

1 PROJECT SPECIAL PROVISIONS

2
3 KING COUNTY, WA
4 SOUTH PARK BRIDGE #3179
5 REPLACEMENT

6
7 VOLUME 3 OF 3
8 APPENDICES

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10

 King County CIP 300197

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13 100% SUBMITTAL
14 (NOT FOR CONSTRUCTION)

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26 KING COUNTY DEPARTMENT OF TRANSPORTATION
27 JANUARY 20, 2010

SOUTH PARK BRIDGE NO. 3179
(16th Avenue South over Duwamish Waterway)

Contract No. C00497C10
Project No. 300197

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SPECIAL PROVISIONS
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100% Submittal - Not for Construction



King County

SPECIAL PROVISIONS

SOUTH PARK BRIDGE NO. 3179 REPLACEMENT

(16th Avenue south over Duwamish Waterway)

Contract No. C00497C10

Project No. 300197

Fed. Aid No. _____

GENERAL REQUIREMENTS

10 INTRODUCTION

11 The following Special Provisions in conjunction with the 2008 *Standard Specifications for Road,*
12 *Bridge and Municipal Construction*, issued by the Washington State Department of
13 Transportation and the American Public Works Association, Washington State Chapter (Standard
14 Specifications), and the 2007 King County *Road Design and Construction Standards*
15 (KCRDCS), which were adopted by the King County Council, govern this Contract. These
16 Special Provisions supersede the referenced portions of Standard Specifications. Where any
17 provision of Standard Specifications is modified or deleted by these Special Provisions, the
18 unaltered, remaining portions remain in full force and effect.

19 Copies of the Standard Specifications and KCRDCS are on file in the office of the County Road
20 Engineer, Department of Transportation, Road Services Division, 2nd Floor, 201 South Jackson
21 Street, Seattle, Washington, 98104-3856 where they may be examined

22 Wherever reference is made in the Standard Specifications to the Secretary of Transportation or
23 Engineer, such reference shall be construed to mean the King County Road Engineer or the
24 County Road Engineer's duly authorized assistants.

25 Wherever reference is made to the "State Materials Lab" in the Standard Specifications such
26 reference shall be revised to read "King County Materials Lab (Renton, WA.)".

27 DESCRIPTION OF WORK

28 This project provides for the replacement of South Park Bridge over the Duwamish Waterway in
29 King County by constructing a new drawbridge downriver and parallel to the existing South Park
30 Bridge, intersection improvements, roadway, drainage, and utility construction, approach spans
31 and retaining wall construction, riverbank mitigation, incorporation of historic and art elements,
32 illumination, demolition of existing bridge, and other work, all in accordance with the attached

SPECIAL PROVISIONS

SOUTH PARK BRIDGE NO. 3179

(16th Avenue South over Duwamish Waterway)

- 1 Plans, these Special Provisions, the Standard Specifications, the KCRDCS, and the
- 2 APWA/WSDOT Standard Plans for Road, Bridge, and Municipal Construction.
- 3

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1

2 **APPENDICES**

3 The following appendices are attached and made a part of this Contract:

4 **APPENDIX A:**

5 King County Department of Transportation – Transit Division Standards for Construction
6 of Transit Passenger Facilities Drawing No. D103 and D111

7 **APPENDIX B:**

8 Applicable City of Seattle Standard Plans

100% Submittal - Not for Construction

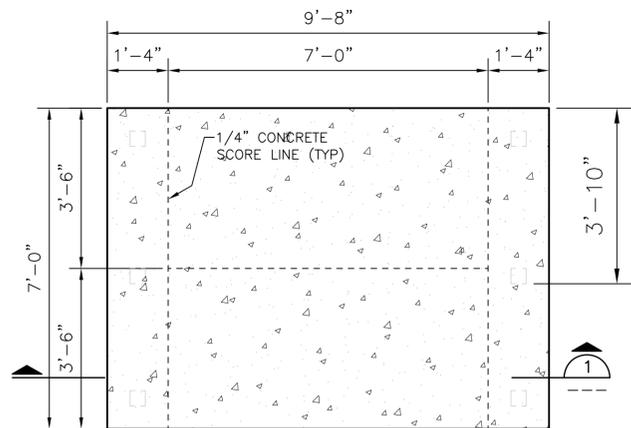
SOUTH PARK BRIDGE NO. 3179
(16th Avenue South over Duwamish Waterway)

APPENDIX A
to the
SPECIAL PROVISIONS

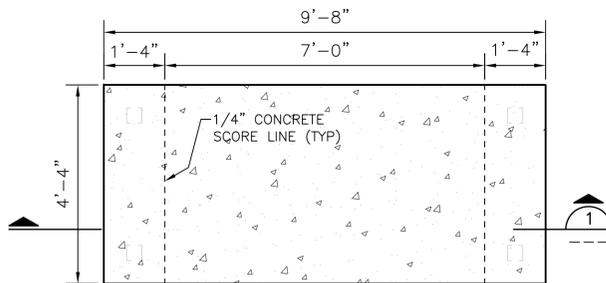
King County Department of Transportation – Transit Division
Standards for Construction of Transit Passenger Facilities

Drawing No. D103 – Footing Plans, Section, Details, Notes, and Schedule

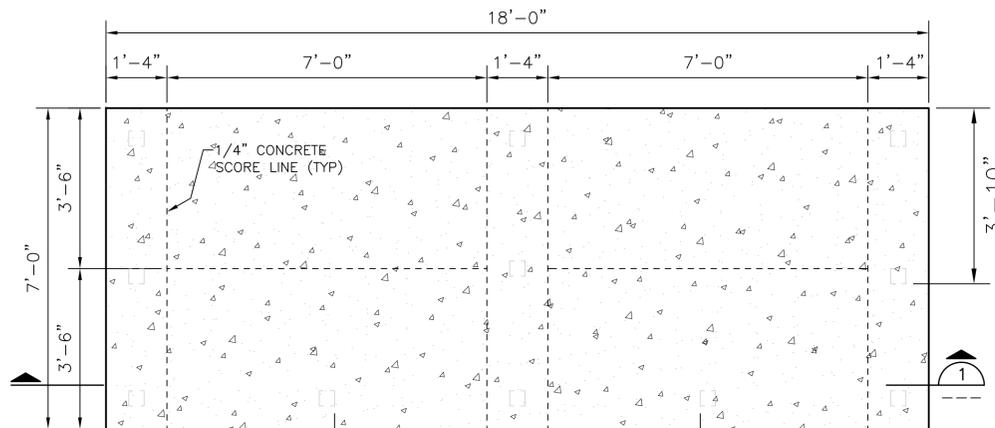
Drawing No. D111 – Internal Solar Bus Shelter Lighting



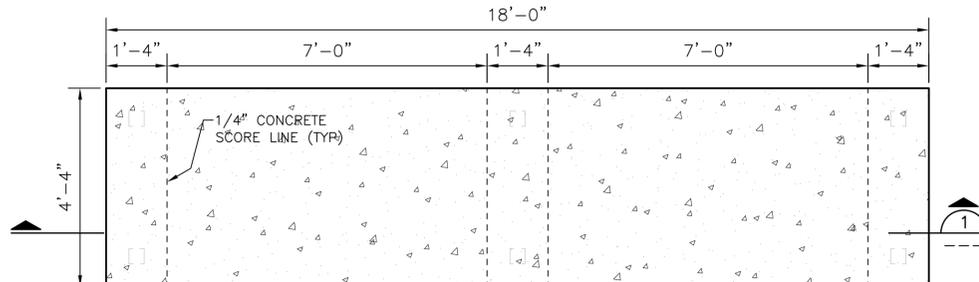
B11 FOOTING
SCALE: 1/2" = 1'-0"



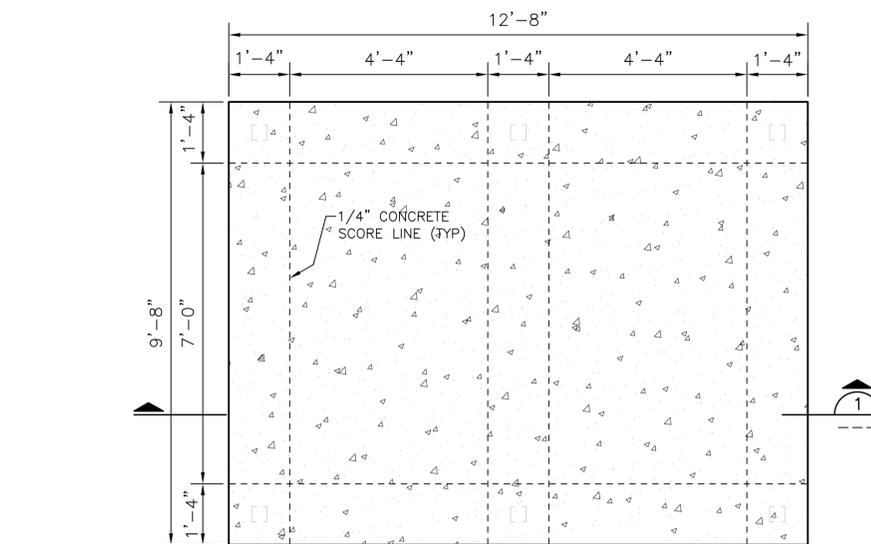
B21 FOOTING
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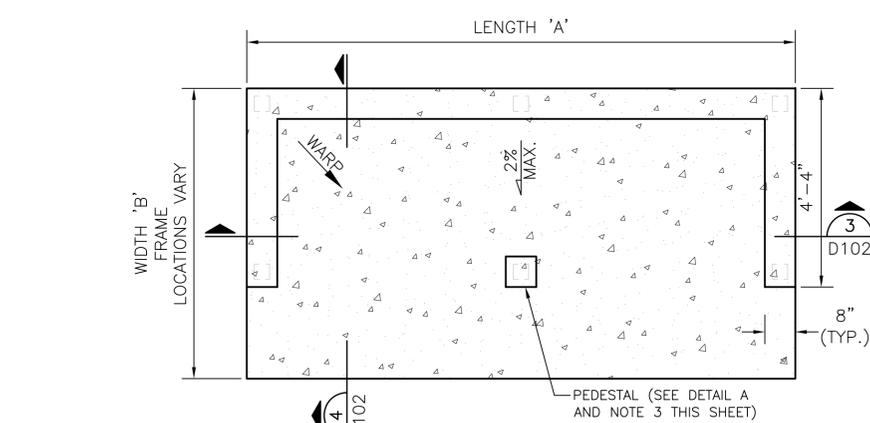
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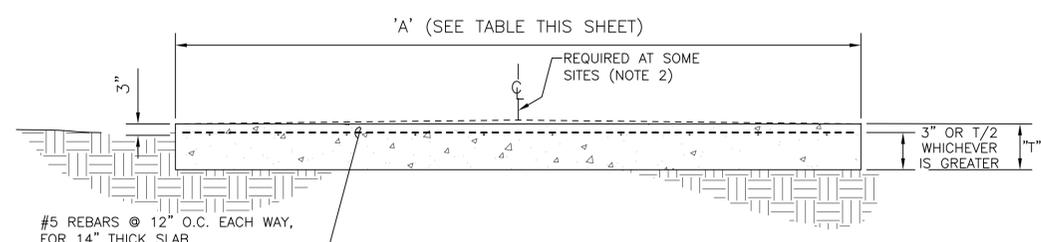
B22 FOOTING
SCALE: 1/2" = 1'-0"



B13 FOOTING
SCALE: 1/2" = 1'-0"



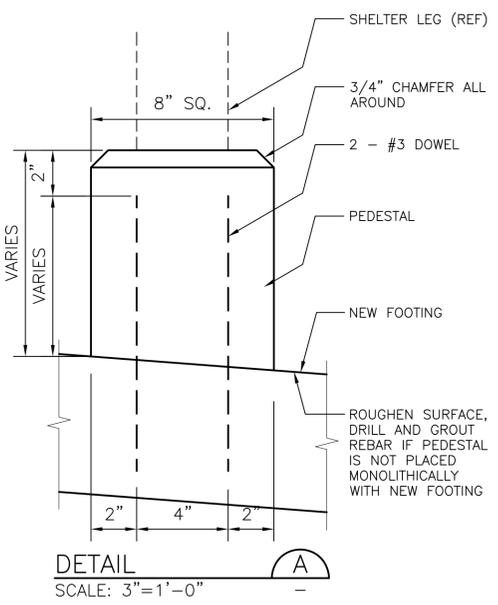
B30 FOOTING
SCALE: 1/2" = 1'-0"



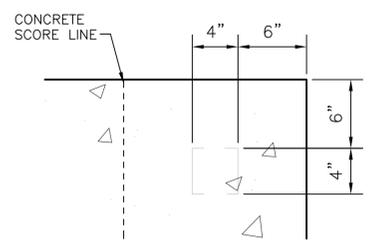
LONGITUDINAL SECTION
SCALE: 1/2" = 1'-0"

FOOTING DIMENSIONS				
FOOTING TYPE	SHELTER FRAME TYPE	LENGTH 'A'	WIDTH 'B'	SLAB THICKNESS 'T'
B11	PER PLAN	9'-8"	7'-0"	7 1/2"
B12	PER PLAN	18'-0"	7'-0"	7 1/2"
B13	PER PLAN	12'-8"	9'-8"	7 1/2"
B21	PER PLAN	9'-8"	4'-4"	14"
B22	PER PLAN	18'-0"	4'-4"	14"
B31	F11	9'-0"	6'-4"	7 1/2"
B31	F21	9'-0"	4'-4"	14"
B31	F31 OR F51	9'-0"	4'-4"	14"
B32	F12	17'-4"	6'-4"	7 1/2"
B32	F13	12'-0"	9'-0"	7 1/2"
B32	F14	17'-4"	6'-4"	7 1/2"
B32	F22 OR F52	17'-4"	4'-4"	14"
B32	F32	17'-4"	4'-4"	14"

- NOTES:**
- "□" INDICATES AREAS FOR FUTURE SHELTER LEGS. AVOID PLACING REINFORCEMENT IN THESE AREAS.
 - FOR SITES WITH SLOPES LESS THAN 0.5% IN 'A' DIMENSION, INCREASE DIMENSION AT MIDDLE OF FOOTING BY 1" TO ASSURE PROPER DRAINAGE OF SURFACE WATER.
 - WHEN USING B-32 FOOTING WITH DOUBLE FRAMES, SUPPORT FRONT MIDDLE LEG OR LEGS OF FRAME AS REQUIRED TO PROVIDE THE SAME TOP ELEVATION AS THE PERIMETER WALL.



DETAIL A
SCALE: 3" = 1'-0"



TYPICAL LEG DETAIL @ CORNER
SCALE: 1 1/2" = 1'-0"

TYPICAL CONDITION FOR ALL EXCEPT B30, B31, AND B32 SERIES FOOTING

ONE INCH AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

No.	REVISION	BY	APP'D	DATE

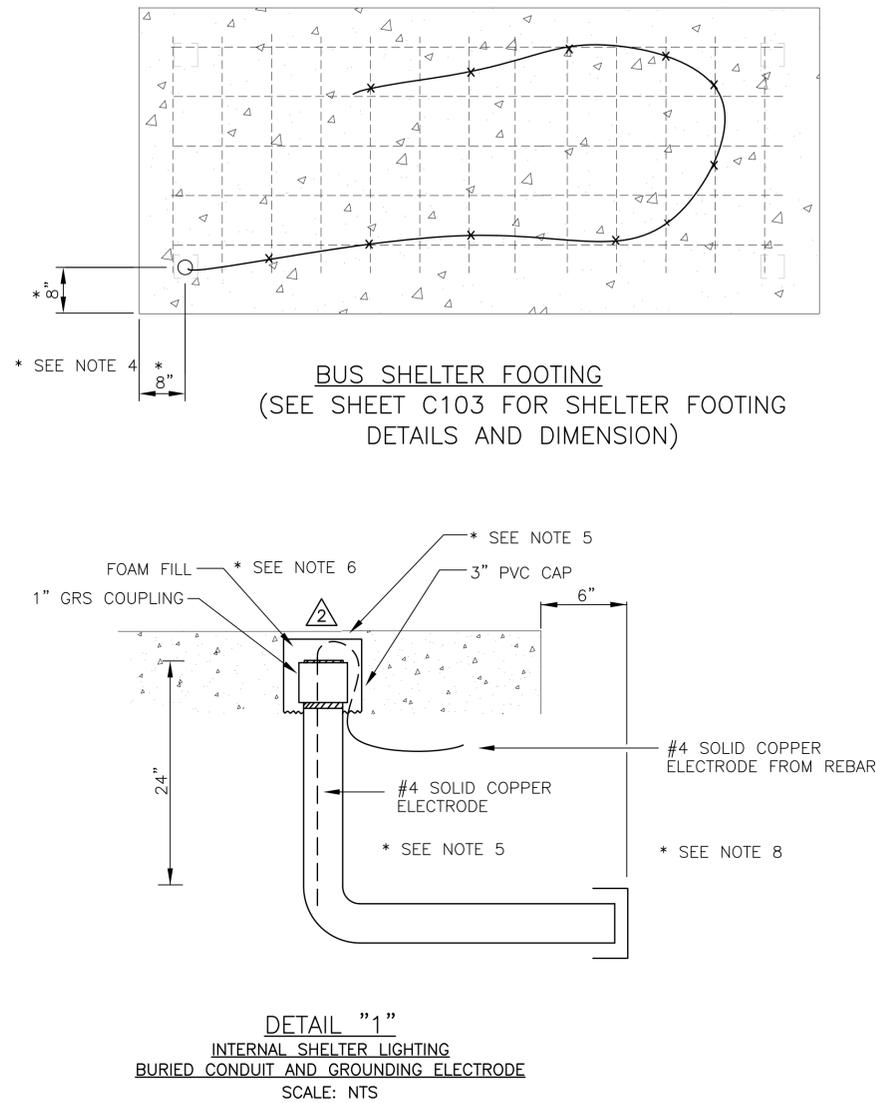
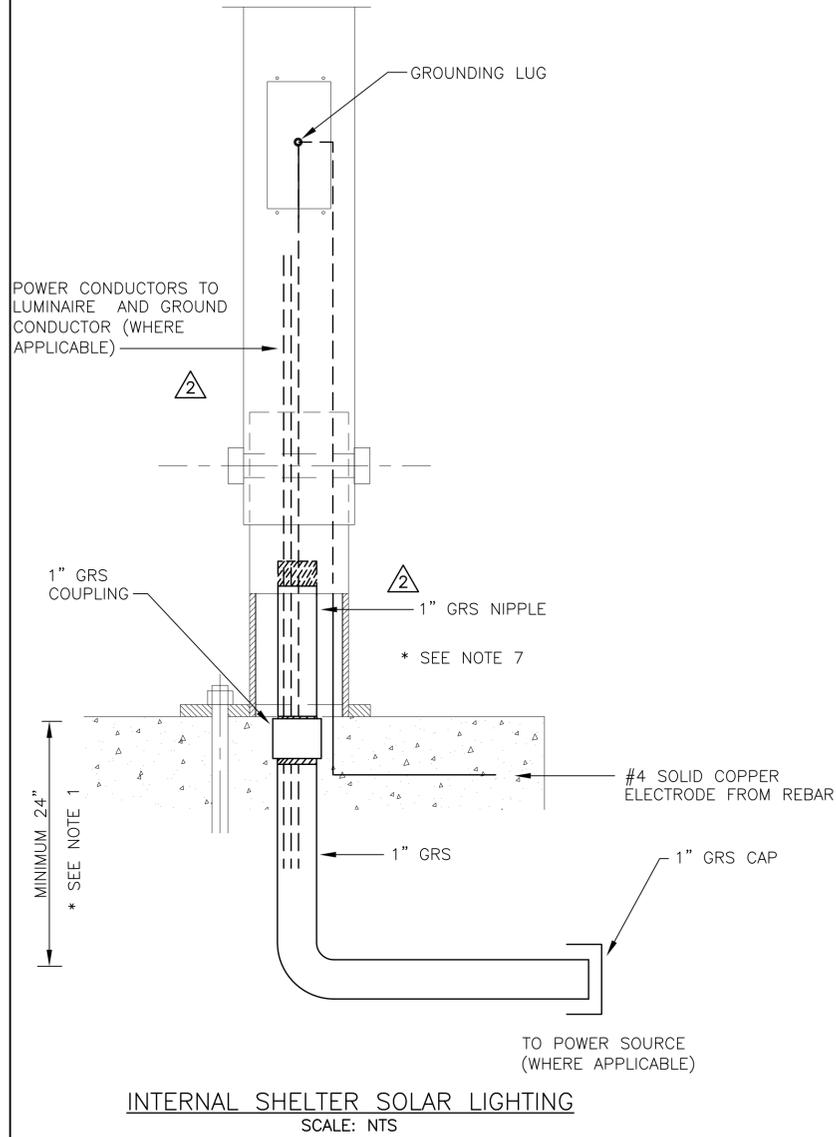
DESIGNED: C ASQUITH	CHECKED: P ENG
DRAWN: H SCHMITT	SCALE: NOTED
RECOMMENDED: D CRIPPEN	CONTRACT NO:
APPROVED: R ISLER	



Department of Transportation - Transit Division
STANDARDS FOR CONSTRUCTION OF TRANSIT PASSENGER FACILITIES
FOOTING PLANS, SECTION, DETAILS, NOTES, AND SCHEDULE

DATE: JAN 08
FILE NO: D103C
DRAWING NO: D103
SHEET NO: 3 OF 12

V:\Library & Standards\Standards\PPF\Metro\PPF_Standard Construction Set\D103C.dwg | Layout: D103
 PLOTTED: Jan 02, 2008-09:40:38am By: suterj
 IMAGES:



NOTES:

**THE CONTRACTOR SHALL GROUND THE 12 VOLT SOLAR LIGHTING SYSTEM BY THE FOLLOWING:

- *1. ALL NEW CONDUIT UNDERGROUND SHALL HAVE A MINIMUM COVER OF 24 INCHES FROM FINISHED GRADE OR 30 INCHES FROM TOP OF THE SHELTER PAD.
- *2. USING TIE-WIRE THE CONTRACTOR SHALL TIE 23 FEET OF THE #4 SOLID COPPER GROUNDING ELECTRODE TO THE SHELTER PAD REBAR, LEAVING 2 FEET FROM GRADE LEVEL TO ATTACH TO THE GROUNDING LUG IN THE SHELTER LEG.
- *3. THE #4 SOLID COPPER GROUNDING ELECTRODE SHALL BE ENCLOSED BY AT LEAST 2" OF CONCRETE IN ACCORDANCE WITH NEC 250.52 (A) (3).
- *4. AT THE BACK SHELTER LEG OF HIGHEST ELEVATION THE CONTRACTOR SHALL INSTALL THE 1 INCH GRS CONDUIT AND THE #4 SOLID COPPER ELECTRODE.
- *5. THE CONTRACTOR SHALL LEAVE THE #4 SOLID COPPER ELECTRODE AND THE CONDUIT CAPPED AND BURIED APPROXIMATELY 1/4" BENEATH THE CONCRETE SURFACE. PLACE TWO FEET OF THE #4 SOLID COPPER ELECTRODE INSIDE CONDUIT LEAVING A SMALL ARC AT THE TOP OF THE ENTRANCE INTO THE CONDUIT. (SEE DETAIL 1)
- *6. TO KEEP CONCRETE FROM ENTERING THE CONDUIT AND CAP SPACE, THE CONTRACTOR AFTER PLACING THE 2 FEET OF #4 SOLID COPPER ELECTRODE IN THE CONDUIT, SHALL USE A FOAM FILL OR MATERIAL INSIDE THE 3 INCH PVC CAP, ALLOWING THE INSTRUCTED TIME TO DRY BEFORE POURING THE CONCRETE.
- *7. KING COUNTY METRO SHALL REMOVE 3 INCH PVC CAP, PULL OUT THE #4 SOLID COPPER ELECTRODE, INSTALL A 1 INCH THREADED GRS NIPPLE AND CONNECT THE #4 SOLID COPPER ELECTRODE (AND FIXTURE GROUND IF APPLICABLE) TO THE GROUNDING LUG IN THE SHELTER LEG.
- *8. IF THERE IS NO SPECIFIED CONNECTION TO A POWER SOURCE, 1" GRS CONDUIT SHALL BE EXTENDED 6 INCHES BEYOND THE EDGE OF SHELTER FOOTING AND CAPPED. OTHERWISE THE CONTRACTOR SHALL RUN THE CONDUIT TO THE SPECIFIED LOCATION.
- *9. THE CONTRACTOR SHALL PREPARE AN AS-BUILT DRAWING FOR EACH SHELTER LOCATION. A COPY OF THE AS-BUILT DRAWING SHALL BE DELIVERED TO THE KING COUNTY METRO TRANSIT PROJECT REPRESENTATIVE FOR EACH SHELTER PAD LOCATION.

EQUIPMENT:

1. 1-INCH GRS CONDUIT
2. #4 SOLID COPPER ELECTRODE
3. 1-INCH GRS CAP
4. 1-INCH GRS PLUG
5. 1-INCH GRS NIPPLE
6. 1-INCH GRS COUPLING
7. 4-INCH PVC CAP
8. FOAM FILL

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH SCALE ACCORDINGLY

△				
△				
△				
△	ADDENDA	KLW	CDR	8/15/05
△	ADDENDA	KLW	CDR	5/4/05
No.	REVISION	BY	APP'D	DATE

DESIGNED: K WATKINS	CHECKED: C REYNOLDS
DRAWN: K WATKINS	SCALE: NOT TO SCALE
RECOMMENDED: C REYNOLDS	CONTRACT NO.:
APPROVED:	



King County

Department of Transportation - Transit Division
STANDARDS FOR CONSTRUCTION
OF TRANSIT PASSENGER FACILITIES
**INTERNAL SOLAR BUS SHELTER
LIGHTING**

DATE: JAN 08
FILE NO: C111C
DRAWING NO: D111
SHEET NO: 11 OF 12

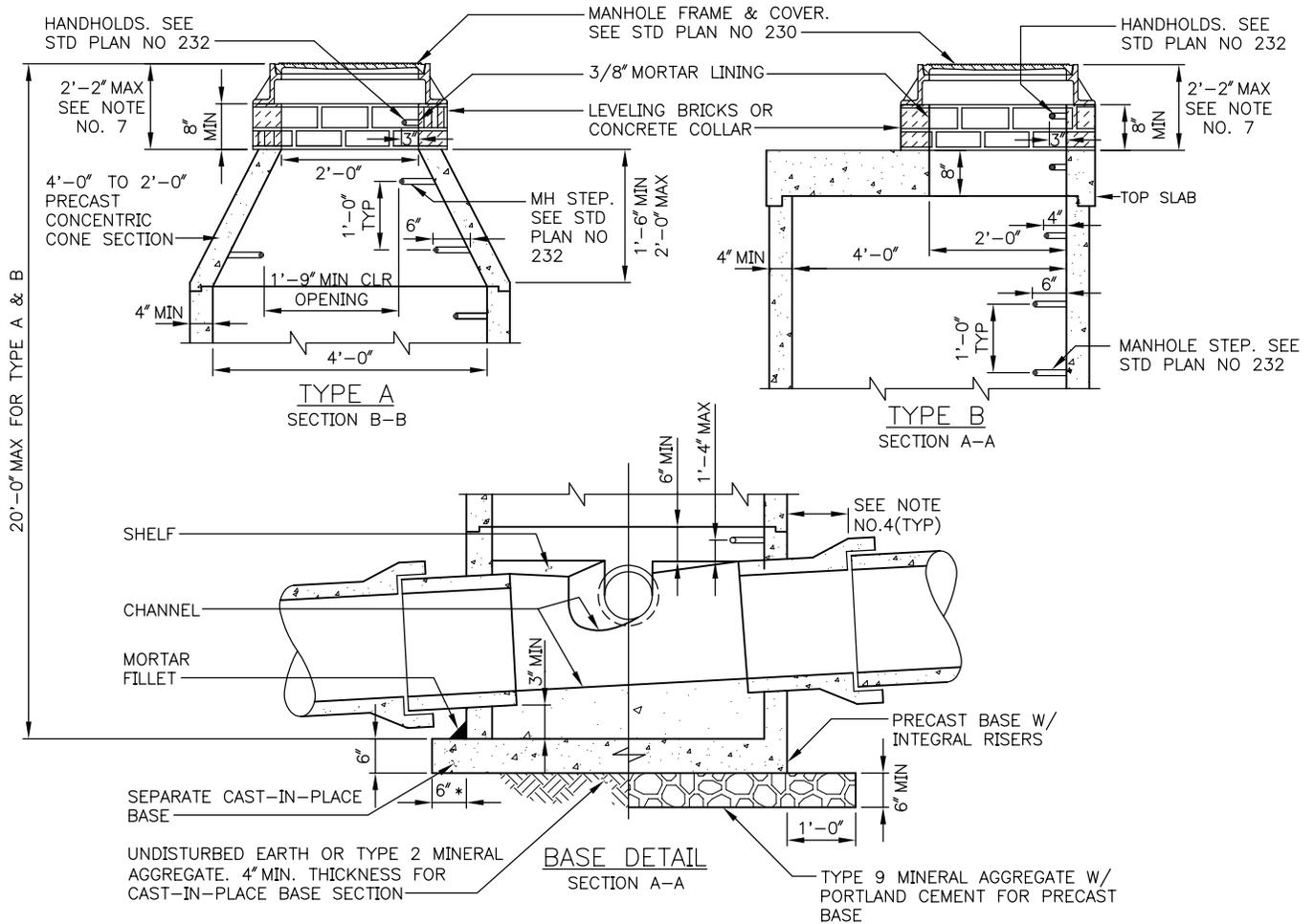
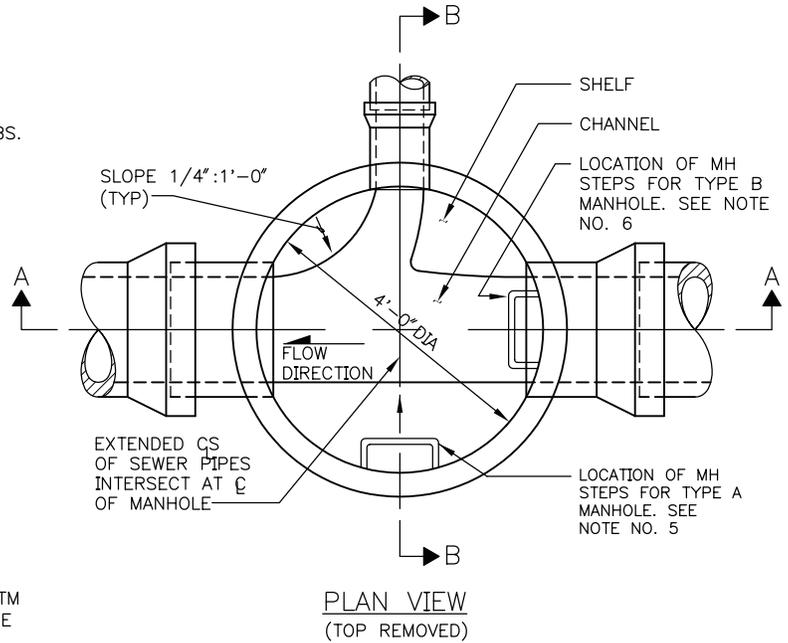
SOUTH PARK BRIDGE NO. 3179
(16th Avenue South over Duwamish Waterway)

APPENDIX B
to the
SPECIAL PROVISIONS

Applicable City of Seattle
Standard Plan

NOTES:

1. TYPE A MANHOLE DESIGNATES MANHOLES WITH PRECAST CONCENTRIC CONE SECTIONS.
2. TYPE B MANHOLE DESIGNATES MANHOLES WITH TOP SLABS.
3. TOP SLAB AND BASE SECTION DETAILS, SEE STANDARD PLAN NO 200b.
4. MAXIMUM DIMENSION FROM OUTSIDE MANHOLE WALL TO THE FIRST PIPE JOINT, THE GREATER OF 1/2 INSIDE PIPE DIAMETER OR 1'-0".
5. FOR TYPE A MANHOLE, LOCATE MANHOLE STEPS ON THE SIDE PERPENDICULAR TO THE DIRECTION OF THE FLOW IN THE CHANNEL.
6. FOR TYPE B MANHOLE, LOCATE MANHOLE STEPS OPPOSITE TO THE DOWNSTREAM OPENING.
7. TOTAL HEIGHT OF AN EXTENSION, MANHOLE FRAME AND LEVELING BRICKS SHALL NOT EXCEED 2'-2".
8. MANHOLE BASE SECTIONS SHOWN IN SECTION A-A AND SECTION B-B ARE TYPICAL FOR TYPE A AND TYPE B MANHOLES.
9. THE MAXIMUM HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS THE MANHOLE WALL THICKNESS. THE MINIMUM HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 4 INCHES. MINIMUM DISTANCE BETWEEN HOLES IS 8 INCHES.
10. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 443.



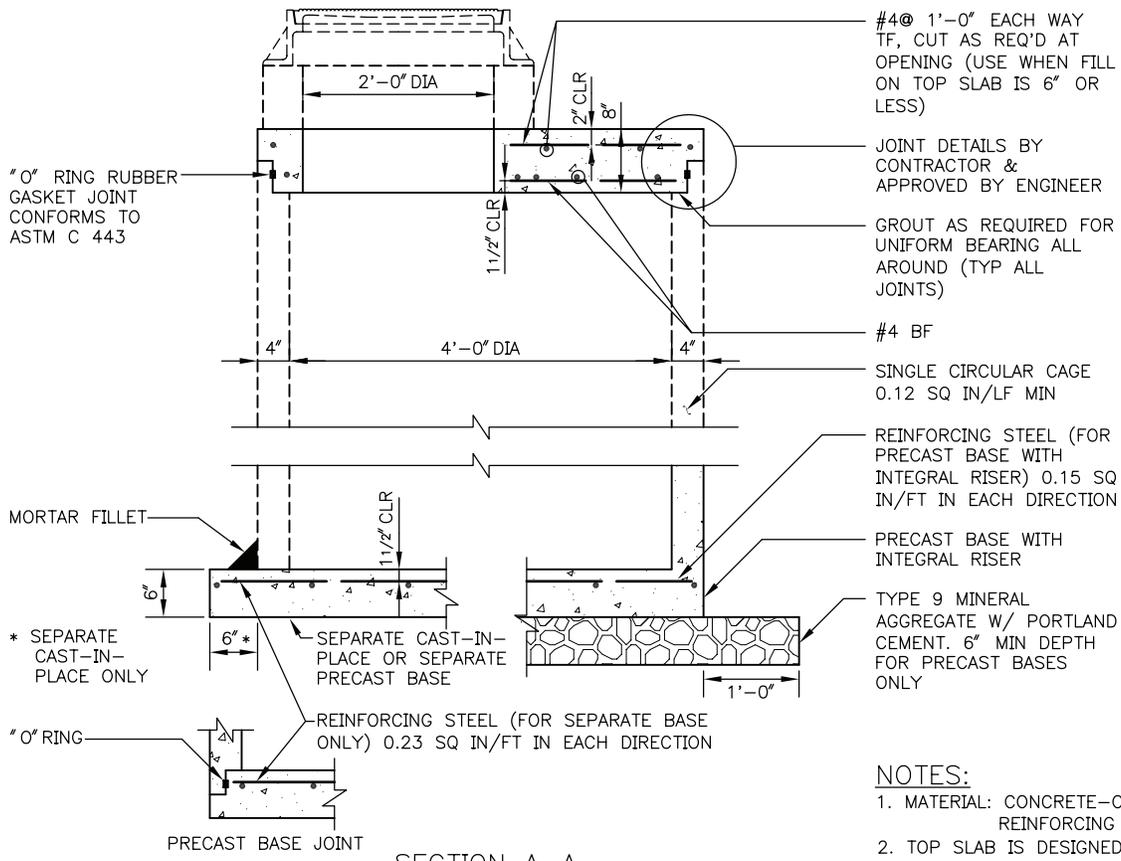
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

TYPE 200 MANHOLE



SECTION A-A

#4@ 1'-0" EACH WAY TF, CUT AS REQ'D AT OPENING (USE WHEN FILL ON TOP SLAB IS 6" OR LESS)

JOINT DETAILS BY CONTRACTOR & APPROVED BY ENGINEER

GROUT AS REQUIRED FOR UNIFORM BEARING ALL AROUND (TYP ALL JOINTS)

#4 BF

SINGLE CIRCULAR CAGE 0.12 SQ IN/LF MIN

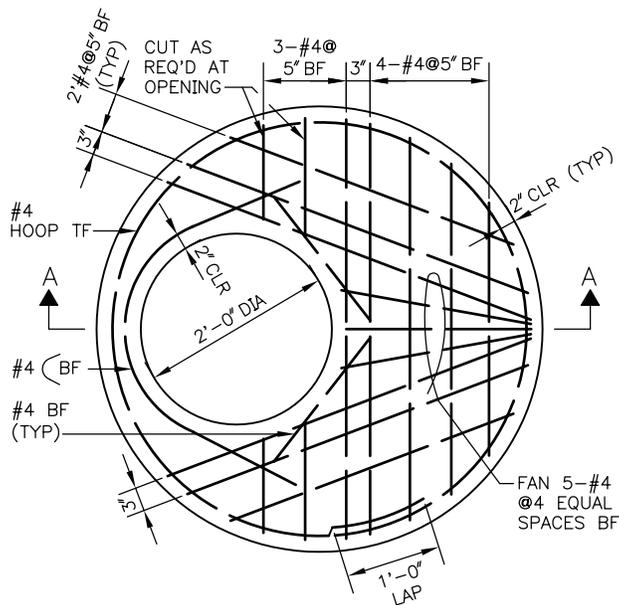
REINFORCING STEEL (FOR PRECAST BASE WITH INTEGRAL RISER) 0.15 SQ IN/FT IN EACH DIRECTION

PRECAST BASE WITH INTEGRAL RISER

TYPE 9 MINERAL AGGREGATE W/ PORTLAND CEMENT. 6" MIN DEPTH FOR PRECAST BASES ONLY

NOTES:

1. MATERIAL: CONCRETE—CLASS AX
REINFORCING STEEL—ASTM A 615 GR 60
2. TOP SLAB IS DESIGNED FOR 3'-0" MAX COVER
BASE IS DESIGNED FOR 20'-0" MAX COVER
3. HEIGHT 8'-0" TO 12'-0":
MIN. REQUIRED SOIL BEARING = 3300 LBS/SQ FT
4. HEIGHT 12'-0" TO 20'-0":
MIN. REQUIRED SOIL BEARING = 3800 LBS/SQ FT



TYPE 200 MH-TOP SLAB

REF STD SPEC SEC 7-05



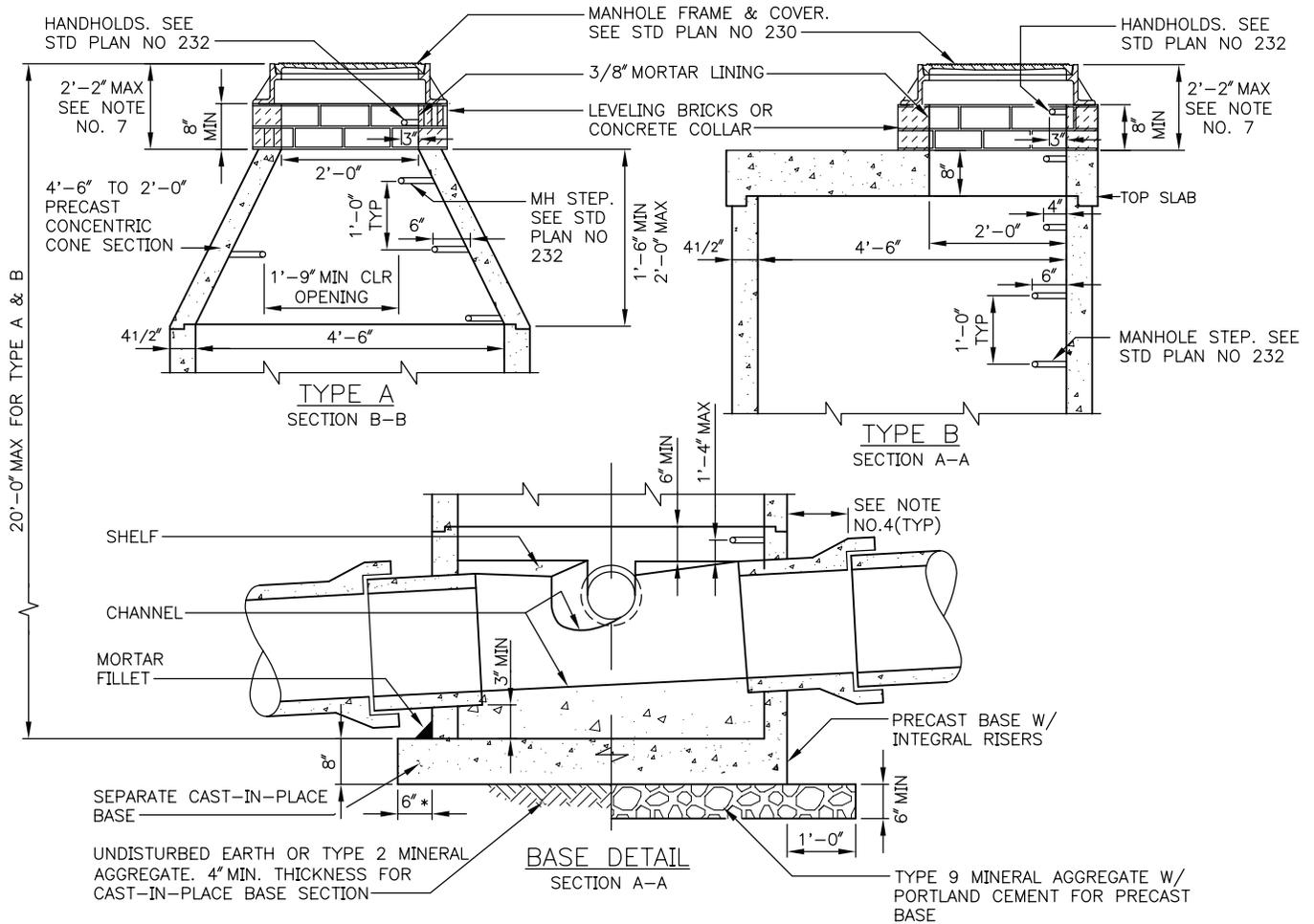
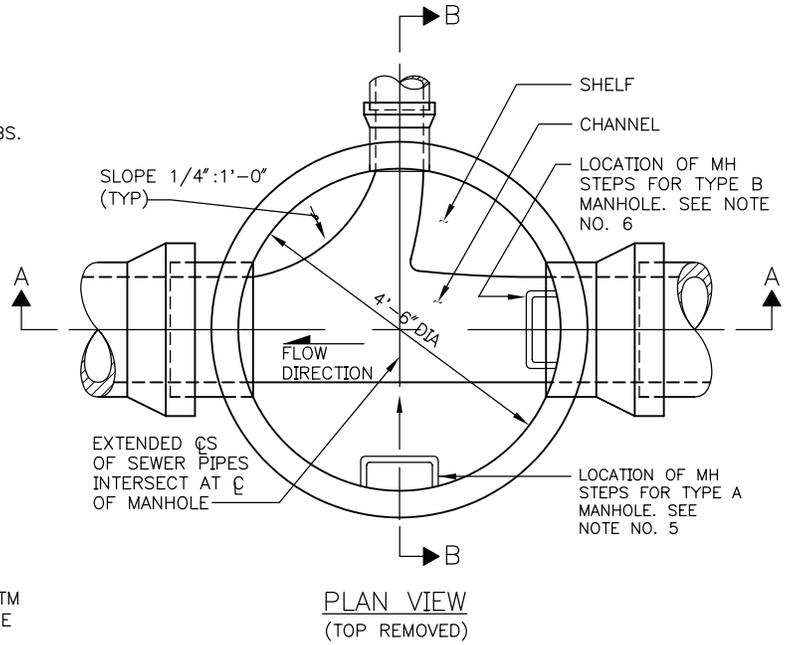
City of Seattle

NOT TO SCALE

TYPE 200 MANHOLE
TOP & BOTTOM SLABS

NOTES:

1. TYPE A MANHOLE DESIGNATES MANHOLES WITH PRECAST CONCENTRIC CONE SECTIONS.
2. TYPE B MANHOLE DESIGNATES MANHOLES WITH TOP SLABS.
3. TOP SLAB AND BASE SECTION DETAILS, SEE STANDARD PLAN NO 201b.
4. MAXIMUM DIMENSION FROM OUTSIDE MANHOLE WALL TO THE FIRST PIPE JOINT, THE GREATER OF 1/2 INSIDE PIPE DIAMETER OR 1'-0".
5. FOR TYPE A MANHOLE, LOCATE MANHOLE STEPS ON THE SIDE PERPENDICULAR TO THE DIRECTION OF THE FLOW IN THE CHANNEL.
6. FOR TYPE B MANHOLE, LOCATE MANHOLE STEPS OPPOSITE TO THE DOWNSTREAM OPENING.
7. TOTAL HEIGHT OF AN EXTENSION, MANHOLE FRAME AND LEVELING BRICKS SHALL NOT EXCEED 2'-2".
8. MANHOLE BASE SECTIONS SHOWN IN SECTION A-A AND SECTION B-B ARE TYPICAL FOR TYPE A AND TYPE B MANHOLES.
9. THE MAXIMUM HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS THE MANHOLE WALL THICKNESS. THE MINIMUM HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 4 INCHES. MINIMUM DISTANCE BETWEEN HOLES IS 8 INCHES.
10. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 443.



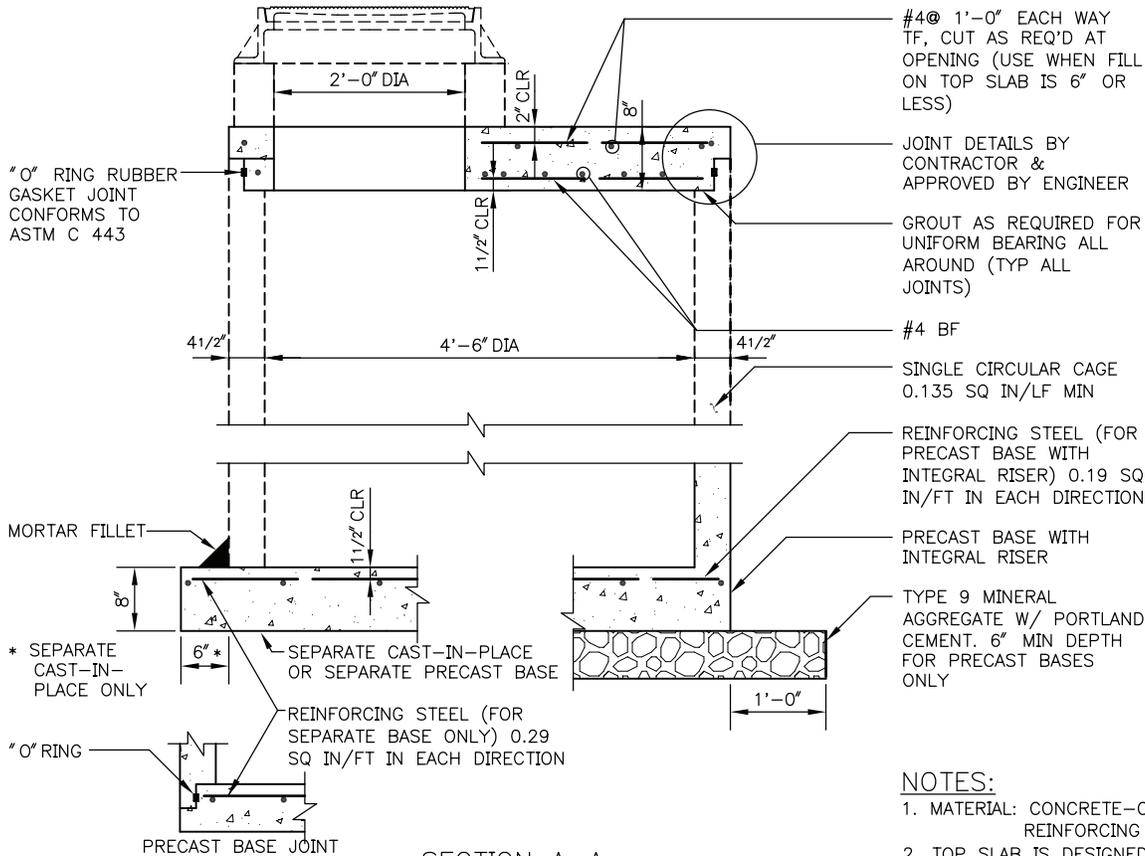
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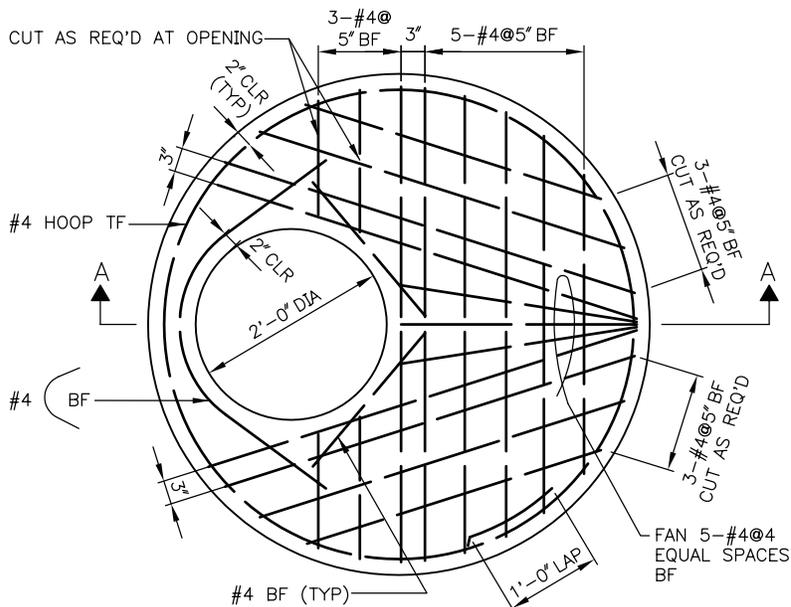
City of Seattle

NOT TO SCALE

TYPE 201 MANHOLE



SECTION A-A



TYPE 201 MH-TOP SLAB

NOTES:

1. MATERIAL: CONCRETE-CLASS AX
REINFORCING STEEL-ASTM A 615 GR 60
2. TOP SLAB IS DESIGNED FOR 3'-0" MAX COVER
BASE IS DESIGNED FOR 20'-0" MAX COVER
3. HEIGHT 8'-0" TO 12'-0":
MIN. REQUIRED SOIL BEARING = 3300 LBS/SQ FT
4. HEIGHT 12'-0" TO 20'-0":
MIN. REQUIRED SOIL BEARING = 3800 LBS/SQ FT

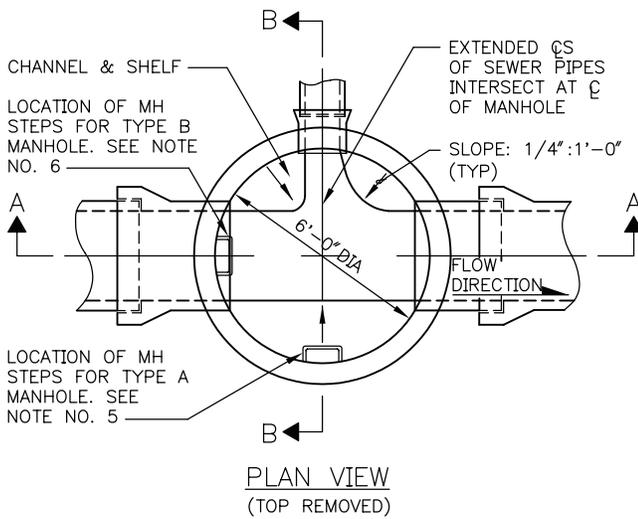
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City of Seattle

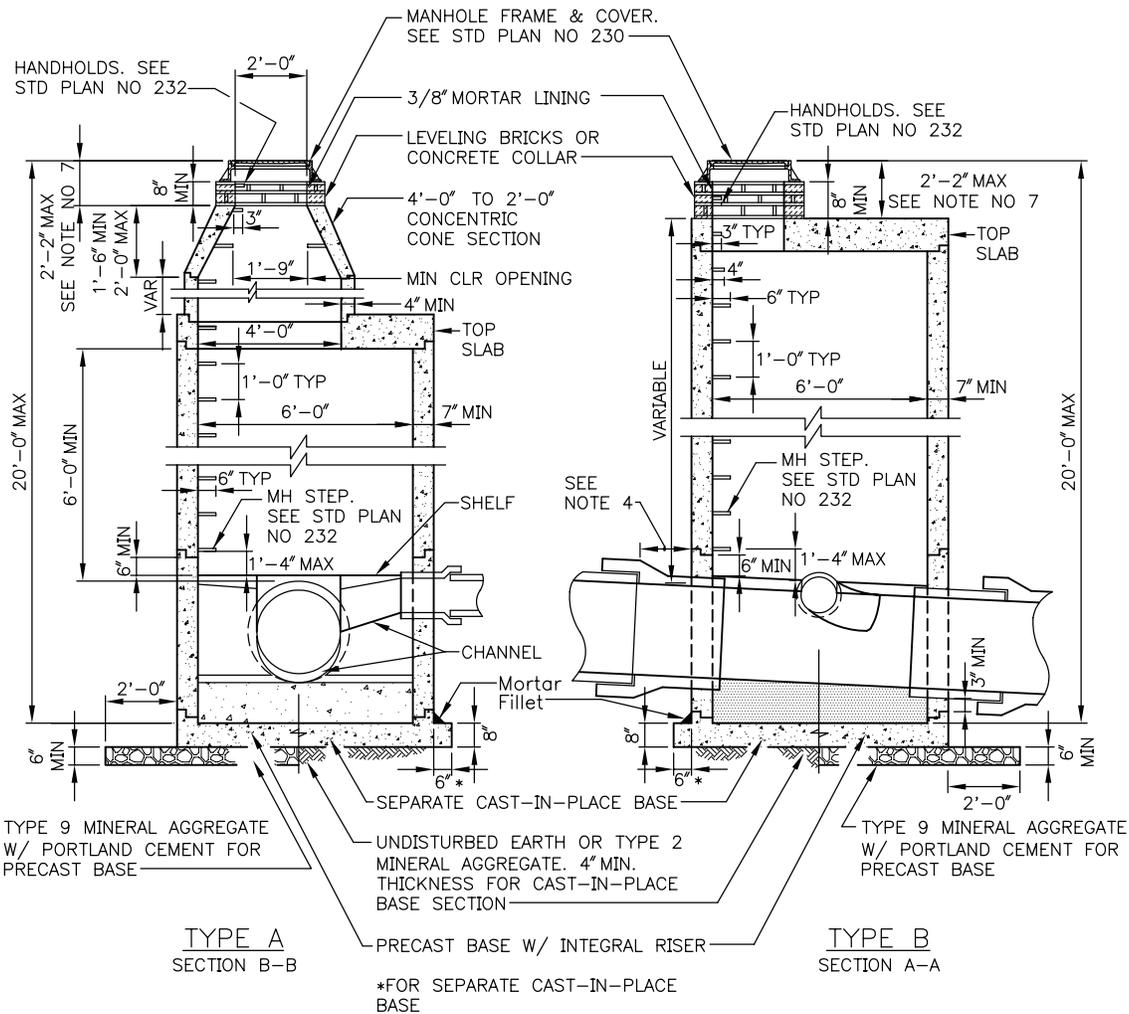
NOT TO SCALE

TYPE 201 MANHOLE
TOP & BOTTOM SLABS



NOTES:

1. MH 202 TYPE A DESIGNATES A MANHOLE TOP SLAB WITH A 4'-0" DIA ACCESS.
2. MH 202 TYPE B DESIGNATES A MANHOLE TOP SLAB WITH A 2'-0" DIA ACCESS.
3. TOP SLAB AND BASE SECTION DETAILS, SEE STANDARD PLAN NO 202b.
4. MAXIMUM DIMENSION FROM OUTSIDE MANHOLE WALL TO THE FIRST PIPE JOINT. THE GREATER OF 1/2 INSIDE PIPE DIAMETER OR 1'-0".
5. FOR TYPE A MANHOLE, LOCATE MANHOLE STEPS ON THE SIDE PERPENDICULAR TO THE DIRECTION OF THE FLOW IN THE CHANNEL.
6. FOR TYPE B MANHOLE, LOCATE MANHOLE STEPS OPPOSITE TO THE DOWNSTREAM OPENING.
7. TOTAL HEIGHT OF AN EXTENSION, MANHOLE FRAME & COVER AND LEVELING BRICKS SHALL NOT EXCEED 2'-2".
8. MANHOLE BASE SECTIONS SHOWN IN SECTION A-A AND SECTION B-B ARE TYPICAL FOR TYPE A AND TYPE B MANHOLES.
9. THE MAXIMUM HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS THE MANHOLE WALL THICKNESS. THE MINIMUM HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 4 INCHES. MINIMUM DISTANCE BETWEEN HOLES IS 1'-0" INCHES.
10. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 443.



REF STD SPEC SEC 7-05



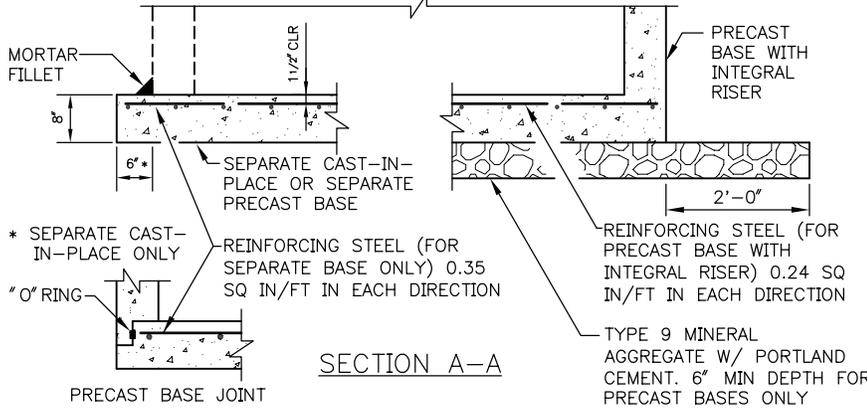
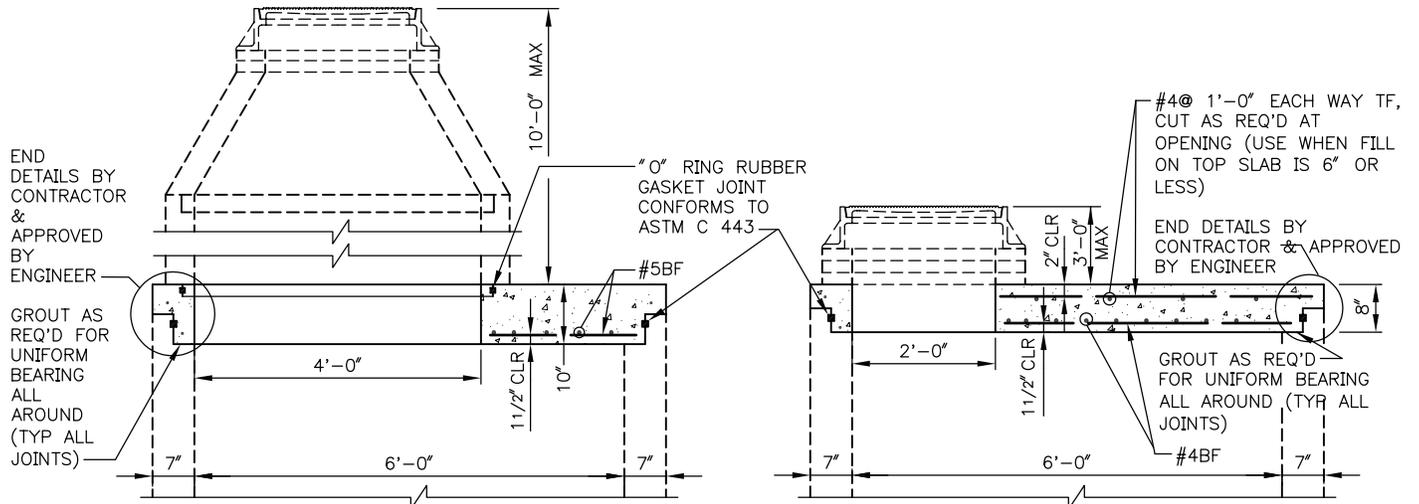
City of Seattle

NOT TO SCALE

TYPE 202 MANHOLE

STANDARD PLAN NO 202b

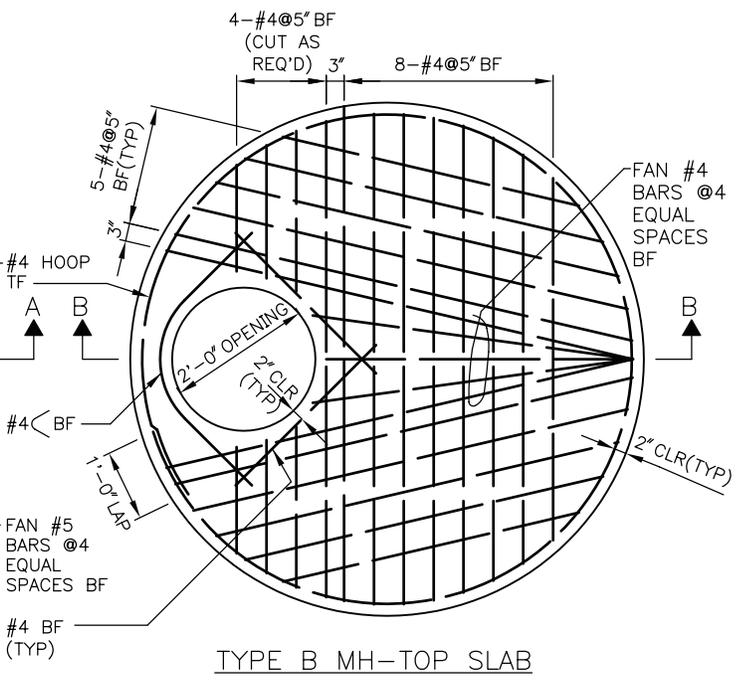
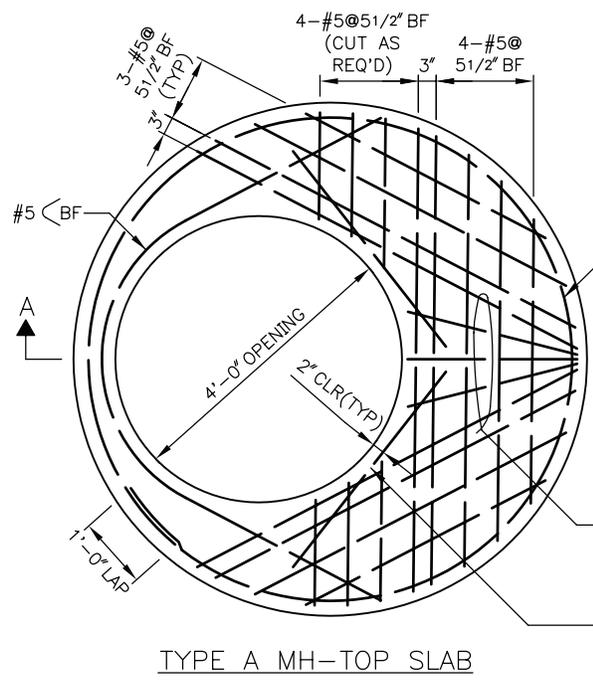
REV DATE: 2003



SECTION B-B
TOP SLAB ONLY

NOTES:

1. MATERIAL: CONCRETE—CLASS AX
REINFORCING STEEL—ASTM A 615 GR 60
2. TOP SLAB IS DESIGNED FOR 10'-0" MAX COVER FOR TYPE A AND 3'-0" MAX COVER FOR TYPE B
3. BASE IS DESIGNED FOR 20'-0" MAX COVER
4. HEIGHT 8'-0" TO 12'-0":
MIN REQUIRED SOIL BEARING = 3300 LBS/SQ FT
5. HEIGHT 12'-0" TO 20'-0":
MIN REQUIRED SOIL BEARING = 3800 LBS/SQ FT



TYPE A MH-TOP SLAB

TYPE B MH-TOP SLAB

REF STD SPEC SEC 7-05



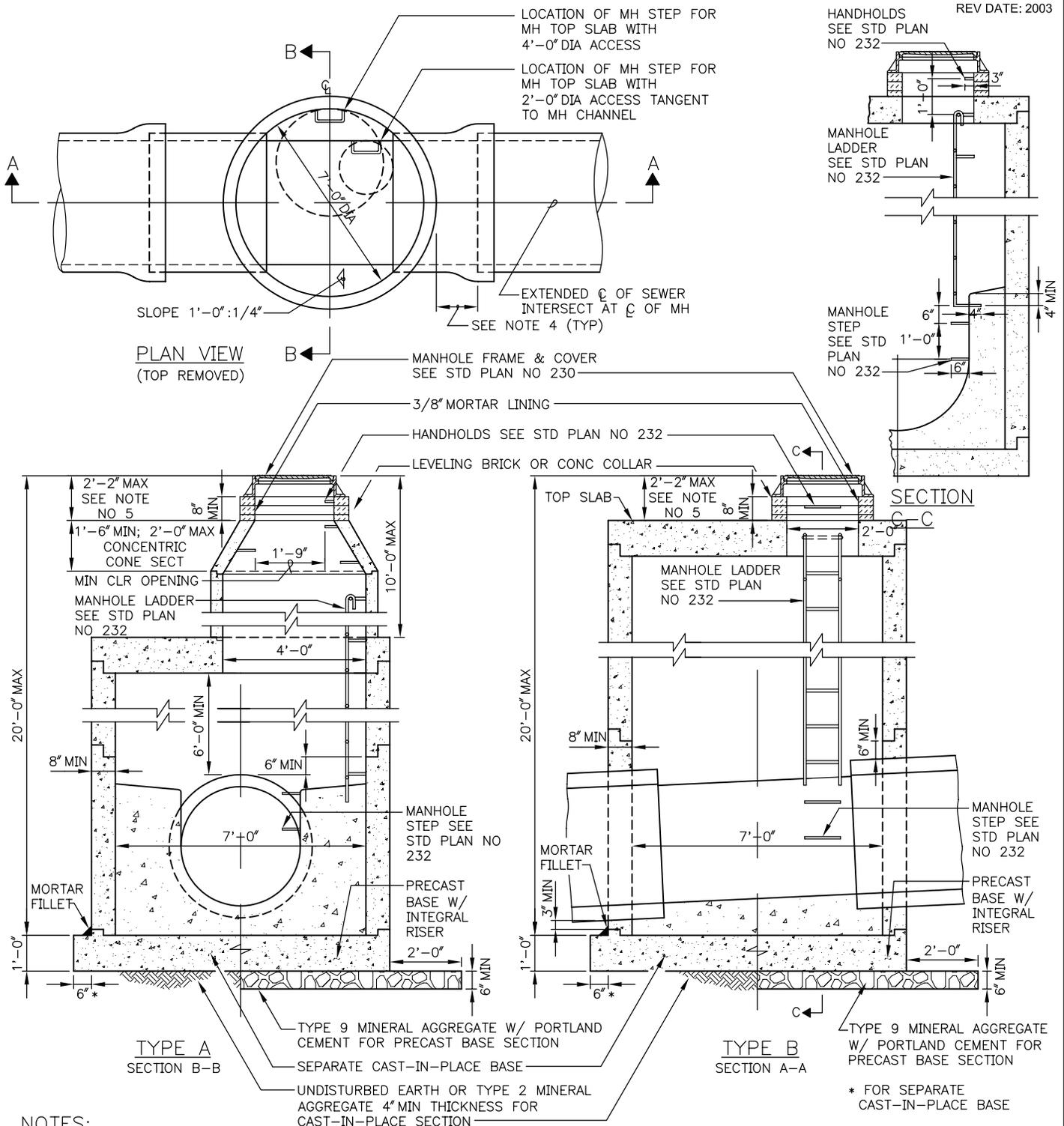
City of Seattle

NOT TO SCALE

TYPE 202 MANHOLE
TOP & BOTTOM SLABS

STANDARD PLAN NO 203a

REV DATE: 2003



NOTES:

1. TYPE A MH DESIGNATES A MH TOP SLAB WITH A 4'-0" DIA ACCESS.
2. TYPE B MH DESIGNATES A MH TOP SLAB WITH A 2'-0" DIA ACCESS.
3. TOP SLAB AND BASE SECTION DETAILS, SEE STD PLAN NO 203b.
4. MAX DIMENSION FROM OUTSIDE MH WALL TO THE FIRST PIPE FLEX JOINT. THE GREATER OF 1/2 INSIDE PIPE DIAMETER OR 1'-0".
5. TOTAL HEIGHT OF FRAME EXTENSIONS, MH FRAME AND COVER, AND LEVELING BRICKS SHALL NOT EXCEED 2'-2".
6. MH BASE SECTIONS SHOWN IN SECTION A-A AND SECTION B-B ARE TYPICAL FOR TYPE A AND TYPE B MHS.
7. MAX HOLE SIZE IS EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE PLUS THE MH WALL THICKNESS. MIN DISTANCE BETWEEN HOLES IS 1'-0".
8. PRECAST MH COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 443.

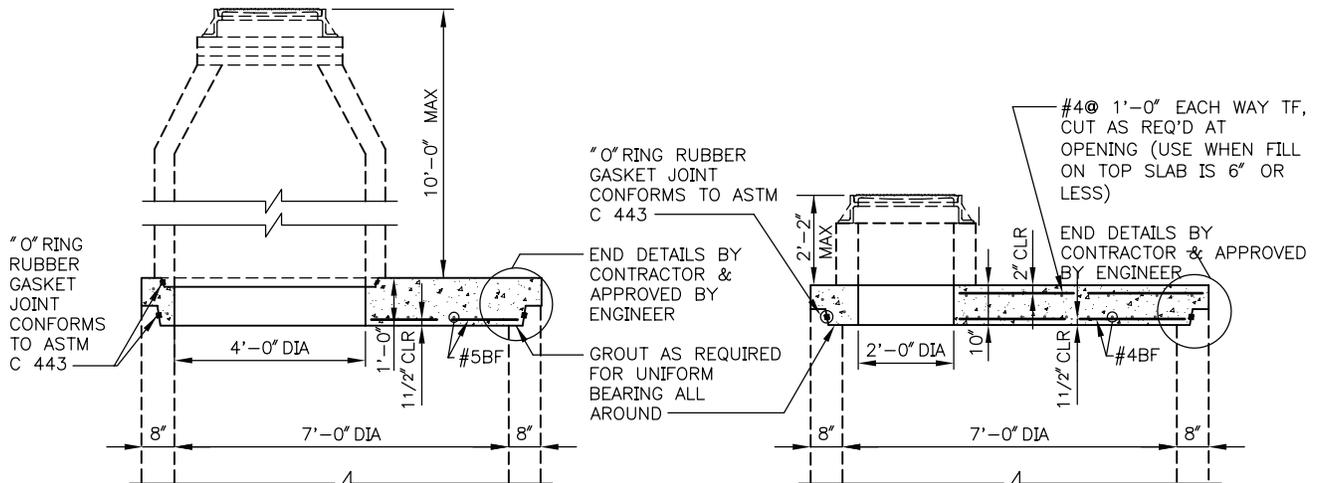
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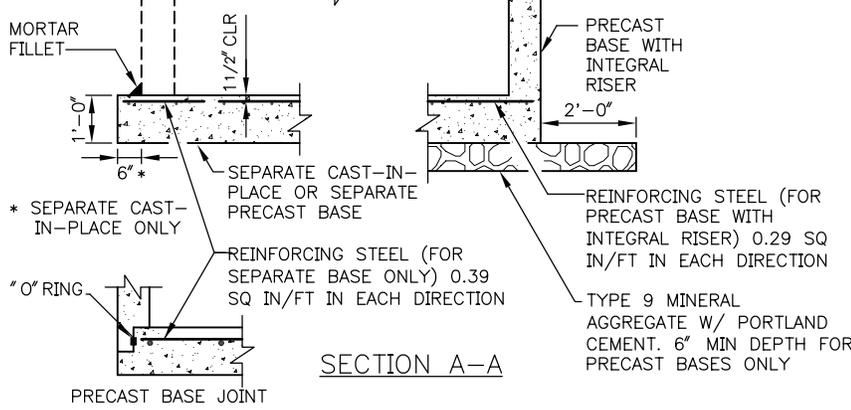
City of Seattle

NOT TO SCALE

TYPE 203 MANHOLE



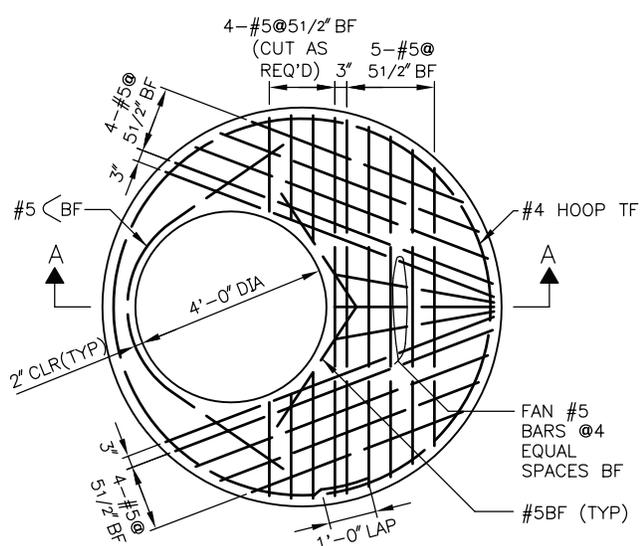
SECTION B-B
TOP SLAB ONLY



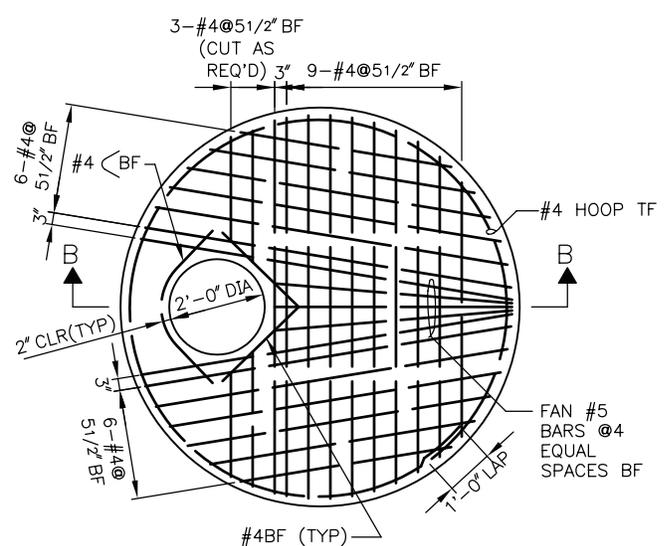
SECTION A-A
PRECAST BASE JOINT

NOTES:

1. MATERIAL: CONCRETE—CLASS AX
REINFORCING STEEL—ASTM A 615 GR 60
2. TOP SLAB IS DESIGNED FOR 10'-0" MAX COVER FOR TYPE A AND 2'-2" MAX COVER FOR TYPE B
3. BASE IS DESIGNED FOR 20'-0" MAX COVER
4. HEIGHT 8'-0" TO 12'-0":
MIN REQUIRED SOIL BEARING = 3300 LBS/SQ FT
5. HEIGHT 12'-0" TO 20'-0":
MIN REQUIRED SOIL BEARING = 3800 LBS/SQ FT



TYPE A MH-TOP SLAB



TYPE B MH-TOP SLAB

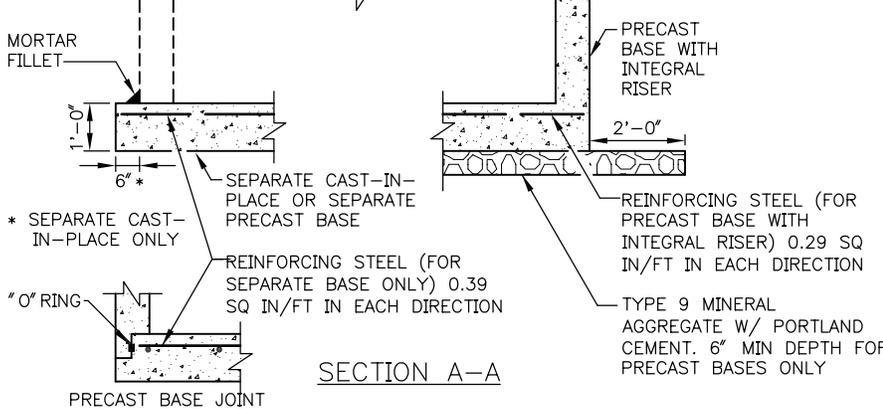
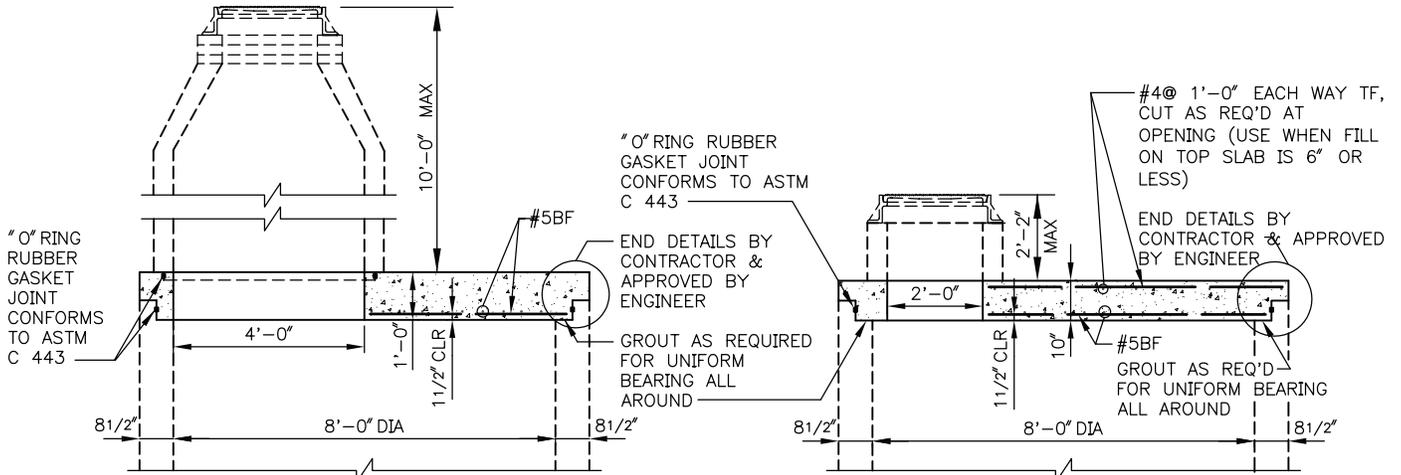
REF STD SPEC SEC 7-05



City of Seattle

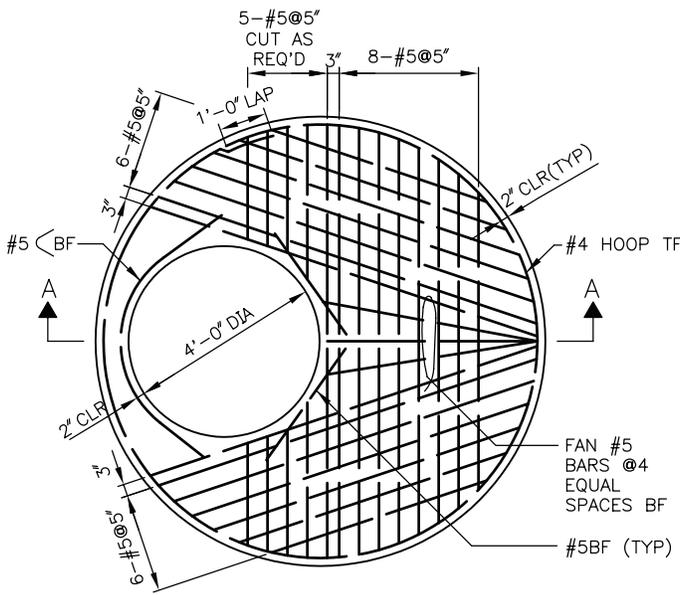
NOT TO SCALE

TYPE 203 MANHOLE
TOP & BOTTOM SLABS

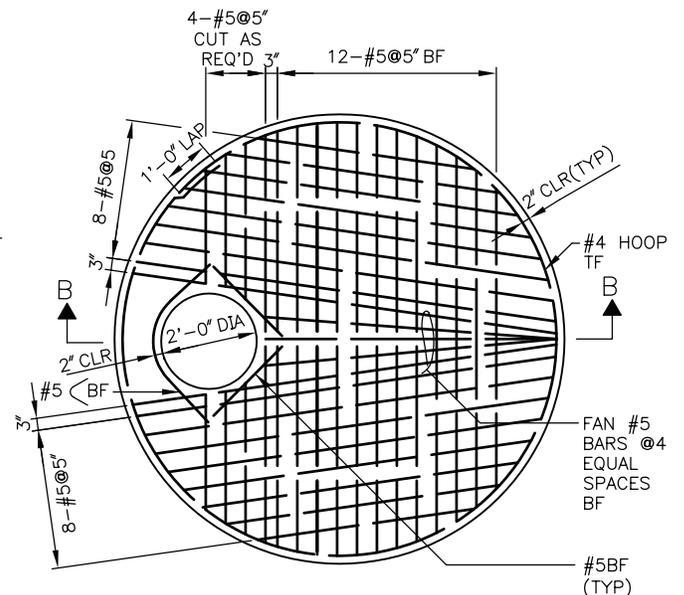


NOTES:

1. MATERIAL: CONCRETE—CLASS AX
REINFORCING STEEL—ASTM A 615 GR 60
2. TOP SLAB IS DESIGNED FOR 10'-0" MAX COVER FOR TYPE A AND 2'-2" MAX COVER FOR TYPE B
3. BASE IS DESIGNED FOR 20'-0" MAX COVER
4. HEIGHT 8'-0" TO 12'-0":
MIN REQUIRED SOIL BEARING = 3300 LBS/SQ FT
5. HEIGHT 12'-0" TO 20'-0":
MIN REQUIRED SOIL BEARING = 3800 LBS/SQ FT



TYPE A MH-TOP SLAB



TYPE B MH-TOP SLAB

REF STD SPEC SEC 7-05



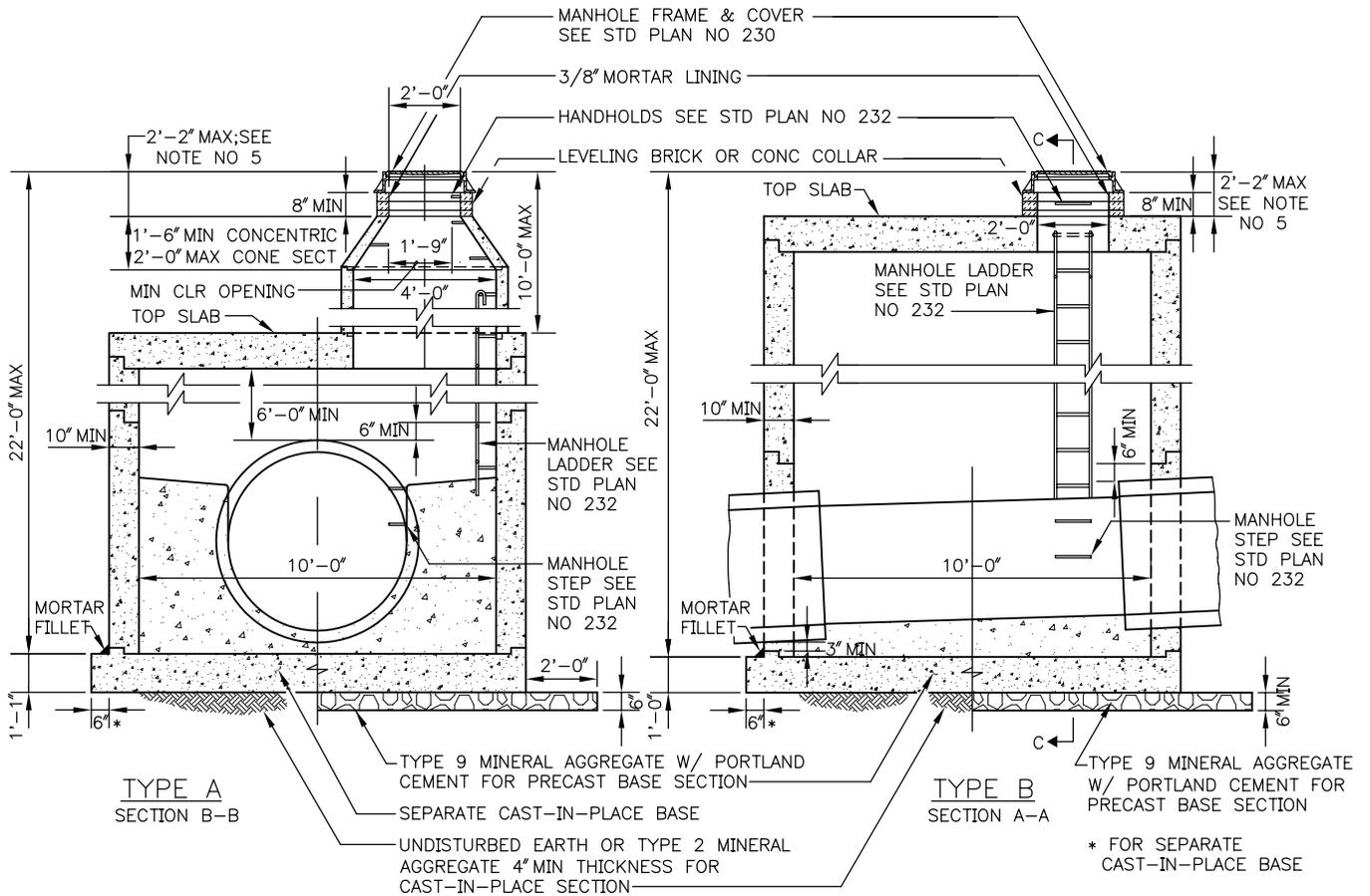
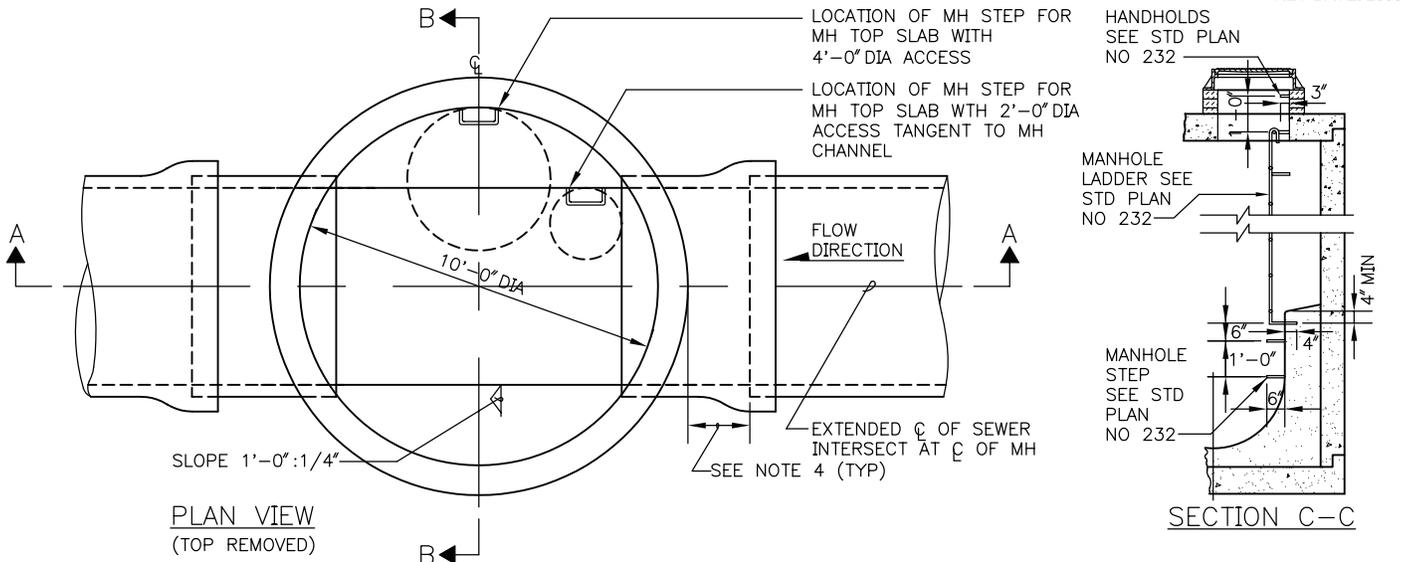
City of Seattle

NOT TO SCALE

TYPE 204 MANHOLE
TOP & BOTTOM SLABS

STANDARD PLAN NO 205a

REV DATE: 2003



NOTES:

1. TYPE A MH DESIGNATES A MH TOP SLAB WITH A 4'-0" DIA ACCESS.
2. TYPE B MH DESIGNATES A MH TOP SLAB WITH A 2'-0" DIA ACCESS.
3. TOP SLAB AND BASE SECTION DETAILS, SEE STD PLAN NO 205b.
4. MAX DIMENSION FROM OUTSIDE MH WALL TO THE FIRST PIPE JOINT. THE GREATER OF 1/2 INSIDE PIPE DIAMETER OR 1'-0".
5. TOTAL HEIGHT OF FRAME EXTENSIONS, MH FRAME AND COVER, AND LEVELING BRICKS SHALL NOT EXCEED 2'-2".
6. MH BASE SECTIONS SHOWN IN SECTION A-A AND SECTION B-B ARE TYPICAL FOR TYPE A AND TYPE B MHS.
7. MAX HOLE SIZE IS EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE PLUS THE MH WALL THICKNESS. MIN DISTANCE BETWEEN HOLES IS 1'-0".

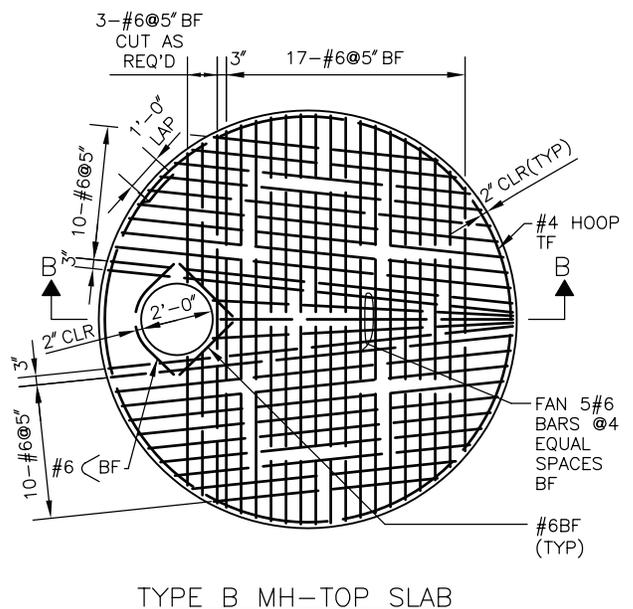
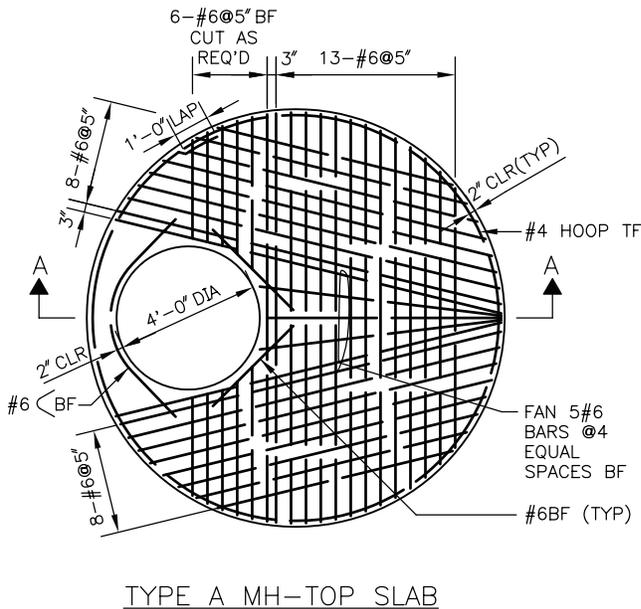
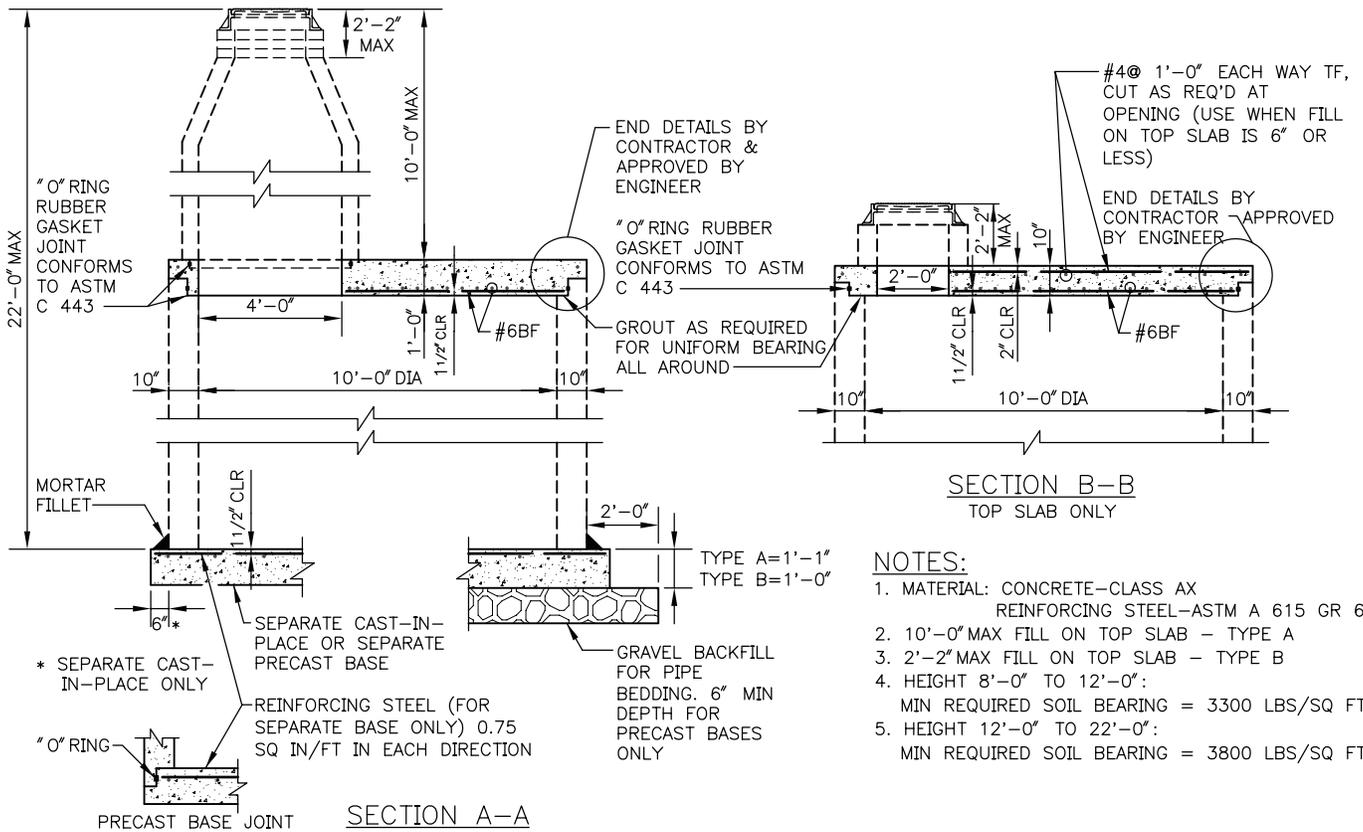
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

TYPE 205 MANHOLE



REF STD SPEC SEC 7-05



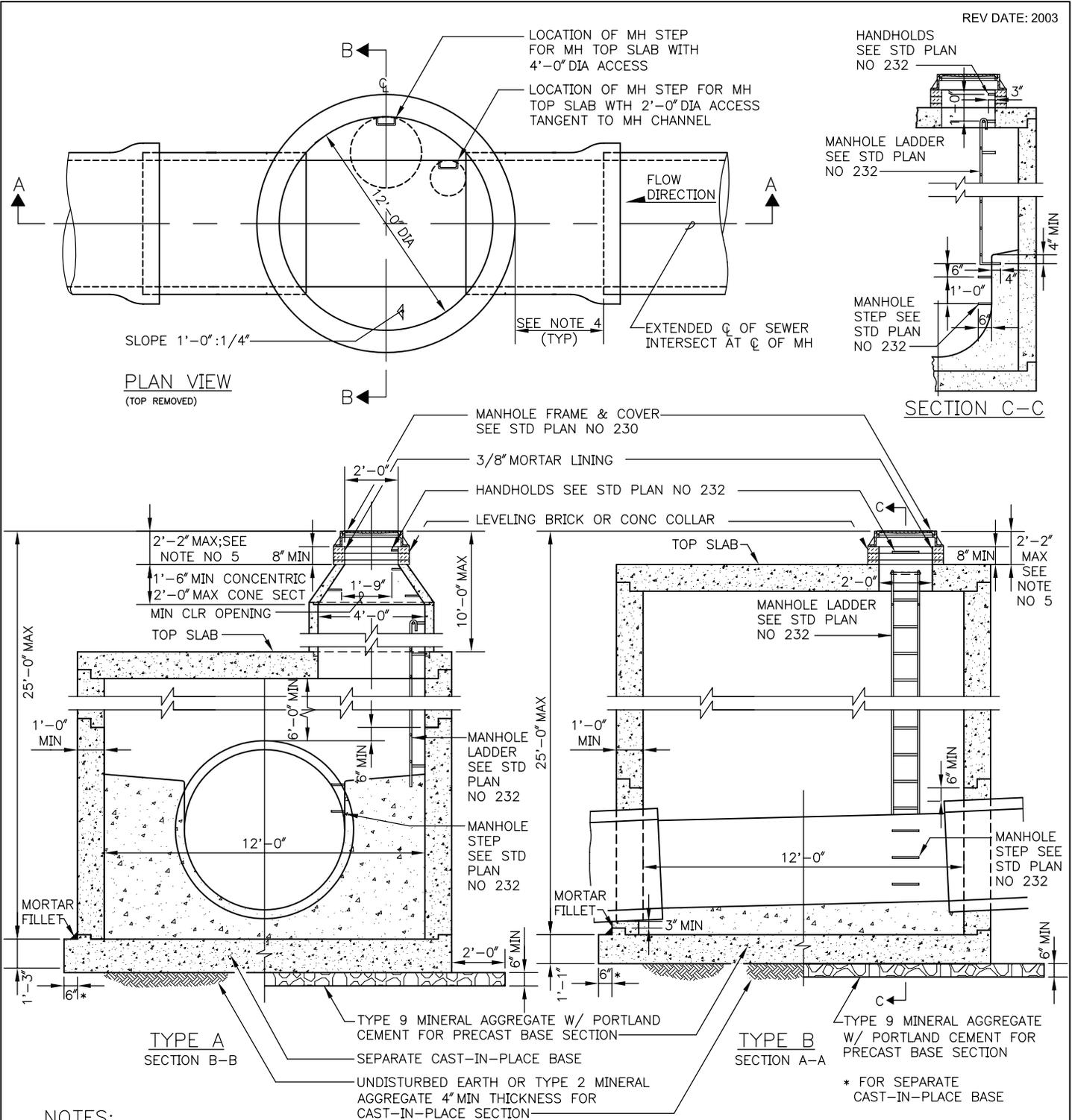
City of Seattle

NOT TO SCALE

TYPE 205 MANHOLE
TOP & BOTTOM SLABS

STANDARD PLAN NO 206a

REV DATE: 2003



NOTES:

1. TYPE A MH DESIGNATES A MH TOP SLAB WITH A 4'-0" DIA ACCESS.
2. TYPE B MH DESIGNATES A MH TOP SLAB WITH A 2'-0" DIA ACCESS.
3. TOP SLAB AND BASE SECTION DETAILS, SEE STD PLAN NO 206b.
4. MAX DIMENSION FROM OUTSIDE MH WALL TO THE FIRST PIPE JOINT, THE GREATER OF 1/2 INSIDE PIPE DIAMETER OR 1'-0" EXCEPT PVC AND CMP.
5. TOTAL HEIGHT OF FRAME EXTENSIONS, MH FRAME AND COVER, AND LEVELING BRICKS SHALL NOT EXCEED 2'-2".
6. MH BASE SECTIONS SHOWN IN SECTION A-A AND SECTION B-B ARE TYPICAL FOR TYPE A AND TYPE B MHS.
7. MAX HOLE SIZE IS EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE PLUS THE MH WALL THICKNESS. MIN DISTANCE BETWEEN HOLES IS 1'-0".

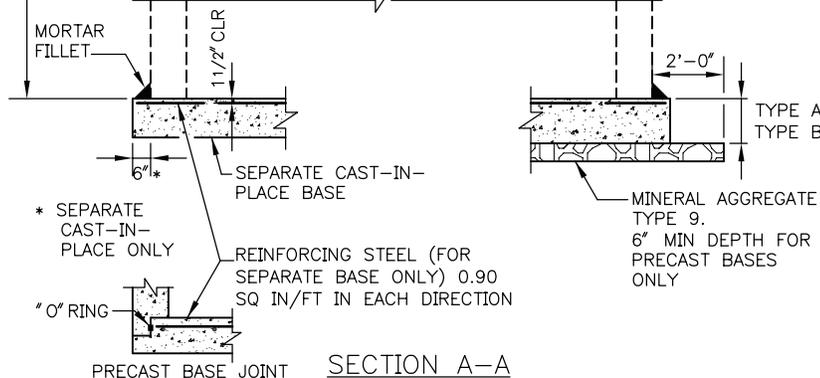
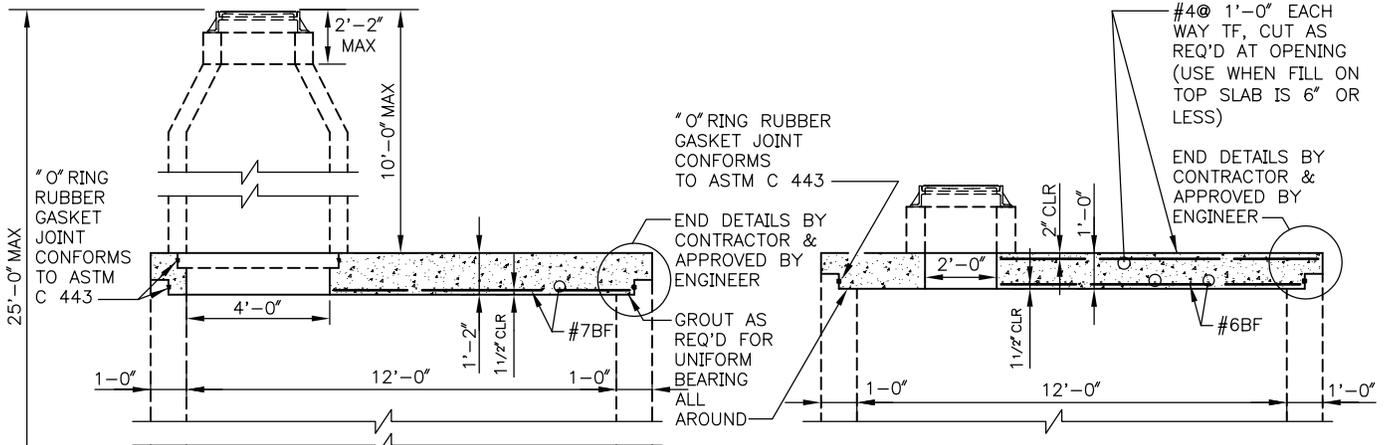
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City of Seattle

NOT TO SCALE

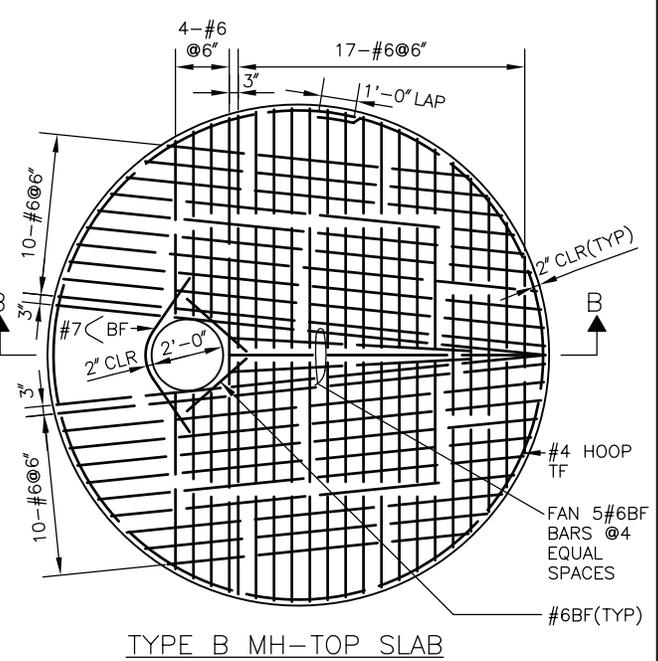
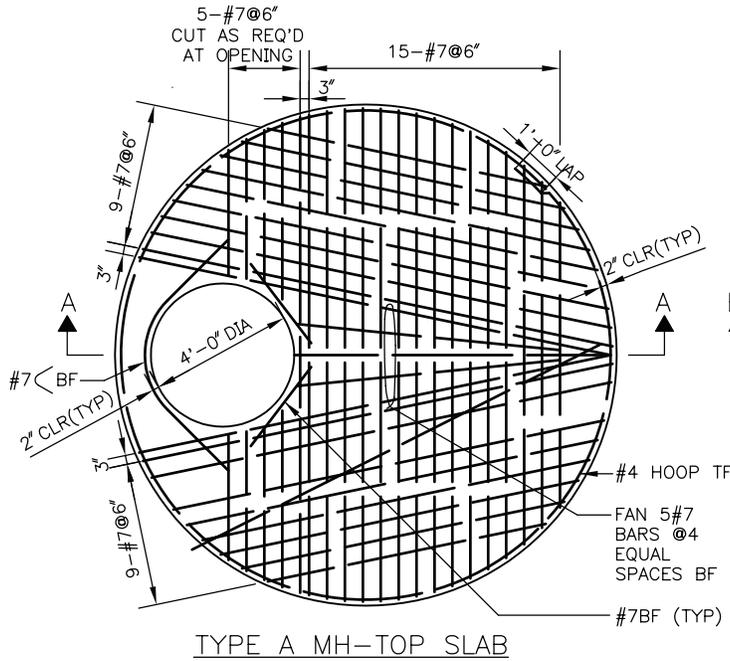
TYPE 206 MANHOLE



SECTION B-B
TOP SLAB ONLY

NOTES:

1. MATERIAL: CONCRETE-CLASS AX
REINFORCING STEEL-ASTM A 615 GR 60
2. 10'-0" MAX FILL ON TOP SLAB - TYPE A
3. 2'-2" MAX FILL ON TOP SLAB - TYPE B
4. HEIGHT 8'-0" TO 12'-0":
MIN REQUIRED SOIL BEARING = 3300 LBS/SQ FT
5. HEIGHT 12'-0" TO 25'-0":
MIN REQUIRED SOIL BEARING = 3800 LBS/SQ FT



TYPE A MH-TOP SLAB

TYPE B MH-TOP SLAB

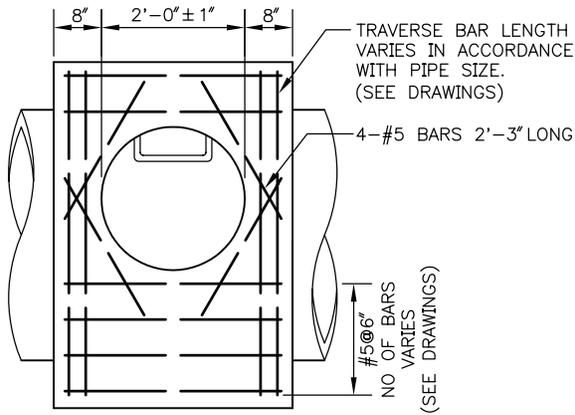
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

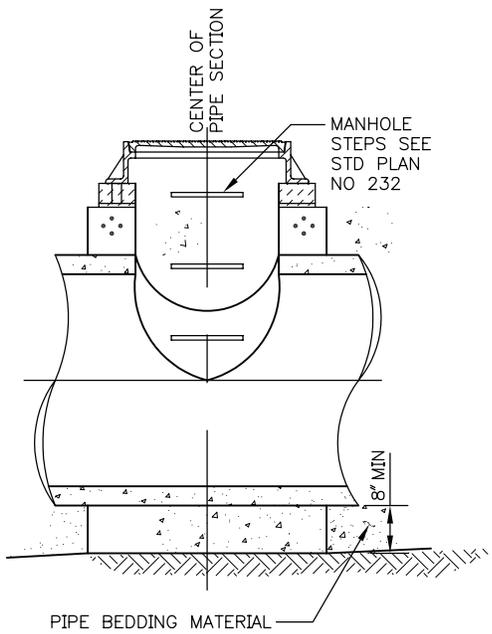
TYPE 206 MANHOLE
TOP & BOTTOM SLABS



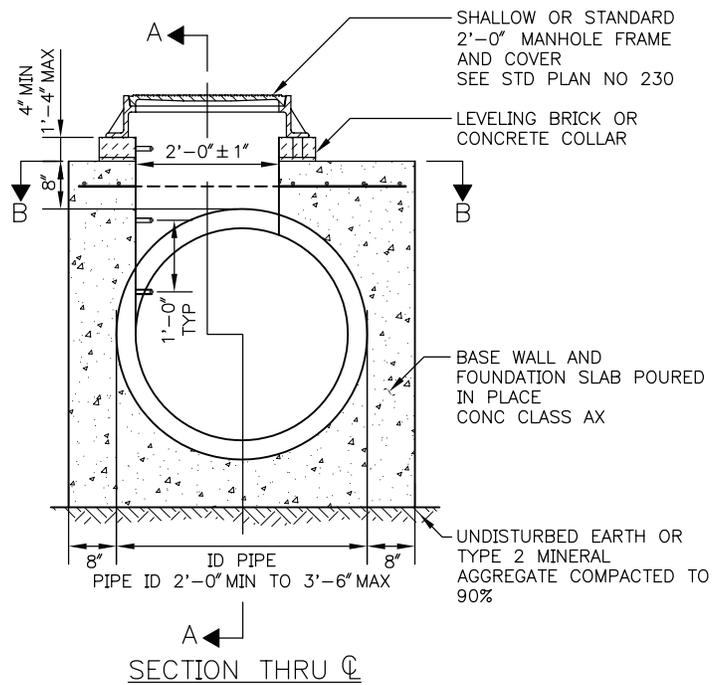
SECTION B-B

NOTE:

REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A 615 GR 60 AND SHALL HAVE A MIN COVER OF 2"



SECTION A-A



SECTION THRU C

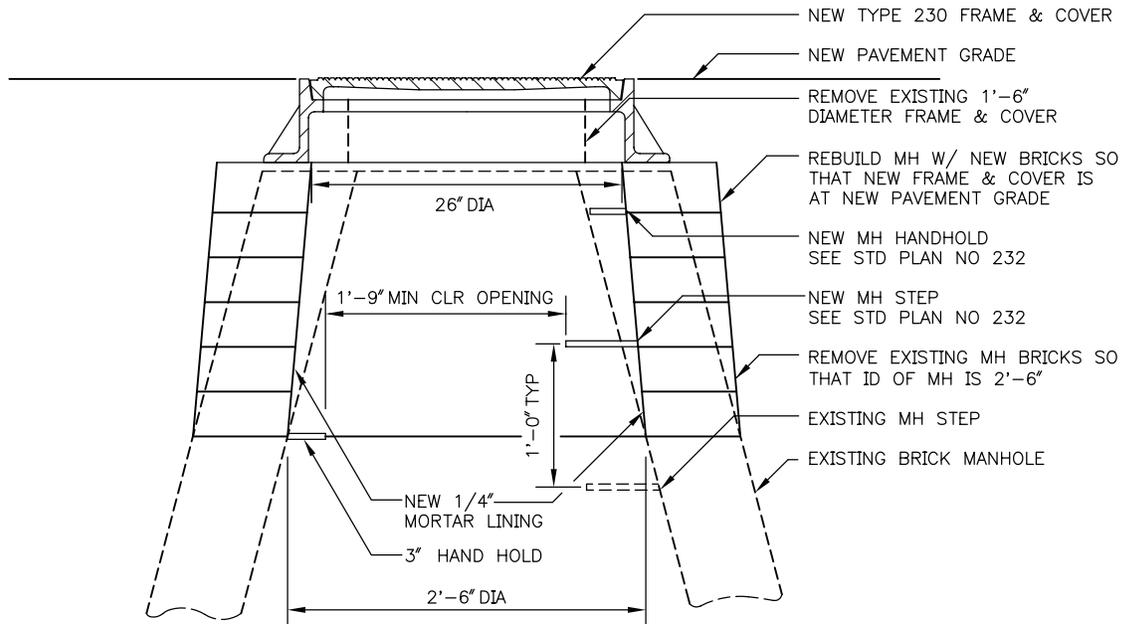
REF STD SPEC SEC 7-05



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NOT TO SCALE

TYPE 207 MANHOLE

**NOTES:**

1. NEW MANHOLE STEPS AND HANDHOLDS SHALL BE INSTALLED AND LOCATED 1'-0" OC FROM THE FIRST EXISTING STEP IN THE MANHOLE AND SHALL MATCH THE EXISTING TYPE OF STEP. ANY SUBSTITUTIONS SHALL BE APPROVED BY THE ENGINEER. A MINIMUM 1'-9" CLEAR OPENING SHALL BE MAINTAINED.
2. FOR 7" RIGID PAVEMENT, THE RING AND COVER SHALL BE CONSTRUCTED TO THE FINISHED GRADE OF THE PAVEMENT. REINFORCEMENT SHALL BE PLACED AROUND THE CASTING AT MID-POINT BETWEEN THE FINISH GRADE OF THE RIGID PAVEMENT AND THE TOP OF THE FLANGE. #4 REINFORCING BARS SHALL BE USED IN THE CONFIGURATION OF 2 SEPARATE SQUARES OFF-ROTATED 45 DEGREES FROM EACH OTHER AND GIVING A MINIMUM CLEARANCE OF 2" AT THE SHORTEST DISTANCE WITH THE FRAME.
3. FOR PAVEMENT DEPTH GREATER THAN 7", USE FRAME EXTENSION(S) AS SHOWN IN STANDARD PLAN NO 231 TO BRING THE COVER UP TO THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT.

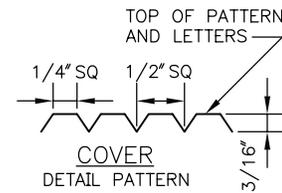
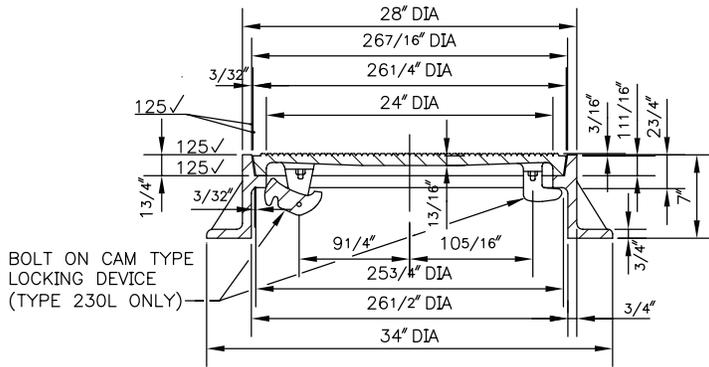
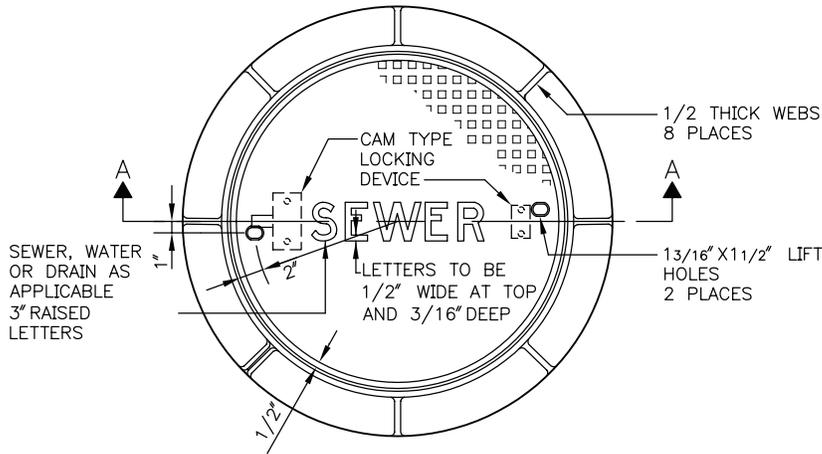
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

REBUILD EXISTING
BRICK MANHOLE



SECTION
A-A

NOTES:

1. DESIGNATE LOCKING COVER AS TYPE 230L FOR USE IN NON-VEHICULAR TRAFFIC AREAS.
2. FOR 7" RIGID PAVEMENT, THE FRAME AND COVER SHALL BE CONSTRUCTED TO THE FINISHED GRADE OF THE PAVEMENT. REINFORCEMENT SHALL BE PLACED AROUND THE CASTING AT MID-POINT BETWEEN THE FINISHED GRADE OF THE PAVEMENT AND THE TOP OF THE FLANGE. #4 REINFORCING BARS SHALL BE USED IN THE CONFIGURATION OF 2 SEPARATE SQUARES OFF-ROTATED 45 DEGREES FROM EACH OTHER AND GIVING A CLEARANCE OF 2 INCHES AT THE SHORTEST DISTANCE WITH THE FRAME
3. FOR RIGID PAVEMENT DEPTH GREATER THAN 7", USE FRAME EXTENSION(S) (STANDARD PLAN NO 231) TO BRING THE COVER UP TO THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING THE BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT
4. COVER THICKNESS IS MEASURED FROM THE BOTTOM OF THE PATTERN
5. REFER TO SECTION 5-05 FOR OTHER REQUIREMENTS FOR REINFORCING BARS
6. FRAMES SHALL BE MANUFACTURED FROM CAST IRON OR DUCTILE IRON
7. COVERS SHALL BE MANUFACTURED FROM DUCTILE IRON

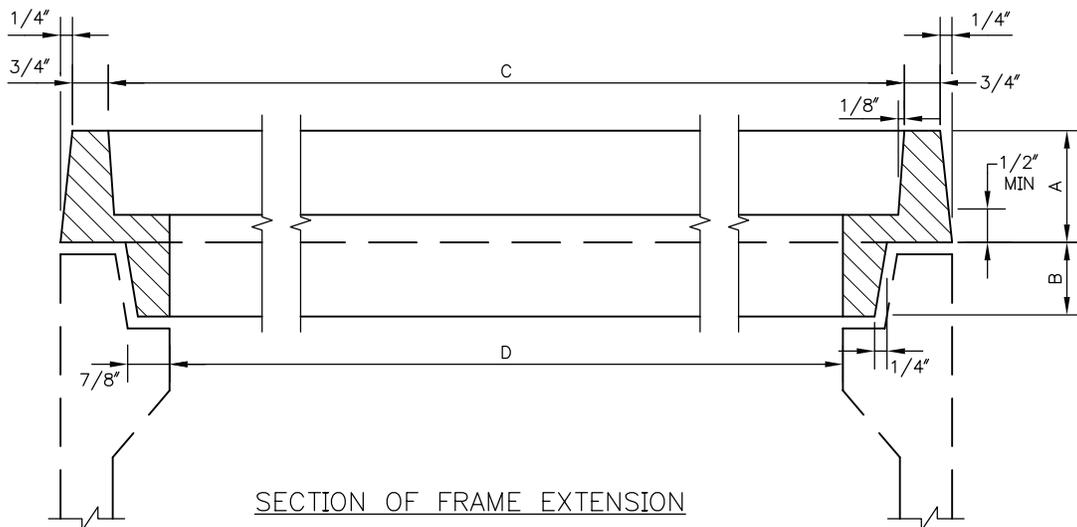
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

2'-0" DIAMETER
FRAME & COVER

NOTES:

1. DIMENSION "A" REFERS TO HEIGHT OF FRAME EXTENSION ABOVE MANHOLE FRAME
2. DIMENSIONS "B", "C" AND "D" SHALL MATCH THE MANHOLE FRAME AND COVER THAT THE FRAME EXTENSION TO BE USED ON
3. WHEN FRAME EXTENSIONS ARE USED ON A NEW MANHOLE FRAME AND COVER, THE FRAME EXTENSION SHALL BE PERMANENTLY ATTACHED TO THE MANHOLE FRAME AT THE FACTORY, NOT IN THE FIELD. APPROVAL OF ATTACHMENT METHOD IS REQUIRED
4. FRAME EXTENSIONS SHALL BE DUCTILE OR CAST IRON

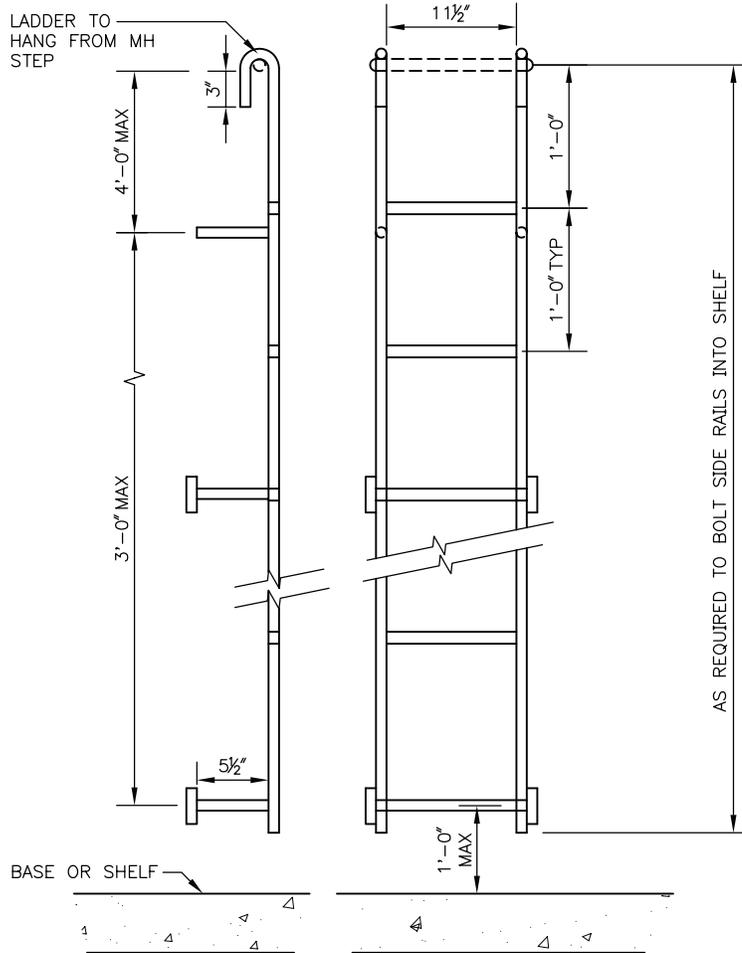
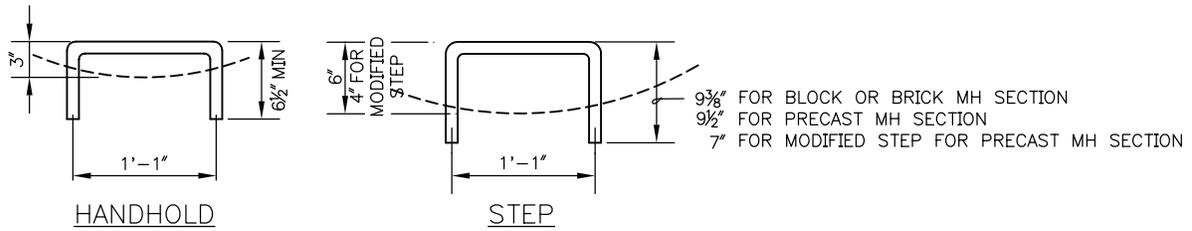
REF STD SPEC SEC 7-20



City of Seattle

NOT TO SCALE

FRAME EXTENSIONS



NOTE:

1. DIMENSIONS FOR THE MH LADDER AND STEP ARE MINIMUM REQUIREMENTS ONLY.
2. STEPS AND HANDHOLDS SHALL BE INSTALLED AT 1'-0" SPACING. WHEN THE DISTANCE FROM THE LAST (HIGHEST) STEP OR HANDHOLD TO THE TOP OF THE MH FRAME EXCEEDS 1'-0" AND ANOTHER STEP OR HANDHOLD CANNOT BE INSTALLED BECAUSE OF THE LOCATION OF THE MH FRAME, A HANDHOLD SHALL BE INSTALLED BETWEEN THE TOP 2 LAYERS OF BRICK.
3. IF BOTH STEPS AND LADDER ARE REQ'D IN ANY MH, THEY SHALL BE FROM THE SAME MANUFACTURER.

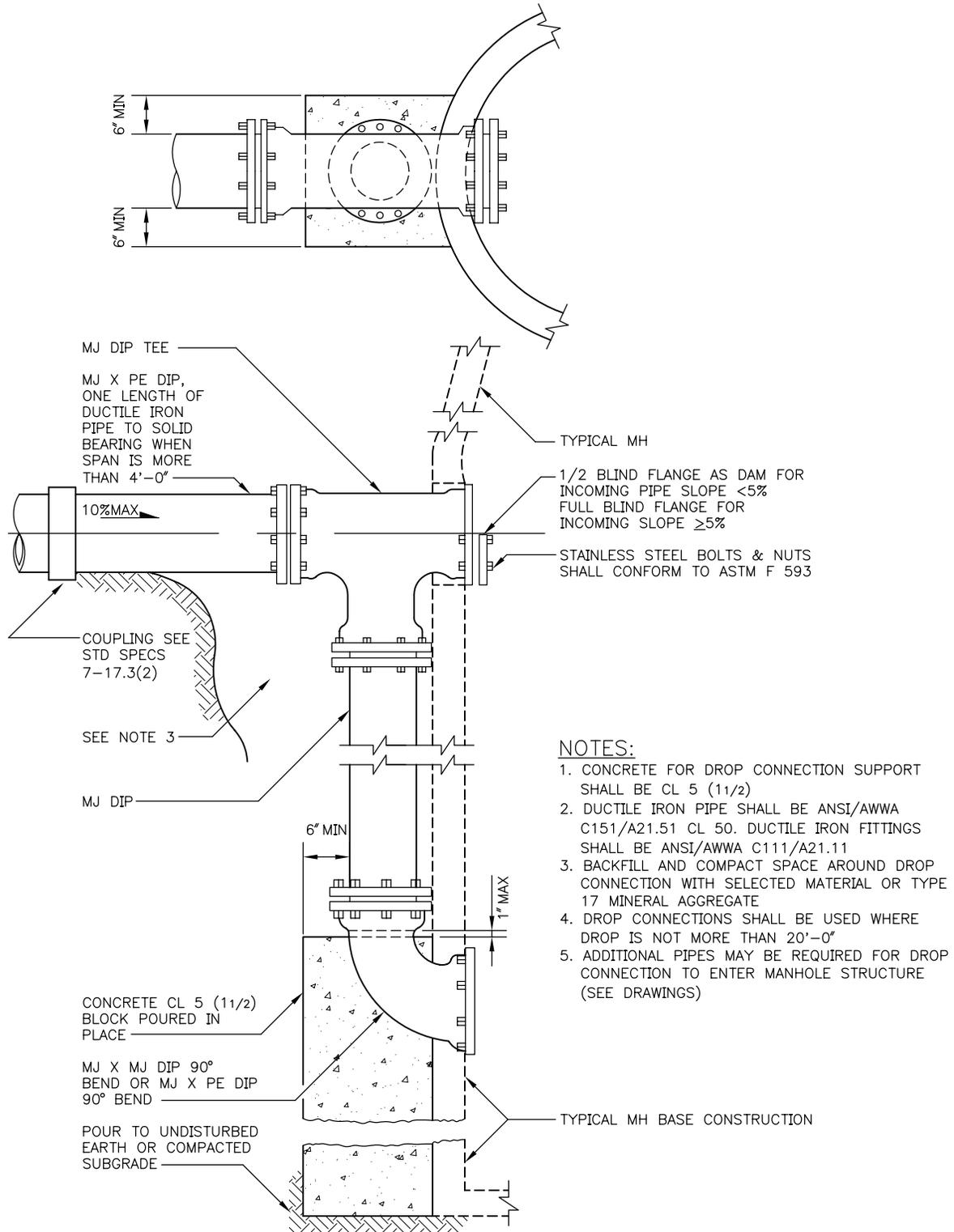
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

MANHOLE LADDER,
STEP AND HANDHOLD



NOTES:

1. CONCRETE FOR DROP CONNECTION SUPPORT SHALL BE CL 5 (1 1/2)
2. DUCTILE IRON PIPE SHALL BE ANSI/AWWA C151/A21.51 CL 50. DUCTILE IRON FITTINGS SHALL BE ANSI/AWWA C111/A21.11
3. BACKFILL AND COMPACT SPACE AROUND DROP CONNECTION WITH SELECTED MATERIAL OR TYPE 17 MINERAL AGGREGATE
4. DROP CONNECTIONS SHALL BE USED WHERE DROP IS NOT MORE THAN 20'-0"
5. ADDITIONAL PIPES MAY BE REQUIRED FOR DROP CONNECTION TO ENTER MANHOLE STRUCTURE (SEE DRAWINGS)

DUCTILE IRON OUTSIDE DROP CONNECTION

REF STD SPEC SEC 7-08



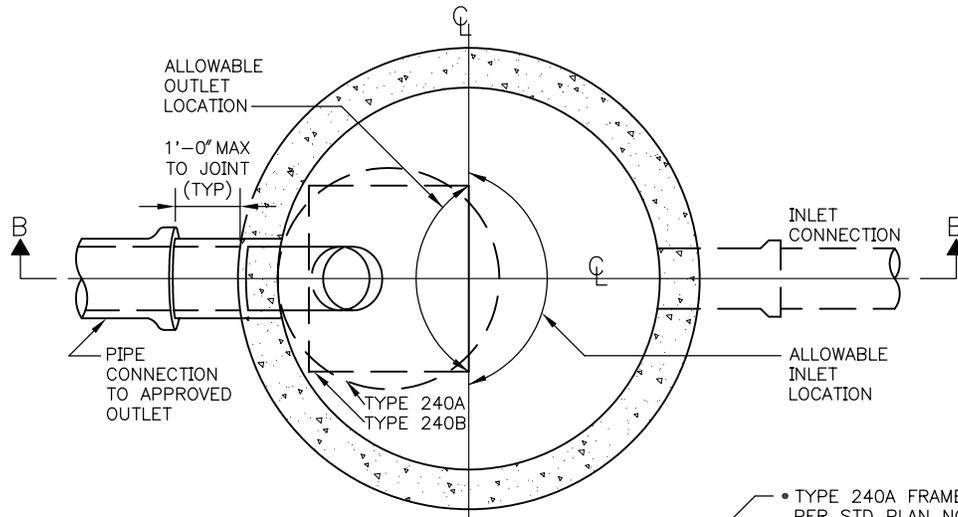
City of Seattle

NOT TO SCALE

OUTSIDE DROP CONNECTION

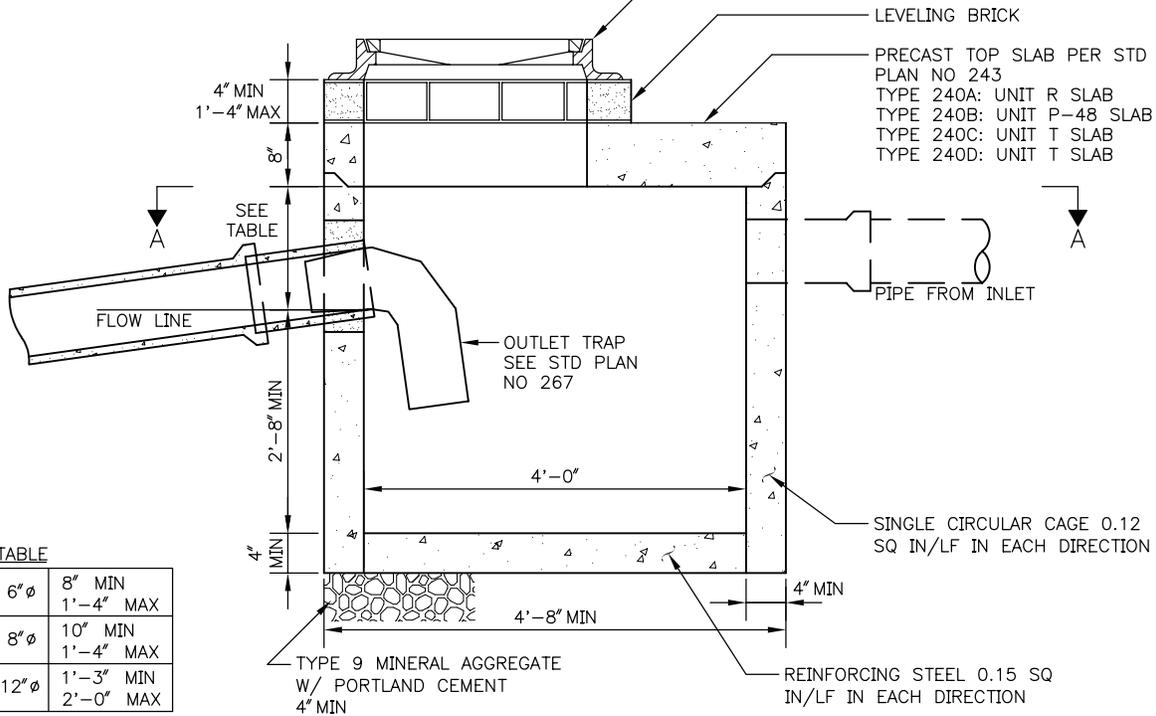
STANDARD PLAN NO 240

REV DATE: 2008



SECTION A-A

- TYPE 240A FRAME & COVER PER STD PLAN NO 230
- TYPE 240B FRAME & GRATE PER STD PLAN NO 264
- TYPE 240C FRAME PER STD PLAN NO 262 AND GRATE PER STD PLAN NO 265
- TYPE 240D FRAME PER STD PLAN NO 263 AND GRATE PER STD PLAN NO 265



SECTION B-B

TABLE

6" ϕ	8" MIN 1'-4" MAX
8" ϕ	10" MIN 1'-4" MAX
12" ϕ	1'-3" MIN 2'-0" MAX

NOTES:

1. FRAME & GRATE OR FRAME & COVER SHALL BE LOCATED OVER TRAP
2. INVERT OF INLET PIPE SHALL BE 2" MIN ABOVE INVERT OF OUTLET PIPE
3. FRAME AND GRATE SHALL BE LOCATED OVER OUTLET TRAP

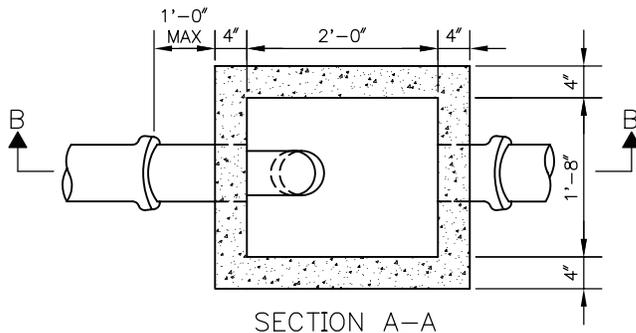
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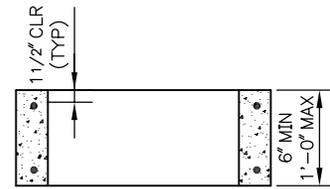
City of Seattle

NOT TO SCALE

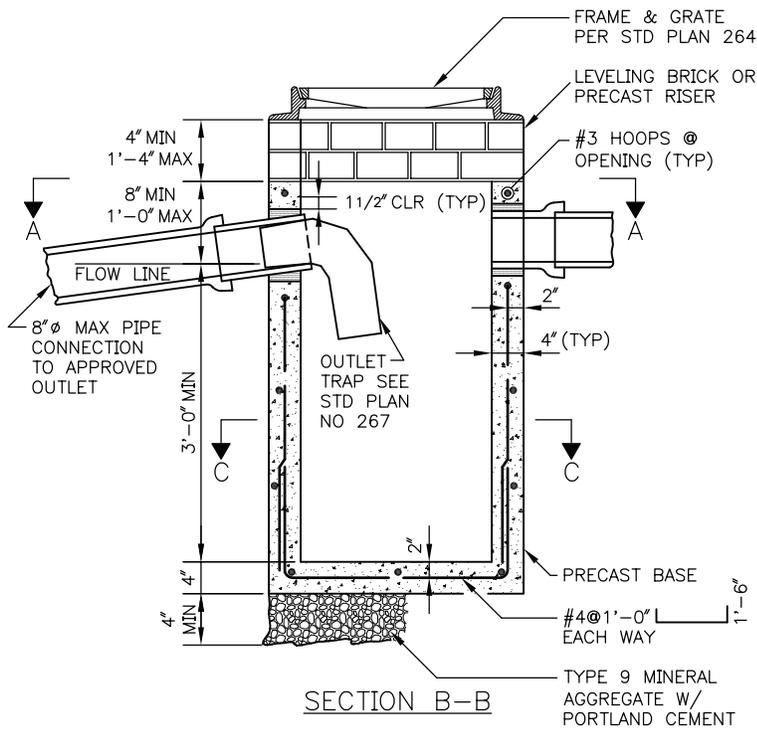
TYPE 240 CATCH BASIN



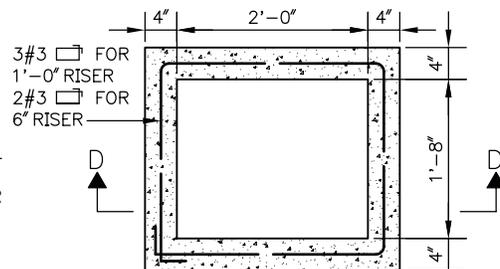
SECTION A-A



SECTION D-D



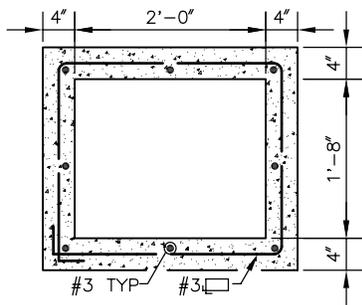
SECTION B-B



PRECAST RISER REINFORCING

NOTES:

1. THIS CATCH BASIN IS FOR INSTALLATIONS IN ALLEYS AND UNPAVED AREAS IN THE RIGHT-OF-WAY. ANY OTHER USE IN THE R/W WILL REQUIRE APPROVAL OF SPU
2. FOR CURB DISCHARGE INSTALLATION SEE STD PLAN NO 241b
3. INSTALL PER STD PLAN NO 261
4. MATERIAL: CONCRETE CLASS AX REINFORCING STEEL ASTM A615 GR60
5. INLET INVERT EL. TO BE HIGHER THAN OUTLET INVERT EL.



SECTION C-C

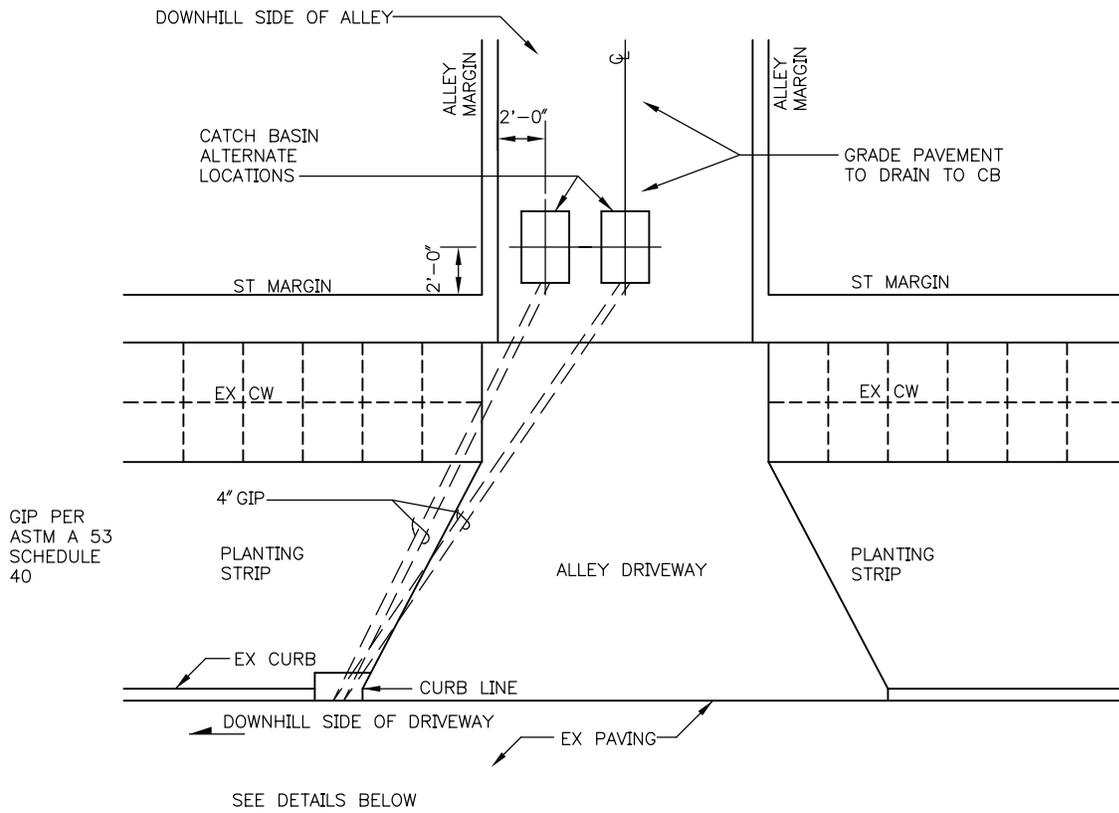
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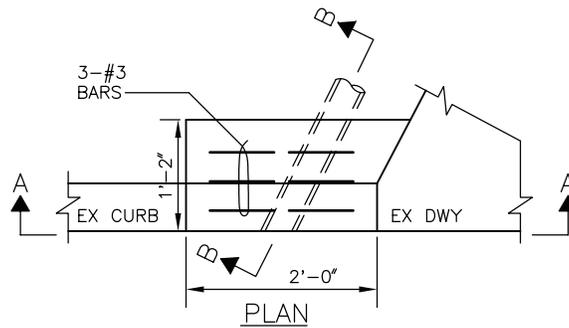
City of Seattle

NOT TO SCALE

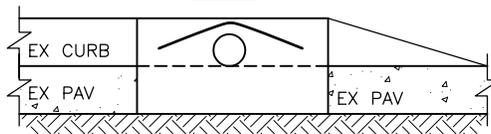
TYPE 241 CATCH BASIN



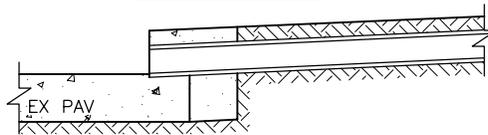
PLAN



PLAN



SECTION A-A



SECTION B-B

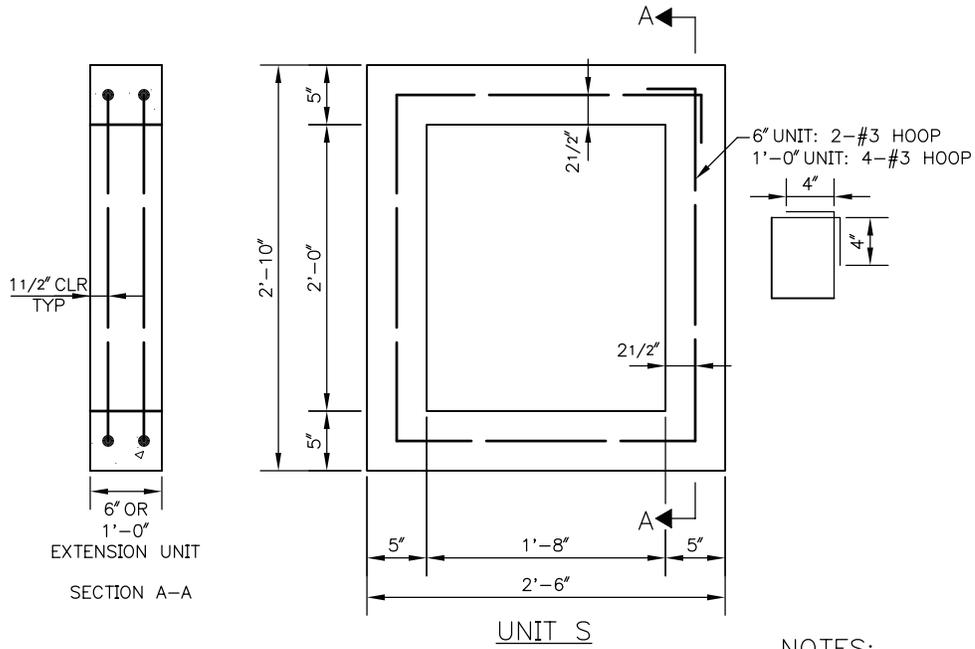
REF STD SPEC SEC 7-05 & 7-08



City of Seattle

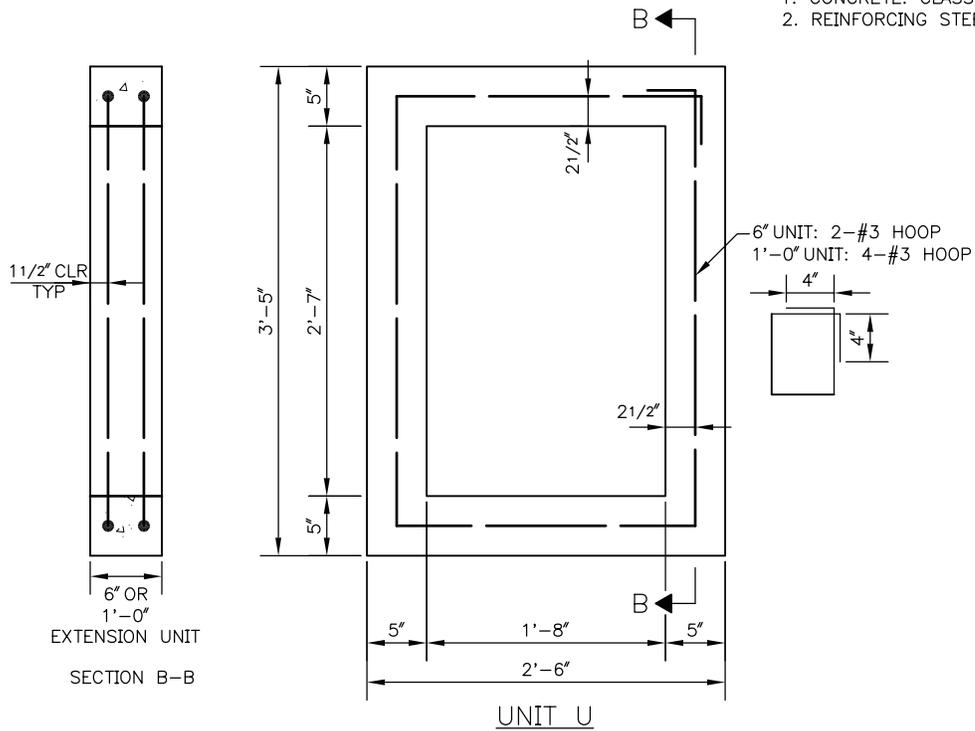
NOT TO SCALE

TYPE 241 CATCH BASIN INSTALLATIONS



NOTES:

1. CONCRETE: CLASS AX
2. REINFORCING STEEL: ASTM A615 GR 60



REF STD SPEC SEC 7-05



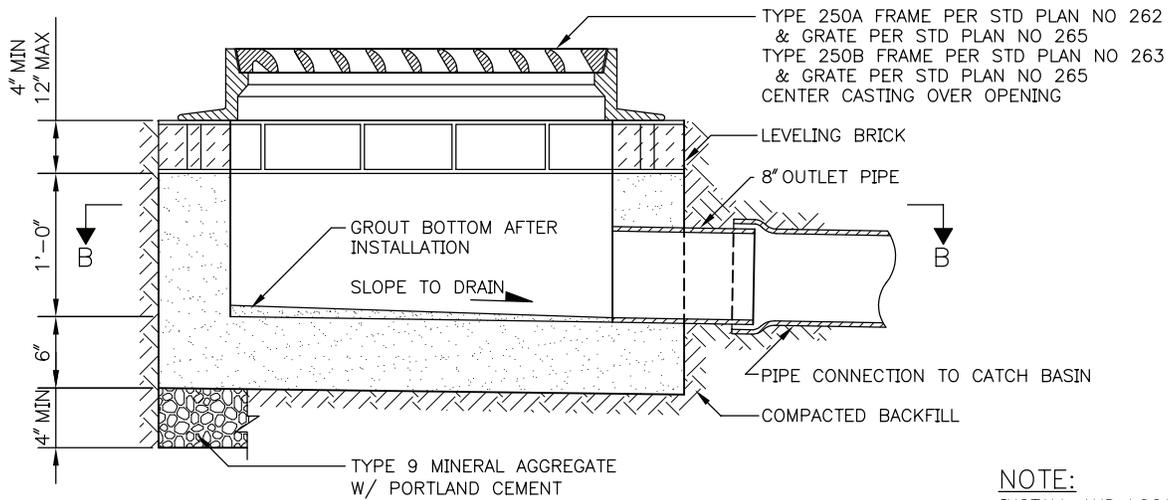
City of Seattle

NOT TO SCALE

PRECAST CATCH BASIN
EXTENSION RISERS

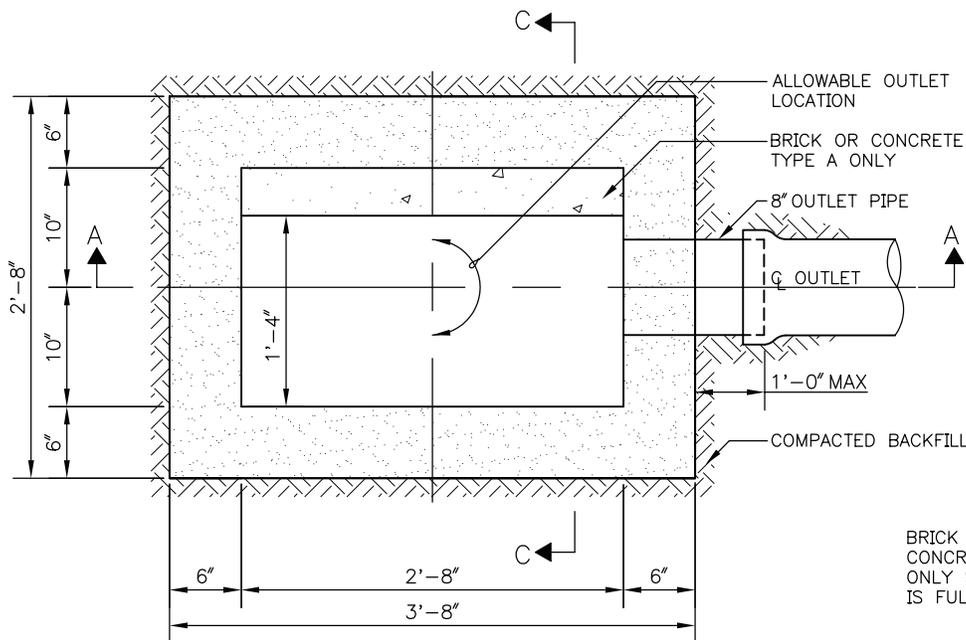
STANDARD PLAN NO 250

REV DATE: 2008

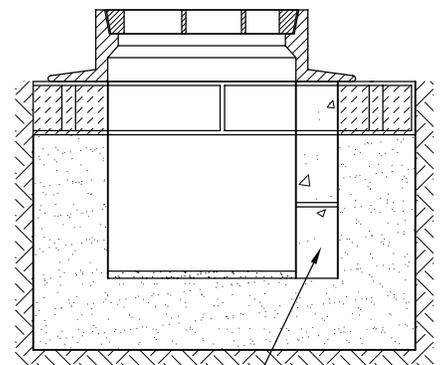


SECTION A-A

NOTE:
INSTALL AND LOCATE
PER STD PLAN NO 260



SECTION B-B



SECTION C-C
TYPE A ONLY

NOTE:
PROVIDE MINIMUM REINFORCING STEEL AS REQUIRED BY AASHTO.

REF STD SPEC SEC 7-05



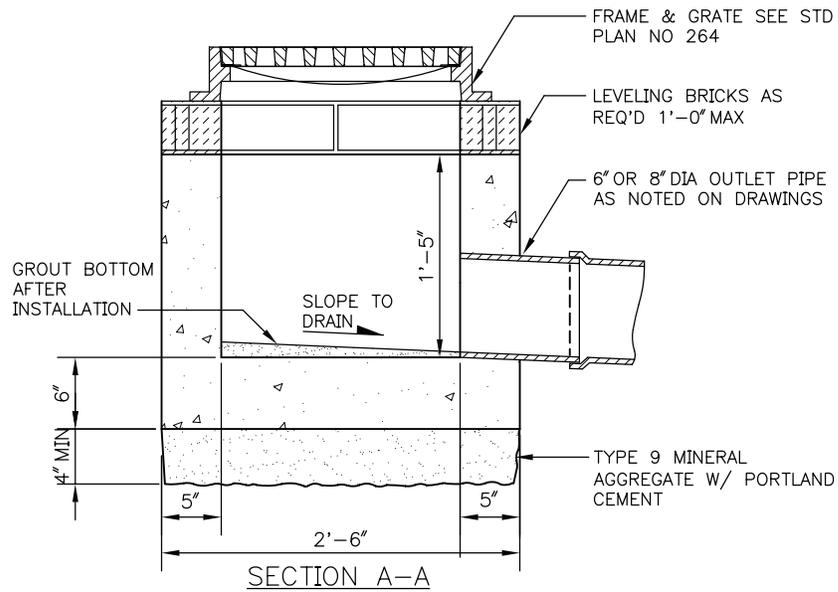
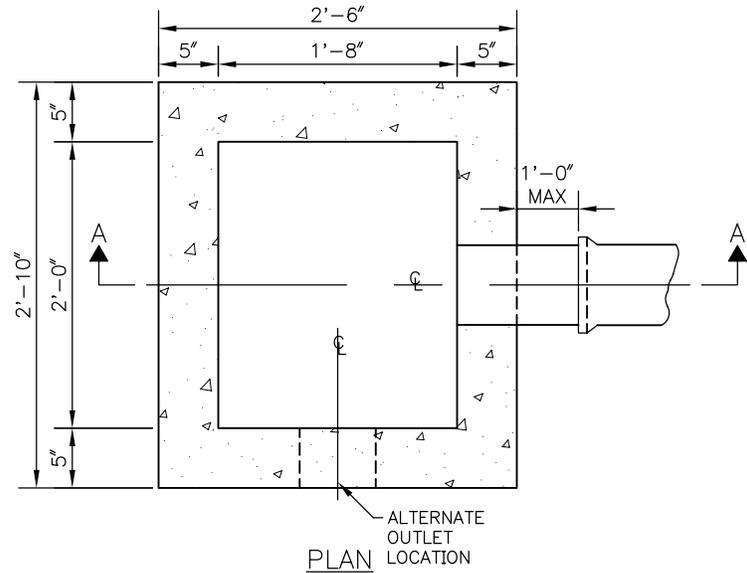
City of Seattle

NOT TO SCALE

TYPE 250 INLET

STANDARD PLAN NO 252

REV DATE: 2008



NOTE:
PROVIDE MINIMUM REINFORCING STEEL AS REQUIRED BY AASHTO.

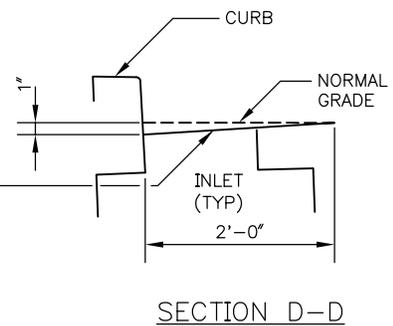
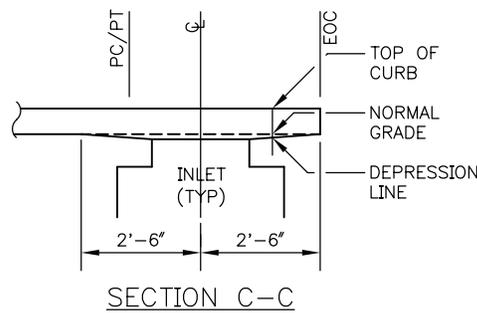
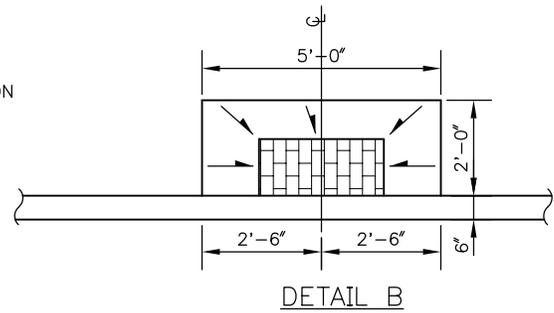
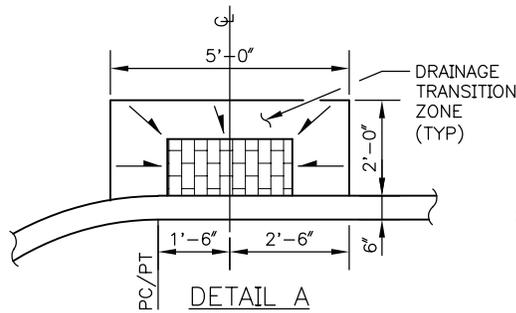
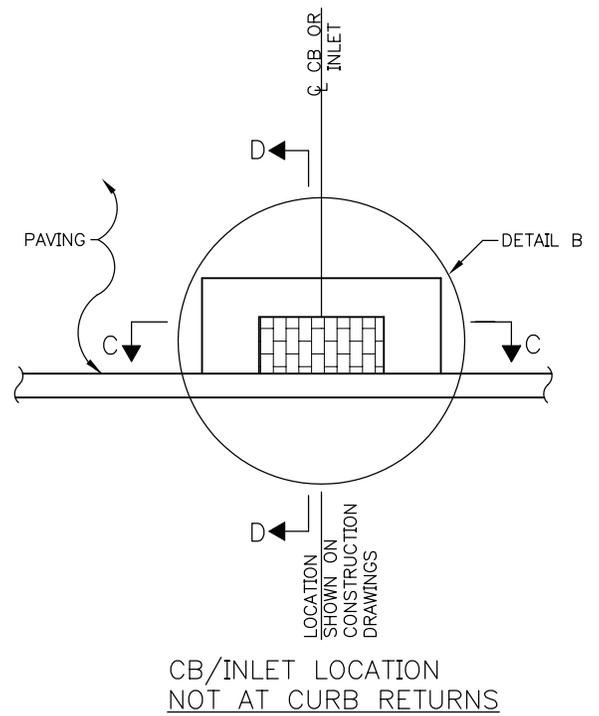
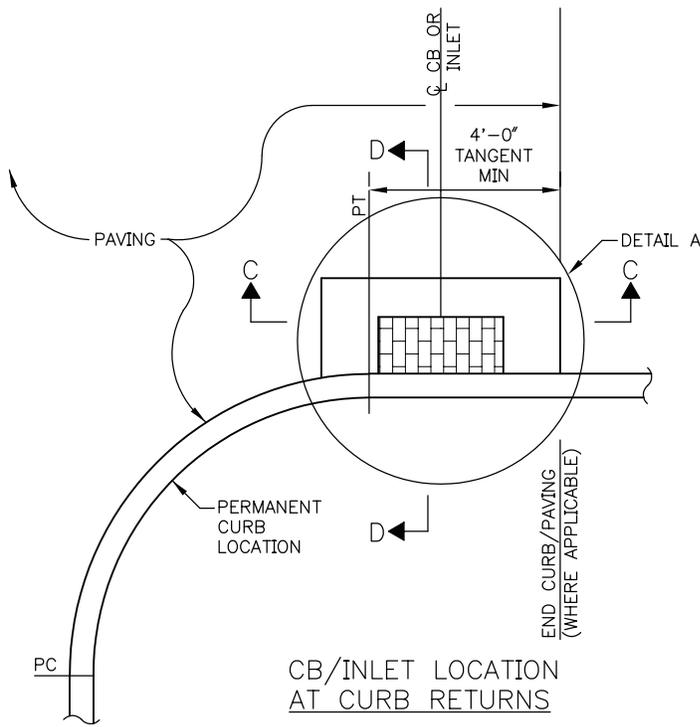
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

TYPE 252 INLET



NOTE
 INLET/CB SHALL NOT BE PLACED IN CROSSWALKS OR IN FRONT OF WHEELCHAIR RAMPS

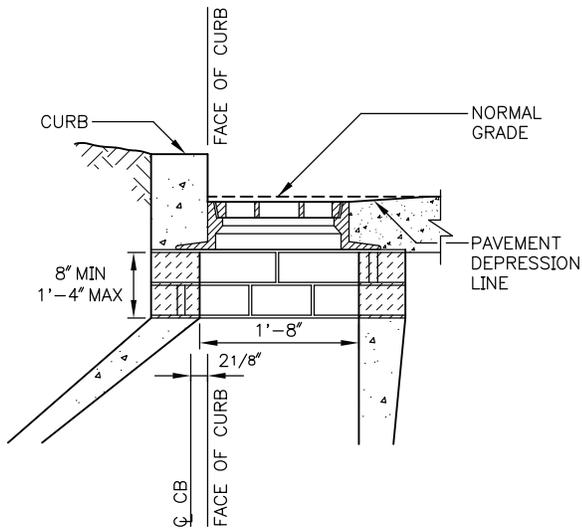
REF STD SPEC SEC 7-05



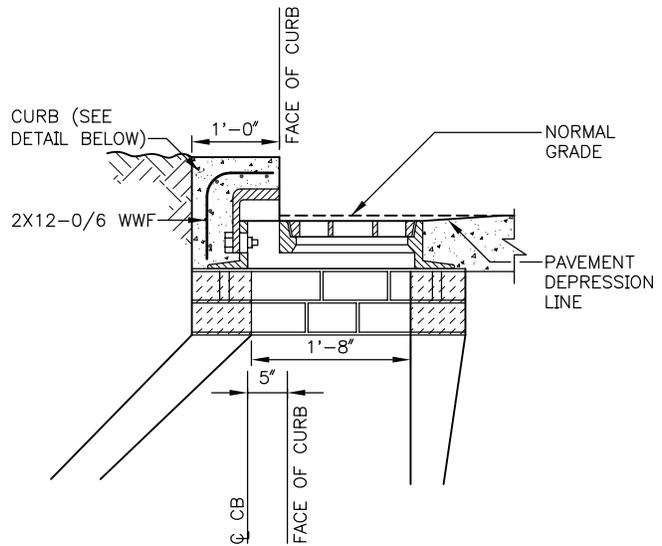
City of Seattle

NOT TO SCALE

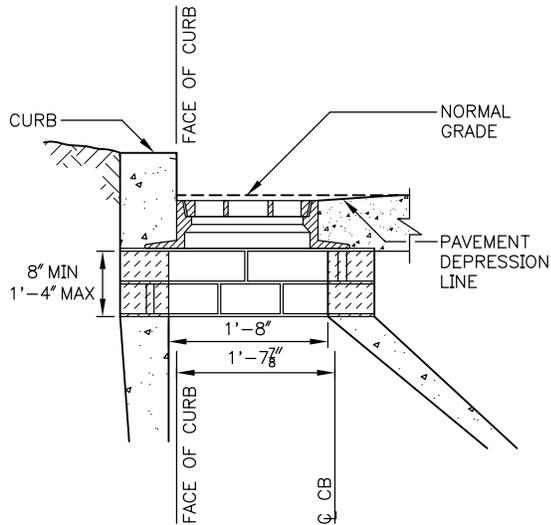
INLET / CATCH BASIN LOCATION & INSTALLATION



TYPE 242A CB
(TYPE 250A INLET SIMILAR)
NOTE - TYPE 240C GRATE



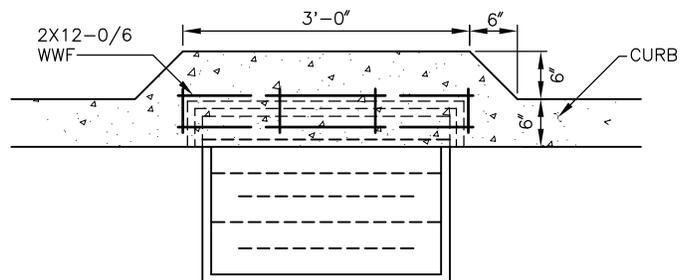
TYPE 242B CB
(TYPE 250B INLET SIMILAR)



TYPE 242A.1 CB

NOTES:

1. TYPE 242A.1 OR B.1 INSTALLATION IS ROTATED 180° FROM TYPE 242A OR 242B
2. A.1 IS SHOWN, B.1 IS SIMILAR
3. A.1 OR B.1 CAN ONLY BE USED WHEN SPECIFIED ON DRAWINGS



CURB DETAIL (PLAN VIEW) FOR
TYPE 242B CB & TYPE 250B INLET

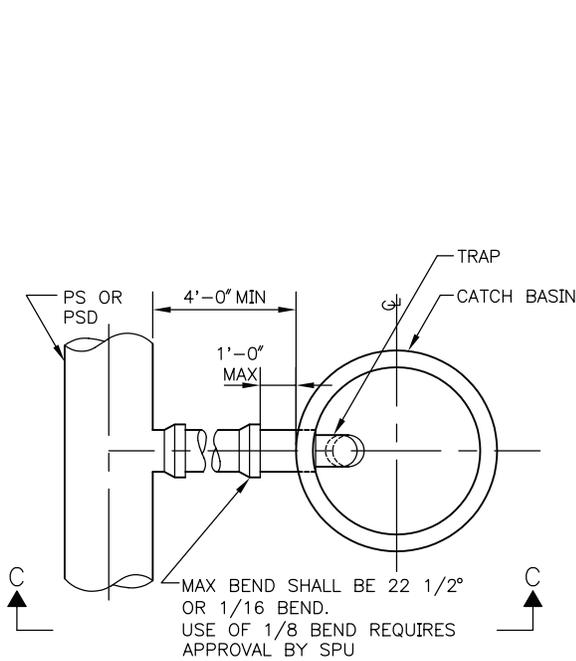
REF STD SPEC SEC 7-05



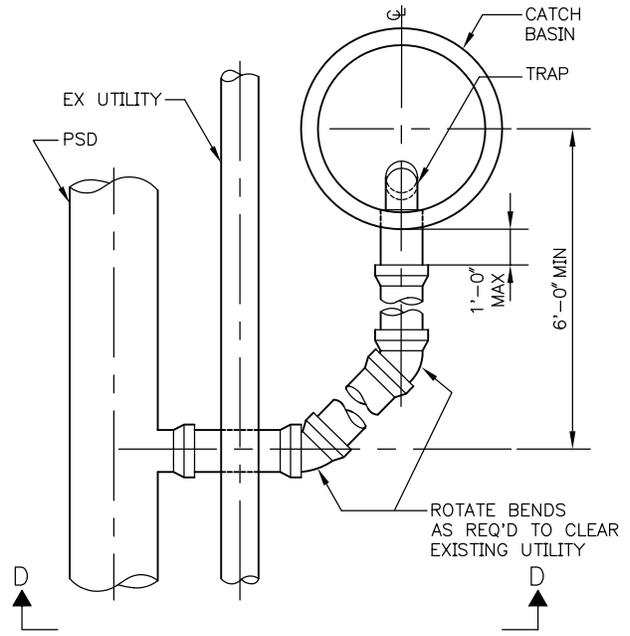
City of Seattle

NOT TO SCALE

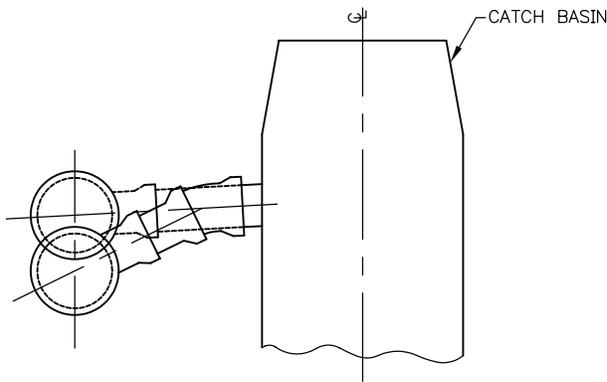
CATCH BASIN &
INLET INSTALLATION



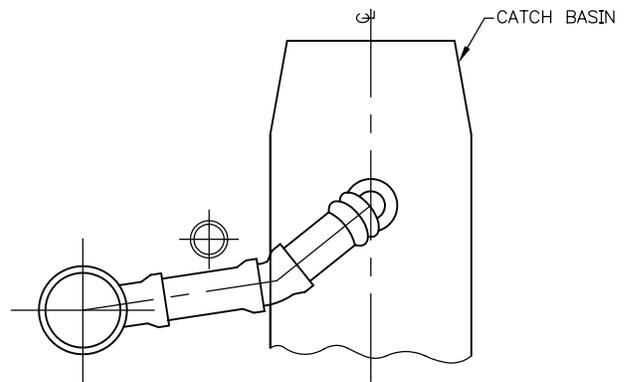
TYPE A



TYPE B



SECTION C-C



SECTION D-D

NOTES:

1. CONNECTIONS SHALL MAINTAIN A MINIMUM OF 2% AND A MAXIMUM OF 50% GRADE
2. TYPE A CONNECTION MAY BE USED UNDER THE FOLLOWING CIRCUMSTANCES:
 - A. THE MAXIMUM OF 50% GRADE IS NOT EXCEEDED
 - B. THERE IS NO INTERFERENCE WITH EXISTING OR PROPOSED UTILITIES

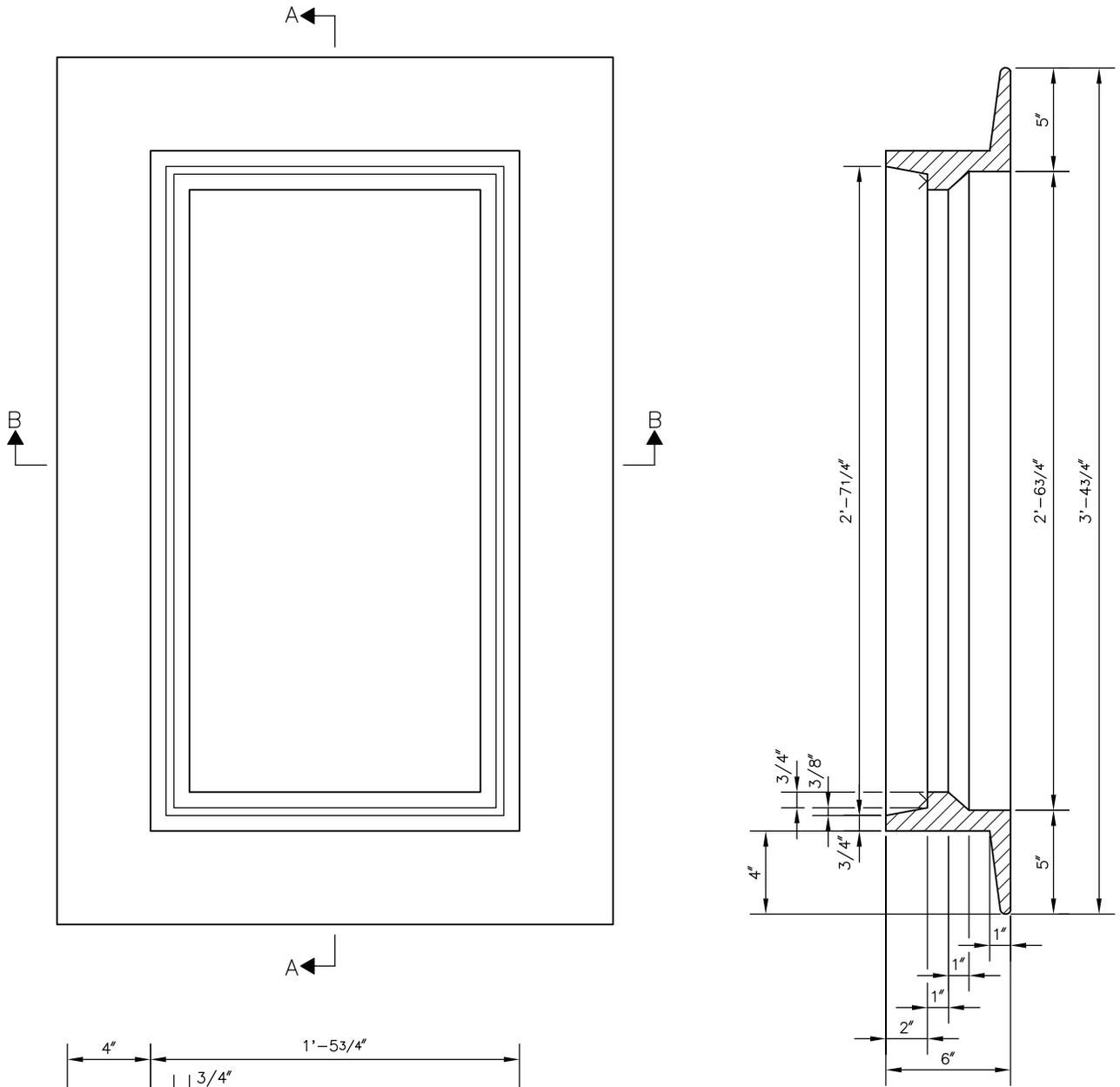
REF STD SPEC SEC 7-08



City of Seattle

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TYPICAL CATCH BASIN CONNECTION



SECTION A-A

SECTION B-B

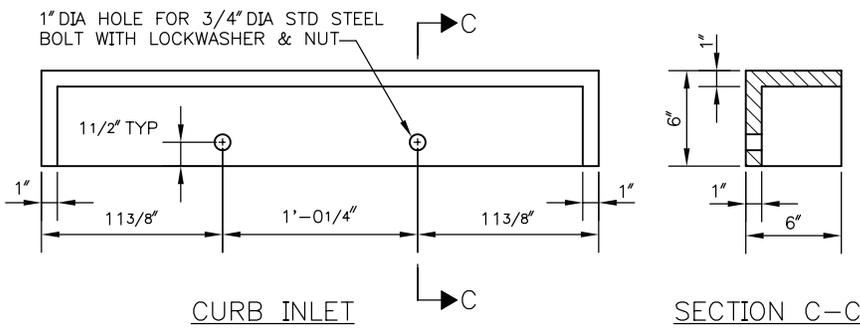
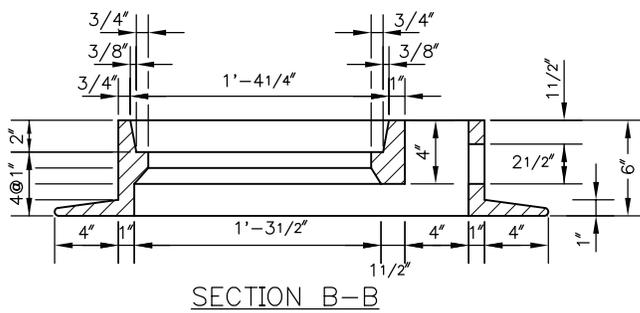
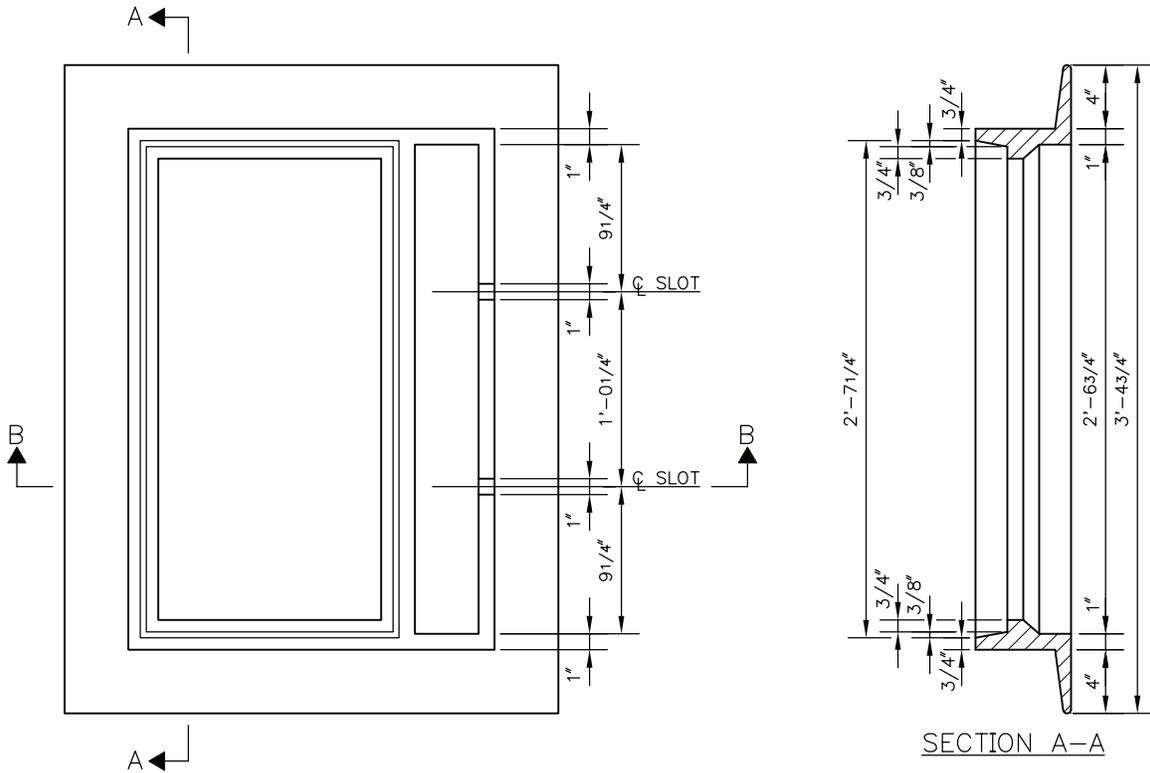
REF STD SPEC SEC 9-12



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NOT TO SCALE

TYPE 262 INLET FRAME



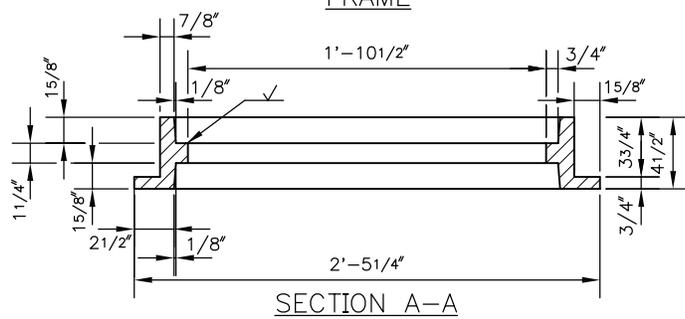
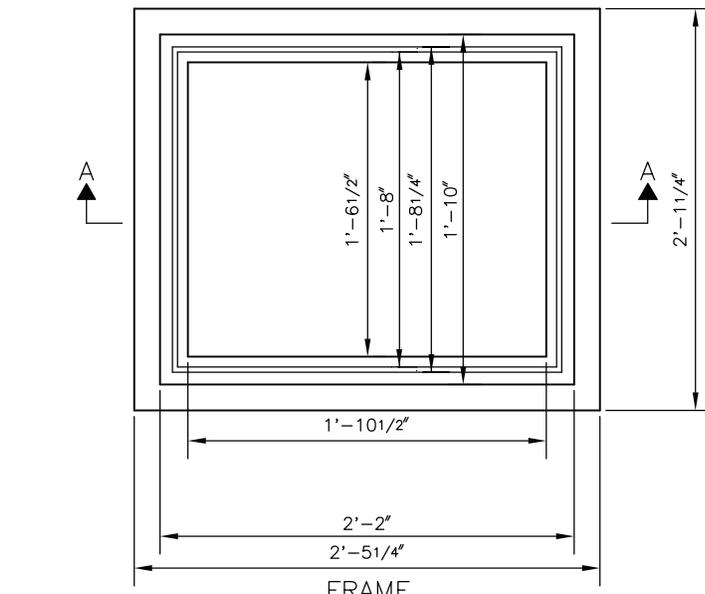
REF STD SPEC SEC 9-12



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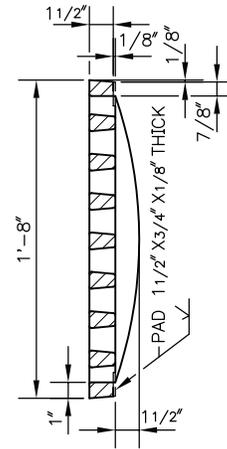
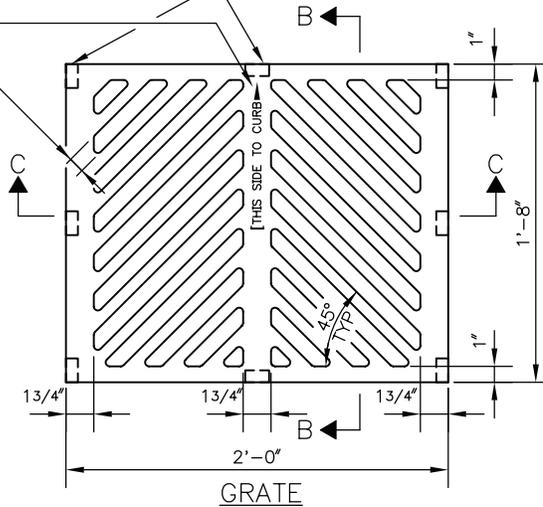
TYPE 263 INLET FRAME



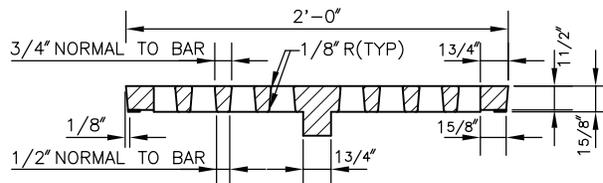
PAD 1 1/2" X 3/4" X 1/8" THICK (8 REQ'D)

EMBOSSSED ON GRATE

1" OPENING (TYP)



SECTION B-B



GRATE MATERIAL: DUCTILE IRON

REF STD SPEC SEC 7-05

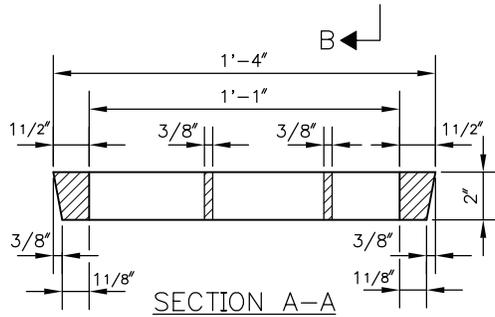
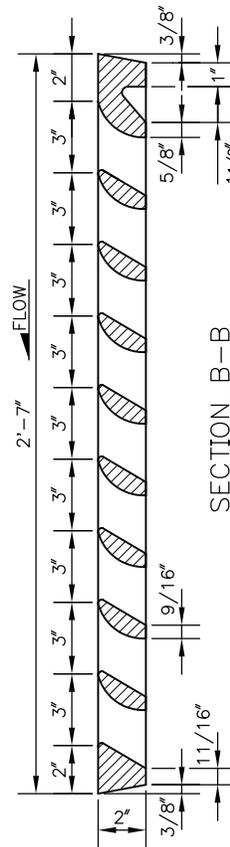
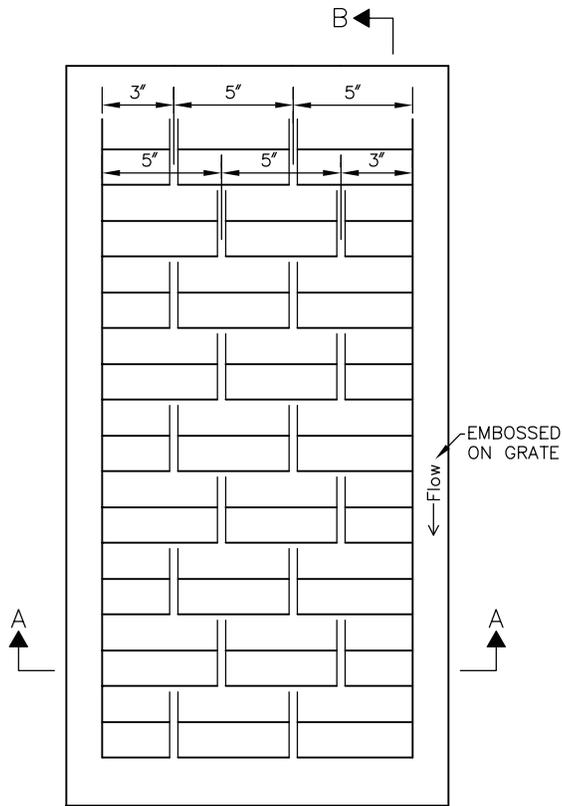
SECTION C-C



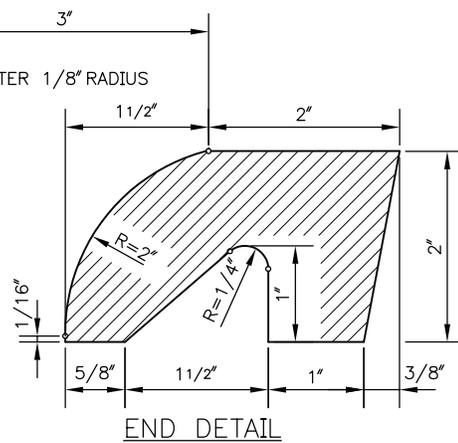
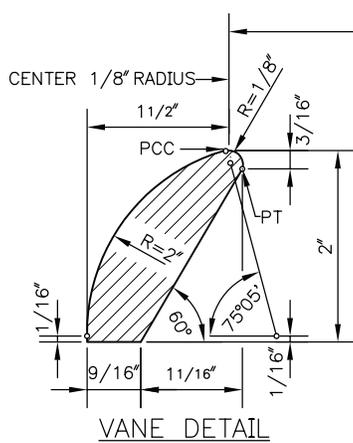
City of Seattle

NOT TO SCALE

INLET FRAME & GRATE



GRATE MATERIAL:
DUCTILE IRON



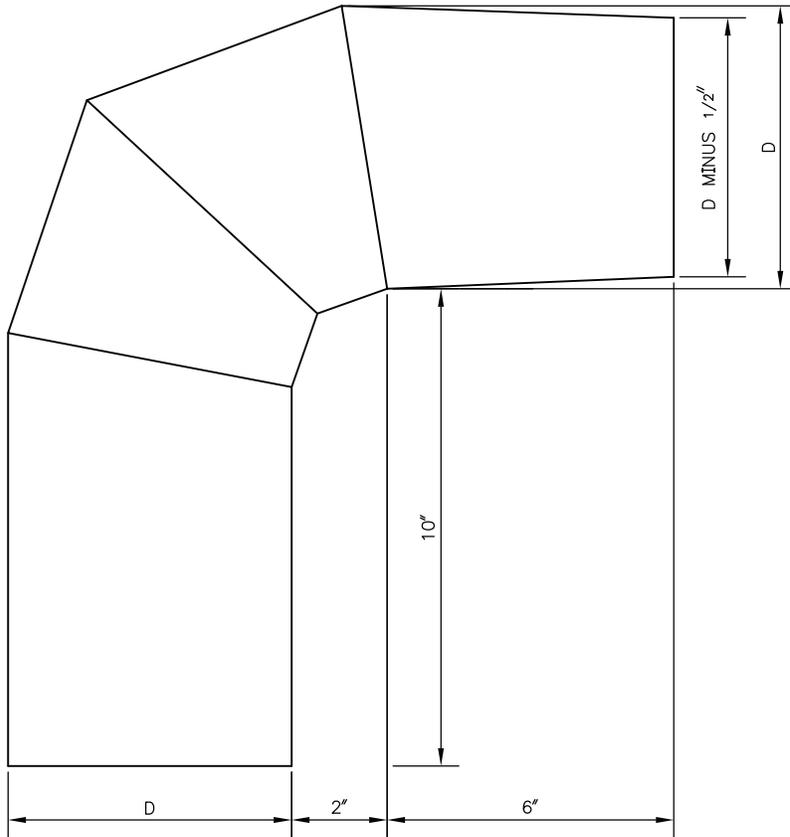
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

VANED GRATE



NOTES:

1. 1. TRAP TO BE MADE OF 22 GA (0.0336") SHEET METAL OR 18GA (0.05") ALUMINUM
2. ALL JOINTS TO BE SEAMED AND SOLDERED, OR WELDED
3. ALL LONGITUDINAL JOINTS TO BE RIVETED OR WELDED
4. DIAMETER "D" IS NOMINAL DIAMETER OF OUTLET PIPE

REF STD SPEC SEC 9-12



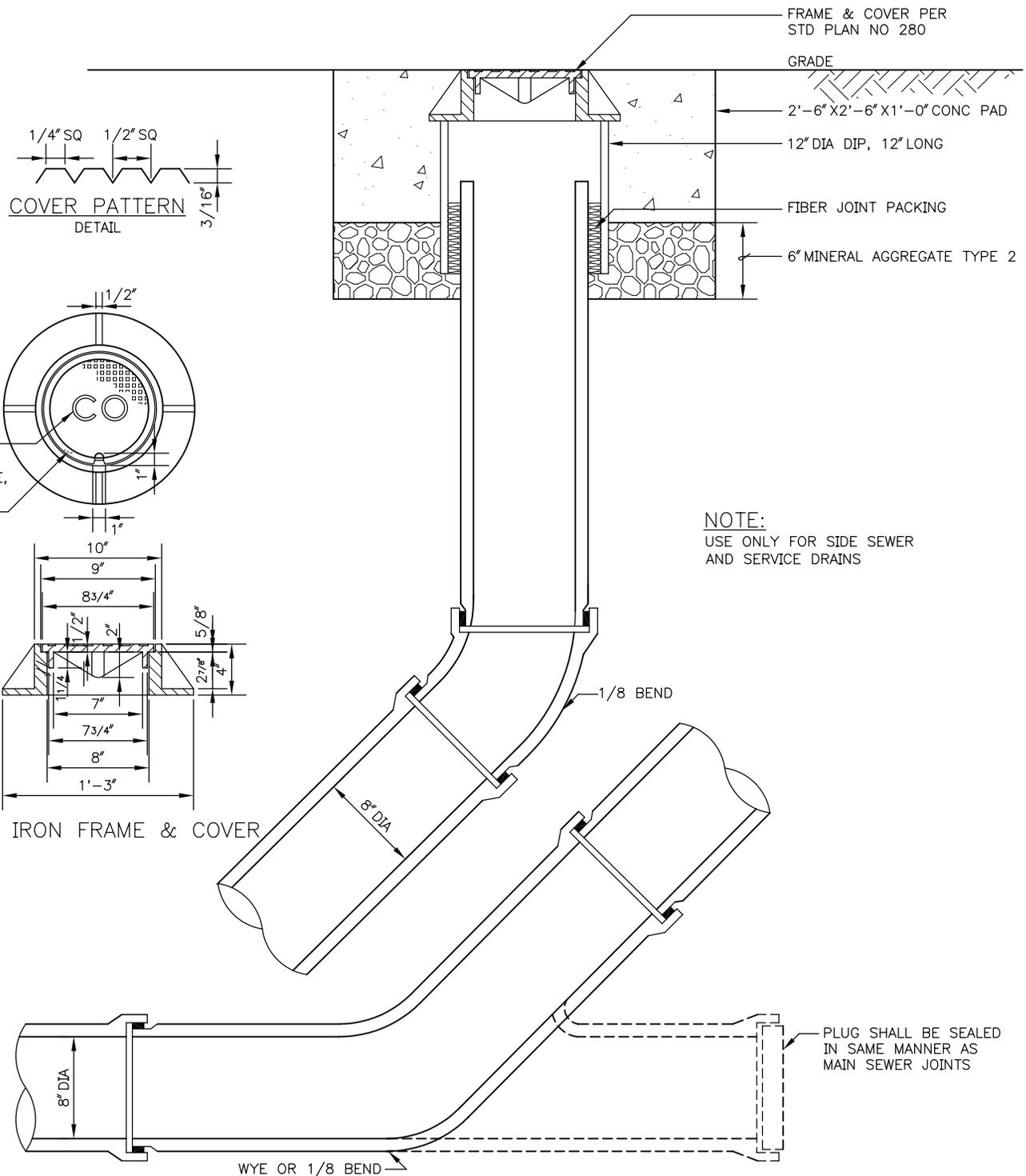
City of Seattle

NOT TO SCALE

OUTLET TRAP

STANDARD PLAN NO 280

REV DATE: 2003



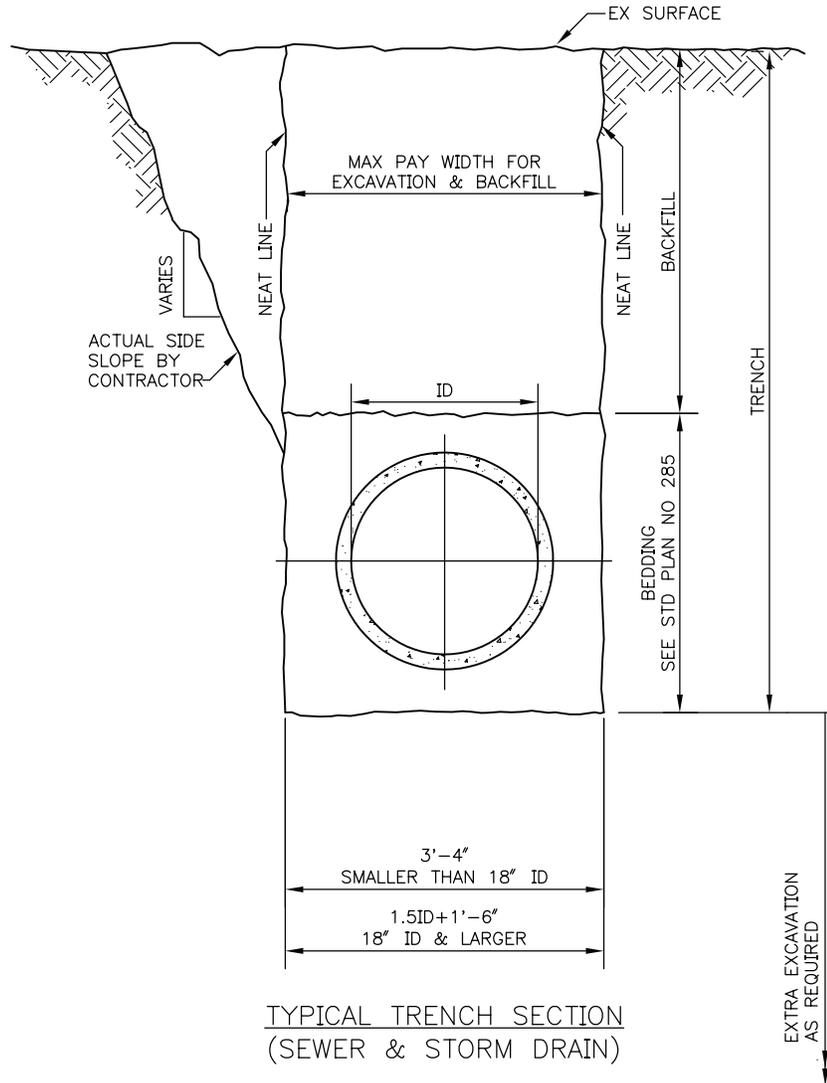
REF STD SPEC SEC 7-19



City of Seattle

NOT TO SCALE

8" CLEAN-OUT



NOTE:
FOR PAVEMENT REMOVAL
AND RESTORATION SEE
STD PLAN NO 404

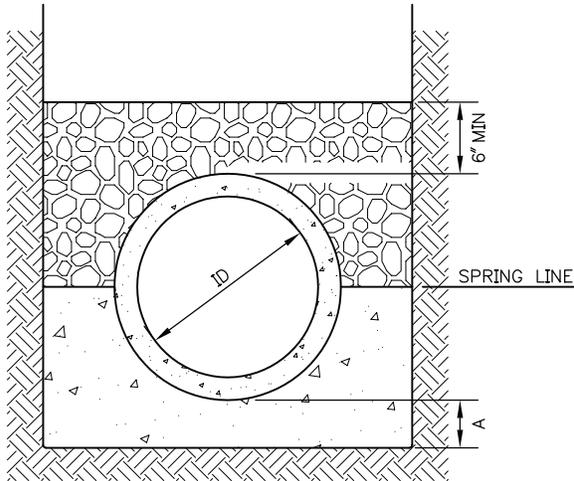
REF STD SPEC SEC 7-17



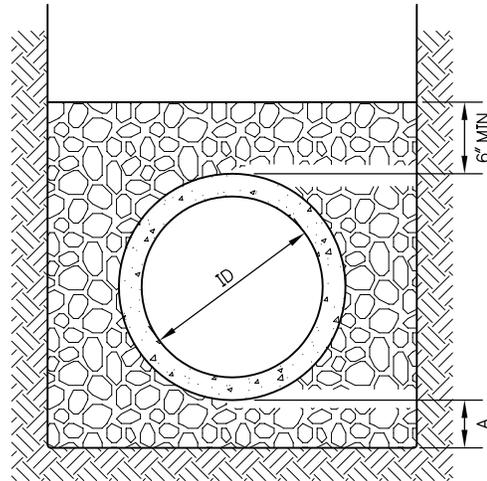
City of Seattle

NOT TO SCALE

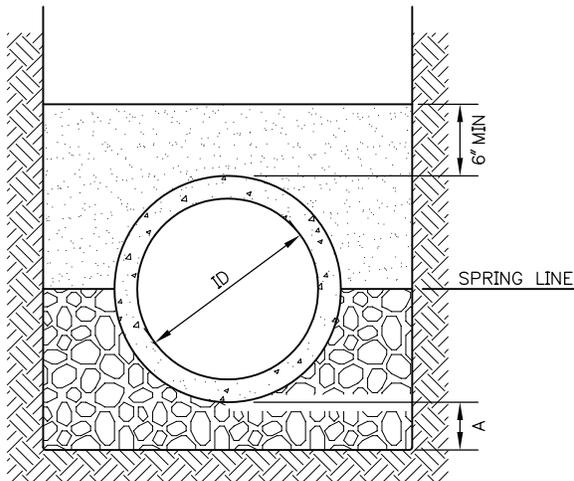
TYPICAL SEWER TRENCH SECTION



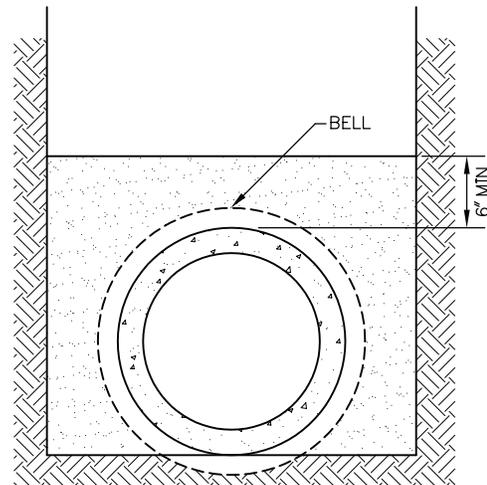
CLASS A BEDDING
(CONCRETE BEDDING)



CLASS B BEDDING



CLASS C BEDDING



CLASS D BEDDING

-  MINERAL AGGREGATE PER STD SPEC 4-01
TYPE 9 FOR RIGID PIPE
TYPE 22 FOR FLEXIBLE PIPE
-  CONCRETE
(4 SACK MIN 1 1/2" MAX AGGREGATE)
-  SELECTED NATIVE MATERIAL

NOTES:

1. FOR TRENCH WIDTH SEE STD PLAN NO 284
2. A=4" WHEN ID IS LESS THAN 2'-6"
- A=6" WHEN ID IS 2'-6" OR MORE
3. FOR CLASS D BEDDING EXCAVATE FOR BELL

REF STD SPEC SEC 7-17



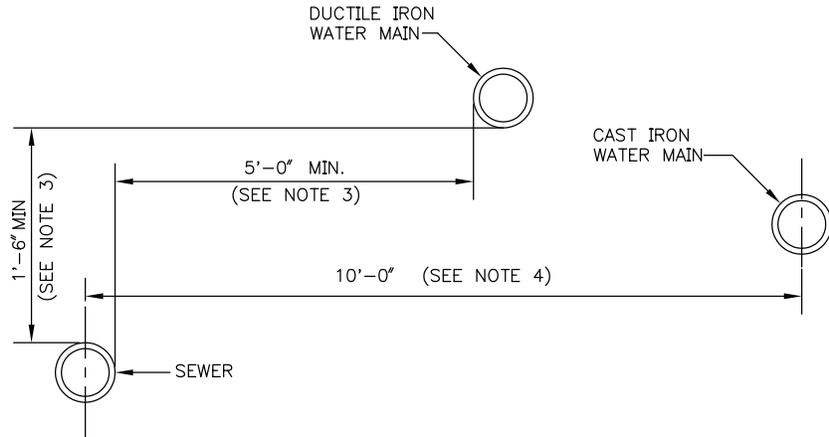
City of Seattle

NOT TO SCALE

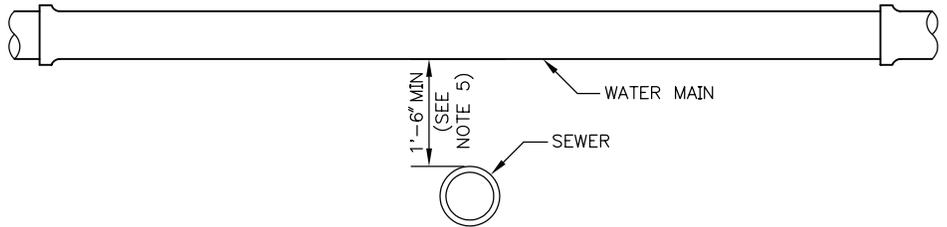
PIPE BEDDING
SEWER / STORM DRAIN

NOTES

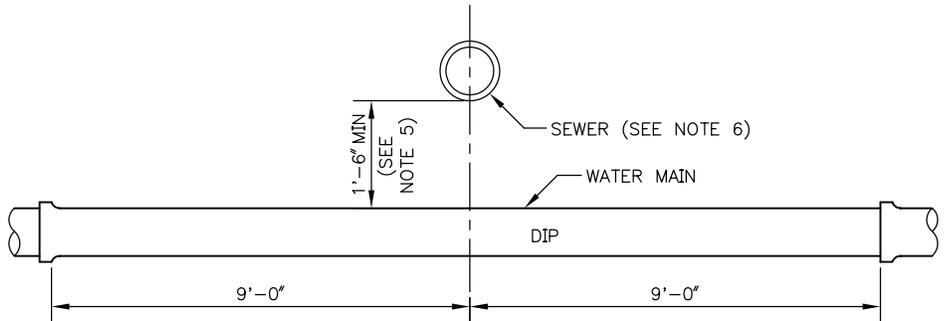
1. EXCEPTIONS TO STD PLAN NO. 286 SHALL BE APPROVED BY SEATTLE PUBLIC UTILITIES, WATER QUALITY DIVISION.
2. "SEWER" INCLUDES SANITARY SEWER, COMBINED SEWER AND SIDE SEWER.
3. WHERE MINIMUM CLEARANCES CANNOT BE MET, SEWER SHALL BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS INCLUDING WATER MAIN PRESSURE TESTING REQUIREMENTS.
4. NO VERTICAL CLEARANCE REQUIRED.
5. IF MINIMUM VERTICAL SEPARATION CANNOT BE MET, WATER MAIN SHALL BE A STANDARD SINGLE 18'-0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING.
6. SEWER SHALL HAVE ADEQUATE FOUNDATION SUPPORT TO PREVENT SETTLEMENT ON THE WATER MAIN AND TO PREVENT DEFLECTION OF WATER MAIN JOINTS.
7. CROSSINGS AT AN ANGLE BETWEEN 90° AND 45° MAY OCCUR BETWEEN 9'-0" AND 6'-0" OF WATER MAIN JOINT. FOR CROSSINGS LESS THAN 45°, SEE NOTE 1.
8. ORDINANCE 97016 APPLIES TO SIDE SEWERS. SEE STD SPEC SEC 1-07.17(2)A.



PARALLEL INSTALLATION



CROSSING WATER OVER SEWER



STANDARD SINGLE 18'-0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING

CROSSING WATER UNDER SEWER

REF STD SPEC SEC 1-07.17 & 7-11



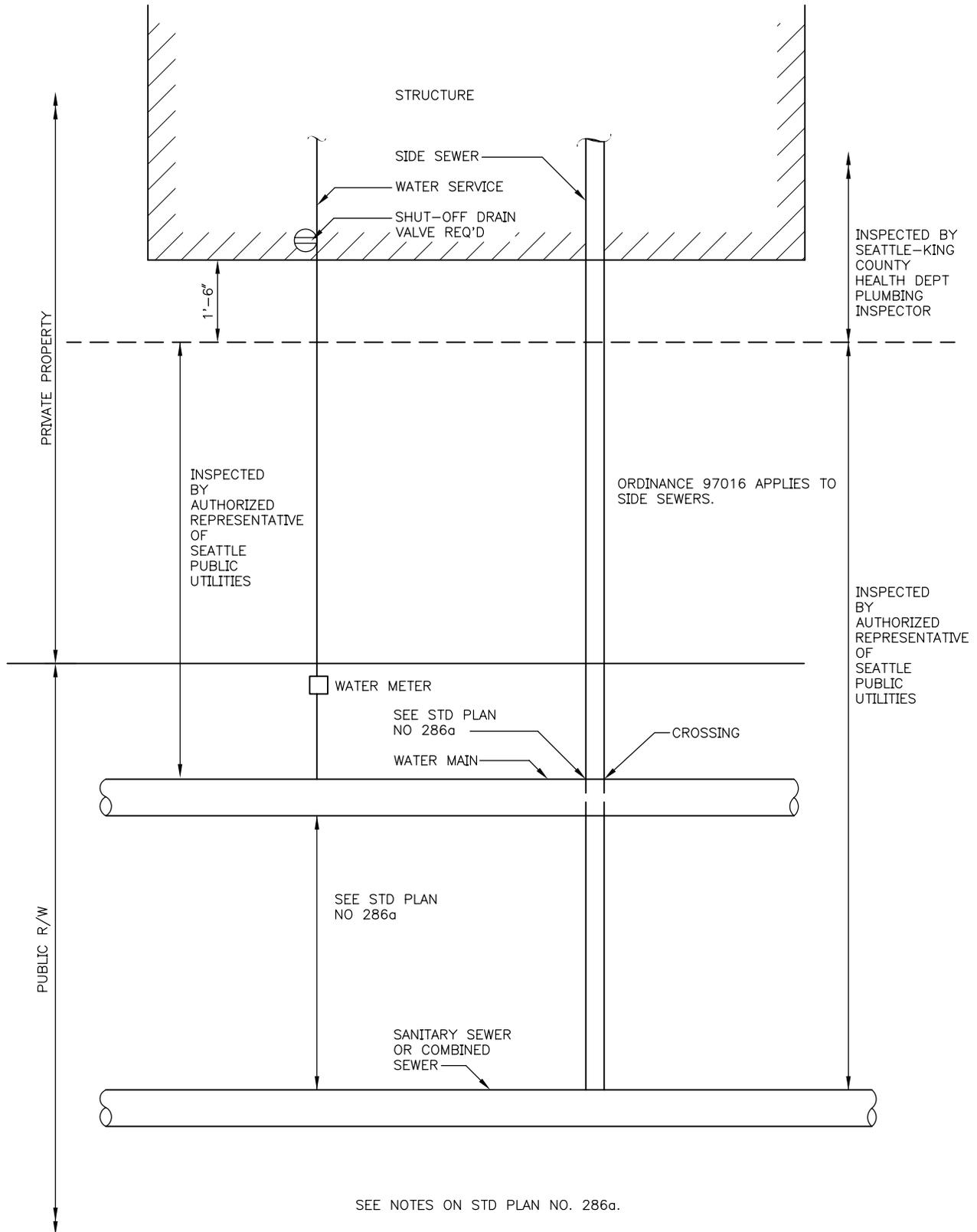
City of Seattle

NOT TO SCALE

SEWER & WATER
SPACING & CLEARANCES

STANDARD PLAN NO 286b

REV DATE: 2003



REF STD SPEC SEC 1-07.17 & DIV 7



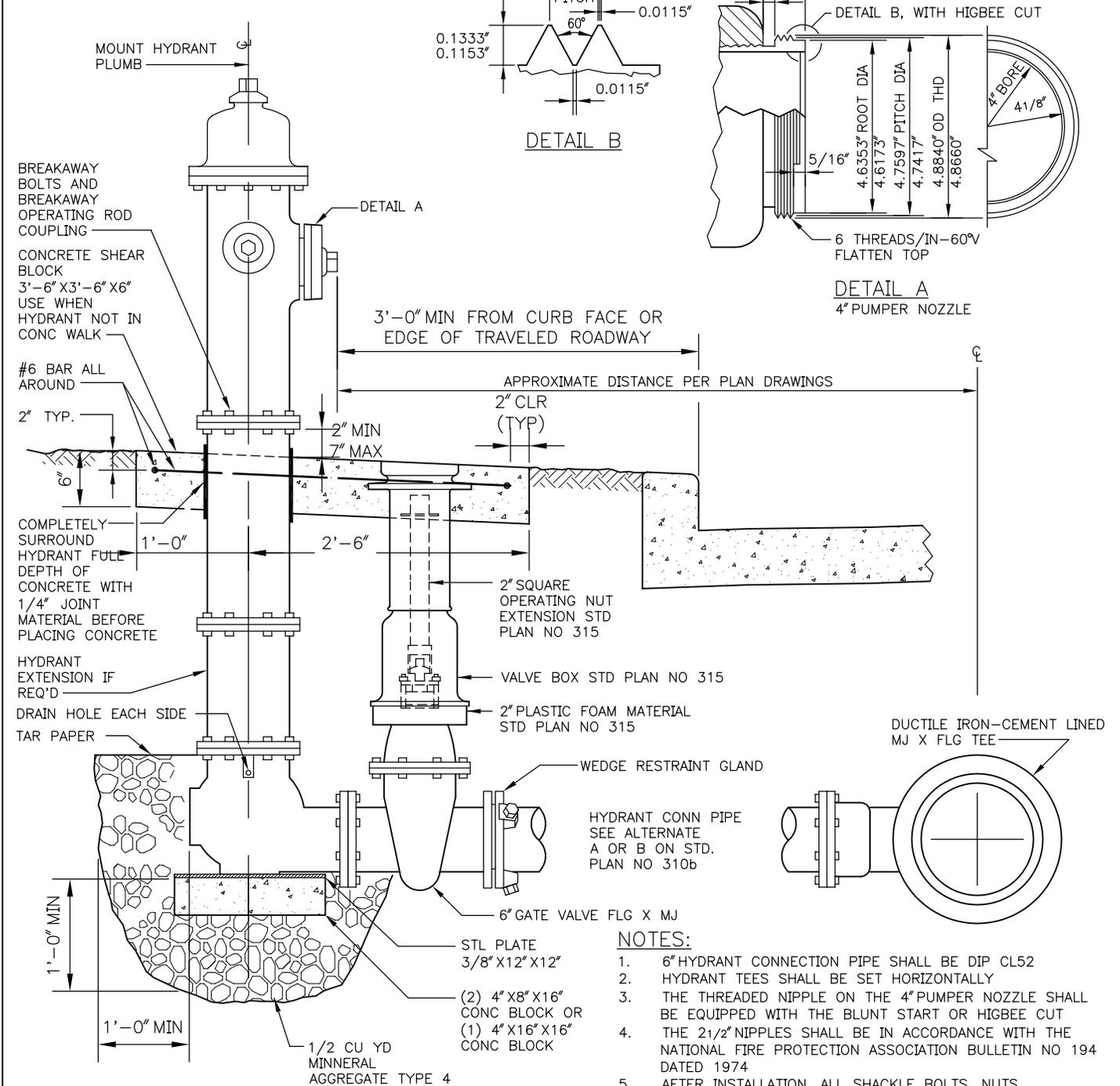
City of Seattle

NOT TO SCALE

SEWER & WATER
SPACING & CLEARANCES

STANDARD PLAN NO 310a

REV DATE: 2008



- NOTES:**
- 6" HYDRANT CONNECTION PIPE SHALL BE DIP CL52
 - HYDRANT TEES SHALL BE SET HORIZONTALLY
 - THE THREADED NIPPLE ON THE 4" PUMPER NOZZLE SHALL BE EQUIPPED WITH THE BLUNT START OR HIGBEE CUT
 - THE 2 1/2" NIPPLES SHALL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN NO 194 DATED 1974
 - AFTER INSTALLATION, ALL SHACKLE BOLTS, NUTS, MECHANICAL JOINT GLANDS AND SHACKLE RODS SHALL BE CLEANED AND COATED WITH TWO COATS OF ROYSTON R28 MASTIC.
 - AFTER BACKFILLING, THE OUTSIDE OF THE HYDRANT (ABOVE THE GROUND LINE) SHALL BE THOROUGHLY CLEANED AND PAINTED WITH TWO COATS OF KELLY-MOORE LUXLITE 43-616 CAT YELLOW
 - PUMPER PORT TO FACE CURB
 - RESTRAINT SHALL BE BY WEDGE RESTRAINT SYSTEM SUCH AS MEGALUG OR UNIFLANGE. SEE STD SPEC 9-30.5(5)

REF STD SPEC SEC 7-14



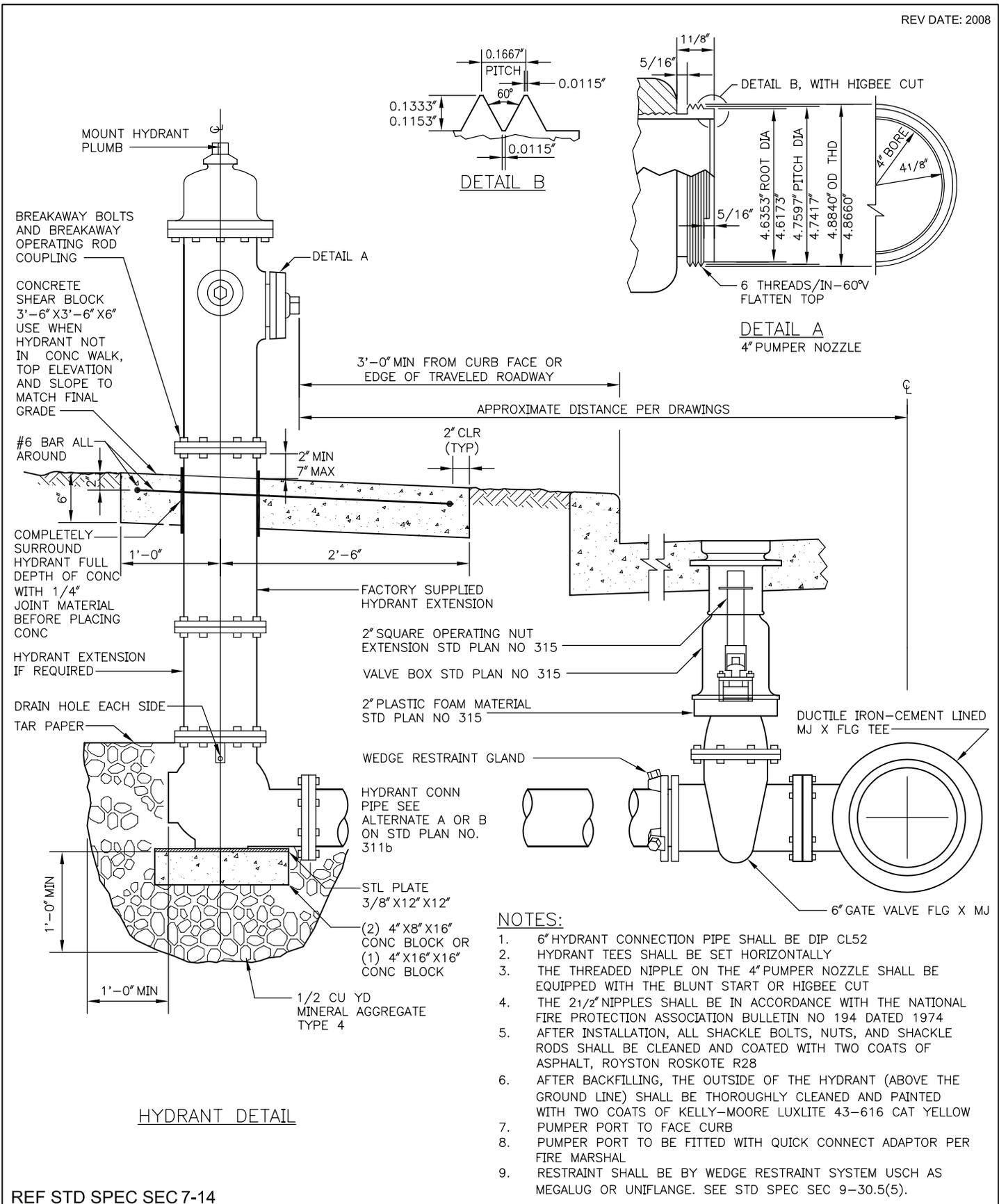
City of Seattle

NOT TO SCALE

TYPE 310 HYDRANT SETTING DETAIL

STANDARD PLAN NO 311a

REV DATE: 2008



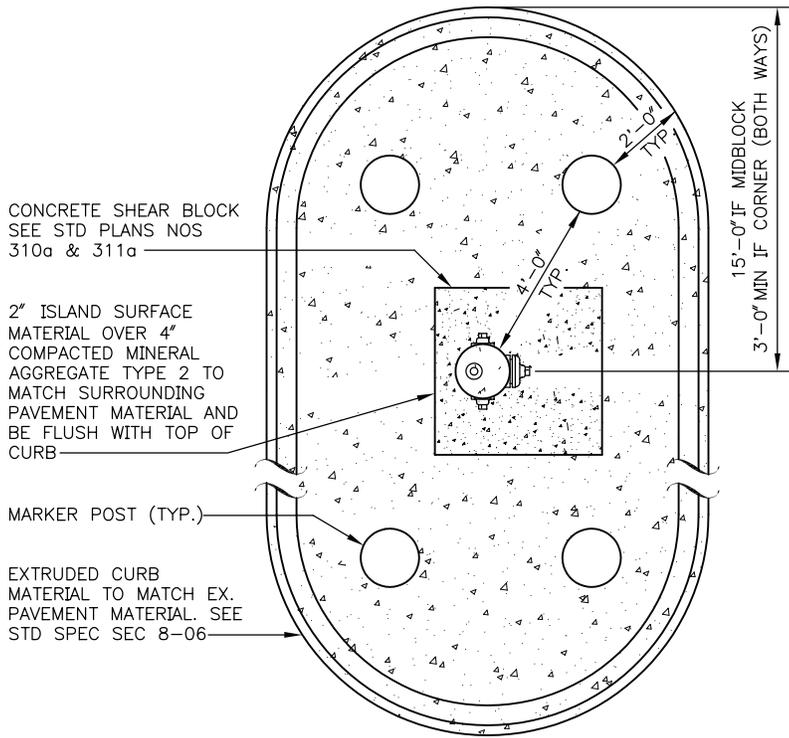
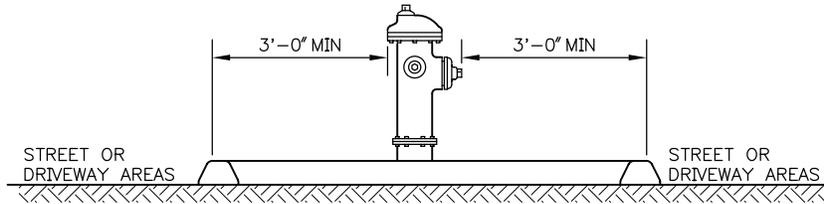
REF STD SPEC SEC 7-14



City of Seattle

NOT TO SCALE

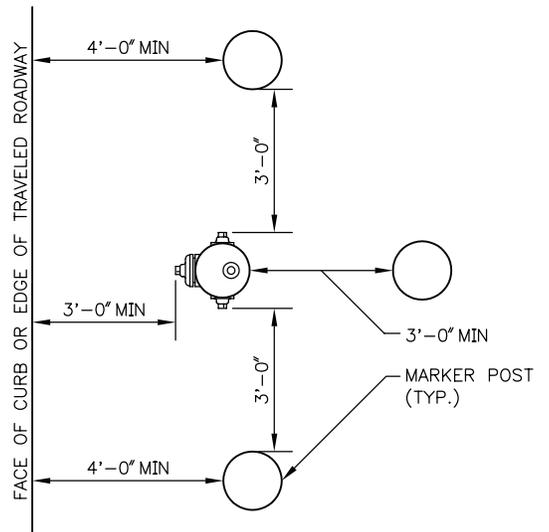
TYPE 311 HYDRANT SETTING DETAIL



TRAFFIC ISLAND MARKER POST LAYOUT FOR FIRE HYDRANTS IN PARKING AREAS

NOTES

1. LAYOUT OF MARKER POST SHALL BE VERIFIED FIRST WITH SPU AND SDOT
2. MARKER POST WITH HIGH INTENSITY REFLECTORIZED BANDS PROVIDED BY SPU



MARKER POST LAYOUT FOR FIRE HYDRANTS IN PARKING AREAS

REF STD SPEC SEC 7-14



City of Seattle

NOT TO SCALE

FIRE HYDRANT MARKER LAYOUT

STANDARD PLAN NO 314

REV DATE: 2003

3'-0" MIN, 15'-0" MAX ON CORNERS
7'-0" MAX MIDBLOCK

CURB OR EDGE OF
TRAVELED PORTION
OF ROADWAY

CORNER

R/W MARGIN

5'-0" STD
5'-0" MIN

DRIVEWAY

NOTES:

1. NO PARKING ZONE WITHIN 15'-0" RADIUS OF FIRE HYDRANT
2. MIN DISTANCE FROM BACK FACE OF HYDRANT TO FRONT EDGE OF CONCRETE WALK SHALL BE 2'-0"

R/W MARGIN

TREE

5'-0" MIN

MID-BLOCK

LOT LINE

3'-0" MIN (TYP)
OTHERWISE EASEMENT IS REQUIRED

10'-0" MIN

SIDE SEWER

10'-0" STD
N OR E

UTILITY POLE, GUARD POST, BUILDING WALL OR ANY OTHER FIXED STRUCTURE

3'-0" CLR MIN

5'-0" STD

R/W MARGIN

SEE DETAIL A

FACE OF CURB

3'-0" MIN

1'-6"

2'-0"

2'-0"

EXPANSION JOINT

SCORED SECTION OF CURB RAMP

STREET

CORNER

DETAIL A
HYDRANT NEAR CURB RAMP

REF STD SPEC SEC 7-14



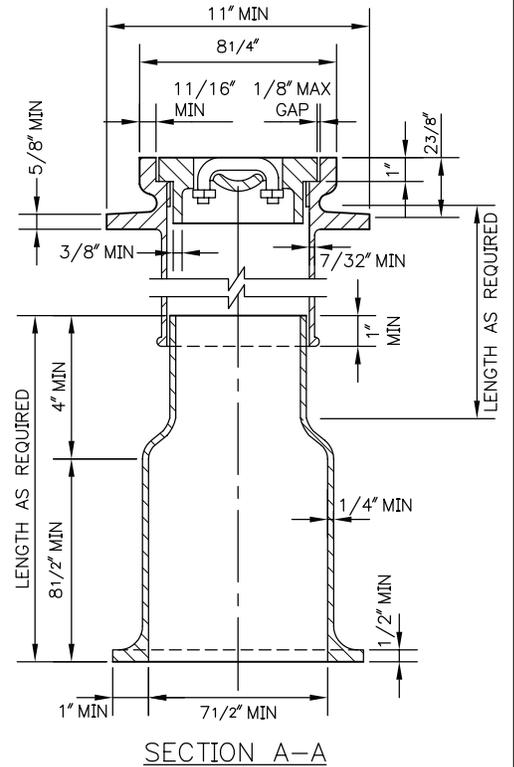
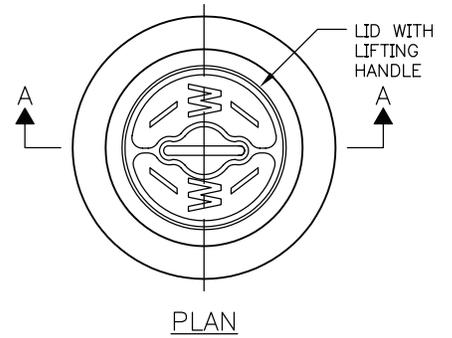
City of Seattle

NOT TO SCALE

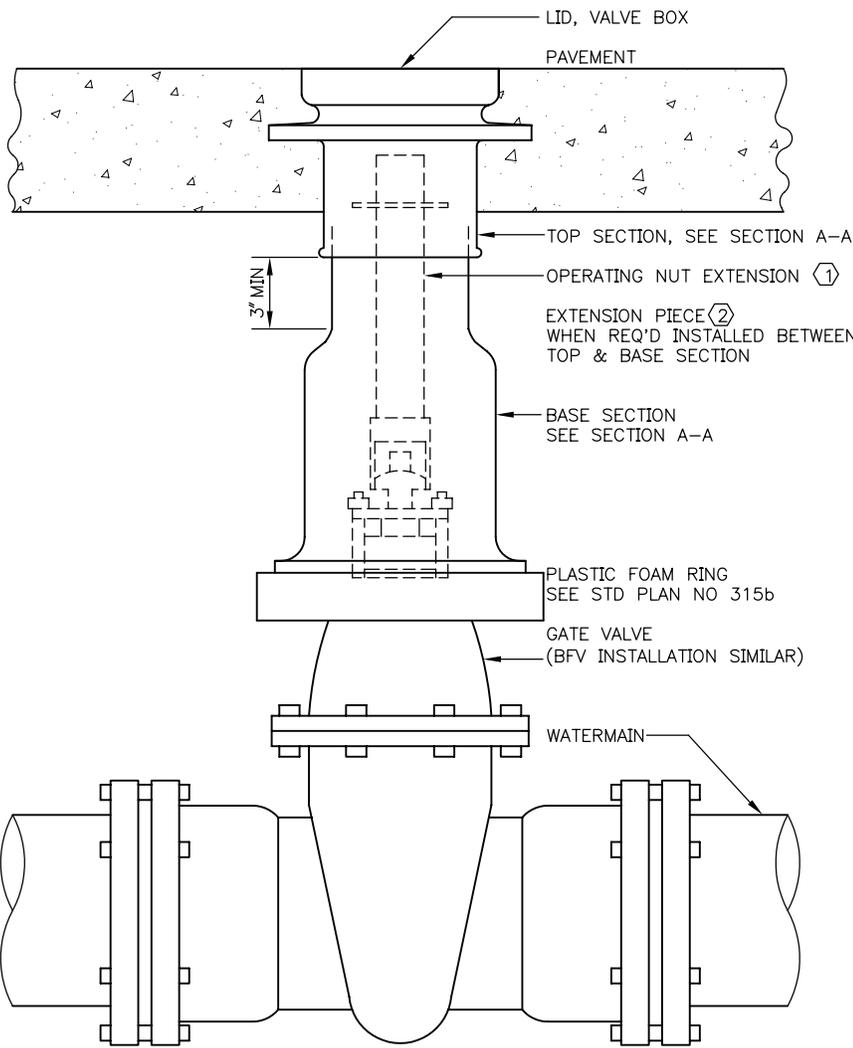
FIRE HYDRANT
LOCATIONS & CLEARANCES

STANDARD PLAN NO 315a

REV DATE: 2003



NOTE:
VALVE BOX FOR USE ON 12" OR SMALLER VALVE INSTALLATIONS



REF STD SPEC SEC 7-12

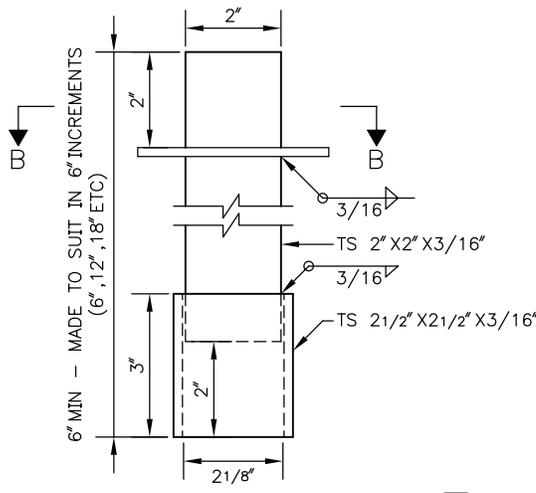
FOR LEGEND ① AND NOTES SEE STD PLAN NO 315b



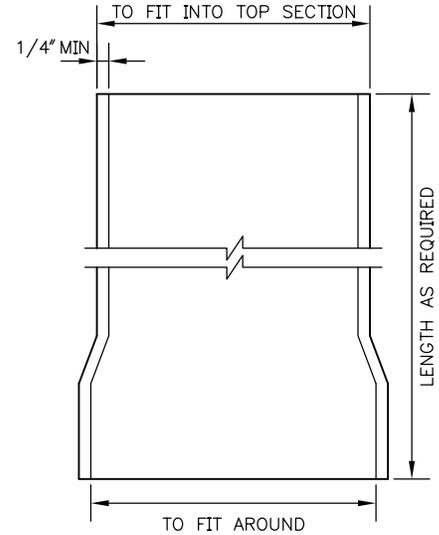
City of Seattle

NOT TO SCALE

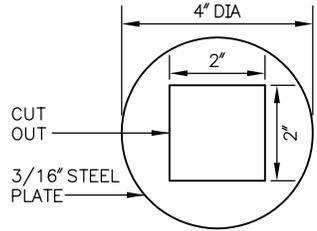
CAST IRON VALVE BOX & OPERATING NUT EXTENSION



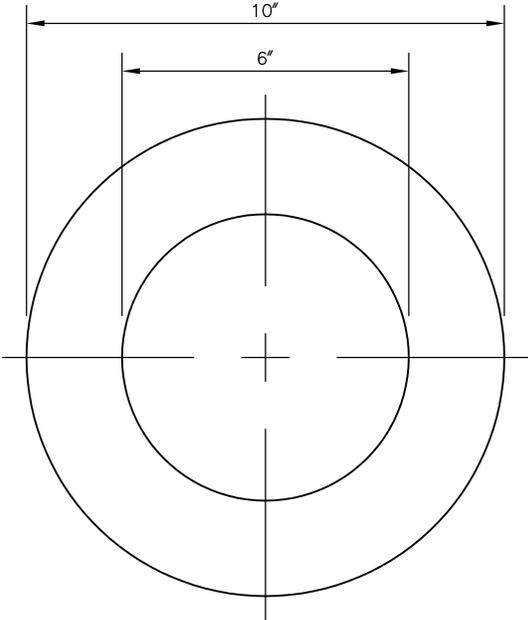
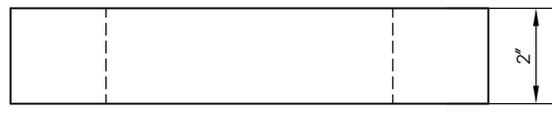
OPERATING NUT EXTENSION DETAIL 1



EXTENSION PIECE 2 WHEN REQUIRED



SECTION B-B



PLASTIC FOAM RING DETAIL

NOTES:

1. FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS FOR DELIVERY
2. CASTINGS AND EXTENSIONS SHALL BE HOT-DIPPED IN ASPHALTIC VARNISH ROYSTON ROSKOTE #612XM OR 2 COATS OF MASTIC ROYSTON INSIDE AND OUT.
3. VALVE BOXES SHALL BE RICH #045: TOP SECTION, LID AND BASE; OR OLYMPIC FOUNDRY: LID #1908-33, TOP SECTION #1106-33, BASE SECTION #1301-33
4. ALL CASTINGS SHALL BE DUCTILE OR GREY CAST IRON

LEGEND:

- 1 AN OPERATING NUT EXTENSION SHALL BE INSTALLED WHEN THE GROUND SURFACE IS MORE THAN 2'-6" ABOVE THE VALVE OPERATING NUT. THE OPERATING NUT EXTENSION SHALL EXTEND INTO THE TOP SECTION OF THE STANDARD VALVE BOX AND SHALL CLEAR THE BOTTOM OF THE LID BY 6" MIN
- 2 EXTENSION PIECES (WHEN USED) SHALL CONFORM TO MINIMUM THICKNESS REQUIREMENTS AND SHALL FIT INTO THE TOP SECTION AND OVER THE BOTTOM SECTION

REF STD SPEC SEC 7-12 & 9-30



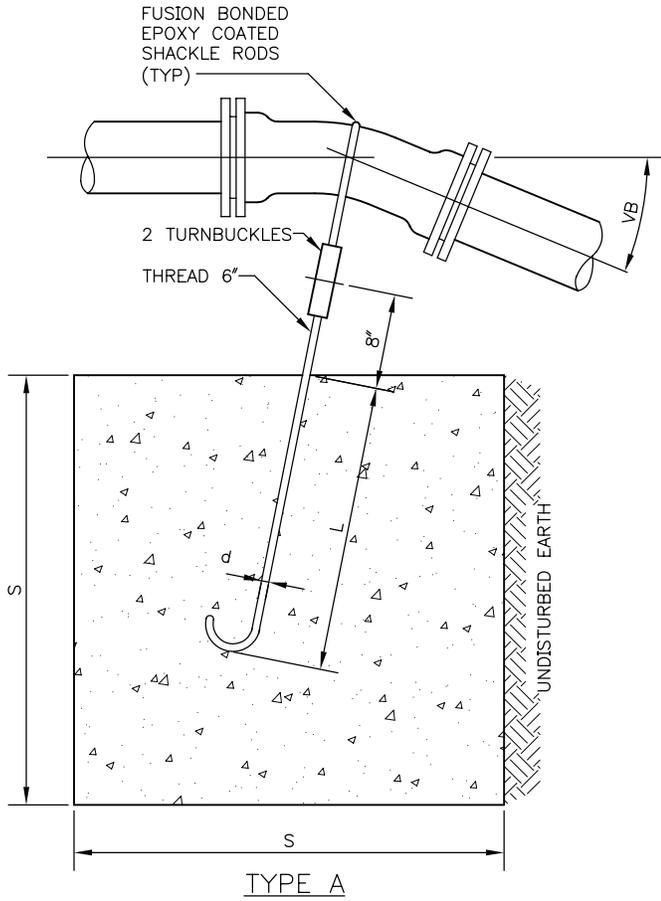
City of Seattle

NOT TO SCALE

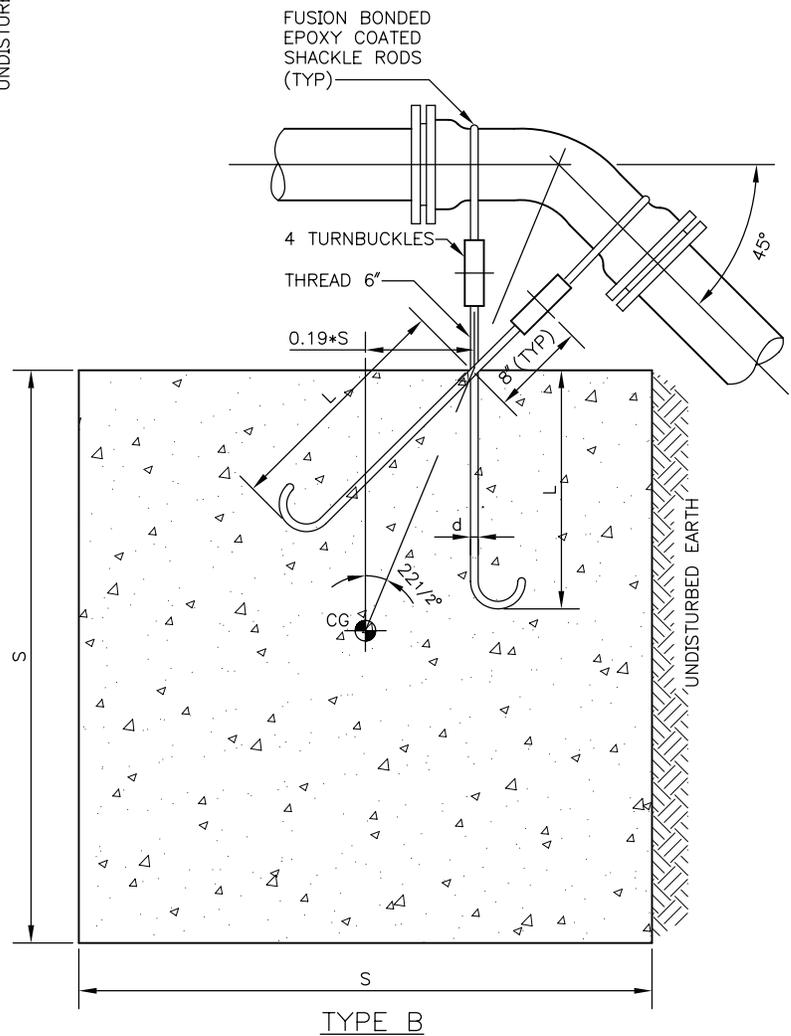
CAST IRON VALVE BOX & OPERATING NUT EXTENSIONS

STANDARD PLAN NO 330a

REV DATE: 2003



TYPE A BLOCKING FOR 111/4° & 221/2° VERTICAL BENDS						
PIPE SIZE NOM DIA INCHES	TEST PRESSURE PSI	VB	S	d	L	
		VERTICAL BEND DEGREES	NO OF CU FT OF CONC BLOCKING	SIDE OF CUBE FEET	DIA OF SHACKLE RODS (2) INCHES	DEPTH OF RODS IN CONCRETE INCHES
4"	300	111/4	8	2	3/4	18
		221/2	12	21/4		24
6"	300	111/4	12	21/4	3/4	24
		221/2	27	3		24
8"	300	111/4	16	21/2	3/4	24
		221/2	43	31/2		24
12"	300	111/4	64	4	-	24
		221/2	125	5		36



TYPE B BLOCKING FOR 45° VERTICAL BENDS						
PIPE SIZE NOM DIA INCHES	TEST PRESSURE PSI	VB	S	d	L	
		VERTICAL BEND DEGREES	NO OF CU FT OF CONC BLOCKING	SIDE OF CUBE FEET	DIA OF SHACKLE RODS (4) INCHES	DEPTH OF RODS IN CONCRETE INCHES
4"	300	45	27	3	3/4	20
			64	4		
			125	5		
			216	6		
12"	300	45	1	30		

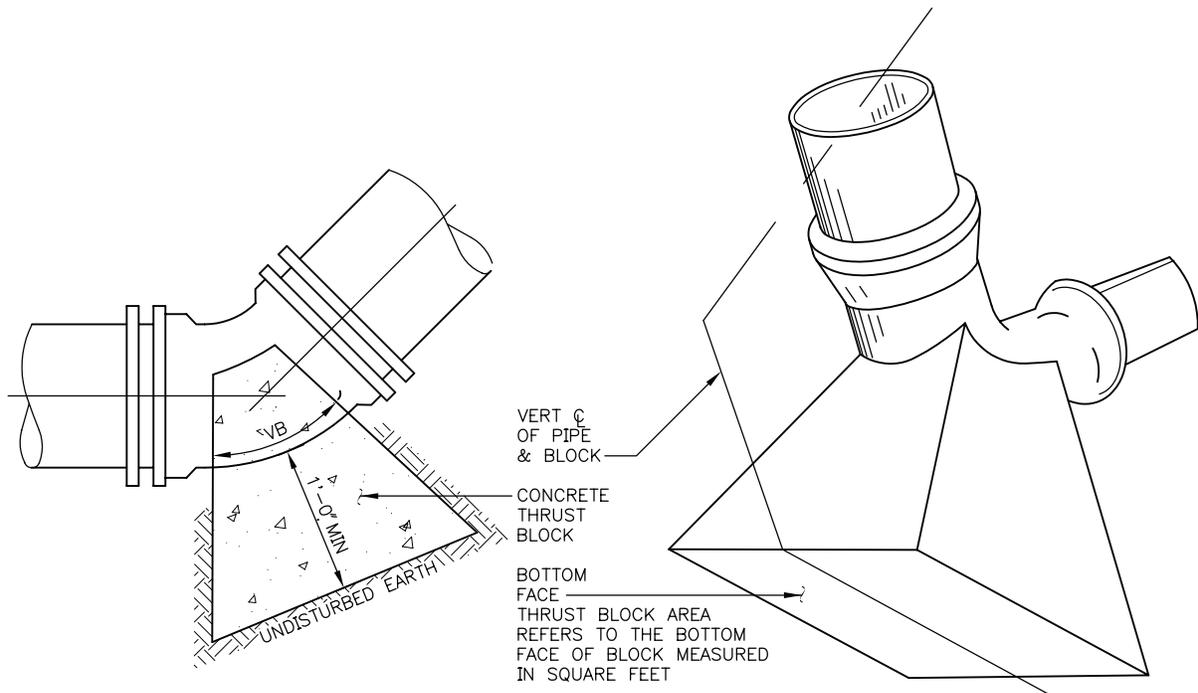
FOR NOTES SEE STD PLAN NO 330b
REF STD SPEC SEC 7-11



City of Seattle

NOT TO SCALE

WATERMAIN THRUST BLOCKING
VERTICAL FITTINGS



TYPE C

TYPE "C" BLOCKING FOR 1 1/4", 2 1/2", 4" AND 9" VERTICAL BENDS										
THRUST BLOCK AREA IN SQUARE FEET										
PIPE SIZE	FITTING	FIRM SILT OR FIRM SILTY SAND			COMPACT SAND			COMPACT SAND & GRAVEL		
		90° BEND	TEE 45° BEND & DEAD END	1 1/4" & 2 1/2" BEND	90° BEND	TEE 45° BEND & DEAD END	1 1/4" & 2 1/2" BEND	90° BEND	TEE 45° BEND & DEAD END	1 1/4" & 2 1/2" BEND
4"		5.8	4.2	1.7	2.9	2.1	1.0	2.2	1.6	1.0
6"		13.3	9.4	3.8	6.7	4.7	1.9	5.0	3.5	1.4
8"		23.3	16.7	6.7	11.7	8.4	3.4	8.8	6.3	2.5
12"		53.0	37.5	15.0	26.5	18.8	7.5	20.0	14.0	5.6

AREAS CALCULATED ON 300 PSI TEST PRESSURE AND 3'-0" MIN COVER OVER WATERMAIN

NOTES:

1. LOCATION AND SIZE OF BLOCKING FOR PIPE LARGER THAN 12" DIAMETER AND FOR SOIL TYPES DIFFERENT THAN SHOWN SHALL BE DETERMINED BY THE ENGINEER
2. ALL BLOCKING FOR VERTICAL FITTINGS (POURED IN PLACE) SHALL BEAR AGAINST UNDISTURBED NATIVE GROUND
3. ALL POURED THRUST BLOCKS SHALL BE BACKFILLED AFTER MIN. 1 DAY. PRESSURE TESTING SHALL OCCUR AFTER CONCRETE HAS REACHED f'c
4. ALL BLOCKING SHALL BE CONCRETE CL 5 (1 1/2)
5. AFTER INSTALLATION, SHACKLE RODS & TURNBUCKLES SHALL BE CLEANED AND COATED WITH 2 COATS OF ASPHALTIC VARNISH, ROYSTON ROYKOTE #612M OR APPROVED EQUAL
6. SHACKLE RODS SHALL BE FUSION BONDED EPOXY COATED ROUND MILD STEEL, ASTM A 36, WITH THREADS ON ENDS ONLY
7. BLOCKING AGAINST FITTINGS SHALL BEAR AGAINST THE GREATEST FITTING SURFACE AREA POSSIBLE, BUT SHALL NOT COVER OR ENCLOSE BELL ENDS, JOINT BOLTS OR GLANDS. REASONABLE ACCESS TO BOLTS AND GLANDS SHALL BE PROVIDED

REF STD SPEC SEC 7-11



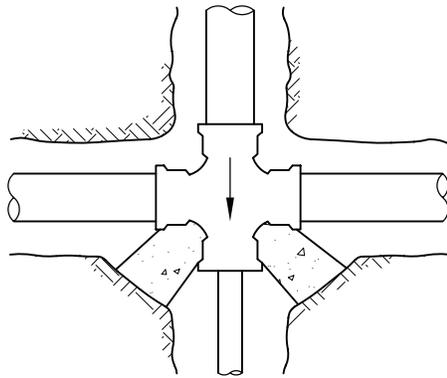
City of Seattle

NOT TO SCALE

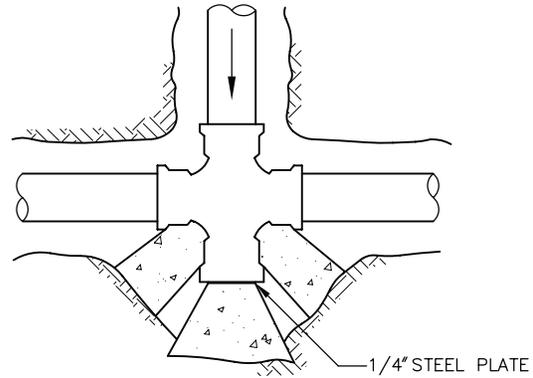
WATERMAIN THRUST BLOCKING
VERTICAL FITTINGS

STANDARD PLAN NO 331a

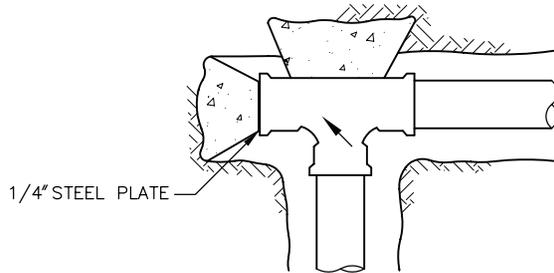
REV DATE: 2003



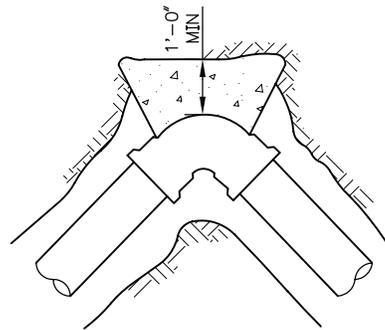
UNBALANCED CROSS



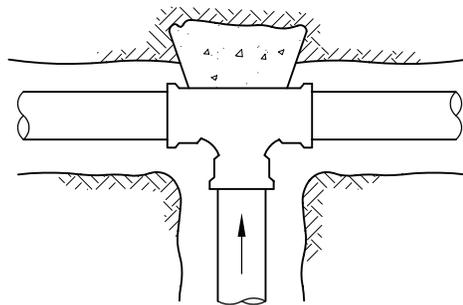
CROSS WITH PLUG



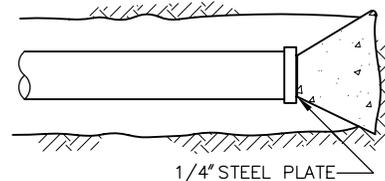
PLUGGED TEE



HORIZONTAL BEND



TEE



PIPE & CAP

THRUST BLOCK AREA IN SQUARE FEET (SEE STD PLAN NO 331b)																
PIPE SIZE	SOIL				FIRM SILT OR FIRM SILTY SAND				COMPACT SAND				COMPACT SAND & GRAVEL			
	90° BEND	TEE	45° BEND CAP OR PLUG	11 1/4° & 22 1/2° BEND	90° BEND	TEE	45° BEND CAP OR PLUG	11 1/4° & 22 1/2° BEND	90° BEND	TEE	45° BEND CAP OR PLUG	11 1/4° & 22 1/2° BEND				
4"	7.0	4.2	4.2	1.7	2.9	2.1	2.1	1.0	2.2	1.6	1.6	1.0				
6"	13.3	9.4	9.4	3.8	6.7	4.7	4.7	1.9	5.0	3.5	3.5	1.4				
8"	23.3	16.7	16.7	6.7	11.7	8.4	8.4	3.4	8.8	6.3	6.3	2.5				
12"	53.0	37.5	37.5	15.0	26.5	18.8	18.8	7.5	20.0	14.0	14.0	5.6				

AREAS CALCULATED ON 300 PSI TEST PRESSURE AND 3'-0" MIN COVER OVER WATERMAIN

ECOLOGY BLOCKS, PER STD PLAN NO 460, MAY BE USED IN LIEU OF POURED-IN-PLACE BLOCKING FOR FITTINGS IN SHADED PORTION OF TABLE

REF STD SPEC SEC 7-11

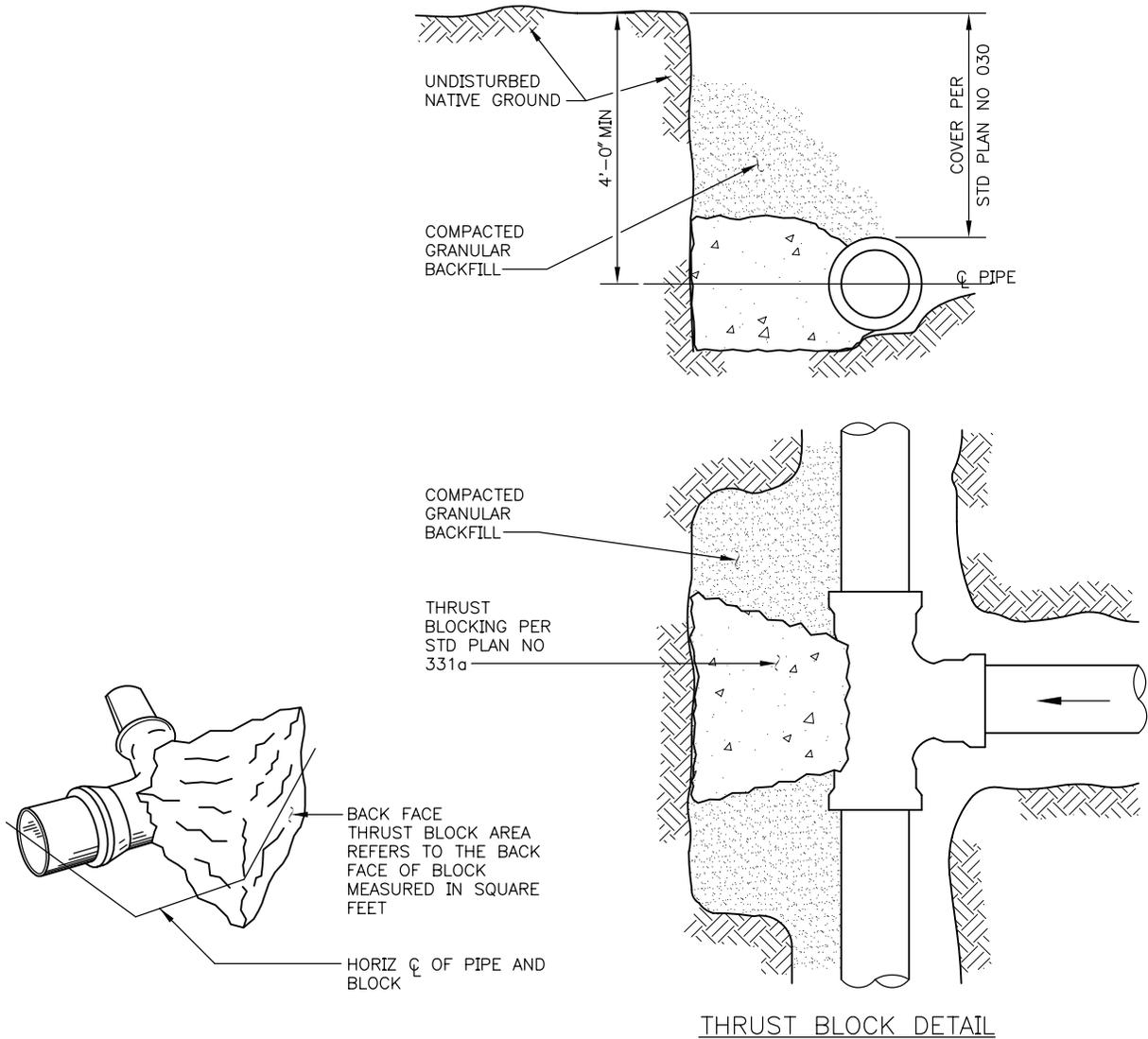
FOR NOTES SEE STD PLAN NO 331b



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WATERMAIN THRUST BLOCKING HORIZONTAL FITTINGS



NOTES:

1. LOCATION AND SIZE OF BLOCKING FOR PIPE LARGER THAN 12" DIAMETER AND FOR SOIL TYPES DIFFERENT THAN SHOWN SHALL BE DETERMINED BY THE ENGINEER.
2. ALL BLOCKING FOR HORIZONTAL FITTINGS (POURED IN PLACE) SHALL BEAR AGAINST UNDISTURBED NATIVE GROUND.
3. ALL POURED THRUST BLOCKS SHALL BE BACKFILLED AFTER MIN. 1 DAY. PRESSURE TESTING SHALL OCCUR AFTER CONCRETE HAS REACHED f'c.
4. ALL BLOCKING TO BE CONCRETE CL 5 (1 1/2).
5. BLOCKING AGAINST FITTINGS SHALL BEAR AGAINST THE GREATEST FITTING SURFACE AREA POSSIBLE, BUT SHALL NOT COVER OR ENCLOSE BELL ENDS, JOINT BOLTS OR GLANDS. ACCESS TO BOLTS AND GLANDS SHALL BE PROVIDED.
6. ALL HORIZONTAL BLOCKING THRUST AREAS SHALL BE CENTERED ON PIPE.
7. WHERE POURED-IN-PLACE BLOCKING IS REQUIRED AT A POINT OF CONNECTION TO AN EXISTING WATERMAIN, THE BLOCKING SHALL BE INSTALLED PRIOR TO CONNECTION.
8. TEMPORARY BLOCKING, IF USED, SHALL BE APPROVED BY ENGINEER.

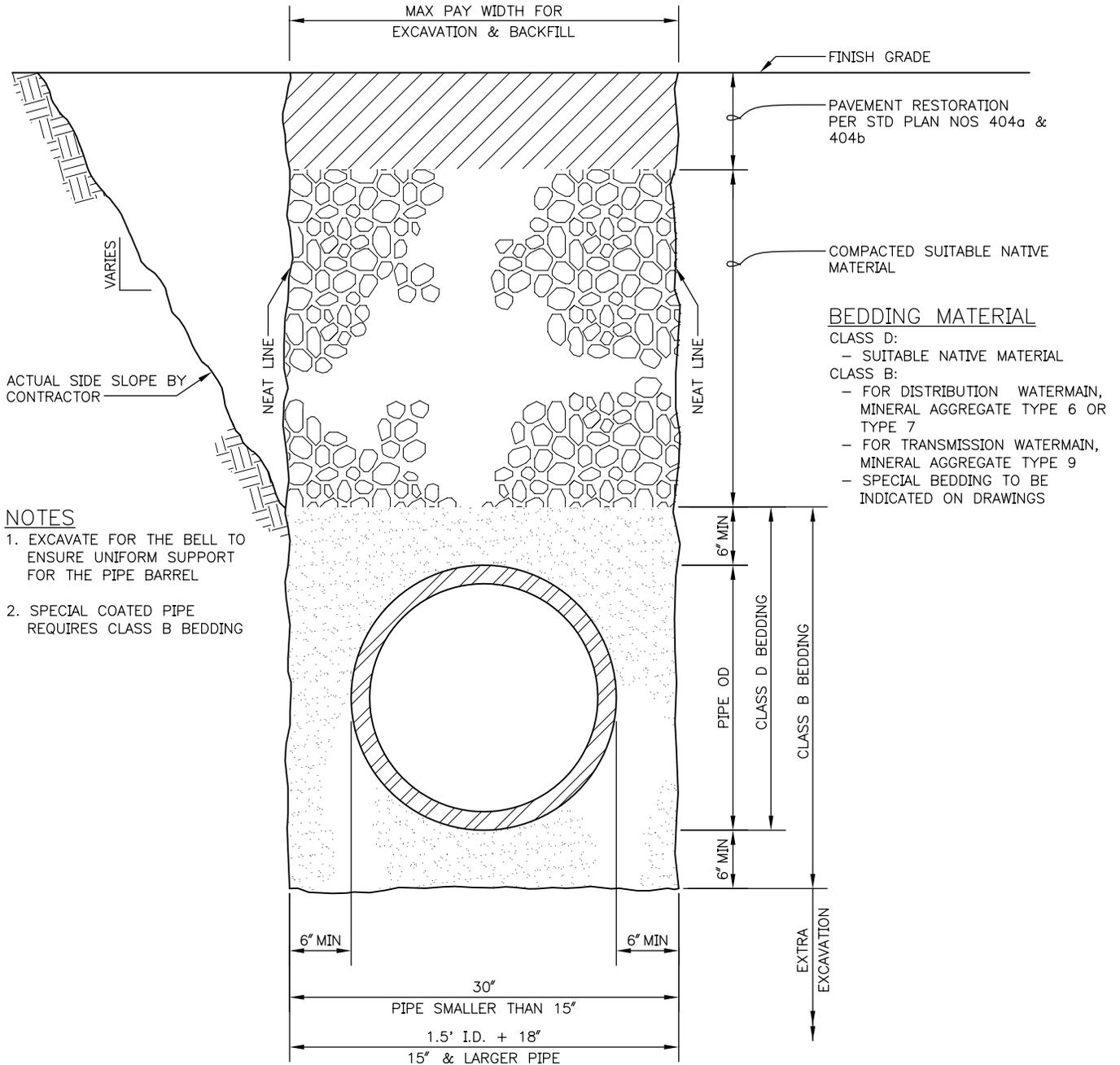
REF STD SPEC SEC 7-11



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WATERMAIN THRUST BLOCKING
HORIZONTAL FITTINGS



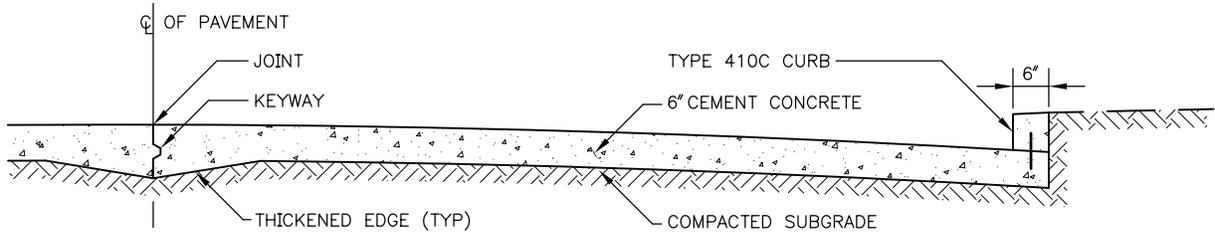
REF STD SPEC SEC 7-10



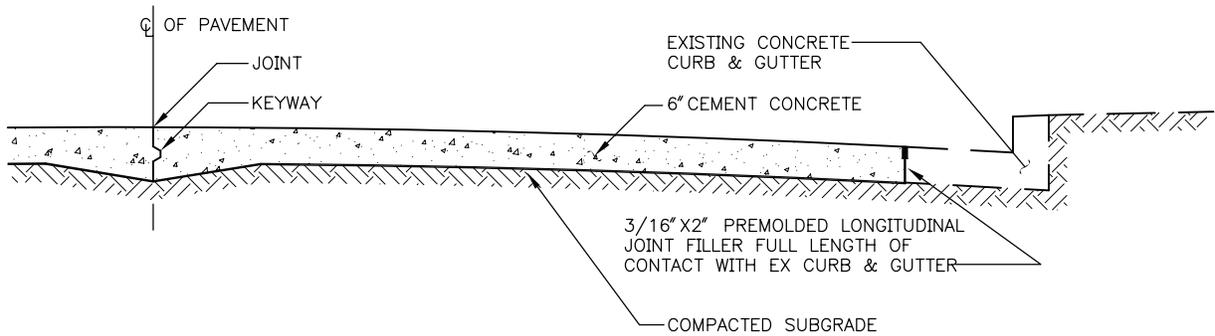
City of Seattle

NOT TO SCALE

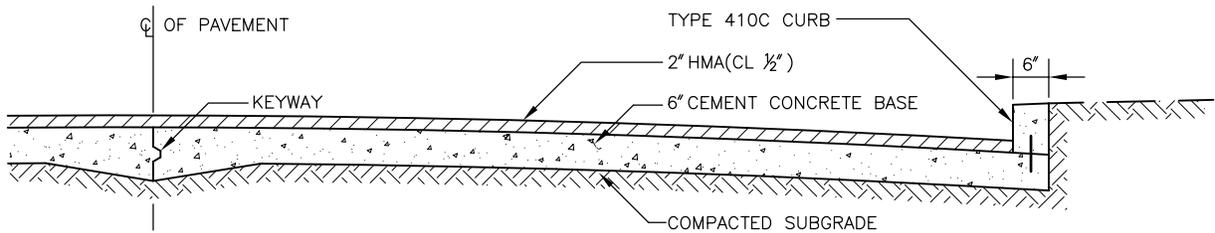
WATERMAIN TRENCH AND BEDDING



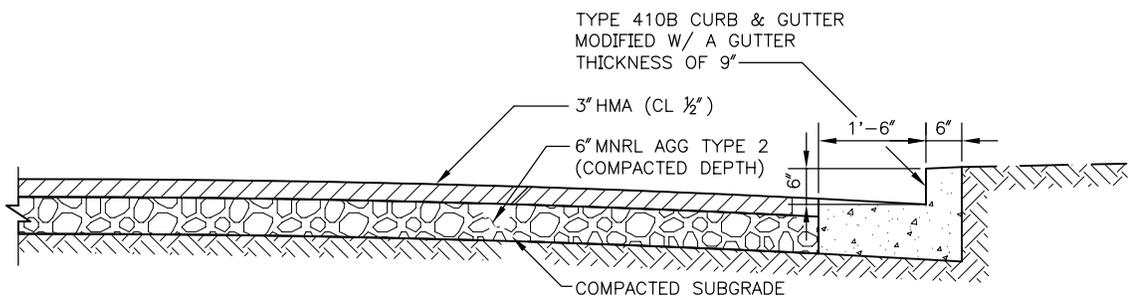
401A-CEMENT CONCRETE PAVEMENT WITH INTEGRAL CURB



401B-CEMENT CONCRETE PAVEMENT WITH EXISTING CURB & GUTTER



401C-HOT MIX ASPHALT ON CEMENT CONCRETE BASE



401D-HOT MIX ASPHALT OVER CRUSHED ROCK BASE

NOTES:

1. CONC CL 6 (1 1/2) UNLESS OTHERWISE SPECIFIED ON DRAWINGS
2. FOR JOINT DETAILS, SEE STD PLAN NO 405
3. 3 MILLION EASL'S UNLESS OTHERWISE SPECIFIED ON DRAWINGS
4. USE ASPHALT PG 64-22 UNLESS OTHERWISE SPECIFIED ON DRAWINGS

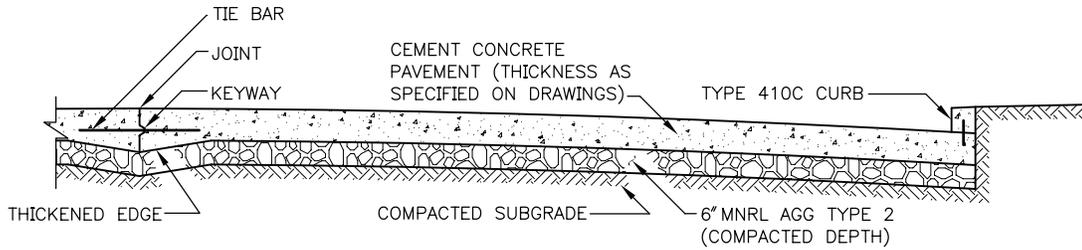
REF STD SPEC SEC 4-04, 5-04, 5-05 & 8-04



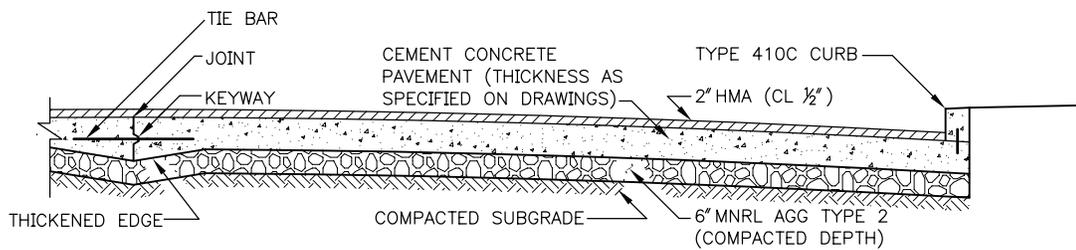
City of Seattle

NOT TO SCALE

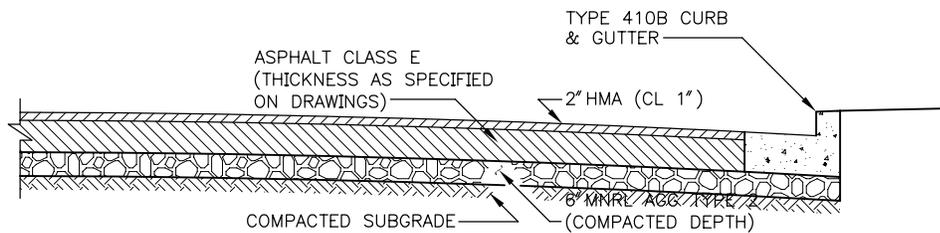
RESIDENTIAL PAVEMENT SECTIONS



402A—CEMENT CONCRETE PAVEMENT ON CRUSHED ROCK



402B—HOT MIX ASPHALT ON CEMENT CONCRETE ON CRUSHED ROCK



402D—HOT MIX ASPHALT ON CRUSHED ROCK BASE

NOTES:

1. PAVEMENT WIDTH AND THICKNESS AS SPECIFIED ON DRAWINGS
2. CONC CL 6.5 (1 1/2) UNLESS OTHERWISE SPECIFIED ON DRAWINGS
3. TIE BARS AND DOWELL BARS ARE REQUIRED FOR CEMENT CONCRETE PAVEMENT AND BASE (SEE STD PLAN NO 405)
4. FOR THICKENED EDGE AND JOINT DETAILS, SEE STD PLAN NO 405
5. 10 MILLION ESAL'S UNLESS OTHERWISE SPECIFIED ON DRAWINGS
6. USE ASPHALT PG 64-22 UNLESS OTHERWISE SPECIFIED ON DRAWINGS

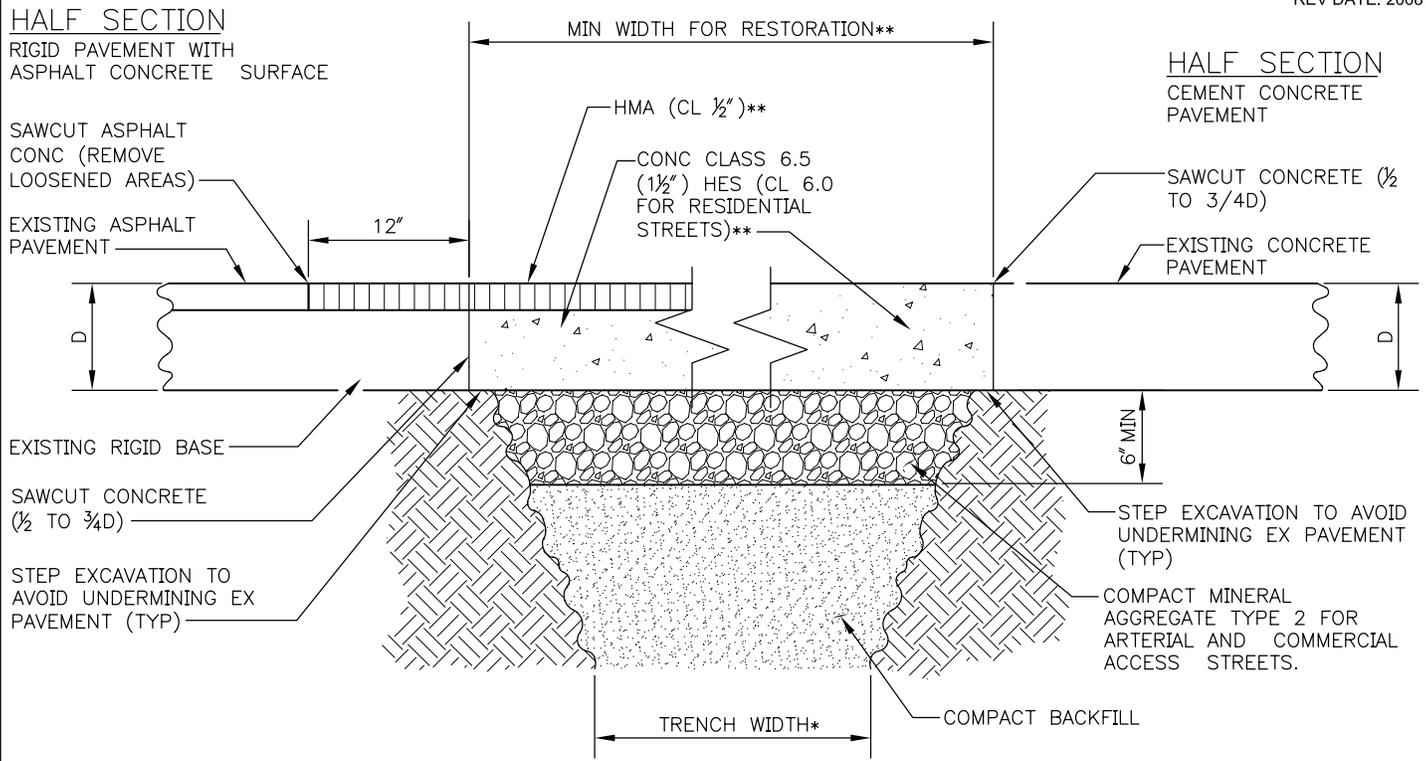
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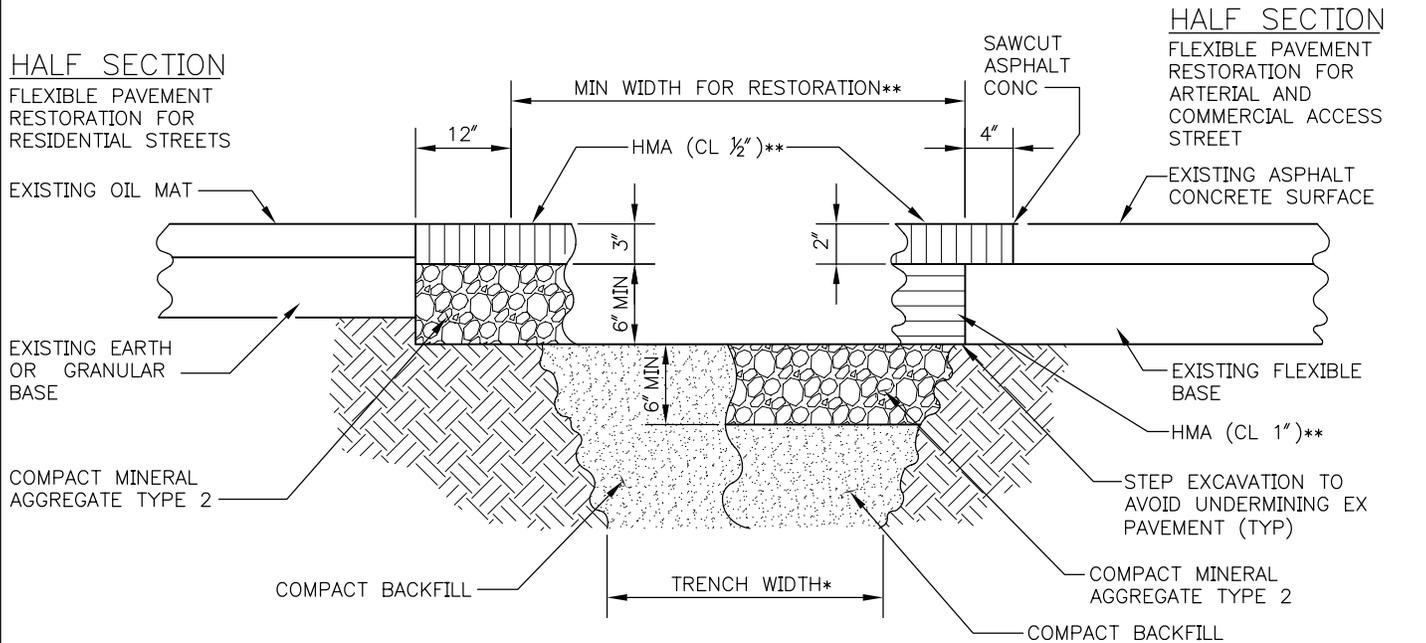
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COMMERCIAL AND
ARTERIAL PAVEMENT
SECTIONS



TYPICAL PATCH FOR RIGID PAVEMENT



TYPICAL PATCH FOR FLEXIBLE PAVEMENT

* TRENCH WIDTH SHALL MEET THE MAX PAY TRENCH WIDTH AS CALLED OUT ON STD PLAN NOS 284 & 350

** MIN WIDTH AND DEPTH OF RESTORATION SHALL BE INCREASED TO MEET THE REQUIREMENTS OF "STREET AND SIDEWALK PAVEMENT OPENING AND RESTORATION RULES"

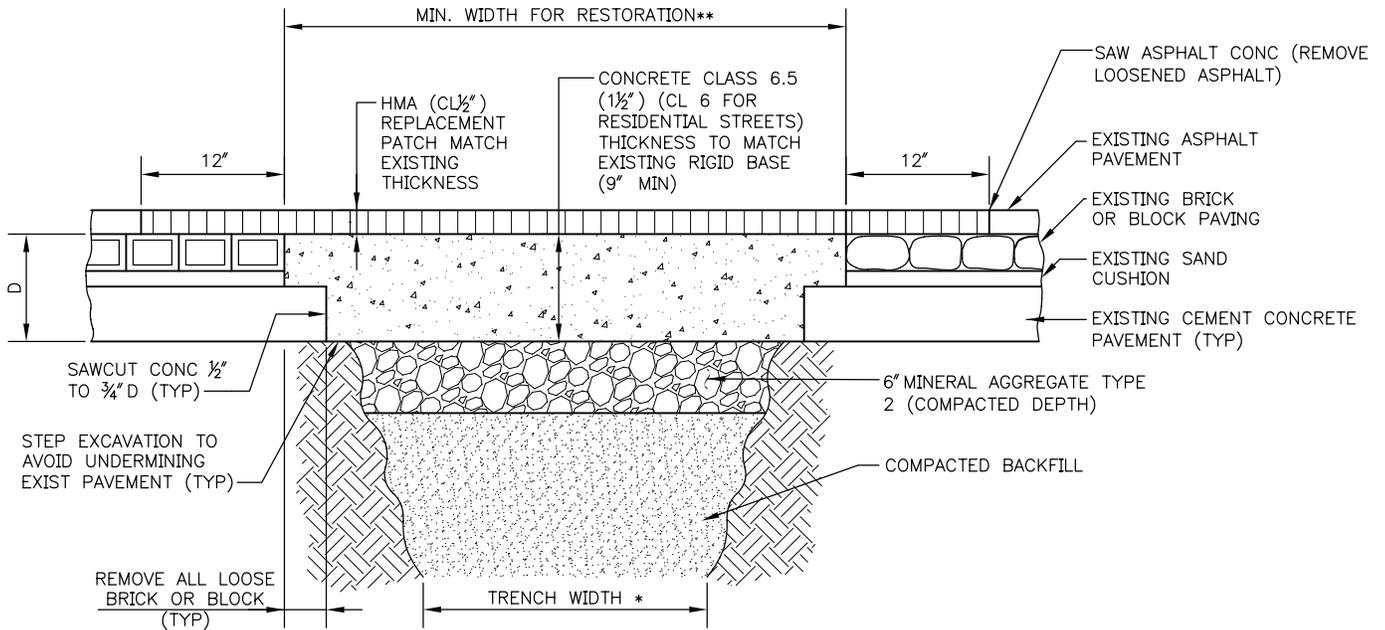
REF STD SPEC SEC 2-02, 5-04 & 5-05



City of Seattle

NOT TO SCALE

PAVEMENT PATCHING



ASPHALT OVER RIGID BASE OF BRICK OR STONE BLOCK PAVEMENT

NOTES:

1. WHEN A STONE OR BRICK PAVEMENT IS OVERLAYED WITH HMA, THE STREET SURFACE PAVEMENT BECOMES AN ASPHALT CONC STREET OVER RIGID BASE
2. IF A STONE OR BRICK PAVEMENT IS NOT OVERLAYED, THE METHOD OF RESTORATION IS IN KIND

- * MIN. TRENCH WIDTH SHALL MEET THE MAX PAY TRENCH WIDTH AS CALLED OUT ON STD PLAN NOS. 284 & 350
- ** ACTUAL WIDTH AND DEPTH OF RESTORATION SHALL MEET REQUIREMENTS OF "STREET AND SIDEWALK PAVEMENT OPENING AND RESTORATION RULES"

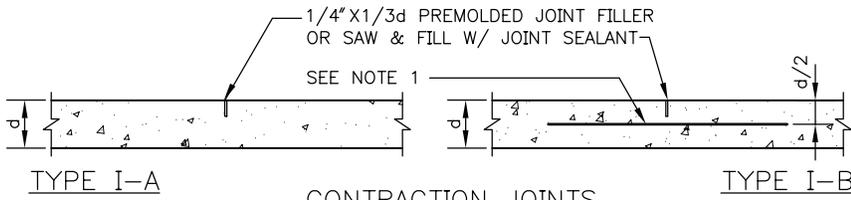
REF STD SPEC SEC 2-02, 5-04 & 5-05



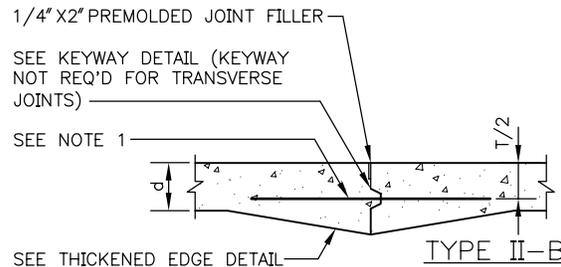
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NOT TO SCALE

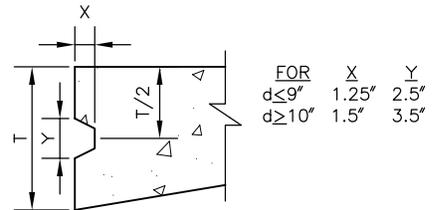
PAVEMENT PATCHING



CONTRACTION JOINTS



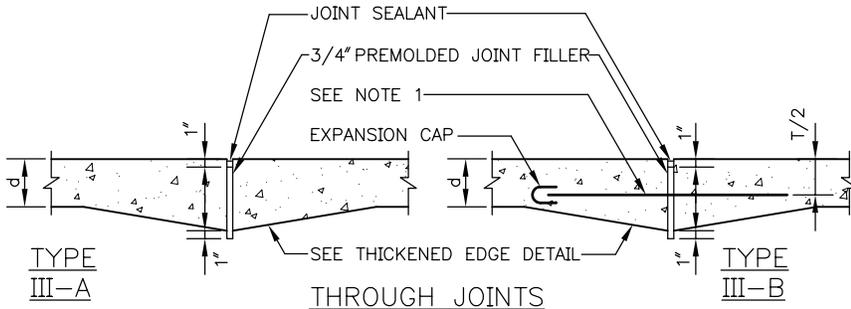
CONSTRUCTION JOINTS



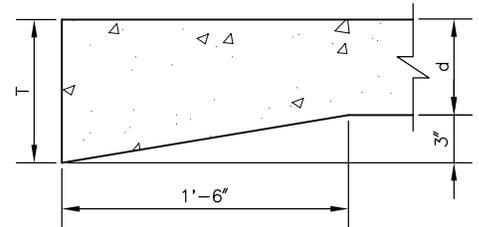
KEYWAY DETAIL

FOR JOINTS WITH THICKENED EDGE $T=d+3"$
OTHERWISE $T=d$

FOR	X	Y
$d \leq 9"$	1.25"	2.5"
$d \geq 10"$	1.5"	3.5"

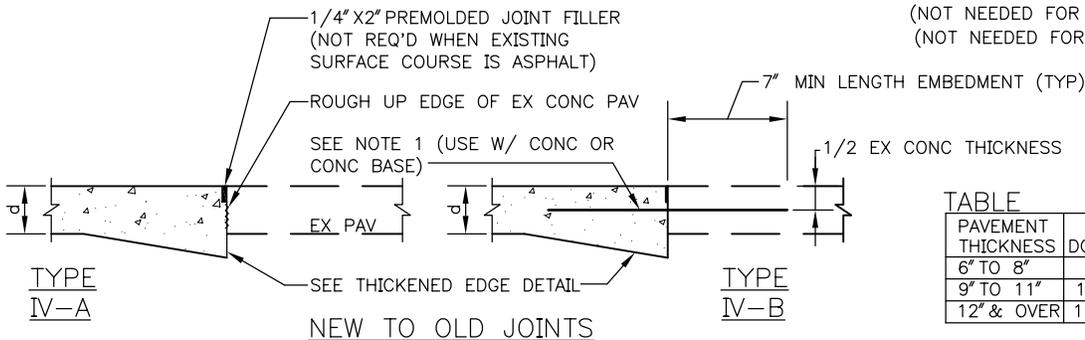


THROUGH JOINTS



THICKENED EDGE DETAIL

(NOT NEEDED FOR TYPE A JOINTS WIDTH $d \geq 10"$)
(NOT NEEDED FOR TYPE B JOINTS WIDTH $d \geq 9"$)



NEW TO OLD JOINTS

TABLE

PAVEMENT THICKNESS	DOWEL BAR SIZE
6" TO 8"	1" X 18" @ 12"
9" TO 11"	1 1/4" X 18" @ 12"
12" & OVER	1 1/2" X 18" @ 12"

NOTES:

- WHERE REQUIRED AT LONGITUDINAL JOINTS, TIE BARS SHALL BE 5/8" X 2'-6" @ 3'-0", DEFORMED GRADE 40 OR BETTER, EPOXY COATED. WHERE REQUIRED AT TRANSVERSE JOINTS, DOWEL BARS SHALL BE SIZED AS SHOWN IN THE TABLE, SMOOTH ROUND GRADE 60 OR BETTER, EPOXY COATED AND GREASED
- LONGITUDINAL JOINT SPACING SHOULD NOT EXCEED 15'-6" (TO BACK OF CURB). TRANSVERSE JOINT SPACE SHALL NOT EXCEED 15'-0". THE AREA OF THE PANEL SHALL NOT EXCEED 225 SQUARE FEET
- JOINT OFFSETS AT RADIUS POINTS SHOULD BE AT LEAST 1'-6" LONG
- JOINT INTERSECTION ANGLES OF LESS THAN 60 DEGREES SHALL BE USED
- WHEN A JOINT IS CLOSER THAN 1'-0" TO A CASTING, THEN A MINOR ADJUSTMENT IN THE JOINT LOCATION SHOULD BE MADE BY SKEWING OR SHIFTING THE JOINT ALIGNMENT TO MEET THE CASTING AT 90° OR NORMAL TO THE CASTING.
- WHERE POSSIBLE, LONGITUDINAL JOINTS SHOULD MATCH LANE MARKINGS
- LONGITUDINAL JOINTS ARE TO BE CONSTRUCTION JOINTS UNLESS PAVED BY MACHINE CAPABLE OF PLACING AND FINISHING CONCRETE FOR TWO OR MORE PANEL WIDTHS (IN WHICH CASE A CONTRACTION JOINT IS ALLOWED)
- DOWEL BARS SHALL NOT BE PLACED WITHIN 1'-0" OF THE EDGE OF PAVEMENT OR A PARALLEL JOINT

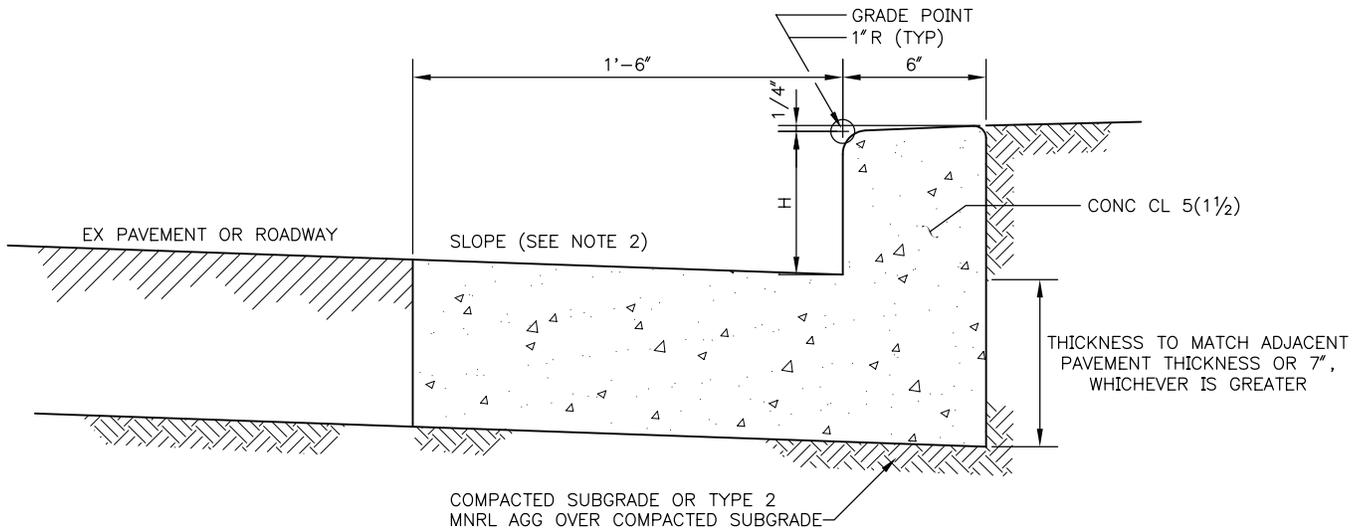
REF STD SPEC SEC 5-05 & 6-02



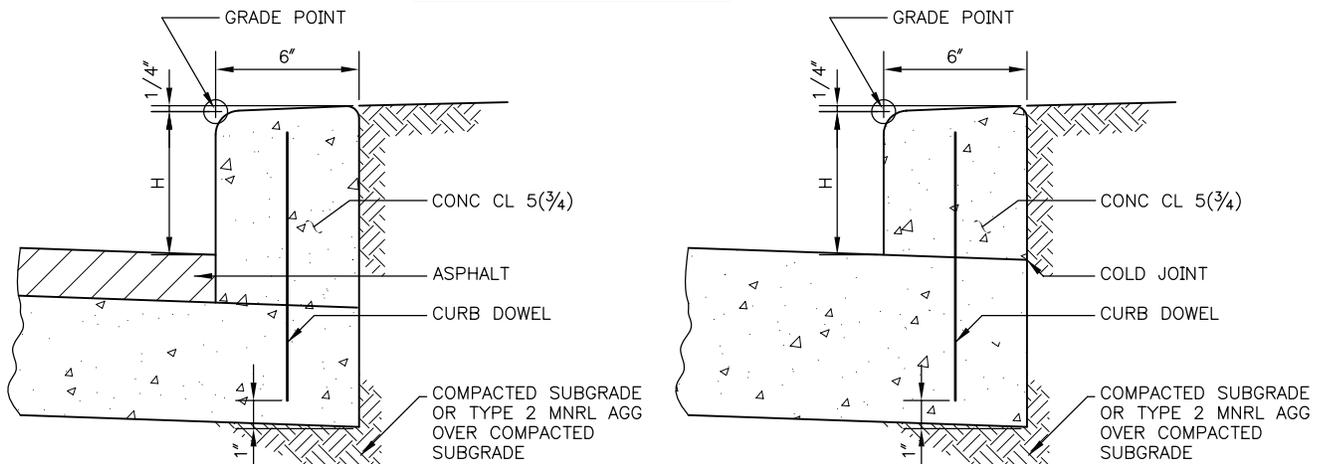
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TYPES OF JOINTS FOR
CONCRETE PAVEMENT



410B CURB & GUTTER



410C CURB

NOTES:

1. "H" SHALL BE 6" FROM FINISHED ROADWAY GRADE UNLESS OTHERWISE SHOWN ON DRAWINGS
2. GUTTER SHALL BE SLOPED THE SAME AS ADJACENT PAVEMENT OR 2% MIN, WHICHEVER IS GREATER.
3. SEE STD PLAN NO 411 FOR CURB DOWELS

REF STD SPEC SEC 8-04



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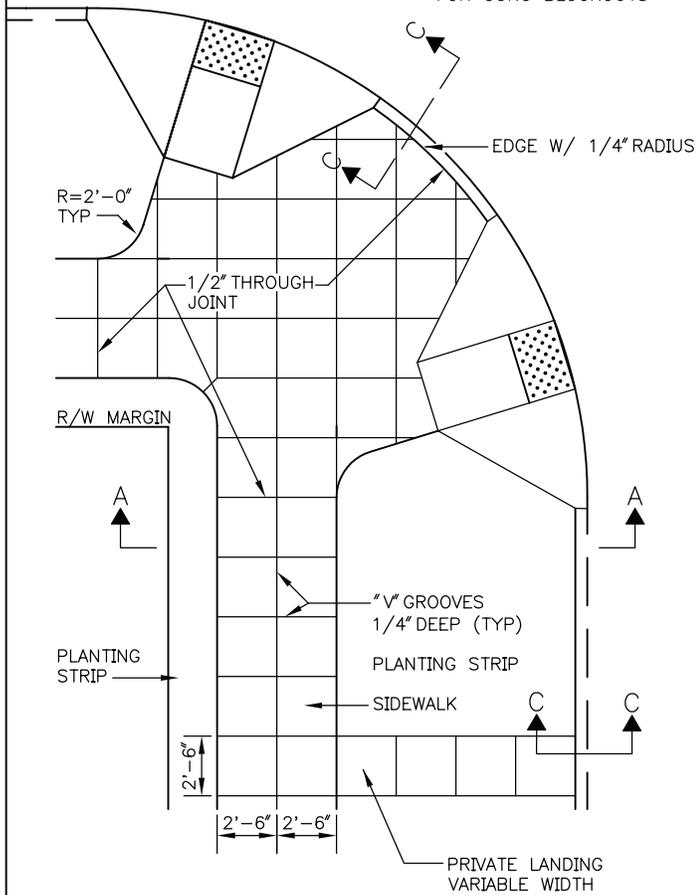
NOT TO SCALE

TYPE 410 CURB

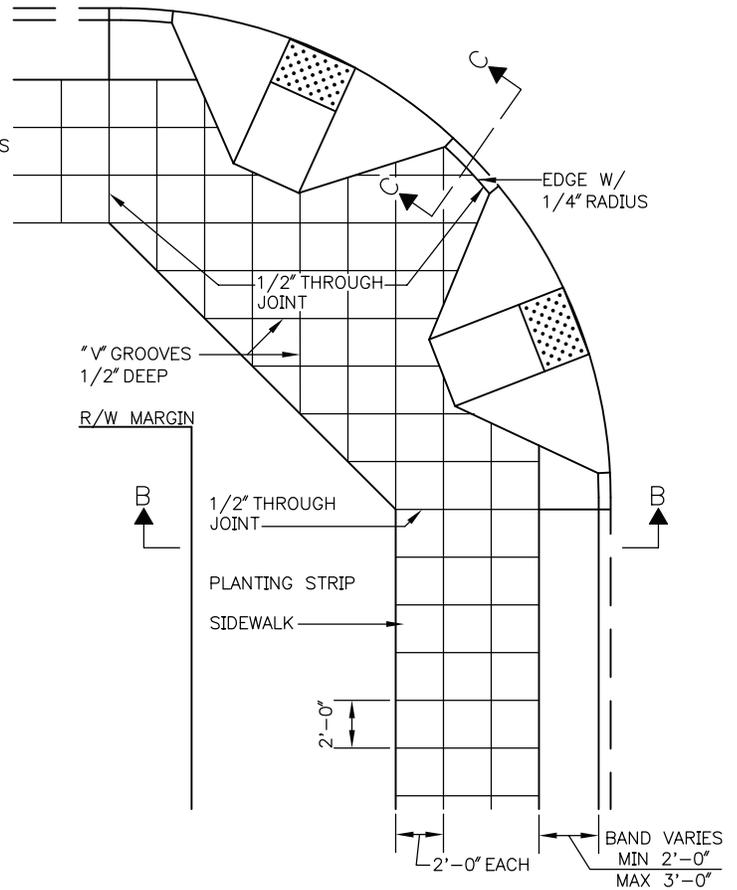
STANDARD PLAN NO 420

REV DATE: 2005

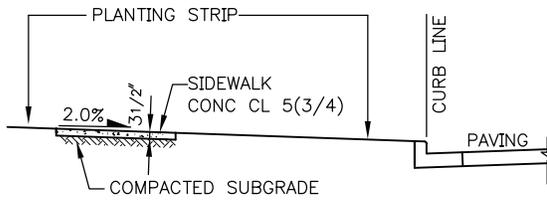
SEE STD PLAN NO 624
FOR CONC BLOCKOUTS



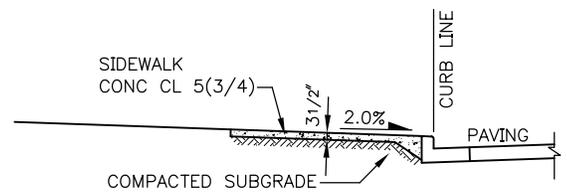
SIDEWALK
5'-0" WIDE



SIDEWALK
GREATER THAN
5'-0" WIDE



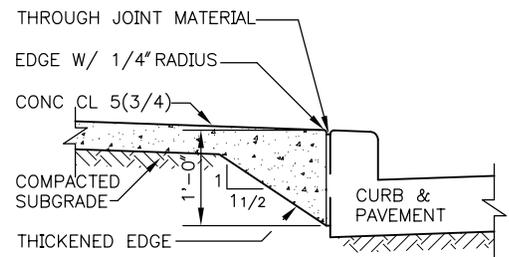
SECTION A-A



SECTION B-B

NOTES:

1. WHEN PLANTING STRIP PAVEMENT IS APPROVED, JOINT MATERIAL WILL BE REQUIRED AT THE PERIMETER OF THE PLANTING STRIP PAVEMENT
2. WHEN EXISTING PARKING METERS ARE TO BE REMOVED FOR NEW SIDEWALK CONSTRUCTION, CONTACT SEATTLE DEPARTMENT OF TRANSPORTATION A MINIMUM OF 2 WORKING DAYS PRIOR TO SCHEDULED WORK TO COORDINATE REMOVAL OF METER HEADS



SECTION C-C

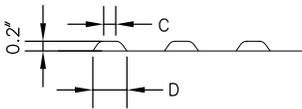
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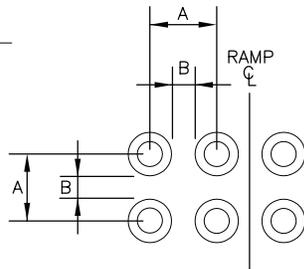
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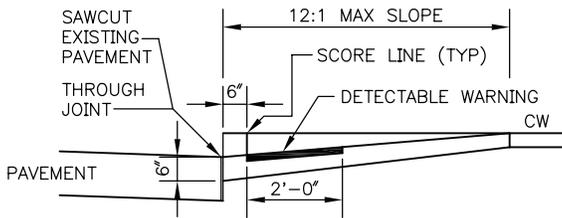
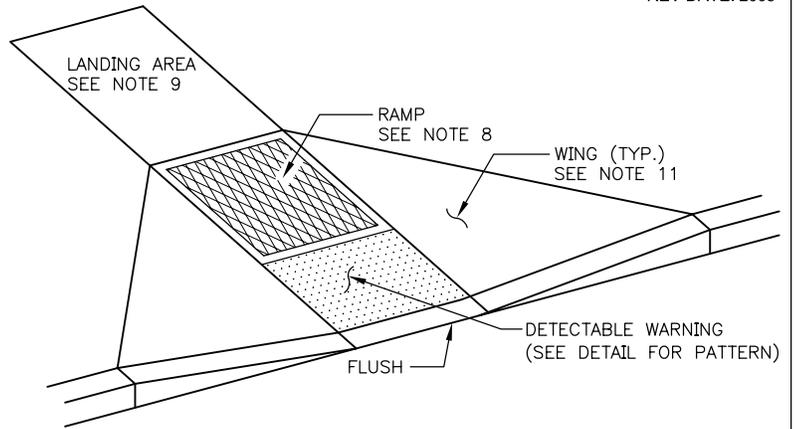
CONCRETE SIDEWALK DETAILS



	MIN.	MAX.
A	1.6 "	2.4 "
B	0.65 "	1.5 "
C	50% TO 65% OF D	
D	0.9 "	1.4 "

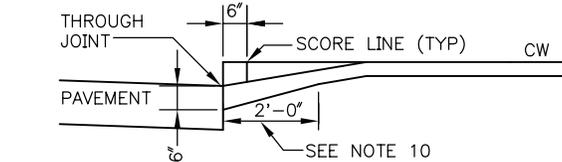


TRUNCATED DOMES PATTERN -DETECTABLE WARNING

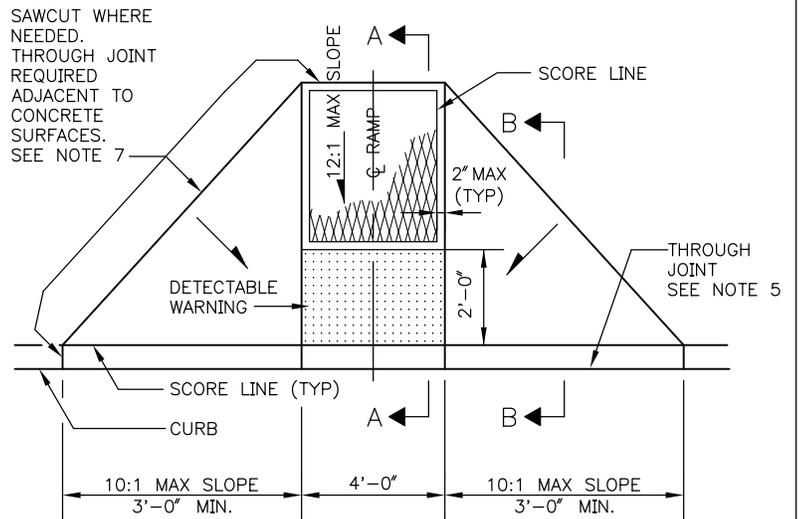


SECTION A-A

CURB MONOLITHIC WITH RAMP.
NEW PAVEMENT BLOCKED OUT FULL DEPTH.
EXISTING PAVEMENT REMOVED AT FACE OF CURB



SECTION B-B



NOTES:

- TWO CURB RAMPS SHALL BE INSTALLED AT EACH CORNER UNLESS DIRECTED OTHERWISE BY SDOT. SEE STD PLAN NO 422b.
- CURB RAMPS SHALL BE CONSTRUCTED WITH COMPANION RAMPS ON OPPOSITE SIDES OF THE STREET UNLESS DIRECTED OTHERWISE BY SDOT
- WHERE CURB IS INSTALLED AT A LOCATION WITH NO SIDEWALK, CURB SHALL BE DEPRESSED FOR FUTURE CURB RAMP INSTALLATION.
- TYPE 422a CURB RAMP SHALL BE USED. HOWEVER IF NOT FEASIBLE, THEN TYPE 422b CURB RAMP MAY BE INSTALLED WITH THE APPROVAL OF SDOT
- NEW PAVEMENT SHALL BE BLOCKED OUT FULL DEPTH. EXISTING PAVEMENT SHALL BE REMOVED AT THE FACE OF THE CURB.
- MIN DISTANCE BETWEEN ADJACENT CURB RAMPS SHOULD BE 3'-0".
- CURB RAMPS SHALL BE ISOLATED FROM ALL OTHER CONCRETE BY THROUGH JOINTS.
- RAMPS SHALL HAVE A COARSE TEXTURED SURFACE OBTAINED WITH A 3/4" 9-11 FLATTENED EXPANDED METAL MESH BEING PRESSED INTO THE STILL FRESH CONCRETE. THE LONG AXIS OF THE DIAMOND PATTERN SHALL BE ALIGNED WITH THE SLOPE OF THE RAMP.
- ADDITIONAL SIDEWALK PAVING MAY BE NECESSARY IN THE PLANTING STRIP OR AT THE BACK OF SIDEWALK TO ACCOMMODATE ACCESS TO THE RAMP. A MINIMUM 4'-0" x 4'-0" 2% GRADE LANDING SHALL BE PROVIDED AT THE TOP OF RAMP ON TYPE 422a.
- THE SIDEWALK THICKENED EDGE SHALL BE CONTINUED THROUGH BOTH WINGS ON TYPE 422a AND BOTH RAMPS ON TYPE 422b. SEE STD. PLAN NO 420.
- THE WINGS ON TYPE 422a SHALL HAVE A SLIGHTLY BRUSHED FINISH PARALLEL TO THE CURB.
- MIN LATERAL CLEARANCE FROM INLETS, POLES, HYDRANTS AND OTHER ABOVE GROUND OBSTACLES SHALL BE 1'-0" MINIMUM FROM THE SCORED AND THE DETECTABLE WARNING PORTIONS OF THE CURB RAMP.
- INLETS SHALL BE SO LOCATED THAT GUTTER FLOW DOES NOT FLOW PAST THE CURB RAMP.
- DETECTABLE WARNING SURFACE SHALL BE "CITY OF SEATTLE SAFETY YELLOW", AND SHALL BE LOCATED 6 INCHES OFF THE CURB FACE. SEE STD SPEC SEC 8-3(7)A.
- CURB RAMP SHALL BE PERPENDICULAR TO THE CURB.
- THE RAMP PORTION OF THE TYPE 422a CURB RAMP SHALL BE WHOLLY CONTAINED WITHIN THE MARKED CROSSING (SEE STD PLAN NO. 422b)

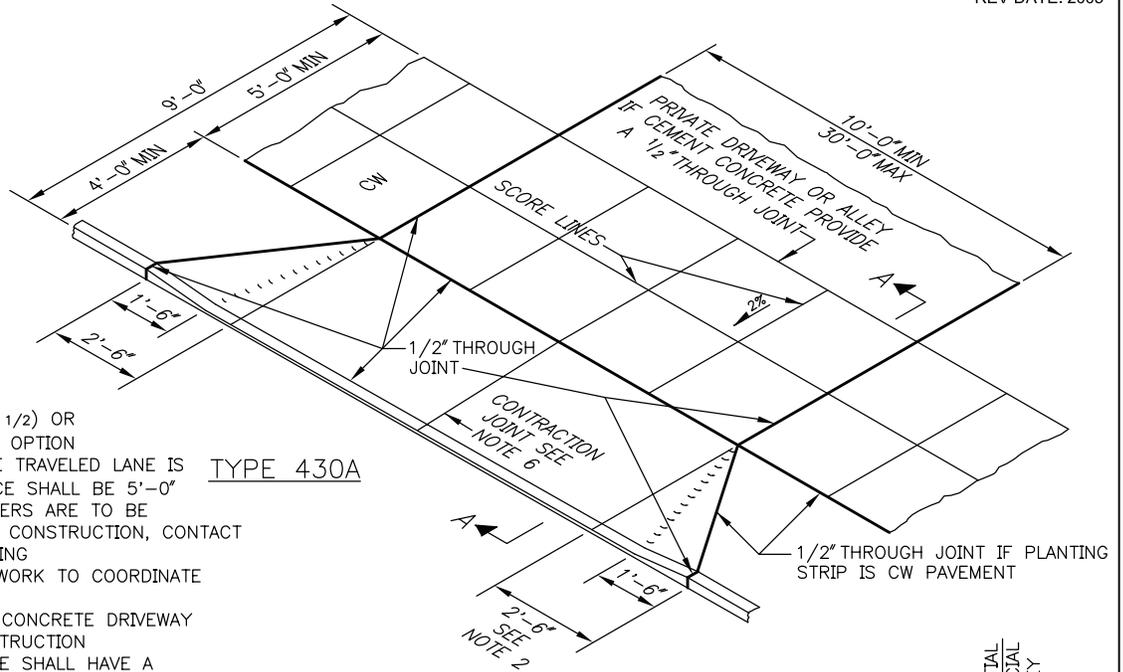
REF STD SPEC SEC 8-14



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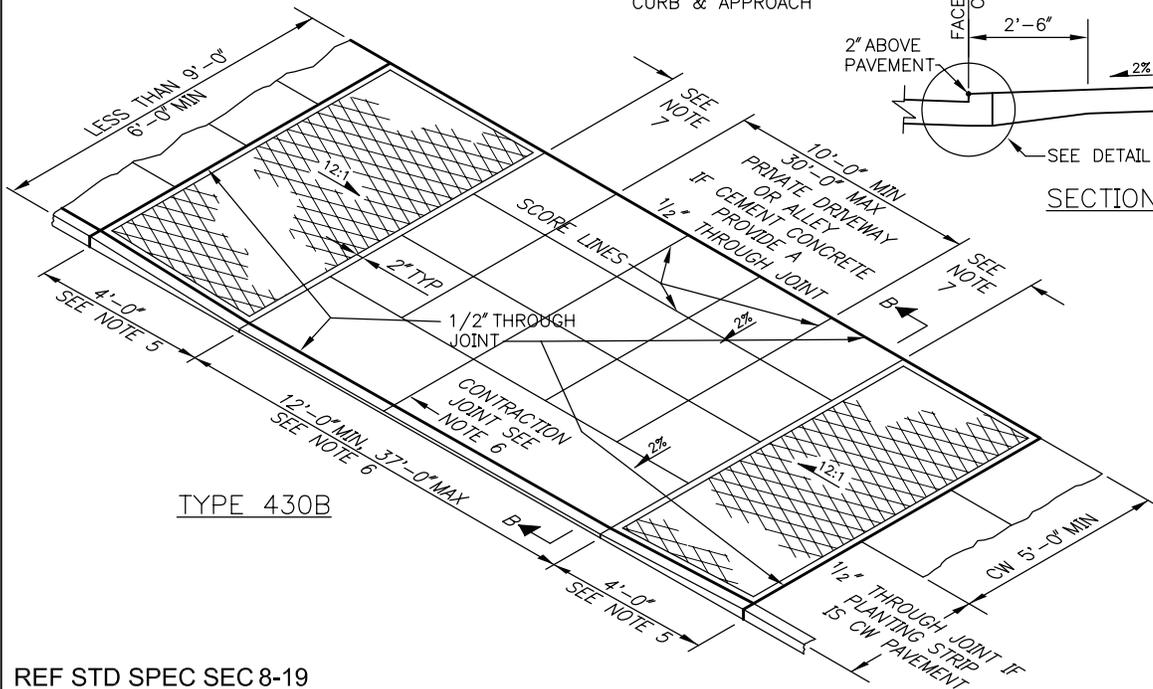
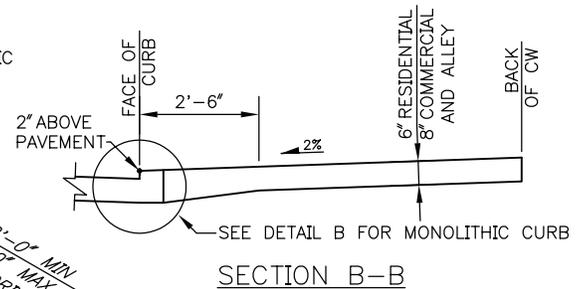
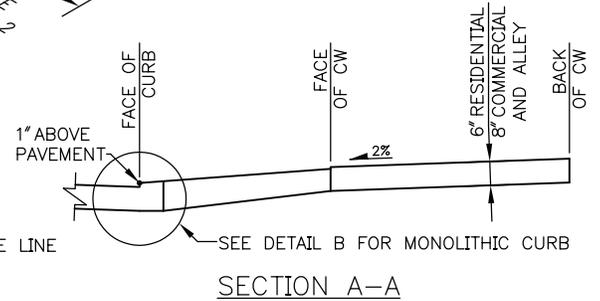
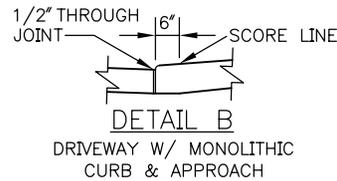
CURB RAMP DETAILS



NOTES:

1. CONCRETE SHALL BE CL 6 (1 1/2) OR CL 6 (3/4) AT CONTRACTOR'S OPTION
2. ON ARTERIAL STREETS WHERE TRAVELED LANE IS NEXT TO CURB, THIS DISTANCE SHALL BE 5'-0"
3. WHEN EXISTING PARKING METERS ARE TO BE REMOVED FOR NEW DRIVEWAY CONSTRUCTION, CONTACT SDOT A MINIMUM OF 2 WORKING DAYS PRIOR TO SCHEDULED WORK TO COORDINATE REMOVAL OF METER HEADS
4. REF STD PLAN NO 431 FOR CONCRETE DRIVEWAY PLACED WITH SIDEWALK CONSTRUCTION
5. THE RAMP SECTION CONCRETE SHALL HAVE A COARSE TEXTURED SURFACE OBTAINED BY A 3/4" 9-11 FLATTENED EXPANDED METAL MESH BEING PRESSED INTO THE STILL FRESH CONCRETE. THE LONG AXIS OF THE DIAMOND PATTERN SHALL BE ALIGNED WITH THE SLOPE OF THE RAMP
6. DRIVEWAY WIDTH GREATER THAN 15'-0" SHALL HAVE A TRANSVERSE CONTRACTION JOINT AT OR NEAR CENTER
7. THIS DISTANCE IS 1'-0", HOWEVER ON ARTERIALS AND COMMERCIAL STREETS WHERE THE LANE OF TRAVEL IS ADJACENT TO CURB THIS DISTANCE SHALL BE 3'-6"

TYPE 430A



TYPE 430B

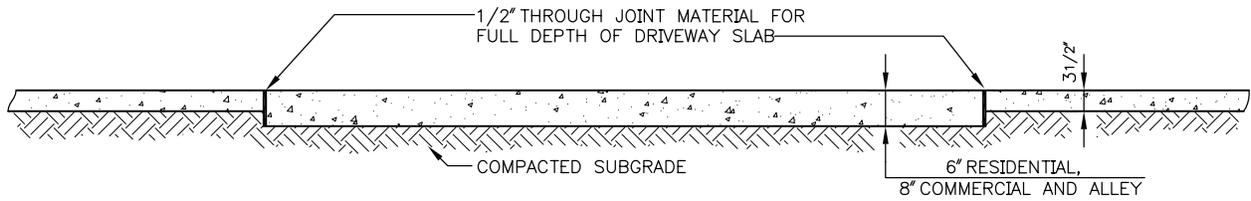
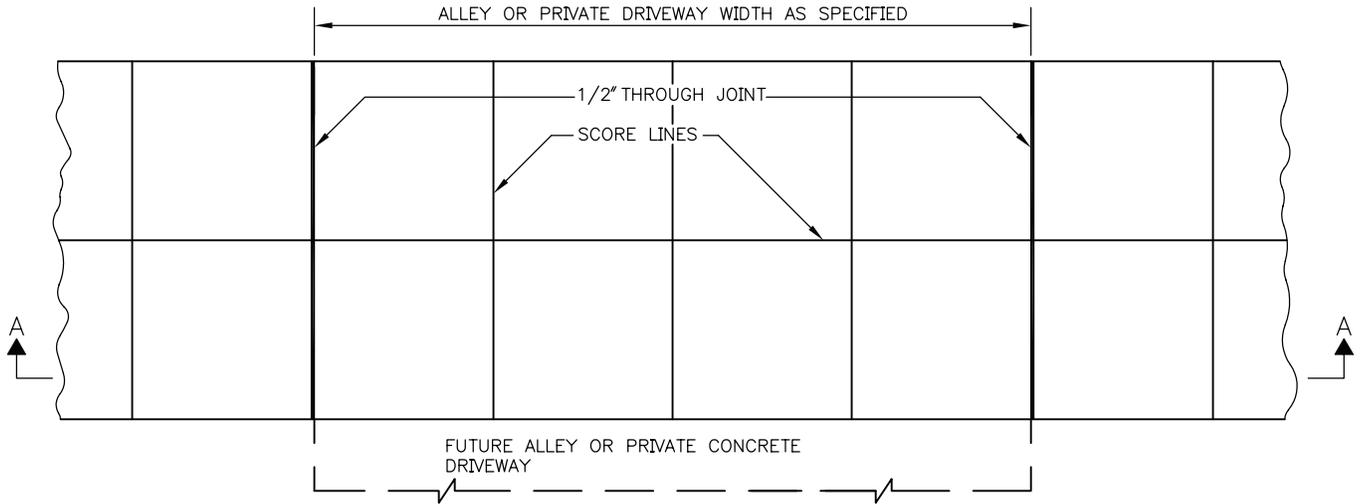
REF STD SPEC SEC 8-19



City of Seattle

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TYPE 430 DRIVEWAY



SECTION A-A

NOTES:

1. DRIVEWAY WIDTH GREATER THAN 15'-0" SHALL HAVE TRANSVERSE CONTRACTION JOINT AT ITS CENTER
2. DRIVEWAY CONCRETE SHALL BE CLASS 6(3/4) OR 6(1 1/2) AT CONTRACTOR'S OPTION
3. SIDEWALK CONCRETE SHALL BE CLASS 5(3/4)

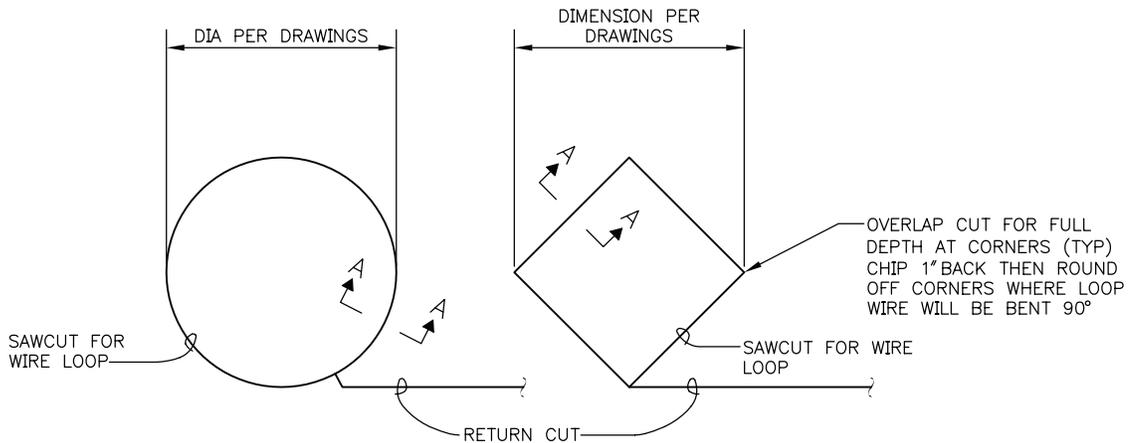
REF STD SPEC SEC 8-14 & 8-19



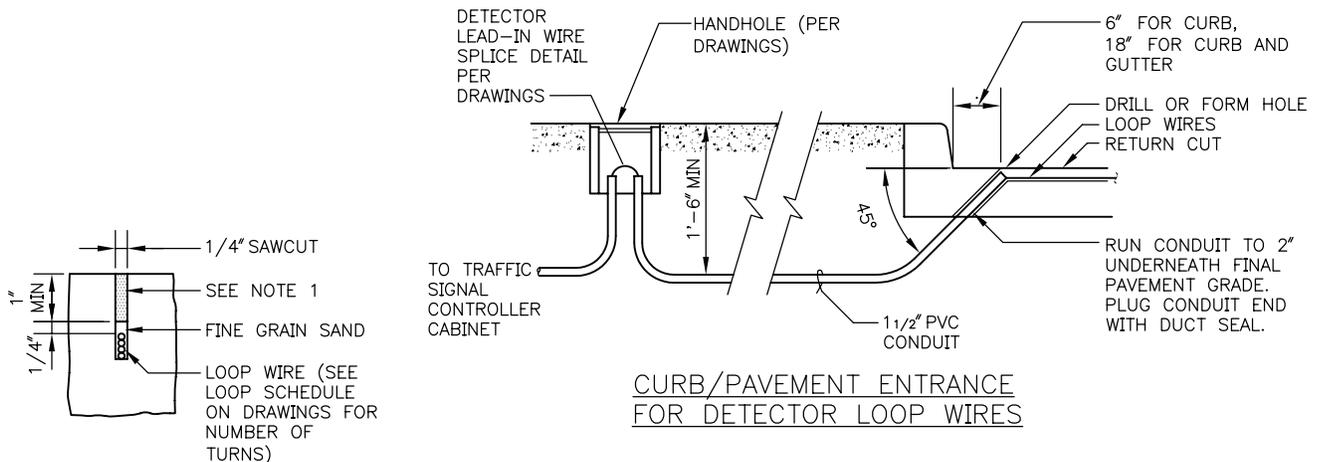
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CONCRETE DRIVEWAY PLACED WITH SIDEWALK CONSTRUCTION

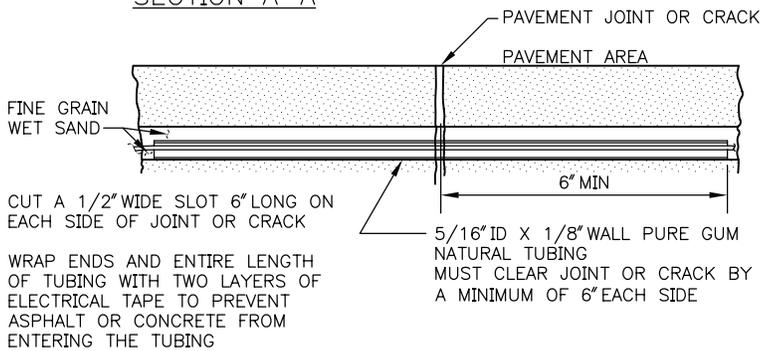


DIPOLE LOOP DETECTORS



CURB/PAVEMENT ENTRANCE FOR DETECTOR LOOP WIRES

SECTION A-A



PAVEMENT JOINT OR CRACK DETAIL

NOTES:

1. FILL CUT AFTER VERTICAL PLACEMENT AND TESTING WITH HOT PAVING GRADE LIQUID ASPHALT ASTM D 312 TYPE III OR QUICK SETTING HIGH STRENGTH GROUT
2. SHARP EDGE TOOLS SHALL NOT BE USED IN PLACING CONDUCTORS IN SAW CUTS
3. EACH PAIR OF LOOP WIRES IN THE RETURN CUT SHALL BE TWISTED A MINIMUM OF 3 TURNS PER FOOT AND MAY SHARE COMMON RETURN CUTS WITH OTHER TWISTED PAIRS
4. TAPE LOOP WIRE A MINIMUM OF 2 TURNS AT EACH CORNER
5. REMOVE SHARP CORNER EDGES IN SAW CUTS WHERE LOOP WIRE WILL BE BENT AROUND
6. PERFORM RESISTANCE AND CONTINUITY TESTS PRIOR TO SEALING LOOP WIRES
7. COIL 5'-0" OF LOOP WIRE IN HANDHOLE

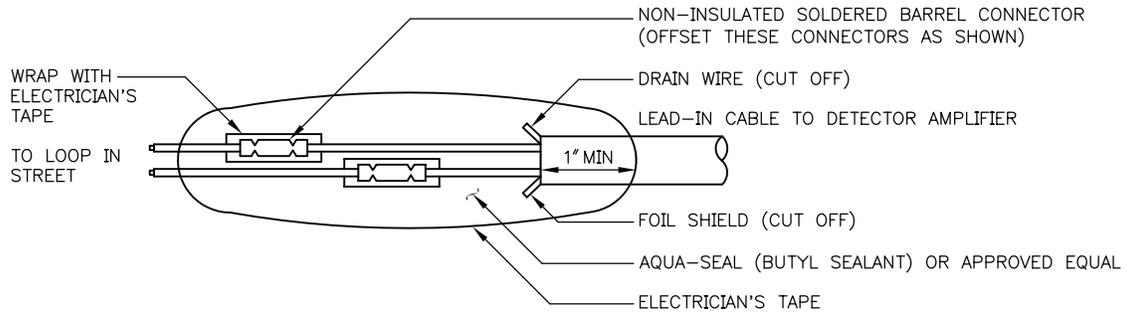
REF STD SPEC SEC 8-31, 9-32



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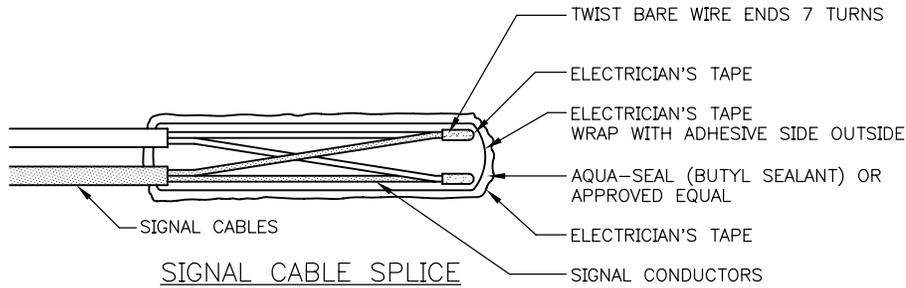
NOT TO SCALE

LOOP DETECTORS



DETECTOR LEAD-IN WIRE SPLICE DETAIL

NOTE:
SOLDER CONNECTION AFTER CRIMPING



SIGNAL CABLE SPLICE

REF STD SPEC SEC 8-31



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NOT TO SCALE

DETECTOR LOOP WIRE AND
SIGNAL CABLE SPLICE