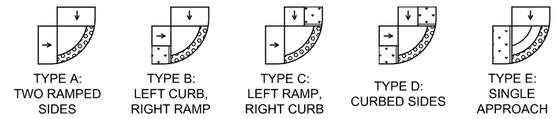
Date Issued: 6/06/2022

Scale: AS SHOWN

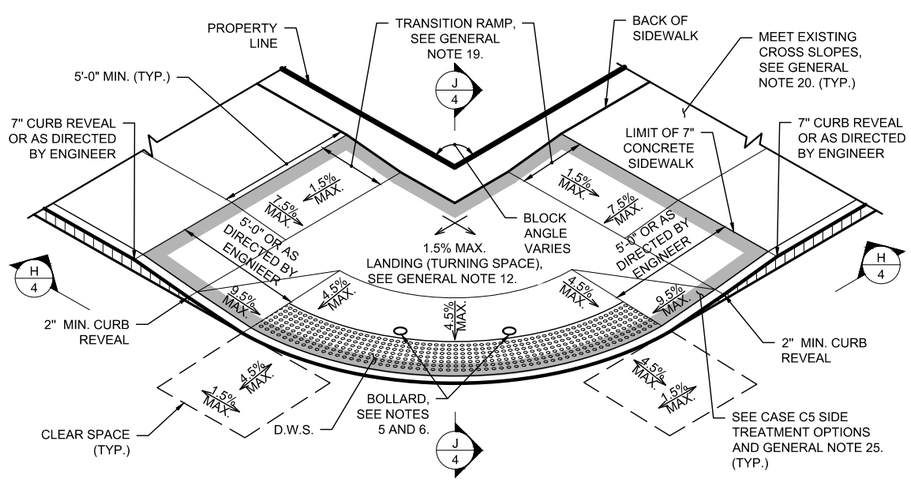
Drawing #: H-1011-3



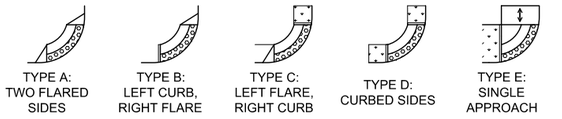
C4 CASE C4 - SHARED PARALLEL - ISOMETRIC VIEW
SCALE: N.T.S



CASE C4 SIDE TREATMENT OPTIONS
SCALE: N.T.S.



C5 CASE C5 - BLENDED TRANSITION - ISOMETRIC VIEW
SCALE: N.T.S.



CASE C5 SIDE TREATMENT OPTIONS
SCALE: N.T.S.

NOTES:

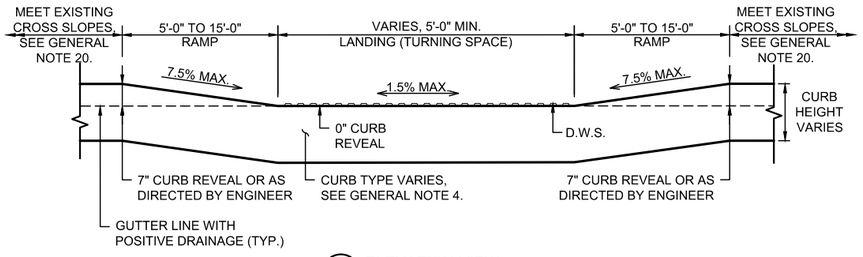
1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.
3. FOR OBJECTS IN THE FLARE, EXAMPLE SCORING PATTERNS, EXAMPLE SIDEWALK CURBS AT RAMPS, AND MEETING NON-COMPLIANT SLOPES SEE DWG. NO. H-1011-8.
4. WRITTEN APPROVAL MUST BE OBTAINED FROM NYC DOT TO USE CASE C4 OR CASE C5.
5. BOLLARDS MUST BE INSTALLED WHERE DETERRENTS TO VEHICLE OFF-TRACKING (SUCH AS POLES, TREES, HYDRANTS, FENCES, ETC.) ARE NOT PRESENT, AS DIRECTED BY THE ENGINEER. BOLLARDS MUST NOT OBSTRUCT A MINIMUM 4'-0" WIDE PEDESTRIAN ACCESS ROUTE FOR EACH CROSSWALK. (MARKED OR UNMARKED)
6. WHERE BOLLARDS ARE REQUIRED, THE PROPOSED DESIGN MUST BE APPROVED BY NYC DOT PRIOR TO ITS FABRICATION.
7. D.W.S. IN CASE C4 AND C5 MUST BE INSTALLED IN ACCORDANCE WITH DETAIL X, DWG. NO. H-1011-9.

CASE C4 - SHARED PARALLEL NOTES:

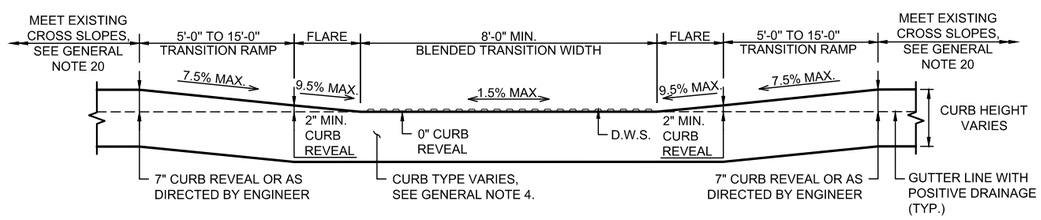
8. CASE C4 MAY BE USED AT CORNERS WHERE THE PROPOSED PEDESTRIAN CIRCULATION PATH WIDTH IS LESS THAN EIGHT FEET (8'), THE AVAILABLE SPACE AT THE CORNER IS CONSTRAINED BY OBSTRUCTIONS, AND CASE C3 CANNOT BE CONSTRUCTED WITHIN THE CROSSWALKS.
9. FOR CASE C4, THE GUTTER FLOW SLOPE MUST NOT BE LESS THAN ONE HALF PERCENT (0.5%).

CASE C5 - BLENDED TRANSITION NOTES:

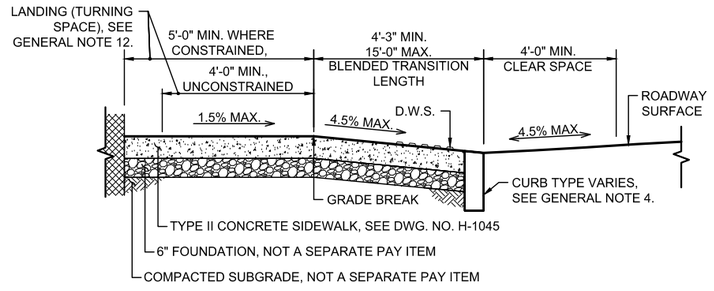
10. CASE C5 MAY BE USED AT CORNERS WHERE THE PROPOSED PEDESTRIAN CIRCULATION PATH WIDTH IS EIGHT FEET (8') OR GREATER, THE AVAILABLE SPACE AT THE CORNER IS CONSTRAINED BY OBSTRUCTIONS, AND CASES C1 AND C2 CANNOT BE CONSTRUCTED WITHIN THE CROSSWALKS.



G ELEVATION VIEW
SCALE: N.T.S



H ELEVATION VIEW
SCALE: N.T.S



J SECTION VIEW
SCALE: N.T.S

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: RR

HWS-H1011

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN RAMPS
CORNER CASES - APPROVAL REQUIRED

Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 6/06/2022

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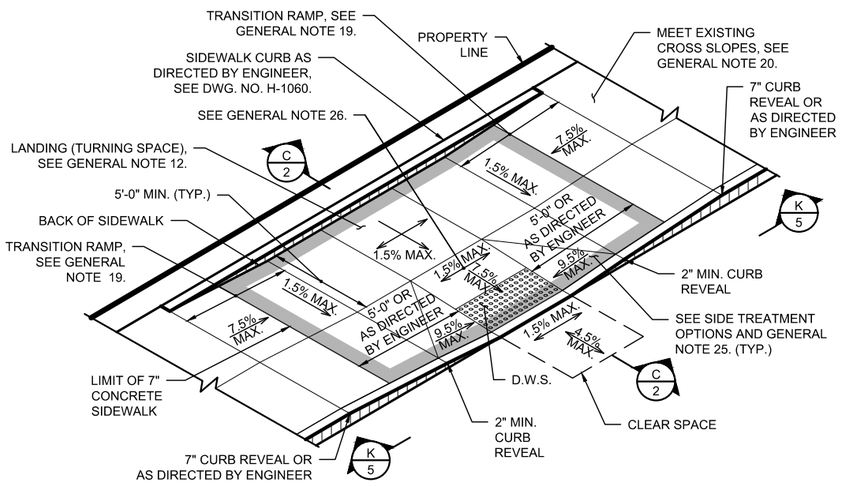

M1 CASE M1 - MIDBLOCK PERPENDICULAR - ISOMETRIC VIEW
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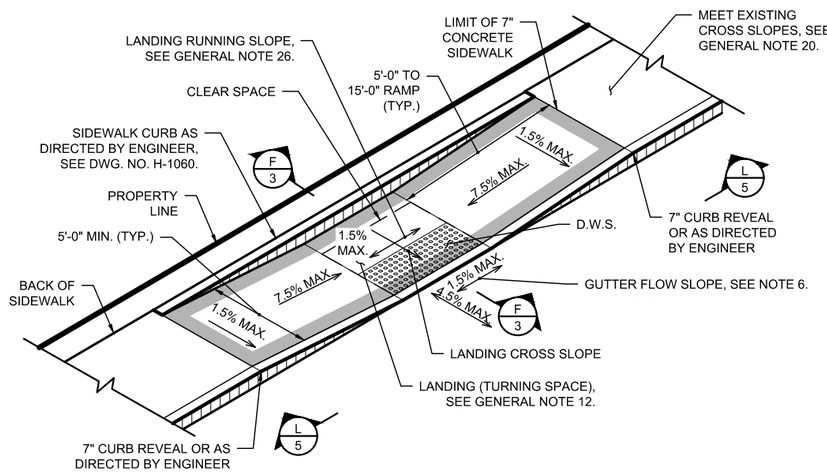

M2 CASE M2 - MIDBLOCK PARALLEL - ISOMETRIC VIEW
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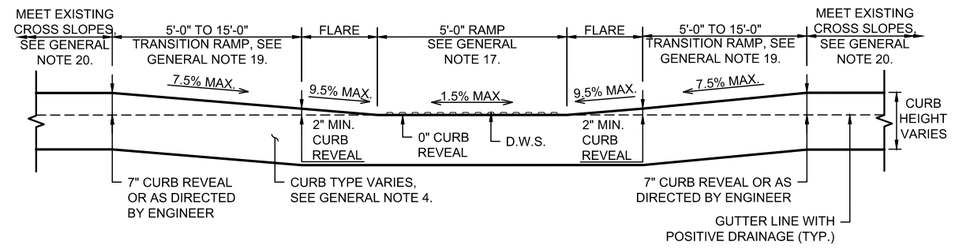


CASE M1 SIDE TREATMENT OPTIONS
SCALE: N.T.S.

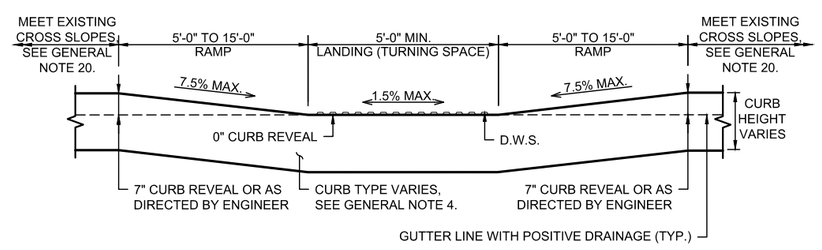
NOTES:

1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.
3. FOR OBJECTS IN THE FLARE, EXAMPLE SCORING PATTERNS, EXAMPLE SIDEWALK CURBS AT RAMPS, AND MEETING NON-COMPLIANT SLOPES SEE DWG. NO. H-1011-8.

   CASE M1 - MIDBLOCK PERPENDICULAR NOTES:
4. CASE M1 MAY BE USED AT MIDBLOCK LOCATIONS WHERE PROPOSED PEDESTRIAN CIRCULATION PATH WIDTH IS EIGHT FEET (8') OR GREATER.

   CASE M2 - MIDBLOCK PARALLEL NOTES:
5. CASE M2 MAY BE USED AT MIDBLOCK LOCATIONS WHERE PROPOSED PEDESTRIAN CIRCULATION PATH WIDTH IS LESS THAN EIGHT FEET (8').
6. FOR CASE M2, THE GUTTER FLOW SLOPE MUST NOT BE LESS THAN ONE HALF PERCENT (0.5%).

K ELEVATION VIEW
SCALE: N.T.S



L ELEVATION VIEW
SCALE: N.T.S.

CHECKED BY: RR
HWS-H1011

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

PEDESTRIAN RAMPS
MIDBLOCK CASES

Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

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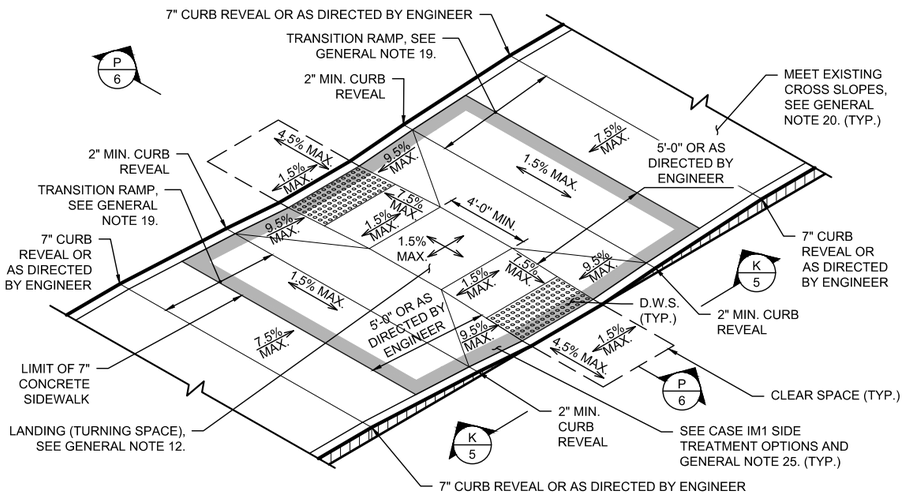

IM1 CASE IM1 - ISLAND WITH PERPENDICULAR RAMPS - ISOMETRIC VIEW
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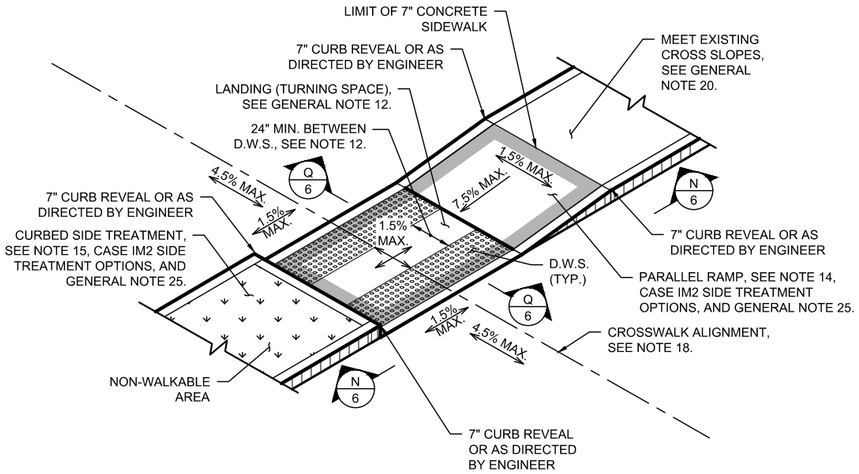

IM2 CASE IM2 - ISLAND CUT THROUGH - ISOMETRIC VIEW
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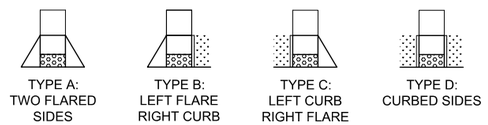
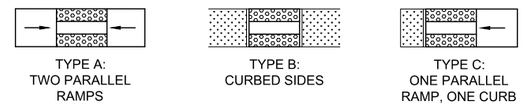


CASE IM1 SIDE TREATMENT OPTIONS
SCALE: N.T.S.



CASE IM2 SIDE TREATMENT OPTIONS
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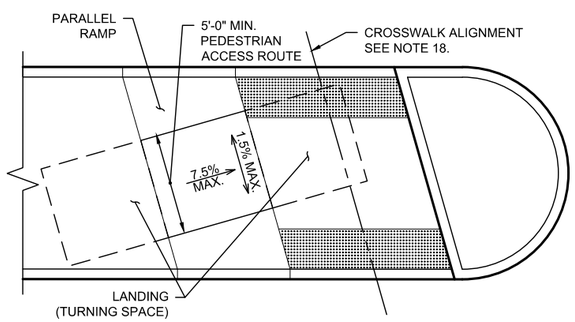

M CASE IM2 AT SKEWED CROSSWALKS DETAIL - PLAN VIEW
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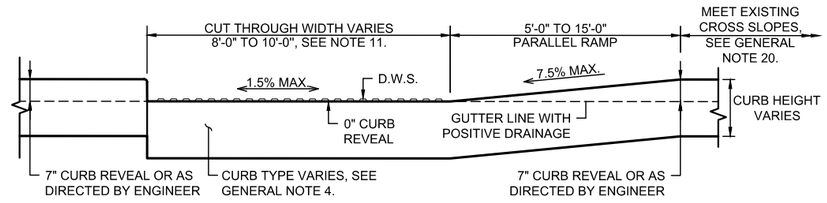

N ELEVATION VIEW
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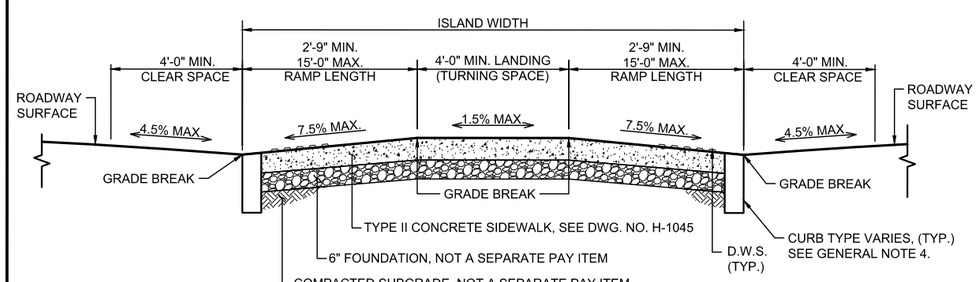
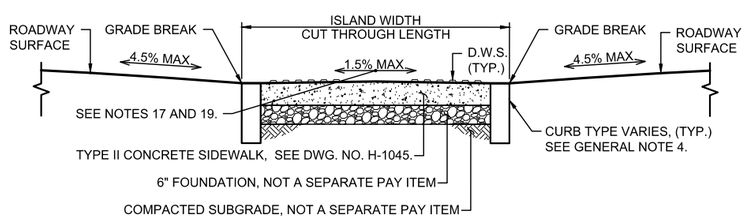


P SECTION VIEW
SCALE: N.T.S.



Q SECTION VIEW
SCALE: N.T.S.

NOTES:

1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.
3. FOR OBJECTS IN THE FLARE, EXAMPLE SCORING PATTERNS, EXAMPLE SIDEWALK CURBS AT RAMPS, AND MEETING NON-COMPLIANT SLOPES SEE DWG. NO. H-1011-8.
4. THE GRADING AND GEOMETRY REQUIREMENTS FOR CASE IM1 AND CASE IM2 SUPERSEDE THAT SHOWN IN DWG. NO. H-1003A AND DWG. NO. H-1003B.
5. FOR BUS BOARDING ISLANDS, SEE NYC DOT TYPICAL DESIGN DRAWING NO. BB1-01.
6. FOR TYPICAL PLANTED PEDESTRIAN ISLAND DETAILS, SEE NYC DOT TYPICAL DESIGN DWG. NO. TRF-02.

CASE IM1 - ISLAND WITH PERPENDICULAR RAMPS NOTES:

7. CASE IM1 MUST BE EVALUATED FOR CONSTRUCTION PRIOR TO SELECTING CASE IM2.
8. CASE IM1 MAY BE USED ON ISLANDS WHERE ISLAND WIDTH IS 16 FEET OR GREATER. WHERE APPROVED BY NYC DOT, CASE IM1 MAY BE USED AT ISLANDS LESS THAN 16 FEET WIDE.
9. ON ISLANDS WITH VARYING WIDTHS AND OTHER SPACE CONSTRAINTS, RAMP ALIGNMENTS MAY BE OFFSET, AS LONG AS TURNING SPACES AND CLEAR SPACES MEET THE REQUIREMENTS OF GENERAL NOTES 12, 13, AND 14.

CASE IM2 - ISLAND CUT-THROUGH NOTES:

10. CASE IM2 MAY BE USED ON ISLANDS WHERE PROPOSED PEDESTRIAN ISLAND WIDTH IS LESS THAN 16 FEET, OR AS DIRECTED BY THE ENGINEER.
11. CUT THROUGH WIDTHS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH TABLE 3 BELOW. WHERE THERE ARE SITE CONSTRAINTS, THE WIDTH OF A CUT THROUGH MAY BE REDUCED AND MUST NOT BE LESS THAN SIX FEET (6'), WITH NYC DOT APPROVAL, AS DIRECTED BY THE ENGINEER.
12. A MINIMUM SEPARATION OF 24 INCHES MUST BE MAINTAINED BETWEEN D.W.S. IF 24 INCH SEPARATION BETWEEN D.W.S. CANNOT BE ACHIEVED, D.W.S. MUST BE OMITTED.
13. IF D.W.S. IS OMITTED FROM THE CUT THROUGH ON CASE IM2, SIDE TREATMENT OPTIONS TYPE A OR TYPE C, THEN D.W.S. MUST BE PROVIDED ALONG THE FULL WIDTH OF THE SIDE PARALLEL RAMP(S), ABOVE THE BOTTOM GRADE BREAK(S), WITH NYC DOT APPROVAL, AS DIRECTED BY THE ENGINEER.
14. PARALLEL RAMP SIDE TREATMENT OPTIONS MUST BE USED ON ANY SIDEWALK APPROACH TO THE CUT THROUGH THAT CONTAINS A FULL WIDTH PEDESTRIAN CIRCULATION PATH AND IS INTENDED TO PROVIDE PEDESTRIAN ACCESS, AS DIRECTED BY THE ENGINEER.
15. CURBED SIDE TREATMENT OPTIONS MAY BE USED ON ANY SIDEWALK APPROACH TO THE CUT THROUGH THAT CONTAINS A FULL WIDTH NON-WALKABLE AREA NOT INTENDED TO PROVIDE PEDESTRIAN ACCESS, AS DIRECTED BY THE ENGINEER.
16. WHERE CUT THROUGHS ADJOIN A PARTIAL WIDTH PEDESTRIAN CIRCULATION PATH INTENDED TO PROVIDE PEDESTRIAN ACCESS, A CASE M1 RAMP MAY BE INSTALLED, AS DIRECTED BY THE ENGINEER.
17. IF THE ELEVATIONS OF BOTH ROADWAY CURBS ON CASE IM2 ARE APPROXIMATELY THE SAME, THE CUT THROUGH MUST BE CONSTRUCTED CROWNED AT THE CENTER, PITCHED TOWARDS BOTH ROADWAY CURBS AT A MINIMUM SLOPE OF ONE HALF PERCENT (0.5%), AS DIRECTED BY THE ENGINEER. IF THE ELEVATIONS DIFFER BETWEEN THE ROADWAY CURBS ON CASE IM2, THE CUT THROUGH MUST BE CONSTRUCTED WITH A CONSTANT SLOPE PERPENDICULAR TO THE ROADWAY CURB, AT A MINIMUM SLOPE OF ONE HALF PERCENT (0.5%).
18. ALL CUT THROUGHS MUST BE PARALLEL TO THE DIRECTION OF THE CROSSWALK . FOR SIDE TREATMENT OPTIONS TYPE A AND TYPE C, A PEDESTRIAN ACCESS ROUTE MUST BE PROVIDED WITH TURNING SPACES. SEE CASE IM2 AT SKEWED CROSSWALKS DETAIL - PLAN VIEW FOR GUIDANCE.
19. WHERE TURNING IS NOT REQUIRED IN A CUT THROUGH, THE SLOPE IN THE DIRECTION OF PEDESTRIAN TRAVEL, PARALLEL TO THE DIRECTION OF THE CROSSWALK, MAY BE INCREASED TO 4.5% MAXIMUM, AS DIRECTED BY THE ENGINEER.

TABLE 3: CUT THROUGH WIDTHS

CROSSWALK WIDTH	LESS THAN 14 FEET	14 FEET OR GREATER
CUT THROUGH WIDTH	8 FEET	10 FEET

CHECKED BY: ee
HWS-H1011

REVISION NO.	DESCRIPTION	DATE	APPROVED

New York City Department of Transportation

PEDESTRIAN RAMPS
ISLAND CASES

Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 6/06/2022

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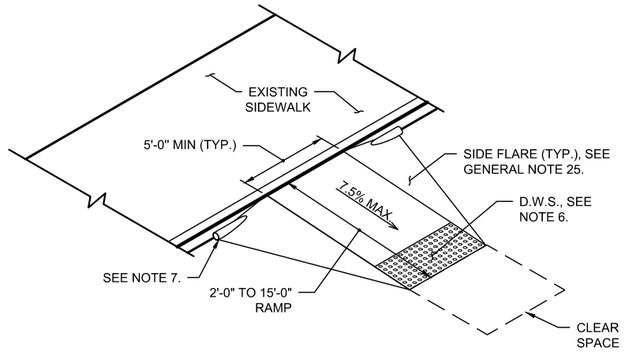
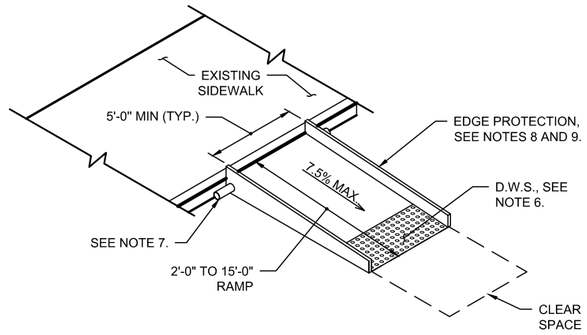
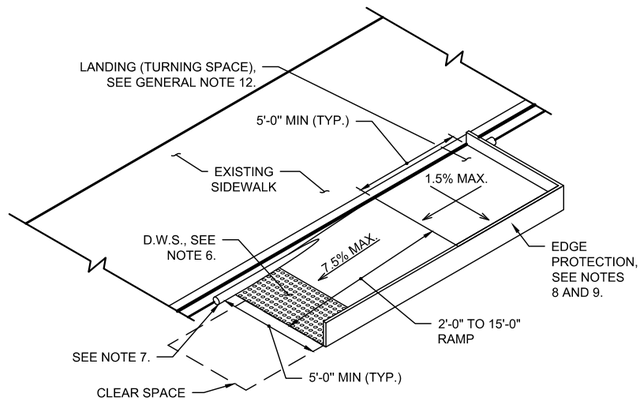


T1 CASE T1 - TEMPORARY PERPENDICULAR - FLARED SIDES - ISOMETRIC VIEW
SCALE: N.T.S.



T2 CASE T2 - TEMPORARY PERPENDICULAR - WITHOUT FLARED SIDES - ISOMETRIC VIEW
SCALE: N.T.S.



T3 CASE T3 - TEMPORARY PARALLEL - ISOMETRIC VIEW
SCALE: N.T.S.

NOTES:

1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.
3. THIS DETAIL PROVIDES STANDARD TEMPORARY PEDESTRIAN RAMPS TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE CONTRACT PLANS, AS DIRECTED BY THE ENGINEER. THIS DETAIL IS NOT A SUBSTITUTE FOR APPROVED MAINTENANCE AND PROTECTION OF TRAFFIC PLANS.
4. TEMPORARY PEDESTRIAN RAMPS MUST MEET THE SAME SLOPE AND DIMENSIONAL REQUIREMENTS AS PERMANENT FACILITIES, AND INCLUDE A FIRM, STABLE, NON-SLIP SURFACE THAT IS SECURELY FIXED TO THE GROUND. THE MATERIAL MUST MEET APPLICABLE NYC DOT SPECIFICATIONS, AND MUST BE APPROVED BY THE ENGINEER.
5. TEMPORARY PEDESTRIAN RAMPS MUST NOT BE INSTALLED WITHIN ANY ACTIVE TRAVEL LANE OR TURNING VEHICLE SWEPT PATH.
6. TEMPORARY D.W.S. MUST BE INSTALLED WHERE A TEMPORARY PEDESTRIAN ACCESS ROUTE LEADS TO A CROSSWALK, (MARKED OR UNMARKED), AS DIRECTED BY THE ENGINEER.
7. GUTTER FLOW MUST NOT BE OBSTRUCTED BY TEMPORARY RAMP CONSTRUCTION. A PIPE WITH SCREENING UNDER TEMPORARY PEDESTRIAN RAMPS MAY BE INSTALLED TO MAINTAIN DRAINAGE FLOW ALONG THE GUTTER LINE AS DIRECTED BY THE ENGINEER.
8. WHERE THE RISE OF THE RAMP IS SIX INCHES (6") OR GREATER, EDGE PROTECTION MUST BE PROVIDED ON THE ROADWAY SIDE OF RAMP RUNS AND TURNING SPACES.
9. EDGE PROTECTION MUST HAVE A MINIMUM HEIGHT OF FOUR INCHES (4") FROM THE SURFACE OF THE RAMP.
10. TEMPORARY PEDESTRIAN RAMPS THAT HAVE A RISE GREATER THAN SIX INCHES (6") OR LENGTH GREATER THAN 72 INCHES MUST HAVE HANDRAILS ON BOTH SIDES. HANDRAILS MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST NYC BUILDING CODE.

CHECKED BY: RR
HWS-H1011

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN RAMPS
TEMPORARY CASES

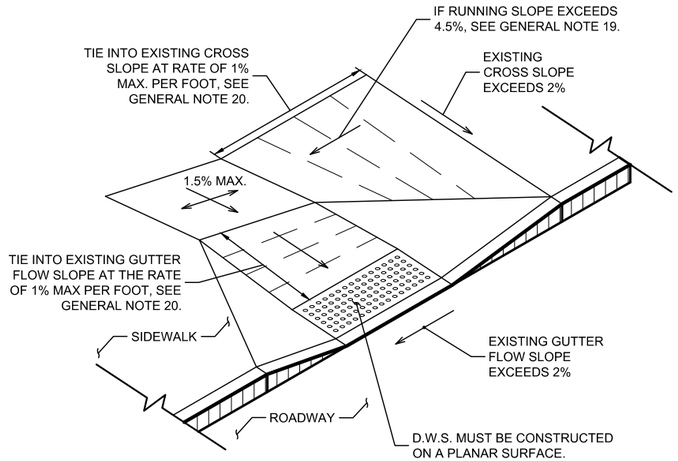
Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

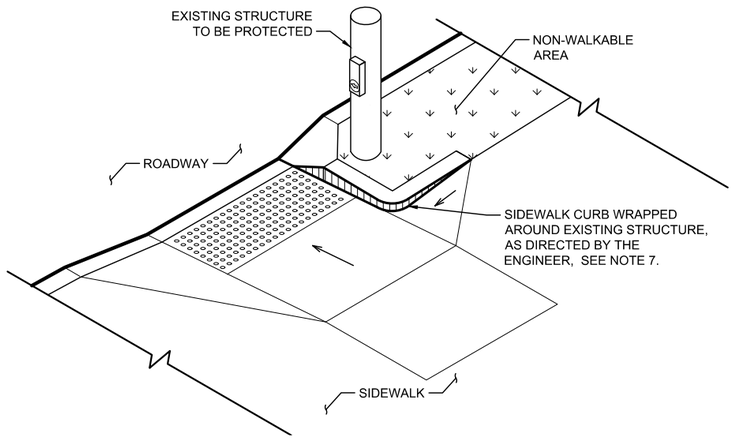
Date Issued: 6/06/2022

Scale: AS SHOWN

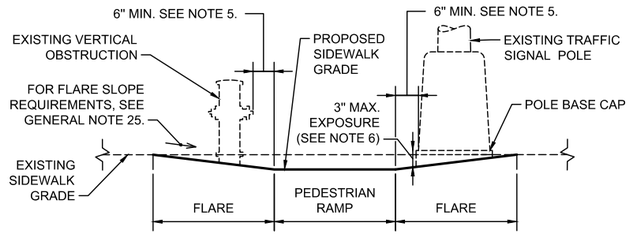
Drawing #: H-1011-7



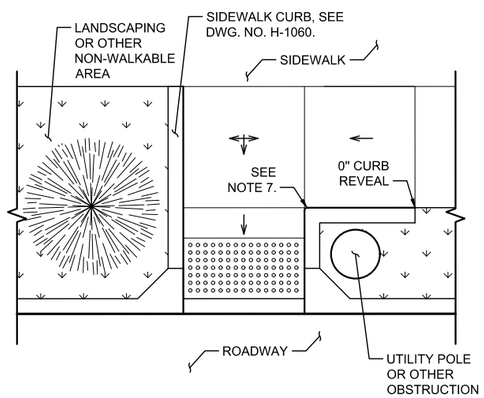
R MEETING NON-COMPLIANT SLOPES - ISOMETRIC VIEW
SCALE: N.T.S.



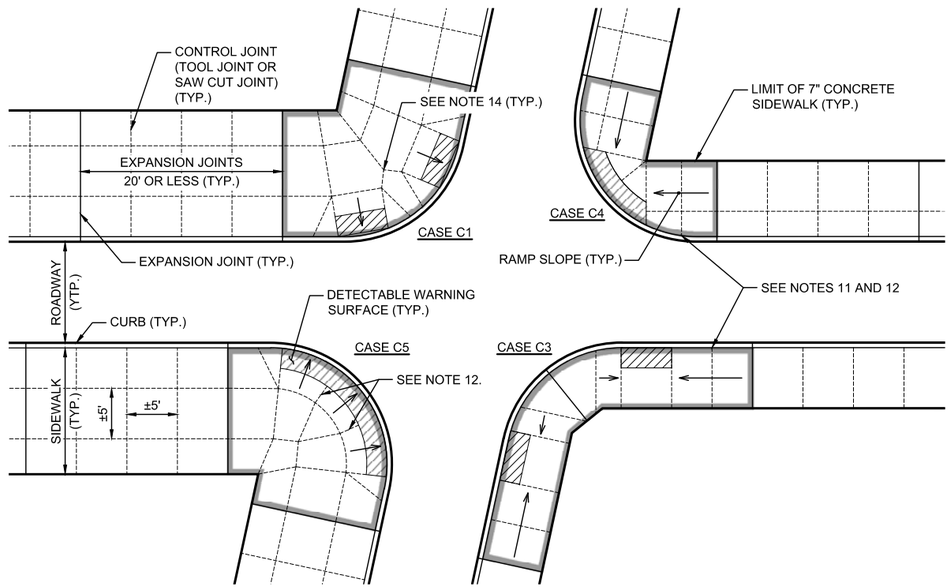
S EXAMPLE SIDEWALK CURB WRAPPED AROUND EXISTING STRUCTURE AT RAMP - ISOMETRIC VIEW
SCALE: N.T.S.



T OBJECTS IN FLARE - ELEVATION VIEW
SCALE: N.T.S.



U EXAMPLE SIDEWALK CURBS AT RAMP - PLAN VIEW
SCALE: N.T.S.



V EXAMPLE CONCRETE SIDEWALK SCORING PATTERN - PLAN VIEW
SCALE: N.T.S.

NOTES:

1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.
2. FOR DETECTABLE WARNING SURFACES (D.W.S.), SEE DWG. NO. H-1011-9.

PEDESTRIAN RAMP SIDE TREATMENT NOTES:

3. FOR SIDEWALK CURBS, SEE DWG. NO. H-1060.
4. WHEN SITE CONSTRAINTS REQUIRE PEDESTRIAN RAMPS TO BE LOCATED IN CLOSE PROXIMITY TO EXISTING STREET FURNITURE SUCH AS UTILITY POLES, STREET LIGHT AND TRAFFIC SIGNAL POLES, HYDRANTS, BOLLARDS, ETC., REFER TO THE DETAILS INCLUDED IN THIS DRAWING, AS DIRECTED BY THE ENGINEER.
5. EXISTING VERTICAL OBSTRUCTIONS, EXCLUDING CURBS, SHOULD HAVE A MINIMUM HORIZONTAL CLEARANCE OF SIX INCHES (6") FROM EDGE OF RAMP MEASURED HORIZONTAL TO THE NEAREST PROTRUDING PART BETWEEN A HEIGHT OF SEVEN INCHES (7") AND 80 INCHES. ANY EXCEPTIONS TO THIS NOTE MUST BE APPROVED BY NYC DOT.
6. EXISTING NON-HISTORIC AND NON-DECORATIVE TRAFFIC SIGNAL AND STREET LIGHT POLE FOUNDATIONS MUST NOT BE EXPOSED MORE THAN THREE INCHES (3") . USE SIDEWALK CURB IF A MAXIMUM THREE INCH FOUNDATION EXPOSURE IS NOT FEASIBLE.
7. WHERE SIDEWALK CURB IS USED TO AVOID A STRUCTURE OR NON-WALKABLE AREA ADJACENT TO A PEDESTRIAN CIRCULATION PATH, SIDEWALK CURB MAY BE WRAPPED AROUND STRUCTURE OR NON-WALKABLE AREA TO ACCOMMODATE REDUCED SIDEWALK GRADE.

CORNER SIDEWALK SCORING GUIDANCE NOTES:

8. FOR AN EXAMPLE OF CONCRETE SIDEWALK SCORING OF CONTROL JOINTS AT CORNERS, SEE DETAIL V.
9. SCORE ALL SIDEWALK GRADE BREAKS, INCLUDING GRADE BREAKS AT BOTTOM AND TOP OF RAMP SLOPES, GRADE BREAKS OF LANDINGS, AND GRADE BREAKS OF RAMP FLARES.
10. SIDEWALK FLAGS SHOULD HAVE A CONSTANT SLOPE; WARPING OF SIDEWALK FLAGS MUST NOT EXCEED THE LIMITS INDICATED ON DETAIL R, THIS SHEET.
11. PARALLEL RAMPS SHOULD NOT HAVE FLARES SCORED.
12. OVERSIZED RAMP AND LANDING FLAGS SHOULD BE SCORED INTO SMALLER FLAGS TO AVOID FLAGS LARGER THAN FIVE FEET (±5').
13. SIDEWALK FLAGS SHOULD BE SCORED WITH A NOMINAL WIDTH TO LENGTH RATIO OF ONE TO TWO (1:2) MINIMUM.
14. WHERE THREE SCORED SIDEWALK FLAGS MEET, THE MAXIMUM SCORED INTERNAL ANGLE SHOULD NOT EXCEED 150 DEGREES (150°) OF ANY ONE FLAG.

CHECKED BY: RR

HWS-H1011

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN RAMPS MISCELLANEOUS DETAILS AND EXAMPLES

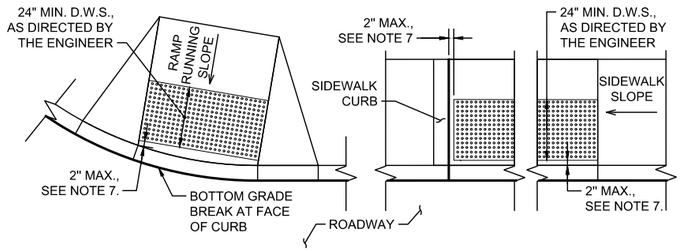
Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 6/06/2022

Scale: AS SHOWN

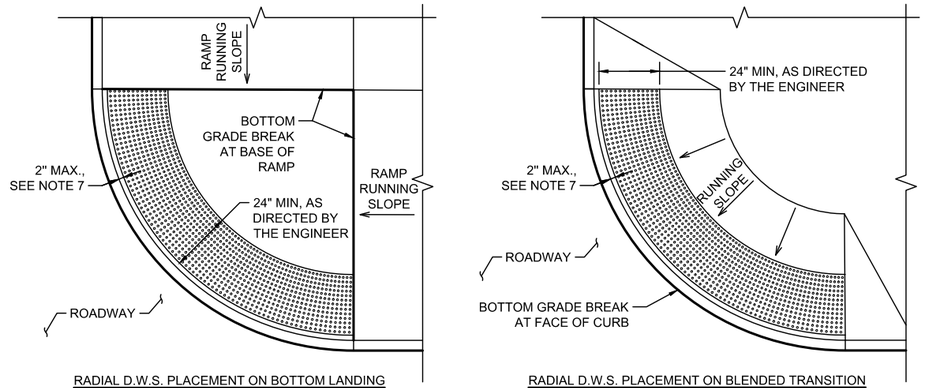
Drawing #: H-1011-8



D.W.S. PLACEMENT ON RAMP

D.W.S. PLACEMENT ON LANDINGS AND CUT THROUGHS

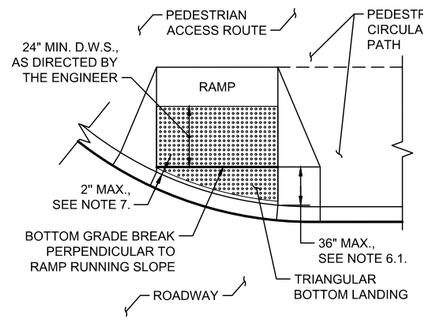
W D.W.S. PLACEMENT - PLAN DETAIL
SCALE: N.T.S.



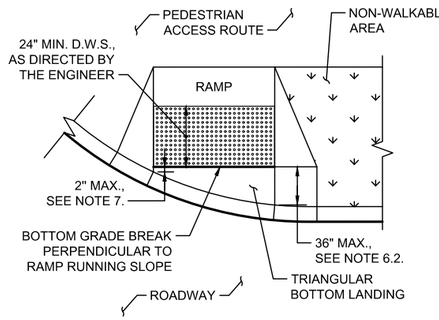
RADIAL D.W.S. PLACEMENT ON BOTTOM LANDING

RADIAL D.W.S. PLACEMENT ON BLENDED TRANSITION

X RADIAL D.W.S. PLACEMENT - PLAN DETAIL
SCALE: N.T.S.

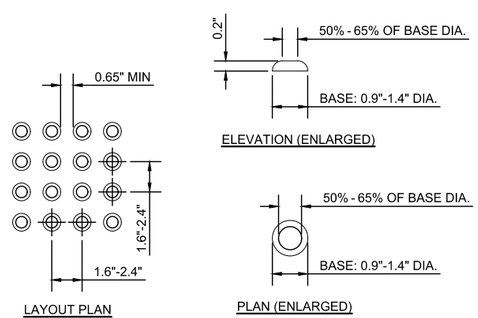


D.W.S. ON RAMP AND TRIANGULAR BOTTOM LANDING



D.W.S. ON RAMP

Y D.W.S. PLACEMENT AT DIRECTIONAL RAMP - PLAN DETAIL
SCALE: N.T.S.



Z DETECTABLE WARNING DOMES - DETAIL
SCALE: N.T.S.

NOTES:

1. FOR INDEX OF DRAWINGS, SLOPE LIMITS, LEGEND, GLOSSARY, GENERAL NOTES, SEE DWG. NO. H-1011-1.

DETECTABLE WARNING SURFACE (D.W.S.) NOTES:

2. D.W.S. MUST BE INSTALLED AT ALL FLUSH CURB LOCATIONS, WHERE THE PEDESTRIAN CIRCULATION PATH CROSSES A ROADWAY, RAILWAY, OR TRAFFIC CONTROLLED DRIVEWAY.
3. D.W.S. MUST BE INSTALLED ACROSS THE FULL WIDTH OF FLUSH CURB, INCLUDING FULL RAMP WIDTH, FULL BOTTOM LANDING WIDTH, FULL BLENDED TRANSITION WIDTH, AND FULL CUT-THROUGH WIDTH (WHERE APPLICABLE).
4. D.W.S. MUST BE INSTALLED ACROSS THE FULL WIDTH OF THE PEDESTRIAN CIRCULATION PATH, AT ANY STOP, YIELD CONTROLLED, OR SIGNALIZED DRIVEWAY. D.W.S. MUST NOT BE INSTALLED AT UNCONTROLLED DRIVEWAYS.
5. D.W.S. MUST BE INSTALLED FOR A MINIMUM LENGTH OF 24 INCHES IN THE DIRECTION OF PEDESTRIAN TRAVEL. D.W.S. MUST BE INSTALLED OR OMITTED AT ISLAND AND MEDIAN CUT THROUGHS IN ACCORDANCE WITH NOTE 12 ON DWG. NO. H-1011-6, AS DIRECTED BY THE ENGINEER.
6. TO PROVIDE A CONTINUOUS DETECTABLE EDGE BETWEEN THE PEDESTRIAN CIRCULATION PATH AND THE ROADWAY AT THE FLUSH CURB OF A DIRECTIONAL RAMP, THE D.W.S. MUST BE INSTALLED AS FOLLOWS, AS DIRECTED BY THE ENGINEER.
   - 6.1. WHEN THE TRIANGULAR BOTTOM LANDING OF A DIRECTIONAL RAMP ADJOINS A PEDESTRIAN CIRCULATION PATH ON THE SIDEWALK, THE D.W.S. MUST BE INSTALLED ON THE RAMP AND THE TRIANGULAR BOTTOM LANDING WITH THE FOLLOWING EXCEPTION: D.W.S. MAY BE OMITTED FROM THE TRIANGULAR BOTTOM LANDING AT LOCATIONS WHERE VERTICAL OBSTRUCTIONS TO PEDESTRIAN TRAVEL ARE LOCATED NO MORE THAN 18 INCHES (18") FROM THE WIDE EDGE OF THE TRIANGULAR BOTTOM LANDING.
   - 6.2. WHEN THE TRIANGULAR BOTTOM LANDING OF A DIRECTIONAL RAMP ADJOINS A NON-WALKABLE AREA ON THE SIDEWALK, THE D.W.S. MAY BE OMITTED FROM THE TRIANGULAR BOTTOM LANDING.
7. WHERE PROPOSED AT THE BACK OF CURB, D.W.S. MUST BE INSTALLED WITH A TWO INCH (2") MAXIMUM OFFSET FROM THE EXPANSION JOINT OR TOOLED RADIUS.
8. D.W.S. MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES AS DIRECTED BY THE ENGINEER. D.W.S. MAY BE CUT OR TRIMMED TO MEET THE REQUIREMENTS OF THIS DETAIL, AS DIRECTED AND APPROVED BY THE ENGINEER.
9. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF TRUNCATED DOMES DEPICTED ON THE D.W.S. IS FOR ILLUSTRATION ONLY.
10. D.W.S. MUST PROVIDE COLOR CONTRAST WITH THE ADJOINING SIDEWALK. FOR D.W.S. REQUIREMENTS INCLUDING COLOR CONTRAST, SEE NYC DOT STANDARD HIGHWAY SPECIFICATION ITEM NO. 4.13 DE.
11. ON SLOPES OF FIVE PERCENT (5%) OR GREATER, TRUNCATED DOMES MUST BE ALIGNED WITH THE LOWER GRADE BREAK OF THE RAMP. ON SLOPES LESS THAN FIVE PERCENT (5%), TRUNCATED DOMES DO NOT NEED TO BE ALIGNED WITH THE LOWER GRADE BREAK OF THE RAMP.
12. D.W.S. MUST BE PROVIDED AT RAILROAD CROSSING IN ACCORDANCE WITH NEW YORK STATE AND FEDERAL RAILROAD ADMINISTRATION REQUIREMENTS. D.W.S. LAYOUT AT RAILROAD CROSSINGS MUST BE SUBMITTED TO NYSDOT FOR REVIEW AND APPROVAL PRIOR TO ITS CONSTRUCTION.
13. EMBEDDED D.W.S. MUST BE INSTALLED ON A PLANAR SURFACE TO PREVENT WARPING. ANY CROSS SLOPE TRANSITIONS (WARPING) WITHIN A RAMP OR TURNING SPACE MUST BE EXCLUSIVE OF THE D.W.S., AT A MAXIMUM RATE OF ONE PERCENT (1.0%) PER LINEAR FOOT.
14. PRE-FABRICATED RADIAL D.W.S. MAY BE USED FOR RADIAL D.W.S. PLACEMENT. WHERE PROCUREMENT OF PRE-FABRICATED RADIAL D.W.S. IS NOT FEASIBLE, RECTANGULAR TILE ARRAYS MAY BE USED TO PROVIDE RADIAL D.W.S. PLACEMENT, AS DIRECTED BY THE ENGINEER. WHERE USED, RADIAL D.W.S. OF ANY TYPE MUST MEET ALL APPLICABLE REQUIREMENTS ON THIS SHEET, INCLUDING DOME SPACING.
15. DETECTABLE WARNING DOMES (TRUNCATED DOMES) MUST MEET THE REQUIREMENTS OF DETAIL Z.
16. WHERE AN EXISTING UTILITY CASTING IS LOCATED WITHIN THE PROPOSED LOCATION OF A D.W.S., THE CONTRACTOR MAY CUT THE D.W.S. TO ACCOMMODATE THE UTILITY CASTING; SEE NOTE 5.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

PEDESTRIAN RAMPS
DETECTABLE WARNING SURFACES

Approved:
Roger K. Weld, P.E.
Roger K. Weld, P.E. (May 24, 2022 13:59 EDT)
Chief Engineer
Department of Transportation

Approved:
How Sheen Pau, P.E.
How Sheen Pau, P.E. (May 24, 2022 16:58 EDT)
Assistant Commissioner
Infrastructure/Design
Department of Design + Construction

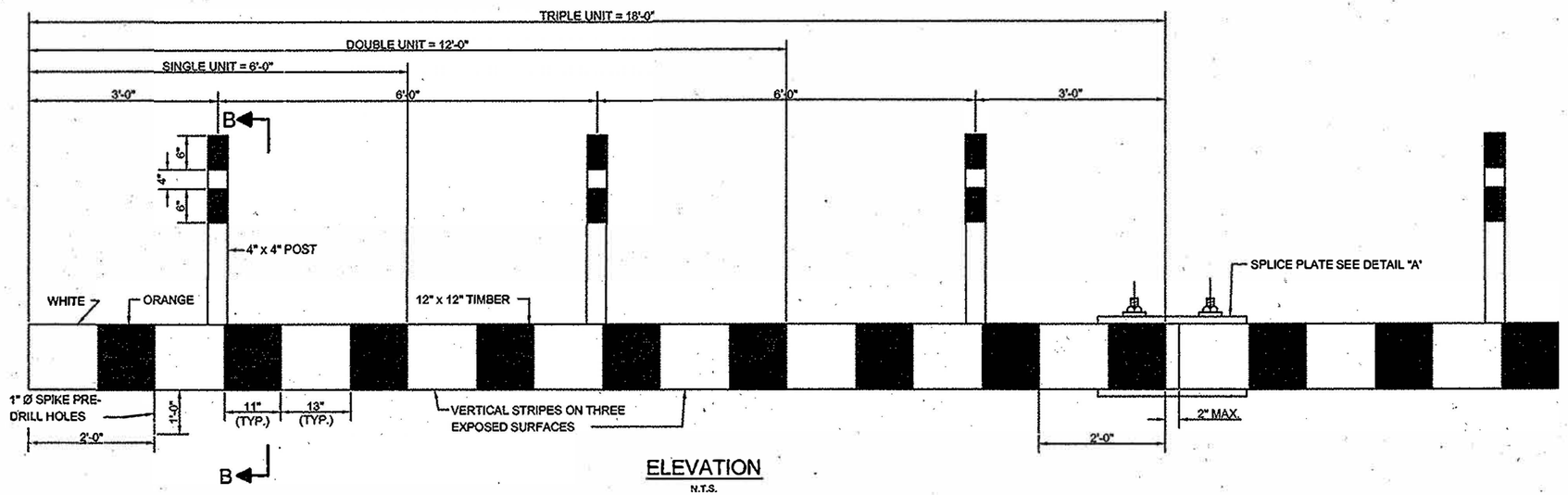
Date Issued: 6/06/2022

Scale: AS SHOWN

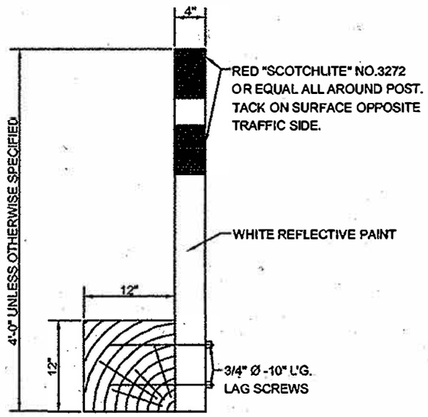
Drawing #: H-1011-9

CHECKED BY:

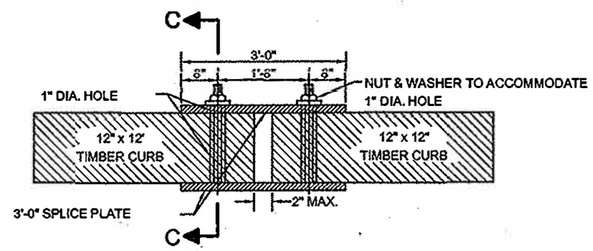
HWS-H1011



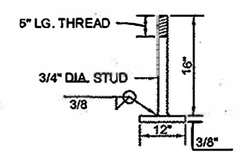
ELEVATION
N.T.S.



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



DETAIL "A"
N.T.S.



SECTION C-C
N.T.S.

GENERAL NOTES:

1. ALL TIMBER AND LUMBER TO BE DENSE STRUCTURAL GRADE DOUGLAS FIR OR LONGLEAF YELLOW PINE.
2. WHITE AND ORANGE EXTERIOR ENAMEL.
3. WHITE TO BE REFLECTORIZED.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MZ

RWS-H1012

NEW YORK CITY DOT

New York City
Department of Transportation

TIMBER CURB

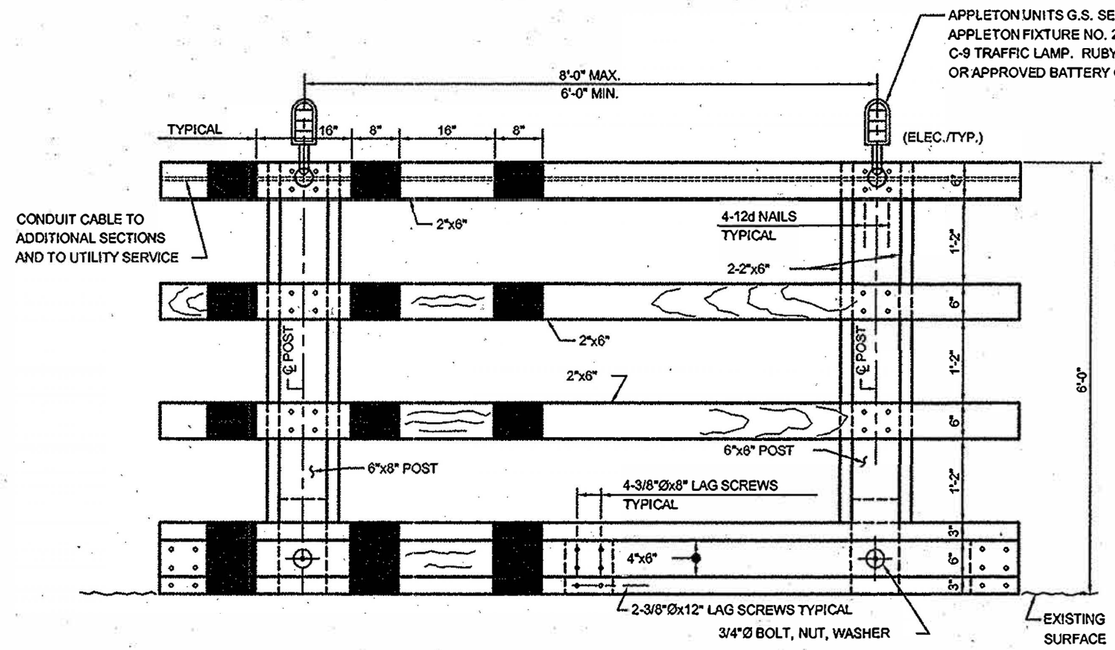
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1012



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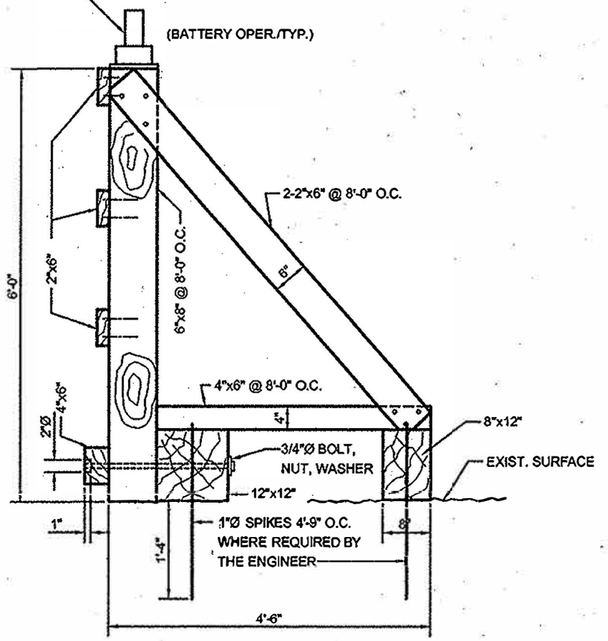

SIDE VIEW
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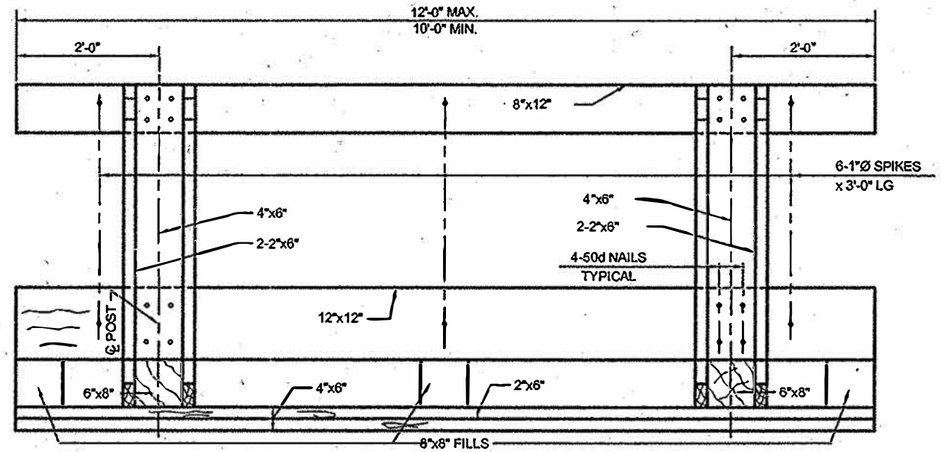


PLAN
NOT TO SCALE

NOTES:

1. ALL TIMBER SHALL BE DOUGLAS FIR GRADE NO. 1 OR EQUAL.
2. ALL WORK SHALL CONFORM WITH NATIONAL DESIGN SPECIFICATIONS FOR STRESS GRADE LUMBER AND ITS FASTENINGS.
3. ALL PAINTING SHALL BE ON TRAFFIC FACE, 2-COATS APPROVED ORANGE AND STAIN RESISTANT REFLECTORIZED WHITE.
4. ALL ELECTRICAL WORK FOR BARRICADE LIGHTING SHALL CONFORM TO THE DETAILS SHOWN IN D.W.S.G. & E. STANDARD DRAWING NO. H-3009 AND IN D.W.S.G. & E. "GENERAL SPECIFICATION FOR THE INSTALLATION OF LIGHTING SYSTEMS".
5. THIS STANDARD APPLIES FOR BOTH BATTERY OPERATED FLASHING UNITS OR ELECTRICAL UNITS AS SHOWN.
   PROJECT SPECIFICATIONS WILL DICTATE THE TYPE OF POWER SUPPLY.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

ILLUMINATED TIMBER BARRICADE

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

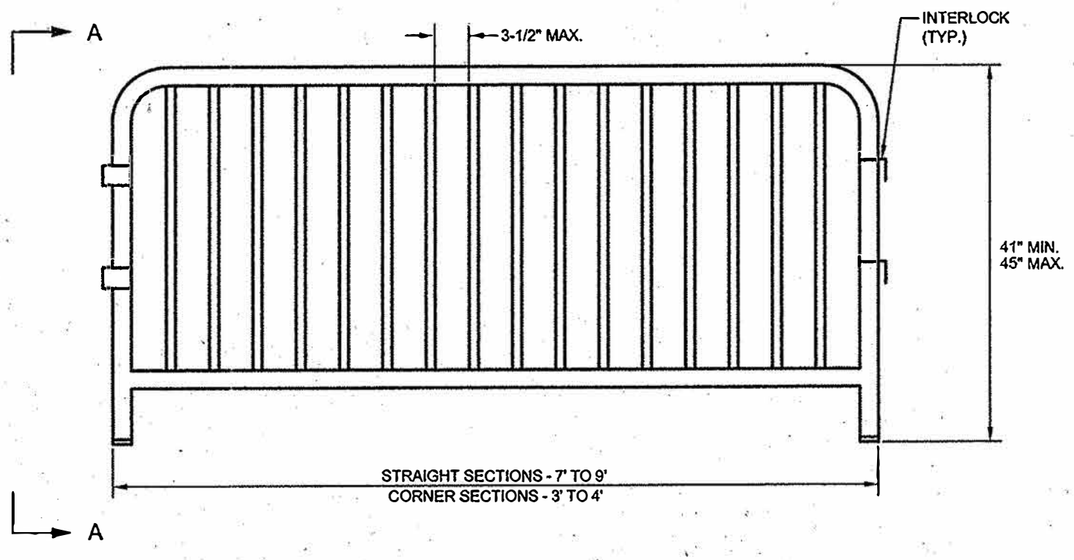
Date Issued: 7/1/10

Scale: None

Drawing # H-1013

CHECKED BY: MZ

HWS-H1013



ELEVATION
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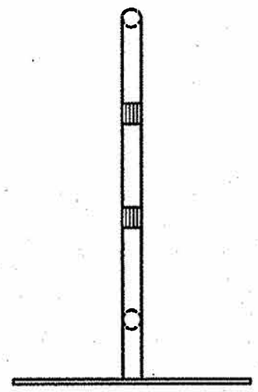


SECTION A-A
N.T.S.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TEMPORARY PEDESTRIAN
STEEL BARRICADE

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

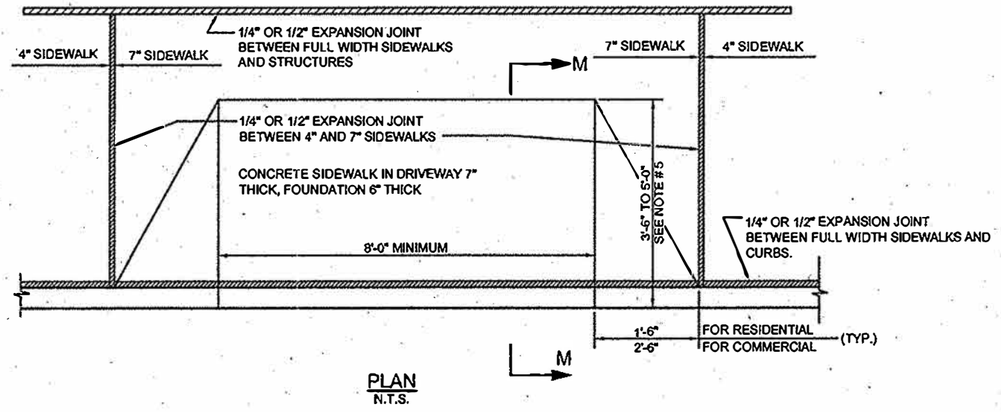
Date Issued: 7/1/10

Scale: None

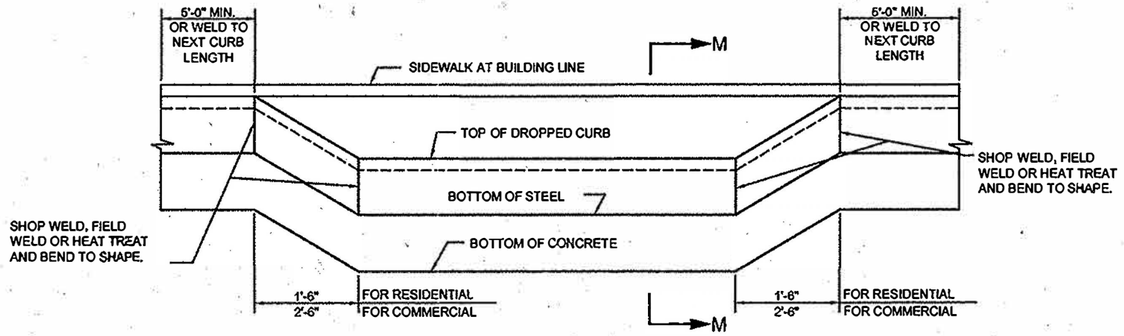
Drawing # H-1014

CHECKED BY: MZ

DWS-H1014



PLAN
N.T.S.



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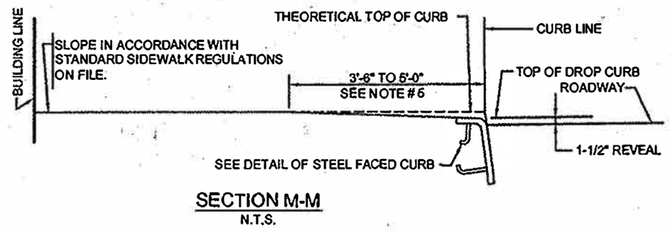
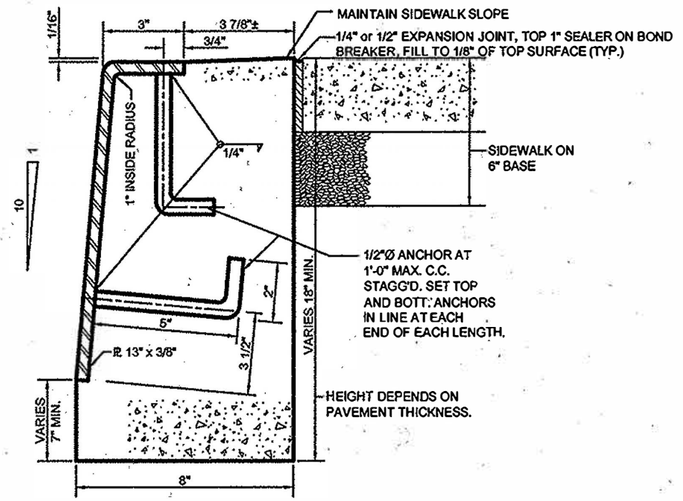


SECTION M-M
N.T.S.



DETAIL-STEEL FACED CURB
N.T.S.

NOTES:

1. 1/2" Ø x 5" HEADED ANCHOR STUDS (GRANULAR OR SOLID FLUX FILLED) MAY BE SUBSTITUTED.
2. STRUCTURAL STEEL AS PER ASTM DESIGNATION A-36.
3. STEEL FACING TO BE CLEANED AND PAINTED AS PER SUBSECTION 2.13.4 OF THE NYCDOT STANDARD HIGHWAY SPECIFICATION. THE COLOR OF TOP COAT SHALL BE GRAY AS APPROVED BY THE ENGINEER.
4. CONCRETE TO BE CLASS B-32, TYPE II A.
5. 3'-6" TO 5'-0" AS ORDERED BY THE ENGINEER EXCEPT FOR THE FIRE DEPARTMENT DRIVEWAYS WHICH WILL SLOPE STRAIGHT BACK TO THE PROPERTY LINE. FIRE DEPARTMENT DRIVEWAYS SHALL BE TYPE III SIDEWALK-SEE H1045.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

STEEL FACED DROP CURB
DRIVEWAYS

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

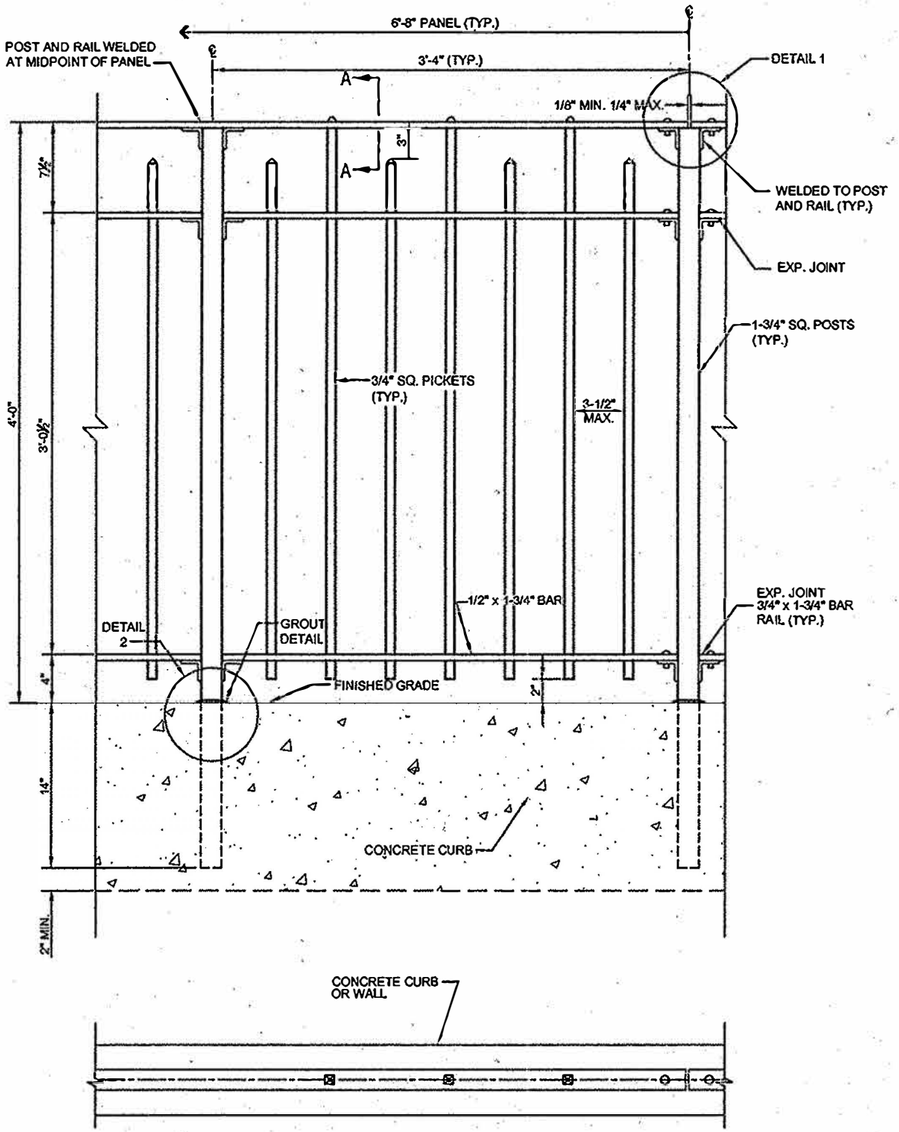
Date Issued: 7/1/10

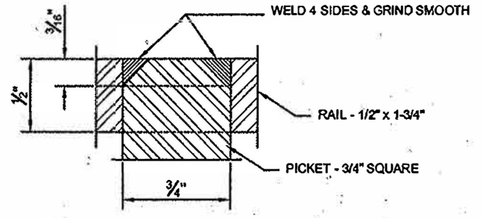
Scale: None

Drawing # H-1015

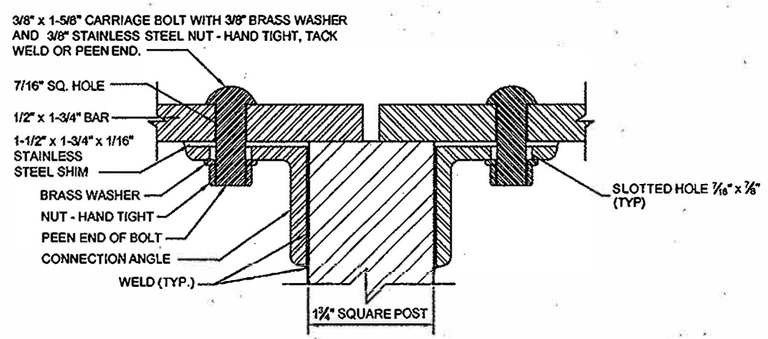
CHECKED BY: [illegible]

HWS-H1015

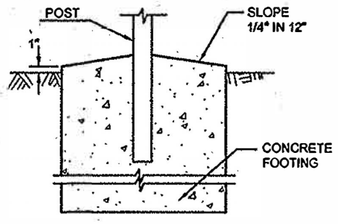




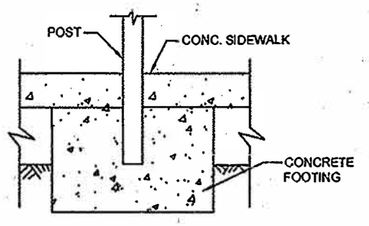
SECTION A-A
TYPICAL WELD



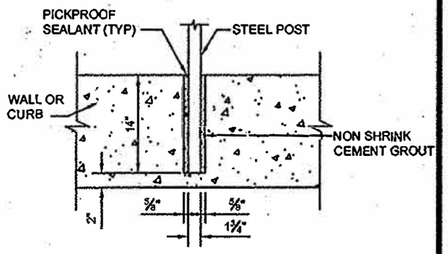
DETAIL 1
PANEL TO POST DETAIL AT EXP. JOINT



CASE - I
INDIVIDUAL FOOTING IN EARTH



CASE - II
INDIVIDUAL FOOTING IN SIDEWALK AREAS
ADDITIONAL EMBEDMENT DETAILS



CASE - III
FOOTING AT CURB OR WALL (TYP)

DETAIL 2

NOTES

1. SLEEVES REQUIRED IN NEW CONCRETE MASONRY STRUCTURES
2. SLEEVES NOT REQUIRED FOR INDIVIDUAL NEW FOOTING.
3. IN EXISTING CONCRETE OR MASONRY STRUCTURES, CONTRACTOR TO DRILL 3" DIA. HOLES FOR 1-3/4" x 1-3/4" POSTS.
4. ALL STEEL SHALL CONFORM TO SPECIFICATION C1015 OF THE A.I.S.I.
5. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
6. ALL STEEL TO BE PAINTED WITH ONE (1) SHOP COAT OF PRIMER. ALL STEEL FACING WHICH WILL BE EXPOSED TO VIEW AFTER INSTALLATION SHALL BE GIVEN ONE (1) SHOP COAT OF INTERMEDIATE AND ONE (1) SHOP COAT (OR ROLLED FIELD COAT) OF FINISH TOP COAT IN COMPLIANCE WITH THE REQUIREMENTS OF SUBSECTION 2.13.4 OF THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE AS APPROVED BY THE ENGINEER.
7. ALL FASTENING HARDWARE TO BE COMPATIBLE.
8. CONCRETE IN INDIVIDUAL FOOTINGS - CLASS B-25, TYPE IIA.
9. CEMENT GROUT - 1:1 MIX.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MB

DWS-H1017

NEW YORK CITY DOT

New York City
Department of Transportation

BAR PICKET FENCE
(4'-0" HIGH)

Approved:
Chief Engineer
Department of Transportation

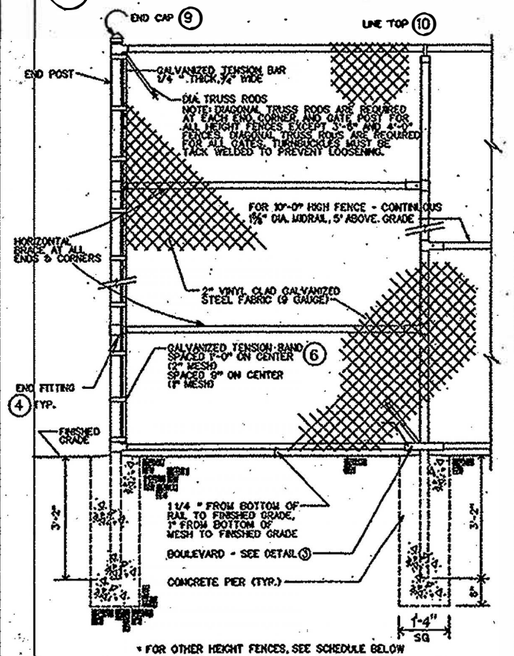
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date issued: 7/1/10

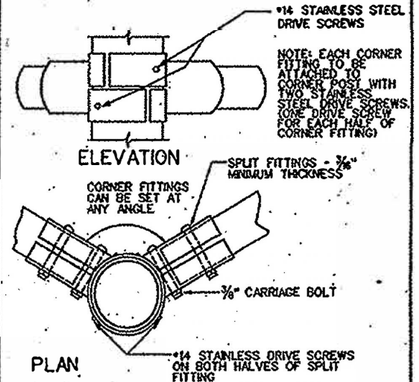
Scale: None

Drawing # H-1017

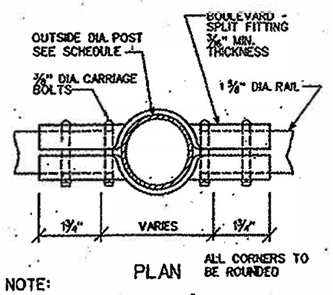
1 10'-0" HIGH CHAIN LINK FENCE *



2 CORNER FITTING

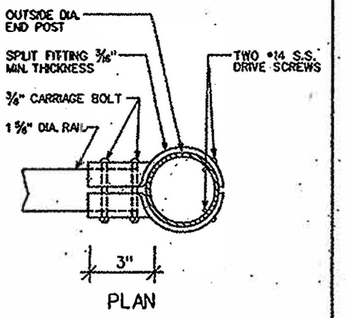


3 BOULEVARD



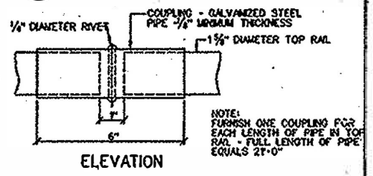
NOTE:
A=1¾" FOR 2" - 4½" O.D. POST
B=1⅝" FOR 2" O.D. OR SMALLER POST
C=2½" NOM. O.D. OR LARGER - 2 BOLTS REQUIRED

4 END FITTING

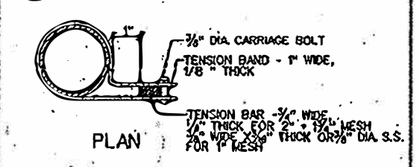


NOTE: MINIMUM WIDTH OF END FITTING TO BE 2¼"

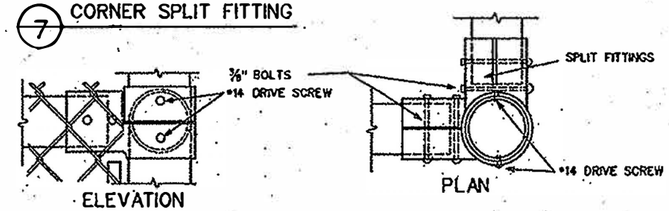
5 TOP RAIL COUPLING



6 TENSION MEMBERS



7 CORNER SPLIT FITTING



BOLT AND FABRIC NOTES

PEEN END OF ALL BOLTS..

BOLTS WHICH ARE INSTALLED 6' OR LESS ABOVE GRADE SHALL NOT PROTUDE MORE THAN ¼" BEYOND THE NUT AFTER TIGHTENING. ALL ROUGH EDGES SHALL BE FILED SMOOTH TO THE SATISFACTION OF THE ENGINEER.

ON FENCES OVER 12 FEET HIGH WHERE THE TWO WIDTHS OF FABRIC ARE REQUIRED, THE BOTTOM PIECE SHALL BE KNUCKLED TOP AND BOTTOM AND THE TOP PIECE KNUCKLED AT BOTTOM AND BARBED AT TOP.

THE TWO PIECES SHALL BE SPLICED IN SUCH A WAY AS TO GIVE A FINISHED NEAT APPEARANCE.

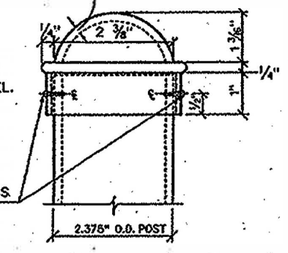
FABRIC TO BE KNUCKLED AT TOP AND BOTTOM RAILS ON FENCES UP TO AND INCLUDING 6'-0" HIGH AND BARBED AT TOP RAIL ON FENCES OVER 6'-0" HIGH.

WIRE FABRIC NOTES

[redacted]

8 SMALL POST CAP

WALL THICKNESS 3/16" THROUGHOUT



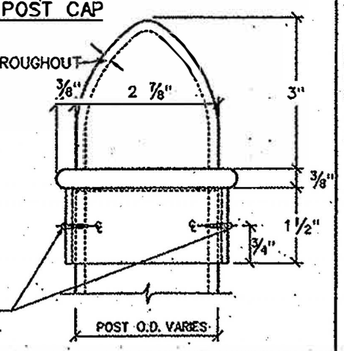
NOTE: POST CAP IS TO BE OF MALLEABLE IRON OR PRESSED STEEL.

CAP TOP FOR 3'-6" AND 4'-0" HIGH FENCE TO BE A SMOOTH "DOME" SHAPE. FOR 5'-0" HIGH FENCES, POST CAPS CAN BE "DOME" OR "BULLET" SHAPED.

POST CAP IS TO FIT SNUGLY OVER POST AND IS TO BE FIXED IN PLACE WITH TWO #14 STAINLESS STEEL DRIVE OR SET SCREWS.

9 END, CORNER, & GATE POST CAP

WALL THICKNESS 3/16" THROUGHOUT



NOTE: POST CAP IS TO BE OF MALLEABLE IRON.

FOR 4" OUTSIDE DIAMETER POST, POST CAP SHALL POSSESS DIMENSIONS THAT ARE IN PROPORTION TO DIMENSIONS BELOW FOR 2⅞" OUTSIDE DIAMETER POST CAP.

CAP TOPS FOR 3" OUTSIDE DIA. AND 4" OUTSIDE DIA POSTS ARE TO POSSESS A SMOOTH "BULLET" SHAPE. FOR 2½" OUTSIDE DIA. POST CAP - SEE DETAIL (9)

POST CAP IS TO FIT SNUGLY OVER POST AND IS TO BE FIXED IN PLACE WITH TWO #14 STAINLESS STEEL DRIVE OR SET SCREWS.

10 POST LINE TOP

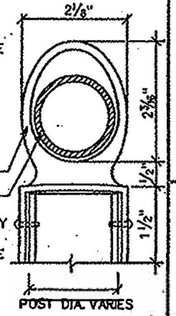
NOTE: WIDTH OF LINE TOP OVAL TO BE MINIMUM OF 2⅝" AND A MAXIMUM OF 2¾". LINE TOP IS TO BE OF MALLEABLE IRON.

INSIDE OF LINE TOP OVAL IS TO BE ALIGNED WITH OUTSIDE "WALL" OF LINE POST. CHAIN LINK MESH MUST BE STRAIGHT FROM LINE POST TO TOP RAIL.

WALL THICKNESS TO BE 3/16" THROUGHOUT

1 5/8" DIA. TOP RAIL

POST CAP IS TO FIT SNUGLY OVER POST AND IS TO BE FIXED IN PLACE WITH TWO #14 STAINLESS STEEL DRIVE OR SET SCREWS.



SCHEDULE OF SIZES OF MEMBERS - AS PER ASTM A 53, ALL SIZES NPS

HEIGHT OF FENCE	DIAMETER OF LINE POSTS	POST SPACING MAXIMUM	CORNER & END POST	TOP RAIL	MID RAILS	BOTTOM RAIL	DEPTH OF POST INTO CORD AND FTG AT: LINE POST	DEPTH OF POST INTO CORD AND FTG AT: END/CORNER/GATE POST	HORIZONTAL BRACES AT CORNER & END POST	DIAGONAL BRACES
3'-6" & 4'-0"	2"	8'-0"	2½"	1⅝"	0	1⅝"	1'-0"	1'-0"	0	0
5'-0"	2"	8'-0"	2½"	1⅝"	0	1⅝"	1'-8"	1'-8"	0	½" DIA.
6'-0"	2½"	8'-0"	3"	1⅝"	0	1⅝"	1'-8"	1'-8"	1 AT 1⅝"	½" DIA.
10'-0"	3"	10'-0"	4"	1⅝"	1 - 1⅝"	1⅝"	3'-2"	3'-2"	2 AT 1⅝"	½" DIA.
12'-0"	3"	10'-0"	4"	1⅝"	1 - 1⅝"	1⅝"	3'-2"	4'-2"	2 AT 1⅝"	½" DIA.
14'-0"	3½"	10'-0"	4"	1⅝"	2 - 1⅝"	1⅝"	3'-2"	4'-2"	2 AT 1⅝"	½" DIA.
16'-0"	3½"	10'-0"	4"	1⅝"	2 - 1⅝"	1⅝"	3'-2"	4'-2"	2 AT 1⅝"	½" DIA.
18'-0"	3½"	10'-0"	4"	1⅝"	2 - 1⅝"	1⅝"	3'-2"	4'-2"	2 AT 1⅝"	½" DIA.
20'-0"	4½"	10'-0"	4½"	1⅝"	3 - 1⅝"	1⅝"	4'-2"	4'-5"	3 AT 1⅝"	½" DIA.

FABRIC WIDTHS

HEIGHT OF FENCE	WIDTH OF BOTTOM FABRIC	WIDTH OF TOP FABRIC
3'-6" - 4'-0"	3'-6" - 4'-0"	0
6'-0"	6'-0"	0
8'-0"	8'-0"	0
10'-0"	10'-0"	0
12'-0"	8'-0"	4'-0"
14'-0"	10'-0"	4'-0"
16'-0"	10'-0"	6'-0"
18'-0"	10'-0"	8'-0"
20'-0"	10'-0"	10'-0"

PIPE SCHEDULE

NOMINAL OUTSIDE DIAMETER	ACTUAL OUTSIDE DIAMETER
⅝"	1.660
2"	2.375
2½"	2.875
3"	3.500
3½"	4.000
4"	4.500
4½"	5.000

PIPE & RAIL NOTES

PIPE POSTS AND RAILS SHALL BE TYPE I OR TYPE II

TYPE I - ROUND MEMBERS SHALL BE HOT DIPPED GALVANIZED CONFORMING TO ASTM A - 53 STANDARD WEIGHT SCHEDULE 40

[redacted]

CHECKED BY: [redacted]

HWS-H1021-1

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

CHAIN LINK FENCE - DETAILS

Approved:
Chief Engineer
Department of Transportation

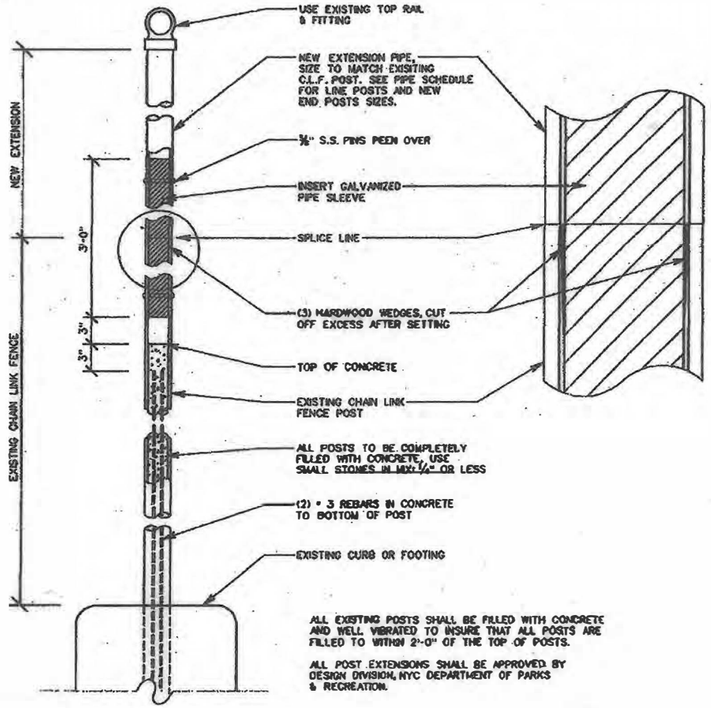
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

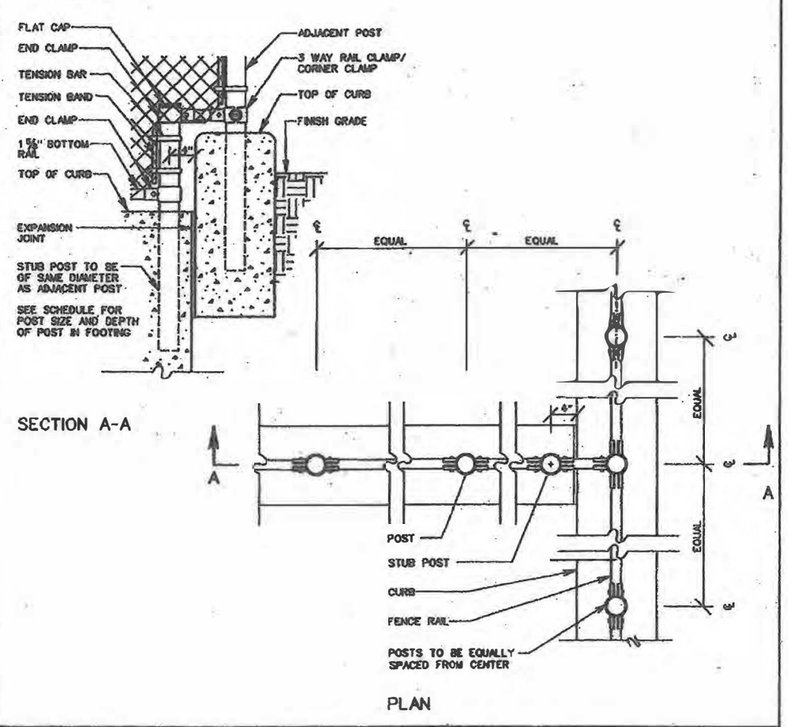
Scale: None

Drawing # H-1021-1

1 EXTEND FENCE HEIGHT - SECTION

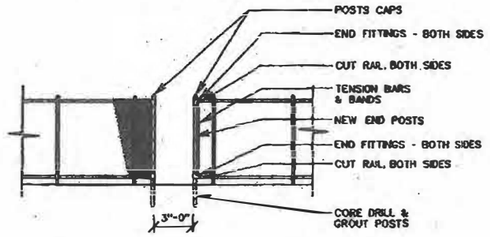


2 DIFFERENT CURB ELEVATIONS

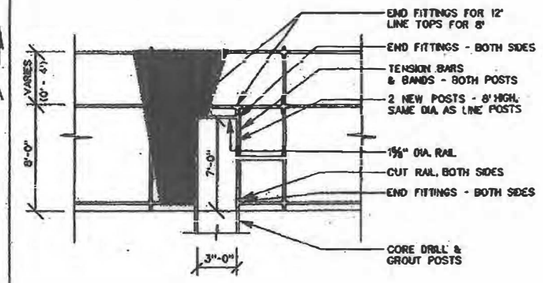


3 SUPPLY NEW PORTAL

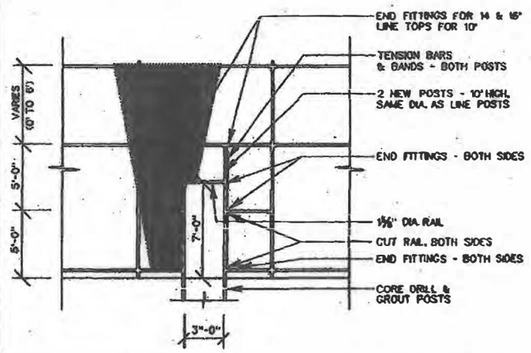
CHAIN LINK FENCE UNDER 8' HIGH



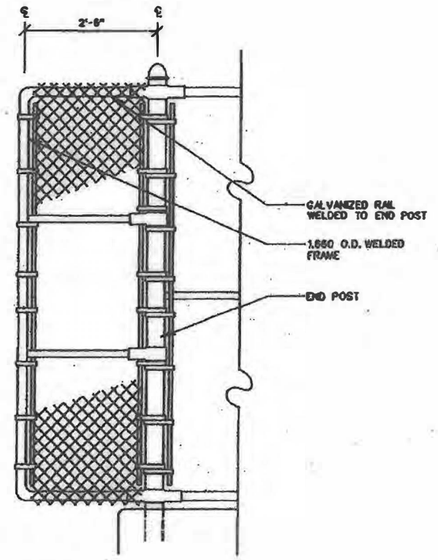
CHAIN LINK FENCE 8' OR 12' HIGH



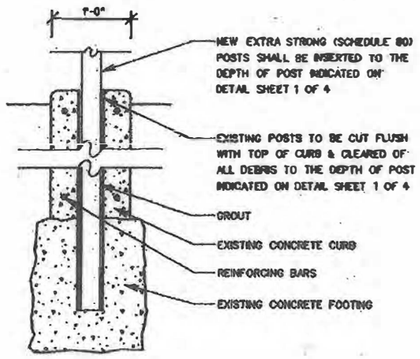
CHAIN LINK FENCE 10', 14' OR 16' HIGH



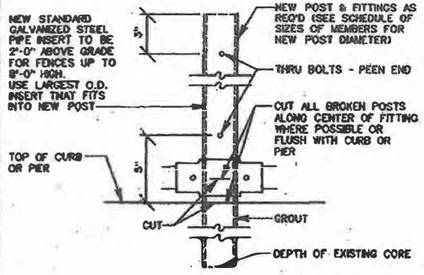
4 PROTECTIVE END PIECE



5 REPLACE FENCE POST 10'-0" HT. & OVER



6 REPLACE FENCE POST UP TO 8'-0"



SCHEDULE FOR POST INSERTS

EXISTING POST DIAMETER	NOMINAL O.D. PIPE SIZE	2"	2½"	3"	3½"	4"
	ACTUAL O.D. PIPE SIZE	1.9"	2.375"	2.875"	3½"	4"
	ACTUAL I.D. PIPE SIZE	1.610"	2.067"	2.469"	3.068"	3.548"
SLEEVE DIAMETER REQUIRED	NOMINAL O.D. PIPE SLEEVE	SLEEVE METHOD NOT POSSIBLE FOR 2" O.D. PIPE	2"	2½"	3"	3½"
	ACTUAL O.D. PIPE SLEEVE		1.9"	2.375"	2.875"	3½"

CHECKED BY: M.Z

HWS-H1021-2

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

CHAIN LINK FENCE - SPECIAL CONDITIONS

Approved:
Chief Engineer
Department of Transportation

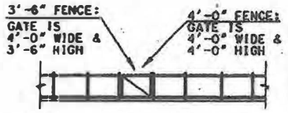
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

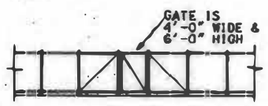
Scale: None

Drawing # H-1021-2

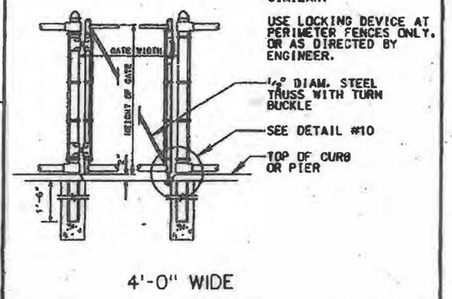
1 4'-0" & 3'-6" FENCE



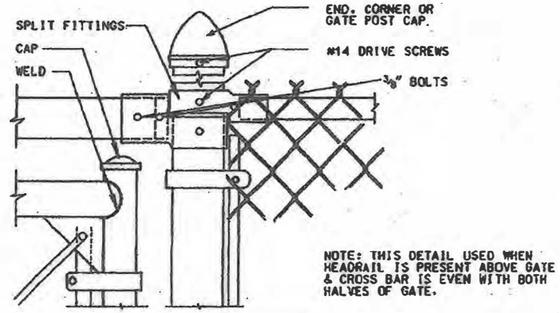
5 6'-0" FENCE



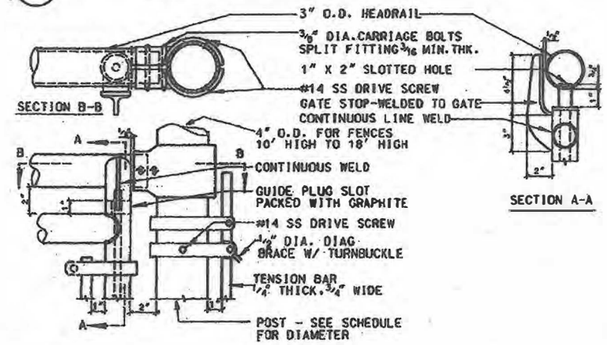
2 4'-0" SINGLE FENCE GATE



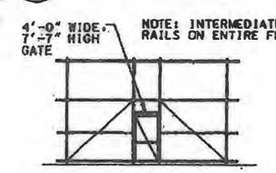
3 GATE POST SPLIT FITTING AND CAP



4 GATE STOP TYPE 'B' - TOP



6 8'-0" FENCE

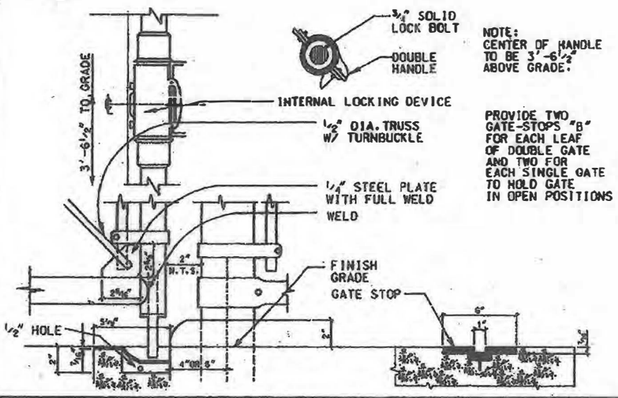


7 10'-0" FENCE

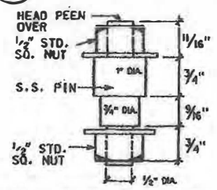
8 12'-0" SINGLE FENCE GATE

9 MALLEABLE IRON HINGE

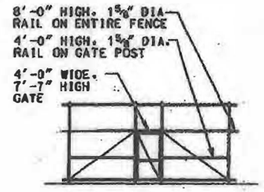
10 GATE LOCK GATE STOP TYPE "B" - BOTTOM



11 GATE PIN

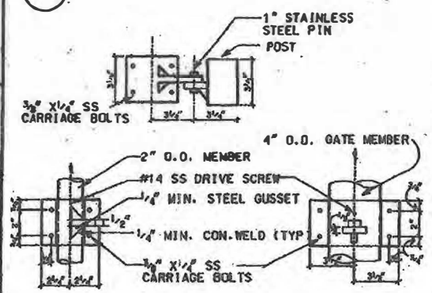


12 12'-0" FENCE



13 16'-0" FENCE

14 PRESSED STEEL HINGE



NOMINAL THICKNESS CHARTS

SS-40

NOMINAL O.D. SIZE	ACTUAL I.D. SIZE	ACTUAL O.D. SIZE	STEEL WT/L.F.
1 5/8"	1.549	1.660	1.84
2"	1.780	1.900	2.28
2 1/2"	2.245	2.375	3.12
3"	2.715	2.875	4.64
3 1/2"	3.340	3.500	5.71
4"	3.840	4.000	6.56

SCHEDULE 40 - ASTM A53

NOMINAL PIPE SIZE	ACTUAL I.D. SIZE	ACTUAL O.D. SIZE	STEEL WT/L.F.
1 1/2"	1.380	1.660	2.27
1 1/2"	1.610	1.900	2.72
2"	2.067	2.375	3.65
2 1/2"	2.469	2.875	5.79
3"	3.068	3.500	7.58
3 1/2"	3.548	4.000	9.11

SCHEDULE OF MEMBER SIZES

PIPE POSTS & RAILS SHALL BE TYPE I OR TYPE II

TYPE I: ROUND MEMBERS SHALL BE HOT DIPPED GALVANIZED CONFORMING WITH ASTM-A-53 STANDARD WEIGHT SCHEDULE 40

TYPE II: ROUND MEMBERS SHALL BE MANUFACTURED FROM STEEL CONFORMING TO ASTM-A569 COLD ROLLED WELDED, HAVE A TENSILE STRENGTH OF 50,000 P.S.I. AND BE GIVEN CORROSION PROTECTION AS PER SPECIFICATIONS FOR SS-40 PIPE.

HEIGHT OF FENCE	DIAMETER OF LINE POSTS	POST SPACING MAXIMUM	GATE POST	HORIZ BRACE AT GATE POST	SIZE OF GATE MEMBERS	HORIZ BRACE ON GATES	SINGLE GATE HEIGHT	SINGLE GATE WIDTH	DIAG. TRUSS ON GATE	DIAG. TRUSS-FENCE PANELS	PORTAL	HEAD RAIL	DEPTH OF POST FOOTING
3'-6"	2"	6'-0"	3"	0	2"	0	3'-6"	4'-0"	1/2" DIAM.	0	NO	0	1'-6"
4'-0"	2"	6'-0"	3"	0	2"	0	4'-0"	4'-0"	1/2" DIAM.	0	NO	0	1'-6"
6'-0"	2"	6'-0"	3"	0	2"	0	6'-0"	4'-0"	1/2" DIAM.	1/2" DIAM.	NO	0	2'-0"
8'-0"	2 1/2"	6'-0"	3"	(1) - 1 5/8"	2"	1 5/8"	7'-7"	4'-0"	1/2" DIAM.	1/2" DIAM.	NO	0	2'-0"
10'-0"	3"	10'-0"	4"	(2) - 1 5/8"	2"	1 5/8"	7'-7"	4'-0"	1/2" DIAM.	1/2" DIAM.	YES	3"	3'-2"
12'-0"	3"	10'-0"	4"	(2) - 1 5/8"	2"	1 5/8"	7'-7"	4'-0"	1/2" DIAM.	1/2" DIAM.	YES	3"	4'-2"
16'-0"	3 1/2"	10'-0"	4"	(2) - 1 5/8"	2"	1 5/8"	7'-7"	4'-0"	1/2" DIAM.	1/2" DIAM.	YES	3"	4'-2"

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

CHAIN LINK FENCE - SINGLE GATE

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

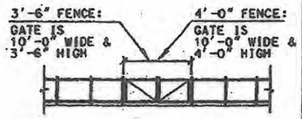
Scale: None

Drawing # H-1021-3

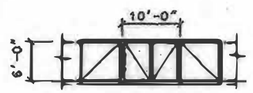
CHECKED BY: MT

HWS-H1021-3

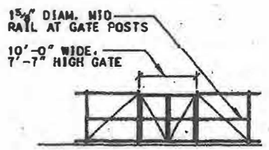
1 3'-6" & 4'-0" FENCE



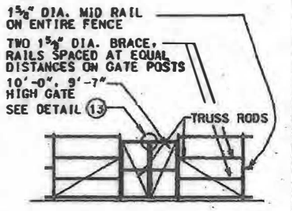
5 6'-0" FENCE



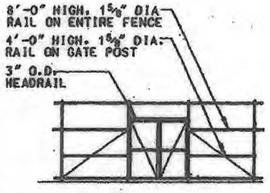
9 8'-0" FENCE



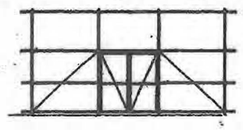
10 10'-0" FENCE



14 12'-0" FENCE

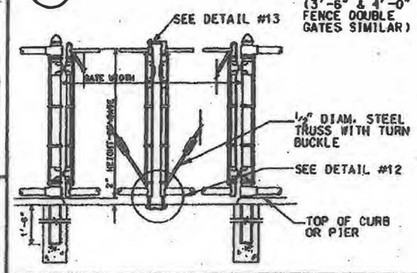


15 16'-0" FENCE



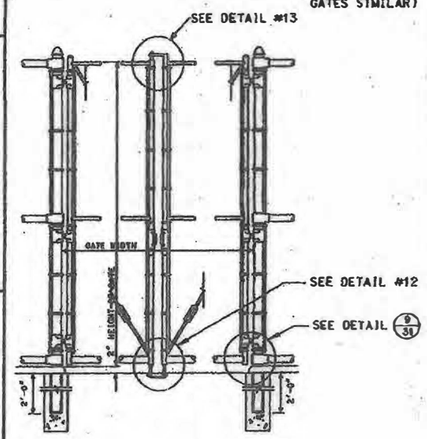
2 4'-0" DOUBLE GATE FENCE

(3'-6" & 4'-0" FENCE DOUBLE GATES SIMILAR)



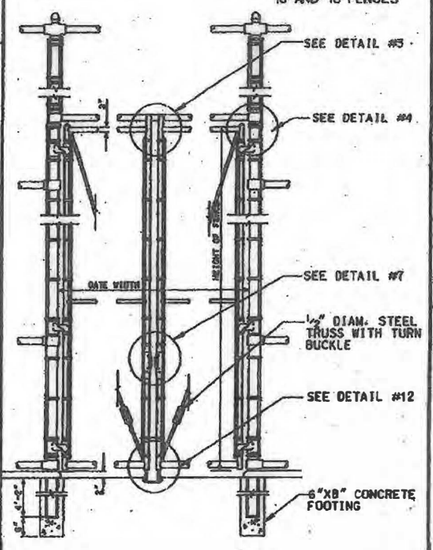
6 8'-0" DOUBLE GATE FENCE

(6'-0" & 8'-0" FENCE DOUBLE GATES SIMILAR)



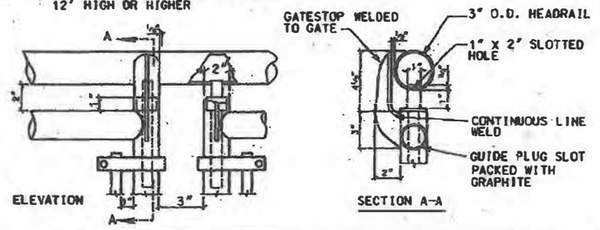
11 12'-0" DOUBLE GATE FENCE

DETAIL SAME FOR 14', 16' AND 18' FENCES

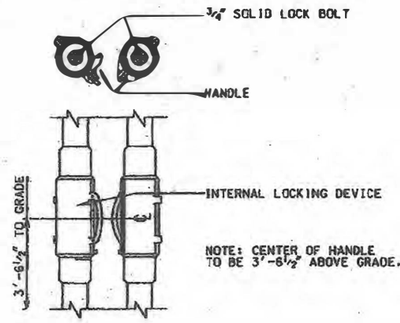


3 GATE STOP AND LOCK - DOUBLE GATE, TOP

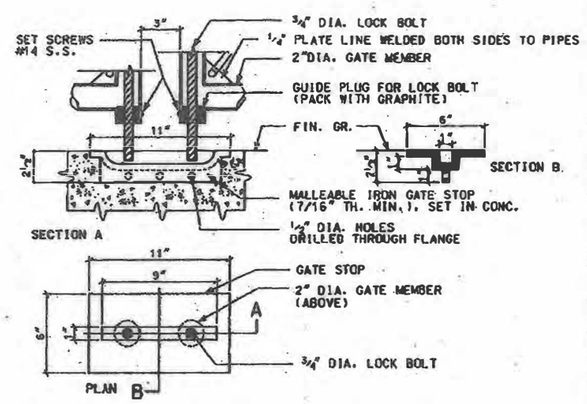
GATE LOCK AT TOP OF GATE FOR ALL DOUBLE GATES ON FENCES 12' HIGH OR HIGHER



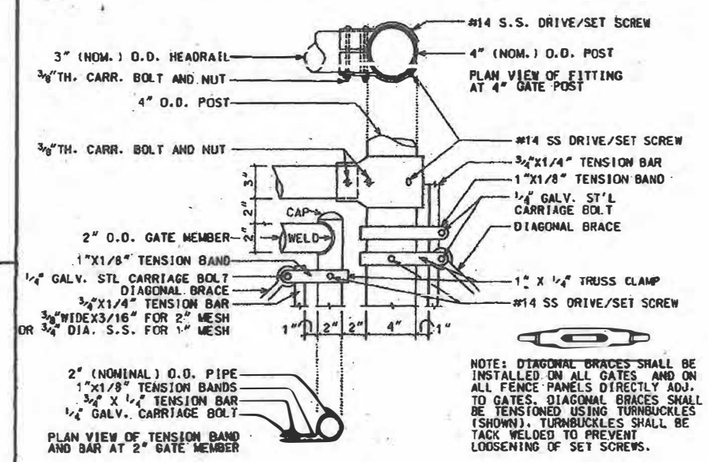
7 LOCK BOLT LIFT AND GATE HANDLE



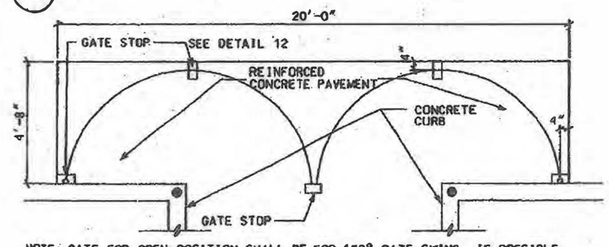
12 GATE STOP - DOUBLE GATE, BOTTOM



4 HEAD RAIL AND TENSIONING ELEMENTS



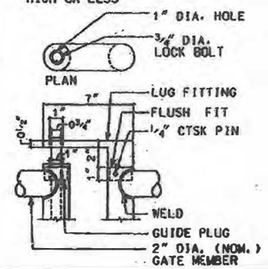
8 CONCRETE PAVEMENT - DOUBLE GATE



NOTE: GATE FOR OPEN POSITION SHALL BE FOR 180° GATE SWING, IF POSSIBLE. OTHERWISE TO BE INSTALLED AS DIRECTED BY ENGINEER.

13 GATE LOCK

GATE LOCK AT TOP OF GATE FOR ALL DOUBLE GATES 10'-0" HIGH OR LESS



NOMINAL THICKNESS CHARTS

SS-40

NOMINAL O.D. SIZE	ACTUAL I.D. SIZE	ACTUAL O.D. SIZE	STEEL WT/LF
1⅝"	1.549	1.660	1.84
2"	1.780	1.900	2.28
2½"	2.245	2.375	3.12
3"	2.715	2.875	4.64
3½"	3.340	3.500	5.71
4"	3.840	4.000	6.56

SCHEDULE 40

NOMINAL O.D. SIZE	ACTUAL I.D. SIZE	ACTUAL O.D. SIZE	STEEL WT/LF
1⅝"	1.380	1.660	2.27
2"	1.610	1.900	2.71
2½"	2.067	2.375	3.65
3"	2.469	2.875	5.79
3½"	3.068	3.500	7.58
4"	3.543	4.000	9.10

SCHEDULES OF MEMBER SIZES & PIPES

HEIGHT OF FENCE	DIAMETER OF LINE POSTS	POST SPACING MAXIMUM	GATE POST	HORIZ BRACE AT GATE POST	SIZE OF GATE MEMBERS	HORIZ BRACE ON GATES	DOUBLE GATE HEIGHT	DOUBLE GATE WIDTH	DIAG. TRUSS ON GATE	DIAG. TRUSS-FENCE PANELS	PORTAL	HEAD RAIL	DEPTH OF POST FOOTING
3'-6"	2"	6'-0"	3"	0	2"	0	3'-6"	10'-0"	0	0	NO	0	1'-8"
4'-0"	2"	6'-0"	3"	0	2"	0	4'-0"	10'-0"	0	0	NO	0	1'-6"
6'-0"	2"	6'-0"	3"	0	2"	0	6'-0"	10'-0"	½" DIAM.	½" DIAM.	NO	0	2'-0"
8'-0"	2½"	8'-0"	3"	(1) -1⅝"	2"	1⅝"	7'-7"	10'-0"	⅝" DIAM.	½" DIAM.	NO	0	2'-0"
10'-0"	3"	10'-0"	4"	(2) -1⅝"	2"	1⅝"	9'-7"	10'-0"	½" DIAM.	½" DIAM.	NO	0	3'-2"
12'-0"	3"	10'-0"	4"	(2) -1⅝"	2"	1⅝"	9'-7"	10'-0"	½" DIAM.	½" DIAM.	YES	3"	4'-2"
14'-0" THRU 20'-0"	3½"	10'-0"	4"	(2) -1⅝"	2"	1⅝"	9'-7"	10'-0"	½" DIAM.	½" DIAM.	YES	3"	4'-2"

CHECKED BY: MZ

HWS-H1021-4

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

CHAIN LINK FENCE - DOUBLE GATE

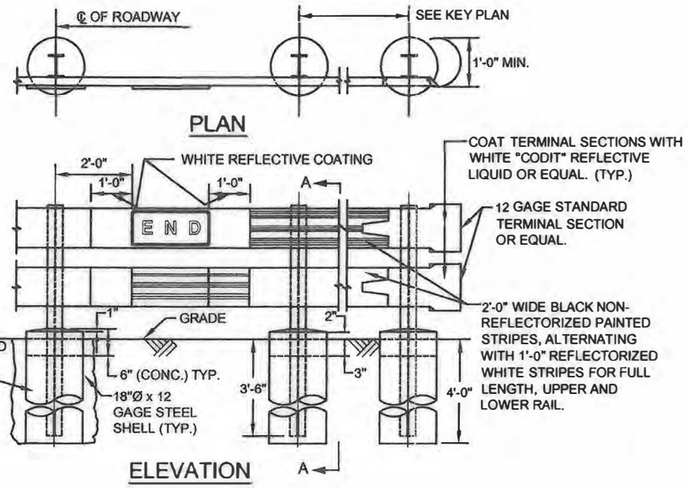
Approved:
Chief Engineer
Department of Transportation

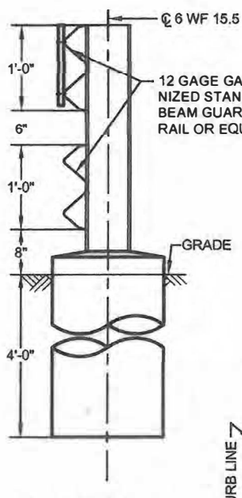
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 2/1/10

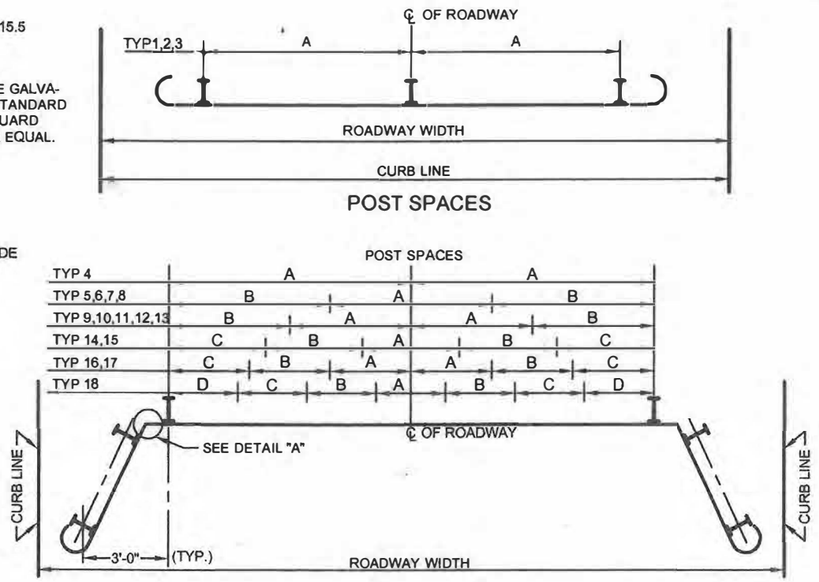
Scale: None

Drawing # H-1021-4

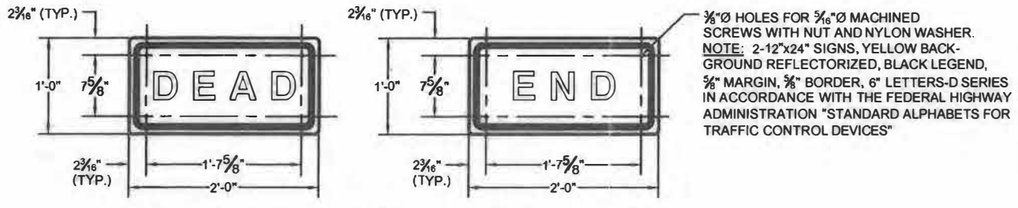




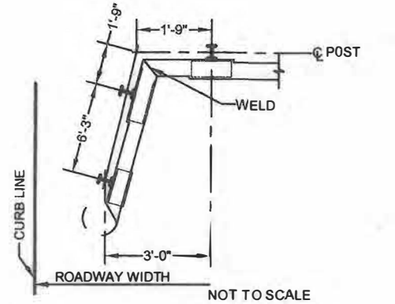
SECTION A-A



KEY PLAN
NOT TO SCALE

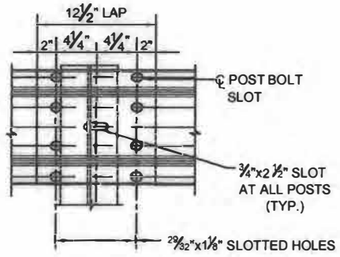


N.T.S.

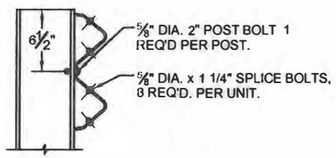


NOT TO SCALE

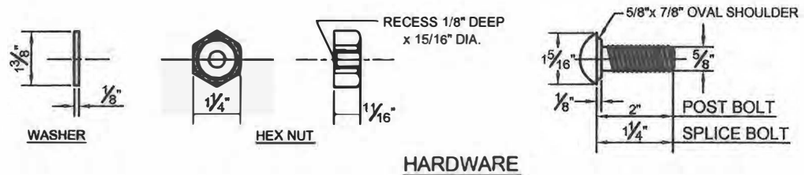
DETAIL "A"



ELEVATION OF GUARD RAIL SPLICE AT POST
N.T.S.



CROSS SECTION THROUGH GUARD RAIL SPLICE
N.T.S.



HARDWARE
N.T.S.

NOTES

1. ALL MATERIALS SHALL COMPLY WITH AASHTO DES. M180.
2. DEAD-END SIGN (2) 12"x24" RECTANGLES 0.08 ALUMINUM AS NOTED AND DETAILED, #2271 YELLOW "SCOTCHLITE" SCREENED #705 BLACK OR PROVED EQUIVALENT.
3. THE VERTICAL WHITE STRIPES ON THE BEAM BARRIER SHALL BE REFLECTORIZED WITH #7216 "CODIT" REFLECTIVE LIQUID AS MADE BY MINN. MINING AND MANUFACTURING COMPANY OR APPROVED EQUIVALENT.
4. POSTS SHALL CONFORM TO ASTM A36 WITH 0.2% COPPER AND SHALL BE GALVANIZED PER ASTM 123.
5. NUTS AND BOLTS SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED PER ASTM 123.
6. BEAMS AND TERMINAL SECTIONS SHALL BE MADE FROM 12 GAGE OR HEAVIER SHEET ROLLED FROM NEW BILLET, OPEN HEARTH OR ELECT. FURNACE STEEL. THE ULTIMATE TENSILE STRENGTH OF A SPECIMEN OF THE FULL SIZE OF THE BEAM, INCLUDING A Ssplice AT THE CENTER OF THE SPECIMEN SHALL BE AT LEAST 80,000 P.S.I. THE MIN. ELONGATION OF A SPECIMEN SHALL BE 12% IN A 2" GAGE LENGTH.
7. GALVANIZING PRIMER AND PAINT FOR BLACK STRIPES SHALL BE AS APPROVED BY THE ENGINEER.

BARRIER SCHEDULE

TYPE	ROAD-WAY WIDTH	POST SPACES D	C	B	A	B	C	D
1	20'-0"	-	-	-	8'-0"	-	-	-
2	25'-0"	-	-	-	10'-6"	-	-	-
3	30'-0"	-	-	-	12'-6"	-	-	-
4	34'-0"	-	-	-	12'-6"	-	-	-
5	38'-0"	-	-	9'-4"	9'-4"	9'-4"	-	-
6	40'-0"	-	-	12'-6"	6'-3"	12'-6"	-	-
7	44'-0"	-	-	12'-6"	9'-0"	12'-6"	-	-
8	46'-0"	-	-	12'-6"	11'-0"	12'-6"	-	-
9	50'-0"	-	-	12'-6"	7'-6"	12'-6"	-	-
10	52'-0"	-	-	12'-6"	8'-6"	12'-6"	-	-
11	54'-0"	-	-	12'-6"	9'-6"	12'-6"	-	-
12	60'-0"	-	-	12'-6"	12'-6"	12'-6"	-	-
13	62'-0"	-	-	12'-6"	12'-6"	12'-6"	-	-
14	68'-0"	-	12'-6"	12'-6"	8'-0"	12'-6"	12'-6"	-
15	70'-0"	-	12'-6"	12'-6"	10'-0"	12'-6"	12'-6"	-
16	76'-0"	-	12'-6"	12'-6"	8'-0"	12'-6"	12'-6"	-
17	80'-0"	-	12'-6"	12'-6"	10'-0"	12'-6"	12'-6"	-
18	90'-0"	12'-6"	12'-6"	10'-0"	10'-0"	10'-6"	12'-6"	12'-6"

NEW YORK CITY DOT

New York City
Department of Transportation

BEAM BARRIER FOR
DEAD END STREETS

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

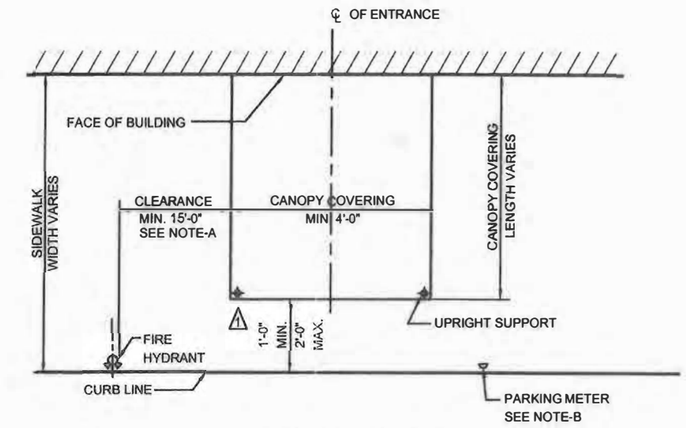
Scale: None

Drawing # H-1022

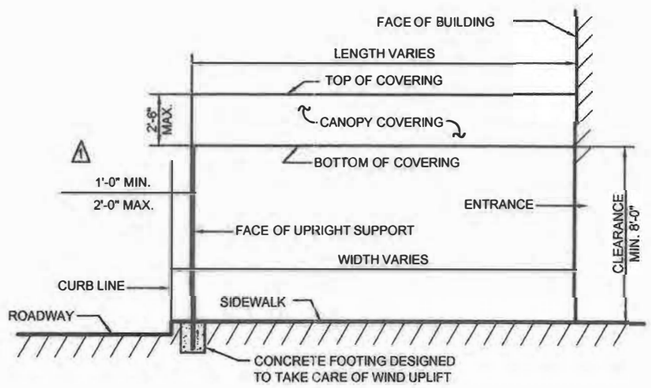
REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MZ

HWS-H1022



PLAN VIEW



SIDE VIEW

NOTE-A

PRIOR APPROVAL MUST BE OBTAINED FROM THE FIRE DEPARTMENT FOR DISTANCE LESS THAN 15'-0".

NOTE-B

PRIOR APPROVAL MUST BE OBTAINED FROM THE BUREAU OF TRAFFIC OPERATIONS WHERE EXISTING PARKING METERS ARE LOCATIONED WITHIN THE PROPOSED CANOPY AREA.

A PERMIT MUST BE OBTAINED FROM THE NYC DEPARTMENT OF TRANSPORTATION BEFORE ANY CANOPY IS ERECTED.

DESIGN SPECIFICATIONS

SIZE LIMITATIONS

WIDTH — THE WIDTH OF THE CANOPY IS LIMITED TO THE WIDTH OF THE ENTRANCE TO THE BUILDING OR PLACE OF BUSINESS, BUT IN NO CASE MAY THE WIDTH BE LESS THAN THAN FOUR FEET.

HEIGHT — THE BOTTOM OF THE COVERING OF THE CANOPY SHALL BE NOT LESS THAN EIGHT FEET ABOVE THE SIDEWALK.

LENGTH — THE CANOPY MAY EXTEND FROM THE BUILDING TO NO MORE THAN A MIN. OF ONE FOOT OR A MAX. OF 2 FEET FROM CURB LINE.

COVERING MATERIAL — MAY BE OF FLAMEPROOF CANVAS OR CLOTH, APPROVED SLOW BURNING PLASTIC, SHEET METAL OR OTHER EQUIVALENT MATERIAL.

COLOR — MUST HARMONIZE WITH THE ARCHITECTURE OF THE BUILDING THAT IT IS INTENDED FOR AND ALSO BE IN KEEPING WITH THE SURROUNDING AREA.

PAINTING — WHERE FRAMEWORK IS IRON, STEEL OR GALVANIZED, IT SHALL BE PAINTED AT A MAXIMUM OF FIVE YEAR PERIODS THEREAFTER.

LETTERING — LETTERING ON COVERING MAY BE OF A PAINTED, IMPRINTED OR STENCILED TYPE AS APPROVED AND SHALL BE LIMITED TO A SINGLE HORIZONTAL LINE OF LETTERING ON EACH SIDE FACE OF THE CANOPY COVERING. THE SUM OF THE AREAS OF THE PERMITTED CANOPY LETTERING AND THE SIGNS ON THE BUILDING WITH WHICH THE CANOPY IS CONNECTED SHALL NOT EXCEED THE SIGN LIMITS ESTABLISHED IN THE ZONING RESOLUTION OF THE CITY OF NEW YORK.

SIDE CURTAINS — NO SIDE CURTAINS ARE PERMITTED.

SUPPORT AND FRAMEWORK MATERIAL — SUPPORTING FRAMEWORK SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE METAL MEMBERS VERTICAL UPRIGHTS SHALL BE OF SUFFICIENT SIZE AND STRENGTH AND SHALL BE NO LESS THAN A STANDARD STEEL PIPE 1 1/4 INCH DIAMETER. WHERE SPECIAL CONSTRUCTION IS USED INSTEAD OF PIPE, THE DESIGN SHALL BE EQUIVALENT TO THE ABOVE NOTED MINIMUM STANDARD FOR PIPE.

CONSTRUCTION — THE VERTICAL UPRIGHTS SHALL BE IMBEDDED IN A CONCRETE FOOTING OF ADEQUATE SIZE DESIGNED TO TAKE CARE OF WIND UPLIFT. INTERMEDIATE SUPPORTS OR DIAGONAL BRACING FOR VERTICAL SUPPORTS ARE NOT PERMITTED. EXCEPT FOR ADDITIONAL UPRIGHT SUPPORTS AT THE FACE OF THE BUILDING.

REPAINTING — WHERE INITIALLY PAINTED, IT SHALL BE REPAINTED AT A MAXIMUM OF FIVE YEAR INTERVALS.

LIGHTING — AREA UNDER CANOPY COVERING SHALL BE LIGHTED TO THE SATISFACTION OF THE NYC DEPARTMENT OF TRANSPORTATION (NYCDOT), WHERE DEEMED NECESSARY BY THE NYCDOT. IF CANOPY IS WITHIN TWENTY FEET OF A LAMP POST, LIGHTING SHALL BE PROVIDED UNDER THE CANOPY TO A MINIMUM OF 30 FOOT CANDLES. LIGHTING INSTALLATION MUST BE MADE BY A LICENSED ELECTRICIAN AND APPROVED BY THE NYCDOT DIVISION OF TRAFFIC OPERATIONS, STREET LIGHTING SECTION.

CHECKED BY: MG

HWS-H1029

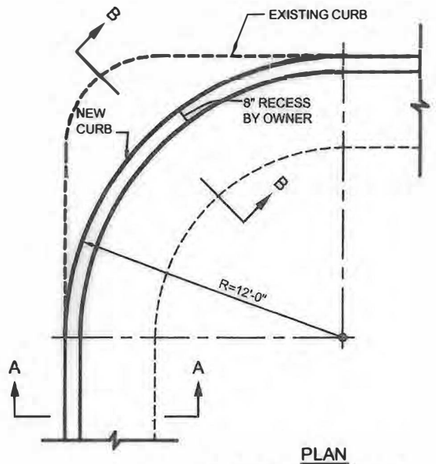
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

CRITERIA FOR DESIGN & CONSTRUCTION OF CANOPIES

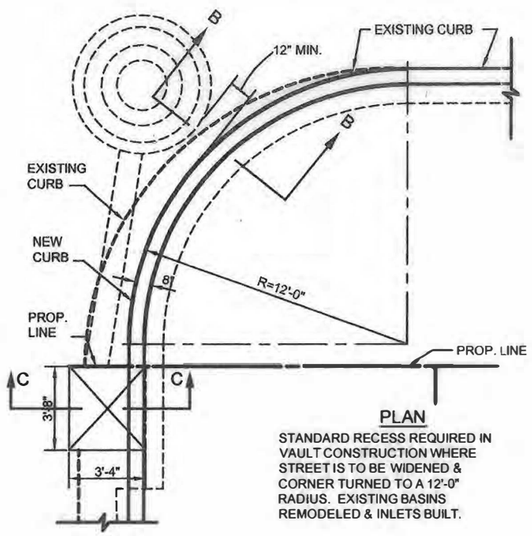
Approved:	Approved:
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction
Date Issued: 2/1/10	Scale: None — Drawing # H-1029



PLAN

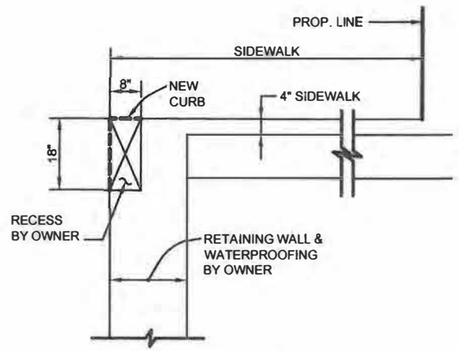
STANDARD RECESS REQUIRED IN VAULT CONSTRUCTION WHERE CORNER CURB IS TO BE TURNED AT A 12'-0" RADIUS.

EXISTING RECEIVING BASIN TO BE REMODELED IN ACCORDANCE WITH STANDARD DRAWINGS ON FILE IN THE DEPT. OF ENVIRONMENTAL PROTECTION

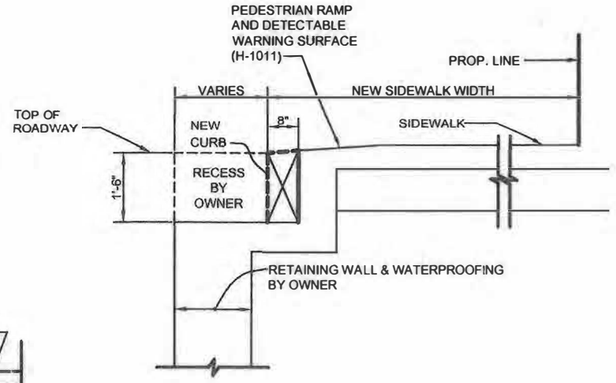


PLAN

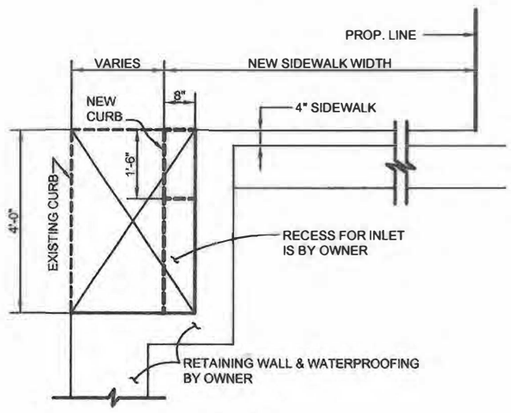
STANDARD RECESS REQUIRED IN VAULT CONSTRUCTION WHERE STREET IS TO BE WIDENED & CORNER TURNED TO A 12'-0" RADIUS. EXISTING BASINS REMODELED & INLETS BUILT.



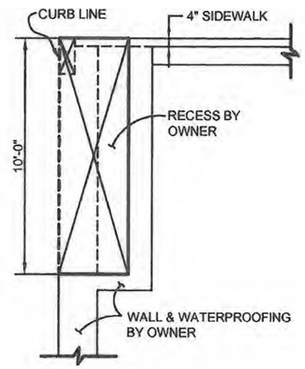
SECTION A-A



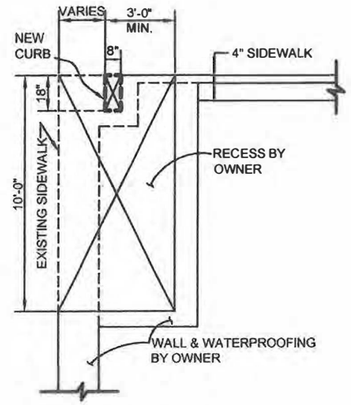
SECTION B-B



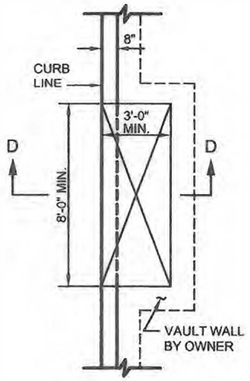
SECTION C-C



SECTION D-D

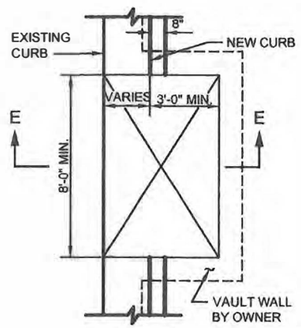


SECTION E-E



PLAN

(WHERE ROADWAY IS NOT WIDENED)



PLAN

(WHERE ROADWAY IS WIDENED)

NOTES:

1. DESIGN VAULT ROOF TO CONFORM TO REQUIREMENTS OF THE DEPARTMENT OF BUILDINGS.
2. CURB & SIDEWALK SHALL BE SET TO LINE AND GRADE AS DETERMINED BY THE NYC DEPARTMENT OF TRANSPORTATION (NYCDOT).
3. RECESS FOR CURB, TO BE NOT LESS THAN 1'-6" BELOW GRADE, TO BE FURNISHED BY THE CITY.
4. CURB SHALL CONFORM TO THE STANDARD SPECIFICATION ON FILE IN THE NYC DEPARTMENT OF TRANSPORTATION.
5. SIDEWALK AREA BETWEEN EXISTING AND PROPOSED CURB LINES TO BE MAINTAINED FOR PEDESTRIAN TRAFFIC PENDING WIDENING OF THE ROADWAY.
6. PERMIT FROM THE NYC DEPARTMENT OF TRANSPORTATION AND DEPARTMENT OF BUILDINGS MUST BE OBTAINED BEFORE ANY WORK IS PERFORMED WITHIN THE AREA.

CHECKED BY: MT

HWS-H1030

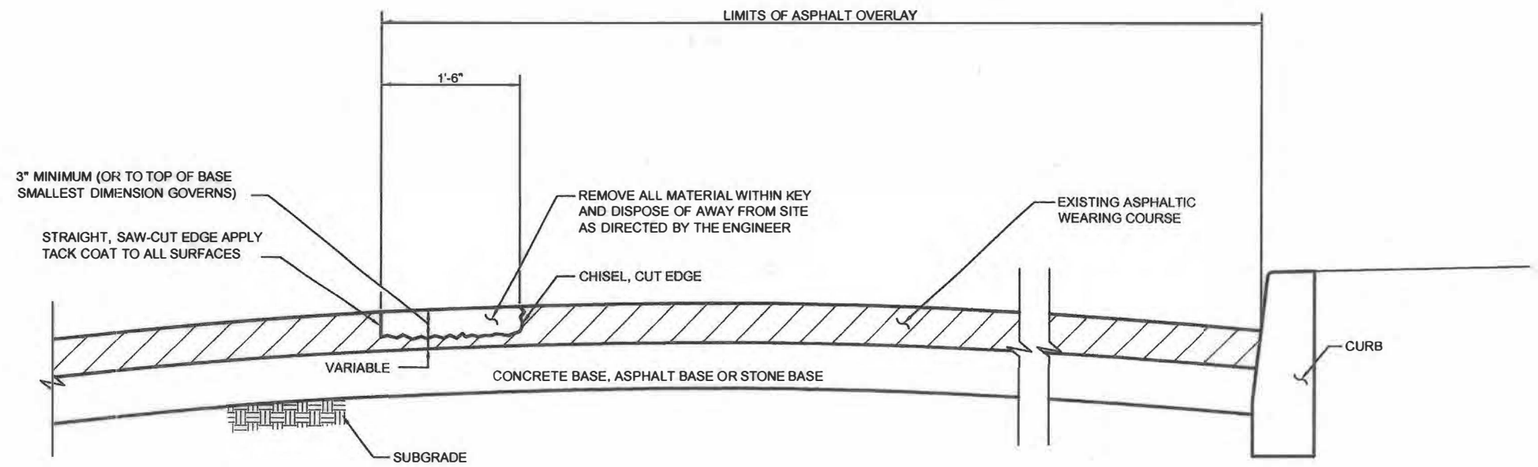
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

STANDARD RECESS IN VAULT CONSTRUCTION TO PROVIDE FOR STREET WIDENING, RECEIVING BASINS, INLETS, AND 12'-0" CORNER RADIUS

Approved:	Approved:		
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction		
Date Issued: 7/1/10	Scale: None	Drawing # H-1030	



TYPICAL PAVEMENT KEY
N.T.S.

CHECKED BY: MC

HWS-H1031

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TYPICAL PAVEMENT KEY

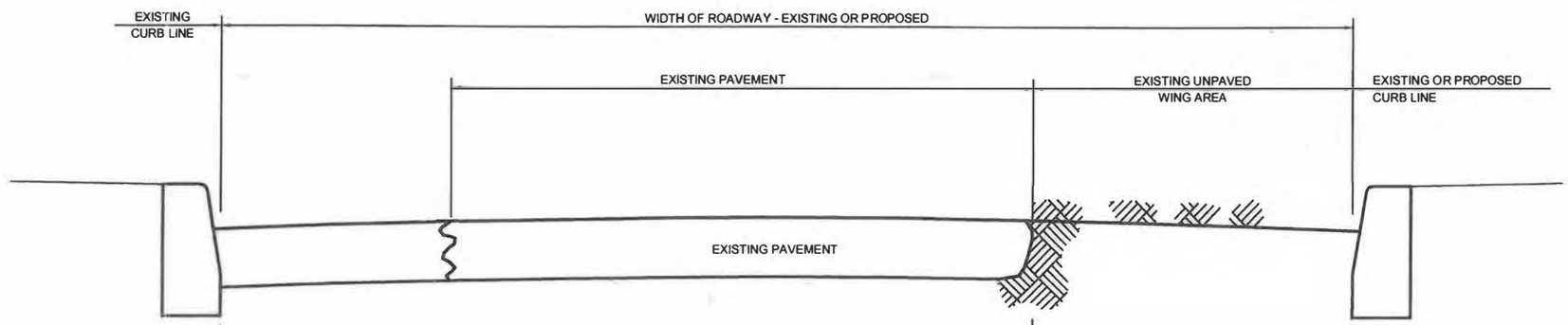
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

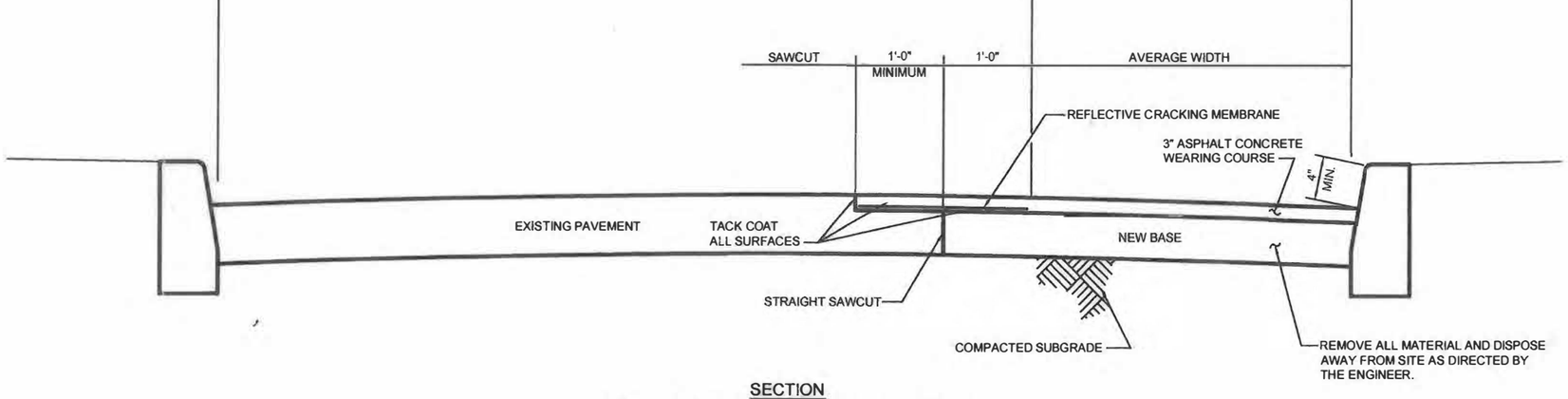
Date Issued: 7/1/10

Scale: None

Drawing # H1031



SECTION
EXISTING CONDITION
N.T.S.



SECTION
TYPICAL NEW PAVEMENT IN UNPAVED WING AREA
N.T.S.

CHECKED BY: MZ

HWS-H1032

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TYPICAL NEW PAVEMENT IN
UNPAVED WING AREA

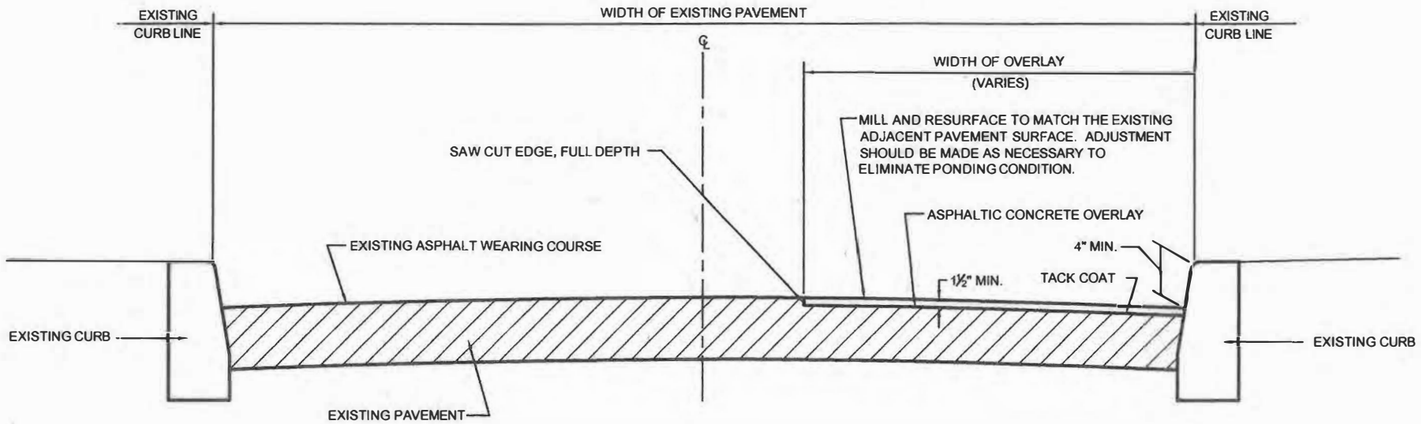
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1032



SECTION
N.T.S.

NOTE:
ADJUST ALL MANHOLES, GRATES, CATCH BASINS, VAULTS, BOXES, ETC. WITHIN AREA OF RESURFACING.

CHECKED BY: MT

HWS-H1033

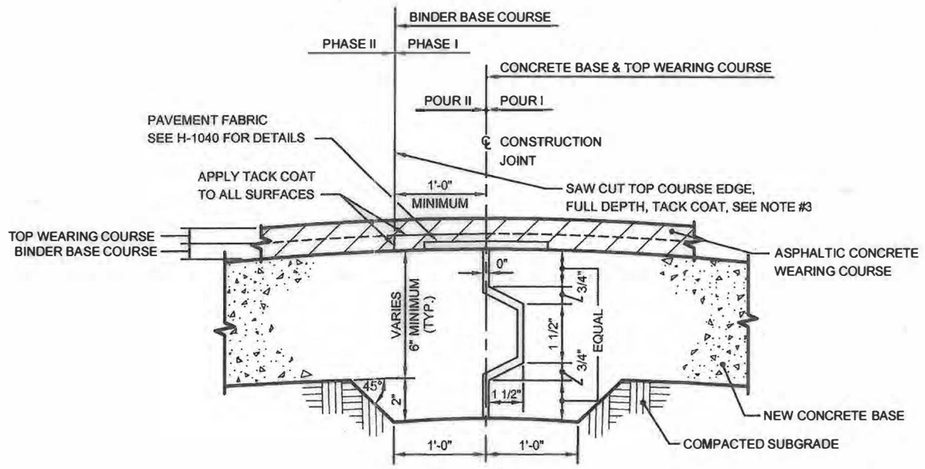
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

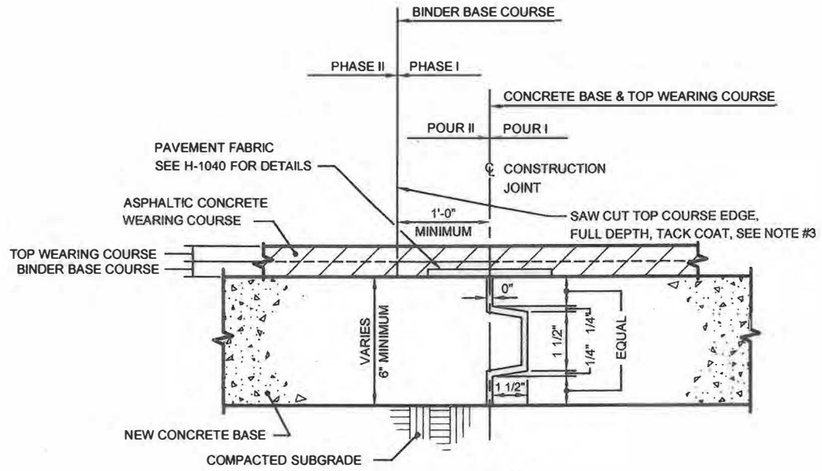
New York City
Department of Transportation

TYPICAL RESURFACING ON ASPHALT PAVEMENT &/OR WEARING COURSE (LESS THAN FULL WIDTH)

Approved:	Approved:		
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction		
Date Issued: 7/1/10	Scale: None	Drawing # H-1033	



SECTION
TYPE I CONSTRUCTION JOINT
N.T.S.



SECTION
TYPE II CONSTRUCTION JOINT
N.T.S.

NOTES:

1. TYPE I CONSTRUCTION JOINT TO BE USED FOR LONGITUDINAL ROADWAY JOINTS.
2. TYPE II CONSTRUCTION JOINT SHALL BE INSTALLED ON ALL TRANSVERSE ROADWAY JOINTS.
3. ALL ASPHALT JOINTS SHALL BE SAW-CUT, FULL DEPTH. TACK COAT TO BE APPLIED TO ALL SURFACES. JOINT SHALL BE PARALLEL TO CURBLINE OR AS OTHERWISE DIRECTED.

CHECKED BY: MC

HWS-H1034

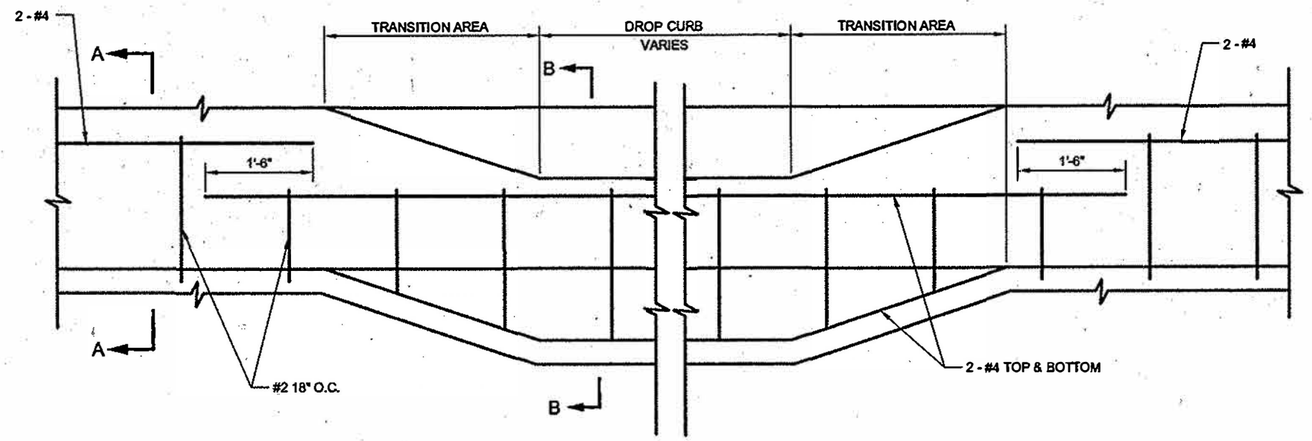
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

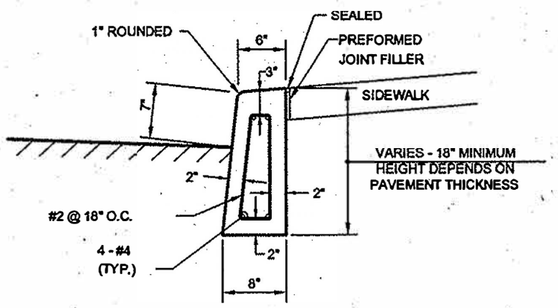
TYPICAL CONSTRUCTION JOINTS
FOR
CONCRETE BASE FOR PAVEMENT

Approved:	Approved:		
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design ~~Department of Design + Construction~~		
Date Issued: 7/1/10		Scale: None	Drawing # H-1034



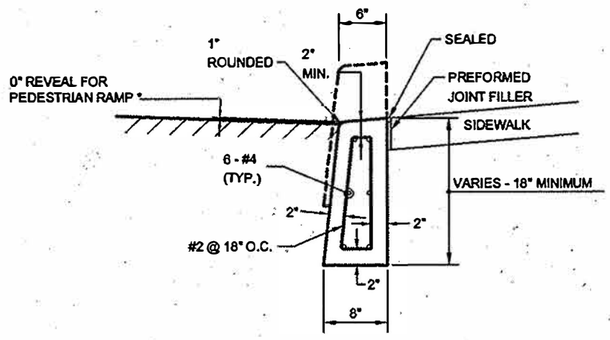
CURB ELEVATION VIEW

NOT TO SCALE



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

* REVEAL AT PEDESTRIAN RAMPS SHALL BE 0" AS SHOWN.
REVEAL AT DRIVEWAY TO BE 1-1/2".

NOTES:

1. CONCRETE SHALL BE CLASS A-40, 4000 P.S.I. AS PER SECTION 3.05 OF STANDARD HIGHWAY SPECIFICATIONS.
2. STEEL REINFORCEMENT SHALL BE AS PER ASTM A615, GRADE 60.
3. THE SLOPE OF THE TOP OF CURB SHALL CONFORM TO SLOPE OF SIDEWALK IN ALL CASES.
4. EXPANSION JOINTS IN CURB SHALL NOT EXCEED 20'-0" O.C.
5. THE EXPANSION JOINTS OF THE CURB SHOULD LINE UP WITH THE EXPANSION JOINTS IN THE CONCRETE SIDEWALK.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

REINFORCED CONCRETE CURB &
DROP CURB

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

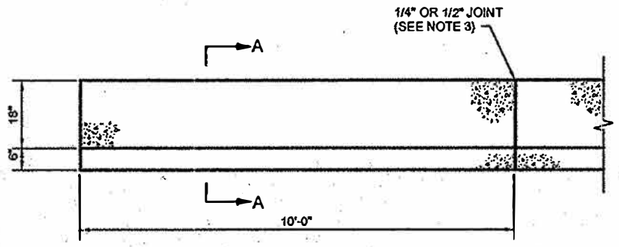
Date Issued: 7/1/10

Scale: None

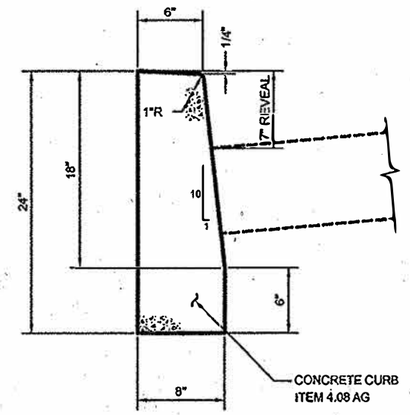
Drawing # H-1035

CHECKED BY: MS

HWS-H1035



ELEVATION
N.T.S.



SECTION A-A
N.T.S.

NOTES:

1. ALL EXPOSED SURFACES TO BE STEEL - TROWEL FINISHED.
2. THE MATERIAL UNDERLYING THE CURB SHALL BE SATISFACTORY AND THOROUGHLY COMPACTED TO THE SATISFACTION OF THE ENGINEER.
3. PREFORMED JOINT FILLER TO BE USED AT ALL EXPANSION JOINTS. THICKNESS OF EXPANSION JOINT TO MATCH THAT OF ADJACENT SIDEWALK.
4. COLOR TO BE AS DIRECTED.

CHECKED BY: MJF

NWS-H1036

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

CONCRETE POURED-IN-PLACE
MALL CURB

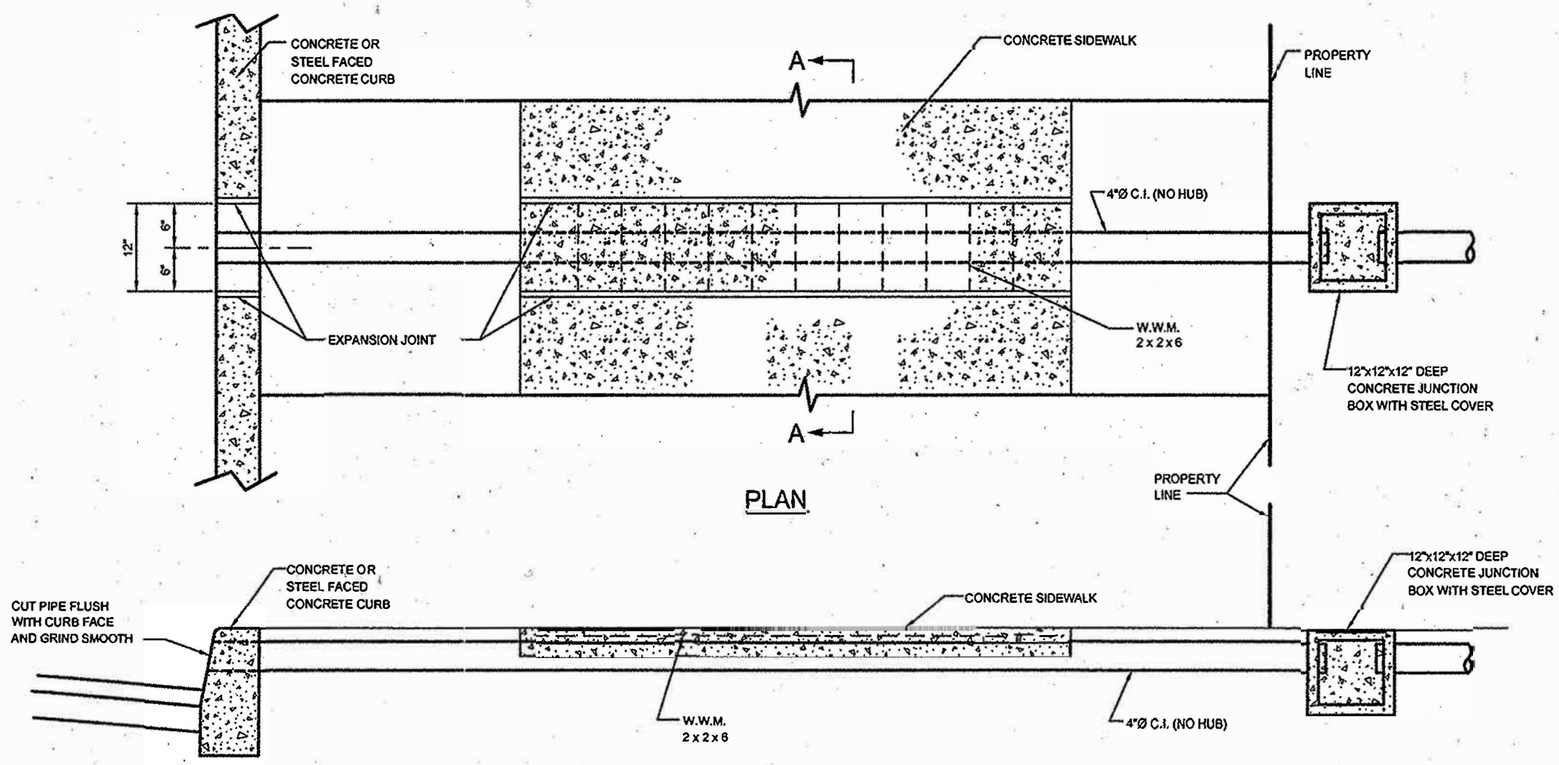
Approved:
Chief Engineer
Department of Transportation

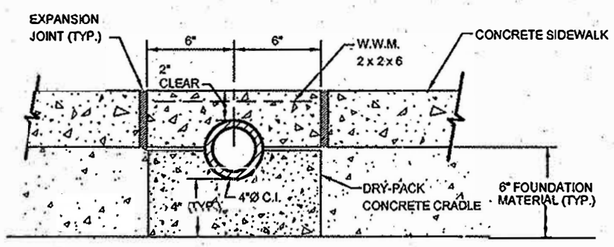
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

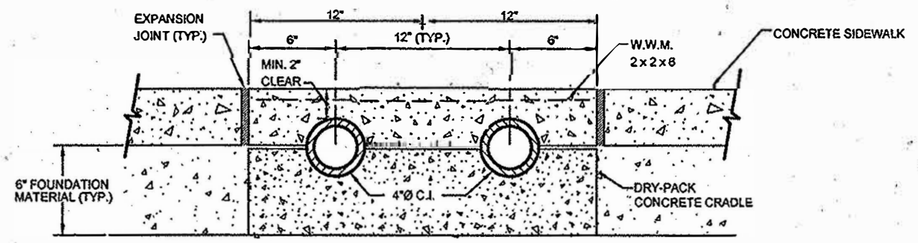
Scale: None

Drawing # H-1036





SINGLE DRAIN (AS SHOWN)



MULTIPLE DRAIN

NOTE:
AUTHORIZATION REQUIRED BY N.Y.C. DEPT. OF BUILDINGS & DEPT. OF ENVIRONMENTAL PROTECTION FOR NEW INSTALLATIONS.

SECTION A-A
N.T.S.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

UNDER SIDEWALK DRAIN

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

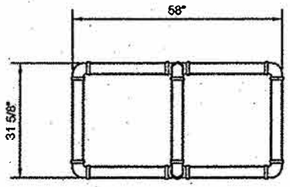
Date Issued: 7/1/10

Scale: None

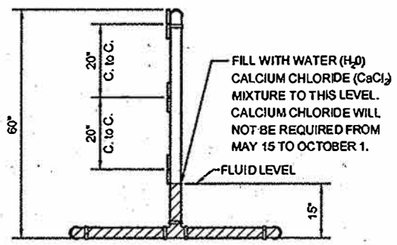
Drawing # H-1037

CHECKED BY: MB

DWS-H1037



PLAN

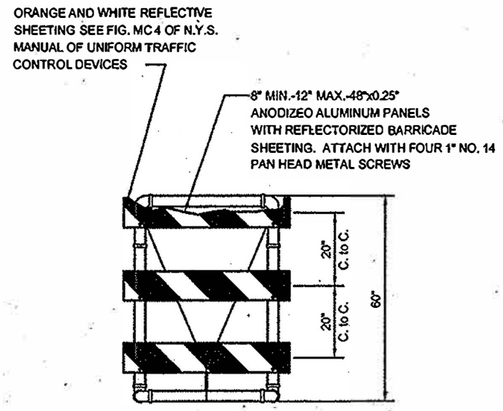


SIDE

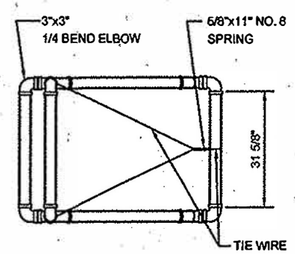
TYPICAL TYPE III BREAKAWAY BARRICADE UNIT
ALTERNATE "A"
NOT TO SCALE

NOTES:

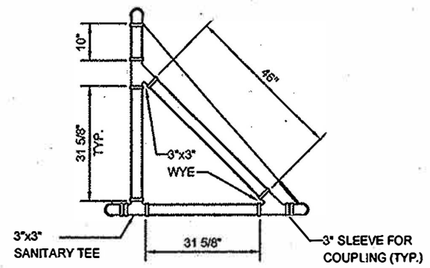
1. ALL PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE RATED PIPE SDR 21 OR SDR 26 ASTM D2241.
2. JOINT FITTINGS SHALL BE PVC ASTM D2665.
3. ALL PIPE SHALL BE WHITE. WHITE FITTINGS ARE PREFERRED, BLACK MAY BE USED.
4. SOLVENT CEMENT ASTM D2564 TYPE I.
5. ALUMINUM FACE PANELS N.Y.S.D.O.T. 730-01.
6. REFLECTIVE SHEETING N.Y.S.D.O.T. 730.05-01 OR 730.05-02.
7. PAN HEAD METAL SCREWS N.Y.S.D.O.T. 715.04.
8. ALL JOINTS TO BE GLUED.



FRONT



PLAN



SIDE

TYPICAL TYPE III BREAKAWAY BARRICADE UNIT
ALTERNATE "B"
NOT TO SCALE

NOTES:

1. ALL PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE RATED PIPE SDR 21 OR SDR 26 ASTM D2241.
2. JOINT FITTINGS MAY BE PVC ASTM D2665 OR ACRYLONITRILE BUTADIENE STYRENE (ABS)ASTM D2661 (DRAINAGE AND VENT).
3. ALL PIPE SHALL BE WHITE. WHITE FITTINGS ARE PREFERRED, BLACK MAY BE USED.
4. ALL JOINTS SHALL BE FREE TO SEPARATE UPON VEHICLE IMPACT.
5. SHADED CONDUIT TO BE TIED TOGETHER WITH ROPE THREADED INTO PIPE INTERIOR. USE 3/16" NO. 6 SOLID BRAIDED NYLON OR EQUIVALENT.
6. A FIXED FRANGIBLE PAVEMENT CONNECTION IS PREFERRED. SAND BAGS MAY BE SUBSTITUTED.
7. TIE WIRE 6 GAGE ALUMINUM OR GALVANIZED STEEL.
8. ALUMINUM FACE PANELS N.Y.S.D.O.T. 730-01.
9. REFLECTIVE SHEETING N.Y.S.D.O.T. 730.05-01 OR 730.05-02.
10. NO. 14 PAN HEAD METAL SCREWS 1" LONG N.Y.S.D.O.T. 715.04.
11. FOR LIGHTED BARRICADES THE MOUNTING OF BATTERY PACKS FOR LIGHTING ON CONSTRUCTION BARRICADES SHALL BE AT THE BASE OF THE BARRICADES.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MT

HWS-H1038

NEW YORK CITY DOT

New York City Department of Transportation

TYPE III BREAKAWAY BARRICADE

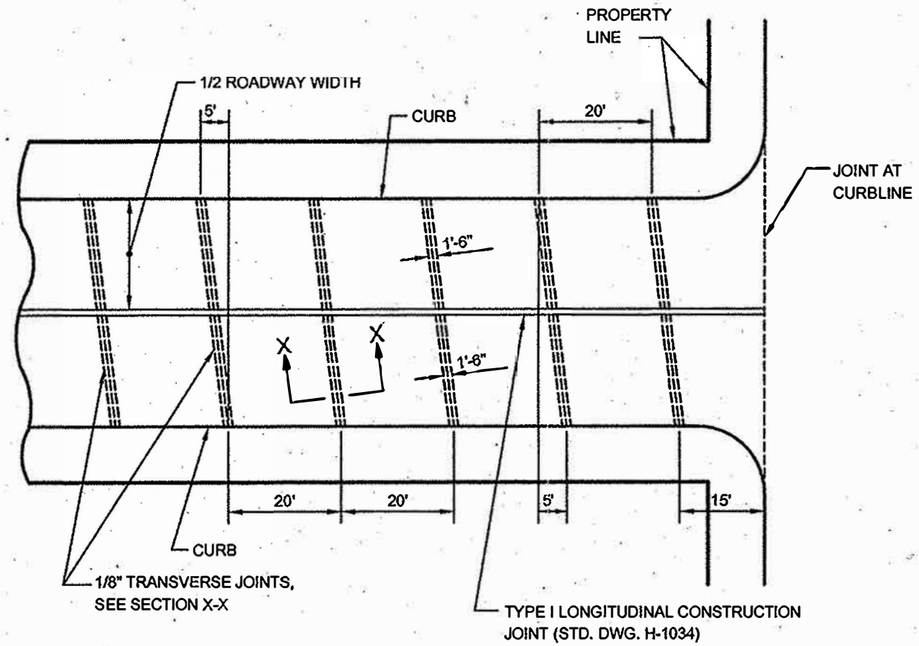
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

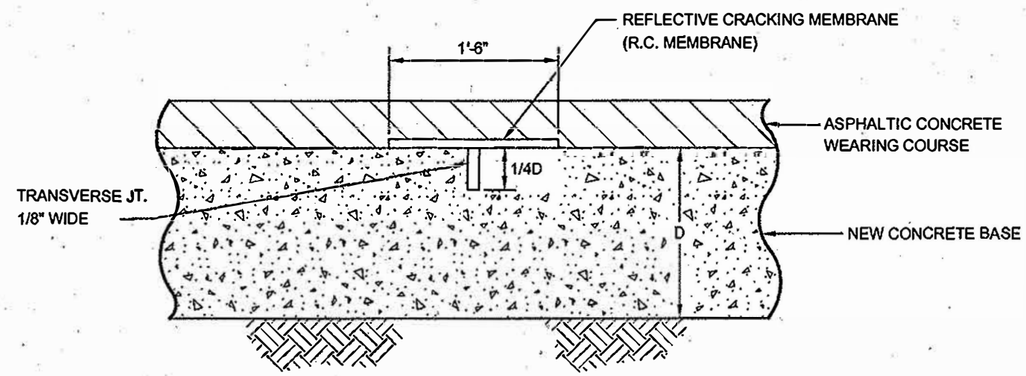
Date Issued: 7/1/10

Scale: None

Drawing # H-1038



PLAN
(TYPICAL PAVEMENT JOINT LAYOUT)
N.T.S.



SECTION X-X
TYPICAL TRANSVERSE JOINT
N.T.S.

NOTES:

1. TYPE I CONSTRUCTION JOINTS TO BE INSTALLED ON ALL LONGITUDINAL ROADWAY JOINTS.
2. TRANSVERSE JOINTS TO BE SAW CUT WITHIN 24 HOURS OF POURING OF CONCRETE. TRANSVERSE JOINTS SHALL BE 5 FT. SKEWED AND SHALL BE PROVIDED AT 20 FT. CENTERS. SEE TYPICAL LAYOUT AND SECTION X-X FOR DETAILS. (1/8" WIDE)
3. AN 18 INCH WIDTH OF R.C. MEMBRANE IS TO BE APPLIED OVER TRANSVERSE AND LONGITUDINAL JOINTS TO PREVENT REFLECTIVE CRACKING. R.C. MEMBRANE TO BE APPROVED BY THE ENGINEER.
4. R.C. MEMBRANE TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
5. ROADWAY JOINTS (LONGITUDINAL OR TRANSVERSE) TO BE PAID FOR UNDER NEW CONC. BASE ITEM.
6. CONTRACTOR WILL BE PERMITTED TO INSTALL ALTERNATE COLD JOINT FOR TRANSVERSE SECTIONS, SUBJECT TO THE APPROVAL OF THE FIELD ENGINEER.
7. R.C. MEMBRANE WILL BE PAID FOR UNDER ITEM 6.91, REFLECTIVE CRACKING MEMBRANE (18" WIDE).

CHECKED BY: MRS

DWS-H1040

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TRANSVERSE CONSTRUCTION JOINTS
FOR CONCRETE BASE

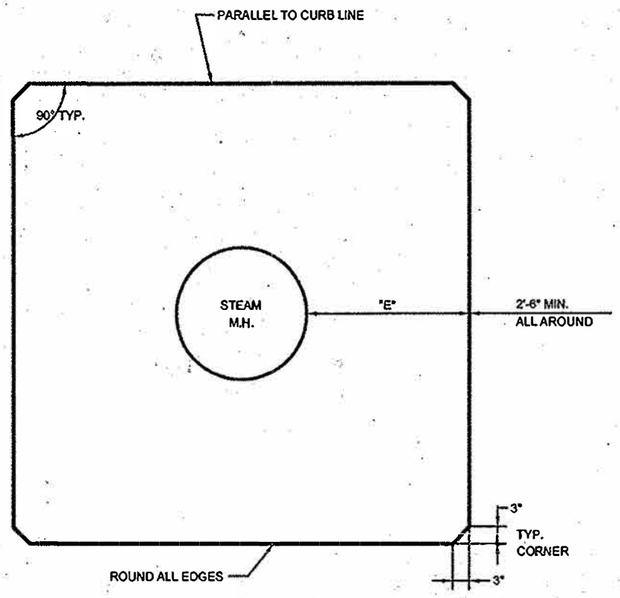
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

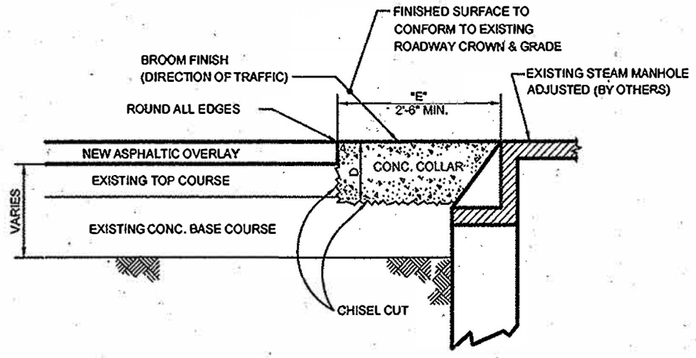
Date Issued: 7/1/10

Scale: None

Drawing # H-1040



PLAN
N.T.S.



PARTIAL SECTION
N.T.S.

NOTES

1. DEPTH "D" TO BE TO THE TOP OF THE EXISTING CONC. BASE. THE CONC. BASE SHALL BE CHIPPED CLEAN AND AN EPOXY BONDING COMPOUND SHALL BE APPLIED THERETO.
2. SHOULD THE DEPTH "D" TO THE TOP OF THE EXISTING CONC. BASE BE LESS THAN 6" THE BASE SHALL BE CUT DOWN TO A MIN. OF 6" AND AN EPOXY BONDING COMPOUND WILL BE APPLIED TO THE EXPOSED CONC. SURFACE.
3. CONC. PAVEMENT SHALL BE CLASS "A" CONC. (4000 psi AT 28 DAYS).
4. PRICE BID SHALL INCLUDE ALL EXCAVATION, PREPARATION, EPOXY, CONC., FINISHING, ETC., REQ'D FOR THE PROPER INSTALLATION.
5. THE PERIMETER OF THE EXCAVATED AREA SHALL BE CUT SQUARE IN ORDER TO PROVIDE FOR AN EVENLY FINISHED AREA.
6. IF THE SEPARATION BETWEEN TWO OR MORE CASTINGS IS SMALLER THAN 3" THE RESTORATION SHALL BE AS ONE UNIT WHILE THE PAY ITEM SHALL BE THE NUMBER OF MANHOLES (VALVE BOXES) INCORPORATED INTO THE WORK.
7. FOR CONC. COLLAR ARDUND STEAM VALVE BOXES CONSTRUCTION WILL BE SIMILAR EXCEPT EDGE DISTANCE "E" SHALL BE 1'-0".

CHECKED BY: MJE

HWS-H1041

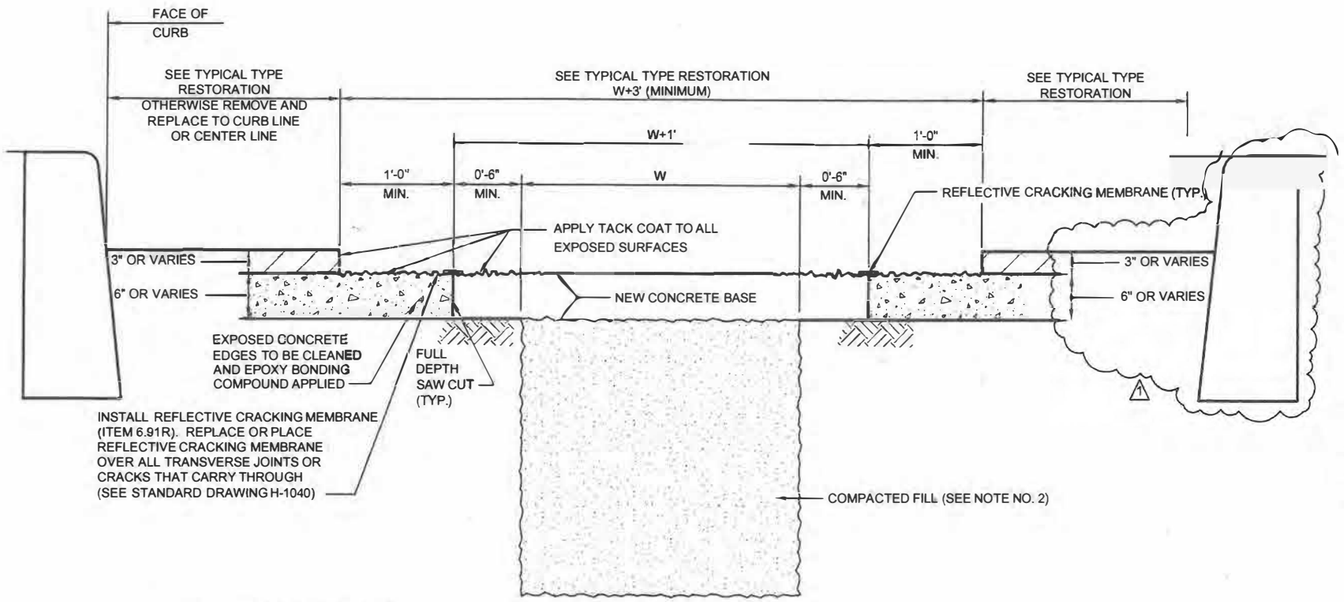
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

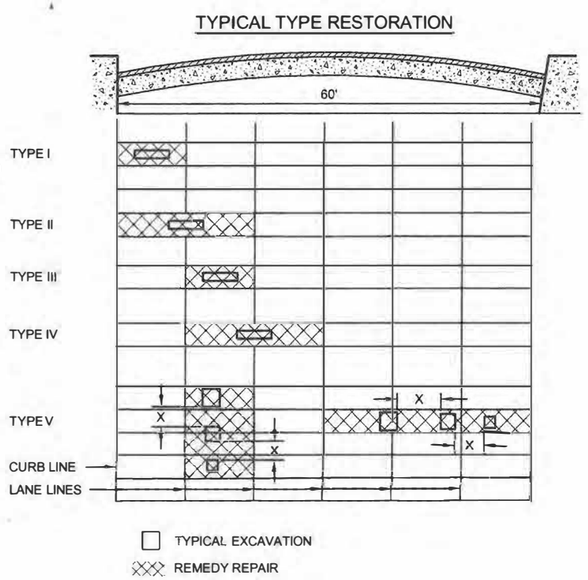
New York City
Department of Transportation

CONCRETE COLLAR AROUND
STEAM MANHOLE AND
STEAM VALVE

Approved:	Approved:
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction
Date Issued: 7/1/10	Scale: None / Drawing # H-1041



RESTORATION DETAIL ⚠1
N.T.S.



CRITICAL ROADWAYS AND PROTECTED STREETS

NOTES:

⚠1 1. ALL UNDERMINED, DISTURBED OR UNSTABLE SUB BASE MATERIAL SHALL BE REMOVED PRIOR TO BACKFILLING. IT SHALL BE FULLY RESTORED AND COMPACTED WHILE THE TRENCH IS BEING FULLY BACKFILLED AND COMPACTED.

⚠1 2. ALL TRENCHES SHALL BE BACKFILLED AS PER SECTION 4.11 OF NYCDOT STANDARD HIGHWAY SPECIFICATIONS.

⚠1 3. ALL TRENCH RESTORATIONS SHALL BE SQUARE OR RECTANGULAR SHAPED. SAW CUTTING BACK EXISTING ASPHALT PAVEMENT AND CONCRETE BASE, SQUARING AND ALIGNING OF CUT LIMITS TO BE PERFORMED ONLY AFTER COMPLETION OF THE COMPACTION OF THE BACKFILL TO THE BOTTOM OF THE BASE.

4. BACKFILL MATERIAL SHALL BE DEPOSITED IN HORIZONTAL LAYERS NOT EXCEEDING 12" IN THICKNESS PRIOR TO COMPACTION. A MINIMUM OF 95% OF STANDARD PROCTOR MAXIMUM DENSITY WILL BE REQUIRED. WHEN PLACING BACKFILL AROUND PIPES, LAYERS SHALL BE DEPOSITED TO PROGRESSIVELY BURY THE PIPE TO EQUAL DEPTHS ON BOTH SIDES. COMPACTION SHALL BE ACHIEVED BY THE USE OF IMPACT RAMMERS, PLATE OR SMALL DRUM VIBRATORS OR PNEUMATIC BUTTON HEAD COMPACTION EQUIPMENT. HAND TAMPING IS NOT PERMITTED EXCEPT IN THE IMMEDIATE AREA OF THE UNDERGROUND FACILITY.

5. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF NYC DEPARTMENT OF TRANSPORTATION AND IN PROCESS INSPECTION AND TESTING SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.

⚠1 6. WHEN THE EXISTING PAVEMENT IS ASPHALT ON CONCRETE BASE THEN THE RESTORATION SHALL BE AS SHOWN ON RESTORATION DETAIL. CONCRETE SHALL BE REMOVED TO A WIDTH OF W + 1 FOOT BY FULL DEPTH SAW CUTTING FOR CRITICAL ROADWAYS AND FOR PROTECTED STREETS, AND FOR NON-PROTECTED STREETS CONCRETE SHALL BE REMOVED TO A WIDTH OF W + 1 FOOT BY EITHER FULL DEPTH SAW CUTTING OR OTHER METHODS. ASPHALT SHALL BE REMOVED TO A WIDTH OF NOT LESS THAN W + 3 FEET BY SAW CUTTING AND GRINDING OR PEELING SO AS NOT TO DAMAGE CONCRETE BASE. THE SAW CUTTING SHALL ALIGN WITH THE LANE MARKING OR DIRECTION OF TRAFFIC IF THERE ARE NO LANE MARKINGS, AND PERPENDICULAR THERETO.

⚠1 7. APPLY BITUMOUS CURING COMPOUND OVER NEWLY PLACED CONCRETE BASE (SECTION 2.14 NYCDOT HIGHWAY SPECIFICATION).

8. WHEN THE EXISTING PAVEMENT IS ASPHALT MACADAM WITHOUT CONCRETE BASE. THE CONTRACTOR SHALL SAWCUT A WIDTH OF NOT LESS THAN W + 1' OF THE EXISTING PAVEMENT AND RESTORE THIS TO CONFORM TO THE EXISTING PAVEMENT AND SUB-BASE MATERIAL BUT MUST PLACE NOT LESS THAN 6" OF ASPHALT MACADAM ON 6" OF CRUSHED STONE AGGREGATE SIZED TO 1" TO 3". THE RESTORATION SHALL CONFORM TO THE TYPICAL TYPE RESTORATION ABOVE. WHERE NO MARKINGS EXIST THE ALIGNMENT SHALL BE SO THAT SAWCUT DOES NOT FALL UNDER A WHEEL TRACK.

9. WHEN X DISTANCE BETWEEN HOLES IS GREATER THAN 10 FT. FROM EDGE TO ABUTTING EDGE. THE CONCRETE BASE SHALL BE OPENED SEPARATE FOR EACH HOLE. A SERIES OF SMALL HOLES SPACED 10 FT. OR LESS FROM EDGE TO ABUTTING EDGE SHALL BE OPENED TO A CONTINUOUS TRENCH. SEE TYPE V RESTORATION.

10. ALL REPAIRS SHALL CONFORM TO TYPICAL TYPE RESTORATION I THRU V ABOVE.

⚠1 11. FOR TRENCH OR HOLE RESTORATION AT BUS STOPS OF FULL DEPTH CONCRETE OR ANY FULL DEPTH CONCRETE PAVEMENT, SEE STANDARD DRAWING H-1050 FOR CONSTRUCTION DETAILS AND STANDARD DRAWING 1042B FOR RESTORATION DETAILS.

12. FOR RESTORATION OF CONCRETE COLLARS AROUND STEAM MANHOLES SEE STANDARD DRAWING H-1041. FOR BUS STOPS REFER TO STANDARD DRAWING H-1005 AND H-1005A.

⚠1 13. NOTWITHSTANDING THE REQUIREMENTS SET FORTH PER THIS DRAWING, IT SHALL REMAIN THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ADDITIONAL REQUIREMENTS THAT MAY BE STIPULATED IN THE DOT PERMIT.

REVISION NO.	DESCRIPTION	DATE	APPROVED
⚠1	REVISED NON-PROTECTED STREETS TO PROTECTED. REVISED NOTES 1,3,7	3/1/16	D. NG
⚠1	REVISED AND CLASSIFIED ROADWAY RESTORATION DETAIL. ADDED NEW NOTES 7 & 13. REVISED NOTES 2, 6 & 11.	3/1/16	D. NG

NEW YORK CITY DOT

New York City Department of Transportation

STANDARD TRENCH OR HOLE RESTORATION FOR STREETS PROTECTED BY NYC ADMINISTRATIVE CODE § 19-144

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 3/15/16

Scale: None

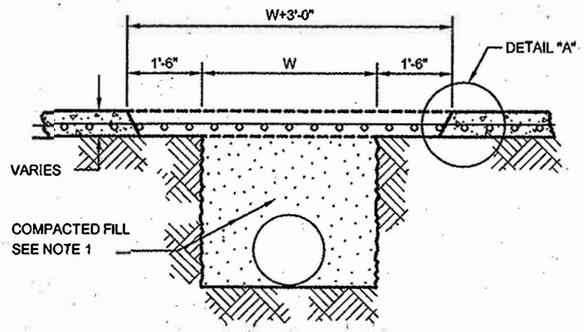
Drawing # H-1042A

CHECKED BY: M. Z

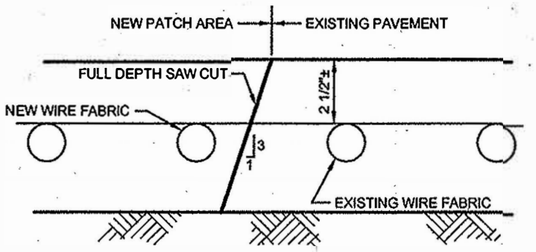
HWS-H1042A

NOTES

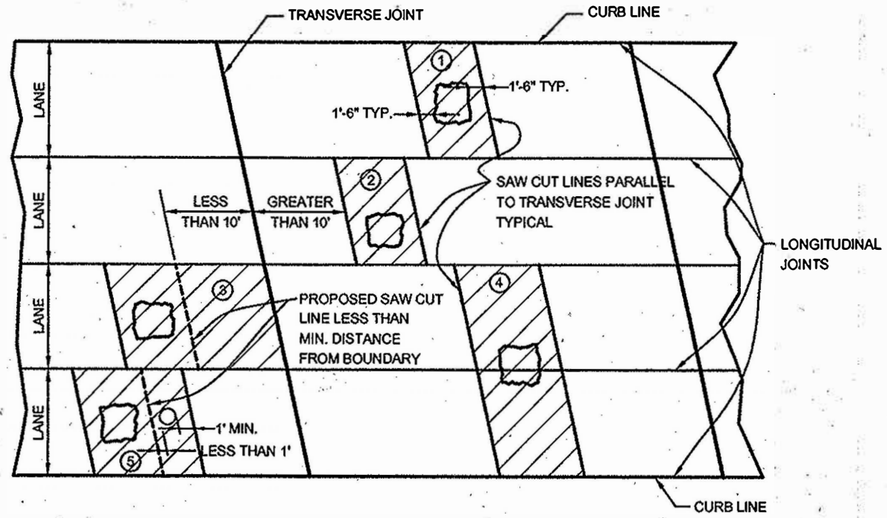
1. ALL TRENCHES SHALL BE BACKFILLED WITH GOOD TO EXCELLENT FILL AS PER THE NYC DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
2. BACKFILL MATERIAL SHALL BE DEPOSITED IN HORIZONTAL LAYERS NOT EXCEEDING 12" IN THICKNESS PRIOR TO COMPACTION. A MINIMUM OF 95% OF STANDARD MAXIMUM DENSITY WILL BE REQUIRED WHEN PLACING BACKFILL. LAYERS SHALL BE DEPOSITED TO PROGRESSIVELY BURY THE UTILITY TO EQUAL DEPTHS ON BOTH SIDES. COMPACTION SHALL BE ACHIEVED BY THE USE OF IMPACT HAMMERS, PLATE OR SMALL DRUM VIBRATORS OR PNEUMATIC BUTTON HEAD COMPACTION EQUIPMENT. HAND TAMPING IS NOT PERMITTED EXCEPT IN THE IMMEDIATE AREA OF THE UNDERGROUND FACILITY.
3. ALL MATERIALS USED IN THE RESTORATION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE NYC DEPARTMENT OF TRANSPORTATION AND/OR SHALL BE APPROVED BY THE OCMC.
4. THE OUTLINE OF THE PATCH SHALL BE FULL DEPTH SAW CUTTING AT A MINIMUM DISTANCE OF 1'-6" FROM ALL EDGES OF THE EXCAVATION. (SEE SKETCH FOR DETAIL) THE BREAKUP WITH PNEUMATIC HAMMERS IS TO BEGIN AT THE CENTER OF THE PATCH AREA NOT AT THE SAW CUTS. IF THE CONTRACTOR SPALLS THE CONCRETE DURING THE REMOVAL, HE MUST MAKE A NEW SAW CUT OUTSIDE THE SAWED AREA AND REMOVE THE CONCRETE WITHOUT ADDITIONAL COMPENSATION.
5. TO MINIMIZE OR ELIMINATE PATCH HOCKING, PUMPING, AND BREAKUP, THE WIDTH OF THE PATCH SHALL NOT BE LESS THAN ONE FULL LANE WIDTH. HOWEVER, IF THE EXCAVATION EXTENDS INTO AN ADJACENT LANE THE CONCRETE IN THIS ADJACENT LANE IS TO BE REMOVED TO THE NEXT LONGITUDINAL JOINT (TO THE CURB LINE IF CUT IS IN CURB LANE). EXISTING JOINTS THEREBY REMOVED ARE TO BE RESTORED IN SUCH A MANNER SO THAT THE STRUCTURAL INTEGRITY OF THE ORIGINAL JOINT IS RETAINED. TIE BARS, IF PRESENT, SHALL IN ALL CASES BE RETAINED OR REPLACED.
6. THE EDGE OF THE PATCH SHALL NOT BE CLOSER THAN 10' TO THE NEAREST TRANSVERSE JOINT. IF SAID EDGE FALLS WITHIN THIS TEN (10) FOOT DISTANCE ALL CONCRETE UP TO THE JOINT SHALL BE REMOVED AND REPLACED TO SAID BOUNDARY. LIKEWISE, THE EDGE OF THE PATCH SHALL NOT BE CLOSER THAN 1'-0" BEYOND THE FAR SIDE OF THE HARDWARE. JOINTS MAY BE ROUGH FACED OR SMOOTH FACED BUT IN ALL CASES THE STRUCTURAL INTEGRITY OF THE EXISTING JOINT IS TO BE RETAINED. LOAD TRANSFER DEVICES, IF PRESENT, SHALL BE RETAINED OR REPLACED.
7. IMMEDIATELY PRIOR TO THE PLACING OF THE NEW CONCRETE ALL EXPOSED EDGES OF THE OLD CONCRETE SHALL HAVE A CEMENT-WATER-SAND GROUT OR EPOXY BONDING COMPOUND BRUSHED ON.
6. A WIRE MESH OF THE SAME SIZE AS THAT IN THE ORIGINAL PAVEMENT SHALL BE PLACED IN THE PATCH AREA. NO PHYSICAL TIE TO THE EXISTING MESH WILL BE REQUIRED. THIS MESH WILL BE PLACED APPROX. 2-1/2" BELOW THE ROADWAY SURFACE.
9. A CONVENTIONAL CONCRETE MIXTURE CONTAINING AN INCREASED CEMENT FACTOR (9 BAG MIX TYPE III CEMENT), REDUCED WATER CONTENT, SUPERPLASTICIZER AND AN ACCELERATOR IS TO BE USED SO THAT THE PATCH CAN BE OPENED TO TRAFFIC WITHIN A TWENTY-FOUR HOUR PERIOD, OR BEFORE, IF AND WHEN THE CONCRETE HAS OBTAINED A STRENGTH OF 2500 PSI OR BETTER. UNTIL THIS TIME THE PATCH SHALL BE PROTECTED FROM TRAFFIC BY PLATING AND/OR BARRICADING.
10. EXTRA ATTENTION IS TO BE GIVEN TO ENSURE THAT THE PATCH IS WELL VIBRATED AROUND THE EDGES AND THAT IT IS NOT OVER FINISHED. THE PATCH SHOULD BE STRUCK OFF TWO OR THREE TIMES TO ENSURE THAT ITS SURFACE IS EVEN WITH THE ADJACENT CONCRETE. THE FINISHED TEXTURE SHALL MATCH THAT OF THE ADJACENT PAVEMENT.
11. A CLEAR CURING AND SEALING COMPOUND SHALL BE APPLIED TO THE FINISHED SURFACE.



CONCRETE PAVEMENT RESTORATION DETAIL
N.T.S.



DETAIL "A"
N.T.S.



LEGEND

- EXCAVATION AREA
- STREET HARDWARE
- PATCH AREA

PLAN VIEW
TYPICAL PATCH REPAIRS

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT — New York City Department of Transportation

CONCRETE PAVEMENT RESTORATION

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

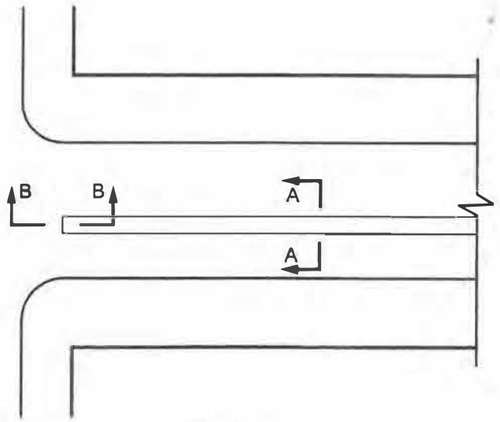
Date Issued: 7/1/10

Scale: None

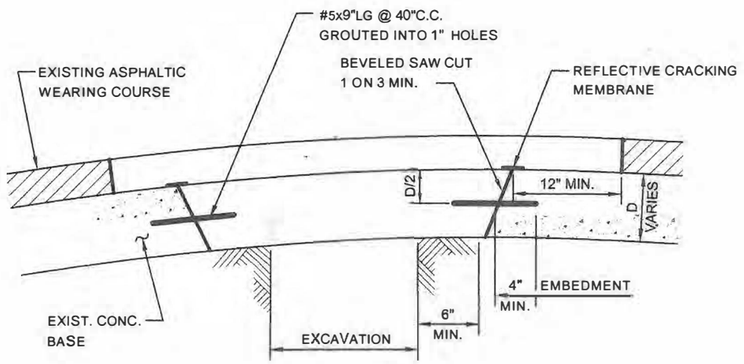
Drawing # H-1042B

CHECKED BY: MR

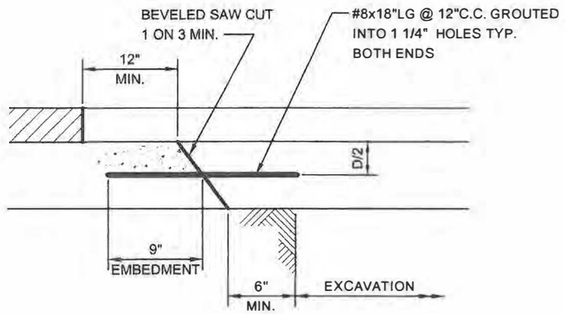
HWS-H1042B



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL UNDERMINED, DISTURBED OR UNSTABLE SUB BASE MATERIAL SHALL BE REMOVED PRIOR TO BACKFILLING. IT SHALL BE FULLY RESTORED AND COMPACTED WHILE THE TRENCH IS BEING FULLY BACKFILLED AND COMPACTED.
2. ALL TRENCHES SHALL BE BACKFILLED WITH MATERIAL MEETING NYC DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS, SECTION 4.11.
3. WHEN PLACING FILL OR BACKFILL AROUND PIPES OR OTHER UNDERGROUND FACILITIES, SIX (6") INCH LAYERS SHALL BE DEPOSITED TO PROGRESSIVELY BURY THE FACILITY TO EQUAL DEPTH ON BOTH SIDES AND FOR THE FULL DEPTH AND WIDTH OF THE TRENCH EXCAVATED FOR THE FACILITY. THE ABOVE METHOD OF FILL OR BACKFILL SUPERSEDES THE FILL OR BACKFILL METHODS AS SPECIFIED ELSEWHERE IN THE NYC DEPARTMENT OF TRANSPORTATION (DOT) STANDARD SPECIFICATIONS FOR THE PRIVATELY OWNED OR CITY OWNED UTILITIES. IN DEEP TRENCHES, IN LIEU OF DEPOSITING AND COMPACTING THE BACKFILL FROM TWO (2') FEET ABOVE THE UNDERGROUND FACILITY TO A PLANE FIVE (5') FEET BELOW FINAL SURFACE IN ACCORDANCE WITH THE ABOVE SPECIFIED PROCEDURE, THE CONTRACTOR MAY SUBMIT TO THE COMMISSIONER OF DEPT. OF TRANSPORTATION, FOR APPROVAL, AN ALTERNATE BACKFILL METHOD (i.e., PUDDLING, JETTING, DEEPER COMPACTION LAYERS, ETC.). THIS SUBMITTAL MUST FULLY DESCRIBE THE ALTERNATE METHOD, INCLUDING PROPOSED EQUIPMENT, BACKFILL MATERIAL, DEPTH OF COMPACTION LAYER AND TRENCH LOCATIONS WHERE IT WILL BE EMPLOYED. HOWEVER, APPROVAL OF ANY ALTERNATE BACKFILL METHOD SHALL NOT RELIEVE THE CONTRACTOR FROM OBTAINING A MINIMUM 95% STANDARD PROCTOR MAXIMUM DENSITY. SHOULD THE COMMISSIONER DETERMINE THAT THE SPECIFIED DENSITY IS NOT BEING OBTAINED, THE AREA MUST BE RE-EXCAVATED AND BACKFILLED UNTIL THE REQUIRED COMPACTION DENSITY IS ACHIEVED.
4. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE NYC D.O.T. AND IN PROCESS INSPECTION AND TESTING SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
5. THE CONCRETE BASE OF THE EXISTING COMPOSITE PAVEMENT SHALL BE REMOVED WITH A BEVELED SAW CUT, AS SHOWN ON THE DETAIL, TC DIMENSIONS A MINIMUM OF SIX INCHES GREATER THAN THE EXCAVATION AT THE BASE OF THE BEVEL. ASPHALT SHALL BE REMOVED TO DIMENSIONS TWELVE INCHES GREATER THAN THE OPENING OF THE CONCRETE BASE AT THE TOP OF THE BEVEL BY SAW CUT AND GRINDING OR PEELING SO AS NOT TO DAMAGE THE CONCRETE BASE. ALL TRENCH RESTORATIONS SHALL BE SQUARE OR RECTANGULAR SHAPED.
6. THE BEVELED SAW CUT SURFACE SHALL BE ROUGHENED WITH A SMALL IMPACT HAMMER, 20 LBS. OR LESS, WITH A CHISEL POINT AT LEAST ONE INCH WIDE.
7. STEEL REINFORCING BARS, AS SPECIFIED ON THE DETAIL, SHALL BE GROUTED INTO DRILLED HOLES WITH CONCRETE GROUTING MATERIAL CONFORMING TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION SPECIFICATION 701-05.
8. THE ROUGHENED BEVELED SURFACE SHALL BE AIR BLASTED TO REMOVE DUST AND LOOSE PARTICLES PRIOR TO COATING WITH A TWO COMPONENT BONDING COMPOUND CONFORMING TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION SPECIFICATION 721-03, EPOXY POLYSULFIDE GROUT.
9. A CONVENTIONAL CONCRETE MIXTURE CONTAINING AN INCREASED CEMENT FACTOR (9 BAG MIX, TYPE III CEMENT), REDUCED WATER CONTENT, SUPERPLASTICIZER AND AN ACCELERATOR SHALL BE USED SO THAT THE RESTORATION CAN BE OPENED TO TRAFFIC WITHIN A TWENTY-FOUR HOUR PERIOD WHEN THE CONCRETE HAS ATTAINED A STRENGTH OF 2,500 PSI OR BETTER. UNTIL THIS TIME, THE RESTORATION SHALL BE PROTECTED FROM TRAFFIC BY PLATING AND/OR BARRICADING.
10. MATCH EXISTING TRANSVERSE JOINTS AND SAW CUTS IN EXISTING CONCRETE BASE.
11. INSTALL REFLECTIVE CRACKING MEMBRANE OVER EACH BEVELED SAW CUT. REPLACE OR PLACE REFLECTIVE CRACKING MEMBRANE OVER ALL TRANSVERSE JOINTS OR CRACKS THAT CARRY THROUGH. IF THE WIDTH OF THE RESTORATION IS TWO FEET OR LESS, PLACE THE REFLECTIVE CRACKING MEMBRANE OVER THE FULL WIDTH OF THE REPAIR.
12. APPLY BITUMOUS CURING COMPOUND OVER NEWLY PLACED CONCRETE BASE (SECTION 2.14 NYCDOT HIGHWAY SPECIFICATION) AND A TACK COAT TO ALL EXPOSED CONCRETE SURFACES BEFORE INSTALLING NEW ASPHALTIC CONCRETE WEARING COURSE.

REVISION NO.	DESCRIPTION	DATE	APPROVED
1	REVISED NOTES 1, 5,12	3/1/16	D. NG

NEW YORK CITY DOT

New York City
Department of Transportation

ROADWAY RESTORATION FOR
NEWLY CONSTRUCTED ROADWAYS

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

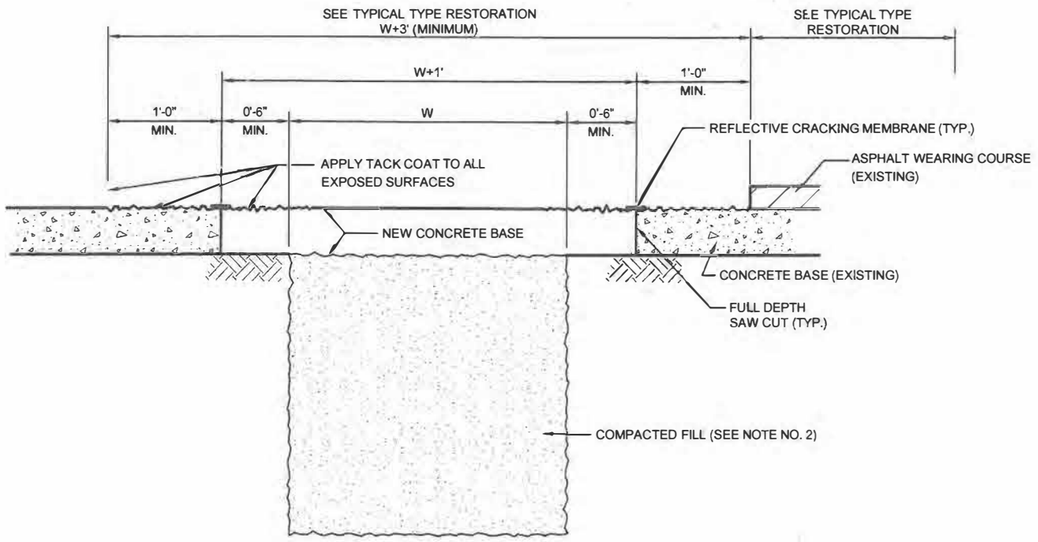
Date Issued: 3/15/16

Scale: None

Drawing # H-1042C

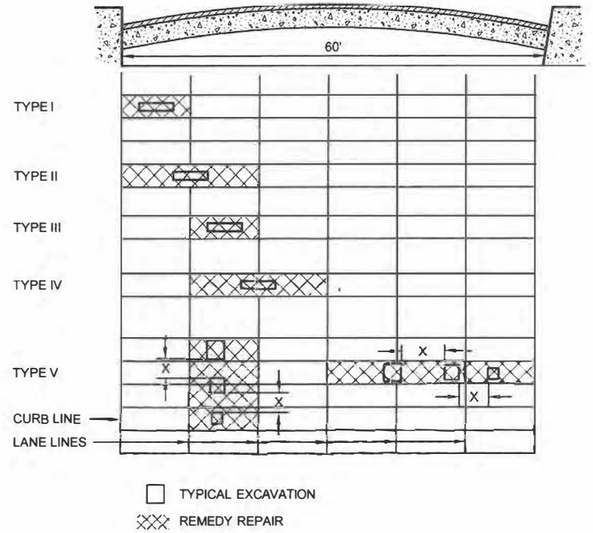
CHECKED BY: M.Z

HWS-H1042C



RESTORATION DETAIL
N.T.S.

TYPICAL TYPE RESTORATION



NOTES:

1. ALL UNDERMINED, DISTURBED OR UNSTABLE SUB BASE MATERIAL SHALL BE REMOVED PRIOR TO BACKFILLING. IT SHALL BE FULLY RESTORED AND COMPACTED WHILE THE TRENCH IS BEING FULLY BACKFILLED AND COMPACTED.
2. ALL TRENCHES SHALL BE BACKFILLED AS PER SECTION 4.11 OF NYCDOT STANDARD HIGHWAY SPECIFICATIONS.
3. ALL TRENCH RESTORATIONS SHALL BE SQUARE OR RECTANGULAR SHAPED. SAW CUTTING BACK EXISTING ASPHALT PAVEMENT AND CONCRETE BASE, SQUARING AND ALIGNING OF CUT LIMITS TO BE PERFORMED ONLY AFTER COMPLETION OF THE COMPACTION OF THE BACKFILL TO THE BOTTOM OF THE BASE.
4. BACKFILL MATERIAL SHALL BE DEPOSITED IN HORIZONTAL LAYERS NOT EXCEEDING 12" IN THICKNESS PRIOR TO COMPACTION. A MINIMUM OF 95% OF STANDARD PROCTOR MAXIMUM DENSITY WILL BE REQUIRED. WHEN PLACING BACKFILL AROUND PIPES, LAYERS SHALL BE DEPOSITED TO PROGRESSIVELY BURY THE PIPE TO EQUAL DEPTHS ON BOTH SIDES. COMPACTION SHALL BE ACHIEVED BY THE USE OF IMPACT RAMMERS, PLATE OR SMALL DRUM VIBRATORS OR PNEUMATIC BUTTON HEAD COMPACTION EQUIPMENT. HAND TAMPING IS NOT PERMITTED EXCEPT IN THE IMMEDIATE AREA OF THE UNDERGROUND FACILITY.
5. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF NYC DEPARTMENT OF TRANSPORTATION AND IN PROCESS INSPECTION AND TESTING SHALL BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
6. WHEN THE EXISTING PAVEMENT IS ASPHALT ON CONCRETE BASE THEN THE RESTORATION SHALL BE AS SHOWN ON RESTORATION DETAIL. FOR NON-PROTECTED STREETS CONCRETE SHALL BE REMOVED TO A WIDTH OF W + 1 FOOT BY EITHER FULL DEPTH SAW CUTTING OR OTHER METHODS. ASPHALT SHALL BE REMOVED TO A WIDTH OF NOT LESS THAN W + 3 FEET BY SAW CUTTING AND GRINDING OR PEELING SO AS NOT TO DAMAGE CONCRETE BASE. THE SAW CUTTING SHALL ALIGN WITH THE LANE MARKING OR DIRECTION OF TRAFFIC IF THERE ARE NO LANE MARKINGS, AND PERPENDICULAR THERETO.
7. APPLY BITUMOUS CURING COMPOUND OVER NEWLY PLACED CONCRETE BASE (SECTION 2.14 NYCDOT HIGHWAY SPECIFICATION).
8. WHEN THE EXISTING PAVEMENT IS ASPHALT MACADAM WITHOUT CONCRETE BASE. THE CONTRACTOR SHALL SAWCUT A WIDTH OF NOT LESS THAN W + 1' OF THE EXISTING PAVEMENT AND RESTORE THIS TO CONFORM TO THE EXISTING PAVEMENT AND SUB-BASE MATERIAL BUT MUST PLACE NOT LESS THAN 6" OF ASPHALT MACADAM ON 6" OF CRUSHED STONE AGGREGATE SIZED TO 1" TO 3". THE RESTORATION SHALL CONFORM TO THE TYPICAL TYPE RESTORATION ABOVE. WHERE NO MARKINGS EXIST THE ALIGNMENT SHALL BE SO THAT SAWCUT DOES NOT FALL UNDER A WHEEL TRACK.
9. WHEN X DISTANCE BETWEEN HOLES IS GREATER THAN 10 FT. FROM EDGE TO ABUTTING EDGE. THE CONCRETE BASE SHALL BE OPENED SEPARATE FOR EACH HOLE. A SERIES OF SMALL HOLES SPACED 10 FT. OR LESS FROM EDGE TO ABUTTING EDGE SHALL BE OPENED TO A CONTINUOUS TRENCH. SEE TYPE V RESTORATION.
10. ALL REPAIRS SHALL CONFORM TO TYPICAL TYPE RESTORATION I THRU v ABOVE.
11. FOR TRENCH OR HOLE RESTORATION AT BUS STOPS OF FULL DEPTH CONCRETE OR ANY FULL DEPTH CONCRETE PAVEMENT, SEE STANDARD DRAWING H-1050 FOR CONSTRUCTION DETAILS AND STANDARD DRAWING 1042B FOR RESTORATION DETAILS.
12. FOR RESTORATION OF CONCRETE COLLARS AROUND STEAM MANHOLES SEE STANDARD DRAWING H-1041. FOR BUS STOPS REFER TO STANDARD DRAWING H-1005 AND H-1005A.
13. NOTWITHSTANDING THE REQUIREMENTS SET FORTH PER THIS DRAWING, IT SHALL REMAIN THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ADDITIONAL REQUIREMENTS THAT MAY BE STIPULATED IN THE DOT PERMIT.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

STANDARD TRENCH OR HOLE RESTORATION
FOR STREETS UNDER GUARANTEE BY
NYC ADMINISTRATIVE CODE § 19-147

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

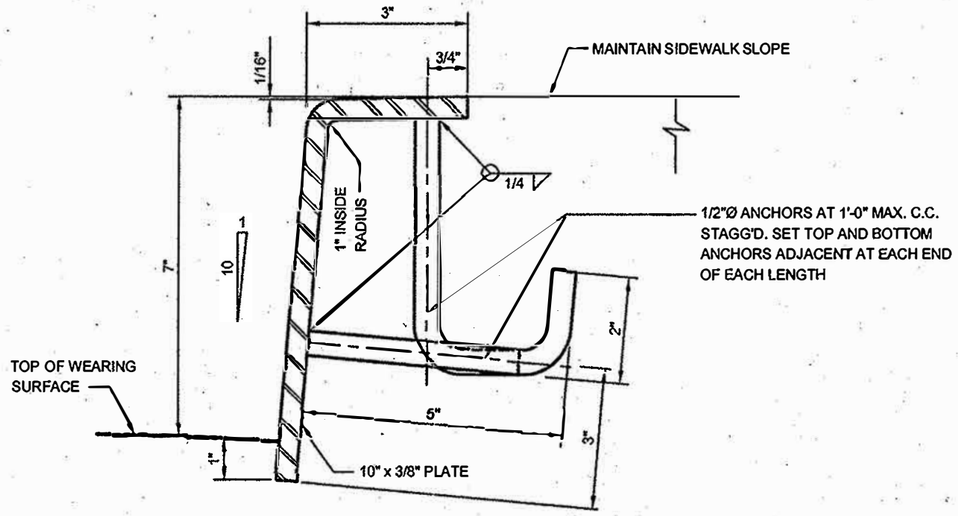
Date Issued: 3/15/16

Scale: None

Drawing # H-1042D

CHECKED BY: M.Z

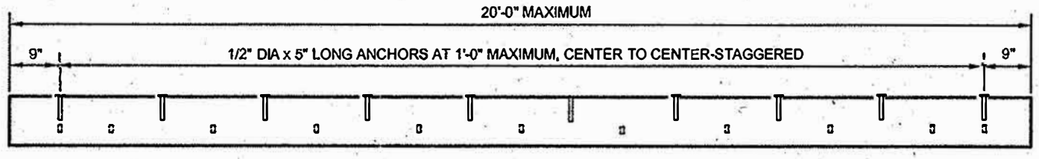
HWS-H1042D



DETAIL
N.T.S.

NOTES

1. EXPANSION JOINTS IN THE STEEL CURB FACING AND CONCRETE BACKING SHALL BE AT A MAXIMUM SPACING OF 24 FEET.
2. THE EXPANSION JOINTS OF THE CURB AND STEEL CURB FACING SHALL LINE UP WITH THE EXPANSION JOINTS OF THE CONCRETE SIDEWALKS.
3. NO PIECE OF STEEL CURB FACING HAVING LESS THAN TWO (2) WELDED DOWELS MAY BE INSTALLED UNLESS IT IS WELDED TO THE ADJACENT STEEL CURB FACING.
4. 1/2" Ø x 5" HEADED ANCHOR STUDS (GRANULAR OR SOLID FLUX FILLED) MAY BE SUBSTITUTED.
5. STRUCTURAL STEEL AS PER BOARD OF STD. SPECS. 20-S-35 TYPE A-1 (A.S.T.M. DESIGNATION A36).
6. SURFACE TO BE PAINTED SHALL BE THOROUGHLY CLEANED AND THEN PAINTED AS PER REQUIREMENTS OF SECTION 2.13 IN THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS. THE COLOR OF TOP COAT SHALL BE GRAY AS APPROVED BY THE ENGINEER.
7. WHERE TWO (2) PIECES OF STEEL CURB FACING ARE JOINED BUT NOT WELDED, TWO (2) ONE-HALF (1/2) INCH RODS, TWENTY FOUR (24) INCHES LONG SHALL BE INSERTED INTO THE CONCRETE BACKING, ONE-HALF (1/2) THE LENGTH AT EACH SIDE OF THE JOINT.
8. CORNER CURB:-VERTICAL FACE WILL BE ACCEPTABLE FOR CORNER CURBS PROVIDING THE ENDS ARE WARPED TO FORM A TRANSITION WITH ADJACENT BATTERED FACE CURBS.



ELEVATION-STEEL FACING FOR BRIDGE DECK CURBS
N.T.S.

CHECKED BY: MR

RWS-H1043

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

STEEL FACED CURB
STEEL FACING TYPE D
FOR STRUCTURES

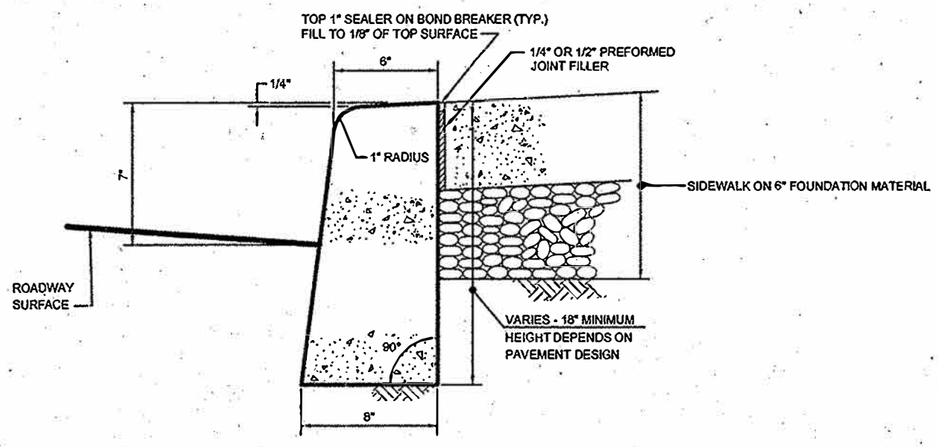
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1043



DETAIL
N.T.S.

NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION #4.08 OF THE NYC DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS.

CHECKED BY: MZ

HWS-H1044

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

CONCRETE CURB

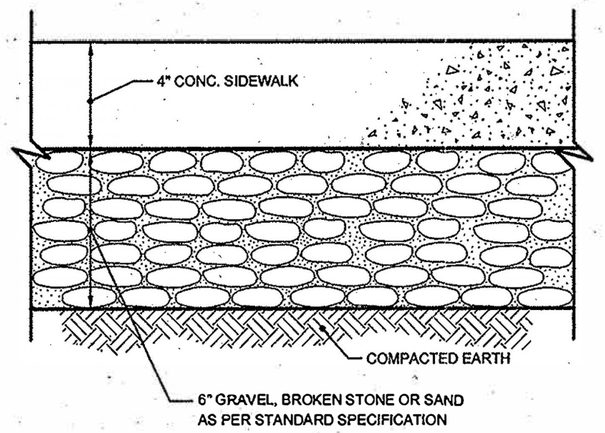
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

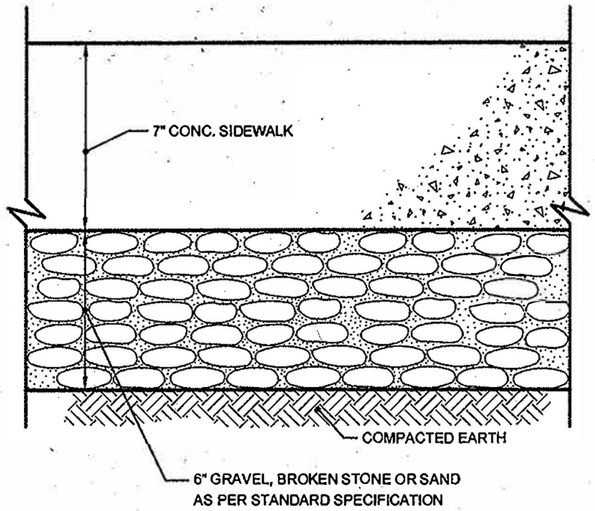
Date Issued: 7/1/10

Scale: None

Drawing # H-1044



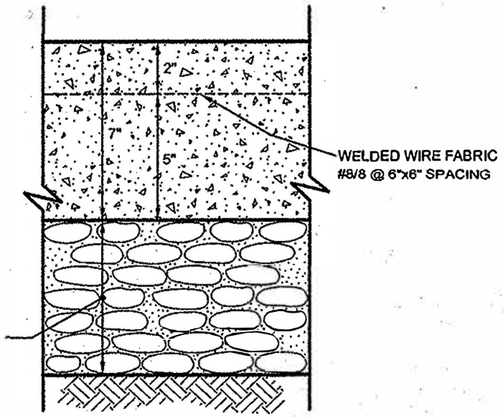
TYPE I - SIDEWALK, OUTSIDE DRIVEWAY AND CORNER QUADRANTS
N.T.S.



TYPE II - SIDEWALK, IN DRIVEWAY AND IN CORNER QUADRANTS
N.T.S.

NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION #4.13 OF THE NYC DEPARTMENT OF TRANSPORTATION (DOT) STANDARD HIGHWAY SPECIFICATIONS.
2. WELDED WIRE FABRIC, WHERE SPECIFIED, SHALL BE ASTM DESIGNATION A-185, GAUGE # 8/8 AT 6"x6" SPACING, AND CONFORM TO SECTION # 2.25 OF THE NYCDOT STANDARD HIGHWAY SPECIFICATIONS.



TYPE III - SIDEWALK WITH WELDED WIRE FABRIC
N.T.S.

CHECKED BY: MT

DWS-H1045

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

CONCRETE SIDEWALK

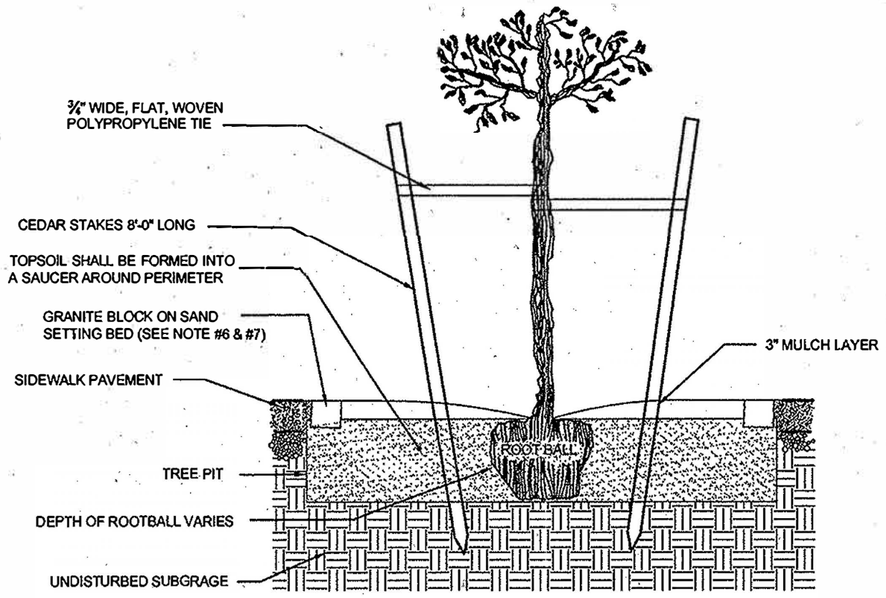
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

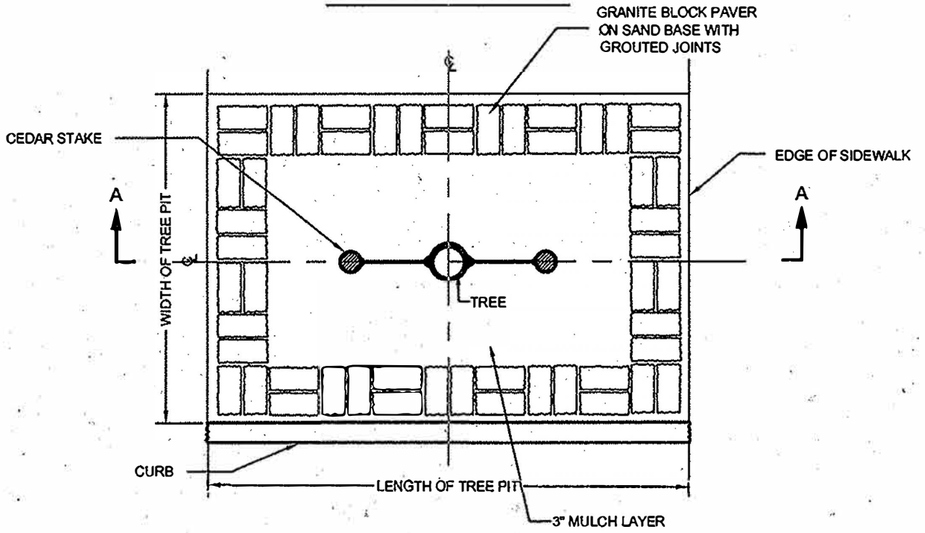
Date Issued: 7/1/10

Scale: None

Drawing # H-1045



SECTION A-A



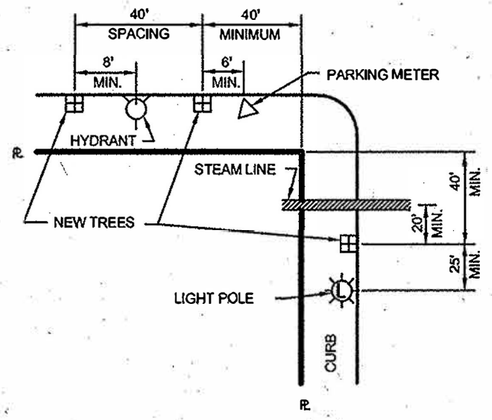
PLAN

TREE PLANTING, STAKING AND TREE PIT PAVEMENT DETAILS FOR SIDEWALK AREAS

TREE PITS SHALL BE 4' X 5' OR 5' X 5' OR 5' X 10' AS SPECIFIED

NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION # 4.16 OF THE STANDARD HIGHWAY SPECIFICATIONS, LATEST EDITION.
2. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMIT FROM THE DEPT. OF PARKS AND RECREATION FOR THE REMOVAL AND PLANTING OF TREES.
3. TREE PITS SHOULD BE LOCATED TWO (2) FEET MINIMUM FROM GAS, OIL OR WATER BOXES.
4. TREE STAKES ARE TO BE REMOVED BY THE TREE SUBCONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING OF SAID TREES AND PRIOR TO THE FINAL ACCEPTANCE OF THE WORK.
5. USE OF SIDEWALK PAVEMENT MATERIALS OTHER THAN GRANITE BLOCK MUST BE SPECIFICALLY APPROVED, IN WRITING, BY ENGINEER.
6. GRANITE BLOCK IN TREE PIT SHALL BE PAID FOR UNDER ITEM NO. 6.06 AB OR 6.06 BB, AS APPLICABLE.
7. WHERE CONCRETE PAVERS ARE SPECIFIED FOR USE IN TREE PITS THEY SHALL BE PAID FOR UNDER ITEM NO. 6.47 TP.



REQUIRED STREET TREE SPACING

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MF

HWS-H1046

NEW YORK CITY DOT — New York City Department of Transportation

STREET TREE PLANTING DETAIL TYPE 1

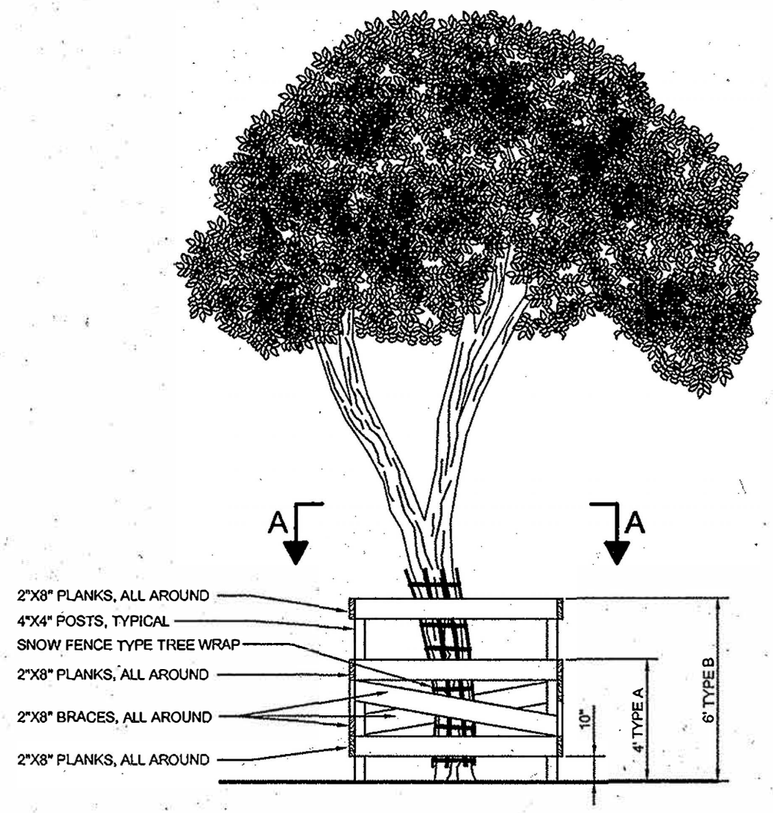
Approved: Chief Engineer, Department of Transportation

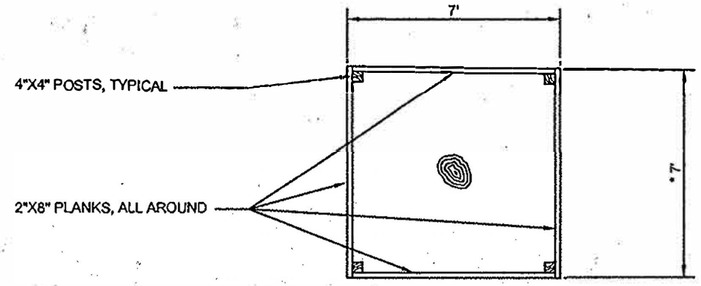
Approved: Associate Commissioner, Infrastructure/Design, ~~Department of Design + Construction~~

Date Issued: 7/1/10

Scale: None

Drawing # H-1046





* WIDTH MAY BE REDUCED TO 5' ON NARROW SIDEWALKS AS REQUIRED TO MAINTAIN SIDEWALK CLEARANCE OF 3' (THREE FEET) AT THE TREE BARRIERS ONLY.

SECTION A-A
DETAILS - PROTECTIVE TREE BARRIER

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MT

HWS-H1046A

NEW YORK CITY DOT

New York City
Department of Transportation

PROTECTIVE TREE BARRIER

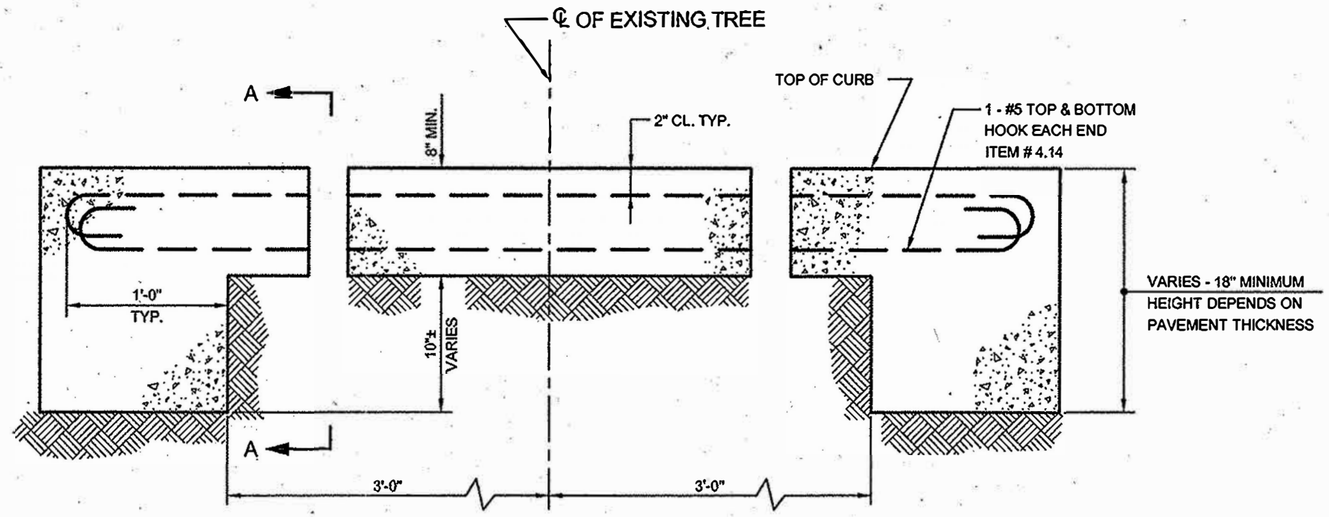
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date issued: 7/1/10

Scale: None

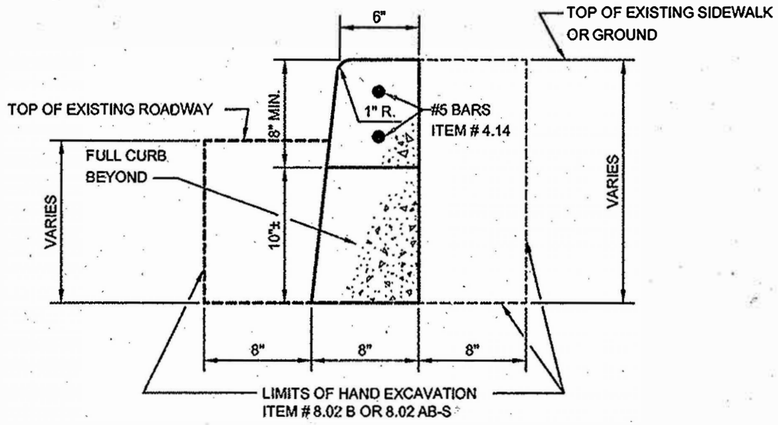
Drawing # H-1046A



TYPICAL CURB DETAIL
AT EXISTING TREES
N.T.S.

NOTES

1. THIS DETAIL SHALL APPLY FOR BOTH CONCRETE AND STEEL FACED CONCRETE CURB AND SHALL BE USED WHERE DIRECTED BY THE ENGINEER.
2. FOR STEEL FACED CONCRETE CURB, CUT STEEL FACING AT HAUNCH (8" BELOW TOP OF CURB). THE STEEL SHALL BE CUT IN SUCH A MANNER THAT THE BOTTOM ANCHORS ARE NOT REMOVED.
3. THE CONTRACTOR SHALL HAND EXCAVATE FOR A DISTANCE OF 4'-0" ON EACH SIDE OF CENTERLINE OF EXISTING TREE TO REMAIN, ITEM # 8.02 B OR 8.02 AB-S.
4. BULKHEAD OPENING SO THAT PAVEMENT DOES NOT ENCROACH ON OPEN AREA.
5. ALL MATERIALS & CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTIONS # 4.08 & # 4.09 OF THE NYC DEPT. OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS.



SECTION A-A
N.T.S.

CHECKED BY: MZ

DWS-H1047

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TYPICAL CURB DETAIL
AT EXISTING TREES

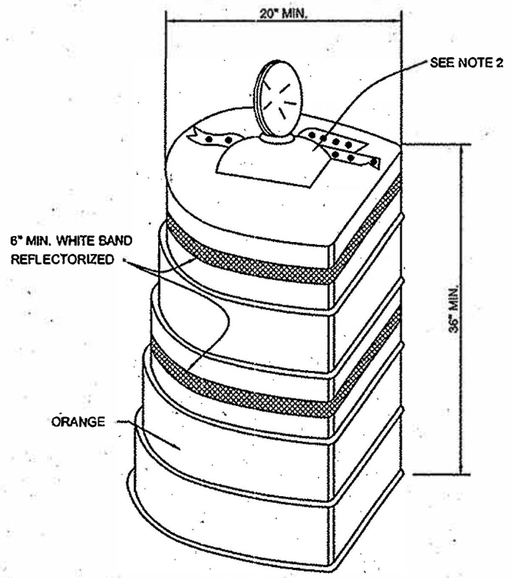
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1047



PLASTIC BARREL
N.T.S

NOTES:

1. BARREL MUST BE PLASTIC AND SPECIFICALLY DESIGNED AS A TRAFFIC CONTROL DEVICE. THE BARREL MUST BE FLATTENED ON AT LEAST ONE SIDE OR OTHERWISE DESIGNED SO THAT IT WILL NOT ROLL IF OVERTURNED.
2. THE BATTERY POWERED LIGHT IS FOR NIGHT USE ONLY. USE TYPE A LOW INTENSITY FLASHING LIGHT FOR POINT HAZARDS. USE TYPE C LOW INTENSITY STEADY BURN LIGHTS FOR CHANNELIZATION. THE LIGHT SHALL BE PHOTO CELL CONTROLLED FOR NIGHT USE.
3. ALL MATERIALS & METHODS USED ARE TO CONFORM TO SECTION #6.87 OF THE STANDARD SPECIFICATIONS, LATEST EDITION, AS AMENDED.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MT

DWS-H1049

NEW YORK CITY DOT

New York City
Department of Transportation

PLASTIC BARREL

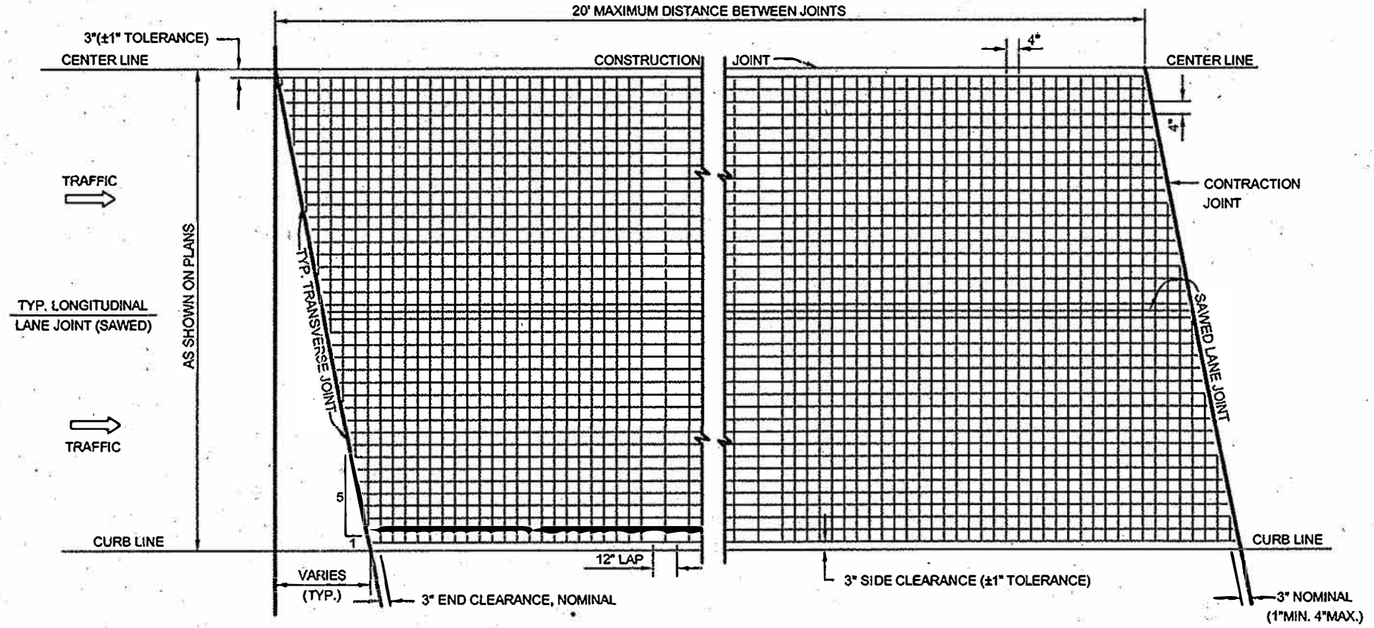
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

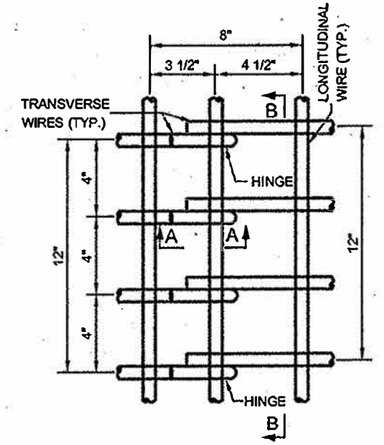
Scale: None

Drawing # H-1049



METAL REINFORCEMENT FOR CONCRETE PAVEMENT

NOT TO SCALE

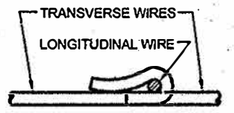


HINGE DETAIL
NOT TO SCALE

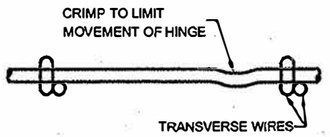
GENERAL NOTES:

1. WELDED WIRE FABRIC SHALL MEET REQUIREMENTS OF ASTM A-185.
2. WELDED WIRE FABRIC SHALL BE 4x4-W4xW4.
3. CONCRETE SHALL BE HIGH-EARLY STRENGTH AS SPECIFIED.
4. SHEETS MAY BE HINGED AS SHOWN IN THE DETAIL. HINGED SHEETS SHALL BE HINGED AT LEAST TWO LONGITUDINAL MEMBERS OFF CENTER, AND EACH ADJOINING SHEET SHALL BE REVERSED IN PLACING, IN ORDER THAT THE HINGES SHALL NOT OVERLAY EACH OTHER AT THE LAPS.
5. THE METAL REINFORCEMENT SHALL BE PLACED AT 1/2 DEPTH OF PAVEMENT.
6. THE DETAIL OF REINFORCEMENT IS SHOWN FOR HALF OF THE WIDTH OF THE ROADWAY AND IS SIMILAR IN THE OTHER HALF.
7. REINFORCEMENT FOR OTHER WIDTHS OF ROADWAY SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN, WITH APPROPRIATE DIMENSIONS.
8. CONCRETE PAVEMENT SURFACE TO BE TRANSVERSELY TEXTURED WITH A SET OF SPRING STEEL TINES (3/16" DEEP) IN A DIRECTION PARALLEL TO THE TRANSVERSE JOINT LINES.

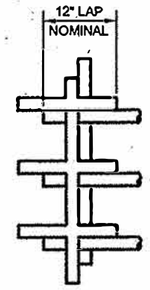
CONTINUED ON SHEET 2 OF 4



SECTION A-A
NOT TO SCALE



SECTION B- B
NOT TO SCALE



LAP DETAIL
NOT TO SCALE

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

REINFORCED CONCRETE PAVEMENT
CONSTRUCTION DETAILS

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1050-1

CHECKED BY: MT

HWS-H1050-1

GENERAL NOTES CONTINUED

9. ALL JOINT DOWELS MUST BE LEVEL, TRUE AND ADEQUATELY SUPPORTED SO THERE IS NO MOVEMENT DURING THE PLACEMENT OF CONCRETE.

10. DOWELS MUST BE PARALLEL TO THE CURB LINES AND THE SURFACE OF THE SLAB. TOLERANCE OF THIS PLACEMENT SHALL BE ±1/4 INCH.

11. THE CONCRETE SHALL BE DEPOSITED ON A MOIST GRADE IN SUCH MANNER AS TO REQUIRE AS LITTLE REHANDLING AS POSSIBLE. PLACING SHALL BE CONTINUOUS BETWEEN TRANSVERSE JOINTS WITHOUT THE USE OF INTERMEDIATE BULKHEADS. NECESSARY HAND SPREADING SHALL BE DONE WITH SHOVELS, NOT RAKES. WORKMEN SHALL NOT BE ALLOWED TO WALK ON THE FRESHLY MIXED CONCRETE WITH BOOTS OR SHOES COATED WITH EARTH OR FOREIGN SUBSTANCES.

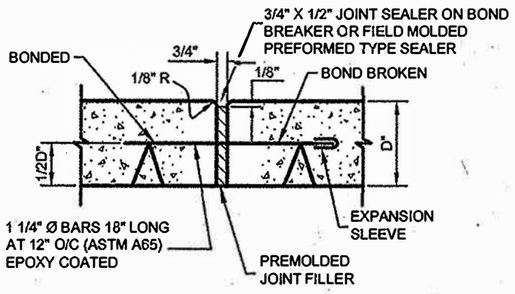
12. CONCRETE SHALL BE THOROUGHLY CONSOLIDATED AGAINST AND ALONG THE FACES OF ALL FORMS AND ALONG THE FULL LENGTH AND ON BOTH SIDES OF ALL JOINTS ASSEMBLIES. VIBRATORS SHALL NOT BE PERMITTED TO COME IN CONTACT WITH A JOINT ASSEMBLY, THE GRADE, OR A SIDE FORM. THE VIBRATOR SHALL NEVER BE OPERATED LONGER THAN 10 SECONDS IN ANY ONE LOCATION.

13. CONCRETE SHALL BE DEPOSITED AS NEAR TO EXPANSION AND CONTRACTION JOINTS AS POSSIBLE WITHOUT DISTURBING THEM BUT SHALL NOT BE DUMPED ONTO A JOINT ASSEMBLY.

14. THE CONTRACTOR SHALL WITHIN EIGHT WEEKS OF THE NOTICE TO PROCEED PREPARE AND SUBMIT TO THE CHIEF ENGINEER OF HIGHWAY DESIGN DETAILED SHOP DRAWINGS FOR THE ENTIRE PAVEMENT, SHOWING: ALL PROPOSED TRANSVERSE AND LONGITUDINAL CONSTRUCTION, EXPANSION AND CONTRACTION JOINTS; PROPOSED CURB JOINTS; THE PROPOSED METHOD OF JOINT FORMING; THE PROPOSED METHOD OF DOWEL SUPPORT; AND THE PROPOSED SEALANT METHOD FOR THE PRIOR APPROVAL OF THE ENGINEER.

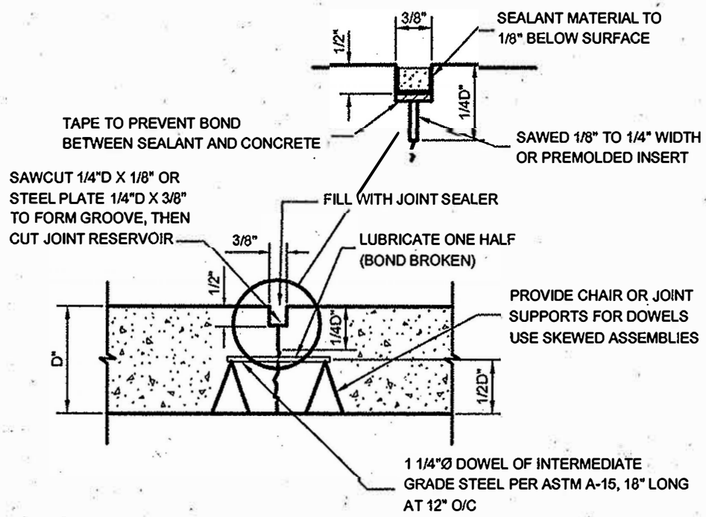
15. SAWING OF THE JOINTS SHALL BEGIN AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING. ALL JOINTS SHALL BE SAWED BEFORE UNCONTROLLED SHRINKAGE CRACKING OCCURS. IF NECESSARY, THE SAWING OPERATIONS SHALL BE CARRIED ON BOTH DAY AND NIGHT, REGARDLESS OF WEATHER CONDITIONS. A STANDBY SAW SHALL BE AVAILABLE IN THE EVENT OF BREAKDOWN.

16. THE SAWING OF ANY JOINT SHALL BE OMITTED IF A CRACK OCCURS AT OR NEAR THE JOINT LOCATION BEFORE THE TIME OF SAWING. SAWING SHALL BE DISCONTINUED IF A CRACK DEVELOPS AHEAD OF THE SAW. IN GENERAL, ALL JOINTS SHALL BE SAWED IN SEQUENCE. ALL CONTRACTION JOINTS IN LANES ADJACENT TO PREVIOUSLY CONSTRUCTED LANES SHALL BE SAWED BEFORE UNCONTROLLED CRACKING OCCURS. IF EXTREME CONDITIONS MAKE IT IMPRACTICABLE TO PREVENT ERRATIC CRACKING BY EARLY SAWING, THE CONTRACTION JOINT GROOVE SHALL BE FORMED BEFORE INITIAL SET OF THE CONCRETE BY APPROVED METHODS.



DETAIL OF EXPANSION JOINT
NOT TO SCALE

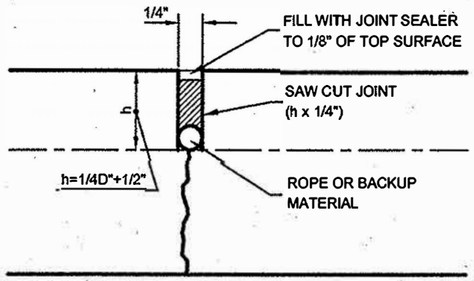
NOTE:
METAL REINFORCEMENT IS NOT SHOWN ON JOINT DETAILS.



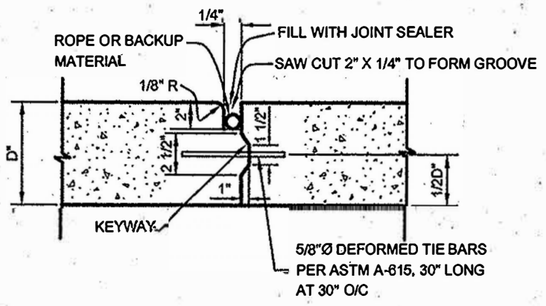
TYPICAL SECTION FOR TRANSVERSE CONTRACTION JOINTS
NOT TO SCALE

NOTES: (APPLY TO ALL JOINTS)

1. THE JOINTS CAN BE COMPLETELY FILLED WITH SEALANT MATERIAL OR PREMOLDED JOINT FILLER CAN BE INSERTED IN THE JOINT FIRST TO REDUCE THE AMOUNT OF SEALANT REQUIRED.
2. SEALER TO BE POURED TO WITHIN 1/8" OF TOP OF PAVEMENT.
3. PRIOR TO SEALING, JOINT SURFACES MUST BE CLEANED AND FREE OF CURING COMPOUND, RESIDUE, LAITANCE AND ANY OTHER FOREIGN MATERIAL.
4. THE SURFACE SHOULD BE DRY WHEN THE SEALANT IS POURED.



SAWED LANE JOINT
NOT TO SCALE



TYPICAL SECTION FOR TRANSVERSE AND LONGITUDINAL CONSTRUCTION JOINTS
NOT TO SCALE

NOTE:

TRANSVERSE CONSTRUCTION JOINTS ARE NECESSARY FOR PLANNED INTERRUPTIONS, AND WHERE EMERGENCY INTERRUPTIONS SUSPEND OPERATIONS FOR 30 MINUTES OR MORE.

CHECKED BY: MT

NWS-H1050-2

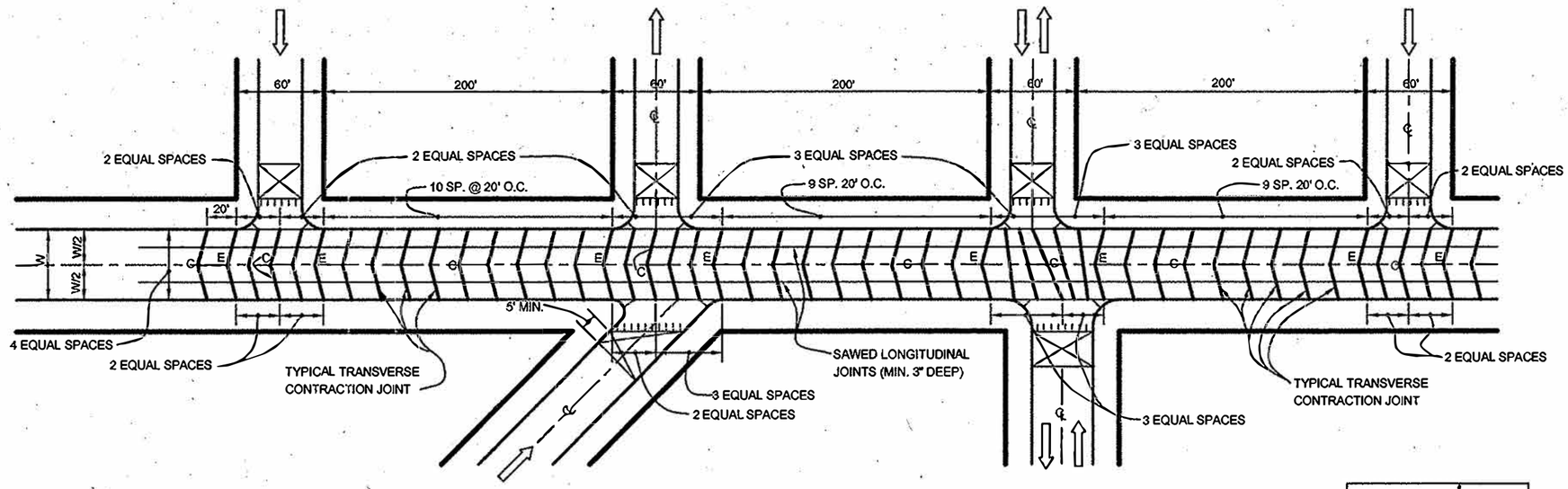
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

REINFORCED CONCRETE PAVEMENT CONSTRUCTION DETAILS

Approved:	Approved:		
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction		
Date Issued: 7/1/10		Scale: None	Drawing # H-1050-2



TYPICAL JOINT LAYOUT

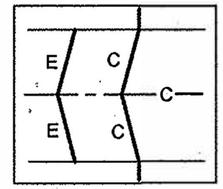
(SEE GENERAL NOTE #14)

TRANSVERSE JOINT NOTES

1. CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW PAVEMENT BY SAWING THE HARDENED SLAB OR BY PLACING AN INSERT OR GROOVE IN THE SLAB SURFACE WHILE THE CONCRETE IS PLASTIC.
2. TRANSVERSE CONTRACTION JOINTS SHALL BE SKEWED JOINTS WITH A MAXIMUM SPACING OF 20 FEET AND A MINIMUM SPACING OF 15 FEET.
3. TRANSVERSE JOINTS SHALL BE ALIGNED TO COINCIDE WITH THE JOINTS IN THE ADJACENT CURBS WHERE PRACTICAL.
4. TRANSVERSE JOINTS ARE TO BE SAWED TO A DEPTH OF 1/4D". ALL JOINTS ARE TO BE SAWED IN SUCCESSION AND SHOULD BE SAWED WHILE THE PAVEMENT IS UNDER COMPRESSION TO PREVENT THE SLAB FROM CRACKING AHEAD OF THE SAW.
5. WHEN A WIDER JOINT-SEALANT RESERVOIR IS REQUIRED THE RESERVOIR MAY BE SAWED SIMULTANEOUSLY WITH THE INITIAL SAW CUT BY PLACING BLADES OF DIFFERENT SIZES ON THE MANDREL.
6. PRIOR TO SEALING, THE JOINT SURFACES MUST BE CLEAN AND FREE OF CURING COMPOUND RESIDUE, LAITANCE, AND ANY OTHER FOREIGN MATERIAL.
7. FIELD MOLDED SEALANTS MEETING AASHTO M173 AND/OR ASTM D1190 OR ASTM D1850 OR AN APPROVED EQUAL ARE TO BE PLACED AS PER MANUFACTURER'S RECOMMENDATIONS.
8. THE SURFACES MUST BE DRY WHEN THE SEALANT IS PLACED AND THE JOINTS ARE TO BE FILLED TO 1/8" BELOW FLUSH WITH THE PAVEMENT SURFACE ±1/16 INCH.
9. IF THE CONTRACTOR ELECTS TO USE PREFORMED SEALANTS THEY ARE TO MEET THE SPECIFICATIONS FOR AASHTO M220 AND/OR ASTM D2626. THE SHAPE FACTOR FOR THE JOINT SEALANT RESERVOIRS AS SHOWN ON THE PLANS ARE TO BE REVISED AS PER RECOMMENDATIONS OF THE MANUFACTURER OR SUPPLIER.
10. IF AN EMERGENCY CONSTRUCTION JOINT OCCURS AT OR NEAR THE LOCATION OF A PLANNED CONTRACTION JOINT, A BUTT-TYPE JOINT WITH DOWEL BARS IS TO BE USED. IF SAID JOINT OCCURS IN THE MIDDLE THIRD OF THE NORMAL JOINT INTERVAL, A KEYED JOINT WITH TIE BARS IS TO BE USED.
11. TRANSVERSE CONSTRUCTION JOINTS FALLING AT PLANNED LOCATIONS FOR CONTRACTION OR EXPANSION JOINTS ARE TO BE BUILT AND SEALED TO CONFORM WITH THE SPECIFICATIONS FOR THOSE JOINTS.

LONGITUDINAL JOINT NOTES

1. LANE JOINTS ARE TO BE SAWED JOINTS (1/4" WIDE X 1/4D+1/2"). TIE BARS WILL NOT BE REQUIRED BUT A SEALANT RESERVOIR SIMILAR TO THOSE USED FOR THE TRANSVERSE CONTRACTION JOINTS MUST BE INSTALLED.
2. THE CENTER LINE JOINT IS TO BE A KEYED CONSTRUCTION JOINT WITH TIE BARS SPACED AS SHOWN ON THE PLANS AND SET PERPENDICULAR TO THE CENTER LINE AND PARALLEL TO THE TOP OF THE SLAB.
3. TIE BARS SHALL BE RIGIDLY SECURED BY CHAIRS OR OTHER APPROVED SUPPORTS TO PREVENT DISPLACEMENT.
4. TIE BARS SHALL NOT BE COATED WITH ANY MATERIALS DELETERIOUS TO BOND.
5. LONGITUDINAL JOINTS SHALL BE AT LEAST 1/4D+1/2" AND 1/4" WIDE.
6. AFTER SAWING, THE JOINTS ARE TO BE FLUSHED OUT, DRIED AND SEALED TO ELIMINATE A SECOND CLEANING.
7. THE SAWED GROOVE CAN BE COMPLETELY FILLED WITH SEALANT MATERIAL OR A ROPE, CORD OR OTHER APPROVED MATERIAL CAN BE INSERTED IN THE GROOVE FIRST TO REDUCE THE AMUONT OF SEALANT REQUIRED.
8. JOINTS ARE TO BE FILLED TO 1/8" BELOW FLUSH WITH THE PAVEMENT SURFACE ±1/18 INCH.
9. NOTES 6, 7, 8, AND 9 UNDER TRANSVERSE JOINTS APPLY TO LONGITUDINAL JOINTS ALSO.



E=EXPANSION JOINT
C=CONSTRUCTION JOINT

KEY

NOTE:

FOR ADDITIONAL NOTES SEE SHEETS 1 AND 2.

CHECKED BY: MZ

HWS-H1050-3

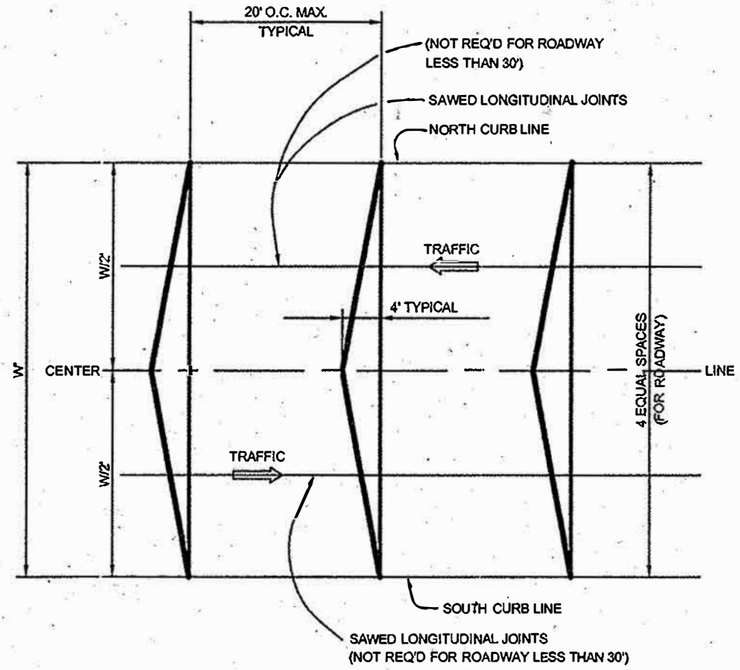
REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

REINFORCED CONCRETE PAVEMENT
CONSTRUCTION DETAILS

Approved:	Approved:
Chief Engineer Department of Transportation	Associate Commissioner Infrastructure/Design Department of Design + Construction
Date Issued: 7/1/10	Scale: None / Drawing # H-1050-3

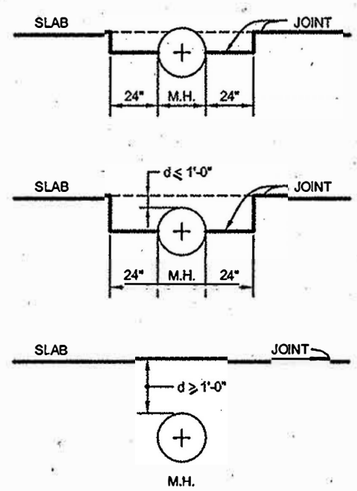


TYPICAL TRANSVERSE JOINT DETAIL
NOT TO SCALE

CASE I
JOINT, IF CONTINUED, WILL PASS THRU THE MANHOLE BUT NOT THRU THE CENTER.

CASE II
JOINT, IF CONTINUED, WILL PASS WITHIN 1'-0" OF MANHOLE RIM.

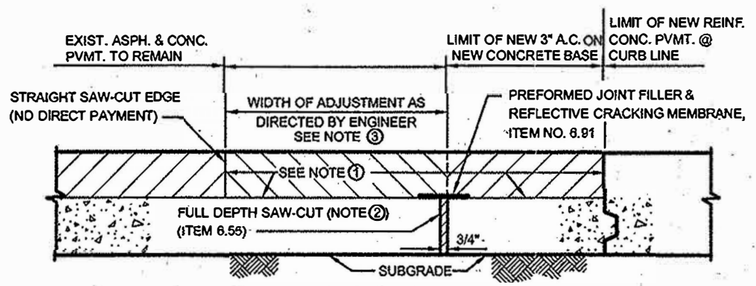
CASE III
JOINT CLEARS THE MANHOLE RIM BY 1'-0" OR MORE.



DETAILS FOR SLAB JOINT/MANHOLE ARRANGEMENTS
NOT TO SCALE

PAVEMENT LIMITS

1. THE LIMITS OF CONCRETE PAVEMENT IN THE INTERSECTING STREETS SHALL BE APPROXIMATELY AT THE BUILDING LINE ALONG ROADWAY. PLACED SO AS NOT TO INTERSECT ANY STREET HARDWARE.
2. ADJUSTMENT AREAS SHALL BE AS DIRECTED BY THE ENGINEER. (5' TO 15') AND SHALL NOT INTERSECT ANY STREET HARDWARE.



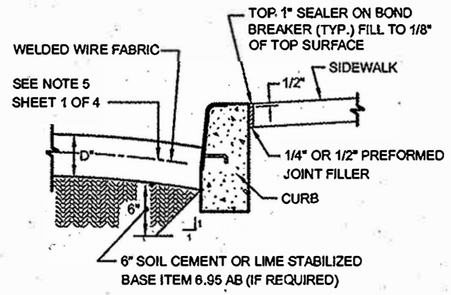
NOTES - SAWCUT

① APPLY ASPHALT TACK COAT TO ALL SURFACES.

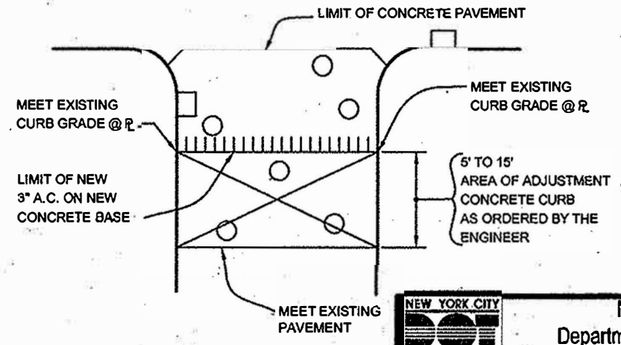
② PAYMENT WILL BE MADE FOR NUMBER OF LINEAR FEET OF SAW-CUTTING AS ORDERED BY ENGINEER.

③ EXISTING ASPHALT TO BE REMOVED UNDER OTHER ITEMS AND THE ADJUSTMENT AREA RESTORED WITH NEW 3" A.C.W.C. ON NEW BINDER MIXTURE AS REQUIRED TO MATCH THE EXISTING ASPHALT PAVEMENT.

DETAIL OF SAW CUT AT END OF NEW PAVEMENT
NOT TO SCALE



DETAIL AT THE JUNCTION OF PAVEMENT AND CURB
NOT TO SCALE



REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MZ

RWS-H1050-4

NEW YORK CITY DOT

New York City Department of Transportation

REINFORCED CONCRETE PAVEMENT CONSTRUCTION DETAILS

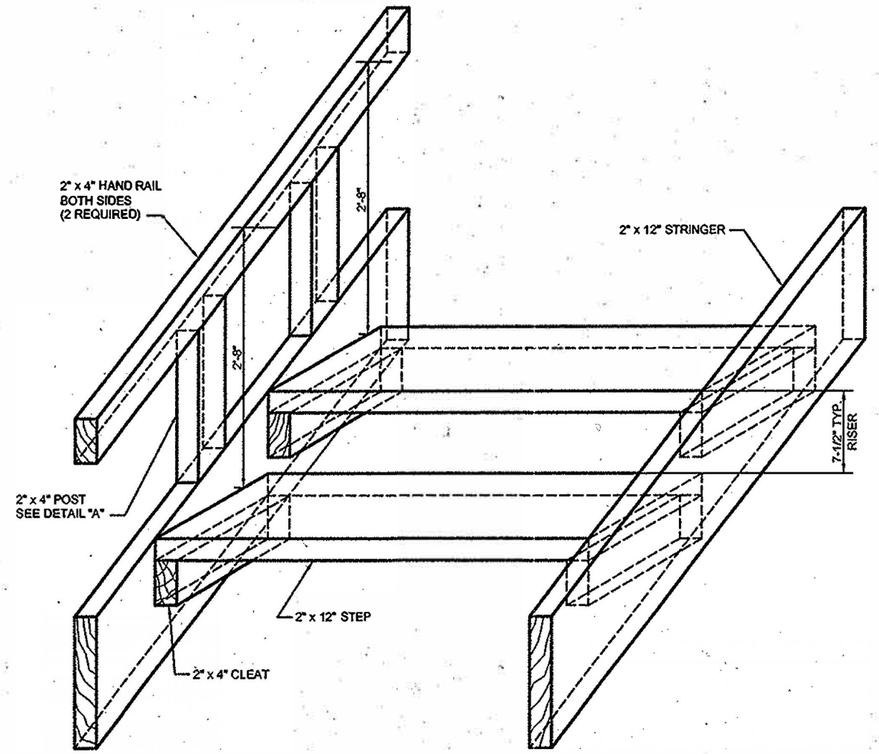
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

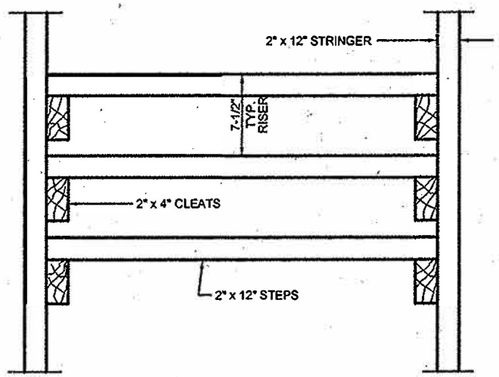
Date Issued: 7/1/10

Scale: None

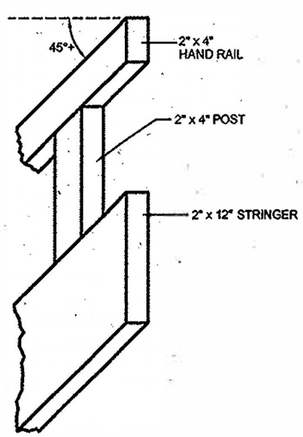
Drawing # H-1050-4



OBLIQUE VIEW
N.T.S.



FRONT VIEW
N.T.S.



DETAIL "A"
N.T.S.

NOTES:

1. ALL MATERIAL AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION # 7.15 OF THE NYC DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS.
2. ALL FASTENERS SHALL BE GALVANIZED INDUSTRIAL STANDARD.
3. 2'-8" DIMENSION IS FROM FRONT OF STEP TO TOP OF POST.
4. TOP OF RAIL TO BE PLANE SMOOTH.

CHECKED BY: MJS

NWS-H1051

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TEMPORARY WOODEN STEPS

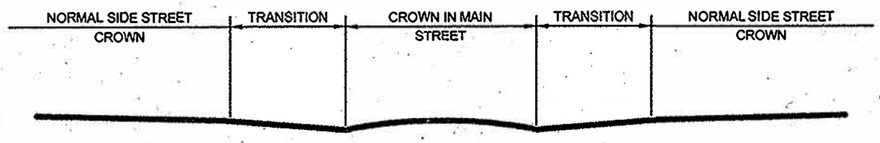
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

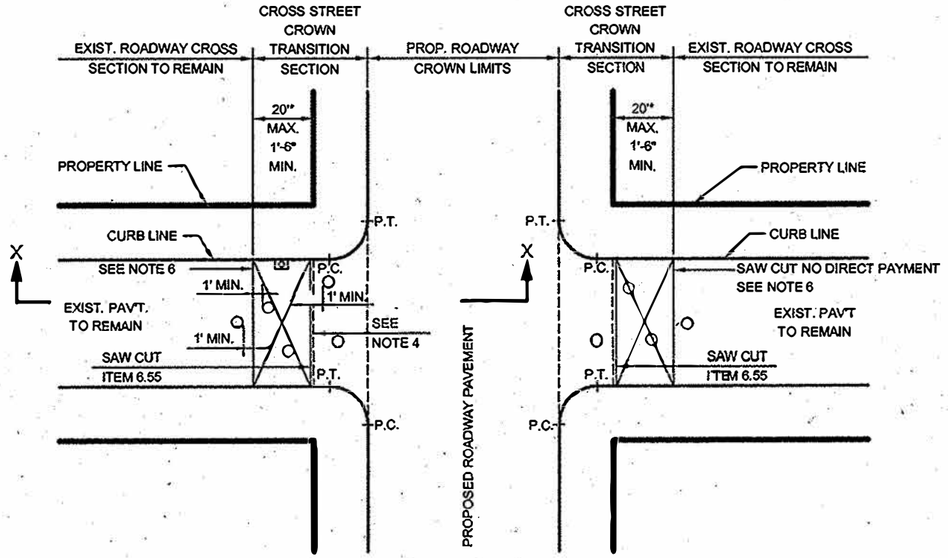
Date Issued: 7/1/10

Scale: None

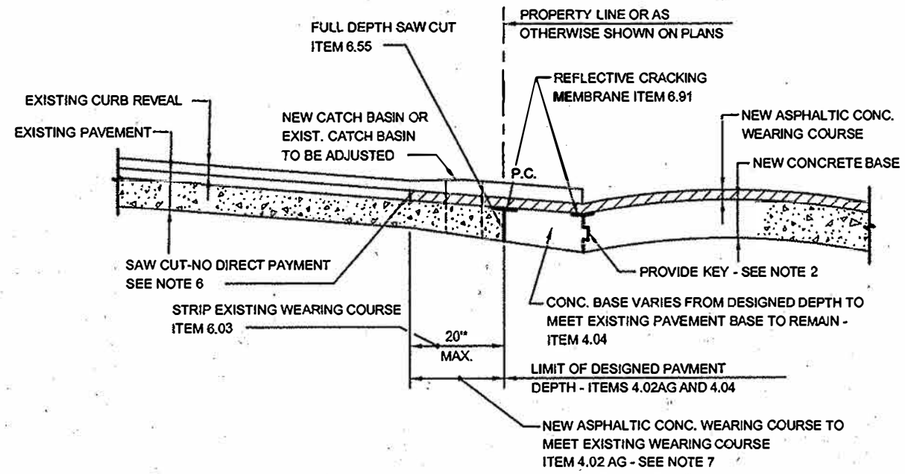
Drawing # H-1051



PROFILE ALONG CENTER LINE OF
INTERSECTING ROADWAY



PLAN
N.T.S.



SECTION X-X
N.T.S.

NOTES:

*1. 20' MAXIMUM UNLESS OTHERWISE SPECIFIED.

2. CONCRETE BASE FOR AREA OF ADJUSTMENT AND NEW ROADWAY PAVEMENT BASE TO BE KEYED TOGETHER.

3. CROWN OF MAJOR ROADWAY TO BE MAINTAINED. TRANSITION CROWN OF SIDE STREET TO MEET MAIN STREET GUTTER LINE. (MAIN STREET WATER FLOW ACROSS SIDE STREET TO BE MAINTAINED).

4. CONCRETE PAVEMENT EDGE TO BE MIN. OF 1'-0" FROM EDGE OF STREET HARDWARE.

5. ASPHALT CONCRETE FOR AREA OF ADJUSTMENT AND NEW ROADWAY PAVEMENT TO BE PLACED MONOLITHICALLY UNLESS OTHERWISE ORDERED BY THE ENGINEER.

6. TACK COAT (SECTION 6.58) ALL EDGES.

7. ADDITIONAL THICKNESS GREATER THAN 3" A.C.W.C. WILL BE PAID FOR UNDER ASPH. CONC. MIXTURE (ITEM 4.02 CB) OR BINDER MIXTURE (ITEM 4.02 CA).

CHECKED BY: MS

HWS-H1053

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

DETAILS FOR CONSTRUCTING AREAS OF ADJUSTMENT AND TRANSITION SECTIONS

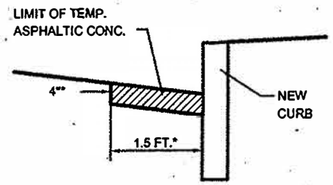
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

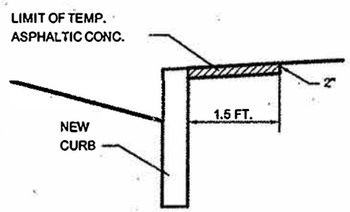
Drawing # H-1053



IN ROADWAY AREA ADJACENT TO ALL NEW CURB INCLUDING CORNERS

* 3" THICK AND 2.5 FT. WIDE IN TEMPORARY PEDESTRIAN RAMPS AT CORNERS AFTER NEW CONCRETE BASE IS PLACED. (RAMP SIMILAR TO DETAIL 5)

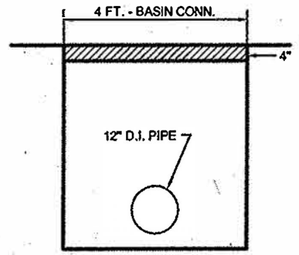
1



IN FULL WIDTH SIDEWALK AREA ADJACENT TO ALL NEW CURB EXCEPT AT CORNERS

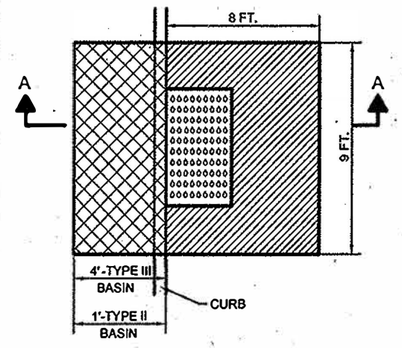
BACKFILL WITH SOIL IN STRIP SIDEWALK AREA (NO DIRECT PAYMENT)

2



IN ROADWAY AREA, OVER 12" D.I. PIPE CONNECTION

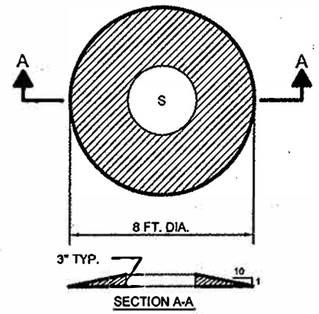
3



SECTION A-A

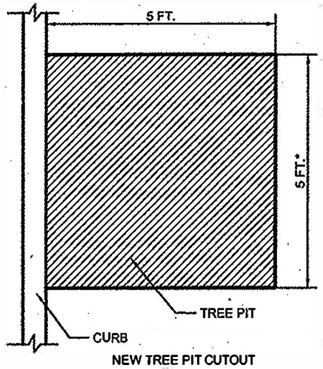
4" THICK IN ROADWAY AREA AROUND ALL NEW CATCH BASINS AND AT ABANDONED BASIN LOCATIONS.

4



IN ROADWAY AREA AROUND EVERY NEW OR MODIFIED MANHOLE

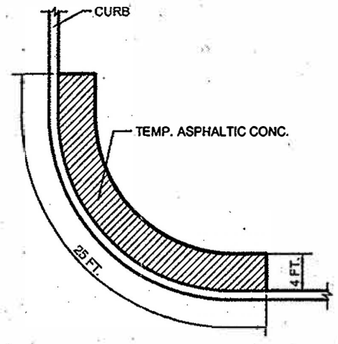
5



NEW TREE PIT CUTOUT (FULL WIDTH SIDEWALK ONLY)

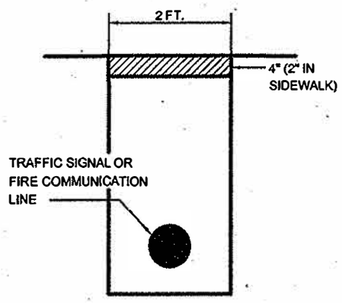
* OR FULL LENGTH OF EXTENDED TREE PIT.

6



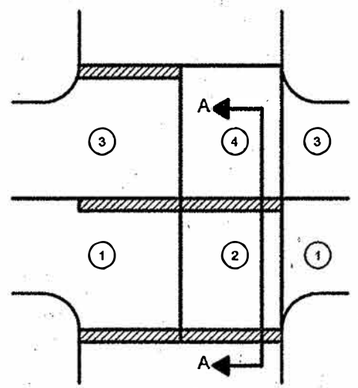
2" THICK IN SIDEWALK AREA ADJACENT TO THE CURB AT ALL CORNERS

7



IN ROADWAY OVER NEW TRAFFIC SIGNAL OR FIRE COMMUNICATION LINE TRENCHES

8



SECTION A-A

WHEN AREA (3) IS UNDER CONSTRUCTION

9

NOTES:

1. PAYMENT FOR FURNISHING, DELIVERING, PLACING, AND REMOVAL OF TEMPORARY RESTORATION OF PAVEMENT SHALL BE MADE UNDER ITEM NO. 4.02 CB. TYPICAL LIMITS OF PAYMENT FOR TEMPORARY PAVEMENT RESTORATION, USING ITEM NO. 4.02 CB, ARE SHOWN ABOVE. NO ADDITIONAL PAYMENT FOR ITEM 4.02 CB, WILL BE MADE BEYOND THE LIMITS SHOWN ABOVE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER TO MAKE THE WORK SITE SAFE OR AS SPECIFIED UNDER NOTE 2, BELOW.
2. TEMPORARY PAVEMENT FOR TRENCH RESTORATIONS SHALL BE DONE IN ACCORDING TO THE REQUIREMENTS OF SECTION 4.08 IN BOTH THE NYCDEP STANDARD SEWER SPECIFICATIONS AND THE NYCDEP STANDARD WATER MAIN SPECIFICATIONS, DATED AUGUST 1, 2009, AND PAID FOR UNDER ITEM NO. 4.02 CB.
3. UNLESS OTHERWISE SHOWN ON PLAN OR DIRECTED BY THE ENGINEER, ASPHALTIC CONCRETE MIXTURE PLACED FOR TEMPORARY RESTORATION OF PAVEMENT SHALL HAVE A THICKNESS OF 4" IN THE ROADWAY PAVED AREAS AND A THICKNESS OF 2" IN THE SIDEWALK PAVED AREAS.

CHECKED BY: MT

RWS-H1054

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City Department of Transportation

LIMITS OF MEASUREMENT FOR PAYMENT OF TEMPORARY ASPHALT PAVEMENT

Approved:

Chief Engineer
Department of Transportation

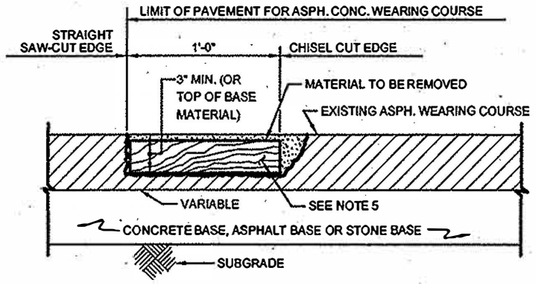
Approved:

Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

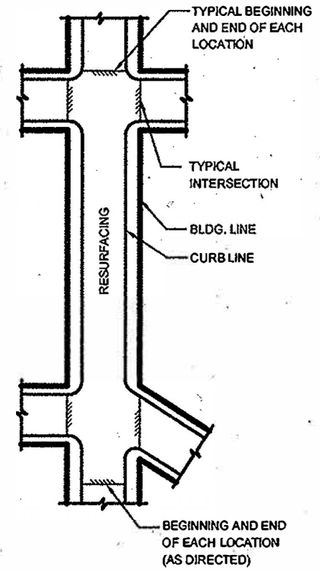
Drawing # H-1054



PAVEMENT KEY-TYPE A
ITEM 6.51A
N.T.S.

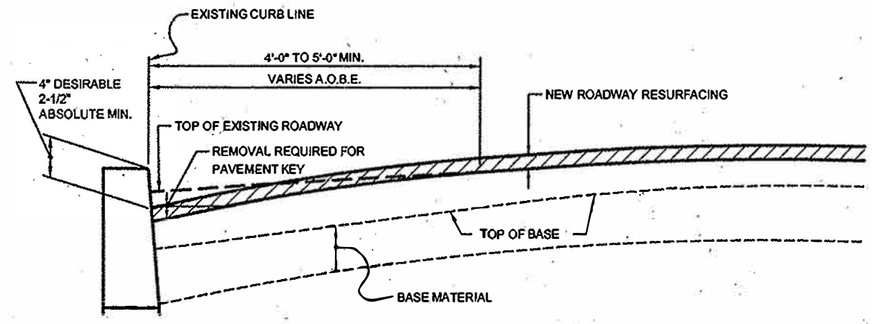
NOTES:

1. THICKNESS OF ASPHALTIC CONCRETE WEARING COURSE OVER SAW-CUT EDGE SHALL BE ZERO INCHES.
2. THICKNESS OF ASPHALTIC CONCRETE WEARING COURSE OVER CHISEL-CUT EDGE SHALL BE A MINIMUM OF ONE INCH.
3. MATERIAL USED TO FILL WITHIN LIMITS OF PAVEMENT KEY TYPE A SHALL BE PAID FOR UNDER ITEM 6.51A TYPE A KEY.
4. PAYMENT FOR FEATHERED ASPHALTIC CONCRETE WEARING COURSE ITEMS OVER PAVEMENT KEY. TYPE A SHALL BE FOR FULL THICKNESS OF ASPHALTIC CONCRETE WEARING COURSE AS ORDERED BY THE ENGINEER.
5. 2"x12" PLANK TO BE PLACED IN KEY WHEN STREET IS OPENED TO TRAFFIC. PLANK TO BE REMOVED PRIOR TO PAVING.



LEGEND:
PAVEMENT KEY

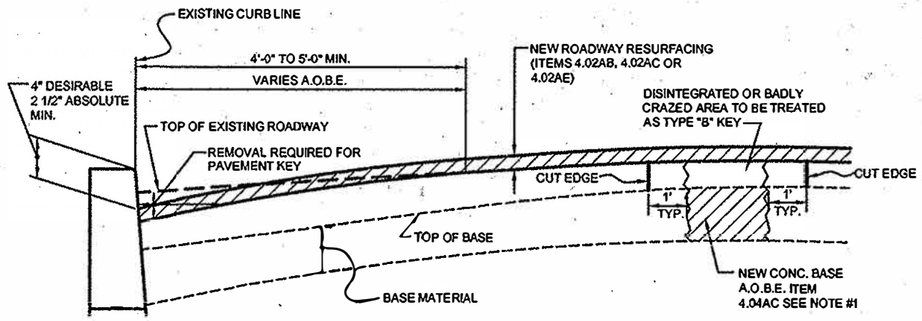
PLAN
TYPICAL LOCATION
N.T.S.



PAVEMENT KEY - TYPE B-1
ITEM 6.51 B-1
N.T.S.

NOTES:

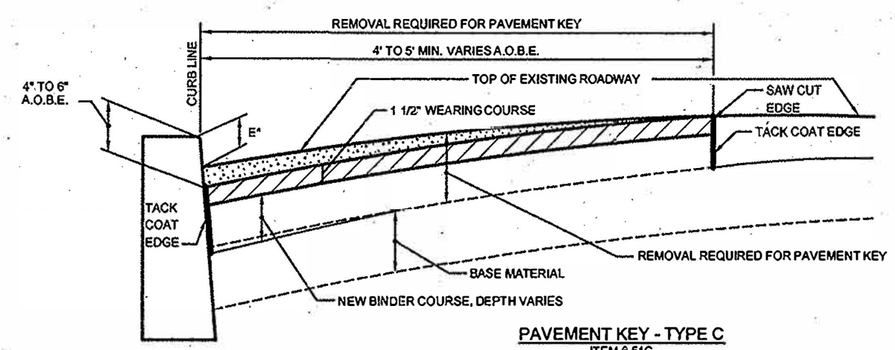
1. WHERE THERE IS NO CONCRETE BASE, OR WHERE IT IS NECESSARY TO REMOVE CONCRETE BASE SUBSEQUENT TO INSTALLING TYPE "B" PAVEMENT KEY, PAYMENT FOR DEPTHS GREATER THAN 3" WILL BE MADE UNDER ITEM 6.02AA, UNCLASSIFIED EXCAVATION.
2. CONTRACTOR MAY AT HIS OPTION, EITHER STRIP OR GRIND THE AREA TO THE REQUIRED DEPTH. IF THE CONTRACTOR CHOOSES TO STRIP THERE WILL BE NO ADDITIONAL PAYMENT FOR OVER-CUTTING OR ADDITIONAL BINDER.
3. THIS ITEM WHEN ORDERED BY THE ENGINEER WILL BE USED TO ELIMINATE HIGH POINTS IN THE EXISTING PAVEMENT PRIOR TO RESURFACING.
4. (A.O.B.E.) AS ORDERED BY ENGINEER.



PAVEMENT KEY - TYPE B-2
ITEM 6.51 B-2
N.T.S.

NOTES:

1. WHERE THERE IS NO CONCRETE BASE, OR WHERE IT IS NECESSARY TO REMOVE CONCRETE BASE SUBSEQUENT TO INSTALLING TYPE "B" PAVEMENT KEY, PAYMENT FOR DEPTHS GREATER THAN 3" WILL BE MADE UNDER THE UNCLASSIFIED EXCAVATION ITEM.
2. THE CONTRACTOR IS TO GRIND THE AREAS TO THE REQUIRED DEPTH USING AN ACCEPTABLE GRINDING METHOD.
3. THIS ITEM WHEN ORDERED BY THE ENGINEER WILL BE USED TO ELIMINATE HIGH POINTS IN THE EXISTING PAVEMENT PRIOR TO RESURFACING.
4. (A.O.B.E.) AS ORDERED BY ENGINEER.



PAVEMENT KEY - TYPE C
ITEM 6.51C
N.T.S.

NOTES:

1. IF THE EXISTING CURB REVEAL E* IS GREATER THAN 2-1/2" THIS PAVEMENT KEY WILL NOT BE REQUIRED.
2. PAYMENT FOR THIS ITEM SHALL BE THE NUMBER OF TONS OF BOTH THE WEARING COURSE AND BINDER MIXTURE INCORPORATED INTO THE WORK. PAYMENT SHALL INCLUDE, SAW CUTTING, EXCAVATION (INCLUDING CONCRETE BASE REMOVAL IF REQUIRED), TACK COATING AND PLACING OF THE NEW BINDER MIXTURE AND 1 1/2" WEARING COURSE.
3. (A.O.B.E.) AS ORDERED BY THE ENGINEER.
4. THE CONTRACTOR MAY AT HIS OPTION, EITHER STRIP, EXCAVATE OR GRIND THE AREA TO THE REQUIRED DEPTH.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MB

NEW YORK CITY DOT

New York City
Department of Transportation

PAVEMENT KEY
TYPE A, B-1, B-2, C

Approved:
Chief Engineer
Department of Transportation

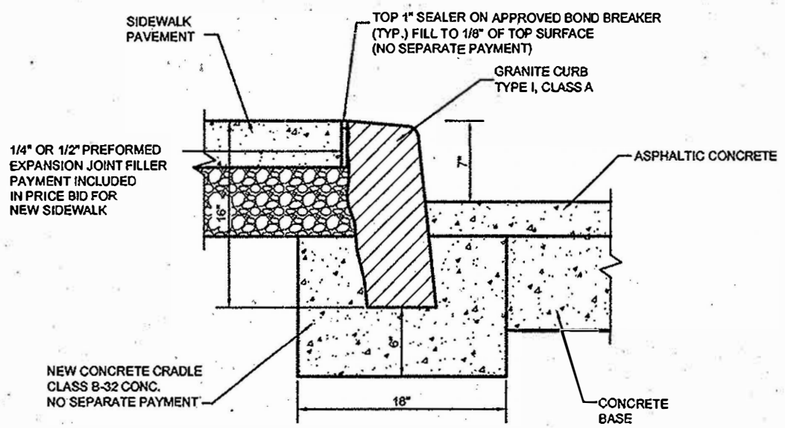
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

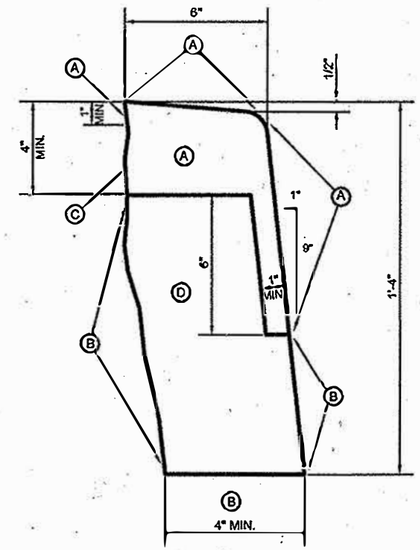
Scale: None

Drawing # H-1055

H-WS-H1055



TYPICAL DETAIL OF GRANITE CURB INSTALLATION
N.T.S.



SURFACE FINISH		
SYMBOL	NO PROJECTION OVER	NO DEPRESSION OVER
Ⓐ	1/8"	1/8"
Ⓑ	1-1/2"	1-1/2"
Ⓒ	1/2"	1"
Ⓓ	0"	1"

NOTE:
GRANITE CURB (SAMPLES OF WHICH SHALL BE FURNISHED TO THE CITY BY THE CONTRACTOR PRIOR TO INSTALLING GRANITE) IS TO BE MEDIUM GRAY IN COLOR AS APPROVED BY THE ENGINEER.

DIMENSIONS AND FINISH ON GRANITE CURB
N.T.S.

NOTES:

A. LENGTHS OF STRAIGHT GRANITE CURB SHALL RANGE FROM 4 FT. TO 12 FT. LONG, 80% OF WHICH SHALL BE 6 FT. OR GREATER,

B. LENGTHS OF CORNER GRANITE CURB SHALL RANGE FROM 3FT. TO 8 FT. LONG, 80% OF WHICH SHALL BE 4 FT. OR GREATER,

C. LENGTH OF TRANSITION CURB (STRAIGHT OR CURVED) AT CORNERS SHALL BE 5 FT. LONG; AND,

D. EXPOSED SURFACES OF THE GRANITE CURB TO BE DRESSED WITH A BUSH HAMMERED OR THERMAL FINISH, WITH NO DRILL HOLES.

CHECKED BY: MZ

HWS-H1056

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TYPICAL GRANITE CURB

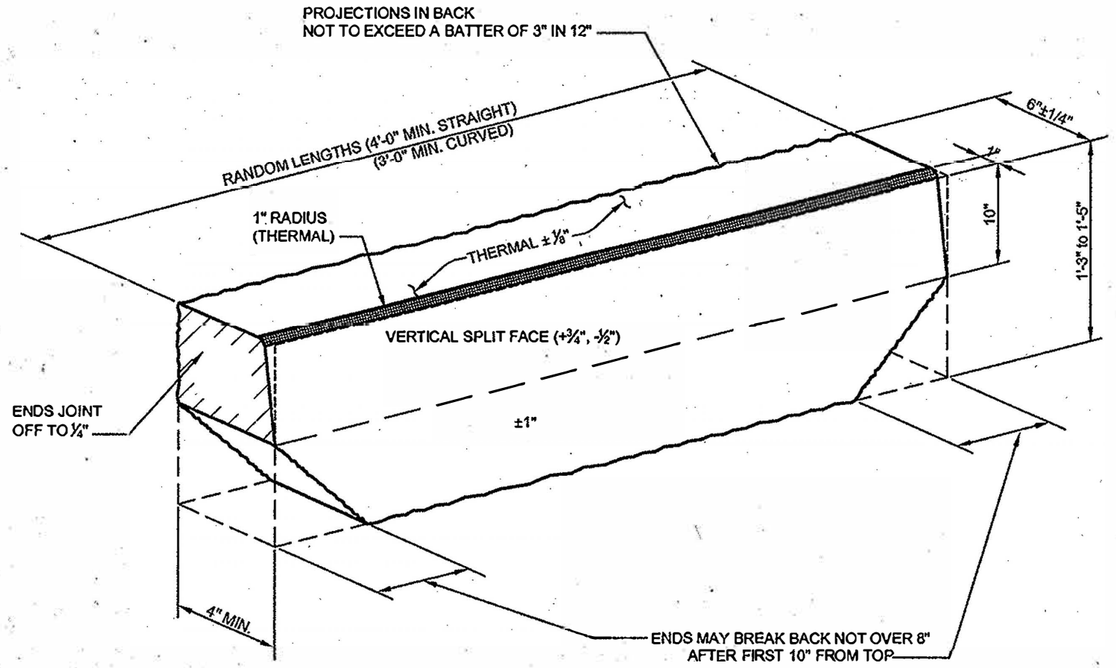
Approved:
Chief Engineer
Department of Transportation

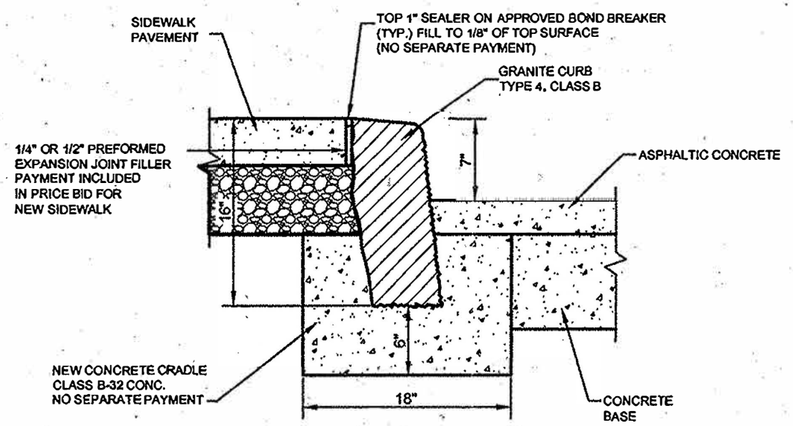
Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1056





TYPICAL DETAIL OF NY HISTORICAL
GRANITE CURB INSTALLATION
N.T.S.

CHECKED BY: MZ

DWS-H1056A

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

HISTORICAL CURB DETAIL

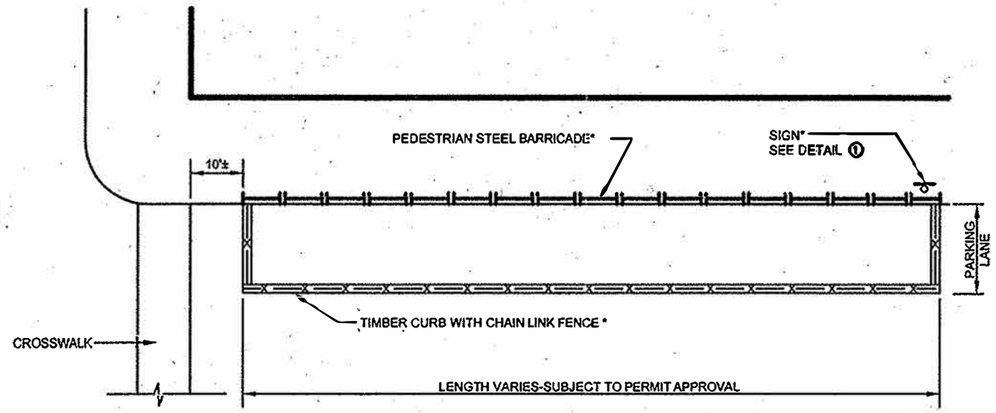
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

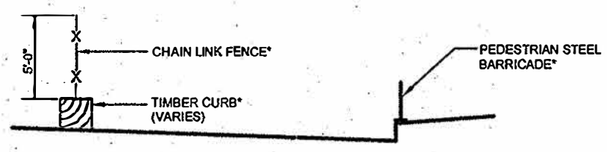
Date issued: 7/1/10

Scale: None

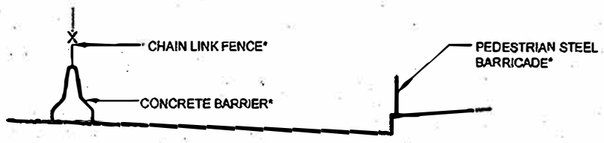
Drawing # H-1056A



PLAN
N.T.S.



ALTERNATE (A)
SECTION
N.T.S.



ALTERNATE (B)
SECTION
N.T.S.

TEMPORARY STORAGE AREA
PROJECT NAME
CONTRACTOR'S NAME
FIELD OFFICE ADDRESS
TELEPHONE NO.:

DETAIL (1)
INFORMATION SIGN

***NOTES**

- NO DIRECT PAYMENTS FOR MAINTENANCE OF TRAFFIC CONTROL OEVICES.
- PROVIDE TAPER AT APPROACH END TO CHANNELIZE TRAFFIC PER NATIONAL MUTCD WITH NYS SUPPLEMENT.

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MS

MWS-H1057

NEW YORK CITY DOT

New York City
Department of Transportation

TEMPORARY
STORAGE AREA

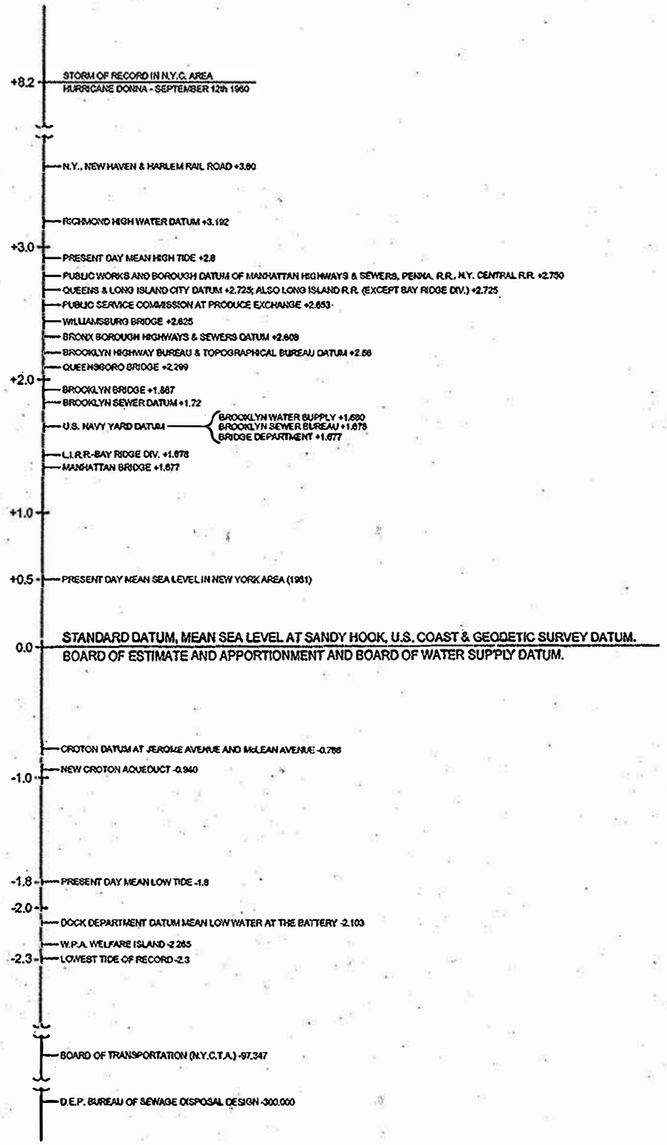
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # H-1057



NOT TO SCALE

NOTES:

1. MEAN LOW WATER VARIES FROM -1.5 TO -3.5 U.S. COASTAL AND GEODETIC SURVEY DATUM DEPENDING ON DISTANCE FROM THE OCEAN.
2. MEAN HIGH WATER VARIES FROM +2.0 TO +4.0 U.S. COASTAL AND GEODETIC SURVEY DATUM DEPENDING ON DISTANCE FROM THE OCEAN.
3. UNITS SHOWN ON THIS SHEET ARE IN "FEET".

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: MZ

HWS-MS1000

NEW YORK CITY DOT

New York City
Department of Transportation

NEW YORK CITY
COMPARISON OF DATUM PLANES

Approved:

Chief Engineer
Department of Transportation

Approved:

Associate Commissioner
Infrastructure/Design
Department of Design + Construction

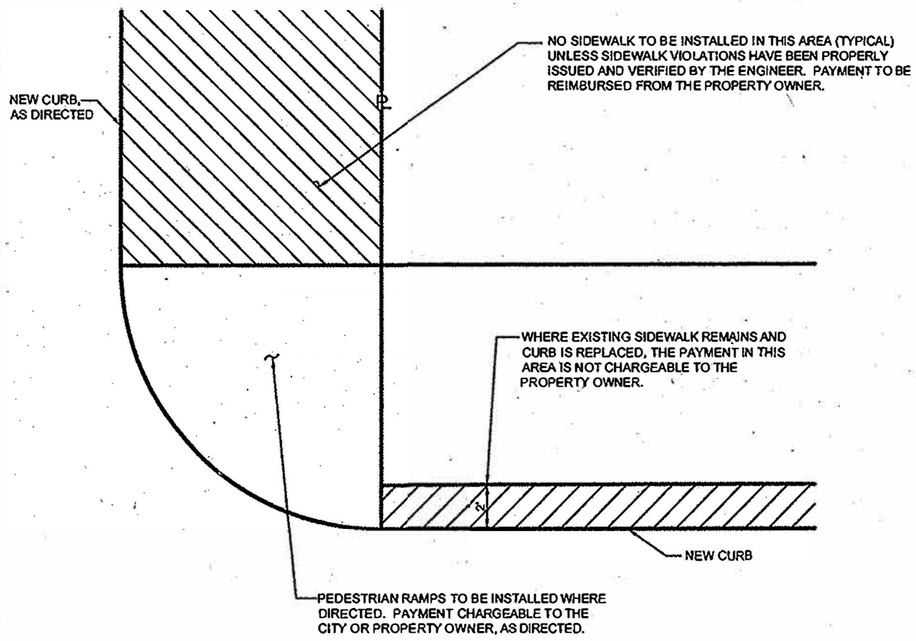
Date Issued: 7/1/10

Scale: None

Drawing # MS-1000

STANDARD DRAWINGS

STEEL FACED CURB, TYPE D	H-1010
SIDEWALK PEDESTRIAN RAMP	H-1011
STEEL FACED DROP CURB (DRIVEWAYS)	H-1015
CONCRETE CURB	H-1044
CONCRETE SIDEWALK	H-1045



SIDEWALK VIOLATION & PAYMENT
N.T.S.

CHECKED BY: MR

RWS-MS1001

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

SIDEWALK PAVEMENT LIMITS

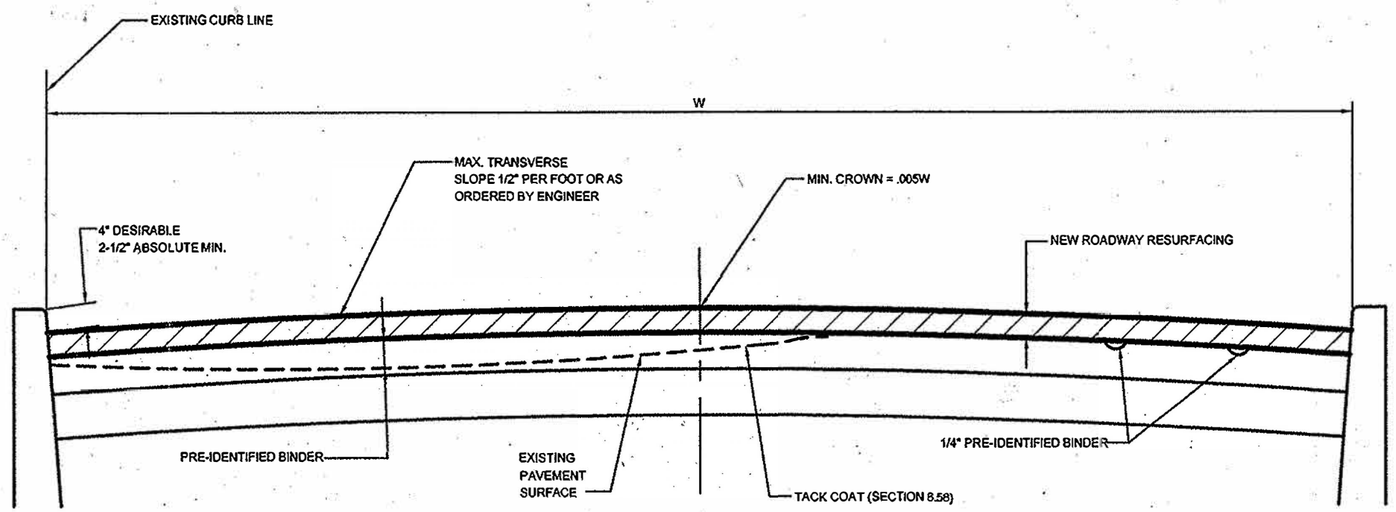
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # MS-1001



CHECKED BY: MZ

DWS-MS1003

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

TYPICAL ROADWAY
CROSS-SECTION/RESURFACING

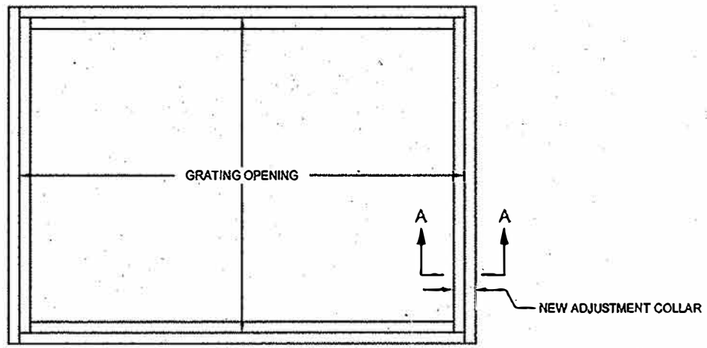
Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

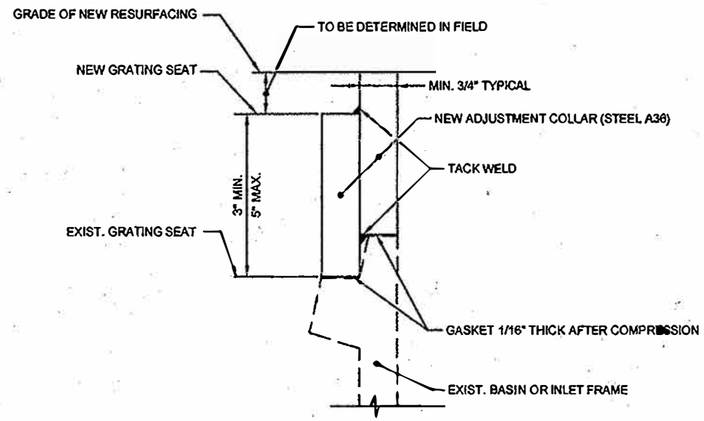
Date Issued: 7/1/10

Scale: None

Drawing # MS-1003



PLAN
N.T.S.



SECTION A-A
N.T.S.

NOTES

1. UPON BEING ORDERED BY THE ENGINEER TO PERFORM THIS REQUIRED ADJUSTMENT, THE CONTRACTOR IS TO FIELD INVESTIGATE EACH LOCATION AND DETERMINE THE HEIGHT REQUIRED TO BRING GRATING TO THE PROPOSED GRADE.
2. THIS METHOD OF ADJUSTMENT MAY BE USED ONLY WHERE AN UPWARD ADJUSTMENT OF 3" TO 5" IS REQUIRED AND WHERE ORDERED BY THE ENGINEER.
3. THE ADJUSTMENT COLLAR WHEN INSTALLED SHALL HAVE NO LATERAL OR VERTICAL MOVEMENT OF ANY KIND.
4. EACH GRATING WHEN SET ON NEW SEAT SHALL BEAR EVENLY SO THAT NO VERTICAL MOVING OR ROCKING OCCURS DURING TRAFFIC.
5. THE CONTRACTOR MAY USE AN APPROVED EQUAL ADJUSTMENT FRAME.
6. NO WORK SHALL PROCEED UNTIL SHOP DRAWINGS HAVE BEEN SUBMITTED AND APPROVED BY THE DEPARTMENT.

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

CATCH BASIN
ADJUSTMENT - TYPE 2

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

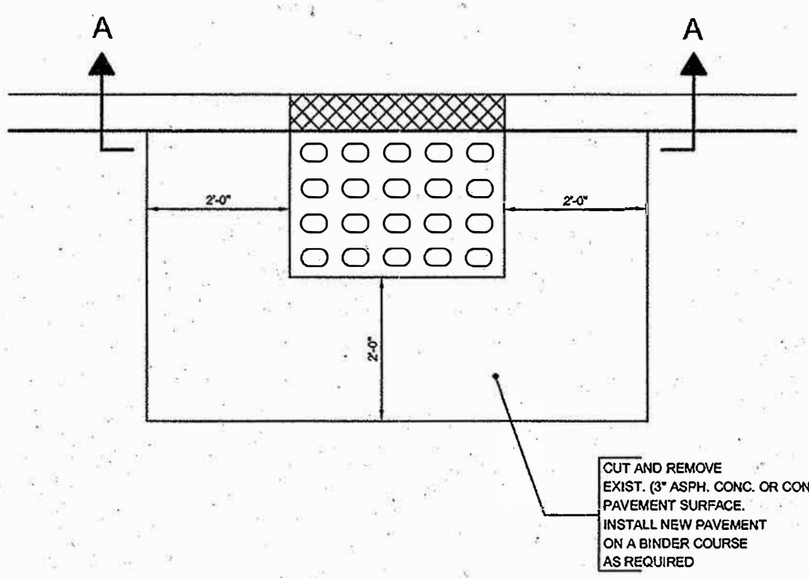
Date Issued: 7/1/10

Scale: None

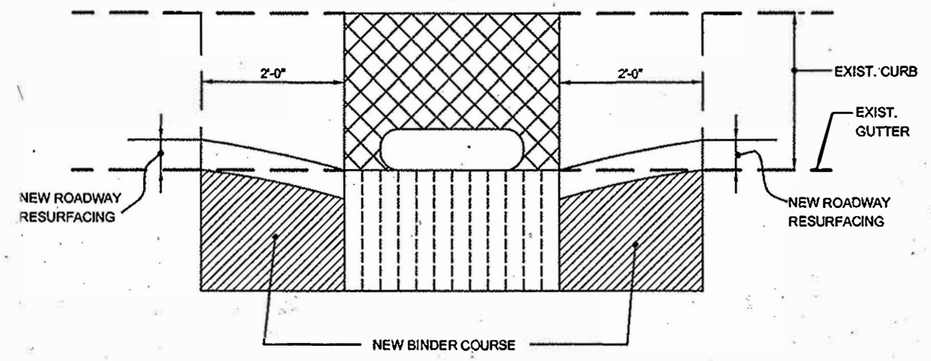
Drawing # MS-1004

CHECKED BY: MZ

DWG-MS1004



PLAN
N.T.S.



ELEVATION
N.T.S.

SECTION A-A

CHECKED BY: MJE

HWS-MS1005

REVISION NO.	DESCRIPTION	DATE	APPROVED

NEW YORK CITY DOT

New York City
Department of Transportation

ADJUSTMENT AT CATCH BASINS

Approved:
Chief Engineer
Department of Transportation

Approved:
Associate Commissioner
Infrastructure/Design
Department of Design + Construction

Date Issued: 7/1/10

Scale: None

Drawing # MS-1005