

THE CITY OF NEW YORK

Department of Transportation

BUREAU OF HIGHWAYS

ROADWAY DESIGN

STANDARD DETAILS
OF
CONSTRUCTION

AUGUST, 1988
FIFTH EDITION

PREPARED BY THE OFFICE OF THE
CHIEF ENGINEER/STREET DESIGN

**REVISED
TO
NOV. 1991**

Revised by
③ 4/3/95

NEW BUS PADS
ADDED ③ 6/99

NOTES

The standard details of construction shown on the following pages are to be used in conjunction with City Capital Construction Projects.

These standard details supersede any other standards previously issued by this office.

For those standard details not included, please inquire at the Plan Desk, Room 1112, 40 Worth Street.

The current standards of the N.Y.S.D.O.T. shall be considered part of these details, where specified.

It is the responsibility of the user of this document to verify that the details are current.

OFFICE OF THE ASSISTANT COMMISSIONER
ROADWAY ENGINEERING
BUREAU OF HIGHWAYS

Prepare By:

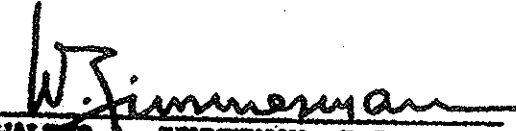

WALTER A. ZIMMERMAN, P.E.
Director - Roadway Design

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H-1000AA	Revision #1	9/4/85	Standard Project Sign, Type AA
H-1000B R79		3/10/80	Standard Project Sign, Type B
H-1000BB		10-28-85	Standard Project Sign, Type BB
H-1000C R82		2/8/82	Project Sign, Type-C
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H-1021R		2/2/65	Standard Details - Chain Link Fences 3'-6" to 18'-0" High Not included - see Plan Desk, Room 1112
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H-1026B R79		3/10/80	Seepage Basin, Type B
H-1026B-1 R79		3/10/80	Seepage Basin Type B, Alternate No. 1
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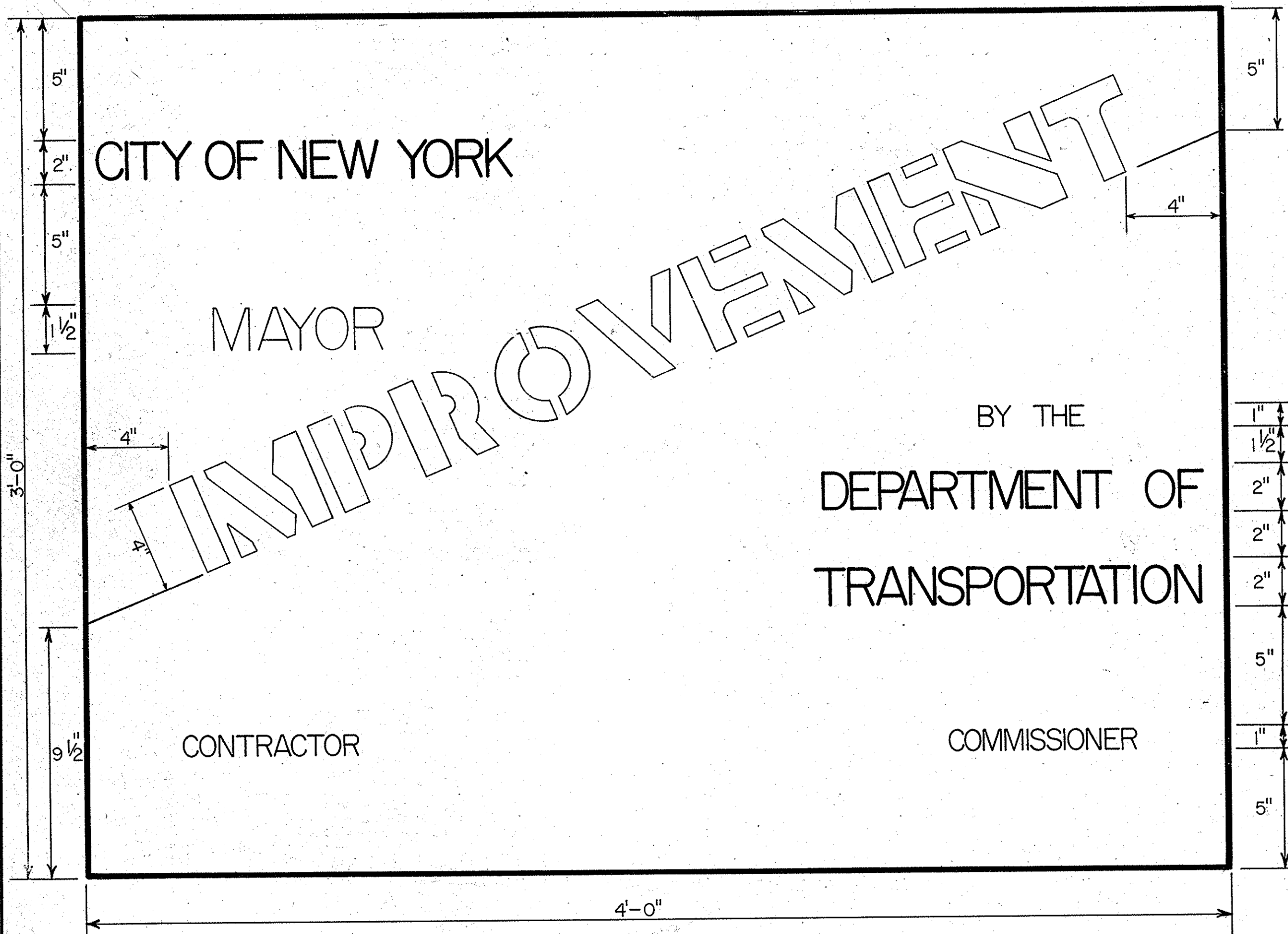
<u>STANDARD NUMBER</u>	<u>REVISION</u>	<u>DATE</u>	<u>TITLE</u>
H-1037 R79		3/10/80	Under Sidewalk Drain
H-1038 R79		3/10/80	Type III Breakaway Barricade
H-1040 R79	Revision #4	10-28-91	Transverse Construction Joints For Concrete Base
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REVISED NOVEMBER, 1991

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MS 1002			Void
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MS 1005		3/78	Adjustment at Catch Basins / Item #6.37
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MS 1008		1/85	Pavement Key - Type B-2, Item 6.51 B-2
MS 1008X		1/85	Pavement Key - Type B-2X, Item 6.51 B-2X
MS 1009		7/79	Pavement Key Type C / Item #6.51 C

DRAWN BY: J. Barlow
CHECKED BY: F. M. H.



NOTES:

1. SIGNS SHALL BE 3/4" THICK, EXTERIOR GRADE, A-C FIR PLYWOOD.
2. MOUNTING HARDWARE SHALL BE AS APPROVED BY THE ENGINEER.
3. FACE, BACK & EDGES SHALL BE PAINTED WITH ONE COAT OF APPROVED PLYWOOD PRIMER & A FINISHED COAT OF WHITE EXTERIOR ENAMEL.
4. THE WORD "IMPROVEMENT" SHALL BE PRINTED IN BLOCK-STENCIL LETTERING & FILLED WITH BEST QUALITY RED ENAMEL.
5. ALL OTHER LETTERING SHALL BE BLOCK & FILLED WITH BEST QUALITY BLACK ENAMEL.
6. ALL LETTERING SHALL BE PRINTED ON THE FINISHED SIDE OF THE PLYWOOD.

Joseph R. Dineen P.E.
COMMISSIONER

Henry J. Fulton P.E.
DEPUTY COMMISSIONER

Thomas H. Jackson P.E. 4/1/80
DIRECTOR-ENGINEERING MANAGEMENT
Barney La Greca P.E. 4/1/80
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STANDARD PROJECT SIGN TYPE A	DATE: 3/10/80
SCALE: 3" = 1'-0"	H-1000A R79

CITY OF NEW YORK

MAYOR

(C O S T)
IMPROVEMENT
For (Season) 19 --

COUNCIL PRES.

COMPTROLLER

BOROUGH PRES.

COUNCIL MEMBER

COMMISSIONER

DEPARTMENT OF TRANSPORTATION

CITY	\$	AMOUNT
STATE	\$	AMOUNT
FEDERAL	\$	AMOUNT
TOTAL	\$	AMOUNT

CONTRACTOR

NOTES:

1. SIGNS SHALL BE 3/4" THICK, EXTERIOR GRADE, A-C FIR PLYWOOD.
2. MOUNTING HARDWARE SHALL BE AS APPROVED BY THE ENGINEER.
3. FACE, BACK AND EDGES SHALL BE PAINTED WITH ONE COAT OF APPROVED PLYWOOD PRIMER AND A FINISHED COAT OF WHITE EXTERIOR ENAMEL.
4. THE WORD "IMPROVEMENT" SHALL BE PRINTED IN BLOCK-STENCIL LETTERING AND FILLED WITH THE BEST QUALITY RED ENAMEL.
5. COMPLETION DATE (For Season 19) SHALL BE SOLID LOWER CASE BLOCK LETTERING. Season = Summer, etc.
6. (COST OF CONSTRUCTION) AMOUNT, SHALL BE SOLID BLOCK LETTERING IN NUMERALS. Example: \$ 1,000,000.
7. ALL OTHER LETTERING SHALL BE BLOCK AND FILLED WITH THE BEST QUALITY BLACK ENAMEL.
8. ALL LETTERING SHALL BE PRINTED ON THE FINISHED SIDE OF THE PLYWOOD.
9. LISTING OF CITY, STATE, FEDERAL AND TOTAL DOLLAR AMOUNT IN THE LOWER LEFT CORNER TO BE ELIMINATED IF ONLY CITY FUNDING IS USED. CONTRACTOR IS TO CHECK WITH THE ENGINEER PRIOR TO FABRICATION.

DRAWN BY R. WYKOWSKI
CHECKED BY G. J. F.

COMMISSIONER

DEPUTY COMMISSIONER

ASSISTANT COMMISSIONER

DIRECTOR-ENGINEERING MANAGEMENT

CHIEF ENGINEER

3	ADDED COMPTROLLER'S NAME TO SIGN.	7-13-84	J. L. H.
2	CHANGED ALL LETTERING SIZES AS SHOWN, ADDED NAMES OF COUNCIL PRES., BOROUGH PRES., COUNCIL MEMBER TO SIGN	6-7-84	J. L. H.
1	ADDED NOTE NO. 9	11-21-83	J. L. H.
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

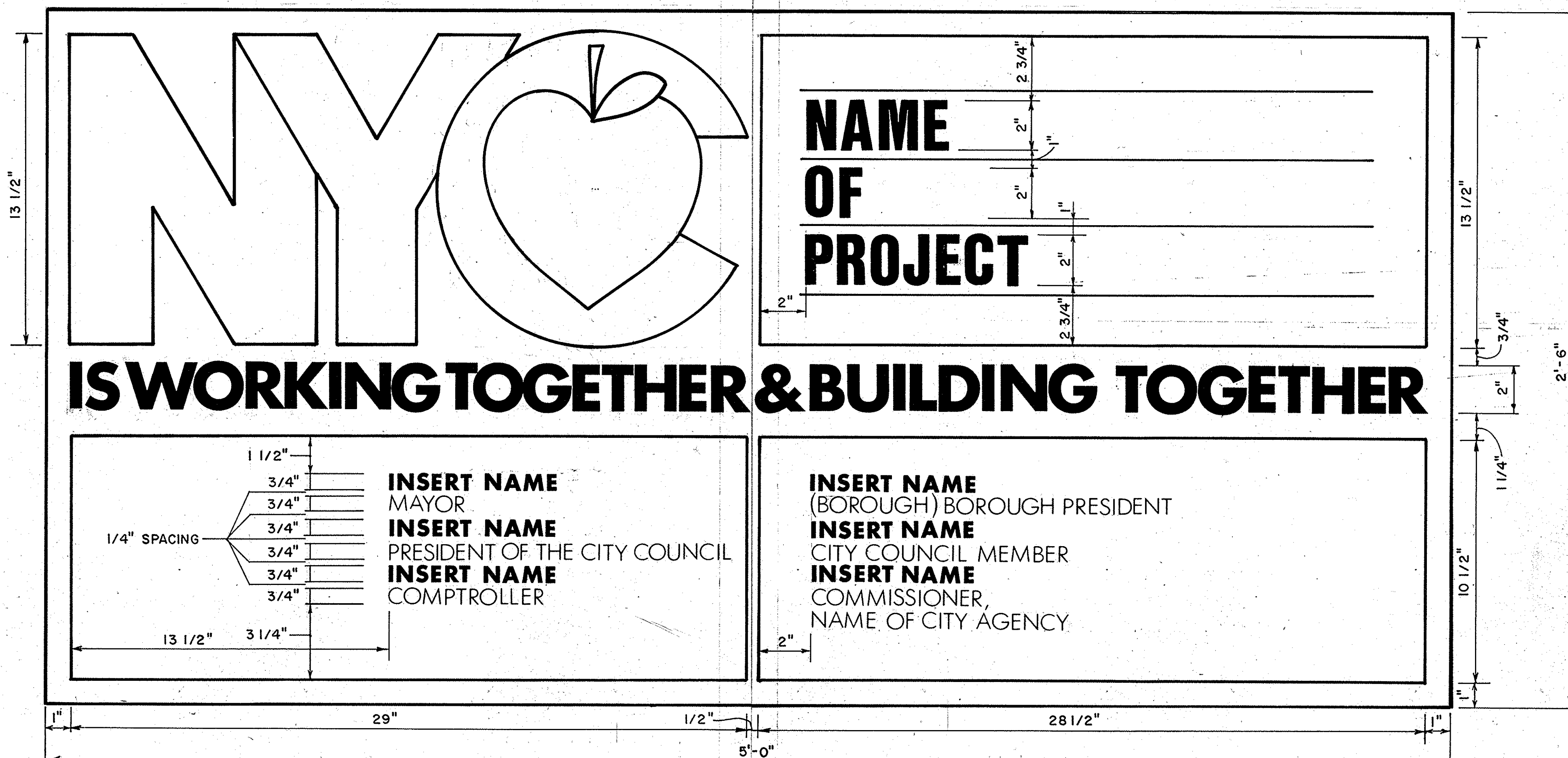
STANDARD PROJECT SIGN
TYPE A-II

DATE: 3/1/81

NOT TO SCALE

H-1000A-II R-81

DRAWN BY R. WYSOKOWSKI CHECKED BY J. L. H.



NOTES:

- LOGOS - COPY AS PER THIS DRAWING THE LOGOS FOR SIZE, PROPORTION AND STYLE OF LETTERING AS WELL AS GRAPHICS FOR THE APPLE/HEART. NOTE THAT THE STEM AND LEAF OF THE APPLE SHOULD APPEAR IN WHITE (COLOR OF SIGN BACKGROUND). MAKE SURE ALL OUTLINES OF LETTERS ARE STRAIGHT AND SMOOTH.
- TYPEFACE - REFER TO TYPE SPECIFIED HERE IN; ON SH. 2 OF 2. ALL TYPE TO BE SET AT SAME SPACING (PROPORTIONALLY) AS SHOWN ON THIS DRAWING. FOLLOW DRAWING FOR POSITION- SPACING AND ALIGNMENT OF ALL NAMES AND TITLES.
- PROJECT TITLE - UP TO 3 LINES, EACH LINE NOT TO EXCEED 18 CHARACTERS, INCLUDING SPACES. (TO BE PROVIDED BY ENGINEER)
- ON MOTTO - "IS WORKING TOGETHER & BUILDING TOGETHER", ALL LETTERS SHOULD BE RED EXCEPT "WORKING" AND "BUILDING" WHICH SHOULD APPEAR IN BLUE.
- DETAILED CONSTRUCTION FOR THE PRODUCTION OF THE SIGN CAN BE FOUND ON STANDARD DRAWING H-1000AA SHEET 2 OF 2.

[Signature]
ASSISTANT COMMISSIONER

Thomas H. Mackham P.E.
DIRECTOR-ENGINEERING MANAGEMENT

Bruce La Graca
CHIEF ENGINEER

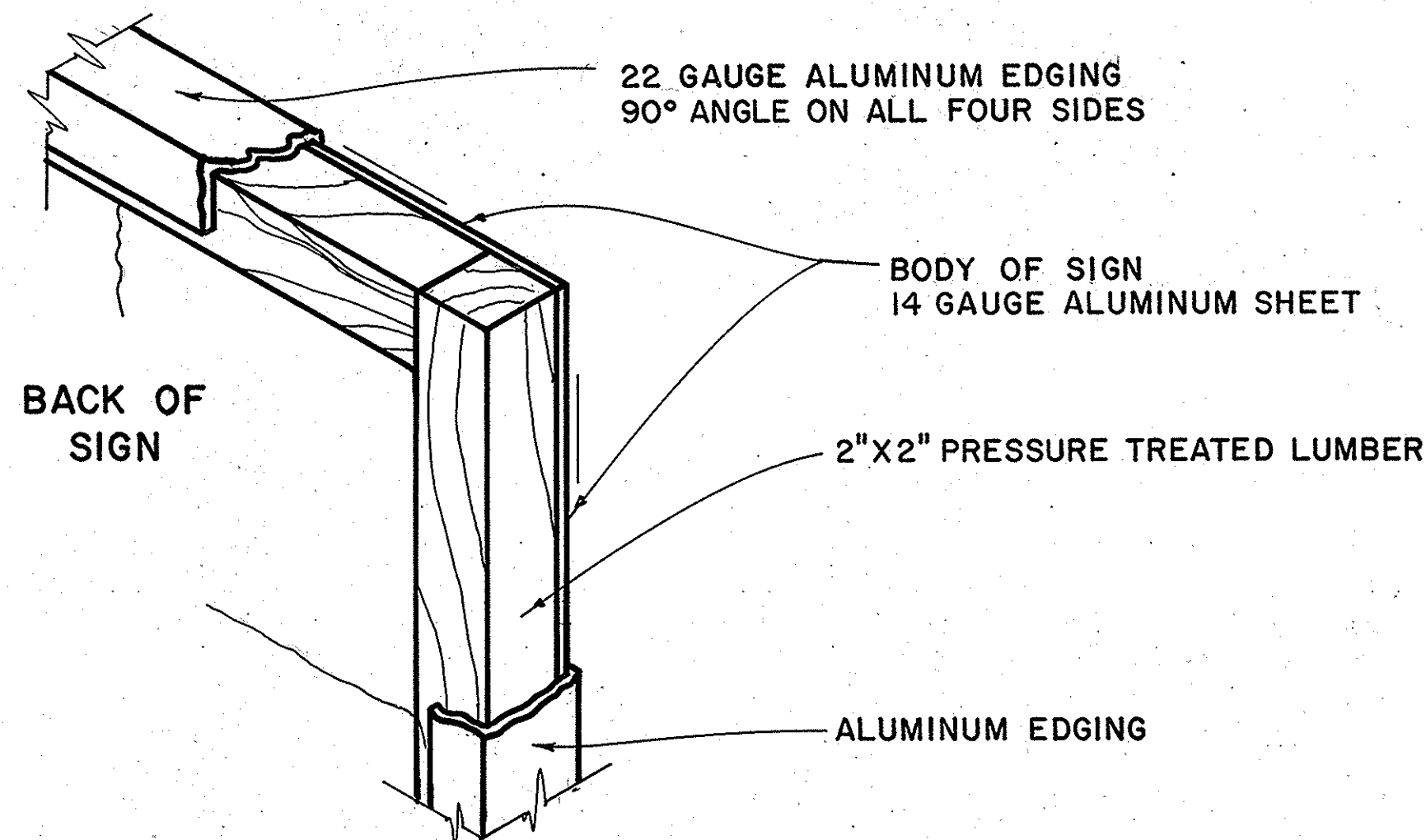
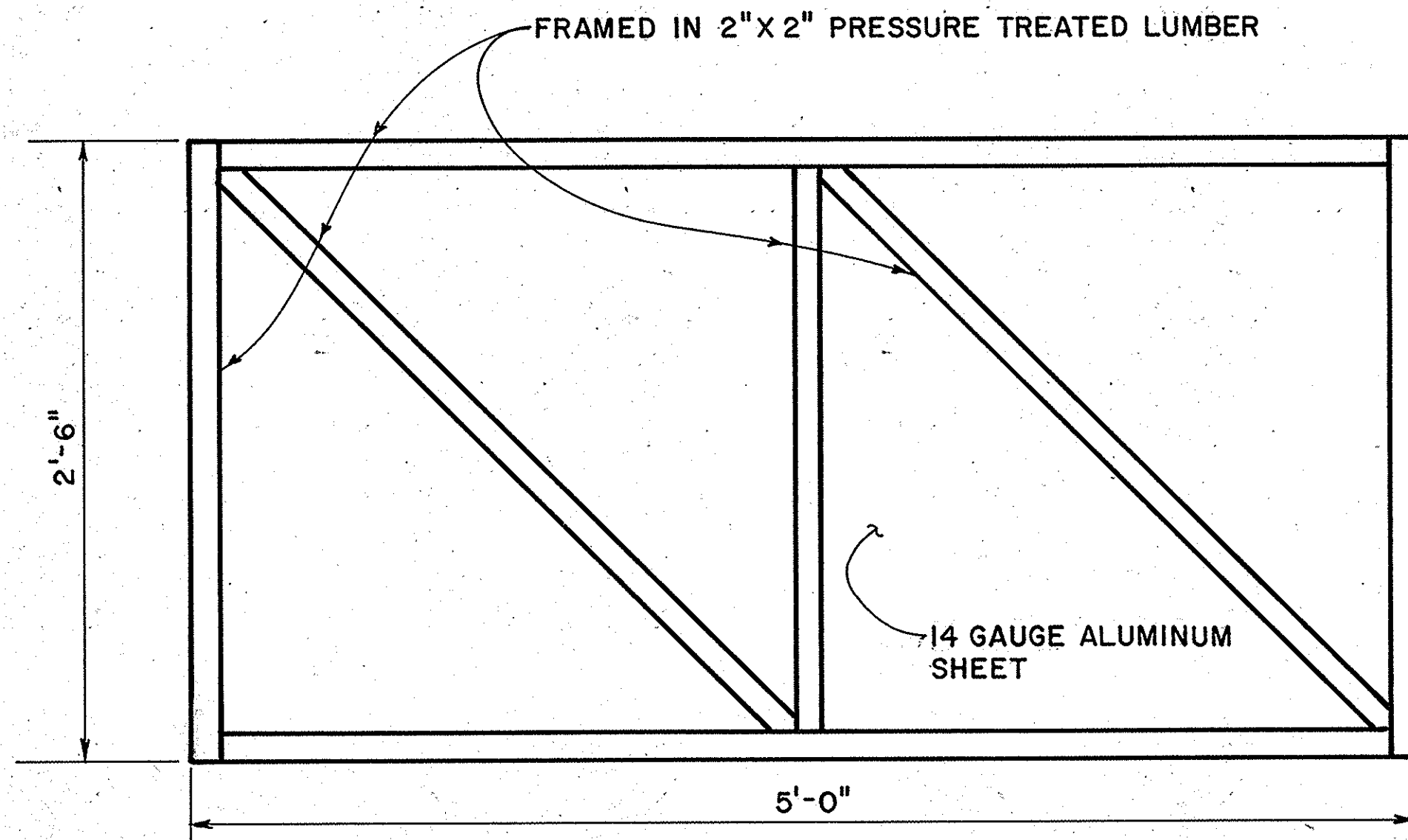
[Signature]
COMMISSIONER

[Signature]
DEPUTY COMMISSIONER

REVISION NO.	DESCRIPTION	DATE	APPROVED
1	SEE SHEET 2 OF 2	9/4/85	11/11

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STANDARD PROJECT SIGN TYPE AA	
NOT TO SCALE	DATE: 8-23-85 H-1000AA SH.1 OF 2

DRAWN BY R. WYSOKOWSKI CHECKED BY J.L.H.



PROJECT SIGN SPECIFICATIONS:

FRAME:

SHALL BE FROM QUALITY DRESSED LUMBER AS FOLLOWS: 2" x 2" PINE STOCK PRESSURE TREATED, RUNNING AROUND INSIDE BACK EDGE OF SIGN, WITH ONE INTERMEDIATE VERTICAL AND TWO DIAGONAL SUPPORTS GLUED AND SCREWED TO BE RIGID. FRAME SHALL BE PAINTED WHITE WITH TWO COATS OF EXTERIOR ENAMEL PAINT TO MATCH WHITE BACKGROUND OF SIGN PANEL.

EDGING:

AN ALUMINUM EDGING, 22 GAUGE (C-SHAPED) OF WHITE ENAMELED FINISH TO MATCH SIGN BACKGROUND, SHALL RUN AROUND ENTIRE EDGING OF SIGN PANEL AND FRAME. CORNERS SHALL BE MITERED TO TIGHT FIT. SIZE: 3/4" LEGS.

SIGN PANEL:

SHALL BE CONSTRUCTED IN ONE PIECE MEASURING FULL DIMENSIONS OF 14 GAUGE ALUMINUM. THIS PANEL SHALL BE CONSTRUCTED SO THAT IT WILL BE FLUSH WITH THE EDGE OF THE 2" x 2" WOOD FRAME. THE ALUMINUM PANEL SHALL BE PRE-FINISHED BOTH SIDES WITH A GLOSSY WHITE BAKED-ON ENAMEL FINISH.

FASTENING:

1. FASTEN SIGN PANEL TO FRAME, USING CADMIUM-PLATED #8 SHEET-METAL SCREWS AT 6" O.C..
2. THE SIGN PANEL SHALL BE CAPPED AT THE EDGE BY THE (C-SHAPED) EDGING WHICH SHALL ALSO FIT OVER THE WOOD FRAME. CADMIUM-PLATED #8 SHEET-METAL SCREWS SHALL BE FASTENED THROUGH THE CHANNEL AND INTO THE WOOD FRAME AROUND THE TOP OF THE ENTIRE PERIMETER FRAME AT 8" O.C..

SIGN GRAPHICS:

GRAPHICS SHALL BE APPLIED TO THE SIGN PANEL ACCORDING TO THE FOLLOWING METHODS:

1. FOR LOGOS AND ALL NON-VARYING TEXT INFORMATION INCLUDING THE MOTTO, TEXT BLOCK LINES AND FRAMES, MAYOR'S NAME AND TITLE, TEXT SHALL BE REPRODUCED AT CORRECT SCALE AND POSITION BY THE SILK SCREEN METHOD USING HALF-FULL-SIZE CAMERA READY MECHANICAL LAYOUTS.
2. FOR VARYING TEXT, (AS PROVIDED BY THE ENGINEER), TEXT SHALL BE PRODUCED BY THE SILK SCREEN METHOD OR BY COMPUTER-SPACED VINYL DIE-CUT LETTERS WITH WATERPROOF ADHESIVE BACKING APPLIED ONTO THE ALUMINUM PANEL ACCORDING TO THE LETTER MANUFACTURER'S INSTRUCTIONS. THE VINYL LETTERS SHALL BE OPAQUE VINYL, GLOSSY FINISH, AS PRODUCED BY 3-M OR EQUAL. COLOR SHALL BE MATCHED AS CLOSELY AS POSSIBLE TO PANTONE COLOR SYSTEM - BLUE 300C.

PAINT:

SILK-SCREENED COLORS SHALL BE OF APPROVED EXTERIOR ENAMEL COLORS TO MATCH COLORS AS INDICATED BELOW:

RED - MATCH PANTONE COLOR SYSTEM - WARM RED C
BLUE - MATCH COLOR OF VINYL GRAPHICS AS DESCRIBED BELOW.

TYPE:

*SPECIFICATIONS FOR TYPE FACE AS FOLLOWS:

FOR PROJECT TITLE: HELVETICA BOLD COMPRESSED (OR COMPACT)
FOR NAMES: FUTURA DEMI-BOLD
FOR TITLES: FUTURA BOOK

* CAP SIZE AND POSITION IN IDENTICAL PROPORTION TO THOSE SHOWN

John J. Domino P.E.
COMMISSIONER

Henry R. Lichten
DEPUTY COMMISSIONER 8/22/85

Barry H. Green
CHIEF ENGINEER

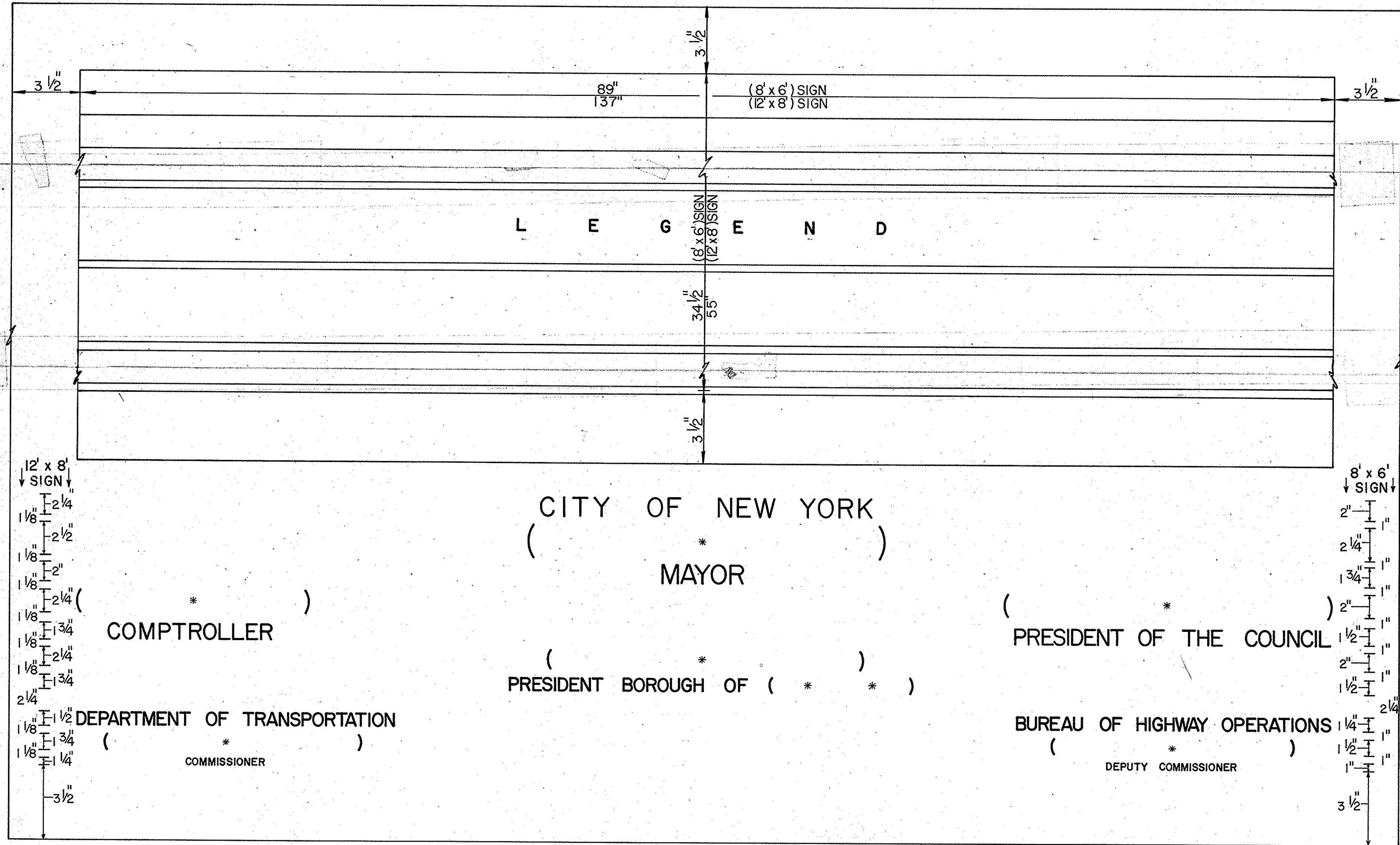
Thomas H. Mackham
DIRECTOR-ENGINEERING MANAGEMENT

Barry H. Green
ASSISTANT COMMISSIONER

REVISION NO.	DESCRIPTION	DATE	APPROVED
1	ADD & CORRECT NOTES	9/4/85	J.L.H.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STANDARD PROJECT SIGN TYPE AA	
NOT TO SCALE	DATE: 8-23-85 H-1000AA SH. 2 OF 2

DRAWN BY: J. B. BROWN CHECKED BY: F. W. W. W.



NOTES:

1. * = INSERT INCUMBENT'S NAME.
2. ** = INSERT APPROPRIATE BOROUGH.
3. FOR MAJOR CONTRACTS USE 12'-0" HORIZONTAL BY 8'-0" VERTICAL SIZE, FOR MINOR CONTRACTS USE 8'-0" HORIZONTAL BY 6'-0" VERTICAL, OR AS SPECIFIED.

[Signature] P.E.
COMMISSIONER

[Signature] P.E.
DEPUTY COMMISSIONER

[Signature] P.E.
CHIEF ENGINEER

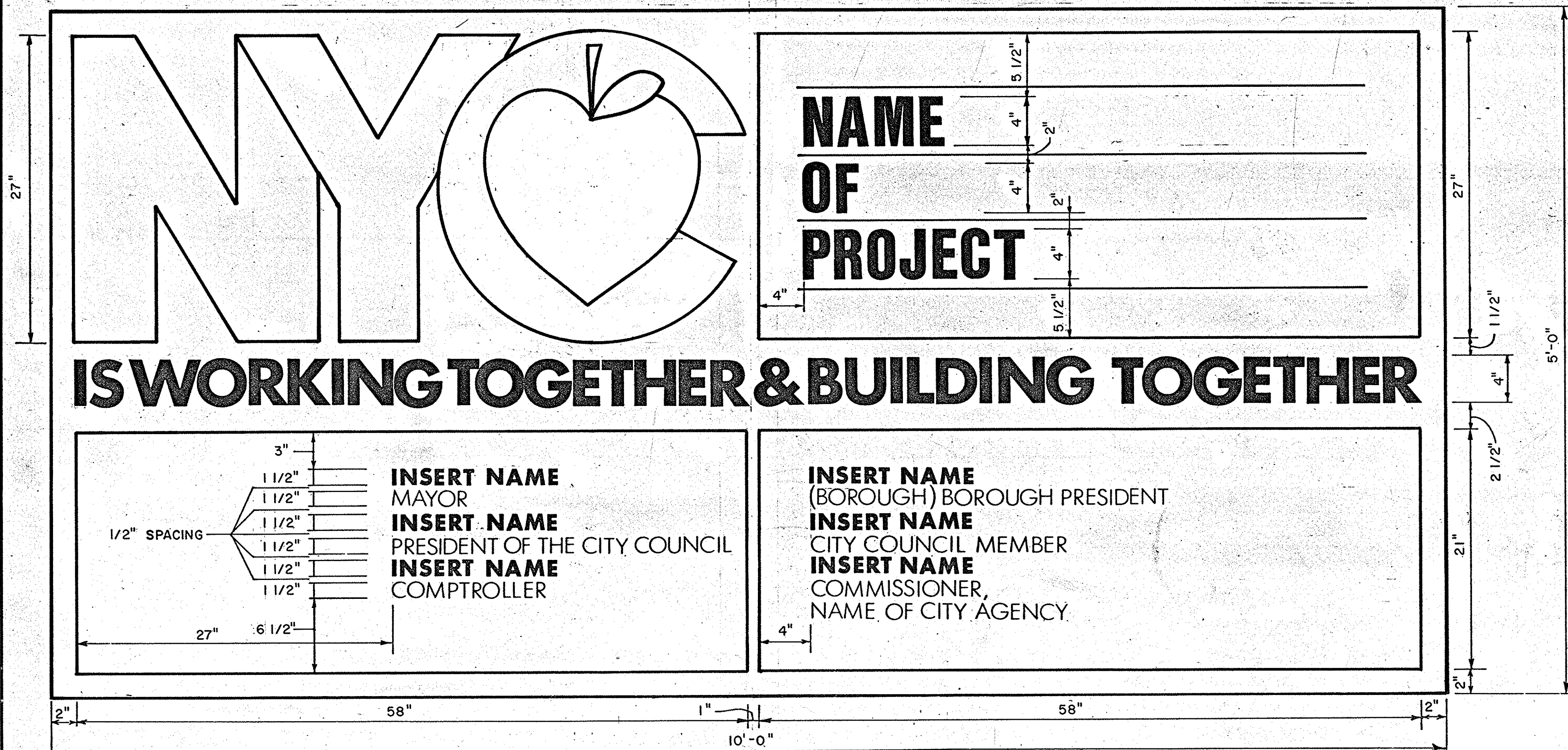
[Signature] P.E.
ASSISTANT COMMISSIONER

[Signature] P.E.
DIRECTOR-ENGINEERING MANAGEMENT

REVISION	NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STANDARD PROJECT SIGNS TYPE B	
DATE: 3/10/80	H-1000B R 79

DRAWN BY R. WYSOKOWSKI CHECKED BY J.L.H.



NOTES:

- LOGOS - COPY AS PER THIS DRAWING THE LOGOS FOR SIZE, PROPORTION AND STYLE OF LETTERING AS WELL AS GRAPHICS FOR THE APPLE/HEART. NOTE THAT THE STEM AND LEAF OF THE APPLE SHOULD APPEAR IN WHITE (COLOR OF SIGN BACKGROUND). MAKE SURE ALL OUTLINES OF LETTERS ARE STRAIGHT AND SMOOTH.
- TYPEFACE - REFER TO TYPE SPECIFIED HERE IN; ON SH. 2 OF 2. ALL TYPE TO BE SET AT SAME SPACING (PROPORTIONALLY) AS SHOWN ON THIS DRAWING. FOLLOW DRAWING FOR POSITION - SPACING AND ALIGNMENT OF ALL NAMES AND TITLES.
- PROJECT TITLE - UP TO 3 LINES, EACH LINE NOT TO EXCEED 18 CHARACTERS, INCLUDING SPACES. (TO BE PROVIDED BY ENGINEER)
- ON MOTTO - "IS WORKING TOGETHER & BUILDING TOGETHER", ALL LETTERS SHOULD BE RED EXCEPT "WORKING" AND "BUILDING" WHICH SHOULD APPEAR IN BLUE.
- DETAILED CONSTRUCTION FOR THE PRODUCTION OF THE SIGN CAN BE FOUND ON STANDARD DRAWING H-1000BB SHEET 2 OF 2.

[Signature]
COMMISSIONER 10/27/85

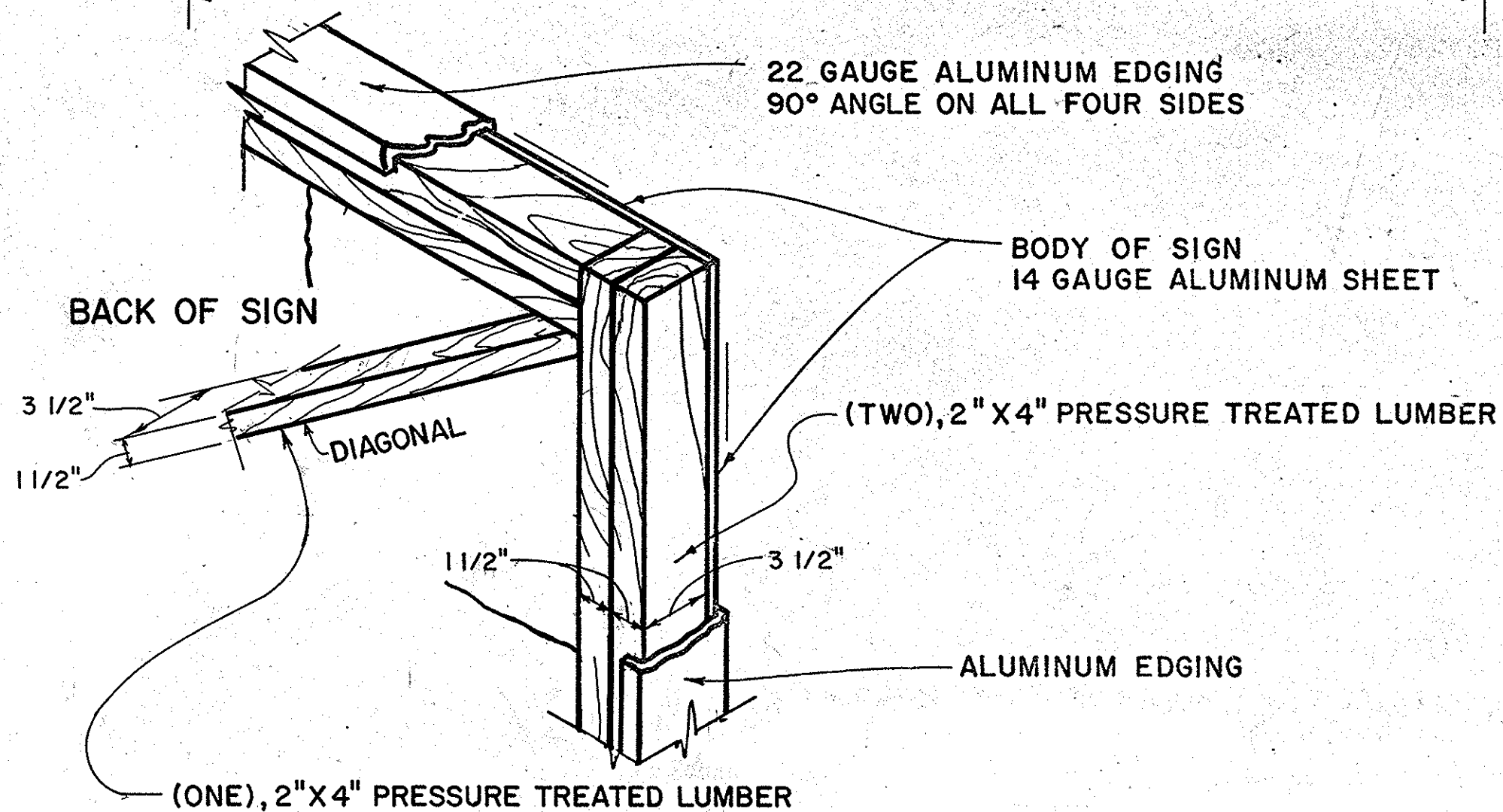
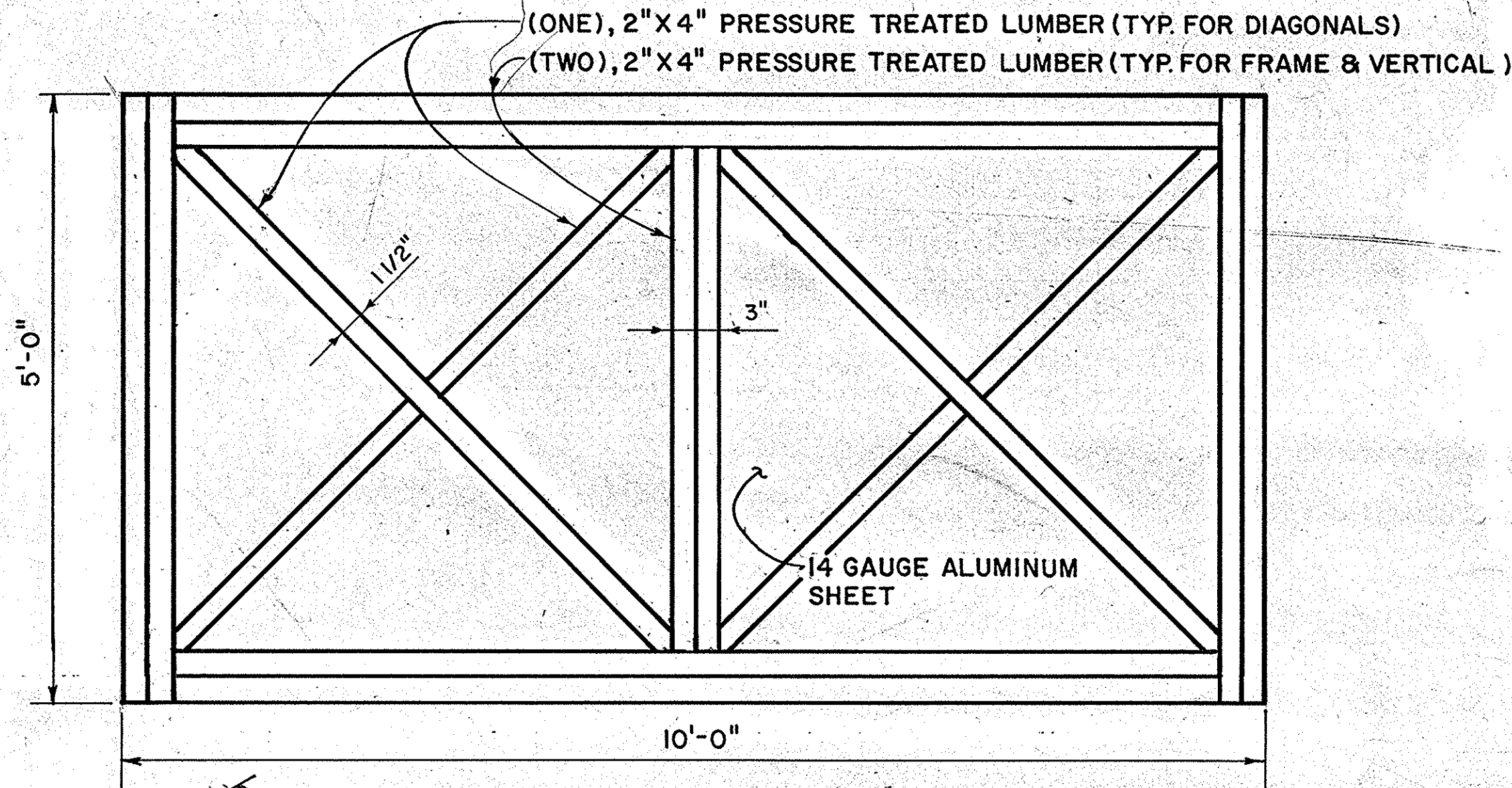
[Signature]
DEPUTY COMMISSIONER 10/25/85

[Signature]
ASSISTANT COMMISSIONER
[Signature]
DIRECTOR-ENGINEERING MANAGEMENT
[Signature]
CHIEF ENGINEER 10/25/85

REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STANDARD PROJECT SIGN TYPE BB	
NOT TO SCALE	DATE: 10-28-85 H-1000 BB SH. 1 OF 2

DRAWN BY R. WYSOKOWSKI CHECKED BY J.L.H.



PROJECT SIGN SPECIFICATIONS:

FRAME:

SHALL BE FROM QUALITY DRESSED LUMBER AS FOLLOWS: 2"X4" DOUGLAS FIR LARCH NO. 2 PRESSURE TREATED, RUNNING AROUND INSIDE BACK EDGE OF SIGN, WITH ONE INTERMEDIATE VERTICAL AND FOUR DIAGONAL SUPPORTS GLUED AND SCREWED TO BE RIGID. FRAME SHALL BE PAINTED WHITE WITH TWO COATS OF EXTERIOR ENAMEL PAINT TO MATCH WHITE BACKGROUND OF SIGN PANEL.

EDGING:

AN ALUMINUM EDGING, 22 GAUGE (C-SHAPED) OF WHITE ENAMELED FINISH TO MATCH SIGN BACKGROUND, SHALL RUN AROUND ENTIRE EDGING OF SIGN PANEL AND FRAME. CORNERS SHALL BE MITERED TO TIGHT FIT. SIZE: 3/4" LEGS.

SIGN PANEL:

SHALL BE CONSTRUCTED IN ONE PIECE MEASURING FULL DIMENSIONS OF 14 GAUGE ALUMINUM. THIS PANEL SHALL BE CONSTRUCTED SO THAT IT WILL BE FLUSH WITH THE EDGE OF THE 2" X 4" WOOD FRAME. THE ALUMINUM PANEL SHALL BE PRE-FINISHED BOTH SIDES WITH A GLOSSY WHITE BAKED-ON ENAMEL FINISH.

FASTENING:

1. FASTEN SIGN PANEL TO FRAME, USING CADMIUM-PLATED #8 SHEET-METAL SCREWS AT 6" O.C.
2. THE SIGN PANEL SHALL BE CAPPED AT THE EDGE BY THE (C-SHAPED) EDGING WHICH SHALL ALSO FIT OVER THE WOOD FRAME. CADMIUM-PLATED #8 SHEET-METAL SCREWS SHALL BE FASTENED THROUGH THE CHANNEL AND INTO THE WOOD FRAME AROUND THE TOP OF THE ENTIRE PERIMETER FRAME AT 8" O.C.

SIGN GRAPHICS:

GRAPHICS SHALL BE APPLIED TO THE SIGN PANEL ACCORDING TO THE FOLLOWING METHODS:

1. FOR LOGOS AND ALL NON-VARYING TEXT INFORMATION INCLUDING THE MOTTO, TEXT BLOCK LINES AND FRAMES, MAYOR'S NAME AND TITLE, TEXT SHALL BE REPRODUCED AT CORRECT SCALE AND POSITION BY THE SILK SCREEN METHOD USING HALF-FULL-SIZE CAMERA READY MECHANICAL LAYOUTS.
2. FOR VARYING TEXT, (AS PROVIDED BY THE ENGINEER), TEXT SHALL BE PRODUCED BY THE SILK SCREEN METHOD OR BY COMPUTER-SPACED VINYL DIE-CUT LETTERS WITH WATERPROOF ADHESIVE BACKING APPLIED ONTO THE ALUMINUM PANEL ACCORDING TO THE LETTER MANUFACTURER'S INSTRUCTIONS. THE VINYL LETTERS SHALL BE OPAQUE VINYL, GLOSSY FINISH, AS PRODUCED BY 3-M OR EQUAL. COLOR SHALL BE MATCHED AS CLOSELY AS POSSIBLE TO PANTONE COLOR SYSTEM - BLUE 300C.

PAINT:

SILK-SCREENED COLORS SHALL BE OF APPROVED EXTERIOR ENAMEL COLORS TO MATCH COLORS AS INDICATED BELOW:

RED - MATCH PANTONE COLOR SYSTEM - WARM RED C
BLUE - MATCH COLOR OF VINYL GRAPHICS AS DESCRIBED BELOW.

TYPE:

*SPECIFICATIONS FOR TYPE FACE AS FOLLOWS:

FOR PROJECT TITLE: HELVETICA BOLD COMPRESSED (OR COMPACT)
FOR NAMES: FUTURA DEMI-BOLD
FOR TITLES: FUTURA BOOK

* CAP SIZE AND POSITION IN IDENTICAL PROPORTION TO THOSE SHOWN

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

STANDARD PROJECT SIGN
TYPE BB.

NOT TO SCALE

DATE: 10-28-85

H-1000 BB SH. 2 OF 2

REVISION NO.	DESCRIPTION	DATE	APPROVED

Barney J. Green
ASSISTANT COMMISSIONER

Thomas H. McPherson
DIRECTOR-ENGINEERING MANAGEMENT

Barney J. Green 10/25/85
CHIEF ENGINEER

Henry J. Lichten
DEPUTY COMMISSIONER 10/25/85

Barney J. Green PB.
COMMISSIONER 10/27/85

YOUR STREET IS ON THE ROAD TO RECOVERY

(AMOUNT) STREET IMPROVEMENT
COMPLETION (SEASON 19---)
(MAJOR PROJECT LIMIT)

CITY OF NEW YORK

DEPARTMENT OF TRANSPORTATION

MAYOR

COMMISSIONER

CONTRACTOR

5'-0"

NOTES:

1. SIGNS SHALL BE 3/4" THICK, EXTERIOR GRADE A-C FIR PLYWOOD.
2. MOUNTING HARDWARE SHALL BE AS APPROVED BY THE ENGINEER.
3. FACE, BACK & EDGES SHALL BE PAINTED WITH ONE COAT OF APPROVED PLYWOOD PRIMER AND A FINISHED COAT OF BLUE EXTERIOR ENAMEL.
4. ALL LETTERING SHALL BE FILLED WITH THE BEST QUALITY WHITE ENAMEL.
5. "YOUR STREET IS ON THE ROAD TO RECOVERY" SHALL BE HELVETICA MEDIUM LETTERING, ALL CAPS. ALL OTHER LETTERING SHALL BE IN HELVETICA LIGHT, ALL CAPS.
6. COST OF STREET IMPROVEMENT AMOUNT SHALL BE IN NUMERALS. Example 1,000,000.
7. THE WORD "SEASON" IS TO MEAN SUMMER, FALL, ETC.
8. ALL LETTERING SHALL BE PRINTED ON THE FINISHED SIDE OF THE PLYWOOD.

DRAWN BY: *L. Frizalone* CHECKED BY: *G. Frizalone*

Anthony D. Romano, P.E.
COMMISSIONER
2/18/82

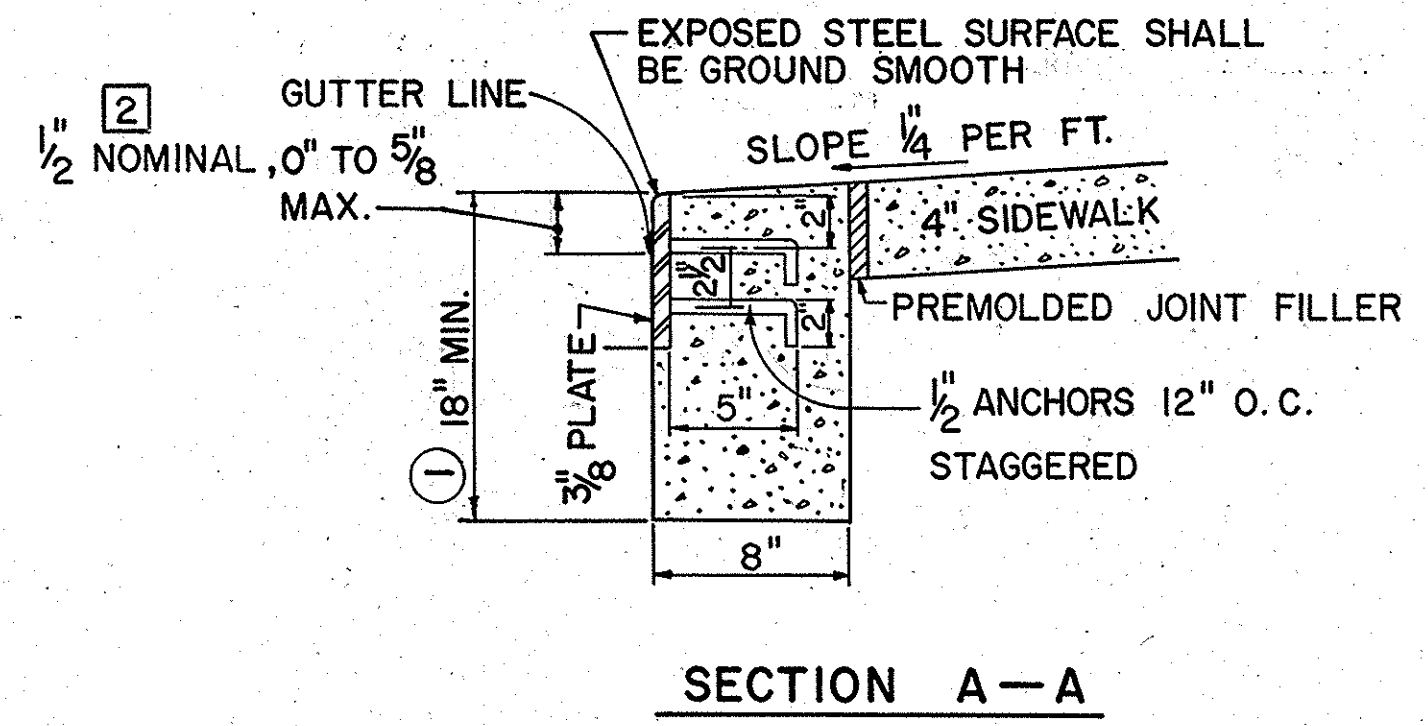
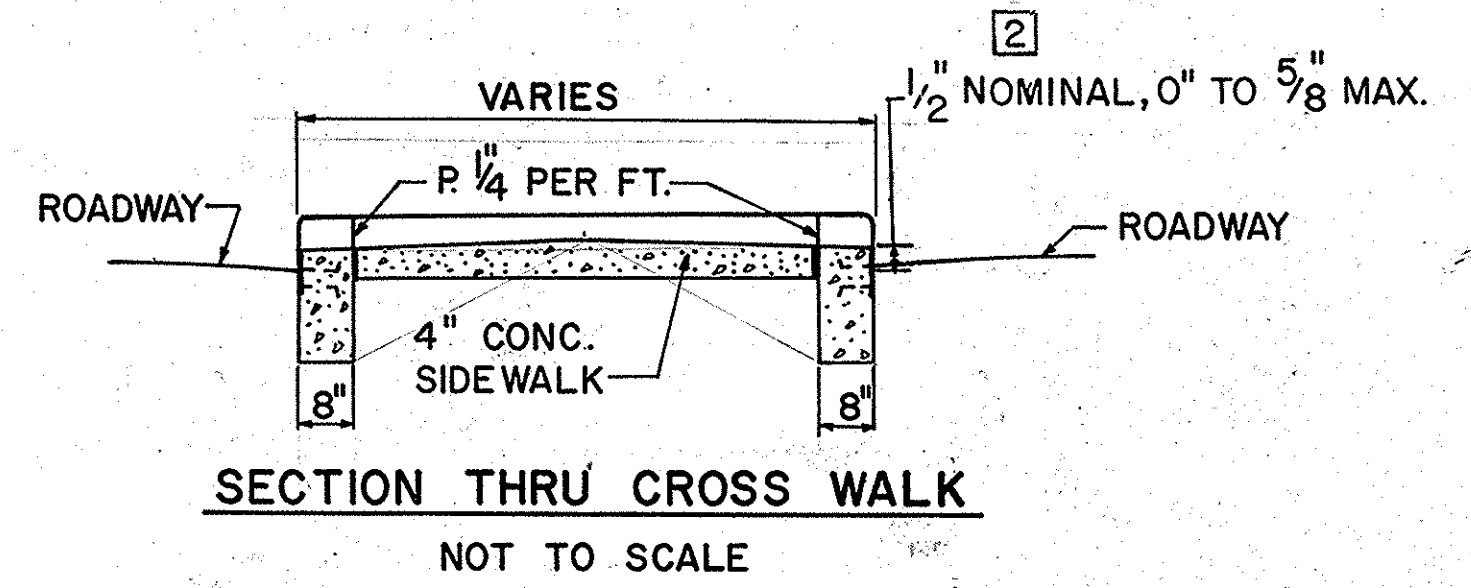
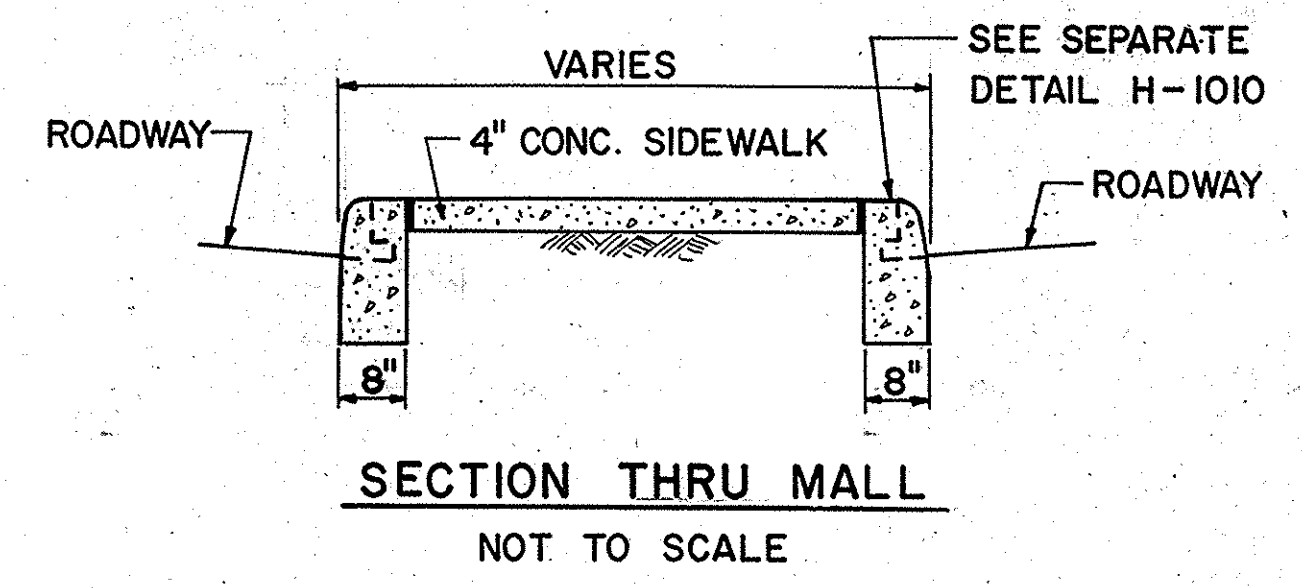
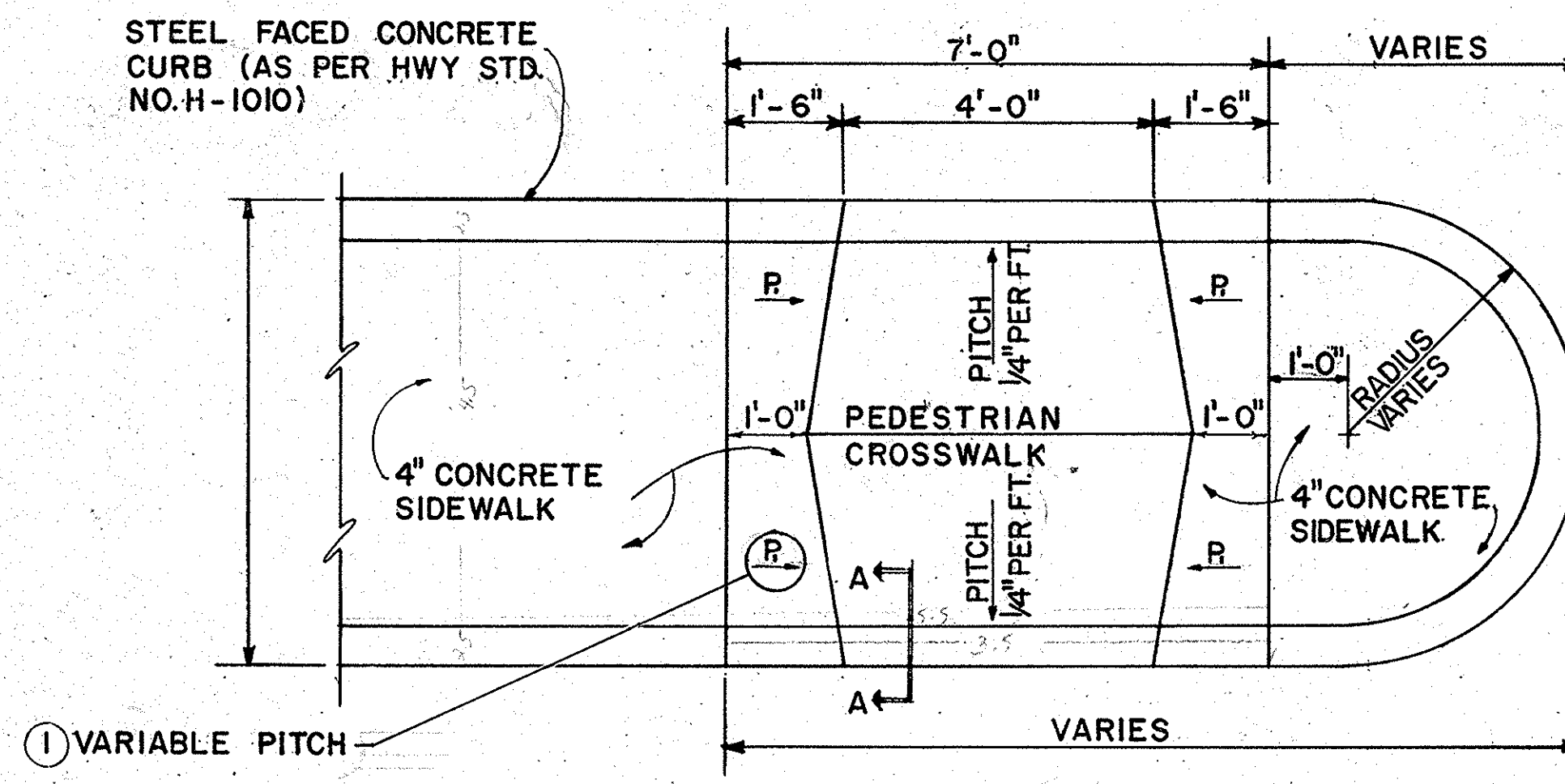
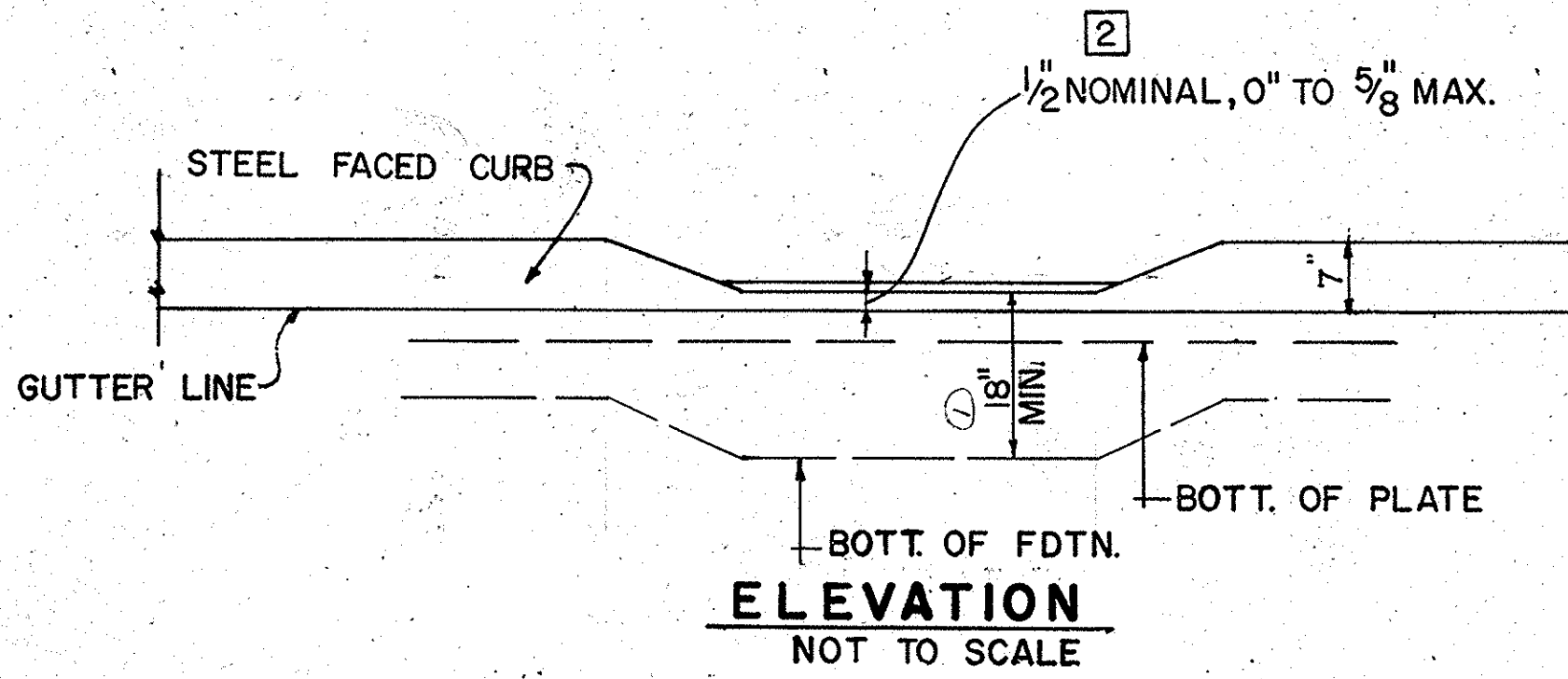
James J. Lillie, Jr.
DEPUTY COMMISSIONER

Henry C. Sloan, P.E.
ASSISTANT COMMISSIONER

Thomas H. Mackham, P.E.
DIRECTOR-ENGINEERING MANAGEMENT
Barney La Greca, P.E. 2/19/82
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
PROJECT SIGN TYPE-C (INTERIM)	
SCALE: 3" = 1'-0"	DATE: 2/8/82 H-1000C R-82



Anthony C. Shaw, P.E.
ASSISTANT COMMISSIONER

Thomas H. Mackham, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Henry J. Lutton, P.E.
DEPUTY COMMISSIONER

James A. Greco, P.E.
CHIEF ENGINEER

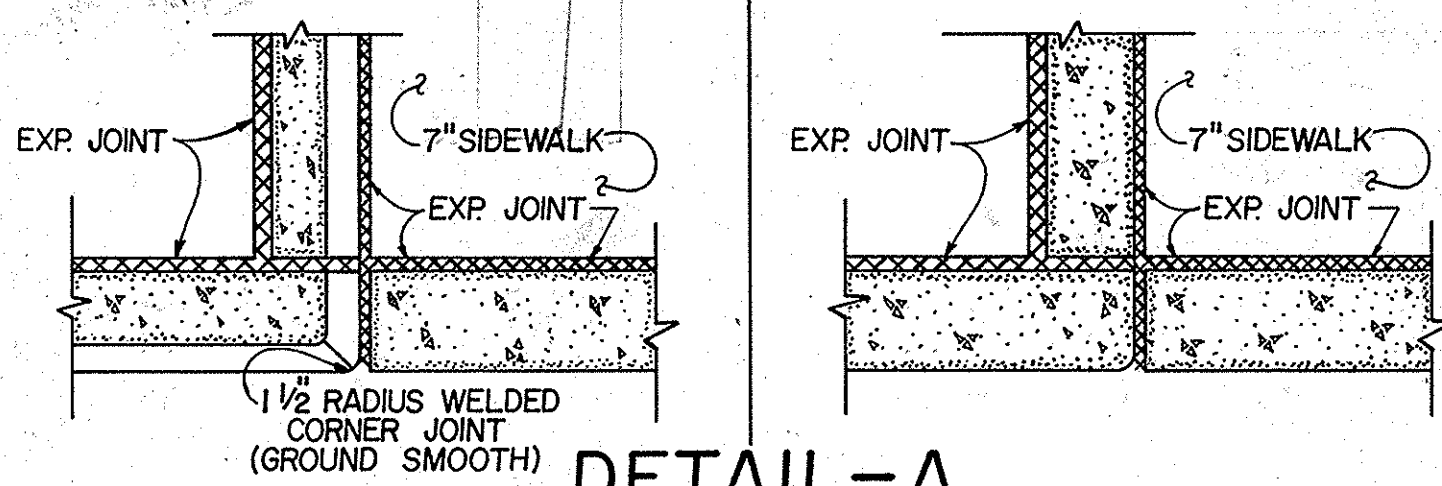
Anthony M. DiMuro, P.E.
COMMISSIONER

2	ADD 1/2" NOMINAL, TO 0" TO 5/8" MAX.	10-30-85	J.L.H.
1	OMIT MIN/MAX. PITCH PROVIDE 18" MIN. CONC.	10-15-85	JLH
REVISION NO.	DESCRIPTION	DATE	APPROVED

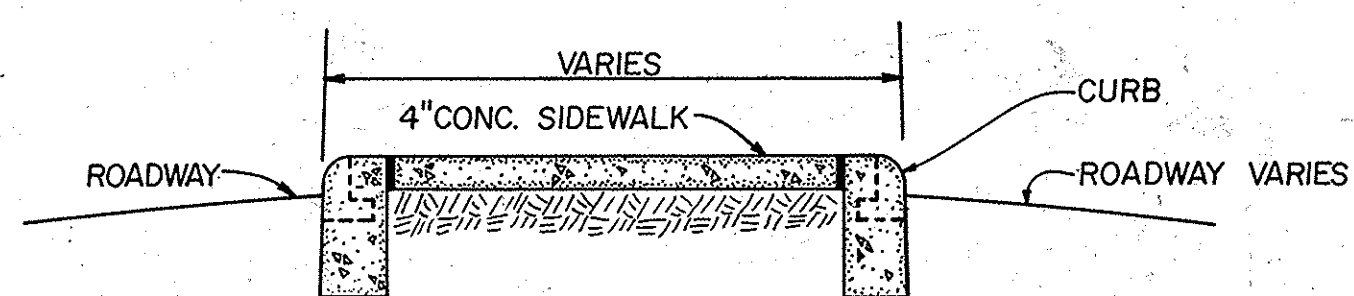
CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS			
PEDESTRIAN CROSS WALKS-MALL TYPE-A			
DATE: 3/10/80			
H 1003-A			R79

DRAWN BY: FW CHECKED BY: FW

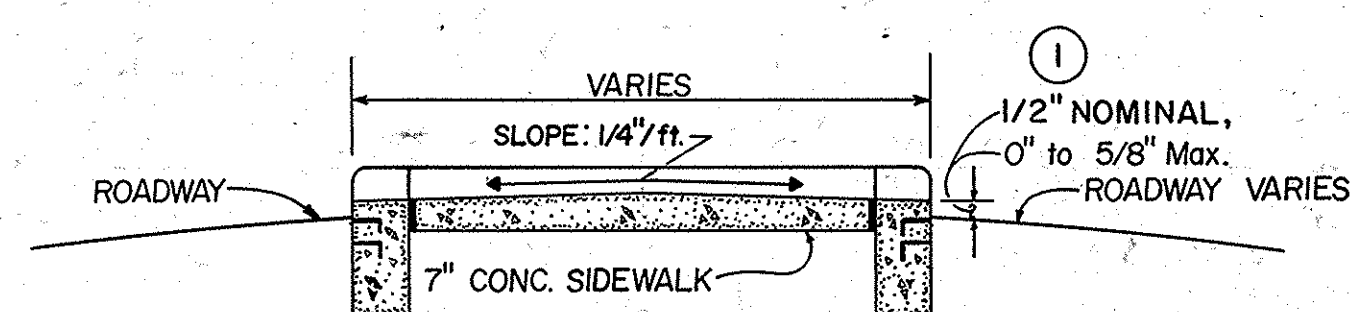
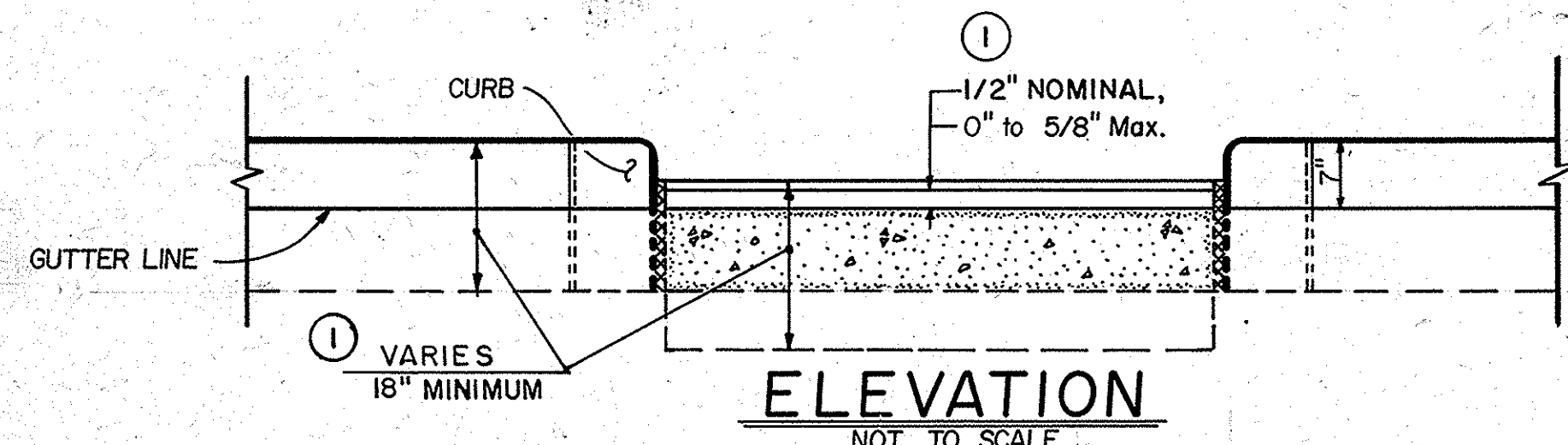
21 x 15



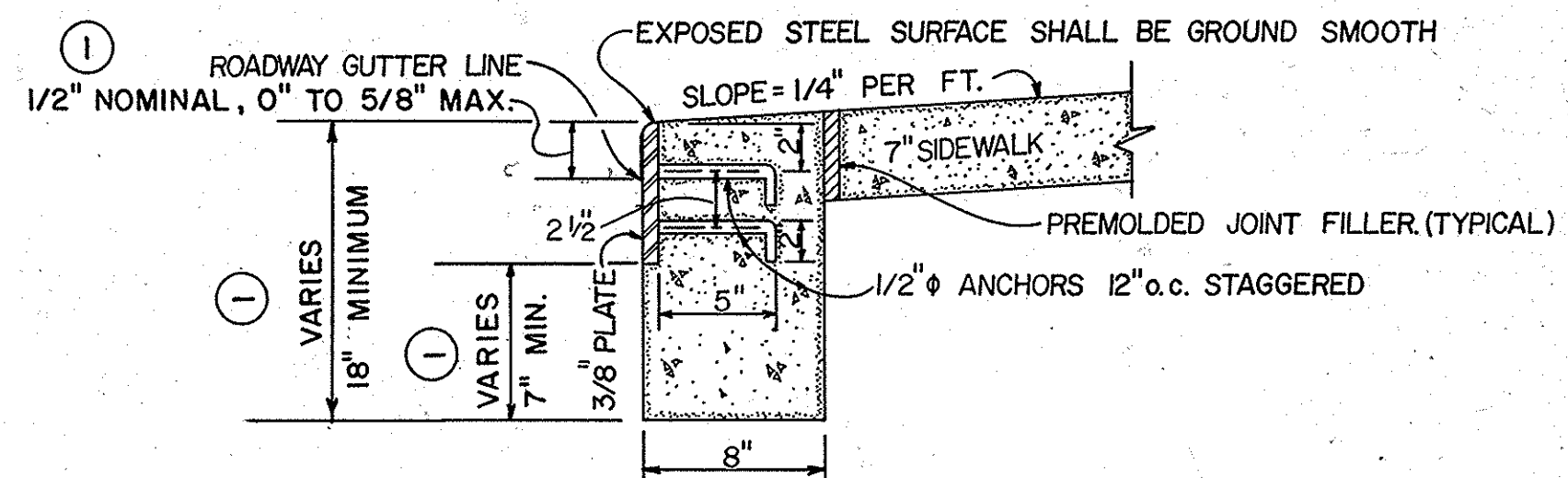
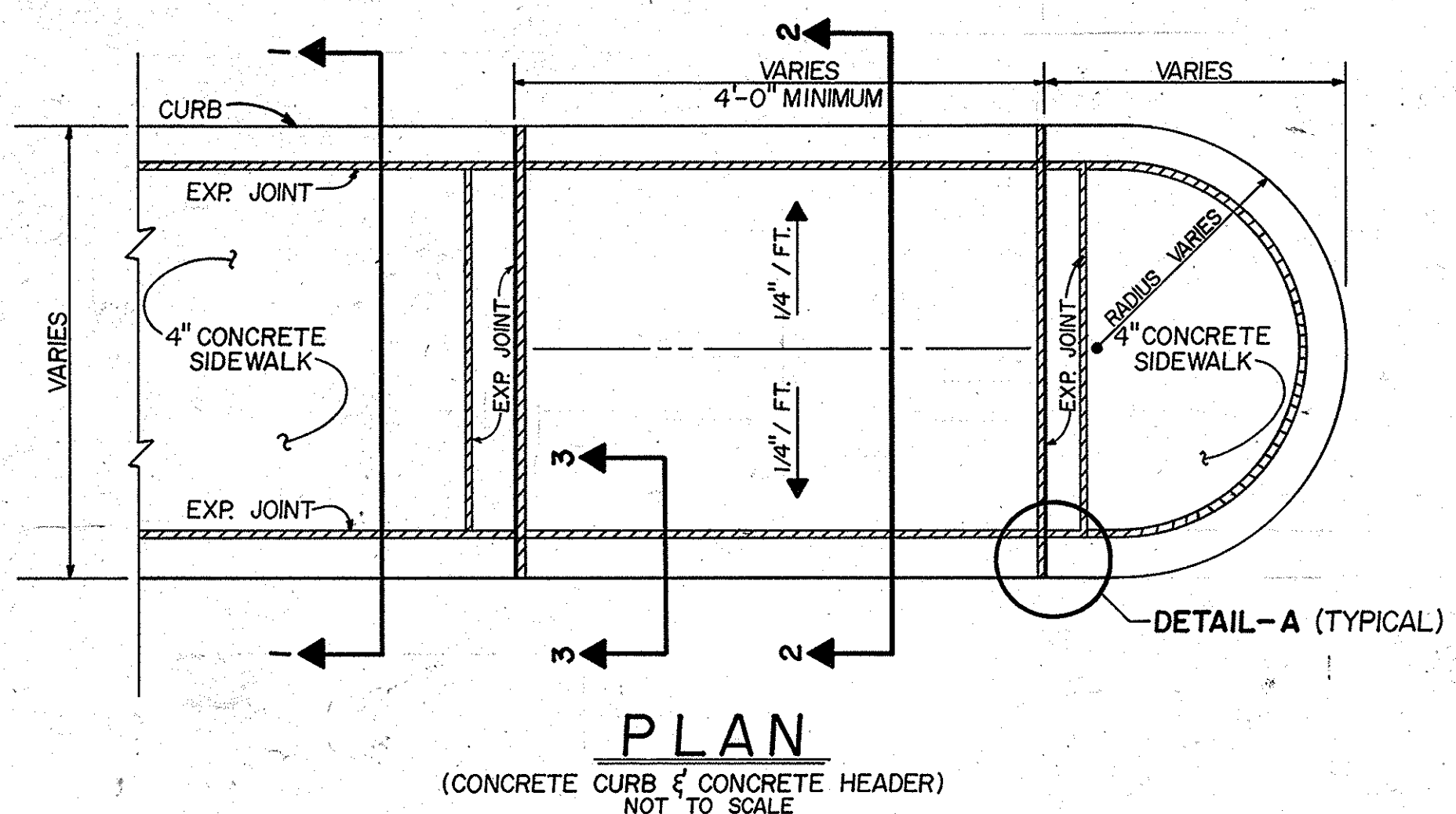
TOP VIEW - STEEL FACED CONC. CURB TOP VIEW - CONCRETE CURB



SECTION 1-1
NOT TO SCALE



SECTION 2-2
NOT TO SCALE



SECTION 3-3
STEEL FACED CONCRETE HEADER
NOT TO SCALE

CHECKED BY: G. FRIZALONE

DRAWN BY: J. BORDOW

Arthur R. Ammend, P.E.
COMMISSIONER
2/19/82

Henry J. Fulton, P.E.
DEPUTY COMMISSIONER
3/3/82

Henry C. Shaw, P.E.
ASSISTANT COMMISSIONER

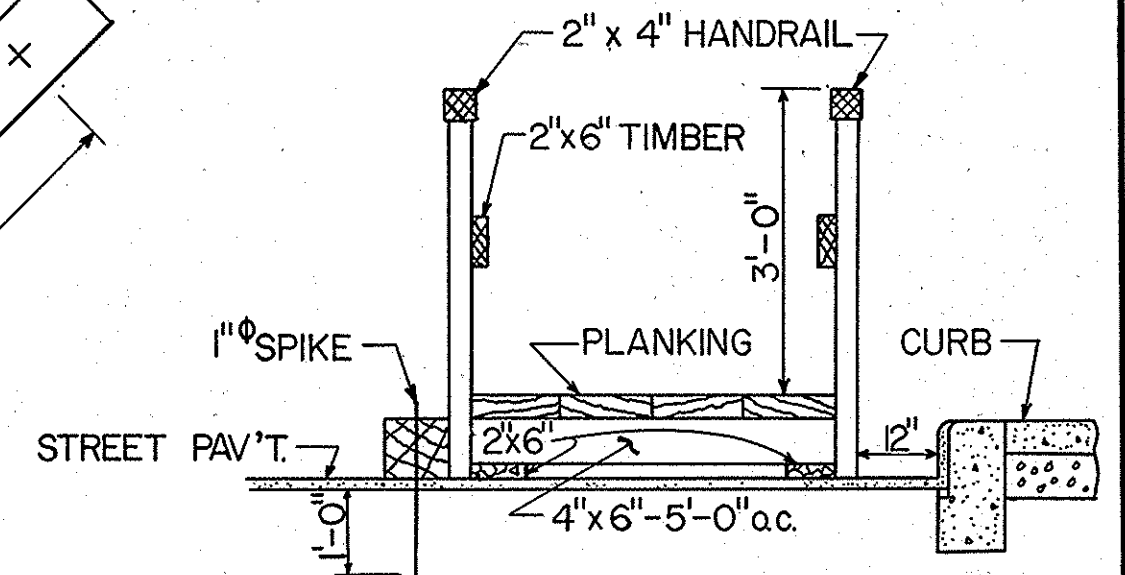
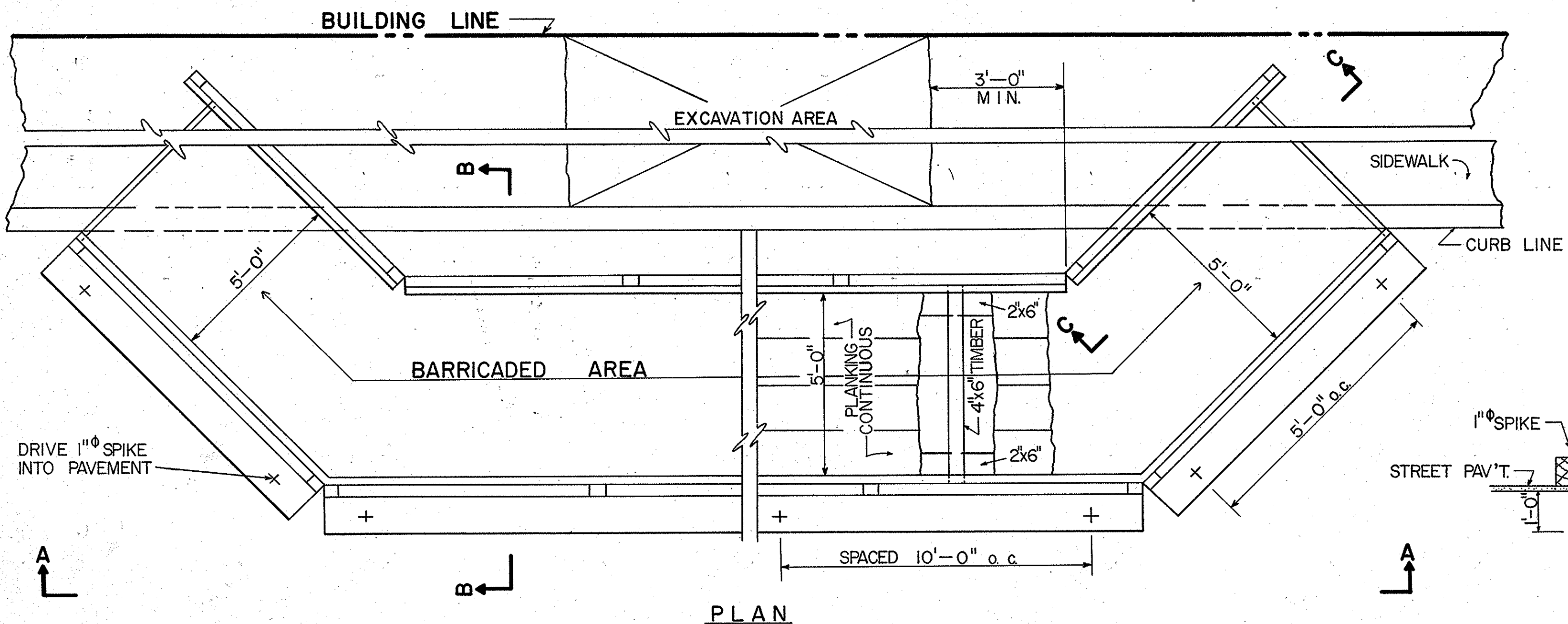
Thomas H. Wachtman, P.E.
DIRECTOR - ENGINEERING, MANAGEMENT

Bonny La Graca, P.E.
CHIEF ENGINEER
2/10/82

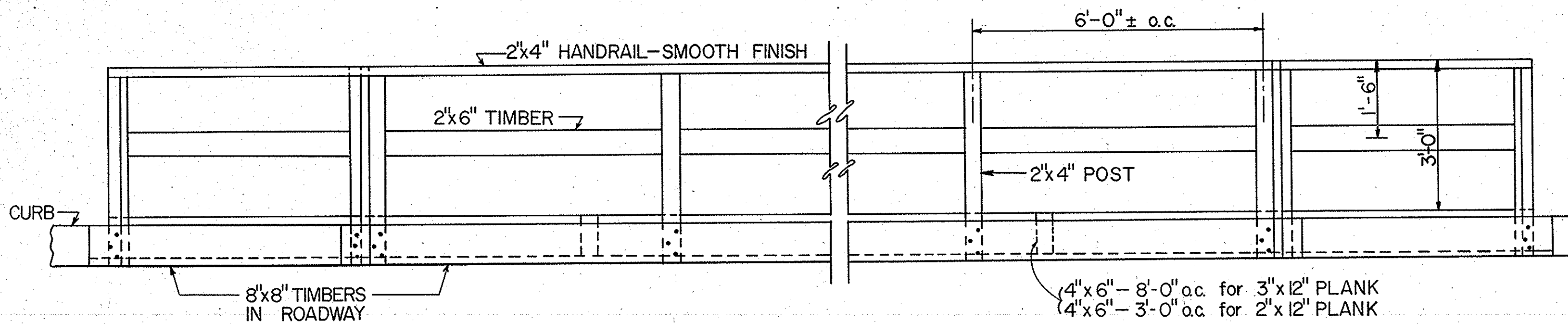
REVISION NO.	DESCRIPTION	DATE	APPROVED
1	REVISED CURB HEIGHT TO VARIABLE, ADDED 1/2" NOMINAL	10/30/85	J.L.H.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
PEDESTRIAN CROSSWALKS MALL TYPE - B	
SCALE: AS NOTED	DATE: 1/22/82 H1003-B R-82

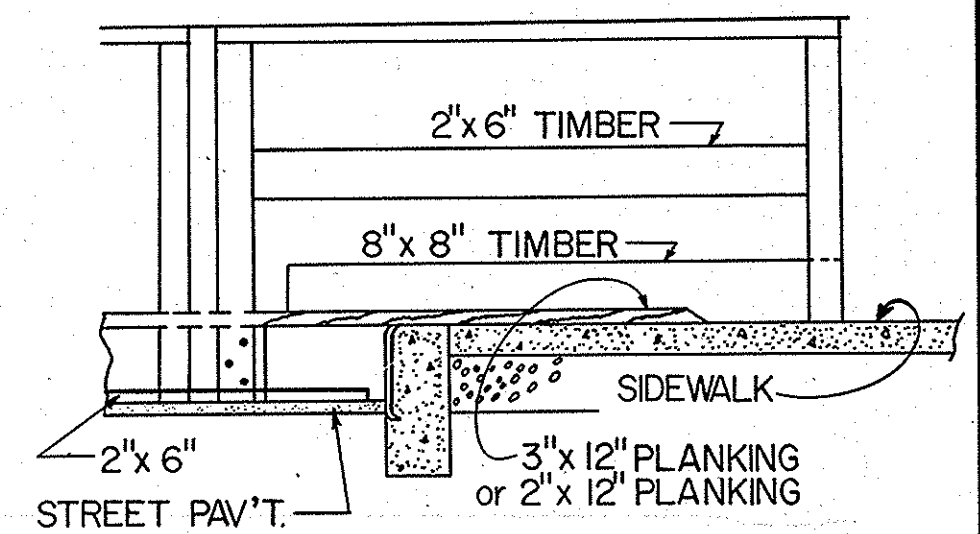
CHECKED BY: *mf*
DRAWN BY: *mf*



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 LEAD AND OIL PAINT, ORANGE & WHITE COLORS, IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Henry C. Shan, P.E.
ASSISTANT COMMISSIONER

Thomas H. MacMahon, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

Barney D. Green, P.E.
CHIEF ENGINEER

Robert M. Brown, P.E.
COMMISSIONER

Henry J. Lichten
DEPUTY COMMISSIONER

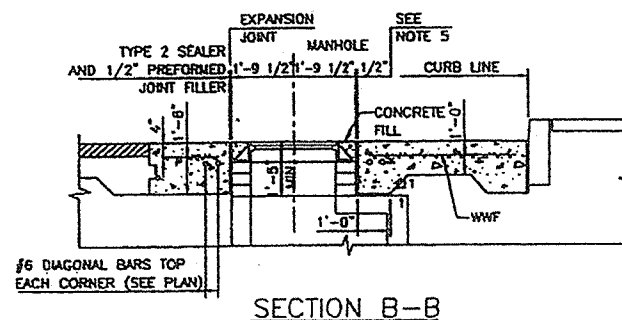
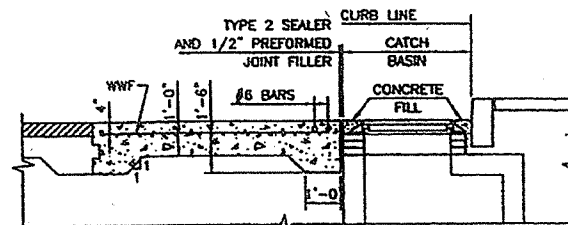
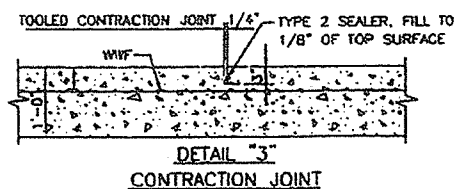
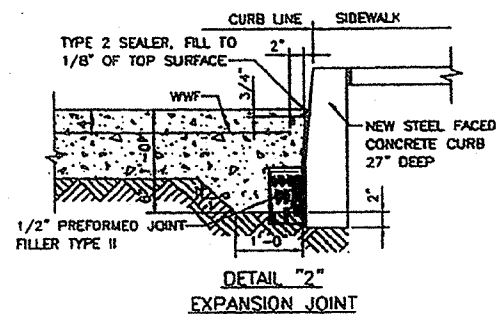
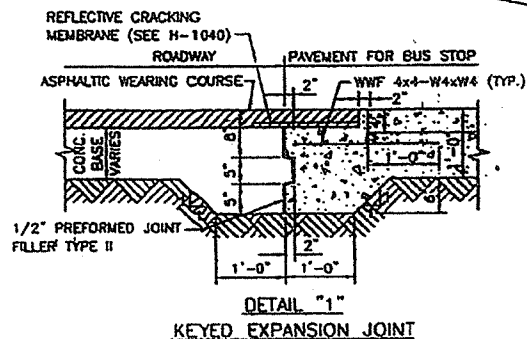
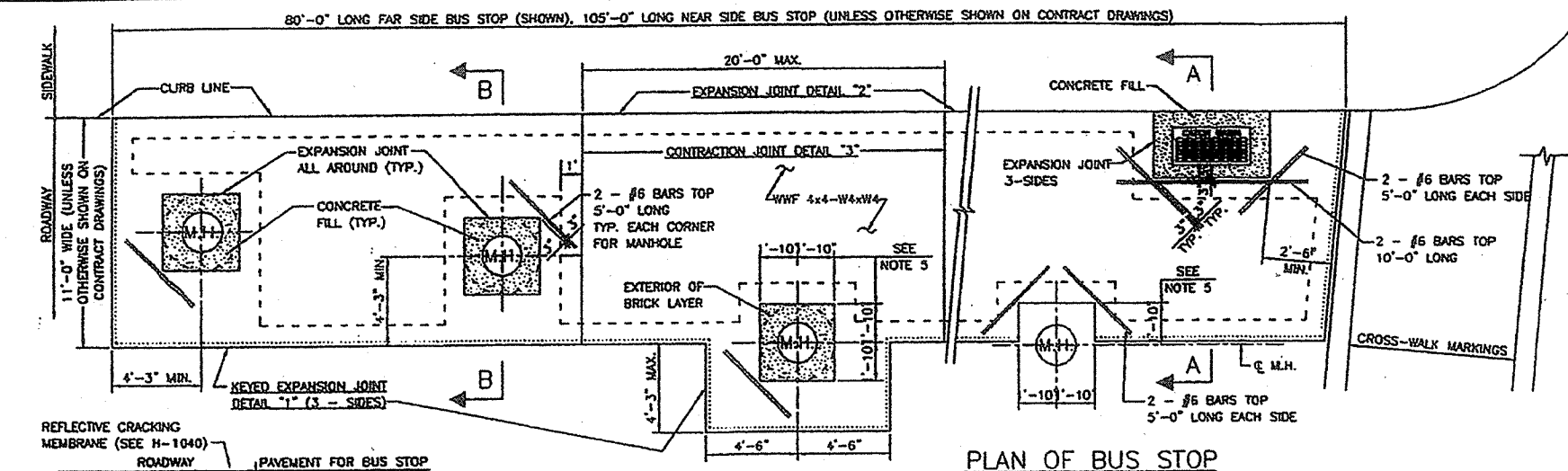
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

TYPICAL TEMPORARY PEDESTRIAN
PASSAGEWAY IN ROADWAY AREA
DURING CONSTRUCTION

DATE: 3/10/80

H 1004 R 79



PLAN OF BUS STOP

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 CROSS-WALK 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 STANDARD SEWER MANHOLE. ADJUST TO ACCOMMODATE OTHER SIZE HARDWARE AS APPROVED BY THE ENGINEER.

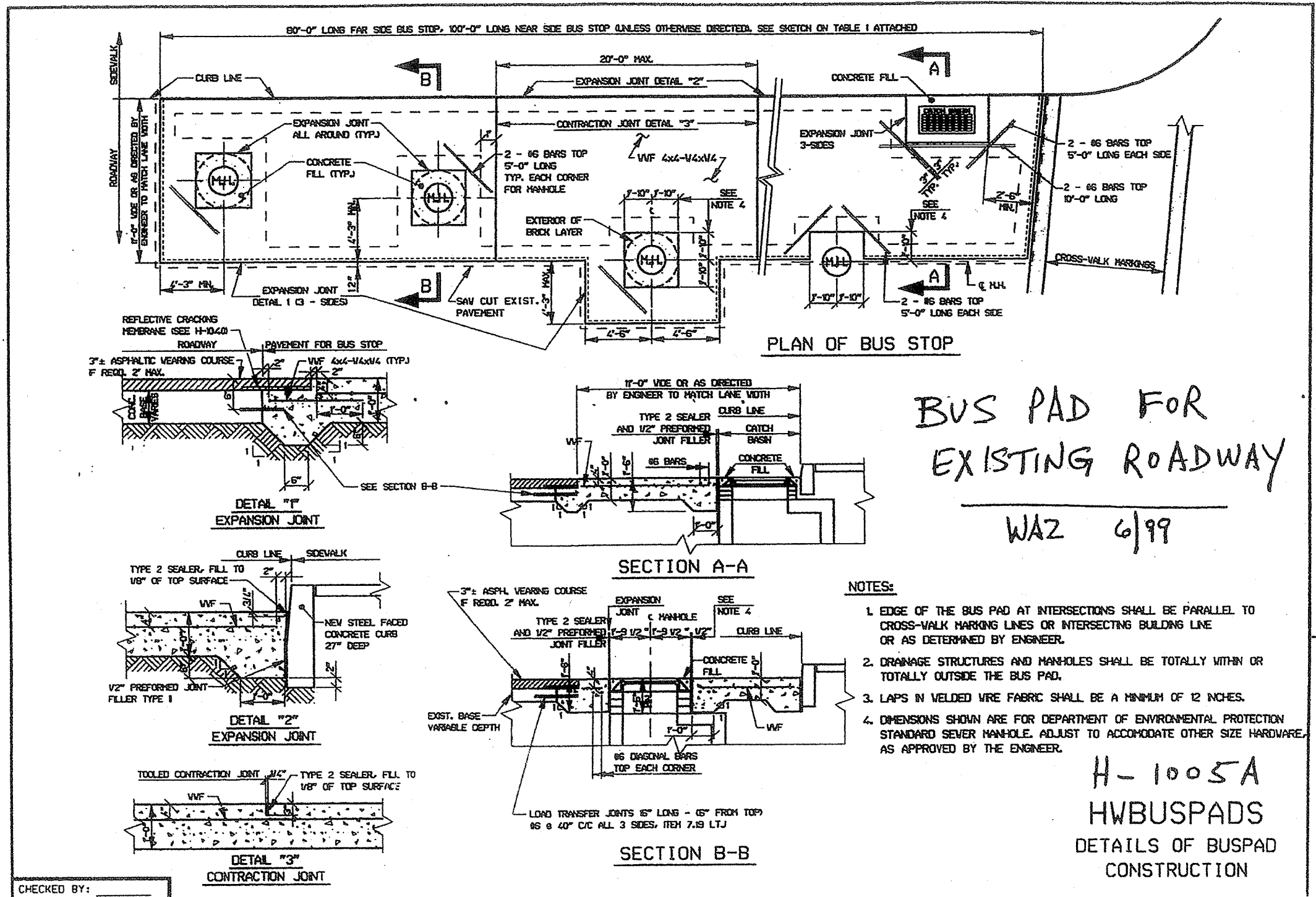
BUS PAD FOR
NEW CONSTRUCTION
REVISED 1999 WAZ

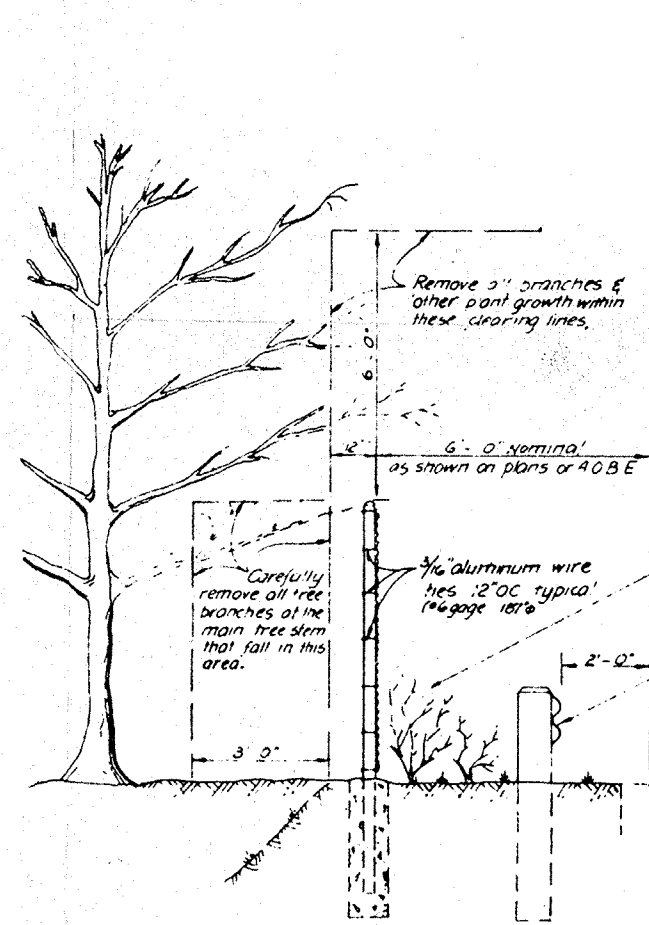
CHECKED BY: _____

SDS17

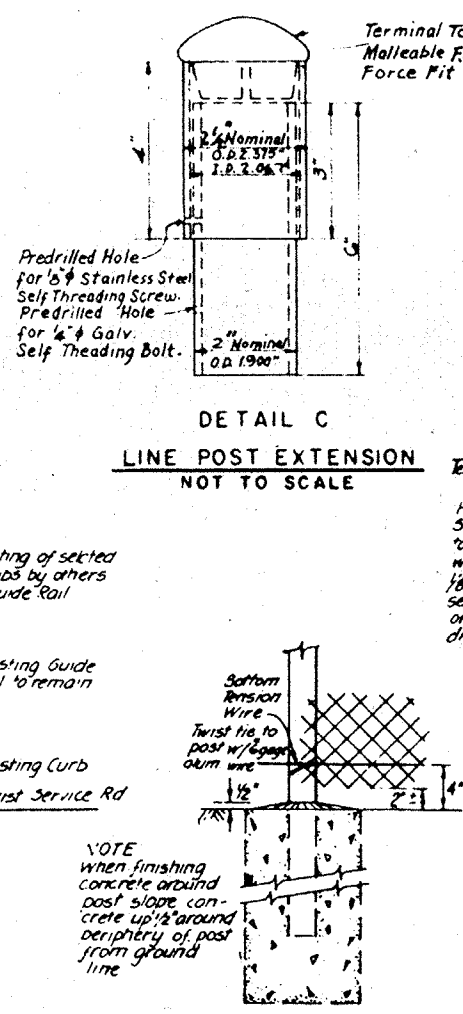
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION INFRASTRUCTURE DESIGN			
REINFORCED CONCRETE PAVEMENT FOR BUS STOP			
SCALE: NONE	DATE:		
	H-1005	R99	

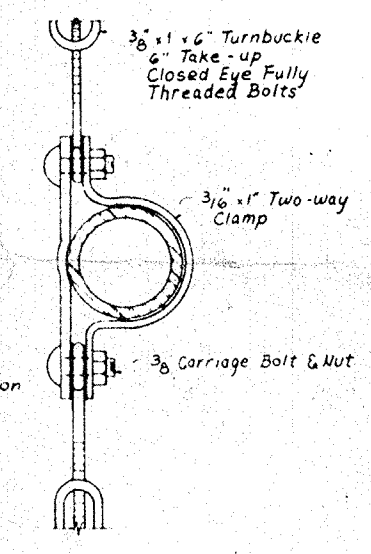




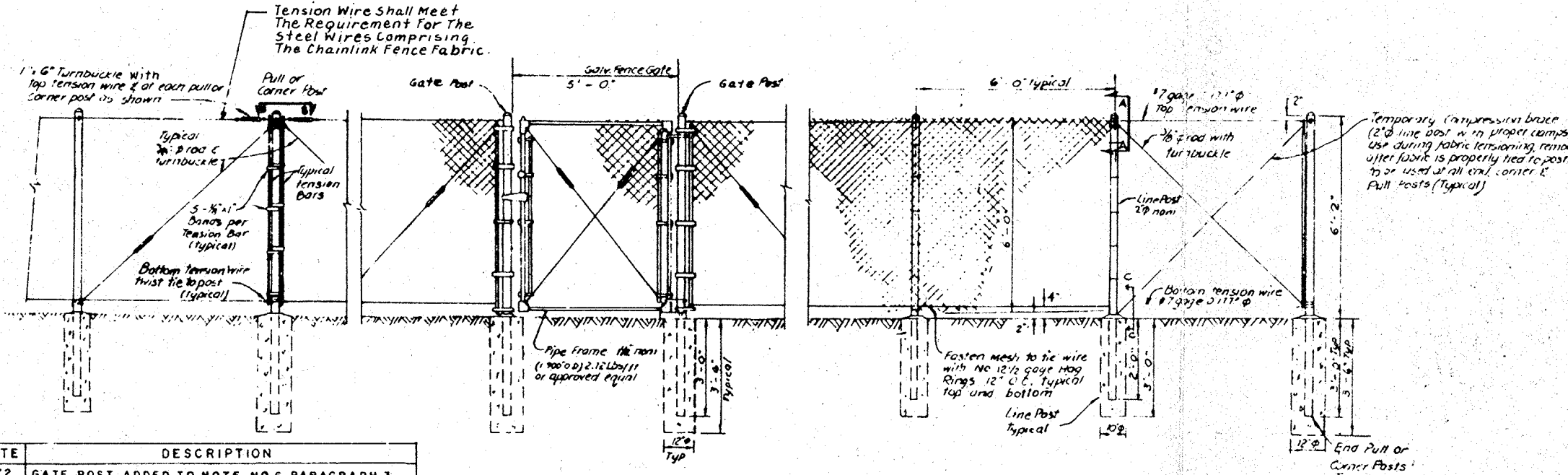
TYPICAL FENCE LOCATION
SCALE: 1/2" = 1'-0"



SECTION A-A
DETAIL OF POST EXTENSION AND TENSION WIRE ATTACHMENT TO POST
NOT TO SCALE



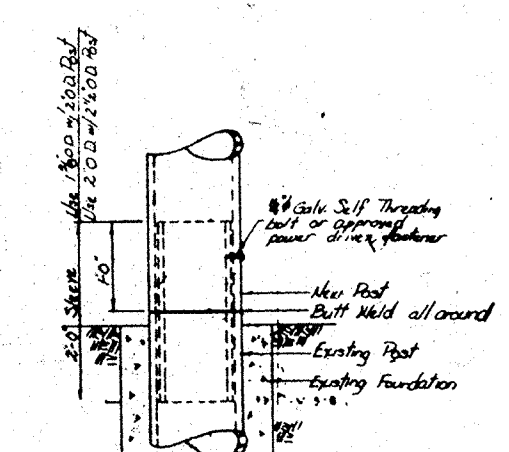
SECTION B-B
DETAIL OF TOP TWO WAY CLAMP OF TENSION WIRE TO POST AND TURNBUCKLES
NOT TO SCALE



REV.	DATE	DESCRIPTION
2-16-72		GATE POST ADDED TO NOTE NO 6 PARAGRAPH 3
2-16-72		OMIT CORNER POST INSERT GATE POST AT FENCE DETAIL
6-18-80		ON DETAIL C, 2 1/2" NOM. WAS 2", I.D. WAS 2.065"
		2" NOM. WAS 1 1/2" - REVISED NOTE 6.

DETAIL OF RIGHT OF WAY FENCING

- NOTES**
- 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 10'-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.
 - 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°.
 - 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 Contractor's proposal.
 - 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.
 - 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.
 - 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 125-50T, 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 Top: Malleable flat as terminal post galvanized casting inside fit for standard 2 1/2" Nominal Dia. Post.
 - Tension Bars: 72" long 1 1/4" x 1/4" flat galvanized steel tension bars.
 - Tension Bands: Heavy weight 1/2" x 1/4" galvanized steel tension bands for a 2 1/2" Nom. Dia. minimum wt. 40 lbs. The carriage bolt to be supplied for each of these bands shall be gal. steel 1/2" x 1 1/4" 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 Engineer's 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 unsignified 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 than 26 per sq. ft. or aluminum-coated steel fabric meeting the requirements of A.S.T.M. Specification A 188 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 & bottom.
 - When fences terminate at structures, the clear spaces between the fences and structure shall not exceed 6".
 - Core Treatment: 150'-0" of clear area from the point of core will hereafter be maintained.
 - For fence heights other than those shown, refer to H-1001 for size of fence posts and size of members and fabric. Unit top and bottom rails



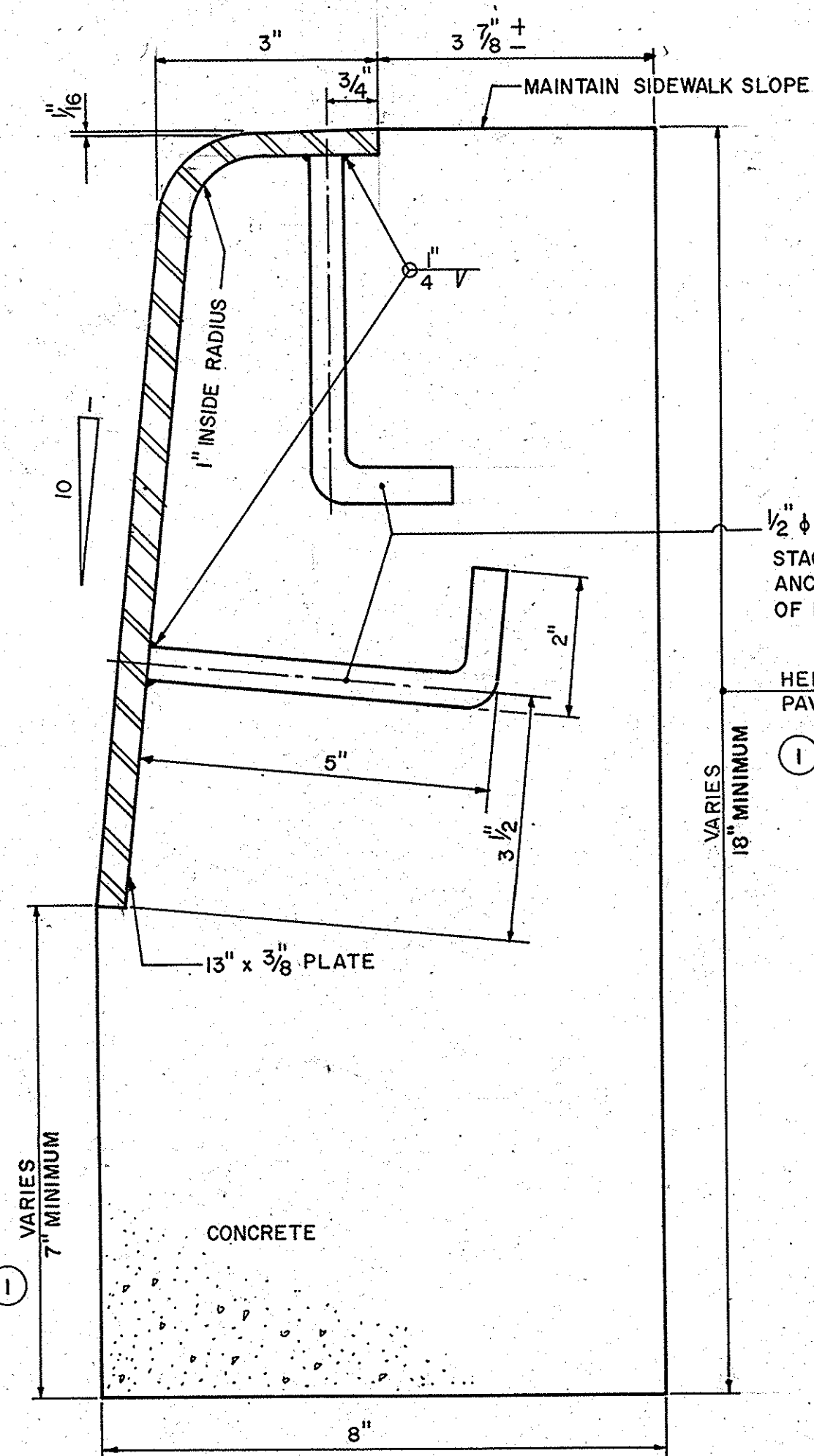
SECTION C-C
DETAIL OF RIGID SPLICE INSTALLATION OF NEW POST TO EXISTING POST BASE
NOT TO SCALE

CITY OF NEW YORK
TRANSPORTATION ADMINISTRATION
DEPARTMENT OF HIGHWAYS
CHAIN LINK FENCE DETAILS
TENSION WIRES TOP AND OR/BOTTOM

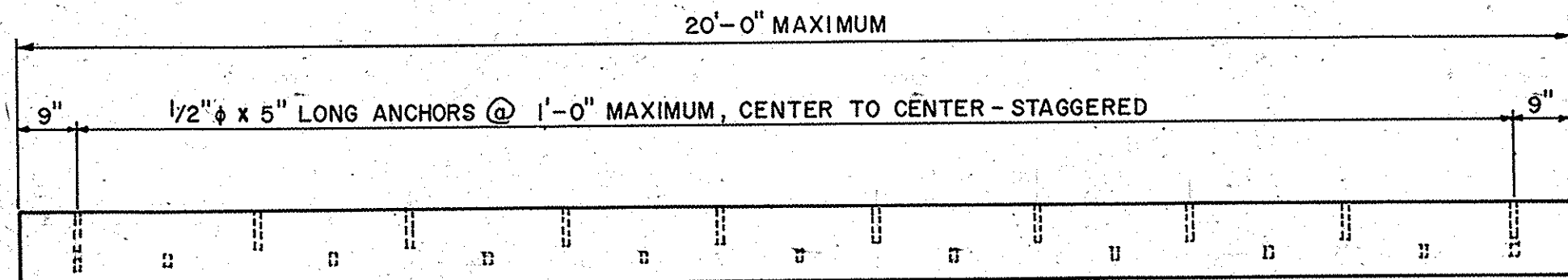
James L. Jones CHIEF ENGINEER HIGHWAYS DESIGN
Thomas A. Walker DIRECTOR OF ENGINEERING
D. J. J. DEPUTY COMMISSIONER

DATE: SEPT. 15, 1971 SCALE: AS NOTED
STANDARD DRAWING H-1009

DRAWN BY: A. Eng. CHECKED BY: F. White



DETAIL
NOT TO SCALE



ELEVATION - STEEL FACING
NOT TO SCALE

NOTES

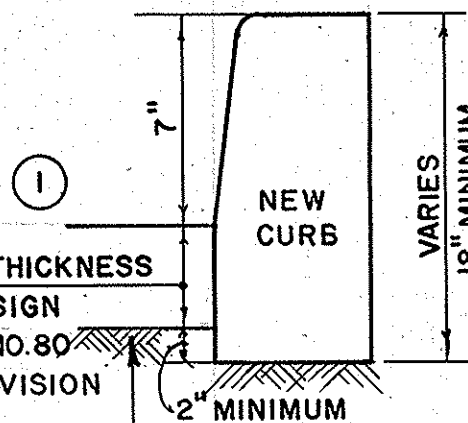
1. EXPANSION JOINTS IN THE STEEL CURB FACING AND CONCRETE BACKING SHALL BE AT A MAXIMUM SPACING OF 24 FEET.
2. THE EXPANSION JOINTS OF THE CURB AND STEEL CURB FACING SHALL LINE UP WITH THE EXPANSION JOINTS OF THE CONCRETE SIDEWALKS.
3. NO PIECE OF STEEL CURB FACING HAVING LESS THAN TWO (2) WELDED DOWELS MAY BE INSTALLED UNLESS IT IS WELDED TO THE ADJACENT STEEL CURB FACING.
4. 1/2" 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 IN ACCORDANCE WITH D.O.T. SPECIFICATIONS, LATEST REVISION.
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.

HEIGHT DEPENDS ON
PAVEMENT DESIGN

1/2" ϕ ANCHORS @ 1'-0" MAX. C. C.
STAGG'D. SET TOP AND BOTTOM
ANCHORS IN LINE AT EACH END
OF EACH LENGTH

VARIES
18" MINIMUM

PAVEMENT THICKNESS
AS PER DESIGN
DIRECTIVE NO. 80
LATEST REVISION



TYPICAL SECTION
NOT TO SCALE

Thomas H. MacMahon, P.E.
ASSISTANT COMMISSIONER

Thomas H. MacMahon, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

Bruno La Graca, P.E.
CHIEF ENGINEER

2	REVISED NOTE # 6	4/29/91	WAZ
1	HEIGHT CHANGED TO VARIABLE	12/3/84	JLH
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

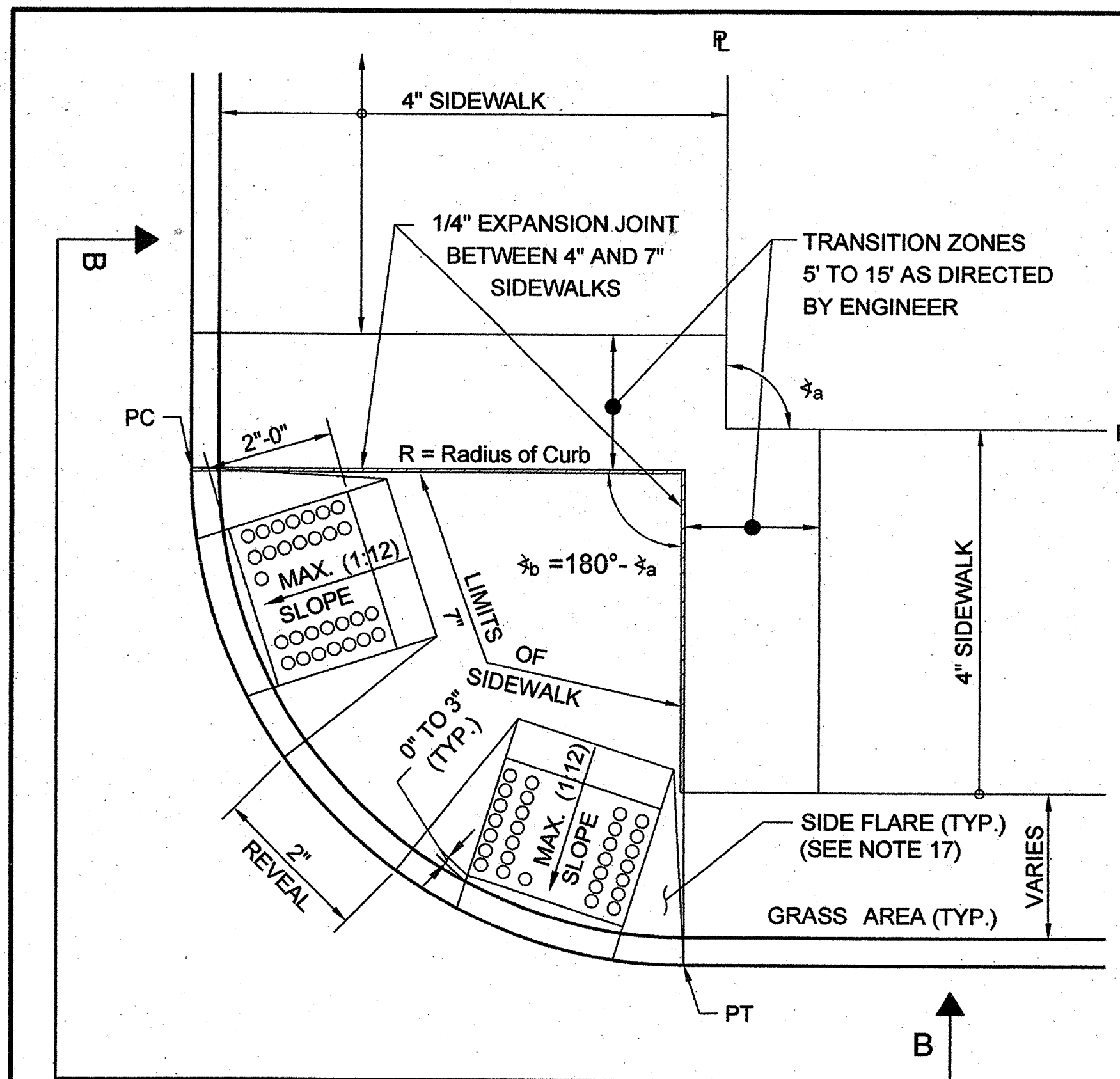
STEEL FACED CURB
STEEL FACING TYPE D

DATE: 3/10/80

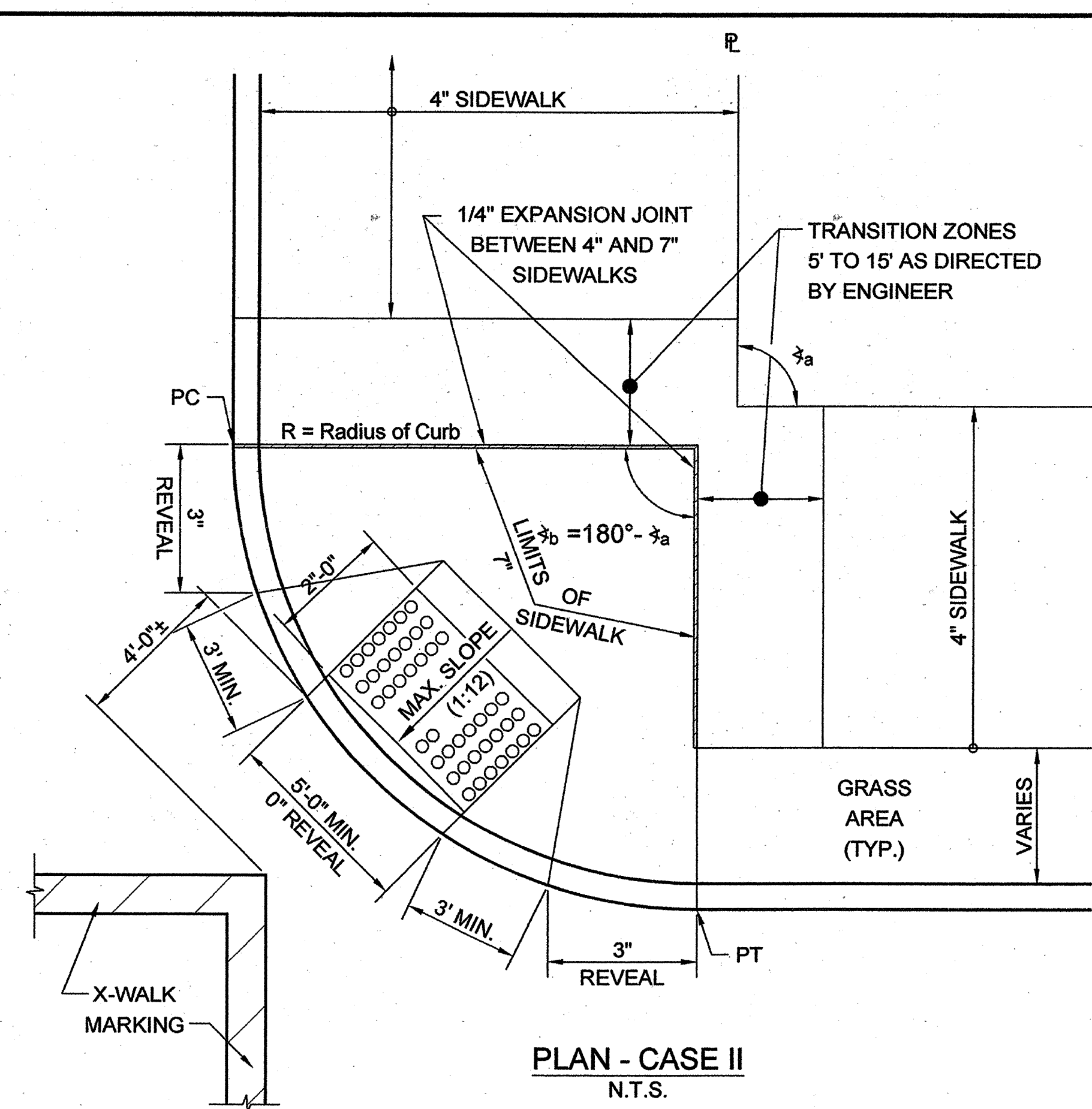
H-1010 R 79

Robert J. Brown, P.E.
COMMISSIONER

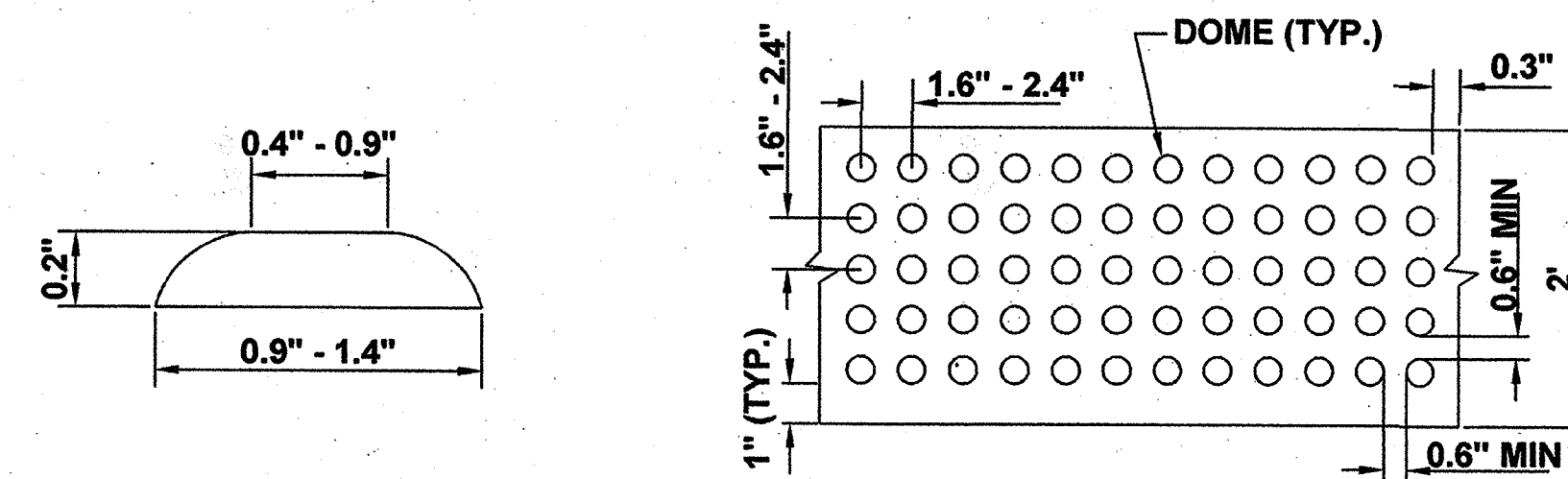
Henry J. Litter, P.E.
DEPUTY COMMISSIONER



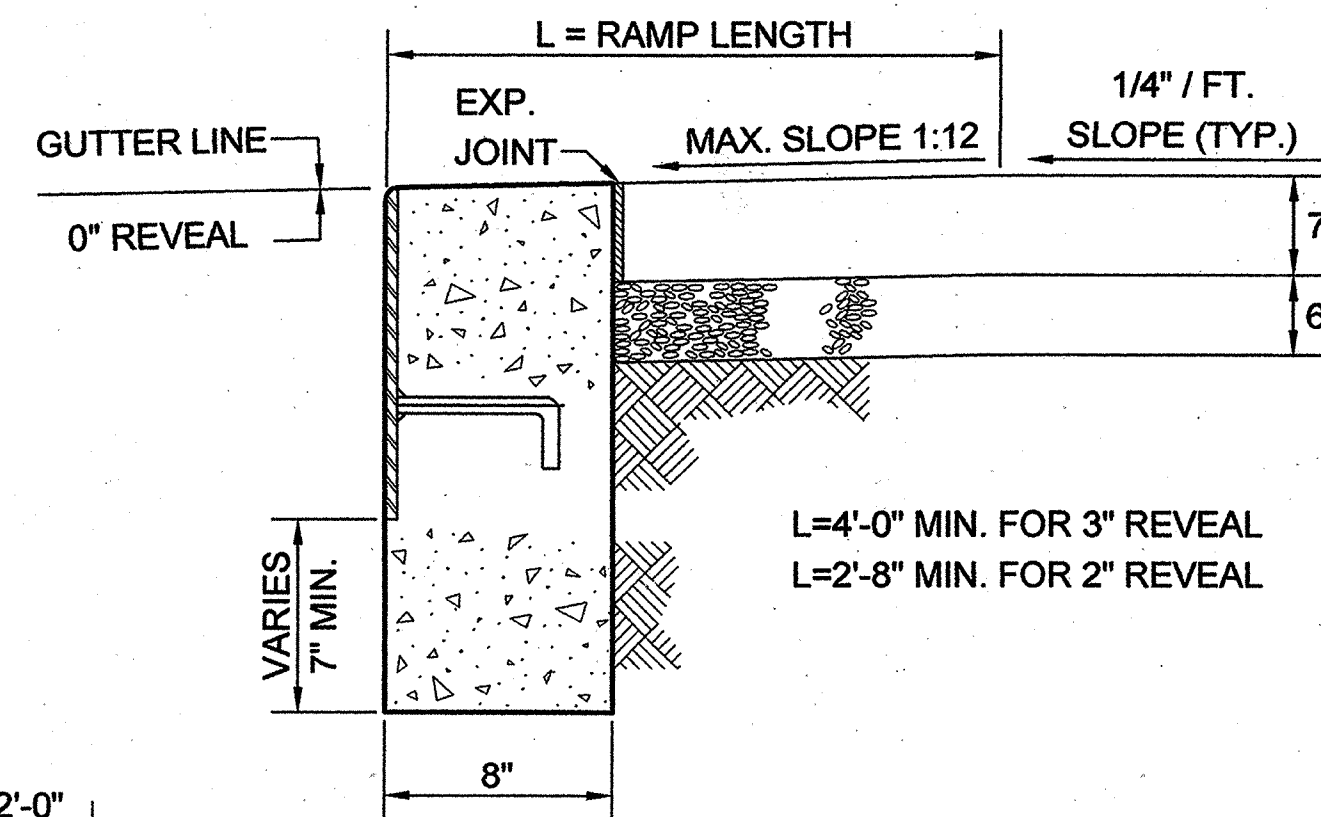
PLAN - CASE I, CASE III
N.T.S.



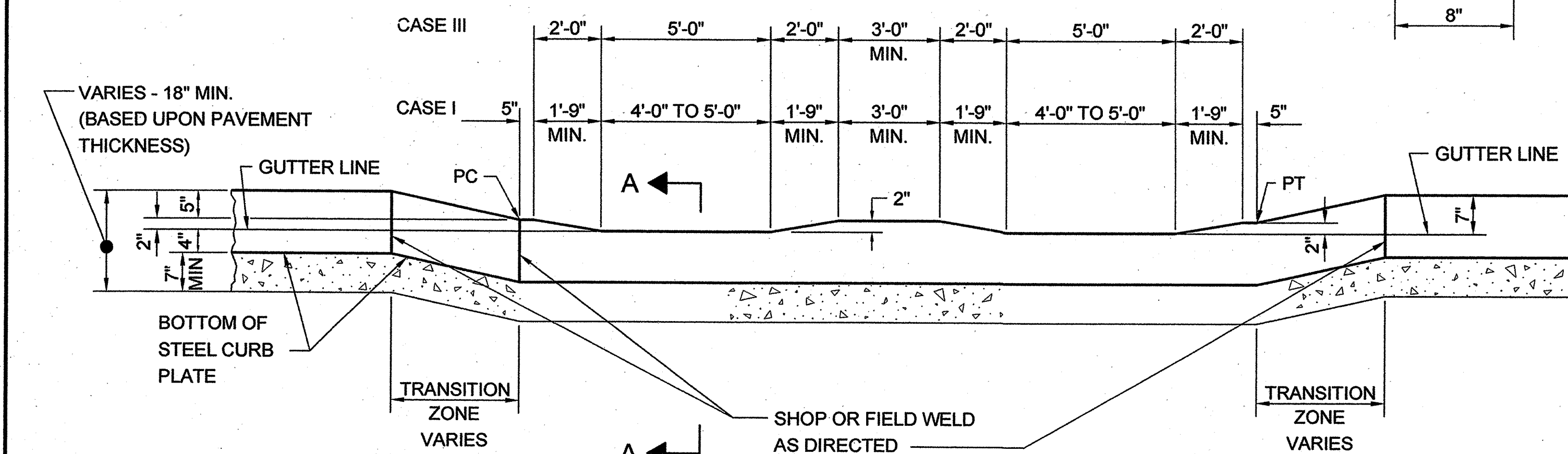
PLAN - CASE II
N.T.S.



DOME SECTION
DOME SPACING
DETECTABLE WARNING SURFACE DETAILS



SECTION A-A
N.T.S.



ELEVATION B-B
N.T.S.

CHECKED BY: _____
HWS-H1011

NOTES

- REFER TO H-1010 (LATEST REVISION) FOR STEEL FACED CURB-TYPE D.
- ALL MATERIALS AND CONSTRUCTION METHODS USED SHALL CONFORM TO SECTIONS #4.08 / 4.09 / 4.13/4.13DE OF THE STANDARD SPECIFICATIONS, LATEST EDITION, AS AMENDED.
- WHEN INSTALLING PEDESTRIAN RAMPS IN OTHER THAN PRE ENGINEERED CAPITAL RECONSTRUCTION PROJECTS, ALLOWANCE SHALL BE MADE FOR EXISTING CONDITIONS PROVIDED THAT THE SLOPE OF THE RAMP SHALL NOT EXCEED 1:12 AND THE ZERO INCH REVEAL IS OBTAINED. TO INSURE THAT SOUND ENGINEERING JUDGMENT IS USED IN MEETING EXISTING CONDITIONS, ANY AND ALL VARIATIONS FROM THE DETAILS OF CONSTRUCTION HEREIN SHOWN MUST HAVE THE APPROVAL OF THE COMMISSIONER.
- CASE II PLAN SHALL BE USED ONLY WHERE EXPLICITLY DIRECTED BY THE ENGINEER AND APPROVED BY THE COMMISSIONER PRIOR TO DESIGN / INSTALLATION.
- SURFACE OF ALL PEDESTRIAN RAMPS SHALL BE STABLE, FIRM AND SLIP RESISTANT. CONCRETE RAMP SURFACE SHALL HAVE A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE, EXCLUSIVE OF THE DETECTABLE WARNING FIELDS.
- LANDINGS BETWEEN THE PROPERTY LINES AND THE BACK EDGE OF RAMPS SHALL HAVE A MINIMUM CLEAR DIMENSION OF 5 FT. BY 5 FT. SQUARE; HOWEVER, WHERE CASE I RAMPS ARE USED THE MINIMUM CLEAR DIMENSION SHALL BE 4 FT. BY 4 FT. SQUARE. THE MAXIMUM CROSS SLOPE AT LANDINGS IS 1/4" PER FOOT IN ANY DIRECTION. LANDINGS MAY OVERLAP WITH ADJACENT LANDINGS OR A SINGLE LANDING MAY SERVE MULTIPLE CURB RAMPS.
- ALL EXPOSED STEEL SURFACES SHALL BE GROUND SMOOTH.
- ON FULL WIDTH SIDEWALKS, EXPANSION JOINTS TO BE PLACED AT BUILDING FACES, STRUCTURES AS WELL AS AT BACK FACE OF CURB.
- ALL DIMENSIONS AND NOTES SHALL BE APPLICABLE TO GRANITE CURB INSTALLATIONS AND / OR CONCRETE CURB INSTALLATIONS.
- THE FOLLOWING GUIDELINES SHALL BE APPLIED IN DETERMINING THE APPLICATIONS OF THE SPECIFIC CASES WHERE THE INTERIOR $\frac{1}{2}\alpha = 180^\circ - \frac{1}{2}\alpha$

CASE I FOR CORNERS WITH

- R=12' INTERIOR $\frac{1}{2}\alpha \geq 90^\circ$
- R=13' INTERIOR $\frac{1}{2}\alpha$ BET. 83° & 93°
- R=14' INTERIOR $\frac{1}{2}\alpha$ BET. 77° & 90°
- R=15' INTERIOR $\frac{1}{2}\alpha$ BET. 72° & 81°

CASE III FOR CORNERS WITH

- R>15' INTERIOR $\frac{1}{2}\alpha$ ANY ANGLE
- R=15' INTERIOR $\frac{1}{2}\alpha \geq 81^\circ$
- R=14' INTERIOR $\frac{1}{2}\alpha \geq 90^\circ$
- R=13' INTERIOR $\frac{1}{2}\alpha \geq 93^\circ$

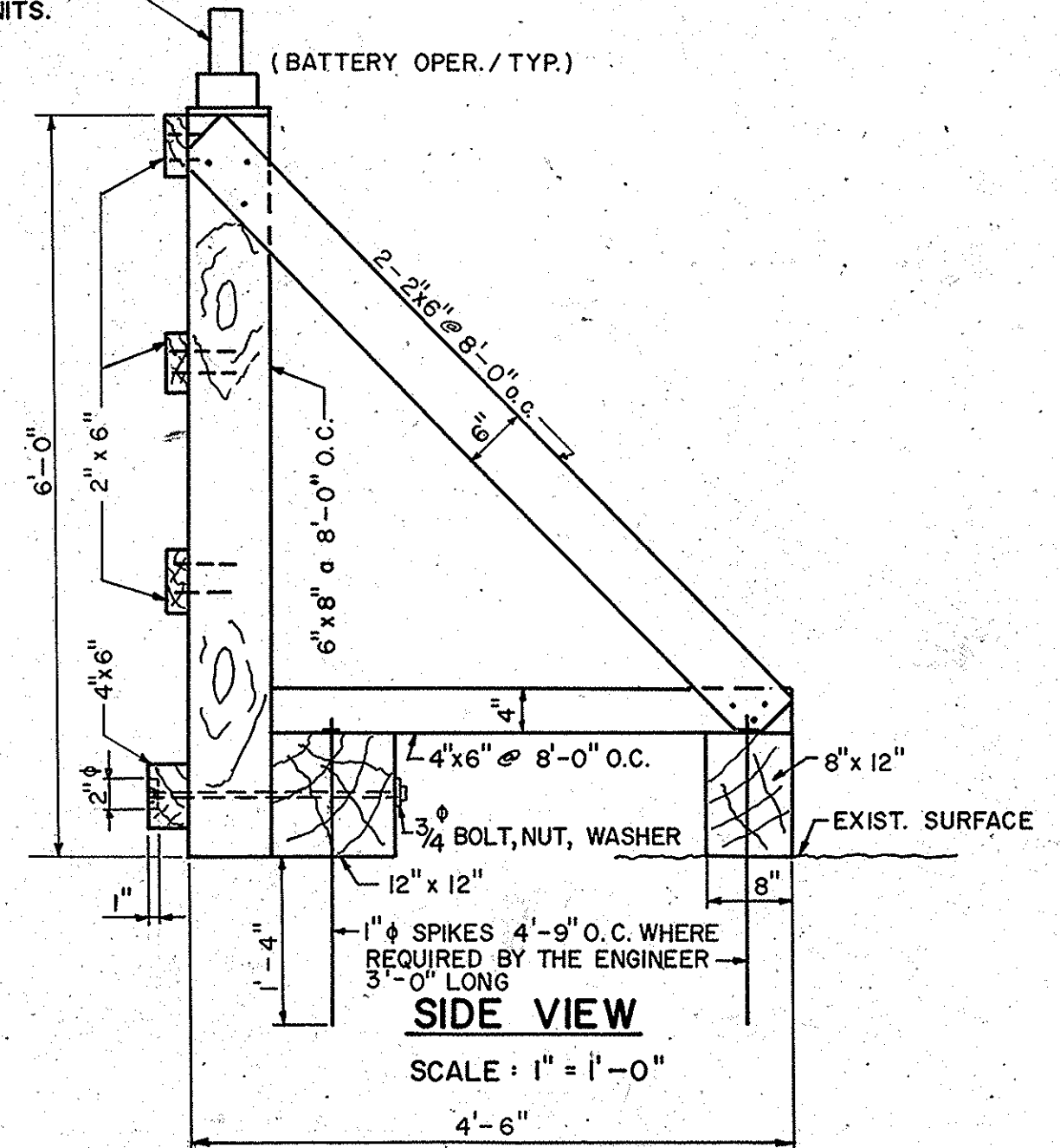
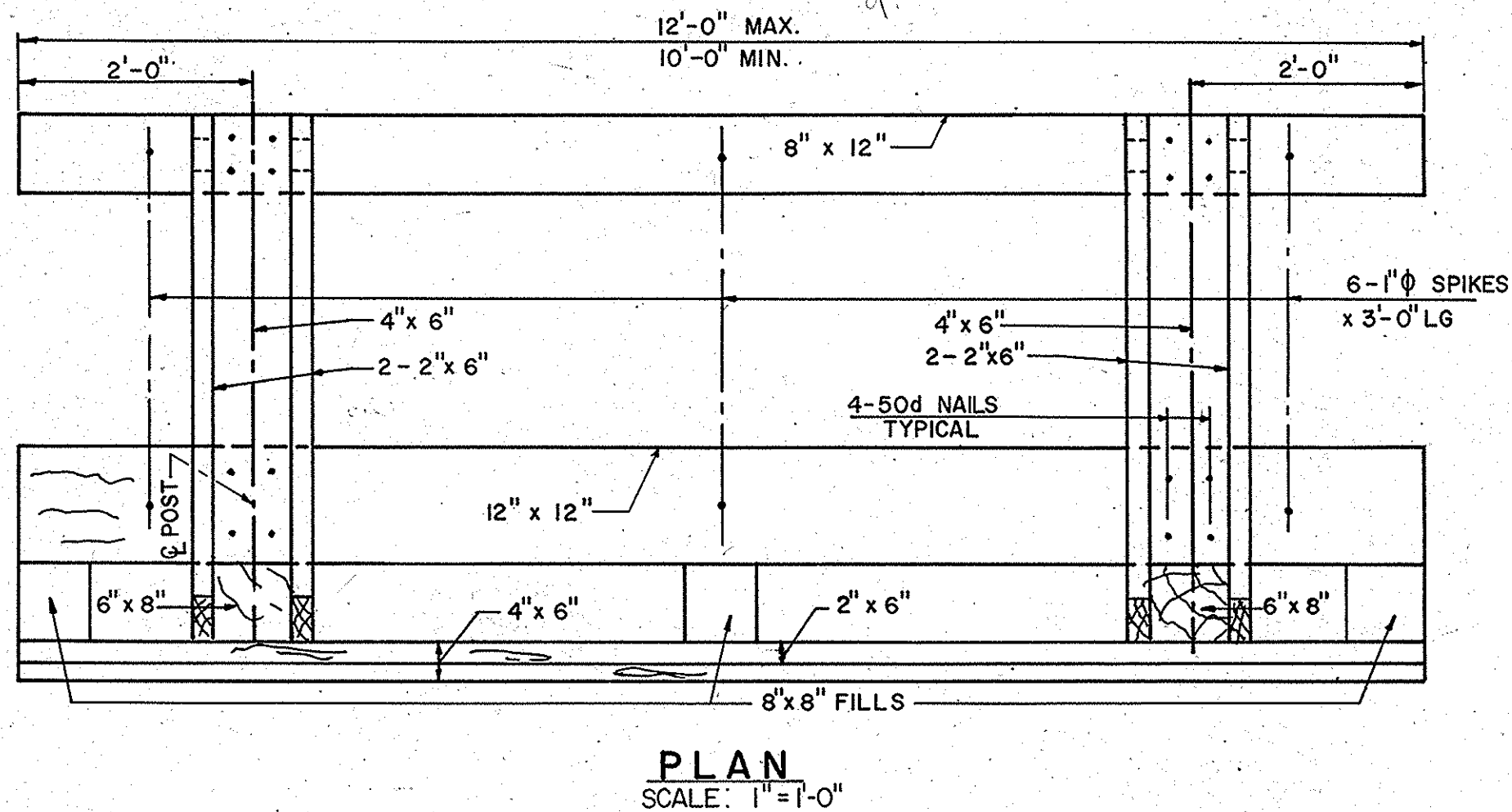
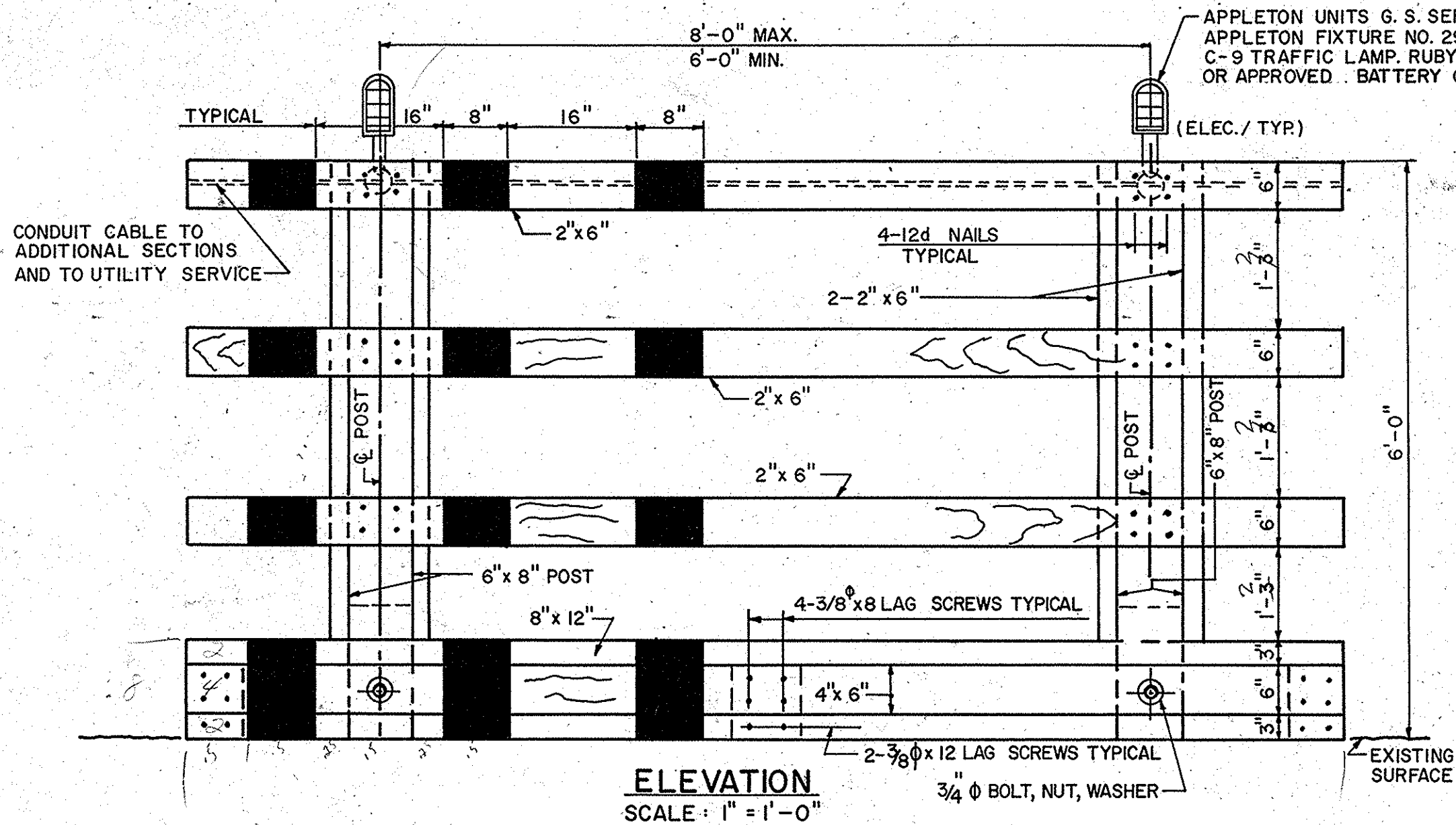
CASE II FOR CORNERS WITH

- R<12' INTERIOR $\frac{1}{2}\alpha$ ANY ANGLE
- R=12' INTERIOR $\frac{1}{2}\alpha < 90^\circ$
- R=13' INTERIOR $\frac{1}{2}\alpha < 83^\circ$
- R=14' INTERIOR $\frac{1}{2}\alpha < 77^\circ$
- R=15' INTERIOR $\frac{1}{2}\alpha < 72^\circ$

- THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE, THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING FIELD (THE DOMES AND THE ENTIRE 2 FT. WIDE SURFACE) IS FOR ILLUSTRATION ONLY.
- THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 2 FT. IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP AS SHOWN, EXCLUSIVE OF SIDE FLARES.
- DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD NEAREST TO THE ROADWAY OR STREET SURFACE IS 0" TO 3" FROM THE BACK OF CURB, AS SHOWN.
- DOME ALIGNMENT, DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL.
- COLOR REQUIREMENT, THE DETECTABLE WARNING FIELD SHALL BE THE COLOR SPECIFIED IN THE CONTRACT DOCUMENTS OR SHALL VISUALLY CONTRAST WITH THE ADJOINING CURB RAMP, OR OTHER ADJACENT WALKWAY SURFACES WHERE THERE IS NO CURB RAMP, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT AS DEFINED IN THE AMERICANS WITH DISABILITIES ACCESSIBILITY GUIDELINES (ADAAG).
- PAYMENT LINES FOR DETECTABLE WARNING UNITS ARE THE 2 FT. DIMENSION SHOWN IN THE DETAILS EXTENDING THE FULL WIDTH OF THE CURB RAMP.
- WHEN STREET FURNITURE (LAMP POSTS, TRAFFIC SIGNAL POSTS, UTILITY POSTS, HYDRANTS, ETC.) INTERFERES WITH THE CONSTRUCTION OF A SIDE FLARE ADJACENT TO A NON-WALKING (GRASS) AREA, SAID SIDE FLARE SHALL BE REPLACED WITH A CONCRETE CURB, AS DIRECTED BY THE ENGINEER, PROVIDED THE INTERFERENCE CAN BE AVOIDED AND LEFT IN PLACE.

		<p>New York City Department of Transportation</p>	
<p>SIDEWALK PEDESTRIAN RAMPS</p>			
<p>Approved: _____ Department of Transportation</p>		<p>Date Issued: <u>SEP. 15, 2006</u></p>	
<p>Approved: _____ Department of Design and Construction</p>		<p>Scale: None Drawing #: H-1011</p>	
REVISION NO.	DESCRIPTION	DATE	APPROVED

DRAWN BY: A. Eng. CHECKED BY: F. White



NOTES:

1. ALL TIMBER SHALL BE DOUGLAS FIR GRADE NO.1 OR EQUAL.
2. ALL WORK SHALL CONFORM WITH NATIONAL DESIGN SPECIFICATION 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 SPECIFICATIONS 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.

Henry C. Shan, P.E.
ASSISTANT COMMISSIONER

Thomas H. Whelan, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney de Groot, P.E.
CHIEF ENGINEER

Richard A. Moore, P.E.
COMMISSIONER

Henry R. Lull, P.E.
DEPUTY COMMISSIONER

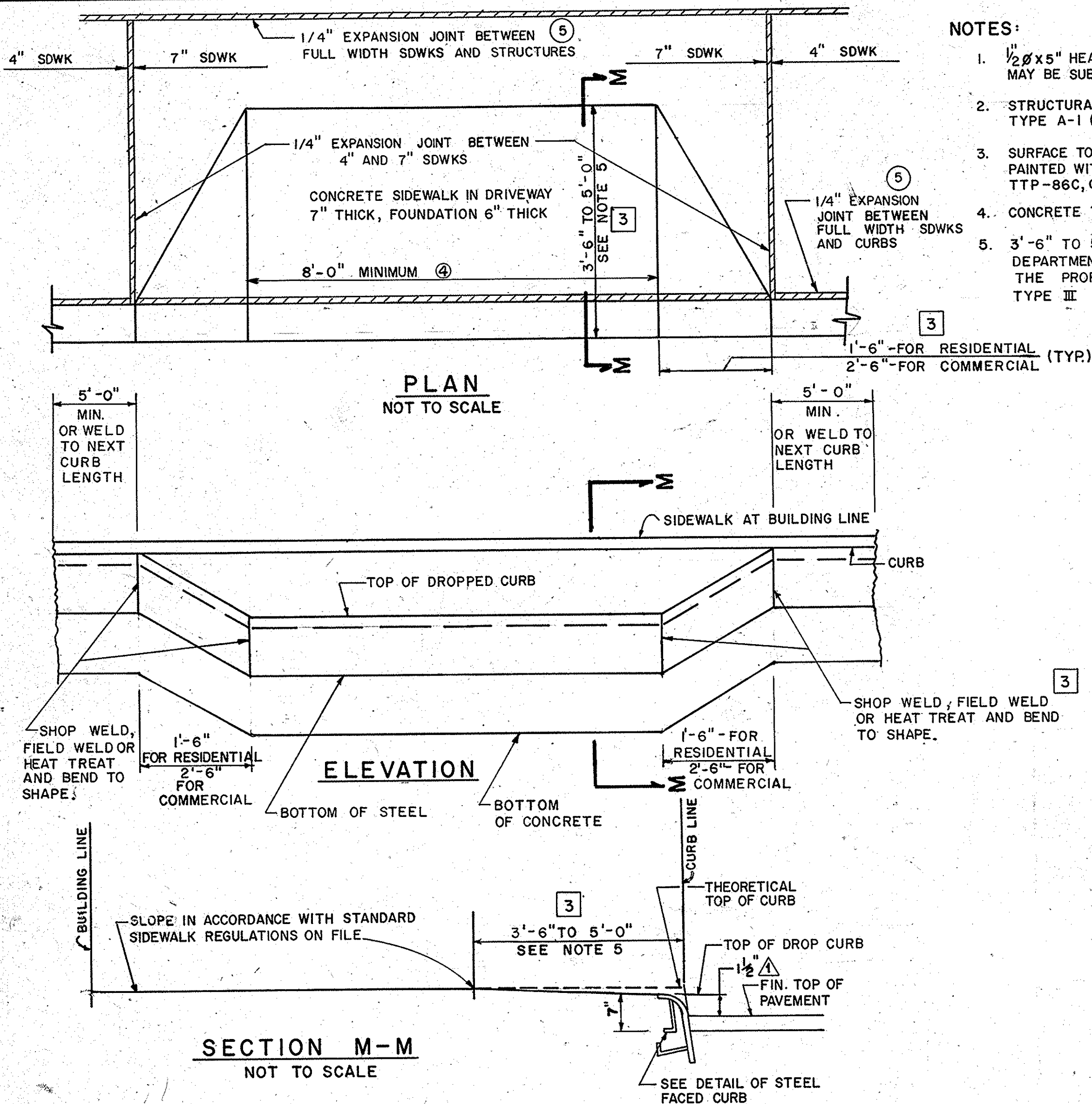
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

ILLUMINATED TIMBER BARRICADE

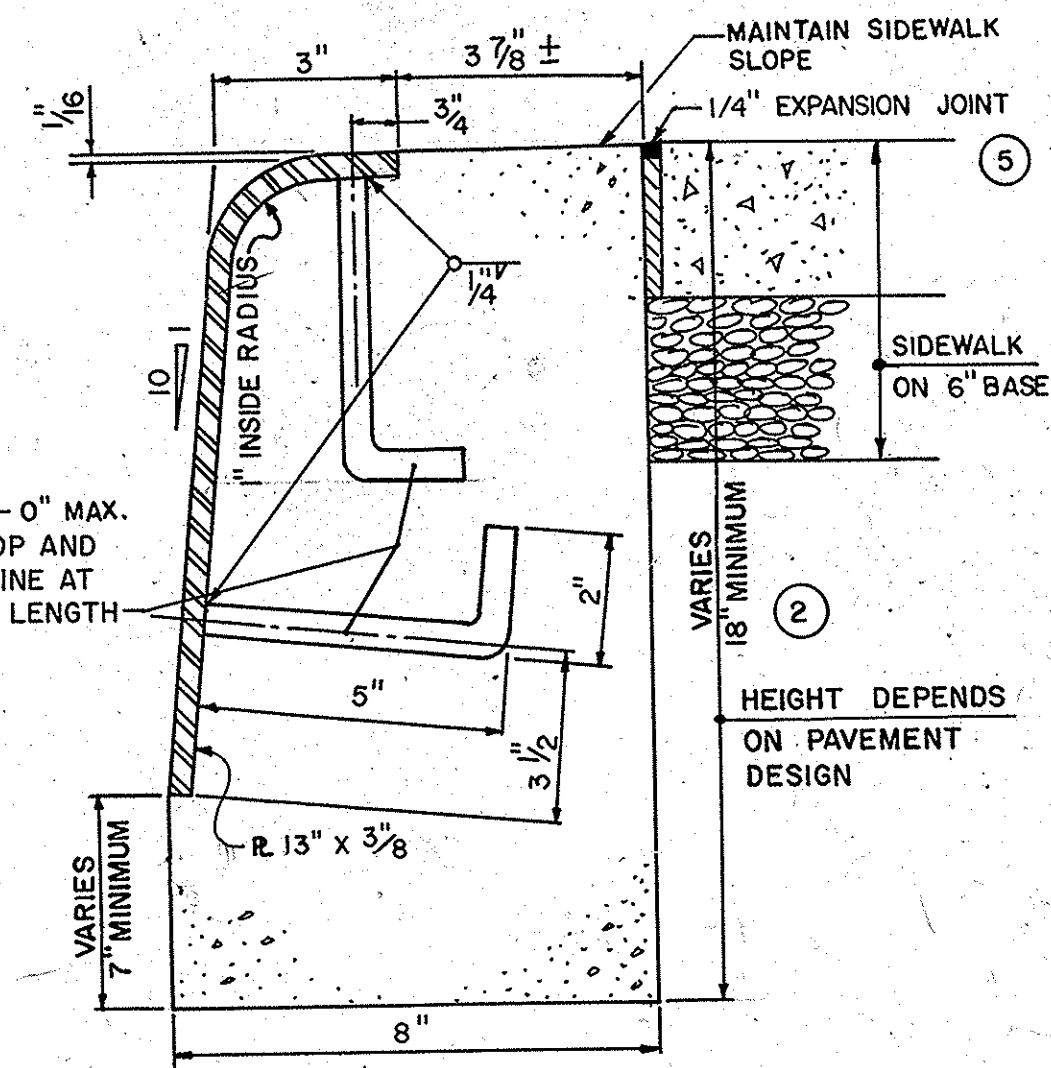
DATE: 3/10/80

H-1013 R 79



NOTES:

- 1/2" x 5" HEADED ANCHOR STUDS (GRANULAR OR SOLID FLUX FILLED) MAY BE SUBSTITUTED
- STRUCTURAL STEEL AS PER BOARD OF STD. SPECS. 20-S-35 TYPE A-1 (ASTM DESIGNATION A-36)
- SURFACE TO BE PAINTED SHALL BE THOROUGHLY CLEANED AND THEN PAINTED WITH ONE SHOP COAT OF SUBLIMED RED LEAD (FEDERAL SPEC. TTP-86C, CLASS 2)
- CONCRETE TO BE CLASS B-32, TYPE II A
- 3'-6" TO 5'-0" AS ORDER BY 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.



DETAIL - STEEL FACED CURB
NOT TO SCALE

DRAWN BY: A. Gekko

CHECKED BY: F. H. H.

[Signature] P.E.
COMMISSIONER

[Signature] P.E.
DEPUTY COMMISSIONER

[Signature]
ASSISTANT COMMISSIONER

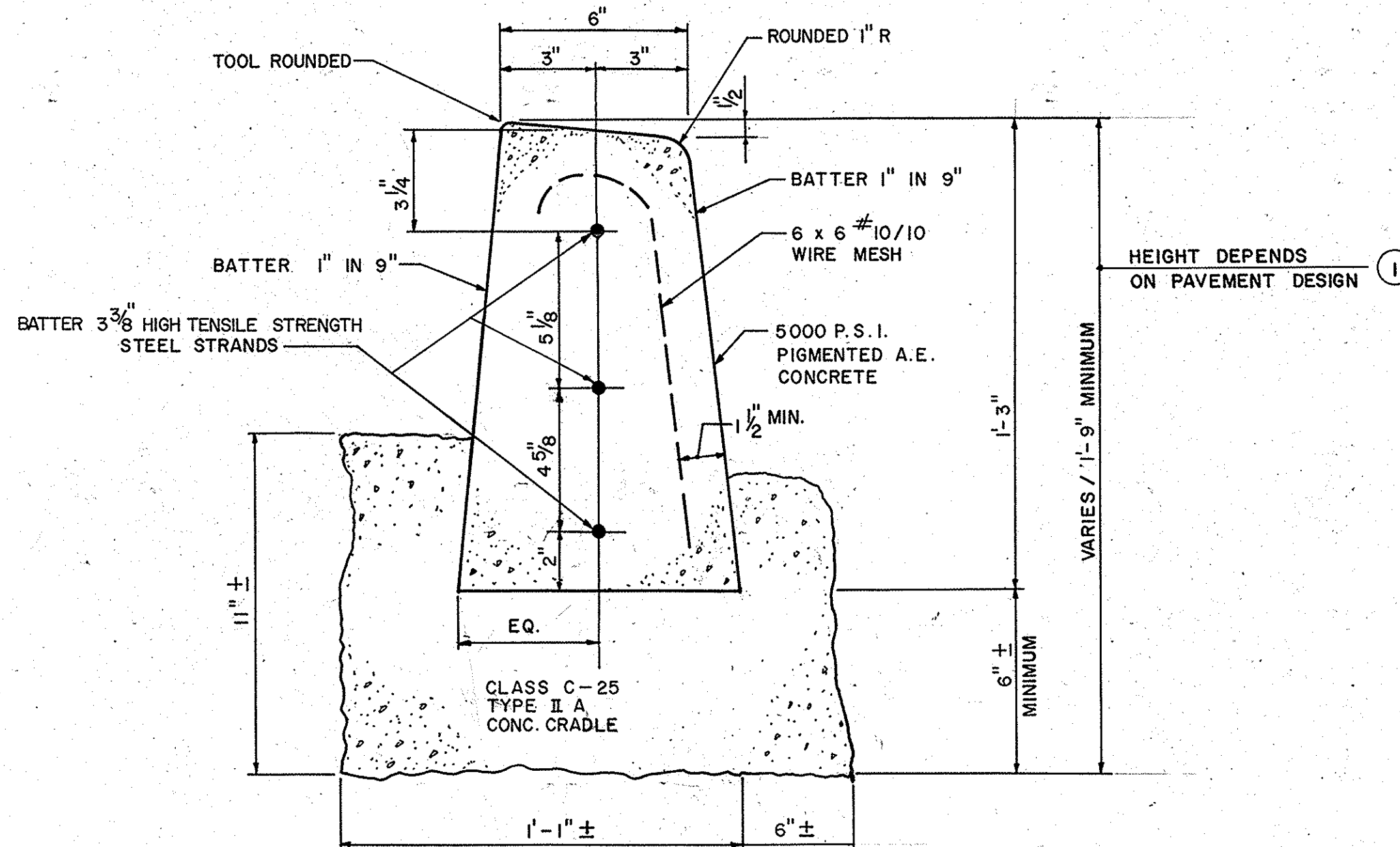
[Signature] P.E. 4/1/80
DIRECTOR-ENGINEERING MANAGEMENT

[Signature] P.E. 4/1/80
CHIEF ENGINEER

⑤	LIMITS OF 1/4" EXPANSION JOINT SHOWN	1/14/88	JLH	CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS
④	8'-0" MINIMUM WIDTH ADDED	11/25/87	JLH	
③	REVISED DIMENSIONS REMOVE TABLE ADD NOTE # 5	10/30/85	JLH	STEEL FACED DROP CURB DRIVEWAYS
②	HEIGHT CHANGED TO VARIABLE	12/3/84	JLH	
⚠	1 1/2" WAS 1 1/8"	11/28/80	FW	DATE: 3/10/80
REVISION NO.	DESCRIPTION	DATE	APPROVED	H-1015 R 79

CHECKED BY: *FW/ke*

DRAWN BY: *A. Eng*



DETAIL OF CONCRETE CRADLE & VARI-COLORED
PRECAST AND PRESTRESSED CONCRETE CURB
NOT TO SCALE

Robert A. Duman, P.E.
COMMISSIONER

Henry J. Luttman, P.E.
DEPUTY COMMISSIONER

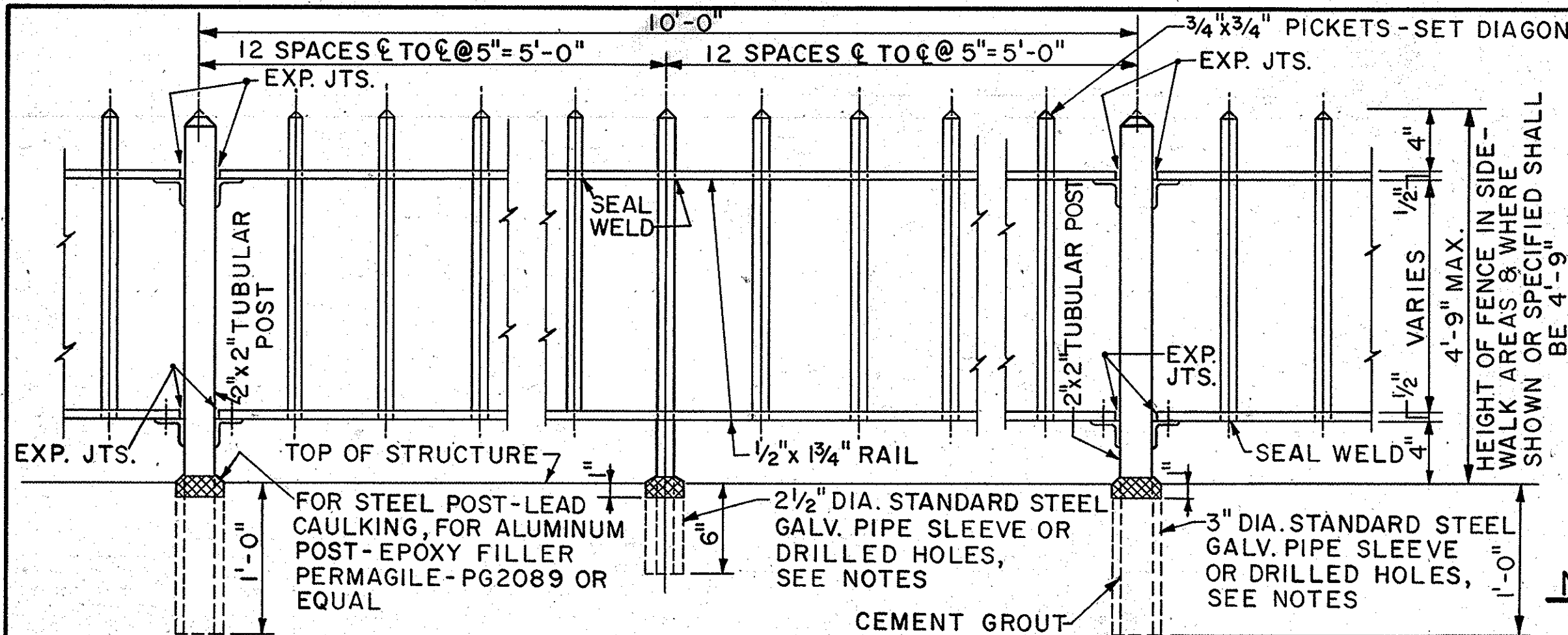
Thomas H. Wackham, P.E.
ASSISTANT COMMISSIONER

Thomas H. Wackham, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney La Grana, P.E.
CHIEF ENGINEER

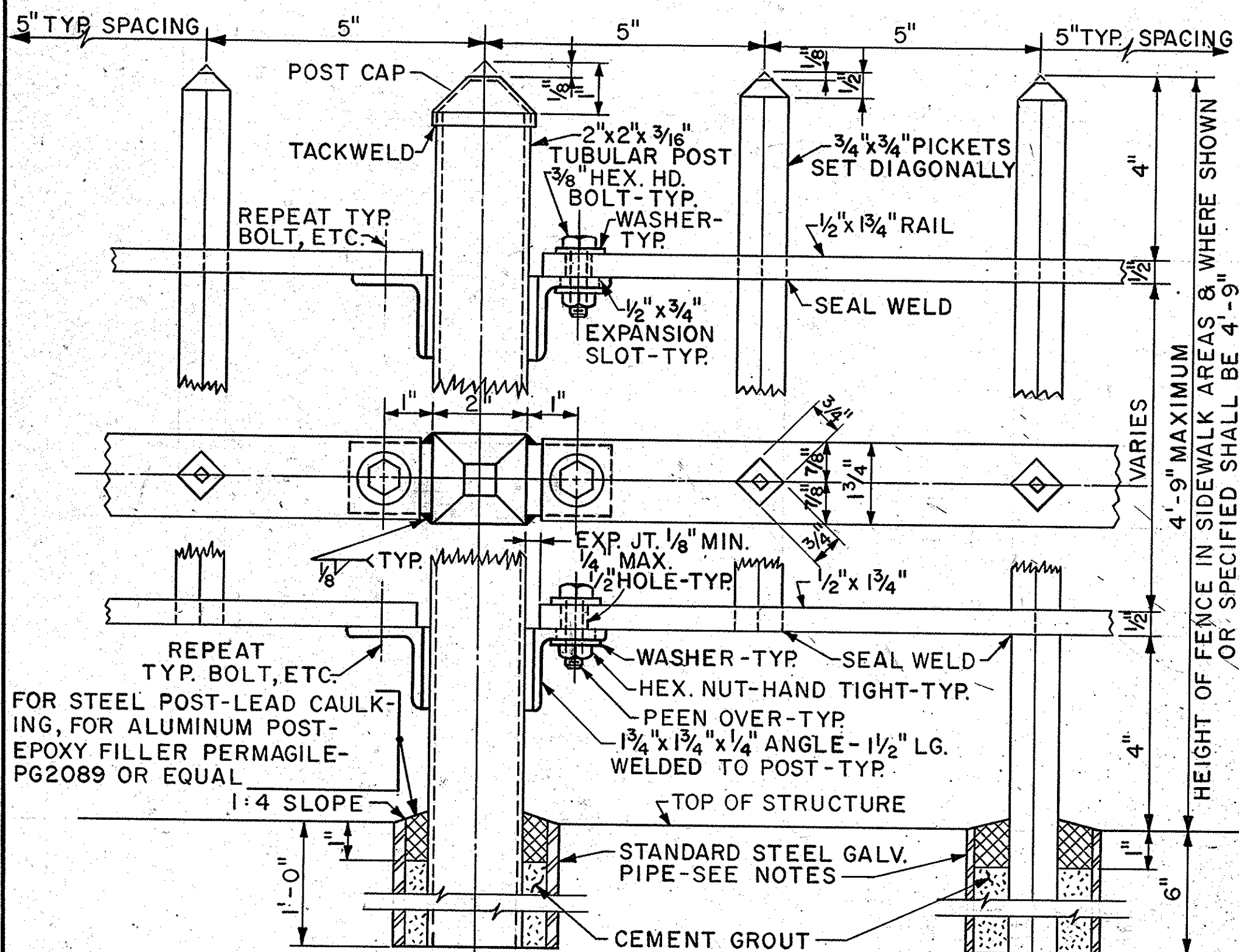
①	HEIGHT CHANGED TO VARIABLE	12/3/84	JLH
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS			
PRESTRESSED COLORED CONCRETE CURB			
		DATE: 3/10/80	
		H-1016	R 79



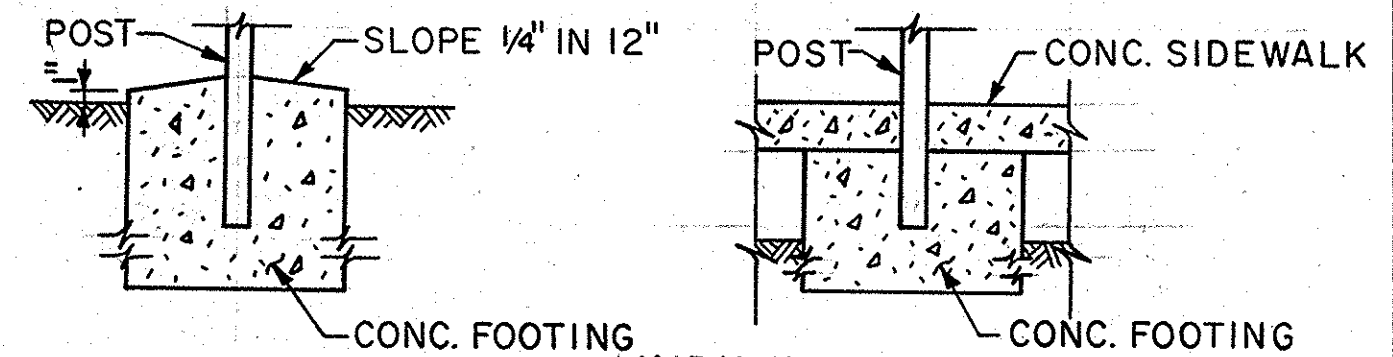
TYPICAL ELEVATION

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



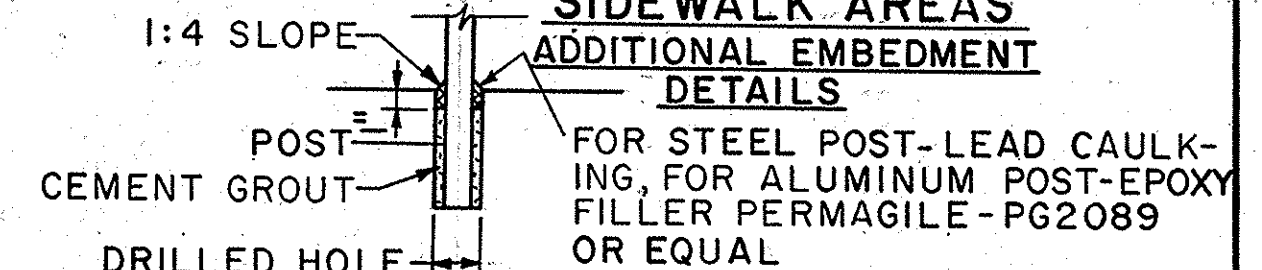
PICKET FENCE - EMBEDMENT IN NEW STRUCTURES

SCALE: HALF SIZE



INDIVIDUAL FOOTING IN EARTH

INDIVIDUAL FOOTING IN SIDEWALK AREAS



DRILLED HOLES IN EXISTING STRUCTURES

NOTES

1. SLEEVES REQUIRED IN NEW CONCRETE MASONRY STRUCTURES.
2. SLEEVES NOT REQUIRED FOR INDIVIDUAL NEW FOOTINGS.
3. IN EXISTING CONCRETE OR MASONRY STRUCTURES, CONTRACTOR TO DRILL 3" DIA. HOLES FOR 2"x2" POST AND 1 1/2" DIA. HOLE FOR 3/4" INTERMEDIATE POST.
4. ALL STEEL SHALL CONFORM TO S.A.E. 1015 MERCHANT BAR QUALITY.
5. ALL JOINTS TO BE WELDED UNLESS NOTED OTHERWISE.
6. ALL STEEL TO BE PAINTED ONE SHOP COAT AND ONE FIELD COAT OF RED LEAD AND OIL PAINT AND TWO FIELD COATS OF AN APPROVED COLORED LEAD AND OIL PAINT.
7. ALL FASTENING HARDWARE TO BE COMPATIBLE.
8. CONCRETE IN INDIVIDUAL FOOTINGS - CLASS C-25, TYPE II A.
9. CEMENT GROUT - 1:1 MIX.
10. ALL ALUMINUM COMPONENTS 6061-T6; ALUMINUM ALLOY FOR BOLTS 2024-T4.
11. INTERMEDIATE POST FOOTINGS 1'-0" SQ. x 1'-6" DEEP.
12. LINE POST FOOTINGS 1'-6" SQ. x 3'-0" DEEP.

Henry C. Shan, P.E.
ASSISTANT COMMISSIONER

Thomas H. MacMahon, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

BAR PICKET FENCE
(MAX. 4'-0" HIGH)

DATE: 3/10/80

H-1017 R79

REVISION NO.	DESCRIPTION	DATE	APPROVED

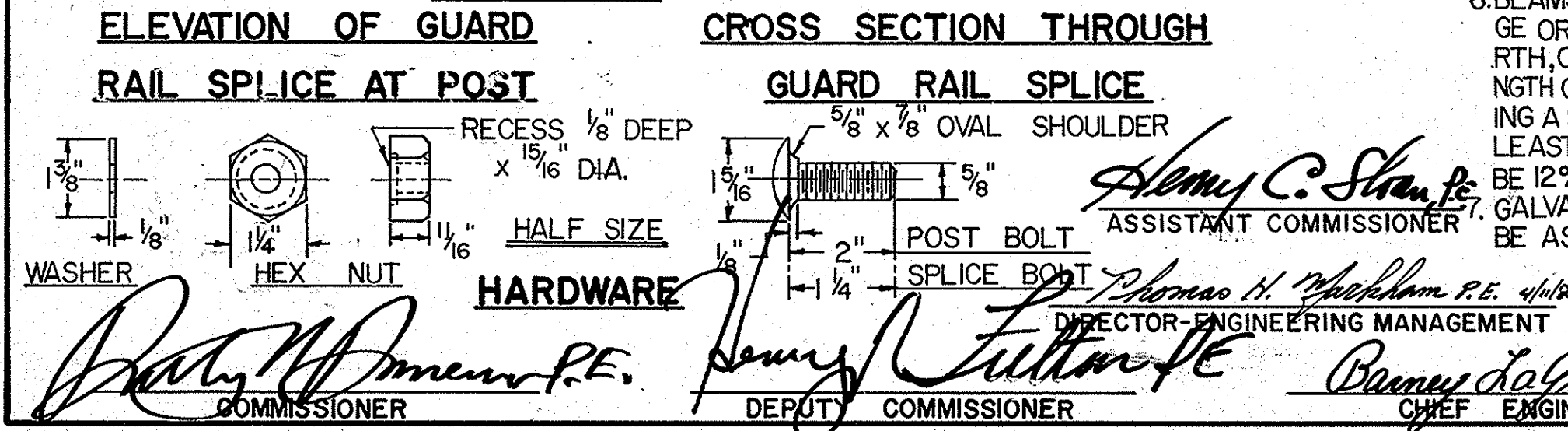
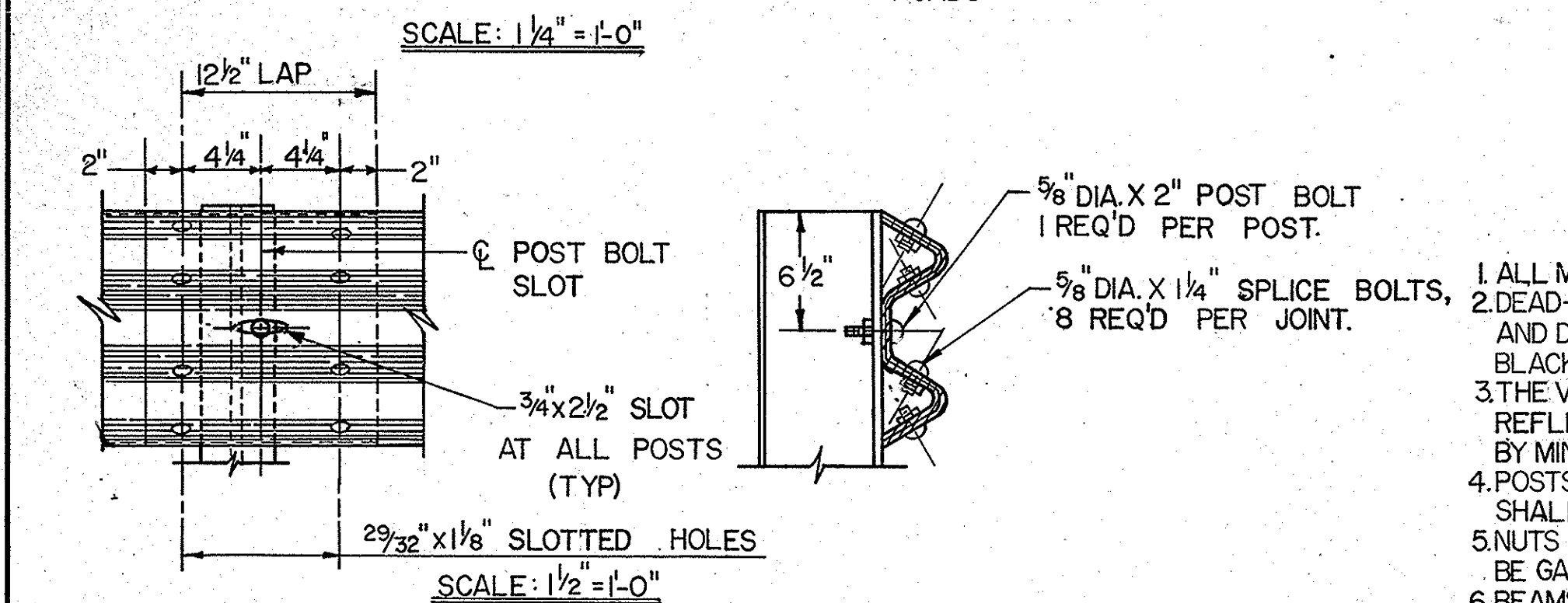
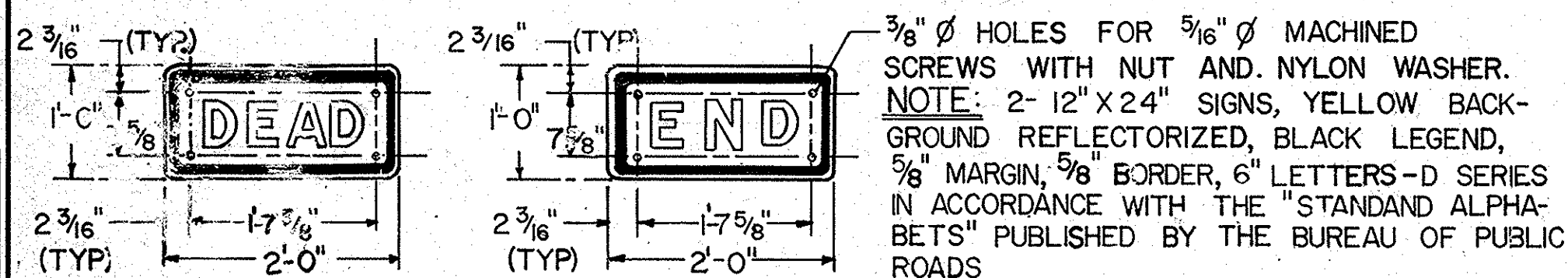
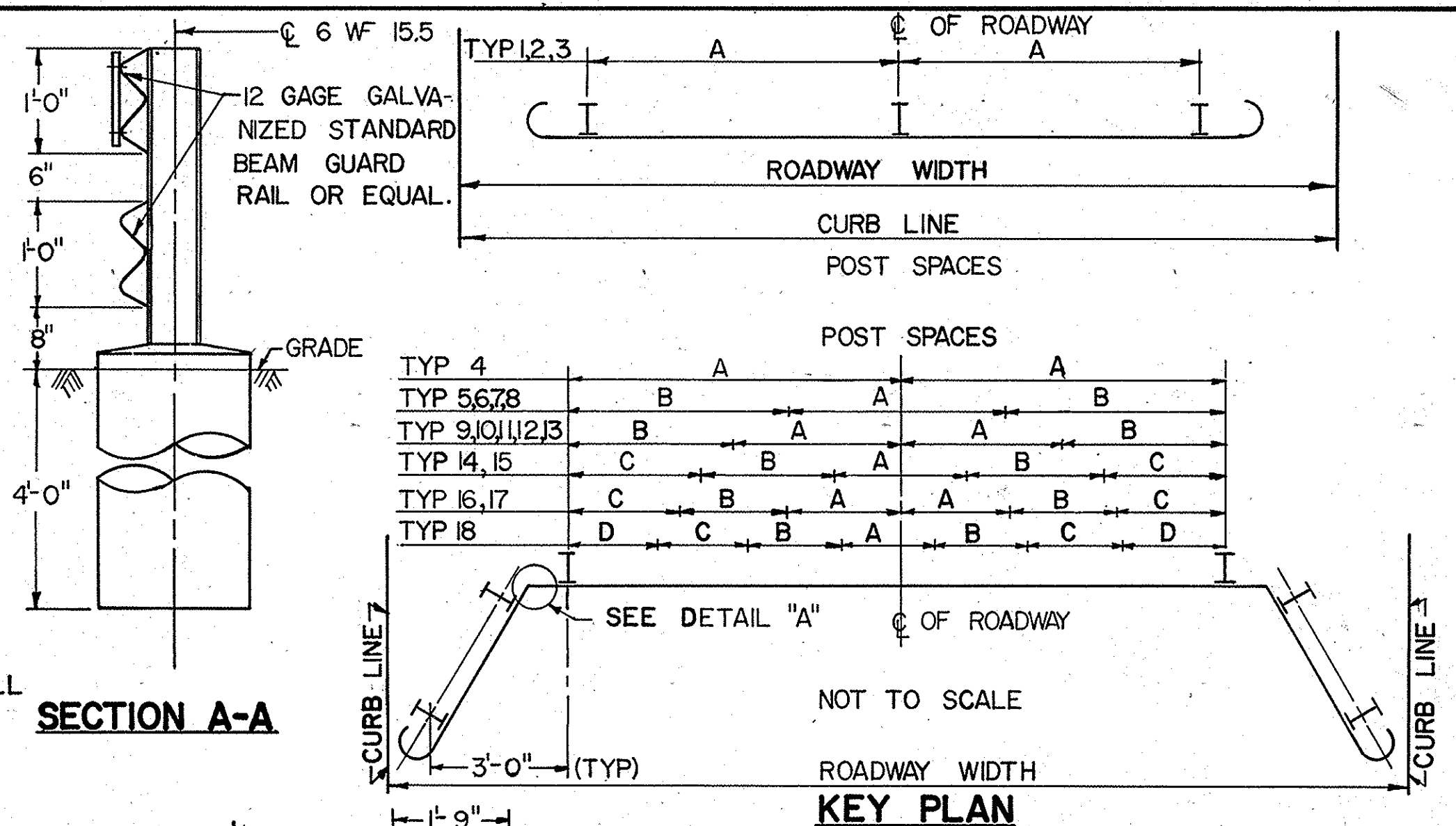
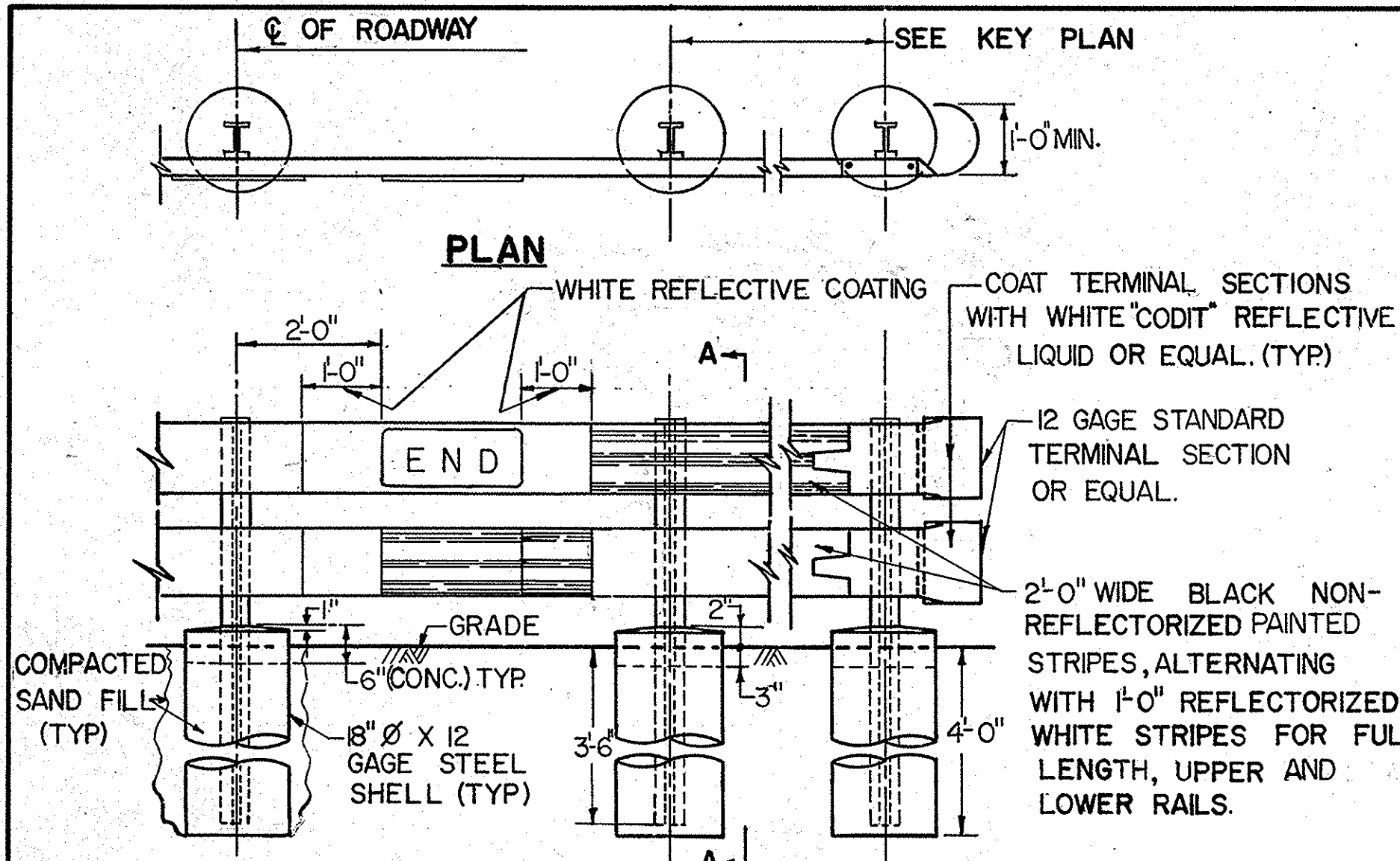
CHECKED BY: *F. White*

DRAWN BY: *F. White*

Barry R. Brown, P.E.
COMMISSIONER

Henry C. Shan, P.E.
DEPUTY COMMISSIONER

Barry R. Brown, P.E.
CHIEF ENGINEER #14180



- NOTES**
1. ALL MATERIALS SHALL COMPLY WITH AASHTO DES. M180
 2. DEAD-END SIGN (2) 12" X 24" RECTANGLES 0.08 ALUMINUM AS NOTED AND DETAILED. #2271 YELLOW "SCOTCHLITE" SCREENED #705 BLACK, OR APPROVED EQUAL.
 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 EQ.
 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 SPlice 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.

BARRIER SCHEDULE		POST SPACES							
TYPE	ROADWAY WIDTH	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"	

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

BEAM BARRIER FOR
DEAD END STREETS

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

DATE: 3/10/80
H-1022 R79

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: *[Signature]*

DRAWN BY: *[Signature]*

COMMISSIONER

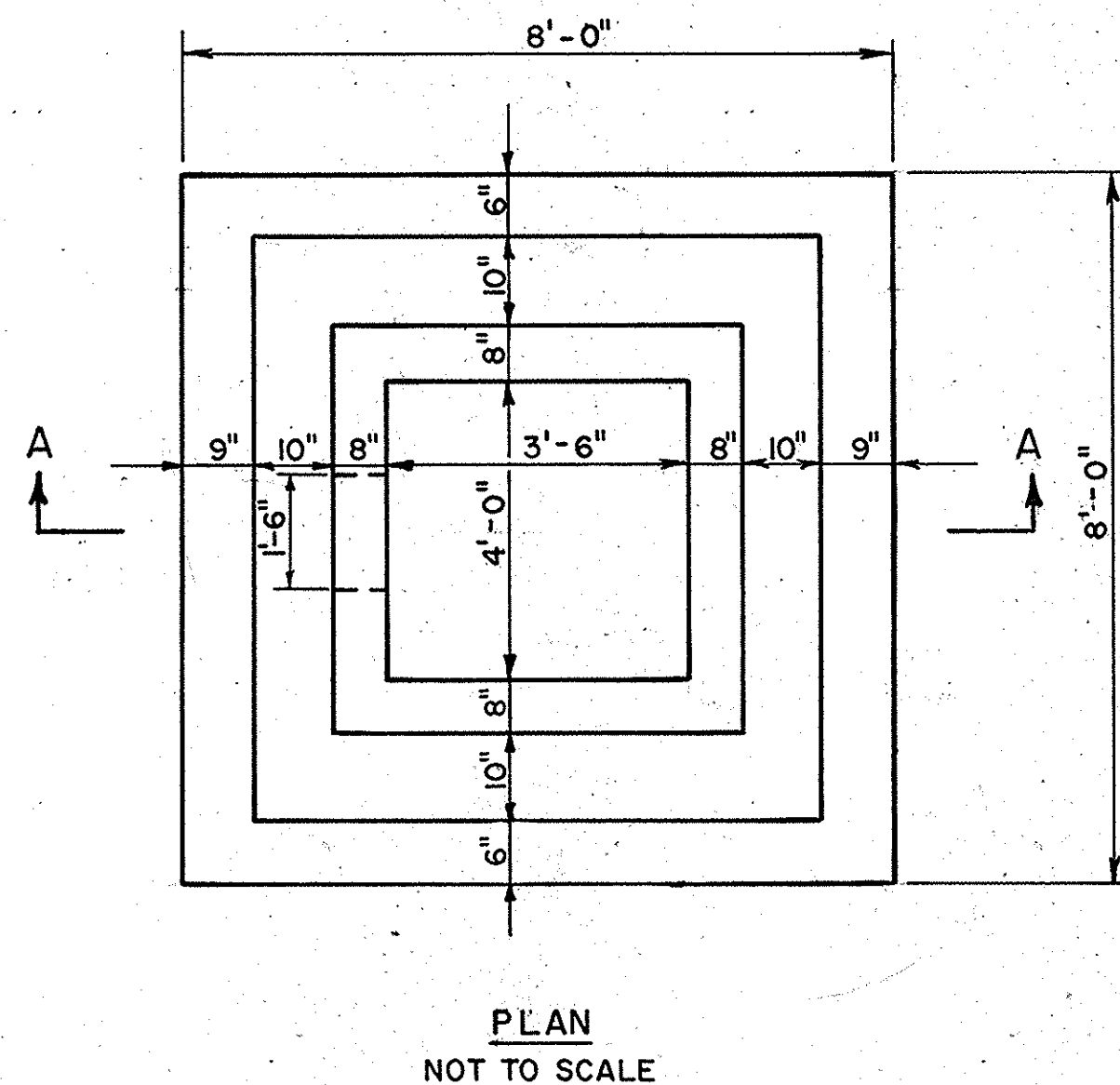
DEPUTY COMMISSIONER

CHIEF ENGINEER

ASSISTANT COMMISSIONER

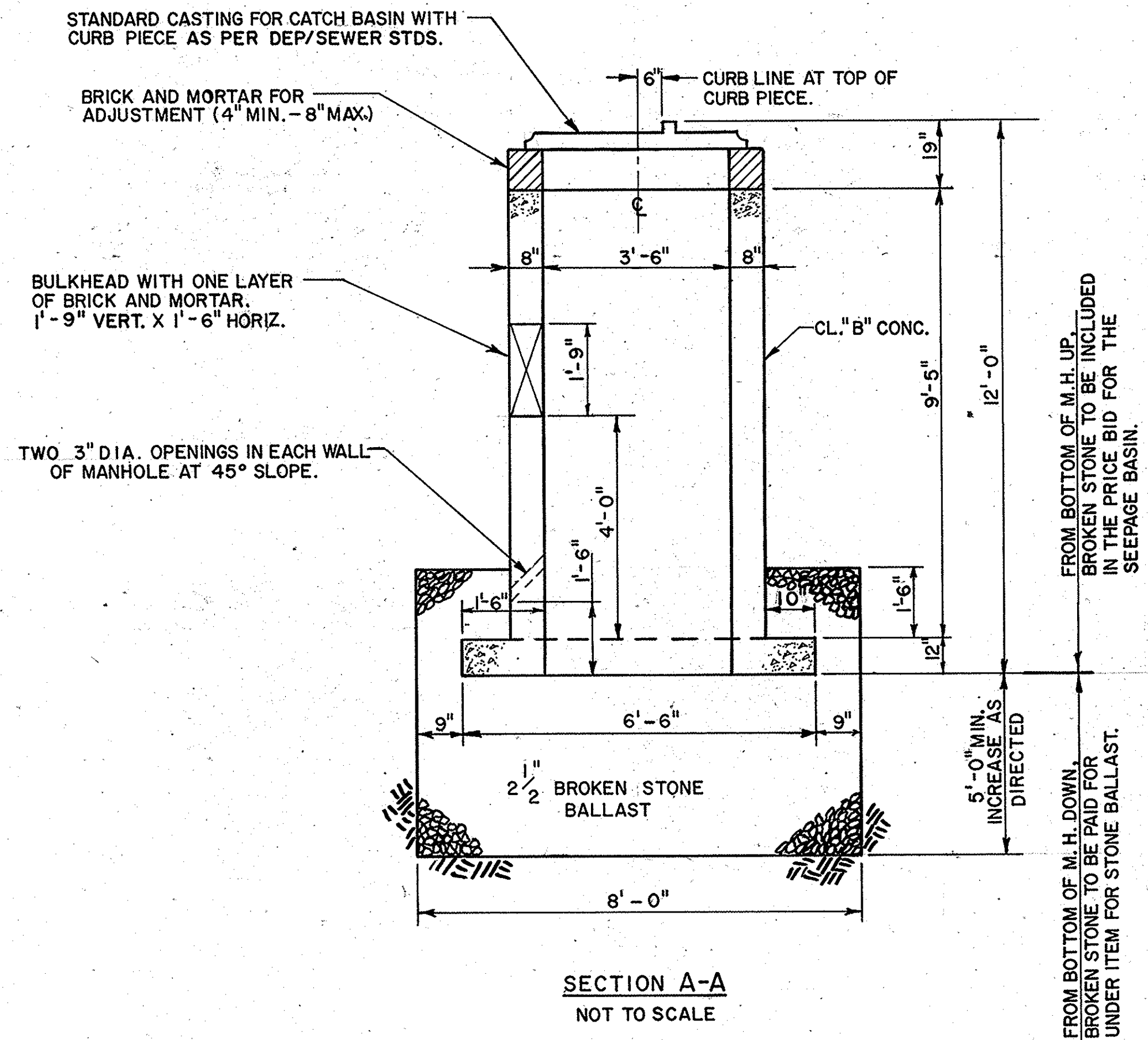
DIRECTOR ENGINEERING MANAGEMENT

DRAWN BY: A. Occhino



NOTE:

1. THE VOLUME OF BROKEN STONE TO BE PAID FOR UNDER THE ITEM FOR STONE BALLAST SHALL BE THE ACTUAL AMOUNT DEPOSITED WITHIN THE 8'-0" X 8'-0" PLAN DIMENSIONS TO THE DEPTH DESIGNATED BY THE ENGINEER AND SHALL NOT EXCEED THE VOLUME MEASURED IN THE VEHICLES AT THE PLACE OF DEPOSIT.
2. SHEETING SHALL BE FURNISHED AND INSTALLED AS PER N.Y.S. DEPT. OF LABOR INDUSTRIAL CODE RULE NO.23 OR AS FURTHER DIRECTED BY THE ENGINEER.



SECTION A-A
NOT TO SCALE

Henry C. Shaw, Jr.
ASSISTANT COMMISSIONER

Thomas H. Mackham P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Briney La Greca PE
CHIEF ENGINEER 7/19/80

Anthony R. D'Amico P.E. Henry Tullamore
COMMISSIONER DEPUTY COMMISSIONER

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

SEEPAGE BASIN
TYPE B

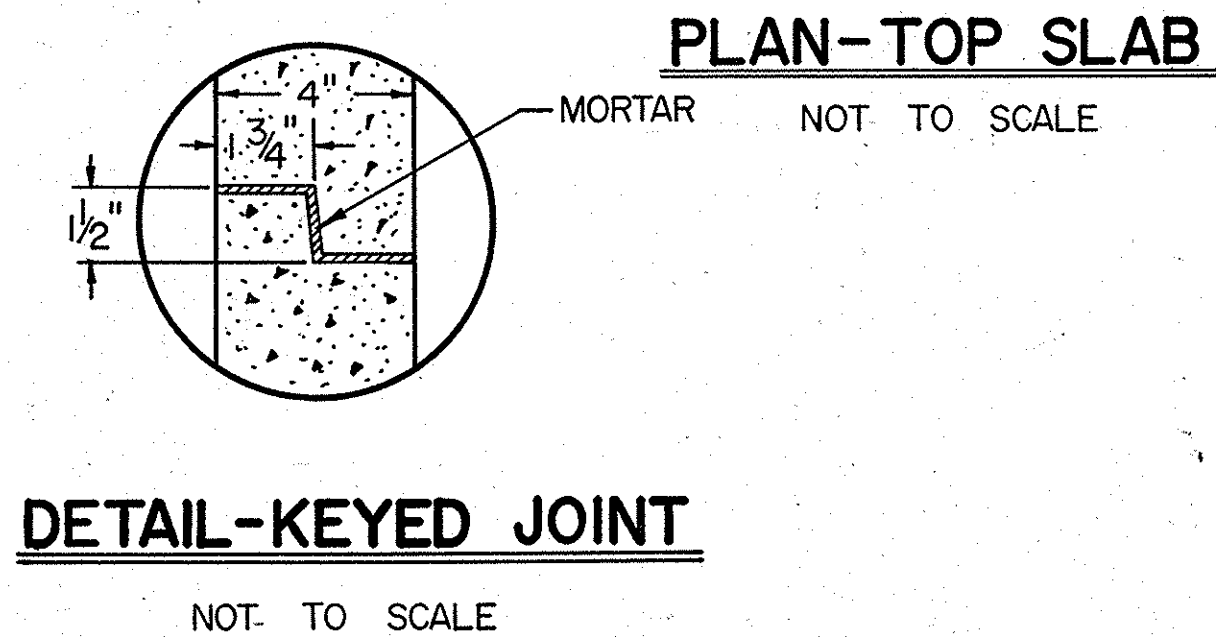
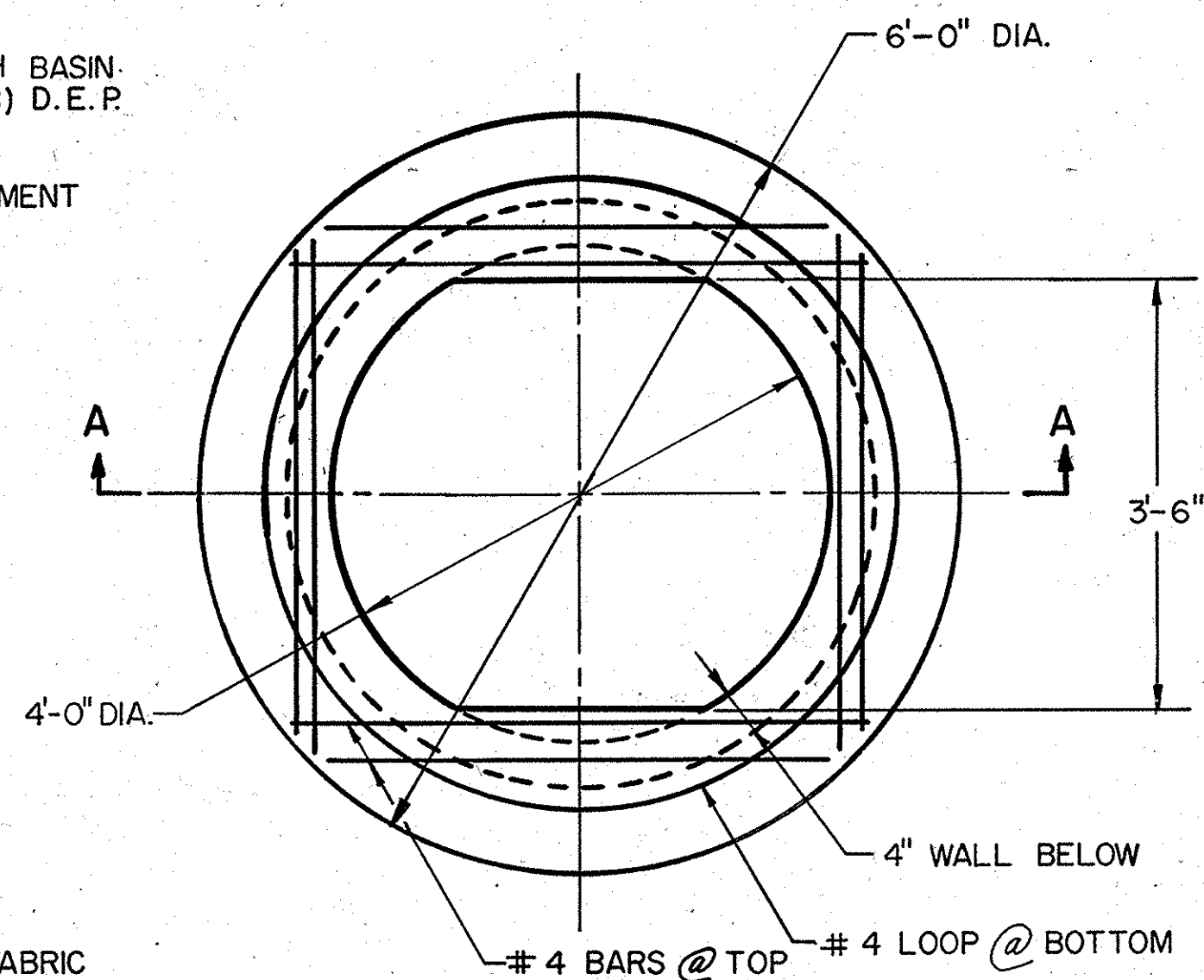
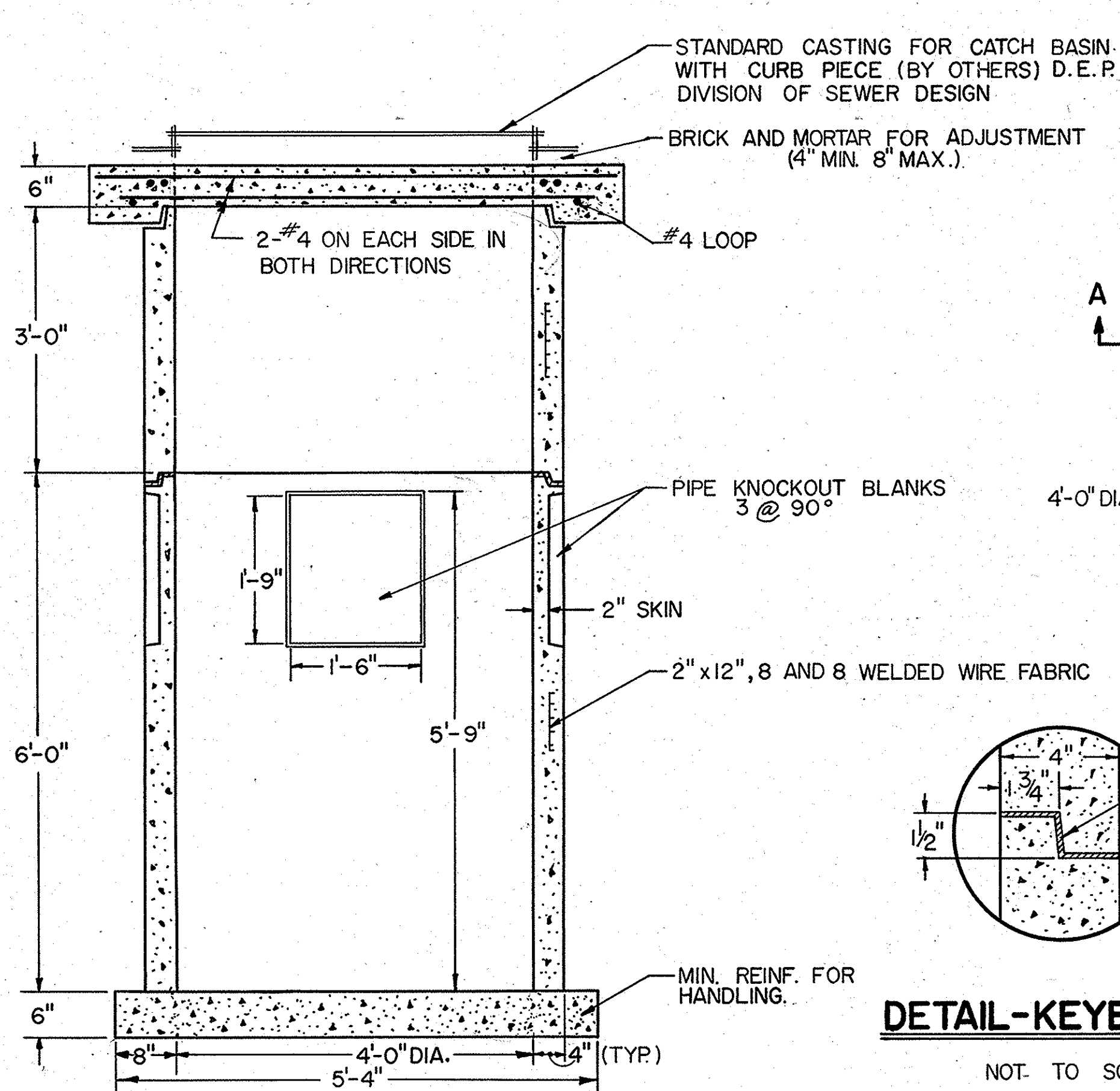
DATE 3/10/80

1026 B R 79

REVISION NO.	DESCRIPTION	DATE	APPROVED

CHECKED BY: *W/te*

DRAWN BY: *B. Chalk*



- NOTES
1. CONCRETE: 28 DAY STRENGTH = 4000 P.S.I. TYPE II A
 2. REBARS: A.S.T.M. A-615: GRADE 40.
 3. WELDED WIRE FABRIC: A.S.T.M. A-185.

SECTION A-A
NOT TO SCALE

DETAIL-KEYED JOINT
NOT TO SCALE

Anthony P. Amore, P.E.
COMMISSIONER

Henry P. Feltner, P.E.
DEPUTY COMMISSIONER

Henry C. Shaw, P.E.
ASSISTANT COMMISSIONER

Thomas H. MacKinnon, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney La Greca, P.E. 4/14/80
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED

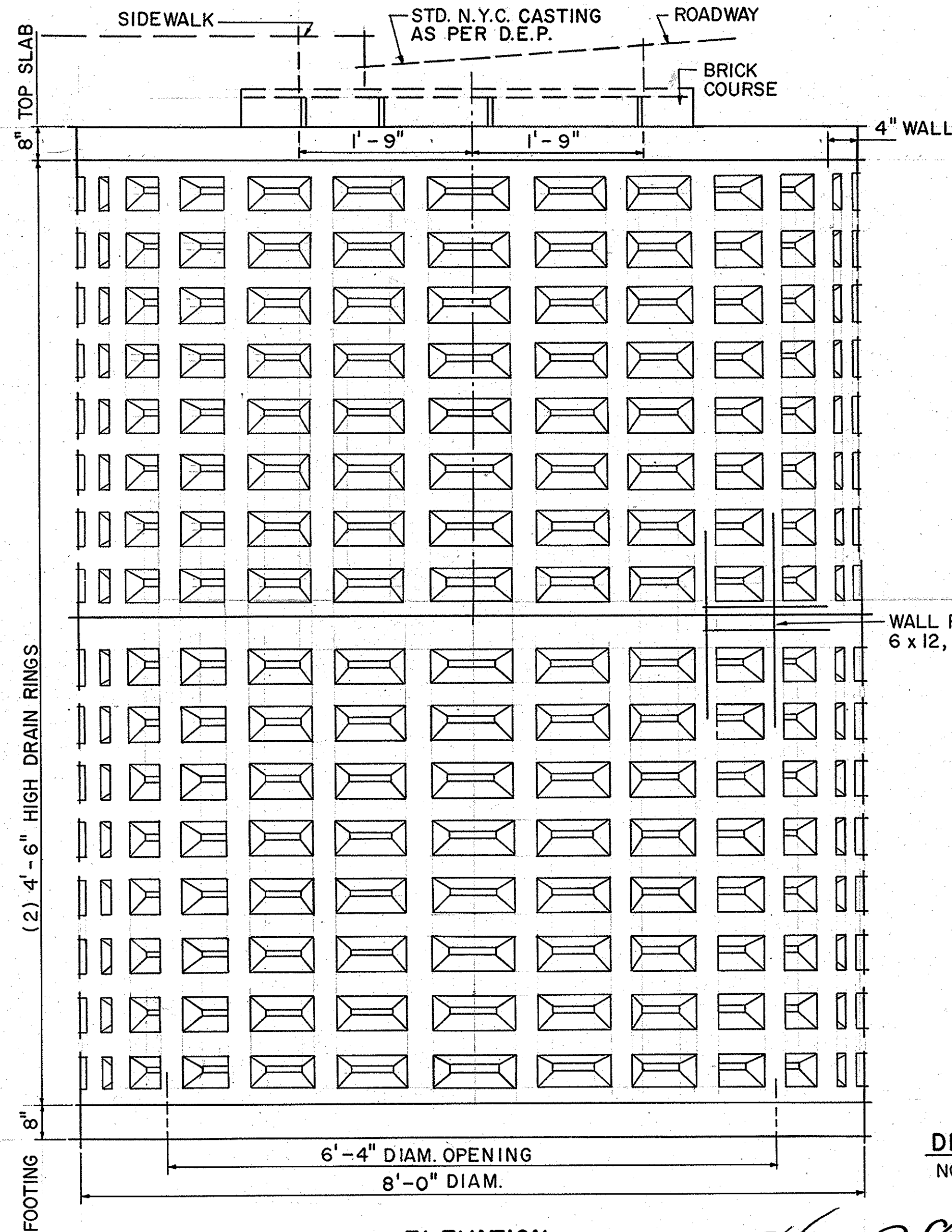
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

SEEPAGE BASIN TYPE B
ALTERNATE No. 1

DATE: 3/10/80

H-1026B-1 R 79

DRAWN BY: A. Eg CHECKED BY: F. W. H.



ELEVATION
NOT TO SCALE

Anthony R. Amore P.E.
COMMISSIONER

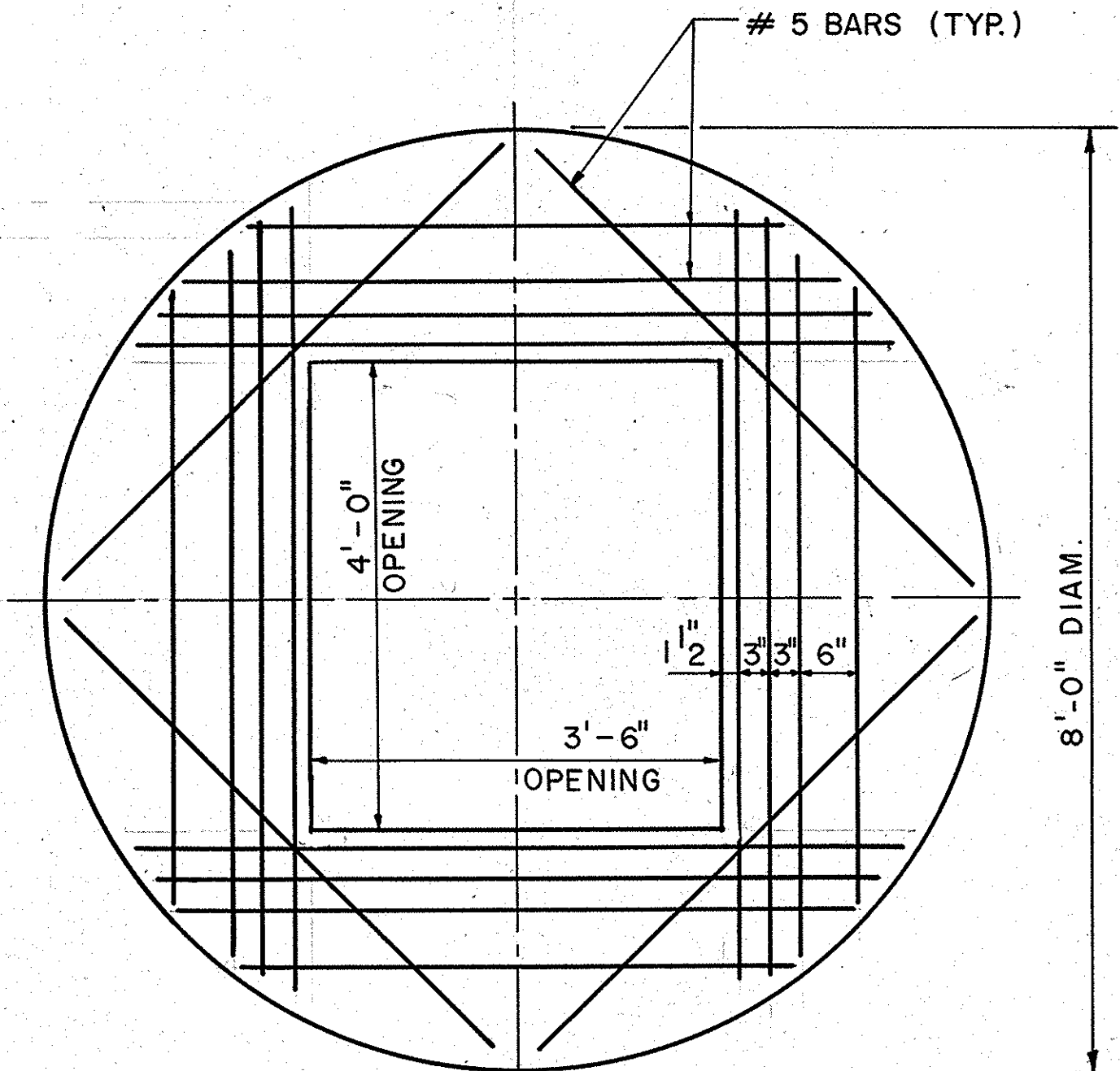
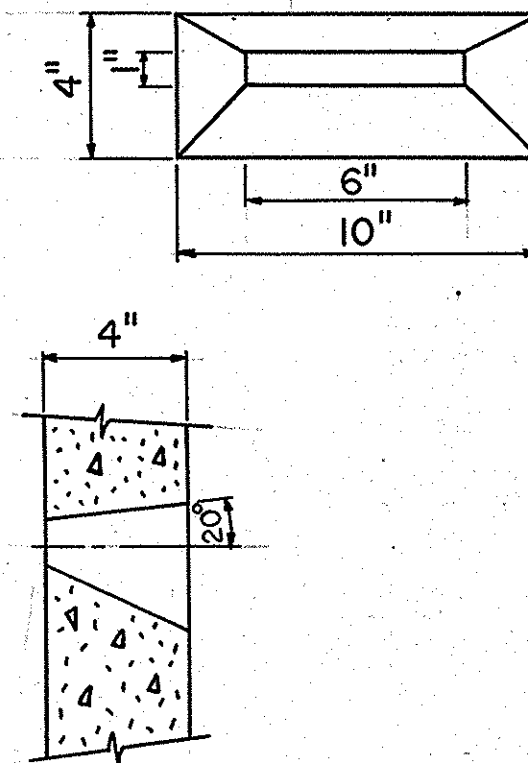
Henry J. Lelton P.E.
DEPUTY COMMISSIONER

Henry C. Star, P.E.
ASSISTANT COMMISSIONER

Thomas H. McLaughlin P.E. 4/1/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney J. Greca P.E.
CHIEF ENGINEER 4/1/80

**DETAIL
DRAIN OPENING**
NOT TO SCALE



**PLAN
TOP SLAB**
NOT TO SCALE

BASIN CAPACITY: 2844 GALS.
VOLUME: 380.2 CU. FT.

NOTES

1. CONCRETE SHALL BE CLASS A-40, TYPE II A.
2. STEEL REINFORCEMENT BARS SHALL BE A.S.T.M. DESIGNATION A-615, GRADE 40.
3. WELDED STEEL WIRE FABRIC SHALL BE ASTM DESIGNATION A-185.

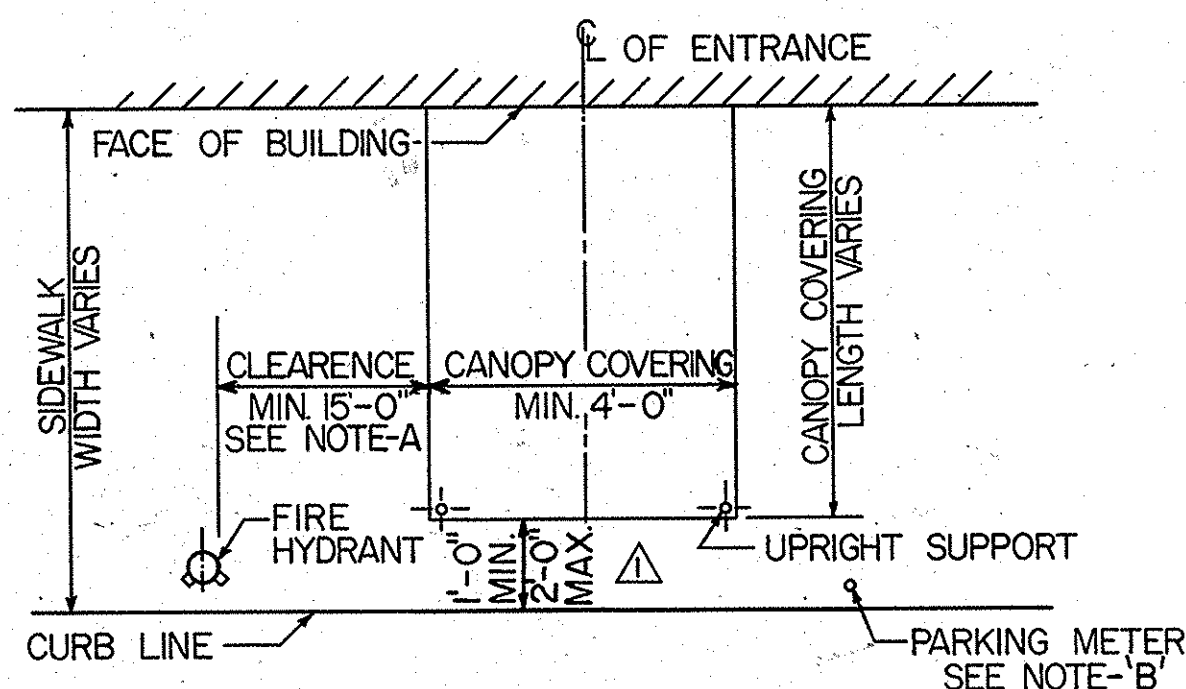
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

SEEPAGE BASIN
TYPE M

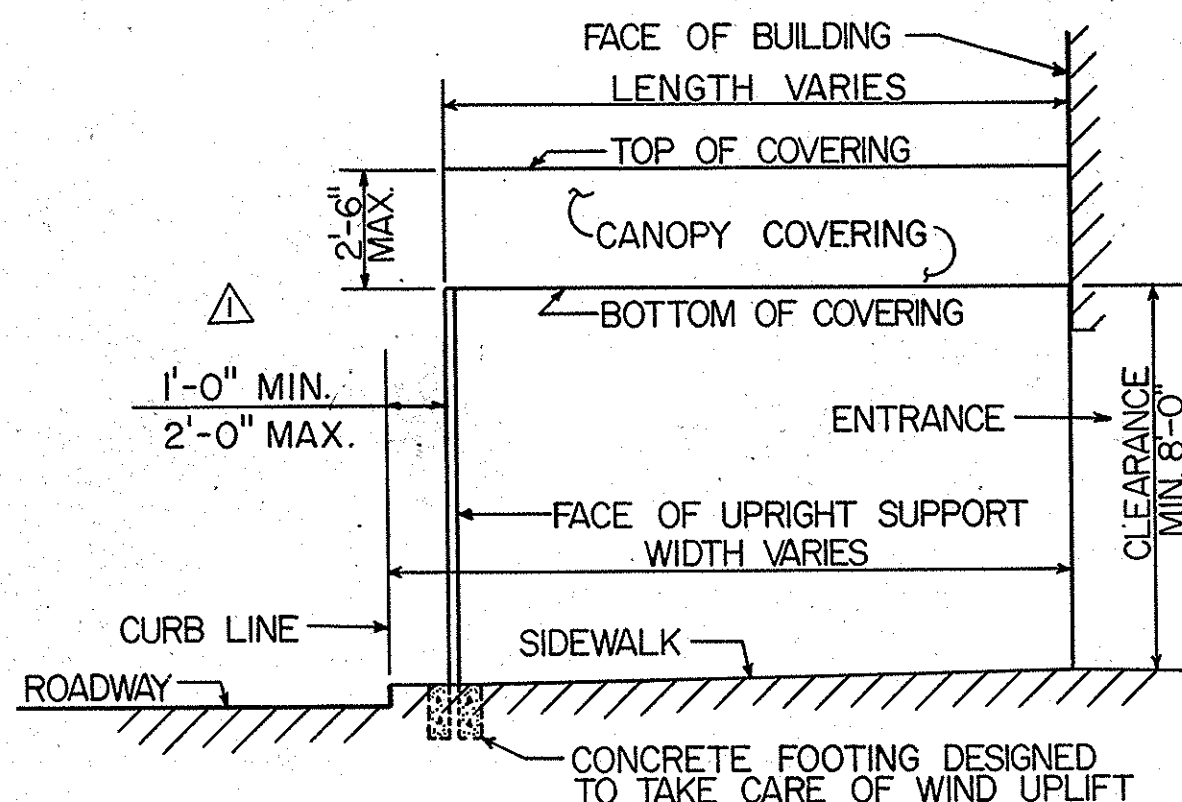
DATE: 3/10/80

H-1026M R79

REVISION NO.	DESCRIPTION	DATE	APPROVED



PLAN VIEW



SIDE VIEW

NOTE-A

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

NOTE-B

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

A PERMIT MUST BE OBTAINED FROM THE BUREAU OF HIGHWAY OPERATIONS 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 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 CANVASS 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 INITIALLY PAINTED, IT SHALL BE REPAINTED AT A MAXIMUM OF FIVE YEARS INTERVALS.

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-CONBUSTIBLE 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.

PAINTING

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

LIGHTING

AREA UNDER CANOPY COVERING SHALL BE LIGHTED TO THE SATISFACTION OF THE BUREAU OF HIGHWAYS, WHERE DEEMED NECESSARY BY THE BUREAU. IF CANOPY IS WITHIN TWENTY FEET OF A LAMPOST, 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 BUREAU OF GAS AND ELECTRICITY.

DRAWN BY: J. Brothers CHECKED BY: F. White

Barney H. Green, P.E.
COMMISSIONER

Henry J. Latta, P.E.
DEPUTY COMMISSIONER

Thomas H. Mackham, P.E.
ASSISTANT COMMISSIONER

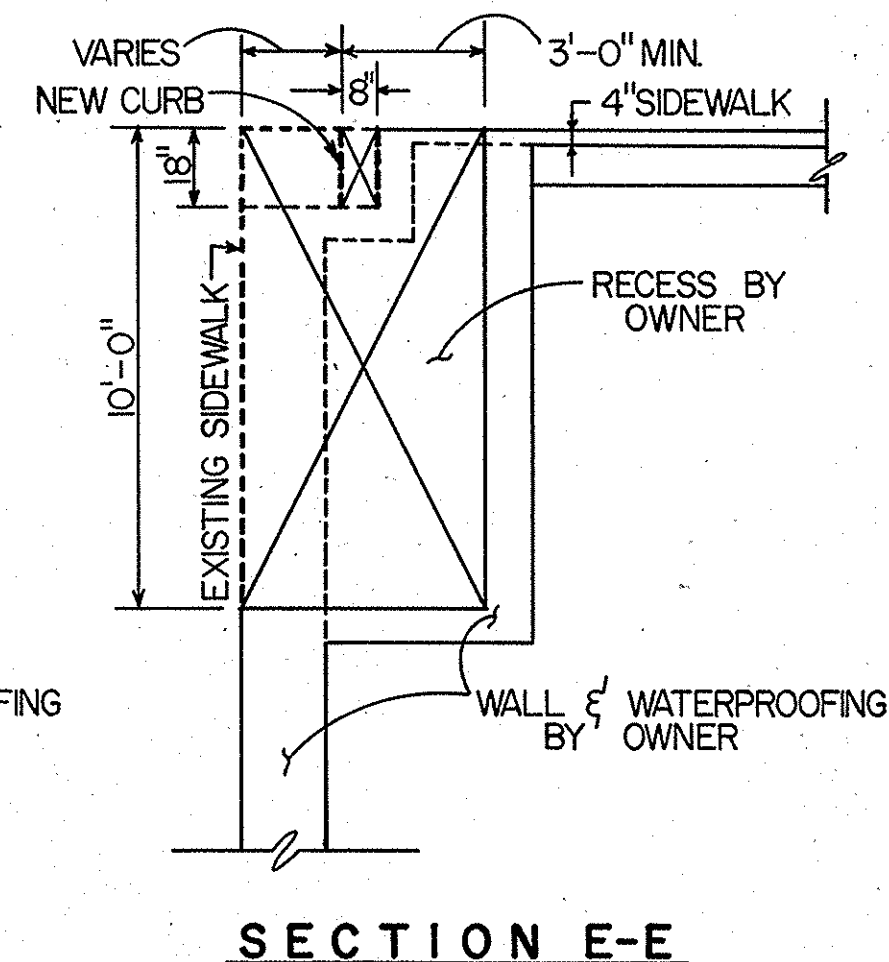
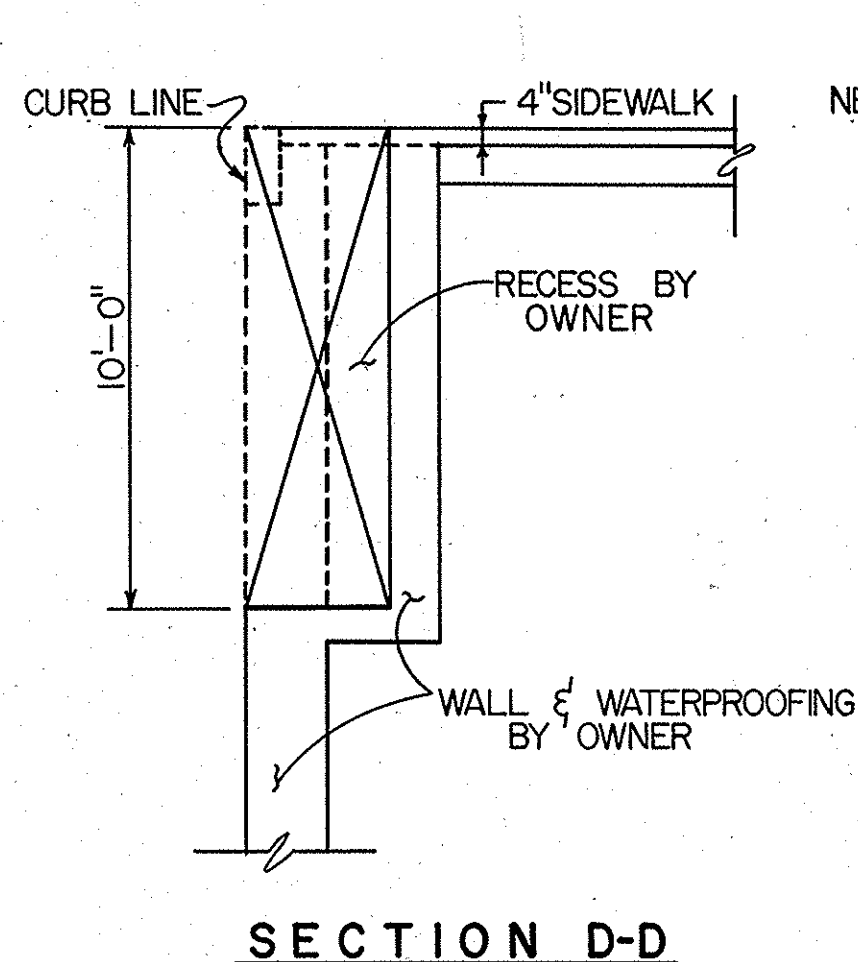
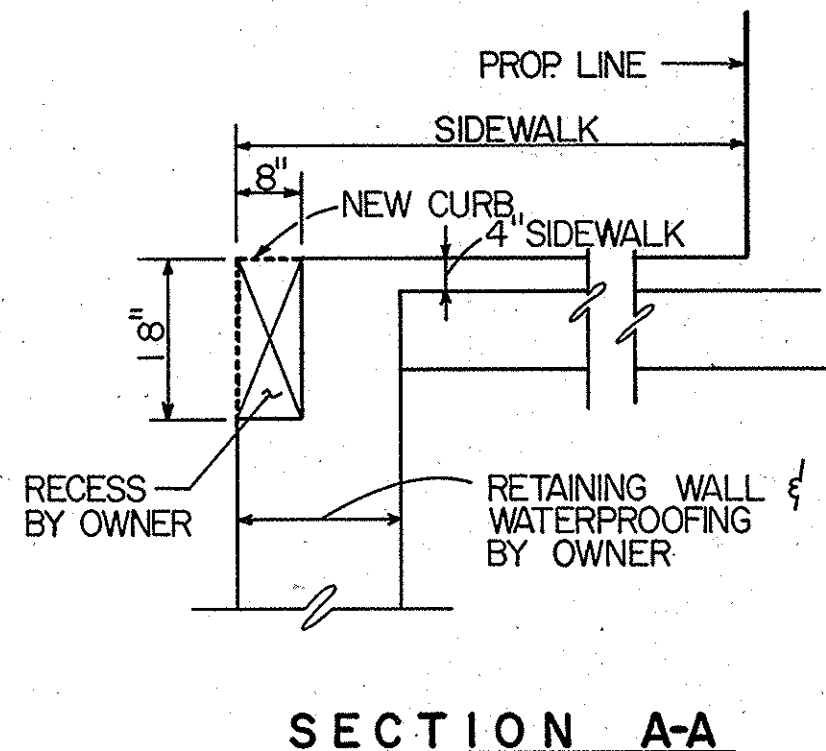
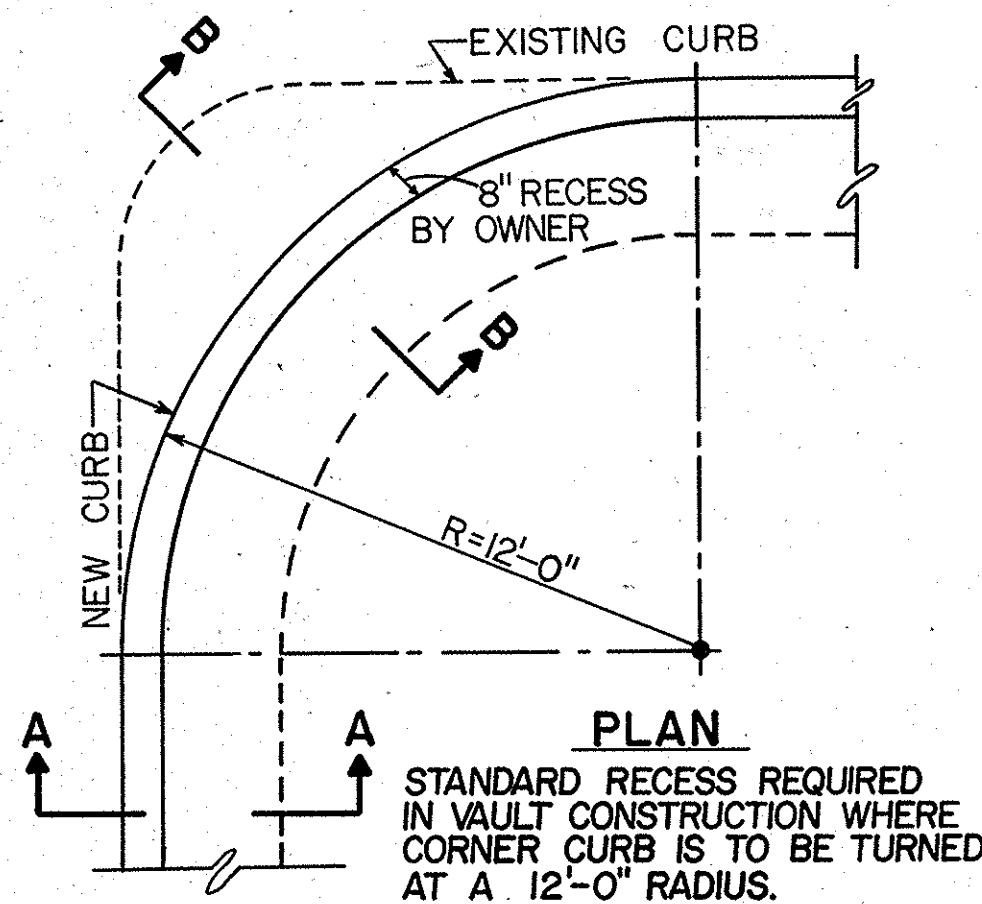
Thomas H. Mackham, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

Barney H. Green, P.E.
CHIEF ENGINEER

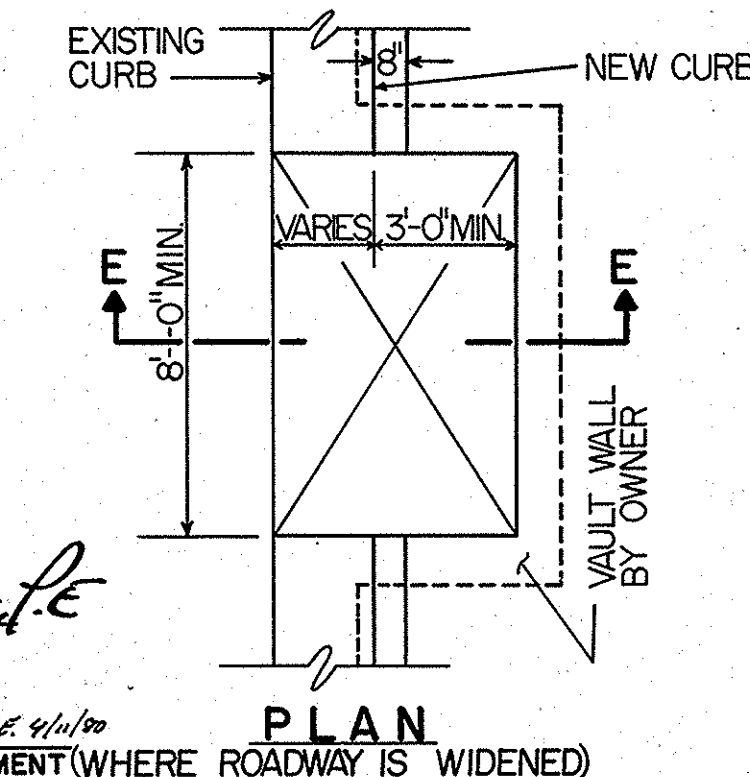
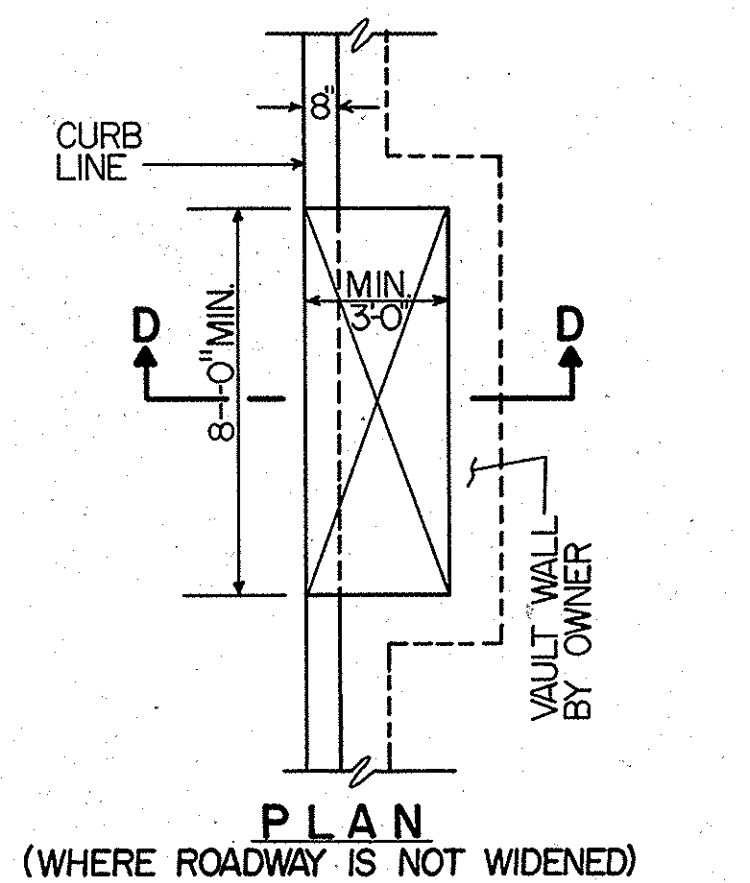
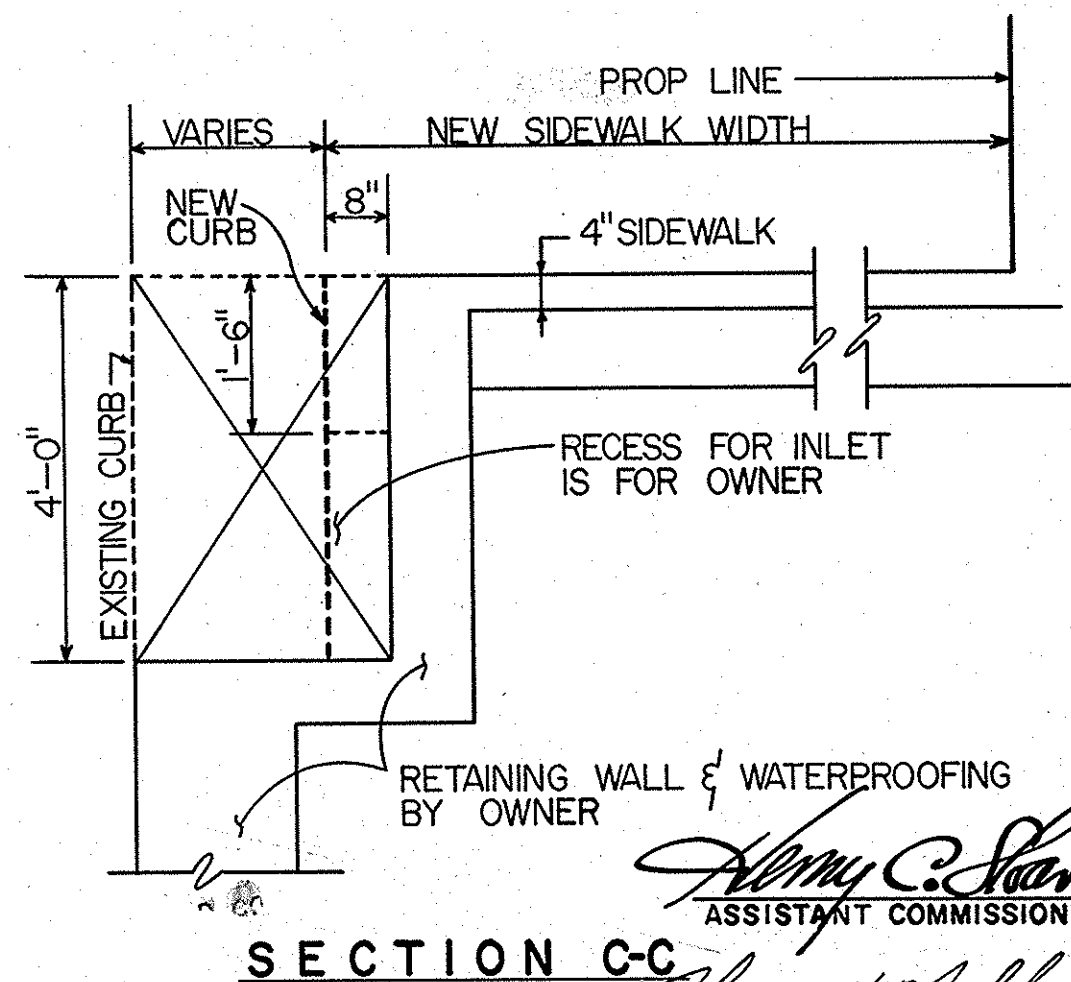
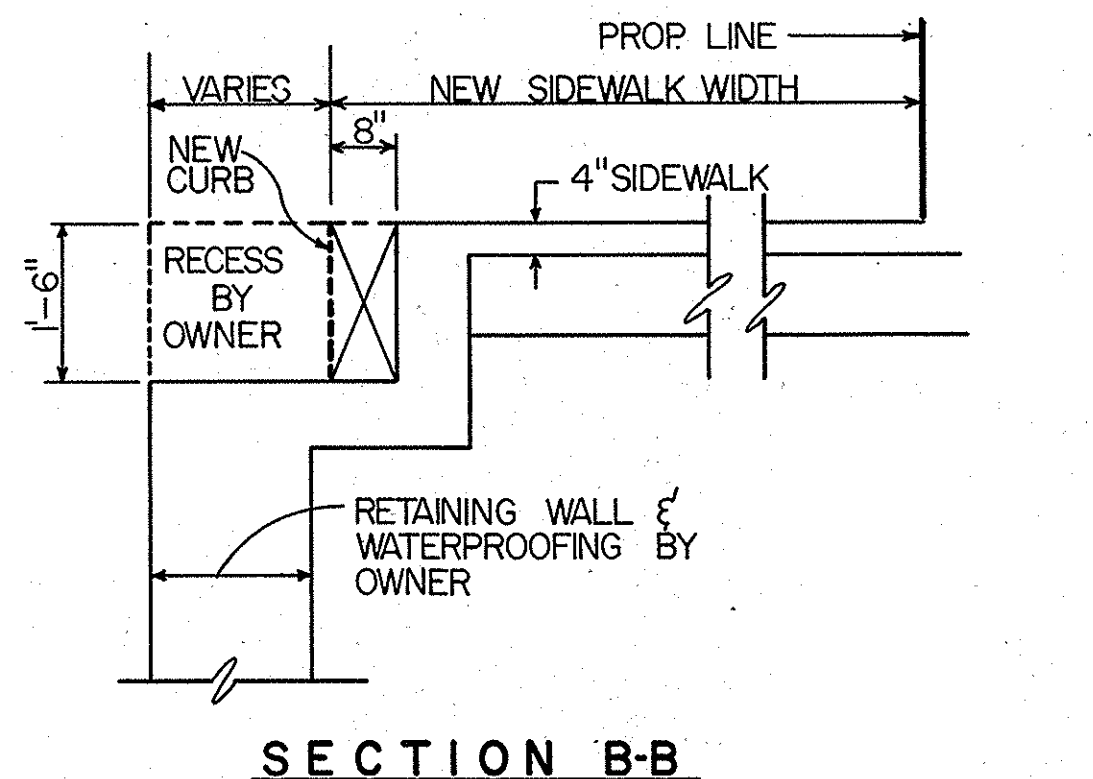
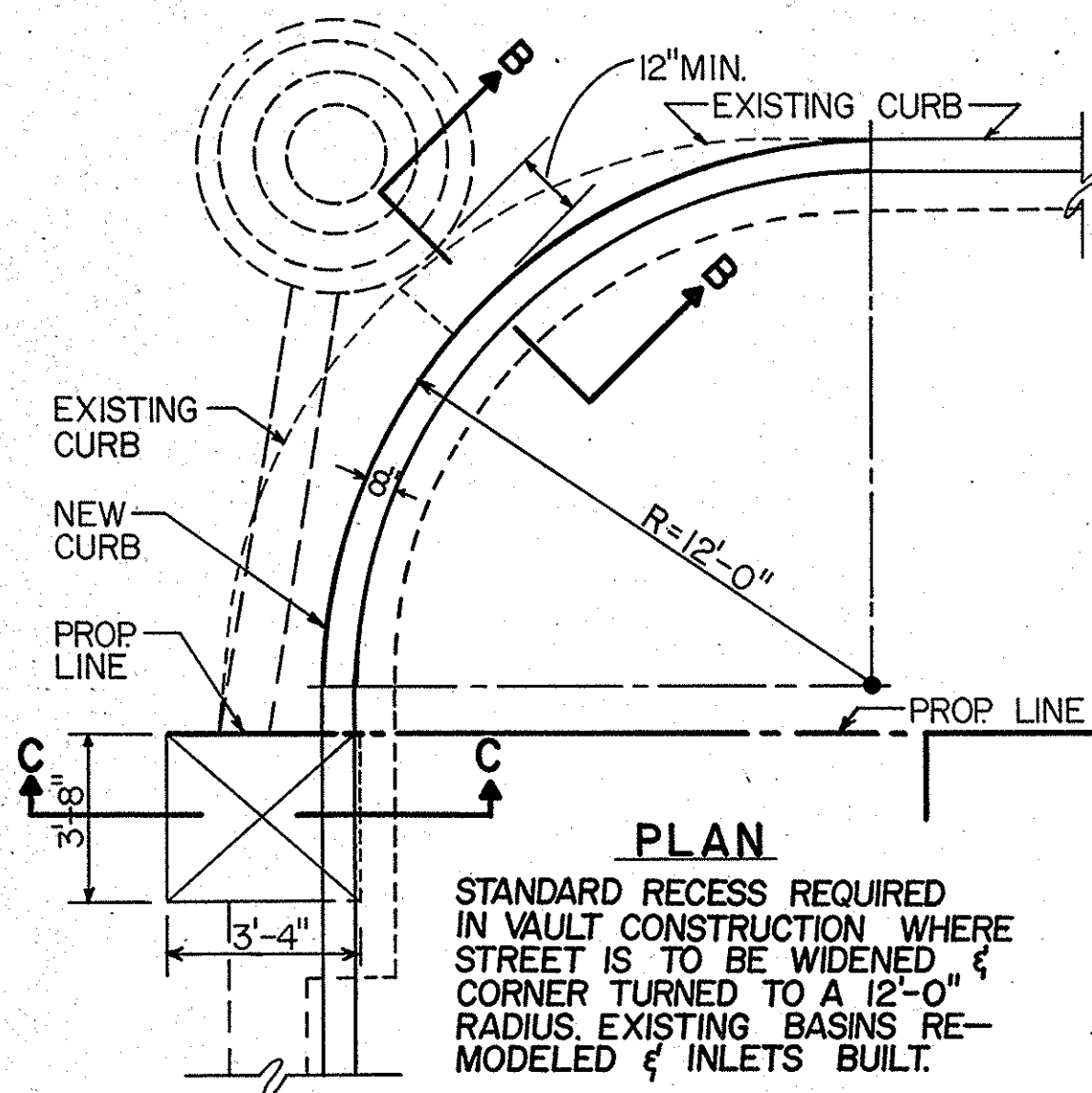
REVISION NO.	DESCRIPTION	DATE	APPROVED
1	CHANGED FROM 1'-0" MIN. TO 2'-0" MAX.	12-7-81	<i>[Signature]</i>

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
CRITERIA FOR DESIGN & CONSTRUCTION OF CANOPIES	
DATE: 3/10/80	
H 1029	R 79

DRAWN BY: *J. Brothman* CHECKED BY: *F. White*



EXISTING RECEIVING BASIN TO BE REMODELED IN ACCORDANCE WITH STANDARD DRAWINGS ON FILE IN THE BUREAU OF HIGHWAY OPERATIONS.



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 BUREAU OF HIGHWAY OPERATIONS.
3. RECESS FOR CURB TO BE NOT LESS THAN 1'-6" BELOW GRADE TO BE FURNISHED BY THE BUREAU OF HWY. OPERATIONS.
4. CURB SHALL CONFORM TO THE STANDARD SPECIFICATION ON FILE IN THE BUREAU OF HIGHWAY OPERATIONS.
5. SIDEWALK AREA BETWEEN EXISTING AND PROPOSED CURB LINES TO BE MAINTAINED FOR PEDESTRIAN TRAFFIC PENDING WIDENING OF THE ROADWAY.
6. PERMIT FROM THE BUREAU OF HWY. OPERATIONS MUST BE OBTAINED BEFORE ANY WORK IS PERFORMED WITHIN THE AREA.

Anthony J. Amore P.E.
COMMISSIONER

Henry J. Lillman P.E.
DEPUTY COMMISSIONER

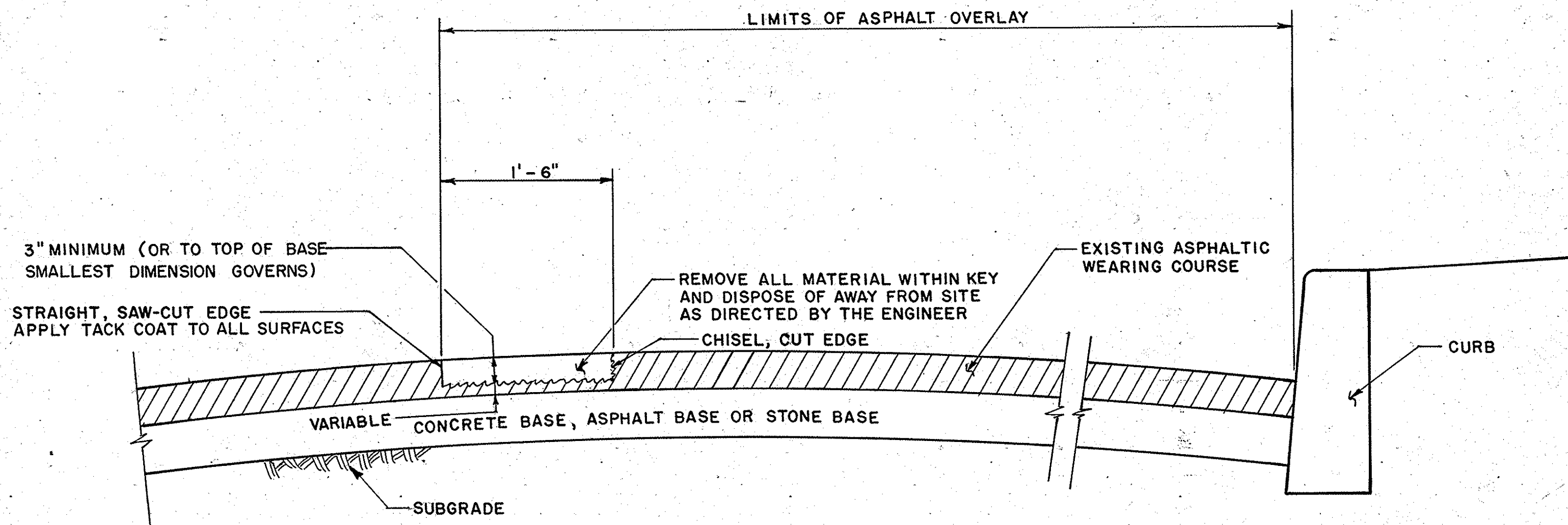
Thomas H. Mackham P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Barry J. Green P.E.
CHIEF ENGINEER

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STANDARD RECESS IN VAULT CONSTRUCTION TO PROVIDE FOR STREET WIDENING, RECEIVING BASINS, INLETS, AND 12'-0" CORNER RADIUS	
DATE: 3/10/80	
H 1030	R 79

REVISION NO.	DESCRIPTION	DATE	APPROVED

DRAWN BY: A. Occhino CHECKED BY: F. White



TYPICAL PAVEMENT KEY
NOT TO SCALE

[Signature]
COMMISSIONER

[Signature]
DEPUTY COMMISSIONER

[Signature]
ASSISTANT COMMISSIONER
[Signature] 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT
[Signature]
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
TYPICAL PAVEMENT KEY	
DATE: 3/10/80	
H-1031	R 79

DRAWN BY: FW/17

Barney L. Greco, P.E.
CHIEF ENGINEER

Henry C. Shaw, P.E.
ASSISTANT COMMISSIONER

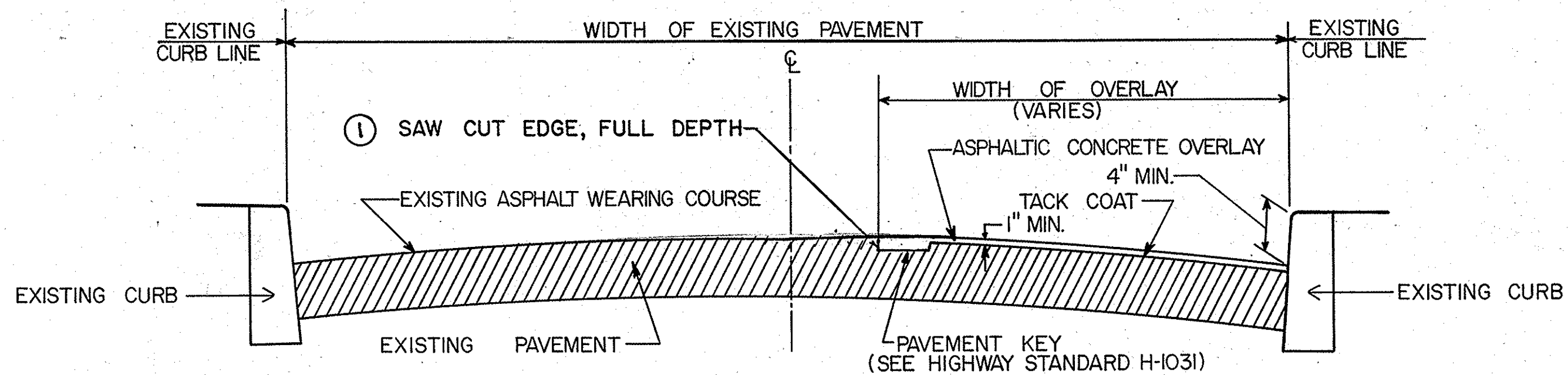
Thomas H. Marchant, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Henry J. Lutton, P.E.
DEPUTY COMMISSIONER

Barth M. Mearns, P.E.
COMMISSIONER

				UNPAVED WING AREA	
①	ADDED SAW-CUT TOP COURSE DETAIL	12-18-84	J.L.H.	DATE 3/10/80	
REVISION NO.	DESCRIPTION	DATE	APPROVED	H-1032 R 79	

DRAWN BY: *J. Broder* CHECKED BY: *FWite*



SECTION
NOT TO SCALE

NOTE:

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

Anthony R. Arnesen P.E.
COMMISSIONER

Henry J. Fulton P.E.
DEPUTY COMMISSIONER

Henry C. Shaw P.E.
ASSISTANT COMMISSIONER

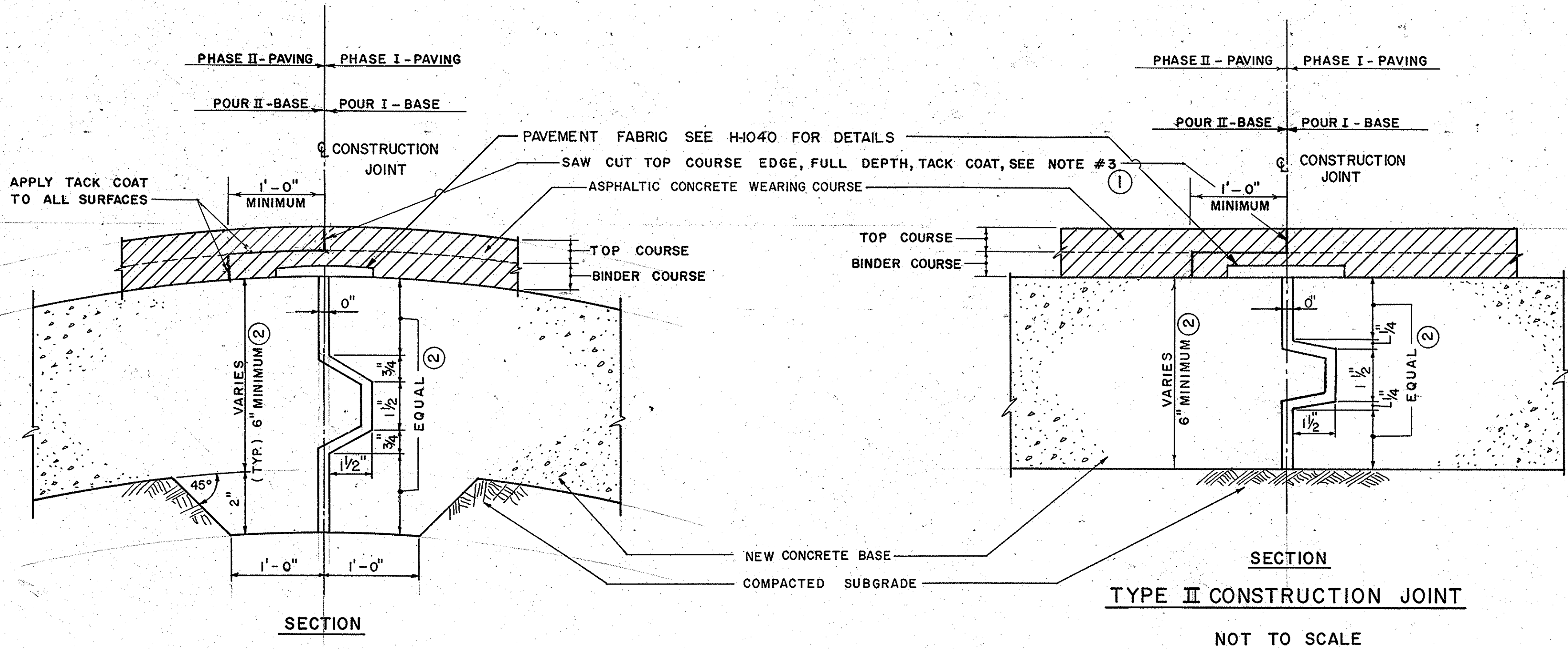
Thomas H. Warkham S.E. 4/14/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney de Guaca P.E.
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED
①	ADDED SAW-CUT EDGE, FULL DEPTH	12-18-84	J.L.H.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
TYPICAL RESURFACING ON ASPHALT PAVEMENT &/or WEARING COURSE (LESS THAN FULL WIDTH) H-1033	
DATE: 3/10/80	
H 1033	R 79

DRAWN BY: A. Eng. CHECKED BY: F. White



SECTION
TYPE I CONSTRUCTION JOINT
NOT TO SCALE

SECTION
TYPE II CONSTRUCTION JOINT
NOT TO SCALE

NOTES:

1. TYPE I CONSTRUCTION JOINT SHALL BE INSTALLED ON ALL 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.

Henry C. Shaw, P.E.
ASSISTANT COMMISSIONER

Thomas H. Mackham, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney De Greca, P.E.
CHIEF ENGINEER

Robert M. Brown
COMMISSIONER

Henry R. Fulton, P.E.
DEPUTY COMMISSIONER

②	6" CHANGED TO VARIES/6" MIN. AND DIMENSIONS CHANGED TO EQUAL	5-6-86 J.L.H.
①	ADDED SAW-CUT TOP COURSE AND NOTE #3	12-18-84 J.L.H.
REVISION NO.	DESCRIPTION	DATE APPROVED

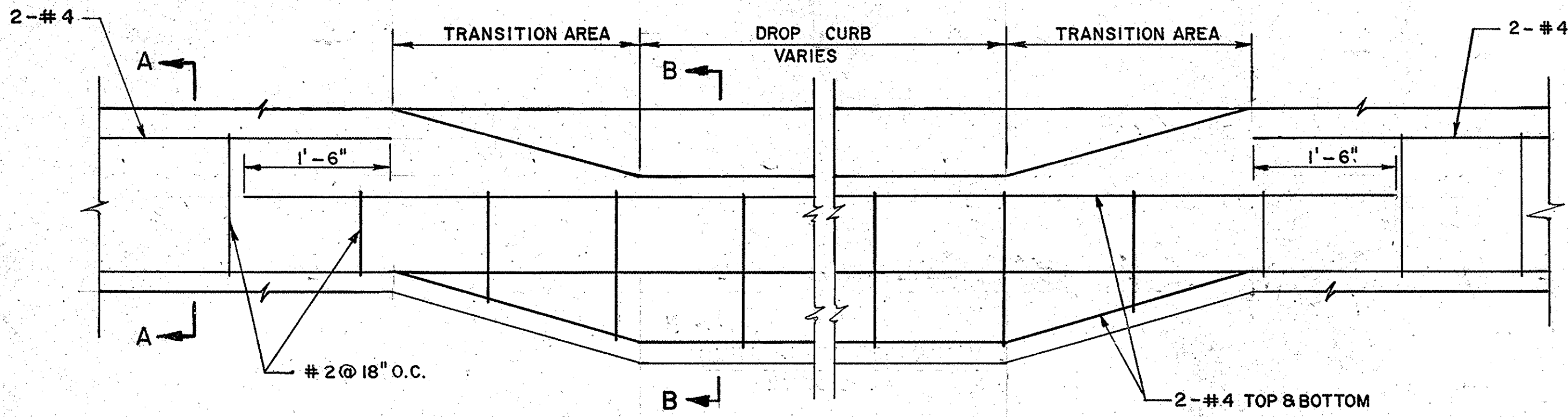
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

TYPICAL CONSTRUCTION JOINTS
FOR
CONCRETE BASE FOR PAVEMENT

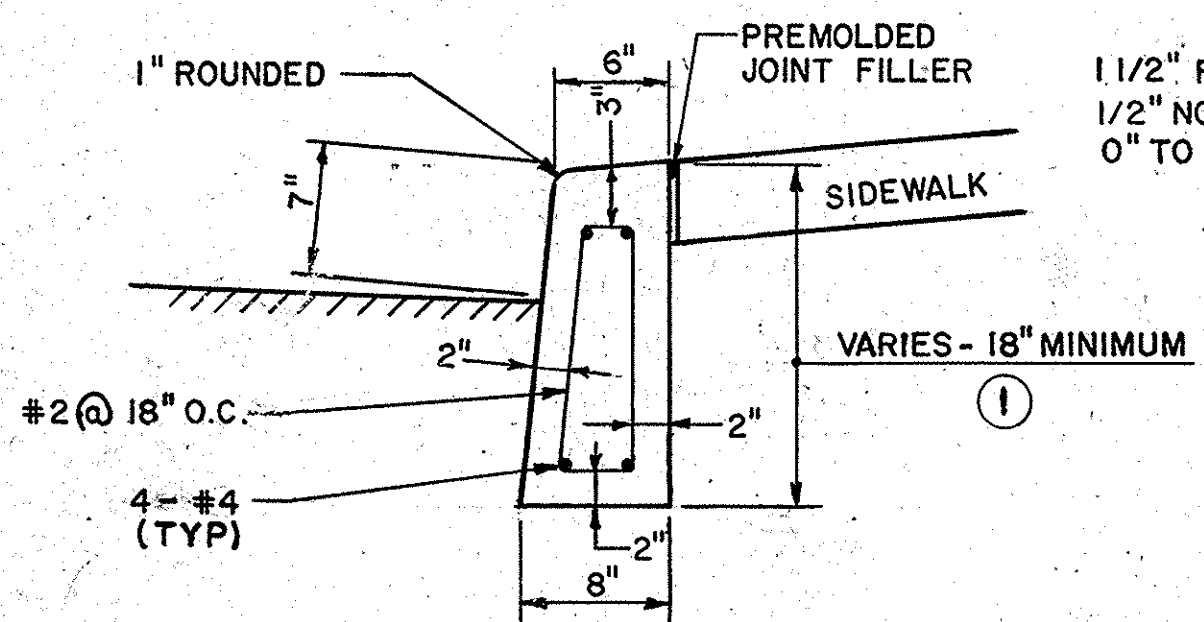
DATE: 3/10/80

H-1034 R79

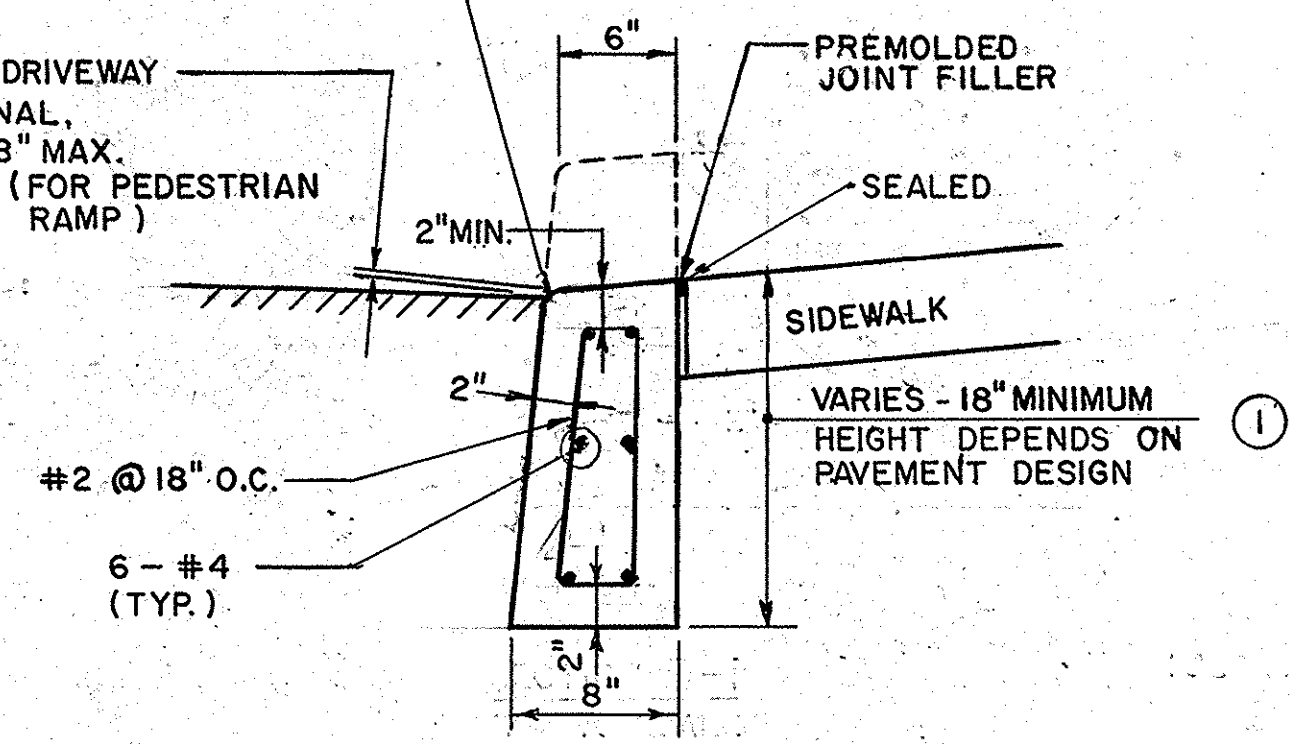
DRAWN BY: A. Occhino CHECKED BY: F. L. H. E.



CURB ELEVATION VIEW
NOT TO SCALE
1" ROUNDED



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

NOTES:

1. CONCRETE SHALL BE CLASS A-40, 4000PSI. AS PER SECTION 3.05 OF HIGHWAY STANDARDS SPECIFICATIONS.
2. STEEL REINFORCEMENT SHALL BE AS PER ASTM A615. SEE PROVISION 24, PAGE AA19 OF ADDENDUM NO. 1 TO STANDARD SPECIFICATION.
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.

[Signature]
COMMISSIONER

[Signature] P.E.
DEPUTY COMMISSIONER

[Signature] P.E.
ASSISTANT COMMISSIONER

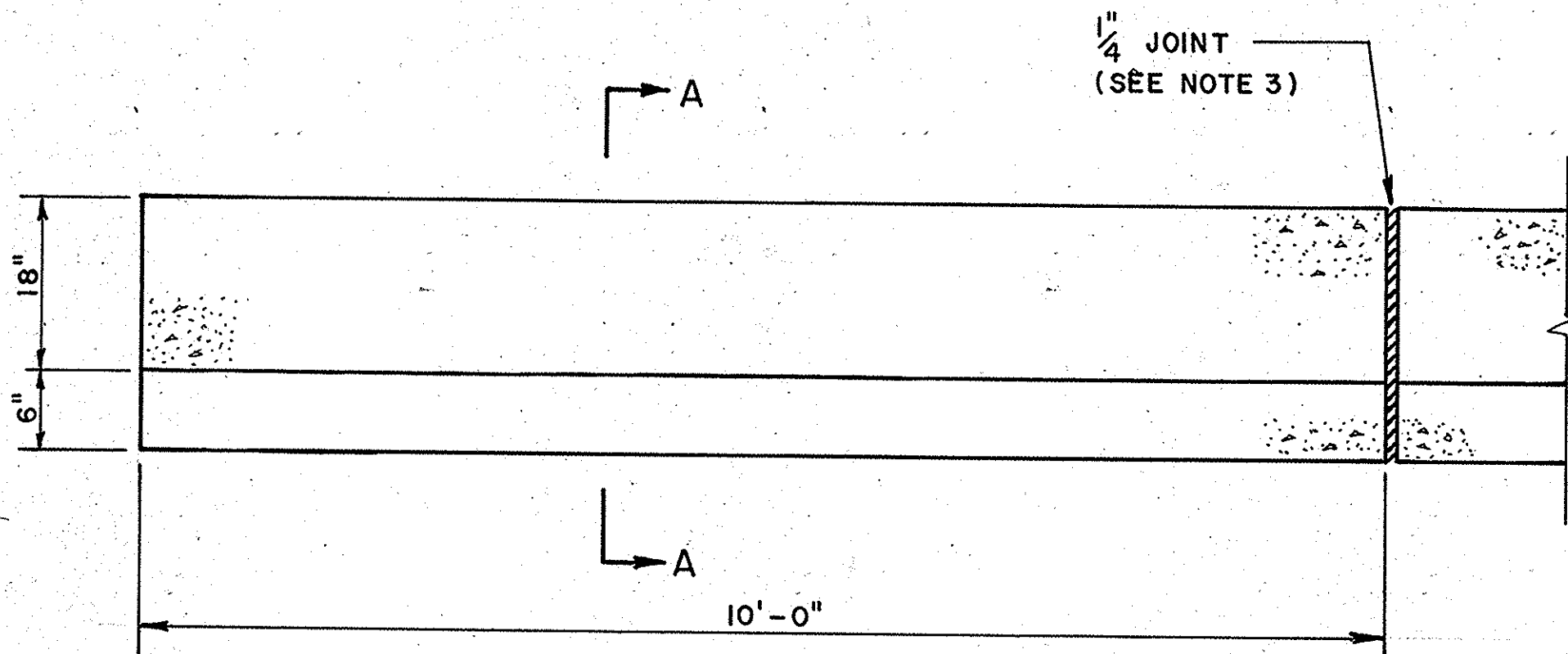
[Signature] P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

[Signature] P.E.
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED
②	CHANGE DROP CURB AREA ADD 1/2" NOMINAL TO 0" TO 5/8" MAX.	10/30/85	J.L.H.
①	HEIGHT CHANGED TO VARIABLE	12/3/84	J.L.H.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
REINFORCED CONCRETE CURB 8" DROP CURB	
DATE: 3/10/80	
H 1035	R-79

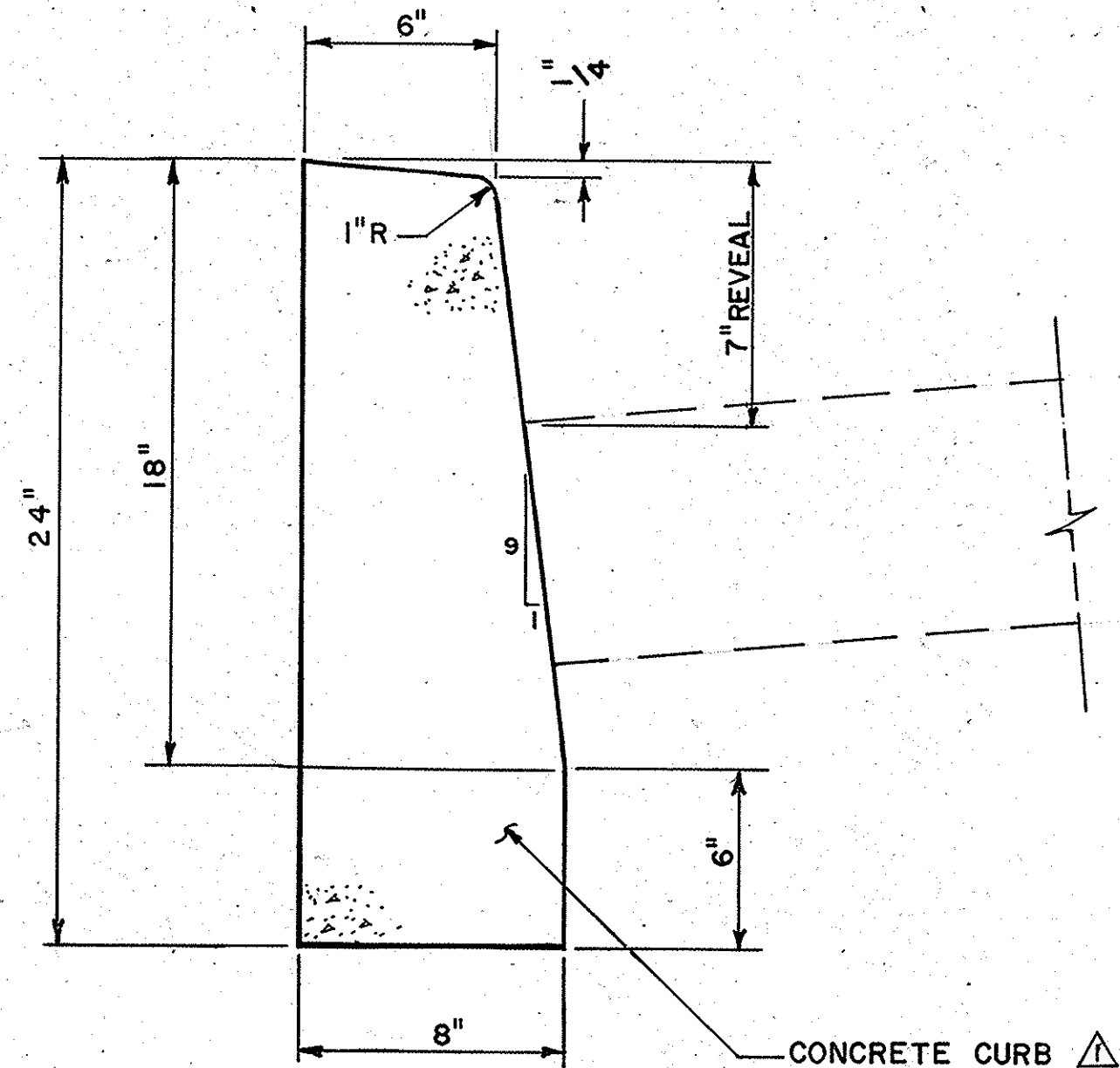
DRAWN BY: A. Occhino CHECKED BY: F. White



ELEVATION

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. PREMOLDED JOINT FILLER TO BE USED AT ALL EXPANSION JOINTS.
4. COLOR TO BE AS DIRECTED.



SECTION A-A

Anthony D. Amun, P.E.
COMMISSIONER

Henry J. Fulton, P.E.
DEPUTY COMMISSIONER

Henry C. Shaw, P.E.
ASSISTANT COMMISSIONER

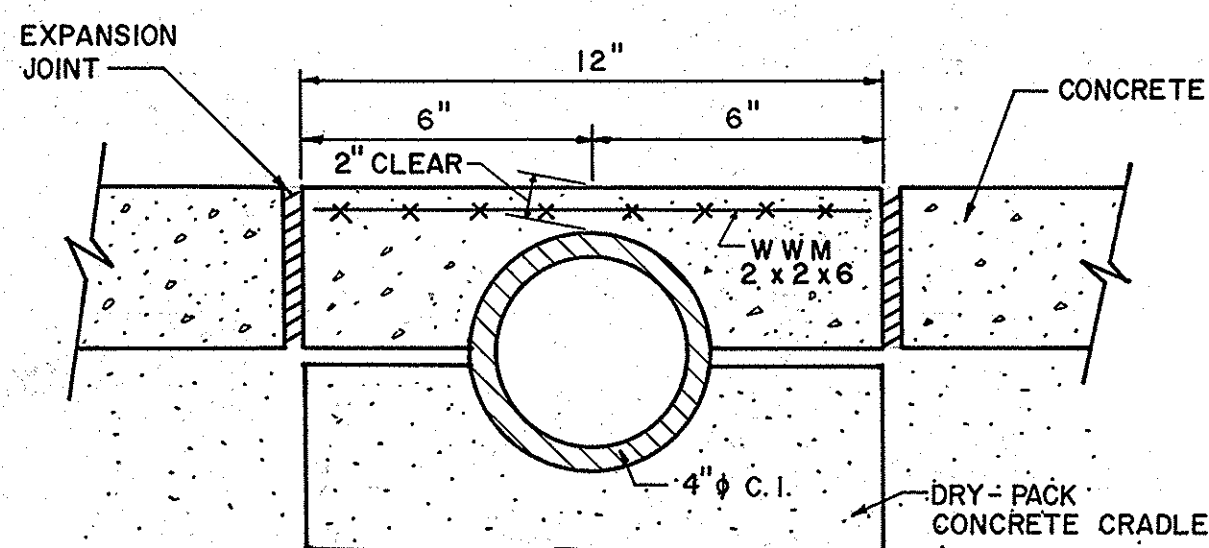
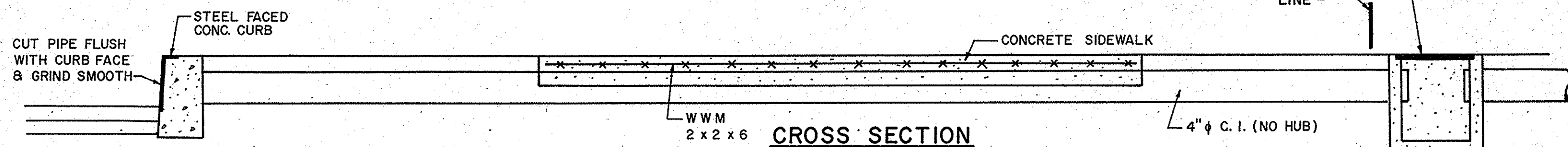
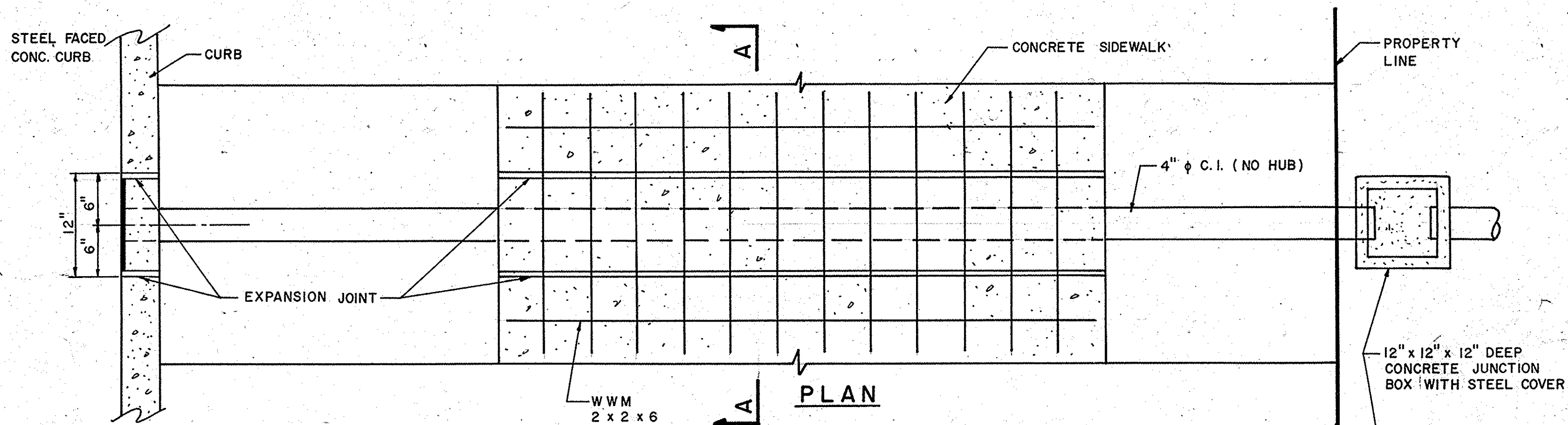
Thomas H. Markham, P.E. 4/14/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney La Greca, P.E.
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED
	ADDED NOTE NO. 4	12/81	
	DELETED THE WORD WHITE FROM TITLE AND SECTION A-A	12/81	

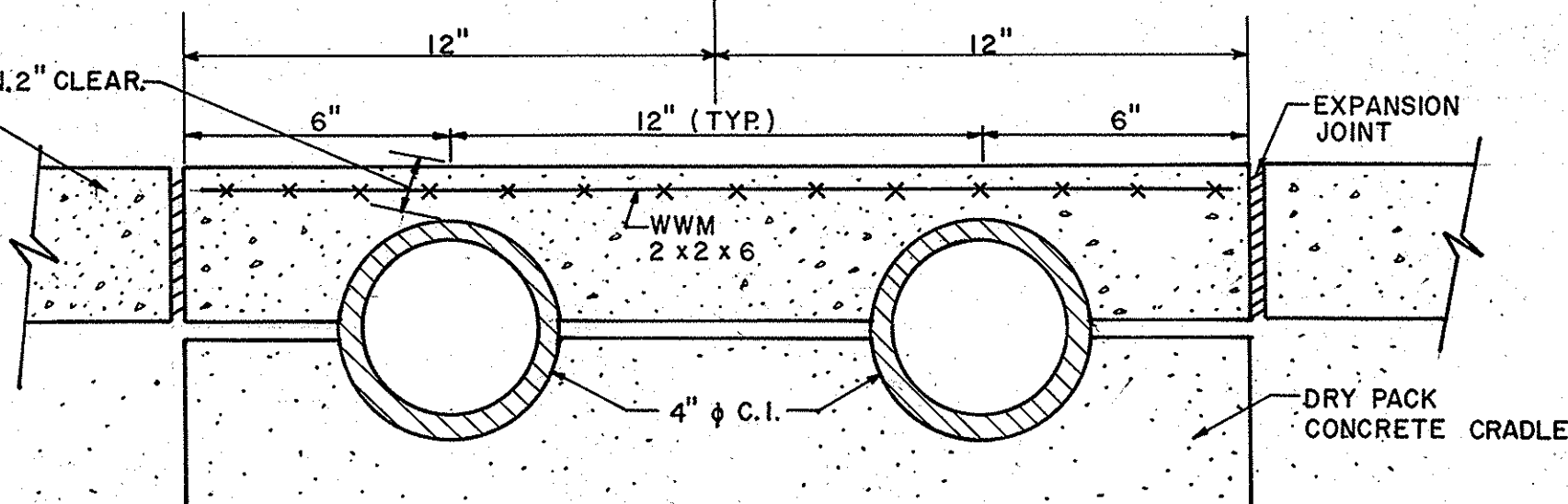
CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
CONCRETE POURED-IN-PLACE MALL CURB	
DATE 3/10/80	
H-1036	R79

DRAWN BY: A. Eng CHECKED BY: F. White



SINGLE DRAIN

SECTION A-A



MULTIPLE DRAIN

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

Henry C. Sloan, P.E.
ASSISTANT COMMISSIONER

Thomas H. Mackham, P.E. 4/11/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney La Greca, P.E.
CHIEF ENGINEER

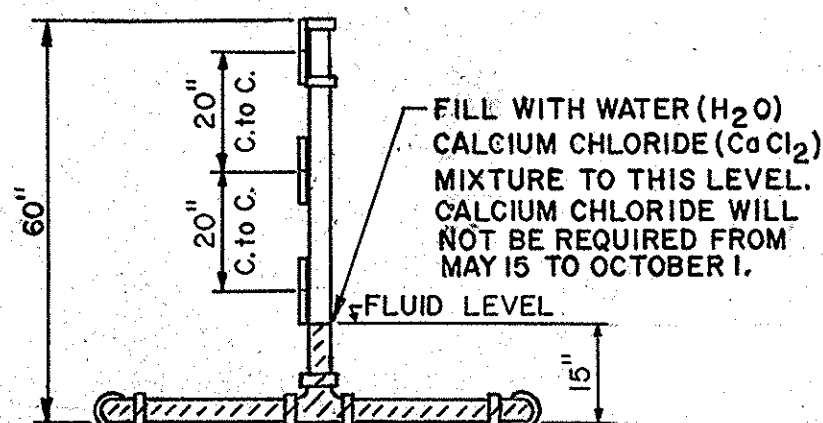
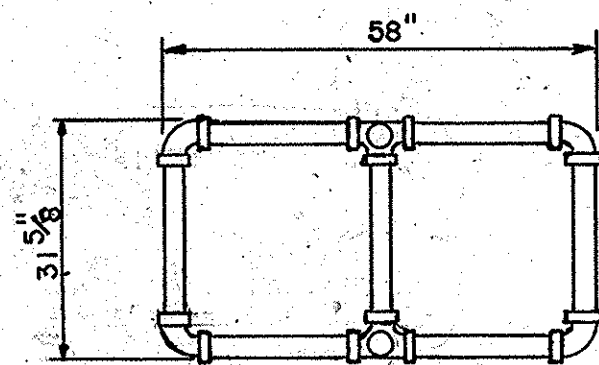
Richard A. Dineen, P.E.
COMMISSIONER

Henry J. Lutton, P.E.
DEPUTY COMMISSIONER

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS			
UNDER SIDEWALK DRAIN			
		DATE: 3/10/80	
		H-1037 R.79	

REVISION NO.	DESCRIPTION	DATE	APPROVED

DRAWN BY: A. Occhine
CHECKED BY: F. V. V. V.



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.

Robert M. Berman, P.E.
COMMISSIONER

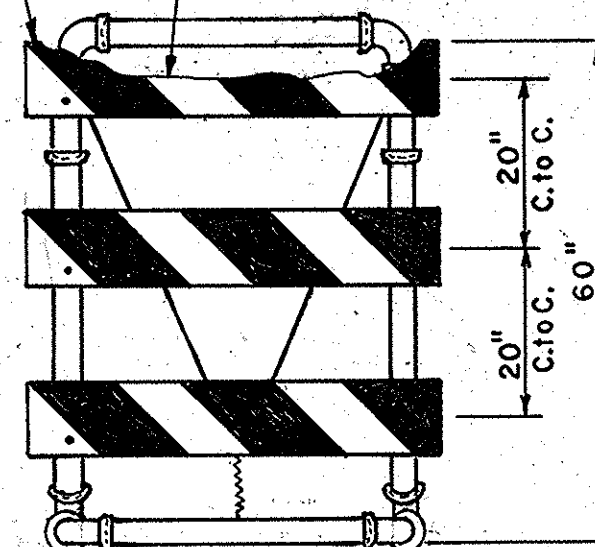
Henry C. Sharr, P.E.
DEPUTY COMMISSIONER

Thomas H. Whelan, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

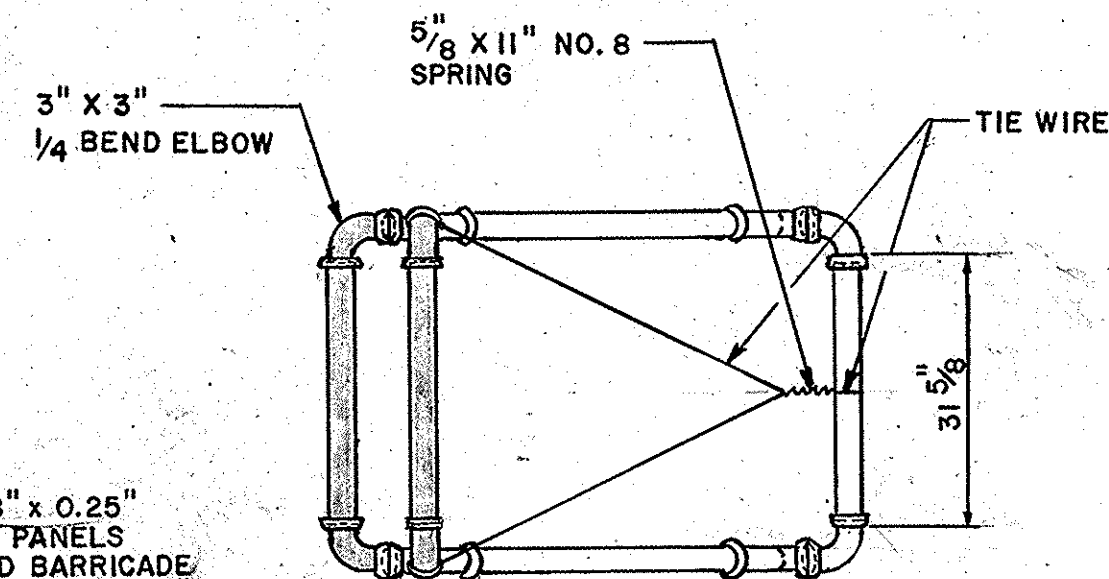
Benny La Greca, P.E.
CHIEF ENGINEER

ORANGE AND WHITE REFLECTIVE SHEETING SEE FIG. MC4 OF N.Y.S. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

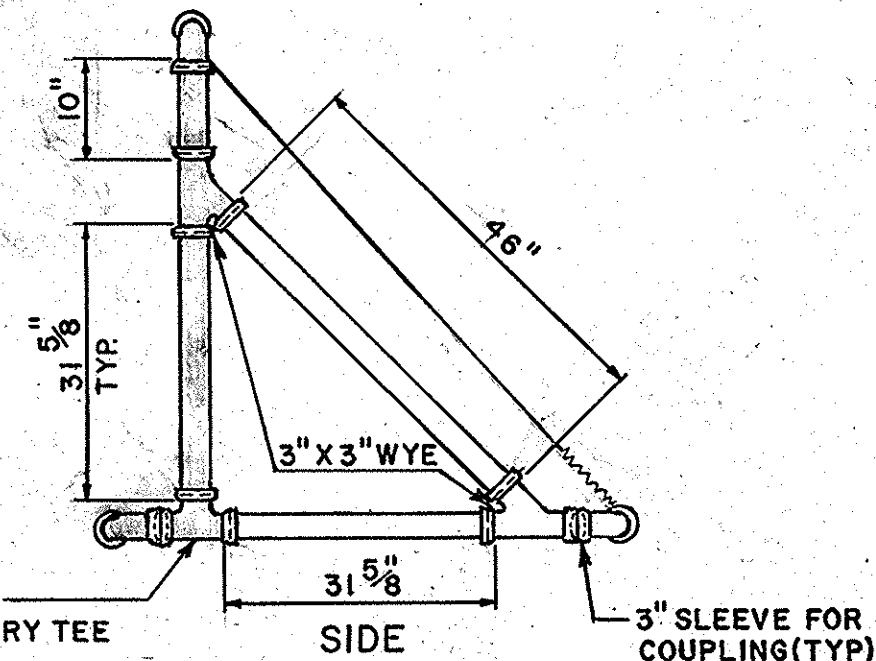
8" MIN. - 12" MAX. - 48" x 0.25" ANODIZED ALUMINUM PANELS WITH REFLECTORIZED BARRICADE SHEETING. ATTACH WITH FOUR 1" NO. 14 PAN HEAD METAL SCREWS



FRONT



PLAN



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 8 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.

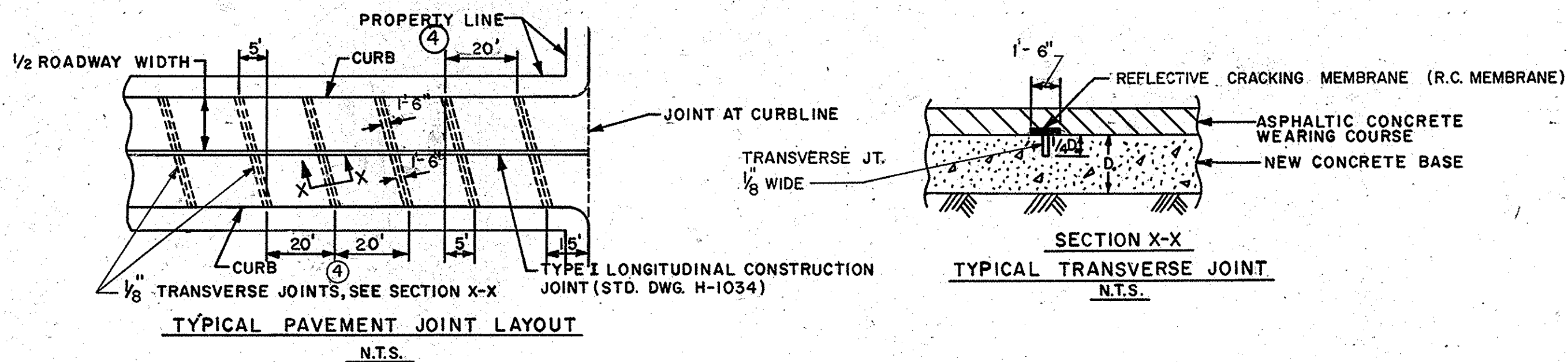
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

TYPE III
BREAKAWAY BARRICADE

DATE 3/10/80

H-1038 R 79

REVISION NO.	DESCRIPTION	DATE	APPROVED



NOTES-

1. TYPE I CONSTRUCTION JOINTS TO BE INSTALLED ON ALL LONGITUDINAL ROADWAY JOINTS.
- ④ 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 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)

Henry C. Shaw, P.E.
ASSISTANT COMMISSIONER

Thomas H. Macpherson, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

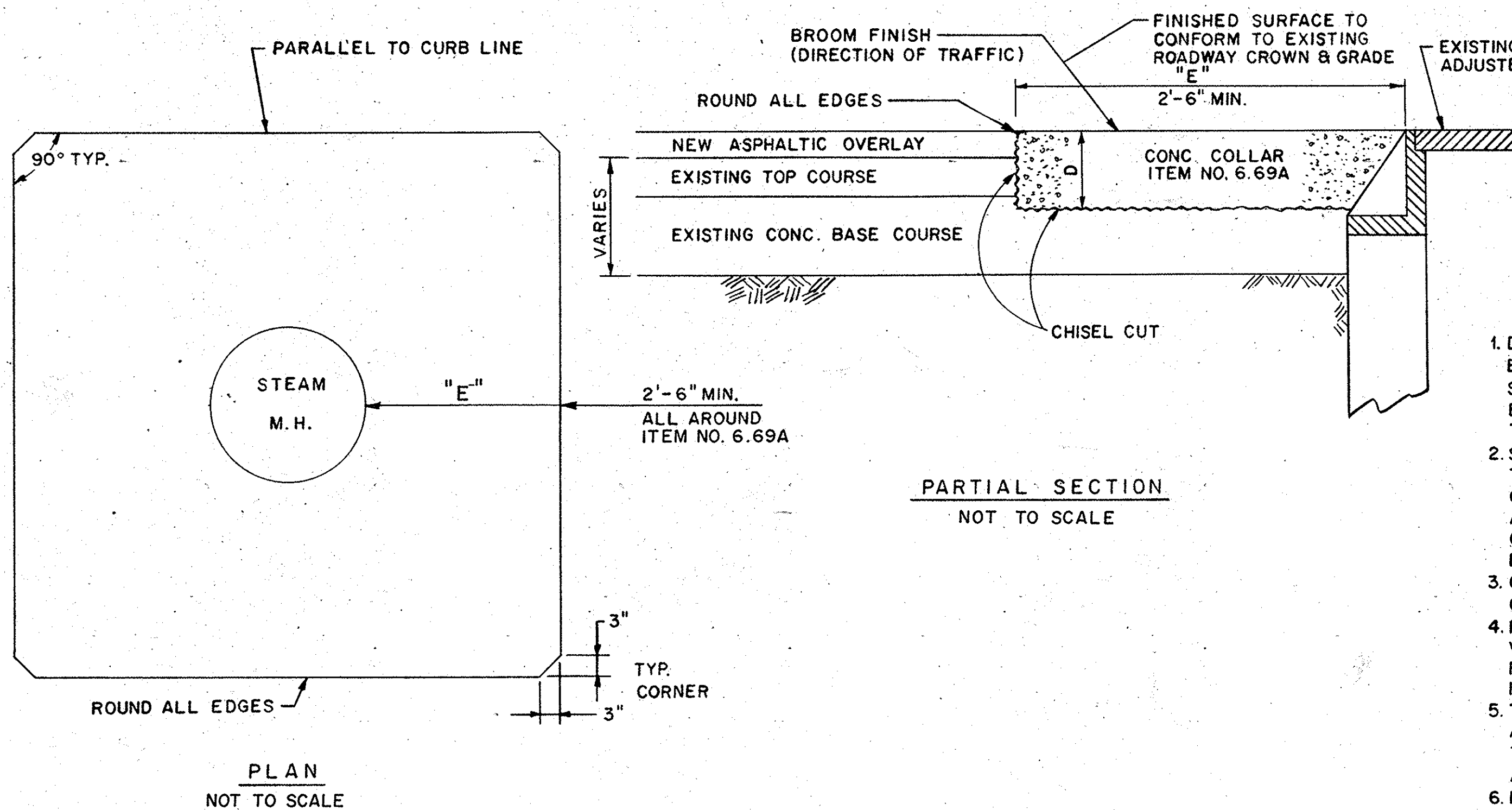
Barney G. Green, P.E.
CHIEF ENGINEER

Robert R. Ammer, P.E.
COMMISSIONER

Henry C. Litter, P.E.
DEPUTY COMMISSIONER

④	JOINT SAWCUT SPACING REVISED	10-28-91	N.G.
3	ADDED DIMENSION (1/8" WIDE) TO TRANSVERSE JOINT	5-29-84	J.H.
2	R.C. MEMBRANE TO BE PAID UNDER ITEM 6.91 WIDTH CHANGED TO 18"	5-12-84	J.H.
1	REPLACE PAV'T FABRIC WITH REFLECTIVE CRACKING MEMBRANE	4-21-83	J.H.
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
TRANSVERSE CONSTRUCTION JOINTS FOR CONCRETE BASE	
DATE: 3/10/80	
H-1040	R 79



- 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 THEN 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 THEN 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 ITEM 6.69B CONC. COLLAR AROUND STEAM VALVE BOXES CONSTRUCTION WILL BE SIMILAR EXCEPT EDGE DISTANCE "E" SHALL BE 1'-0"

Richard A. Amann, P.E.
COMMISSIONER

Henry J. Lullman, Jr.
DEPUTY COMMISSIONER

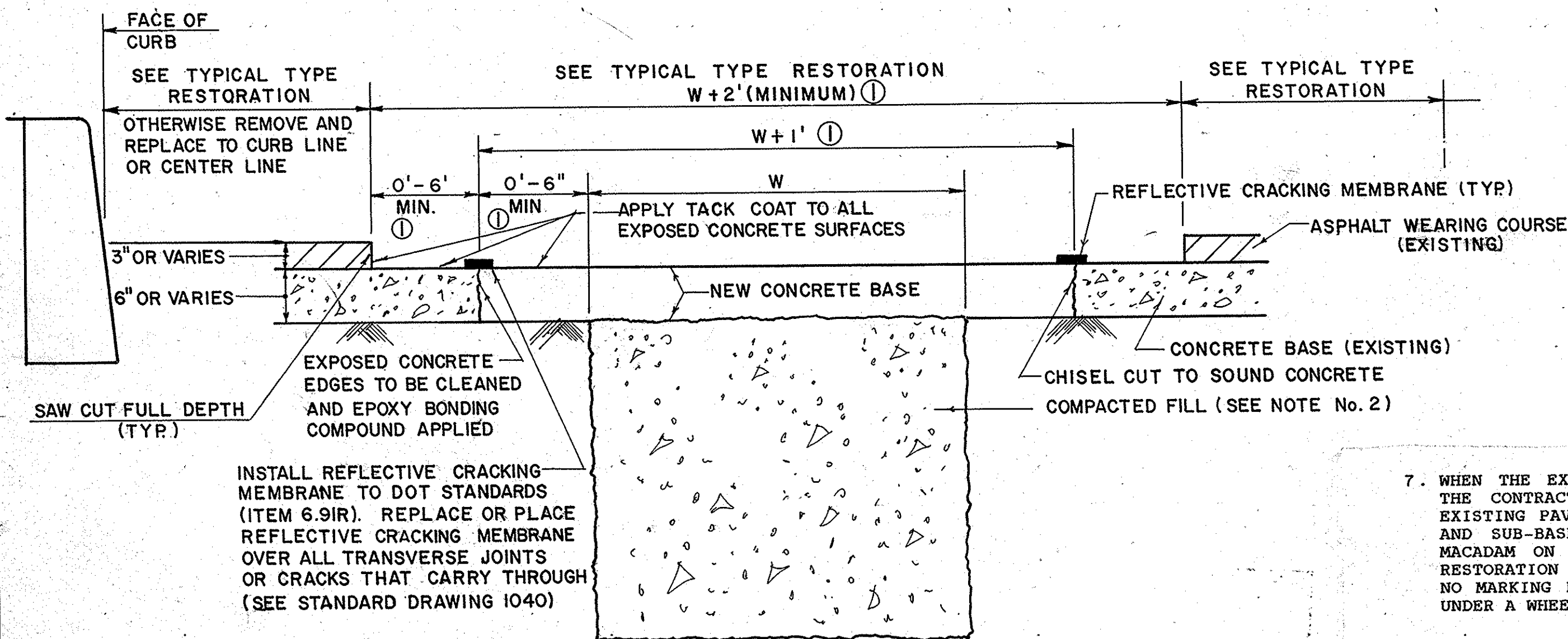
Henry C. Shan, P.E.
ASSISTANT COMMISSIONER

Thomas H. Mackham, P.E. 4/1/80
DIRECTOR-ENGINEERING MANAGEMENT

Barney De Graca, P.E.
CHIEF ENGINEER 4/1/80

REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
CONCRETE COLLAR AROUND STEAM MANHOLE (ITEM 6.69A) STEAM VALVE (ITEM 6.69B)	
DATE: 3/10/80	
H1041	R79

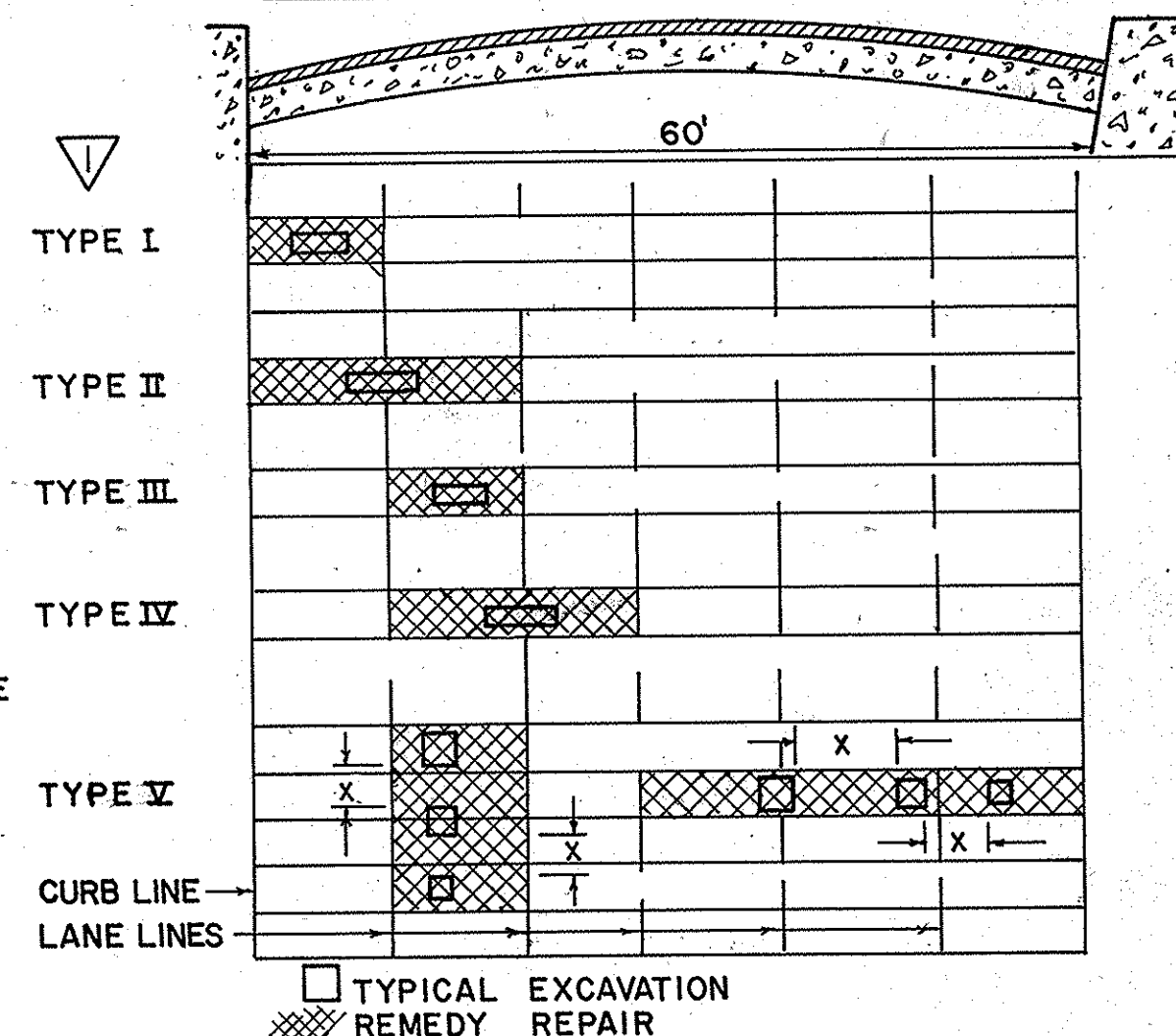


RESTORATION DETAIL
(NOT TO SCALE)

NOTES:

- ① 1. ALL UNDERMINED BASE SHALL BE REMOVED PRIOR TO BACKFILLING.
2. ALL TRENCHES SHALL BE BACKFILLED WITH GOOD TO EXCELLENT FILL AS PER BUREAU OF TRAFFIC SPECIFICATIONS.
- ① 3. CHISEL CUTTING BACK TO SOUND 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 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 D.O.T. BUREAU OF TRAFFIC, 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 RESTORATION SHALL BE AS SHOWN ON RESTORATION DETAIL. CONCRETE SHALL BE REMOVED TO A WIDTH OF $W + 1$ FT. BY (HAND HELD) PNEUMATIC HAMMER CHISEL CUT. ASPHALT SHALL BE REMOVED TO A WIDTH OF NOT LESS THAN $W + 2$ FT. BY SAWCUT AND GRINDING OR PEELING SO AS NOT TO DAMAGE CONCRETE BASE. THE SAWCUT SHALL ALIGN WITH THE LANE MARKING OR DIRECTION OF TRAFFIC, IF THERE ARE NO LANE MARKINGS, AND PERPENDICULAR THERETO.

TYPICAL TYPE RESTORATION



7. 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 MARKING EXIST THE ALIGNMENT SHALL BE SO THAT SAWCUT DOES NOT FALL UNDER A WHEEL TRACK.

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

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

10. FOR TRENCH OR HOLE RESTORATION AT BUS STOPS OF FULL DEPTH CONCRETE OR ANY FULL DEPTH CONCRETE PAVEMENT. SEE STANDARD DRAWING 1050 FOR CONSTRUCTION DETAILS AND STANDARD DRAWING 1042B FOR RESTORATION DETAILS.

11. FOR RESTORATION OF CONCRETE COLLARS AROUND STEAM MANHOLES SEE STANDARD DRAWING 1041. FOR BUS STOPS REFER TO STANDARD DRAWING 1005.

COMMISSIONER

1st. DEPUTY COMMISSIONER

DEPUTY COMMISSIONER

ASSISTANT COMMISSIONER

DIRECTOR-ENGINEERING MANAGEMENT

CHIEF ENGINEER

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

STANDARD TRENCH OR HOLE
RESTORATION IN ACCORDANCE
WITH LOCAL LAW No.14

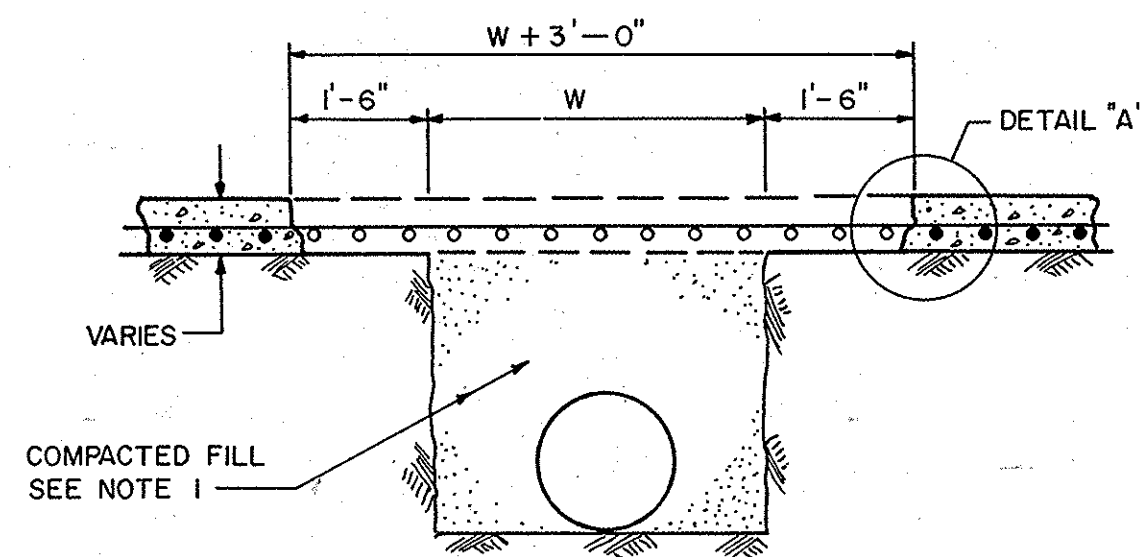
DATE: 12/04/87

H 1042A R 87

REVISION NO.	DESCRIPTION	DATE APPROVED
①	REVISED NOTES & DIMENSIONS	3/6/89 J.L.H.

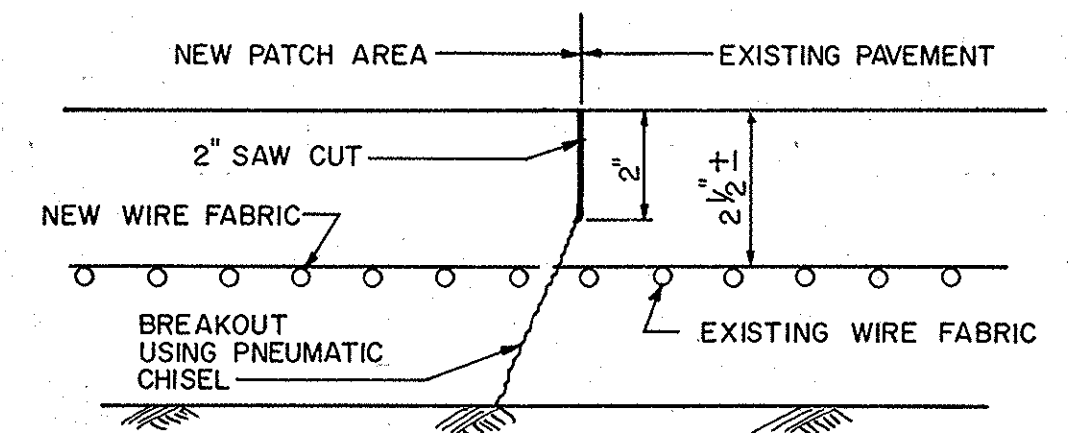
NOTES

- ALL TRENCHES SHALL BE BACKFILLED WITH GOOD TO EXCELLENT FILL AS PER THE BUREAU OF HIGHWAY OPERATIONS SPECIFICATIONS.
- 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.
- ALL MATERIALS USED IN THE RESTORATION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS AND/OR SHALL BE APPROVED BY THE BUREAU DESIGN DIVISION.
- THE OUTLINE OF THE PATCH SHALL BE CUT SQUARE BY SAW CUTTING TO A DEPTH OF TWO INCHES (2") 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.
- TO MINIMIZE OR ELIMINATE PATCH ROCKING, PUMPING, AND BREAKUP, THE WIDTH OF THE PATCH SHALL NOT BE LESS THEN 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 AND/OR REPLACED.
- 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 WILL BE REMOVED AND REPLACED TO SAID BOUNDARY. LIKEWISE, THE EDGE OF THE PATCH SHALL NOT BE CLOSER THAN 1'-0" FROM THE EDGE OF ANY STREET HARDWARE. IF SAID EDGE FALLS WITHIN THIS ONE (1) FOOT DISTANCE ALL CONCRETE SHALL BE REMOVED UP TO 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 AND REPLACED.
- IMMEDIATELY PRIOR TO THE PLACING OF THE NEW CONCRETE ALL EXPOSED EDGES OF THE OLD CONCRETE SHALL HAVE A CEMENT-WATER-SAND GROUT BRUSHED ON.
- 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.
- 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.
- 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.
- A CLEAR CURING AND SEALING COMPOUND SHALL BE APPLIED TO THE FINISHED SURFACE.

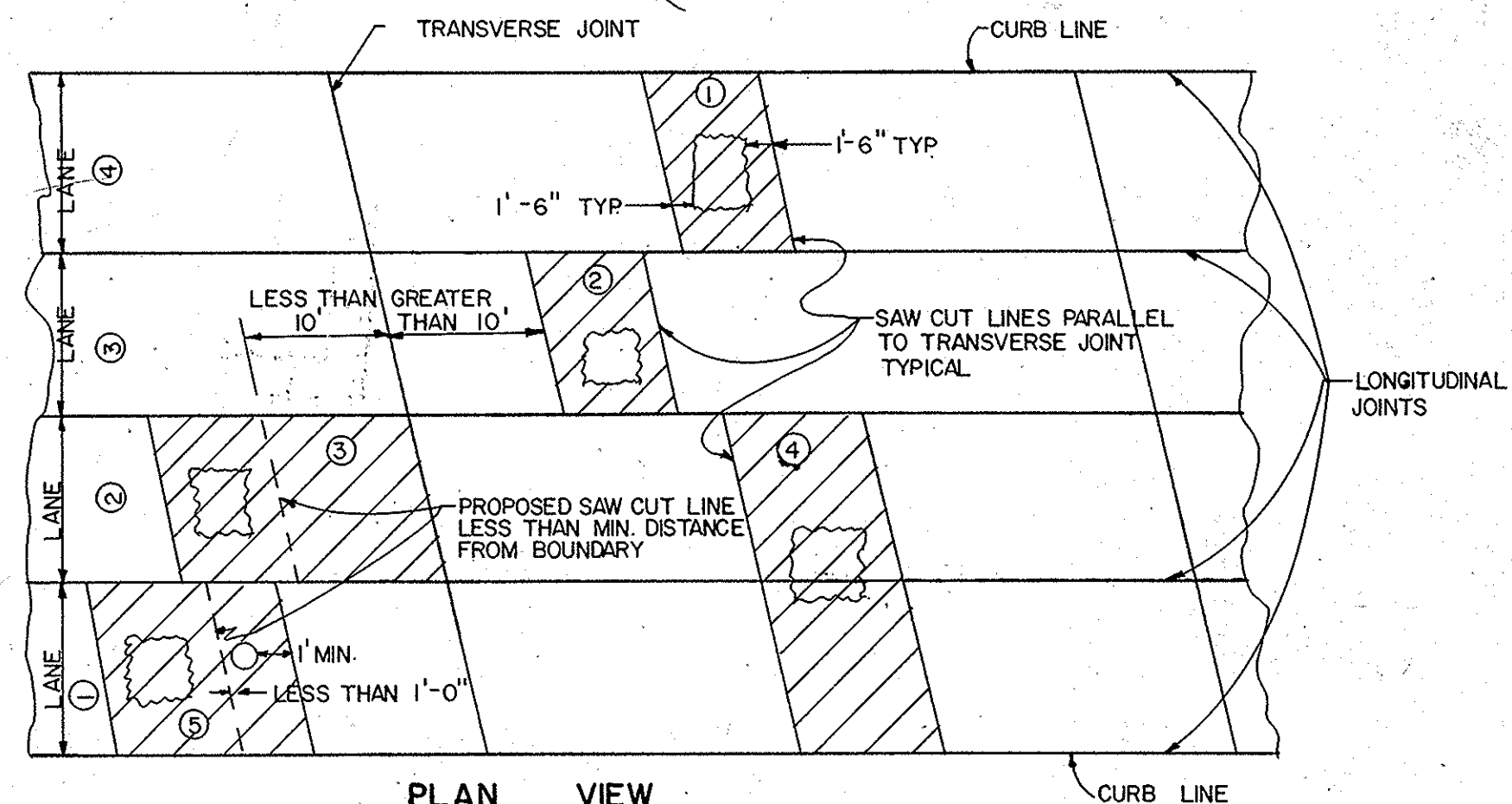


VARIES
COMPACTED FILL
SEE NOTE 1

CONCRETE PAVEMENT RESTORATION DETAIL



DETAIL "A"



LEGEND

- EXCAVATION AREA
- STREET HARDWARE
- PATCH AREA

PLAN VIEW TYPICAL PATCH REPAIRS

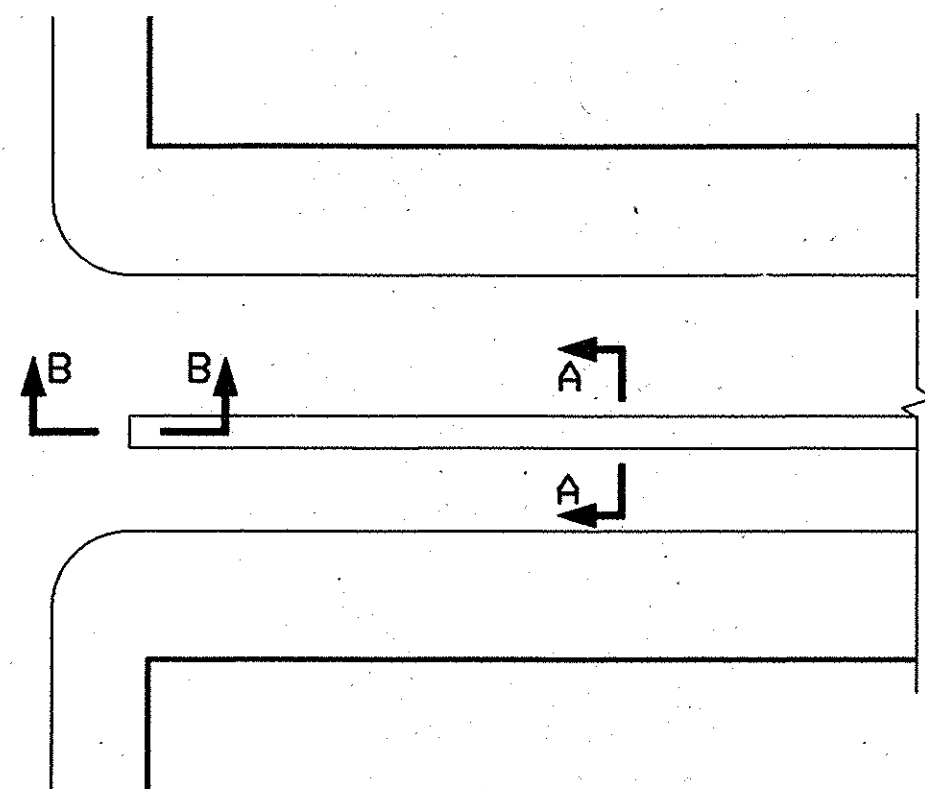
[Signature]
COMMISSIONER

[Signature]
DEPUTY COMMISSIONER 12/9/83

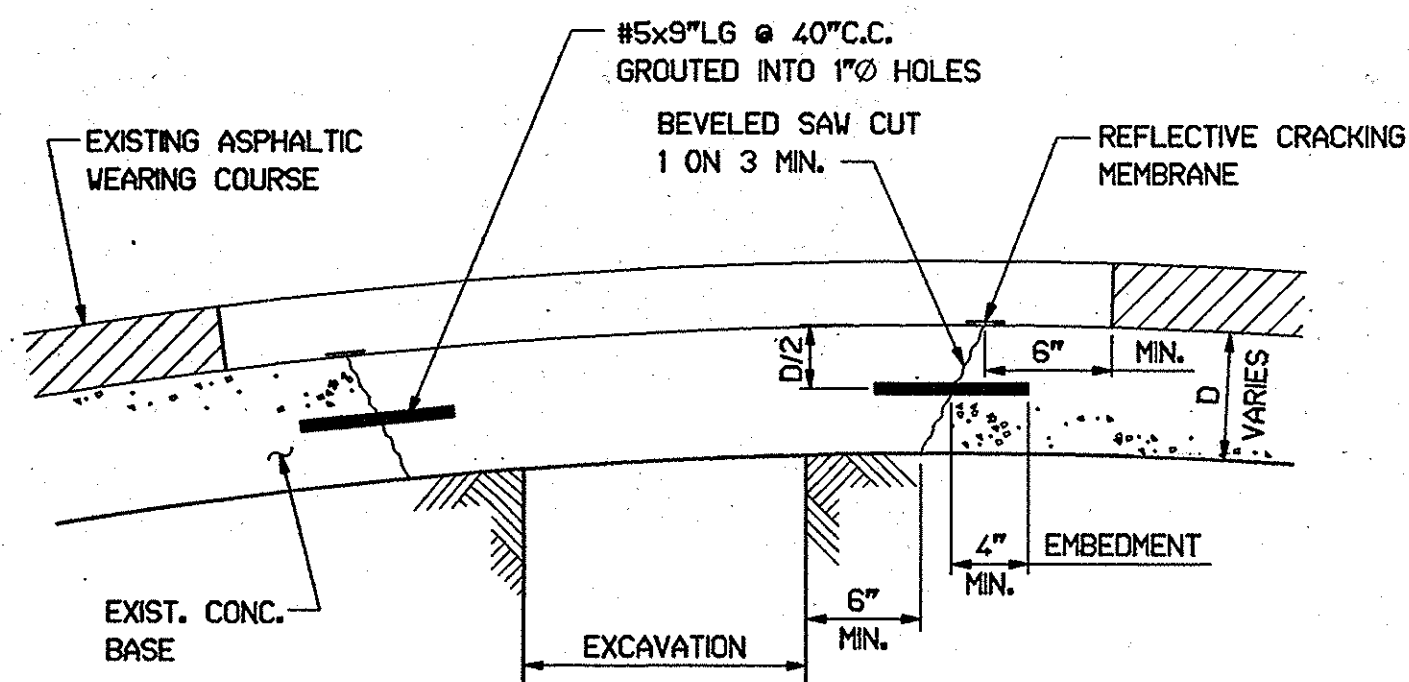
[Signature] P.E.
ASSISTANT COMMISSIONER
[Signature]
DIRECTOR - ENGINEERING MANAGEMENT
[Signature] P.E.
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED

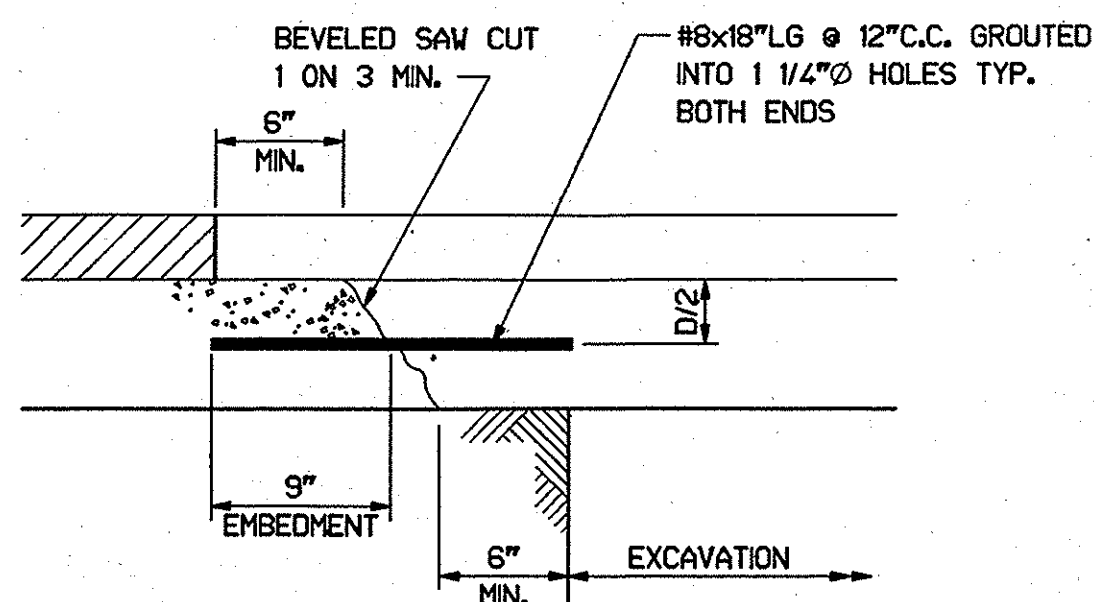
CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
CONCRETE PAVEMENT RESTORATION	
NOT TO SCALE	DATE: 12-9-83 H-1042 B



PLAN



SECTION A-A



SECTION B-B

1. ALL UNDERMINED BASE SHALL BE REMOVED PRIOR TO BACKFILLING.
2. ALL TRENCHES SHALL BE BACKFILLED WITH MATERIAL MEETING BUREAU OF HIGHWAYS STANDARD SPECIFICATIONS, SECTION 4.11.
3. WHEN PLACING FILL OR BACKFILL AROUND PIPES OR OTHER UNDERGROUND FACILITIES, SIX (6") 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 BUREAU OF HIGHWAYS 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 ROADWAY ENGINEERING, 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 D.O.T. BUREAU OF HIGHWAYS, 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, TO DIMENSIONS A MINIMUM OF SIX INCHES GREATER THAN THE EXCAVATION AT THE BASE OF THE BEVEL. ASPHALT SHALL BE REMOVED TO DIMENSIONS SIX INCHES GREATER THAN THE OPENING OF THE CONCRETE BASE AT THE TOP OF THE BEVEL BY SAWCUT AND GRINDING OR PEELING SO AS NOT TO DAMAGE THE CONCRETE BASE.
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 A TACK COAT TO ALL EXPOSED CONCRETE SURFACES BEFORE INSTALLING NEW ASPHALTIC CONCRETE WEARING COURSE.

DRAWN BY
CHECKED BY

[Signature]
COMMISSIONER

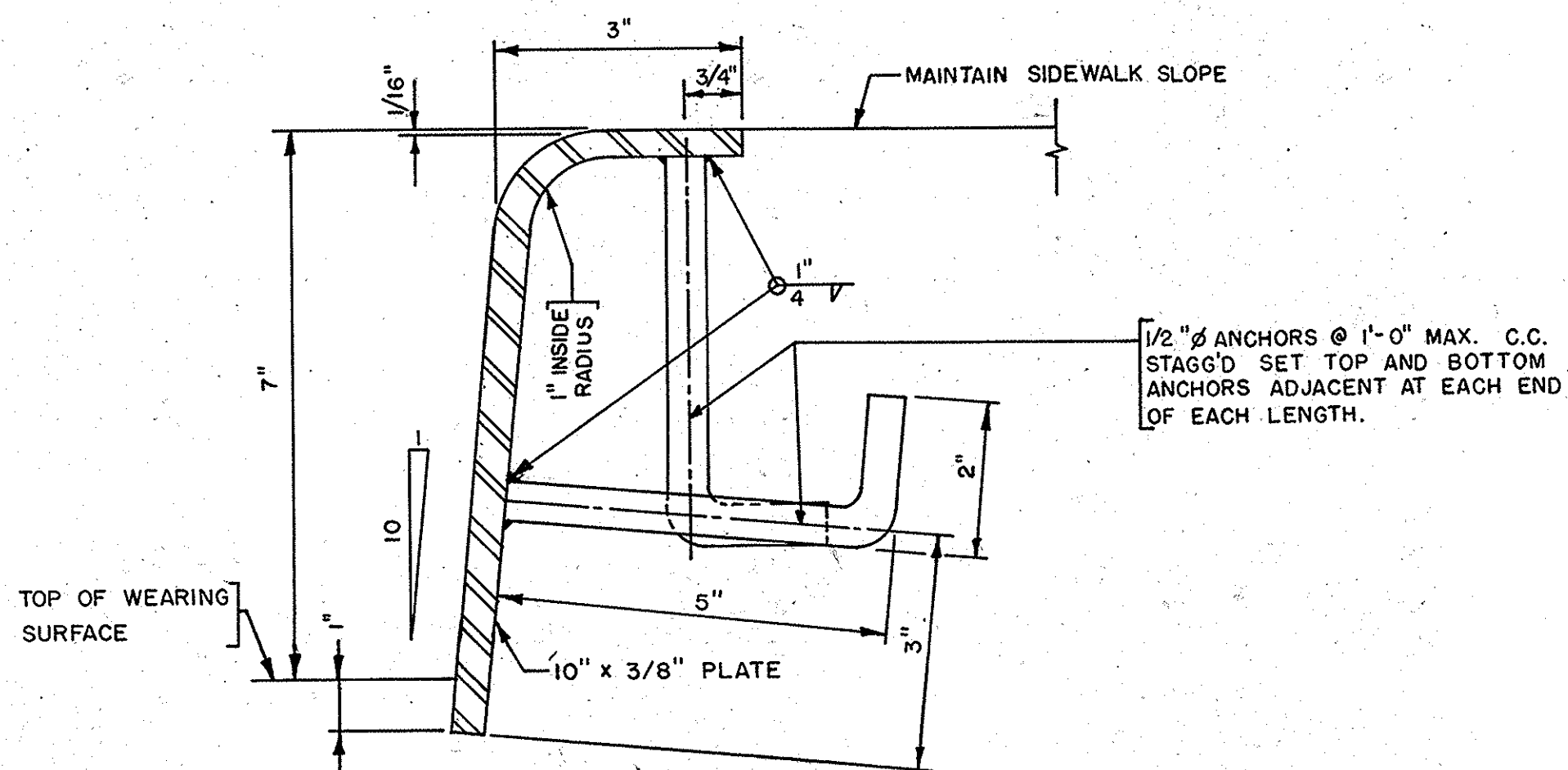
[Signature]
DIR./CHIEF ENGINEER

[Signature] 10/16/94
DIRECTOR ENGINEERING
[Signature] 10/16/94
CHIEF ENGINEER - DESIGN

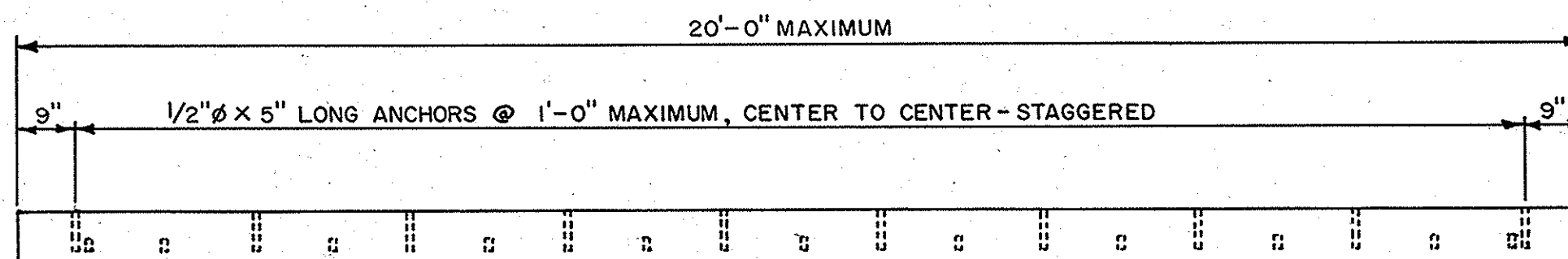
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND ROADWAYS	
ROADWAY RESTORATION FOR NEWLY CONSTRUCTED ROADWAYS	
NOT TO SCALE	DATE: 10/25/94
H-1042C	

DRAWN BY: WILLIAM P. PRAZENKA CHECKED BY: William Prazenka Jr.



DETAIL
NOT TO SCALE



ELEVATION - STEEL FACING FOR BRIDGE DECK CURBS
NOT TO SCALE


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. $\frac{1}{2}$ " ϕ 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 WITH ONE SHOP COAT OF RED LEAD (FEDERAL SPEC. TT-P-86C, CLASS 2).
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.

Thomas H. Yorkham P.E. 9/5/80
DIRECTOR-ENGINEERING MANAGEMENT

Henry C. Sloan, Jr.
ASSISTANT COMMISSIONER

John J. Lopunk
DEPUTY DIRECTOR-ENGINEERING MANAGEMENT


COMMISSIONER



 DEPUTY COMMISSIONER 9/12/86 DEPUTY DIRECTOR-ENGINEERING MANAGER

 CHIEF ENGINEER

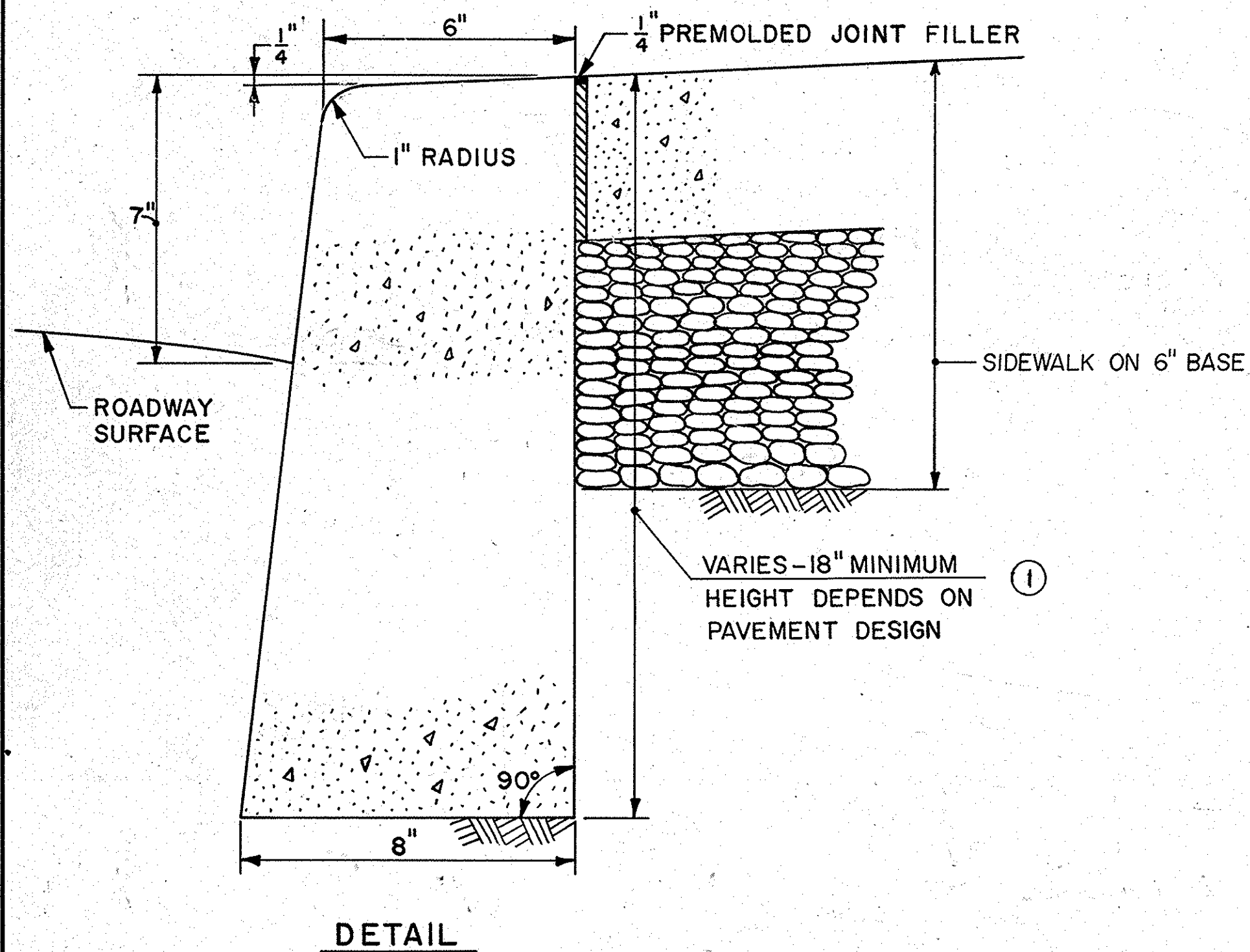
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

STEEL FACED CURB
STEEL FACING TYPE D
FOR STRUCTURES

DATE: 8 / 8 / 80

H-1043

REVISION NO.	DESCRIPTION	DATE	APPROVE

DRAWN BY: FWITTE

NOTES:

I. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION #4.08 OF THE BUREAU OF HIGHWAY OPERATIONS SPECIFICATIONS, LATEST EDITION. AS AMENDED.

Wm. C. Shan, P.E.
ASSISTANT COMMISSIONER

Phonon H. Jackson P.E.
DIRECTOR - ENGINEERING MANAGEMENT

Barney La Graca, P.E.
CHIEF ENGINEER 8/19/84

Anthony R. Domene P.E.
COMMISSIONER


DEPUTY COMMISSIONER

①	HEIGHT CHANGED TO VARIABLE	12/3/84	JLH
REVISION NO.	DESCRIPTION	DATE	APPROVER

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

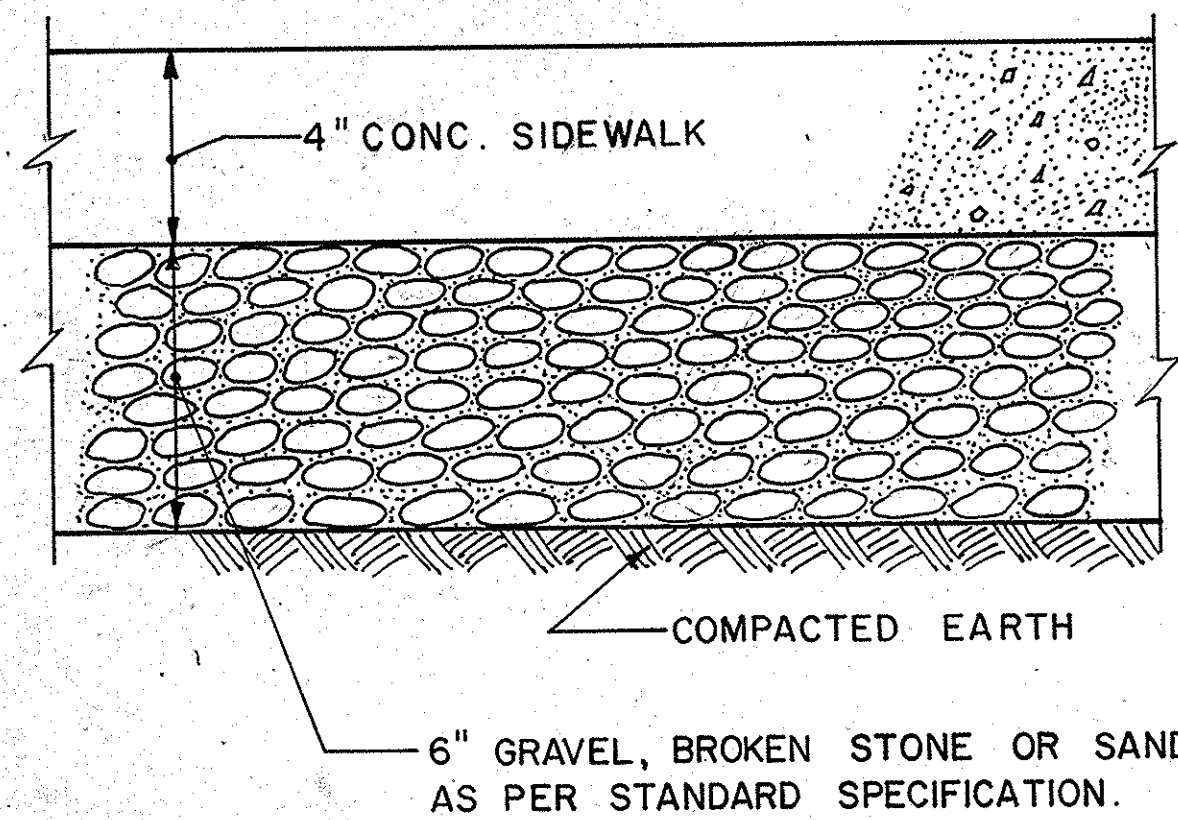
CONCRETE CURB

NOT TO SCALE

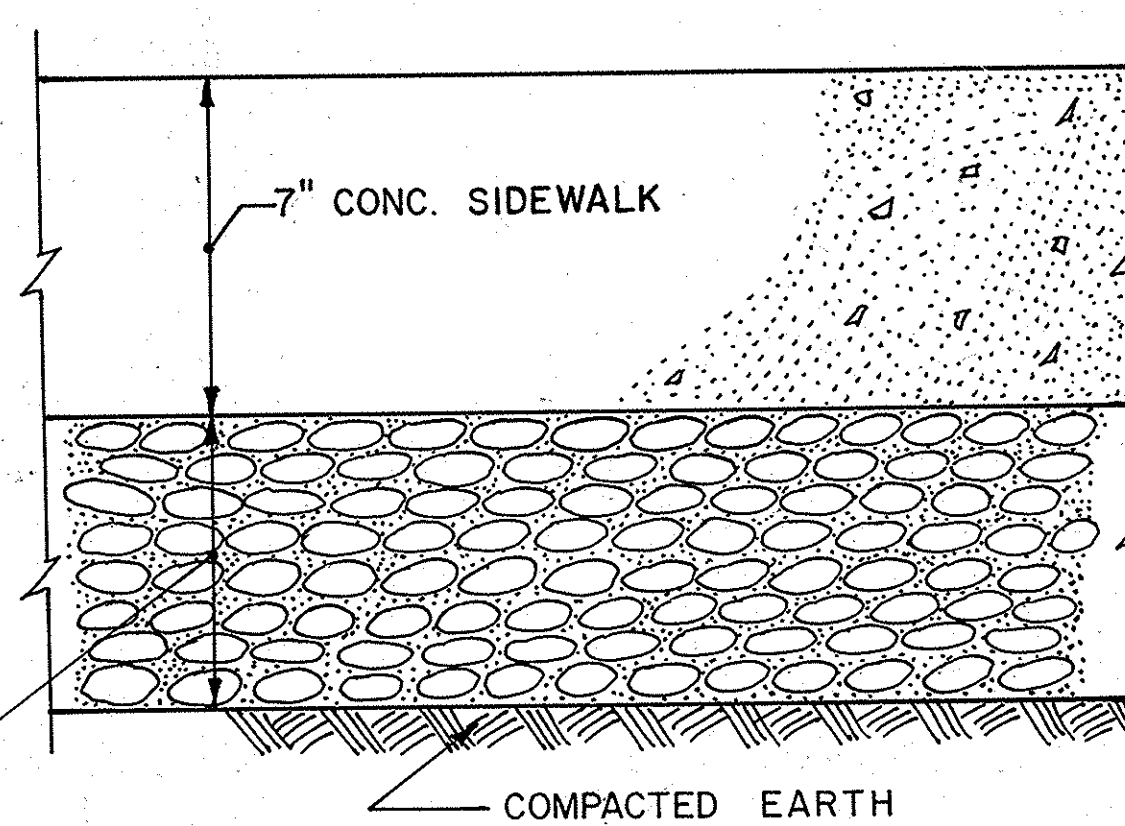
DATE: 10-14-81

H-1044

DRAWN BY: Y. ISAKOV CHECKED BY: S. FRIZALONE



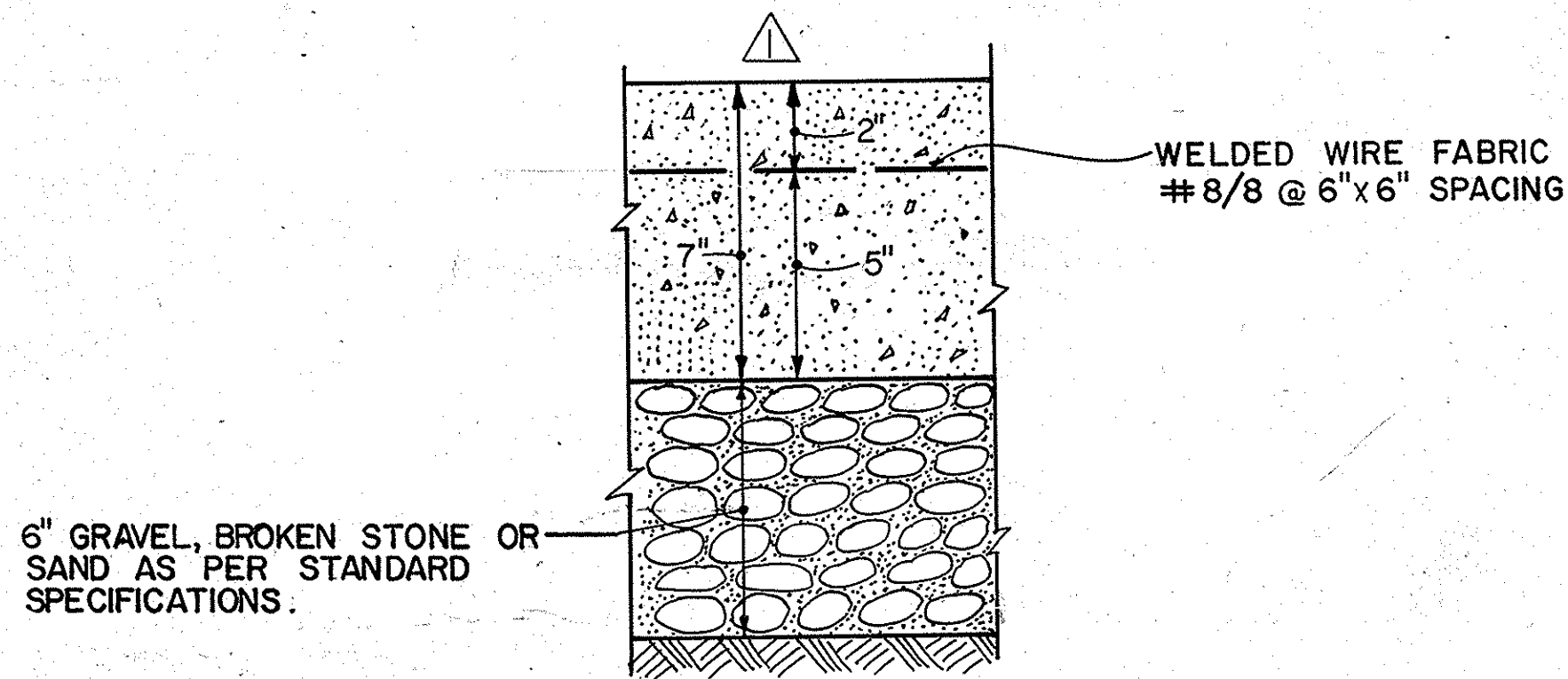
TYPE I - SIDEWALK, OUTSIDE DRIVEWAY



TYPE II - SIDEWALK, IN DRIVEWAY

NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION # 4.13 OF THE BUREAU OF HIGHWAY OPERATIONS STANDARD SPECIFICATIONS, LATEST EDITION.
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 BUREAU OF HIGHWAY OPERATIONS SPECIFICATIONS, LATEST EDITION.



TYPE III - SIDEWALK WITH WELDED WIRE FABRIC

Anthony R. Amato, P.E.
COMMISSIONER

Henry J. Lillman, P.E.
DEPUTY COMMISSIONER

Thomas H. Mackham, P.E.
DIRECTOR-ENGINEERING MANAGEMENT

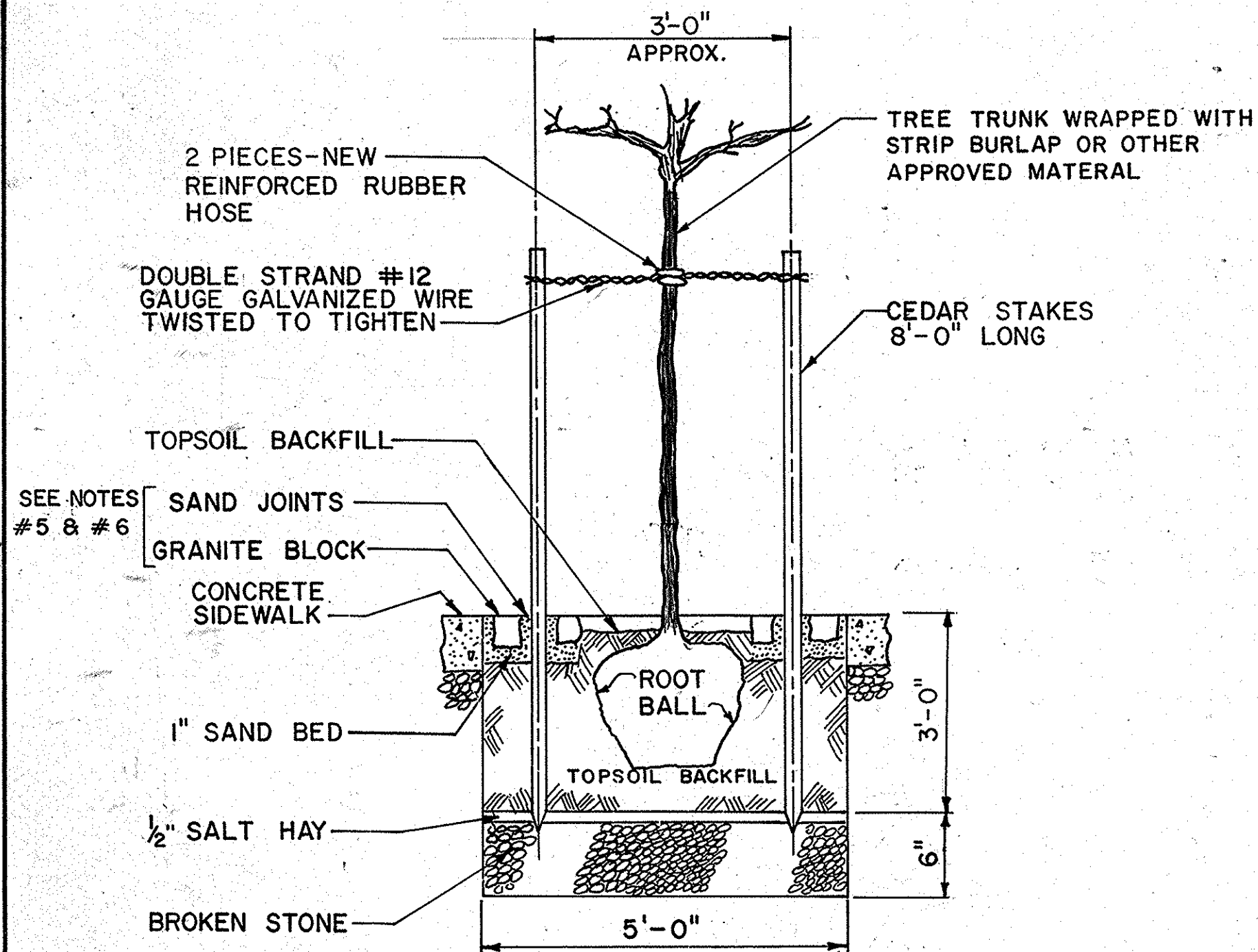
Barney La Grasso, P.E.
CHIEF ENGINEER

Harry C. Sloan, P.E.
ASSISTANT COMMISSIONER

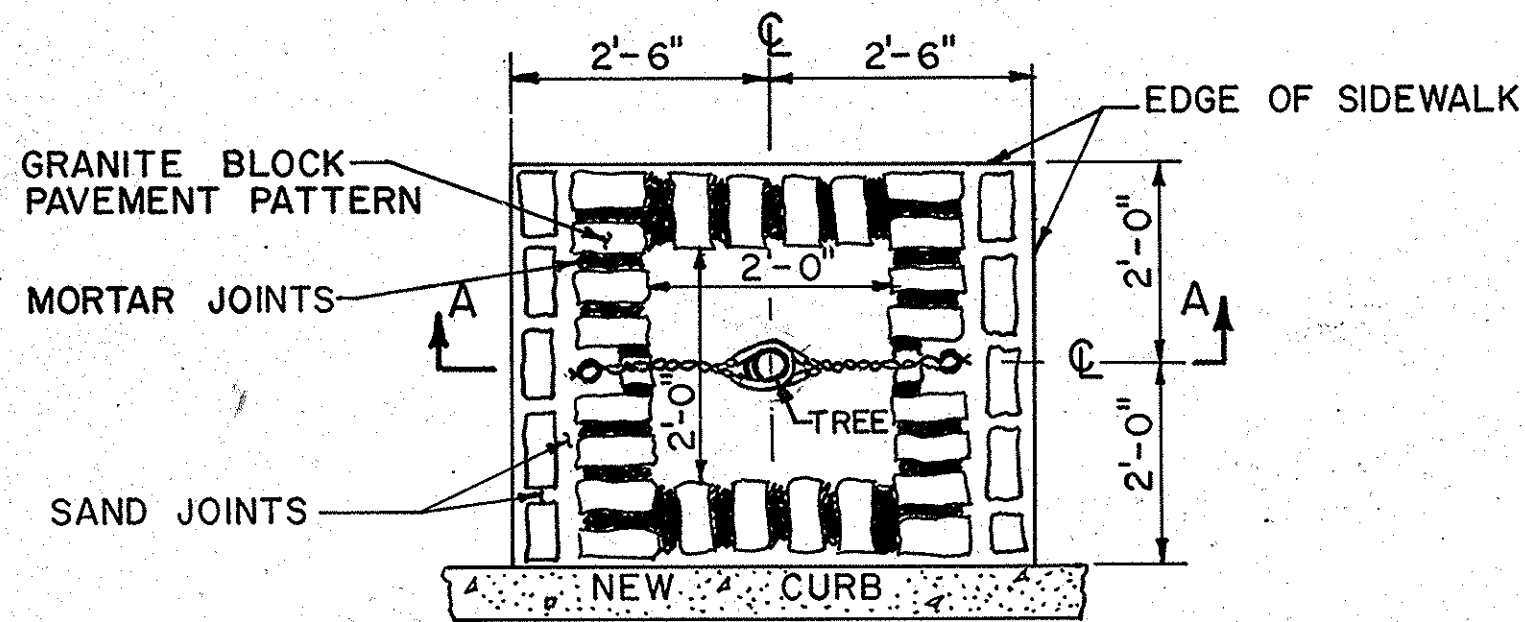
REVISION NO.	DESCRIPTION	DATE	APPROVED
1	DEMENSIONS REVISED TO 2" & 5"	5-5-83	J.L.H.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
CONCRETE SIDEWALK	
NOT TO SCALE	DATE: 10-14-81 H-1045

DRAWN BY: Y. I. SAKOV. CHECKED BY: G. J. F.

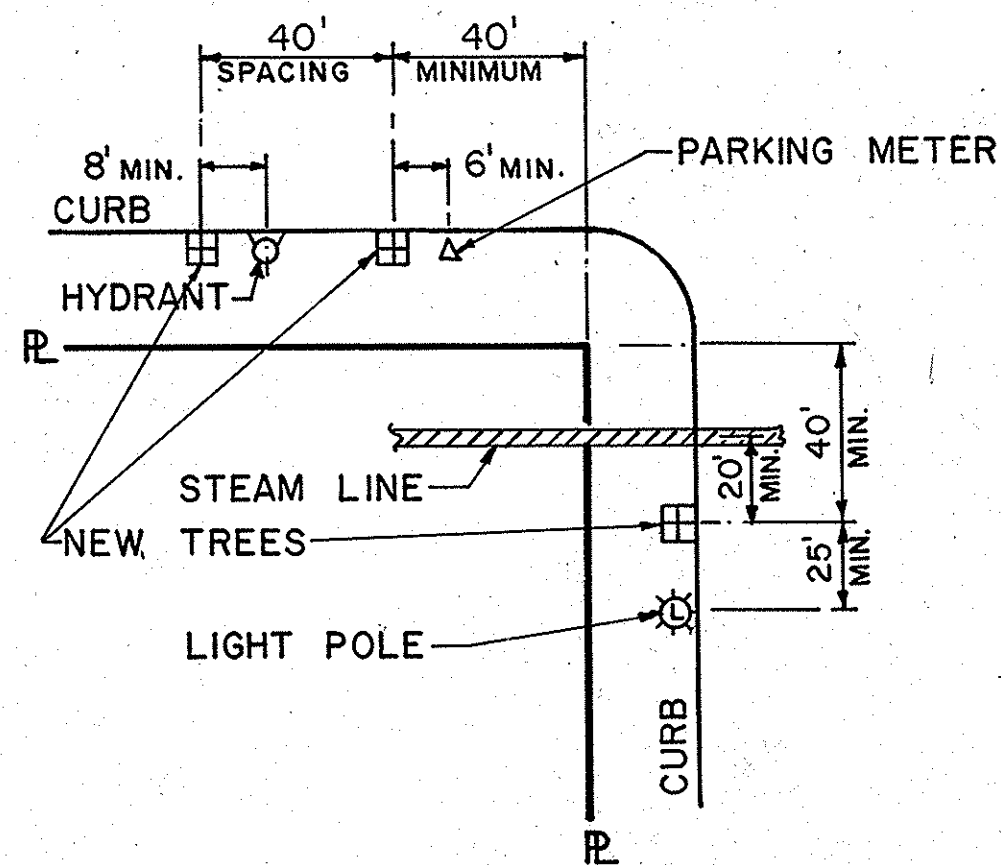


SECTION A-A



PLAN

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



REQUIRED STREET TREE SPACING

NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION # 4.16 OF THE BUREAU OF HIGHWAY OPERATIONS 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 THE BUREAU OF HIGHWAY OPERATIONS.
6. GRANITE BLOCK IN TREE PIT SHALL BE PAID FOR UNDER ITEM NO. 6.06.

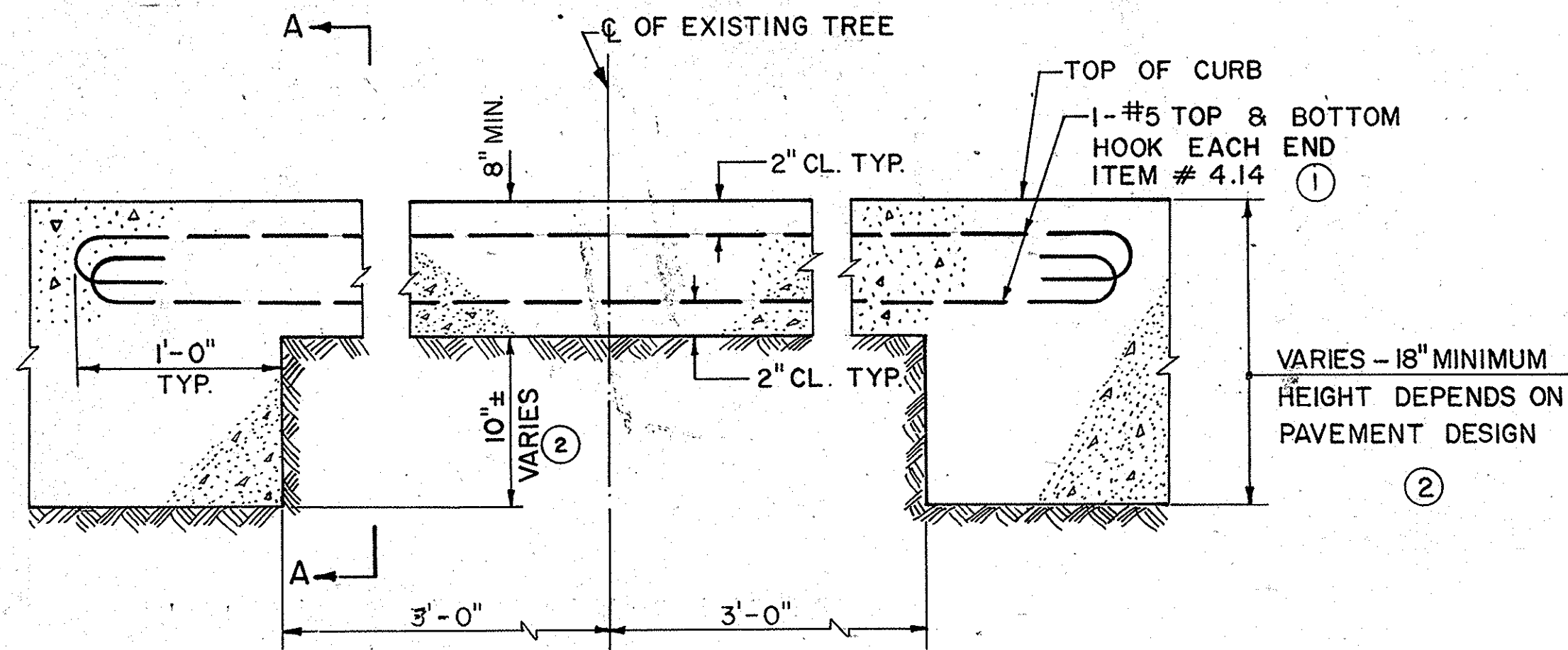
Robert J. Simon PE *Henry C. Shan* PE
COMMISSIONER DEPUTY COMMISSIONER

Thomas H. McMahon P.E. 7/24
DIRECTOR-ENGINEERING MANAGEMENT
Barney de Gues P.E. 8/21/81
CHIEF ENGINEER
Henry C. Shan P.E.
ASSISTANT COMMISSIONER

REVISION NO.	DESCRIPTION	DATE	APPROVED
2	Remove metal sleeve	8/1/81	3/10/82
1	Add pay item for granite block	8/1/81	3/10/82

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
STREET TREE PLANTING DETAIL TYPE I	
NOT TO SCALE	DATE: 8-23-81 H-1046

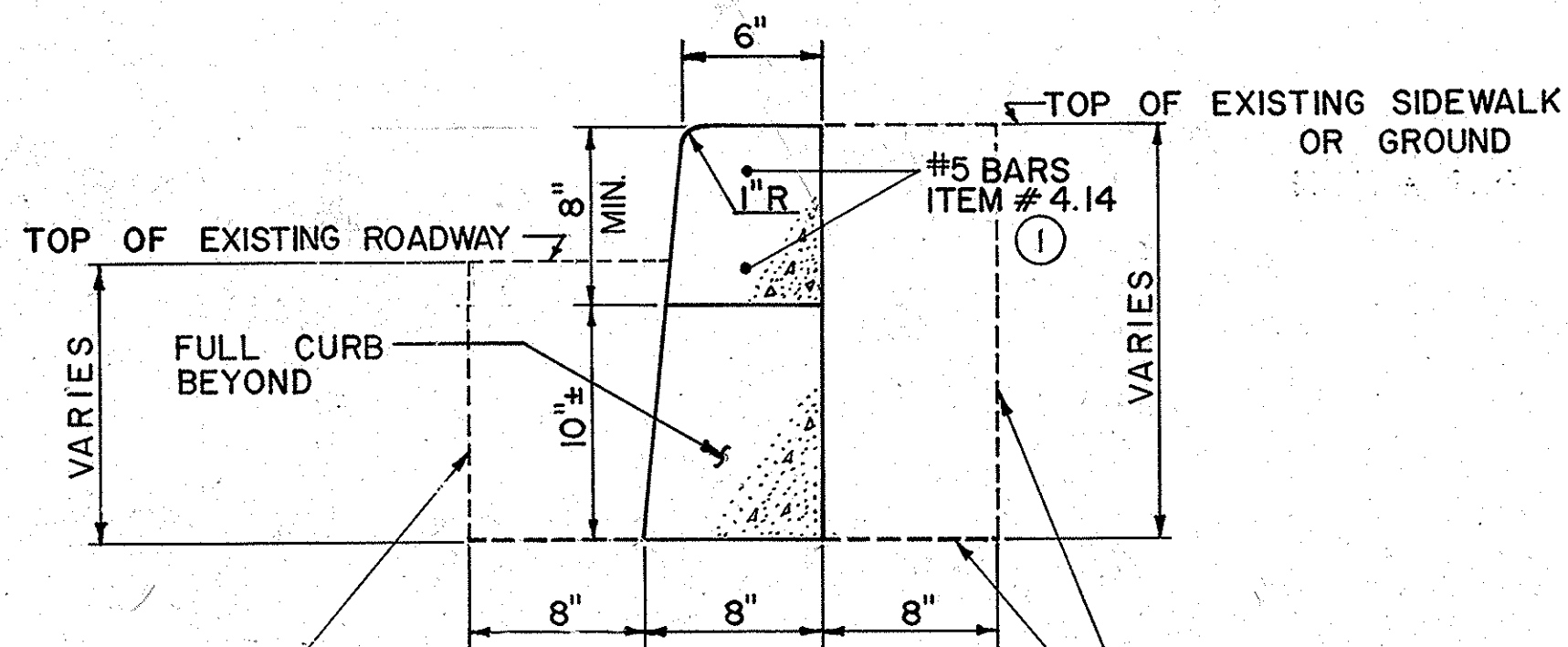
DRAWN BY: Y. ISAKOV CHECKED BY: FIVE



TYPICAL CURB DETAIL
AT EXISTING TREES

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(1)(3)
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 STANDARD SPECIFICATIONS LATEST EDITION, AS AMENDED.



LIMITS OF HAND EXCAVATION
ITEM # 8.02 B(1)(3)

SECTION A-A

Andrew D. Amaro, P.E.
COMMISSIONER

Henry C. Feltner, P.E.
DEPUTY COMMISSIONER

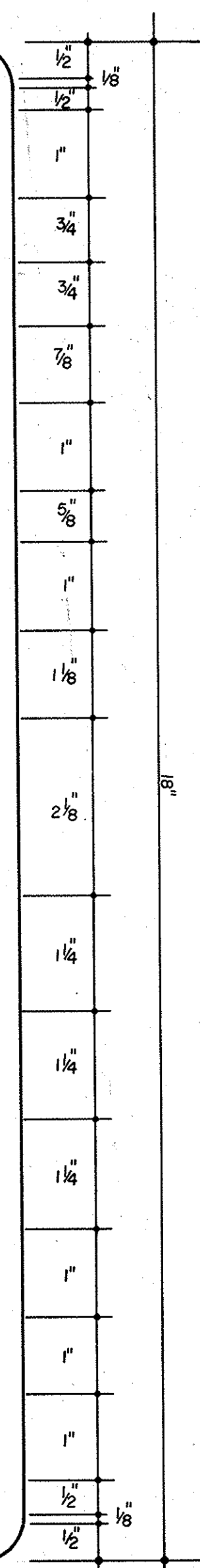
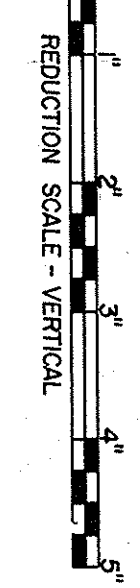
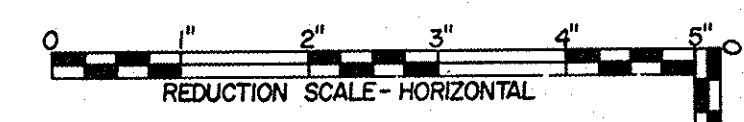
Thomas V. Muchman, P.E.
DIRECTOR-ENGINEERING MANAGEMENT
Barney La Grana, P.E.
CHIEF ENGINEER 8/21/81

Henry C. Shan, P.E.
ASSISTANT COMMISSIONER

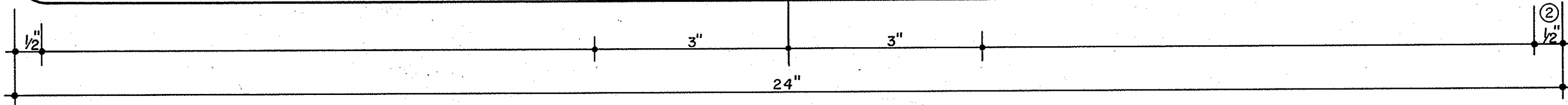
③	# 6.02 AB CHANGED TO # 8.02 B	11/14/95	W.A.Z.
②	HEIGHT CHANGED TO VARIABLE	12/3/84	JLH
①	ADD ITEM NOS. FOR HAND EXCAVATION & # 5 BAR	3/12/82	JLH
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
TYPICAL CURB DETAIL AT EXISTING TREES	
SCALE: 1/2" = 1'-0"	DATE: 8-30-81 H-1047

**CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
STREET IMPROVEMENT
PROJECT
TO BEGIN SOON
ON THIS STREET
FOR INFORMATION CALL
566-1632, 3633**



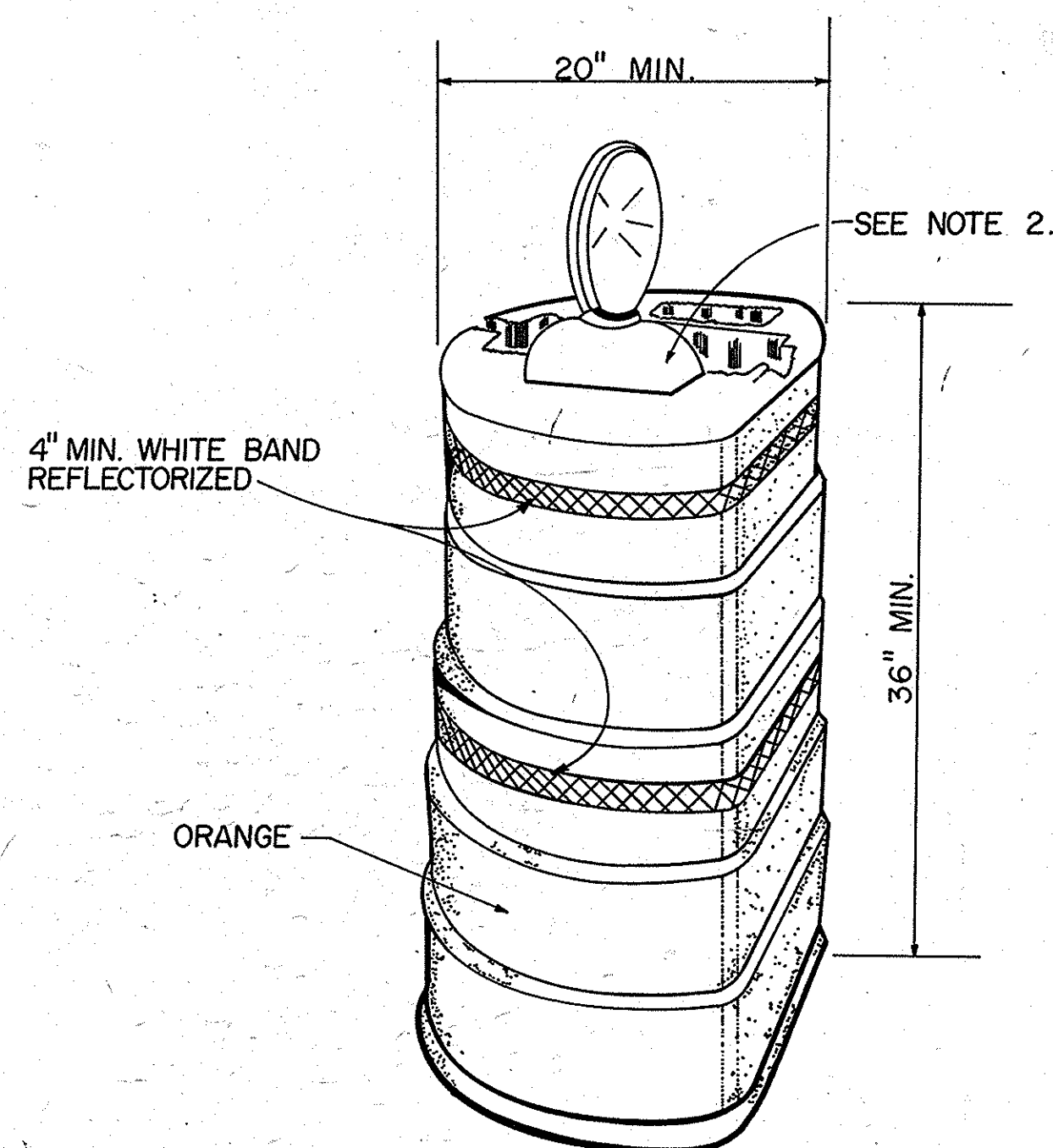
- NOTES:
- 1. SIGN BLANK SHALL BE 24"x18" ALUMINUM PLATE.
 - 2. BACKGROUND SHALL BE GLOSS ENAMEL ORANGE, FEDERAL NUMBER 22510.
 - 3. LETTERS AND BORDER SHALL BE BLACK AND APPLIED FROM SILK SCREEN IN GLOSS ENAMEL SIGN PAINT AS SHOWN HEREIN.
 - 4. MOUNTING HARDWARE SHALL BE AS DESCRIBED IN SPECIFICATION AND OR AS APPROVED BY THE ENGINEER.
 - 5. REFER TO SPECIFICATIONS FOR MATERIALS, MOUNTING, AND OTHER REQUIREMENTS.
 - ③ 6. 6 (SIX) HOLES 11/32" DIAMETER. (TYP)



Anthony R. Amore P.E. *Henry J. Feltner* P.E. *Henry C. Shann* P.E. *Thomas H. McMillan* P.E. *Barney La Graca* P.E.
COMMISSIONER DEPUTY COMMISSIONER ASSISTANT COMMISSIONER DIRECTOR - ENGINEERING MANAGEMENT CHIEF ENGINEER
12/782

3	ADDED NOTE NO. 6	12-27-82	BLG
2	ADDED BORDERS	"	"
1	ROUNDED CORNERS	"	"
REVISION NO.	DESCRIPTION	DATE	APPROVED

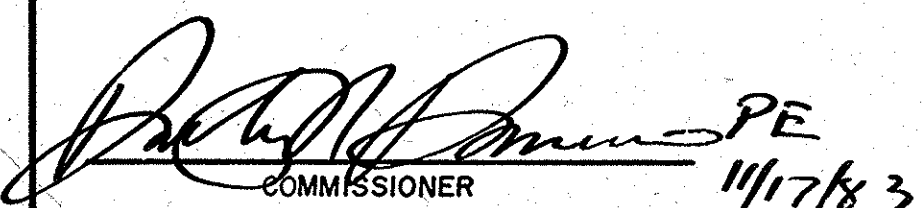
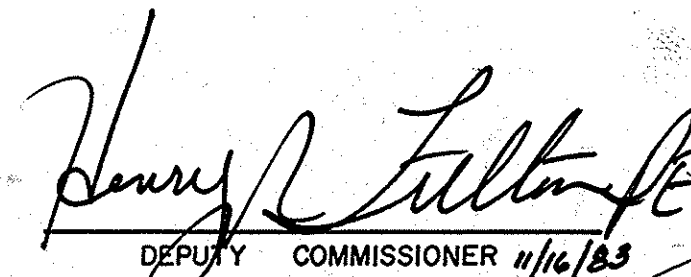

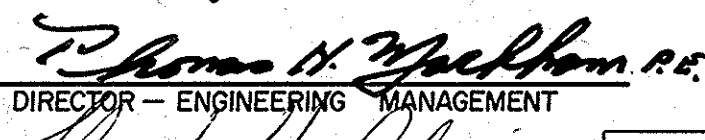
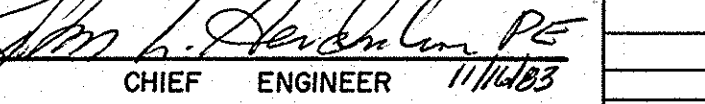
CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
PROJECT NOTIFICATION SIGN TYPE-A	
SCALE: FULL SCALE (REDUCTION SCALE ABOVE)	DATE: 12-2-82 H-1048



PLASTIC BARREL

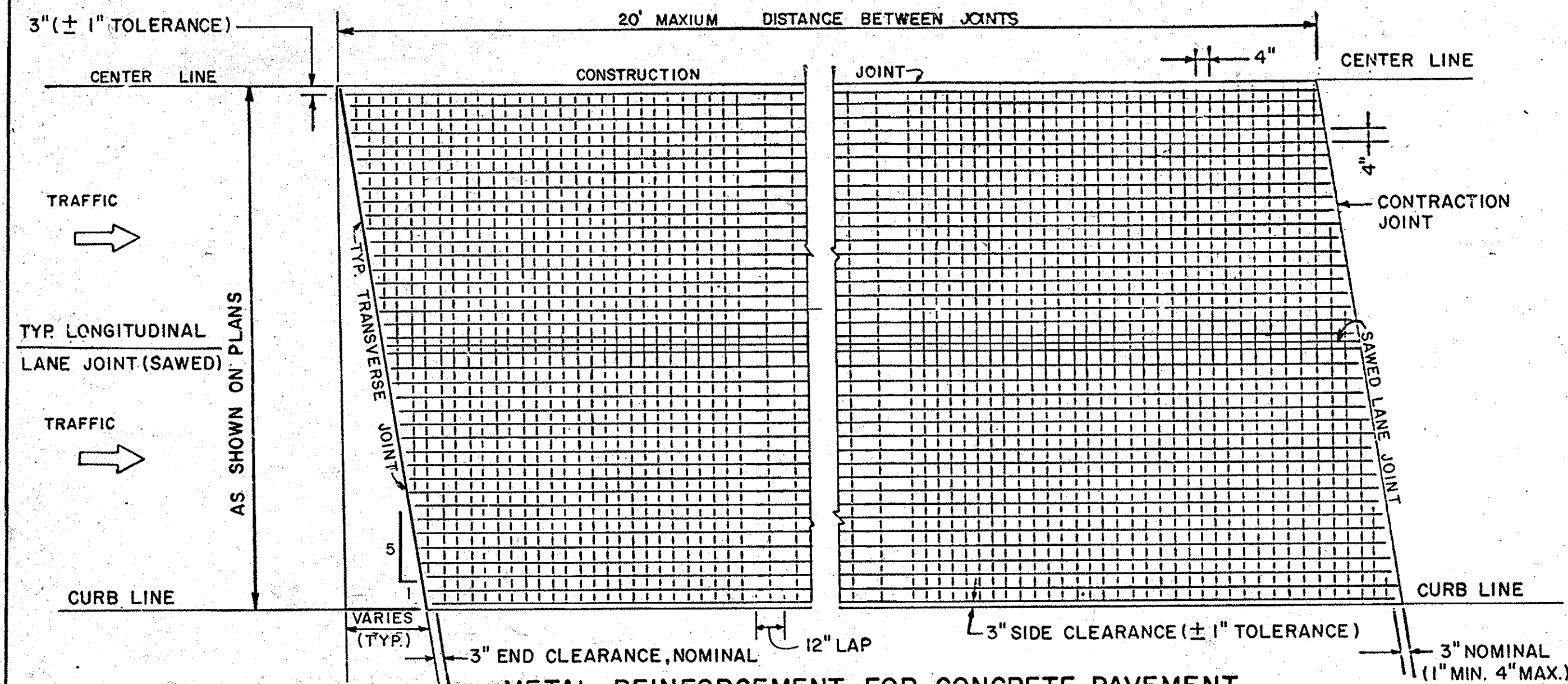
NOTES:

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.

 **COMMISSIONER** *PE 11/17/83*
 **DEPUTY COMMISSIONER** *11/16/83*
 **ASSISTANT COMMISSIONER**
 **DIRECTOR - ENGINEERING MANAGEMENT**
 **CHIEF ENGINEER** *11/16/83*

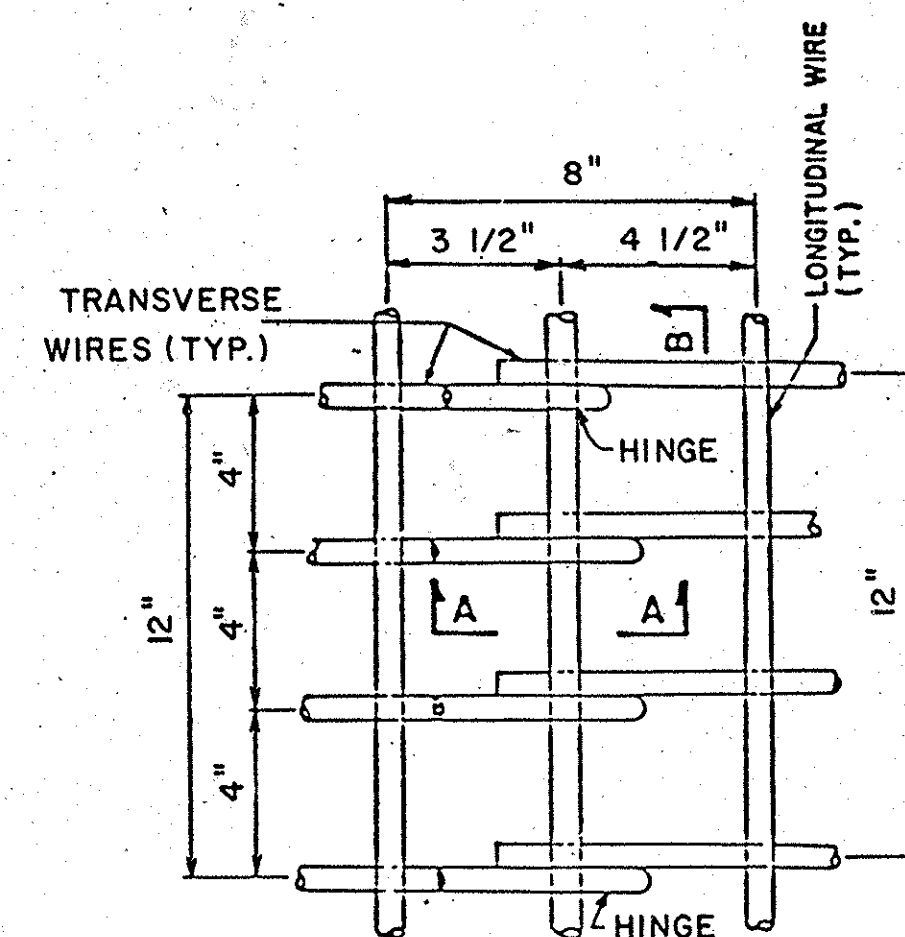
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
PLASTIC BARREL ITEM # 6.87	
NOT TO SCALE	DATE: 11-17-83 H-1049

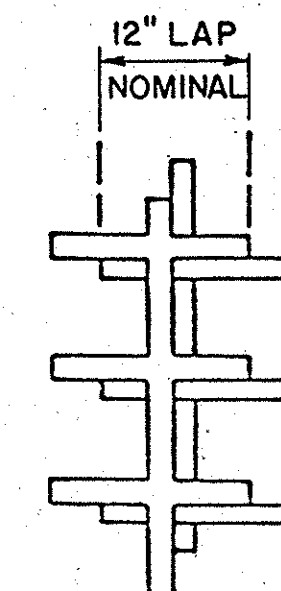


METAL REINFORCEMENT FOR CONCRETE PAVEMENT

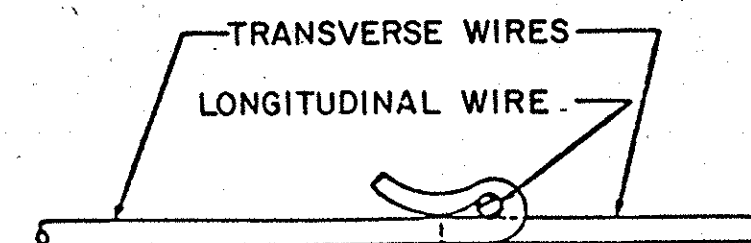
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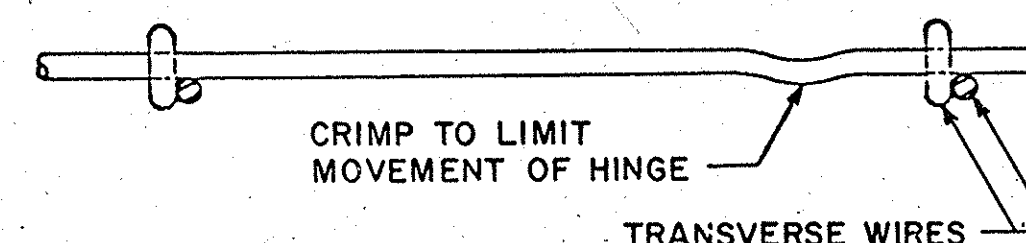
HINGE DETAIL
NOT TO SCALE



LAP DETAIL
NOT TO SCALE



SECTION A-A



SECTION B-B

GENERAL NOTES

1. WELDED WIRE FABRIC SHALL MEET THE REQUIREMENTS OF ASTM A-185.
2. WELDED WIRE FABRIC SHALL BE # 44-44.
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 IN AN APPROVED MANNER AT A NOMINAL DEPTH OF 3 INCHES BELOW THE TOP SURFACE. THE MINIMUM ALLOWABLE DEPTH SHALL BE SUCH THAT 2 INCHES OF CONCRETE COVER IS PROVIDED. THE MAXIMUM ALLOWABLE DEPTH SHALL BE 3 1/2" BELOW THE SURFACE.
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

Barney La. Green
ASSISTANT COMMISSIONER

Thomas H. Macblain P.E. 9/17/85
DIRECTOR-ENGINEERING MANAGEMENT

Barney La. Green 9/16/85
CHIEF ENGINEER

Barney La. Green P.E.
COMMISSIONER

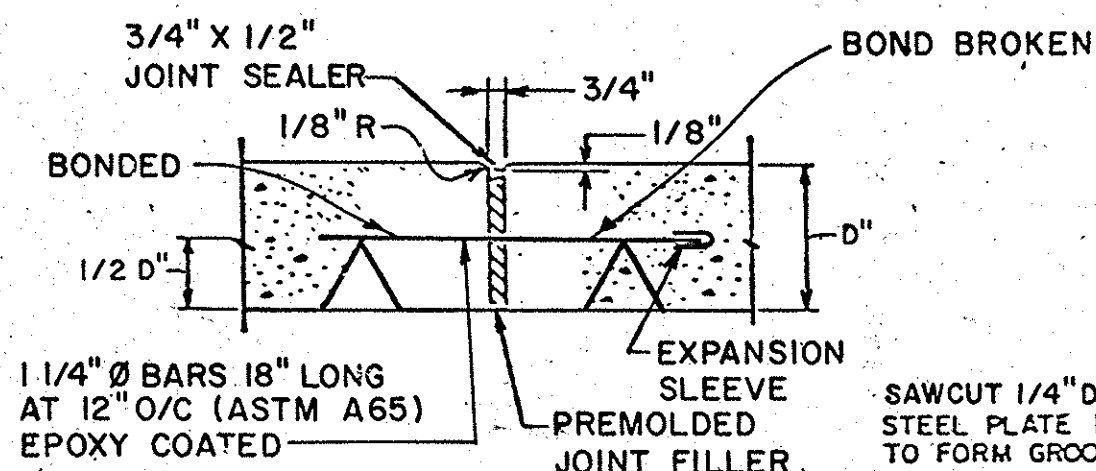
Henry J. Lillie
DEPUTY COMMISSIONER 10/1/85

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
REINFORCED CONCRETE PAVEMENT CONSTRUCTION DETAILS	
NOT TO SCALE	DATE: 10/10/85 H-1050 SH. 1 OF 4

①	SEE REVISION ON SHEET # 4	1-4-89 J.L.H.
REVISION NO.	DESCRIPTION	DATE APPROVED

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 CURBLINES AND THE SURFACE OF THE SLAB. TOLERANCE OF THIS PLACEMENT SHALL BE $\pm 1/4$ 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 IN 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.

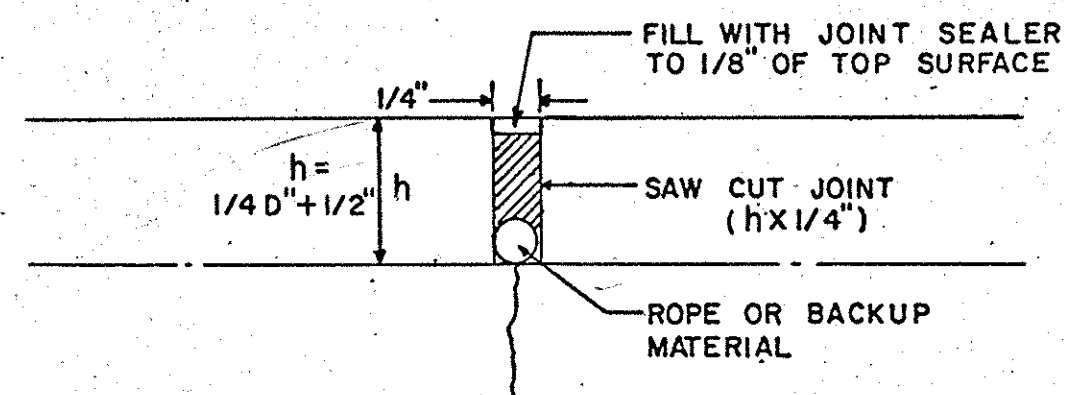


DETAIL OF EXPANSION JOINT

NOT TO SCALE

NOTE:

METAL REINFORCEMENT IS NOT SHOWN ON JOINT DETAILS.

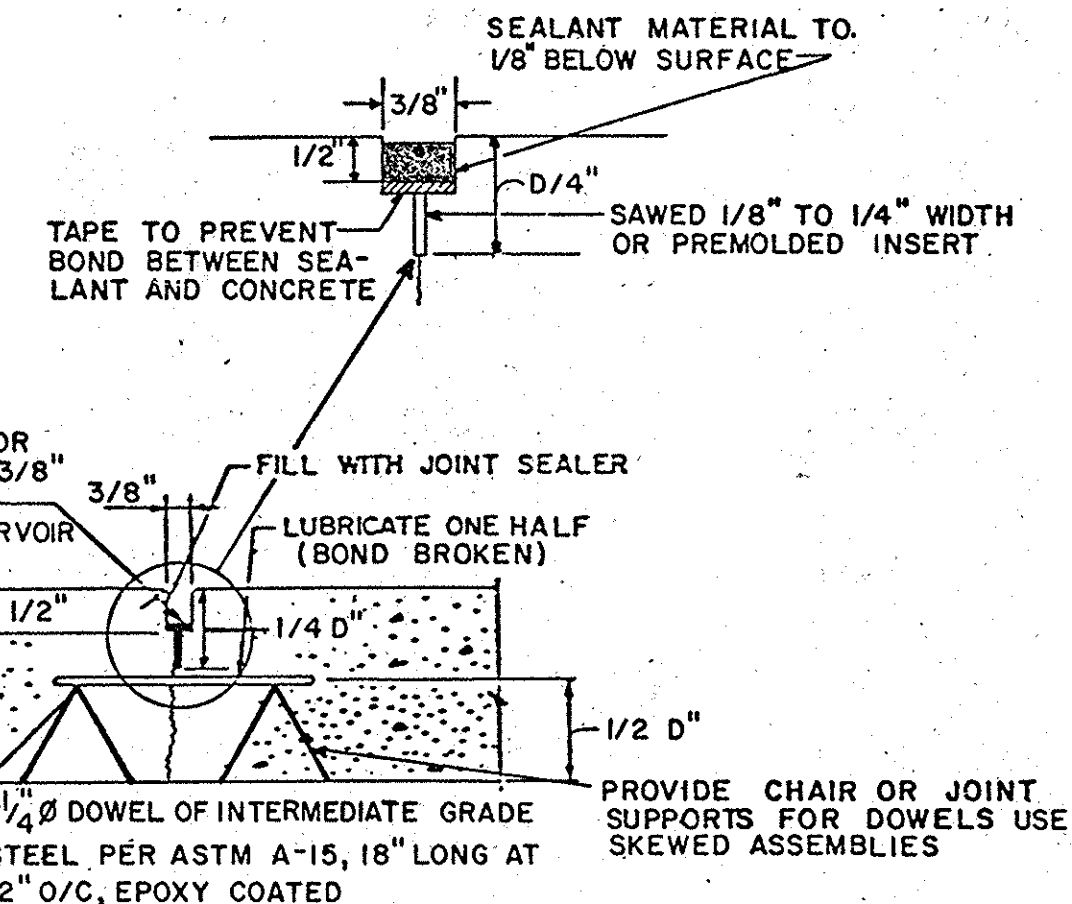


SAWED LANE JOINT

NOT TO SCALE

NOTE:

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

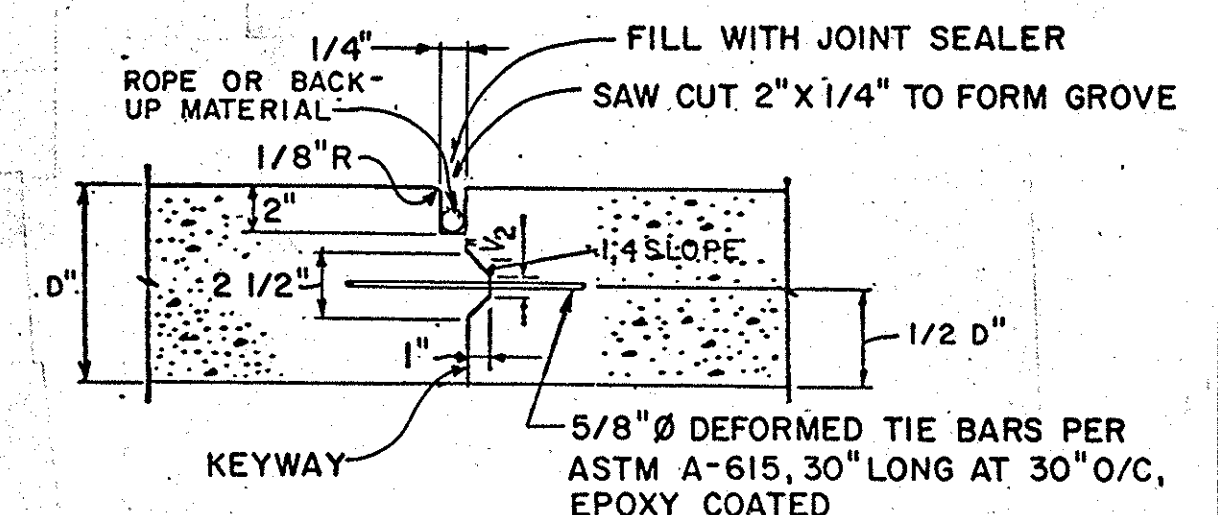


TYPICAL SECTION FOR TRANSVERSE CONTRACTION JOINTS

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 REDUCED 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



TYPICAL SECTION FOR TRANSVERSE AND LONGITUDINAL CONSTRUCTION JOINTS

NOT TO SCALE

[Signature]
ASSISTANT COMMISSIONER

Thomas H. Mackham P.E. 9/17/85
DIRECTOR-ENGINEERING MANAGEMENT

Barnes De Groot 9/16/85
CHIEF ENGINEER

[Signature] P.E.
COMMISSIONER

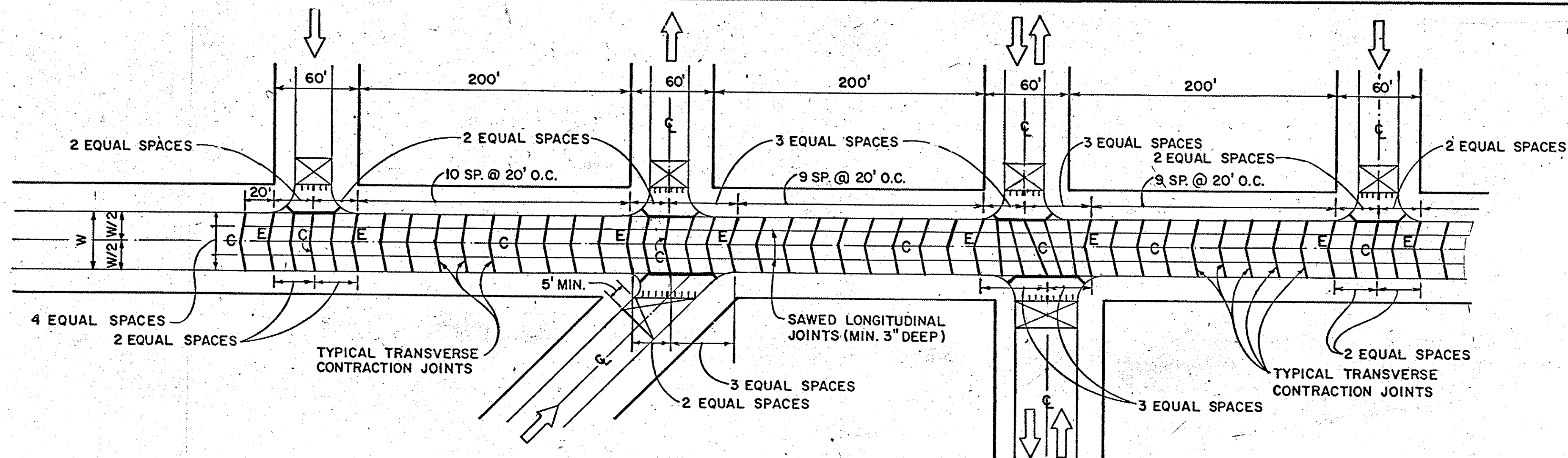
[Signature]
DEPUTY COMMISSIONER 10/7/85

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

REINFORCED CONCRETE PAVEMENT
CONSTRUCTION DETAILS

NOT TO SCALE
DATE: 10/10/85
H-1050 SH.2 OF 4

REVISION NO.	DESCRIPTION	DATE	APPROVED
①	SEE REVISION ON SHEET #4	1-4-89	J.L.H.



TYPICAL JOINT LAYOUT

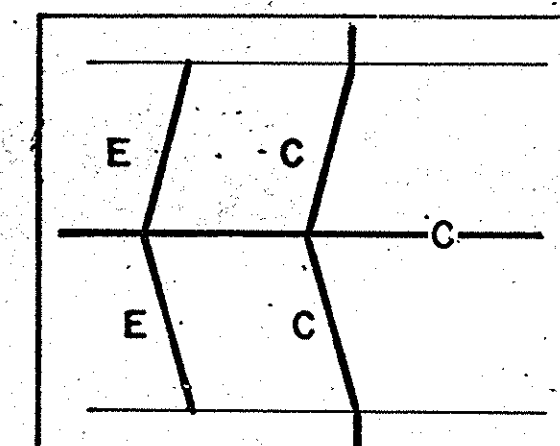
(SEE GENERAL NOTE #14)

TRANSVERSE JOINT NOTES

- 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.
- TRANSVERSE CONTRACTION JOINTS SHALL BE SKEWED JOINTS WITH A MAXIMUM SPACING OF 20 FEET AND A MINIMUM SPACING OF 15 FEET.
- TRANSVERSE JOINTS SHALL BE ALIGNED TO COINCIDE WITH THE JOINTS IN THE ADJACENT CURBS WHERE PRACTICAL.
- TRANSVERSE JOINTS ARE TO BE SAWED TO A DEPTH OF $1/4 D$ ". 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.
- 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.
- PRIOR TO SEALING, THE JOINT SURFACES MUST BE CLEAN AND FREE OF CURING COMPOUND RESIDUE, LAITANCE, AND ANY OTHER FOREIGN MATERIAL.
- FIELD MOLDED SEALANTS MEETING AASHTO M173 AND/OR ASTM D1190 OR ASTM D1850 OR AN APPROVED EQUAL ARE TO BE PLACED AS PER MANUFACTURERS RECOMMENDATIONS.
- 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 $\pm 1/16$ INCH.
- IF THE CONTRACTOR ELECTS TO USE PREFORMED SEALANTS THEY ARE TO MEET THE SPECIFICATIONS FOR AASHTO M220 AND/OR ASTM D2628. 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.
- 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.
- TRANSVERSE CONSTRUCTION JOINTS FALLING AT PLANNED LOCATIONS FOR CONTRACTION OR EXPANSION JOINTS ARE TO BE BUILT AND SEALED TO CONFIRM WITH THE SPECIFICATIONS FOR THOSE JOINTS.

LONGITUDINAL JOINT NOTES

- LANE JOINTS ARE TO BE SAWED JOINTS ($1/4"$ WIDE $\times 1/4 D + 1/2"$). TIE BARS WILL NOT BE REQUIRED BUT A SEALANT RESERVOIR SIMILAR TO THOSE USED FOR THE TRANSVERSE CONTRACTION JOINTS MUST BE INSTALLED.
- 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.
- TIE BARS SHALL BE RIGIDLY SECURED BY CHAIRS OR OTHER APPROVED SUPPORTS TO PREVENT DISPLACEMENT.
- TIE BARS SHALL NOT BE COATED WITH ANY MATERIALS DELETERIOUS TO BOND.
- LONGITUDINAL JOINTS SHALL BE AT LEAST $1/4 D + 1/2"$ AND $1/4"$ WIDE.
- AFTER SAWING, THE JOINTS ARE TO BE FLUSHED OUT, DRIED AND SEALED TO ELIMINATE A SECOND CLEANING.
- 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 AMOUNT OF SEALANT REQUIRED.
- JOINTS ARE TO BE FILLED TO $1/8"$ BELOW FLUSH WITH THE PAVEMENT SURFACE $\pm 1/16$ INCH.
- 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

[Signature]
ASSISTANT COMMISSIONER

[Signature] P.E. 9/17/85
DIRECTOR-ENGINEERING MANAGEMENT

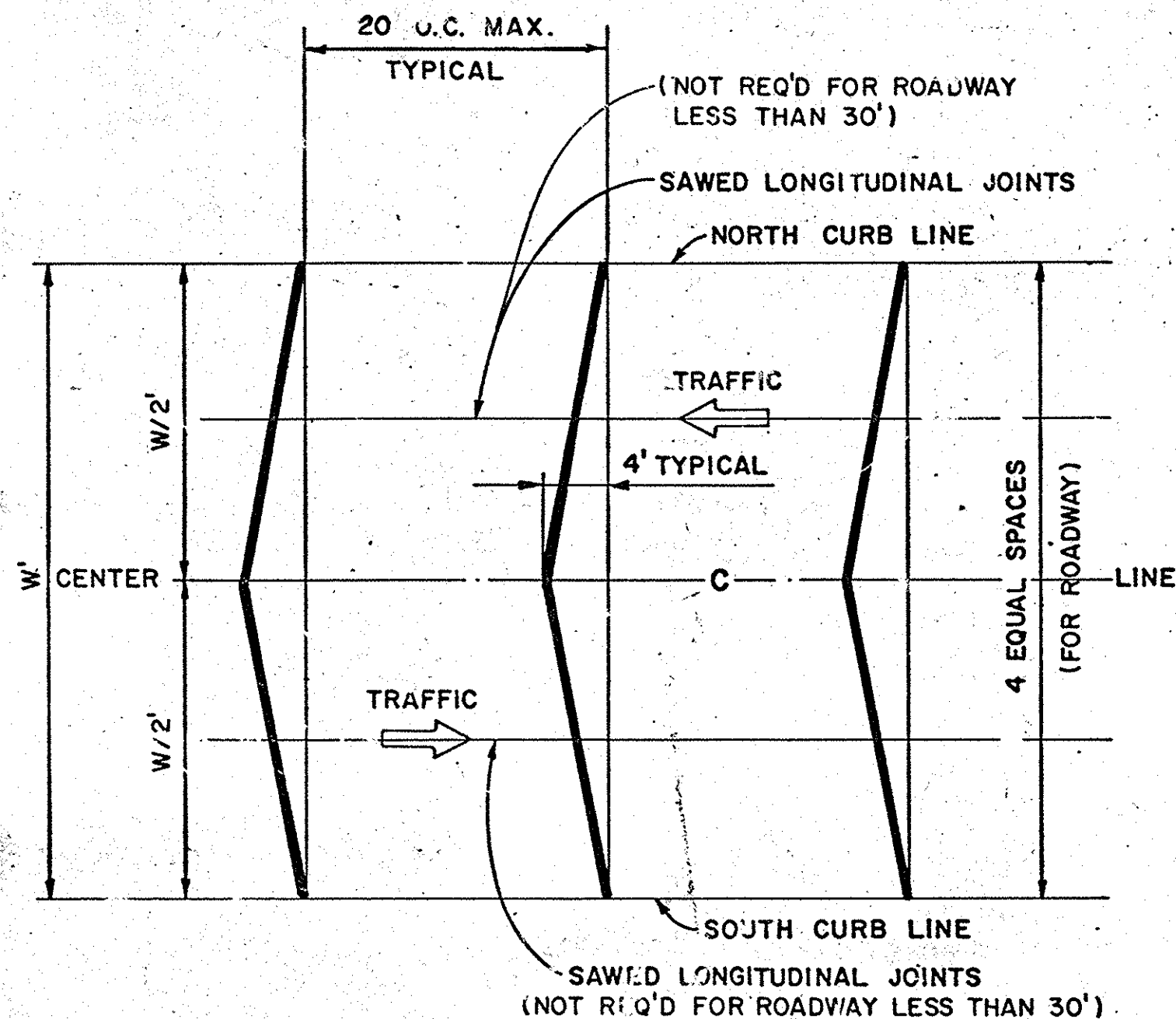
[Signature] 9/16/85
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED
①	SEE REVISION ON SHEET #4	1-4-89	J.L.H.

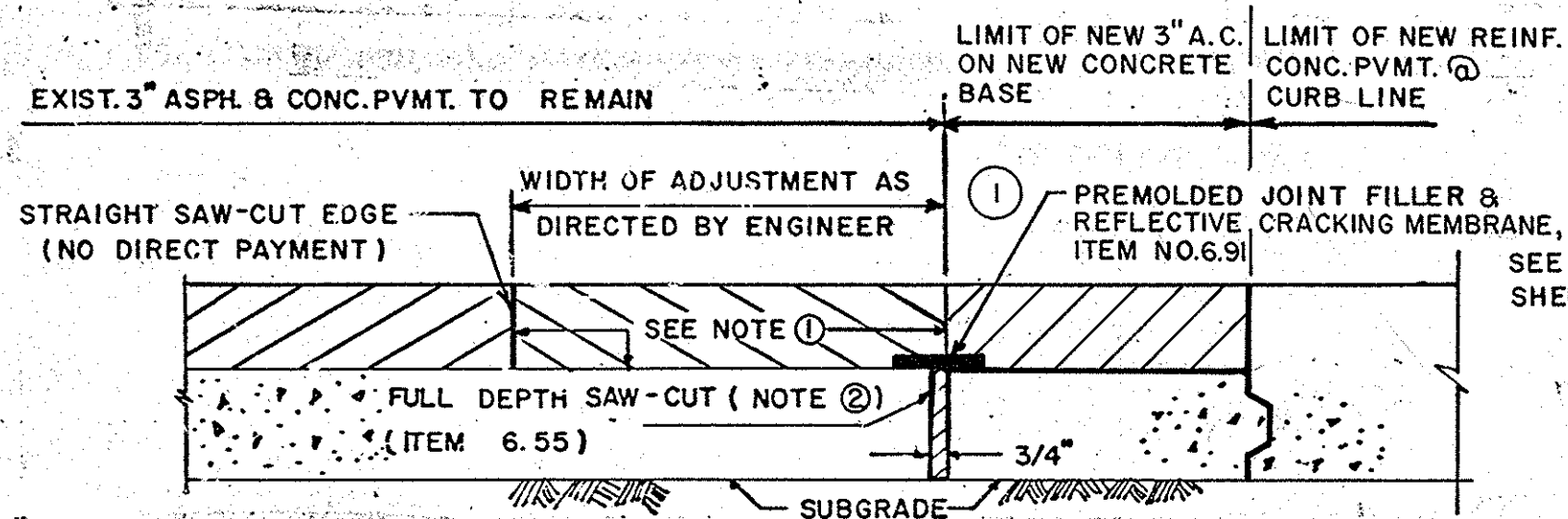
CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
REINFORCED CONCRETE PAVEMENT CONSTRUCTION DETAILS	
NOT TO SCALE	DATE: 10/10/85
	H-1050 SH. 3 OF 4

[Signature] P.E.
COMMISSIONER

[Signature] 10/7/85
DEPUTY COMMISSIONER



TYPICAL TRANSVERSE JOINT DETAIL

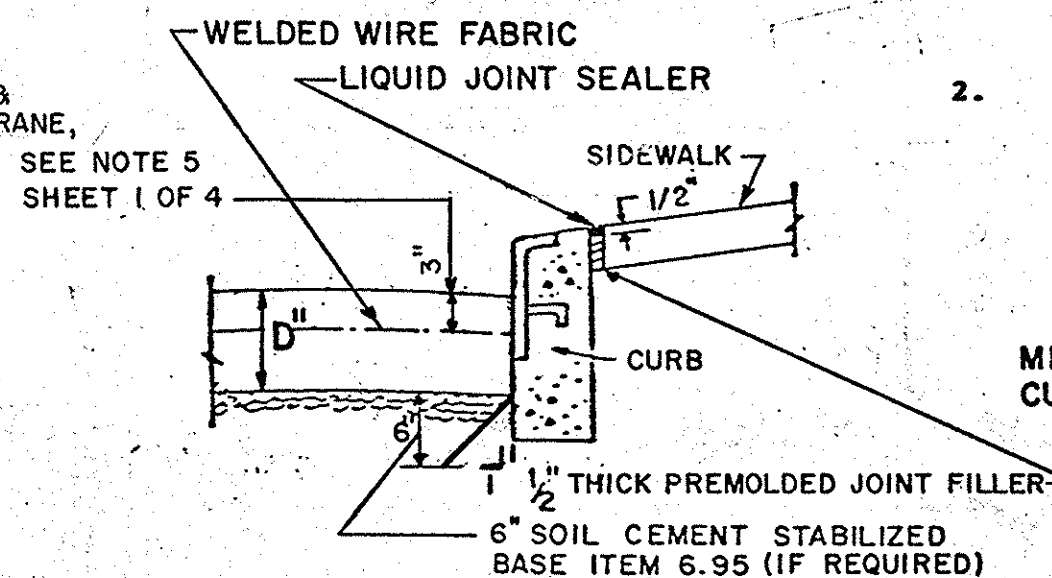


NOTES- SAWCUT

- 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.

DETAIL OF SAW CUT AT END OF NEW PAVEMENT

NOT TO SCALE



DETAIL AT THE JUNCTION OF PAVEMENT AND CURB

NOT TO SCALE

CASE I

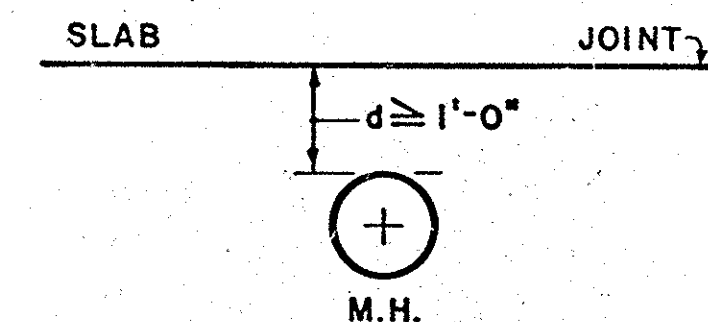
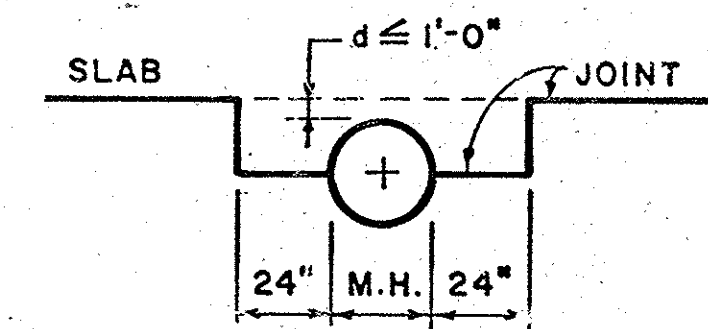
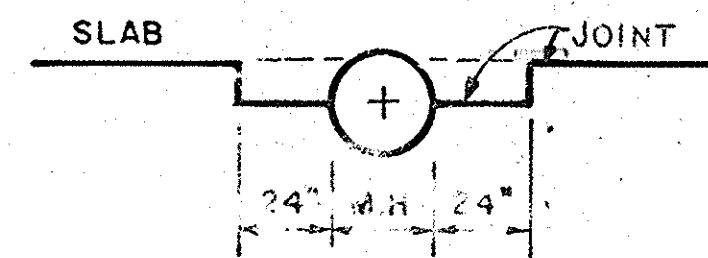
JOINT, IF CONTINUED, WILL PASS THRU THE MANHOLE BUT NOT THRU THE CENTER.

CASE II

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

CASE III

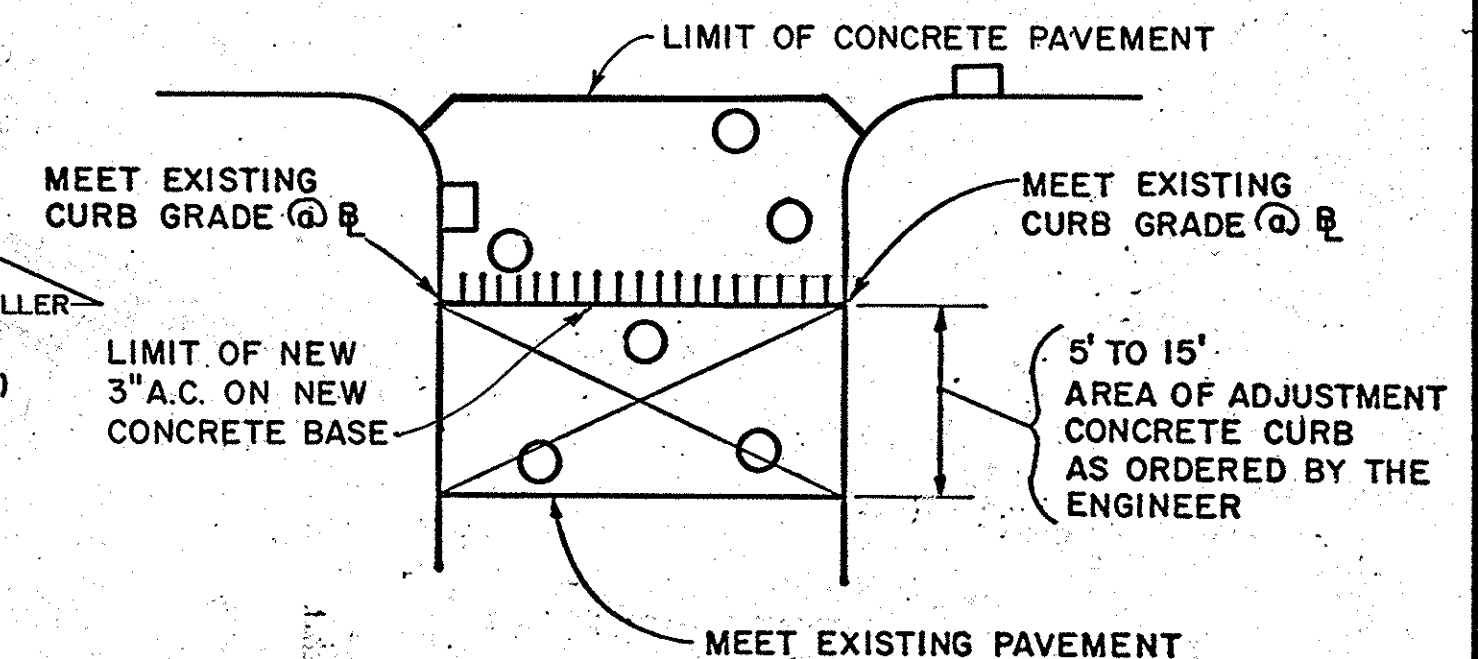
JOINT CLEARS THE MANHOLE RIM BY 1'-0" OR MORE.



DETAILS FOR SLAB JOINT / MANHOLE ARRANGEMENTS

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.



CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

REINFORCED CONCRETE PAVEMENT
CONSTRUCTION DETAILS

NOT TO SCALE
DATE: 10/10/85
H-1050 SH. 4 OF 4

[Signature]
COMMISSIONER

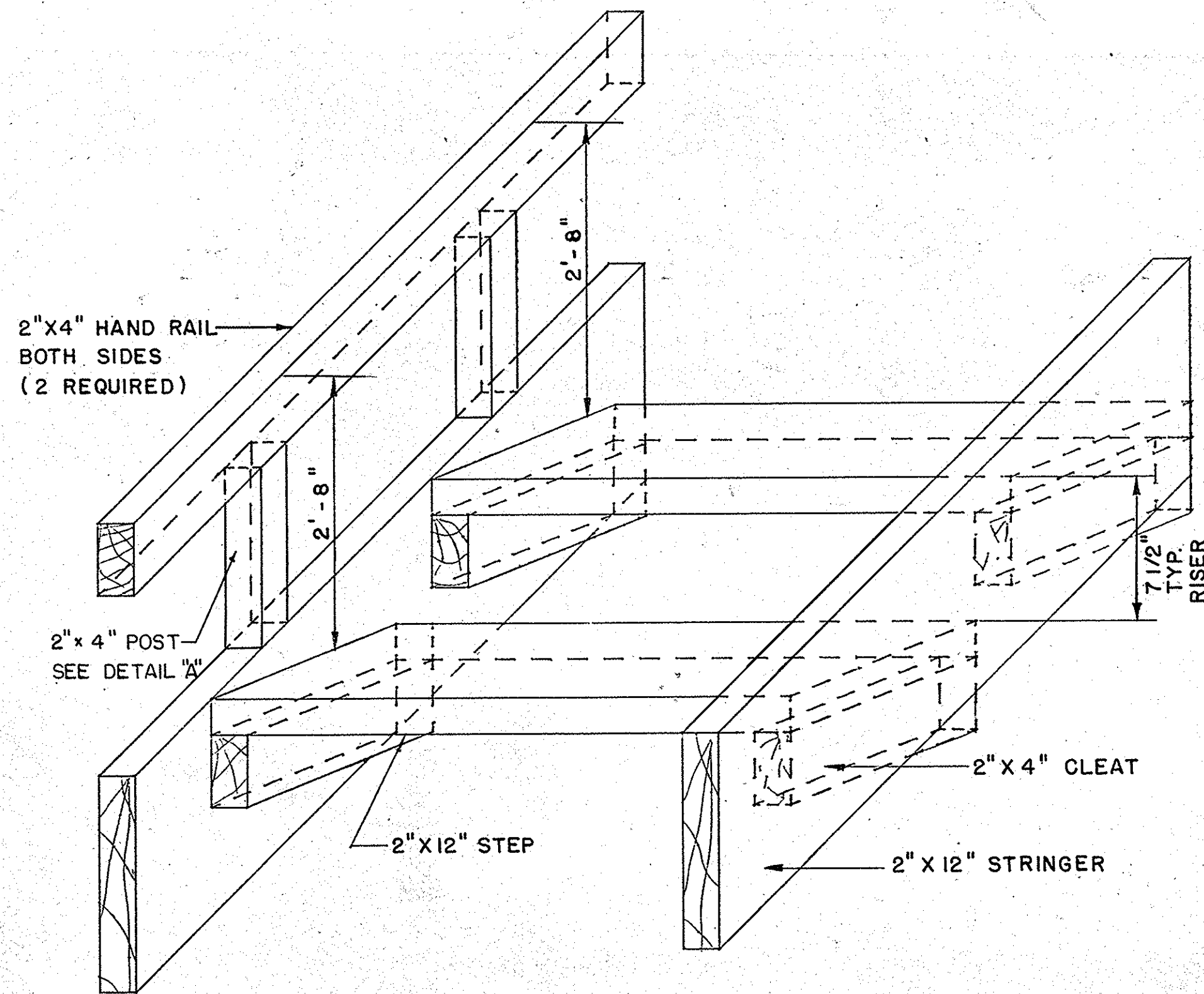
[Signature]
DEPUTY COMMISSIONER 10/1/85

[Signature]
ASSISTANT COMMISSIONER

[Signature]
DIRECTOR-ENGINEERING MANAGEMENT

[Signature]
CHIEF ENGINEER

REVISION NO.	DESCRIPTION	DATE	APPROVED
①	ADDED REFLECTIVE CRACKING MEMBRANE, ITEM NO. 6.91	1-4-89	J.L.H.



OBLIQUE VIEW

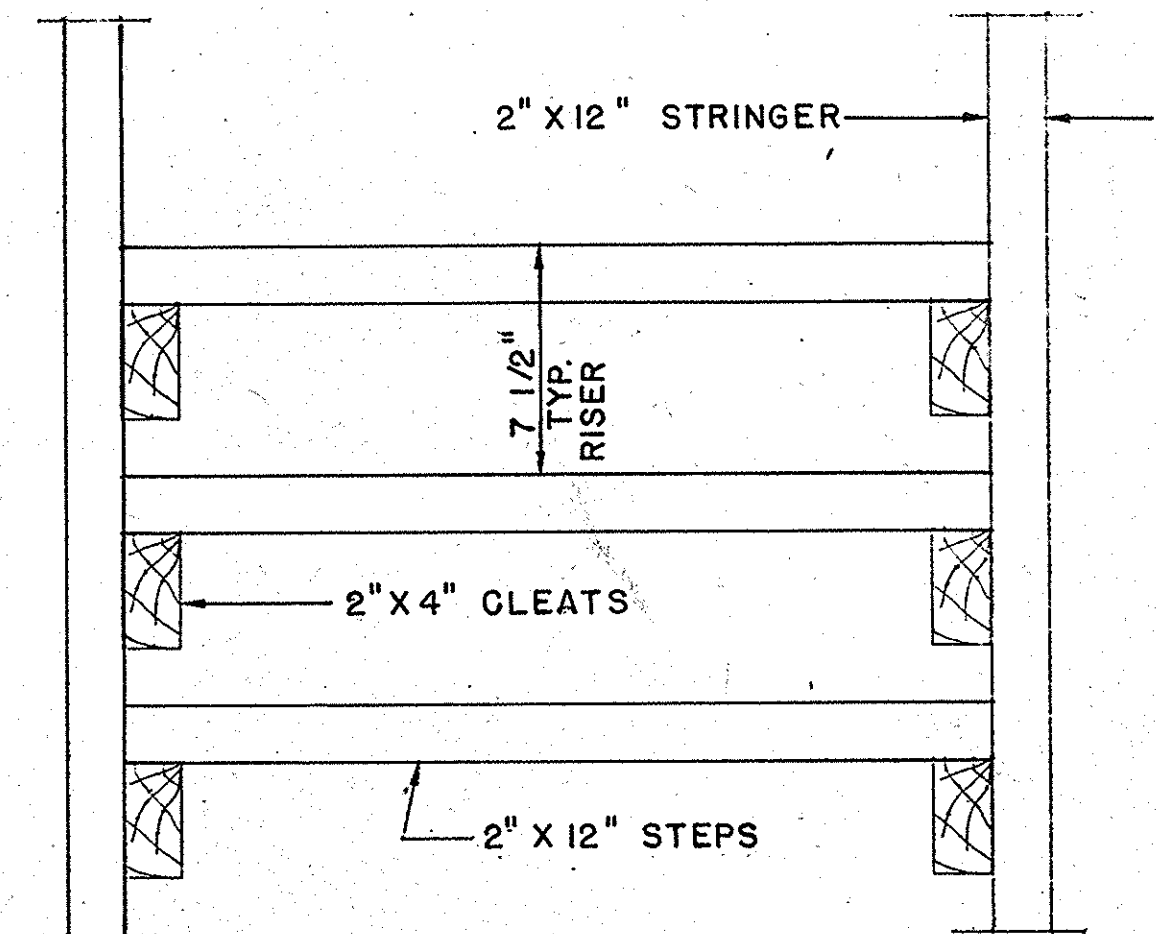
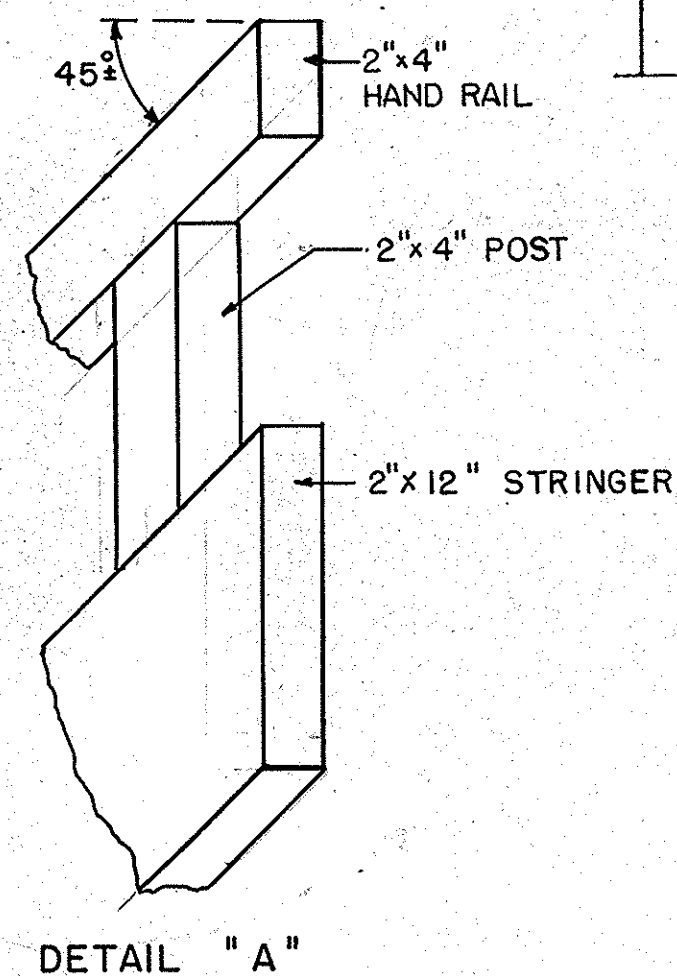
NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS USED ARE TO CONFORM TO SECTION # 7.15 OF THE BUREAU OF HIGHWAY OPERATIONS SPECIFICATIONS, LATEST EDITION.
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.

Anthony R. Mancuso
COMMISSIONER

George A. Pisanese
Actg DEPUTY COMMISSIONER

Thomas H. Yorkham P.E. 2/21/96
DIRECTOR-ENGINEERING MANAGEMENT
Barney La Greca, P.E. 2/21/98
CHIEF ENGINEER



FRONT VIEW

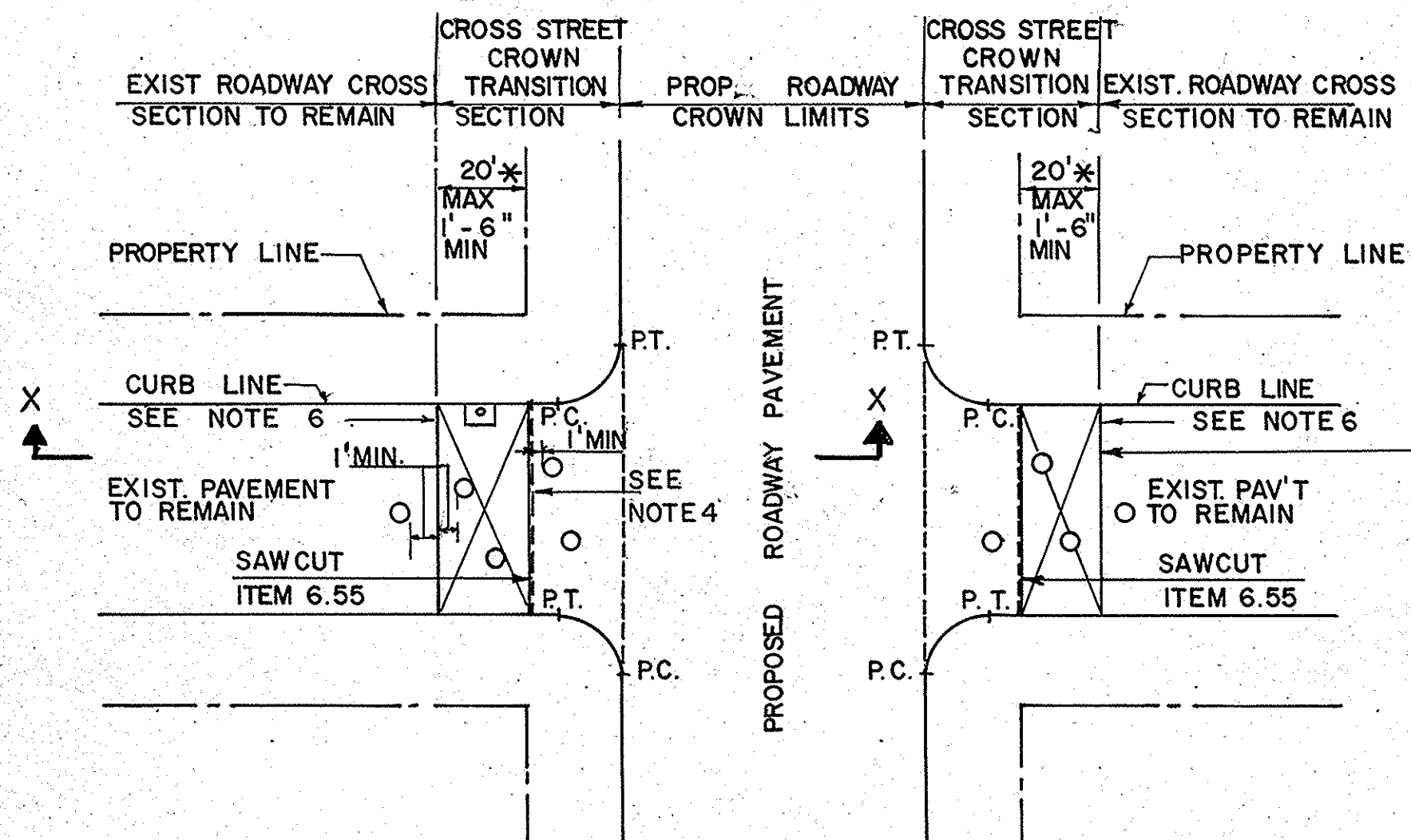
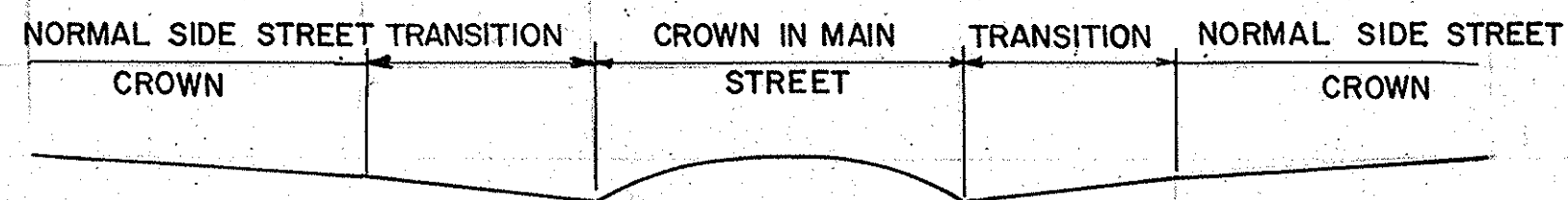
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

TEMPORARY WOODEN STEPS

DATE:

H-1051

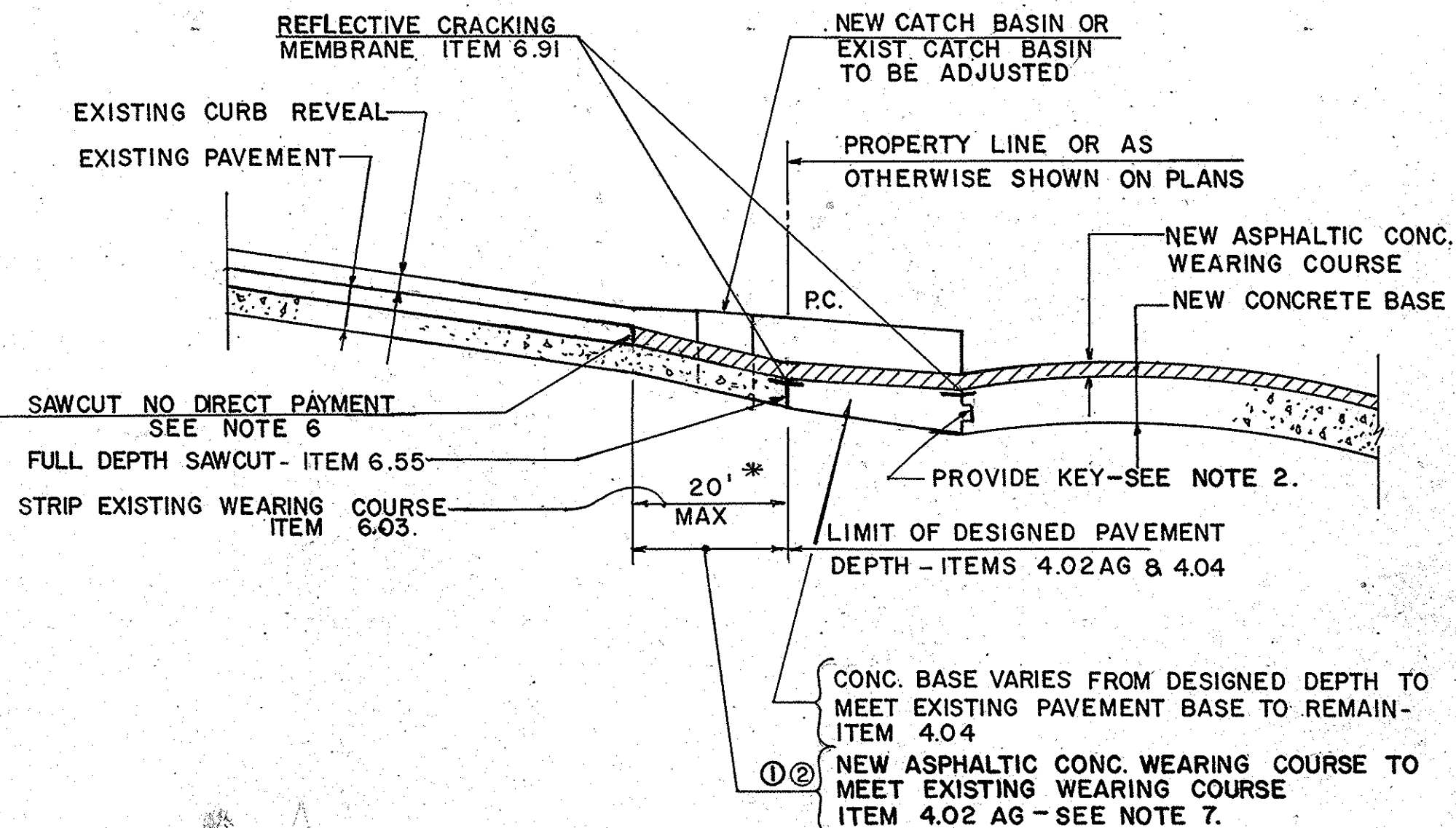
REVISION NO.	DESCRIPTION	DATE	APPROVED



PLAN

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. JACK COAT (ITEM 6.58) ALL EDGES.
- ② 7. ADDITIONAL THICKNESS GREATER THAN 3" A.C.W.C. WILL BE PAID FOR UNDER ASPH. CONC. MIXTURE (ITEM 4.02 CB).



SECTION X-X

Robert L. Latham
COMMISSIONER

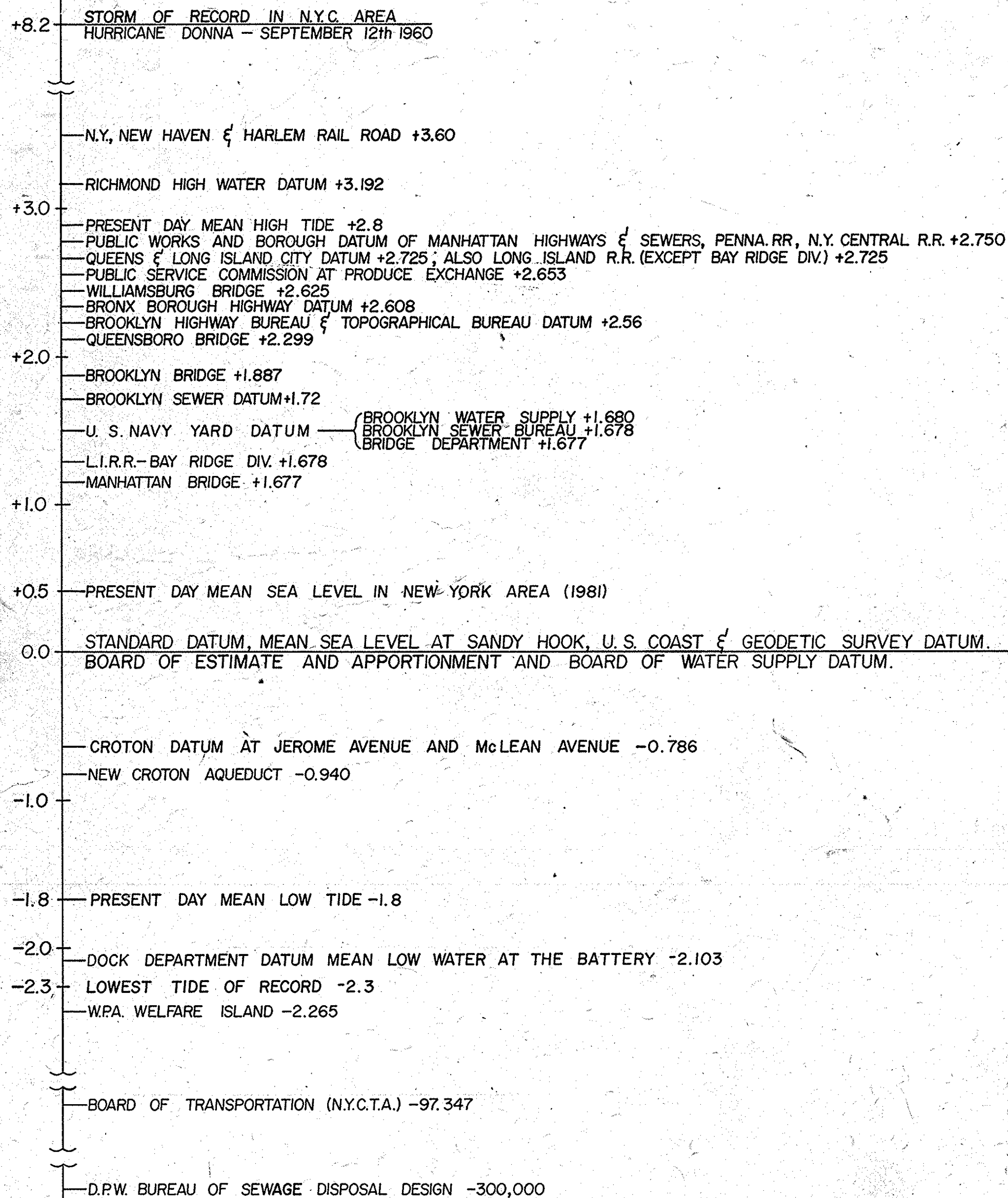
Samuel Schuman 3-1-87
DEPUTY COMMISSIONER

John P. Lema 2-25-87
ASSISTANT COMMISSIONER
Thomas V. Lachman 2/28/87
DIRECTOR-ENGINEERING MANAGEMENT
Barney de Groot 2-24-87
CHIEF ENGINEER

②	CHANGED 4.02 CB TO 4.02 AG IN AREA OF ADJUSTMENT. ADDED NOTE #7.	4/30/91	D.N.
①	REVISED AREA OF ADJUSTMENT	11/22/88	JLH
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS	
DETAILS FOR CONSTRUCTING AREAS OF ADJUSTMENT AND TRANSITION SECTIONS	
NOT TO SCALE	DATE: H-1053 R87

DRAWN BY: *A. Borcher* CHECKED BY: *W. Zimmerman*



COMPILED BY: *John L. Schindler*

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.

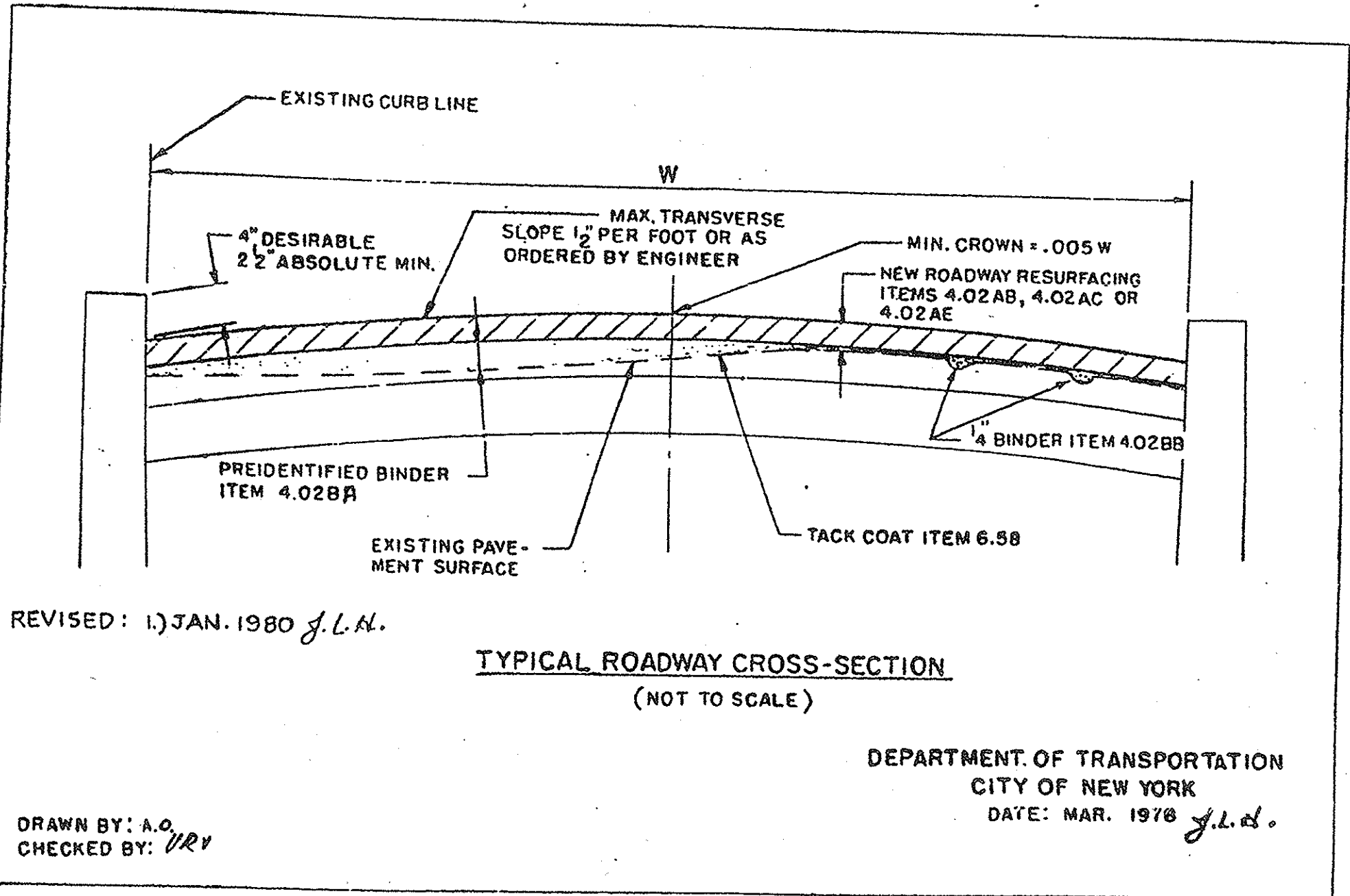
1	CORRECTED BKLYN DATUM +2.56 ADDED NOTES NO. 1 & 2 ADDED N.Y.N.H.H.R.R., L.I.R.R. BRIDGES, AQUEDUCT, WPA, N.Y.C.T.A. SEWAGE DATUM	12/15/82	W. A. Z.
REVISION NO.	DESCRIPTION	DATE	APPROVED

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS

NEW YORK CITY
COMPARISON OF DATUM PLANES

DATE: 9/4/81

MS-1000

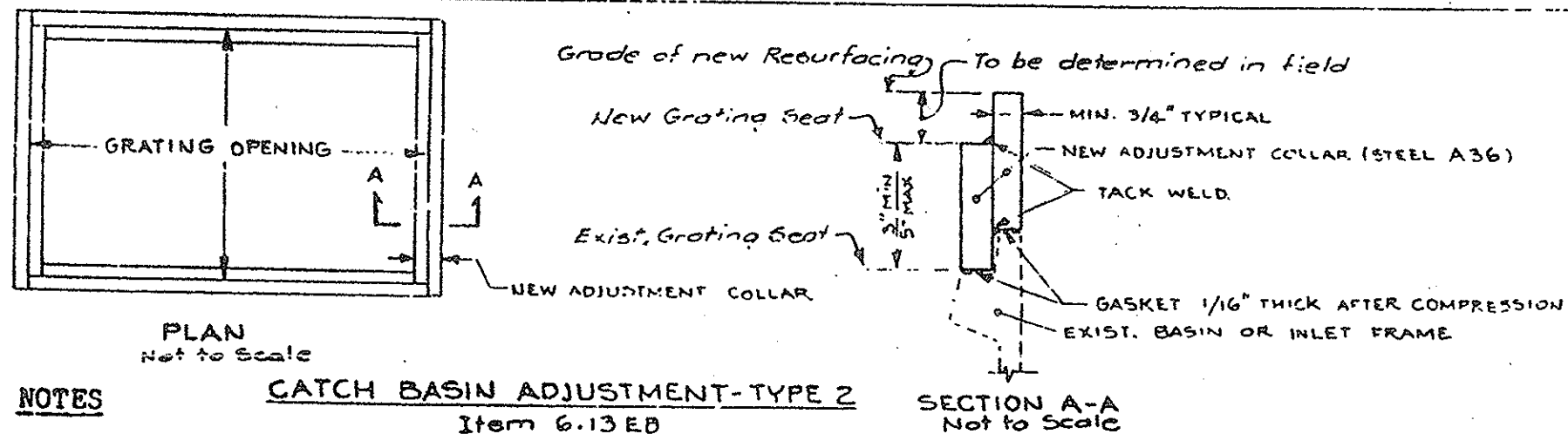


REVISED: 1.) JAN. 1980 *J.L.A.*

TYPICAL ROADWAY CROSS-SECTION
(NOT TO SCALE)

DEPARTMENT OF TRANSPORTATION
CITY OF NEW YORK
DATE: MAR. 1978 *J.L.A.*

DRAWN BY: A.O.
CHECKED BY: *VRV*



NOTES

CATCH BASIN ADJUSTMENT-TYPE 2 Item 6.13 EB

SECTION A-A
Not to Scale

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 Bureau of Engineering.

*Department of Transportation
Bureau of Highway Operations*

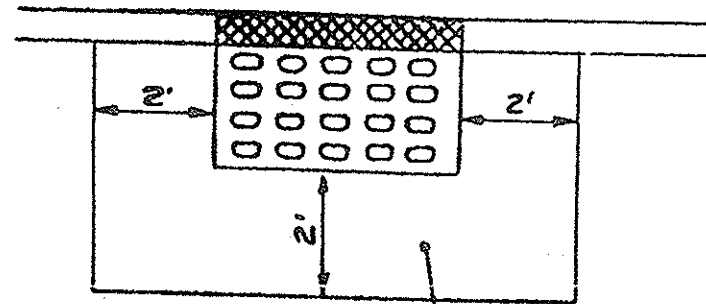
City of New York

Dated: Jan. 1974

Revised: Mar. 1978 J.L.H.

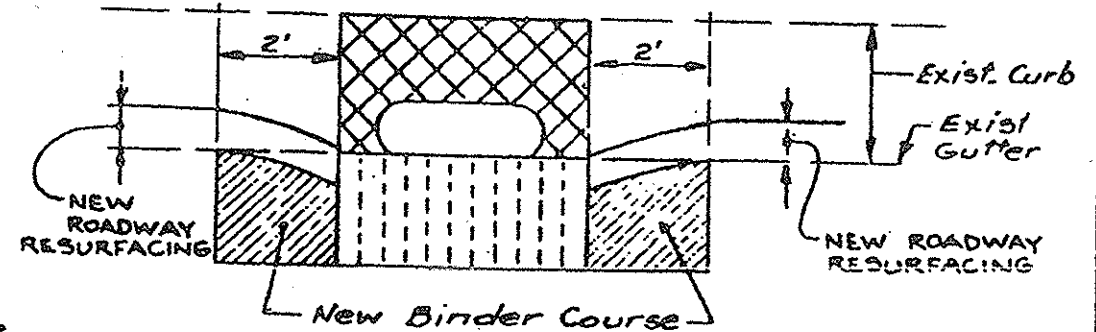
Drawn by: R.J.S.
Checked by: J.J.L.

MS-1004



PLAN

Cut and remove
exist. (3" Asph. Conc. or Concrete)
Pavement Surface.
Install new Pavement
on a Binder Course
as required



ELEVATION

ADJUSTMENT AT CATCH BASINS

Item 6.37
NOT TO SCALE

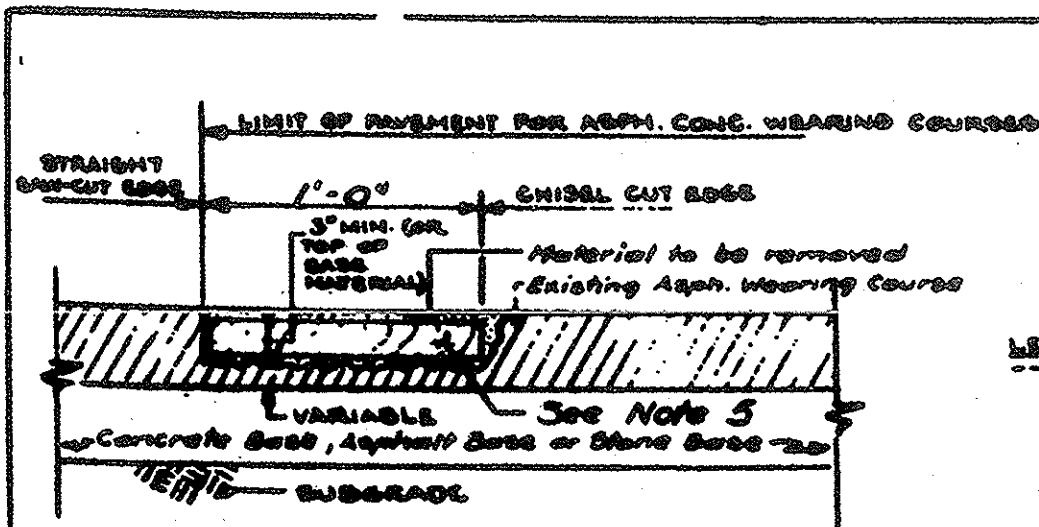
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS
CITY OF NEW YORK

DATED: Jan. 1974

REVISED: (1.) March 1978 *J. L. A.*

DRAWN BY: R.J.S.
CHECKED BY: J.J.L.

MS-1005



PAVEMENT KEY-TYPE A

Item 6.51A

NOT TO SCALE

NOTES:

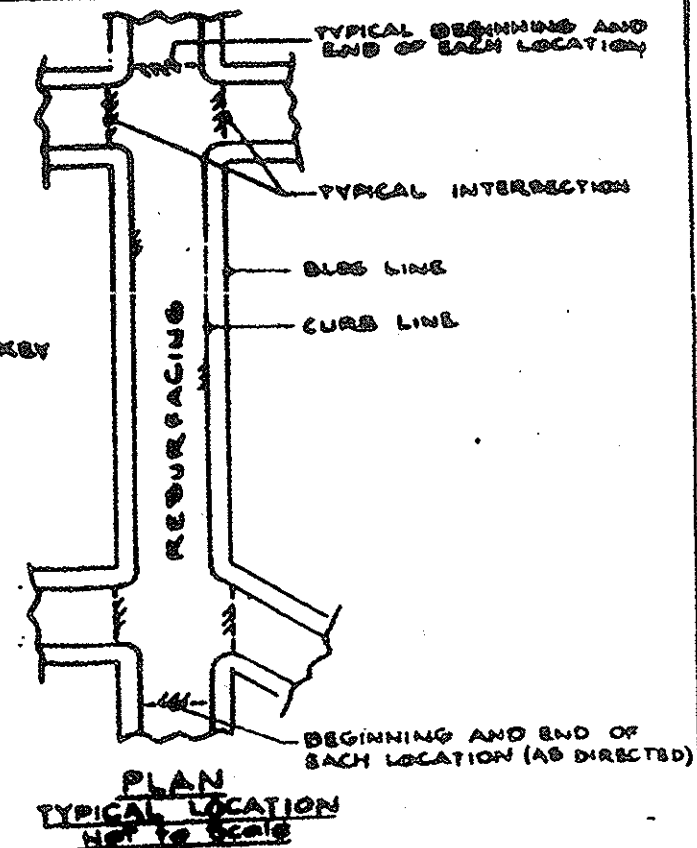
1. Thickness of Asphaltic Concrete Wearing Courses over saw-cut edge shall be zero inches.
2. Thickness of Asphaltic Concrete Wearing Courses over chisel-cut edge shall be a minimum of one inch.
3. Material used to fill within limits of Pavement Key. Type A shall be paid for under Item 6.51A Type A Key.
4. Payment for feathered Asphaltic Concrete Wearing Courses items over Pavement Key. Type A shall be for full thickness of Asphaltic Concrete Wearing Courses 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.

DRAWN BY: R.J.S.

CHECKED BY: J.J.L.

LEGEND:

----- PAVEMENT KEY

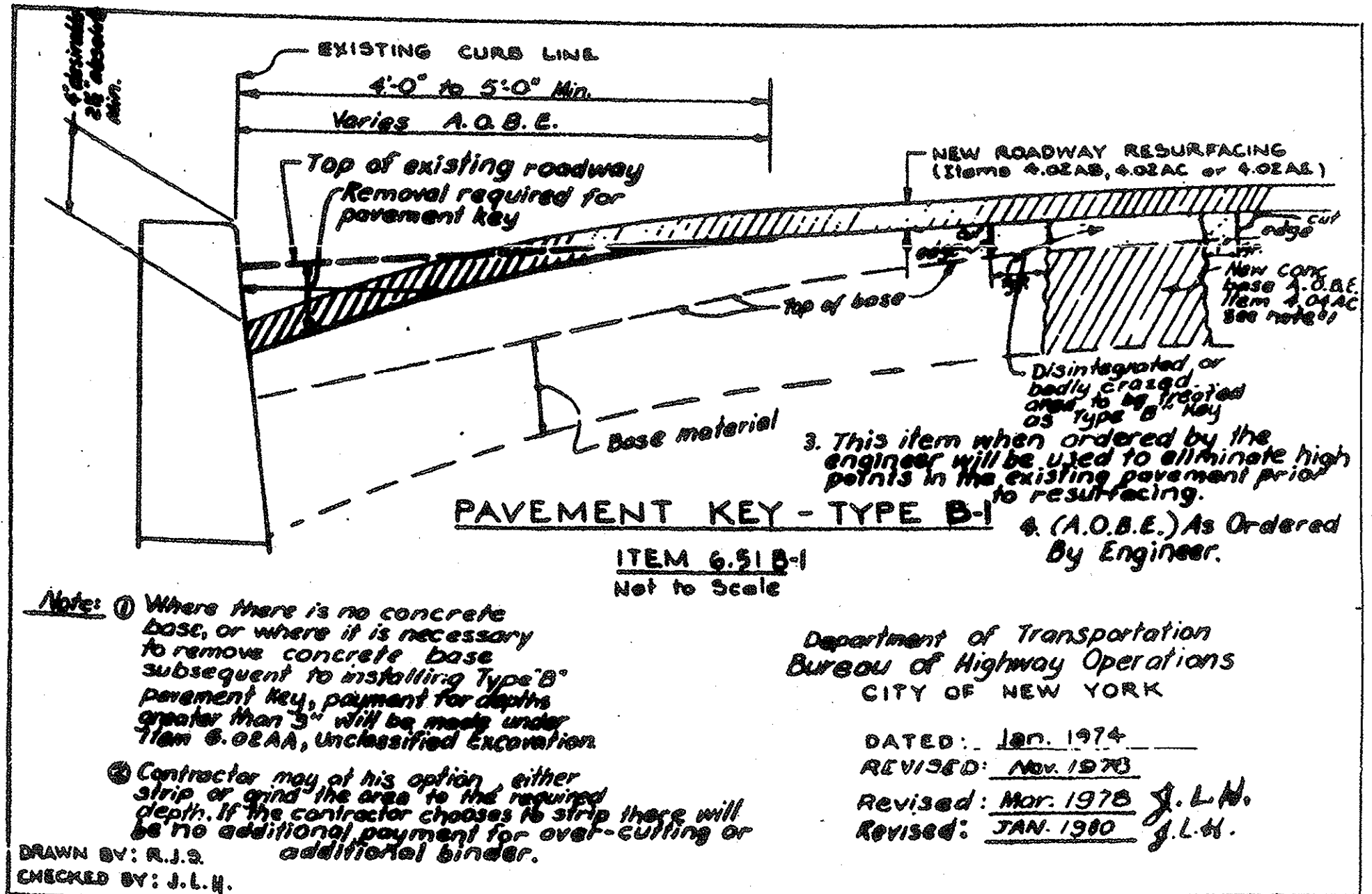


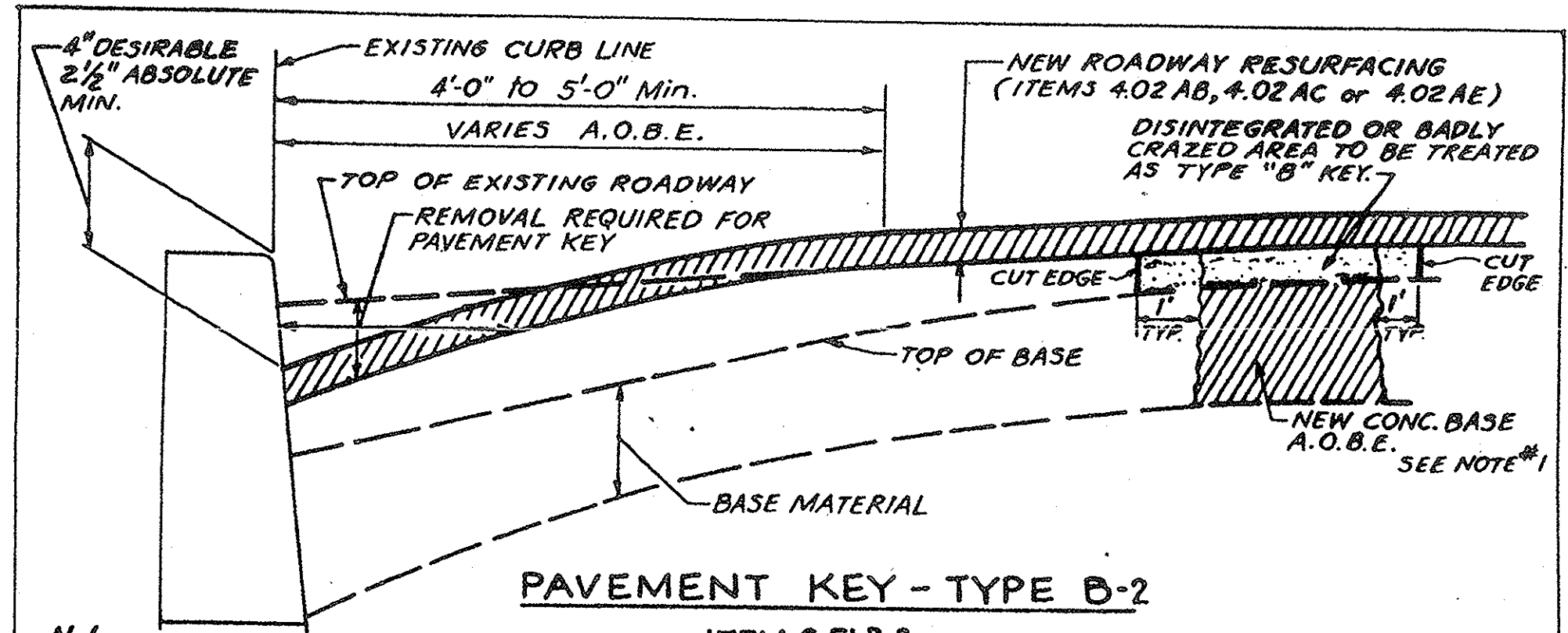
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS
CITY OF NEW YORK

DATED: Jan. 1974

REVISED: (1.) Nov. 1976 J.L.H.
(2.) March 1978 J.L.H.
(3.) Jan. 1980 J.L.H.

MS-1006





Notes:

1. WHERE THERE IS NO CONCRETE BASE, OR WHERE IT IS NECESSARY TO REMOVE GRANITE BLOCKS and/or CONCRETE BASE SUBSEQUENT TO INSTALLING TYPE "B" PAVEMENT KEY, PAYMENT FOR DEPTHS GREATER THAN 3" WILL BE MADE UNDER ITEM 6.02 AA, UNCLASSIFIED EXCAVATION.

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.

DRAWN BY: R.W.

CHECKED BY: J.L.H.

4. (A.O.B.E.) AS ORDERED BY ENGINEER

ITEM 6.51 B-2

Not to Scale

Department of Transportation
Bureau of Highway Operations

CITY OF NEW YORK

DATED: Jan. 1974

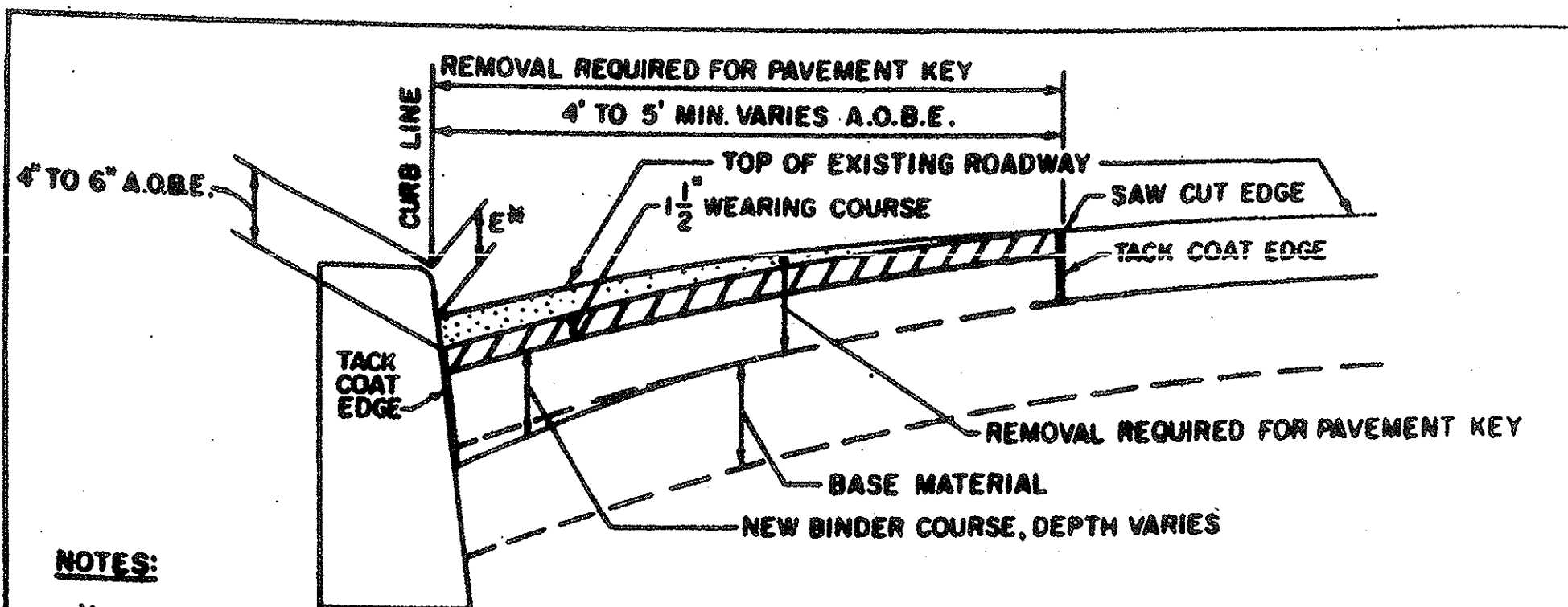
REVISED: Nov. 1978

REVISED: Mar. 1978 J.L.H.

REVISED: JAN. 1980

REVISED: JAN. 1983

MS-1008



NOTES:

1. E* IF THE EXISTING CURB REVEAL 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.

PREPARED BY J.L. HENDRICKSON P.E.
DRAWN BY R. WYSOKOWSKI

DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATIONS
CITY OF NEW YORK

PAVEMENT KEY-TYPE C
ITEM 6.51 C
(NOT TO SCALE)

JULY 1979

MS-1009