

COND	Condition
CONN	Connect/Connection
CONSTR	Construction
CONT	Continuous
CORP	Corporation
COS	City of Seattle
CPEP	Corrugated Polyethylene Pipe
CR	Cross, Curb Radius
CSB	Chief Seattle Base
CSECP	Construction Stormwater & Erosion Control Plan
CULV	Culvert
CW	Concrete Walk
CY	Cubic Yard
DB	Direct Burial Cable
DC	Direct Current
DCVA	Double Check Valve Assembly
DEPT	Department
DGV	District Gate Valve
DIA Ø	Diameter
DIP or DI	Ductile Iron Pipe
DIPRA	Ductile Iron Pipe Research Assoc.
DR	Drive
DS	Downspout
DWG	Drawing
DWY	Driveway
E	East
EA	Each
ECB	Electrical Cable
ECC	Eccentric
ECD	Electrical Conduit
ED	Electrical Duct
EL/ELEV	Elevation
ELEC	Electric/Electrical

EMH	Electrical Maintenance Hole
ENCL	Enclosure
ENGR	Engineer
EOC	End of Curb
EQ	Equal
ESAL	Equivalent Single Axle Loads
ESMT	Easement
EV	Electrical Vault
EVC	End of Vertical Curb
EW	Each Way
EX	Existing
EXP	Expansion
FACB	Fire Alarm Cable
FAHH	Fire Alarm Handhole
FC	Face of Curb
FCS	Flow Control Structure
FDN	Foundation
FF	Far Face, Finished Floor
FG	Finished Grade
FIG	Figure
FIPT	Female Iron Pipe Thread
FL	Flow Line
FLG	Flange
FLR	Floor
FLT	Flat Bar
FM	Force Main
FO or FOC	Fiber Optics
FS	Far Side
FT	Feet
FTB	Fluidized Thermal Backfill
FTG	Footing
G	Gas
G REG	Gas Regulator


REF STD SPEC SEC 1-01.2




City of Seattle

NOT TO SCALE

ABBREVIATIONS

MAX	Maximum
MB	Mailbox
MCV	Manual Control Valve
MDV	Manual Drain Valve
MH	Maintenance Hole
MIC	Monument in Case
MIN	Minimum
MIPT	Male Iron Pipe Thread
MISC	Miscellaneous
MJ	Mechanical Joint
ML 	Monument Line
MNRL AGG	Mineral Aggregate
MOD	Modify/Modified
MON	Monument
MW	Monitor Well
N	North
NAD	North American Datum
NAVD	North American Vertical Datum
NF	Near Face
NGVD	National Geodetic Vertical Datum
NIC	Not in Contract
NO	Number
NOM	Nominal
NS	Near Side
NTS	Not To Scale
OC	On Center
OD	Outside Diameter/Dimension
OF	Outside Face
OH	Overhead
PAV	Pavement
PC	Point of Curvature
PCC	Point of Compound Curve
PCW	Pervious Concrete Walk

PDP	Perforated Drain Pipe
PE	Plain End
PED	Pedestrian
PG	Performance Grade
PH	Phase
PI	Point of Intersection
PL	Plate, Place, Polyethylene
	Property Line
POC	Point on Curve
PP	Power Pole
PPB	Pedestrian Push Button
PR	Pair
PRC	Point of Reverse Curve
PROP	Proposed
PRKG	Parking
PRV	Pressure Reducing Valve
PS	Pipe Sewer Combined
PSD	Pipe Storm Drain
PSDD	Pipe Storm Drain Detention
PSI	Pounds per Square Inch
PSIA	Pounds per Square Inch Absolute
PSIG	Pounds per Square Inch Gauge
PSS	Pipe Sewer Sanitary
PT	Point of Tangency
PVB	Pressure Vacuum Breaker
PVC	Polyvinyl Chloride
PVT	Private
QTY	Quantity
R	Radius
R&R	Remove & Replace
R/W	Right of Way
RCP	Reinforced Concrete Pipe
RD	Roof Drain

REF STD SPEC SEC 1-01.2

new abbreviation added



City of Seattle

NOT TO SCALE

ABBREVIATIONS

THH	Telephone Handhole
TJO	Transfer of Jurisdiction Ordinance
TMH	Telephone Manhole
TMT	Treatment
TN	Ton
TOC	Top of Curb
TR	Traffic
TRCB	Traffic Signal Cable
TRCD	Traffic Signal Conduit
TRSCC	Traffic Signal Controller Cabinet
TVCB	Television Cable
TVCD	Television Conduit
TVHH	Television Handhole
TYP	Typical
UG	Underground
UIC	Underground Interconnect
UNC	Unified National Course
UP	Utility Pole
V	Valve, Variable
V/C	Vertical Curve
VAR	Variable/Varies
VB	Vertical Bend
VBOX	Valve Box
VCH or VC	Valve Chamber
VCP	Vitrified Clay Pipe
VEH	Vehicle
VERT	Vertical
VMS	Variable Message Sign
VO	Vacation Ordinance
W	Water, West
W/	With
WCR	Walkway Curb Ramp
WD	Wood/Wooden

[illegible]

REF STD SPEC SEC 1-01.2



City of Seattle

NOT TO SCALE

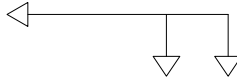
ABBREVIATIONS

ITEM

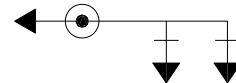
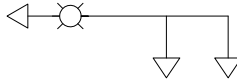
EXISTING

PROPOSED

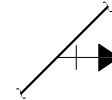
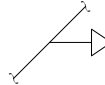
Traffic Signal Mast
Arm Pole



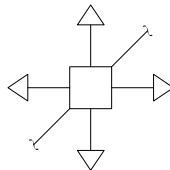
Traffic Signal Mast Arm
Pole w/ Luminaire



Traffic Signal on
Span Wire



Multi-Directional Traffic
Signal on Span Wire



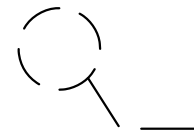
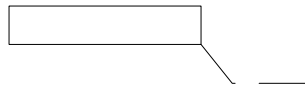
Traffic Signal Conduit



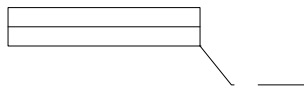
Traffic Signal Cable



Detector Loop, Dipole
(loop schedule)



Detector Loop, Quadrapole
(loop schedule)



pressure detector symbol removed

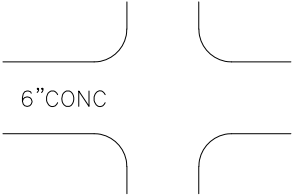
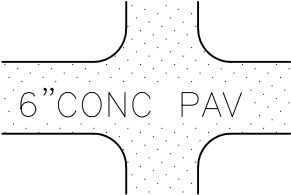
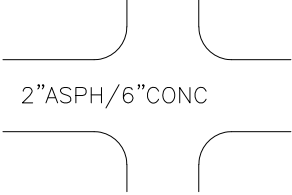
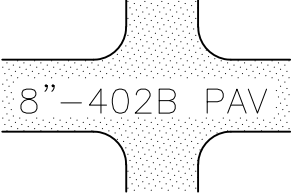
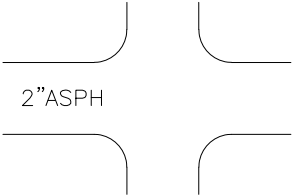
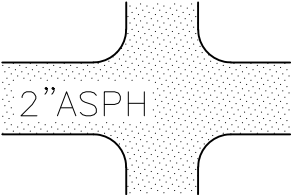

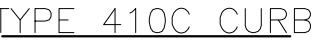
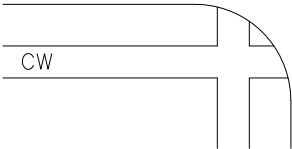
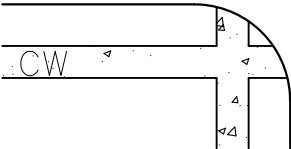

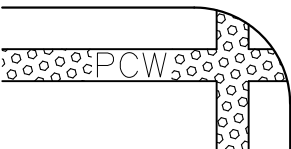
REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
ELECTRICAL

ITEM	EXISTING	PROPOSED
Cement Concrete Pavement		
Asphalt Concrete Pavement		
Asphalt Concrete Surfacing		
Curb		
Cement Concrete Walk		
Pervious Concrete Walk		

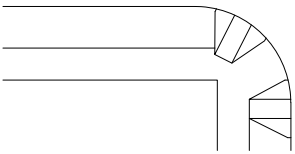
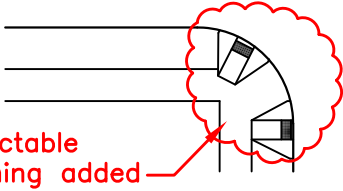
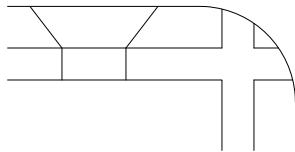
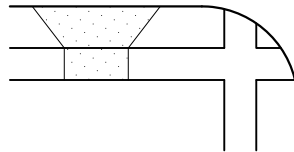
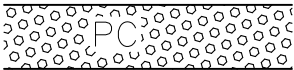




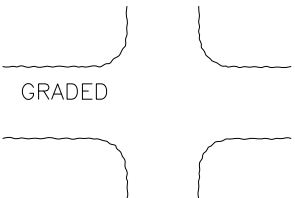
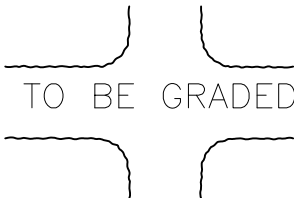
REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
PAVING

ITEM	EXISTING	PROPOSED
Curb Ramp		 detectable warning added
Conc Dwy		
Pervious Concrete Surface	added	
Cement Concrete Bike Way		
Asphalt Concrete Bike Way		
Grading	 GRADED	 TO BE GRADED

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

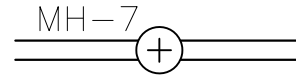
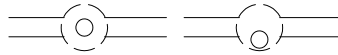
STANDARD SYMBOLS
PAVING

ITEM

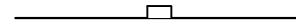
EXISTING

PROPOSED

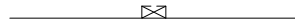
Maintenance Holes



Inlet Type 250A



Inlet Type 250B



Inlet Type 252



Inlet Type 268



Catch Basin round inlet top



Private CB & Inlet

Catch Basin Type 151
(pre 1985)

Catch Basin Type 240A



Catch Basin Type 240B



Catch Basin Type 240C



Catch Basin Type 240D



Catch Basin Type 241



Catch Basin Type 242A



Catch Basin Type 242B



Junction Box Type 277A



Junction Box Type 277B



Area Drain



new symbols

REF STD SPEC SEC




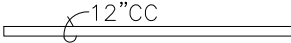
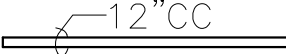
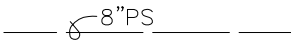
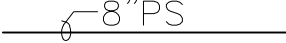
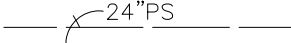

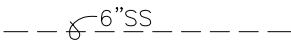
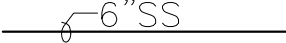

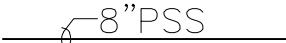
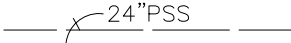
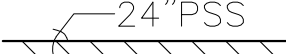



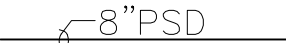




City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
SEWER & DRAINAGE

standard plan revised due to new symbols on 003g

ITEM	EXISTING	PROPOSED
Sand Box		
Clean Out		
Concrete Culvert		
Pipe Sewer Combined <1'-0"Dia		
Pipe Sewer Combined ≥1'-0"Dia		
Side Sewer Combined		
Pipe Sewer Sanitary <1'-0"Dia		
Pipe Sewer Sanitary ≥1'-0"Dia		
Side Sewer Sanitary		
Pipe Storm Drain <1'-0"Dia		
Pipe Storm Drain ≥1'-0"Dia		

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
SEWER & DRAINAGE

ITEM	EXISTING	PROPOSED
Service Drain		
Inlet & CB Connection		
Open Ended Pipe		
Ditch		
Stream		

standard plan revised due to new symbols on 003g

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
SEWER & DRAINAGE

ITEM

EXISTING

PROPOSED

Bench Mark (found or set)



Brass Plug/Cap (found or set)



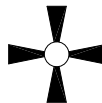
Hub/Tack (found or set)

Monument in Case
(found or set)

Conc. Mon. (found or set)



Section Corner (found or set)

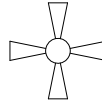


added

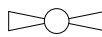
Quarter Corner (found or set)



Section Corner (calculated)



Quarter Corner (calculated)

Rebar/Cap, Pipe/Cap Rebar,
Iron Pipe (found or set)Tack/Lead, Tack PK Nail,
Spike (found or set)

Bench Mark (not found)

Brass Plug/Cap
(not found)

MIC. (not found)



Conc. Mon. (not found)

Rebar/Cap, Pipe/Cap Rebar,
Iron Pipe (not found)Tack/Lead, Tack PK Nail,
Spike (not found)

Survey Shot Point



REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
TOPOGRAPHIC & MISC

ITEM

EXISTING

PROPOSED

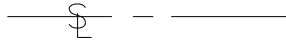
Center Line



Monument Line



Survey Line



Right of Way Line



Lot & Ownership Line

Permanent
Easement LineTemp Const
Easement Line

Vacated Street or Alley

State Highway Limited
Access Line

Building



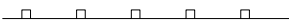
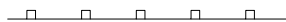
Chain Link Fence



Wood Fence



Guardrail



Rock Facing



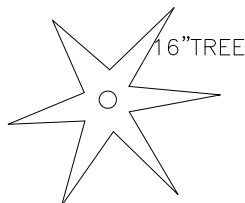
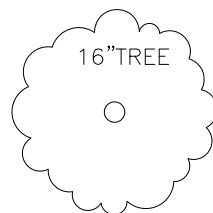
Rock Facing



Riprap



Trees



PER DRAWINGS

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
TOPOGRAPHIC & MISC

ITEM

EXISTING

PROPOSED

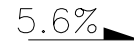
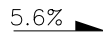
Shrub or Bush



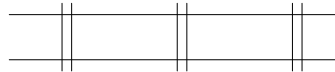
Ground, Grade Line



Grade (arrow downhill)



Rail Road Tracks



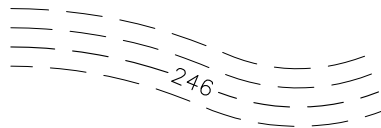
City Limits



Slope Line

SLOPE LINE

Contours

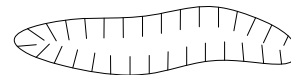
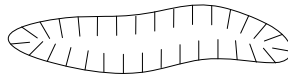
Slope Angle
Horiz:Vert

H:V

Vertical Curve



Depression



Stump



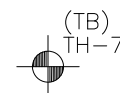
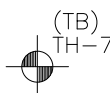
Top of Cut Toe of Fill



Dimension Line



Match Line

Test Hole & Number
(test boring)

Bench Mark



REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
TOPOGRAPHIC & MISC

ITEM	EXISTING	PROPOSED
Monitor Well		<div>renumbered</div>
Street Name Sign		
Traffic Sign		
US Mail Box		<div>added</div>
Private Mail Box		
Bollard		
Posts		
Parking Meter & Pay Station		
Rectangular Casting		
Circular Casting		
Column		
Jersey Barrier & Eco Block		
Tree Pit		
North Arrow horizontal		
North Arrow vertical		

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS
TOPOGRAPHIC & MISC

ITEM

EXISTING

PROPOSED

Telephone Cable
(direct burial)_____ ϕ TCB

renumbered

Telephone Conduit

_____ ϕ 3" TCD

Telephone Duct

===== ϕ 12'X12" TD

Telephone Enclosure

_____ \square TEBTelephone Maintenance
Hole \square TEL
VAULT

Telephone Pole

TP
 ϕ

Telephone Handhole

 \square THHTelevision Cable
(direct Burial)_____ ϕ TVCB

Television Handhole

 \square TVHHTelegraph Maintenance
Hole \square TELEG
MH

Steam Log

_____ ϕ 6" STM 14"X14" LOG

Steam Vault

===== \square STEMV

Gas Main

===== ϕ 12" G

Gas Valve

_____ \times _____

Gas Meter

 \square GM

Gas Regulator

===== G REG \square \times _____

Petroleum or Oil

_____ ϕ OIL _____

Abandon(ed)

_____ ϕ 2" ECD (ABAN)_____ ϕ 2" ECD - ABAN

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

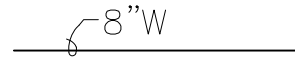
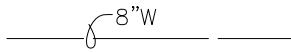
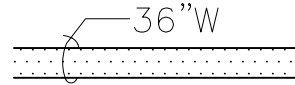
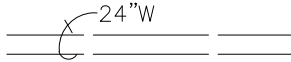
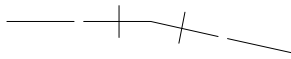
STANDARD SYMBOLS
PRIVATE UTILITIES

ITEM

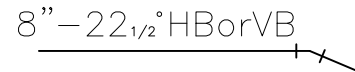
renumbered

EXISTING

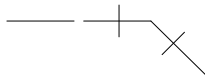
PROPOSED

Watermain
<1'-0"DiaWatermain
≥1'-0"Dia11 1/4° Bend w/
Conc Blocking

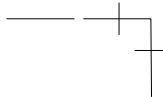
22 1/2° Bend



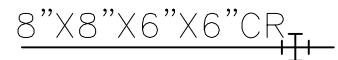
45° Bend



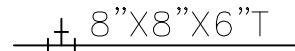
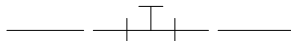
90° Bend



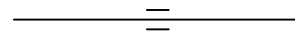
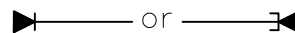
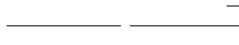
Cross



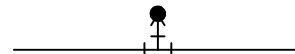
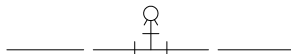
Tee



Pipe Sleeve

Plug w/ Conc
Blocking

Hydrant



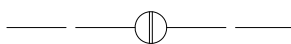
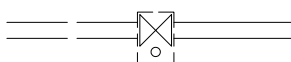
Water Meter



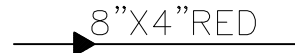
Valve Box



Gate Valve

Gate Valve
w/ ChamberGate Valve
w/ Vault Chamber

Reducer



REF STD SPEC SEC



City of Seattle

NOT TO SCALE

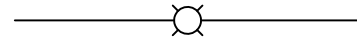
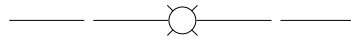
STANDARD SYMBOLS
WATER

ITEM

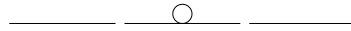
EXISTING

PROPOSED

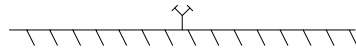
Air Valve



Blowoff



Fire Standpipe



Water Test Station



new std plan due to renumbering

Water Chamber



Sprinkler Head



Irrigation Valve



Angle Valve



Butterfly Valve



Ball Valve



Check Valve



Cone Valve



Globe Valve



Needle Valve



Plug Valve



Resilient Seal Gate Valve



Vertical Bend



Concrete Blocking



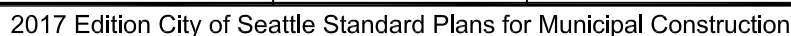
REF STD SPEC SEC

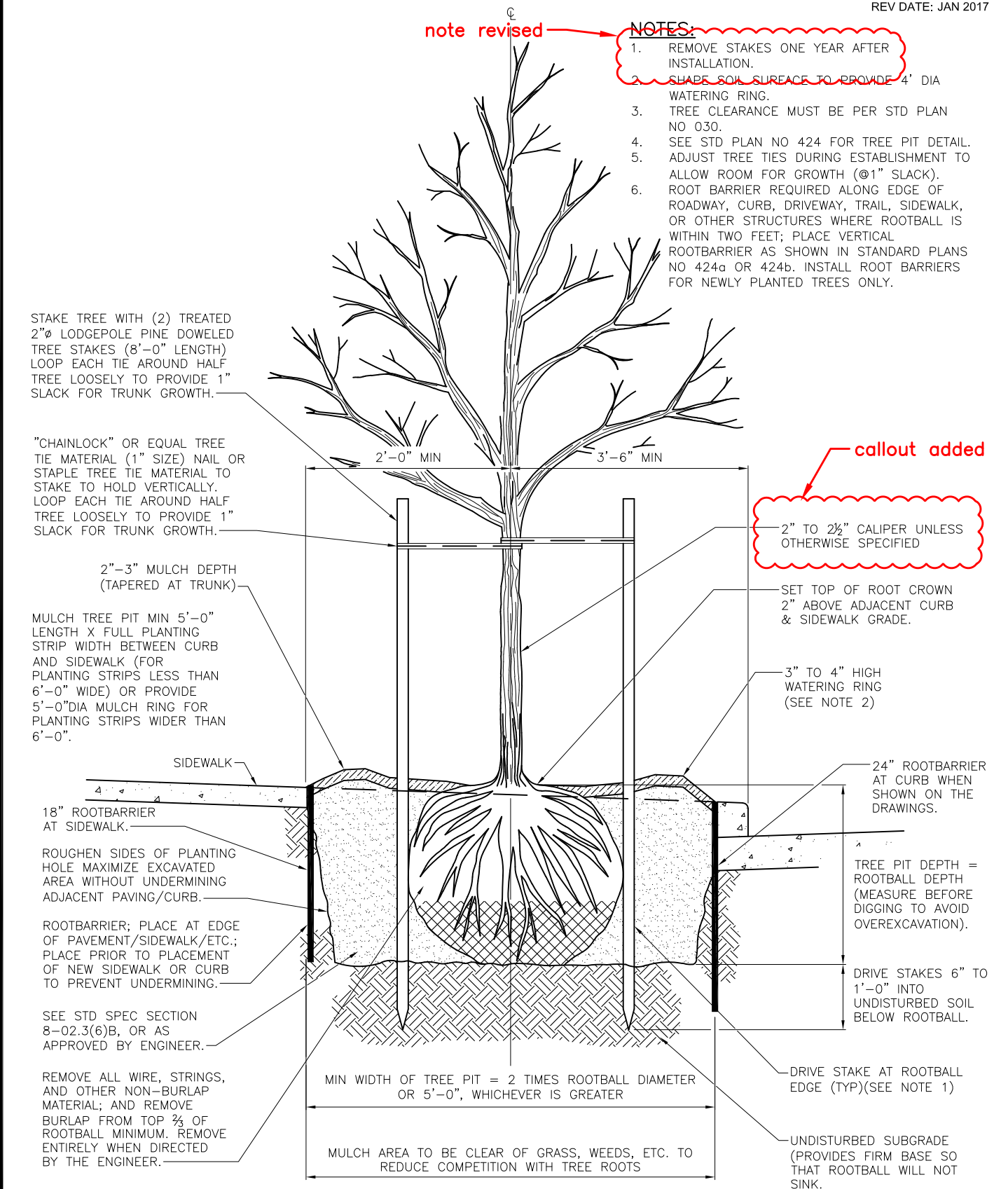


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NOT TO SCALE

STANDARD SYMBOLS
WATER





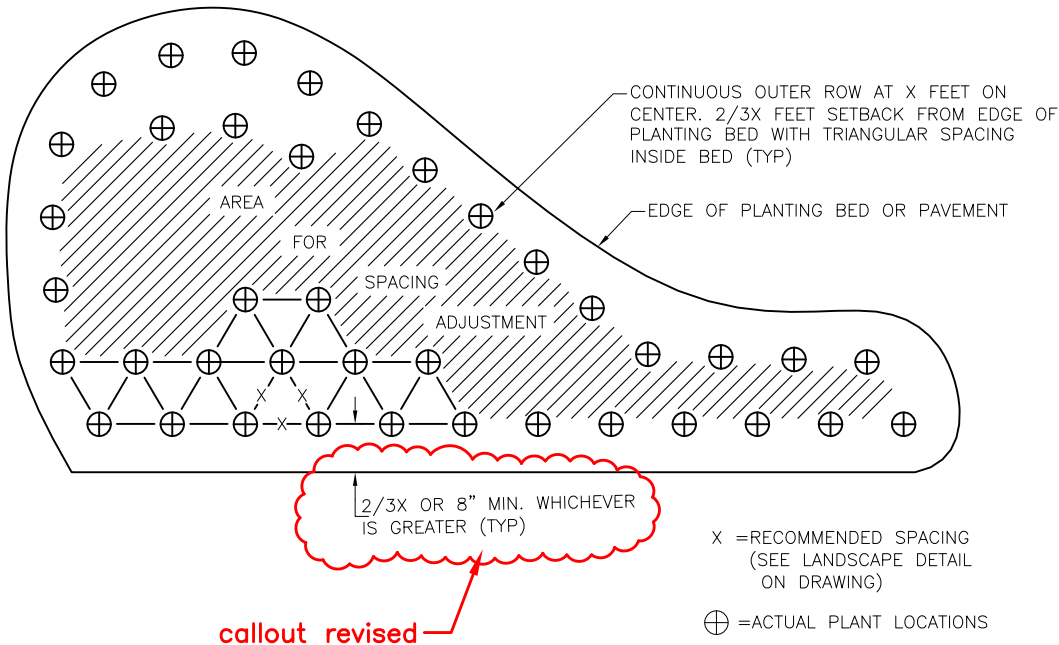
REF STD SPEC SEC 8-02



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DECIDUOUS TREE PLANTING
IN PLANTING STRIP



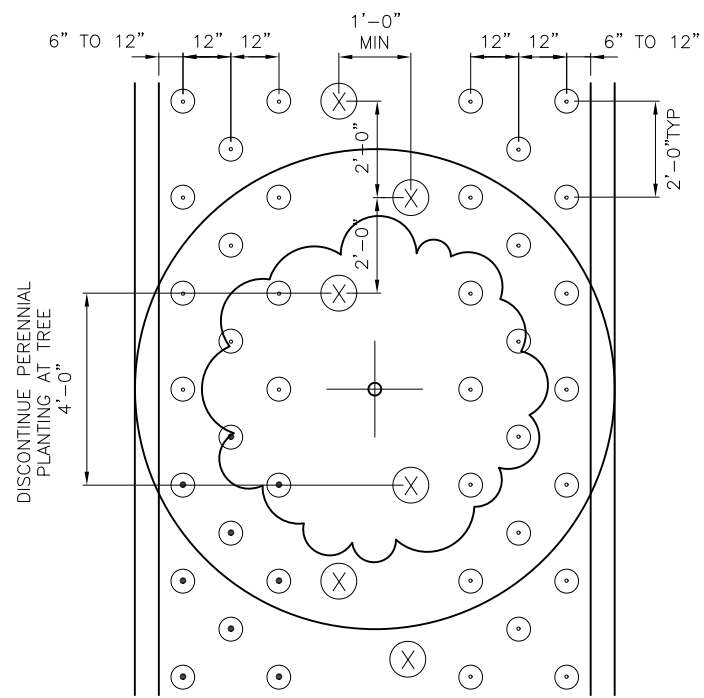
REF STD SPEC SEC 9-14



City of Seattle

NOT TO SCALE

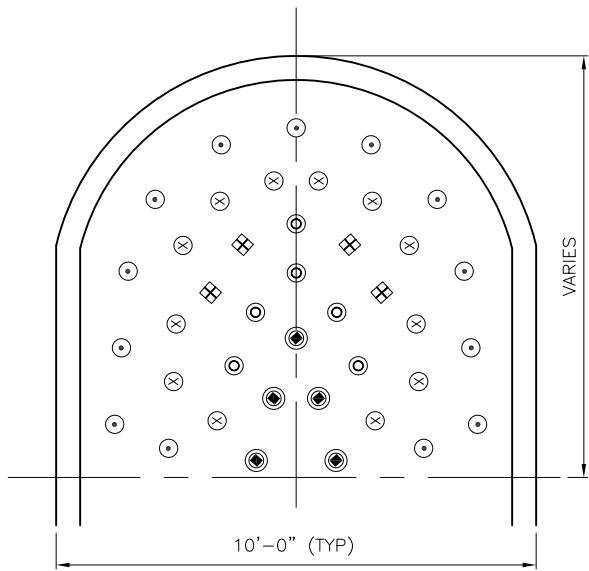
PLANTING PATTERN



QUANT PER
10'-0" LF MEDIAN

○ GROUNDCOVER	30
⊗ SHRUB	5

DETAIL AT TREE
PLAN



QUANT PER
END CAP

⊠ PERENNIAL TYPE 1	4
⊙ PERENNIAL TYPE 2	6
⦿ PERENNIAL TYPE 3	5
⊖ EVERGREEN GROUNDCOVER TYPE 1	13
⊗ EVERGREEN GROUNDCOVER TYPE 2	12

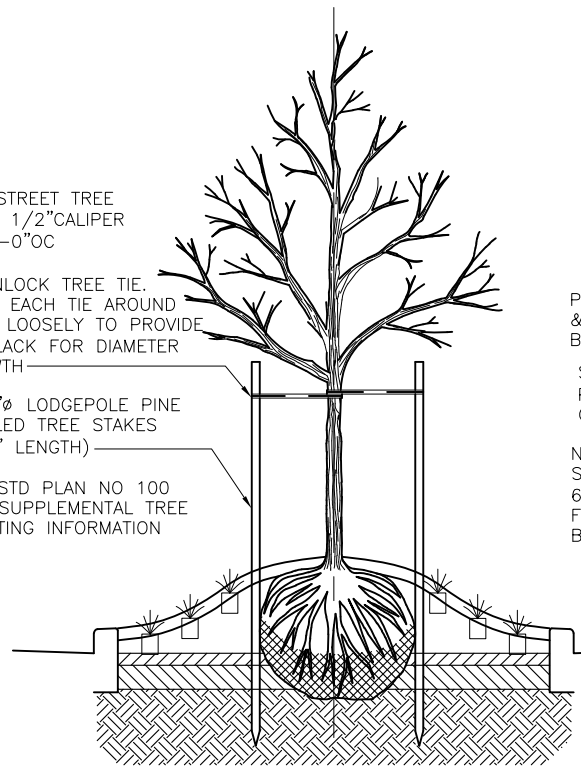
END CAP DETAIL

TYP STREET TREE
2"-2 1/2" CALIPER
@ 30'-0" OC

CHAINLOCK TREE TIE.
LOOP EACH TIE AROUND
TREE LOOSELY TO PROVIDE
1" SLACK FOR DIAMETER
GROWTH

(2) 2" LODGEPOLE PINE
DOWELED TREE STAKES
(8'-0" LENGTH)

SEE STD PLAN NO 100
FOR SUPPLEMENTAL TREE
PLANTING INFORMATION



ELEVATION

PLACE 3" OF PLANTING SOIL
& MIX WITH SUBSOIL
BEFORE ADDING

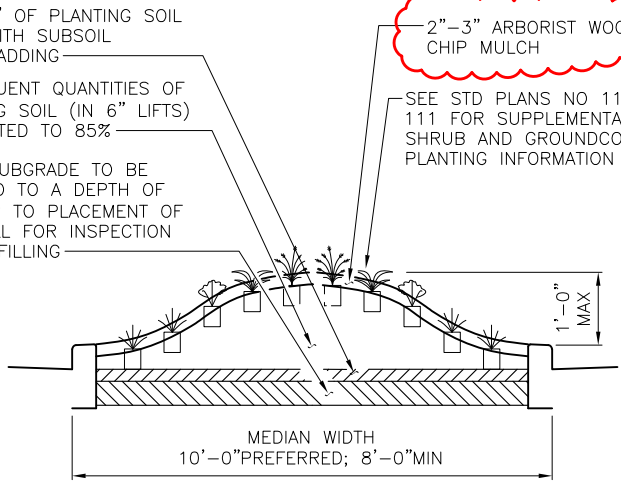
SUBSEQUENT QUANTITIES OF
PLANTING SOIL (IN 6" LIFTS)
COMPACTED TO 85%

NATIVE SUBGRADE TO BE
SCARIFIED TO A DEPTH OF
6" PRIOR TO PLACEMENT OF
FILL. CALL FOR INSPECTION
BEFORE FILLING

revised

2"-3" ARBORIST WOOD
CHIP MULCH

SEE STD PLANS NO 110 &
111 FOR SUPPLEMENTAL
SHRUB AND GROUNDCOVER
PLANTING INFORMATION



SOIL PREPARATION DETAIL

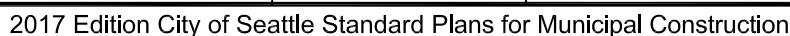
REF STD SPEC SEC 8-02

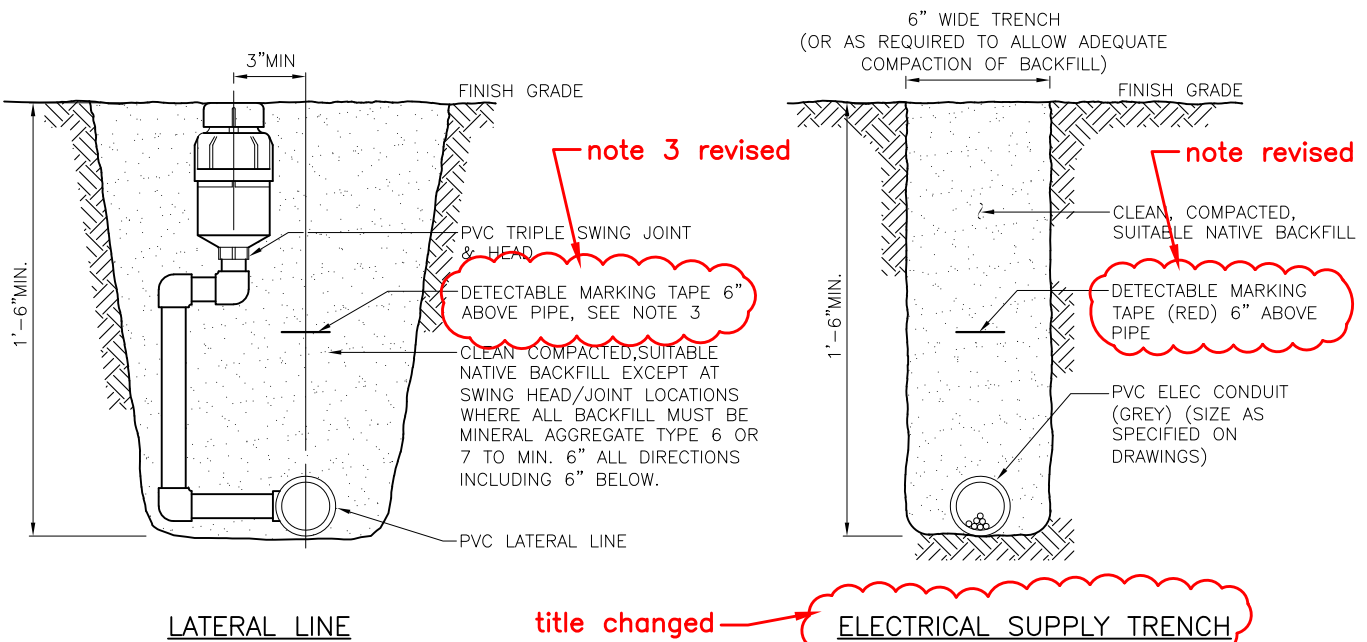
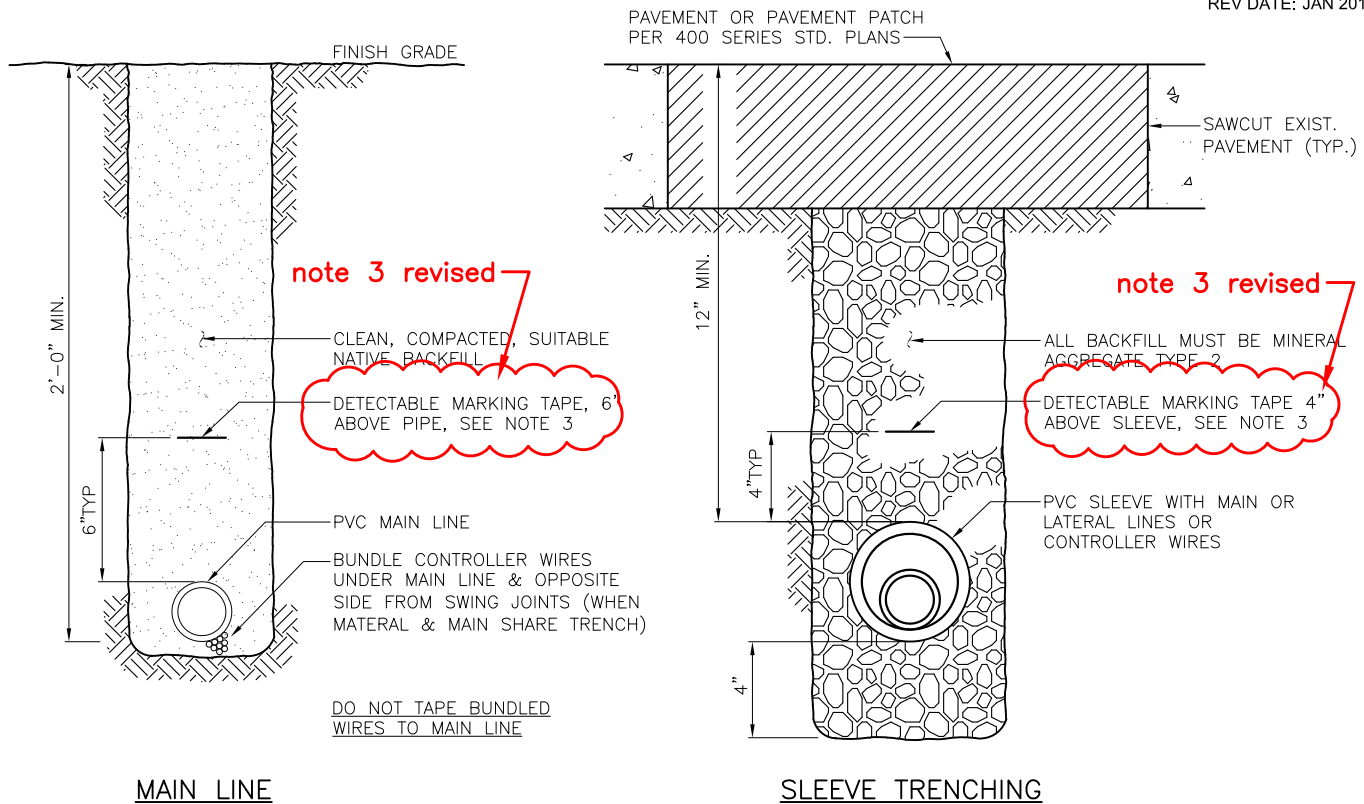


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MEDIAN PLANTING



**NOTES:**

1. SLEEVE SIZE AS SHOWN ON DRAWINGS OR ID OF SLEEVE TO BE 1" GREATER THAN OD OF PIPE
 2. SLEEVES REQUIRED UNDER ALL PAVED AREAS
 3. DETECTABLE MARKING TAPE COLOR PER STANDARD SPECIFICATIONS SECTION 9-15.11 FOR POTABLE OR NON-POTABLE WATER
- note 3 revised

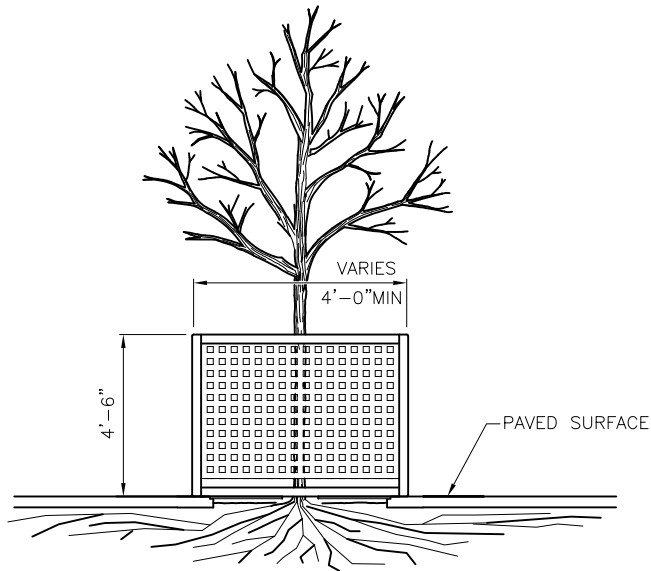
REF STD SPEC SEC 8-03



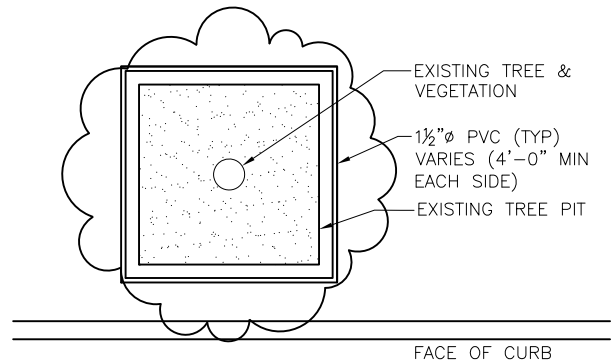
City of Seattle

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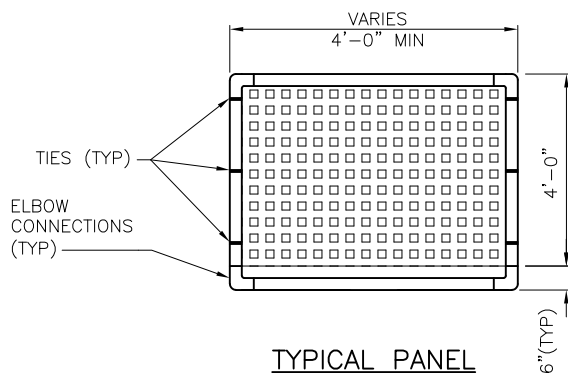
IRRIGATION TRENCHES



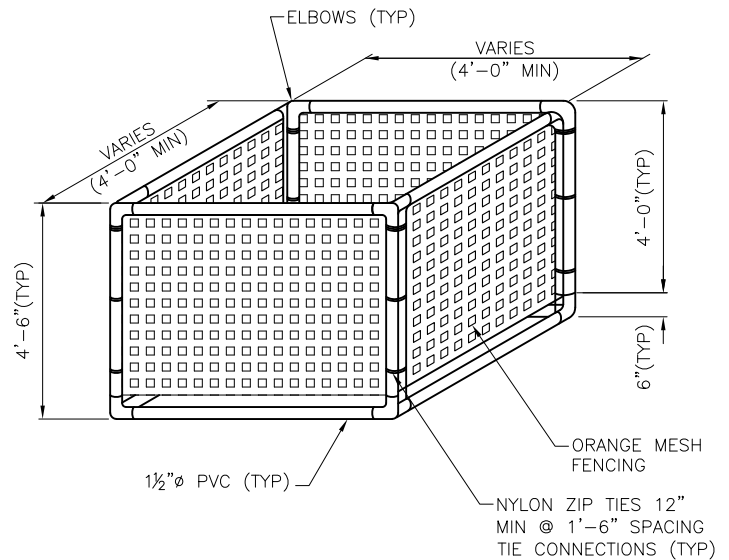
TYPICAL TREE GUARD RAIL



PLAN VIEW



TYPICAL PANEL



note added

NOTES:

1. REUSABLE TEMPORARY PROTECTION FENCING USED TO PROTECT TREES IN TREE PITS MUST SURROUND THE ENTIRE UNPAVED TREE PIT AREA AND BE ANCHORED AND MAINTAINED IN A STABLE UPRIGHT CONDITION. SEE SECTION 8-01.3(2)B.

title revised

REF STD SPEC SEC 1-07.16(2) & 8-01

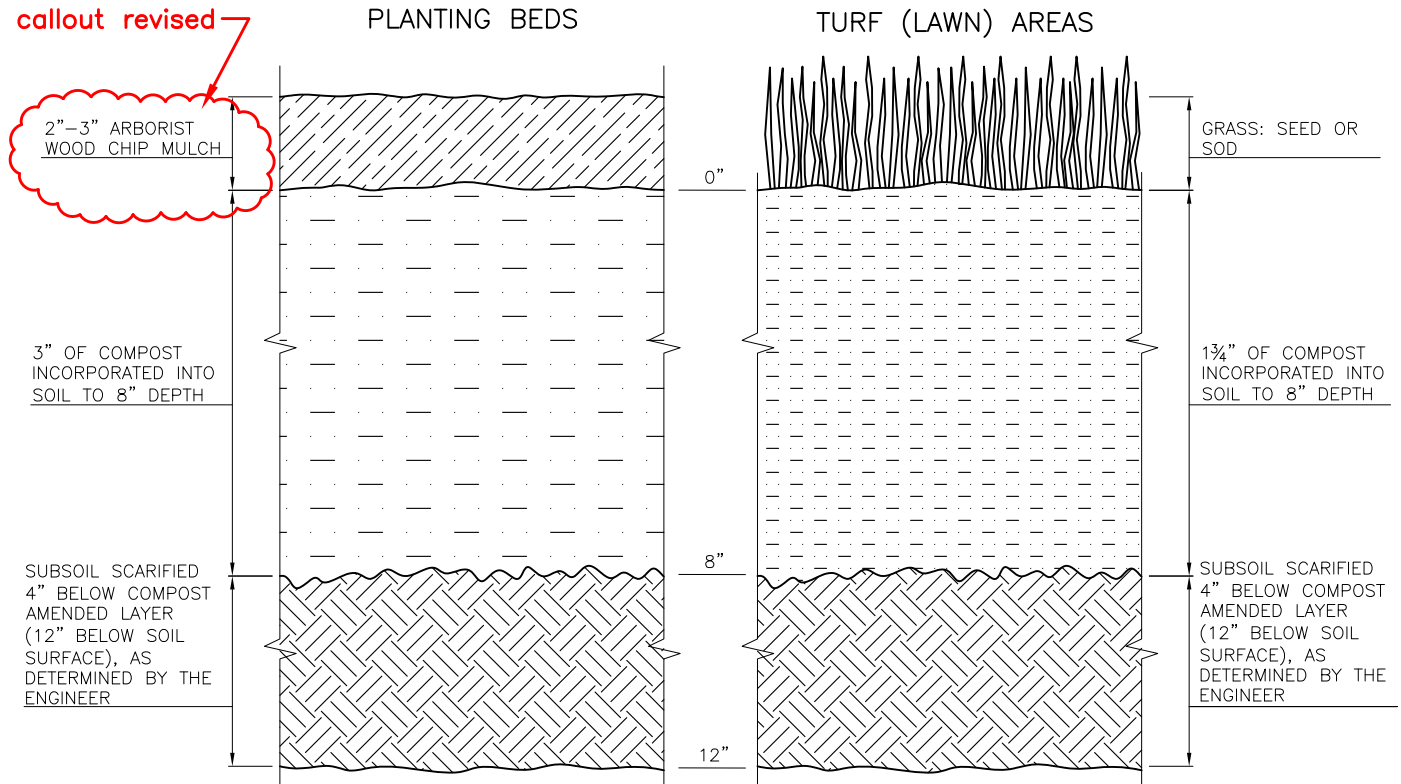


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**REUSABLE TEMPORARY
PROTECTION FENCE**

callout revised

**NOTES:**

1. ALL SOIL AREAS DISTURBED OR COMPACTED DURING CONSTRUCTION, AND NOT COVERED BY BUILDINGS OR PAVEMENT, MUST BE AMENDED WITH COMPOST AS DESCRIBED BELOW.
2. SUBSOIL SHOULD BE SCARIFIED (LOOSENEED) 4 INCHES BELOW AMENDED LAYER, TO PRODUCE 12-INCH DEPTH OF UN-COMPACTED SOIL, EXCEPT WHERE SCARIFICATION WOULD DAMAGE TREE ROOTS OR AS DETERMINED BY THE ENGINEER.
3. COMPOST MUST BE TILLED IN TO 8 INCH DEPTH INTO EXISTING SOIL, OR PLACE 8 INCHES OF COMPOST-AMENDED SOIL, PER SOIL SPECIFICATION.
4. TURF AREAS MUST RECEIVE 1.75 INCHES OF COMPOST TILLED IN TO 8-INCH DEPTH, OR MAY SUBSTITUTE 8" OF IMPORTED SOIL CONTAINING 20-25% COMPOST BY VOLUME. THEN PLANT GRASS SEED OR SOD PER SPECIFICATION.
5. PLANTING BEDS MUST RECEIVE 3 INCHES OF COMPOST TILLED IN TO 8-INCH DEPTH, OR MAY SUBSTITUTE 8" OF IMPORTED SOIL CONTAINING 35-40% COMPOST BY VOLUME. MULCH AFTER PLANTING, WITH 2-3 INCHES OF ARBORIST WOOD CHIP MULCH OR APPROVED EQUAL.
6. SETBACKS: TO PREVENT UNEVEN SETTLING, DO NOT COMPOST-AMEND SOILS WITHIN 3 FEET OF UTILITY INFRASTRUCTURES (POLES, VAULTS, METERS ETC.). WITHIN ONE FOOT OF PAVEMENT EDGE, CURBS AND SIDEWALKS SOIL SHOULD BE COMPACTED TO APPROXIMATELY 90% PROCTOR TO ENSURE A FIRM SURFACE.

note revised

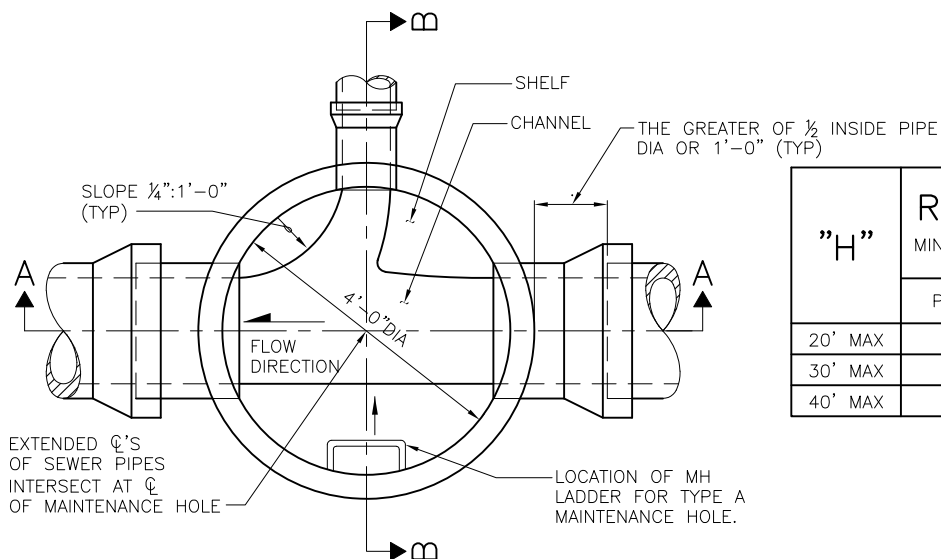
REF STD SPEC SEC 8-01, 8-02 & 9-14



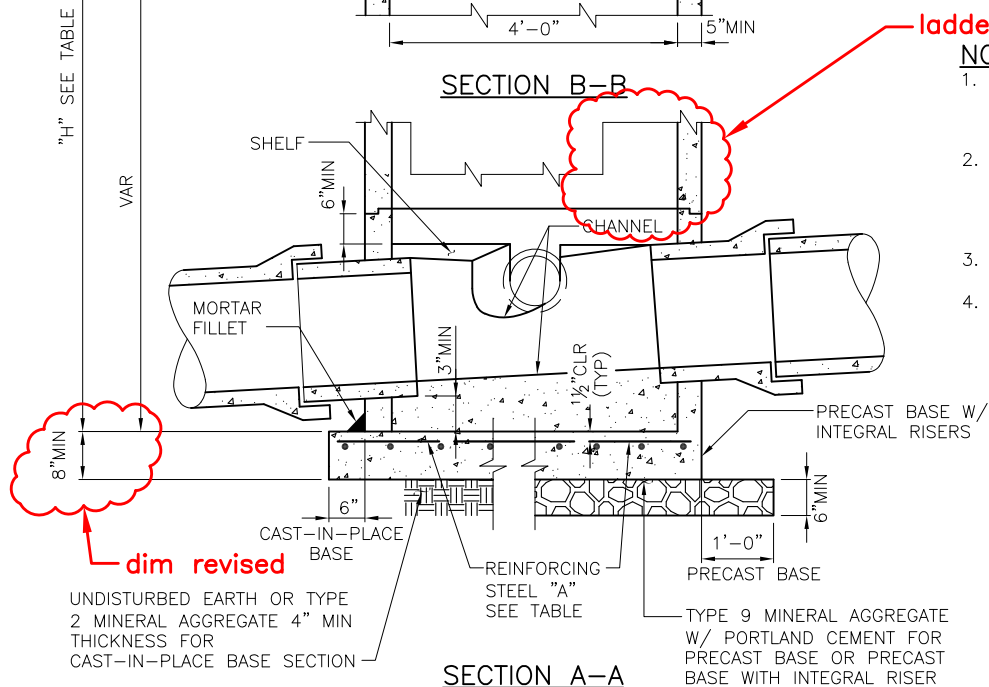
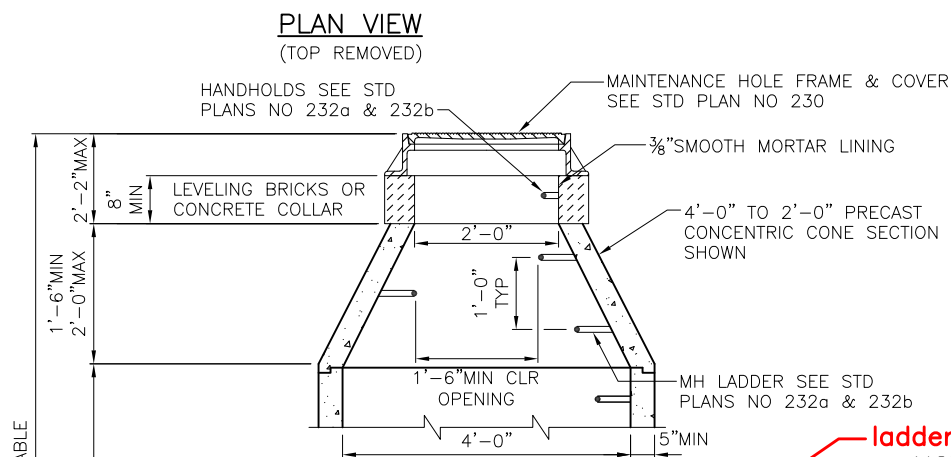
City of Seattle

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SOIL AMENDMENT AND DEPTH



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
	20' MAX	0.25
30' MAX	0.31	0.22
40' MAX	0.36	0.25



- ## NOTES:
1. MATERIALS: CONCRETE—CLASS 4000;
REINFORCING STEEL—ASTM A615 GRADE
60 MIN; CHANNEL AND SHELF MATERIAL
— CONCRETE CLASS 3000.
 2. PRECAST MAINTENANCE HOLE
COMPONENTS SHALL CONFORM TO ASTM
C 478. JOINTS BETWEEN PRECAST
COMPONENTS MUST BE RUBBER
GASKETED CONFORMING TO ASTM C 443.
 3. MINIMUM REQUIRED SOIL BEARING =
3,000 LBS/SQ FT
 4. MAX HOLE SIZE MUST BE OD OF PIPE
PLUS 5 IN. MIN HOLE SIZE MUST BE
OD OF PIPE PLUS 3 IN. MIN CLEAR
DISTANCE BETWEEN HOLES IS 8 IN.

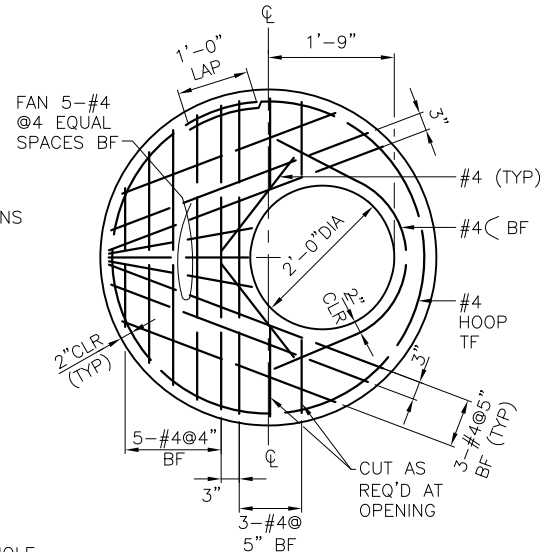
REF STD SPEC SEC 7-05



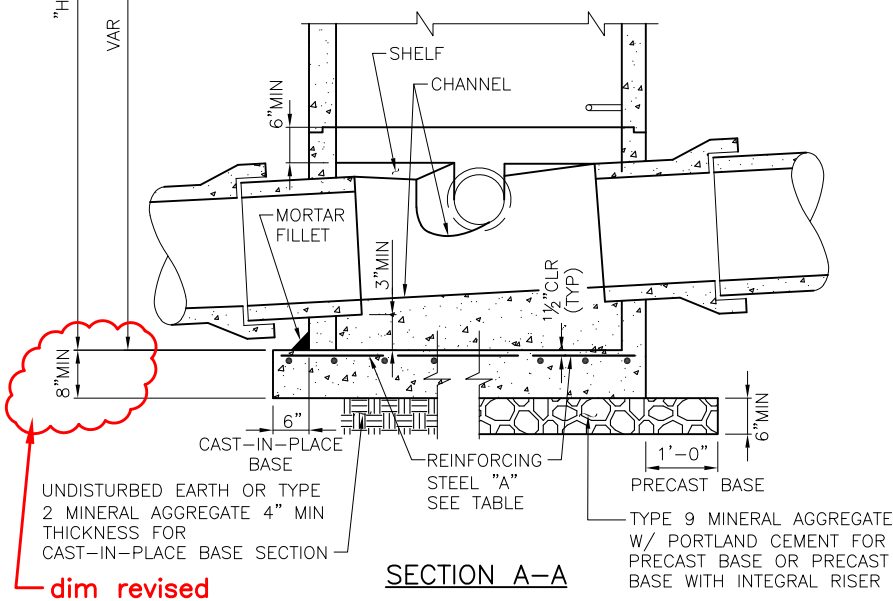
City of Seattle

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TYPE 204a MAINTENANCE HOLE



1. MATERIALS: CONCRETE—CLASS 4000;
REINFORCING STEEL—ASTM A615 GRADE
60 MIN; CHANNEL AND SHELF MATERIAL
— CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE
COMPONENTS MUST CONFORM TO ASTM
C 478. JOINTS BETWEEN PRECAST
COMPONENTS MUST BE RUBBER
GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING =
3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE
PLUS 5 IN. MIN HOLE SIZE MUST BE
OD OF PIPE PLUS 3 IN. MIN CLEAR
DISTANCE BETWEEN HOLES IS 8 IN.



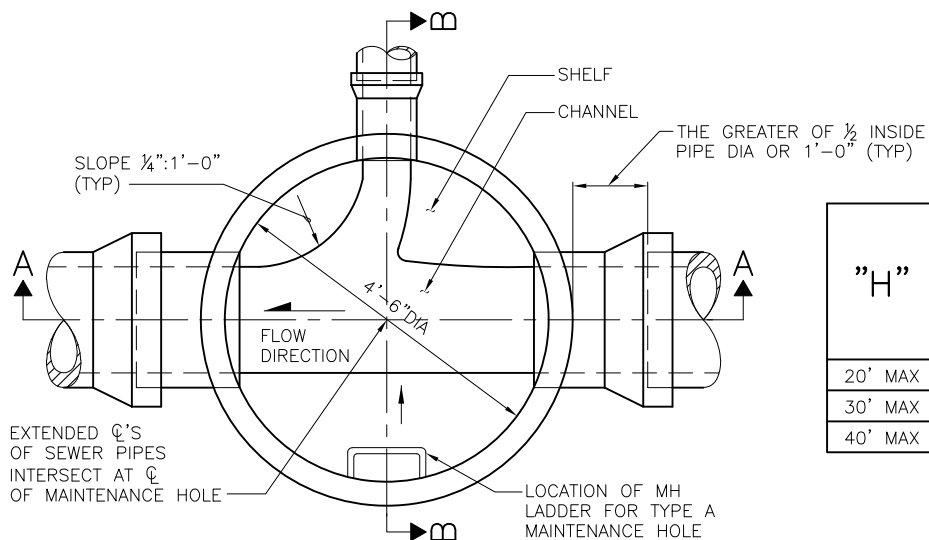
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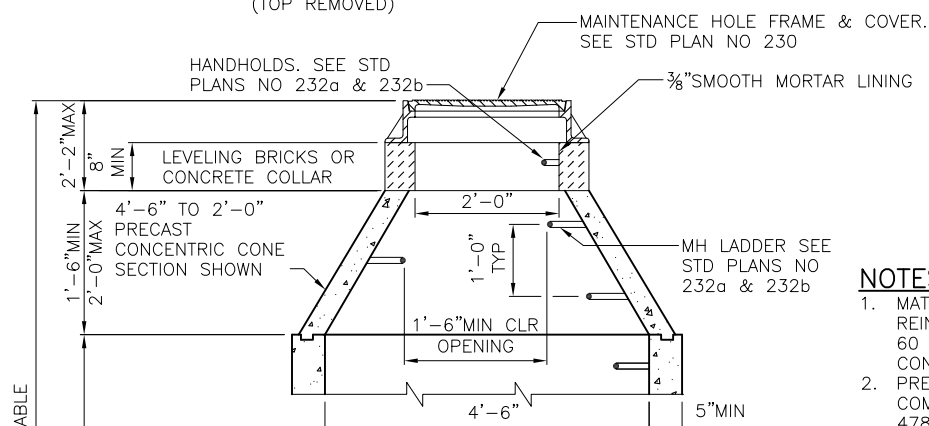
City of Seattle

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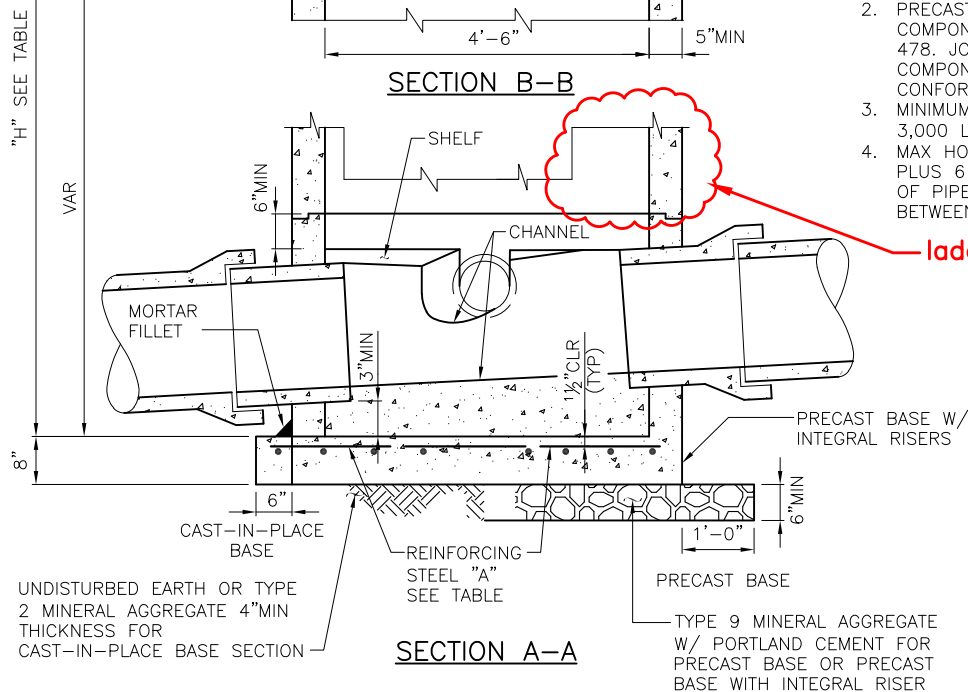
TYPE 204b MAINTENANCE HOLE



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.29	0.21
30' MAX	0.36	0.26
40' MAX	0.42	0.31

**NOTES:**

1. MATERIALS: CONCRETE—CLASS 4000; REINFORCING STEEL—ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL — CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 6 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.



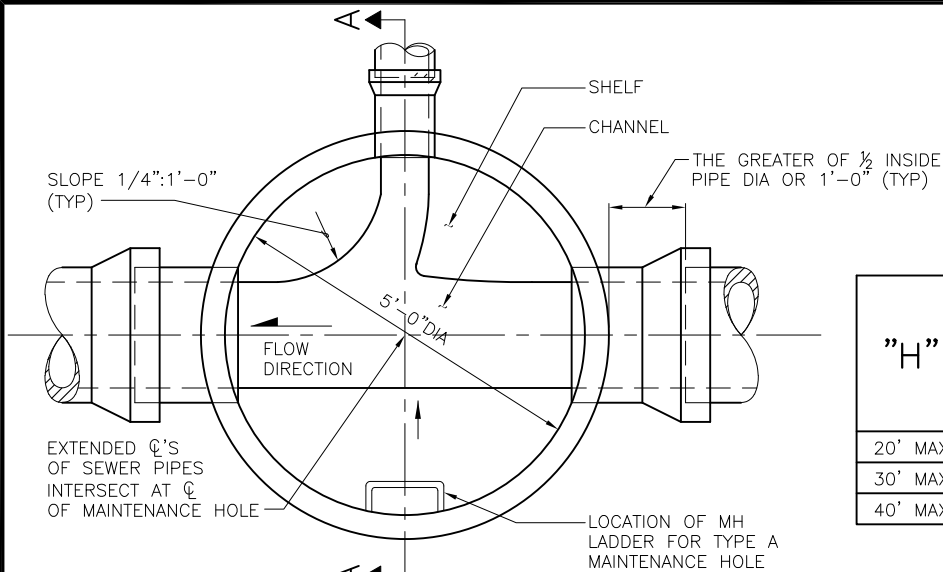
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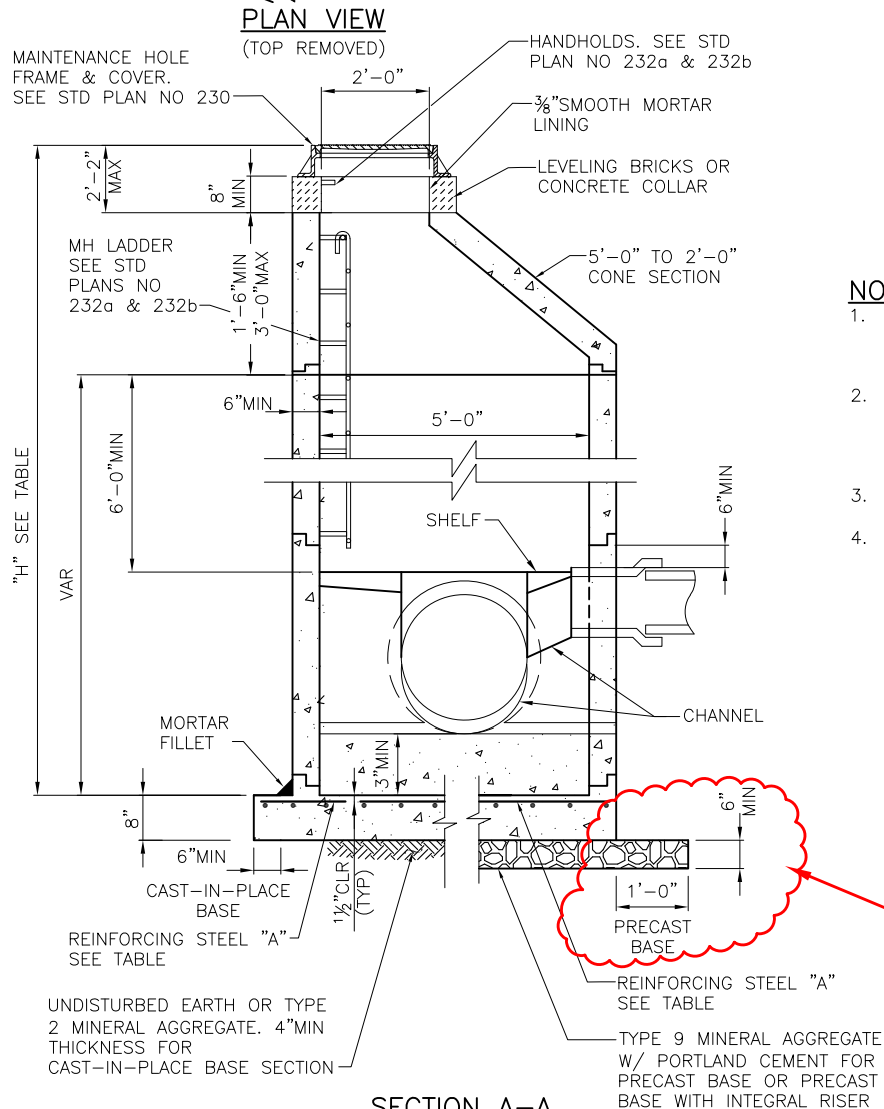
City of Seattle

NOT TO SCALE

TYPE 204.5a MAINTENANCE HOLE



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.33	0.25
30' MAX	0.41	0.31
40' MAX	0.49	0.37

**NOTES:**

1. MATERIALS: CONCRETE—CLASS 4000; REINFORCING STEEL—ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL — CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 6 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

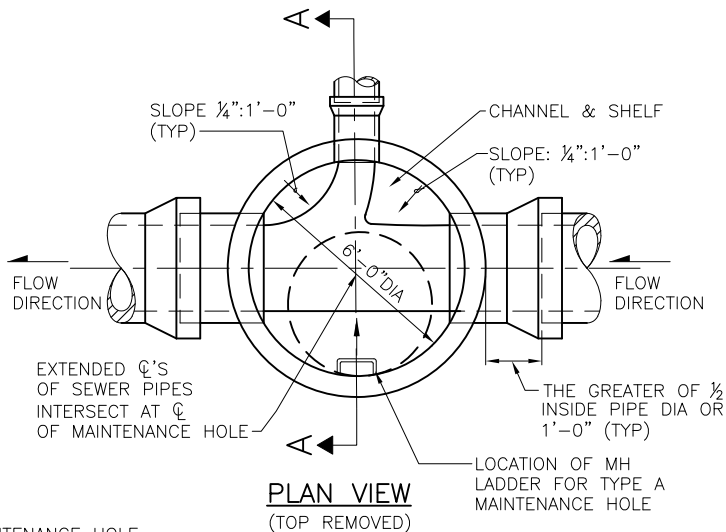
REF STD SPEC SEC 7-05

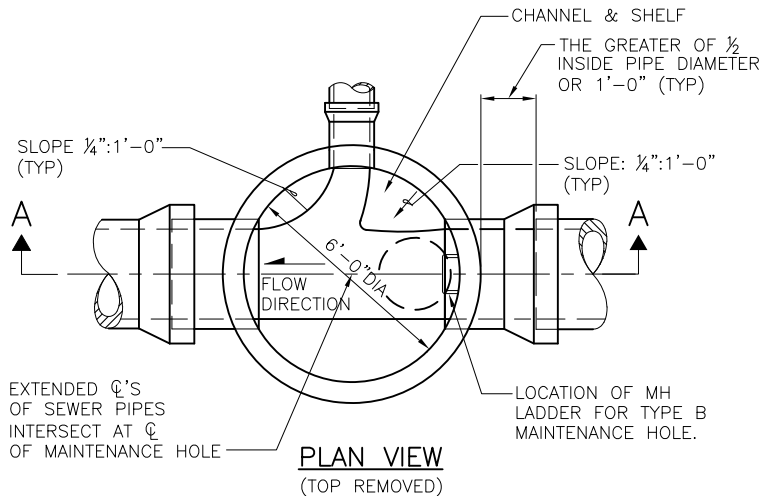


City of Seattle

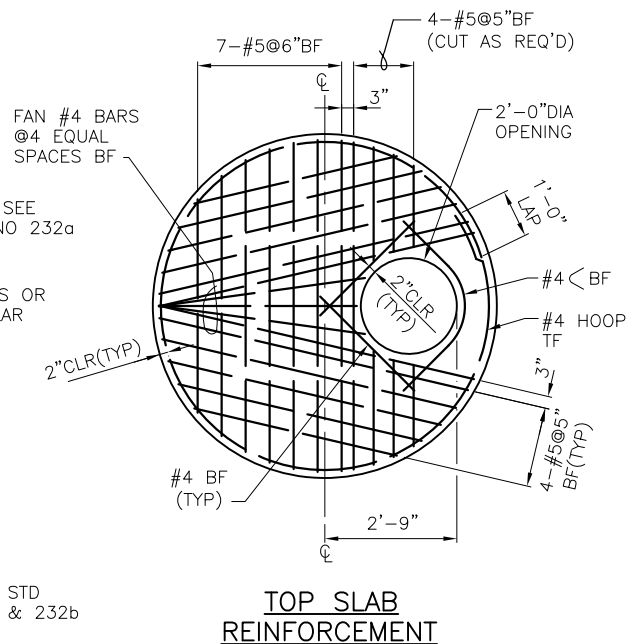
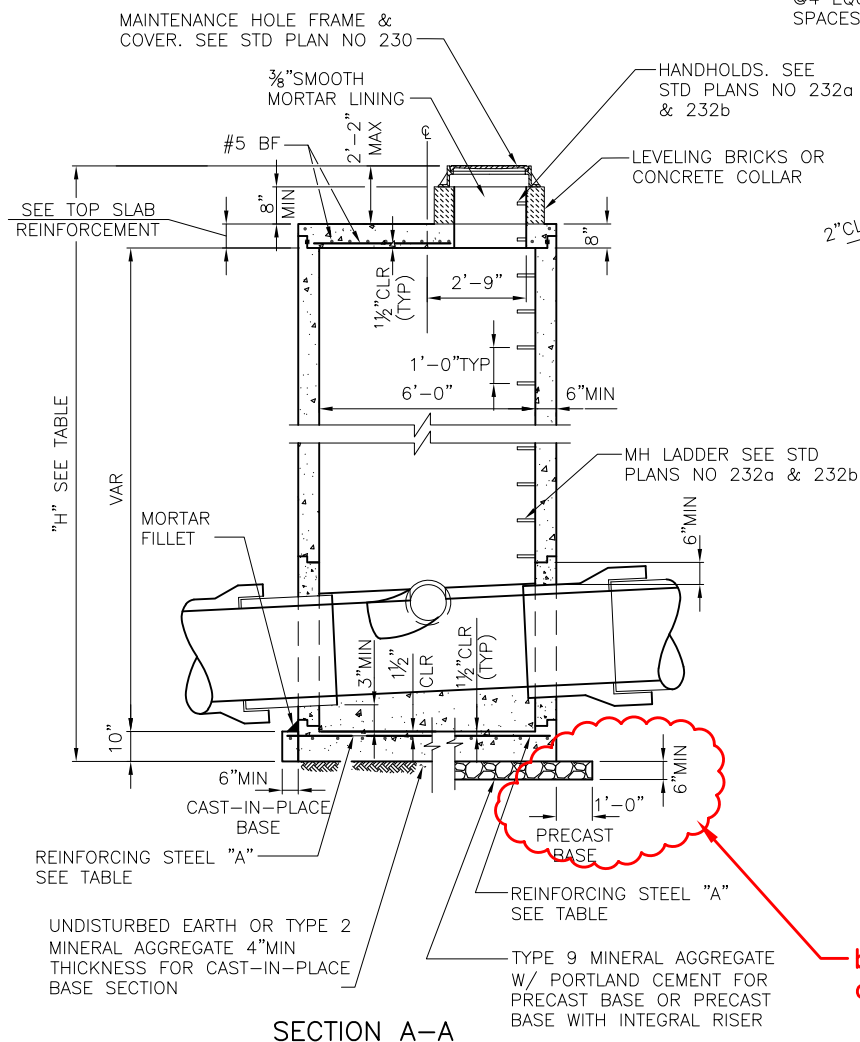
NOT TO SCALE

TYPE 205a MAINTENANCE HOLE





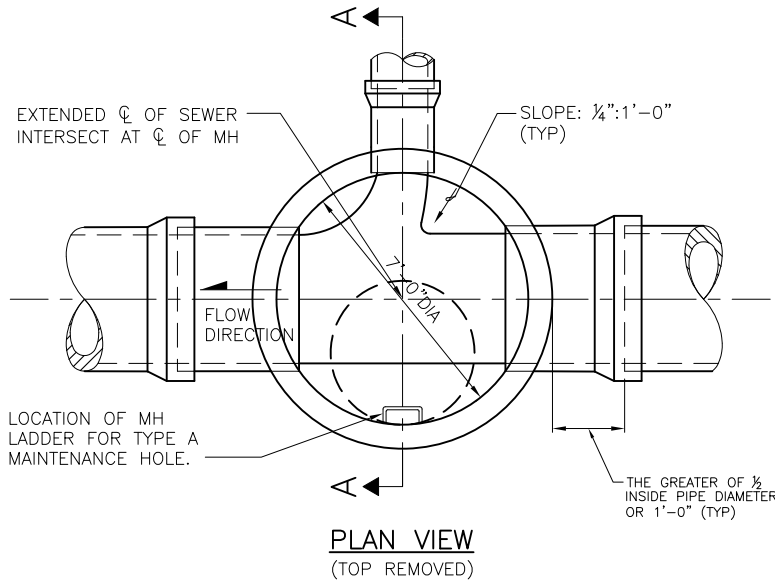
"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.29	0.24
30' MAX	0.41	0.32
40' MAX	0.49	0.41



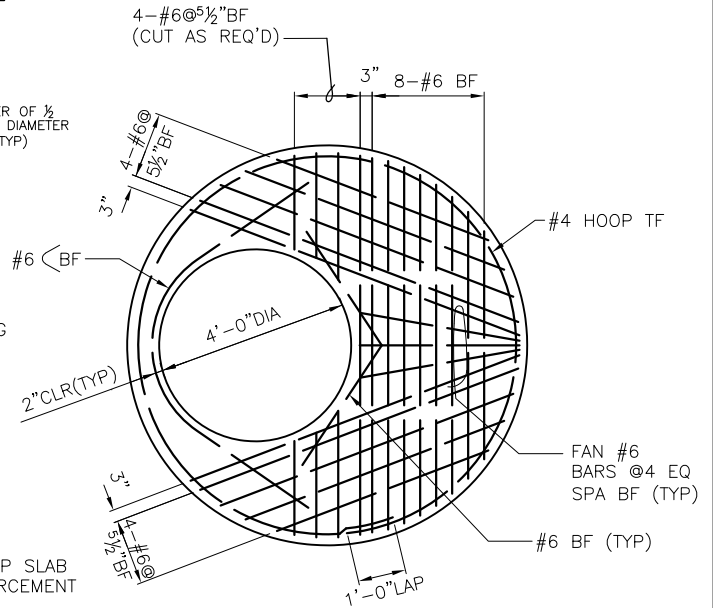
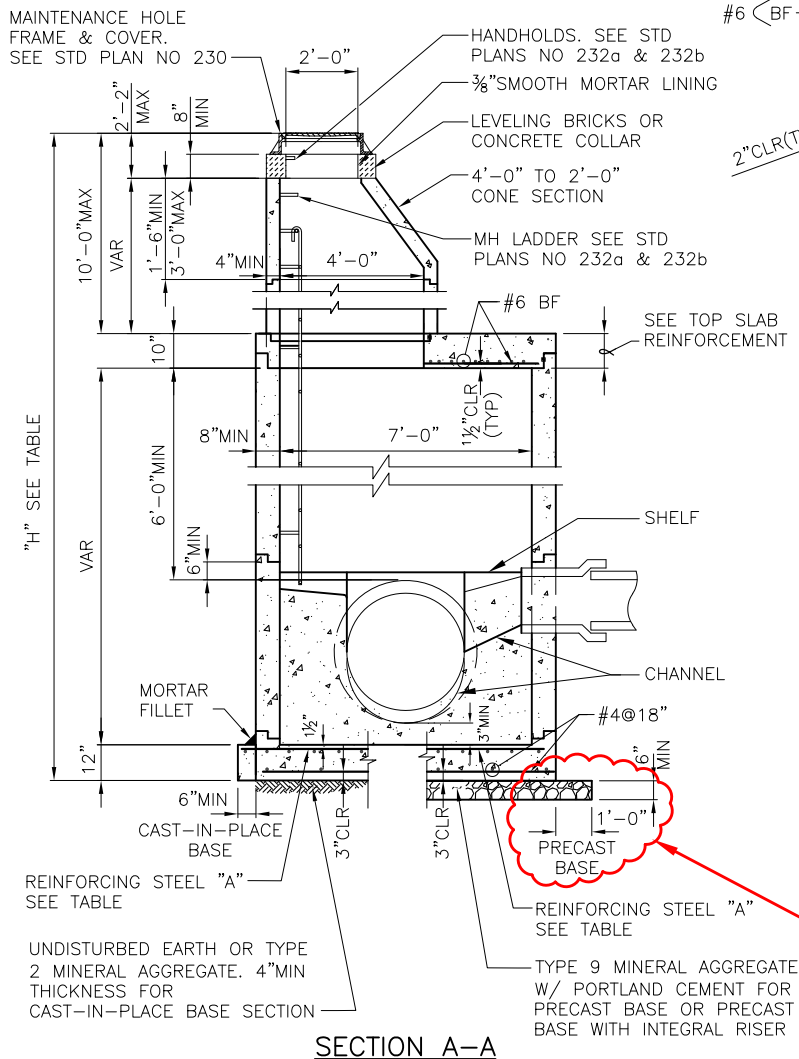
- NOTES:

- base dimension corrected





"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.42	0.34
30' MAX	0.51	0.41
40' MAX	0.60	0.48

**NOTES:**

1. MATERIALS: CONCRETE—CLASS 4000; REINFORCING STEEL—ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL — CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 8 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 12 IN.

base dimension corrected

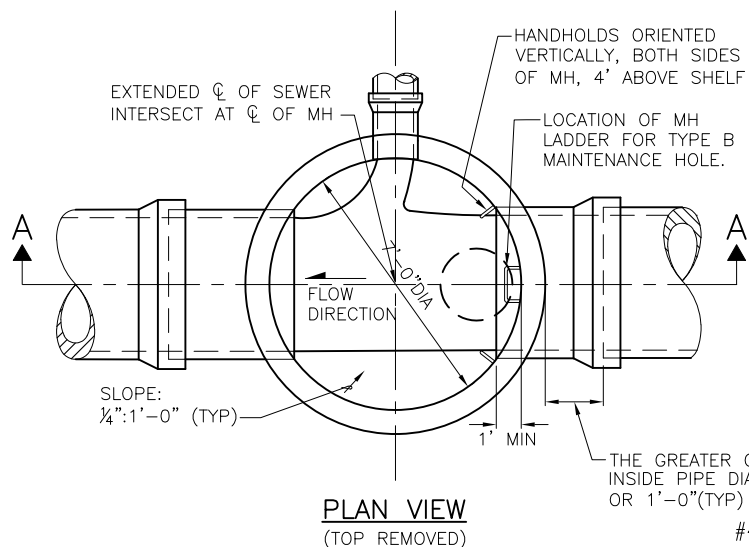
REF STD SPEC SEC 7-05



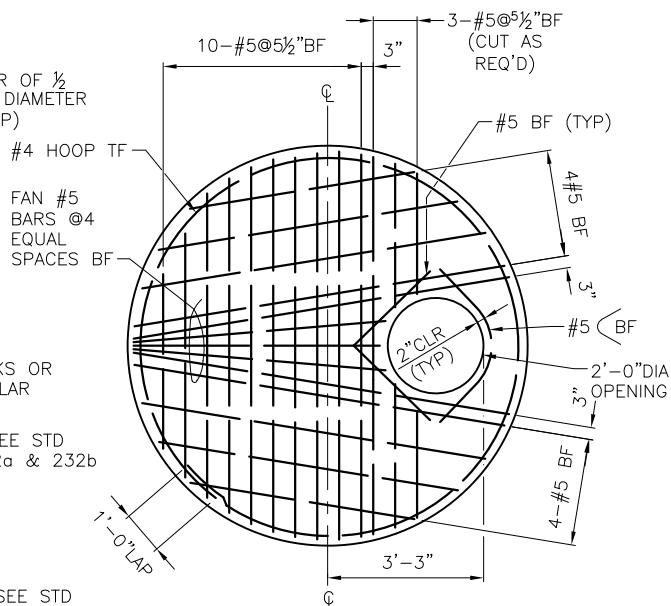
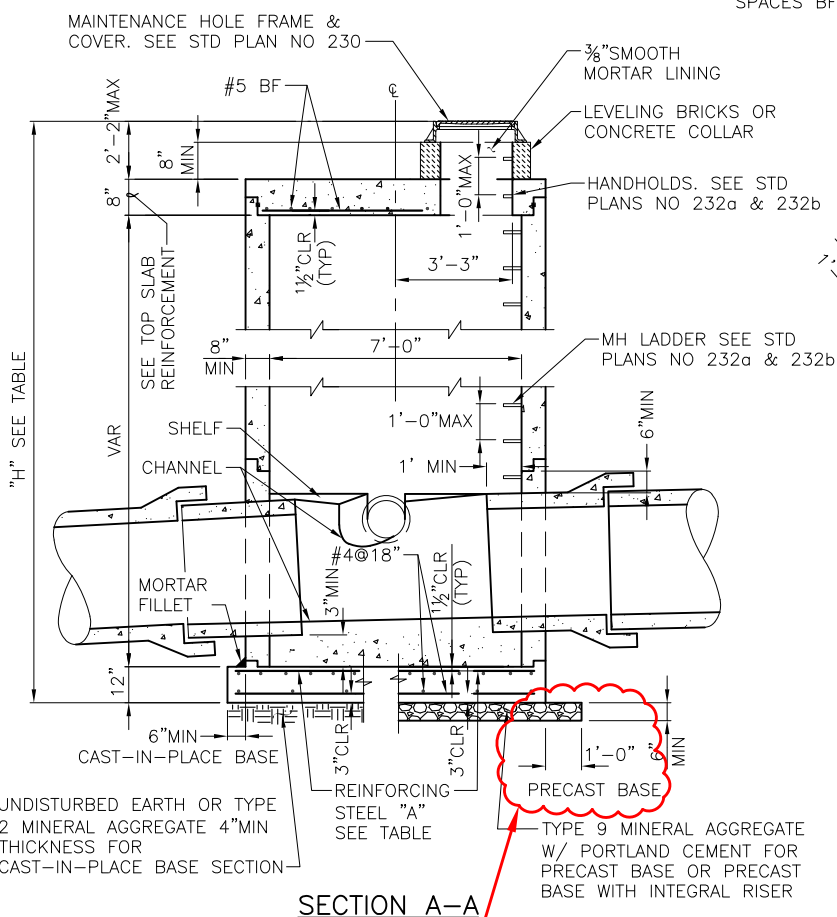
City of Seattle

NOT TO SCALE

TYPE 207a MAINTENANCE HOLE



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.34	0.27
30' MAX	0.43	0.35
40' MAX	0.52	0.42

**NOTES:**

1. MATERIAL: CONCRETE—CLASS 4000; REINFORCING STEEL—ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL—CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 8 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 12 IN.

base dimension corrected

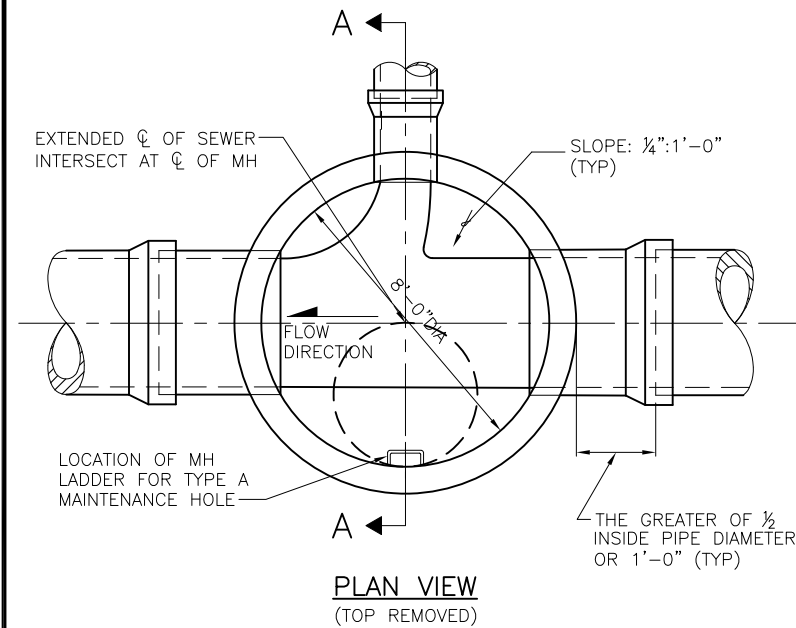
REF STD SPEC SEC 7-05



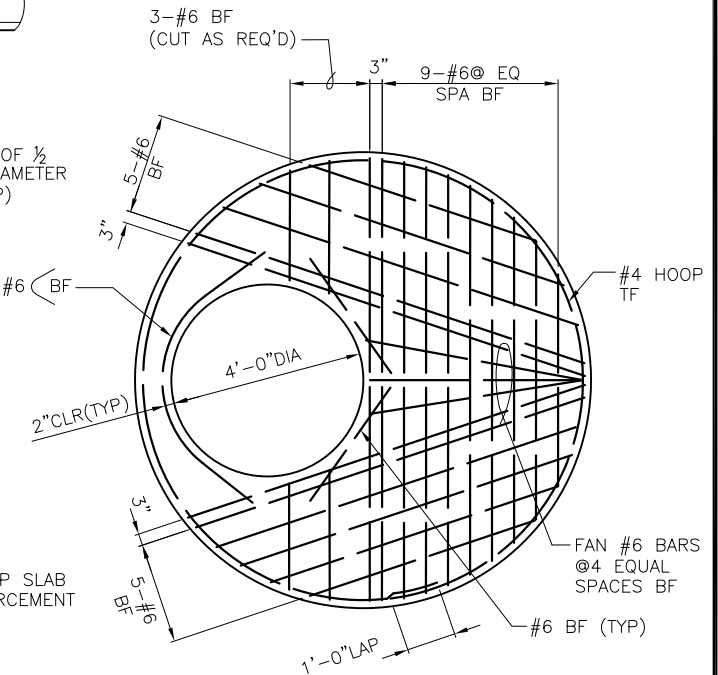
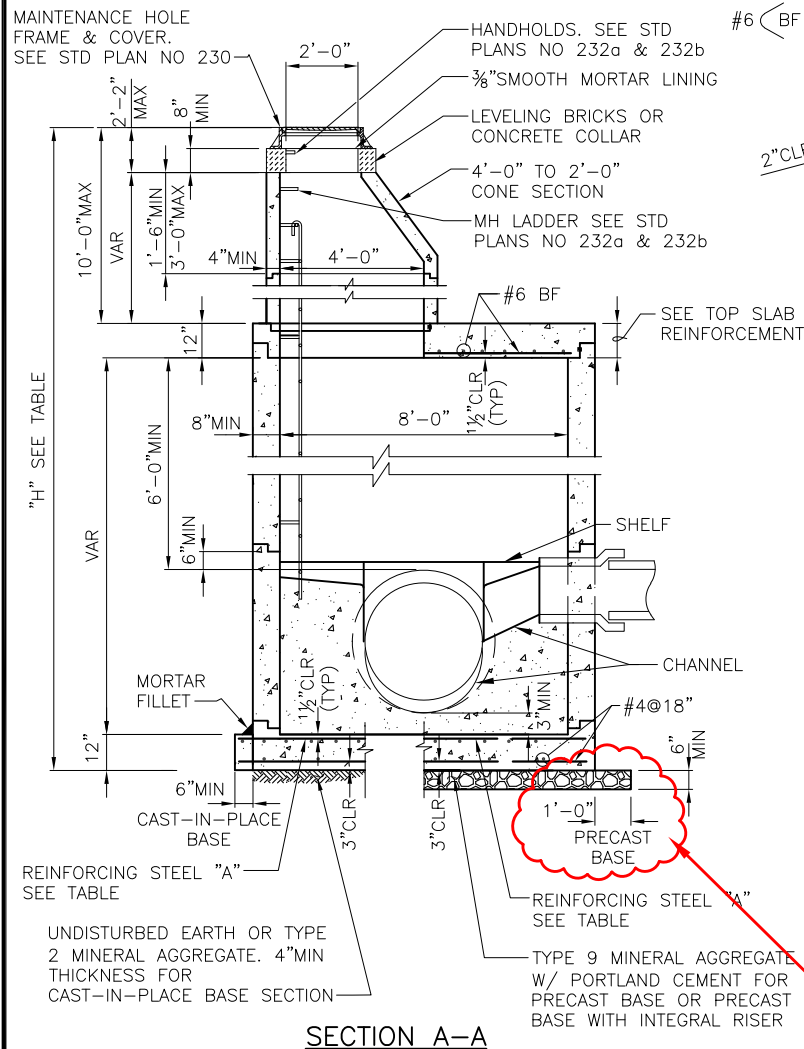
City of Seattle

NOT TO SCALE

TYPE 207b MAINTENANCE HOLE



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.54	0.45
30' MAX	0.66	0.55
40' MAX	0.78	0.64



NOTES:

1. MATERIAL; CONCRETE-CLASS 4000
REINFORCING STEEL-ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS
MUST CONFORM TO ASTM C 478. JOINTS
BETWEEN PRECAST COMPONENTS MUST BE
RUBBER GASKETED CONFORMING TO ASTM C
443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 9".
MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3".
MIN DISTANCE BETWEEN HOLES IS 12".

base dimension corrected

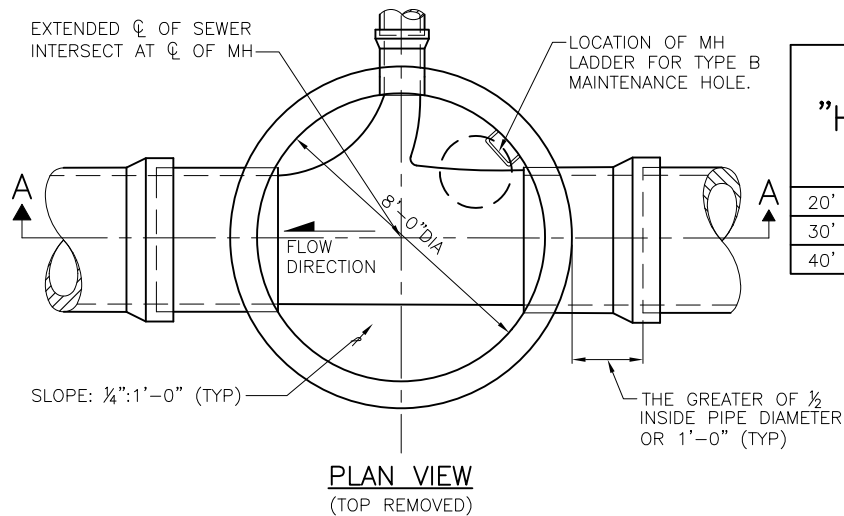
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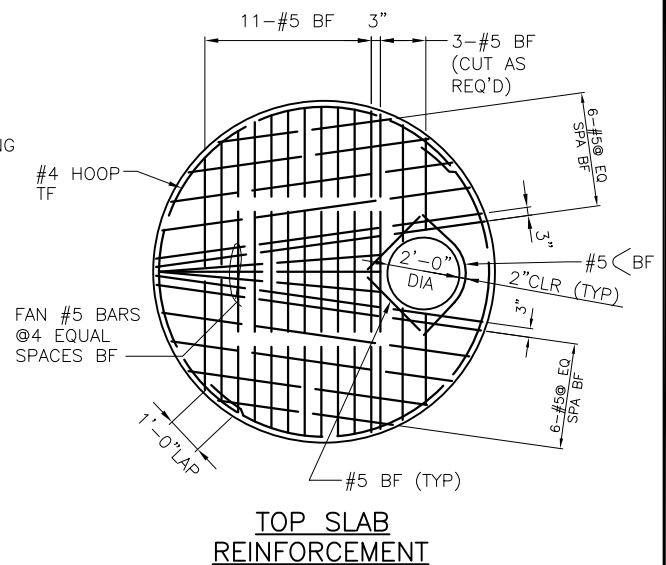
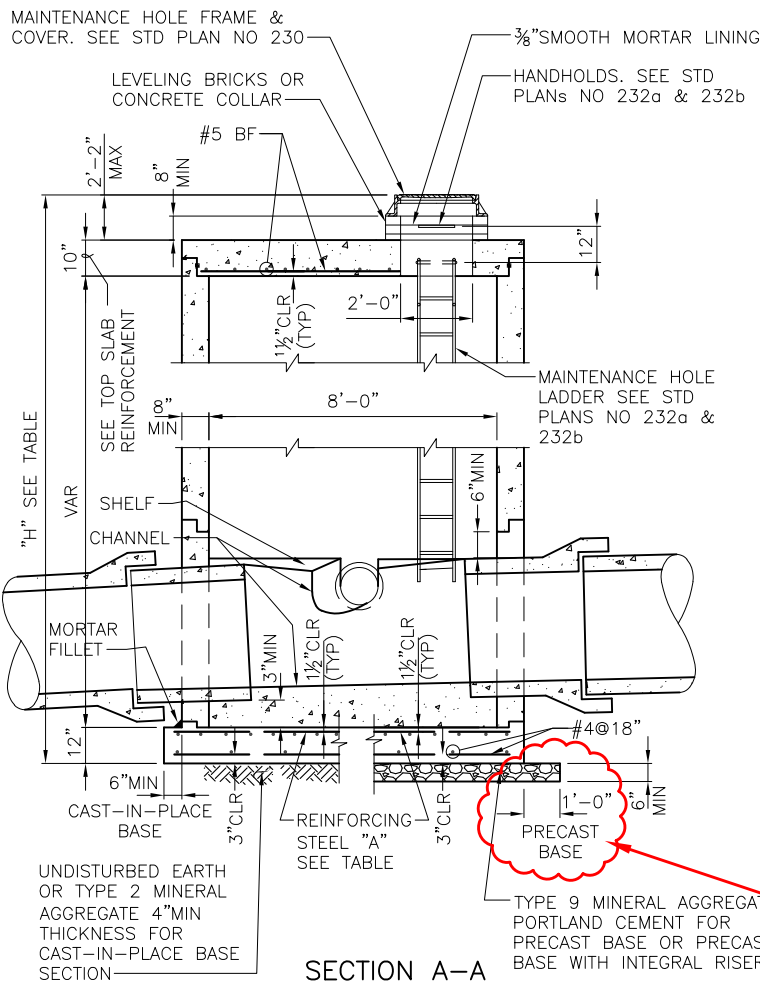
City of Seattle

NOT TO SCALE

TYPE 208a MAINTENANCE HOLE



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN./FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.42	0.35
30' MAX	0.53	0.45
40' MAX	0.65	0.54

**NOTES:**

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST
CONFORM TO ASTM C 478. JOINTS BETWEEN
PRECAST COMPONENTS MUST BE RUBBER
GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 9".
MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3".
MIN DISTANCE BETWEEN HOLES IS 12".

base dimension
corrected

REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

TYPE 208b MAINTENANCE HOLE

MAINTENANCE HOLE
FRAME & COVER.
SEE STD PLAN NO 230

2'-0"

2'-2" MAX
8" MIN

10'-0" MAX
VAR

1'-6" MIN
3'-0" MAX

4" MIN

4'-0"

HANDHOLDS. SEE
STD PLANS NO 232a & 232b

3/8" SMOOTH MORTAR LINING

LEVELING BRICKS OR
CONCRETE COLLAR

4'-0" TO 2'-0"
CONE SECTION

MH LADDER
SEE STD PLANS
NO 232a & 232b

#6 BF

12"

10" MIN

6'-0" MIN
VAR

9'-0"

1 1/2" CLR (TYP)

SEE TOP
SLAB REINF

6" MIN

SHELF

CHANNEL

#4 @ 12"

14"

MORTAR FILLET

1 1/2" CLR (TYP)

3" MIN

1 1/2" CLR (TYP)

3" CLR

REINFORCING
STEEL "A"
SEE TABLE

3" CLR

1'-0"

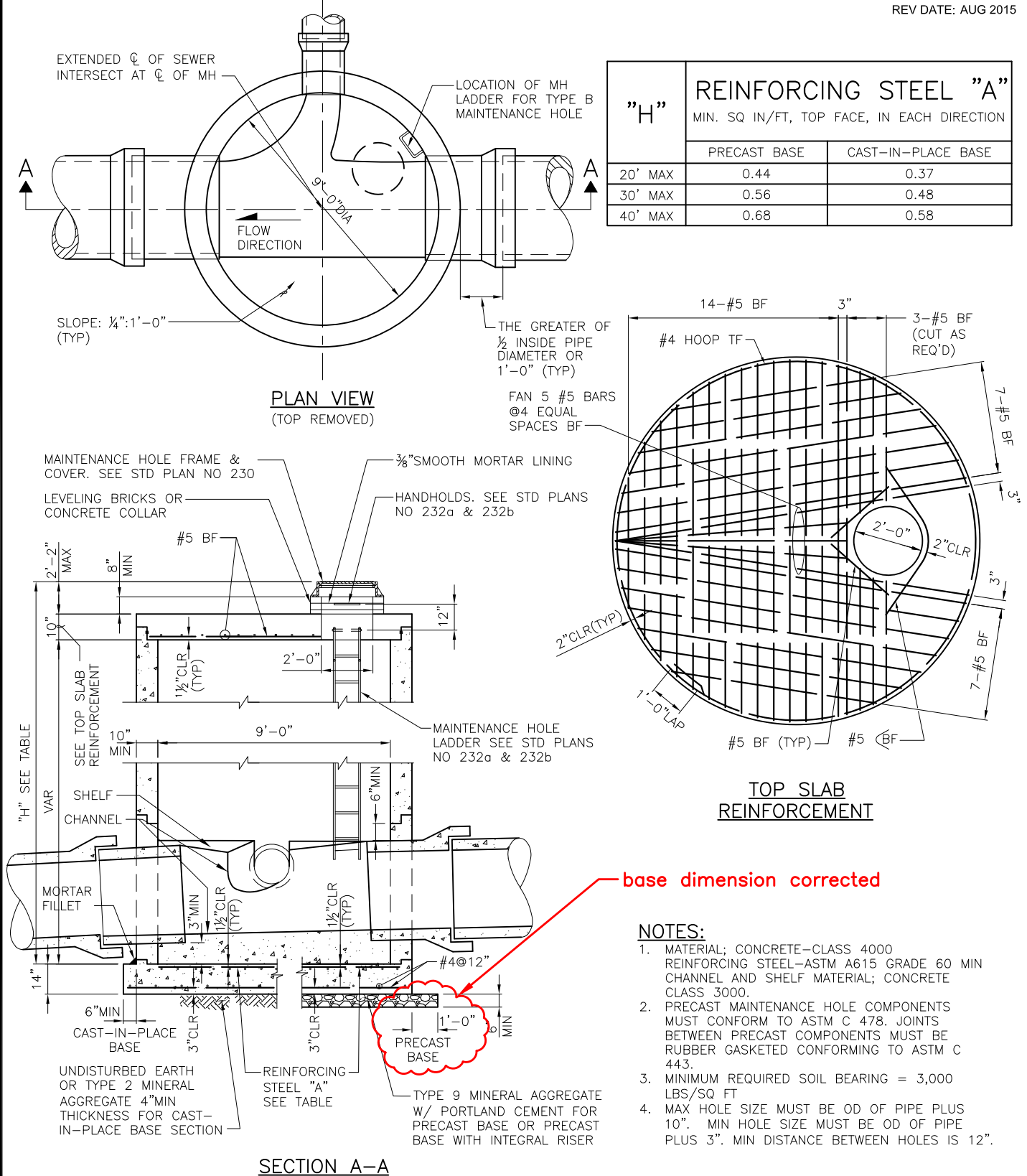
PRECAST BASE

TYPE 9 MINERAL AGGREGATE
W/ PORTLAND CEMENT FOR
PRECAST BASE OR PRECAST
BASE WITH INTEGRAL RISER

SECTION A-A

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS
MUST CONFORM TO ASTM C 478. JOINTS
BETWEEN PRECAST COMPONENTS MUST BE
RUBBER GASKETED CONFORMING TO ASTM C
443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS
10". MIN HOLE SIZE MUST BE OD OF PIPE
PLUS 3". MIN DISTANCE BETWEEN HOLES IS
12".

TYPE 209a MAINTENANCE HOLE

**NOTES:**

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS
MUST CONFORM TO ASTM C 478. JOINTS
BETWEEN PRECAST COMPONENTS MUST BE
RUBBER GASKETED CONFORMING TO ASTM C
443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS
10". MIN HOLE SIZE MUST BE OD OF PIPE
PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

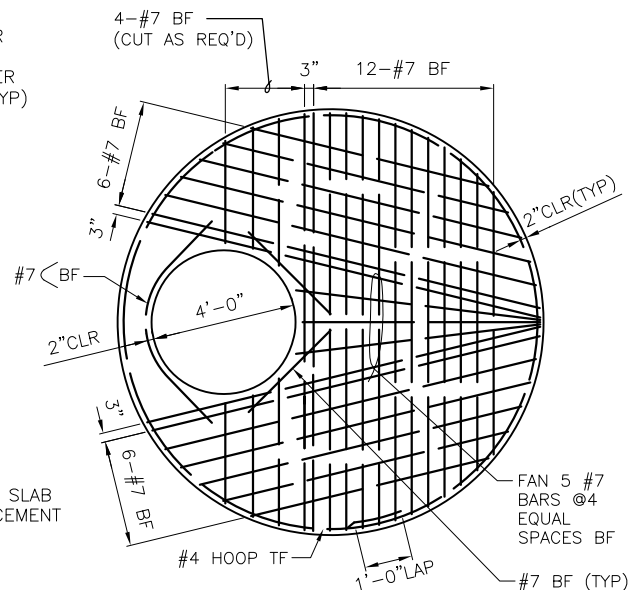


City of Seattle

NOT TO SCALE

TYPE 209b MAINTENANCE HOLE

<div style="text-align: center; font-size: 2em;">”H”</div>	<div style="font-size: 1.5em; margin-bottom: 5px;">REINFORCING STEEL ”A”</div> <div style="font-size: 0.8em; margin-bottom: 5px;">MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION</div>	
	PRECAST BASE	CAST-IN-PLACE BASE
	20' MAX	0.70
	30' MAX	0.85
40' MAX	1.00	0.86



MAINTENANCE HOLE FRAME & COVER.
SEE STD PLAN NO 230

2'-0"

2'-2" MAX

8" MIN

10'-0" MAX

VAR

1'-6" MIN

3'-0" MAX

4" MIN

4'-0"

4'-0" TO 2'-0" CONE SECTION

MH LADDER SEE STD PLANS NO 232a & 232b

3/8" SMOOTH MORTAR LINING

LEVELING BRICKS OR CONCRETE COLLAR

HANDHOLD. SEE STD PLANS NO 232a & 232b

#7 BF

SEE TOP SLAB REINFORCEMENT

14"

6'-0" MIN

11" MIN

10'-0"

1 1/2" CLR (TYP)

VAR

6" MIN

SHELF

CHANNEL

MORTAR FILLET

1 1/2" CLR (TYP)

3" MIN

1 1/2" CLR (TYP)

#4 @ 12"

14"

6" MIN

CAST-IN-PLACE BASE

3" CLR

REINFORCING STEEL "A" SEE TABLE

3" CLR

1'-0"

PRECAST BASE

6" MIN

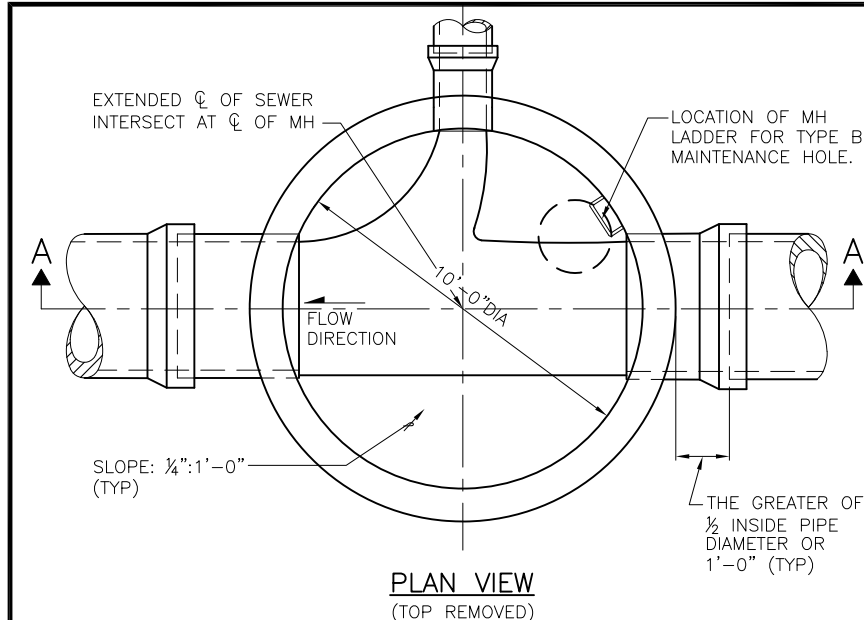
UNDISTURBED EARTH OR TYPE 2 MINERAL AGGREGATE. 4" MIN THICKNESS FOR CAST-IN-PLACE BASE SECTION

TYPE 9 MINERAL W/ PORTLAND C PRECAST BASE C BASE WITH INTEG

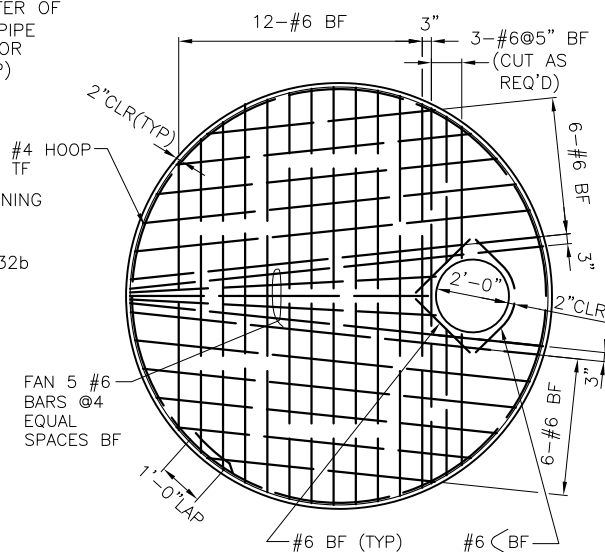
- base dimension corrected

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS
MUST CONFORM TO ASTM C 478. JOINTS
BETWEEN PRECAST COMPONENTS MUST BE
RUBBER GASKETED CONFORMING TO ASTM C
443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS
11". MIN HOLE SIZE MUST BE OD OF PIPE
PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12"

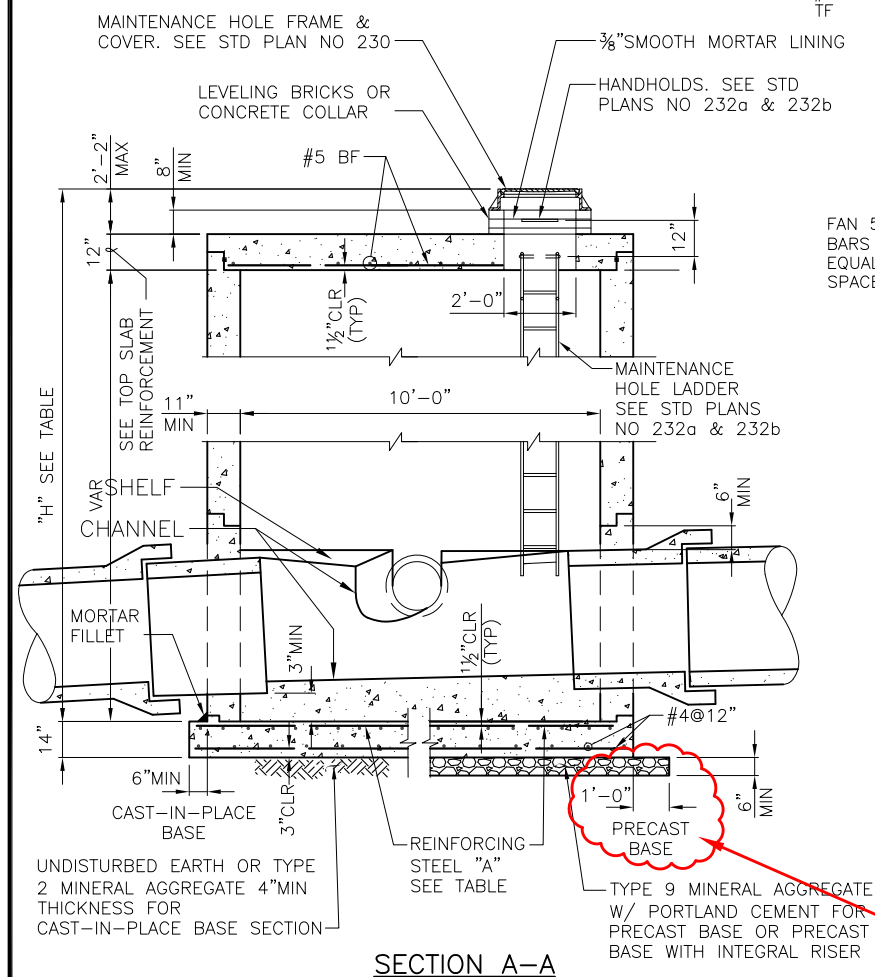
TYPE 210a MAINTENANCE HOLE



"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.52	0.45
30' MAX	0.66	0.57
40' MAX	0.81	0.70

**NOTES:**

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS
MUST CONFORM TO ASTM C 478. JOINTS
BETWEEN PRECAST COMPONENTS MUST BE
RUBBER GASKETED CONFORMING TO ASTM C
443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS
11". MIN HOLE SIZE MUST BE OD OF PIPE
PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".



base dimension
corrected

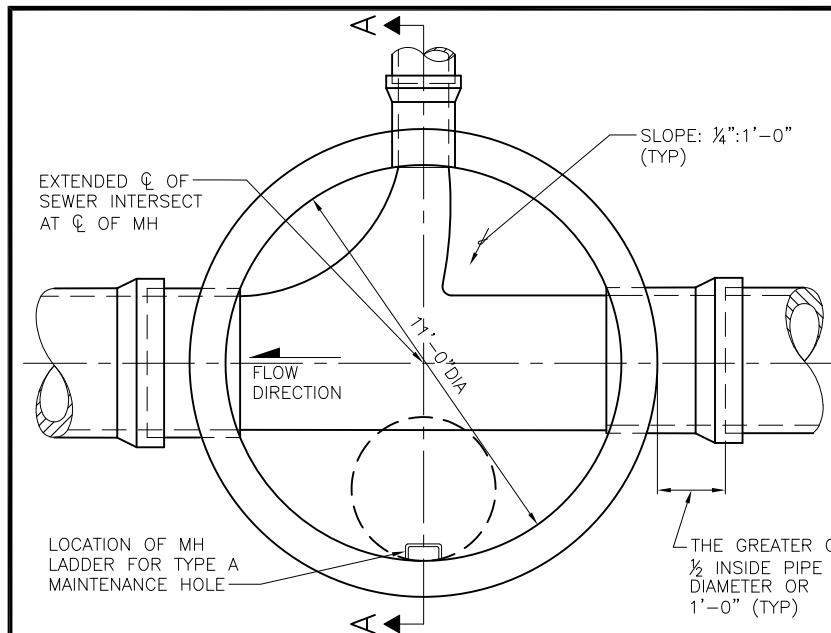
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

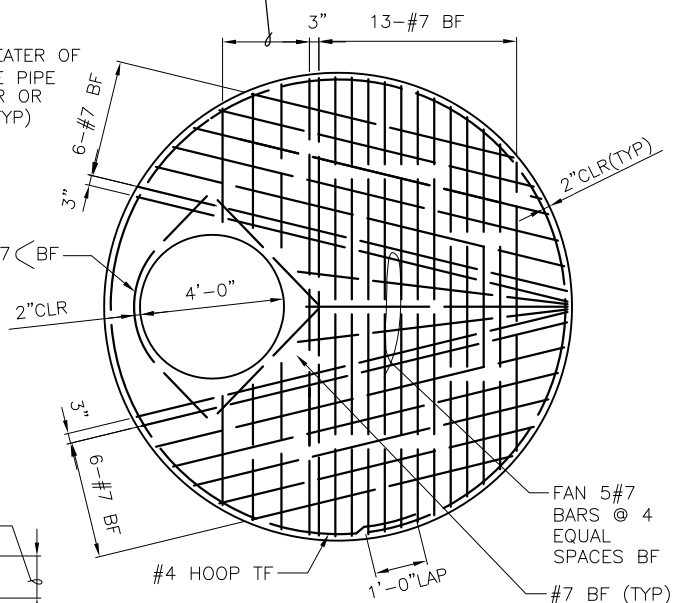
TYPE 210b MAINTENANCE HOLE



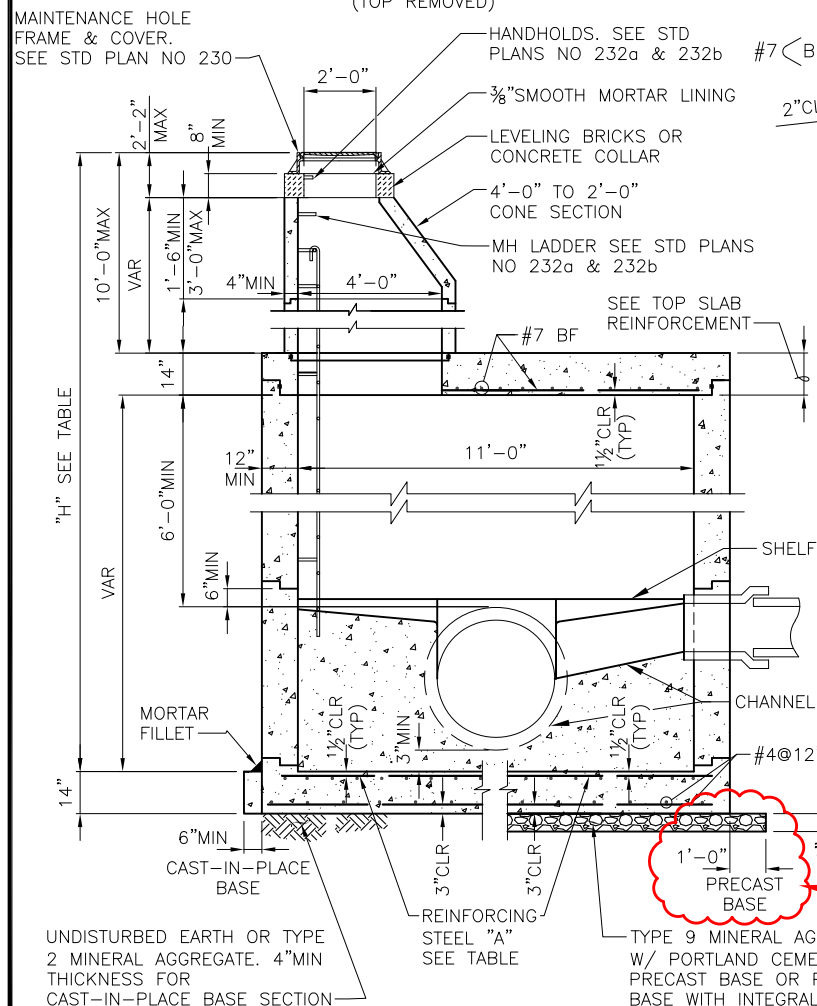
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.85	0.74
30' MAX	1.02	0.89
40' MAX	1.20	1.05

4-#7 BF (CUT
AS REQ'D)



**TOP SLAB
REINFORCEMENT**



SECTION A-A

NOTES:

1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 12". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

**base dimension
corrected**

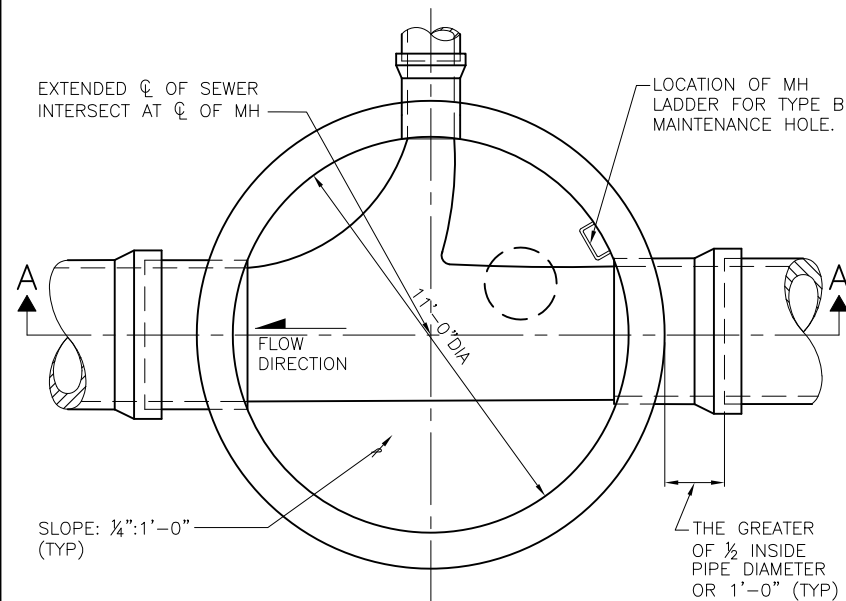
REF STD SPEC SEC 7-05



City of Seattle

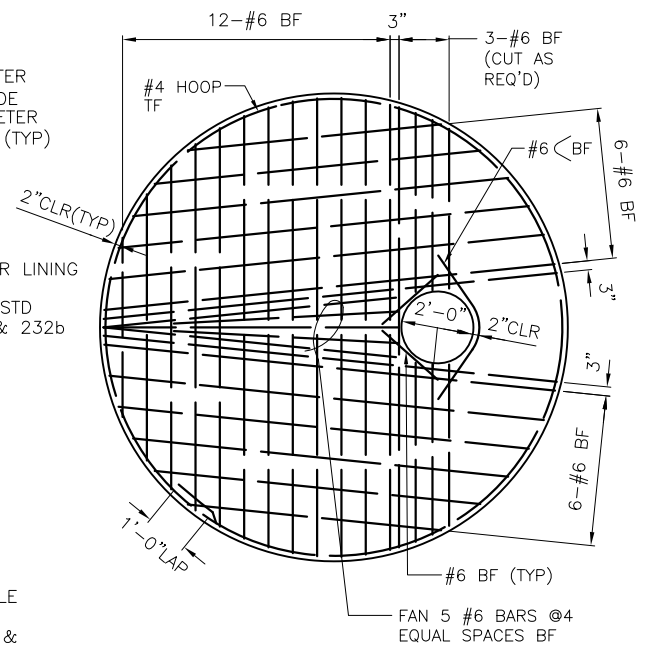
NOT TO SCALE

TYPE 211a MAINTENANCE HOLE

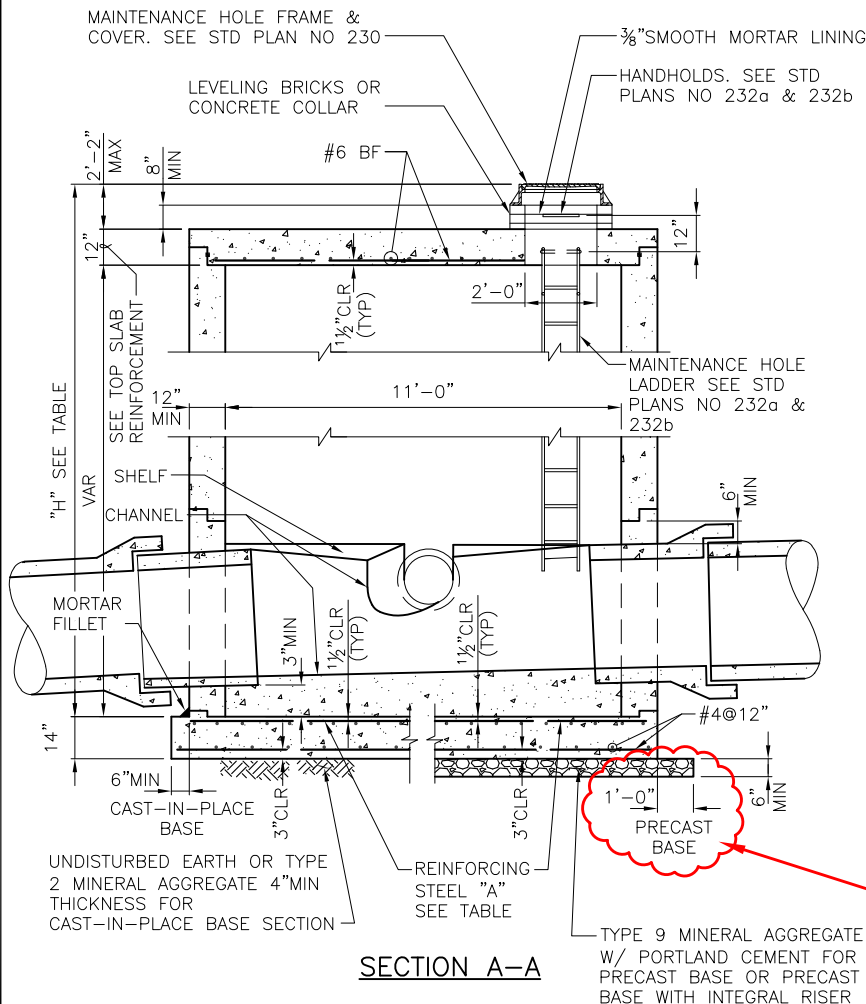


PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A"	
	MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.62	0.54
30' MAX	0.79	0.69
40' MAX	0.97	0.85



TOP SLAB REINFORCEMENT



NOTES:

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 12". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

base dimension corrected

REF STD SPEC SEC 7-05



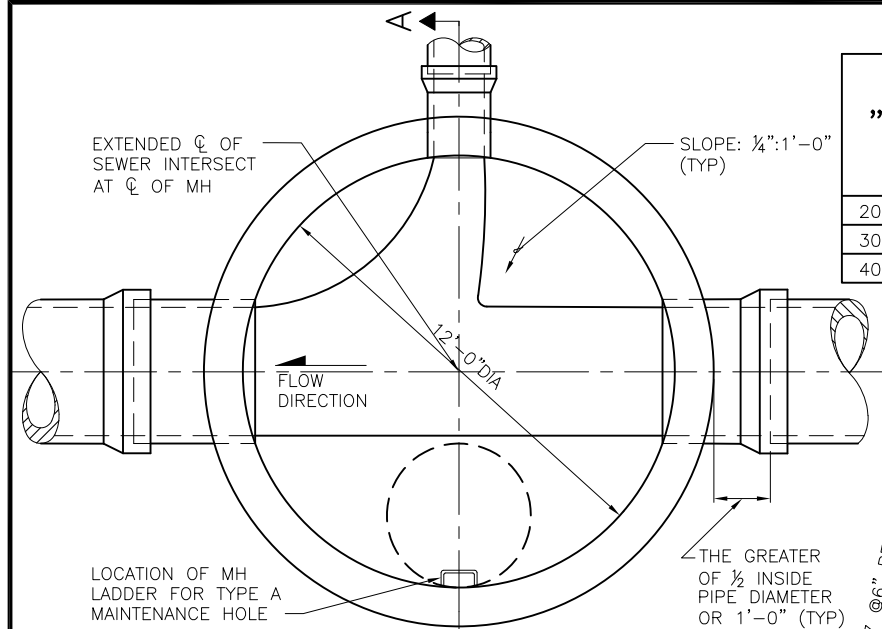
City of Seattle

NOT TO SCALE

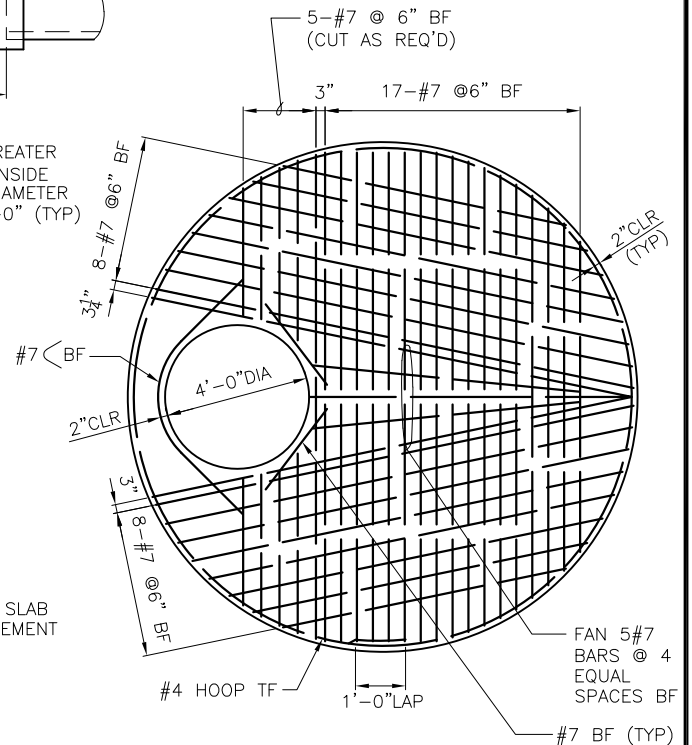
TYPE 211b MAINTENANCE HOLE

STANDARD PLAN NO **212a**

<div style="text-align: center; font-size: 2em; font-weight: bold;">"H"</div>	<div style="font-size: 1.5em; font-weight: bold;">REINFORCING STEEL "A"</div> <div style="font-size: 0.8em;">MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION</div>	
	PRECAST BASE	CAST-IN-PLACE BASE
	20' MAX	0.89
	30' MAX	1.13
40' MAX	1.56	1.37



MAINTENANCE HOLE
FRAME & COVER.
SEE STD PLAN NO 230-

[illegible]

NOTES:

1. MATERIAL; CONCRETE—CLASS 4000
REINFORCING STEEL—ASTM A615 GRADE 60 MIN
CHANNEL AND SHELF MATERIAL; CONCRETE
CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS
MUST CONFORM TO ASTM C 478. JOINTS
BETWEEN PRECAST COMPONENTS MUST BE
RUBBER GASKETED CONFORMING TO ASTM C
443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000
LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS
13". MIN HOLE SIZE MUST BE OD OF PIPE
PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

- base dimension corrected

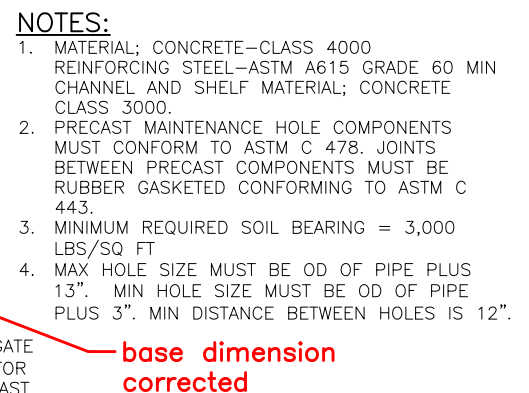
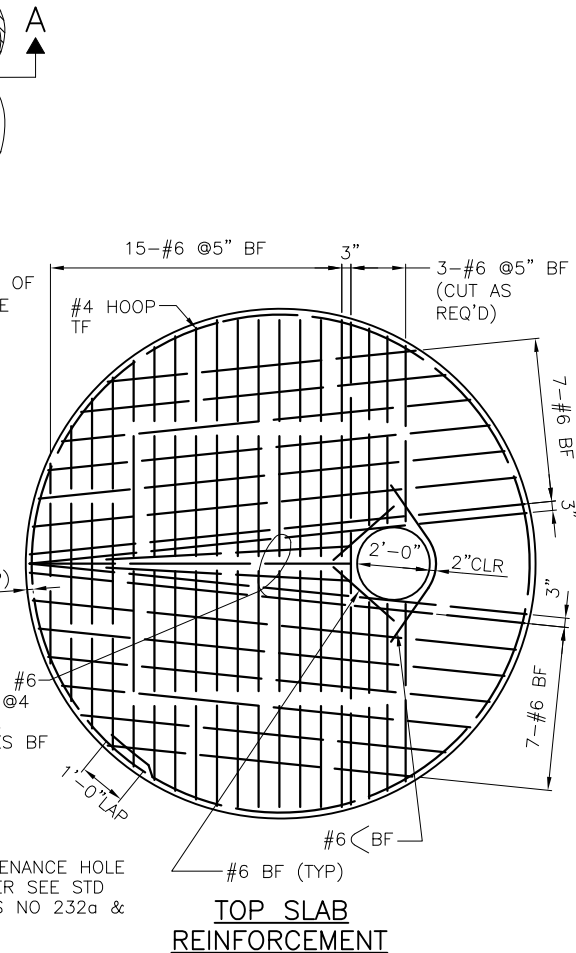
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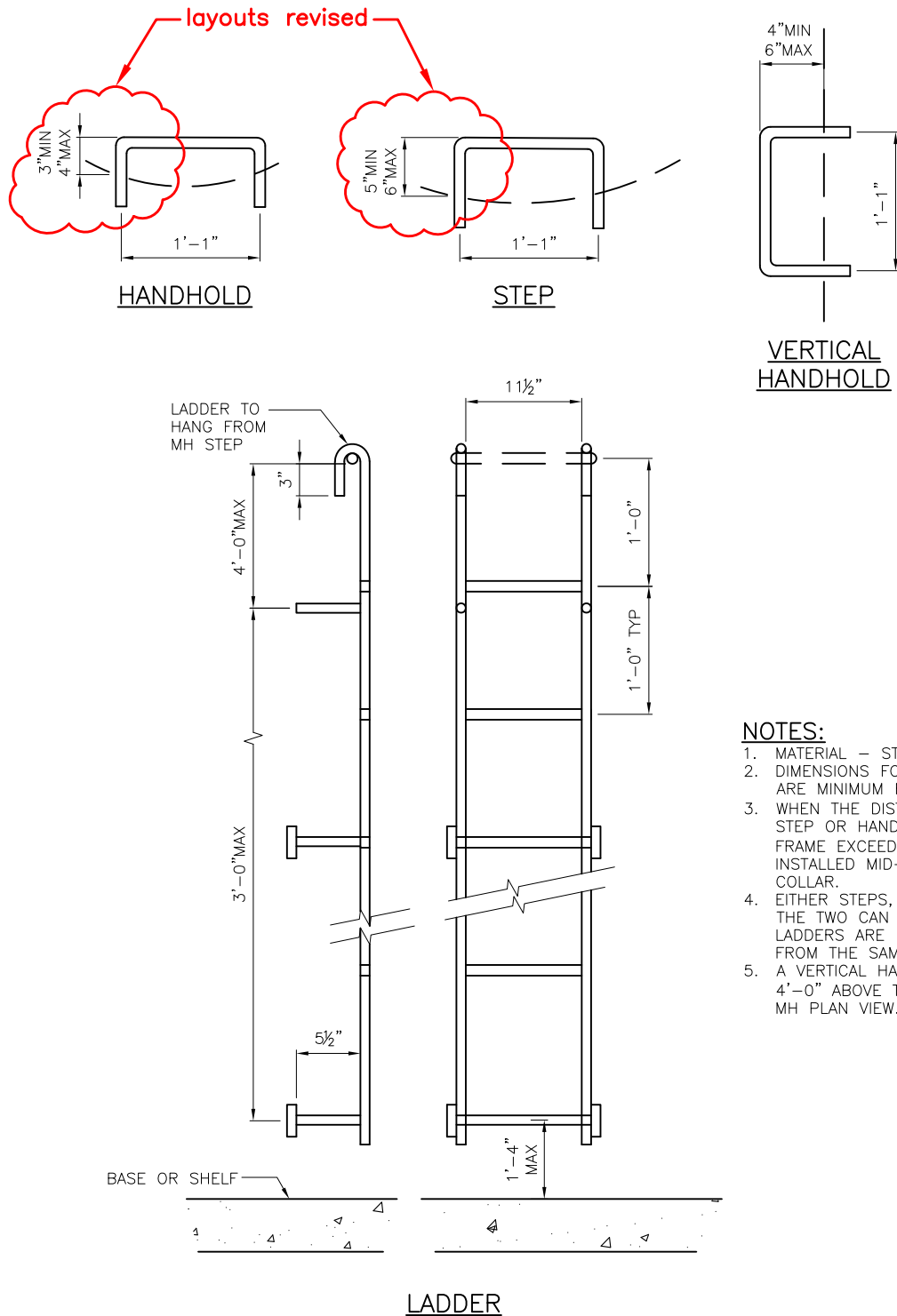


City of Seattle

NOT TO SCALE

TYPE 212a MAINTENANCE HOLE



**NOTES:**

1. MATERIAL — STEEL REINFORCED POLYPROPYLENE
2. DIMENSIONS FOR THE MH LADDER AND STEP ARE MINIMUM REQUIREMENTS ONLY.
3. WHEN THE DISTANCE FROM THE LAST (HIGHEST) STEP OR HANDHOLD TO THE TOP OF THE MH FRAME EXCEEDS 1'-6", A HANDHOLD MUST BE INSTALLED MID-WAY IN THE LEVELING BRICK OR COLLAR.
4. EITHER STEPS, LADDERS OR A COMBINATION OF THE TWO CAN BE USED. IF BOTH STEPS AND LADDERS ARE USED IN ANY MH, THEY MUST BE FROM THE SAME MANUFACTURER.
5. A VERTICAL HANDHOLD MUST BE INSTALLED 4'-0" ABOVE THE SHELF WHEN INDICATED IN MH PLAN VIEW.

REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

**MAINTENANCE HOLE LADDER,
STEP AND HANDHOLD**

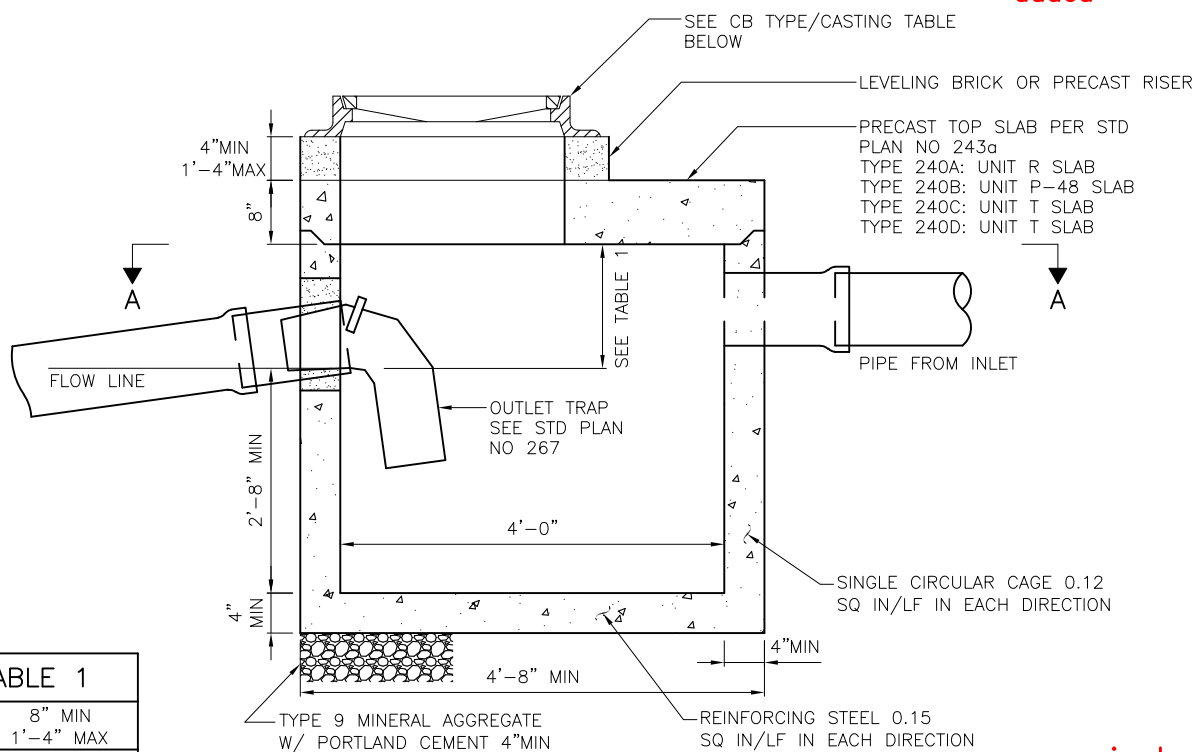
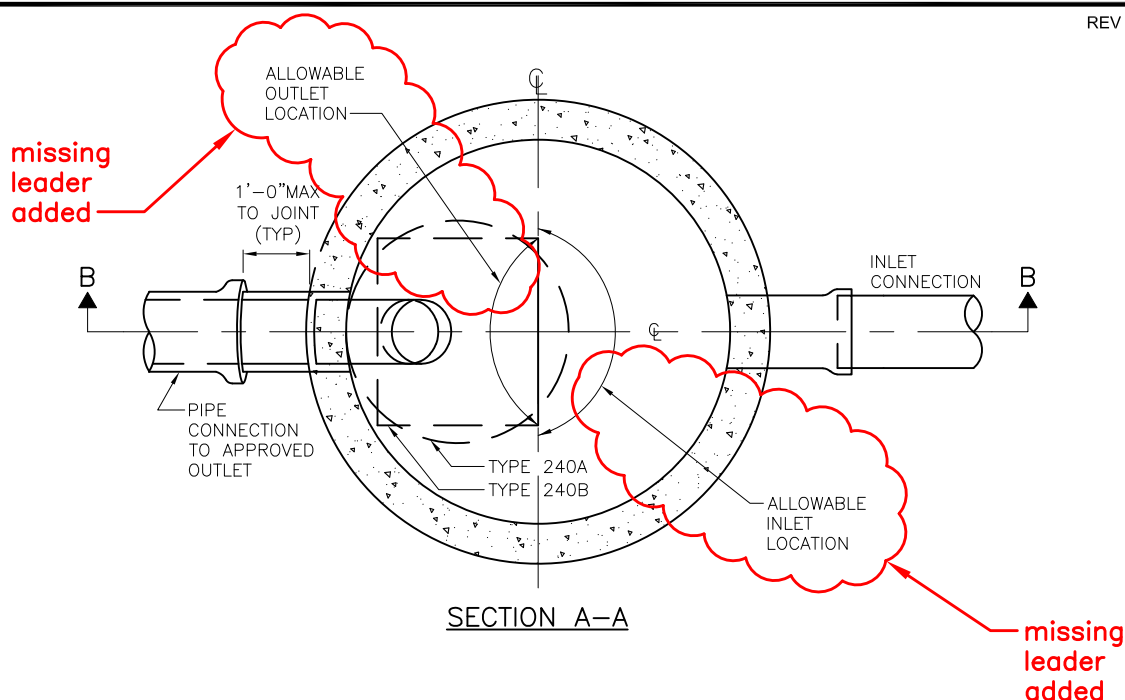


TABLE 1	
6"Ø	8" MIN 1'-4" MAX
8"Ø	10" MIN 1'-4" MAX
12"Ø	1'-3" MIN 2'-0" MAX

NOTES:

1. FRAME & GRATE OR FRAME & COVER MUST BE LOCATED OVER TRAP.
2. INVERT OF INLET PIPE MUST BE 2" MIN ABOVE INVERT OF OUTLET PIPE.
3. SEE STD PLAN 261 FOR ALLOWABLE OUTLET LOCATIONS.

CB TYPE	CASTING	
	FRAME	COVER
240A	PER STD PLAN 230	PER STD PLAN 230
240B	PER STD PLAN 264	PER STD PLAN 264
240C	PER STD PLAN 262	PER STD PLAN 265
240D	PER STD PLAN 263A	PER STD PLAN 265

REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

TYPE 240 CATCH BASIN

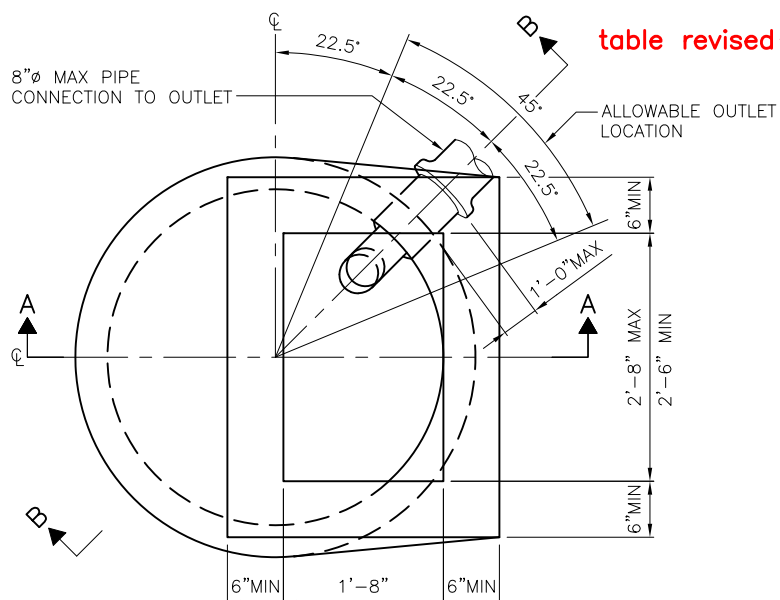
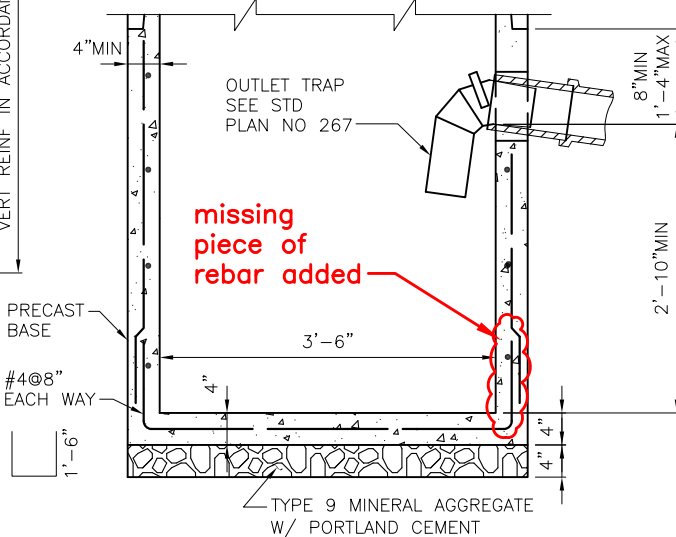
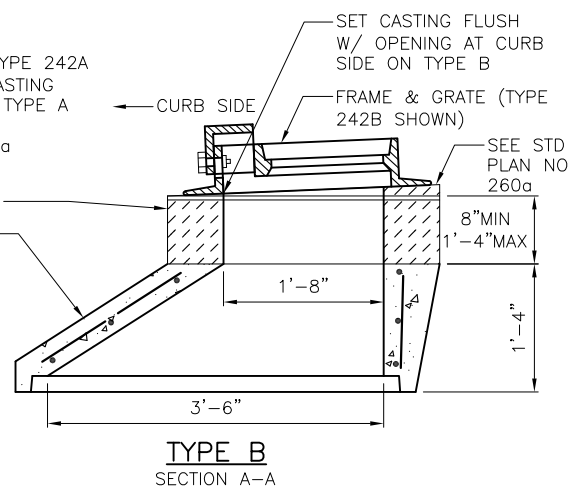
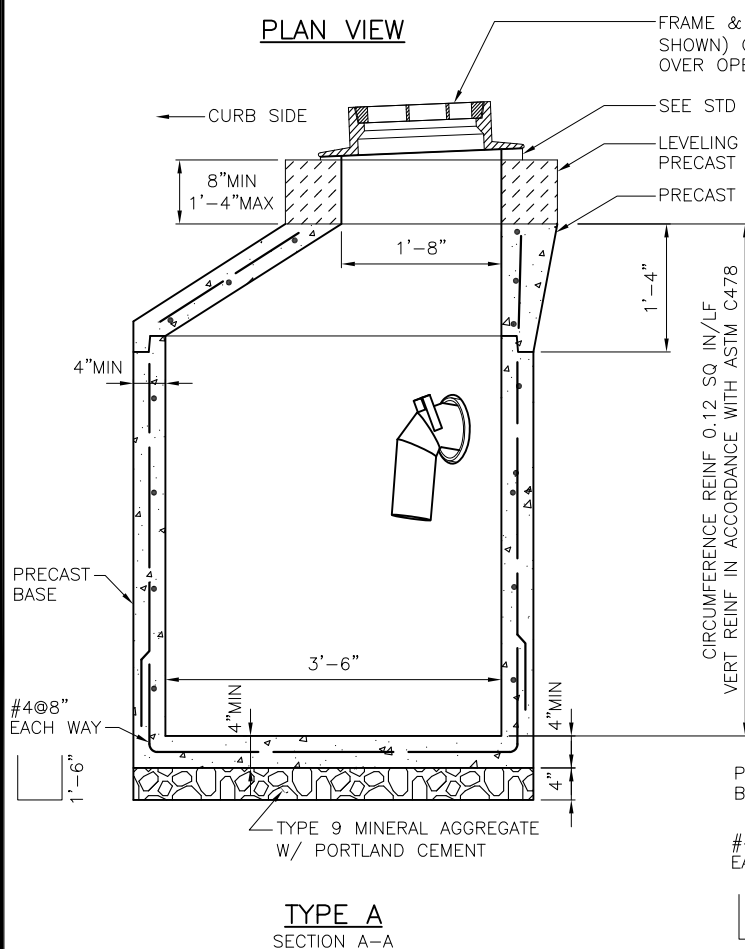


table revised

CB TYPE	CASTING		
	FRAME	GRATE	HOOD
A	NO 262	NO 265	NONE
B	NO 263A	NO 265	NO 263A
C	NO 263A	NO 265	NO 263B

NOTES:

1. MATERIAL: CONCRETE: CLASS 4000
REINFORCING STEEL: ASTM A 615 GR 60
2. INSTALL & LOCATE PER STD PLANS NO 260 & 261
3. OUTLET TRAP TO BE LOCATED DIRECTLY BELOW FRAME AND GRATE
4. USE OF LEVELING BRICKS MUST BE RUNNING BOND PATTERN WITH $\frac{1}{4}$ TO $\frac{1}{2}$ GROUT IN BETWEEN BRICKS.



missing piece of rebar added

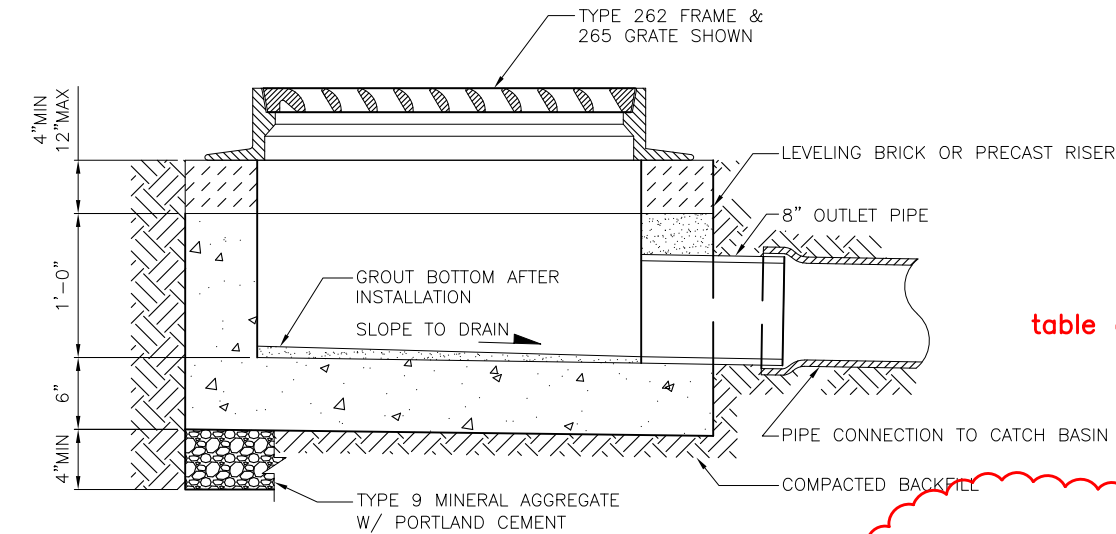
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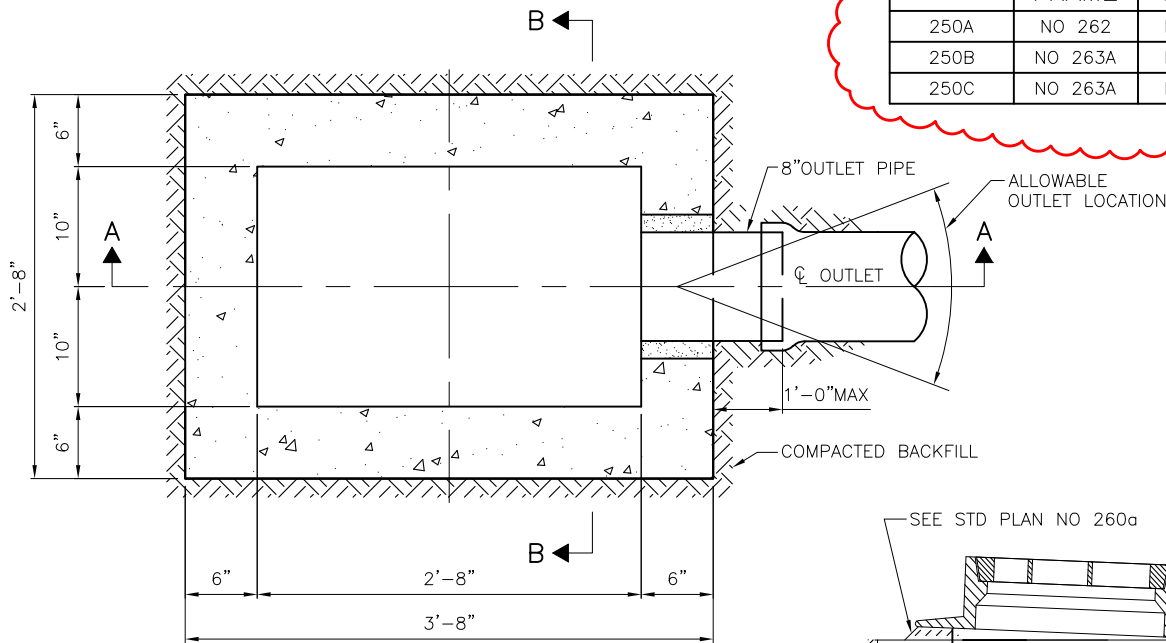
City of Seattle

NOT TO SCALE

TYPE 242 CATCH BASIN



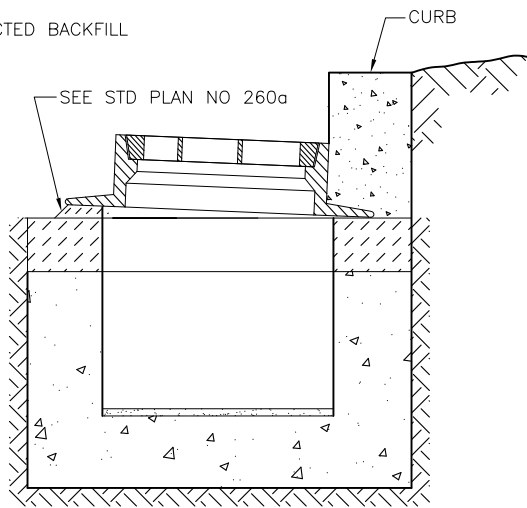
SECTION A-A



PLAN VIEW

table added

INLET TYPE	CASTING		
	FRAME	GRATE	HOOD
250A	NO 262	NO 265	NONE
250B	NO 263A	NO 265	NO 263A
250C	NO 263A	NO 265	NO 263B



SECTION B-B
TYPE A ONLY

REF STD SPEC SEC 7-05

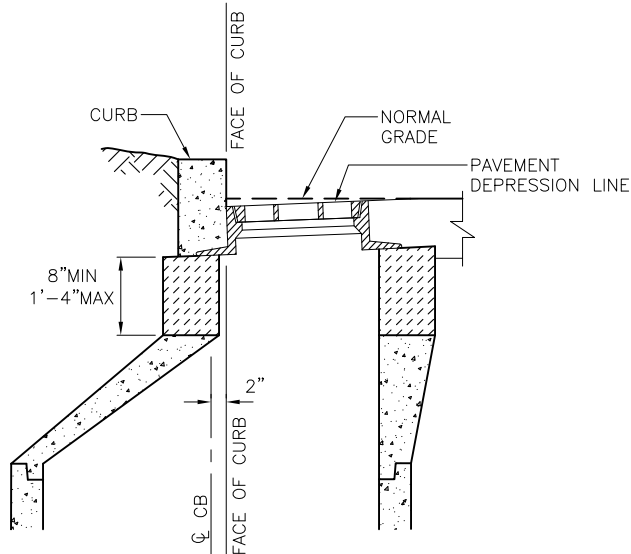
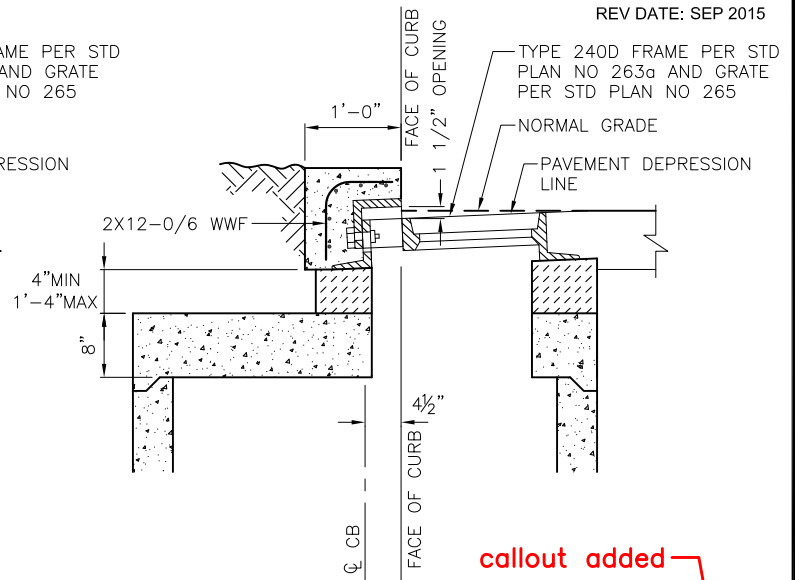
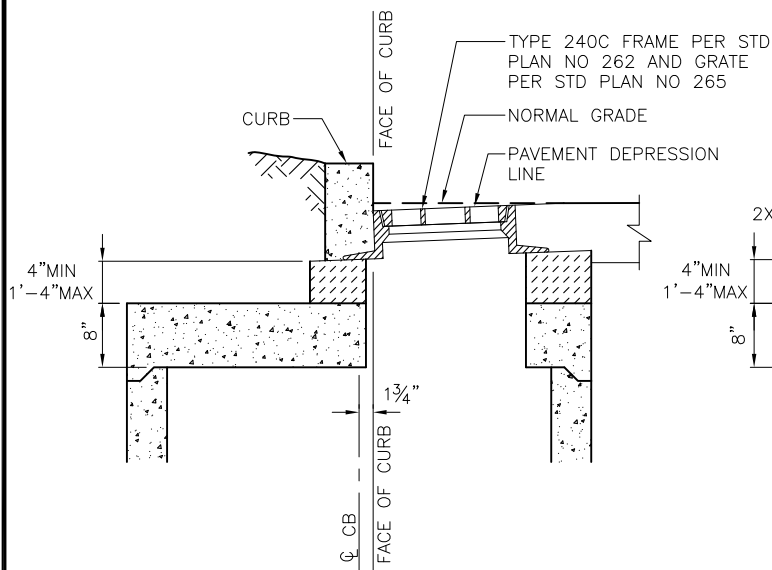


City of Seattle

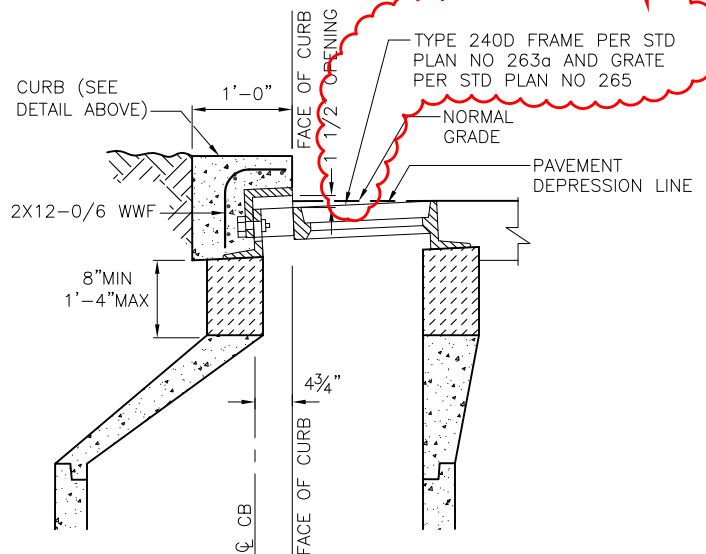
NOT TO SCALE

TYPE 250 INLET

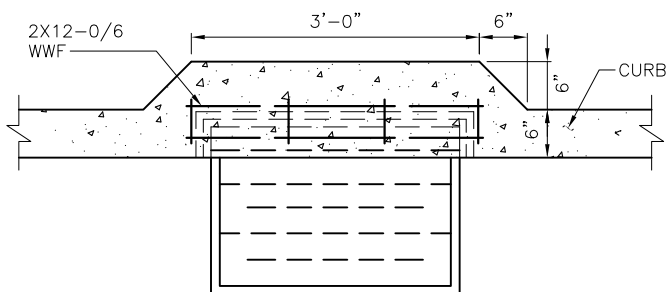
REV DATE: SEP 2015



TYPE 242A CB
(TYPE 250A INLET SIMILAR)



TYPE 242B CB
(TYPE 250B INLET SIMILAR)



new detail was added then
removed and moved to new
Std Plan 260c

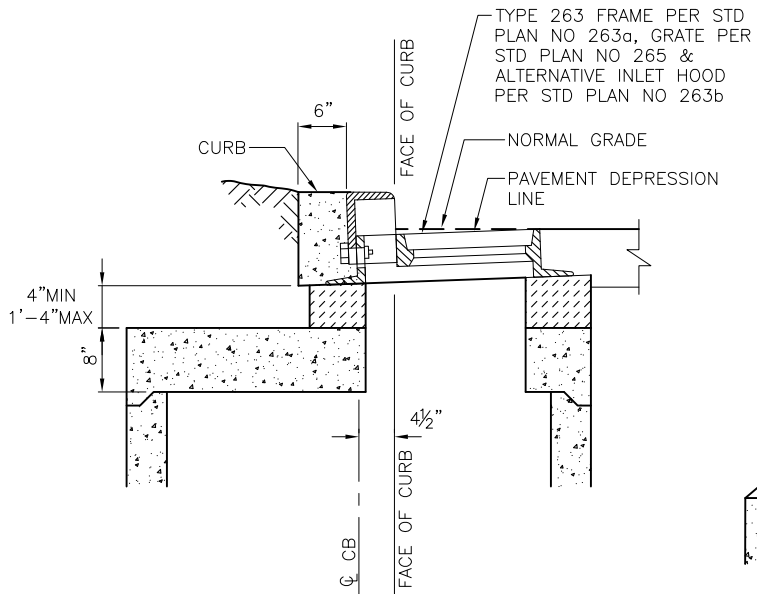
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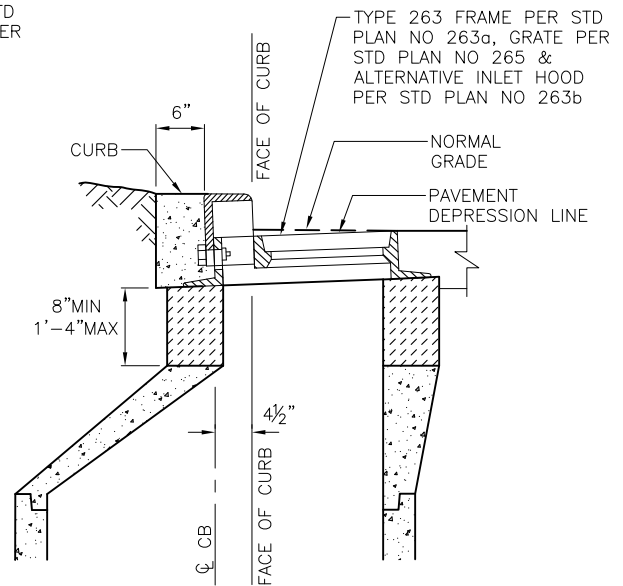
City of Seattle

NOT TO SCALE

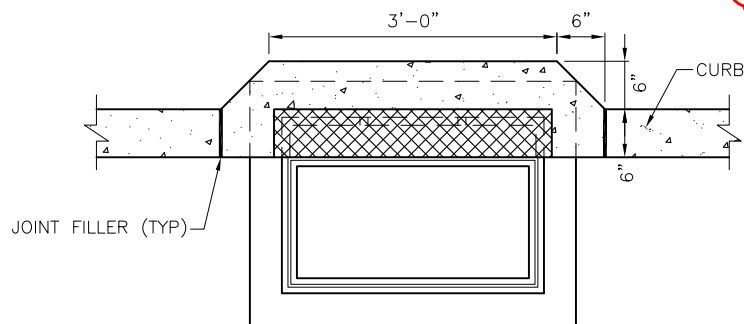
CATCH BASIN &
INLET INSTALLATION



TYPE 240C CB



TYPE 242A CB

CURB DETAIL (PLAN VIEW) FOR
TYPE 240D & 242C CB & TYPE 250B INLET

new std plan

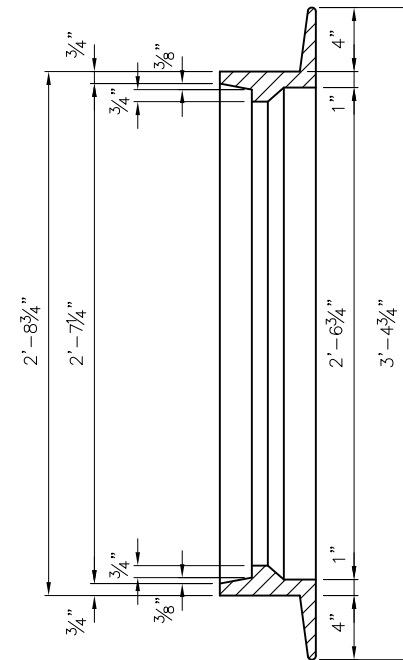
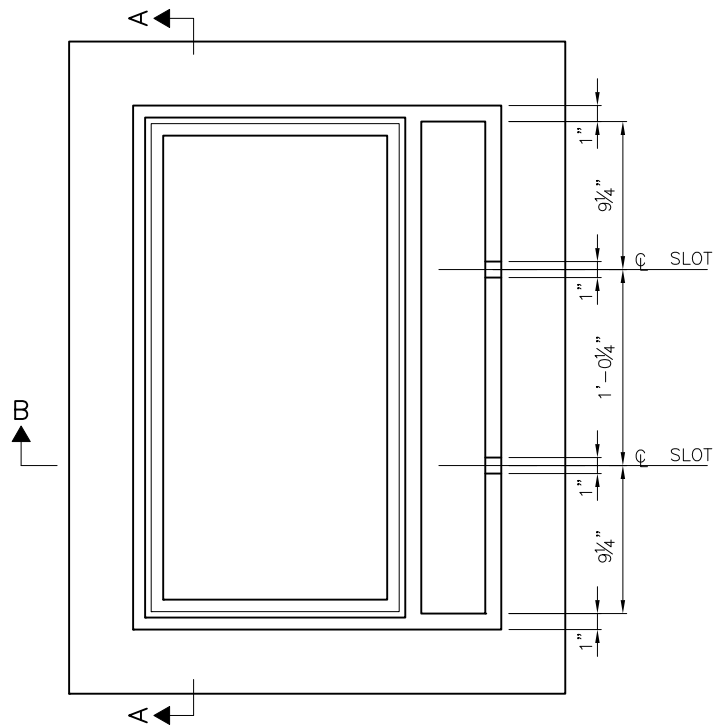
REF STD SPEC SEC 7-05



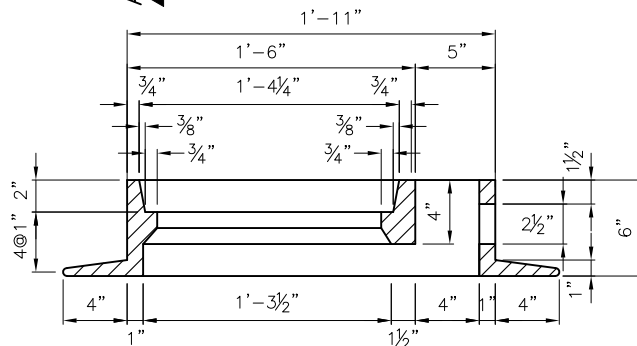
City of Seattle

NOT TO SCALE

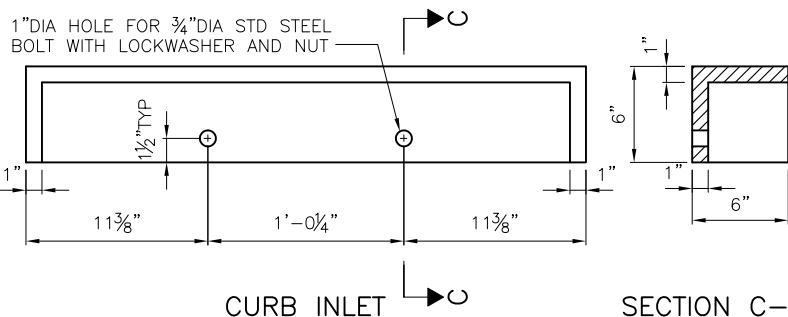
CATCH BASIN & INLET
INSTALLATION WITH STANDARD
PLAN 263B ALTERNATIVE HOOD

renumbered due to
new std plan 263b

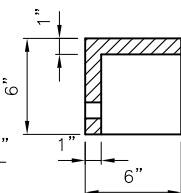
SECTION A-A



SECTION B-B



CURB INLET



SECTION C-C

REF STD SPEC SEC 9-12

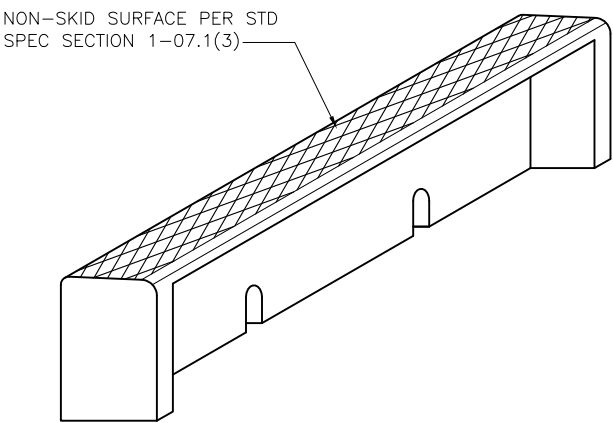
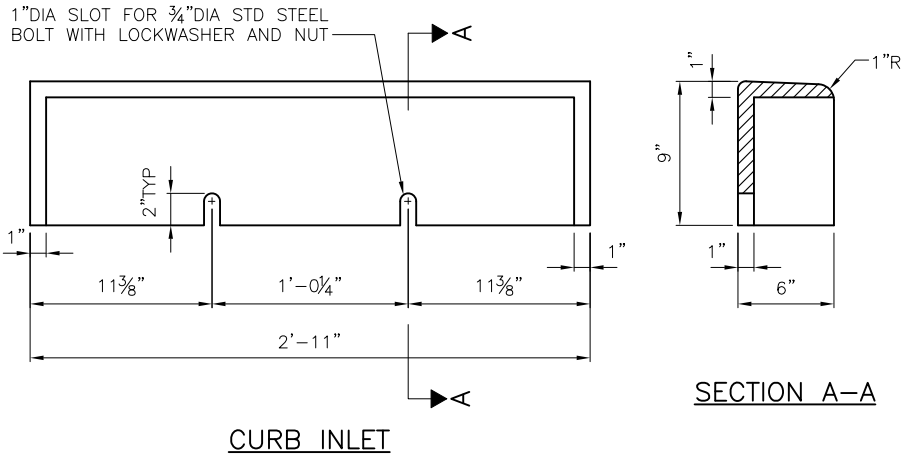


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NOT TO SCALE

TYPE 263 INLET FRAME
AND HOOD

new standard plan



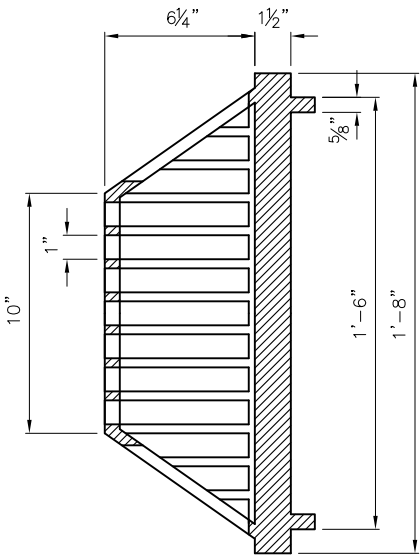
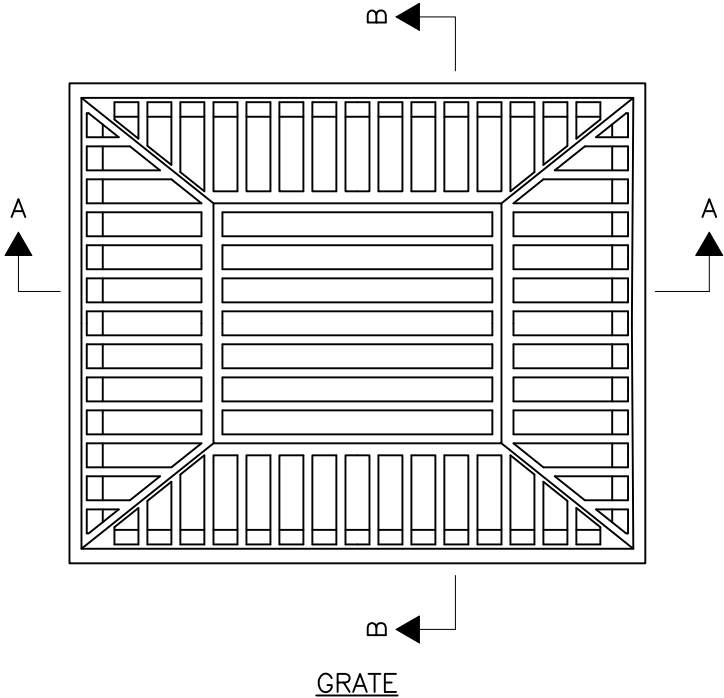
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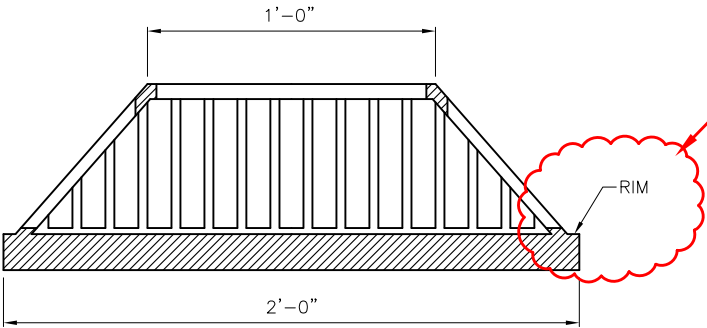
City of Seattle

NOT TO SCALE

TYPE 263 ALTERNATIVE
INLET HOOD



SECTION B-B



SECTION A-A

- NOTES:
- 1. GRATE MATERIAL: DUCTILE IRON
 - 2. FRAME PER STD PLAN NO 264

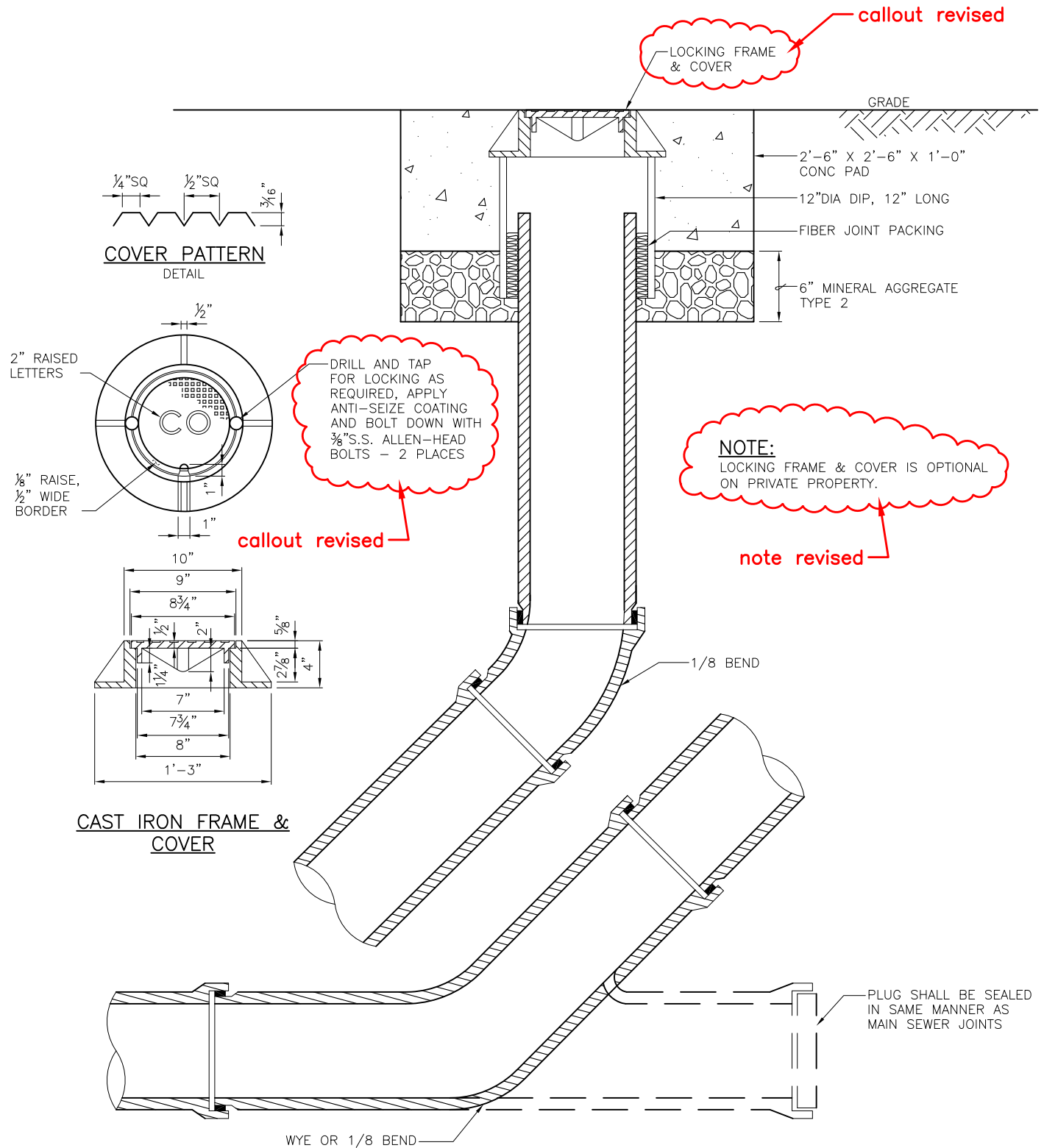
REF STD SPEC SEC 9-12



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NOT TO SCALE

BEEHIVE GRATE FOR
BIORETENTION



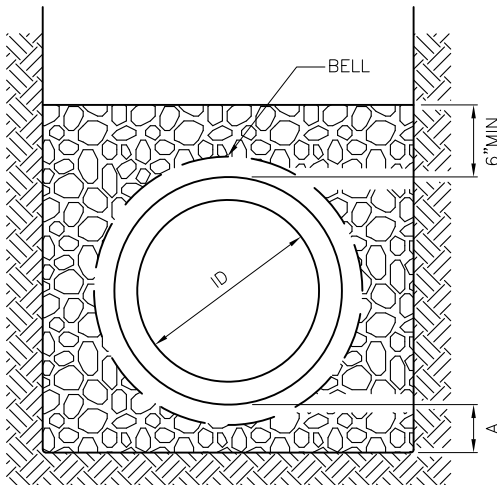
REF STD SPEC SEC 7-19



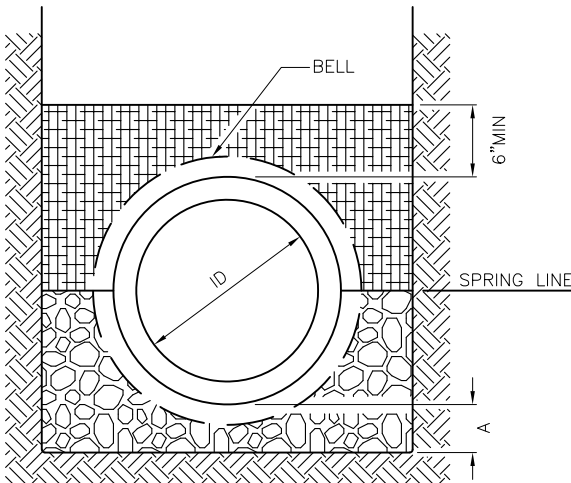
City of Seattle

NOT TO SCALE

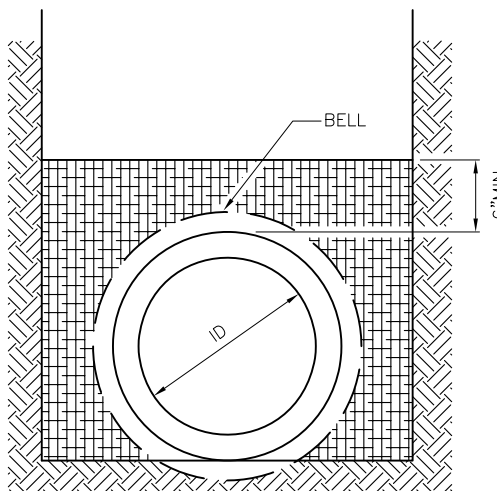
8" CLEAN-OUT



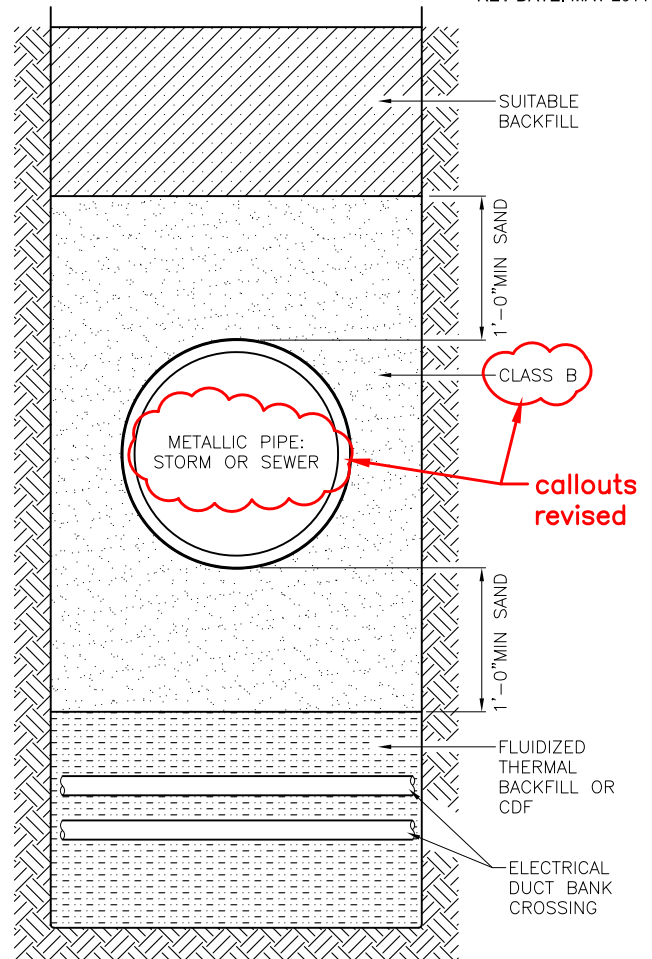
CLASS B BEDDING



CLASS C BEDDING



CLASS D BEDDING



SAND BEDDING AT TRENCH CROSSING OF METAL PIPE

AT METALLIC PIPE CROSSING OF FLUIDIZED THERMAL BACKFILL OR CDF CONDUIT CROSSINGS



MINERAL AGGREGATE PER STD SPEC 9-03.16 TYPE 9 FOR DUCTILE IRON WHEN APPLICABLE OR CONCRETE PIPE TYPE 22 FOR VITRIFIED CLAY AND FLEXIBLE PIPE



SELECTED NATIVE MATERIAL PER STD SPEC 2-10.2(1)



SUITABLE BACKFILL



FLUIDIZED THERMAL BACKFILL PER SCL MATERIAL STD 7150.00 OR CDF (SEE CONTRACT DRAWINGS)



MINERAL AGGREGATE PER STD SPEC 9-03.16, TYPE 6 OR TYPE 7

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. UNIFORMLY SUPPORT PIPE BARREL. EXCAVATE HOLES FOR BELLS AND COUPLING.

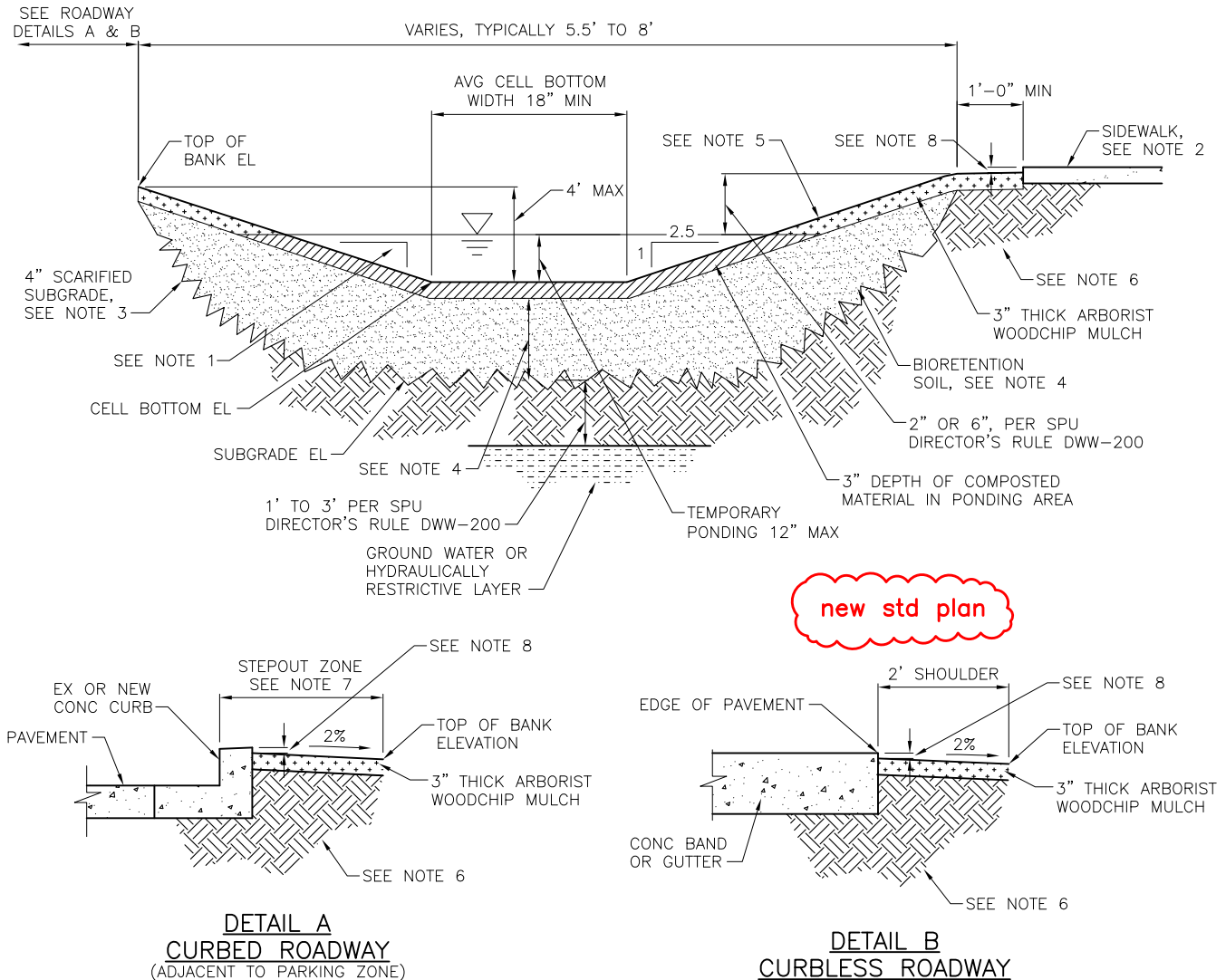
REF STD SPEC SEC 2-10.2, 7-11, 7-17, 9-03.16



City of Seattle

NOT TO SCALE

**PIPE BEDDING
SEWER/STORM DRAIN**

**NOTES:**

1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50- FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. BIORETENTION OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. SCARIFY SUBGRADE 4" MIN IN THE AREA SUBJECT TO TEMPORARY PONDING BEFORE BIORETENTION SOIL INSTALLATION.
4. PROVIDE 1.5' MIN BIORETENTION SOIL FOR WATER QUALITY TREATMENT PER STORMWATER CODE REQUIREMENT.
5. CELL MUST BE PLANTED PER APPROVED LANDSCAPE PLAN.
6. SOIL AT THE EDGE MUST BE UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY.
7. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREET, MIN 4'-0" FOR MAJOR ARTERIAL STREET.
8. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF ARBORIST WOODCHIP MULCH.

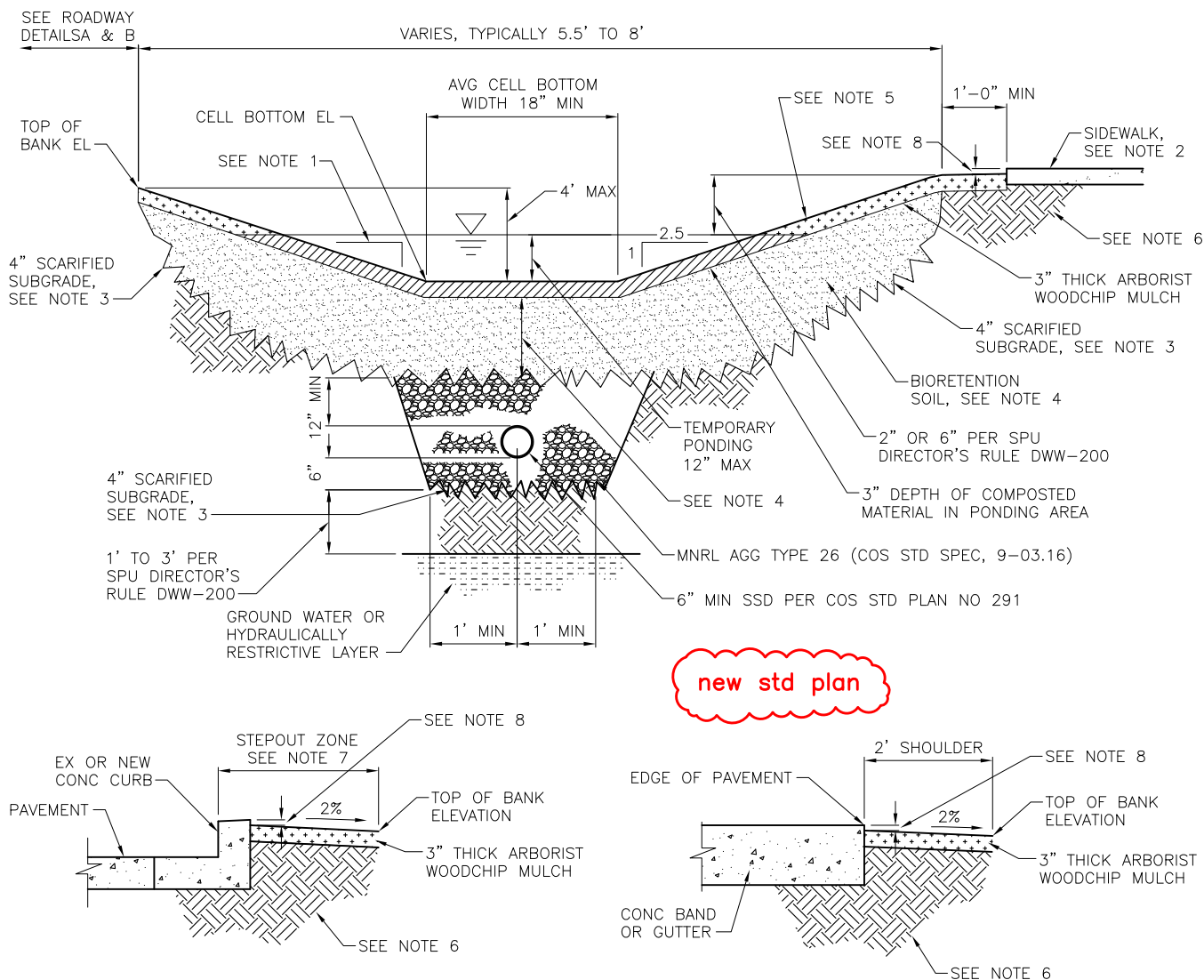
REF STD SPEC SEC 7-21



City of Seattle

NOT TO SCALE

**INFILTRATING BIORETENTION
WITH SLOPED SIDES**



DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)

DETAIL B
CURBLESS ROADWAY

NOTES:

1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50- FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. BIORETENTION OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. SCARIFY SUBGRADE 4" MIN IN THE AREA SUBJECT TO TEMPORARY PONDING BEFORE BIORETENTION SOIL INSTALLATION.
4. PROVIDE 1.5' MIN BIORETENTION SOIL FOR WATER QUALITY TREATMENT PER STORMWATER CODE REQUIREMENT.
5. CELL MUST BE PLANTED PER APPROVED LANDSCAPE PLAN.
6. SOIL AT THE EDGE MUST BE UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY.
7. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREET, MIN 4'-0" FOR MAJOR ARTERIAL STREET.
8. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF ARBORIST WOODCHIP MULCH.

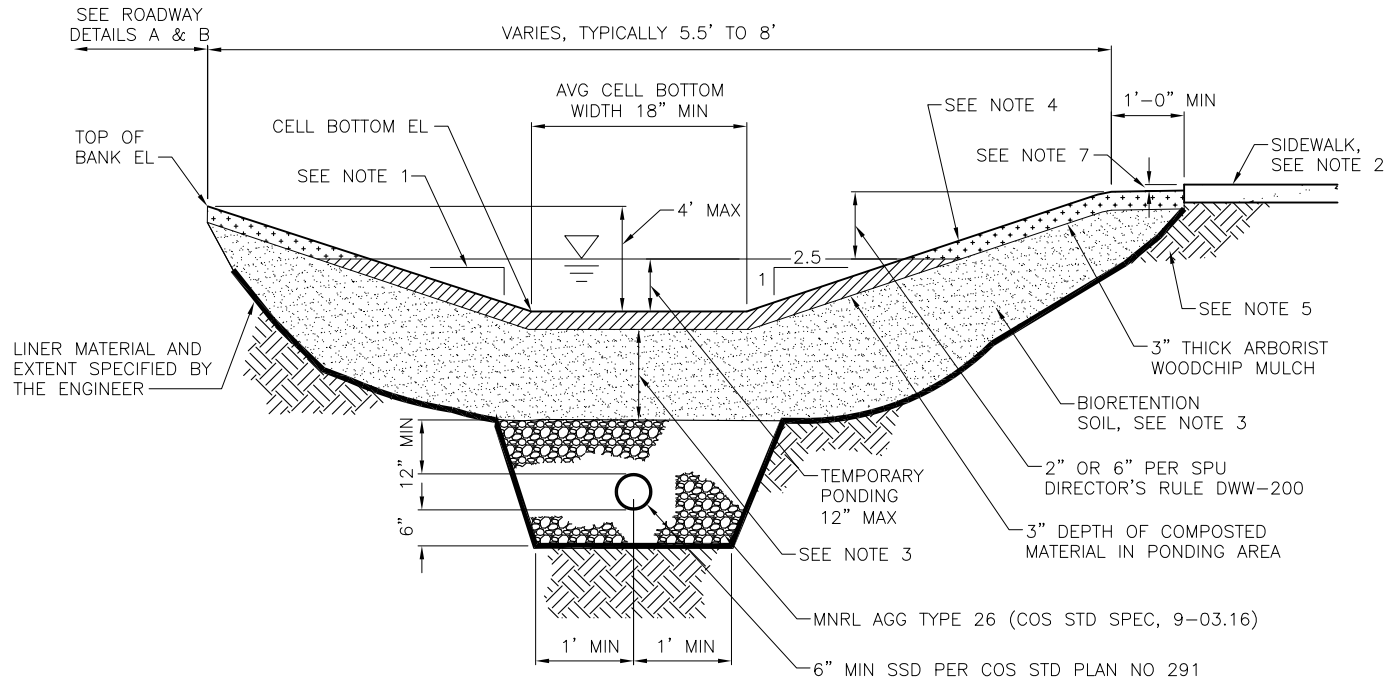
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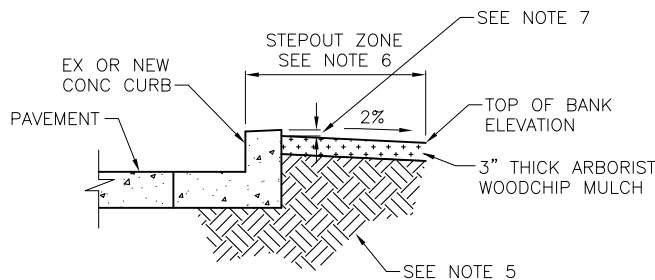
City of Seattle

NOT TO SCALE

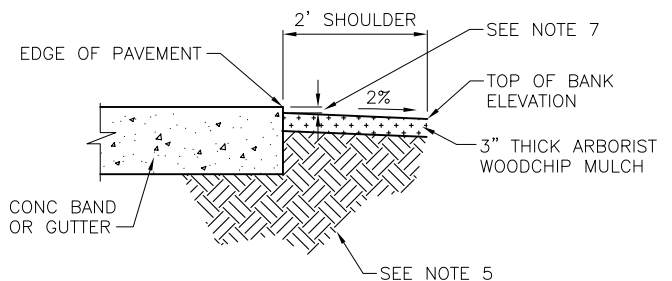
**INFILTRATING BIORETENTION
WITH SLOPED SIDES
& UNDER DRAIN**



new std plan



DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)



DETAIL B
CURBLESS ROADWAY

NOTES:

1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50- FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. BIORETENTION OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. PROVIDE 1.5' MIN BIORETENTION SOIL FOR WATER QUALITY TREATMENT PER STORMWATER CODE REQUIREMENT.
4. CELL MUST BE PLANTED PER APPROVED LANDSCAPE PLAN.
5. SOIL AT THE EDGE MUST BE UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY.
6. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREET, MIN 4'-0" FOR MAJOR ARTERIAL STREET.
7. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF ARBORIST WOODCHIP MULCH.

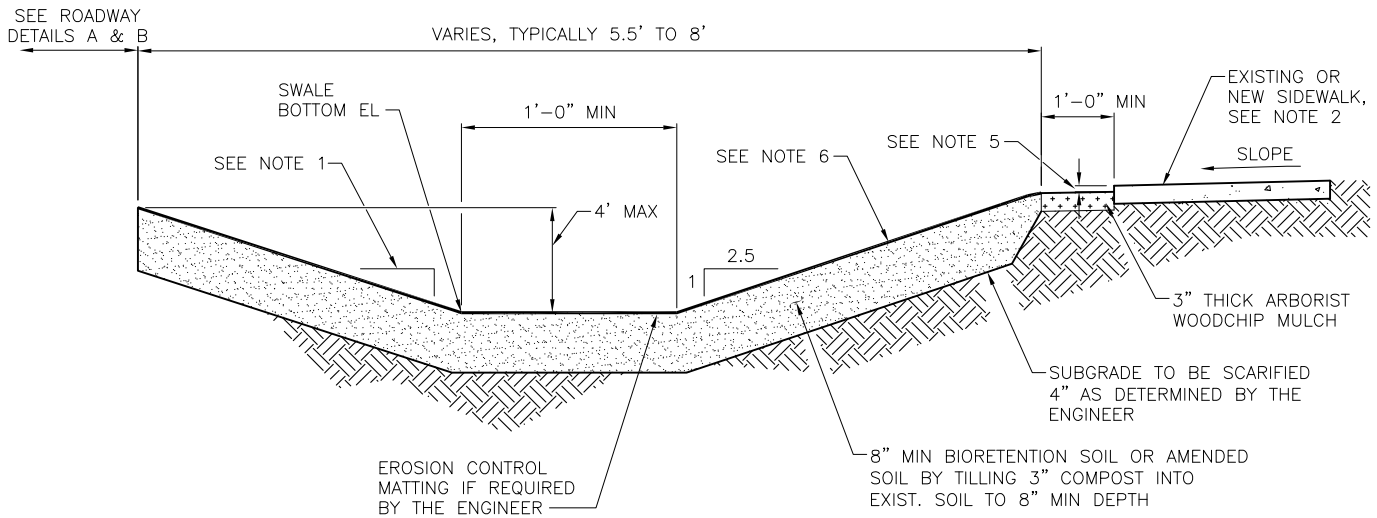
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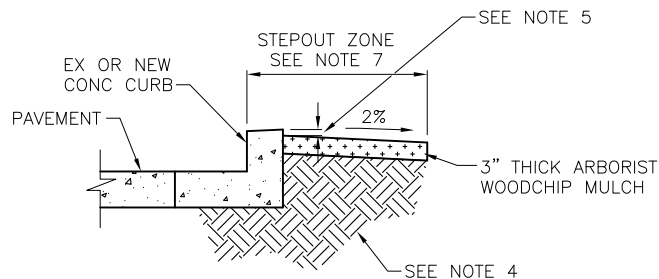
City of Seattle

NOT TO SCALE

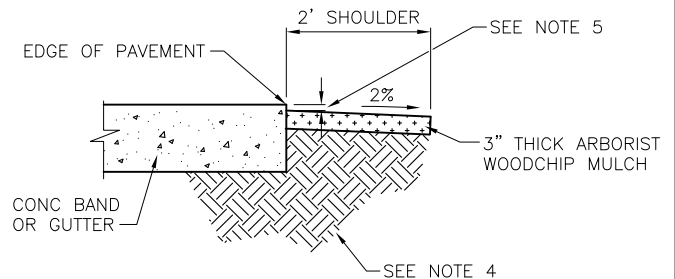
**NON-INFILTRATING BIORETENTION
WITH SLOPED SLIDES
& UNDER DRAIN**



new std plan



DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)



DETAIL B
CURBLESS ROADWAY

NOTES:

1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50'-FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. CONVEYANCE SWALE OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. LONGITUDINAL SLOPE GREATER THAN OR EQUAL TO 4%, CHECK DAM REQUIRED.
4. UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY.
5. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF TREATMENT LAYER.
6. PLANTING PER APPROVED LANDSCAPE PLAN.
7. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREETS, MIN 4'-0" FOR MAJOR ARTERIAL STREETS.

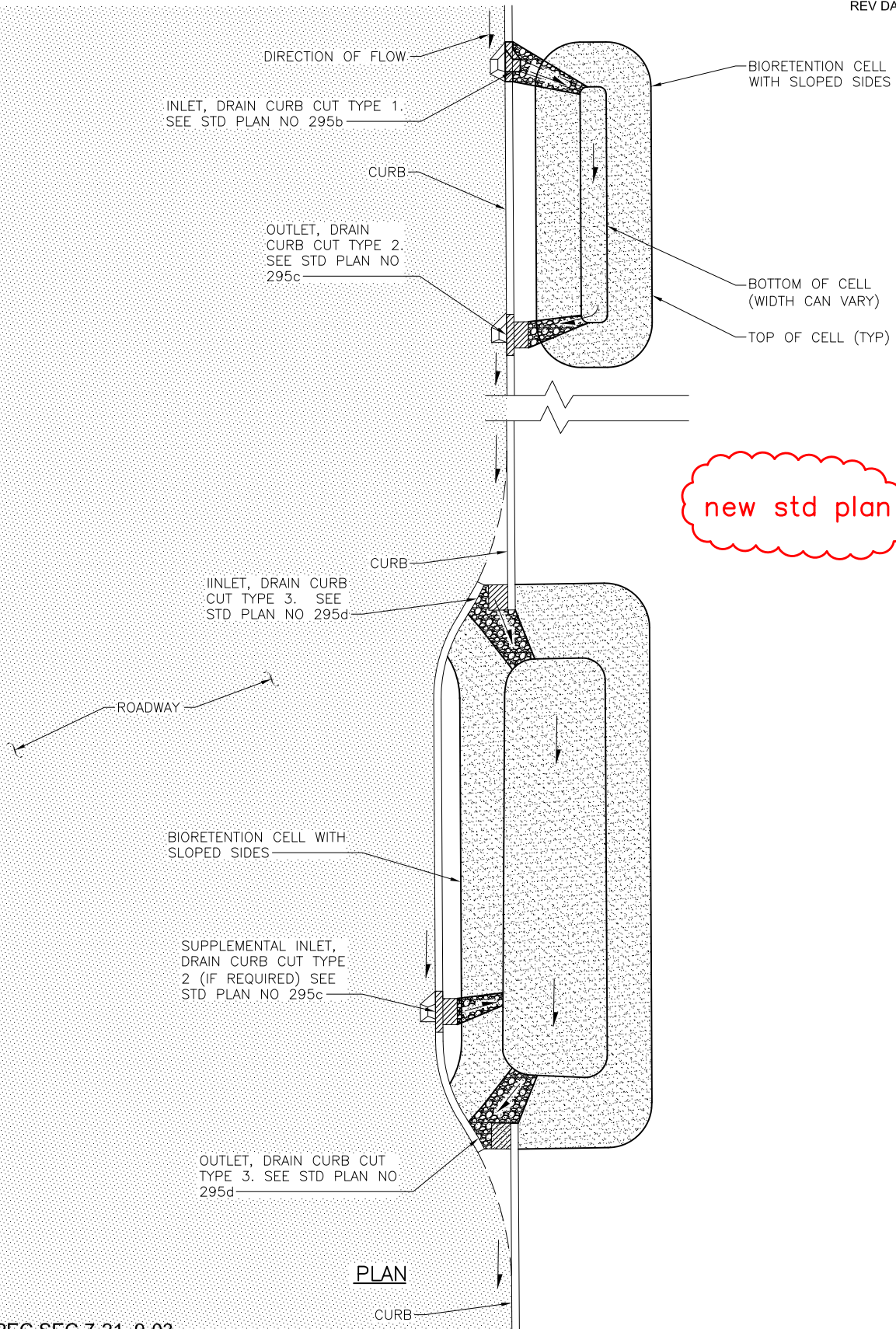
REF STD SPEC SEC 7-21



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NOT TO SCALE

VEGETATED CONVEYANCE SWALE
(NOT FOR WATER QUALITY TREATMENT)



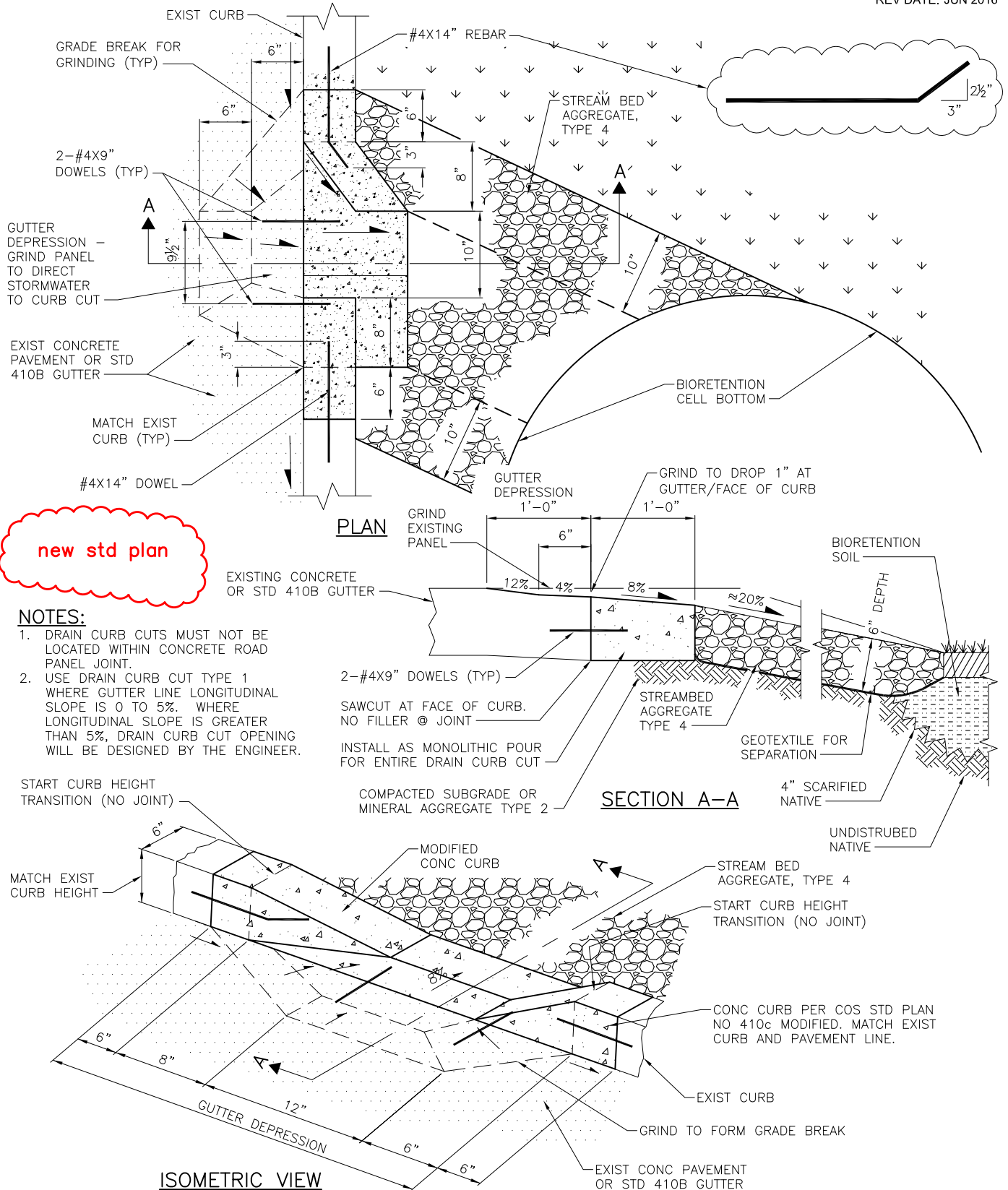
REF STD SPEC SEC 7-21, 9-03



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NOT TO SCALE

TYPICAL DRAIN CURB CUT
LOCATION FOR BIORETENTION
WITH SLOPED SIDES



REF STD SPEC SEC 7-21, 9-03

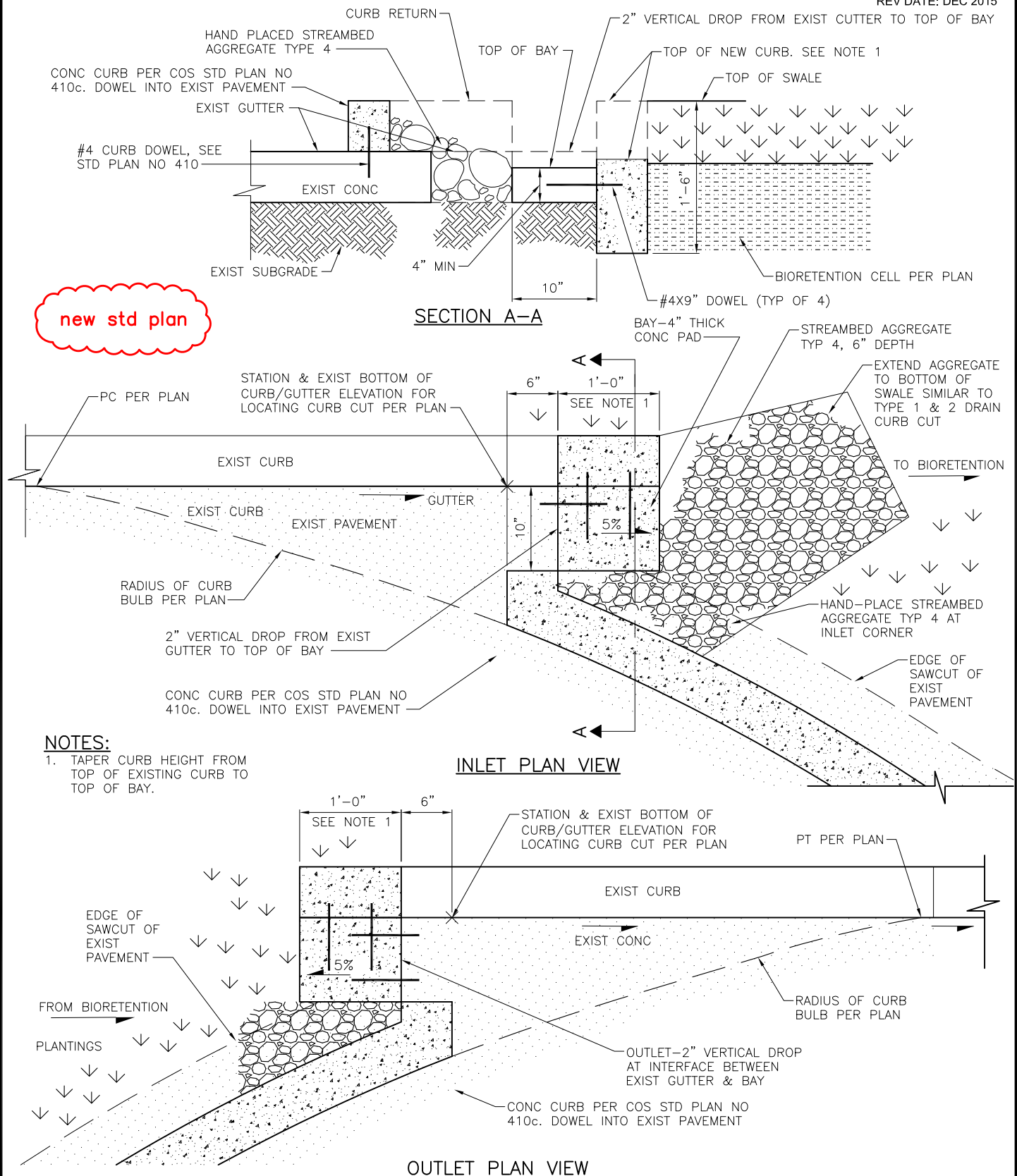


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DRAIN CURB CUT TYPE 1

REV DATE: DEC 2015



REF STD SPEC SEC 7-21, 9-03

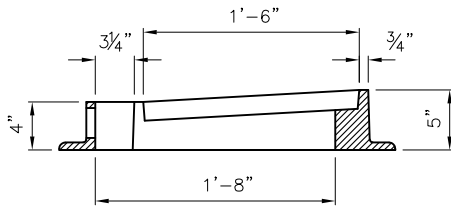


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DRAIN CURB CUT TYPE 3

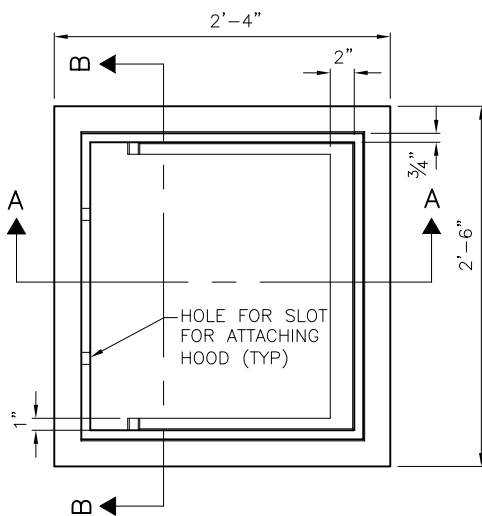
new std plan



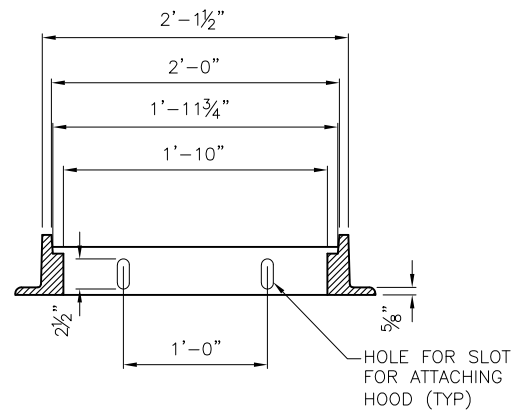
SECTION A-A

NOTES:

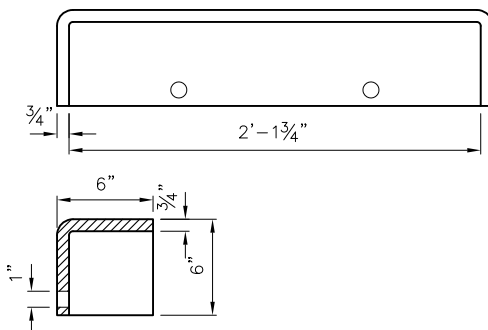
1. ATTACH THE HOOD TO THE FRAME WITH TWO $\frac{3}{4}$ " X 2" HEX HEAD BOLTS, NUTS, AND OVERSIZE WASHERS. THE WASHERS MUST HAVE DIAMETERS ADEQUATE TO ENSURE FULL BEARING ACROSS THE SLOTS.
2. ONLY DUCTILE IRON VANED GRATES MUST BE USED.



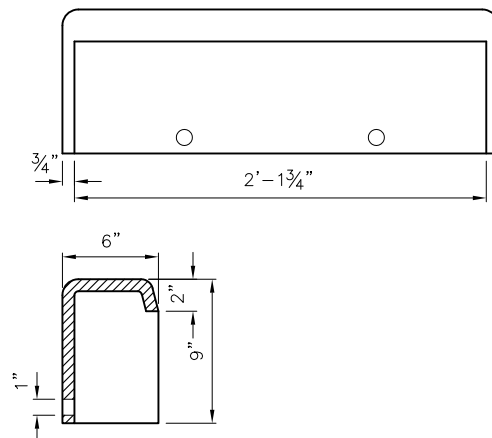
FRAME DETAIL



SECTION B-B



6" HOOD



9" HOOD

REF STD SPEC SEC 7-05



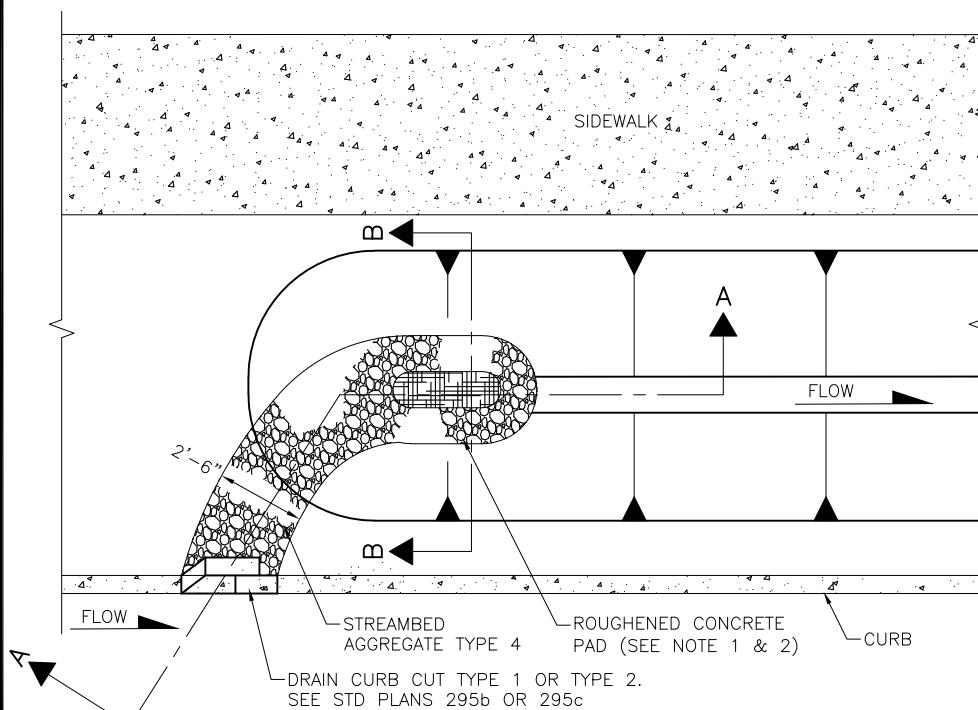
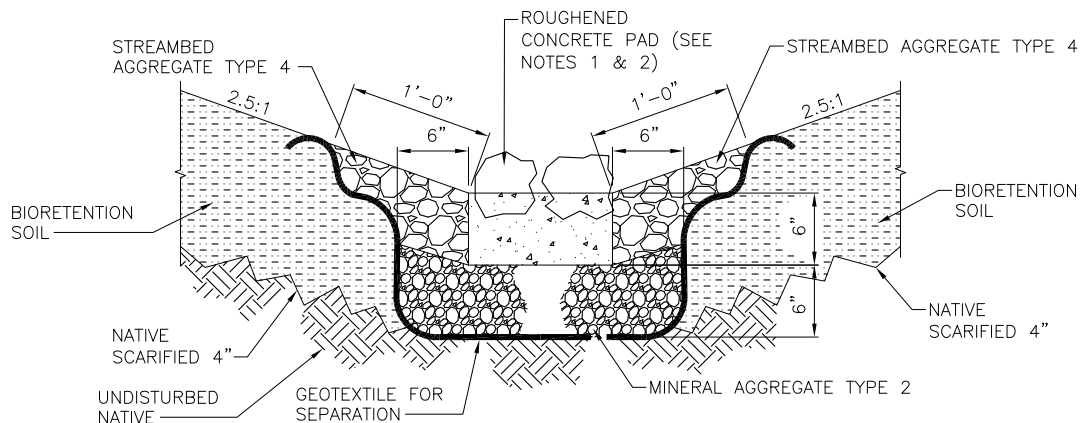
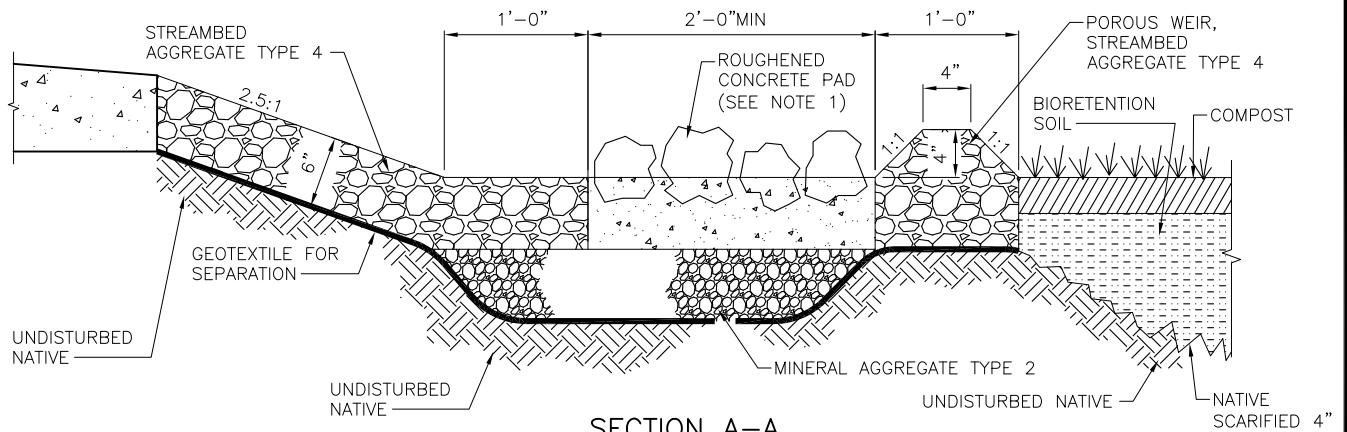
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CURB INLET FRAME

2017 Edition City of Seattle Standard Plans for Municipal Construction

REV DATE: DEC 2015



new std plan

NOTES:

1. ROUGHENED CONCRETE PAD MUST BE MIN 2' LONG & 2.5 SF OR 5.0SF PER SPU DIRECTOR'S RULE 200
2. ROUGHENED CONCRETE PAD MUST BE CONSTRUCTED WITH COMMERCIAL CONCRETE (STD SPEC 6-02) EMBED WELL MIXED 6"-8" STREAMBED AGGREGATE TO CREATE ROUGHNESS. 50% MIN OF THE SURFACE MUST HAVE PROTRUDING AGGREGATE

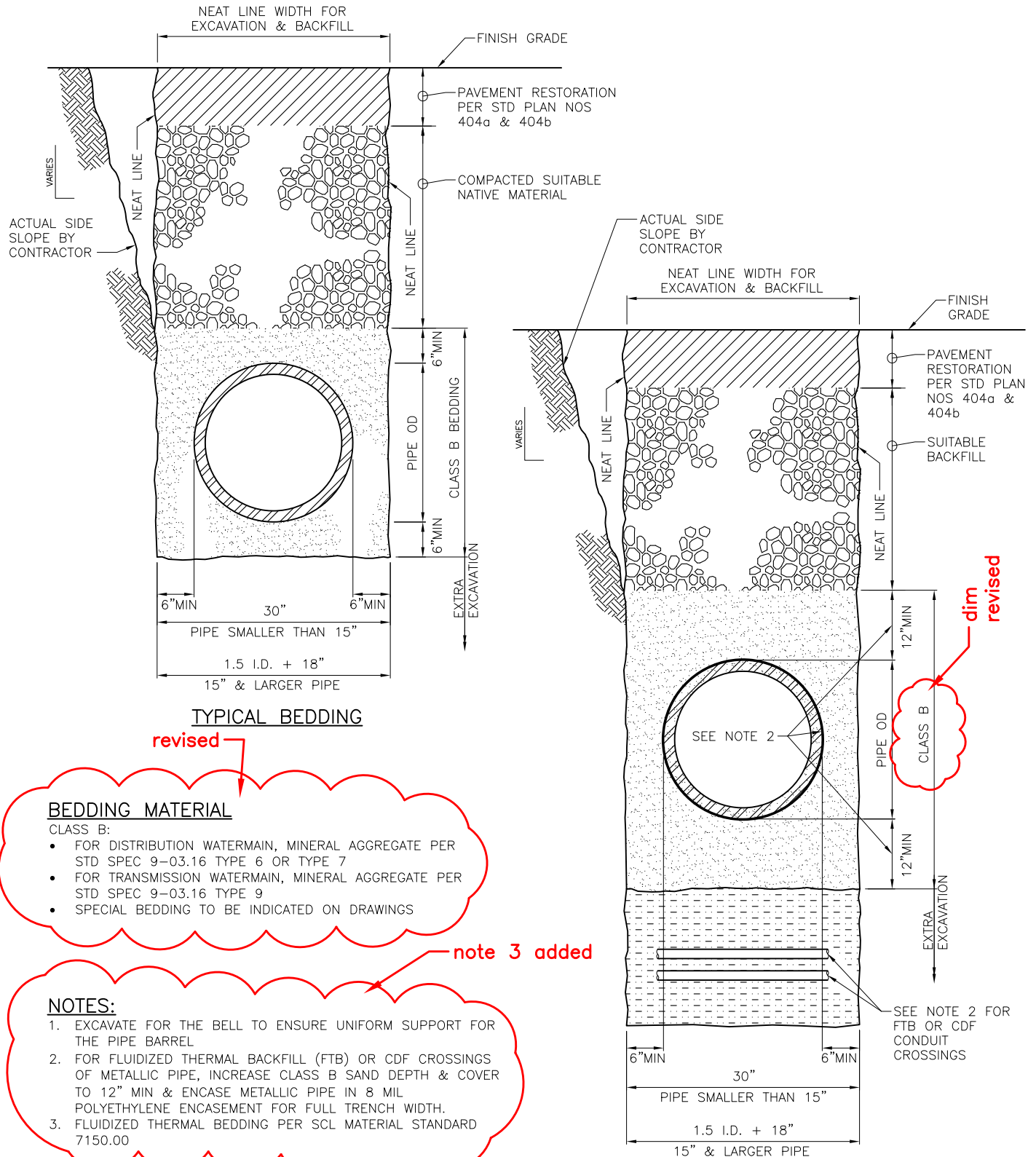
REF STD SPEC SEC 7-21, 9-03



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PRESETTLING ZONE



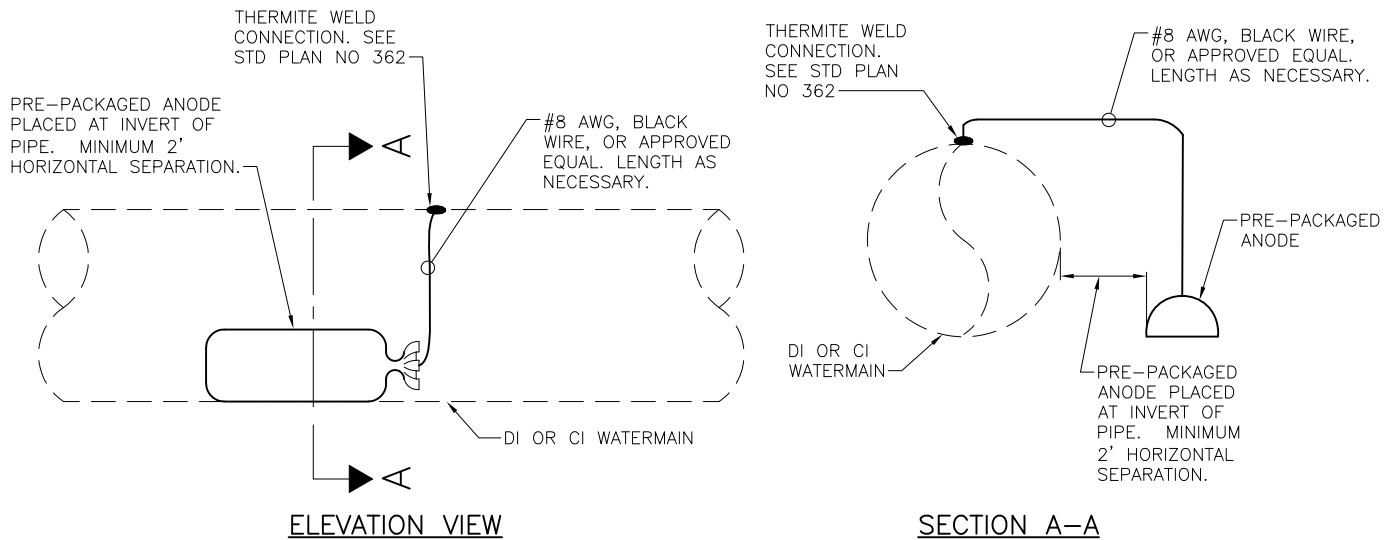
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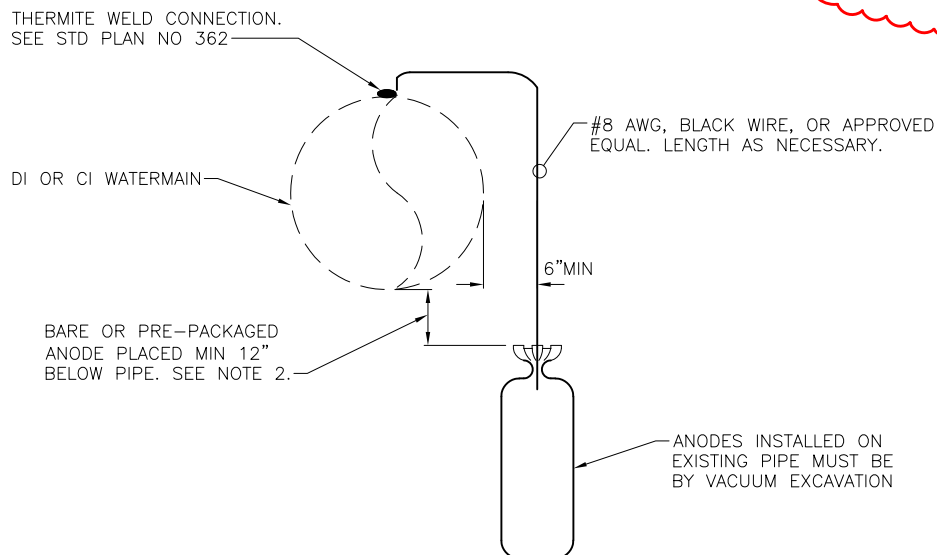
NOT TO SCALE

WATERMAIN TRENCH
AND BEDDING



**TYPICAL SINGLE
HORIZONTAL ANODE INSTALLATION**

new std plan



**TYPICAL SINGLE
VERTICAL ANODE INSTALLATION**

NOTES:

1. SPU CORROSION PROTECTION MAY SPECIFY TYPE AND REQUIRED SPACING OF ANODE(S) LONGITUDINALLY ALONG WATER MAIN TO BE SHOWN IN DESIGN DRAWINGS. MAXIMUM SPACING MUST BE 36' UNLESS OTHERWISE NOTED ON PLANS.
2. FOR VERTICAL ANODE INSTALLATION, IF ANODE IS NOT PRE-PACKAGED, BARE ANODE MUST BE INSTALLED W/MIN 6" SACRIFICIAL ANODE BACKFILL PER SPEC SECTION 9-30.(7), AROUND ALL SIDES OF ANODE.
3. ANODE SIZE MUST BE 17LB HIGH POTENTIAL MAGNESIUM ANODE, UNLESS OTHERWISE NOTED ON THE PLANS.
4. PLACE RED "CAUTION" OR "DANGER" TAPE 6" OVER ANODE WIRES. TAPE MUST BE MIN 3" WIDE.
5. BACKFILL OVER ANODE WITH SUITABLE NATIVE MATERIAL OR APPROVED EQUAL.

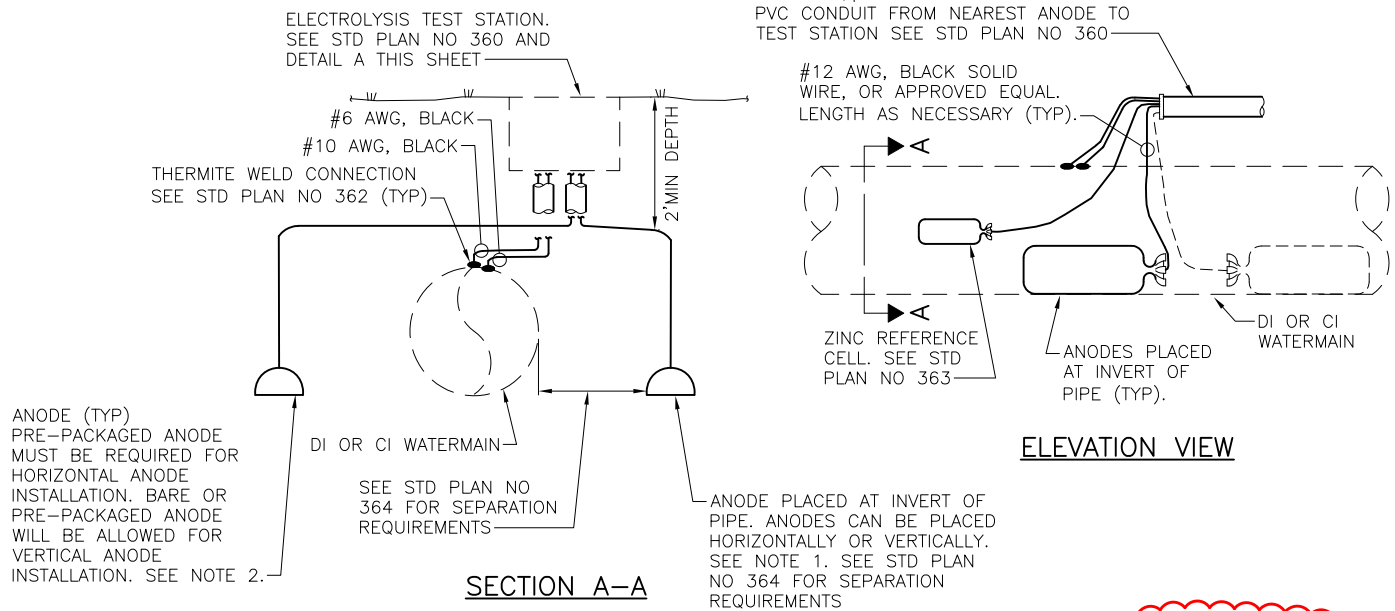
REF STD SPEC SEC 7-11, 9-30



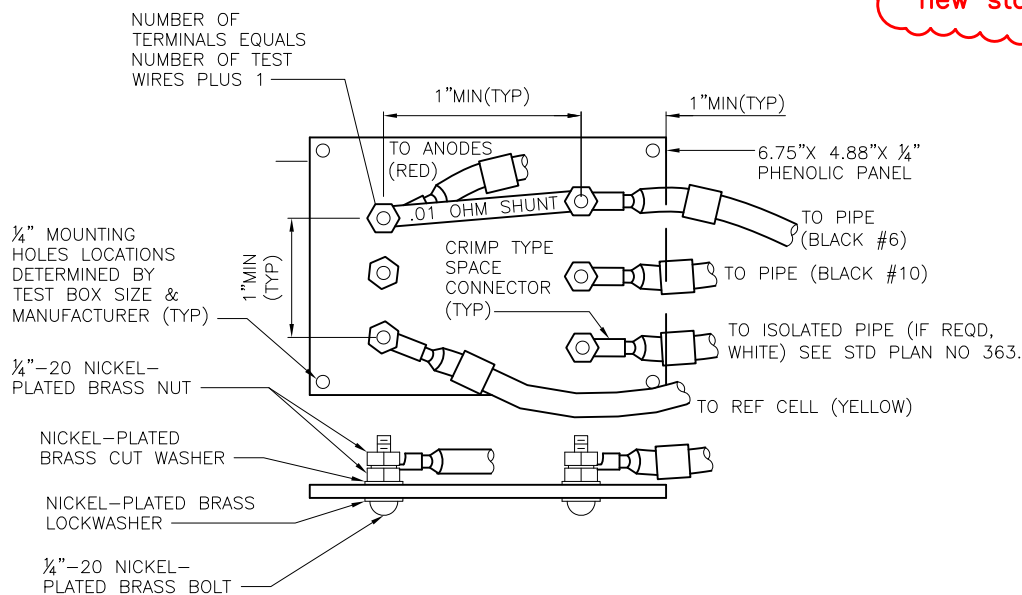
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**SACRIFICIAL ANODE
BONDED TO PIPE
INSTALLATION DETAILS**



new std plan

**TERMINAL BOARD, DETAIL A****NOTES:**

1. REQUIRED SPACING OF ANODE(S) TO BE SHOWN IN DESIGN DRAWINGS.
2. FOR VERTICAL INSTALLATION, IF ANODE IS NOT PRE-PACKAGED, BARE ANODE MUST BE INSTALLED W/ MIN 6" SACRIFICIAL ANODE BACKFILL PER SPEC SECTION 9-30.9(7), AROUND ALL SIDES OF ANODE.
3. ANODE SIZE MUST BE 17LB HIGH POTENTIAL MAGNESIUM ANODE, UNLESS OTHERWISE NOTED ON THE PLANS.
4. PLACE RED "CAUTION" OR "DANGER" TAPE 6" OVER ANODE WIRES AND CONDUIT. TAPE SHALL BE MIN 3" WIDE.
5. BACKFILL OVER ANODE WITH SUITABLE NATIVE MATERIAL OR APPROVED EQUAL.

REF STD SPEC SEC 7-11, 9-30

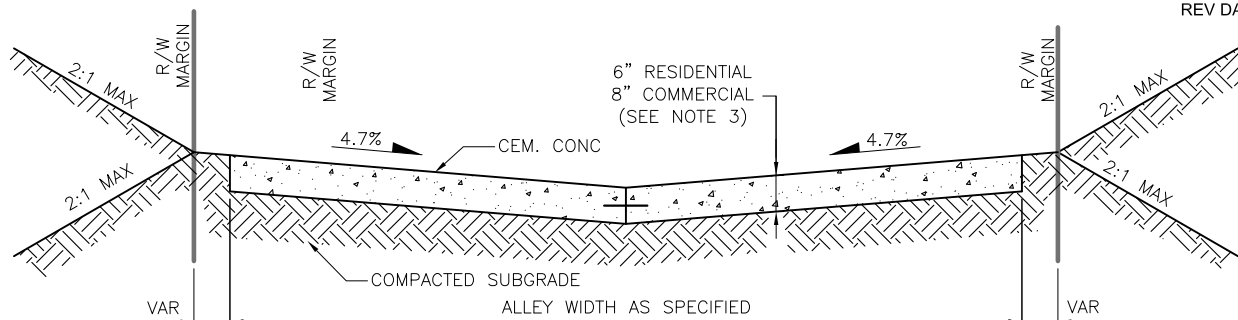
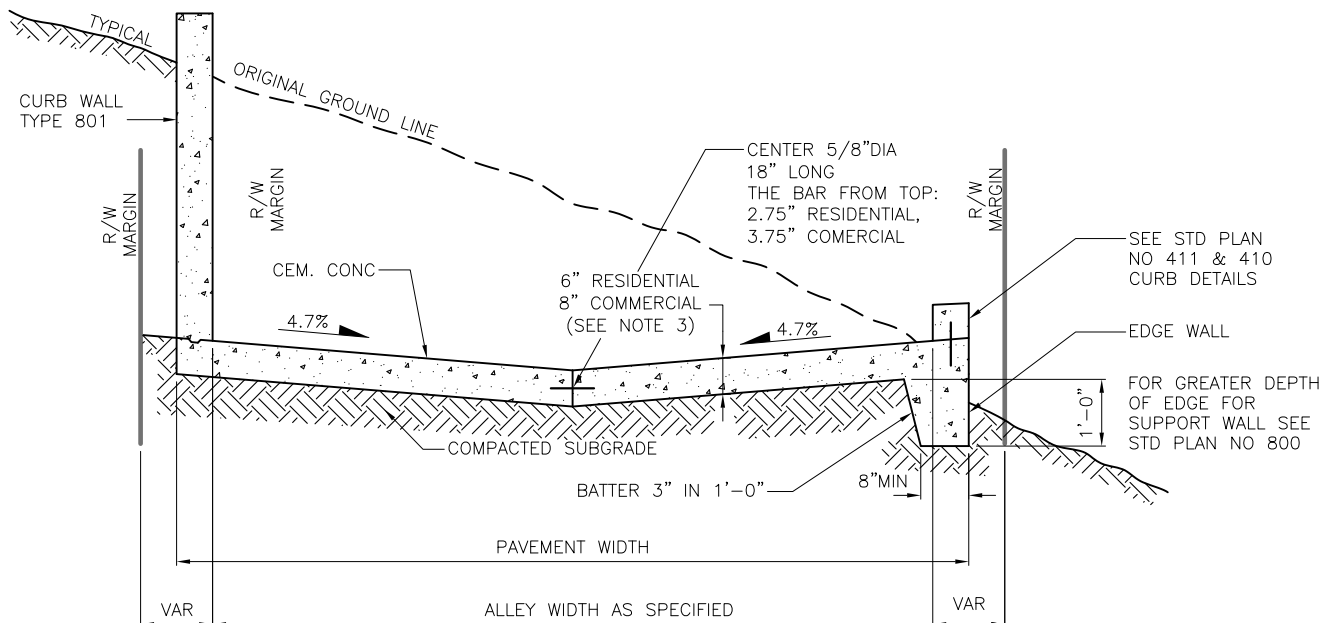
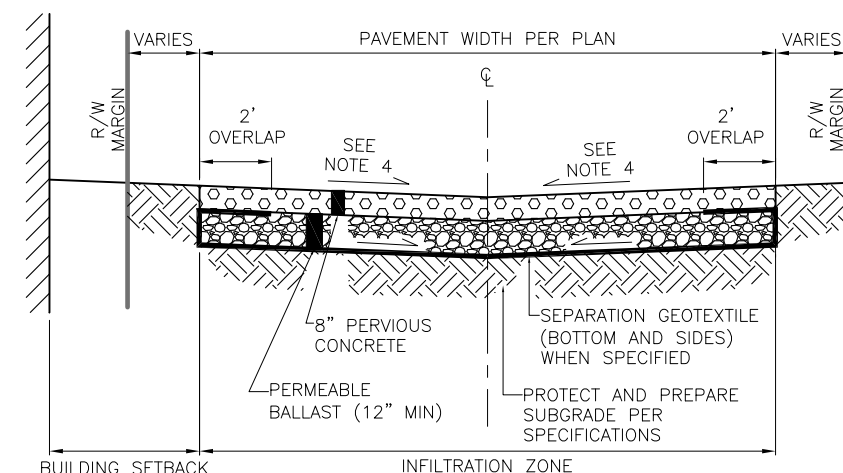


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NOT TO SCALE

**SACRIFICIAL ANODE
INSTALLATION DETAILS**

MULTIPLE ANODES CONNECTED AT TEST STATION

**CONCRETE ALLEY PAVEMENT****CEMENT CONCRETE ALLEY PAVEMENT 403B—FOR SHALLOW EMBANKMENT AREA****PERVIOUS CONCRETE PAVEMENT**

REF STD SPEC SEC 5-06, 8-17, 8-19

NOTES:

1. WHEN ALLEY PAVEMENT IS 16'-0" OR WIDER PLACE CONSTRUCTION JOINT WITH TIE BAR PER STD PLAN NO 405 ALONG CENTERLINE OF ALLEY.
2. FOR ADA ACCESSIBLE ACCESS TO ENTRY IN ALLEY CONSIDER ALTERNATIVE DESIGN; SUBJECT TO APPROVAL BY THE ENGINEER.
3. 8" OR AS SHOWN IN CONTRACT OR APPROVAL BY THE ENGINEER.
4. MIN CROSS SLOPE IS 1%. MAX CROSS SLOPE IS 2%.
5. PERMEABLE BALLAST MUST BE MINERAL AGGREGATE TYPE 13, COS STD SPEC 9.03-13, UNLESS DETERMINED OTHERWISE BY ENGINEER.
6. FOR PERVIOUS CONCRETE ALLEYS, CONTRACTION JOINTS MUST NOT EXCEED 12 FT. FOR PAVEMENT THICKNESS OF 9 IN. OR LESS. FOR THICKER PAVEMENT, CONTRACTION JOINTS MAY BE 15 FT.



City of Seattle

"5-06" added

NOT TO SCALE

**ROADWAY CEMENT CONCRETE
ALLEY PAVEMENTS**

HALF SECTION

RIGID PAVEMENT WITH
ASPHALT CONCRETE SURFACE

REMOVE ASPHALT
OVERLAY

SAWCUT ASPHALT
CONC (REMOVE
LOOSENEED AREAS)

EXISTING ASPHALT
CONCRETE PAVEMENT

TACK COAT

EXISTING RIGID BASE

SAWCUT CONCRETE
FULL DEPTH

STEP EXCAVATION TO
AVOID UNDERMINING EX
PAVEMENT (TYP)

MIN WIDTH FOR RESTORATION**

HMA (CL ½")**

CEM. CONC MUST
BE THICKNESS GREATER
OF "D" OR 9 INCHES

12"

D**

HALF SECTION

CEMENT CONCRETE
PAVEMENT

SAWCUT CONCRETE
FULL DEPTH

EXISTING CONCRETE
PAVEMENT

D

6" MIN

STEP EXCAVATION TO AVOID
UNDERMINING EX PAVEMENT
(TYP)

COMPACT MINERAL
AGGREGATE TYPE 2

TRENCH WIDTH

COMPACT BACKFILL

TYPICAL PATCH FOR RIGID PAVEMENT

HALF SECTION

FLEXIBLE PAVEMENT
(≤ 3" TYP)

PLANE ASPHALT
PRIOR TO PLACING
FINAL LIFT

EXISTING OIL MAT

TACK COAT

EXISTING EARTH
OR GRANULAR
BASE

COMPACT MINERAL
AGGREGATE TYPE 2

STEP EXCAVATION TO
AVOID UNDERMINING EX
PAVEMENT (TYP)

COMPACT BACKFILL

MIN WIDTH FOR RESTORATION**

HMA (CL ½")**

12"

3"

6" MIN

6" MIN

TRENCH WIDTH

PLANE ASPHALT
PRIOR TO PLACING
FINAL LIFT

SAWCUT ASPHALT
CONC

EXISTING ASPHALT
CONCRETE SURFACE

TACK COAT

EXISTING FLEXIBLE
BASE

HMA (CL ½" OR 1")**

STEP EXCAVATION TO
AVOID UNDERMINING EX
PAVEMENT (TYP)

COMPACT MINERAL
AGGREGATE TYPE 2

COMPACT BACKFILL

12"

2"

D**

note revised

TYPICAL PATCH FOR FLEXIBLE PAVEMENT

- ** DEPTH OF RESTORATION MUST MEET THE REQUIREMENTS OF "RIGHT-OF-WAY OPENING AND RESTORATION RULES".
- WIDTH OF RESTORATION MUST MEET REQUIREMENTS OF STANDARD PLAN 404C.

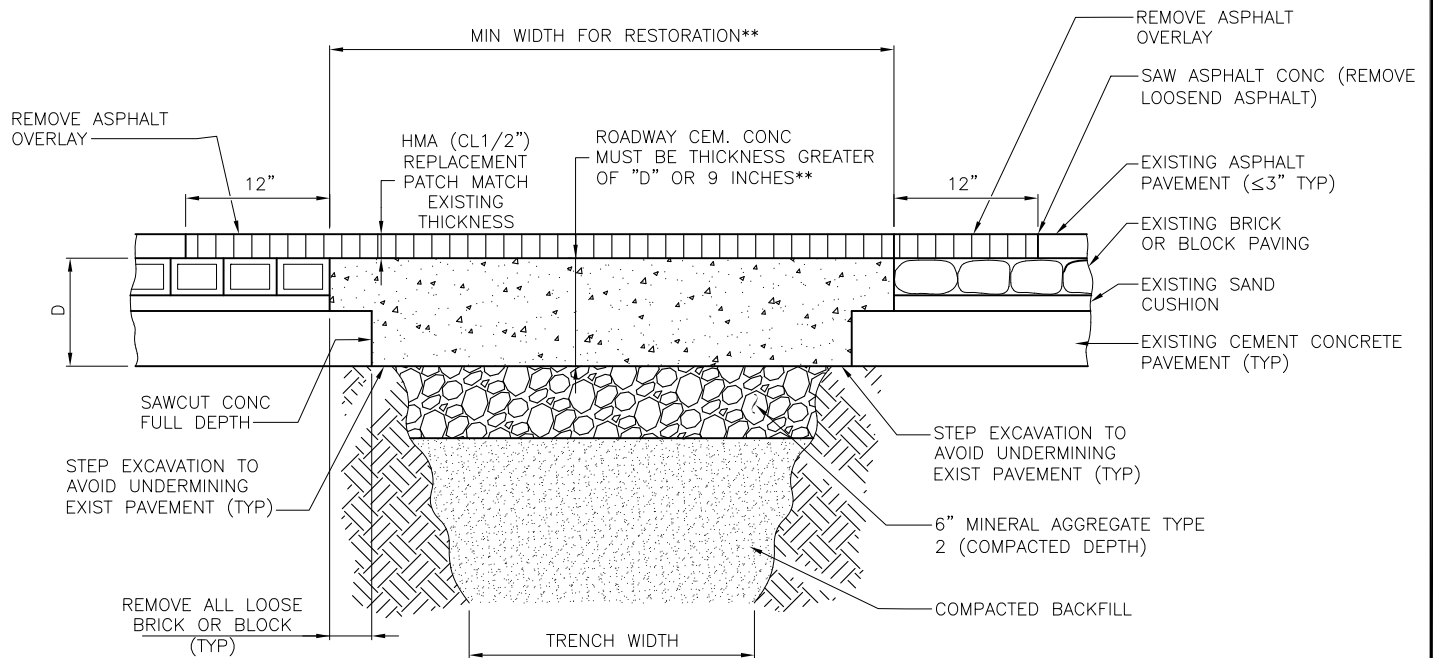
REF STD SPEC SEC 2-02, 5-04 & 5-05



City of Seattle

NOT TO SCALE

PAVEMENT PATCHING



ASPHALT OVER RIGID BASE OF BRICK OR STONE BLOCK PAVEMENT

HALF SECTION

- ** WIDTH OF RESTORATION MUST MEET REQUIREMENTS OF STANDARD PLAN 404a
- DEPTH OF RESTORATION MUST MEET THE REQUIREMENTS OF "RIGHT-OF-WAY OPENING AND RESTORATION RULES".

note revised

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



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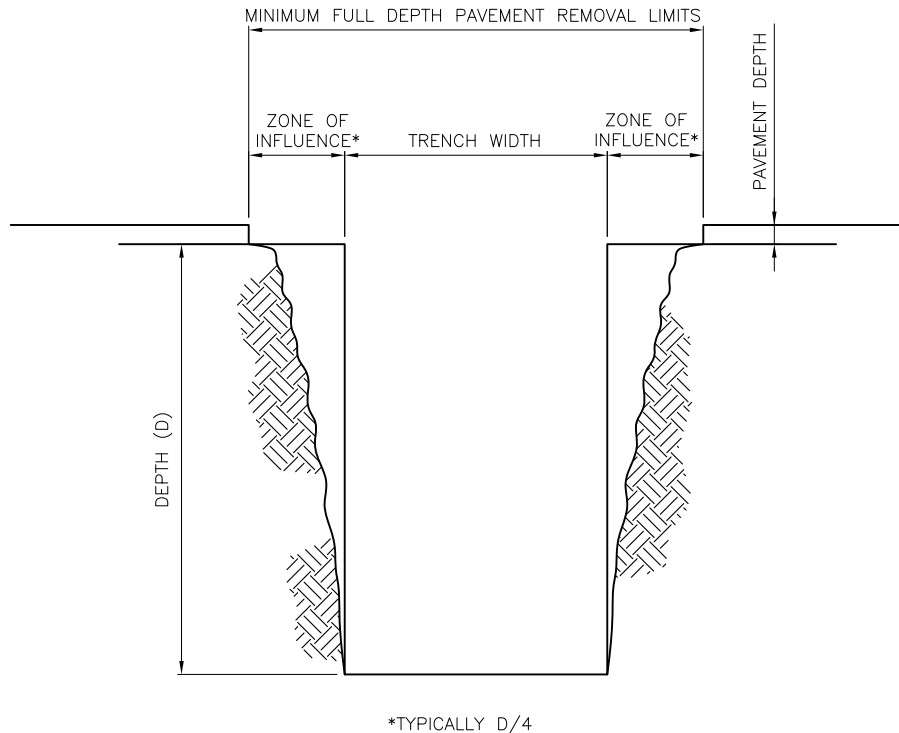
NOT TO SCALE

PAVEMENT PATCHING

NOTES:

1. DUE TO POTENTIAL LOSS OF SOIL STRENGTH IN AREAS ADJACENT TO TRENCH OPENINGS, PAVEMENT REMOVAL MUST BE WIDENED TO INCLUDE THE ZONE OF INFLUENCE.
2. SEE "RIGHT-OF-WAY OPENING AND RESTORATION RULES" FOR MORE INFORMATION ON PAVEMENT OPENINGS ZONE OF INFLUENCE.
[HTTP://WWW.SEATTLE.GOV/TRANSPORTATION/STUSE_PAVEMENTOPEN.HTM](http://www.seattle.gov/transportation/stuse_pavementopen.htm)

note revised



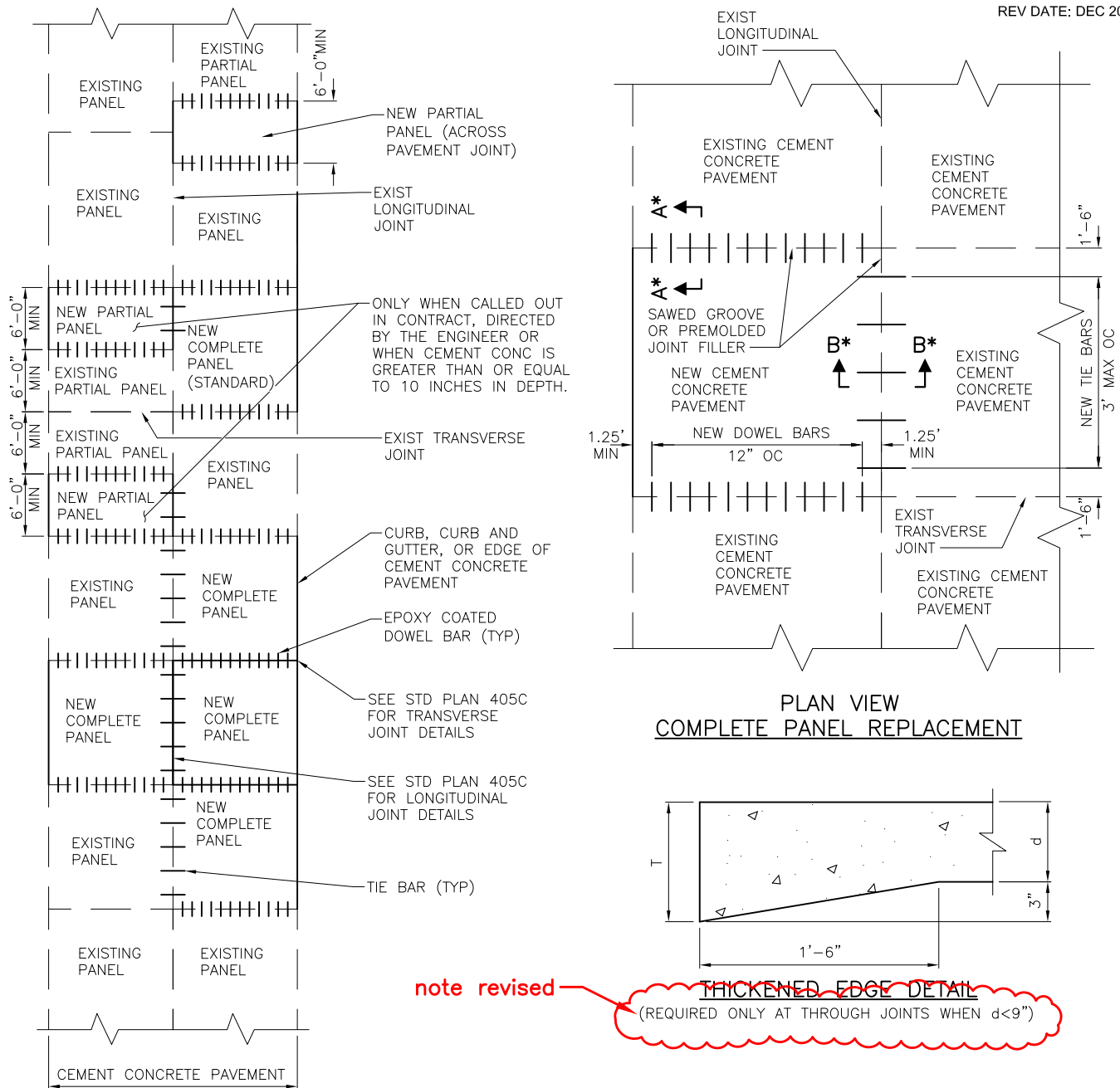
REF STD SPEC SEC 2-02, 2-04



City of Seattle

NOT TO SCALE

PAVEMENT OPENING
ZONE OF INFLUENCE

**NOTES**

1. INSTALL TIE BARS ALONG LONGITUDINAL JOINT BETWEEN FULL PANEL REPLACEMENT AND EXIST CEMENT CONC PAVEMENT. TIE BARS ARE NOT INSTALLED BETWEEN CEMENT CONC PAVEMENT AND HOT MIX ASPHALT SHOULDERS.
2. TIE BARS AND DOWELS ARE NOT REQUIRED:
 - 2.1. WHEN INDICATED ON THE DRAWINGS BY "NO TIE BARS" OR "NO DOWEL BARS".
 - 2.2. WHEN EXISTING PAVEMENT IS LESS THAN A THICKNESS OF 8" OR WHEN THE ENGINEER DETERMINES THE EXISTING CONC NOT TO BE COMPETENT.
3. DO NOT PLACE LONGITUDINAL JOINTS OR SKEWED JOINTS WITHIN BIKE LANES.
4. WHEN PAVING ADJACENT TO EXISTING PANELS, THE NEW TRANSVERSE JOINTS MUST BE PLACED TO MATCH JOINT LOCATIONS OF THE EXISTING ADJACENT PAVEMENT UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SEE STD PLAN NO 405C FOR MAXIMUM TRANSVERSE JOINT SPACING.

A* SEE SECTION A-A STANDARD PLAN 405b
B* SEE SECTION B-B STANDARD PLAN 405b

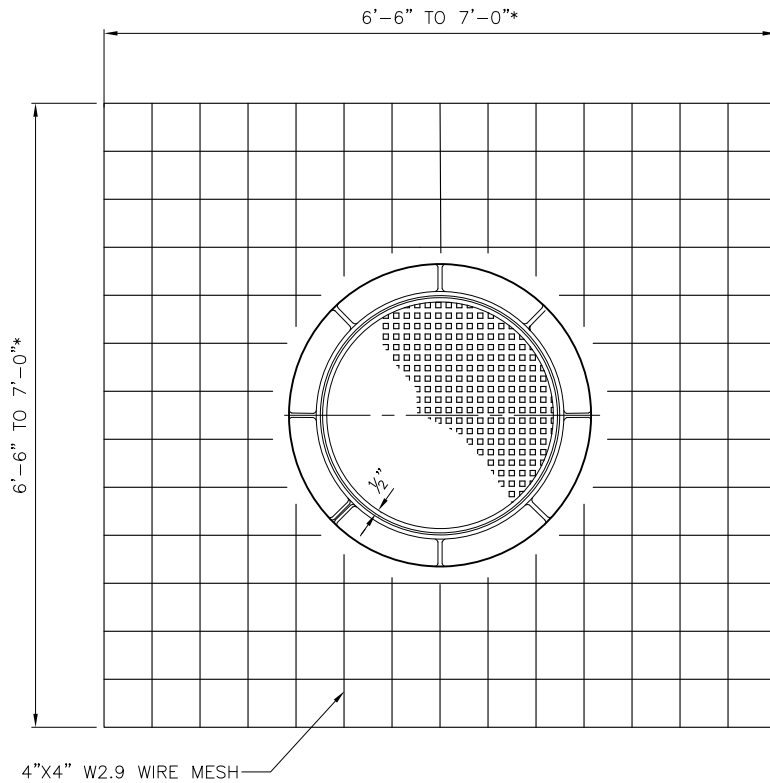
REF STD SPEC SEC 5-05



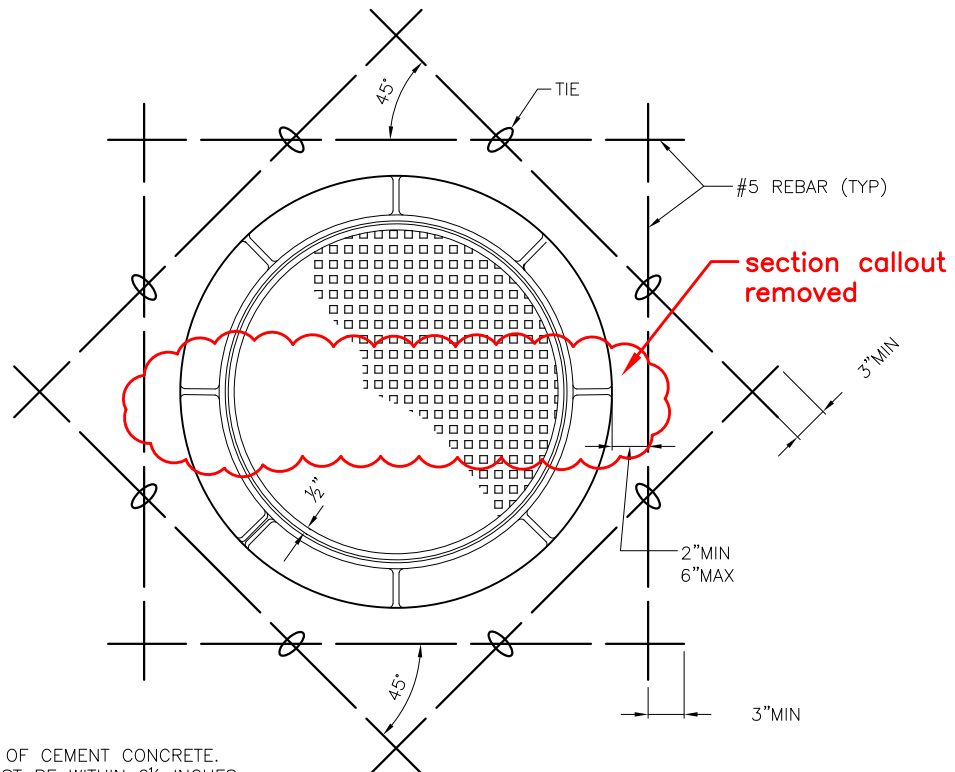
City of Seattle

NOT TO SCALE

ROADWAY CONCRETE
PAVEMENT REPAIR

**NOTES:**

1. PLACE WIRE MESH AT $\frac{1}{2}$ DEPTH OF CEMENT CONCRETE.
2. *THE DIMENSIONS OF THE MESH MUST BE ADJUSTED WHERE PAVEMENT JOINTS ARE ENCOUNTERED.
3. NO REINFORCING STEEL MUST BE WITHIN $2\frac{1}{2}$ INCHES OF ANY CEMENT CONCRETE SURFACE OR JOINT.

**NOTES:**

1. PLACE REBAR AT $\frac{1}{2}$ DEPTH OF CEMENT CONCRETE.
2. NO REINFORCING STEEL MUST BE WITHIN $2\frac{1}{2}$ INCHES (3 INCHES DESIRED) OF ANY CEMENT CONCRETE SURFACE OR JOINT.

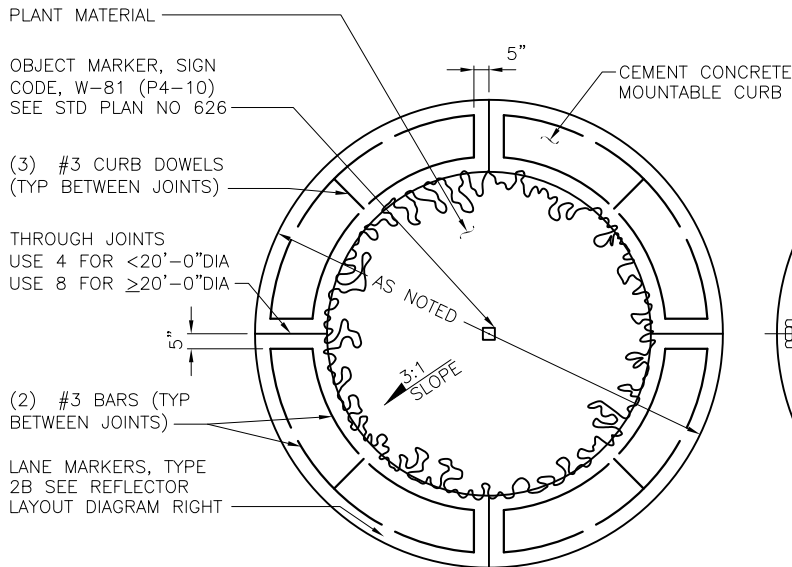
REF STD SPEC SEC 5-05



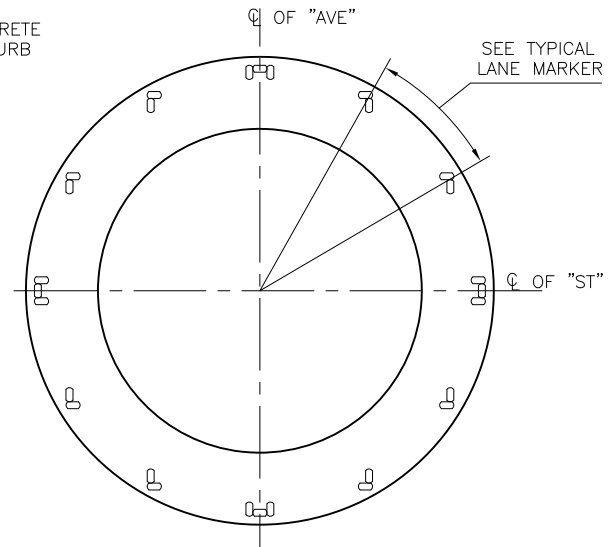
City of Seattle

NOT TO SCALE

**FRAME & COVER CEMENT
CONCRETE REINFORCEMENT
DETAIL**



TYPICAL TRAFFIC CIRCLE



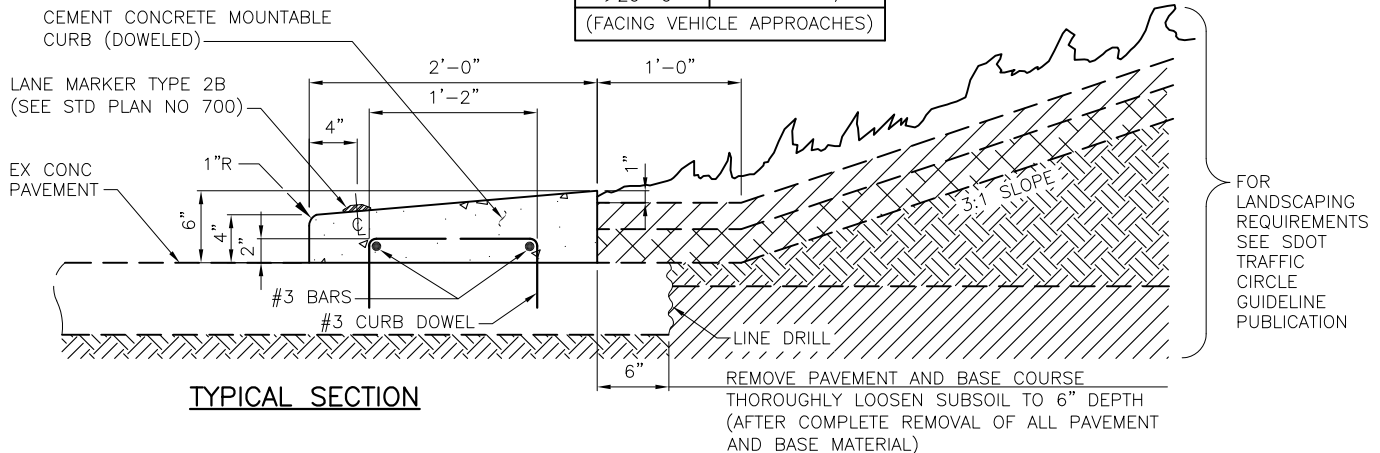
TRAFFIC CIRCLE REFLECTOR LAYOUT

this SP was removed for the 2011 & 2014 editions and is now being reinstated.

SPACING CHART

DIAMETER OF CIRCLE	DEGREE OF SPACING
≤12'-0"	EVERY 45°
≤20'-0"	EVERY 30°
>20'-0"	EVERY 22 1/2°

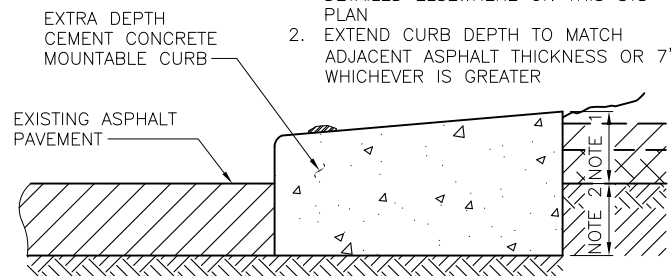
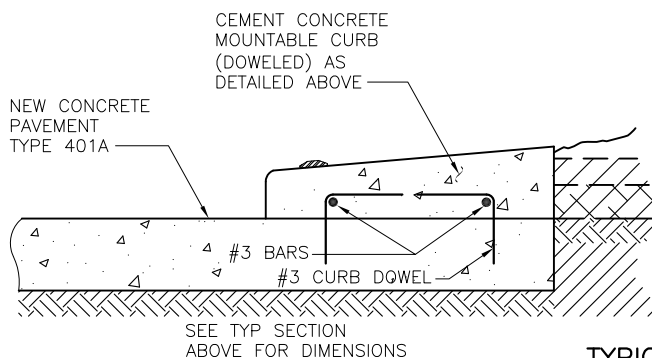
(FACING VEHICLE APPROACHES)



TYPICAL SECTION

NOTES:

1. DIMENSIONS ABOVE PAVEMENT EXTENSION TO MATCH SECTION DETAILED ELSEWHERE ON THIS STD PLAN
2. EXTEND CURB DEPTH TO MATCH ADJACENT ASPHALT THICKNESS OR 7" WHICHEVER IS GREATER



TYPICAL SECTIONS

REF STD SPEC SEC 8-02, 8-04, 8-08



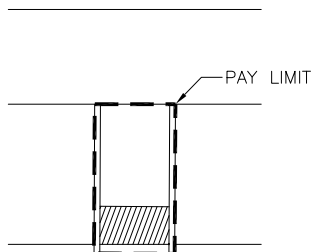
City of Seattle

NOT TO SCALE

TRAFFIC CIRCLE DETAILS

Technical drawing of a ramp cross-section showing various slopes and dimensions. The drawing includes the following labels and dimensions:

- UPPER LANDING** SEE NOTE 2
- THROUGH JOINT**
- RAMP** SEE NOTE 1
- WING (TYP)** SEE NOTE 3
- THROUGH JOINT (TYP)**
- DETECTABLE WARNING PER**
- 2% MAX** (slope of the ramp)
- 5% MAX** (slope of the wing)
- 10% MAX SLOPE** (slopes of the approach and departure)
- 4'-0" MIN** (width of the ramp and wing)
- 15.0' MAX** (total width of the approach and departure)
- CLEAR SPACE**
- A** and **B** (dimension lines)

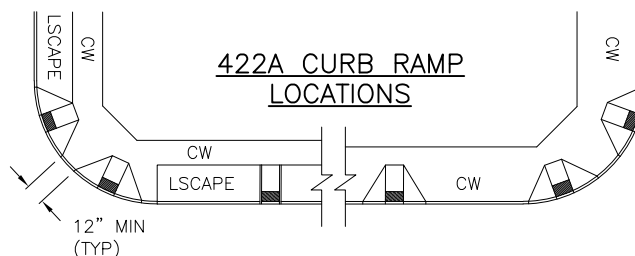


Technical drawing of a ramp cross-section. The drawing includes the following labels and dimensions:

- UPPER LANDING** (SEE NOTE 2)
- THROUGH JOINT**
- 4'-0" MIN** (vertical dimension for upper landing)
- A** (section line marker)
- SIDEWALK**
- 8.3% MAX SLOPE** (vertical dimension for sidewalk)
- 15.0" MAX** (vertical dimension for sidewalk)
- SIDE CURB** (STD PLAN 422K)
- DETECTABLE WARNING** (STD PLAN 422K)
- 2% MAX** (slope for ramp)
- RAMP** (SEE NOTE 1)
- LANDSCAPE (TYP)**
- 3" RADIUS (TYP)**
- 4'-0" MIN** (vertical dimension for lower landing)
- 5% MAX** (slope for lower landing)
- CLEAR SPACE**
- 4'-0" MIN** (horizontal dimension for clear space)

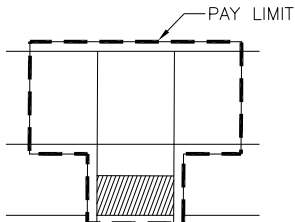
(TYPE 422A)

2% MAX
 = MAX SLOPE IN
 EITHER DIRECTION

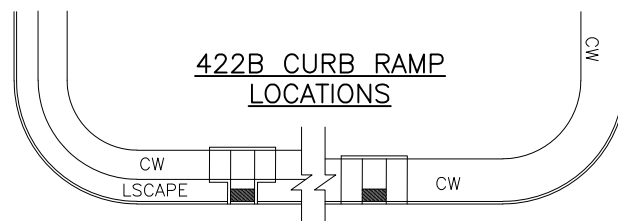


CURB RAMP DETAILS

1. RAMP CENTERLINE(S) SHALL BE PARALLEL TO THE ALIGNMENT OF THE FACE OF CURB. THE WIDTH OF THE RAMP SHALL BE 5'-0" MINIMUM BUT 6'-0" IS PREFERRED.
2. SHARED LOWER CURB RAMP LANDING SHALL HAVE A MINIMUM WIDTH OF 5'-0". SLOPE OF THE LANDING SHALL BE BETWEEN 0.5% AND 2% IN ANY DIRECTION.
3. RAMP SURFACE SHALL HAVE A HEAVY BROOM BRUSHED SURFACE RADIAL/PERPENDICULAR TO THE CURB.
4. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.



PAY LIMITS

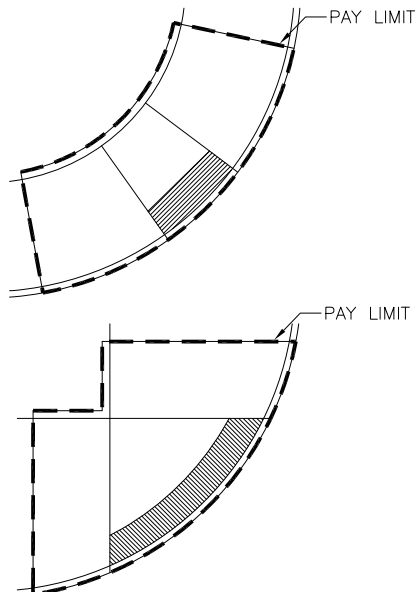


CURB RAMP DETAILS

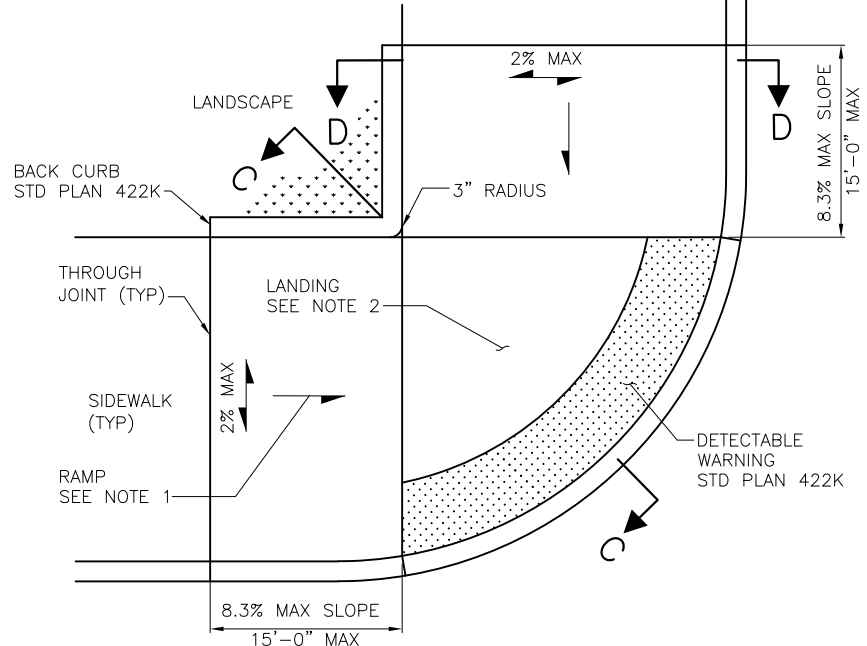
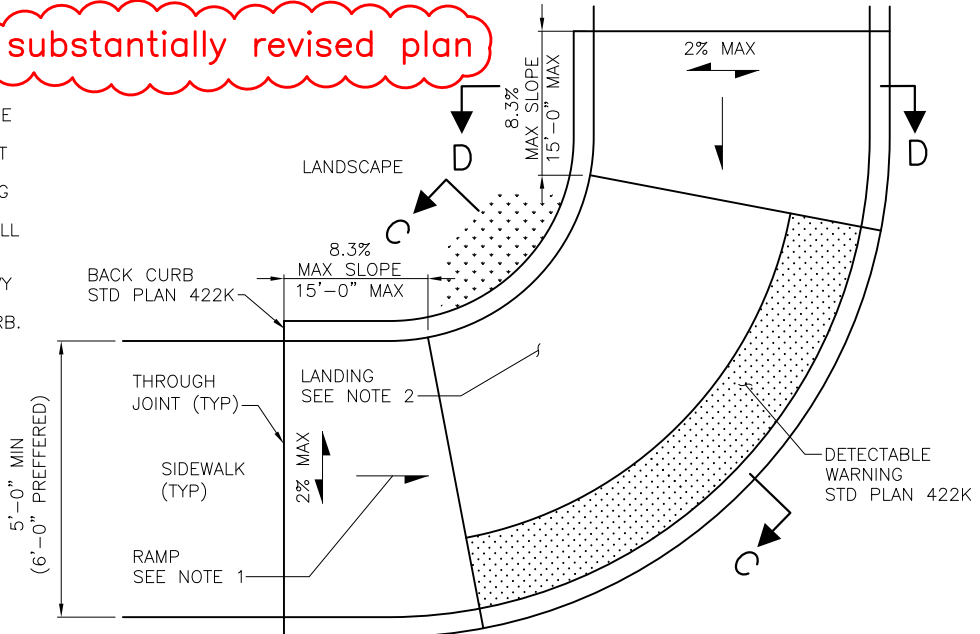
NOTES:

1. RAMP CENTERLINE(S) SHALL BE PARALLEL TO THE ALIGNMENT OF THE FACE OF CURB. THE WIDTH OF THE RAMP SHALL BE 5'-0" MINIMUM BUT 6'-0" IS PREFERRED.
2. SHARED LOWER CURB RAMP LANDING SHALL HAVE A MINIMUM WIDTH OF 5'-0". SLOPE OF THE LANDING SHALL BE BETWEEN 0.5% AND 2% IN ANY DIRECTION.
3. RAMP SURFACE SHALL HAVE A HEAVY BROOM BRUSHED SURFACE RADIAL/PERPENDICULAR TO THE CURB. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.
- 4.

substantially revised plan

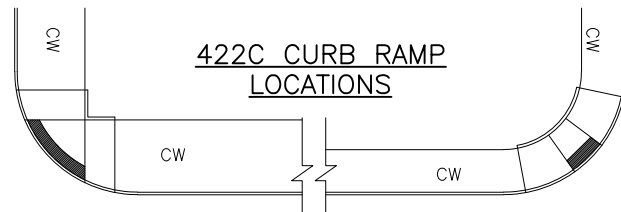


PAY LIMITS



PARALLEL CURB RAMPS (CORNER)
(TYPE 422C)

2% MAX
= MAX SLOPE IN EITHER DIRECTION



422C CURB RAMP LOCATIONS

REF STD SPEC SEC 8-14



City of Seattle

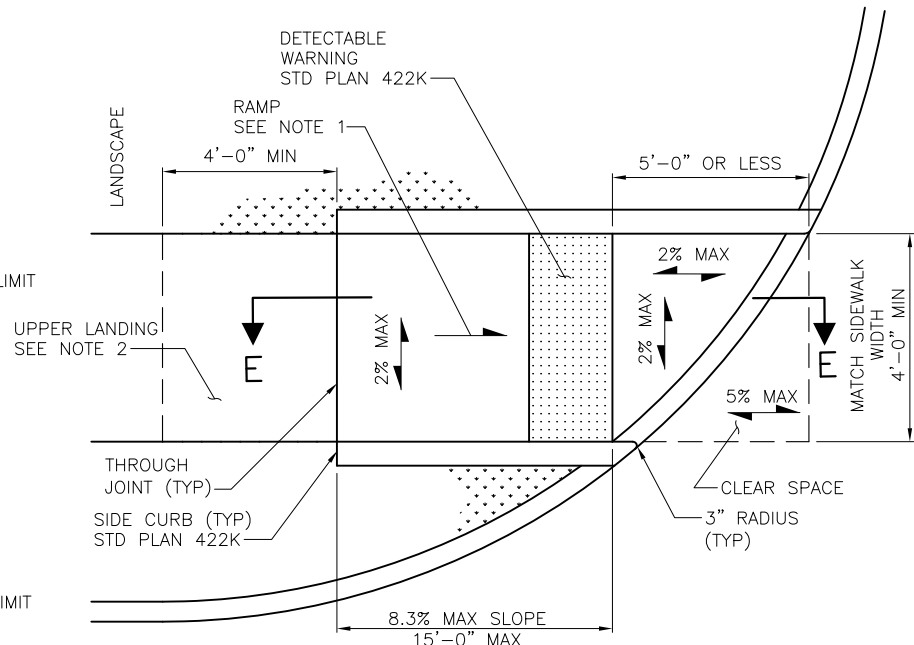
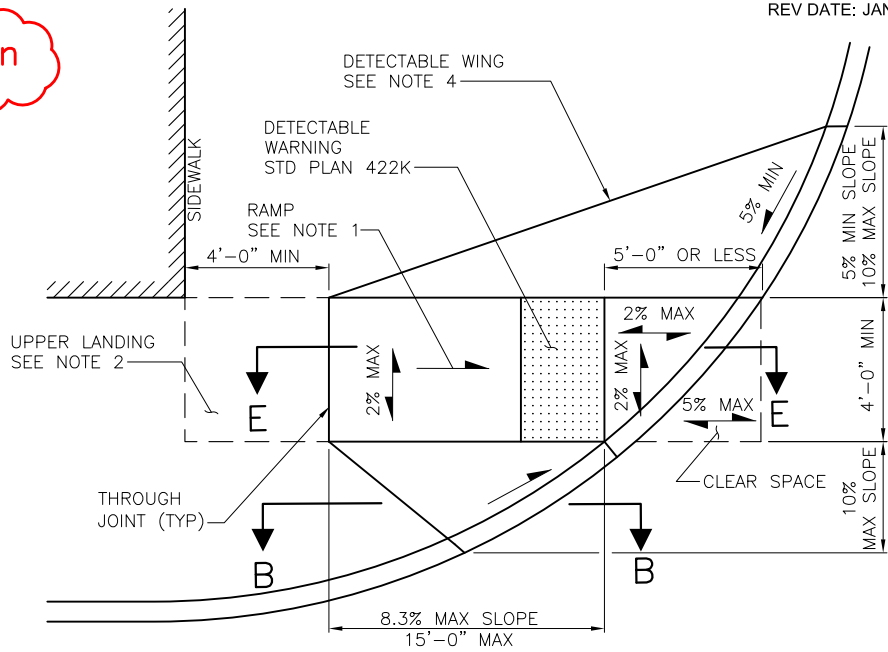
NOT TO SCALE

CURB RAMP DETAILS

new std plan

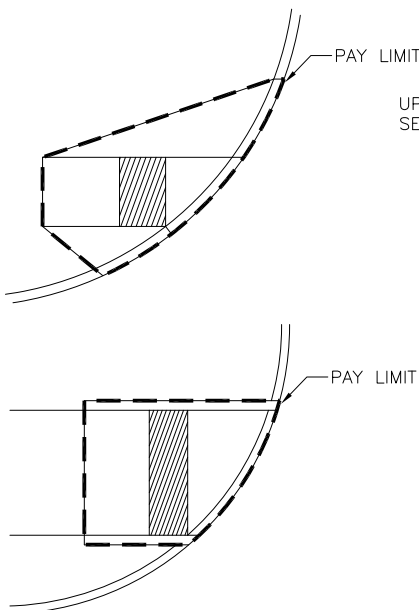
NOTES:

1. RAMP CENTERLINE SHALL BE PARALLEL TO CROSSWALK AND/OR THE SIDEWALK.
2. UPPER LANDING AT THE TOP OF THE CURB RAMP SHALL MATCH THE FULL WIDTH OF THE RAMP AND SHALL HAVE A MINIMUM DEPTH OF 4'-0". IF THE LANDING IS LIMITED AT THE BACK-OF-SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE SHALL BE 5'-0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP. SLOPE ON THE LANDING SHALL BE BETWEEN 0.5% AND 2% IN ANY DIRECTION.
3. WINGS SHALL HAVE A MAXIMUM SLOPE OF 10%. WINGS SHALL HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB SHALL CONTINUE THROUGH EACH WING.
4. WING ON THE OPEN SIDE OF THE CURB RAMP SHALL HAVE A MINIMUM SLOPE OF 5% TO ASSIST PEDESTRIANS WITH VISUAL IMPAIRMENTS WHERE THE DETECTABLE WARNING SURFACE IS OFFSET FROM THE CURB LINE.
5. RAMP SURFACE SHALL HAVE A HEAVY BROOM BRUSHED FINISH PERPENDICULAR TO THE PATH OF TRAVEL.
6. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.

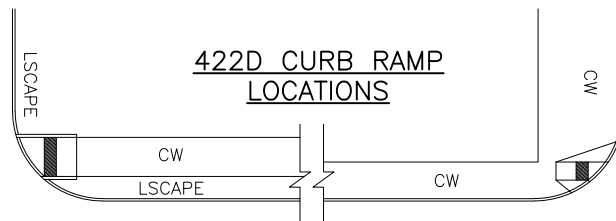


DIRECTIONAL CURB RAMPS
(TYPE 422D)

2% MAX
= MAX SLOPE IN
EITHER DIRECTION



PAY LIMITS



**422D CURB RAMP
LOCATIONS**

REF STD SPEC SEC 8-14



City of Seattle

NOT TO SCALE

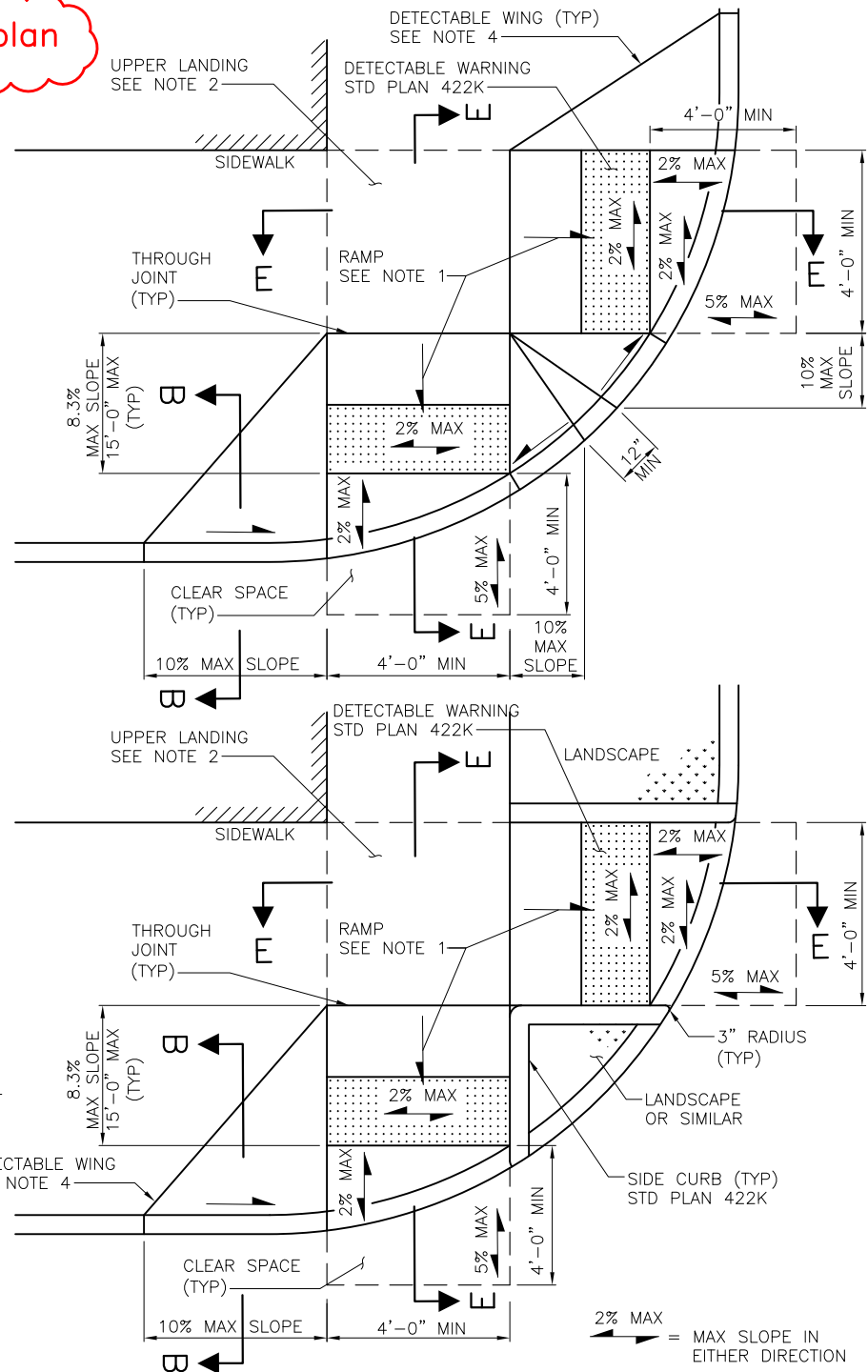
CURB RAMP DETAILS

422E CURB RAMP LOCATIONS

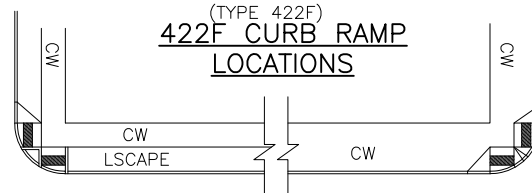
The diagram shows a street layout with a central intersection. On the left side, there is a curved curb ramp labeled 'LSCAPE'. On the right side, there is a curved curb ramp labeled 'CW'. The main road segments are labeled 'CW' (Curb Wall) and 'LSCAPE' (Landscape). A break symbol (two parallel diagonal lines) is shown in the center of the road, indicating a continuation of the road beyond the shown area.

2017 Edition City of Seattle Standard Plans for Municipal Construction

1. RAMP CENTERLINE(S) SHALL BE PARALLEL TO CROSSWALK AND/OR THE SIDEWALK.
2. UPPER LANDING AT THE TOP OF THE CURB RAMP SHALL MATCH THE FULL WIDTH OF THE RAMP AND SHALL HAVE A MINIMUM DEPTH OF 4'-0". IF THE LANDING IS LIMITED AT THE BACK-OF-SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE SHALL BE 5'-0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP. SLOPE ON THE LANDING SHALL BE BETWEEN 0.5% AND 2% IN ANY DIRECTION.
3. WINGS SHALL HAVE A MAXIMUM SLOPE OF 10%. WINGS SHALL HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB SHALL CONTINUE THROUGH EACH WING.
4. WING ON THE OPEN SIDE OF THE CURB RAMP SHALL HAVE A MINIMUM SLOPE OF 5% TO ASSIST PEDESTRIANS WITH VISUAL IMPAIRMENTS WHERE THE DETECTABLE WARNING SURFACE IS OFFSET FROM THE CURB LINE.
5. RAMP SURFACE SHALL HAVE A HEAVY BROOM BRUSHED FINISH PERPENDICULAR TO THE PATH OF TRAVEL.
6. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.



(TYPE 422F)
422F CURB RAMP
LOCATIONS



REF STD SPEC SEC 8-14



City of Seattle

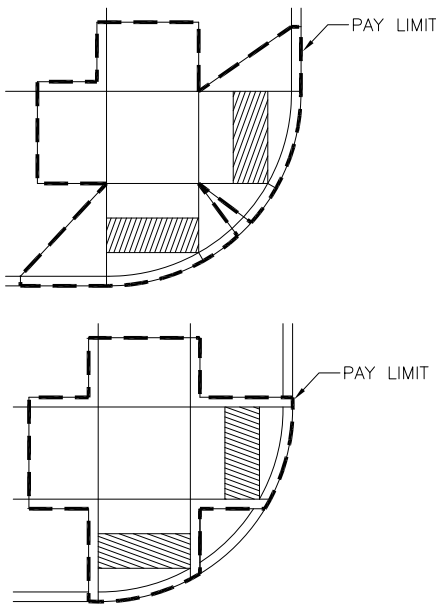
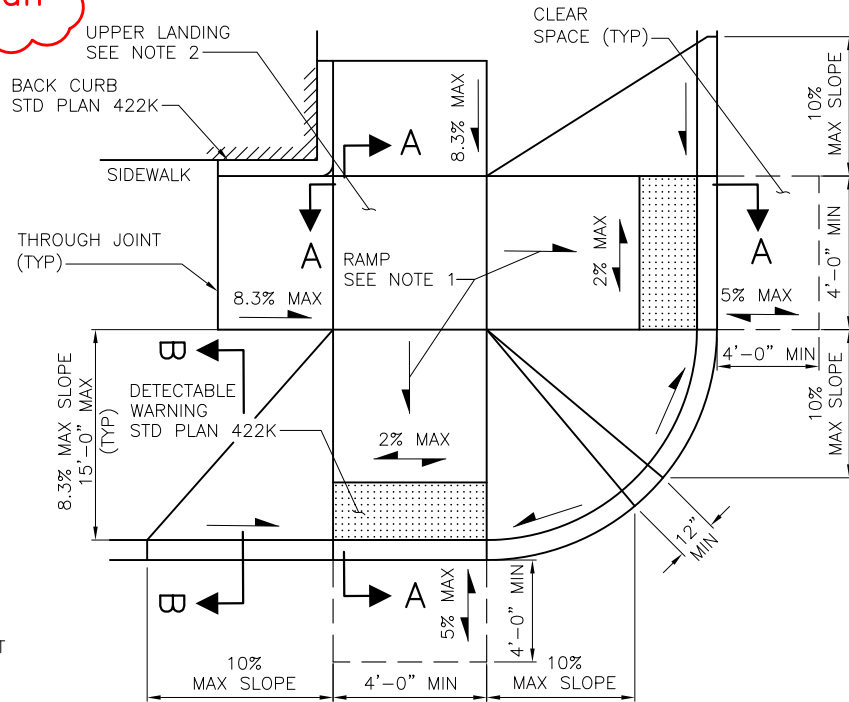
NOT TO SCALE

CURB RAMP DETAILS

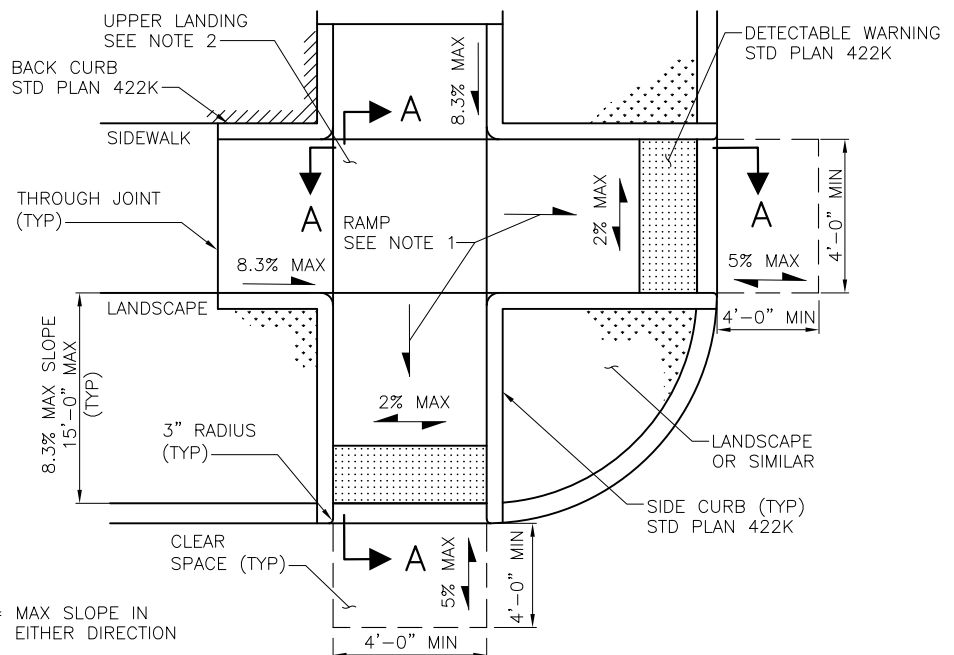
new std plan

NOTES:

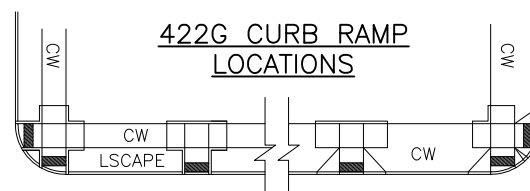
1. RAMP CENTERLINE(S) SHALL BE PARALLEL TO CROSSWALK AND/OR THE SIDEWALK.
2. UPPER LANDING AT THE TOP OF THE CURB RAMP SHALL MATCH THE FULL WIDTH OF THE RAMP AND SHALL HAVE A MINIMUM DEPTH OF 4'-0". IF THE LANDING IS LIMITED AT THE BACK-OF-SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE SHALL BE 5'-0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP. SLOPE ON THE LANDING SHALL BE BETWEEN 0.5% AND 2% IN ANY DIRECTION.
3. WINGS SHALL HAVE A MAXIMUM SLOPE OF 10%. WINGS SHALL HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB SHALL CONTINUE THROUGH EACH WING.
4. RAMP SURFACE SHALL HAVE A HEAVY BROOM BRUSHED SURFACE PARALLEL TO THE CURB.
5. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.

**PAY LIMITS**

2% MAX
= MAX SLOPE IN EITHER DIRECTION



PARALLEL AND PERPENDICULAR COMBINATION CURB RAMPS W/ SHARED LANDING
(TYPE 422G)



422G CURB RAMP LOCATIONS

REF STD SPEC SEC 8-14



City of Seattle

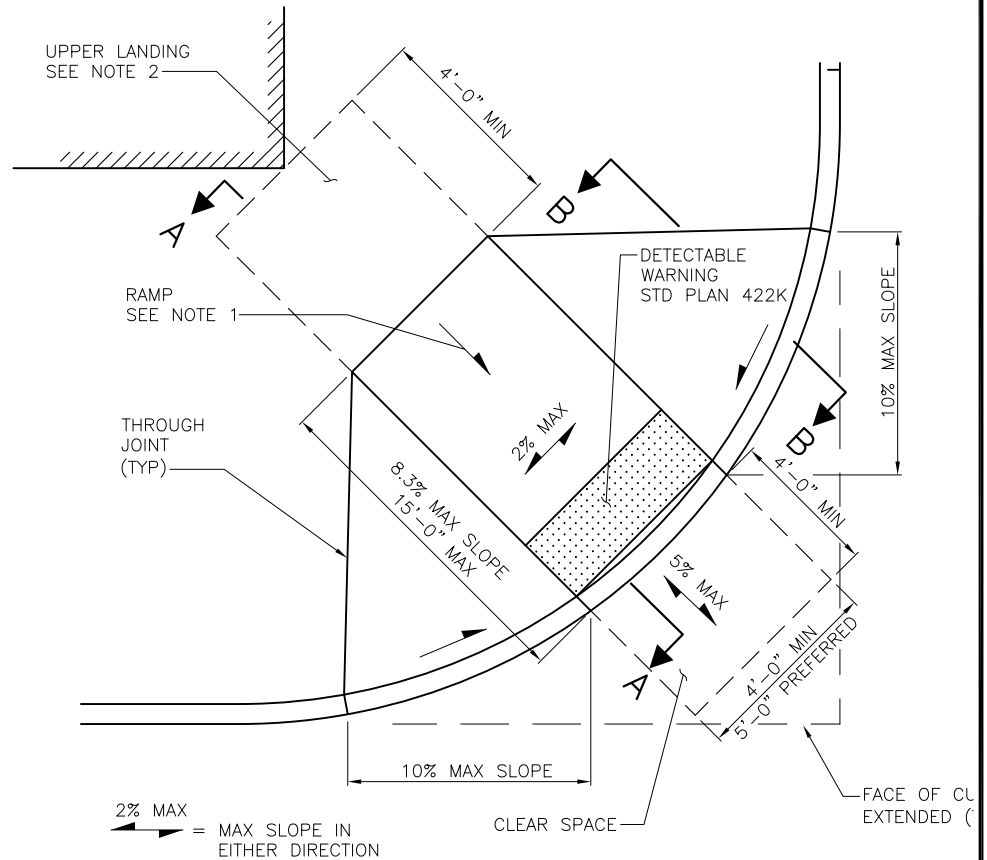
NOT TO SCALE

CURB RAMP DETAILS

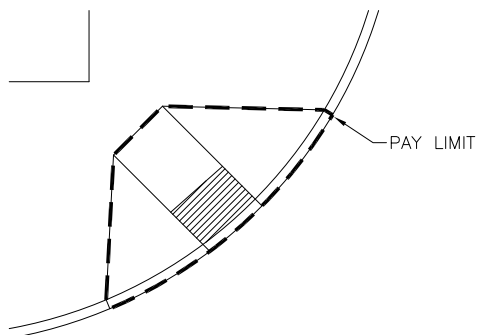
NOTES:

1. SHARED DIAGONAL PERPENDICULAR RAMPS SHALL NOT BE INSTALLED UNLESS ALL OTHER DESIGN OPTIONS ARE UNABLE TO BE CONSTRUCTED DUE TO EXISTING SITE CONSTRAINTS.
2. RAMP CENTERLINE SHALL BE RADIAL/PERPENDICULAR TO THE ALIGNMENT OF THE FACE OF CURB.
3. UPPER LANDING AT THE TOP OF THE CURB RAMP SHALL MATCH THE FULL WIDTH OF THE RAMP AND SHALL HAVE A MINIMUM DEPTH OF 4'-0". IF THE LANDING IS LIMITED AT THE BACK-OF-SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE SHALL BE 5'-0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP. SLOPE ON THE LANDING SHALL BE BETWEEN 0.5% AND 2% IN ANY DIRECTION.
4. CLEAR SPACE AT THE BOTTOM OF THE RAMP SHALL BE 4'-0" MINIMUM IN WIDTH AND SHALL EXTEND A MINIMUM OF 4'-0" BEYOND THE RAMP LOWER GRADE BREAK. THE CLEAR SPACE SHALL FALL WHOLLY WITHIN THE LEGAL CROSSWALK, MARKED OR UNMARKED. THE CLEAR SPACE SHALL FIT BEHIND LINES EXTENDING FROM THE FACE OF CURB RUNNING PARALLEL TO EACH ROADWAY. THERE IS NO ALLOWABLE EXEMPTION FOR MINIMUM CLEAR SPACE REQUIREMENTS AT SHARED DIAGONAL PERPENDICULAR CURB RAMPS.
5. WINGS SHALL HAVE A MAXIMUM SLOPE OF 10%. WINGS SHALL HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB SHALL CONTINUE THROUGH EACH WING.
6. RAMP SURFACE SHALL HAVE A HEAVY BROOM BRUSHED SURFACE PARALLEL TO THE CURB.
7. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.

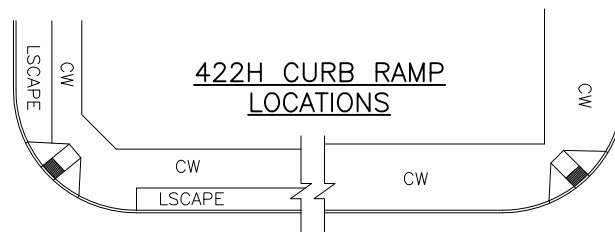
new std plan



SHARED DIAGONAL PERPENDICULAR CURB RAMP
(TYPE 422H)



PAY LIMITS



REF STD SPEC SEC 8-14



City of Seattle

NOT TO SCALE

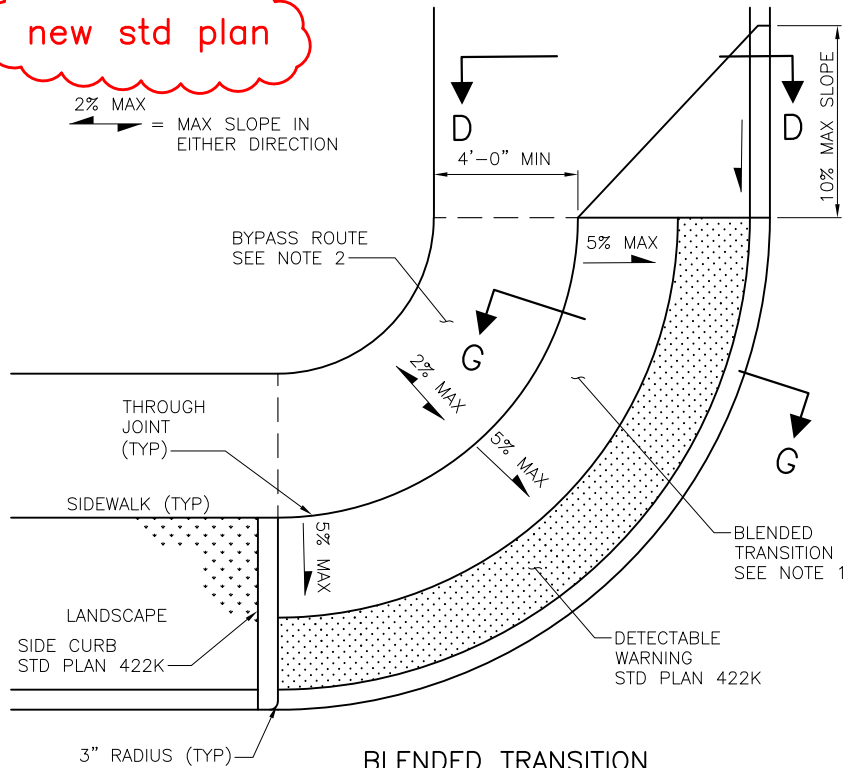
CURB RAMP DETAILS

new std plan

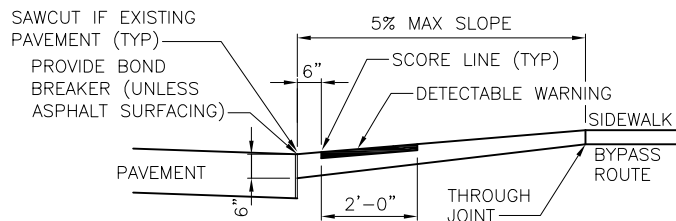
NOTES:

1. THE SIDEWALK SHALL TRANSITION DOWN TO THE ROADWAY WITH A MAXIMUM RUNNING SLOPE OF 5%. THE CROSS SLOPE ON THE TRANSITION SHALL NOT EXCEED 2% AT ANY POINT.
2. A MINIMUM BYPASS ROUTE SHALL BE PROVIDED AT THE TOP OF THE BLENDED TRANSITION WITH A MINIMUM WIDTH OF 4'-0". THE CROSS SLOPE OF THE BYPASS ROUTE SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. WINGS SHALL HAVE A MAXIMUM SLOPE OF 10%. WINGS SHALL HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB SHALL CONTINUE THROUGH EACH WING.
4. BLENDED TRANSITION SURFACE SHALL HAVE A HEAVY BROOM BRUSHED SURFACE RADIAL/PERPENDICULAR TO THE CURB.
5. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTION D.

2% MAX
= MAX SLOPE IN EITHER DIRECTION

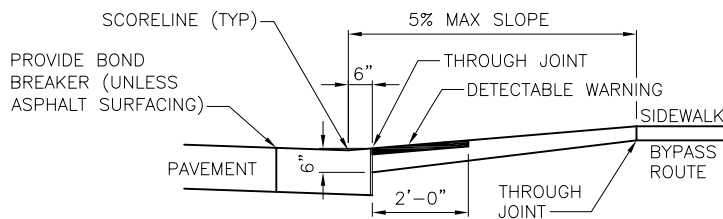


BLENDED TRANSITION
(TYPE 422i)



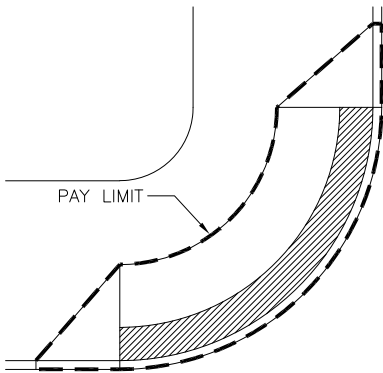
SECTION G-G

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

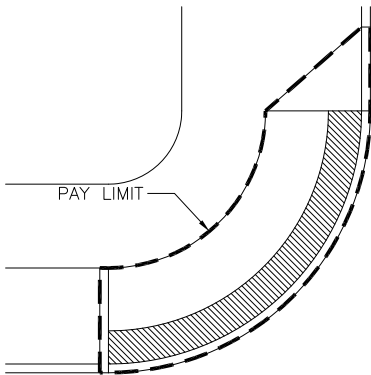


SECTION G-G

DEPRESSED CURB & GUTTER SEPARATE FROM RAMP.

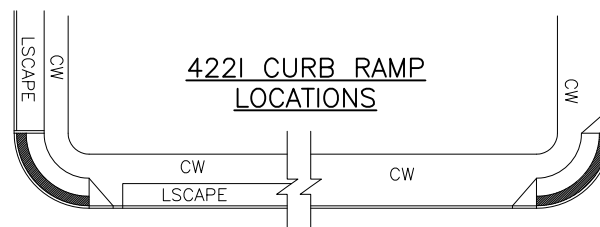


PAY LIMIT



PAY LIMIT

PAY LIMITS



422i CURB RAMP LOCATIONS

REF STD SPEC SEC 8-14



City of Seattle

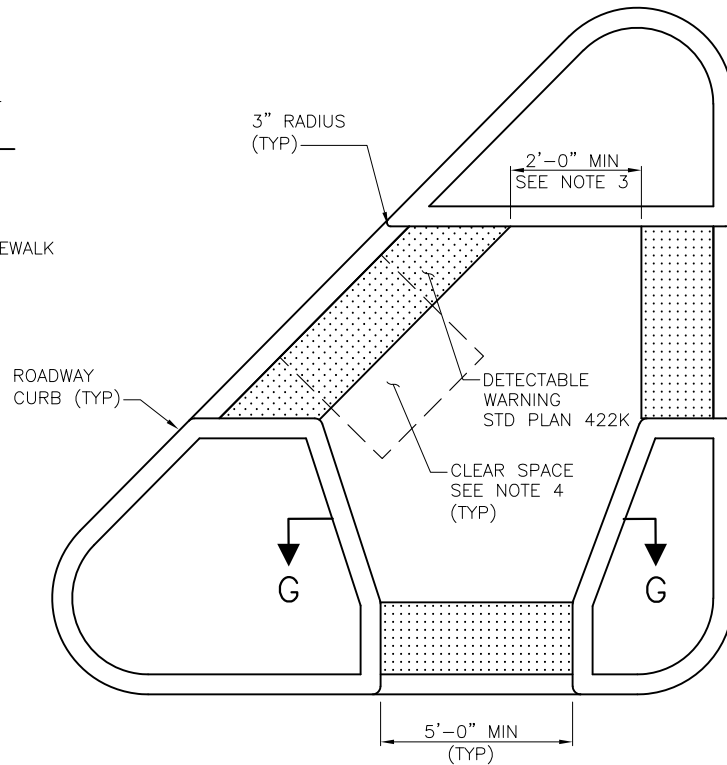
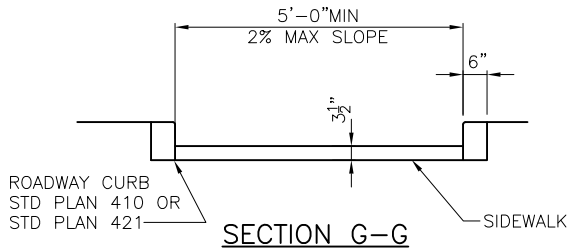
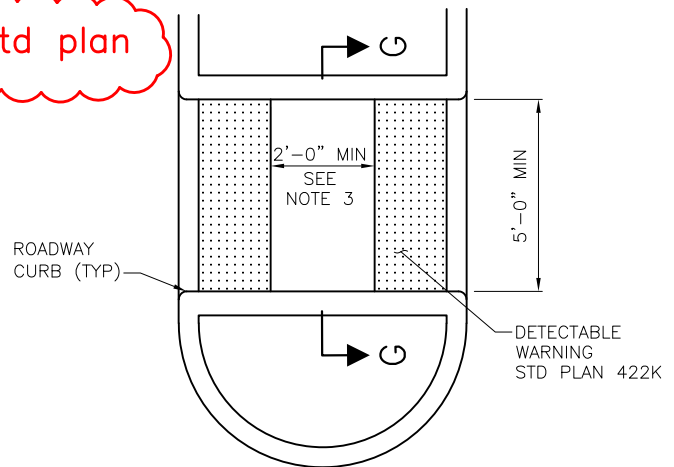
NOT TO SCALE

CURB RAMP DETAILS

NOTES:

1. SIZE, SHAPE, AND/OR DIMENSIONS OF CHANNELIZING ISLANDS OR PEDESTRIAN REFUGE ISLANDS MAY VARY. DETAILS SHOWN ARE INTENDED TO SHOW MINIMUM REQUIRED CLEARANCES AND DETECTABLE WARNING SURFACE PLACEMENT LOCATIONS.
2. ACCESS THROUGH CHANNELIZING ISLANDS OR PEDESTRIAN REFUGE ISLANDS MAY BE CUT-THROUGH OR ACCESS MAY BE PROVIDED USING STANDARD CURB RAMP DETAILS.
3. AT PEDESTRIAN REFUGE ISLANDS, DETECTABLE WARNING IS NOT TO BE INSTALLED IF THE REFUGE AREA IS LESS THAN 6'-0" IN DEPTH (IN THE DIRECTION OF TRAVEL).
4. PROVIDE A MINIMUM 4'-0" WIDTH x 4'-0" DEPTH CLEAR SPACE FOR ACCESS FROM THE CHANNELIZING ISLAND OR PEDESTRIAN REFUGE ISLAND FOR EACH CROSSWALK.

new std plan



ISLAND CUT-THROUGHS
(TYPE 422J)

REF STD SPEC SEC 8-14



City of Seattle

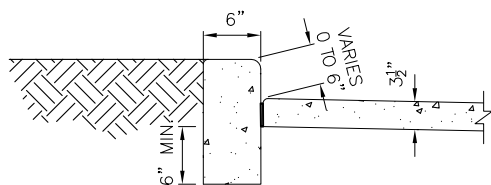
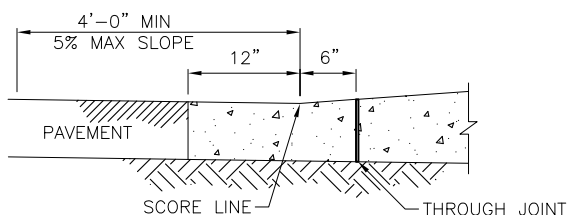
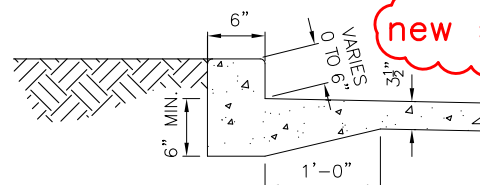
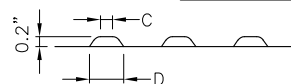
NOT TO SCALE

CURB RAMP DETAILS

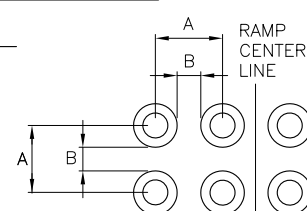
CURB RAMP GENERAL NOTES:

1. TWO CURB RAMPS SHALL BE INSTALLED AT EACH CORNER UNLESS OTHERWISE DIRECTED BY ENGINEER. SHARED DIAGONAL PERPENDICULAR RAMPS SHALL NOT BE INSTALLED UNLESS ALL OTHER DESIGN OPTIONS ARE UNABLE TO BE CONSTRUCTED DUE TO EXISTING SITE CONSTRAINTS.
2. CURB RAMPS SHALL BE AS CLOSELY ALIGNED WITH THE SIDEWALK AND THE PEDESTRIAN STREET CROSSING SERVED AS POSSIBLE.
3. CURB RAMP SHALL BE CONSTRUCTED WITH COMPANION RAMP ON OPPOSITE SIDE OF THE ROADWAY WHERE NO RAMP IS PROVIDED UNLESS OTHERWISE DIRECTED BY ENGINEER.
4. RAMPS SHALL TYPICALLY HAVE A MAXIMUM RUNNING SLOPE OF 8.3% AND A MINIMUM WIDTH OF 4'-0" UNLESS OTHERWISE DIRECTED BY ENGINEER. THE CROSS SLOPE OF RAMPS SHALL BE MAXIMUM OF 2%. CURB RAMPS ARE NOT REQUIRED TO EXCEED A LENGTH OF 15 FEET UNLESS OTHERWISE DIRECTED BY ENGINEER.*
5. GRADE BREAKS AT THE TOP AND THE BOTTOM OF CURB RAMP RUNS MUST BE PERPENDICULAR TO THE PATH OF TRAVEL. CURB RAMP RUNS ARE DEFINED BY RUNNING SLOPES THAT EXCEED 5% BUT ARE NO MORE THAN 8.3%. SURFACES ABUTTING AT CURB RAMP GRADE BREAKS SHALL BE FLUSH.
6. AREAS ADJACENT TO CURB RAMPS OR CURB RAMP LANDINGS USABLE BY PEDESTRIANS SHALL COMPLY WITH STANDARD PLAN SIDEWALK SLOPE LIMITS OR A CURB RAMP WING MUST BE PROVIDED AS SHOWN IN THE APPLICABLE CURB RAMP DETAILS. THE INSTALLATION OF CURBED EDGES ARE NOT REQUIRED BUT MAY BE USED AT THE SIDES OR BACKS OF CURB RAMPS OR CURB RAMP LANDING WHERE THE ADJACENT SURFACE IS LANDSCAPED OR OTHERWISE NOT USABLE BY PEDESTRIANS.
7. THE COUNTER SLOPE OF THE GUTTER OR THE STREET AT THE BOTTOM OF CURB RAMP RUNS SHALL BE 5% MAXIMUM. IF TURNING OR CHANGE OF ORIENTATION IS REQUIRED WITHIN THE PEDESTRIAN CROSSING AT THE BOTTOM OF CURB RAMP RUNS, THE SLOPE SHALL BE 2% MAXIMUM IN ANY DIRECTION FOR A MINIMUM 4'-0" WIDTH x 4'-0" DEPTH MEASURED FROM THE RAMP BOTTOM GRADE BREAK.
8. CURB RAMPS WITH RAMP RUNS THAT TERMINATE AT THE ENTRANCE TO THE PEDESTRIAN STREET CROSSING SHALL HAVE A CLEAR SPACE AT THE BOTTOM OF THE RAMP 4'-0" MINIMUM IN WIDTH AND SHALL EXTEND A MINIMUM 4'-0" BEYOND THE RAMP LOWER GRADE BREAK. THE CLEAR SPACE SHALL FALL WHOLLY WITHIN THE LEGAL CROSSWALK, MARKED OR UNMARKED.
9. DETECTABLE WARNING SHALL BE PROVIDED AT CURB RAMPS AND AT LOCATIONS WHERE THE SIDEWALK AND ROADWAY ARE FLUSH. THE DETECTABLE WARNING SURFACE SHALL HAVE A TRUNCATED DOME PATTERN AS SHOWN, WITH A MINIMUM DEPTH OF 2'-0", AND SHALL BE PLACED AT THE BACK OF CURB BUT NO MORE THAN 8" FROM THE FACE OF CURB FOR MONOLITHIC CURBS OR ATYPICAL CURB WIDTHS. DETECTABLE WARNING SHALL MATCH THE WIDTH OF THE RAMP RUN OR THE OPENING WHERE THE SIDEWALK AND ROADWAY ARE FLUSH. THE TRUNCATED DOMES ON THE DETECTABLE WARNING SURFACE SHOULD ALIGN WITH THE CURB RAMP RUN OR THE DIRECTION OF TRAVEL. DOMES MAY BE ON A RADIAL GRID PATTERN WHERE THE DETECTABLE WARNING SURFACE IS PLACED AT CURB RADII.
10. DETECTABLE WARNING COLOR SHALL BE "FEDERAL SAFETY YELLOW", UNLESS OTHERWISE DIRECTED BY ENGINEER.
11. DETECTABLE WARNING SURFACES SHOULD GENERALLY NOT BE CUT OR ALTERED TO FIT UNLESS THERE IS NO ALTERNATIVE AVAILABLE. IF REQUIRED, CUT OR ALTER THE DETECTABLE WARNING SURFACE PER THE MANUFACTURER'S DIRECTIONS. DETECTABLE WARNING SURFACES PLACED AT CURB RADII SHALL MATCH THE CURB RADII WITHOUT GAPS OR INCONSISTENCIES IN PLACEMENT.
12. AVOID LOCATED HANDHOLES, UTILITY CASTINGS, OR ANY OTHER OBSTRUCTIONS IN THE CURB RAMP RUN(S) OR LANDING(S). IF NECESSARY DUE TO EXISTING CONSTRAINTS, HANDHOLES, UTILITY CASTINGS, OR OTHER OBSTRUCTIONS MAY BE LOCATED WITHIN A RAMP RUN, LANDING, OR TURNING SPACE BUT MUST ADHERE TO SURFACE REQUIREMENTS. LEVEL CHANGES BETWEEN SURFACES MUST NOT EXCEED 1/4" OR 1/2" WITH A 1:2 BEVEL. GAPS BETWEEN SURFACES OR GRATINGS MAY NOT EXCEED 1/2". SURFACES MUST BE FIRM, STABLE, AND SLIP RESISTANT.
13. HANDHOLES, UTILITY CASTINGS, OR OTHER OBSTRUCTIONS SHALL NOT REDUCE THE REQUIRED DEPTH OF DETECTABLE WARNING.
14. POLES, HYDRANTS AND OTHER ABOVE GROUND OBSTRUCTIONS SHALL HAVE A MINIMUM LATERAL CLEARANCE OF 1'-0" FROM THE UPPER LANDING AND RAMP SURFACE.
15. ALL CHANGES IN LEVEL ACROSS JOINTS SHALL BE FLUSH. ANY DIFFERENCE IN ELEVATION OF 3/16 INCH OR GREATER SHALL BE REPAIRED OR REPLACED.
16. CURB RAMPS SHALL BE DESIGNED AND CONSTRUCTED SO THAT WATER WILL NOT ACCUMULATE ON RAMP SURFACES. GUTTER FLOW LINE SHALL BE SURVEYED BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ENSURE PONDING OF WATER SHALL NOT OCCUR AT THE BOTTOM OF CURB RAMPS OR AT CURB RAMP LOWER LANDINGS.
17. ALL SLOPE GRADES SHALL BE MEASURED OFF THE HORIZON-LINE. IF EXISTING SITE CONDITIONS CONFLICT WITH OBTAINING GRADES SHOWN, THE DESIGNER / CONTRACTOR SHALL MAKE MINIMUM ADJUSTMENTS TO THE GRADES SHOWN TO MEET EXISTING SITE CONDITIONS; ADJUSTMENTS ARE SUBJECT TO ENGINEER APPROVAL.

* IT IS GENERALLY PREFERRED THAT CURB RAMPS, CURB RAMP LANDINGS, AND ASSOCIATED FEATURES NOT BE DESIGNED TO THE MINIMUM OR MAXIMUM ALLOWABLE DIMENSION AND/OR SLOPE TO ALLOW FOR A LIMITED MARGIN OF ERROR DURING CONSTRUCTION.

**SIDE CURB DETAIL****DEPRESSED CURB AND GUTTER DETAIL****BACK CURB DETAIL**

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

**DETECTABLE WARNING TRUNCATED DOMES PATTERN**

REF STD SPEC SEC 8-14

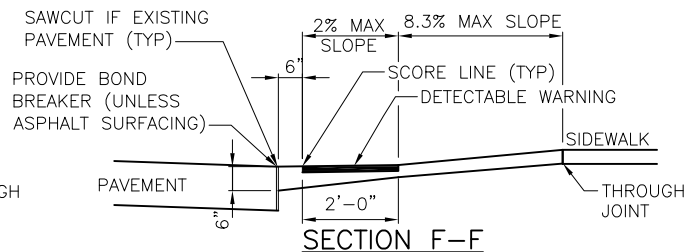
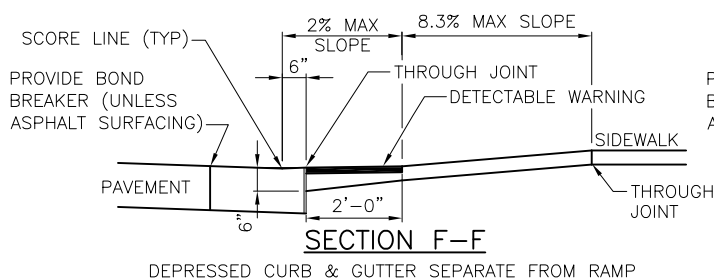
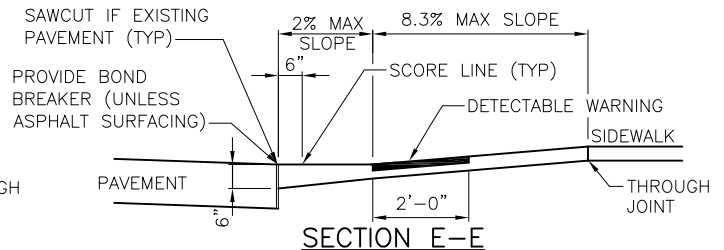
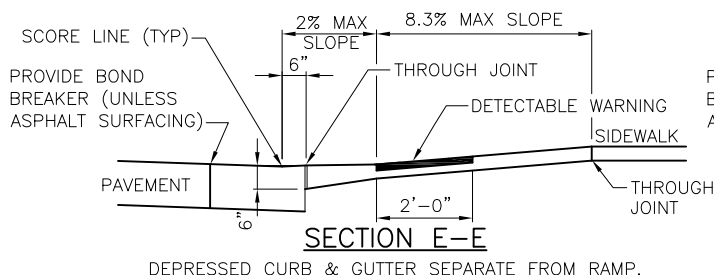
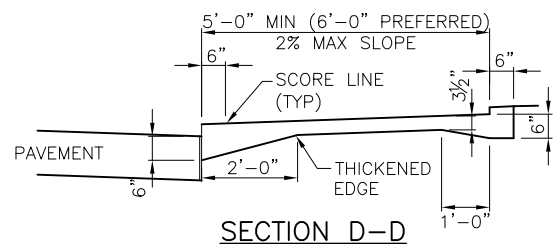
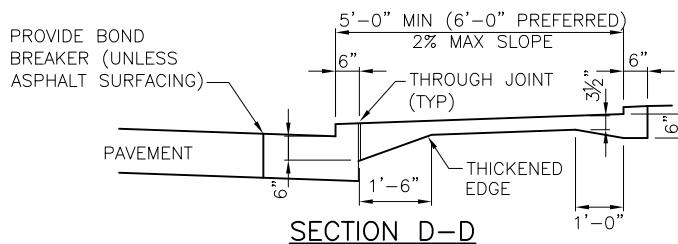
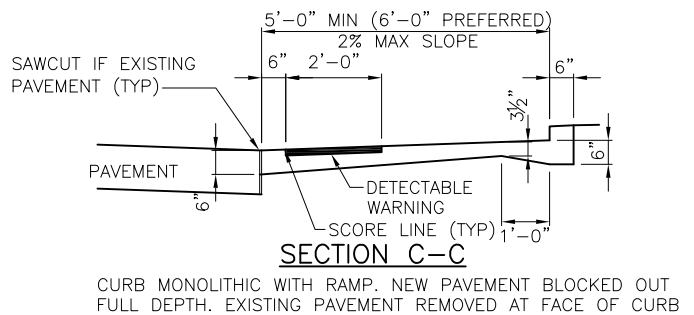
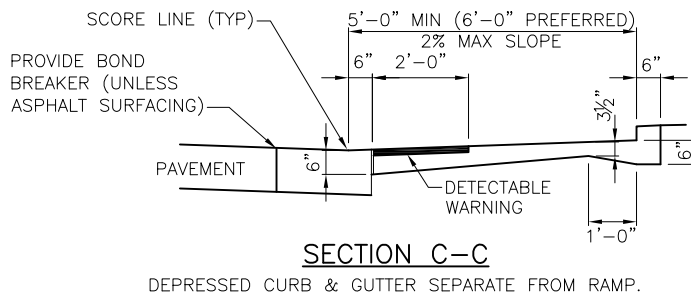
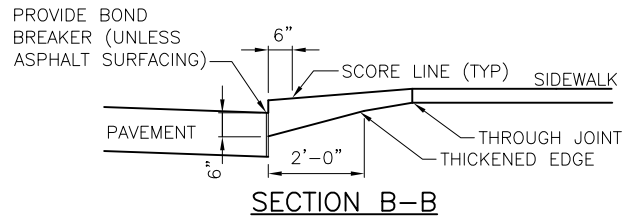
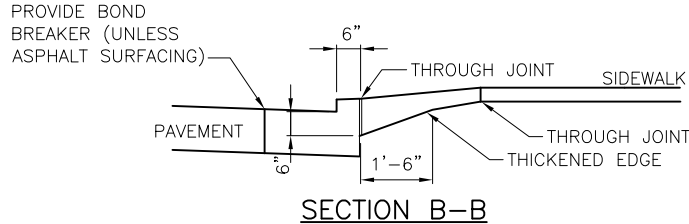
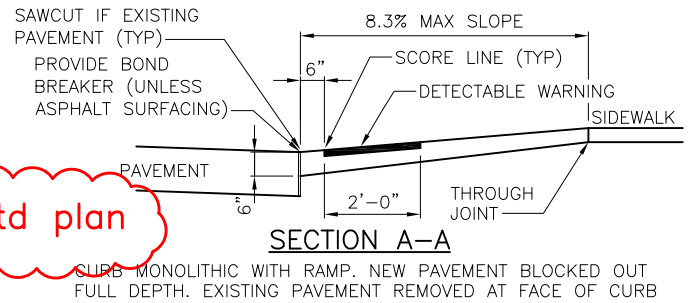
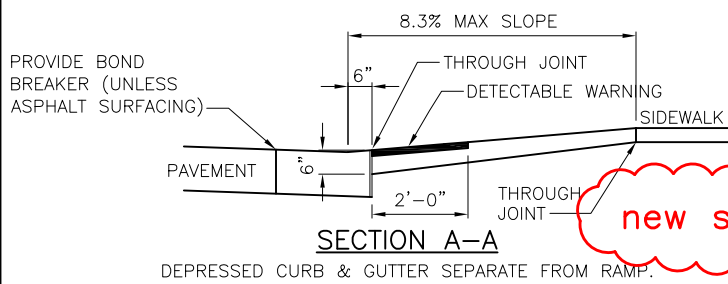


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CURB RAMP DETAILS

REV DATE: JAN 2017



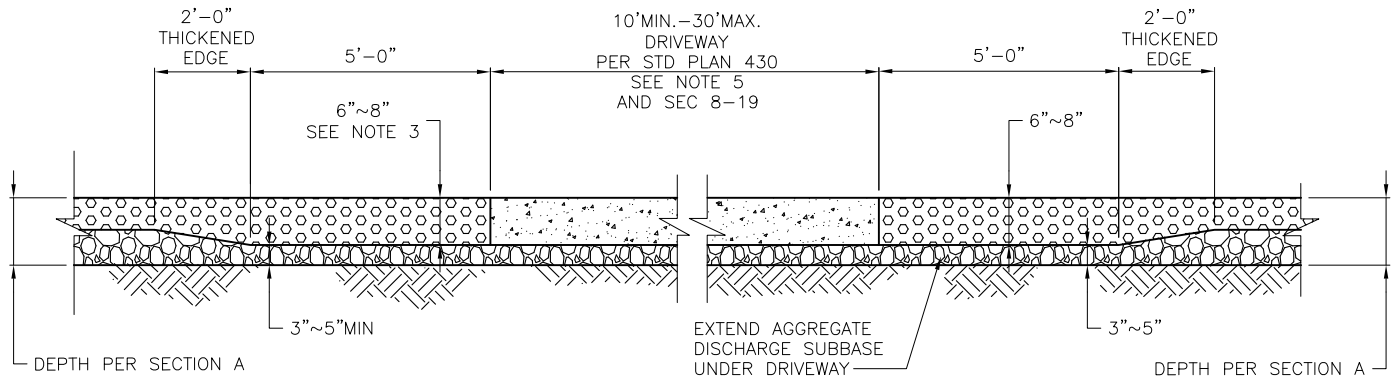
REF STD SPEC SEC 8-14



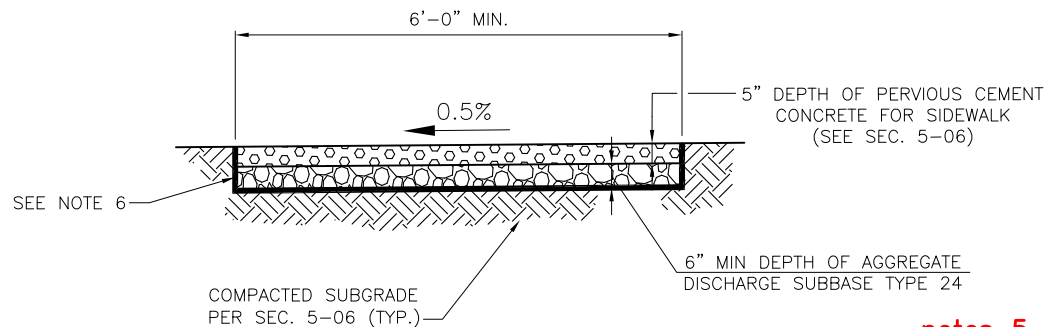
City of Seattle

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CURB RAMP SECTIONS



PERVIOUS CONC CEM SIDEWALK DEPTH TRANSITION AT DRIVEWAYS PROFILE VIEW

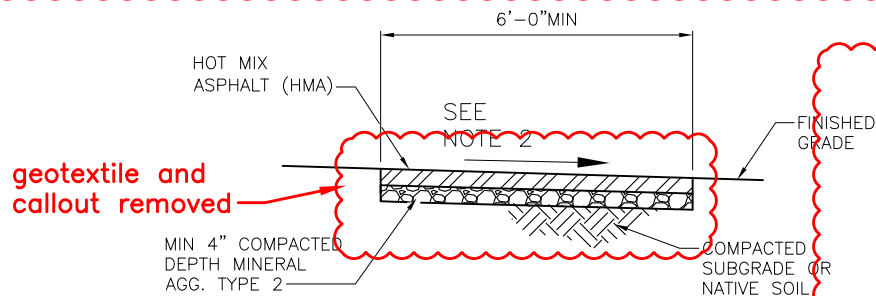


PERVIOUS CONC SECTION A

NOTES:

1. DEPTHS SHOWN FOR PAVEMENT SECTIONS ARE COMPACTED DEPTH.
2. SIDEWALK DEPTH AT DRIVEWAY TO MATCH DRIVEWAY PAVEMENT DEPTH.
3. DEPTH OF POROUS CEMENT CONCRETE FOR DRIVEWAYS MUST BE 8" MIN.
4. 6% MAX. PERVIOUS CEMENT CONCRETE PROFILE GRADE.
5. WHERE PERVIOUS CONCRETE IS SHOWN ON PLANS FOR ALLEY, PERVIOUS CONCRETE MUST BE 8" WITH 3" AGGREGATE DISCHARGE SUBBASE.
6. APPLY SEPARATION GEOTEXTILE SEC. 9-37, ON BOTTOM AND SIDES. EXTEND GEOTEXTILE ABOVE PERVIOUS CONCRETE FOR SIDEWALK PAVEMENT. AFTER PAVEMENT HAS CURED AND ADJACENT FINISHED GRADE HAS BEEN STABILIZED, CUT SEPARATION GEOTEXTILE AT FINISHED GRADE (TYP.)
7. CONTRACTION JOINTS FOR PERVIOUS CONCRETE SIDEWALKS MUST BE PLACED AT A MAXIMUM OF 15 FT ON CENTER SPACING.

notes 5, 6 & 7 added



concrete paver sidewalk section removed

HOT MIX ASPHALT PAVEMENT SIDEWALK SECTION

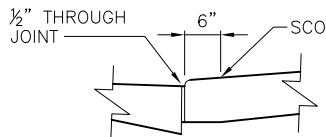
REF STD SPEC SEC 5-04, 5-06



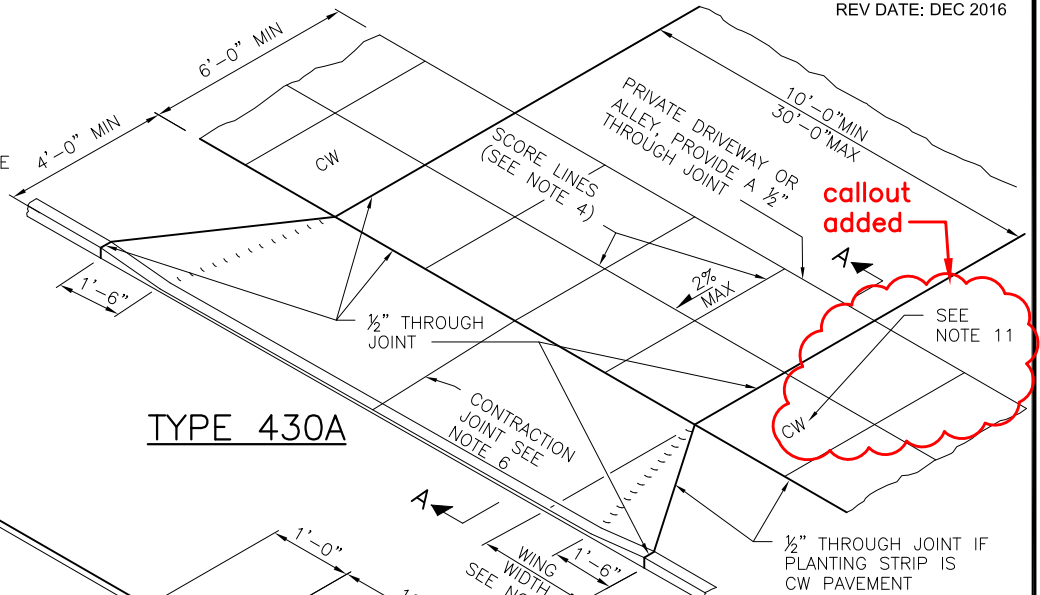
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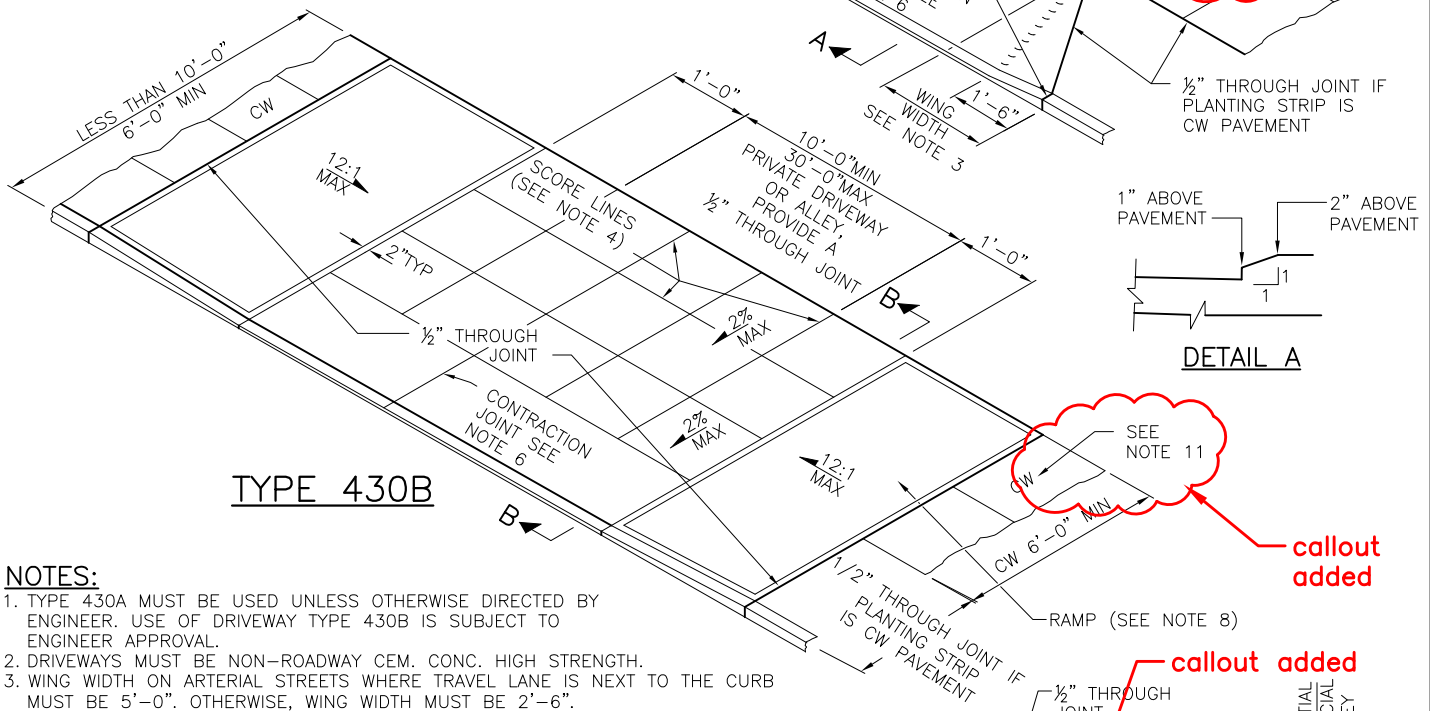
ALTERNATIVE WALKWAYS



DETAIL B
DRIVWAY W/ MONOLITHIC
CURB & APPROACH



TYPE 430A

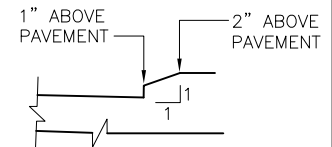


TYPE 430B

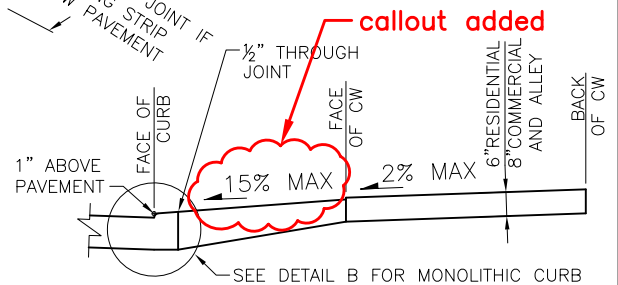
NOTES:

1. TYPE 430A MUST BE USED UNLESS OTHERWISE DIRECTED BY ENGINEER. USE OF DRIVEWAY TYPE 430B IS SUBJECT TO ENGINEER APPROVAL.
2. DRIVEWAYS MUST BE NON-ROADWAY CEM. CONC. HIGH STRENGTH.
3. WING WIDTH ON ARTERIAL STREETS WHERE TRAVEL LANE IS NEXT TO THE CURB MUST BE 5'-0". OTHERWISE, WING WIDTH MUST BE 2'-6".
4. "V" GROOVE SCORING MUST MATCH PATTERN IN ADJACENT EXISTING SIDEWALK.
5. FOR CONCRETE DRIVEWAY CONSTRUCTED WITH CONCRETE SIDEWALK, SEE STANDARD PLAN NO 431.
6. CONCRETE DRIVEWAYS WITH A WIDTH GREATER THAN 15'-0" MUST HAVE A $\frac{3}{8}$ " TRANSVERSE CONTRACTION JOINT NEAR THE CENTERLINE OF DRIVEWAY. SEE DETAIL SECTION C-C STANDARD PLAN NO 420.
7. FOR TYPE 430A SLOPE IN THE 6'-0" MINIMUM WIDE AREA CONNECTING TO CW ON EACH SIDE OF THE DRIVEWAY MUST BE MAXIMUM 2% AND MINIMUM 0.5%. FOR TYPE 430B, SLOPE OF THE DRIVEWAY BETWEEN THE TWO RAMP SECTIONS MUST BE MAXIMUM 2% AND MINIMUM 0.5%. DRIVEWAY ON THE PRIVATE SIDE OF THE CW MAY BE SLOPED AS NEEDED TO MATCH EXISTING SITE CONDITIONS.
8. RAMP MUST HAVE A MAXIMUM SLOPE 12H:1V. AND A MINIMUM WIDTH OF 6'-0". THE CROSS SLOPE OF THE RAMP MUST BE MAXIMUM OF 50H:1V. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE PERPENDICULAR TO THE CURB.
9. ALL CHANGES IN LEVEL ACROSS JOINTS MUST BE FLUSH WITH A MAXIMUM DIFFERENCE IN ELEVATION OF $\frac{3}{16}$ INCH.
10. ALL SLOPE GRADES MUST BE MEASURED OFF THE HORIZON-LINE. IF EXISTING SITE CONDITIONS CONFLICT WITH OBTAINING GRADES SHOWN, THE CONTRACTOR MUST MAKE MINIMUM ADJUSTMENTS TO THE GRADES TO ACCOMMODATE EXISTING SITE CONDITIONS. ADJUSTMENTS ARE SUBJECT TO ENGINEER APPROVAL.
11. CONCRETE WALKWAY OUTSIDE OF THE DRIVEWAY CROSSING MAY BE PERVIOUS.

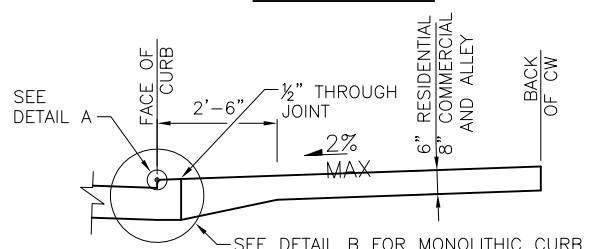
note 11 added



DETAIL A



SECTION A-A



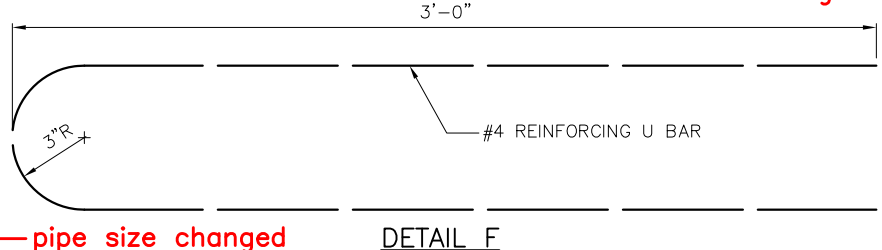
SECTION B-B



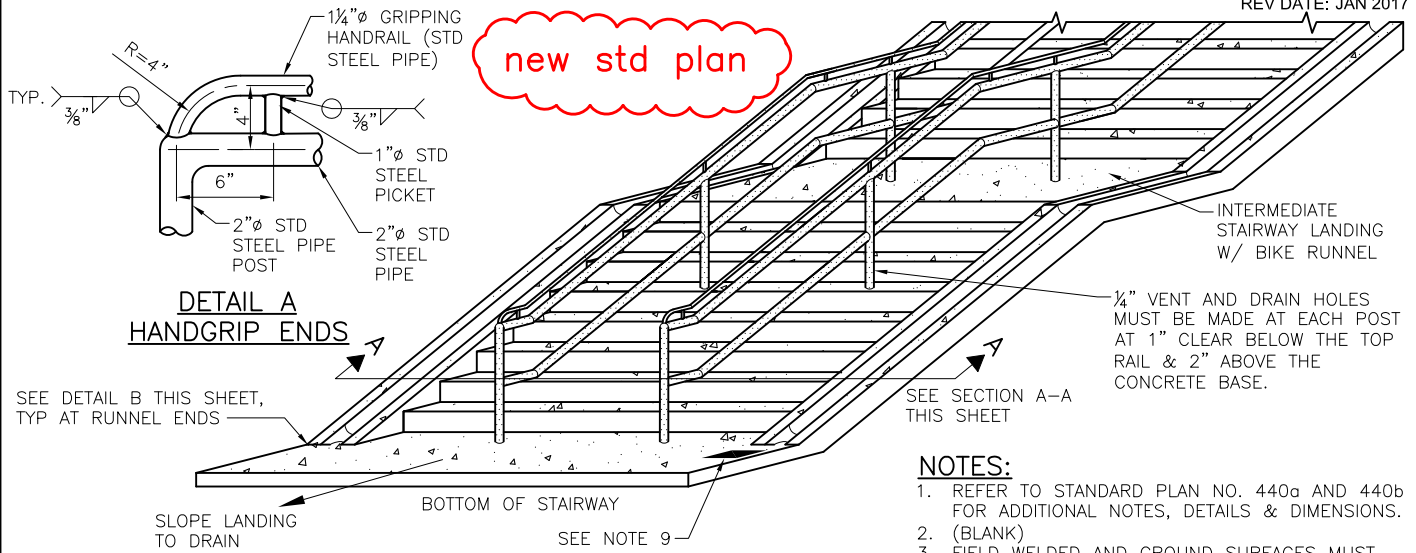
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TYPE 430A & 430B DRIVEWAYS

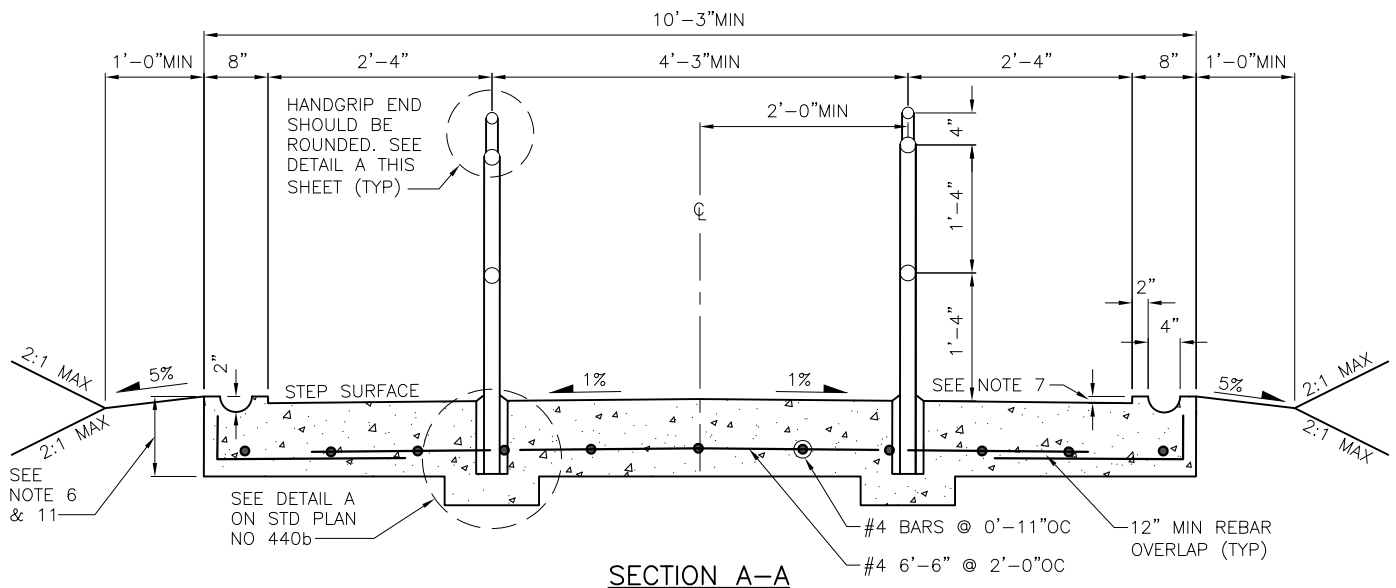
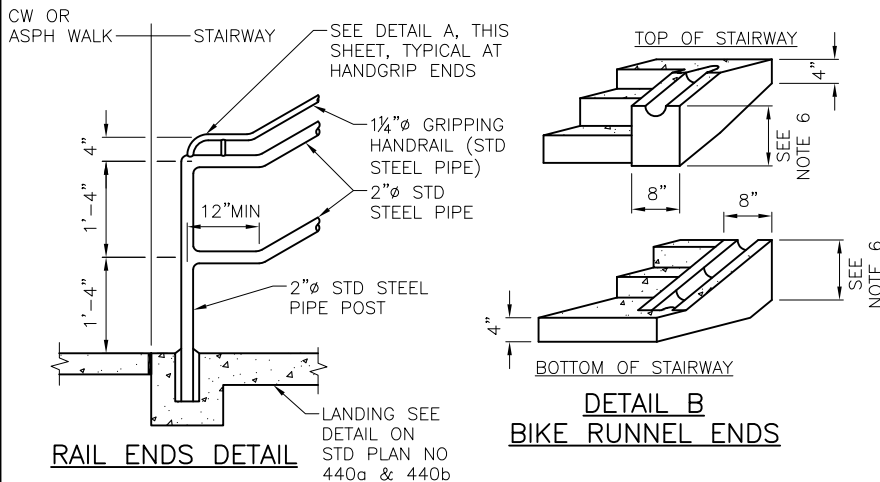


2017 Edition City of Seattle Standard Plans for Municipal Construction



NOTES:

1. REFER TO STANDARD PLAN NO. 440a AND 440b FOR ADDITIONAL NOTES, DETAILS & DIMENSIONS.
2. (BLANK)
3. FIELD WELDED AND GROUND SURFACES MUST BE CLEANED AND COATED WITH ZINC SPRAY TO A MIN. OF 3 MILS, DRY PAINT THICKNESS.
4. DIMENSIONS SHOWN ON ONE SIDE OF THE SECTION VIEW ARE TYPICAL TO THE OTHER SIDE, UNLESS NOTED OTHERWISE.
5. DISTANCE BETWEEN HANDGRIP SUPPORTS MUST NOT EXCEED 6'-0".
6. BIKE RUNNEL SLAB THICKNESS VARIES WITH STEP RISER HEIGHT. MIN. 10.5", MAX. 12.5"
7. RUNNEL LIP HEIGHT 1.5" ABOVE STEP NOSING AND LANDING.
8. INTERMEDIATE STAIR LANDINGS THAT INTERSECT OTHER STAIRS OR WALKS MUST BE AT LEAST 6' LONG TO ALLOW FOR A MIN. 4' OF CLEAR AREA WITHOUT RUNNEL & RAIL.
9. STAMP CONCRETE AT TOP AND BOTTOM OF RUNNEL. SEE CONCRETE STAMP DETAIL STD PLAN NO 440d.
10. LONG STAIRWAYS OR STAIRWAYS WITH SIGHT OBSTRUCTIONS TO CYCLISTS MUST HAVE SIDEWALK BREAKS TO ALLOW ONCOMING CYCLISTS PASSAGE. LOCATIONS OF SIDEWALK BREAKS TO BE DETERMINED BY ENGINEER.
11. ANY CONSTRUCTION OUTSIDE OF RUNNEL MUST ALLOW ENOUGH CLEARANCE FOR BIKE PEDALS AND HANDLEBARS FROM INTERFERING WITH MOVEMENT.



REF STD SPEC SEC 8-18

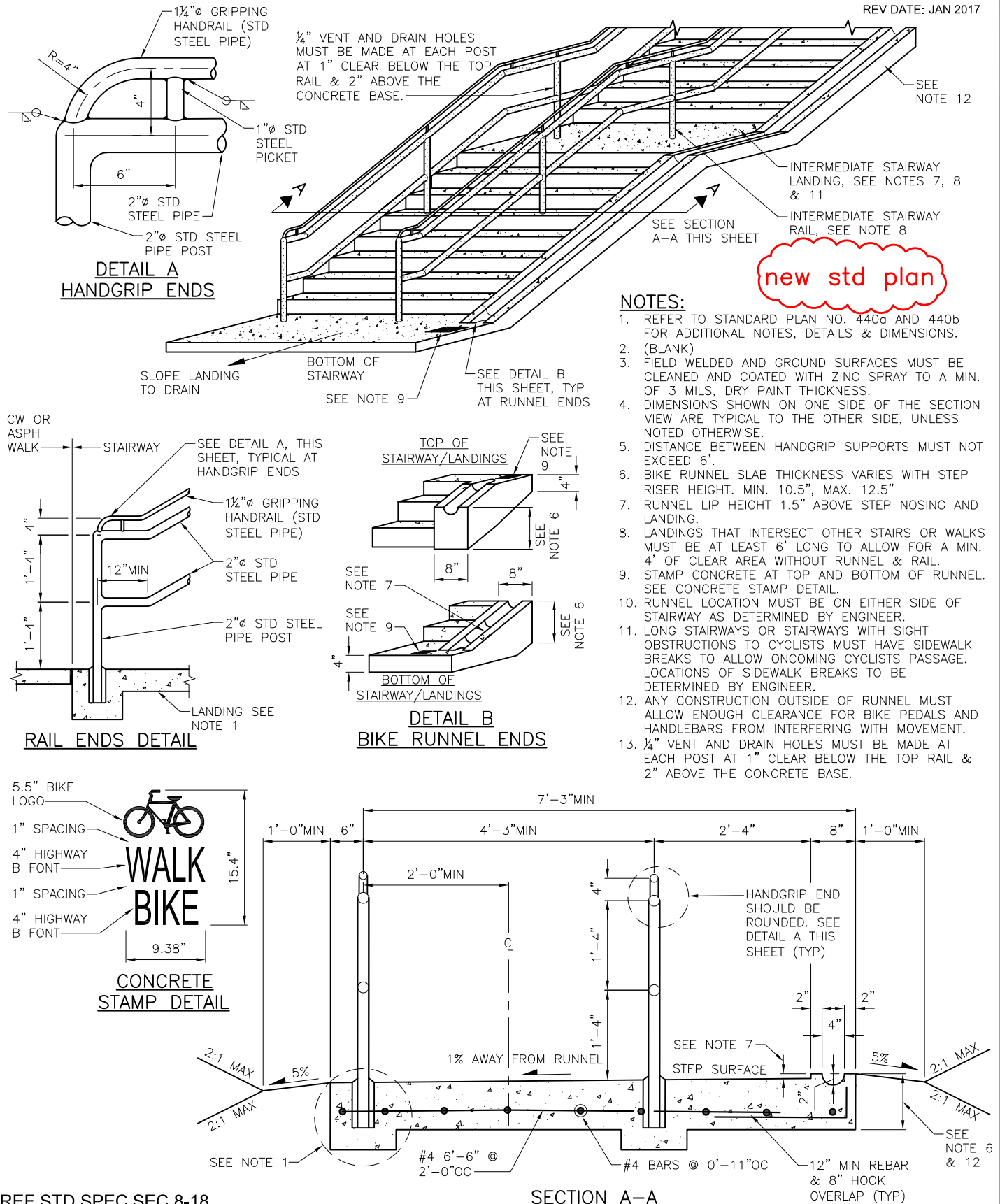


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**CEMENT CONCRETE
STAIRWAY & BIKE RUNNEL**

REV DATE: JAN 2017



REF STD SPEC SEC 8-18

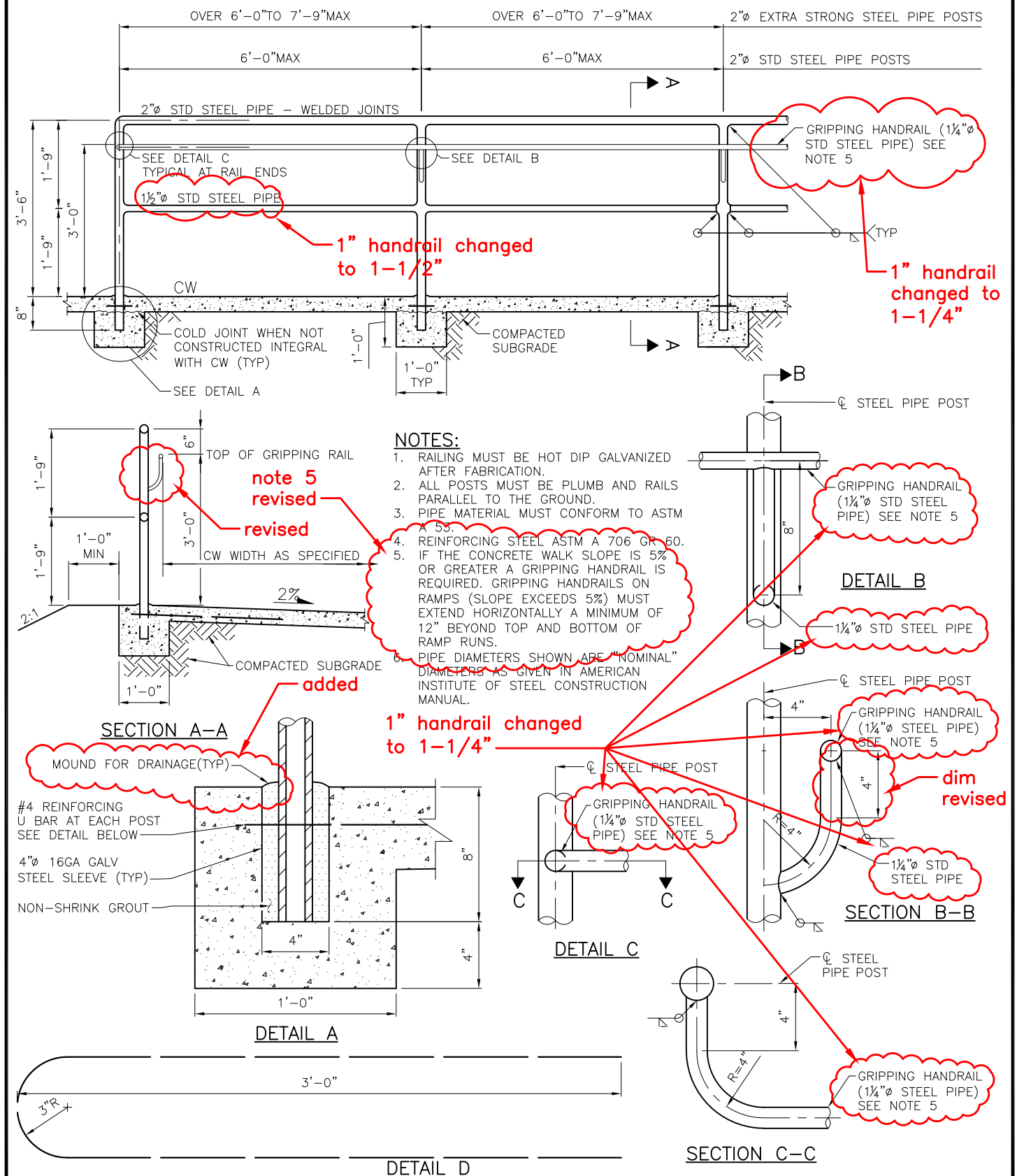
SECTION A-A



City of Seattle

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CEMENT CONCRETE
STAIRWAY & SINGLE BIKE RUNNEL



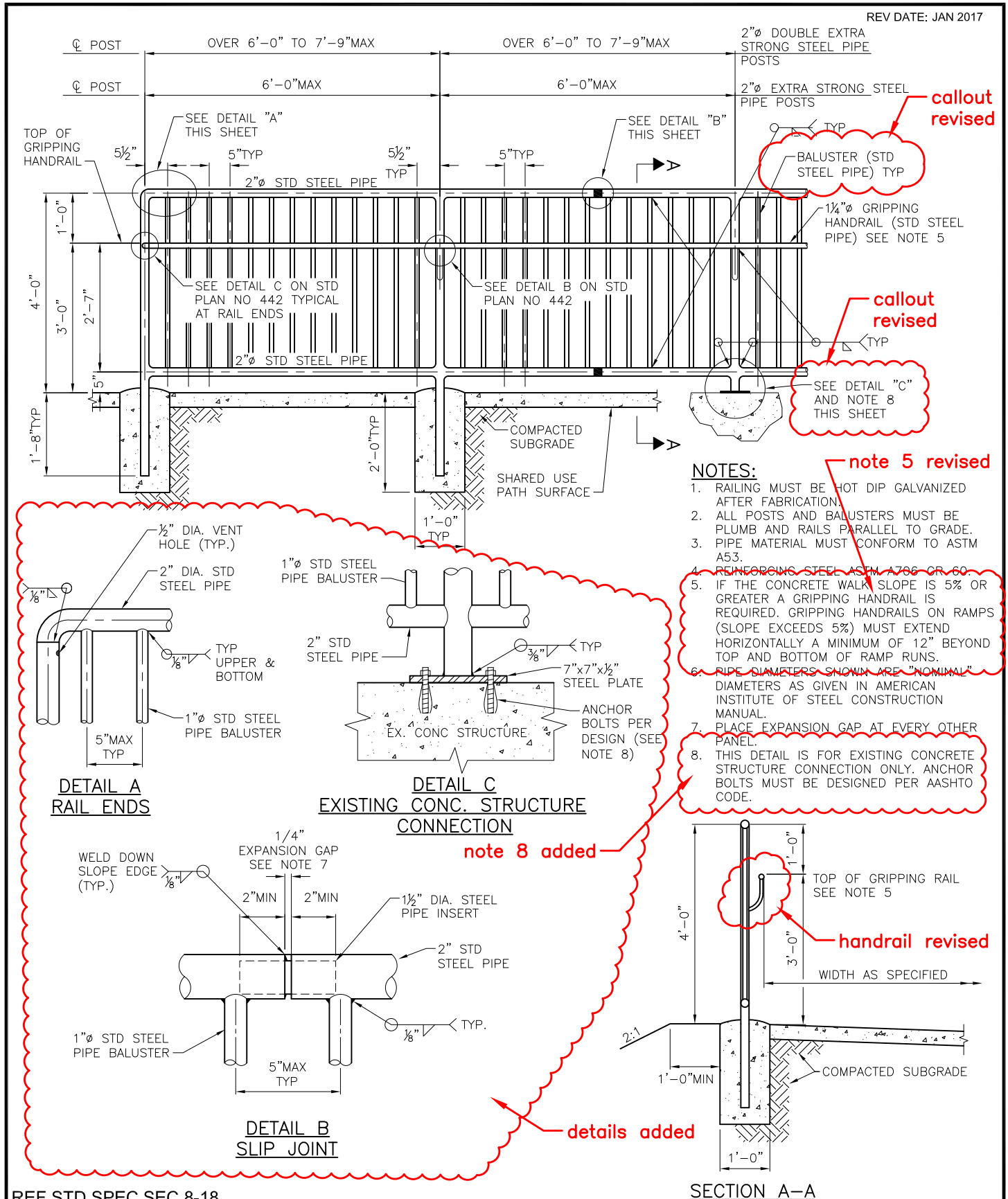
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City of Seattle

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STEEL PIPE HANDRAIL



REF STD SPEC SEC 8-18

SECTION A-A

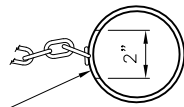


City of Seattle

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VERTICAL RAILING

CUT & REMOVE 1" X 2"
SLOT IN 4"Ø PIPE TO
ACCOMMODATE CHAIN



TOP VIEW

1/4" MILD STEEL
CHAIN, 10" LENGTH,
WELD TO 4"Ø PIPE



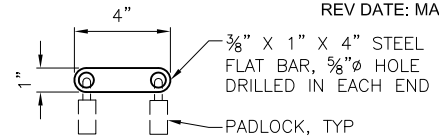
1'-2" LONG,
4"Ø SCHEDULE
40 STEEL PIPE

FRONT VIEW

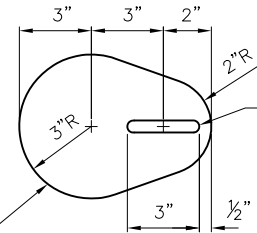
SIDE VIEW

GALVANIZED PIPE SLEEVE

new std plan

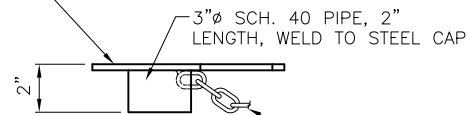


OPTIONAL DOUBLE LOCK BAR



CUT & REMOVE 3" X 1/2"
SLOT IN 1/4" THICK STEEL
CAP FOR LOCK TAB

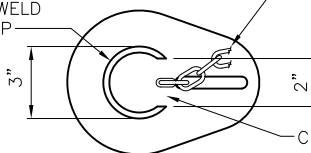
LID - TOP VIEW



LID - SIDE VIEW

3"Ø SCH. 40 PIPE,
2" LENGTH, WELD
TO STEEL CAP

1/4" MILD STEEL
CHAIN, 10" LENGTH,
WELD TO BOTTOM
OF 1/4" STEEL CAP

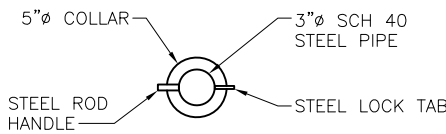


CUT & REMOVE 2" WIDE X
FULL DEPTH SLOT IN 3"Ø
PIPE PRIOR TO ATTACHMENT

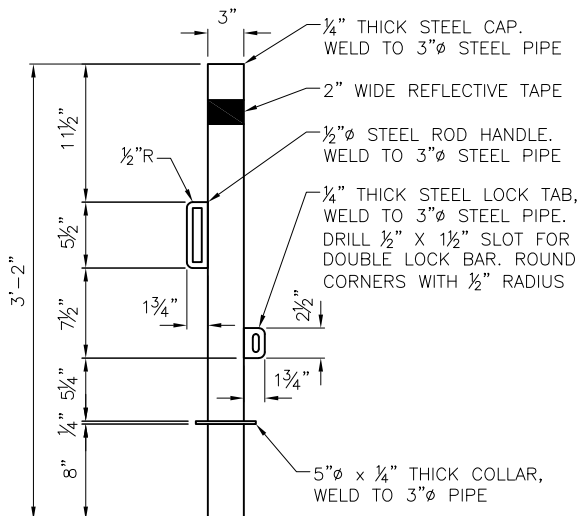
LID - BOTTOM VIEW
STEEL LID

NOTES:

1. ALL PIPE SECTIONS MUST BE CONSTRUCTED OF SCHEDULE 40 STEEL PIPE AND ALL COMPONENTS MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. BOLLARD SHALL NOT EXCEED 50 LBS.



BOLLARD PLAN VIEW



BOLLARD ELEVATION

BOLLARD

STEEL LID WITH
CONNECTING CHAIN,
PROVIDE 3/8" RECESS IN
CONCRETE TO
ACCOMMODATE CAP

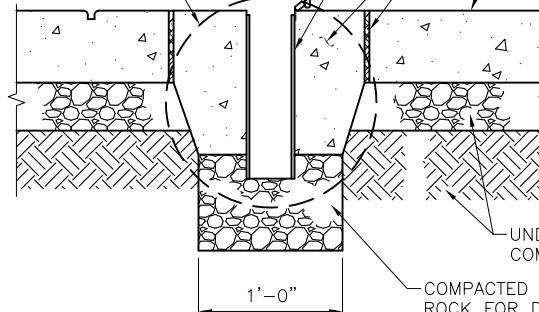
STEEL LID, SEE
DETAIL ABOVE

4"Ø SCH. 40 STEEL PIPE
SLEEVE, SET TOP AT 3/8"
BELOW FINISHED GRADE,
FORM CONC TO
ACCOMMODATE CHAIN

CONC PAVING, THICKEN
TO 12" DEPTH &
INSTALL EXPANSION
MATERIAL

FINISHED GRADE

GALVANIZED PIPE
SLEEVE, SEE
DETAIL ABOVE



UNDISTURBED OR
COMPACTED SUBGRADE

COMPACTED CRUSHED
ROCK FOR DRAINAGE,
8" DEPTH

SLEEVE IN CONCRETE SECTION VIEW

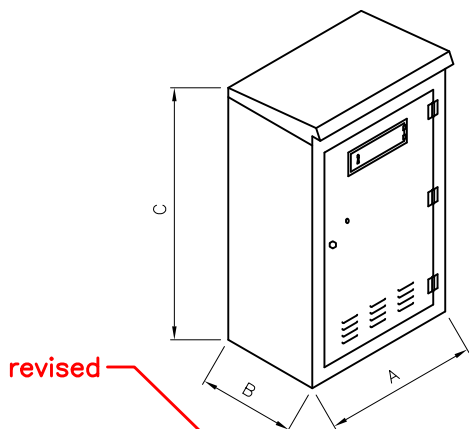
REF STD SPEC SEC 8-02



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REMOVABLE STEEL BOLLARD

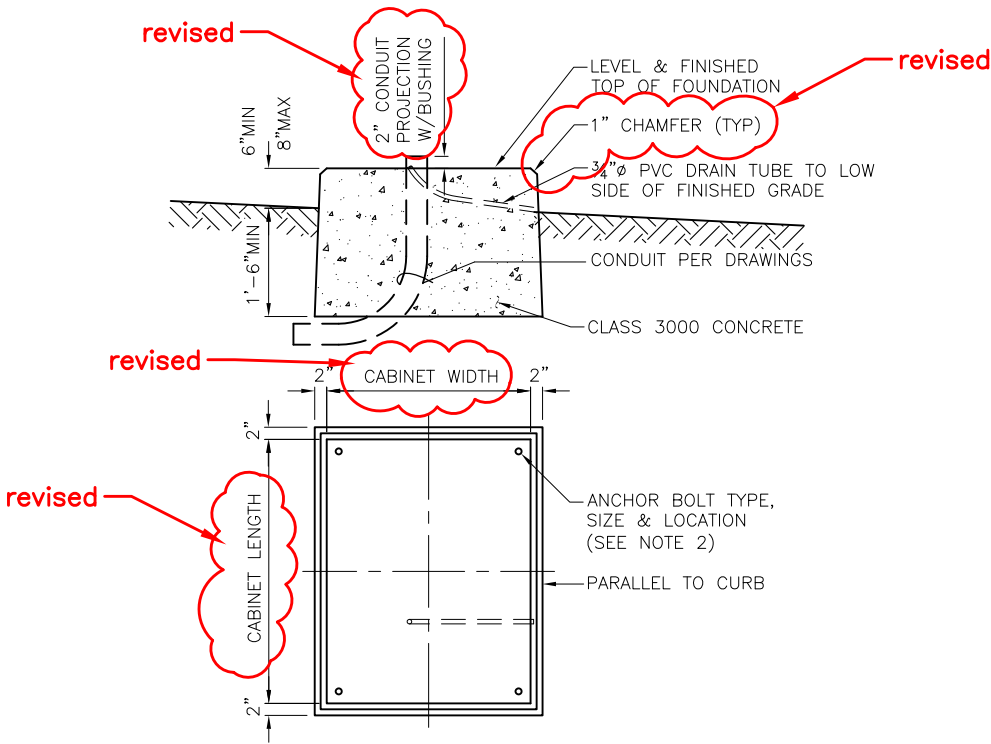


- NOTES:
- 1. UNLESS OTHERWISE SPECIFIED, TRAFFIC SIGNAL CONTROLLER CABINET MUST BE FURNISHED BY THE CITY
 - 2. UNLESS OTHERWISE SPECIFIED, EXACT CABINET DIMENSIONS & ANCHOR BOLT LOCATIONS MUST BE PROVIDED BY THE TRAFFIC SIGNAL SHOPS
 - 3. PLACE CABINET DOOR ON SIDEWALK SIDE OF FOUNDATION
 - 4. SEAL CABINET TO FOUNDATION WITH GREY OR CLEAR SILICONE TO PREVENT MOISTURE FROM ENTERING THE CABINET

misspelling fixed

DIMENSION	TYPE II	TYPE III	TYPE VI
A	30"	44"	44"
B	17"	25 1/2"	25 1/2"
C	38" TO 52"	50" TO 58"	64 3/4" TO 67 1/2"

SIGNAL CONTROLLER CABINET-TYPES II, III, VI



SIGNAL CONTROLLER FOUNDATION

SEE STD PLANS NO 500b & 500c FOR CONDUIT LAYOUT

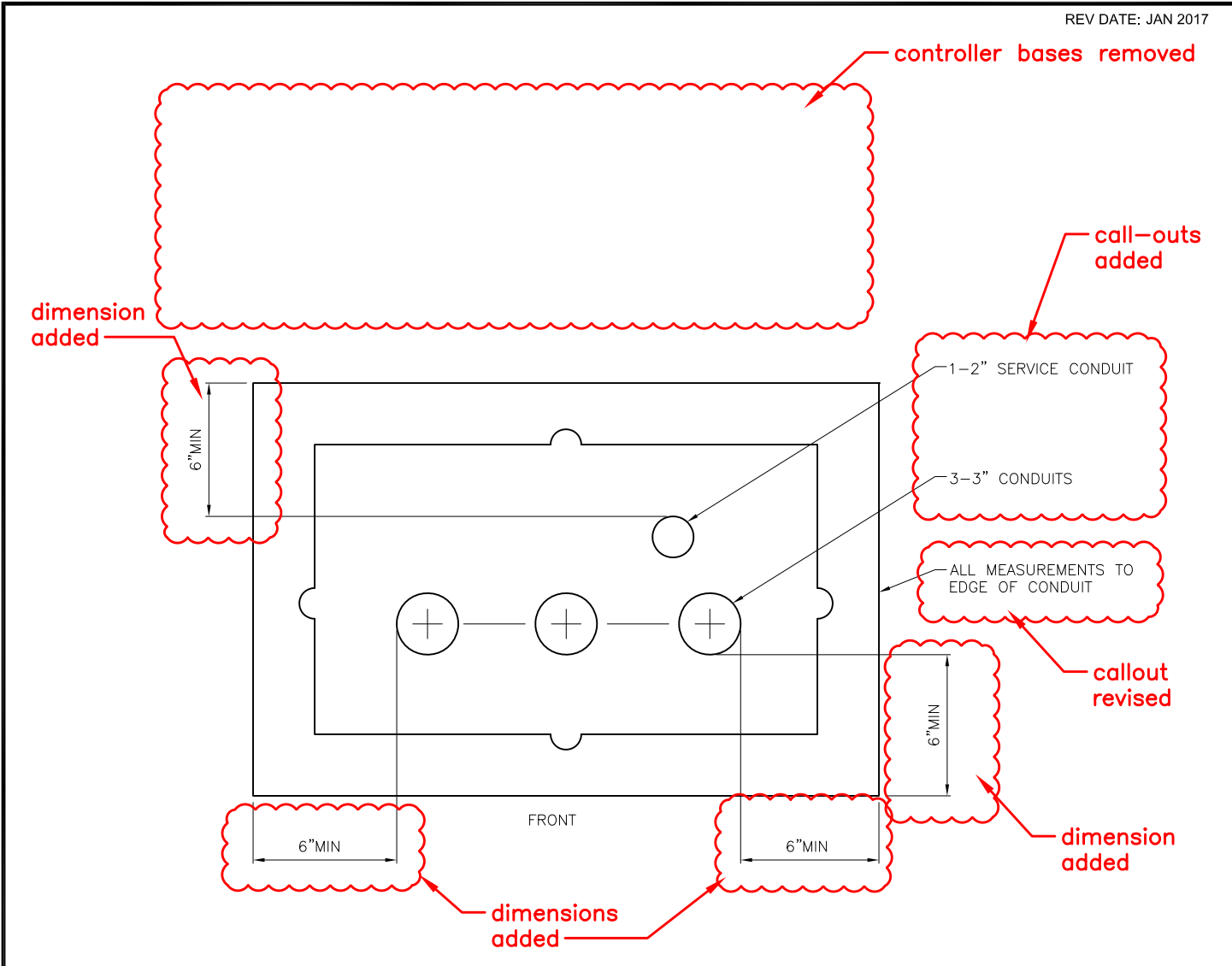
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

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SIGNAL CONTROLLER
CABINET & FOUNDATION



CONDUIT LAYOUT – SIGNAL CONTROLLER FOUNDATION

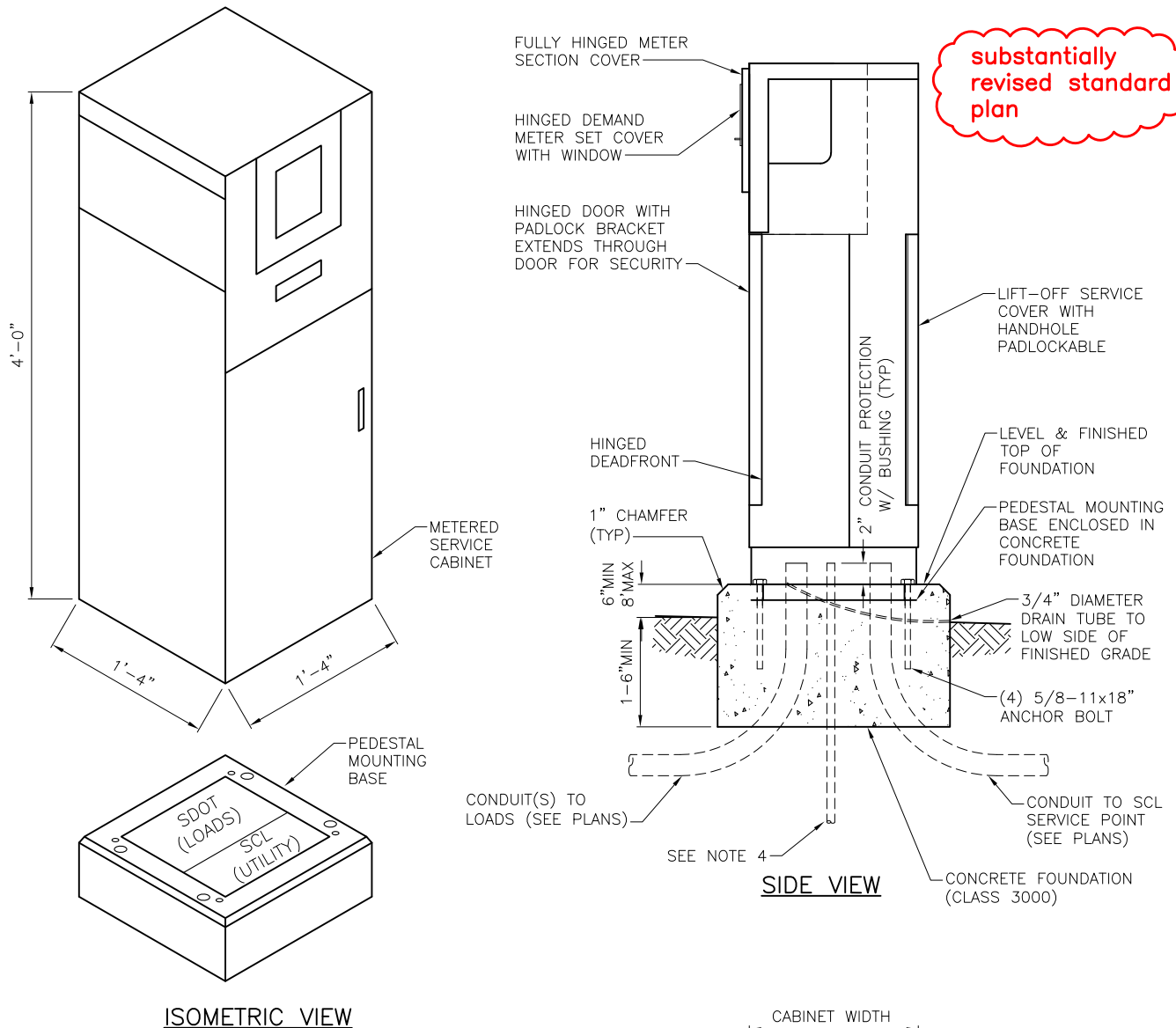
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

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**SIGNAL CONTROLLER
FOUNDATION CONDUIT LAYOUT**



substantially
revised standard
plan

spec sections added

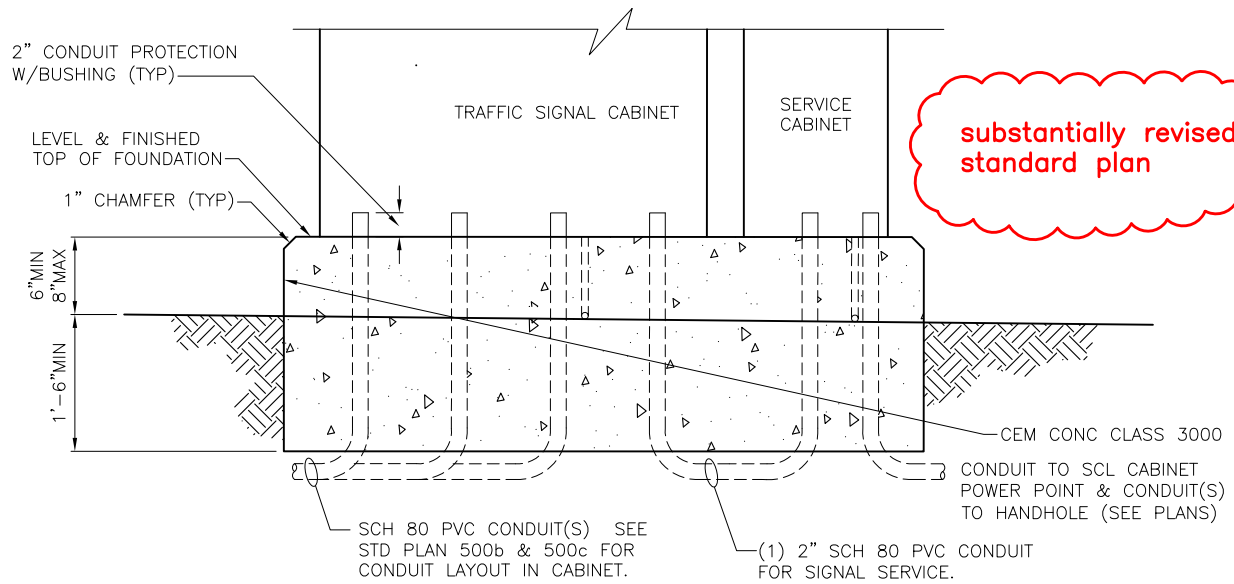
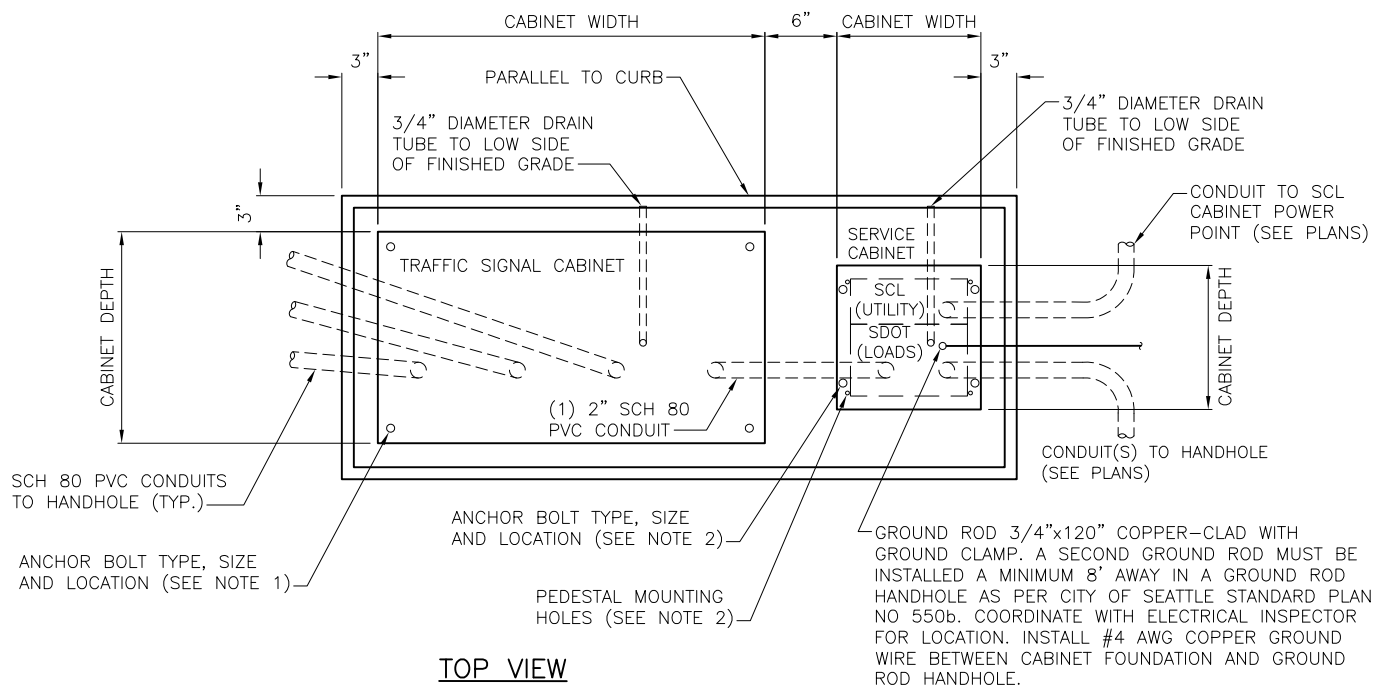
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City of Seattle

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**SERVICE CABINET
FOUNDATION DETAIL**

SIDE VIEWTOP VIEWJOINT SIGNAL CONTROLLER/SERVICE CABINET FOUNDATION DETAIL

NOT TO SCALE

NOTES:

1. FOR SIGNAL CONTROLLER DIMENSIONS AND OTHER REQUIREMENTS, SEE STD PLAN NO. 500a.
2. FOR SERVICE CABINET DIMENSIONS AND OTHER REQUIREMENTS, SEE STD PLAN NO 501a.
3. SEAL CABINETS TO FOUNDATION WITH GREY OR CLEAR SILICON TO PREVENT MOISTURE FROM ENTERING THE CABINET.
4. THE SERVICE CABINET MUST BE PLACED ON THE OPPOSITE SIDE OF THE CONTROLLER CABINET FROM THE UPS.

note 4 added

spec sections added

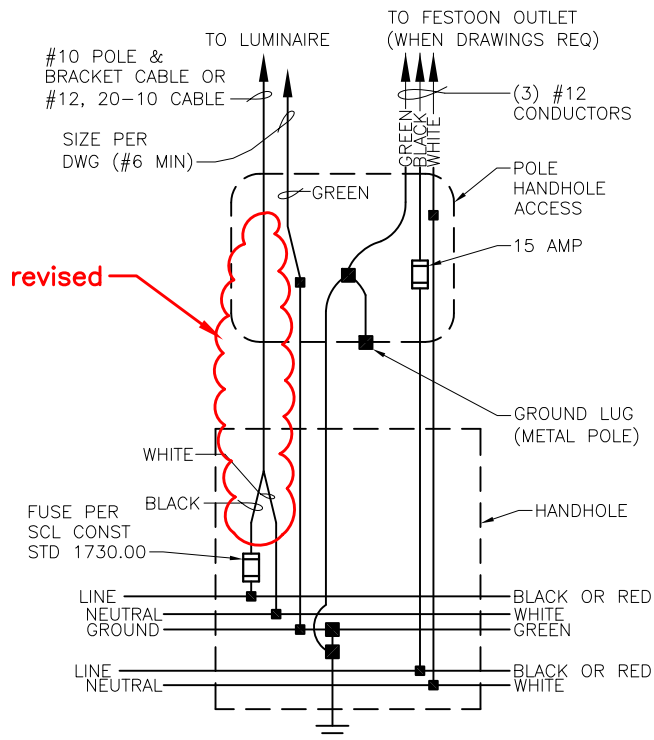
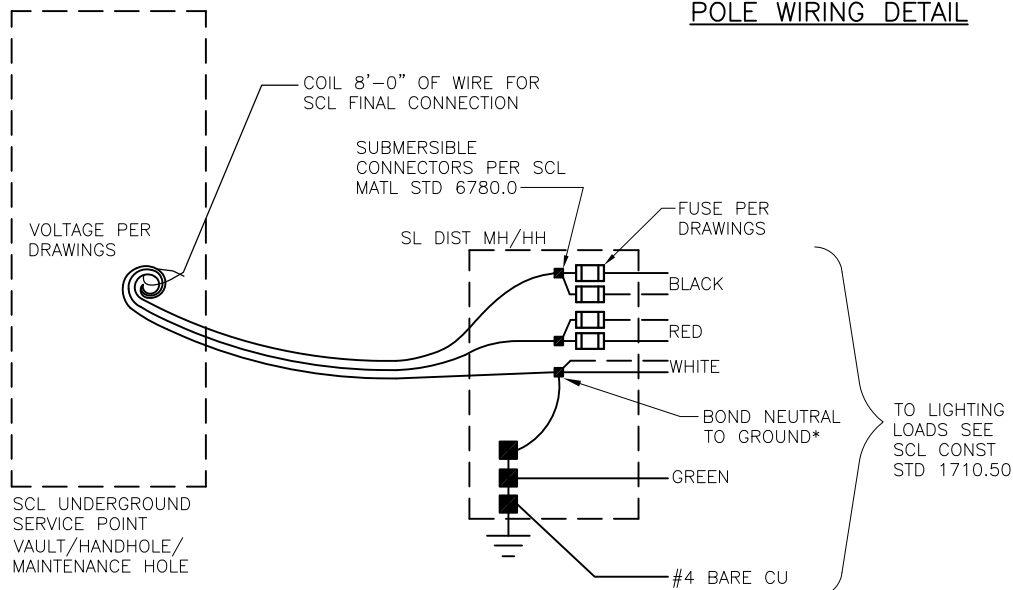
REF STD SPEC SEC 8-31,8-32



City of Seattle

NOT TO SCALE

**JOINT SIGNAL CONTROLLER/
SERVICE CABINET
FOUNDATION DETAIL**

POLE WIRING DETAILLIGHTING SERVICEUNDERGROUND SERVICE CONNECTIONNOTES:

1. SCL REQ NEUTRAL TO BE BONDED TO GROUND IN SCL SERVICE POINT
2. BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION
3. FOR JOINT SCL STREETLIGHT & SDOT TRAFFIC HANDHOLES, SEE SCL CONST STD 1810.05

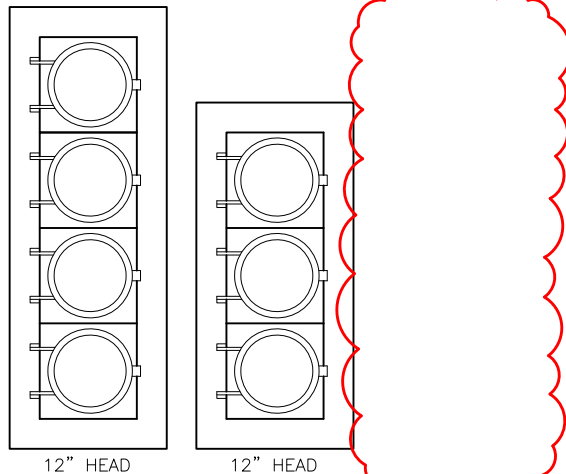
REF STD SPEC SEC 8-30 & 8-31



City of Seattle

NOT TO SCALE

**LIGHTING SERVICE CONNECTION
& LIGHT POLE WIRING DETAIL**

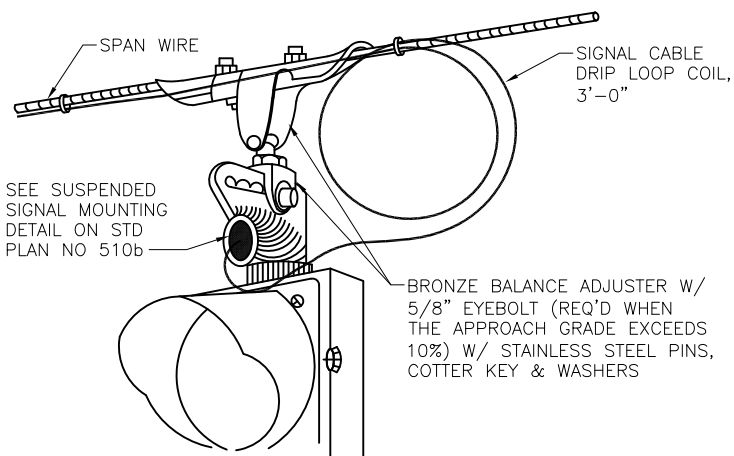
TYPICAL SIGNAL FACES

W/ TUNNEL VISORS &
5" BACKPLATE (LOUVERED)

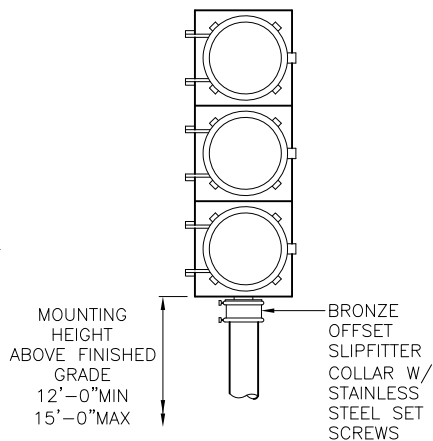
1" YELLOW, DIAMOND GRADE RETRO REFLECTIVE TAPE

8" heads removed

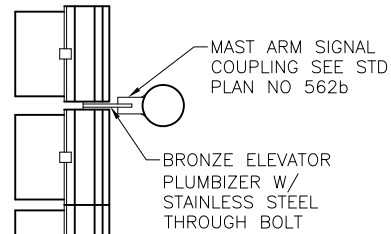
note added

SIGNAL HANGER DETAILNOTES:

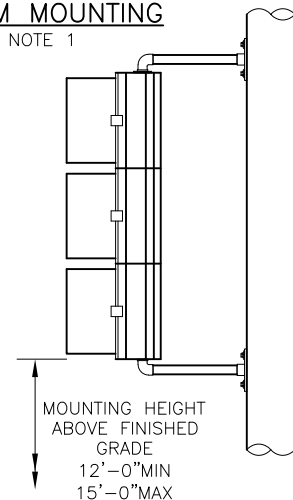
1. VERTICAL CLEARANCE: 17' MIN TO ROADWAY 19'-0" MAX (ON TRUCK ROUTES USE 18' TO 19')
2. BACKPLATES HAVE BEEN OMITTED FROM VARIOUS VIEWS FOR CLARITY

PEDESTAL TOP MOUNTING

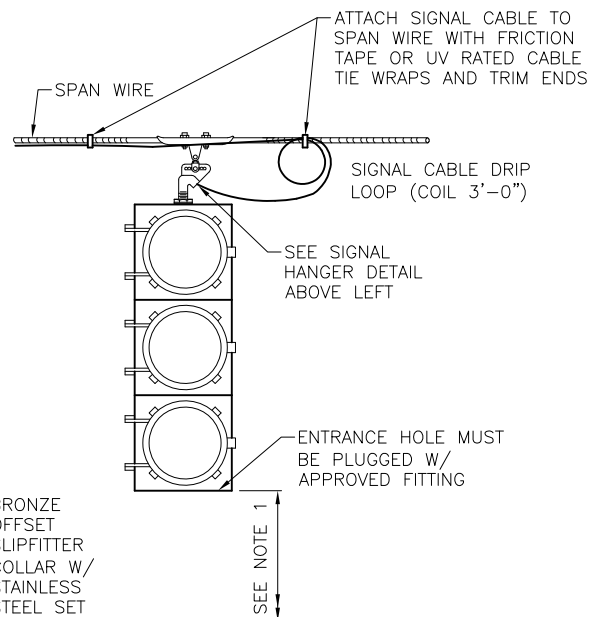
FOR PEDESTAL SEE STD PLAN NO 524

MAST ARM MOUNTING

SEE NOTE 1

BRACKET MOUNTING

FOR SIGNAL HEAD BRACKET ASSEMBLY
SEE STD PLAN NO 511



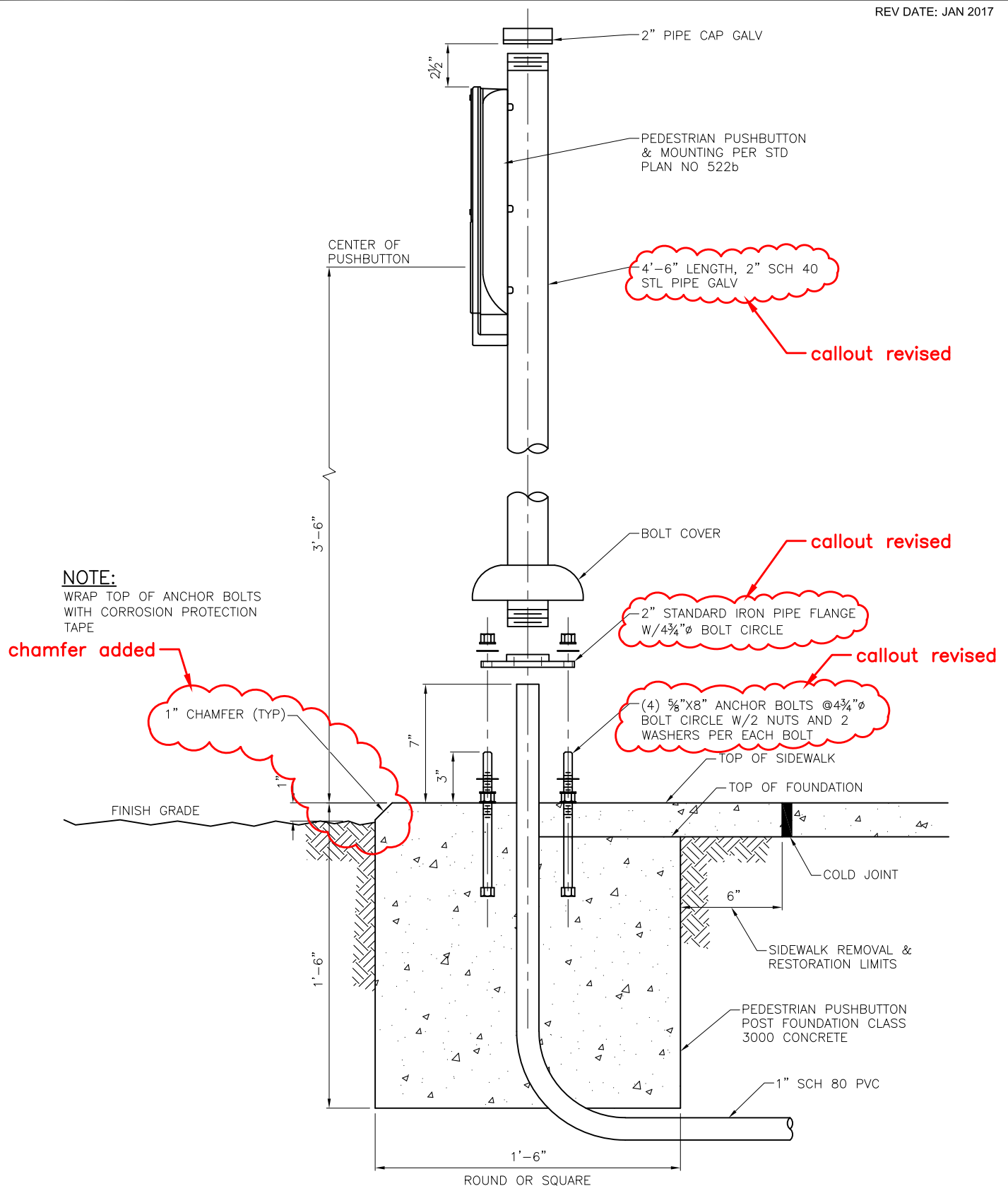
REF STD SPEC SEC 8-31



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VEHICULAR SIGNAL MOUNTING



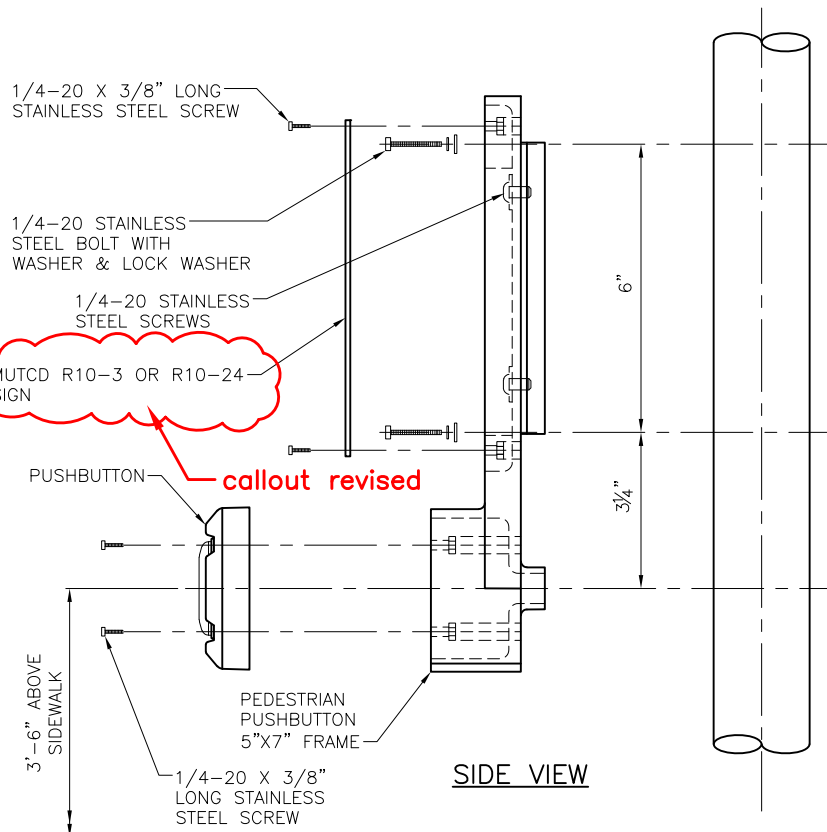
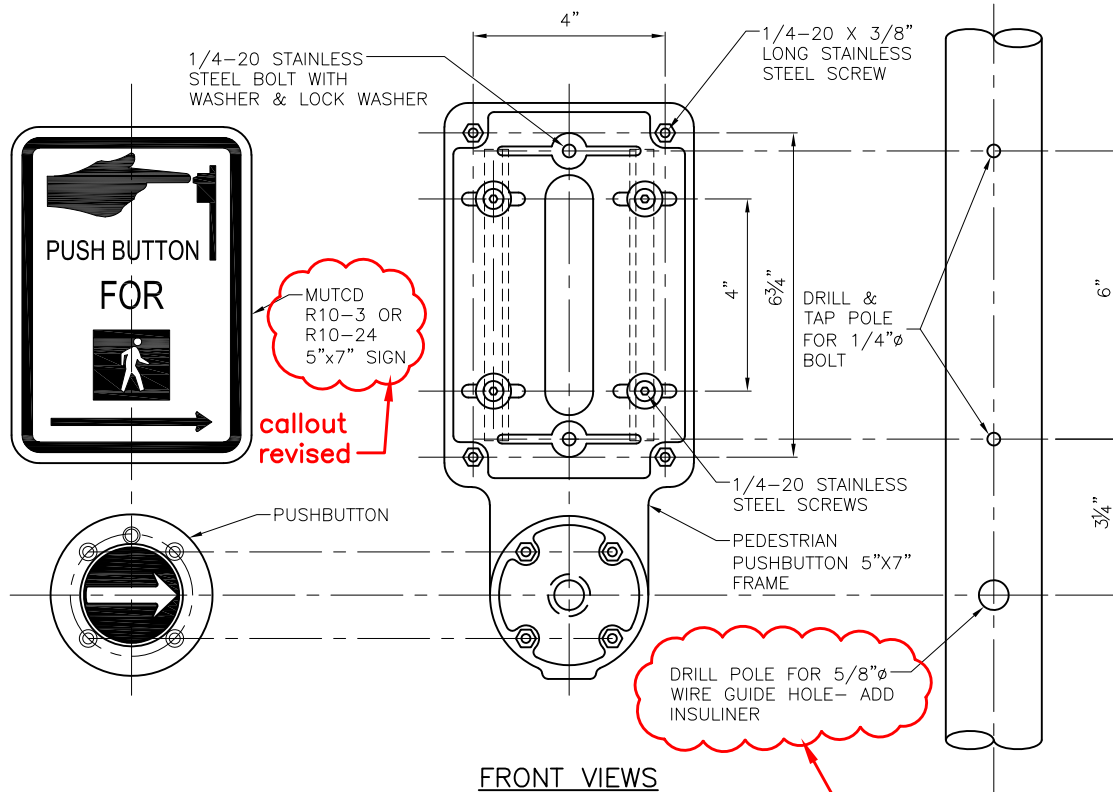
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

NOT TO SCALE

PEDESTRIAN PUSHBUTTON
POST & FOUNDATION

**NOTES:**

1. PUSHBUTTON MUST HAVE DIRECTIONAL ARROW AS SPECIFIED ON THE PLANS.
2. INSTALLATION OF TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES MUST BE ON A 4"Ø OR LARGER POLE.
3. DETAIL SHOWS PUSHBUTTON INSTALLED ON METAL POLE. PUSHBUTTON INSTALLED ON OTHER MATERIALS MUST BE PER MANUFACTURER'S RECOMMENDATION.

note 2 revised,
note 3 added

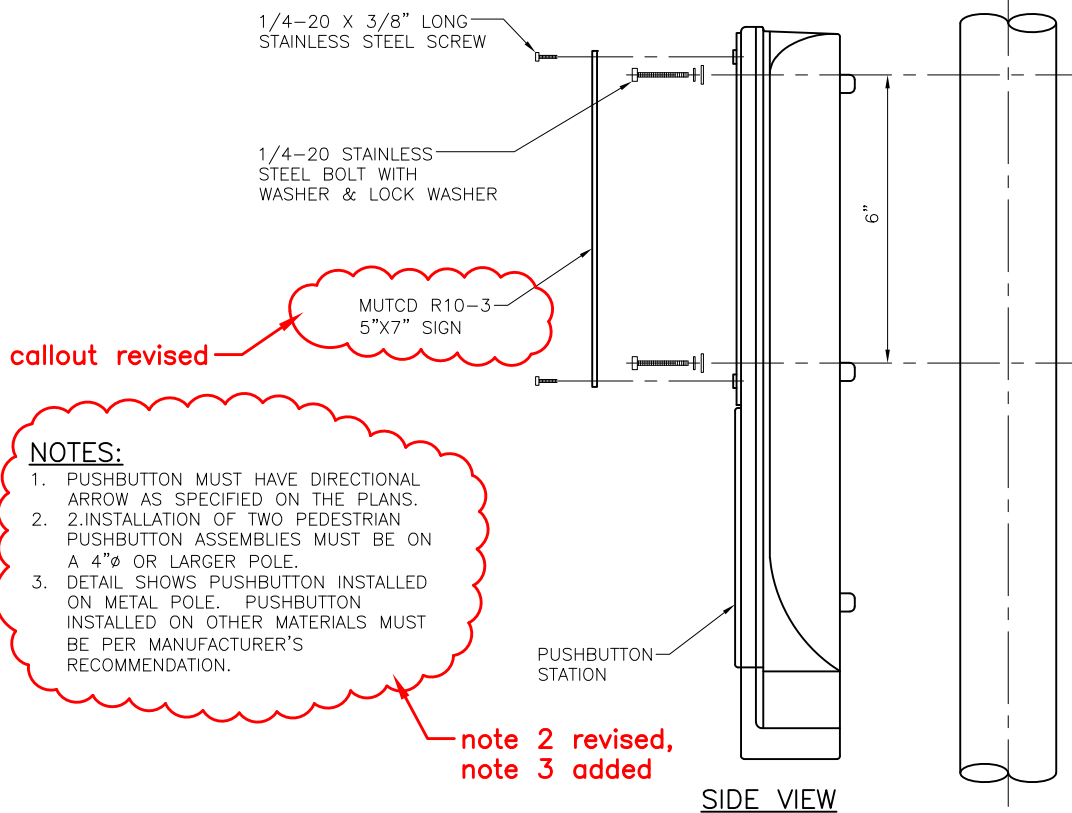
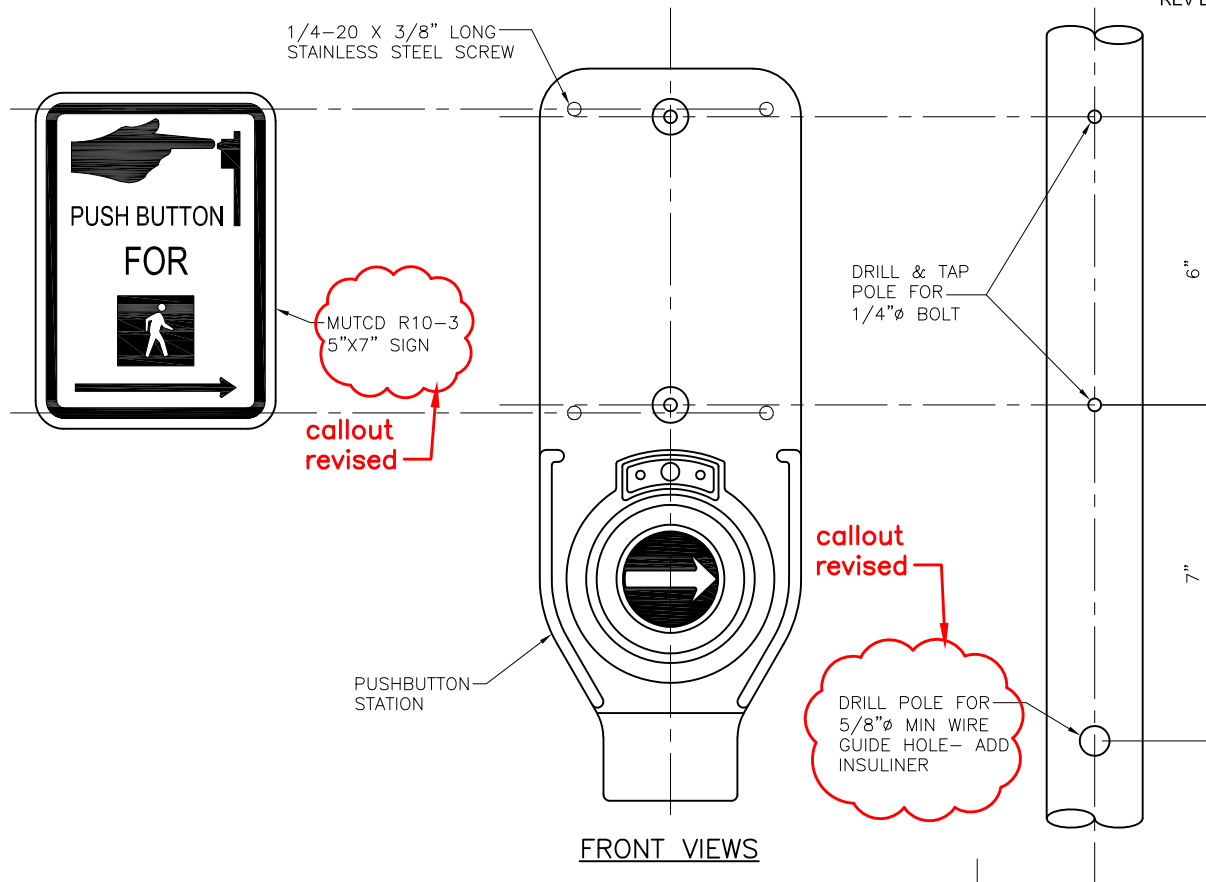
REF STD SPEC SEC 8-31



City of Seattle

NOT TO SCALE

PEDESTRIAN PUSHBUTTON
ASSEMBLY

**NOTES:**

1. PUSHBUTTON MUST HAVE DIRECTIONAL ARROW AS SPECIFIED ON THE PLANS.
2. INSTALLATION OF TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES MUST BE ON A 4"Ø OR LARGER POLE.
3. DETAIL SHOWS PUSHBUTTON INSTALLED ON METAL POLE. PUSHBUTTON INSTALLED ON OTHER MATERIALS MUST BE PER MANUFACTURER'S RECOMMENDATION.

REF STD SPEC SEC 8-31



City of Seattle

NOT TO SCALE

**ACCESSIBLE PEDESTRIAN
SIGNAL (APS)
PED. PUSHBUTTON ASSEM.**

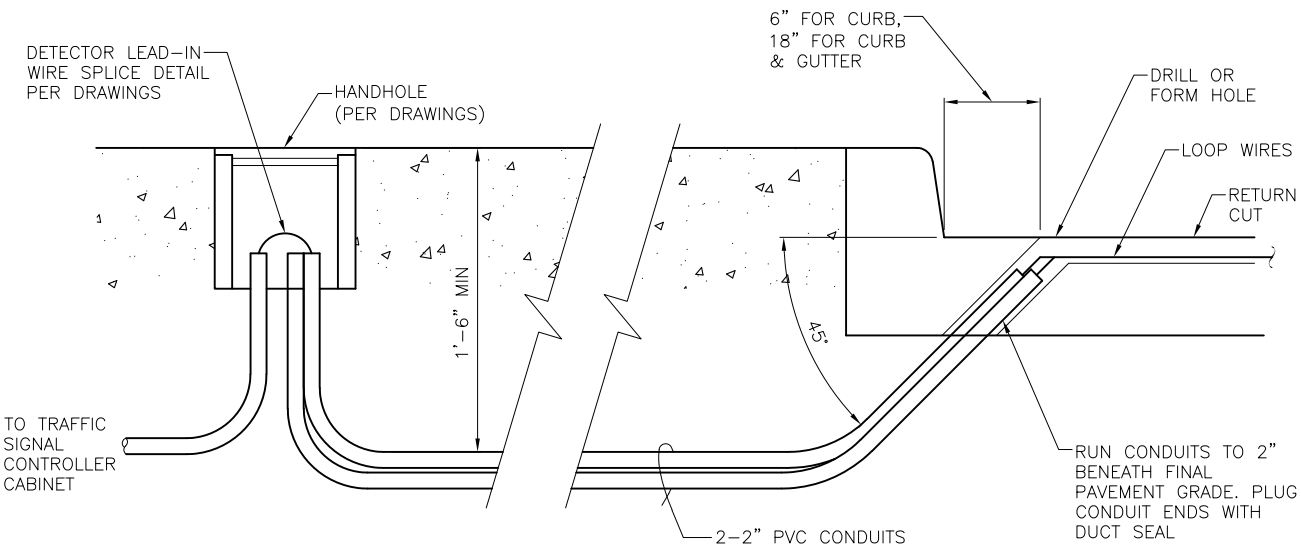
REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

PEDESTAL & FOUNDATION



CURB/PAVEMENT ENTRANCE FOR DETECTOR LOOP WIRES

note 2 revised

NOTES:

1. SHARP EDGE TOOLS MUST NOT BE USED IN PLACING CONDUCTORS IN SAW CUTS
2. EACH PAIR OF LOOP WIRES IN THE RETURN CUT MUST BE TWISTED A MINIMUM OF 3 TURNS PER FOOT AND MAY SHARE COMMON RETURN CUTS WITH OTHER TWISTED PAIRS MAX 3 LOOPS PER CUT.
3. TAPE LOOP WIRE A MINIMUM OF 2 TURNS AT EACH CORNER
4. REMOVE SHARP CORNER EDGES IN SAW CUTS WHERE LOOP WIRE WILL BE BENT AROUND
5. PERFORM RESISTANCE AND CONTINUITY TESTS PRIOR TO SEALING LOOP WIRES
6. COIL 5'-0" OF LOOP WIRE IN HANDHOLE

title changed

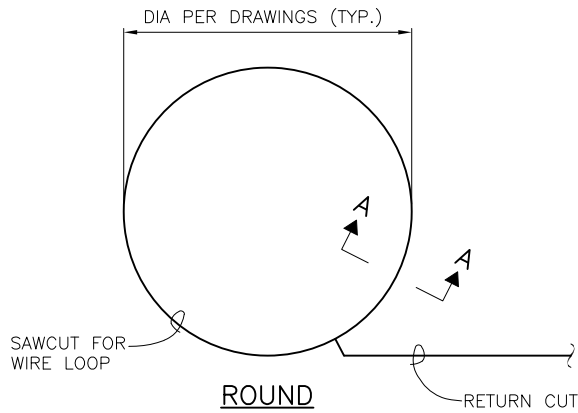
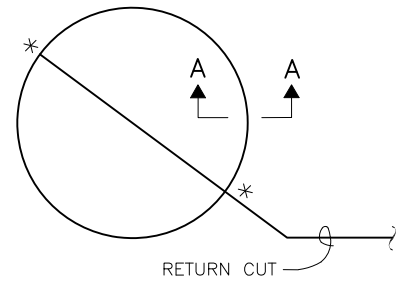
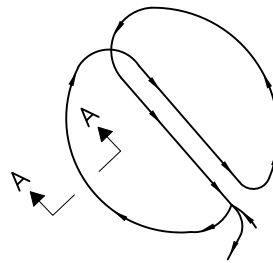
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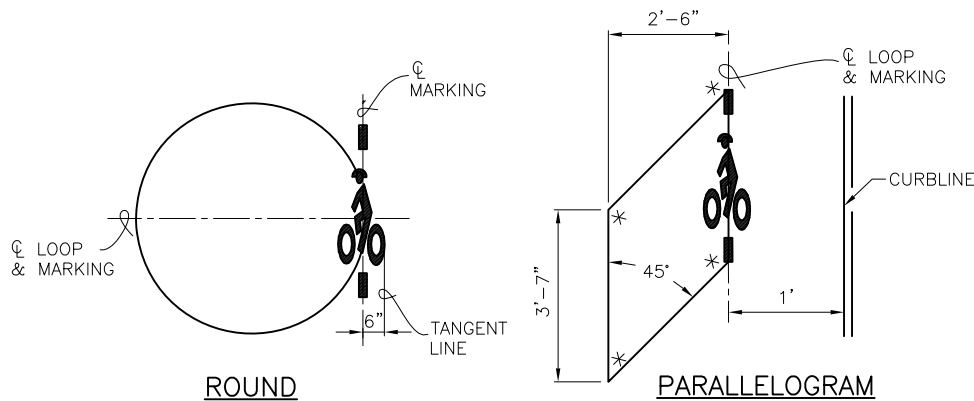
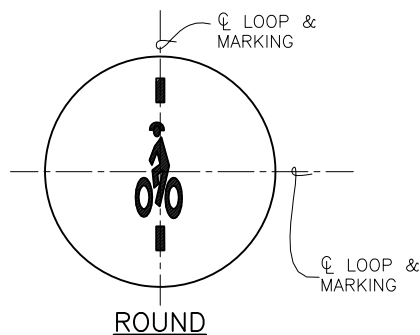
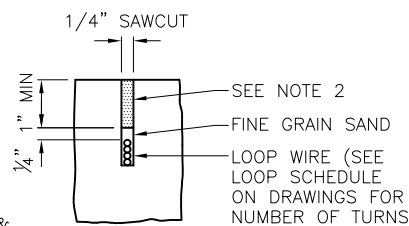
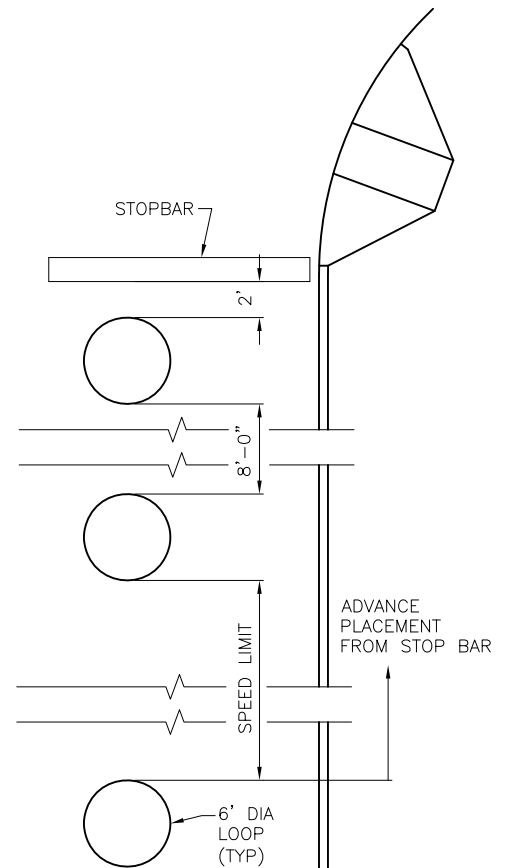
City of Seattle

NOT TO SCALE

DETECTOR LOOP LEAD-IN

DIPOLE LOOP DETECTORQUADRIPOLE LOOP DETECTOR***NOTE:**

OVERLAP CUT FOR FULL DEPTH AT CORNERS (TYP) CHIP 1" BACK THEN ROUND OFF CORNERS WHERE LOOP WIRE WILL BE BENT 90° OR LESS.

BICYCLE DIPOLEBICYCLE QUADRIPOLESECTION A-ASTANDARD LOOP SPACING**NOTES:**

1. SEE STD PLAN NO. 725 FOR BICYCLE DETECTOR PAVEMENT MARKER DETAIL.
2. FILL CUT AFTER VERTICAL PLACEMENT AND TESTING WITH HOT PAVING GRADE LIQUID ASPHALT ASTM D 312 TYPE III OR QUICK SETTING HIGH STRENGTH GROUT

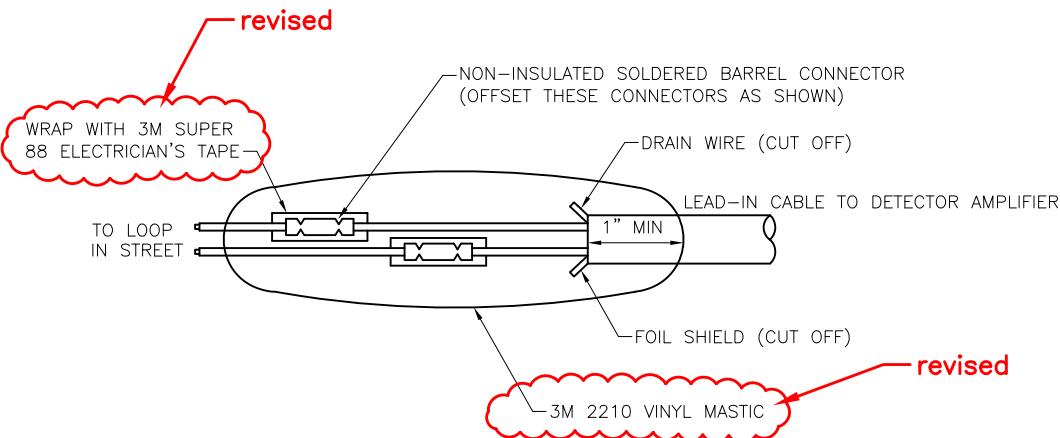
REF STD SPEC SEC 8-31



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NOT TO SCALE

DETECTOR LOOP DETAILS



DETECTOR LEAD-IN WIRE SPLICE DETAIL

NOTE:
SOLDER CONNECTION AFTER CRIMPING

signal splice detail removed

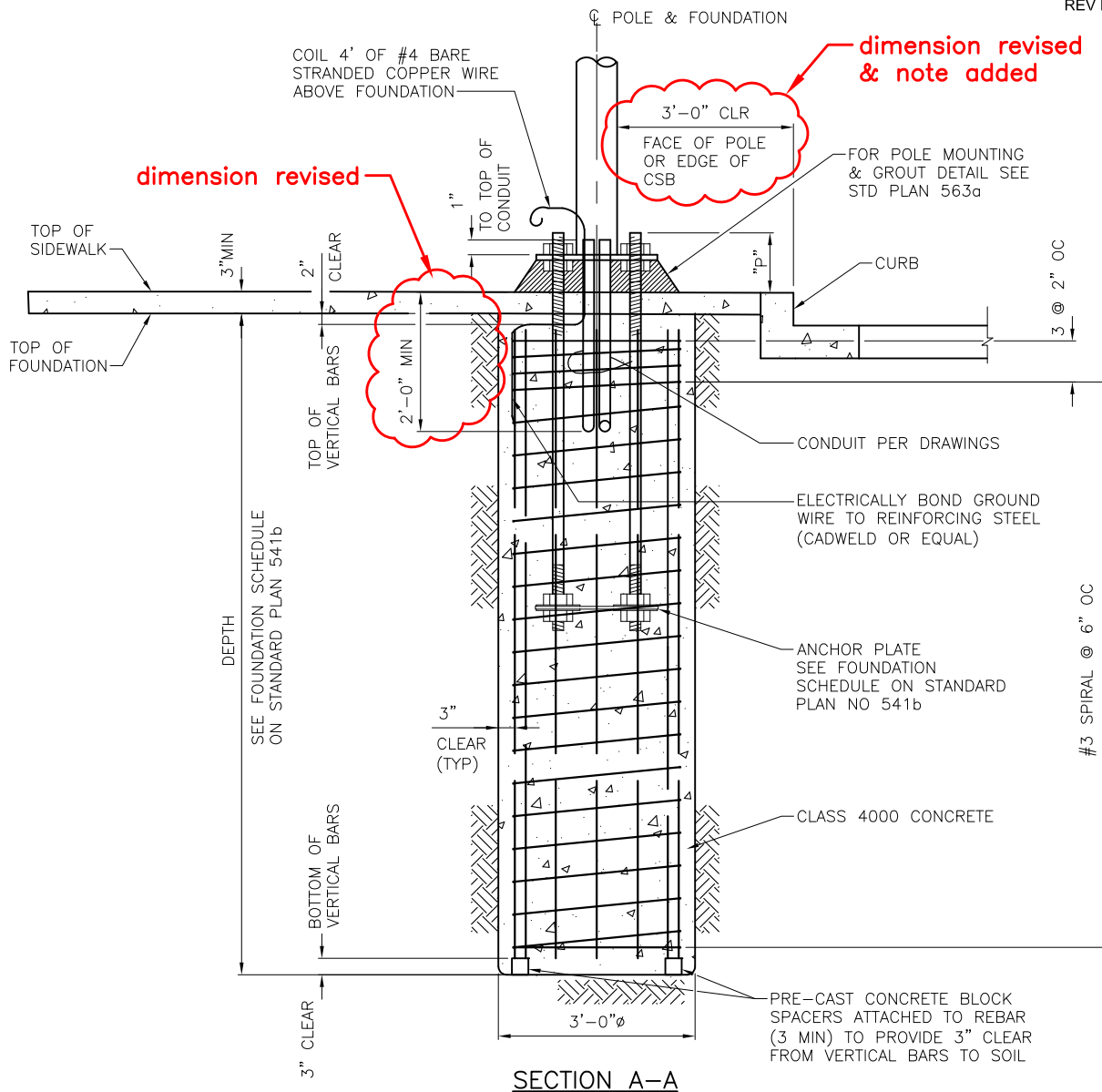
REF STD SPEC SEC 8-31



City of Seattle

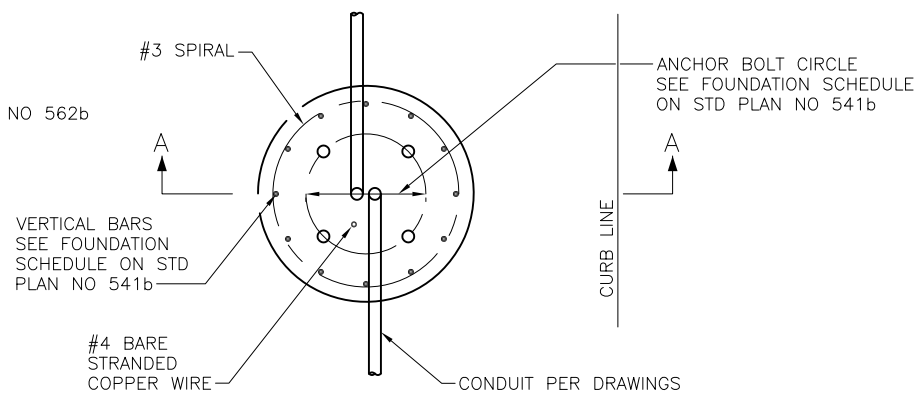
NOT TO SCALE

DETECTOR LOOP WIRE &
SIGNAL CABLE SPLICE



NOTE:

FOR STEEL MAST ARM POLE
FOUNDATION SEE STD PLAN NO 562b



PLAN VIEW
STRAIN POLE FOUNDATION IN SIDEWALK

REF STD SPEC SEC 8-32, 6-02

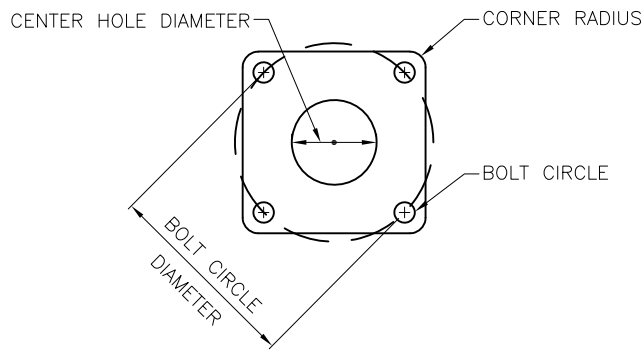


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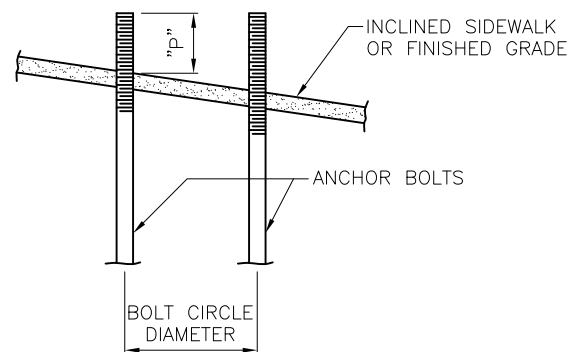
STRAIN POLE FOUNDATION DETAIL (TYPE T, V, X & Z)

FOUNDATION SCHEDULE

POLE TYPE	PROJECTION	VERTICAL REINFORCING	DEPTH (LATERAL BEARING)		ANCHOR BOLTS (TOTAL 4 PER POLE)	ANCHOR PLATE DIMENSIONS				
	P		100#/SF/FT	150#/SF/FT		SIZE	BOLT CIRCLE DIA	BOLT HOLE	CENTER HOLE	CORNER RADIUS
T	7½"	10 #8	8'-0"	7'-6"	1½" DIA X 60"	¾" X 16" X 16"	14½"	1⅝"	10"	1⅝"
V	9"	10 #8	9'-6"	8'-6"	1¾" DIA X 72"	¾" X 16" X 16"	18"	1⅞"	12½"	1⅝"
X	10"	12 #8	12'-6"	10'-6"	2" DIA X 72"	¾" X 18" X 18"	20"	2⅛"	14"	2"
Z	11½"	12 #8	15'-0"	13'-0"	2½" DIA X 72"	½" X 20" X 20"	22"	2⅝"	15"	2¼"



ANCHOR PLATE



INCLINED CONDITION

NOTES:

1. CONCRETE STRENGTH MUST BE CLASS 4000, ¾" MAX SIZE COARSE AGGREGATE.
2. ANCHOR BOLTS FOR TYPE V,X,Z: ASTM F1554-99, GRADE 105, CLASS 2A INCLUDING SUPPLEMENTARY REQUIREMENTS S2, S3 AND S5. ANCHOR BOLTS FOR TYPE T: ASTM F 1554, GRADE 105, FY=55 KSI MIN. NUTS: ASTM A563 HEAVY HEX GRADE DH. HARDENED STEEL WASHERS: ASTM F436.
3. ANCHOR PLATE: ASTM A36, HOT DIP GALVANIZED.
4. ALL REINFORCING BARS MUST BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A706, GRADE 60.
5. ANCHOR BOLTS MUST BE HOT DIP GALVANIZED ASTM A153 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH 18" OF THREADS ON TOP & 12" ON BOTTOM.
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8-32.3(2)A PRIOR TO POURING CONCRETE.

note 2 revised

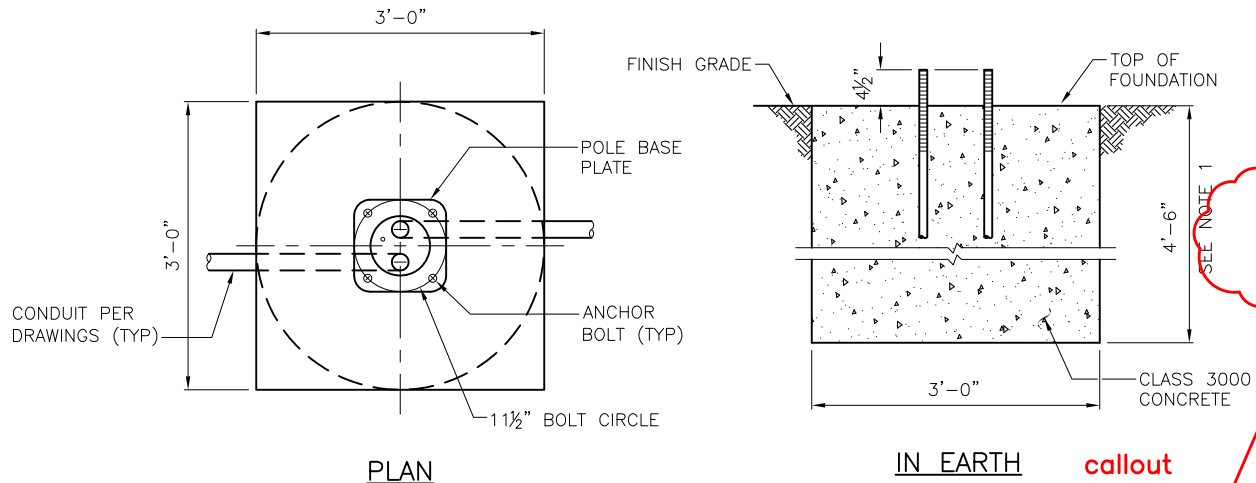
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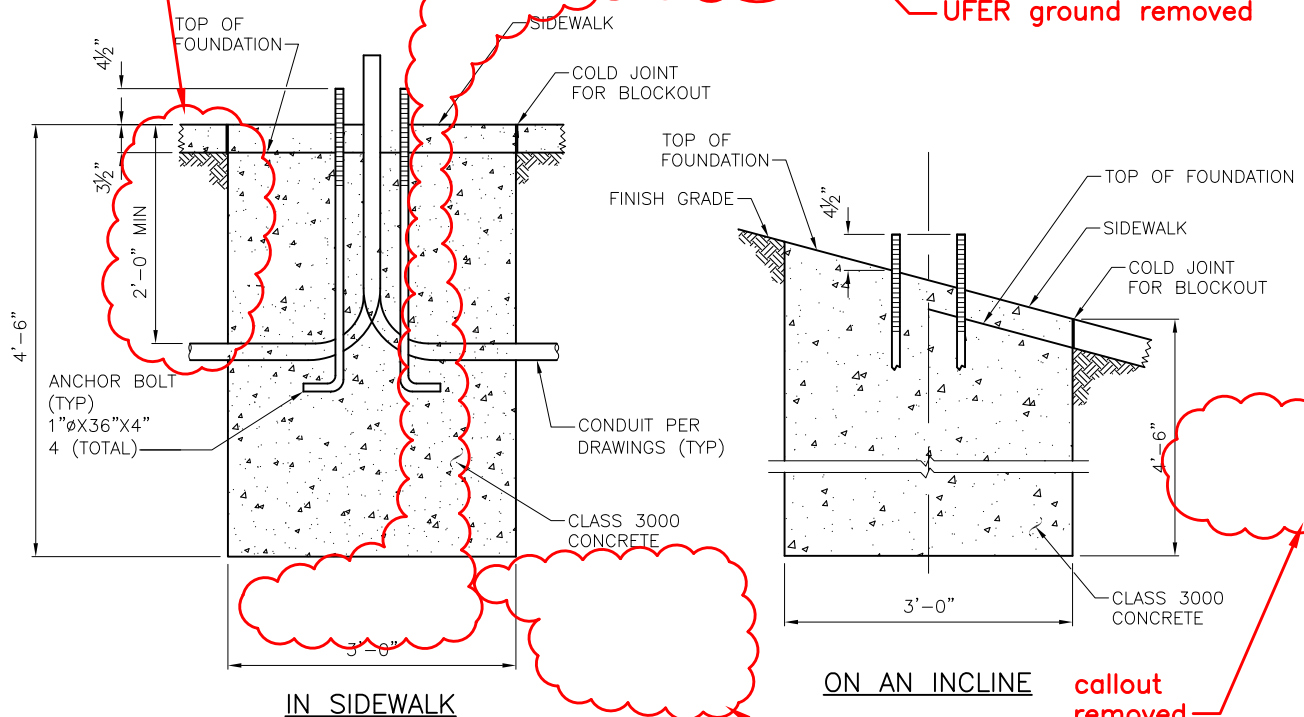
City of Seattle

NOT TO SCALE

STRAIN POLE FOUNDATION
SCHEDULE & NOTES
(TYPE T, V, X & Z)



dimension revised



NOTES:

1. BOLT CIRCLE: 11 1/2" TYP
2. SEE SCL CONSTRUCTION STANDARD 1716.34 FOR POLE MOUNTING AND GROUT DETAIL
3. ANCHOR BOLTS MUST BE HOT DIP GALVANIZED ASTM A153 OR F2329, FULL LENGTH AND FABRICATED FROM ASTM F1554 OR A576 WITH 12" THREADS ON TOP

notes 2 & 3 and revised, note 4 removed

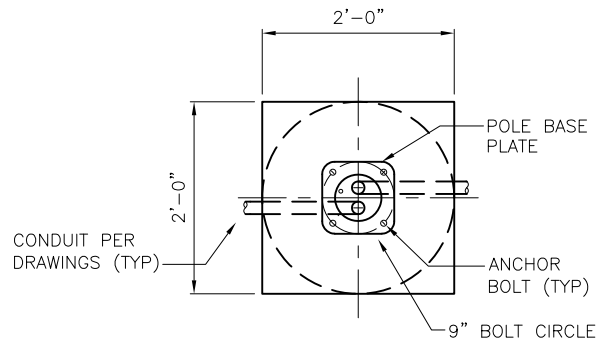
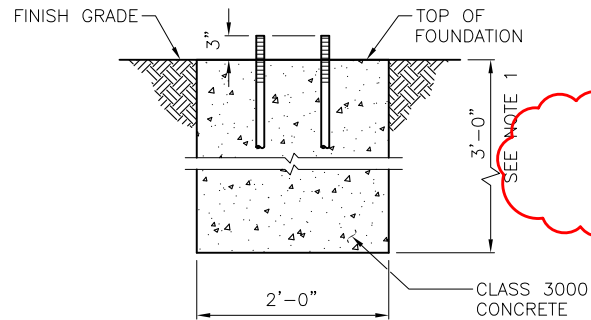
REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

**STREET LIGHT
POLE FOUNDATIONS**

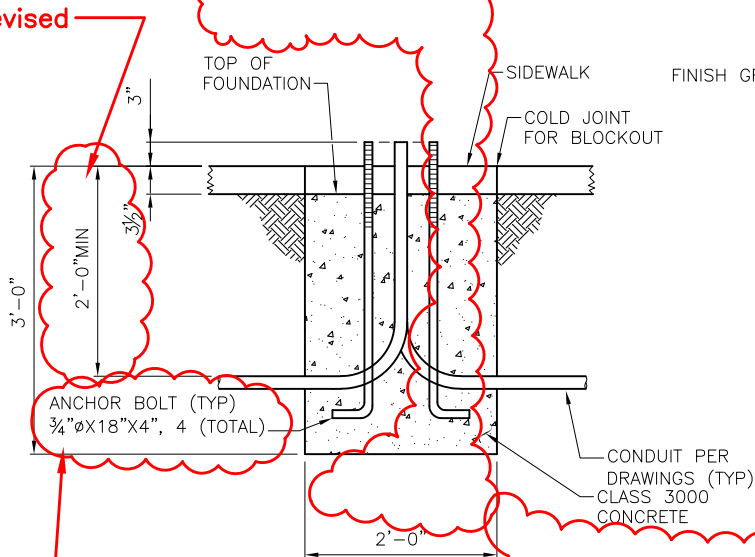
PLANIN EARTH

SEE NOTE 1

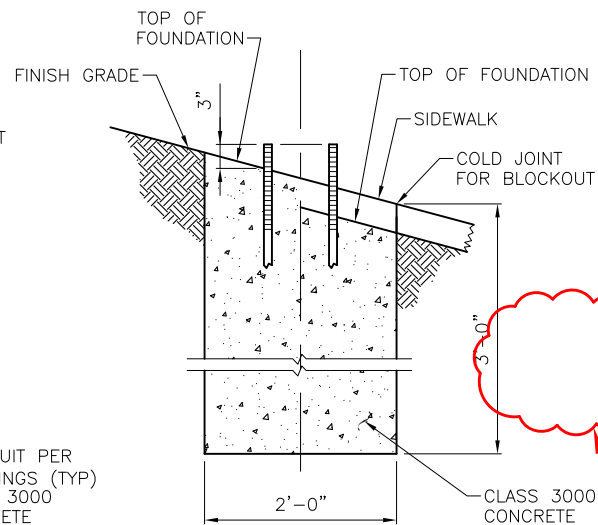
callout removed

dimension revised

UFER ground removed

IN SIDEWALK

callout revised

ON AN INCLINE

callout removed

NOTES:

1. BOLT CIRCLE: 9" TYP
2. SEE SCL CONSTRUCTION STANDARD 1716.34 FOR POLE MOUNTING AND GROUT DETAIL
3. ANCHOR BOLTS MUST BE HOT DIP GALVANIZED TO ASTM A153 OR F2329, FULL LENGTH AND FABRICATED FROM ASTM A576 WITH 8" OF THREADS ON TOP
4. SEE SCL MATERIAL STANDARD 5756.09 FOR POLES
5. SEE SCL CONSTRUCTION STANDARD 1716.07 FOR STREETLIGHT HANDHOLE AND CONDUIT REQUIREMENTS.

callout removed

notes 2 & 3 revised

note 5 added

REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

PEDESTRIAN STREET LIGHT
POLE FOUNDATIONS

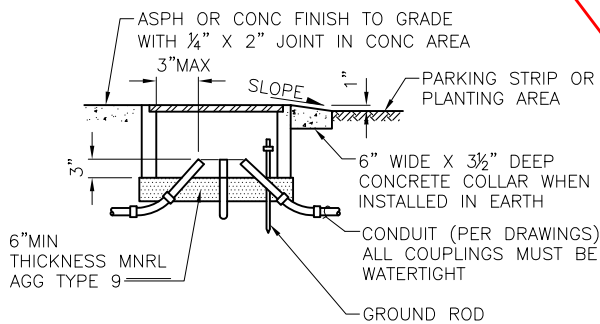
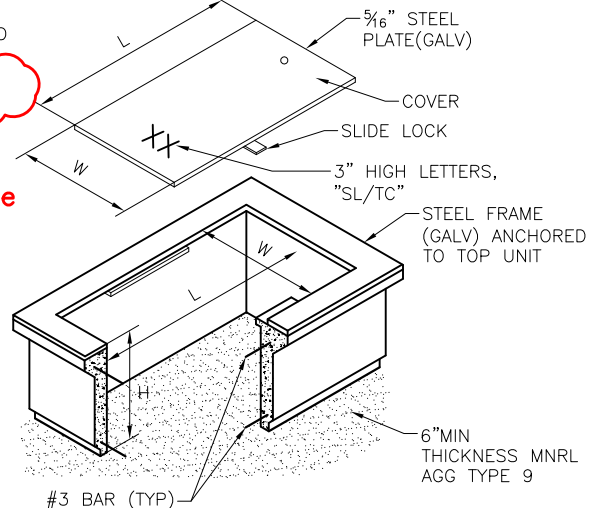
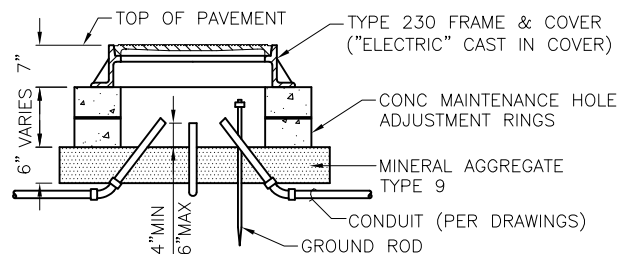
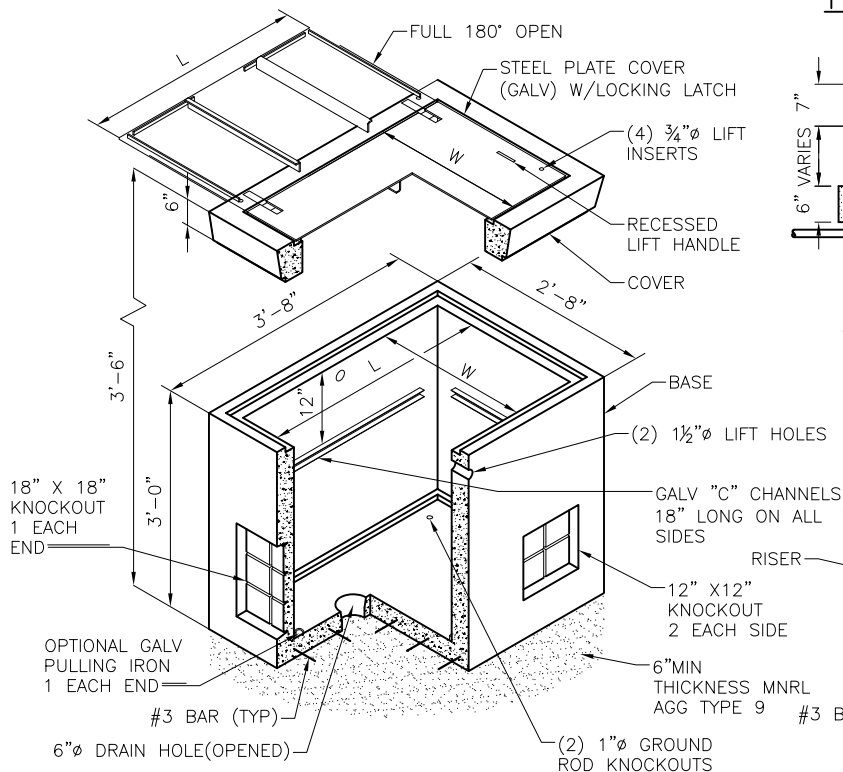
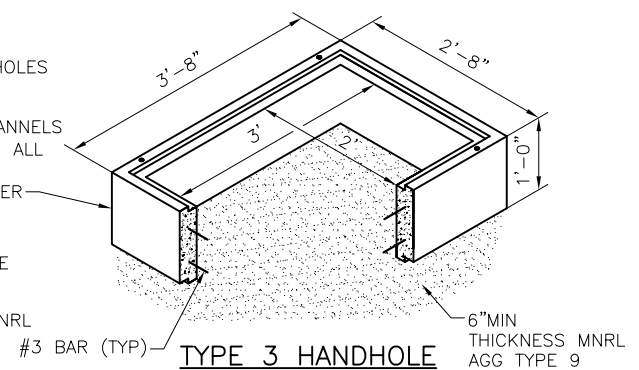
NOTES:

1. THE COVER MUST HAVE $\frac{1}{8}$ " TO $\frac{1}{4}$ " CLEARANCE ON EACH EDGE WITHIN THE FRAME AFTER GALVANIZING.
2. THE GROUND ROD MUST EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR MINERAL AGGREGATE.
3. TYPE 1, 2, 3, 5 & 6 HANDHOLE COVERS MUST HAVE "TC" AND/OR "SL" ON THEM, AS APPROPRIATE.
4. TYPE 4 HANDHOLE MUST BE INSTALLED IN ROADWAYS, PARKING LOTS, ETC.
5. FOR PAVEMENT DEPTH GREATER THAN 7" USE FRAME EXTENSIONS (SEE STD 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.
6. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE MUST BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. BOND FROM FRAME LID, AND LID TO GROUND ROD.
7. ALL HANDHOLE COVERS AND FRAMES MUST HAVE A NON-SKID SURFACE (SEE STD SPEC SEC 9-34.6)
8. ALL HANDHOLES MUST HAVE A LOAD RATING OF H20.
9. GROUND ROD REQUIRED IN ALL STREETLIGHT HANDHOLES PER SCL CONSTR STD 1710.50
10. SEE SCL CONSTRUCTION STANDARD 1716.07 FOR STREETLIGHT HANDHOLE AND CONDUIT REQUIREMENTS.

HANDHOLE SCHEDULE

HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H	H	L	W
1	19"	14"	12"	12"	18"	13"
2	28"	17"	12"	12"	26 $\frac{1}{2}$ "	17"
3	36"	24"	12"	12"	35"	24"
4	24"Ø	VAR	NA	NA	NA	NA
5	36"	24"	32"	NA	35"	24"
6	42"	42"	38 $\frac{1}{2}$ "	NA	33 $\frac{1}{2}$ "	33 $\frac{1}{4}$ "
GRHH	8"Ø			NA		

note 6 revised

**HANDHOLE INSTALLATION DETAIL****TYPE 1 & 2 HANDHOLE****TYPE 4 HANDHOLE**
TRAFFIC BEARING**TYPE 5 HANDHOLE****TYPE 3 HANDHOLE**
(COVER SAME AS TYPE 5)

REF STD SPEC SEC 8-33



City of Seattle

NOT TO SCALE

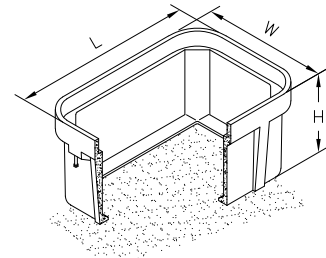
HANDHOLES

NOTES:

1. ALL NON-DELIBERATE TRAFFIC PULL BOX COVERS MUST COMPLY WITH ALL TEST PROVISIONS OF ANSI/SCTE 77 2010 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", & MUST MEET THE TIER 15 APPLICATION. MARKING SHOWING THE TIER 15 RATING MUST BE EMBOSSED IN THE TOP SURFACE OF THE COVER.
2. ALL NON-DELIBERATE TRAFFIC PULL BOXES MUST COMPLY WITH ALL TEST PROVISIONS OF ANSI/SCTE 77 2012 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", & MUST MEET THE TIER 22 APPLICATION. MARKINGS SHOWING THE TIER 22 RATING MUST BE LABELED OR STENCILED ON THE INSIDE & OUTSIDE OF THE BOX.
3. ALL NON-DELIBERATE TRAFFIC PULL BOXES & COVERS MUST BE MADE OF POLYMER CONCRETE WITH FIBERGLASS REINFORCEMENT. THE BOX MUST HAVE CONTINUOUS FIBERGLASS CLOTH REINFORCEMENT ON THE INSIDE & OUTSIDE PERIMETERS. THE COVER MUST HAVE A MINIMUM OF TWO LAYERS OF FIBERGLASS CLOTH REINFORCEMENT.
4. ALL NON-DELIBERATE TRAFFIC PULL BOXES & COVERS MUST BE TESTED & CERTIFIED, MEETING ALL TEST PROVISIONS ON THE ANSI/SCTE 77, TO THE 66WF, MEETING ALL TEST PROVISION OF THE LATEST REVISION OF ANSI/SCTE 77.
5. PULL SLOTS MUST BE RATED FOR MINIMUM PULL OUT OF 3,000 POUNDS.
6. TYPE 4 HANDHOLE MUST BE INSTALLED IN ROADWAYS PARKING LOTS, ETC. ALL COVERS MUST BE COMPLETE WITH A MOLDED LOGO, MANUFACTURERS NAME & TIER RATING LOGO (NO GLUE IN LOGO). LOGO MUST READ "TC" AND/OR "SL" UNLESS STATED OTHERWISE BY THE CITY OF SEATTLE.
7. THE GROUND ROD MUST EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR MINERAL AGGREGATE.
8. FOR PAVEMENT DEPTH GREATER THAN 7" USE FRAME EXTENSIONS (SEE STD 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.
9. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE MUST BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. WITH A 4'-0" LENGTH FROM FRAME THAT CAN BE HOOKED UP TO A GROUND ROD.
10. ALL HANDHOLE COVERS AND FRAMES MUST HAVE A NON-SKID SURFACE (SCL MATERIAL STANDARD 7202.10)
11. SEE SCL CONSTRUCTION STANDARD 1716.07 FOR STREET HANDHOLE AND CONDUIT REQUIREMENTS.

HANDHOLE SCHEDULE

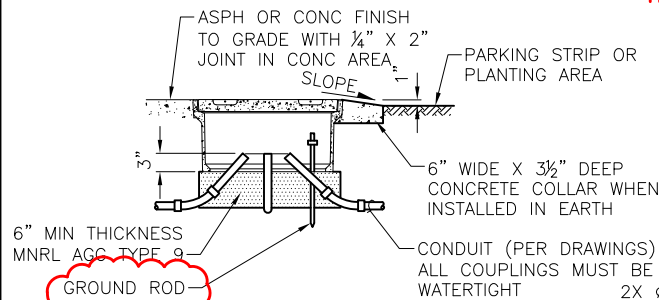
HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H		L	W
1	24"	13"	12"	12"	24"	13"
2	30"	17"	12"	12"	30"	17"
3	36"	24"	18"	12"	36"	24"
4	24"	Ø	VAR	NA	NA	NA
5	30"	48"	36"	NA	30"	48"
6	48"	48"	48"	NA	48"	48"
GRHH	8"Ø			NA		



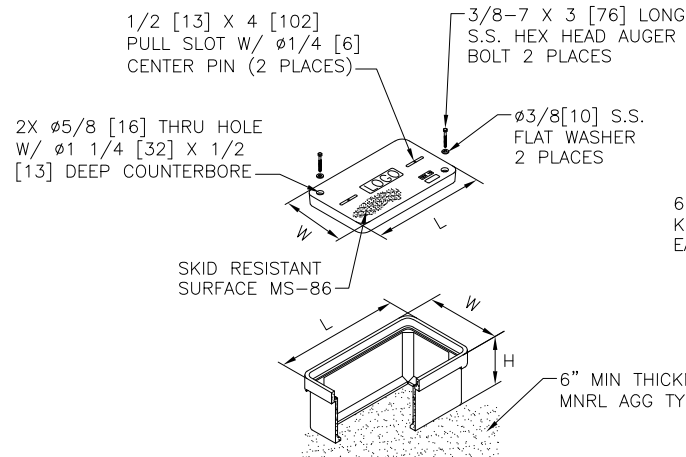
TYPE 3 HANDHOLE
(COVER SAME AS TYPE 5)

SCL material std added

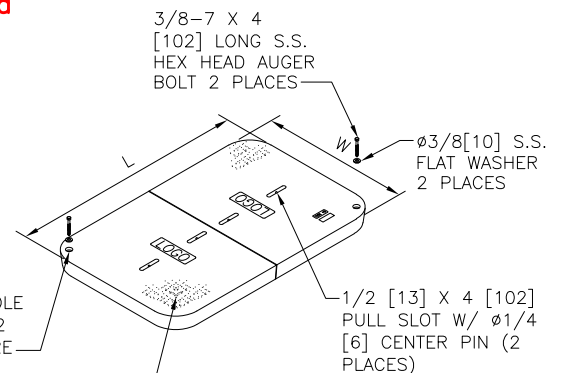
note 11 added

**HANDHOLE INSTALLATION DETAIL**

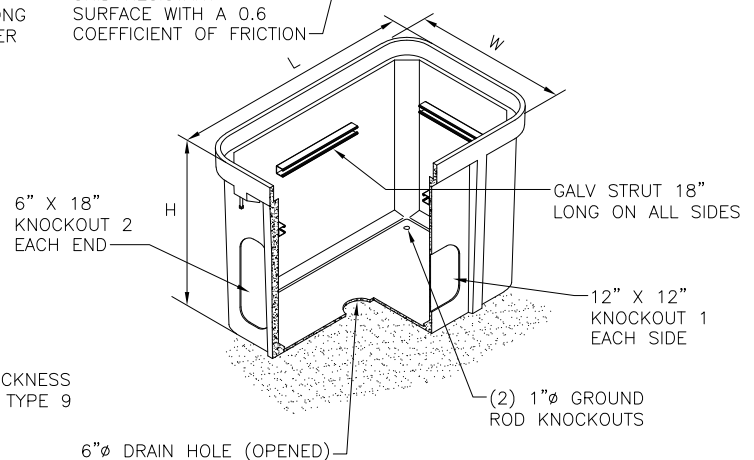
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TYPE 1 & 2 HANDHOLE



SKID RESISTANT SURFACE WITH A 0.6 COEFFICIENT OF FRICTION



TYPE 5 HANDHOLE

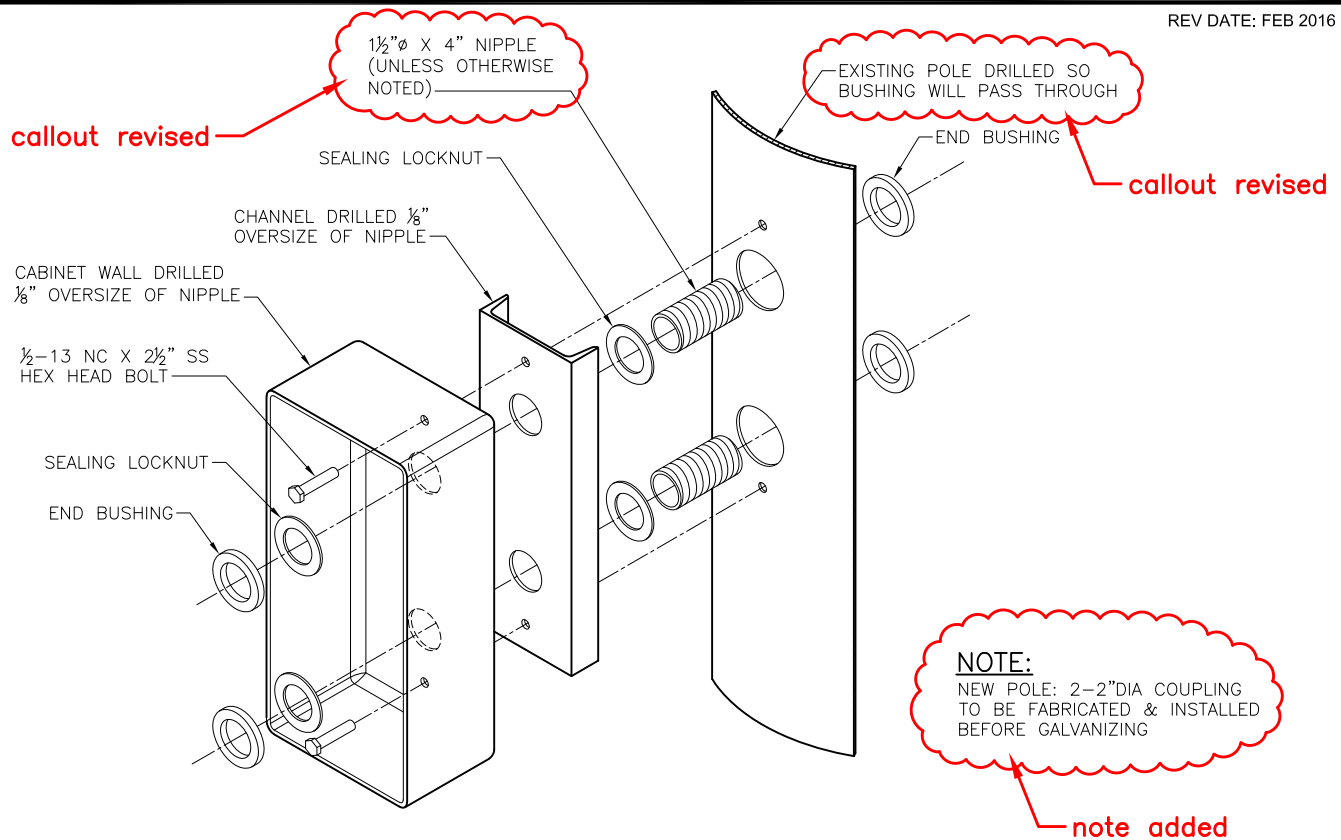
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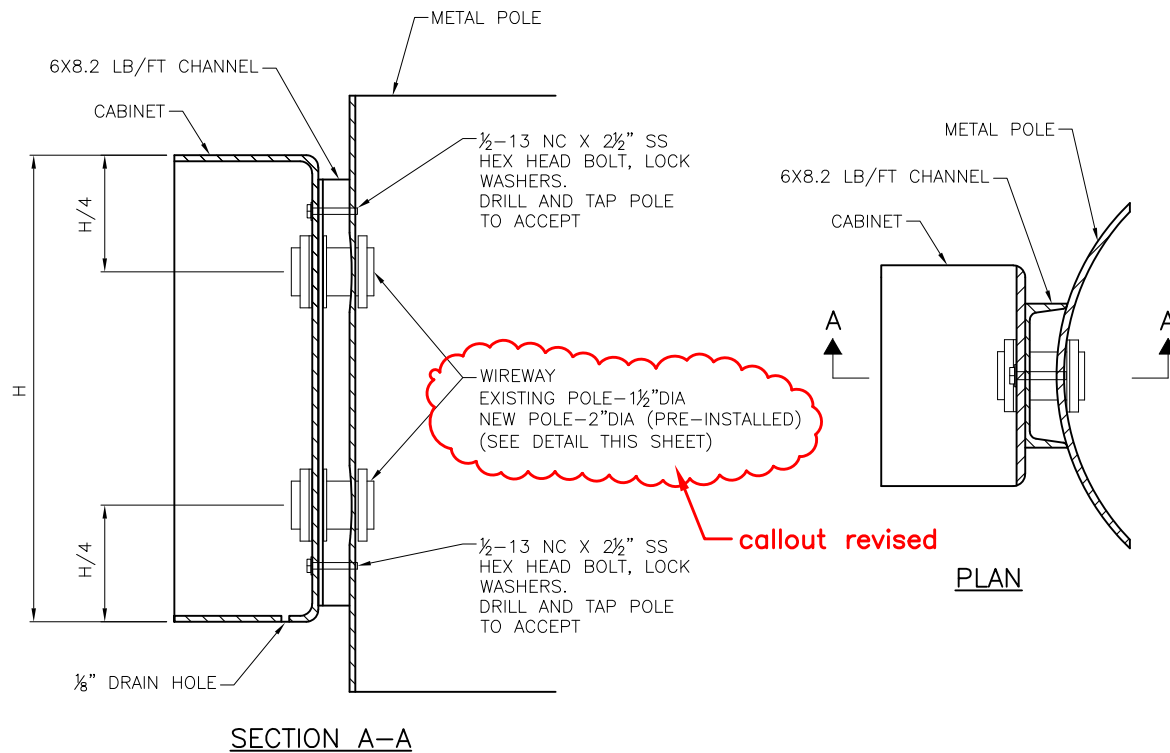
City of Seattle

NOT TO SCALE

**POLYMER CONCRETE
HANDHOLES**



WIREWAY ISOMETRIC DETAIL



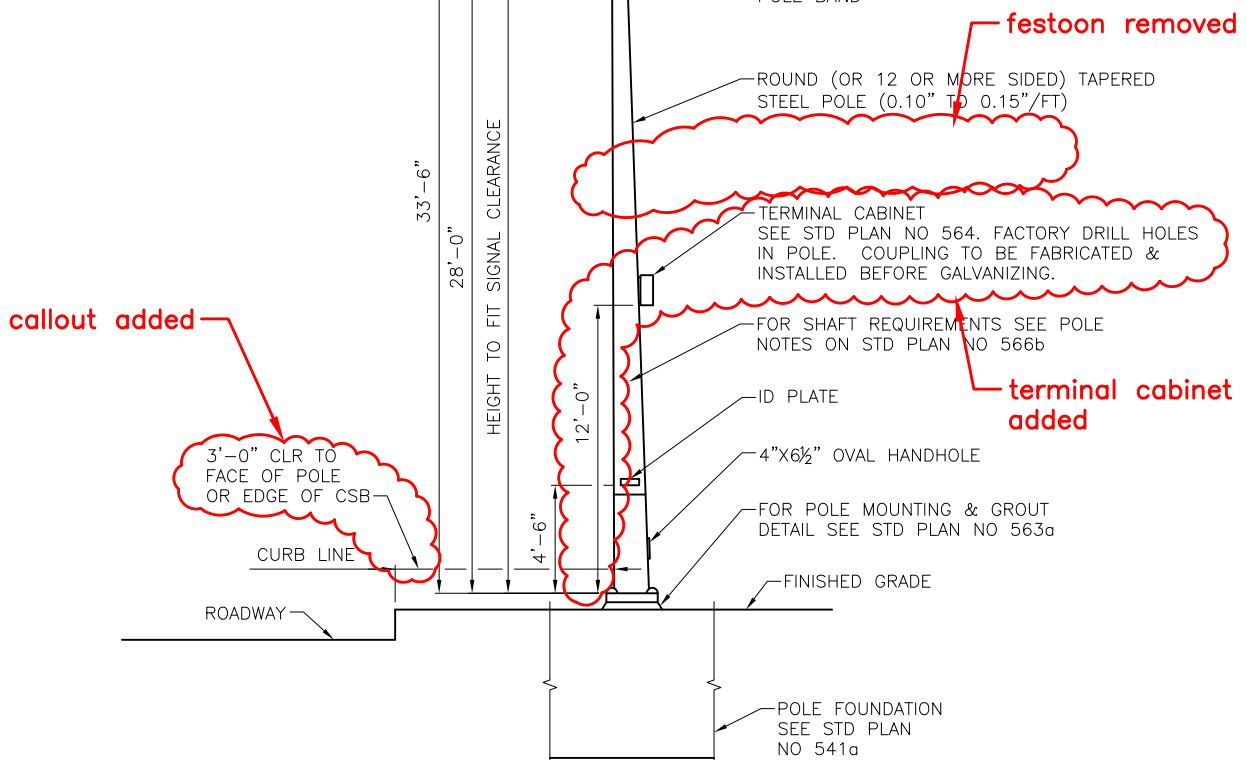
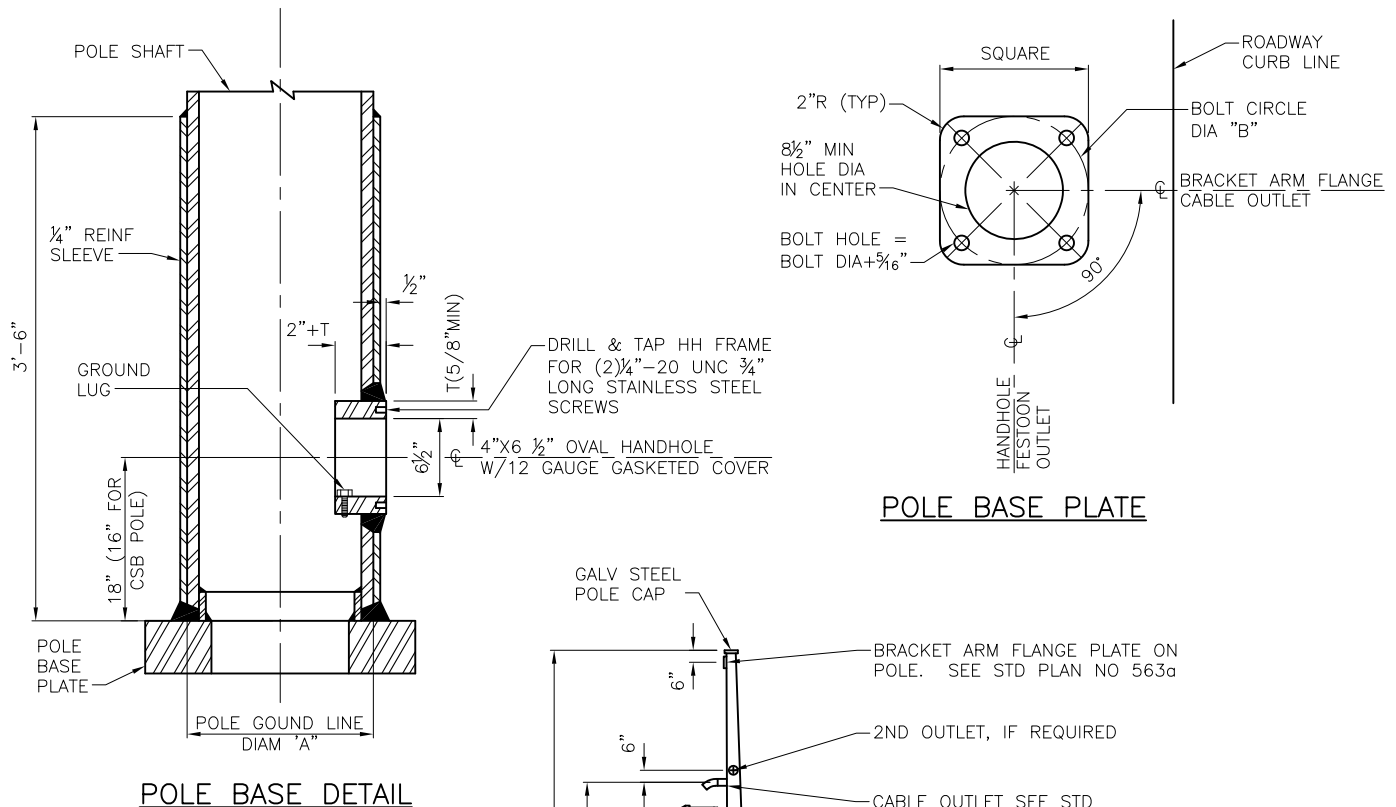
REF STD SPEC SEC 8-32



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TERMINAL CABINET
POLE MOUNTING



REF STD SPEC SEC 8-32



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**STRAIN POLE DETAILS
(TYPE V, X & Z POLES)**

POLE TYPE	DEAD LOAD MOMENT KIP-FT (AT GROUND LINE)	POLE SCHEDULE						
		GROUND LINE DIA "A"		POLE BASE PLATE SIZE		BOLT CIRCLE DIA "B"	BOLT HOLE	ANCHOR BOLTS
		STD	CSB	STD	CSB			
V	51	12"	12"	1¾"X18"X18"	1¾"X23"X23"	18"	2¼"	1¾"DIA X 72"
X	93	14"	12½"	2"X20"X20"	2"X23"X23"	20"	2⅝"	2"DIA X 72"
Z	164	15"	--	2½"X23"X23"	--	22"	2⅞"	2½"DIA X 72"

NOTES:

1. THE YIELD MOMENT MUST BE 2X THE DEAD LOAD MOMENT. THE ULTIMATE PLASTIC MOMENT MUST BE 2.5X THE DEAD LOAD MOMENT.
2. POLE SHAFT AND REINFORCING SLEEVE: ASTM A572 GRADE 50, 60 OR 65 (Fy=50, 60 OR 65 KSI RESPECTIVELY) OR ASTM A595 GRADE A OR B (Fy=55 OR 60 KSI RESPECTIVELY).
3. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE Fy≥0.65 POLE SHAFT Fy. THE BASE PLATE THICKNESS MAY BE REDUCED BY ¼" IF ASTM A572 GRADE 42 STEEL IS USED.
4. REINFORCING SLEEVE MUST BE FABRICATED FROM THE SAME MATERIAL AND YIELD STRENGTH AS THE POLE SHAFT.
5. POLE SHAFTS MUST HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
6. MINIMUM SHAFT WALL THICKNESS OF EACH PLY MUST BE 0.239" (3 GAUGE). POLE MUST HAVE A MAXIMUM OF TWO PLYS NOT INCLUDING THE ¼" REINFORCING SLEEVE.
7. MAXIMUM SILICON CONTENT IN STEEL MUST BE 0.04%. SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
8. POLE DIAMETER FOR 12 OR MORE SIDED POLES MUST BE MEASURED FROM THE POINT TO POINT DIMENSION.
9. POLES MUST MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT 25' ABOVE GROUND LINE.
10. POLE STRENGTH MUST MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (2013 EDITION).

AASHTO date changed to 2013

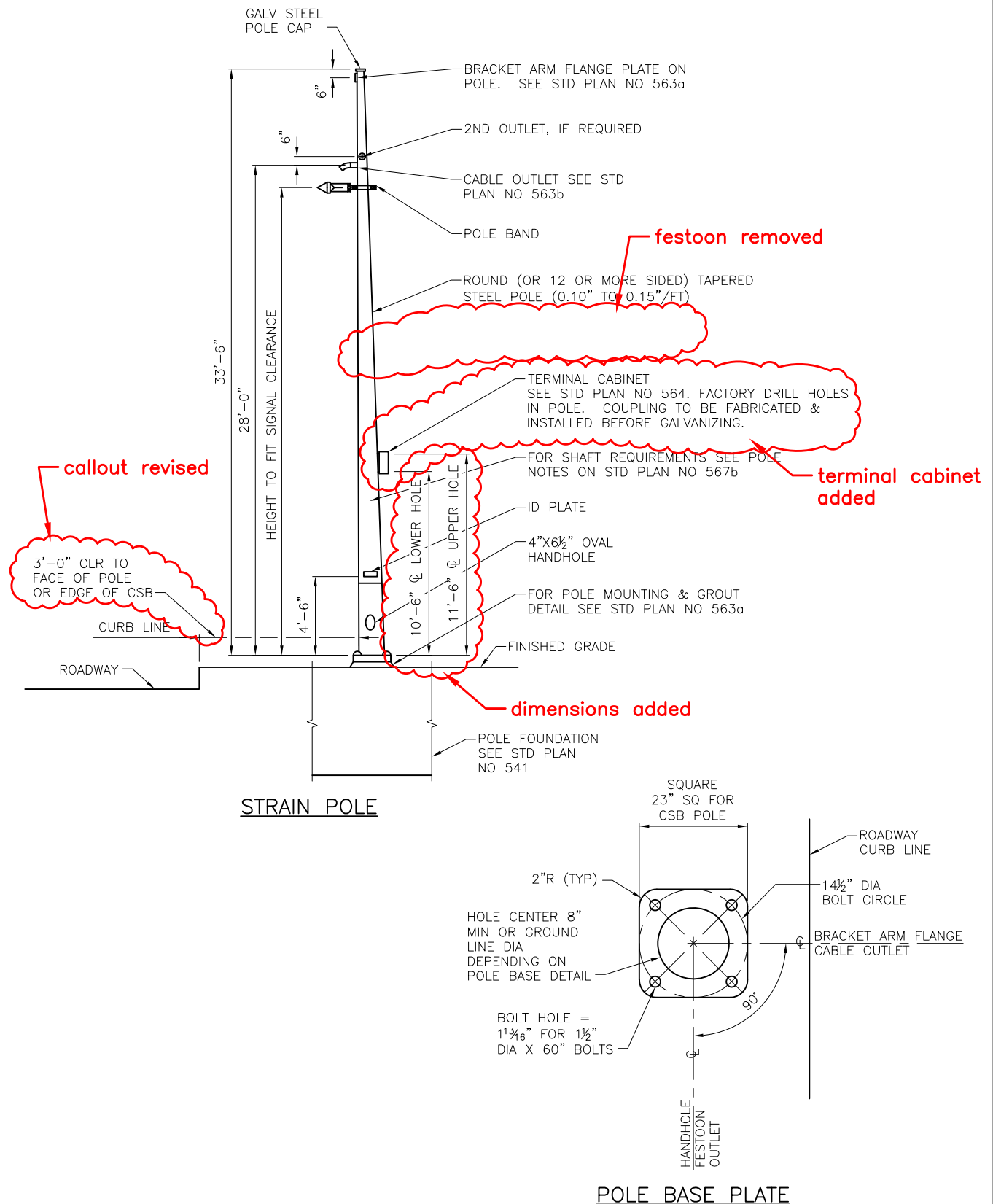
REF STD SPEC SEC 8-32, 9-33



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**STRAIN POLE DETAILS
(TYPE V, X, Z POLES)**



REF STD SPEC SEC 8-32



City of Seattle

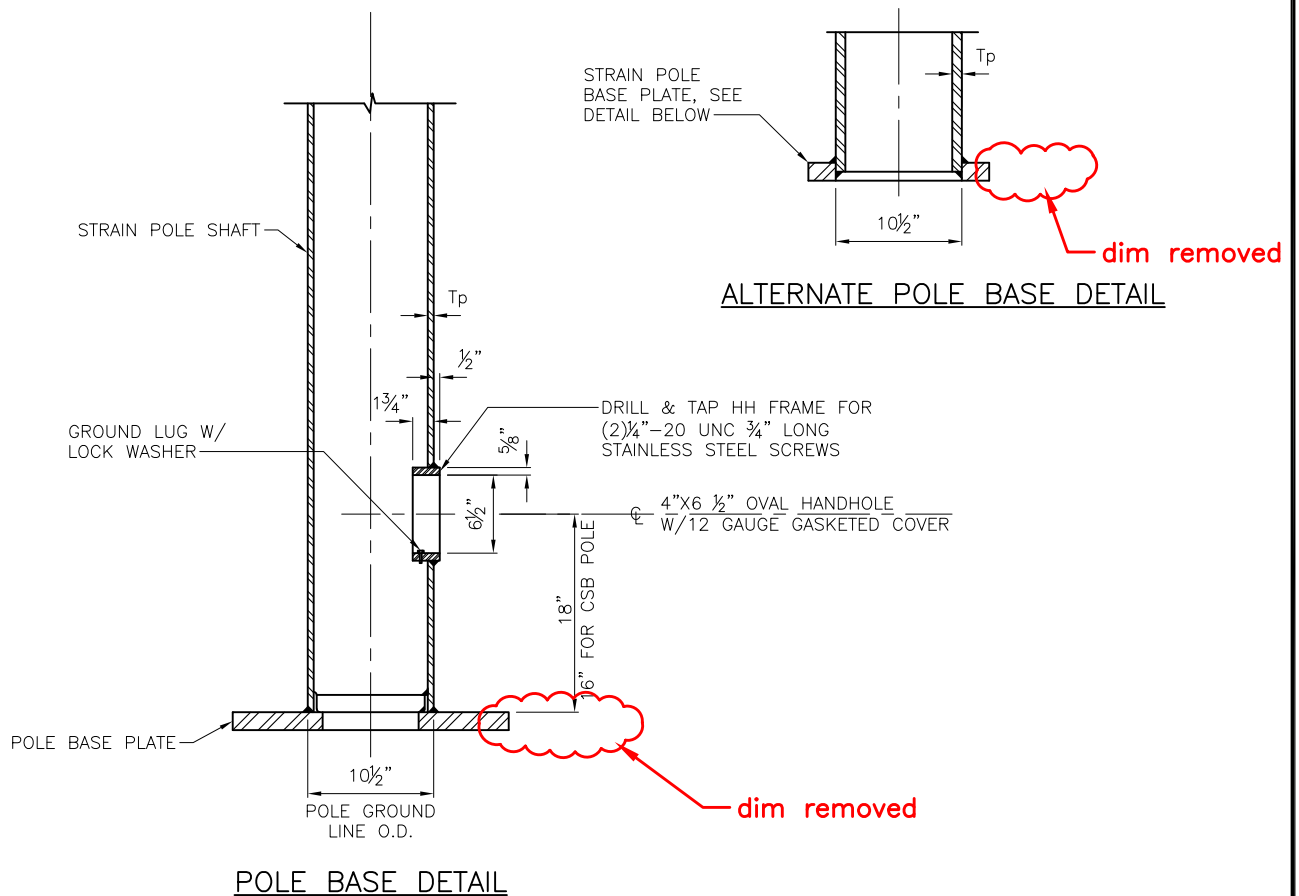
NOT TO SCALE

TYPE T STRAIN POLE DETAILS
TRAFFIC SIGNAL ONLY

NOTES:

1. THE DEAD LOAD MOMENT AT THE GROUNDLINE MUST BE 40 KIP-FT. THE YIELD MOMENT MUST BE 2X DEAD LOAD MOMENT.
2. POLE STRENGTH MUST MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (2013 EDITION).
3. POLE SHAFT: ASTM A572 GRADE 50, 60 OR 65 ($F_y=50, 60$ OR 65 KSI RESPECTIVELY), OR ASTM A595 GRADE A OR B ($F_y=55$ OR 60 KSI RESPECTIVELY)
4. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE $F_y \geq 0.65$ POLE SHAFT F_y THE BASE PLATE THICKNESS MAY BE REDUCED BY $\frac{1}{4}$ " IF ASTM A572 GRADE 42 STEEL IS USED.
5. POLE SHAFTS MUST HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
6. MINIMUM SHAFT WALL THICKNESS OF EACH PLY MUST BE 0.239 " (3 GAUGE). POLE MUST HAVE A MAXIMUM OF TWO PLYS.
7. MAXIMUM SILICON CONTENT IN STEEL MUST BE 0.04% . SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
8. POLE DIAMETER FOR 12 OR MORE SIDED POLES MUST BE MEASURED FROM THE POINT TO POINT DIMENSION.
9. POLES MUST MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT $27'$ ABOVE GROUND LINE.
10. THE POLES MUST BE COMPACT AND MUST MEET THE REQUIREMENTS IN AASHTO SECTION 4, TABLE 1.4 1B(1).

AASHTO date
changed to
2013



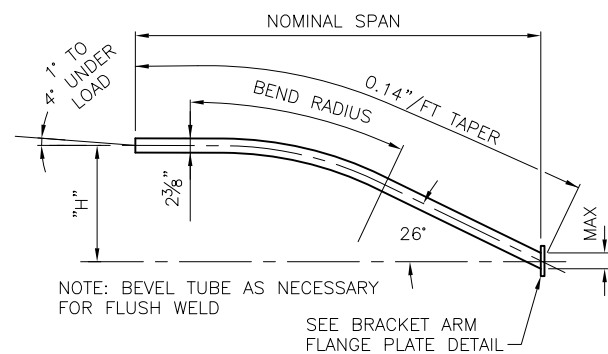
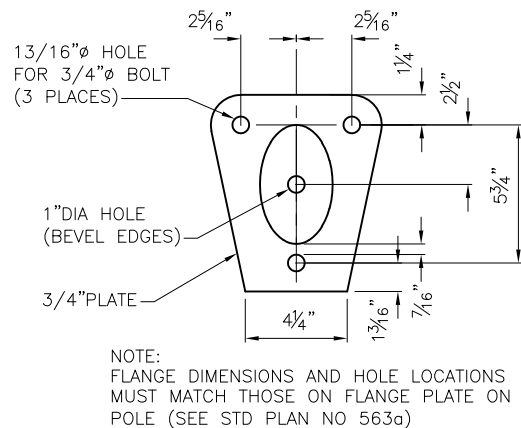
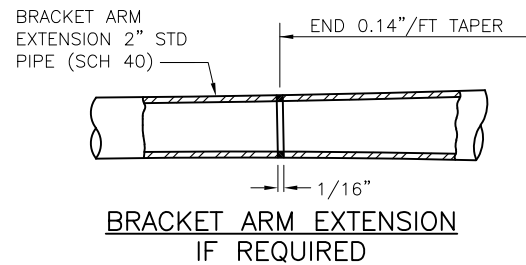
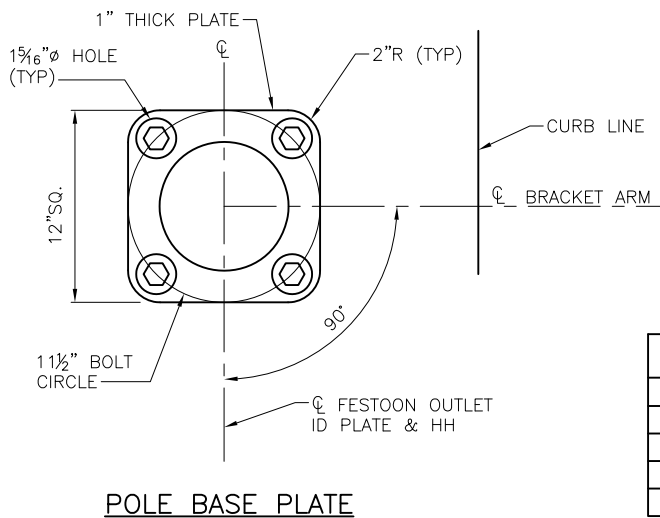
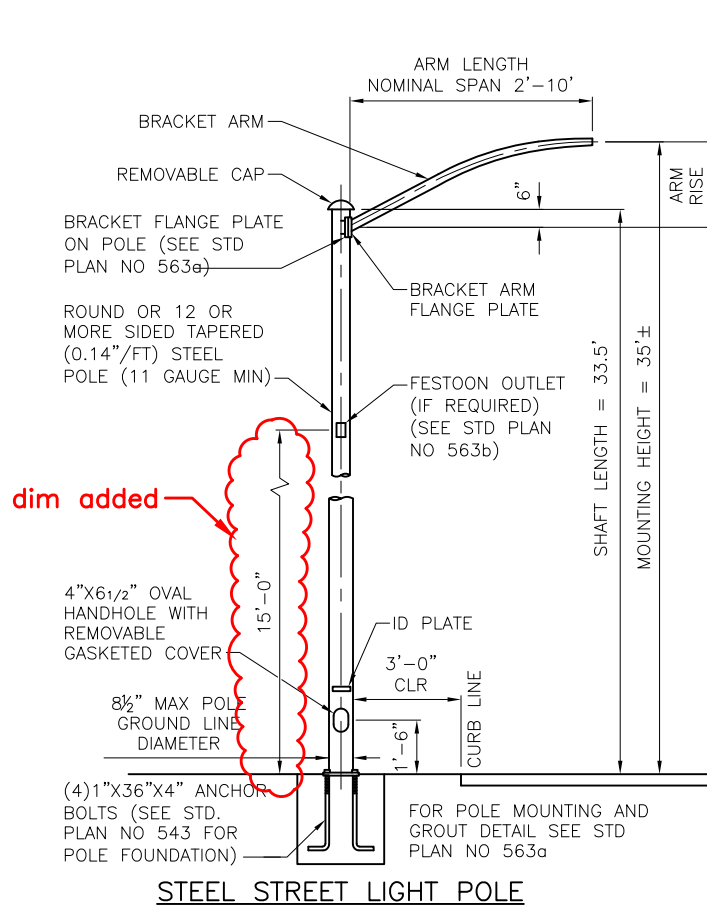
REF STD SPEC SEC 8-32, 9-33



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TYPE T STRAIN POLE DETAILS
TRAFFIC SIGNAL ONLY



NOM SPAN	H*	BEND RADIUS	TUBE REQUIREMENT
2'	5 1/4"	—	2" STD PIPE
4'	12"	6'	11 GAUGE
6'	18"	9'	11 GAUGE
8'	24"	13'	11 GAUGE
10'	30"	15'	11 GAUGE

MATERIAL SPECIFICATION
 PLATE AND SHAPES:
 ASTM A36
 POLE SHAFTS:
 ASTM A570
 GR 40 MIN.
 ANCHOR BOLTS:
 ASTM A307
 BRACKET ARM FLANGE
 PLATE BOLT: ASTM A325

NOTE:

1. ALL OTHER ARM LENGTHS REQUIRE SCL REVIEW AND APPROVAL

* THESE DIMENSIONS ARE ONLY ILLUSTRATIVE OF THE GENERAL OUTLINE AND MATERIALS USED IN THE CONSTRUCTION OF THESE ARMS AND ARE NOT INTENDED TO EXCLUDE MANUFACTURER'S STANDARD PRODUCTS.

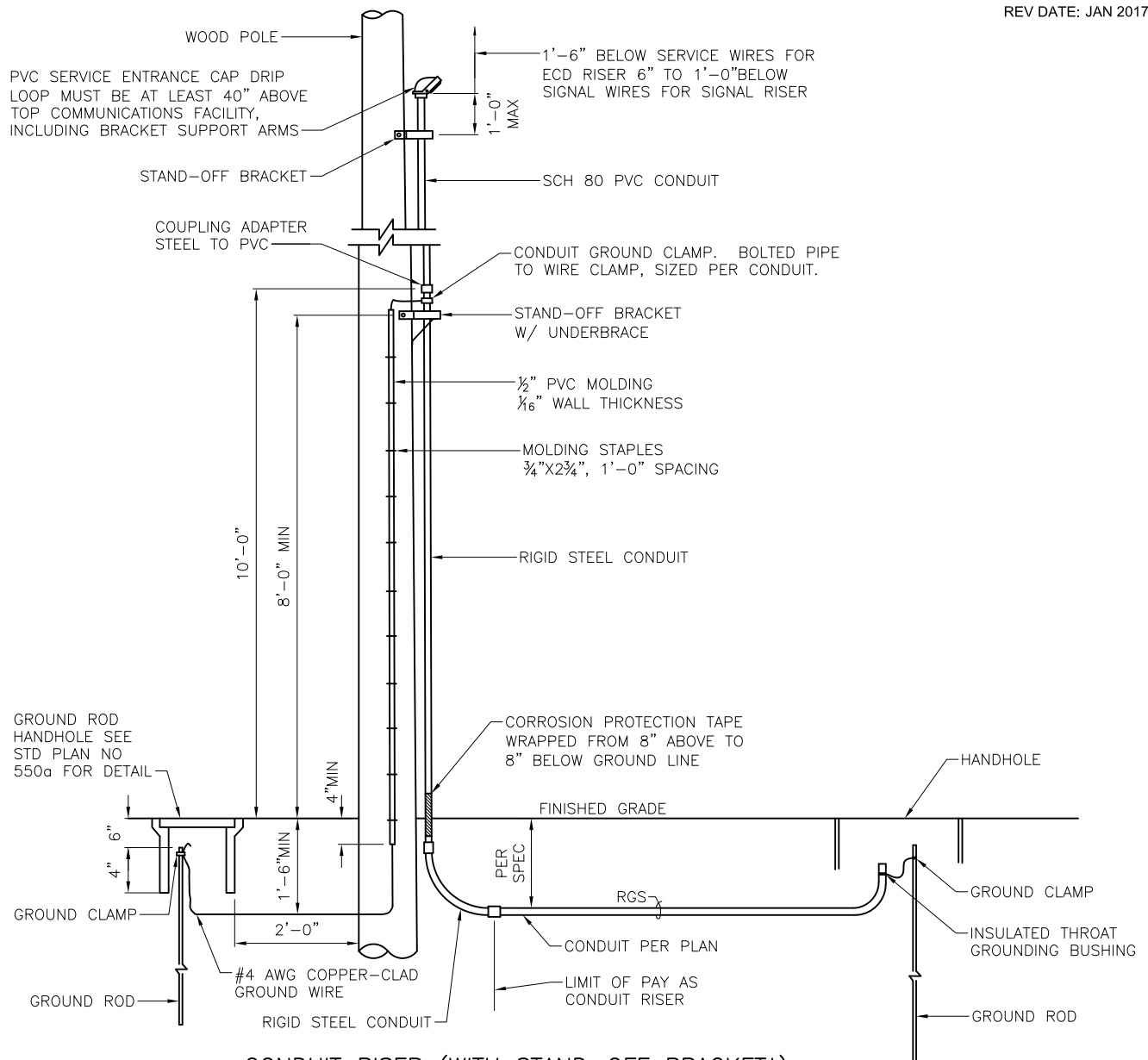
REF STD SPEC SEC 8-32



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**STEEL STREET LIGHT POLE
 WITH BRACKET ARM**



CONDUIT RISER (WITH STAND-OFF BRACKET*)

*WHEN THERE WILL BE ONLY ONE CONDUIT (1½" OR SMALLER) ON THE POLE, ONE HOLE MALLEABLE IRON CLAMPS WITH 4" LAG SCREWS MUST BE USED TO SECURE THE CONDUIT TO THE POLE IN LIEU OF THE STAND-OFF BRACKETS

NOTES:

1. ON POLES WITH EXISTING CONDUITS, NEW CONDUITS MUST BE INSTALLED IN ACCORDANCE WITH THIS STANDARD PLAN.
 2. RIGID STEEL CONDUIT MUST BE GROUNDED JUST BELOW COUPLING, APPROXIMATELY 8'-0" TO 10'-0" ABOVE GROUND, AS SHOWN
 3. WHEN 2 OR MORE RIGID STEEL CONDUITS ARE INSTALLED ON ONE POLE, ONE CONDUIT MUST BE GROUNDED AS SHOWN. THE CONDUIT SUPPORTS & STRAPS MUST SERVE AS A BONDING DEVICE BETWEEN THE STEEL CONDUITS
 4. THE GROUND WIRE MUST BE ONE CONTINUOUS LENGTH. INSERT THE GROUND WIRE FROM THE BOTTOM OF THE GROUND CLAMP & BEND OVER THE CLAMP BEFORE TIGHTENING
 5. PLACE GROUND WIRE IN QUADRANT BETWEEN POLE FACE & SECONDARY NEUTRAL
 6. ALL STEEL HARDWARE MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123
 7. CONDUIT CLAMP SPACING MUST BE PER THE NEC WITH A MINIMUM OF TWO HOLE CLAMP PER 10'-0" LENGTH OF CONDUIT
 8. POWER AND SIGNAL CONDUCTORS MUST NOT BE PLACED IN THE SAME CONDUIT.
 9. WHEN POSSIBLE, RISER MUST BE INSTALLED ON DOWNSTREAM SIDE OF TRAFFIC
 10. SEE SCL CONSTRUCTION STANDARD 1716.07 FOR STREETLIGHT HANDHOLE AND CONDUIT REQUIREMENTS & 0224.34 FOR STREETLIGHT CONDUIT RISERS.

note 10 added

title revised

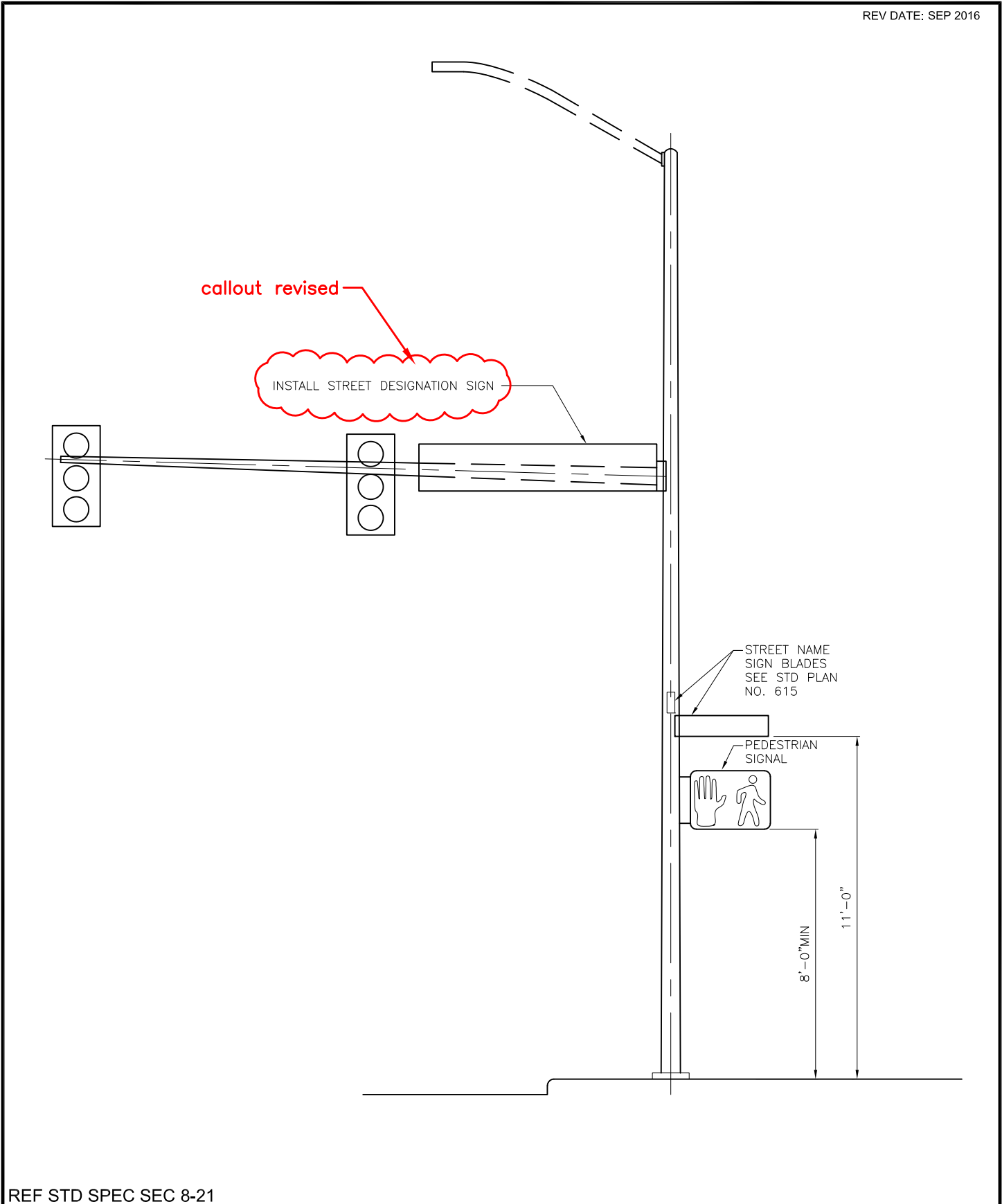
-note 10 added

REF STD SPEC SEC 8-33, SCL CONSTRUCTION GUIDELINES U 7-10



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TRAFFIC CONDUIT RISER



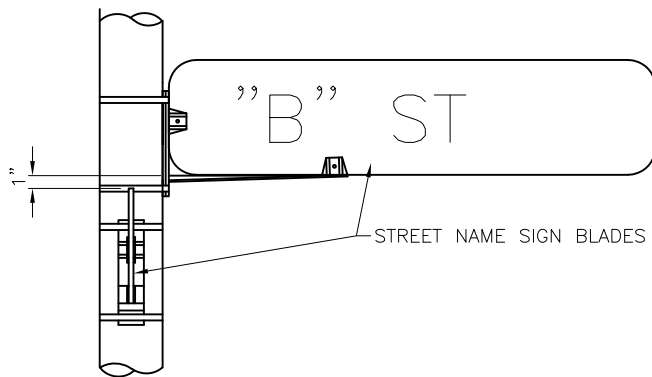
REF STD SPEC SEC 8-21



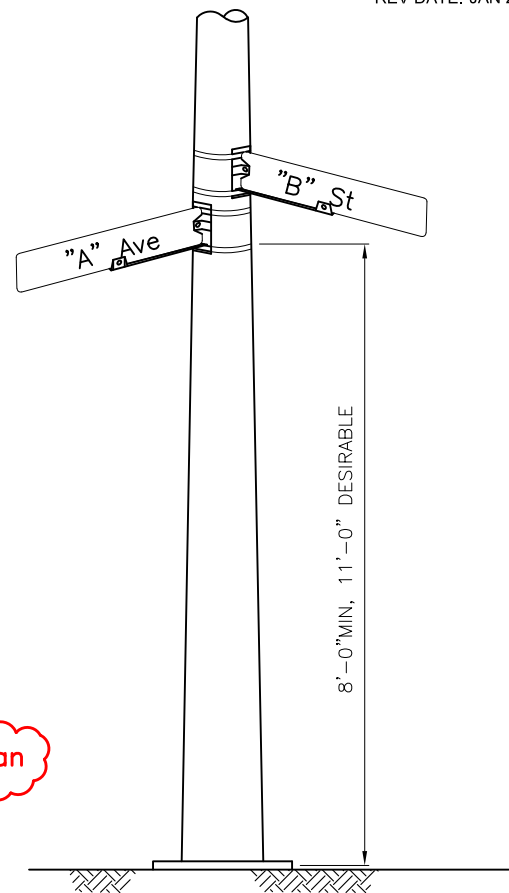
City of Seattle

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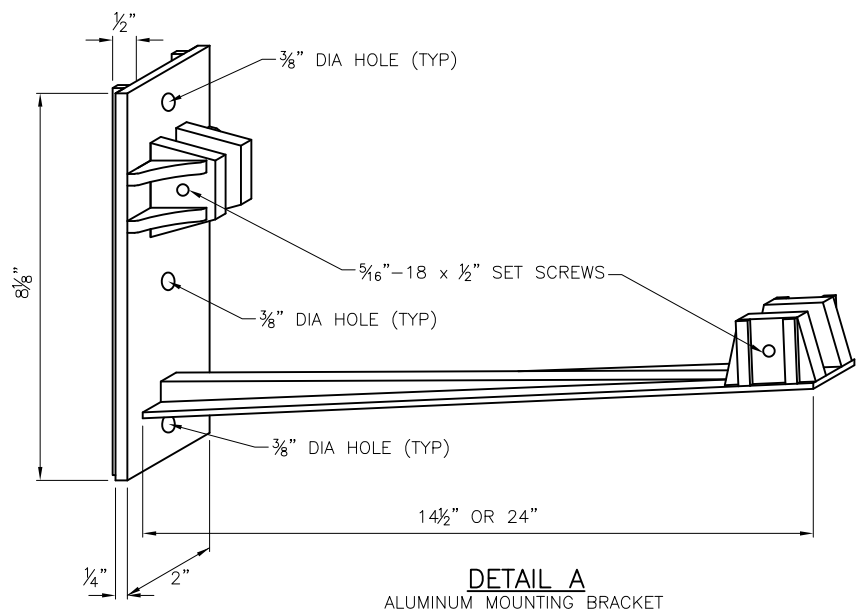
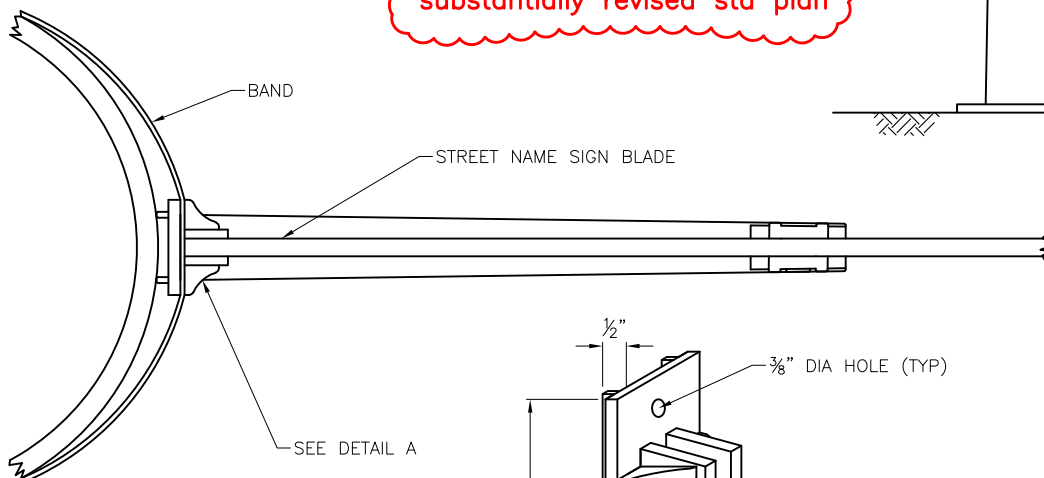
STANDARD SIGN INSTALLATION
STEEL POLES

**NOTES:**

1. STAGGER SNS BLADES WITH THE "AVENUE" DESIGNATION BLADE BELOW THE "STREET" DESIGNATION BLADE
2. SNS SHALL BE INSTALLED PARALLEL TO CORRESPONDING STREET
3. ALL NUTS, BOLTS & WASHERS TO BE STAINLESS STEEL EXCEPT ALUMINUM RIV NUTS ON ALUMINUM POLES.



substantially revised std plan



REF STD SPEC SEC 8-21

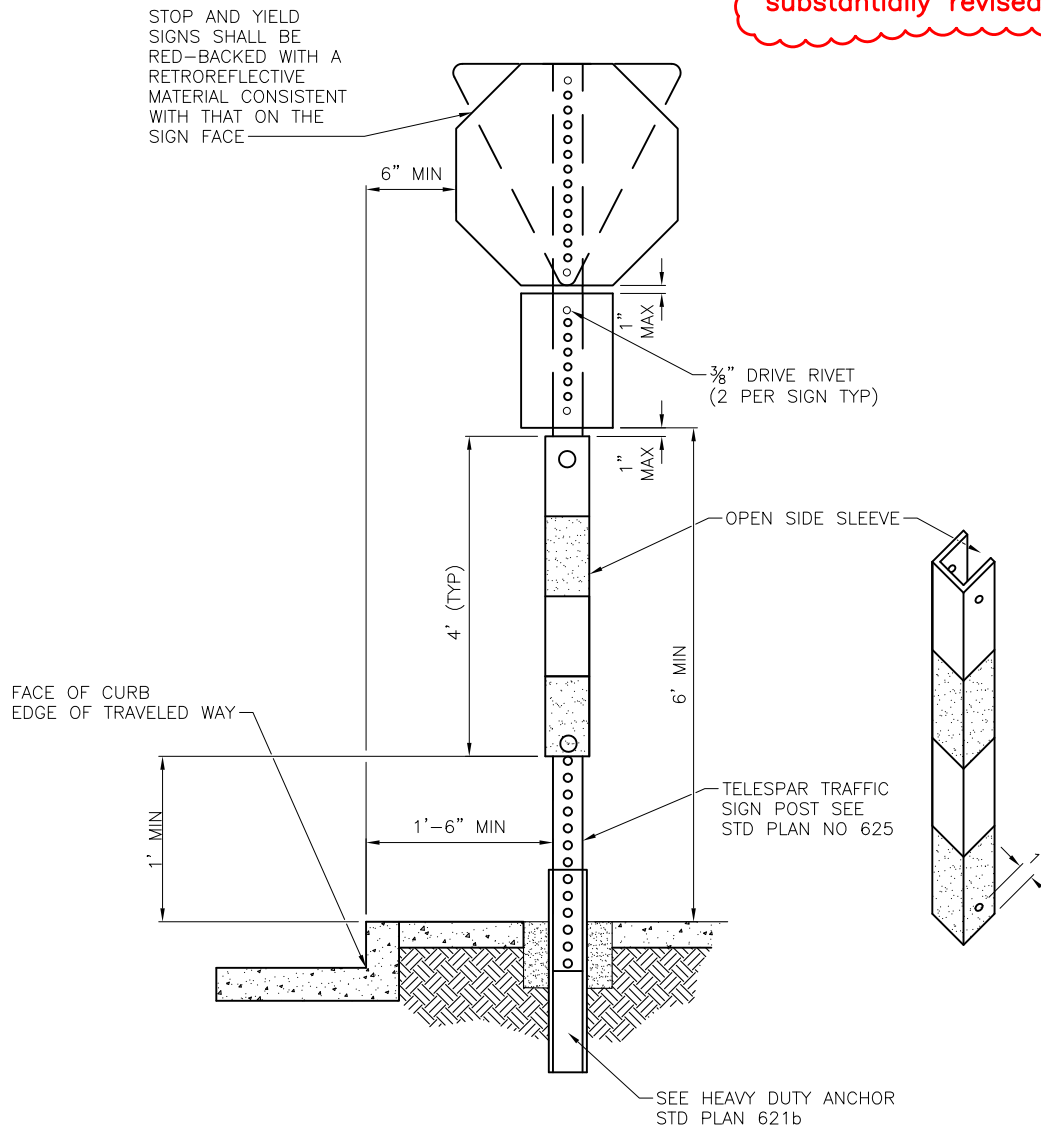


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**STREET NAME SIGN BRACKET
FOR STEEL POLES**

substantially revised std plan

POST ANCHOR INSTALLATIONSNOTE:

1. CONTACT SEATTLE DEPARTMENT OF TRANSPORTATION (684-5087) FOR DETAILS REGARDING SIGN MESSAGE AND FOUNDATION.
2. STEEL SELF-TAPPING #10 X $\frac{1}{2}$ " WITH HEX WASHER HEAD ZINC PLATED
3. RED AND WHITE SLEEVE
4. SEE STANDARD 621a FOR OTHER WARNING & REGULATORY SIGN POST

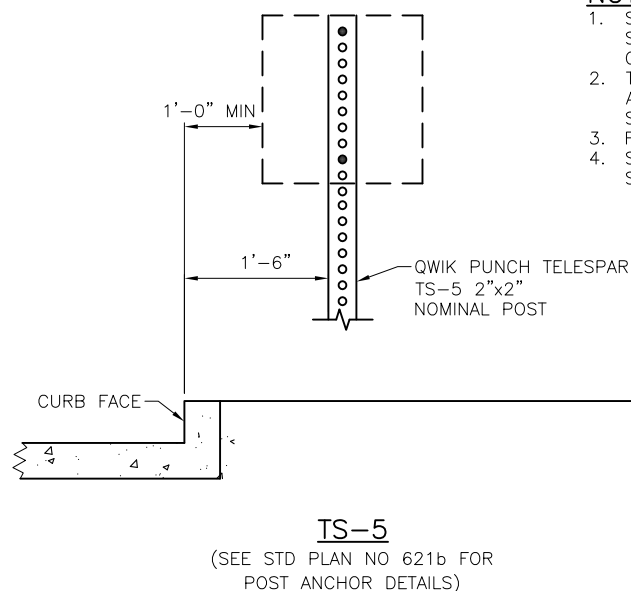
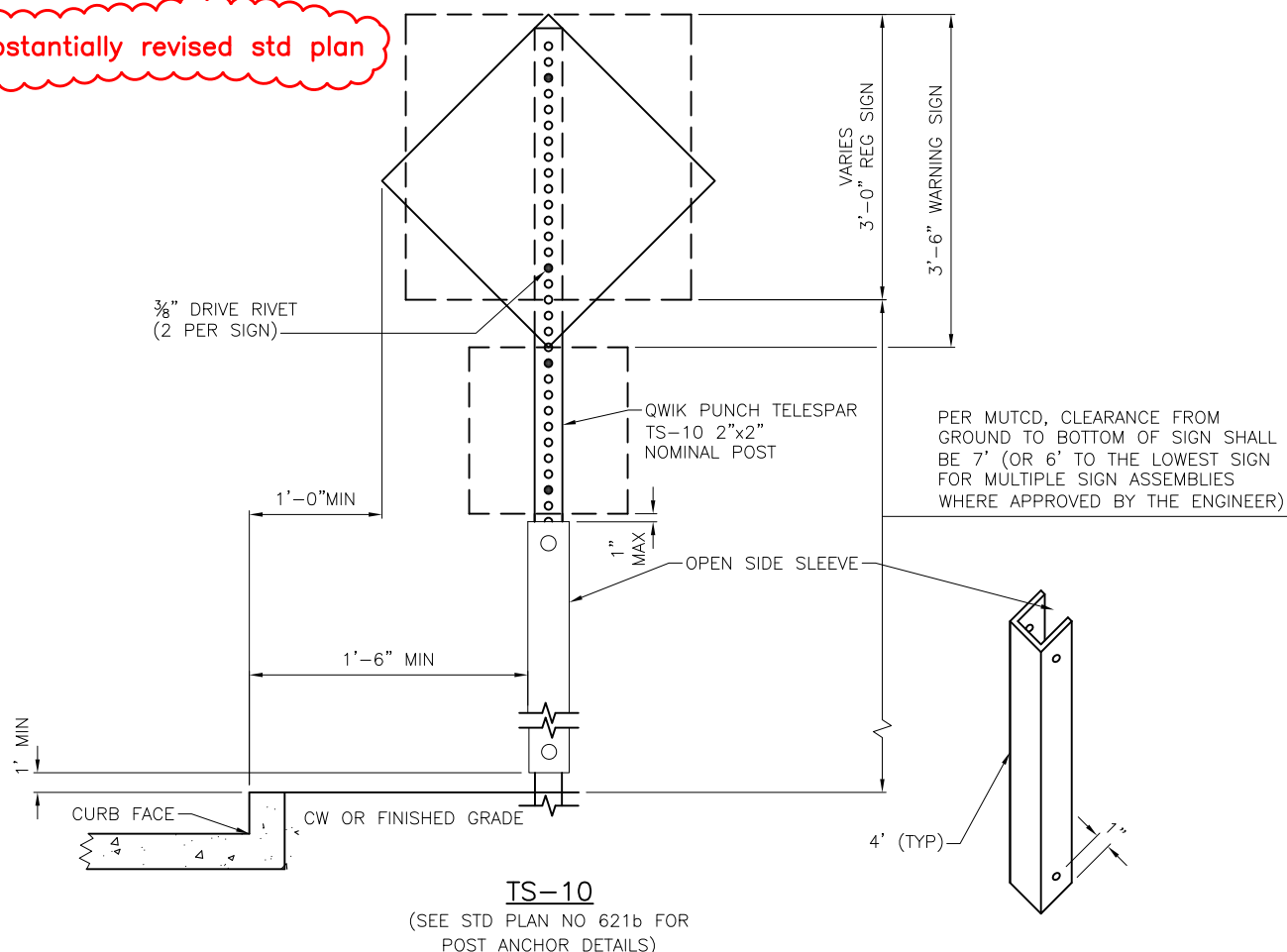
REF STD SPEC SEC 8-21



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STOP AND YIELD SIGN POST
AND ANCHOR INSTALLATION



NOTES:

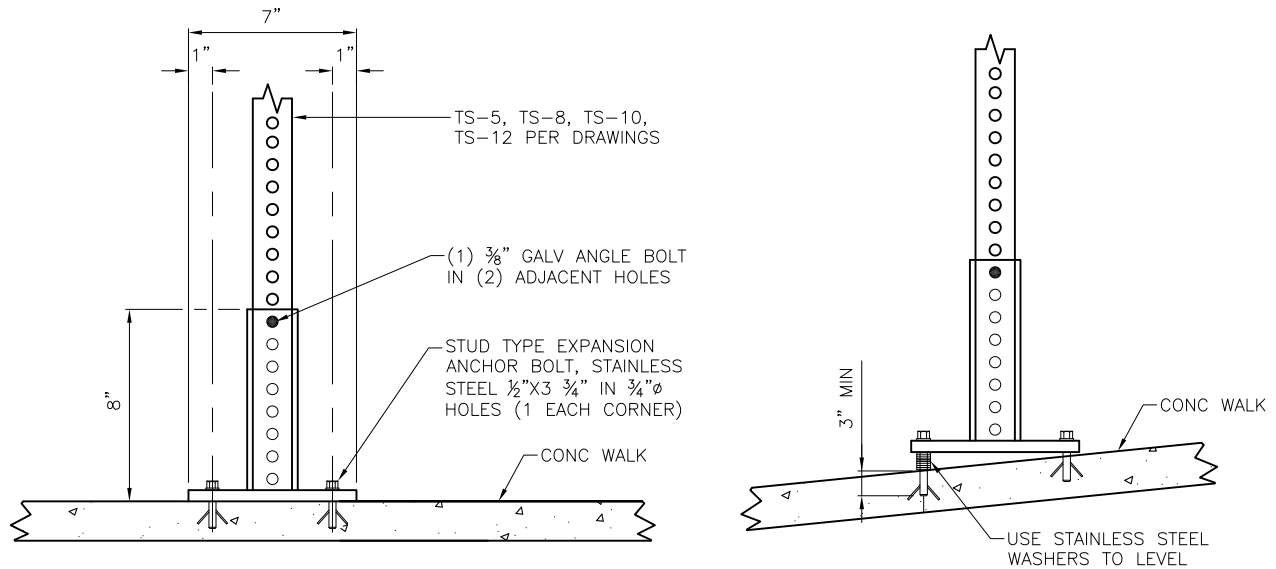
1. SIGN SHALL BE ATTACHED WITH TOP EDGE OF SIGN FLUSH WITH TOP OF SQUARE SECTION OF POST.
2. TS-5 ASSEMBLIES SHALL BE USED ONLY WITH APPROVAL OF ENGINEER, IN AREAS NOT SUBJECT TO PEDESTRIAN TRAVEL.
3. FLOURECENT YELLOW GREEN OR FHWA YELLOW
4. SEE STANDARD PLAN 620 FOR STOP & YIELD SIGN POST

REF STD SPEC SEC 8-21

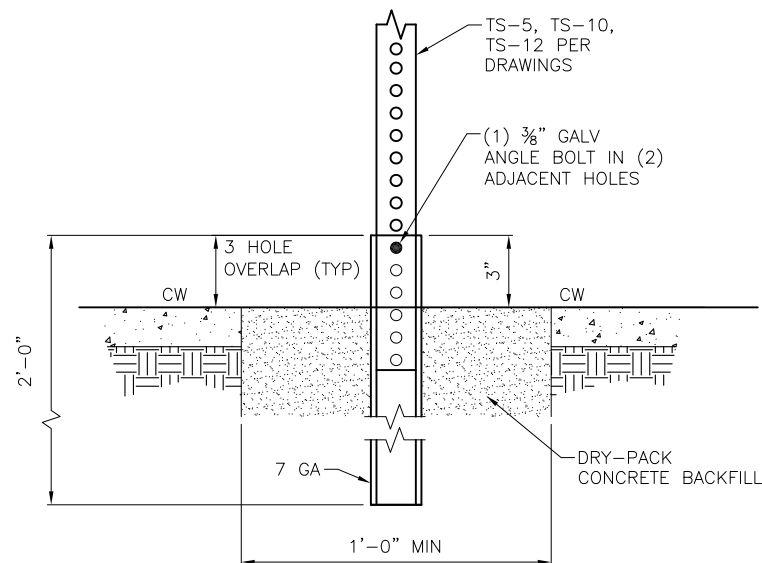


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WARNING AND REGULATORY SIGN POST

SURFACE MOUNT

substantially revised std plan

HEAVY DUTY ANCHORNOTES:

1. FOR UNLEVEL SIDEWALKS INSERT WASHERS AS SPACERS BETWEEN PLATE AND SIDEWALK. IF BOLT CANNOT PENETRATE SIDEWALK AT LEAST 3", CONTACT THE ENGINEER.
2. USE CONCRETE FOOTINGS FOR ALL SIGNS LARGER THAN 96 SQUARE INCHES.

REF STD SPEC SEC 8-21



City of Seattle

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**WARNING AND REGULATORY
SIGN POST ANCHOR
INSTALLATIONS**

STANDARD

"STREET" SIGN BLADE
IN TOP LOCATION

substantially revised std plan

"AVENUE"
SIGN BLADE
IN BOTTOM
LOCATION

TS-10 TELESAR, SEE
STD PLAN NO 621a

SEE HEAVY DUTY ANCHOR,
STD PLAN NO 621b

8' MIN

NOTES:

1. SNS BLADE SHALL BE INSTALLED PARALLEL TO CORRESPONDING STREET
2. INSTALLATION OF SNS ON ANY OTHER METAL POLE SHALL REQUIRE REVIEW AND APPROVAL BY THE ENGINEER
3. SNS/SP RELOCATION: OLD CONCRETE SHALL BE REMOVED AND NEW CONCRETE BASE SHALL BE CONSTRUCTED
4. CITY OF SEATTLE SHALL FABRICATE SNS BLADES AND SUPPLY MOUNTING HARDWARE AT PROJECT OR CONTRACTOR EXPENSE
5. FOR BILINGUAL SIGNS, CONTACT THE ENGINEER TO OBTAIN THE BILINGUAL STREET NAME SIGN INSTALLATION PRACTICES CURRENTLY IN USE BY SDOT CREWS.

REF STD SPEC SEC 8-21

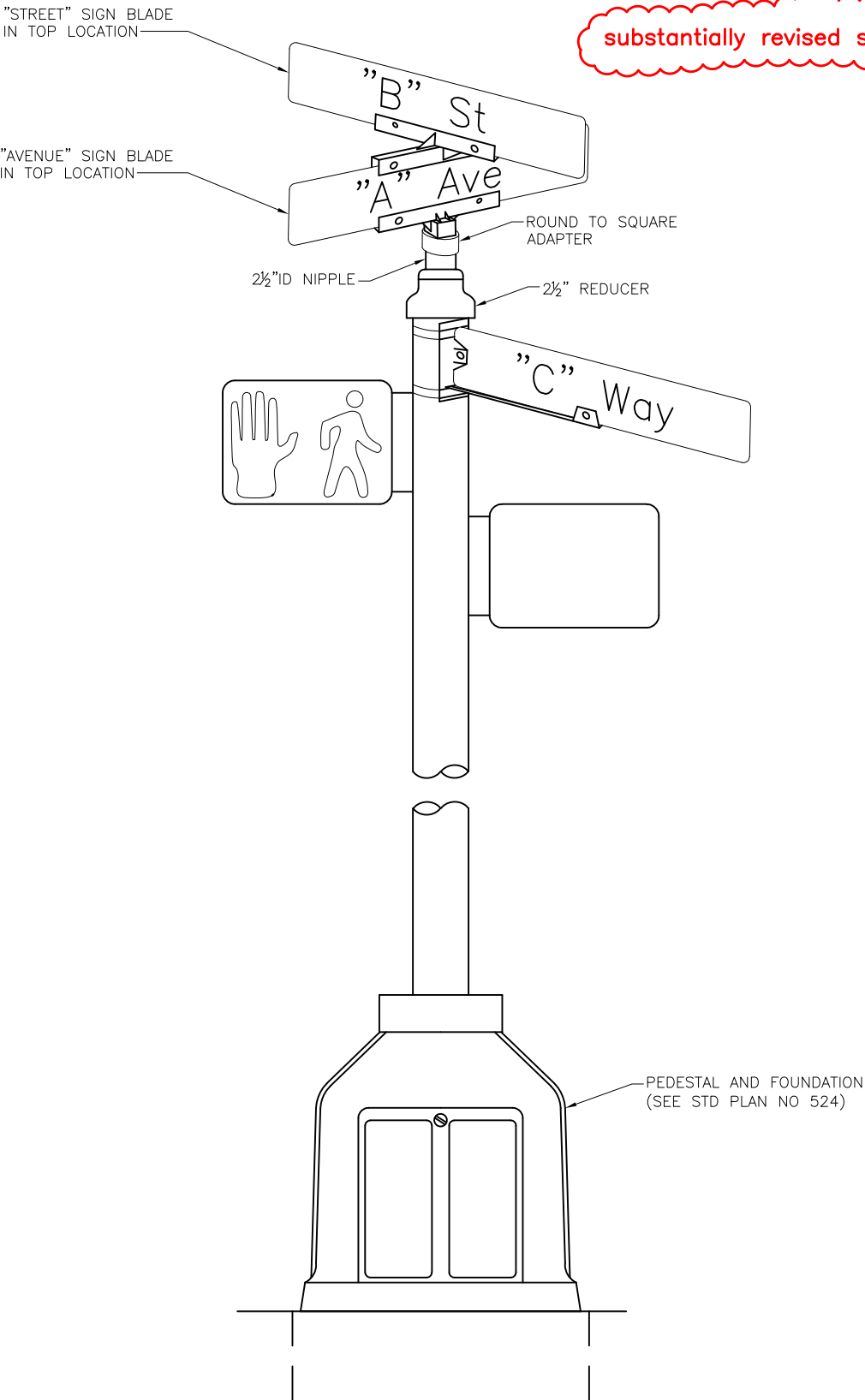


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STREET NAME SIGN
INSTALLATION

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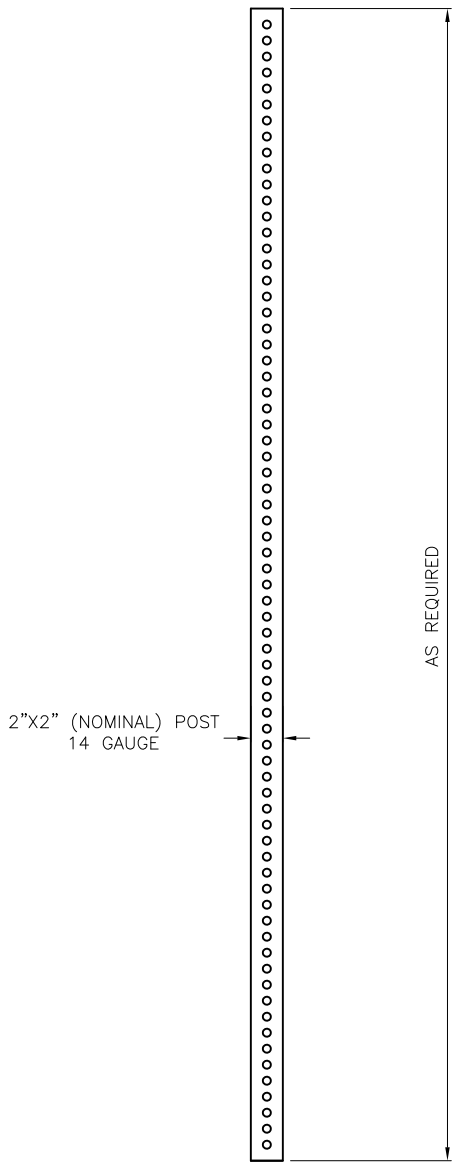
REF STD SPEC SEC 8-21



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STREET NAME SIGN
PEDESTAL INSTALLATION



QWIK PUNCH TELESPIR STANDARD SIGN POST

(TS-5, TS-10, TS-12)

TS-8 removed

NOTES:

- 1. SEE STD PLANS NO 620 & 621

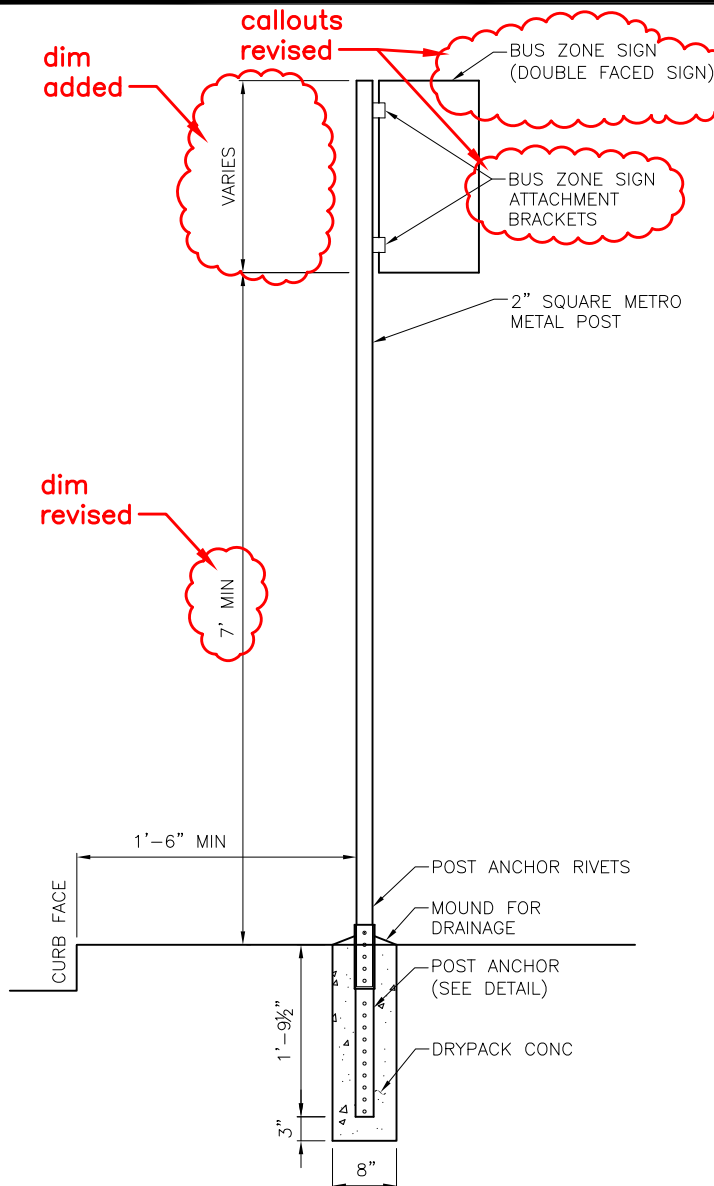
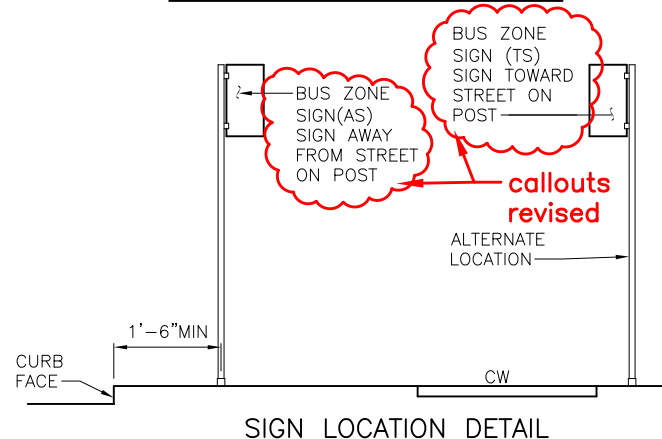
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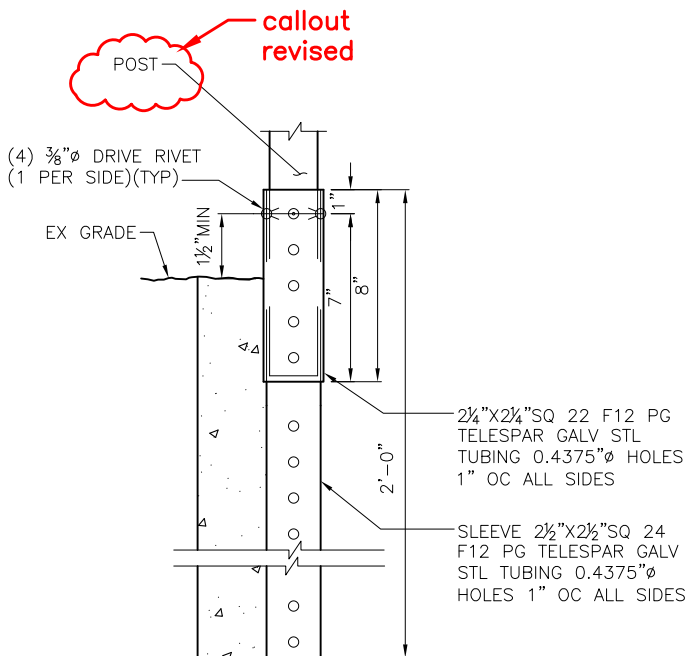
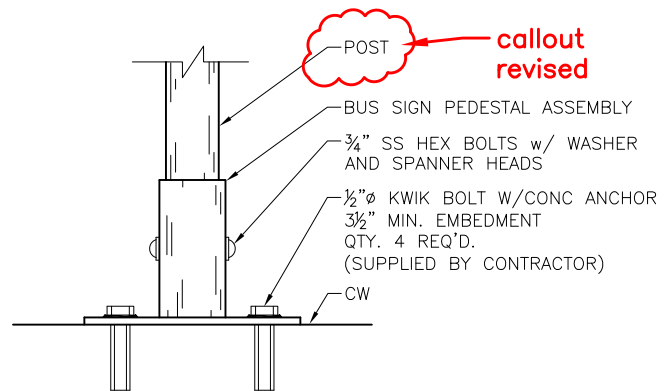
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TRAFFIC SIGN POSTS

DIRECT BURIAL INSTALLATIONSIGN LOCATION DETAIL

- NOTES:**
1. POST ANCHOR RIVETS SHALL BE 1½" ABOVE GROUND LEVEL
 2. ATTACHMENT BRACKETS SHALL FACE AWAY FROM STREET AS WHEN POST IS LOCATED 3'-0" FROM EDGE OF CURB. ATTACHMENT BRACKETS SHALL FACE TOWARDS STREET (TS) WHEN POST IS LOCATED AT BACK SIDE OF SIDEWALK
 3. FOR POST RELOCATIONS, OLD CONCRETE SHALL BE REMOVED FROM POST
 4. ALL SIGNS, STRUCTURES AND HARDWARE PROVIDED BY METRO EXCEPT WHERE NOTED OTHERWISE ON THIS STD PLAN.
 5. WHERE SURFACE MOUNTED BUS ZONE SIGNS ARE REQUIRED ON SLOPED SIDEWALK, THE CONTRACTOR SHALL PLUMB THE POST BY BUILDING A NON-SHRINK GROUT PAD UNDER PEDESTAL ASSEMBLY WITH SMOOTH 1H TO 1V TAPER ON THE GROUT EDGE. THE BOLT ANCHOR LENGTH SHALL BE ADJUSTED TO PROVIDE A MIN 3½" EMBEDMENT THROUGH THE GROUT INTO THE EXISTING CONCRETE.

POST ANCHOR DETAILSURFACE MOUNT INSTALLATION

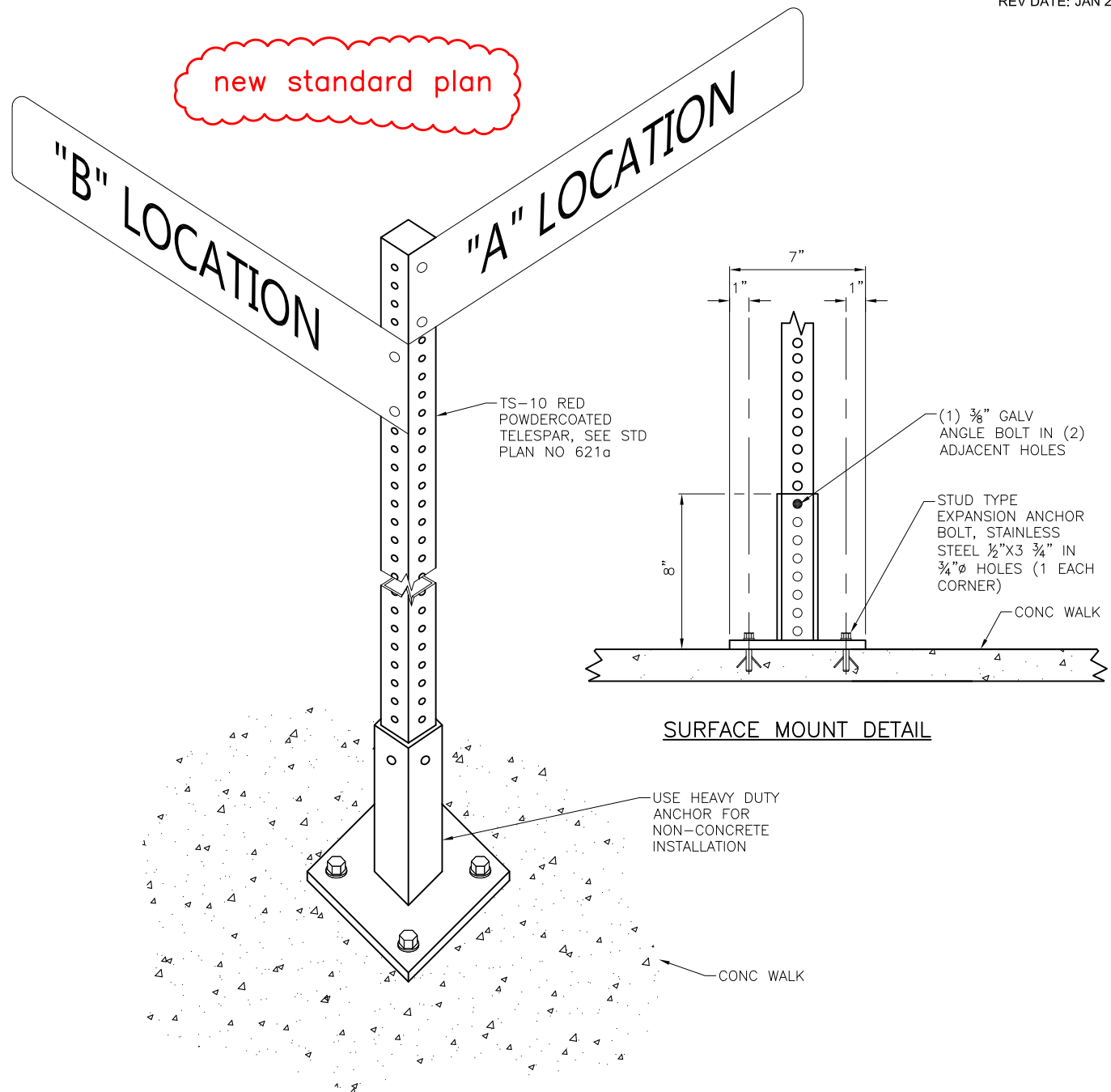
REF STD SPEC SEC 8-21



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**METRO BUS ZONE SIGN
INSTALLATION**

SURFACE MOUNTNOTES:

1. WAYFINDING BLADE SHALL BE INSTALLED POINTING IN THE DIRECTION OF THE LOCATION ON BLADE.
2. CITY OF SEATTLE SHALL FABRICATE WAYFINDING BLADES AND SUPPLY MOUNTING HARDWARE AT PROJECT OR CONTRACTOR EXPENSE.
3. MAINTAIN 8 FEET MINIMUM OF VERTICAL CLEARANCE FROM CONCRETE WALK TO THE BOTTOM OF PEDESTRIAN WAYFINDING BLADES.

REF STD SPEC SEC

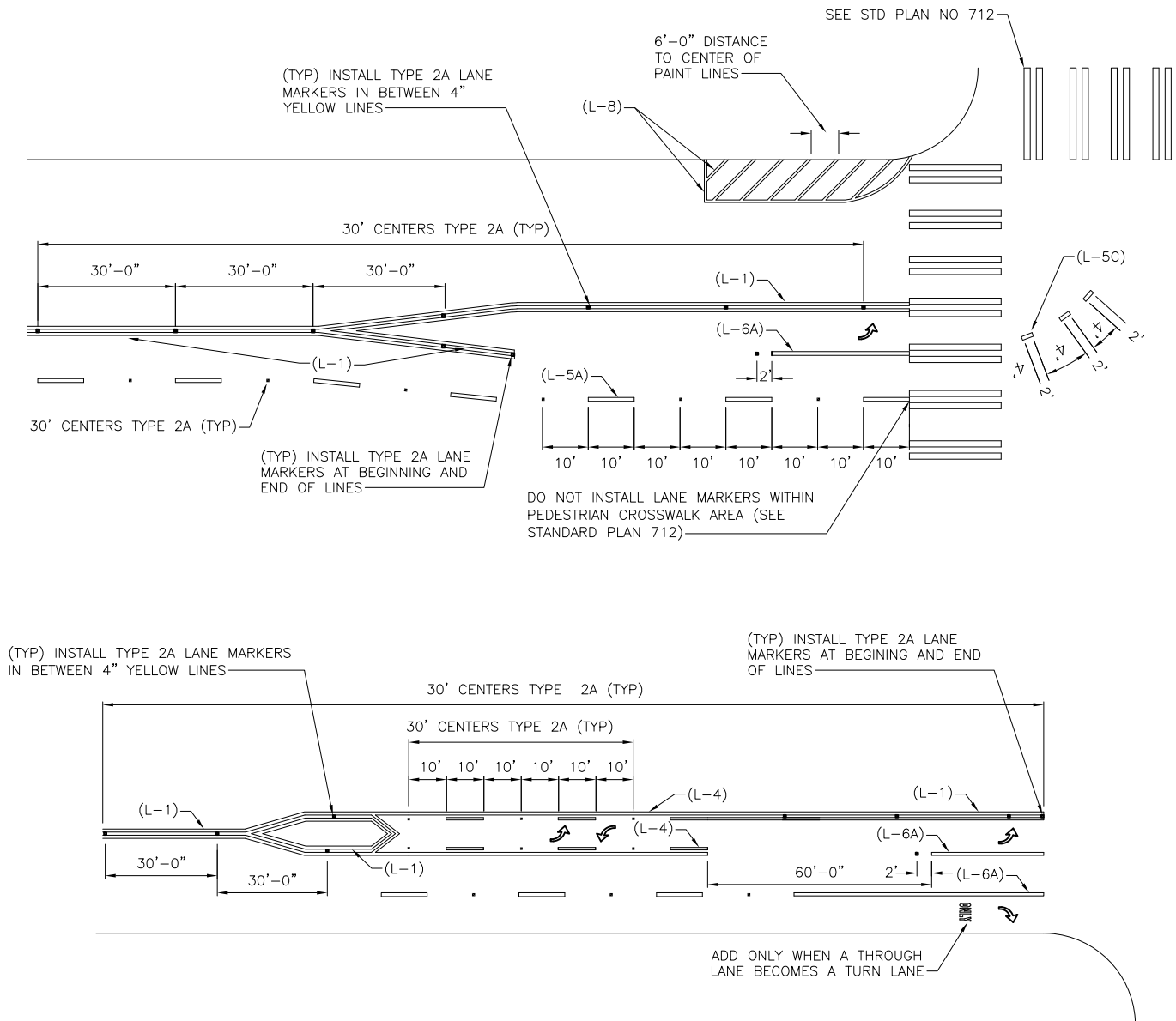


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PEDESTRIAN WAY
FINDING SIGN

substantially revised std plan



TYPICAL TYPE 2A LANE MARKER INSTALLATION DETAILS

LANE MARKERS SHALL BE INSTALLED TO CONFORM WITH TYPE OF PAVEMENT MARKING (DESIGNATED AS L-1, L-3, L-4, L-5A) AND ARE TO BE ARRANGED AND SPACED AS SHOWN ON THIS DRAWING. COLOR OF LANE MARKERS IS TO MATCH COLOR OF PAVEMENT MARKINGS. EXISTING CHANNELIZATION IN CONFLICT WITH NEW OR REVISED CHANNELIZATION SHALL BE REMOVED (SEE STD SPEC SEC 2-02.3(3)J)

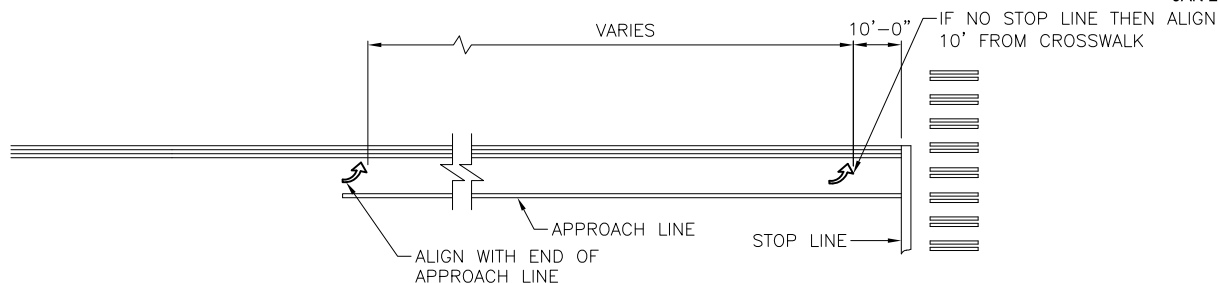
REF STD SPEC SEC 8-22



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TYPICAL LEFT TURN
CHANNELIZATION AND
LEGEND PLACEMENT

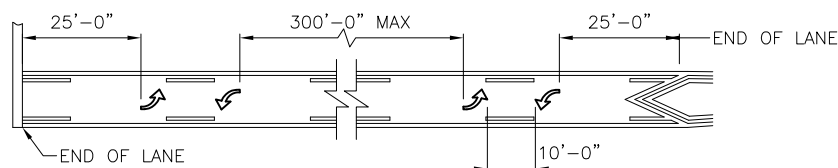


TYPICAL LEFT TURN CHANNELIZATION

NUMBER OF LEGEND SETS REQUIRED BASED ON THE
LENGTH OF APPROACH LINES

APPROACH LINE LENGTH	LEGEND SETS
LESS THAN 50 FEET	1 SET AT X-WALK END OF POCKET
50 FEET-120 FEET	2 SETS
125 FEET-300 FEET	3 SETS (SECOND LEGEND LOCATED MIDWAY BETWEEN FIRST AND LAST LEGENDS)
OVER 300 FEET	ADDITIONAL SETS SPACED AT APPROX 100 FT INTERVALS BETWEEN FIRST AND LAST SETS

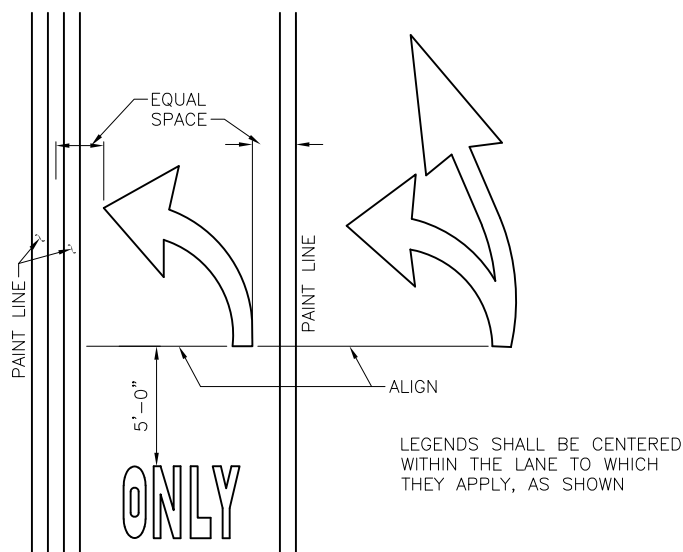
substantially revised std plan



TYPICAL TWO WAY LEFT TURN LANES

NUMBER OF LEGEND SETS REQUIRED BASED ON THE
LENGTH OF TYPICAL TWO WAY LEFT TURN LANES

<u>LANE LENGTH</u>	<u>LEGEND SETS</u>
LESS THAN 50 FEET	1 SET (CENTERED BETWEEN BOTH ENDS OF LANE)
0 FEET-300 FEET	2 SETS
OVER 300 FEET	3 SETS (SECOND LEGEND LOCATED MIDWAY BETWEEN FIRST AND LAST LEGENDS) ADDITIONAL SETS SPACED AT APPROX 300 FT INTERVALS



LEGEND COMBINATIONS

OBLIQUE LEFT & 90° LEFT
LEGENDS AND OBLIQUE RIGHT &
90° RIGHT LEGENDS MAY BE
COMBINED AS SHOWN

REF STD SPEC SEC 8-22



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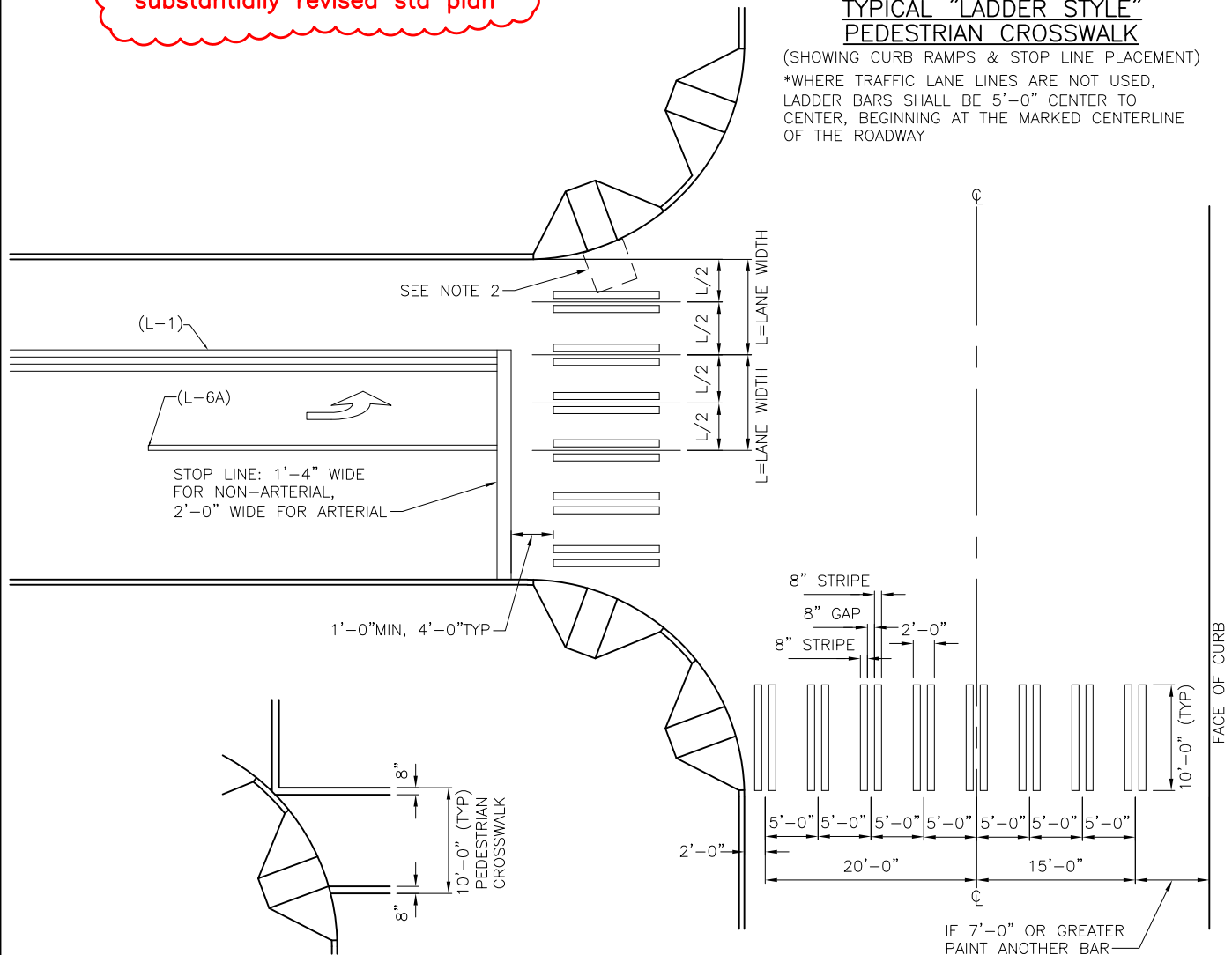
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TYPICAL LEFT TURN CHANNELIZATION AND LEGEND PLACEMENT

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**TYPICAL "LADDER STYLE"
PEDESTRIAN CROSSWALK**

(SHOWING CURB RAMP & STOP LINE PLACEMENT)

*WHERE TRAFFIC LANE LINES ARE NOT USED,
LADDER BARS SHALL BE 5'-0" CENTER TO
CENTER, BEGINNING AT THE MARKED CENTERLINE
OF THE ROADWAY**TYPICAL TRANSVERSE
LINE CROSSWALK****NOTES:**

1. "LADDER STYLE" CROSSWALK SHALL BE USED IN MOST APPLICATIONS. "TRANSVERSE LINE" CROSSWALK MAY ONLY BE USED WITH APPROVAL OF ENGINEER.
2. LOWER LANDING OF CURB RAMP SHALL FALL WHOLLY WITHIN CROSSWALK LINES. SEE STANDARD PLAN NO 422a.
3. WHERE EXISTING TRAFFIC LOOP LOCATIONS ARE BETWEEN 4'-0" AND 1'-0" FROM THE EDGE OF CROSSWALK, STOP LINE MAY BE PLACED UP TO 1'-0" FROM THE CROSSWALK.
4. EXACT LOCATION OF CROSSWALK AND STOP LINES SHALL BE APPROVED BY SDOT.
5. COLORED OR TEXTURED PAVEMENT CROSSWALKS SHALL BE SUPPLEMENTED WITH EITHER "LADDER STYLE" OR "TRANSVERSE LINE" CROSSWALK MARKINGS.
6. EXISTING CROSSWALK MARKINGS THAT CONFLICT WITH NEW CROSSWALK MARKINGS MUST BE REMOVED.

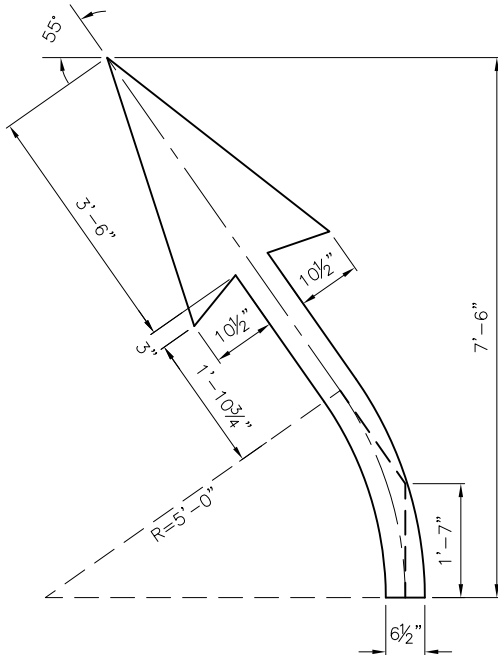
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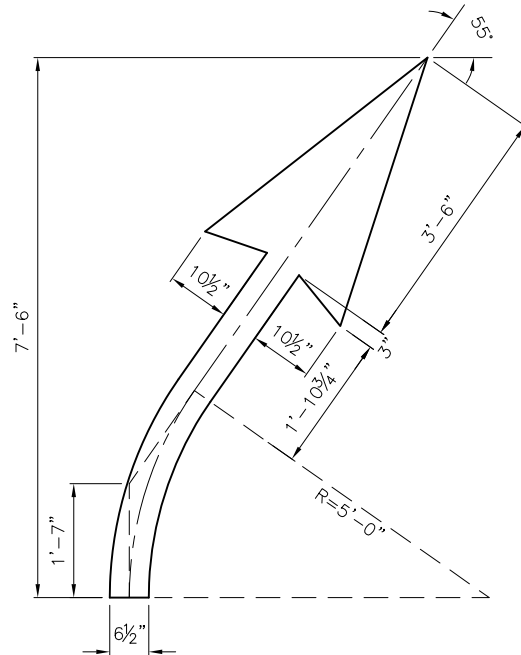
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**TYPICAL CROSSWALK & STOP
LINE INSTALLATION DETAILS**

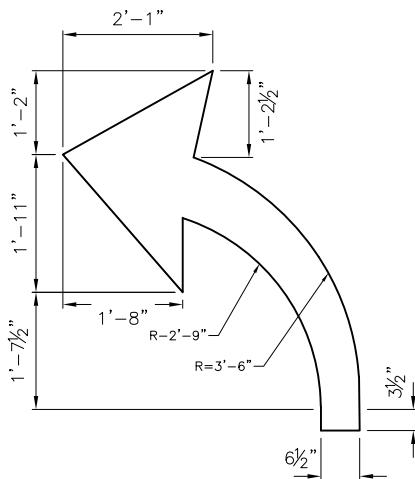


L-18
OBLIQUE LEFT ARROW



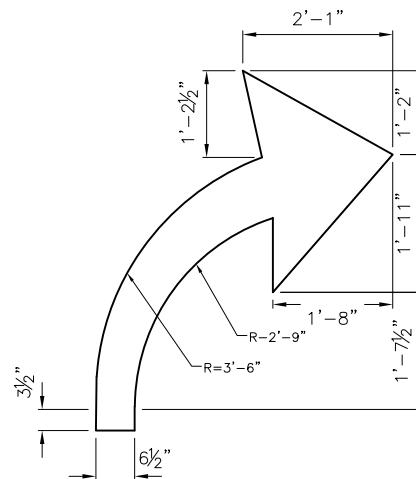
L-19
OBLIQUE RIGHT ARROW

revised



L-20
LEFT ARROW

revised



L-21
RIGHT ARROW

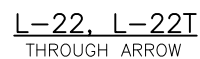
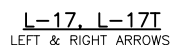
REF STD SPEC SEC 8-22



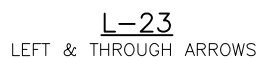
City of Seattle

NOT TO SCALE

PAVEMENT MARKINGS
LEGENDS/SYMBOLS



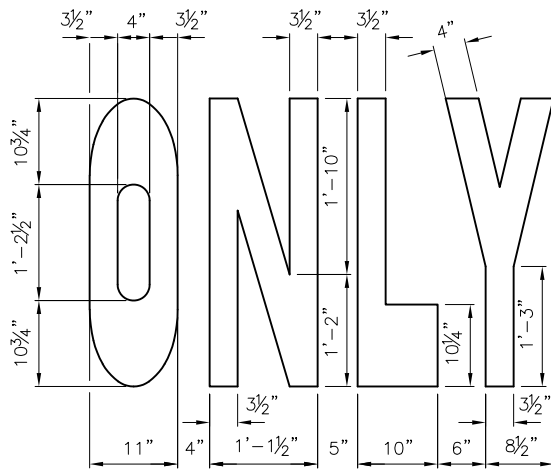
NOTE:
"T"= THERMOPLASTIC



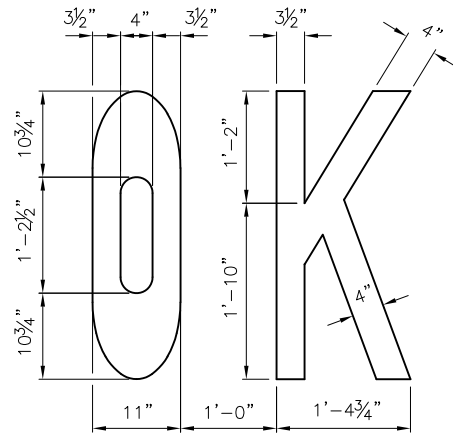
NOT TO SCALE

2017 Edition City of Seattle Standard Plans for Municipal Construction

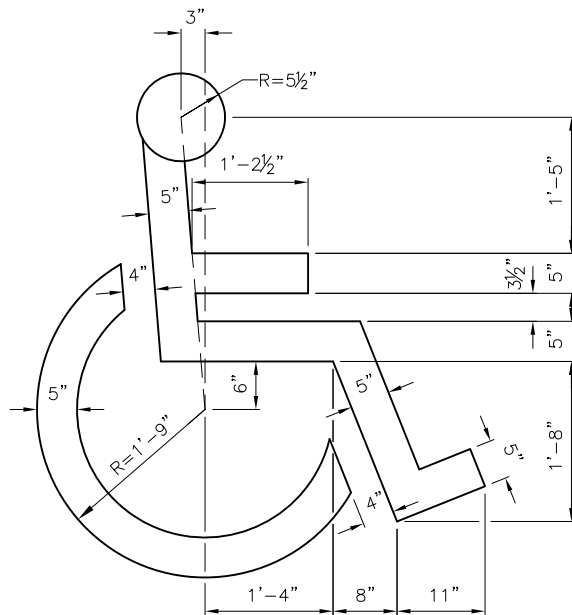
renumbered



L-25, L-25T
"ONLY" LEGEND

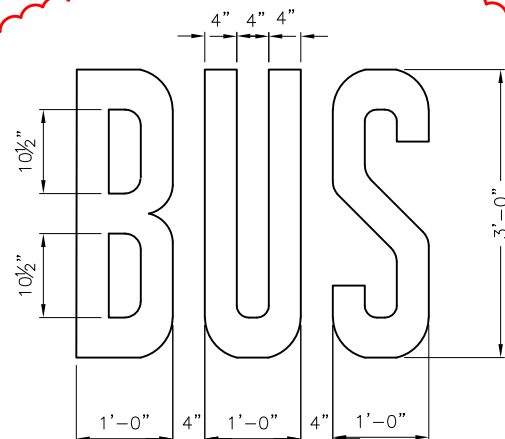


L-26, L-26T
"OK" LEGEND



L-29, L-29T
DISABLED PERSON SYMBOL

detail added



L-30, L-30T
"BUS" LEGEND

REF STD SPEC SEC 8-22



City of Seattle

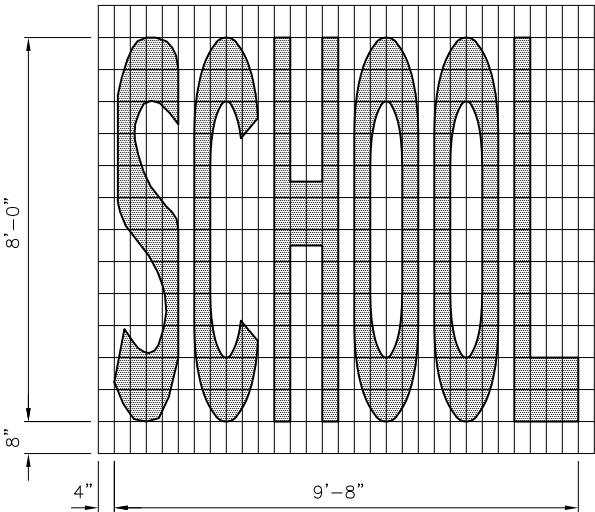
NOT TO SCALE

PAVEMENT MARKINGS
LEGENDS/SYMBOLS

NOTE:

"T" = THERMOPLASTIC

new std plan



L-35, L-35T
"SCHOOL" LEGEND

REF STD SPEC SEC 8-22

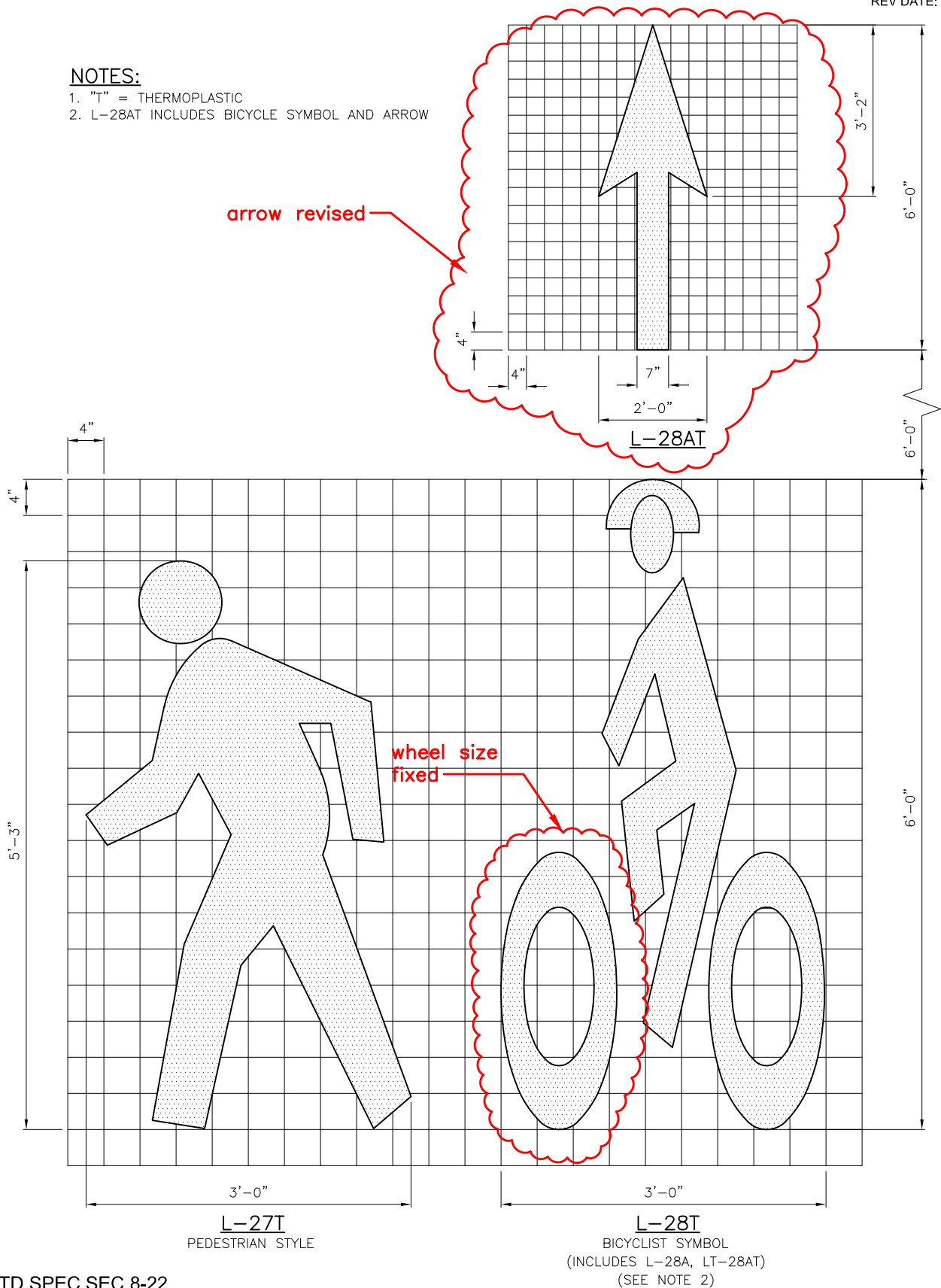


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NOT TO SCALE

PAVEMENT MARKINGS
LEGENDS/SYMBOLS

- NOTES:
- 1. "T" = THERMOPLASTIC
 - 2. L-28AT INCLUDES BICYCLE SYMBOL AND ARROW



REF STD SPEC SEC 8-22



City of Seattle

NOT TO SCALE

BICYCLIST & PEDESTRIAN
SYMBOLS