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CITY OF EVERETT

# **Design and Construction Standards & Specifications For Development**

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## **Volume II**

### **Standard Drawings**

- 100 - GENERAL CONSIDERATIONS**
- 200 - EROSION AND SEDIMENT CONTROL**
- 300 - STREETS AND RELATED WORK**
- 400 - STORM AND SURFACE WATER**
- 500 - WATER DISTRIBUTION**
- 600 - SANITARY SEWER**
- 700 - TRAFFIC CONTROL**
- 800 - ILLUMINATION & SIGNALIZATION**
- 900 - TRANSIT**

**100 SERIES GENERAL CONSIDERATIONS**

101 Sh 1 of 2 Residential Site Plan Example (Sample Plot Plan)

101 Sh 2 of 2 Residential Site Plan Example (Check list of required information)

**200 SERIES    EROSION AND SEDIMENT CONTROL**

201	Construction Access
203	Type 2 Debris Cage
205	Temporary Pipe Slope Drain
207	Triangular Sediment Filter Dikes
208	Excavated Drop Inlet
210	Storm Drain Inlet Protection
212	Inlet Fabric Fence Filter
214	Temporary Silt Fence
216	Emergency Pond Overflow
217	Pipe End Debris Barrier
218	Outlet Protection

**300 SERIES STREETS AND RELATED WORK**

300	Roadway Functional Classifications
301	Typical Roadway Section-Arterials
302	Typical Roadway Section Non-Arterial Streets
303	Typical Roadway Section Short Subdivision Easement
304	Typical Roadway Section 2 Lot Short Subdivision Easement
305	Typical Roadway Section-Alley
306	Typical Cul-de-Sac
307	Cement Concrete Curb and Gutter, Type "A-1"
308	Cement Concrete Rolled Curb and Gutter
309	Cement Concrete Curb-Type E-1, E-2, E-3, and E-4
310	Extruded Asphalt Concrete Sections
311	Extruded Cement Concrete Curb
312	Cement Concrete Sidewalk Details
313	Cement Concrete Sidewalk at Corners
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315	Cement Concrete Driveway Type-1
316	Cement Concrete Driveway Type-2
317	Cement Concrete Driveway Type-3
318	Type A Curb Ramp
319	Type B Curb Ramp
320	Type C Curb Ramp
321	Type D Curb Ramp
322	Typical Curb Ramp Locations
323	Monument Case and Cover
324	Survey Monument
325	Survey Control Monument Cast-in Place
326	Pavement Patching Details
327	Residential Sidewalk Drain
328	Mailbox Structure Installation
329	NDCBU Mailbox Cluster
330	Typical Utility Locations
331	Temporary Turnarounds
332	Rockery (Design & Construction Requirements)
333	Pedestrian Handrail

**DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS**

334	Ornamental Handrail
335	Typical Roadway Section Special Interim Street
336	Cement Concrete Steps
337	Cement Concrete Stairway Construction Details
338	Planting Trees, Shrubs & Ground Cover
339	Planting in Traffic Islands or Medians
340	Parking Lot Details and Dimensions
341	Trail Bollard Type 1 Steel Removable
342	Trail Bollard Type 2 Fixed & Type 1/2 Placement/Striping

**400 SERIES STORM AND SURFACE WATER**

401	Precast Concrete Inlet (Sheets 1 & 2)
401	Concrete Inlet
402	Catch Basin Type 1
403	Catch Basin Type 1L
404	Catch Basin Type 1P (For Parking Lot)
405	Catch Basin Type 2
406	Rectangular Frame (Reversible)
407	Typical Frame and Grate Installation
409	Herringbone Grate for Grate or Solid Cover
410	Solid Cover for Catch Basin or Inlet
411	Vaned Grates for Catch Basin or Inlet
412	Open Curb Face Frame & Grate
413	Floatable Material Separator & Gas Trap For 6" or 8" Lines
414	Floatable Material Separator and/or Gas Trap (12" and Larger)
415	Typical Restrictor Installation
416	Lift Gate Assembly and Secondary Orifice Detail
418	Typical Closed Underground Detention System
419	Typical Dry Type Detention Pond
421	8" Cleanout
422	Bypass Structure Type A
423	Bypass Structure Type B
424	Bypass Structure Type C
425	Filtration Underdrained Rain Garden
426	Infiltration Rain Garden with Overflow
427	Infiltration Rain Garden with Underdrain
428	Flow Chart: Choosing the Right Rain Garden
429	Detention and/or Wetpond
430	Permeable Pavement Section
431	Permeable Pavement on Slopes
432	Curb Inlet to Bioretention
433	Emergency Overflow for Pond

**DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS**

**500 SERIES WATER DISTRIBUTION**

501	Metered Water Service, ¾" and 1"
502	Metered Water Service, 2"
504	Compound Meter for 4", 6" and 8"
505	Valve Box and Extension
507	Fire Hydrant Installation
508	Fire hydrant Conc. Pad, Guard Posts & Valve Marker
511	Blow Off Assembly
512	1-Inch Air-vacuum Valve Assembly
513	2-Inch Polyethylene Water Main
514	Tapping Tees
515	Double Check Detector Valve Assembly (DCDA), 3 Inches & Larger Service
516	Double Check Valve Assembly (DCVA), 3 Inches and Larger Service
517	Reduced Pressure Detector Assembly (RPDA) All Sizes
518	Reduced Pressure Backflow Assembly (RPBA) All Sizes
519	Air Gap for Makeup Tank
520	Double Check Valve Assembly (DCVA), For 2 ½ Inches and Smaller Service
521	Typical Pressure Reducing Valve (PRV) Installation
523	Double Check Detector Valve Assembly (DCDA), 3 Inches & Larger Service Inside a Building
524	Residential Fire Sprinkler System, Metering Requirements

**DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS**

**600 SERIES SANITARY SEWER**

- 601 Typical Side Sewer Layouts
- 602 Typical Side Sewer Connections, Types A, B, C, & D
- 603 Typical Side Sewer Connections, Two way clean-outs
- 604 Sewer Clean-Out, Type 1, 2, 3 & 12" Cast Iron Ring & Cover
- 605 Type 1 Manhole 48", 54", & 60"
- 606 Type 2 Manhole 72", 84" & 96", with 48" or 54" Riser
- 607 Type 3 SS or CS Manhole 48", 54", 60", 72", 84" & 96", with 48" or 54" Riser
- 608 Polypropylene Ladder
- 609 Alternate Polypropylene Steps
- 610 Hinged Manhole Frame and Cover
- 611 Standard Manhole Frame and Cover
- 612 Outside Drop Manhole Connection
- 613 Inside Drop Manhole Connection
- 614 Typical Trench Section, Ductile Iron Pipe
- 615 Bedding for Pipe in Trenches
- 616 Typical Sewer Connection to Existing Sewer Mains
- 617 Alternate Sewer Connection to Existing/New Concrete Sewer Main
- 618 Casing Detail-Prefabricated skids
- 619 Casing Detail-Field Assembled skids
- 620 Typical Trench Compaction
- 621 Grinder Pump Connection to Sanitary Sewer
- 622 Back-Water Valve Connection to Sanitary Sewer

**DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS**

**700 SERIES TRAFFIC CONTROL**

701	Traffic Control Plan-2 Lane Roadway, One Lane Closed with Alternating Oneway Traffic
702	Traffic Control Plan-2 Lane Roadway, Partial Lane Closure
703	Traffic Control Plan-Shoulder Work
704	Traffic Control Plan-5 Lane Roadway, Right Lane Closed
705	Traffic Control Plan-5 Lane Roadway, Intersection with Left Turn Lane Closed
706	Traffic Control Plan-Center of Intersection Work
707	Traffic Control Plan-5 Lane Roadway, Left Lane Closed Far Side of Intersection
708	Traffic Control Plan-5 Lane Roadway, Right Lane Closed Far Side of Intersection
709	Traffic Control Plan-5 Lane Roadway, Full Street Closure Far Side of Intersection
710	Traffic Control Plan-5 Lane Roadway, Multi-lane Closure
711	Traffic Control Plan-2 Way Left Turn Lane Closure
712	Traffic Control Plan-5 Lane Roadway with Left Lane Closed
713	Traffic Control Devices
714	Project/Construction Identification
715	Street Name Sign Post, 2" Square
716	Traffic Sign Installation
717	Mast Arm Mounted Street Name, Size and Mounting Details
718	Post Mounted Street Sign
719	Raised Pavement Markers (RPM) Lane Details
720	Roadway Striping Details
721	Typical Stop Line and Crosswalk Layout
722	Turn Pocket Detail
723	Transit Stop Striping
724	Access Parking Space Symbol

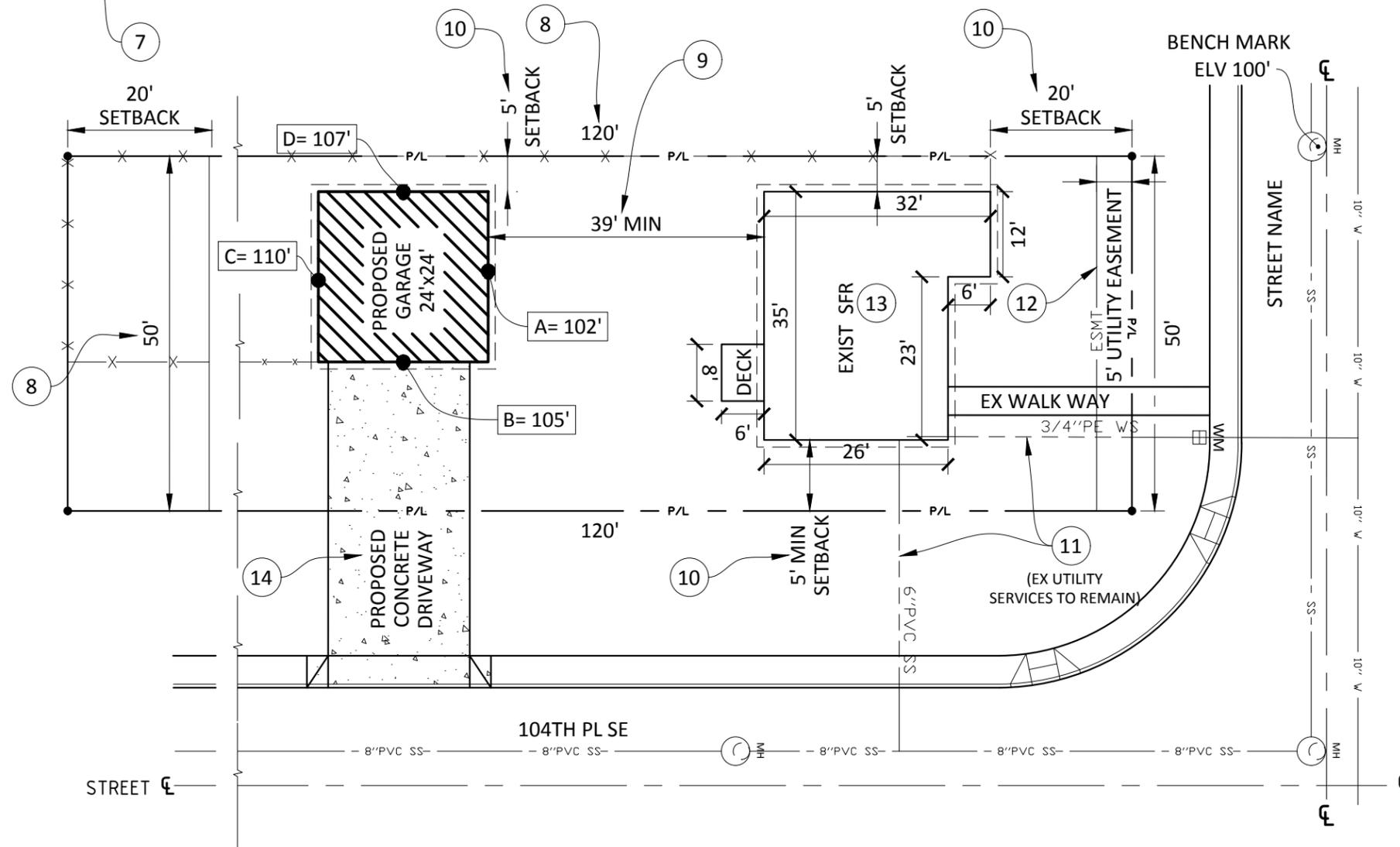
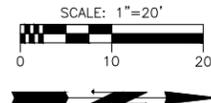
**800 SERIES ILLUMINATION & SIGNALIZATION**

801	400 AMP Service Cabinet
803	Service Cabinet for Metered Signal and Holiday Lighting
804	Type 1 Stop Line Loop Detection Layout (6'x30')
805	Type 2 Stop Line Loop Detection Layout
806	Pole Mounted Terminal Cabinet
807	Luminaire Mounting Height and Utility Clearances
808	Traffic Junction Box Details
809	Traffic Induction Loop Details
810	Traffic Induction Loop Types and Notes
811	AC Power Panel Detail
812	Street Light Details and Placement
813	Aerial Telemetry Installation on Wood Pole-Dead End Mounting
814	Aerial Telemetry Installation on Wood Pole-Angle Point Mounting
815	Police Panel Model 332 Cabinet
816	Detection Panel Model 332 Cabinet
817	Display Panel
818	332 Cabinet Layout
819	Signal Pole Foundation Type 2 & 3
820	Telemetry Cabinet & Foundation
821	Service Cabinet for Street Illumination
822	Conduit Riser Detail for PUD Service Drop
823	Decorative Street Light, Type A & B Poles
824	Decorative Street Light
825	Model 332 Cabinet Foundation Detail
826	NEMA Type "P" Controller Cabinet Foundation Detail
827	Emergency Pre-Emption Beacon Mounting Detail (Type "PS" Pole)
828	Traffic Electrical Cabinet

**DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS**

**900 SERIES TRANSIT**

901	Bus Turnout Dimensions
902	Bus Stop Dimensions
904	Bus Shelter
905	Bus Turning Radii
906	Bus Shelter (Concrete Pad)



1 PROJECT DESCRIPTION  
 PROPOSED DETACHED GARAGE ASSOCIATED DRIVEWAY  
 AND CURB CUT.

OWNER/APPLICANT  
 J. HOMEOWNER  
 1234 YOUR STREET, EVERETT WA 98201

2 LEGAL DESCRIPTION  
 LOT #2 PLAT OF PARADISE RIDGE VIEW TRACT, DIVISION.  
 NO. 2

3 PARCEL TAX ID#  
 00123400000100

4 HEIGHT CALCULATIONS  
 MANHOLE RIM ELVEVATION (ELV) = 100'  
 A = 102'  
 B = 105'  
 C = 110'  
 +D = 107'  
 424' / 4 = 106' AVERAGE (BASE ELV)  
 +15' ALLOWED  
 121' = MAX HEIGHT

5 LOT COVERAGE BY BUILDING SF  
 LOT SIZE = 6000 SQUARE FOOT (SF)  
 EXISTING HOUSE = 902 SF  
 PROPOSED GRADE = +576 SF  
 1558 SF  
 BUILD SF / LOT SF = 26%

6 IMPERVIOUS AREA  
 PROPOSED ROOF AREAS = 576 SF  
 PROPOSED HARD SURFACES = 700 SF  
 TOTAL PROPOSED IMPERVIOUS AREA = 1276 SF

**LEGEND**

- PROPERTY LINE ——— P/L ———
- EASEMENT LINE ——— ESMT ———
- EX FENCE — X — X — X — X —
- EX WATER SERVICE/METER — 3/4" PE WS — 3/4" PE WS —
- EX SIDE SEWER SERVICE — 6" PVC SS — 6" PVC SS —
- SEWER MAIN — 8" PVC SS —
- WATER MAIN — 10" W —

- PROPOSED CONCRETE [Pattern]
- PROPOSED ROOF AREA [Hatched Pattern]

NOTE: A SURVEY MAY BE REQUIRED AT THE TIME OF BUILDING PERMIT SUBMITTAL IF DEVELOPMENT IS WITHIN ONE FOOT OF A REQUIRED SETBACK OR ONE FOOT OF A REQUIRED HEIGHT LIMIT.



**DRAFT**

		City Engineer <b>RYAN SASS</b>		Section Manager <b>TONY LEE</b>		CAD Manager <b>PAUL WILHELM</b>		Drawn By <b>ESH</b>		Current Rev Date <b>12/30/2016</b>	
		TITLE <b>RESIDENTIAL SITE PLAN EXAMPLE</b>									

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD101.DWG

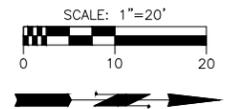
**THE FOLLOWING INFORMATION IS REQUIRED ON ALL SITE PLANS**

- 1  PROJECT DESCRIPTION, NAME OF APPLICANT AND ADDRESS OF SITE
- 2  LEGAL DESCRIPTION.
- 3  TAX PARCEL NUMBER.
- 4  HEIGHT CALCULATIONS WITH BENCHMARK, AVERAGE BASE ELEVATION AND ACTUAL HEIGHT NOTED.
- 5  PERCENT OF LOT COVERAGE BY BUILDING(S) TO INCLUDE TOTAL LOT SIZE (SF) AND FOOTPRINT OF ALL BUILDINGS.
- 6  CALCULATE IMPERVIOUS AREA SHOW EXISTING, PROPOSED AND TOTAL (SQUARE FEET). OVER 2,000 SF MAY BE REQUIRED TO SUBMIT STORMWATER ENGINEERED PLANS. SEE SUBMITTAL CHECKLIST FOR DETAILS.
- 7  NORTH ARROW (DIRECTION FACING UP OR RIGHT) AND SCALE.
- 8  LENGTH OF ALL LOT LINES.
- 9  DISTANCE BETWEEN ALL BUILDINGS, EXISTING AND PROPOSED.
- 10  PROPOSED AND EXISTING BUILDING SETBACKS FROM ALL LOT LINES.
- 11  UTILITIES (SEWER, WATER & DRAINAGE). SHOW SIZE OF SERVICE OR PIPE AND LABEL AS EXISTING TO REMAIN, EXISTING TO BE REUSED, OR NEW SERVICE.
- 12  EASEMENTS ON SITE INCLUDING, BUT NOT LIMITED TO, INGRESS/EGRESS, WATER, SEWER & DRAINAGE.
- 13  SHOW ALL PERIMETER BUILDING DIMENSIONS.
- 14  ALL DIMENSIONS, LOCATION AND MATERIAL OF PROPOSED AND EXISTING DRIVEWAYS.
- 15  ANY CRITICAL AREAS ON SITE. SHOW TOP OF SLOPE AND TOE OF SLOPE. SHOW PROPOSED BUILDING SETBACKS FROM SLOPE AND ANY CRITICAL AREA BUFFERS.
- 16  DIMENSIONS AND DEPTH OF ANY FILL ON THE SITE (IF APPLICABLE).
- 17  ANY PROPOSED ROCKERIES OR RETAINING WALLS OVER 4'-0" TALL.

**LEGEND**

- PROPERTY LINE  P/L
- EASEMENT LINE  ESMT
- EX FENCE  X
- EX WATER SERVICE/METER

- PROPOSED CONCRETE 
- PROPOSED ROOF AREA 



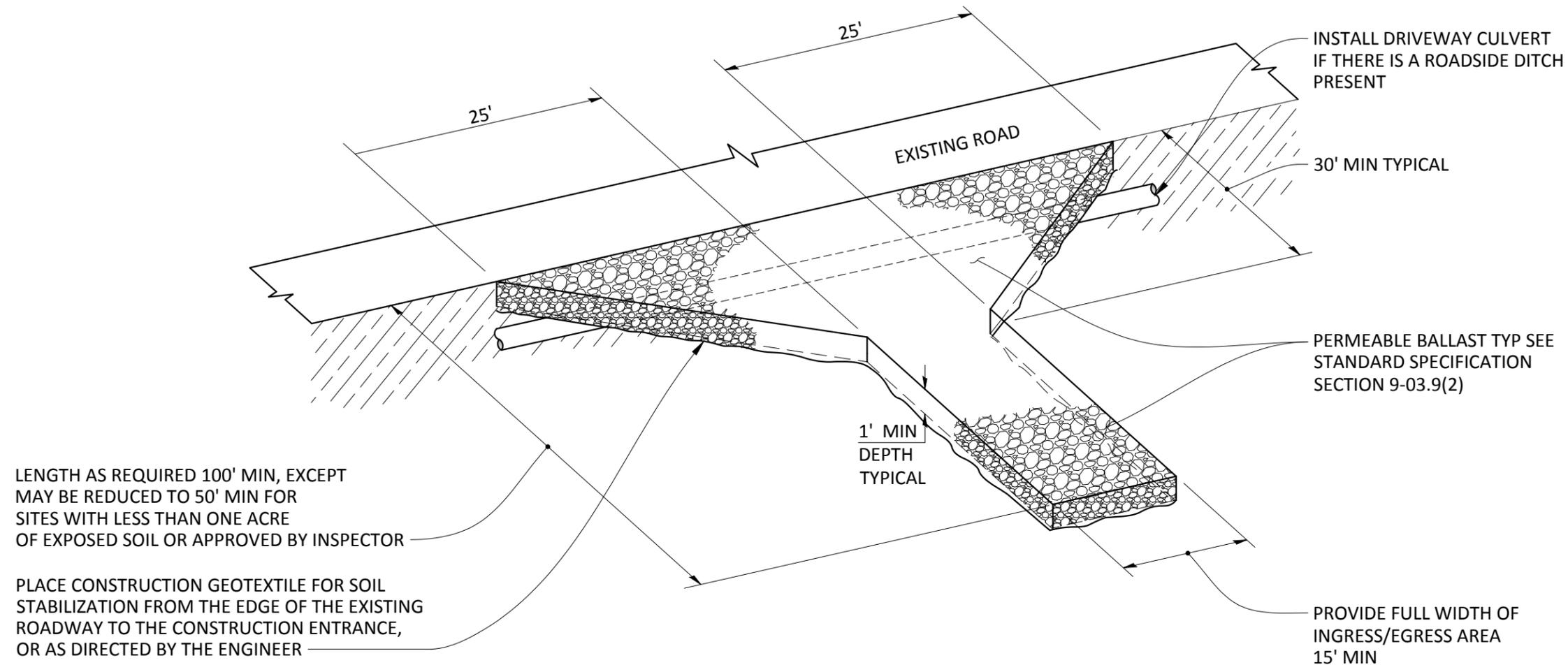
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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TONY LEE	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE RESIDENTIAL SITE PLAN EXAMPLE			Current Rev Date 12/30/2016 STANDARD DRAWING No. 101

**NOTES**

1. STABILIZED CONSTRUCTION ENTRANCE SHALL MEET THE REQUIREMENTS OF WSDOT STANDARD SPECIFICATION SECTION 8-01.3(7).



**ISOMETRIC VIEW  
CONSTRUCTION ENTRANCE**

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WSDOT STD PLAN I-80.10-02 ACCEPTABLE SUBSTITUTE



City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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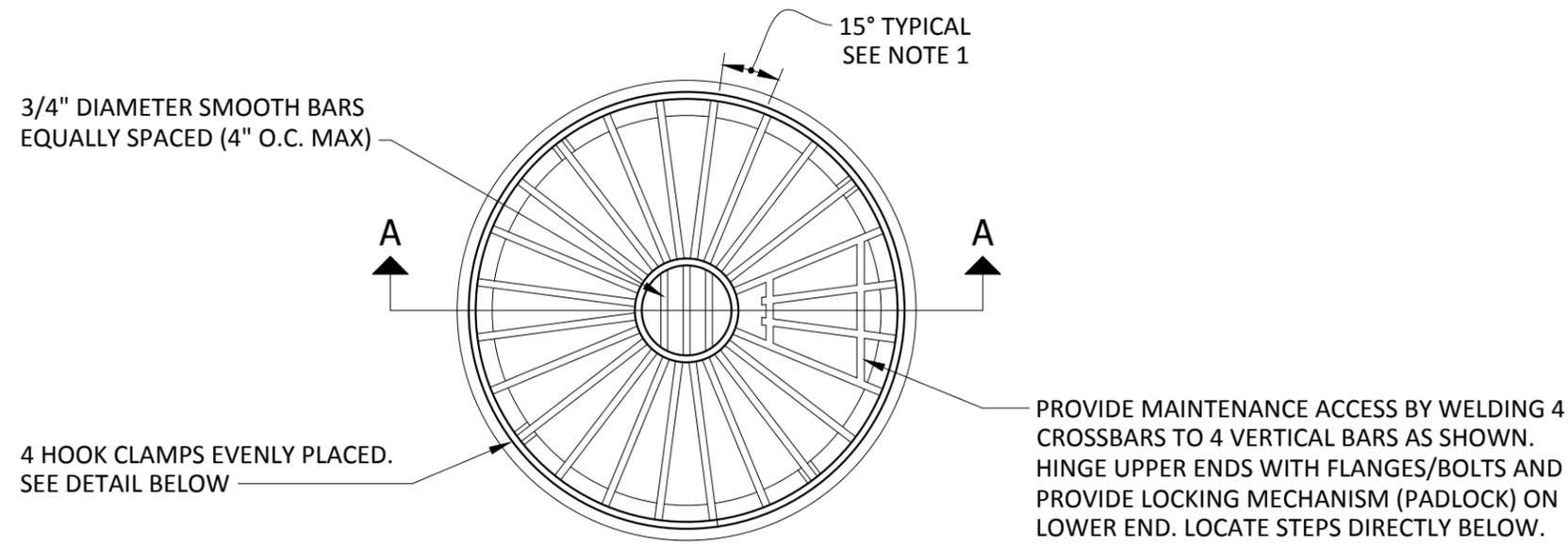
CONSTRUCTION ACCESS

201

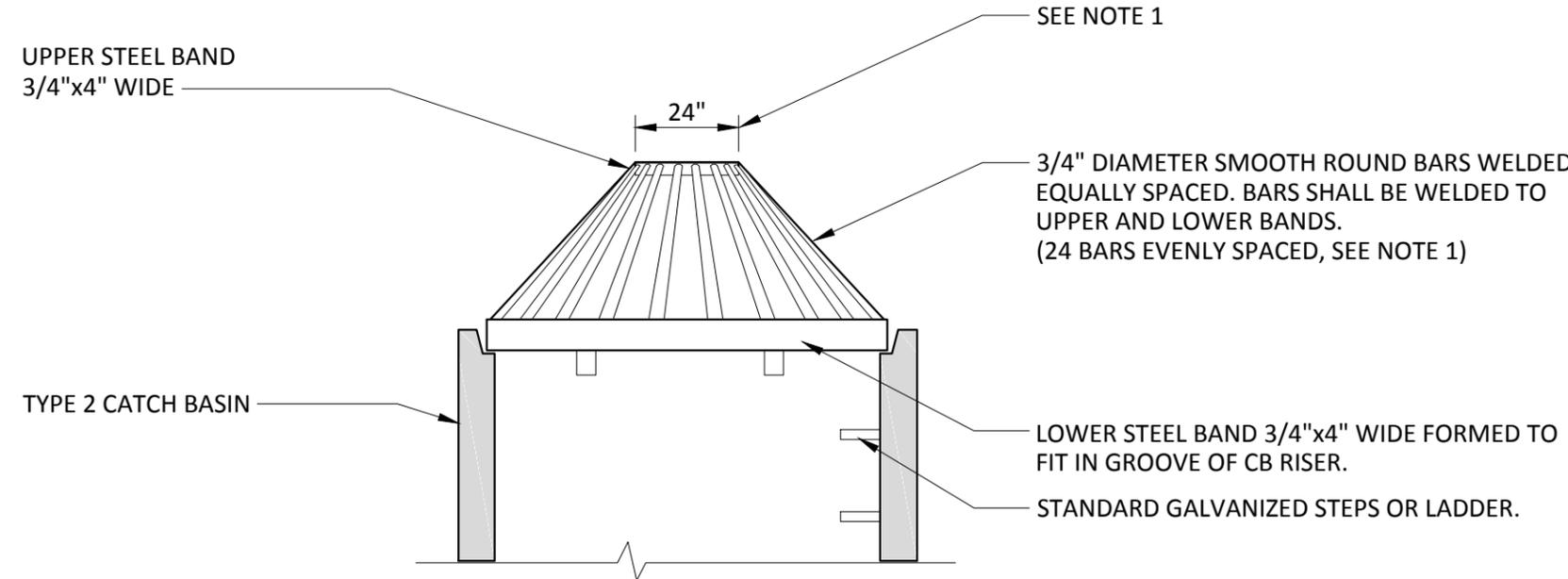
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**NOTES**

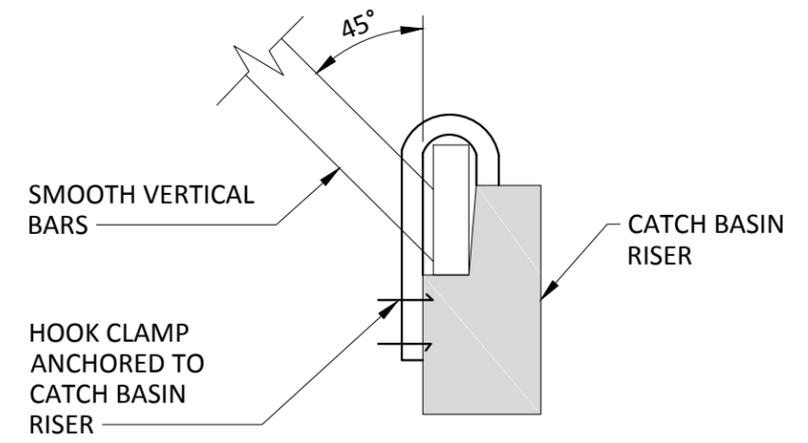
1. DIMENSIONS ARE FOR ILLUSTRATION ON 54" DIAMETER CATCH BASIN. FOR DIFFERENT DIAMETER CATCH BASINS ADJUST TO MAINTAIN 45 DEGREE ANGLE ON "VERTICAL BARS AND 7" O.C. MAXIMUM SPACING OF BARS AROUND LOWER STEEL BAND.
2. METAL PARTS MUST BE CORROSION RESISTANT; STEEL BARS MUST BE GALVANIZED.
3. THIS DEBRIS BARRIER IS ALSO RECOMMENDED FOR USE ON THE INLET TO ROADWAY CROSS-CULVERTS WITH HIGH POTENTIAL FOR DEBRIS COLLECTION (EXCEPT ON TYPE 2 STREAMS).



**PLAN VIEW**



**SECTION A-A**



**HOOK CLAMP DETAIL**

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TYPE 2 DEBRIS CAGE</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>203</b>

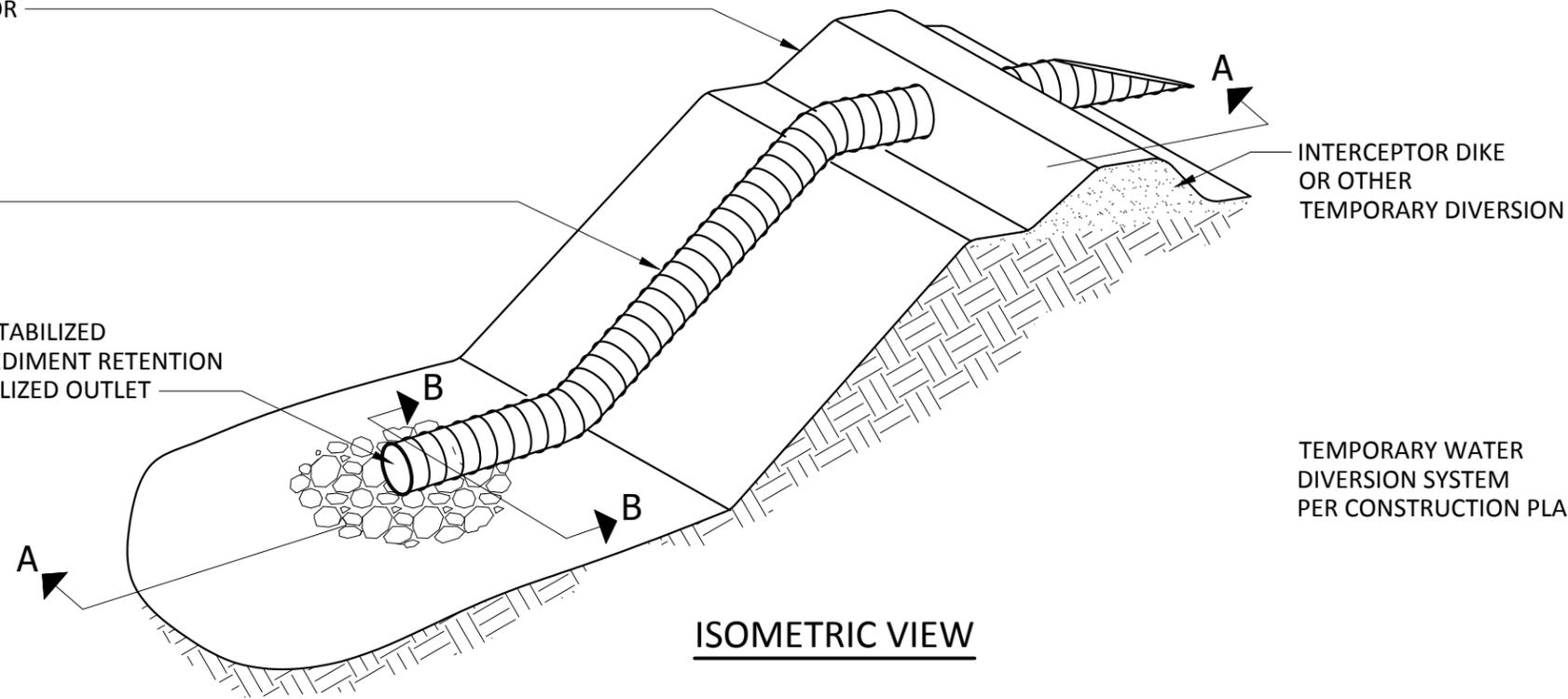
**NOTES**

1. INLET AND ALL SECTIONS MUST BE SECURELY FASTENED TOGETHER WITH GASKETED WATERTIGHT FITTINGS.

DIKE MATERIAL COMPACTED 90%  
MODIFIED PROCTOR

CPEP OR  
EQUIVALENT PIPE

DISCHARGE TO A STABILIZED  
WATERCOURSE, SEDIMENT RETENTION  
FACILITY, OR STABILIZED OUTLET

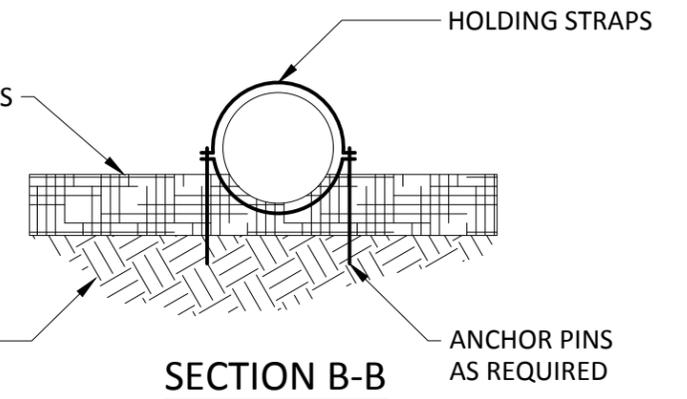


**ISOMETRIC VIEW**

INTERCEPTOR DIKE  
OR OTHER  
TEMPORARY DIVERSION

TEMPORARY WATER  
DIVERSION SYSTEM  
PER CONSTRUCTION PLANS

EXISTING GROUND



**SECTION B-B**

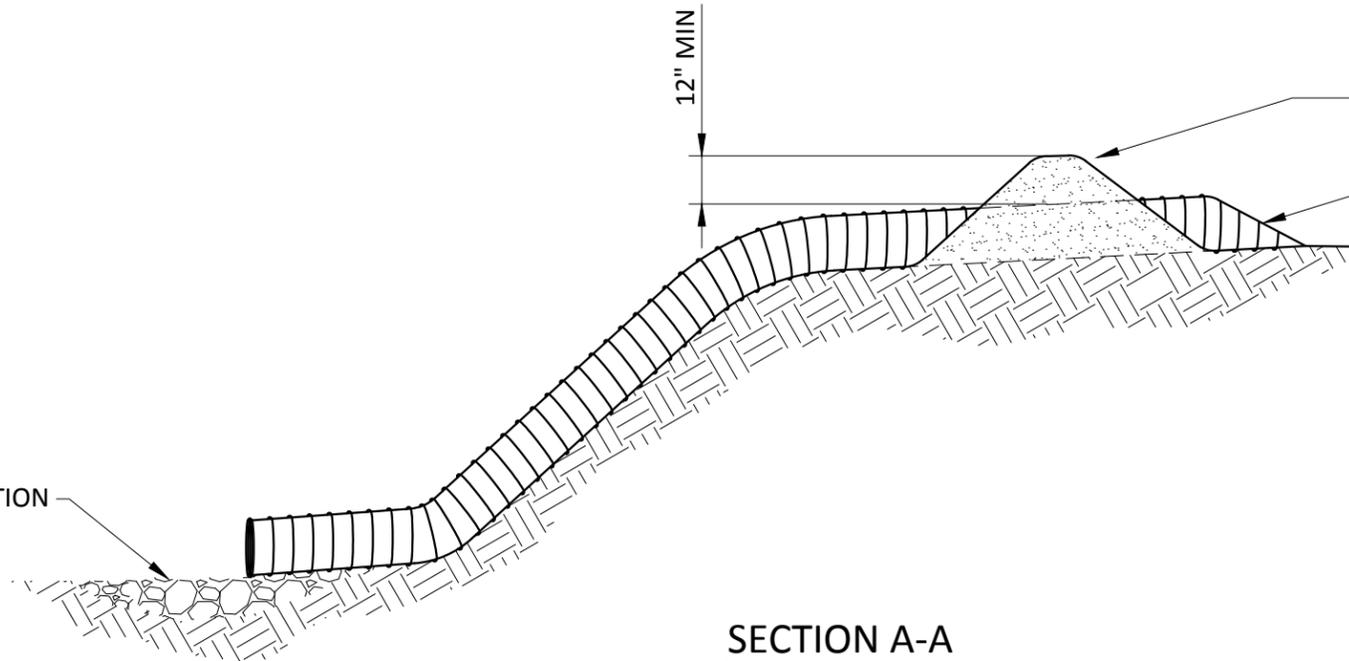
ANCHOR PINS  
AS REQUIRED

12" MIN

INTERCEPTOR DIKE OR OTHER  
TEMPORARY DIVERSION

STANDARD FLARED END SECTION

PROVIDE RIPRAP PAD OR  
EQUIVALENT ENERGY DISSIPATION



**SECTION A-A**



City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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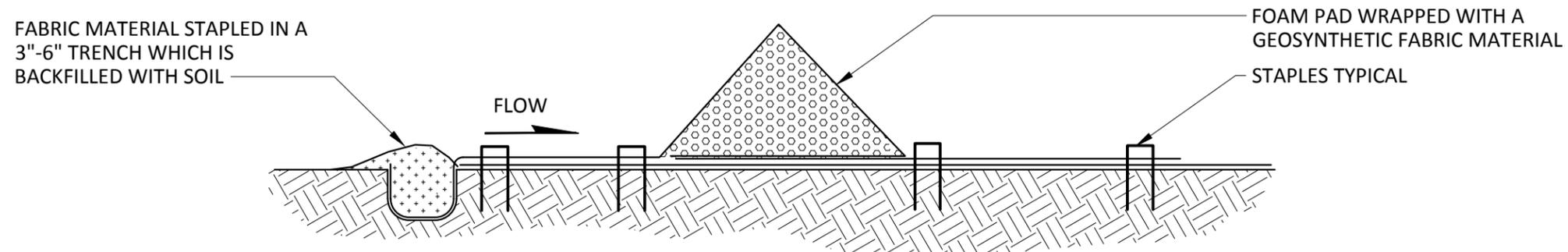
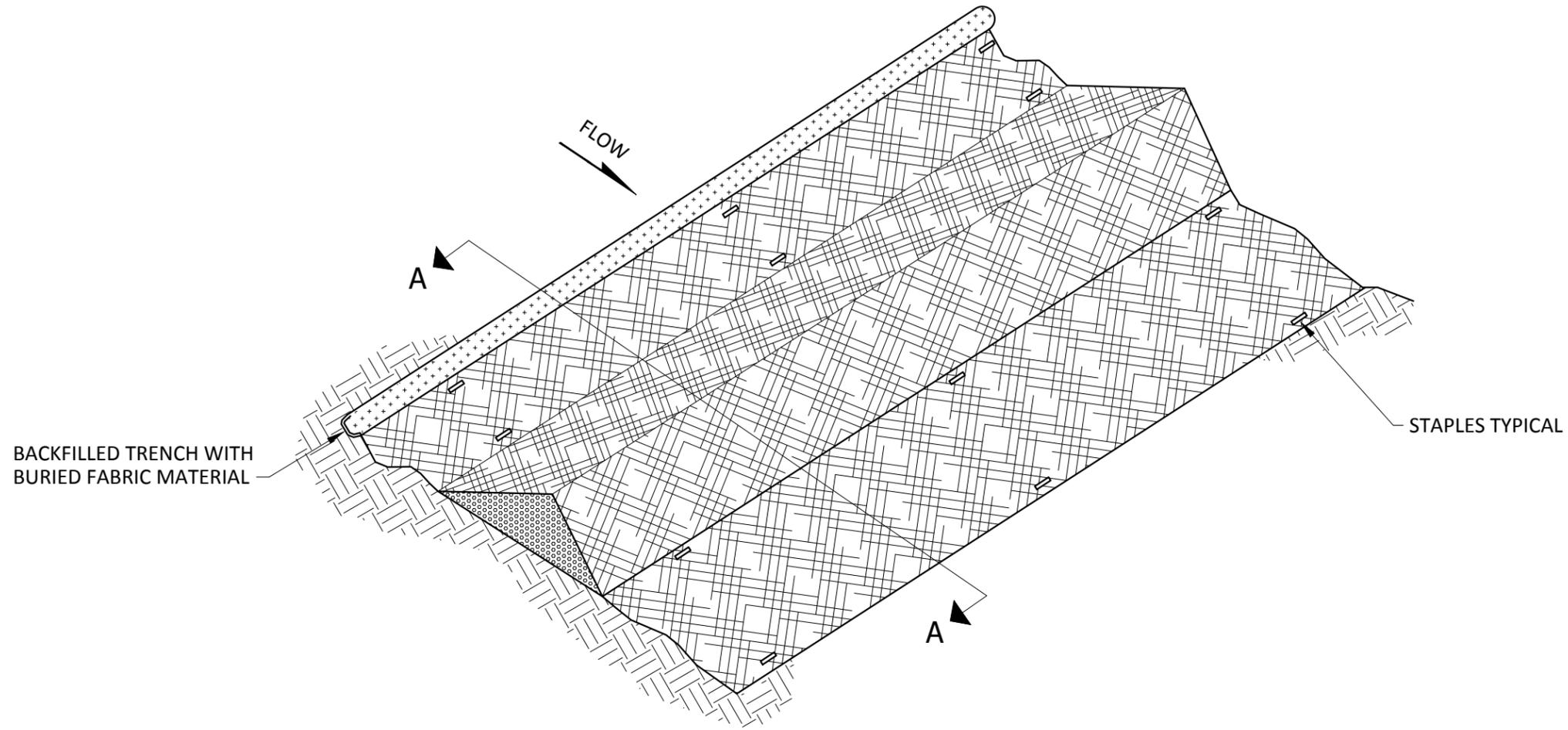
TITLE TEMPORARY PIPE SLOPE DRAIN	STANDARD DRAWING No. 205
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**DRAFT**

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**NOTES**

1. PROVIDE 8 LINEAL FEET PER 1 CFS RUNOFF.

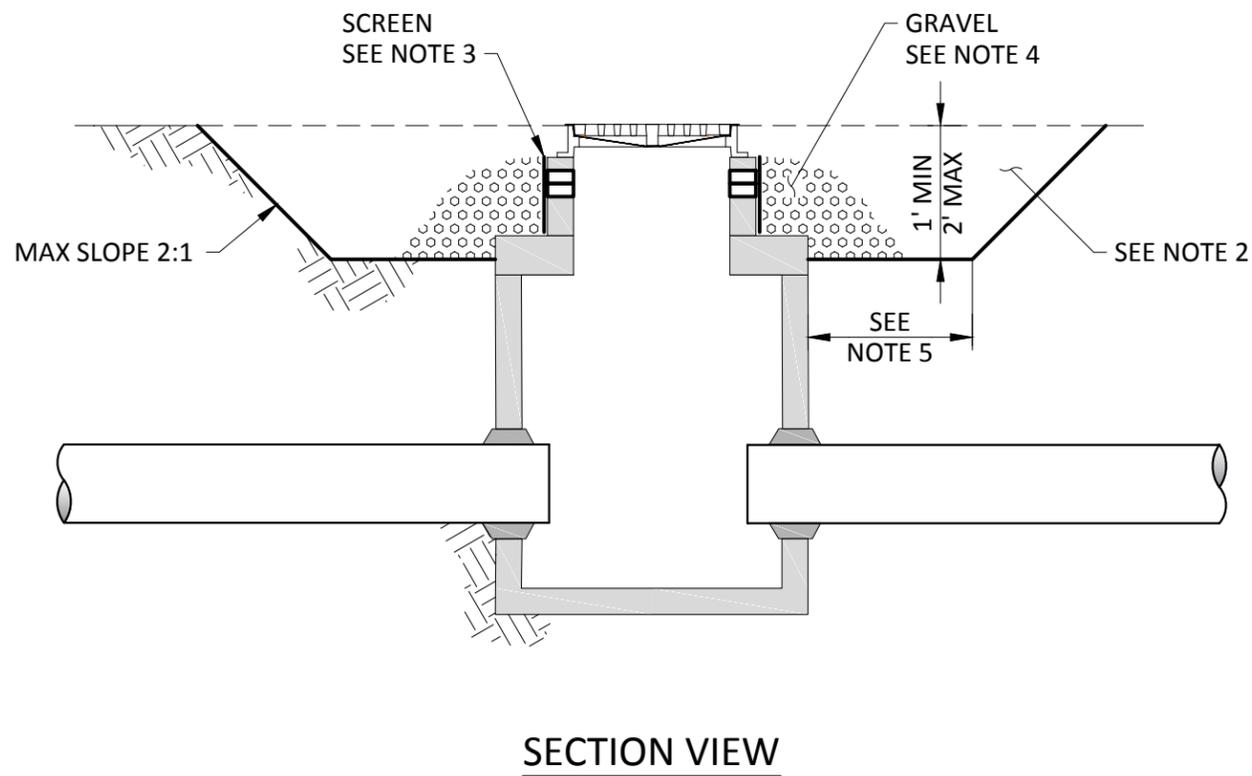
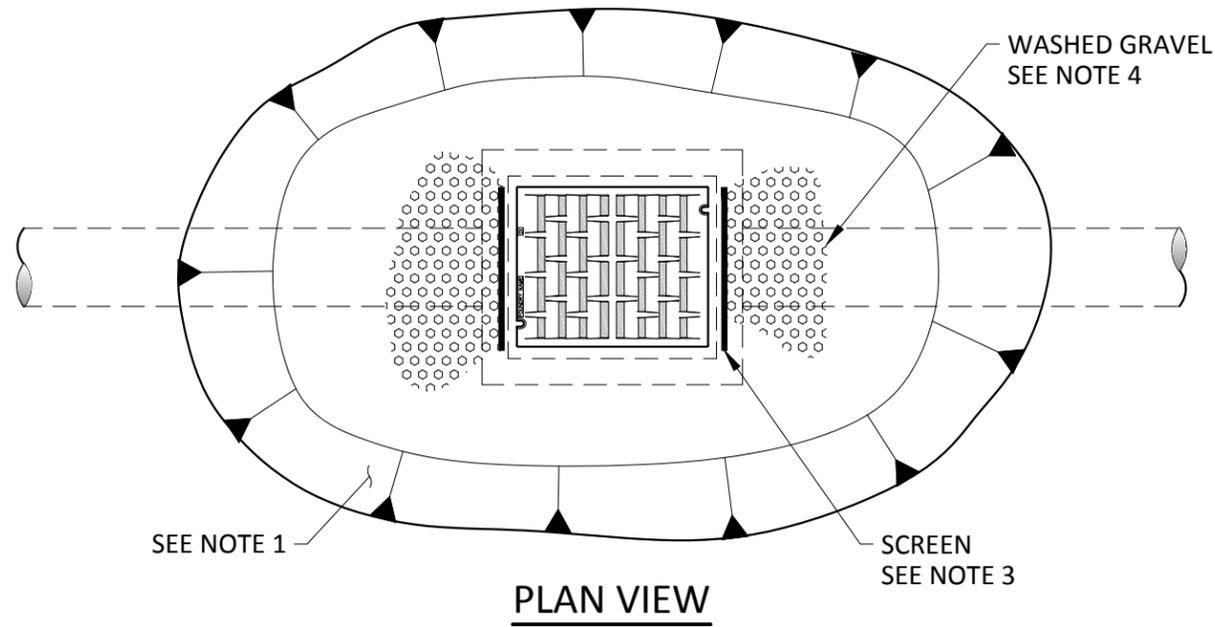


**CROSS SECTION A-A**

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TRIANGULAR SEDIMENT FILTER DIKES</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>207</b>



## NOTES

1. SHAPE OF SEDIMENTATION POND MAY VARY TO FIT DRAINAGE AREA AND TERRAIN. MODIFY AS NECESSARY TO ENSURE SATISFACTORY TRAPPING OF SEDIMENT. HALF-CIRCLE POND MAY BE USED WHEN CURB AND GUTTER ARE INSTALLED DURING STREET CONSTRUCTION.
2. CLEAN OUT WHEN SEDIMENT REACHES 6" BELOW GRATE.
3. TEMPORARILY LEAVE OUT BLOCK. COVER OPENING WITH WIRE SCREEN. SIZE SCREEN TO RETAIN GRAVEL.
4. PLACE WASHED GRAVEL IN FRONT OF SCREEN TO FILTER SEDIMENT.
5. SIZE POND BASED ON EXPECTED FLOWS DURING CONSTRUCTION.
6. TO PREVENT SEDIMENTATION FROM ENTERING STORM DRAINAGE SYSTEM AT CATCH BASIN/INLETS DURING CONSTRUCTION.

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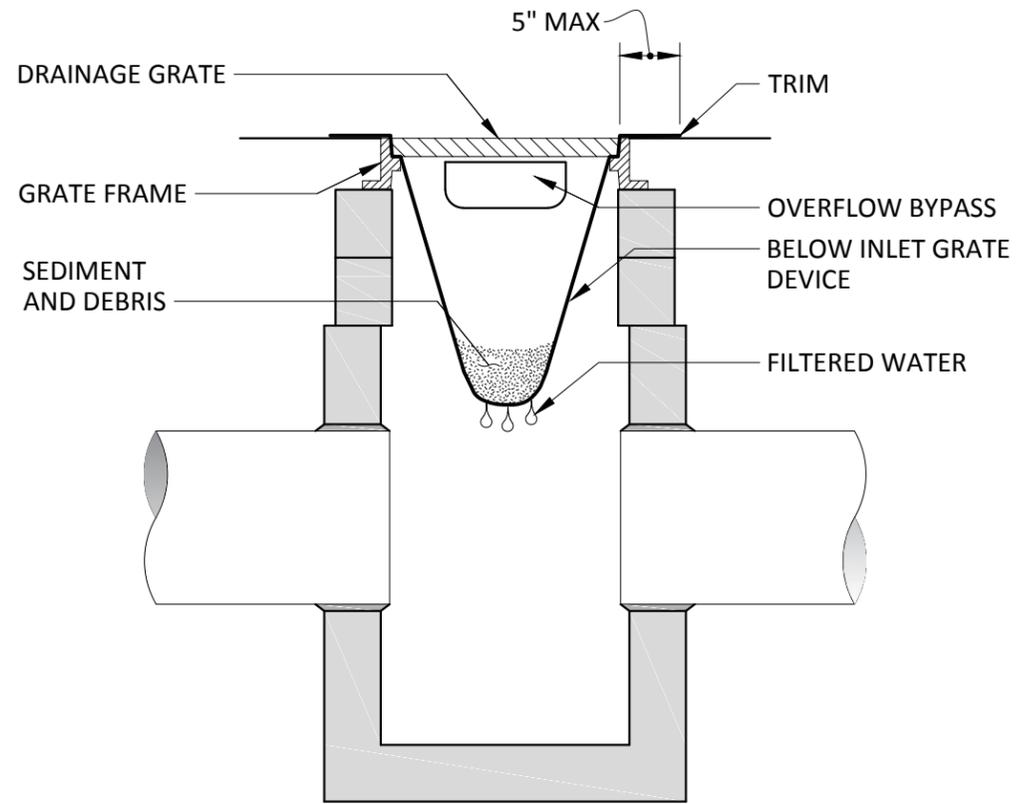


City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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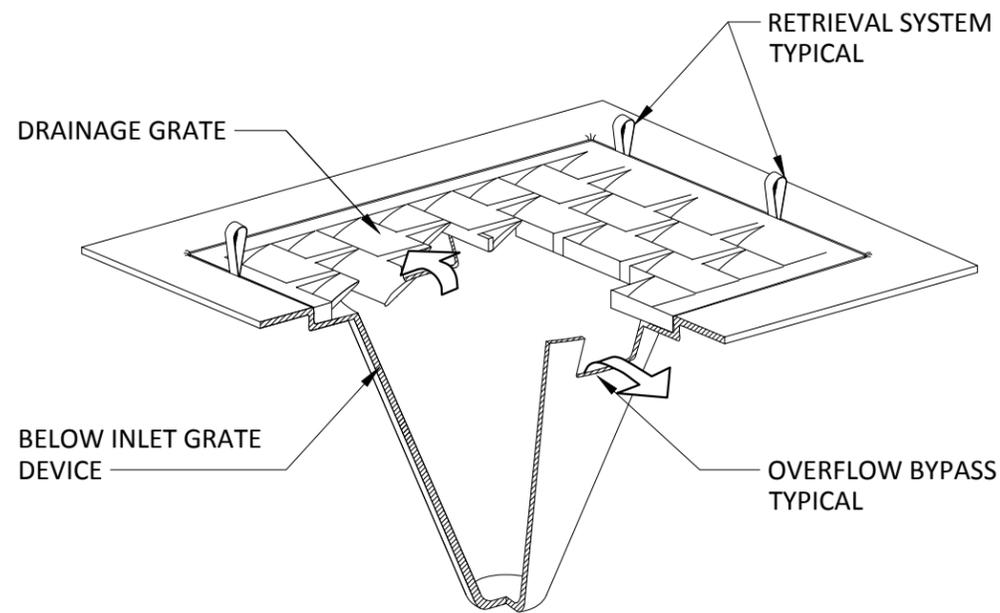
EXCAVATED DROP INLET

208

**DRAFT**



**SECTION VIEW**



**ISOMETRIC VIEW**

**NOTES**

1. CATCH BASIN INSERTS SHALL BE REMOVED AT THE END OF THE PROJECT.
2. CATCH BASIN INSERTS ARE ONLY TO BE INSTALLED IN DRAINAGE DEVICES PER THE MANUFACTURER'S RECOMMENDATIONS. CATCH BASIN INLET INSERTS SHALL BE INSTALLED IN CURB INLETS.
3. CATCH BASIN INSERTS SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
4. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES ONE THIRD FULL OR IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
5. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INLET INSERTS, EMPTYING, AND RE-INSTALLING IT INTO THE CATCH BASIN. DO NOT WASH SEDIMENT INTO STORM DRAINS WHILE CLEANING.
6. SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
7. THE BIGD SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
8. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL.
9. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).

WSDOT STD PLAN I-40.20-00 ACCEPTABLE SUBSTITUTE IF MAINTENANCE MEETS NOTES 1-5

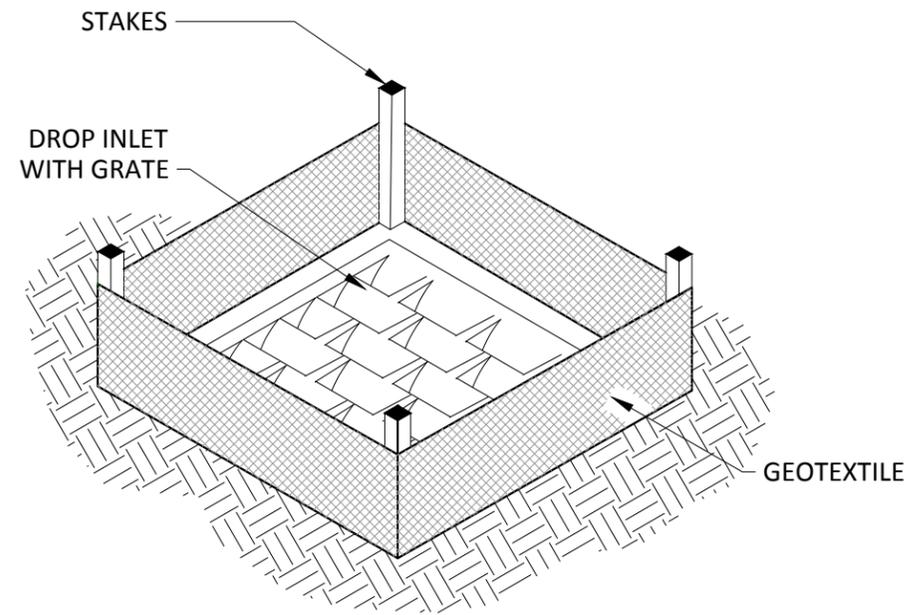


City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
TITLE STORM DRAIN INLET PROTECTION				STANDARD DRAWING No. 210

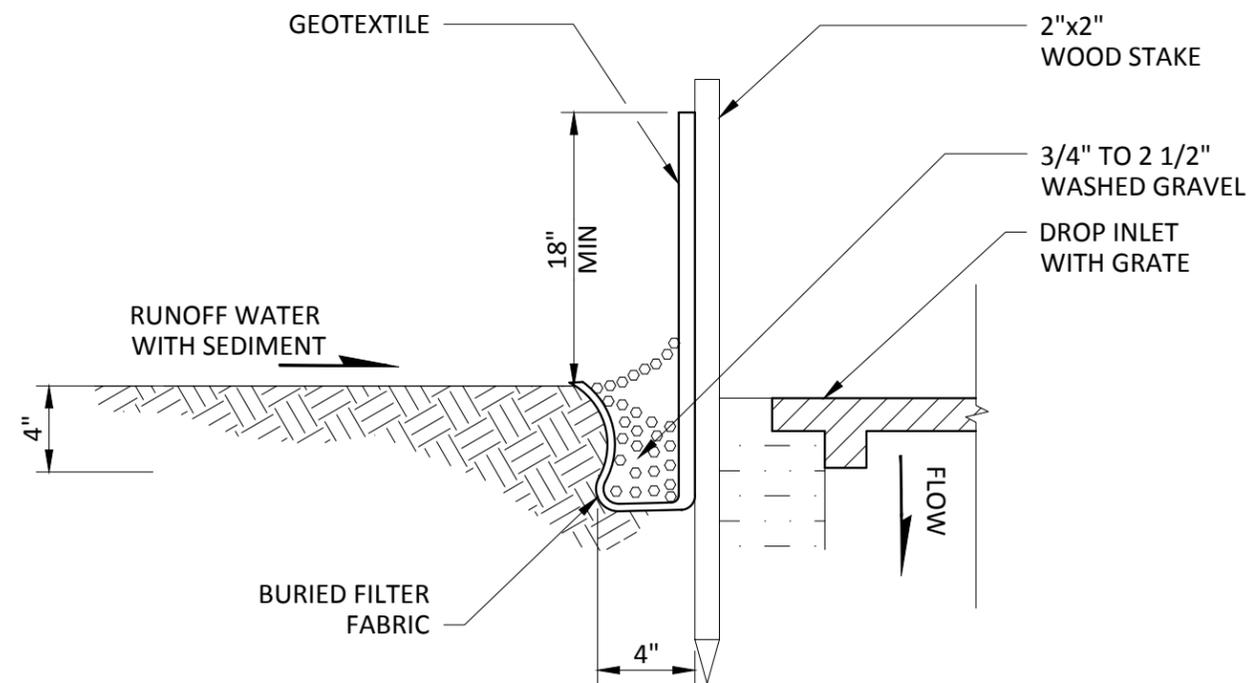
**DRAFT**

**NOTES**

1. ALL FILTER FABRIC SHALL BE GEOTEXTILE FOR TEMPORARY SILT FENCE. SEE WSDOT STANDARD SPECIFICATION 9-33.2(1) TABLE 6.



**ISOMETRIC VIEW**



**SECTION VIEW**

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		<p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date 12/30/2016
INLET FABRIC FENCE FILTER			STANDARD DRAWING No. 212

ATTACH IN A MANNER THAT ASSURES FABRIC IS FIRMLY HELD BY THE BACKUP SUPPORT IN A WAY THAT REDUCES THE POTENTIAL FOR FABRIC TEARING

POST SEE WSDOT STANDARD SPECIFICATIONS 8-01.3(9)A

FASTEN GEOTEXTILE TO POST EVERY 6" IN O.C.

SELF-LOCKING TIE-NYLON 6/6 (MIN GRADE) 120# MIN TENSILE STRENGTH, UV STABILIZED

BACKUP SUPPORT

BACKFILLED & COMPACTED NATIVE SOIL

GEOTEXTILE

FLOW

BURY GEOTEXTILE IN TRENCH

2'-0" MIN

4"

2'-0" MIN

**TYPICAL INSTALLATION DETAIL**

GEOTEXTILE FOR SILT FENCE SEE STANDARD SPECIFICATION SECTION 9-33.2 (1), TABLE 6

SHEET FLOW (TYPICAL)

SEE NOTE 1

PROTECTED AREA

INSTALL BACKUP SUPPORT FOR THE GEOTEXTILE SEE STANDARD SPECIFICATION SECTION 8.01.3(9)A

6'-0" MAX SPACING PROTECTED AREA

TYPICAL SILT FENCE WITH BACKUP SUPPORT

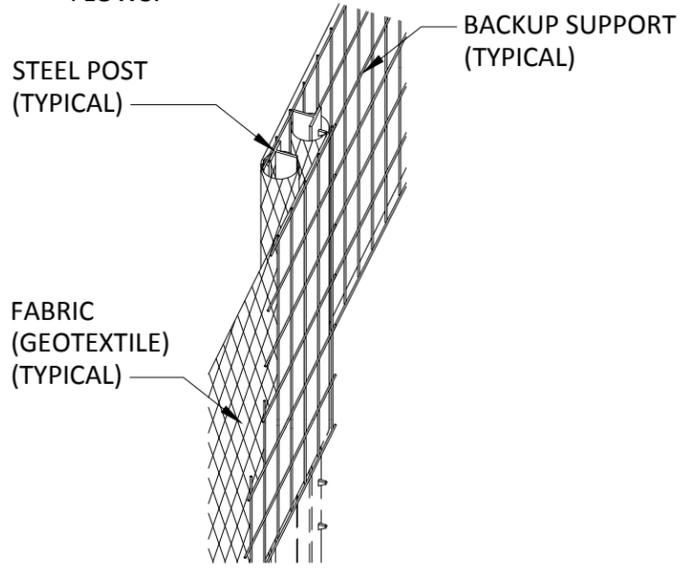
**ISOMETRIC**

SEE NOTE 1

PROTECTED AREA

**NOTES**

1. INSTALL THE ENDS OF THE SILT FENCE TO POINT SLIGHTLY UPSLOPE TO PREVENT SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.
2. PERFORM MAINTENANCE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS 8-01.3(9)A AND 8-01.3(15).
3. SPLICES SHALL NEVER BE PLACED IN LOW SPOTS OR SUMP LOCATIONS. IF SPLICES ARE LOCATED IN LOW OR SUMP AREAS, THE FENCE MAY NEED TO BE REINSTALLED UNLESS THE PROJECT ENGINEER APPROVES THE INSTALLATION.
4. INSTALL SILT FENCING PARALLEL TO MAPPED CONTOUR LINES.
5. DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENT-RATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

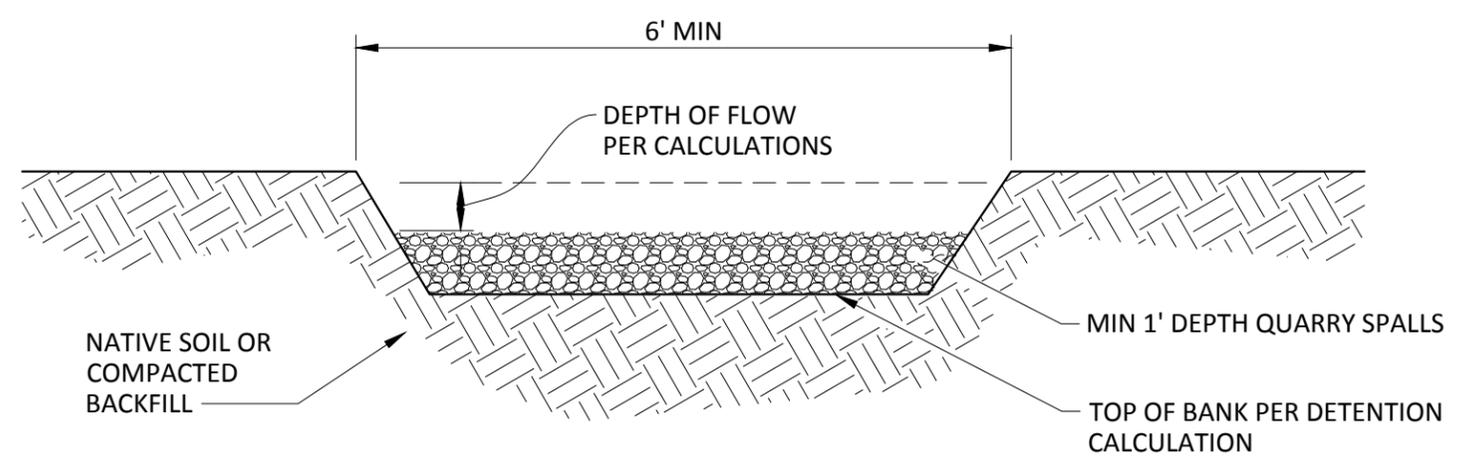
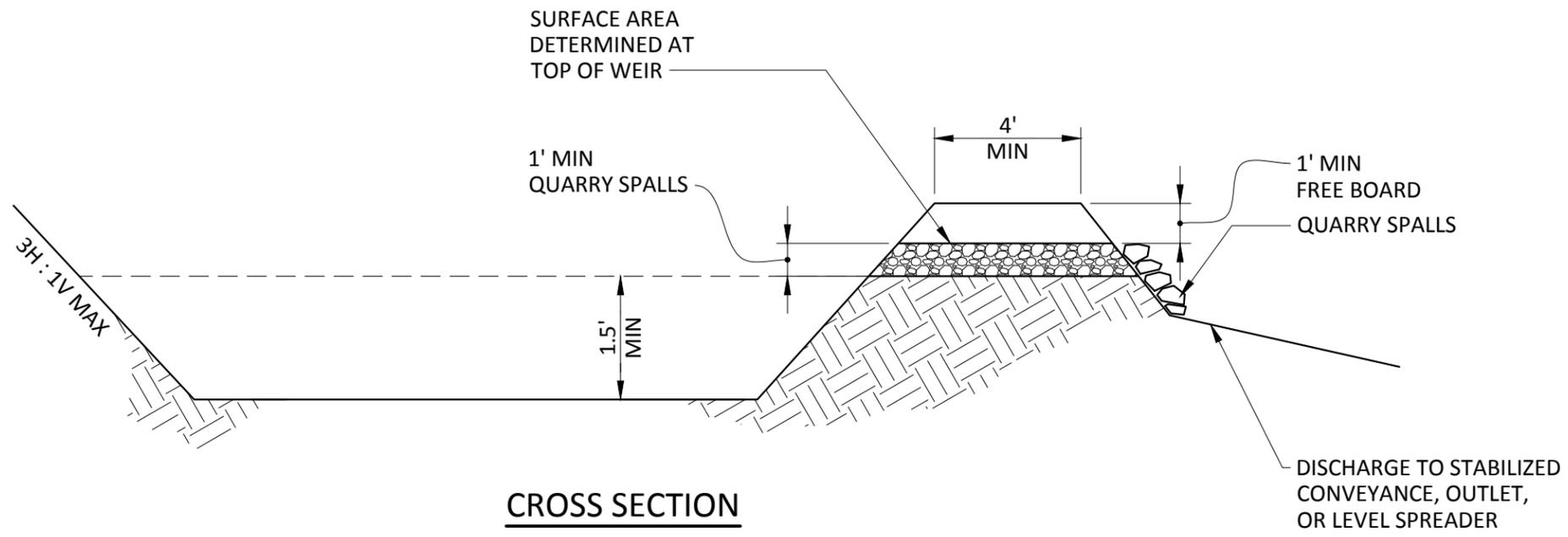
**SPLICE DETAIL**

WSDOT STD PLAN I-30.10-02 ACCEPTABLE SUBSTITUTE EXCEPT STEEL POST REQUIRED

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD214.DWG PLOTTED: 12/27/2016 1:43 PM

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer <b>RYAN SASS</b>	Section Manager <b>HEATHER GRIFFIN</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>ESH</b>	Current Rev Date <b>12/30/2016</b>
<b>TEMPORARY SILT FENCE</b>						STANDARD DRAWING No. <b>214</b>

**DRAFT**



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 PLOTTED: 12/27/2016 1:43 PM

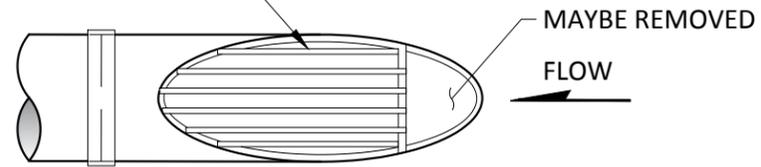
**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
<b>EMERGENCY POND OVER FLOW</b>				STANDARD DRAWING No. <b>216</b>

**NOTES**

1. CMP END SECTION SHOWN. MAY USE CPEP SMOOTH INTERIOR.
2. ALL STEEL PARTS MUST BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).

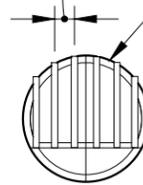
3/4" DIA SMOOTH BARS WITH ENDS  
WELDED TO BAR FRAME



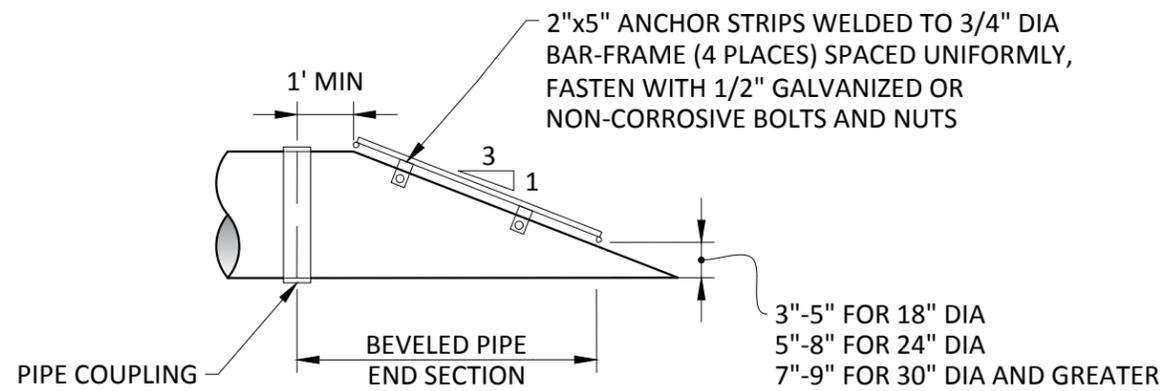
**PLAN VIEW**

4" O.C. MAX  
BAR SPACING

3/4" DIA BAR-FRAME



**END VIEW**



**SIDE VIEW**

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 PLOTTED: 12/27/2016 1:44 PM

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE PIPE END DEBRIS BARRIER			Current Rev Date 12/30/2016 STANDARD DRAWING No. 217

**DRAFT**

# **NOTES**

1. MAXIMUM GRADE MAY BE EXCEEDED SUBJECT TO APPROVAL BY THE CITY ENGINEER, SUCH APPROVAL MAY BE CONDITIONAL UPON THE FOLLOWING:
  - A) NO PRACTICAL ALTERNATIVE EXISTS.
  - B) ANY GRADE OVER 15% WILL BE REVIEW BY THE CITY ON A CASE BY CASE BASIS.
2. CAN ONLY BE USED ON SHORT PLATS AND CANNOT BE PART OF A LARGER DEVELOPMENT. MUST BE A PERMANENT DEAD END.
3. MAXIMUM POTENTIAL NUMBER OF DWELLING UNITS SERVED, WILL INCLUDE FORECASTED FUTURE DEVELOPMENT OF ADJACENT AREAS.
4. 36' WIDE STREET SECTION REQUIRED IF LESS THAN FOUR(4) OFF-STREET PARKING SPACES PROVIDED PER DWELLING UNIT. ONE (1) DRIVEWAY ALLOWED PER LOT ON "ACCESS" STREETS.
5. CITY ENGINEER MAY ALLOW SIDEWALK ON ONE SIDE ONLY IN AREAS OF EXTENSIVE CUTS AND/OR FILLS AND IF PROJECTED PEDESTRIAN VOLUMES ARE LESS THAN NORMAL.

DETACHED SINGLE FAMILY, DUPLEX TRI-PLEX, AND FOUR-PLEX RESIDENTIAL						
CLASSIFICATION OF PUBLIC STREET	② SHORT SUBDIVISION ACCESS	LOCAL ACCESS "A"	LOCAL ACCESS "B"	COLLECTOR ARTERIAL	MINOR ARTERIAL	PRINCIPAL ARTERIAL
③ MAXIMUM NUMBER OF DWELLING UNITS SERVICED	9	40	100	OVER 100	N.A	N.A
MINIMUM R.O.W	50'	60'	60'	60'	60'	80'
MINIMUM PAVE-MENT WIDTH CURB TO CURB	④ 24'	④ 28'	④ 32'	36'	44'	48'
⑤ SIDEWALKS	1 to 4 D.U.-OPTIONAL 5 to 9 D.U.-REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED
GEOMETRICS & STRUCTURAL SECTION	STD. PLANS # 302A & 302B	STD. PLAN # 302	STD. PLAN # 302	STD. PLAN # 301	STD. PLAN # 301	STD. PLAN # 301
① MAX. ALLOWABLE	15%	15%	15%	12%	9%	8%
UTILITY EASEMENT BEYOND R.O.W REQ'D	10' EACH SIDE OF PUBLIC R.O.W.			AS REQUIRED BY CITY ENGINEER		

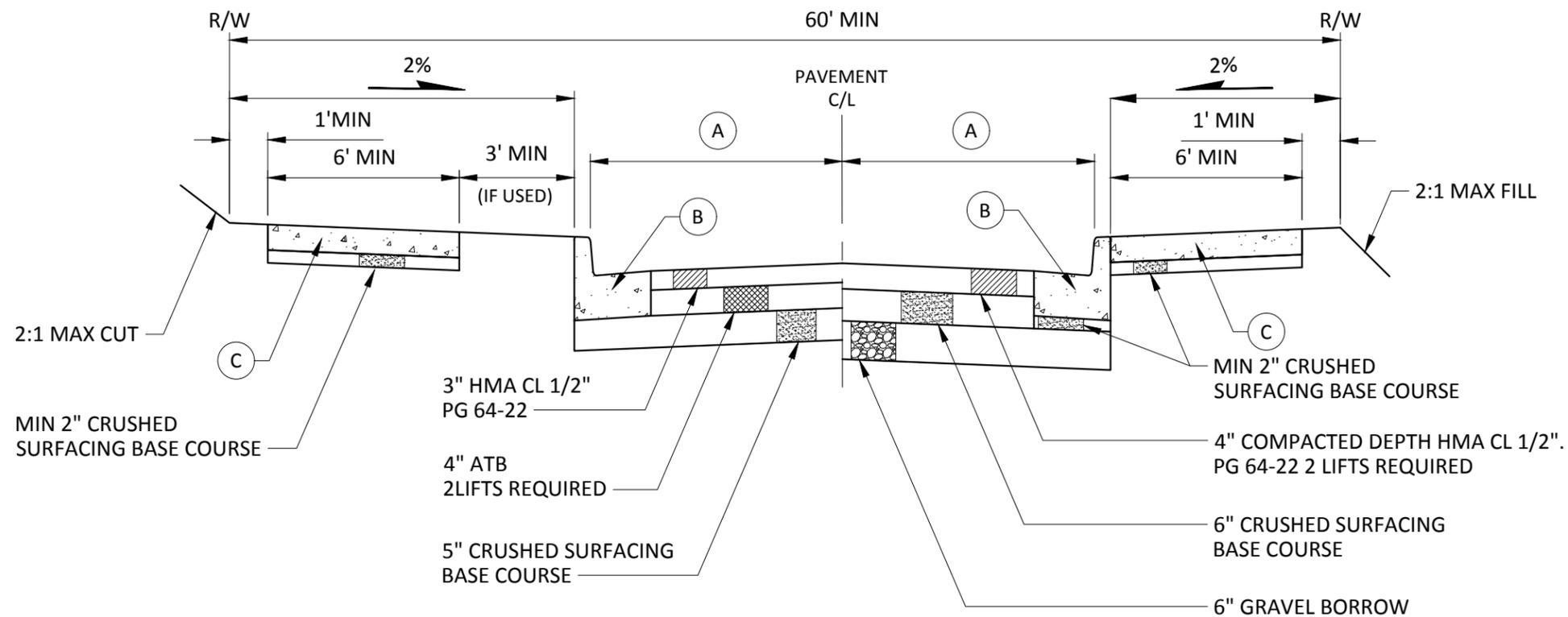
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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>ROADWAY FUNCTIONAL CLASSIFICATIONS</b>				STANDARD DRAWING No. <b>300</b>

## NOTES

1. ALL MATERIAL DEPTHS ARE COMPACTED DEPTHS.
2. IN WIDENING AREAS, THE EXISTING PAVEMENT EDGE SHALL BE SAW-CUT TO LEAVE A JOIN POINT. ANY TRAFFIC STRIPING REMOVED OR DAMAGED DURING WIDENING WORK SHALL BE REPLACED IN KIND OR AS DIRECTED BY THE CITY ENGINEER.
3. COMPACTION TESTS ON SUBGRADE AND TOP OF ROCK WILL BE REQUIRED. THE NUMBER OF TESTS SHALL BE AT THE DISCRETION OF THE CITY INSPECTOR. ALL TESTING SHALL BE THROUGH A LICENSED TESTING LABORATORY. THE MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ON BOTH SUBGRADE AND TOP OF ROCK.
4. ADJUSTMENT OF CATCH BASIN LIDS OR GRATES, MONUMENTS CASES, VALVE BOXES, ETC SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER.
5. ROADWAY SECTION MAY BE PROPOSED WITH SUBMISSION OF SUBSTANTIATING ENGINEERING DATA (CBR, ETC) TO SUPPORT THE ADJUSTMENT. THE PROPOSAL MUST BE APPROVED BY THE CITY ENGINEER. FOR DESIGN PURPOSES, THE MINIMUM THICKNESS OF HMA CL 1/2", PG 64-22 SHALL BE 3" COMPACTED DEPTH. COMPACTION SHALL BE AN AVERAGE OF 91% OF RICE DENSITY.



### ALTERNATE ROADWAY SECTION

- (A) **PAVEMENT WIDTH**  
 COLLECTOR ARTERIAL = 18'  
 MINOR ARTERIAL = 22'  
 PRINCIPAL ARTERIAL = 24'+

### STANDARD ROADWAY SECTION

- (B) **CONCRETE CURB AND GUTTER**  
 TYPE A-1 SEE STD DWG 305A
- (C) **CEMENT CONCRETE SIDEWALK**  
 SEE STD DWG 306

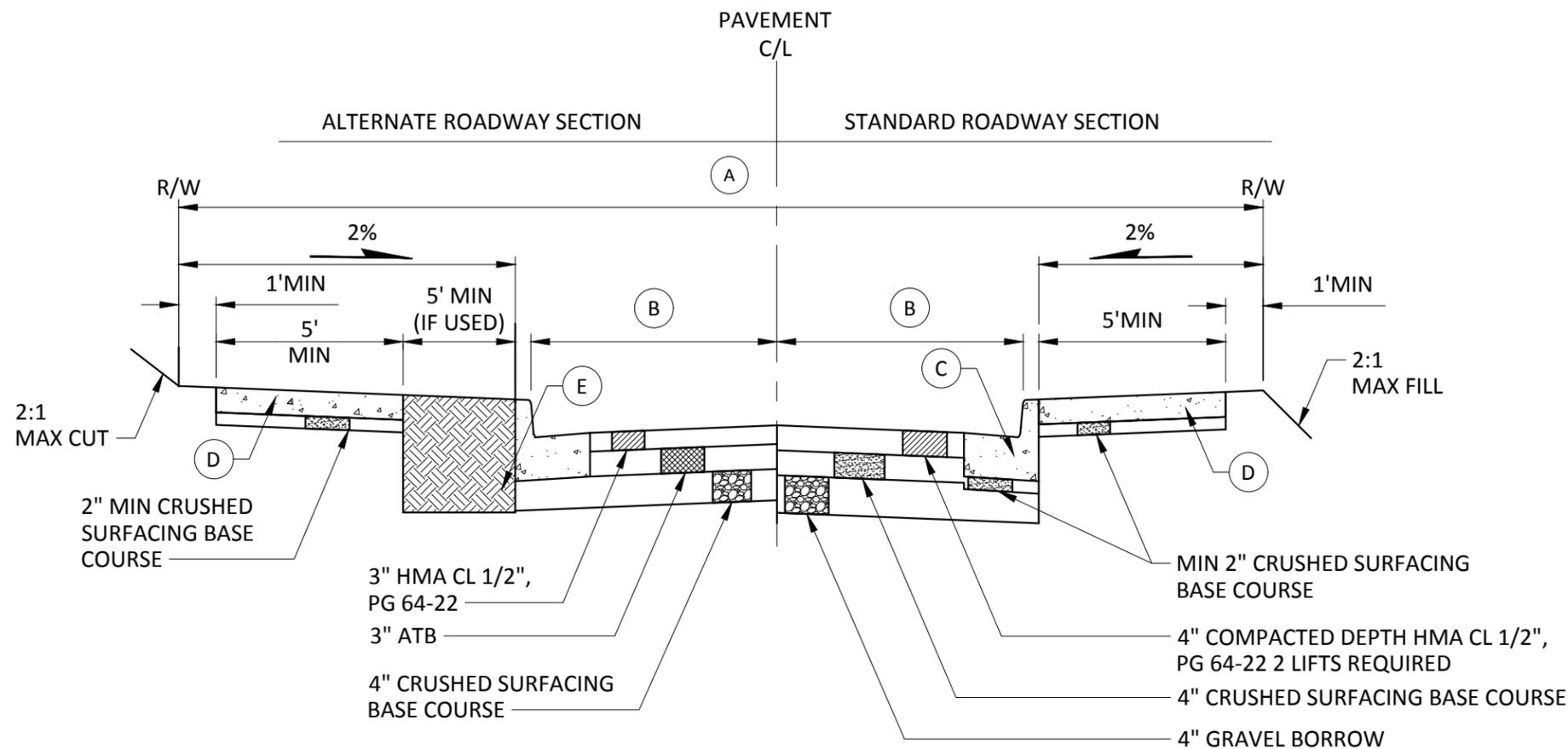
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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>ARTERIAL TYPICAL ROADWAY SECTION</b>				STANDARD DRAWING No. <b>301</b>

## NOTES

1. ALL MATERIAL DEPTHS ARE COMPACTED DEPTHS.
2. IN WIDENING AREAS, THE EXISTING PAVEMENT EDGE SHALL BE SAW-CUT TO LEAVE A JOIN POINT. ANY TRAFFIC STRIPING REMOVED OR DAMAGED DURING WIDENING WORK SHALL BE REPLACED IN KIND OR AS DIRECTED BY THE CITY ENGINEER.
3. COMPACTION TESTS ON SUBGRADE AND TOP OF ROCK WILL BE REQUIRED. THE NUMBER OF TESTS SHALL BE AT THE DISCRETION OF THE CITY INSPECTOR. ALL TESTING SHALL BE THROUGH A LICENSED TESTING LABORATORY. THE MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ON BOTH SUBGRADE AND TOP OF ROCK.
4. ADJUSTMENT OF CATCH BASIN LIDS OR GRATES, MONUMENTS CASES, VALVE BOXES, ETC SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER.
5. ROADWAY SECTION MAY BE PROPOSED WITH SUBMISSION OF SUBSTANTIATING ENGINEERING DATA (CBR, ETC) TO SUPPORT THE ADJUSTMENT. THE PROPOSAL MUST BE APPROVED BY THE CITY ENGINEER. FOR DESIGN PURPOSES, THE MINIMUM THICKNESS OF HMA CL 1/2", PG 64-22 SHALL BE 3" COMPACTED DEPTH. COMPACTION SHALL BE AN AVERAGE OF 91% OF RICE DENSITY.
6. ALL LOW IMPACT AREAS SHALL HAVE 'BIORETENTION SOIL' PER CURRENT EDITION OF "LOW IMPACT DEVELOPMENT TECHNICAL GUIDANCE MANUAL FOR PUGET SOUND"



## DESIGN CRITERIA

- |  |   |
|--|---|
| <p><b>(A)</b> RIGHT-OF-WAY REQUIREMENTS<br/> SHORT PLAT ACCESS STREET = 50'<br/> LOCAL ACCESS A = 60'<br/> LOCAL ACCESS B = 60'</p> <p><b>(B)</b> PAVEMENT WIDTH<br/> SHORT PLAT ACCESS STREET = 12'<br/> LOCAL ACCESS A = 14'<br/> LOCAL ACCESS B = 16'</p> <p><b>(C)</b> CONCRETE CURB AND GUTTER TYPE A-1<br/> SEE STD DWG 305A</p> | <p><b>(D)</b> CEMENT CONCRETE SIDEWALK SEE STD DWG 306</p> <p><b>(E)</b> AMENDED SOIL: 60% BACKFILL PER SAND DRAINS (WSDOT STD 9-03.13). 40% COMPOST.</p> <ul style="list-style-type: none"> <li>• pH RANGE 5.5 - 7.0</li> <li>• &lt;5% PASSING #200 SIEVE</li> <li>• 8-12% ORGANIC MATTER</li> <li>• 2 INCH/HR MIN LONG TERM HYDRAULIC CONDUCTIVITY PER ASTM D 2434 AT 85% COMPACTION</li> <li>• COMPOST SHALL BE FROM A DEPARTMENT OF ECOLOGY PERMITTED COMPOSTING FACILITY.</li> </ul> |
|--|---|

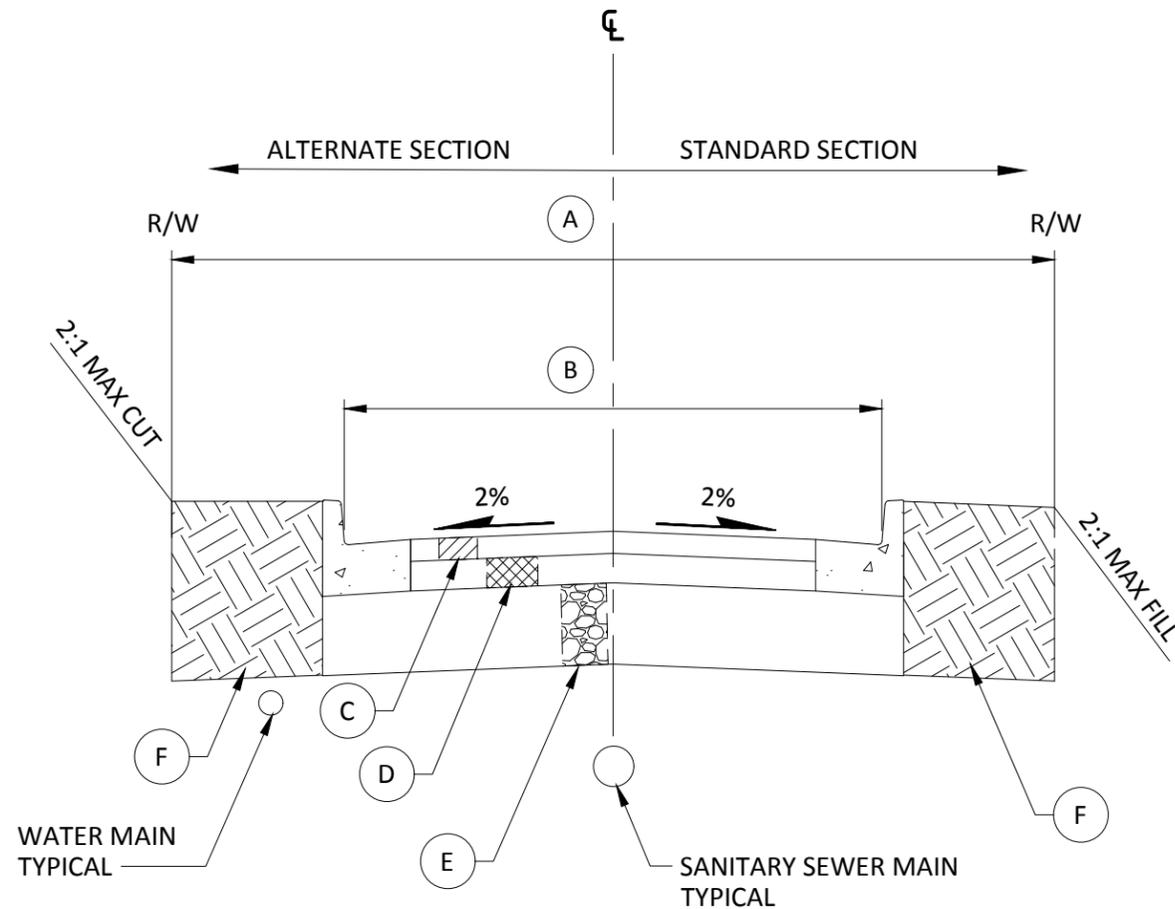
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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	TOM HOOD	PAUL WILHELM	WRB	12/30/2016
TITLE					STANDARD DRAWING No.	

TYPICAL ROADWAY SECTION  
NON-ARTERIAL STREETS

302



- (A) EASEMENT ACCESS WIDTH = 30' TO 40'
- (B) PAVEMENT WIDTH SHALL BE 20' AND BE SYMMETRICAL ABOUT A POINT 10' FROM FACE OF CURB.
- (C) 3" COMPACTED DEPTH HMA CL 1/2" PG 64-22.
- (D) 4" COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. 2" MIN DEPTH UNDER CURB AND CUTTER.
- (E) 5" MIN. COMPACTED DEPTH GRAVEL BORROW.
- (F) AMENDED SOIL: 60% BACKFILL PER SAND DRAINS (WSDOT STD 9-03.13). 40% COMPOST.
  - pH RANGE 5.5 - 7.0
  - <5% PASSING #200 SIEVE
  - 8-12% ORGANIC MATTER
  - 2 INCH/HR MIN LONG TERM HYDRAULIC CONDUCTIVITY PER ASTM D 2434 AT 85% COMPACTION
  - COMPOST SHALL BE FROM A DEPARTMENT OF ECOLOGY PERMITTED COMPOSTING FACILITY.

## NOTES

1. FOR ANY EASEMENT ACCESS OR EASEMENT WITH PUBLIC UTILITIES, THE CITY ENGINEER SHALL DETERMINE THE REQUIRED EASEMENT WIDTH BASED ON CITY STANDARDS.
2. WITH THE EXCEPTION OF THE EASEMENT ACCESS DRIVE, NO NEW DRIVEWAYS OR PARKING AREAS WILL BE PERMITTED WITHIN THE FRONT YARD SETBACK AREA FOR ALL LOTS THAT FRONT ON THE PUBLIC STREET.
3. ACCESS OFF AN EASEMENT DRIVE IS LIMITED TO ONE TWENTY FOOT DRIVEWAY AND CURB CUT PER LOT. THE DRIVEWAY SHALL NOT EXCEED TWENTY FEET IN WIDTH FOR A DISTANCE OF TWENTY FEET FROM THE EASEMENT ACCESS DRIVE CURB. THE MINIMUM PARKING STALL WIDTH FOR 2 CARS IN FRONT OF THE GARAGE IS 20 FEET BY 20 FEET - TWO (2) STALLS. THE MINIMUM PARKING PAD FOR 4 OFF-STREET IS 20 FEET BY 40 FEET.
4. SURFACE PARKING: EMC18.28.120 SURFACE PARKING IS ONLY PERMITTED ON A LOT WITH AN EXISTING HOUSE. THIS PARKING AREA MAY NOT BE BETWEEN THE EXISTING HOUSE AND THE PUBLIC STREET. THE PARKING PAD MUST BE A MINIMUM OF 20 FEET BY 40 FEET AND BE A MINIMUM OF 5 FEET FROM ANY NEW PROPERTY LINE AND MAY NOT BE WITHIN THE REQUIRED OPEN SPACE.
5. GARAGES: EMC 18.28.150 ON ALL NEW LOTS WHERE PROPOSED SINGLE FAMILY DWELLINGS ARE PROPOSED A TWO (2) CAR GARAGE IS REQUIRED.
6. EMC 18.28.120 ALL DEVELOPMENT STANDARDS FOR EASEMENT ACCESS DRIVES MUST BE MET.
7. ALL LOW IMPACT AREAS SHALL HAVE 'BIORETENTION SOIL' PER CURRENT EDITION OF "LOW IMPACT DEVELOPMENT TECHNICAL GUIDANCE MANUAL FOR PUGET SOUND"
8. 5' MIN SEPARATION BETWEEN CITY OPERATED UTILITIES AND OTHER PRIVATE AND PUBLIC OPERATED UTILITIES (PUD, CABLE TV, PHONE, GAS ETC.)
9. NON CITY OPERATED PUBLIC UTILITIES MAY CROSS CITY EXCLUSIVE EASEMENT ONLY BETWEEN 45° AND 90° WITH RIDGED STEEL CONDUIT OR PVC CONDUIT ENCASED IN RED CONCRETE WITH CITY ENGINEER APPROVAL.
10. CONDUIT DUCTING SHALL HAVE A MINIMUM COVER OF 3' AND NOT OBSTRUCT CROSSING BY OTHER UTILITIES FOR A VERTICAL DISTANCE GREATER THAN 3' IN EITHER EASEMENT.
11. ONLY CITY OPERATED UTILITIES SHALL BE ALLOWED WITHIN CITY EXCLUSIVE EASEMENT NO OTHER EASEMENTS MAY BE GRANTED WITHIN THE LIMITS OF THIS EASEMENT.



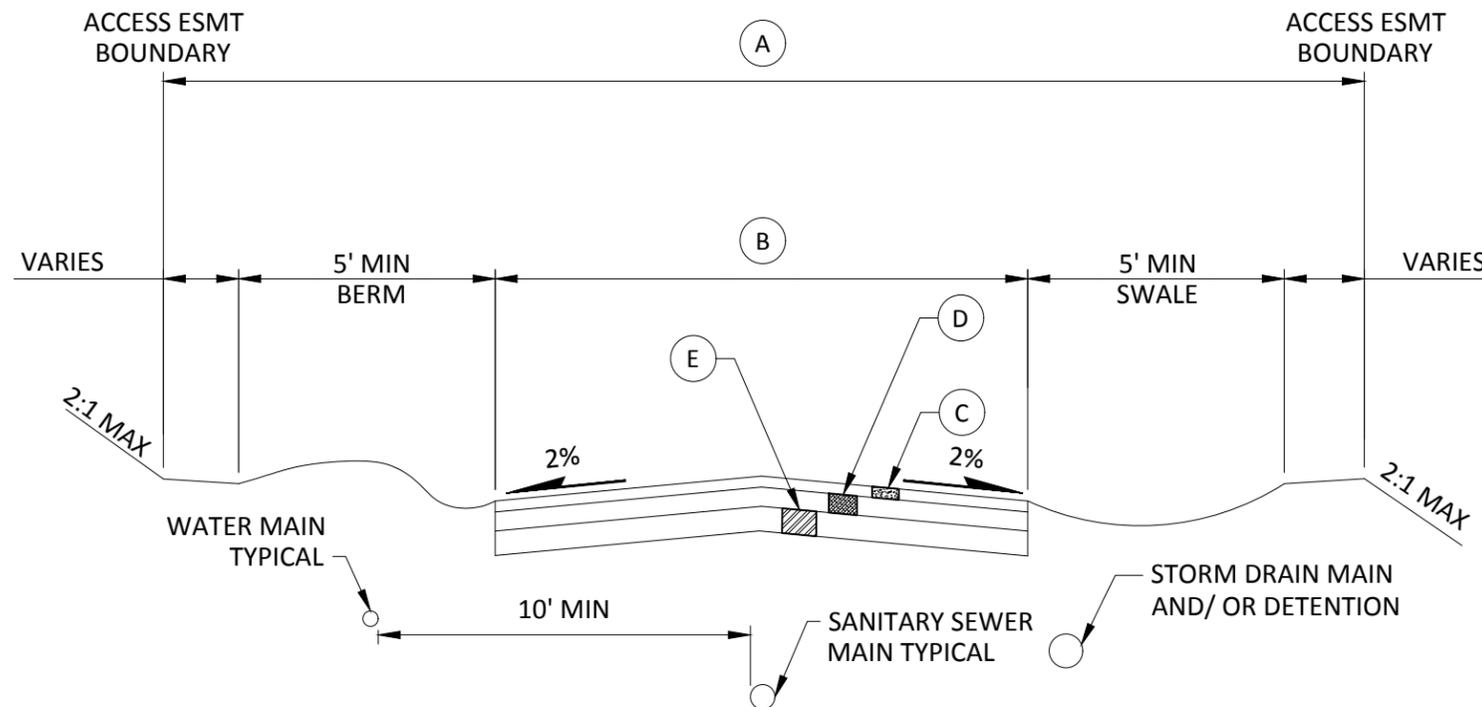
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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TITLE  
**TYPICAL ROADWAY SECTION  
SHORT SUBDIVISION EASEMENT**

STANDARD DRAWING No.

**303**

**DRAFT**



- (A) EASEMENT ACCESS WIDTH = 24' MIN.
- (B) PAVEMENT WIDTH SHALL BE 14'.
- (C) 3" HMA CL 1/2", PG 64-22.
- (D) 4" COMPACTED DEPTH CRUSHED SURFACING BASE COURSE.
- (E) COMPACTED SUBGRADE. IF UNSUITABLE, OVEREXCAVATE AND BACKFILL WITH GRAVEL BORROW.

## NOTES

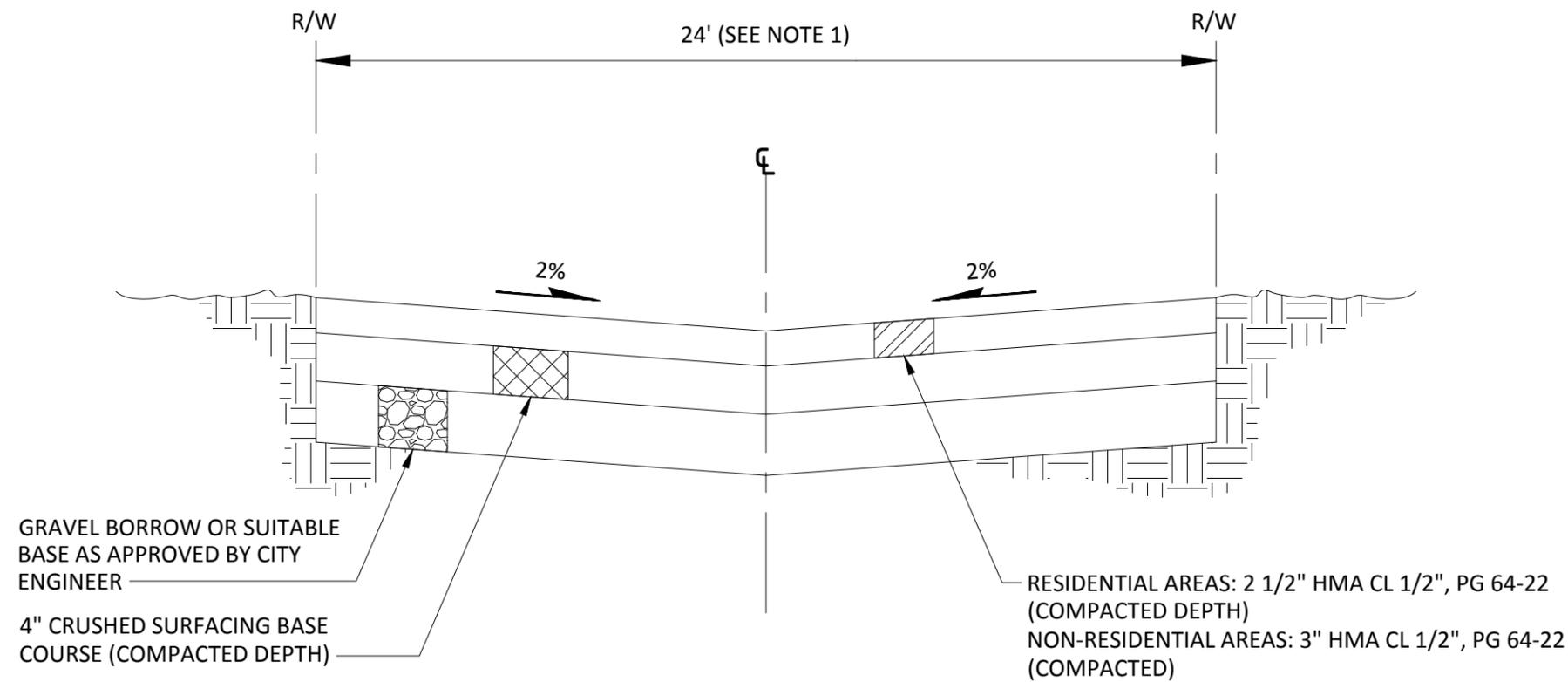
1. FOR ANY EASEMENT ACCESS OR EASEMENT WITH PUBLIC UTILITIES, THE CITY ENGINEER SHALL DETERMINE THE REQUIRED EASEMENT WIDTH BASED ON CITY STANDARDS.
2. WITH THE EXCEPTION OF THE EASEMENT ACCESS DRIVE, NO NEW DRIVEWAYS OR PARKING AREAS WILL BE PERMITTED WITHIN THE FRONT YARD SETBACK AREA FOR ALL LOTS THAT FRONT ON THE PUBLIC STREET.
3. ACCESS OFF AN EASEMENT DRIVE IS LIMITED TO ONE TWENTY FOOT DRIVEWAY AND CURB CUT PER LOT. THE DRIVEWAY SHALL NOT EXCEED TWENTY FEET IN WIDTH FOR A DISTANCE OF TWENTY FEET FROM THE EASEMENT ACCESS DRIVE CURB. THE MINIMUM PARKING STALL WIDTH FOR 2 CARS IN FRONT OF THE GARAGE IS 20 FEET BY 20 FEET - TWO (2) STALLS. THE MINIMUM PARKING PAD FOR 4 OFF-STREET IS 20 FEET BY 40 FEET.
4. SURFACE PARKING: EMC18.28.120 SURFACE PARKING IS ONLY PERMITTED ON A LOT WITH AN EXISTING HOUSE. THIS PARKING AREA MAY NOT BE BETWEEN THE EXISTING HOUSE AND THE PUBLIC STREET. THE PARKING PAD MUST BE A MINIMUM OF 20 FEET BY 40 FEET AND BE A MINIMUM OF 5 FEET FROM ANY NEW PROPERTY LINE AND MAY NOT BE WITHIN THE REQUIRED OPEN SPACE.
5. GARAGES: EMC 18.28.150 ON ALL NEW LOTS WHERE PROPOSED SINGLE FAMILY DWELLINGS ARE PROPOSED A TWO (2) CAR GARAGE IS REQUIRED.
6. EMC 18.28.120 ALL DEVELOPMENT STANDARDS FOR EASEMENT ACCESS DRIVES MUST BE MET.
7. 5' MIN SEPARATION BETWEEN CITY OPERATED UTILITIES AND OTHER PRIVATE AND PUBLIC OPERATED UTILITIES (PUD, CABLE TV, PHONE, GAS ETC.)
8. NON CITY OPERATED PUBLIC UTILITIES MAY CROSS CITY EXCLUSIVE EASEMENT ONLY BETWEEN 45° AND 90° WITH RIDGED STEEL CONDUIT OR PVC CONDUIT ENCASED IN RED CONCRETE AT THE PUBLIC WORKS INSPECTORS OPTION.
9. CONDUIT DUCTING SHALL HAVE A MINIMUM COVER OF 3' AND NOT OBSTRUCT CROSSING BY OTHER UTILITIES FOR A VERTICAL DISTANCE GREATER THAN 3' IN EITHER EASEMENT.
10. ONLY CITY OPERATED UTILITIES SHALL BE ALLOWED WITHIN CITY EXCLUSIVE EASEMENT NO OTHER EASEMENTS MAY BE GRANTED WITHIN THE LIMITS OF THIS EASEMENT.

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE TYPICAL ROADWAY SECTION 2 LOT SHORT SUBDIVISION EASEMENT			Current Rev Date 12/30/2016 STANDARD DRAWING No. 304

**DRAFT**

## NOTES

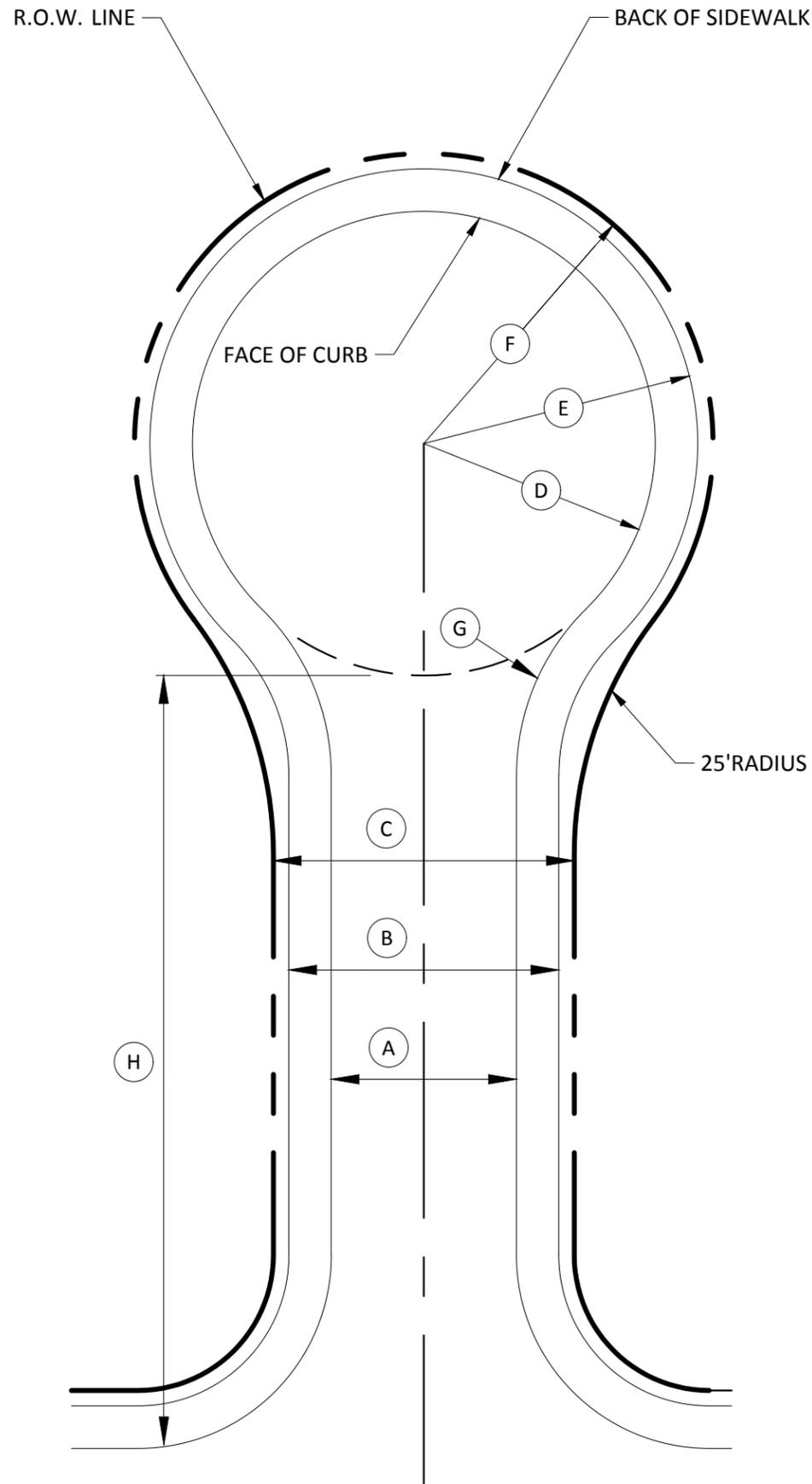
1. ALL NEW ALLEYS SHALL HAVE A MINIMUM WIDTH OF 24'. EXISTING ALLEY RIGHT-OF-WAYS MAY VARY FROM 12' TO 24'.
2. DRAINAGE TO BE COLLECTED AT LOW END OF IMPROVED SECTION WITH CATCH BASIN CONNECTED TO STORM DRAINAGE SYSTEM.
3. COMPACTION TESTS ON SUBGRADE AND TOP OF ROCK WILL BE REQUIRED. THE NUMBER OF TESTS SHALL BE AT THE DISCRETION OF THE CITY ENGINEER. ALL TESTING SHALL BE THROUGH A LICENSED TESTING LABORATORY. THE MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY OF BOTH SUBGRADE AND TOP OF ROCK.
4. ADJUSTMENT OF CATCH BASIN LIDS OR GRATES, MONUMENT CASES, VALVE BOXES, ETC SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER AS REQUIRED.



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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE TYPICAL ROADWAY SECTION ALLEY			Current Rev Date 12/30/2016 STANDARD DRAWING No. 305



(A) VARIES 24' TO 48'+  
SEE STD PLANS 300, 301 & 302

(B) VARIES 35' TO 59'+  
SEE STD PLANS 300, 301 & 302

(C) VARIES 40' TO 80'+  
SEE STD PLANS 300, 301 & 302

(D) VARIES 30' TO 45'  
PER BELOW:

(H)	(D)
STREET LENGTH	MIN RADIUS
0'-150'	30'
151'-300'	35'
301'-500'	40'
501'-750'	45'
OVER 750'	SPECIAL APPROVAL REQUIRED

(E) 35.5' MIN. - LOCAL ACCESS  
STREETS AND SHORT  
SUBDIVISION STREETS

51.5' MIN - ARTERIAL  
CLASSIFICATIONS

(F) 40' MIN. - LOCAL ACCESS  
STREETS AND SHORT  
SUBDIVISION STREETS

55' MIN - ARTERIAL  
CLASSIFICATIONS

(G) CURB FACE RADIUS TO BE  
SAME AS RADIUS - D

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City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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TITLE STANDARD DRAWING No.

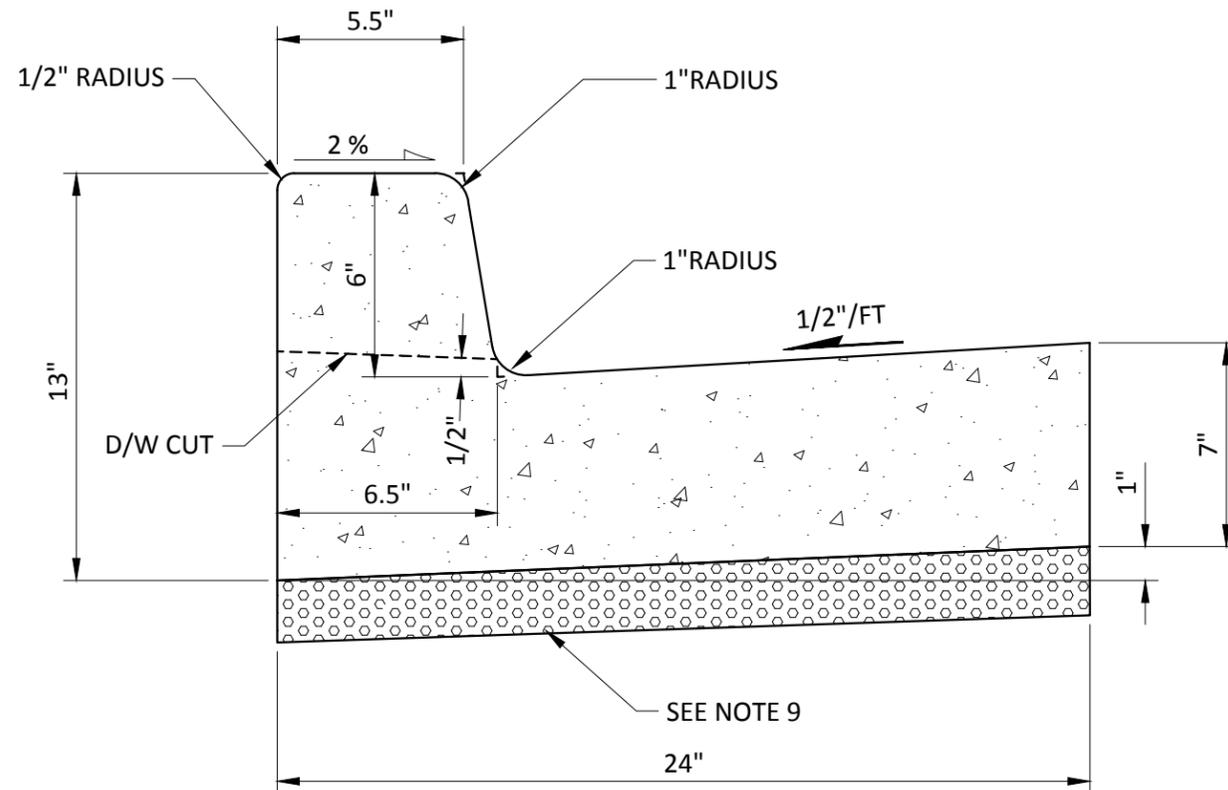
TYPICAL CUL-DE-SAC

306

**DRAFT**

## NOTES

1. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED.
2. DUMMY JOINTS SHALL BE PLACED ON 15 FOOT CENTERS. DUMMY JOINTS SHALL BE 3/8" x 1-1/2".
3. THRU JOINTS SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AND AT POINTS OF TANGENCY ON STREETS, ALLEY AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 30 FT. PRE-MOLDED JOINT FILLER SHALL BE 3/8" WIDE AND CONFORM TO AASHTO DESIGN M213.
4. ALL JOINTS SHALL BE CLEAN AND EDGED.
5. CONCRETE SHALL BE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS.
6. STEEL FORMS MUST BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.
7. FINISH SHALL BE LIGHT BROOM FINISH.
8. THE FINISHED CURB SHALL BE SPRAYED WITH A TRANSPARENT CURING COMPOUND AND COVERED BY WATERPROOF PAPER OR PLASTIC MEMBRANE IN THE EVENT OF RAIN OR OTHER UNSUITABLE WEATHER. CURING TIME SHALL BE A MINIMUM OF 72 HOURS.
9. ALL CURB AND GUTTER SHALL BE PLACED ON A MIN OF 2" OF CRUSHED SURFACING TOP COURSE.



TYPICAL SECTION

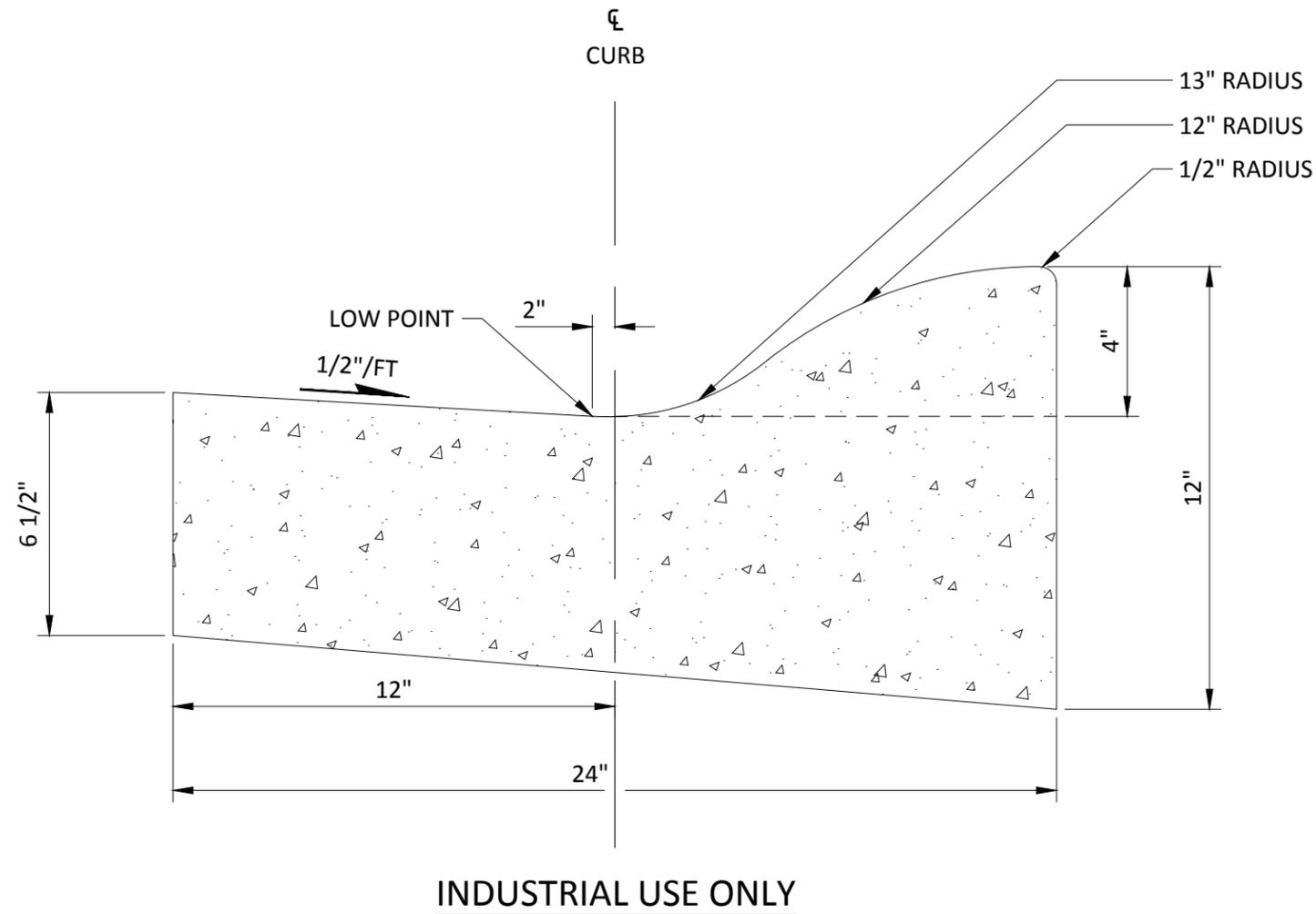
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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>TYPE A-1</b> CEMENT CONCRETE CURB & GUTTER				STANDARD DRAWING No. <b>307</b>

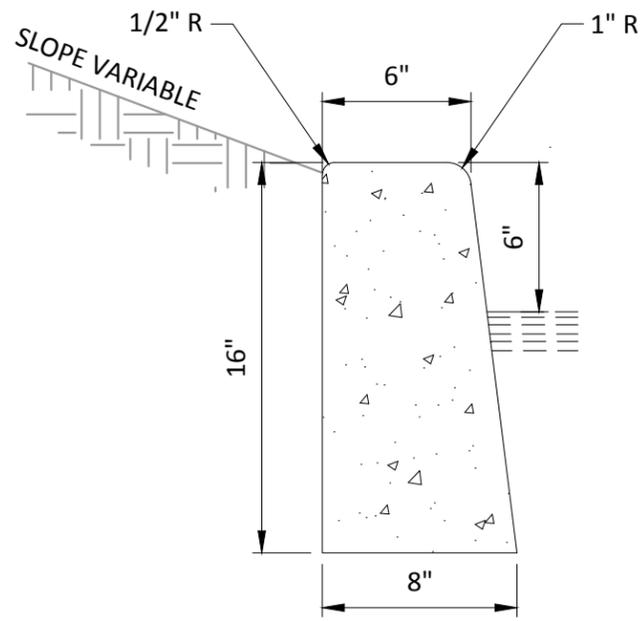
## NOTES

1. ROLLED CURB AND GUTTER MAY ONLY BE USED IN HIGHLY INDUSTRIALIZED AREAS AND ONLY WITH WRITTEN APPROVAL OF THE CITY ENGINEER.
2. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED.
3. THRU JOINTS SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS, CURB RETURNS, ALLEYS, OR A MAXIMUM SPACING OF 30 FEET.
4. DUMMY JOINTS SHALL BE PLACED EVERY 15 FEET. DUMMY JOINTS SHALL BE 3/8" x 1 1/2".
5. THRU JOINTS SHALL BE 3/8" WIDE PRE-MOLDED JOINT FILLER.
6. ALL JOINTS SHALL BE CLEANED AND EDGED.
7. CONCRETE SHALL BE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS.
8. STEEL FORMS ONLY MAY BE USED ON TANGENT SECTIONS, WOOD FORMS MAY BE USED ON CURVED SECTIONS.
9. FINISH SHALL BE LIGHT BROOM.
10. CURB IS TO BE SPRAYED WITH TRANSPARENT CURING COMPOUND.
11. ALL SIDEWALKS POURED BEHIND ROLL CURB IN INDUSTRIAL APPLICATIONS SHALL BE 6" MIN THICK OVER 2" MIN OF CRUSHED SURFACING TOP COURSE WITH TOP OF ROCK COMPACTED TO 95% OF MAXIMUM DENSITY.

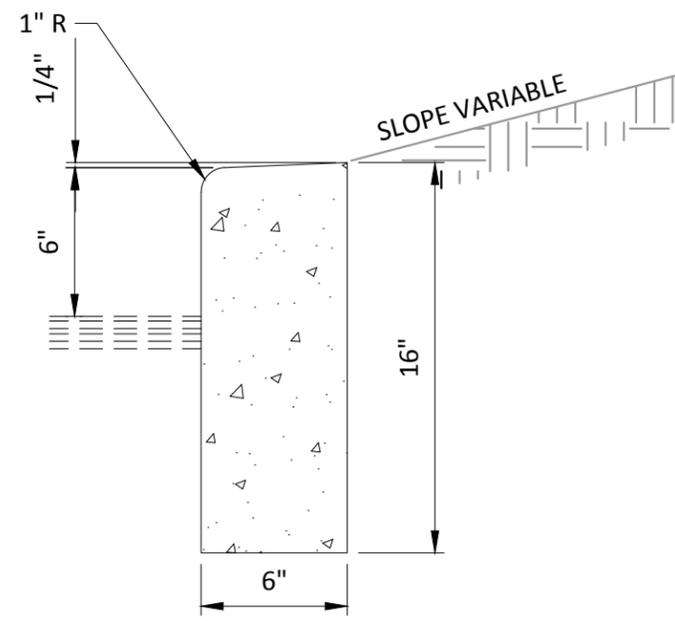


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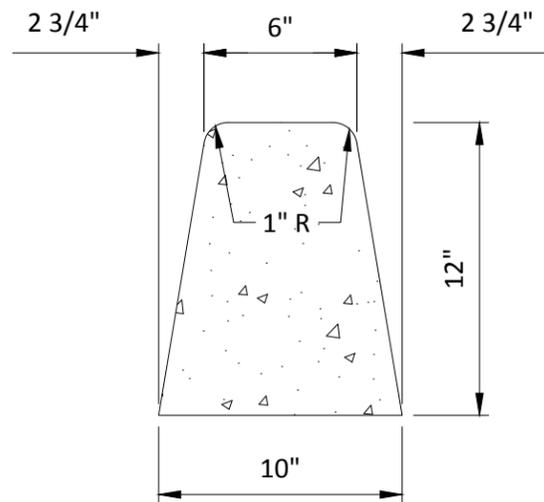
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>ROLLED CURB</b> CEMENT CONCRETE CURB & GUTTER				STANDARD DRAWING No. <b>308</b>



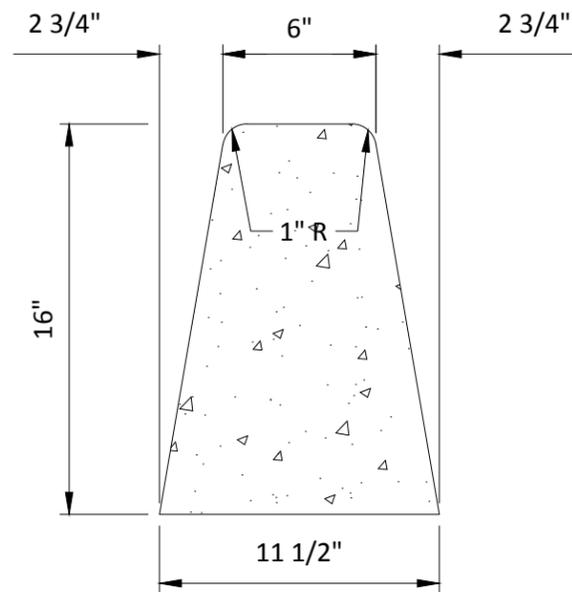
TYPE E-1 CURB



TYPE E-2 CURB



TYPE E-3 CURB

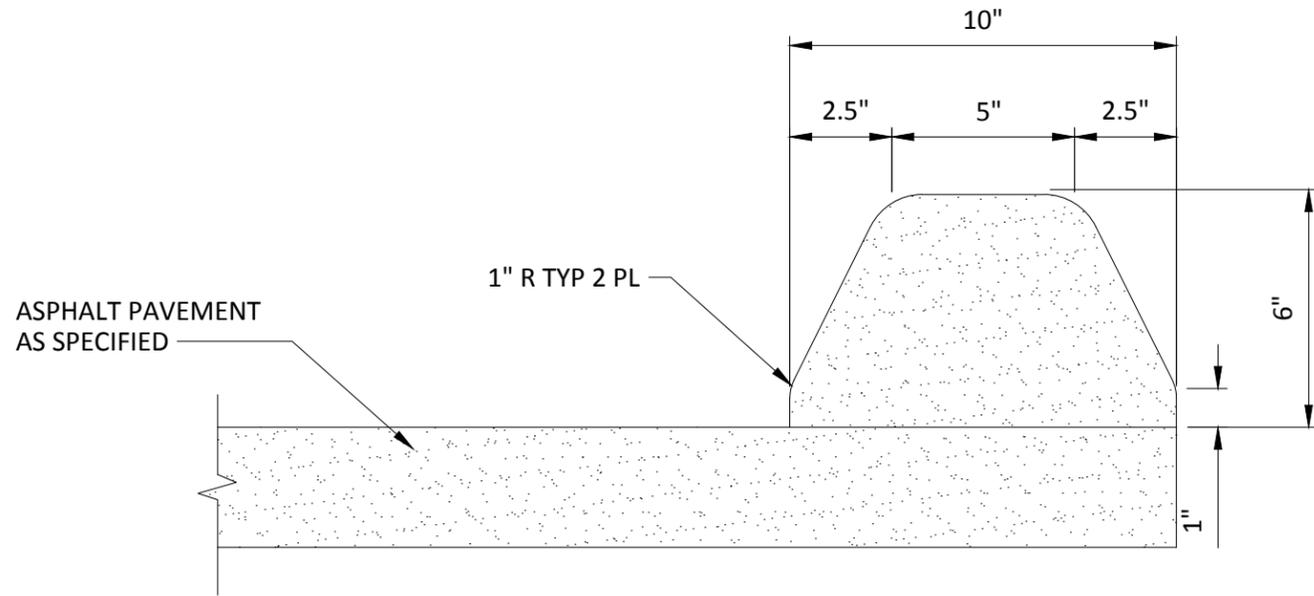


TYPE E-4 CURB

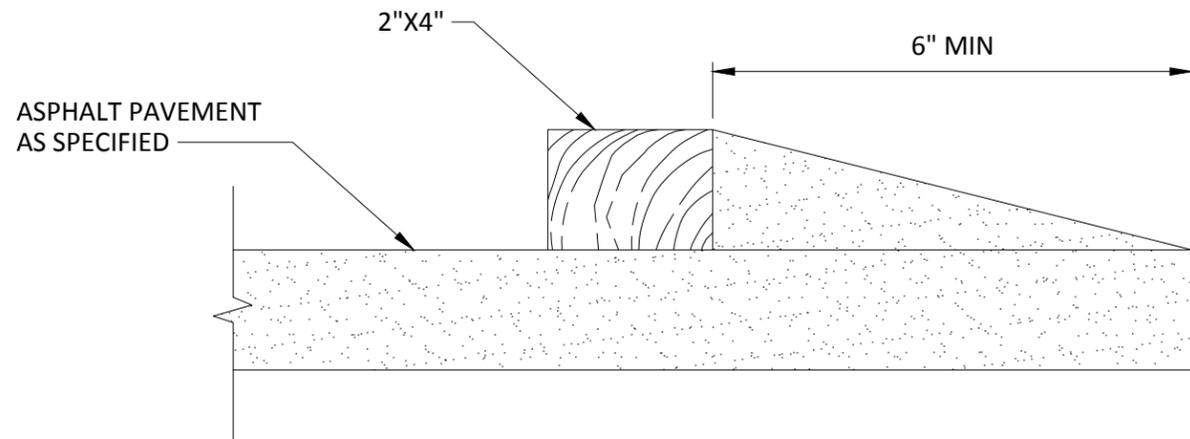
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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>TYPES E-1, E-2, E-3 &amp; E-4</b> <b>CEMENT CONCRETE CURB &amp; GUTTER</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>309</b>

**DRAFT**



EXTRUDED ASPHALT CONCRETE CURB



ASPHALT WEDGE CURB

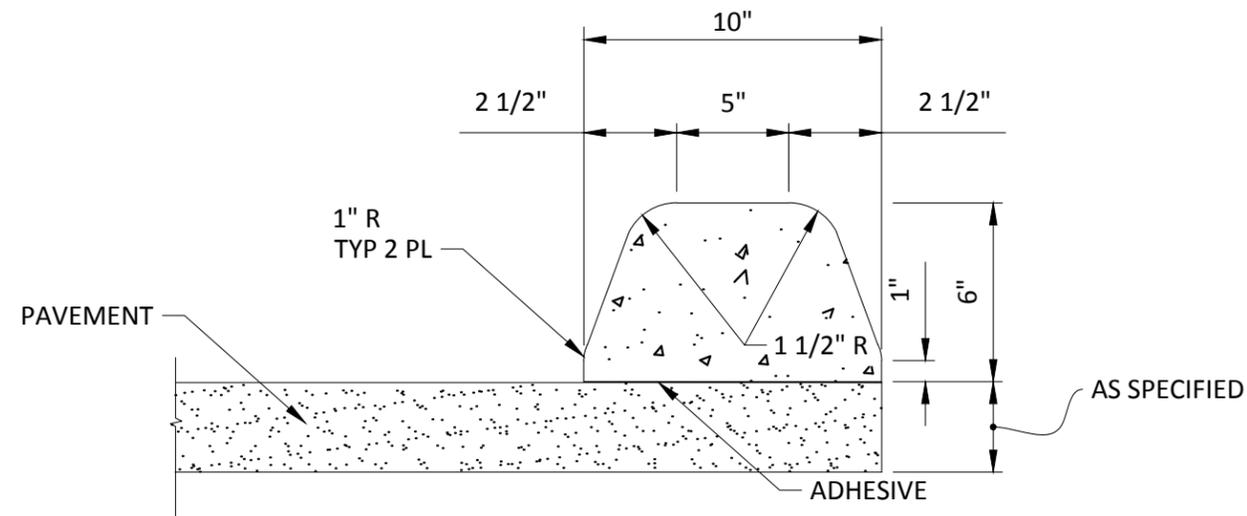
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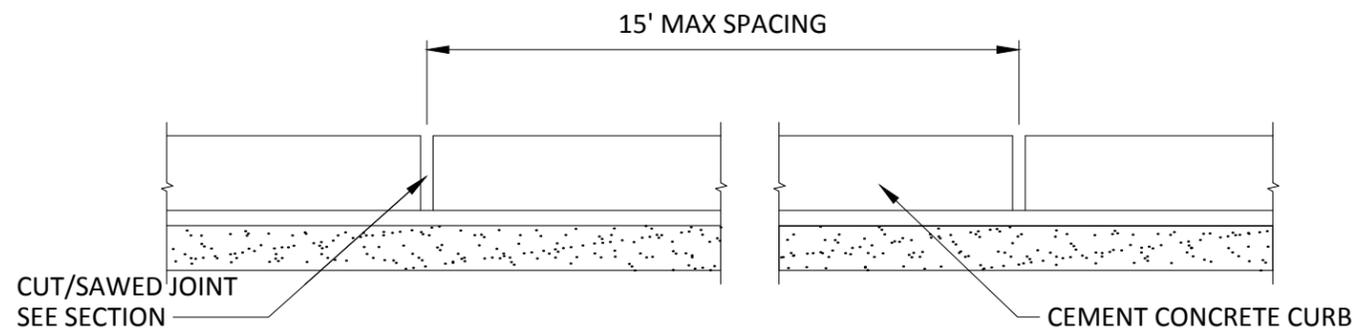
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>EXTRUDED ASPHALT          CONCRETE SECTIONS</b>				STANDARD DRAWING No. <b>310</b>

**NOTES**

1. CUT OR SAWED JOINTS SHALL BE PLACED NOT TO EXCEED 15' ON CENTER. THRU JOINTS SHALL BE PLACED ONLY AT POINTS OF TANGENCY ON STREET ALLEY AND DRIVEWAY RETURNS AND WHERE THRU JOINTS OCCUR IN THE PAVEMENT SLAB.
2. CONCRETE SHALL BE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS.
3. CONCRETE CURBS WILL BE ANCHORED TO THE EXISTING PAVEMENT BY USING AN ADHESIVE. THE ADHESIVE SHALL MEET THE REQUIREMENTS OF SECTION 9-26.1 OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR TYPE II EPOXY BONDING AGENT.



**EXTRUDED CEMENT CONCRETE CURB SECTION**



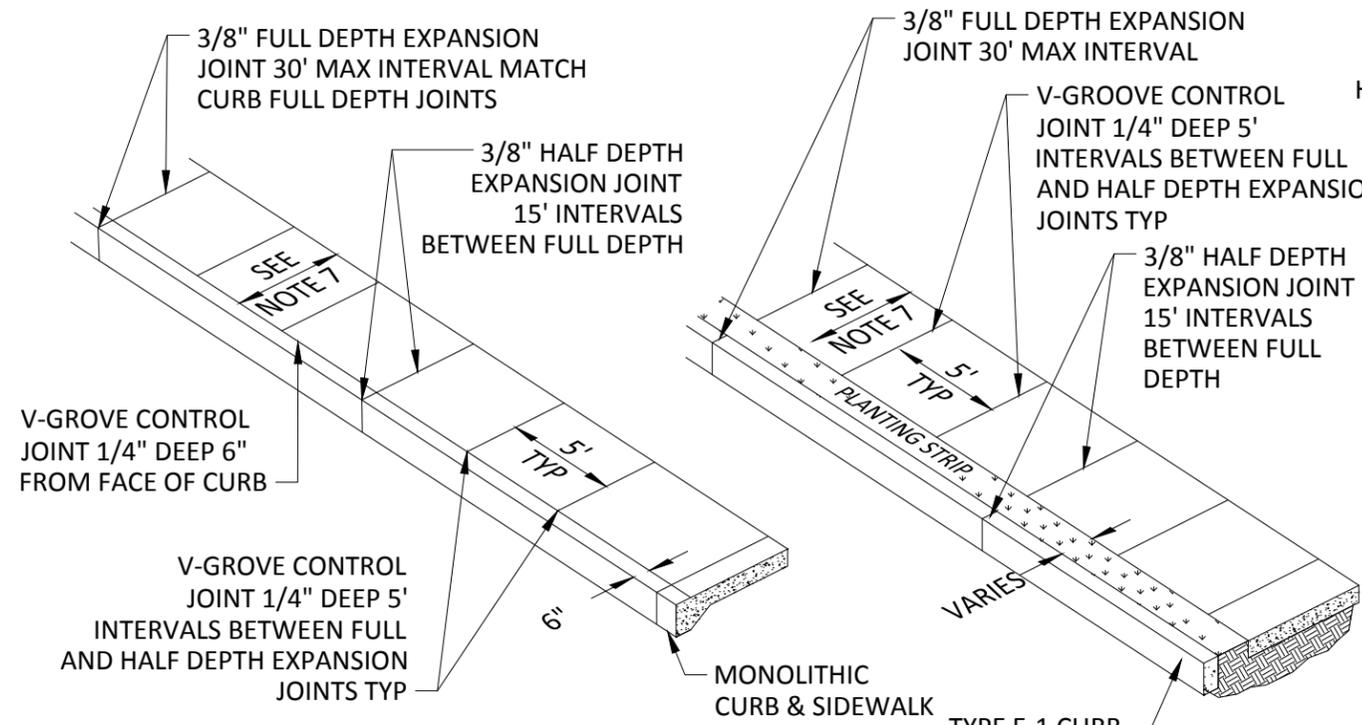
**JOINT SPACING**

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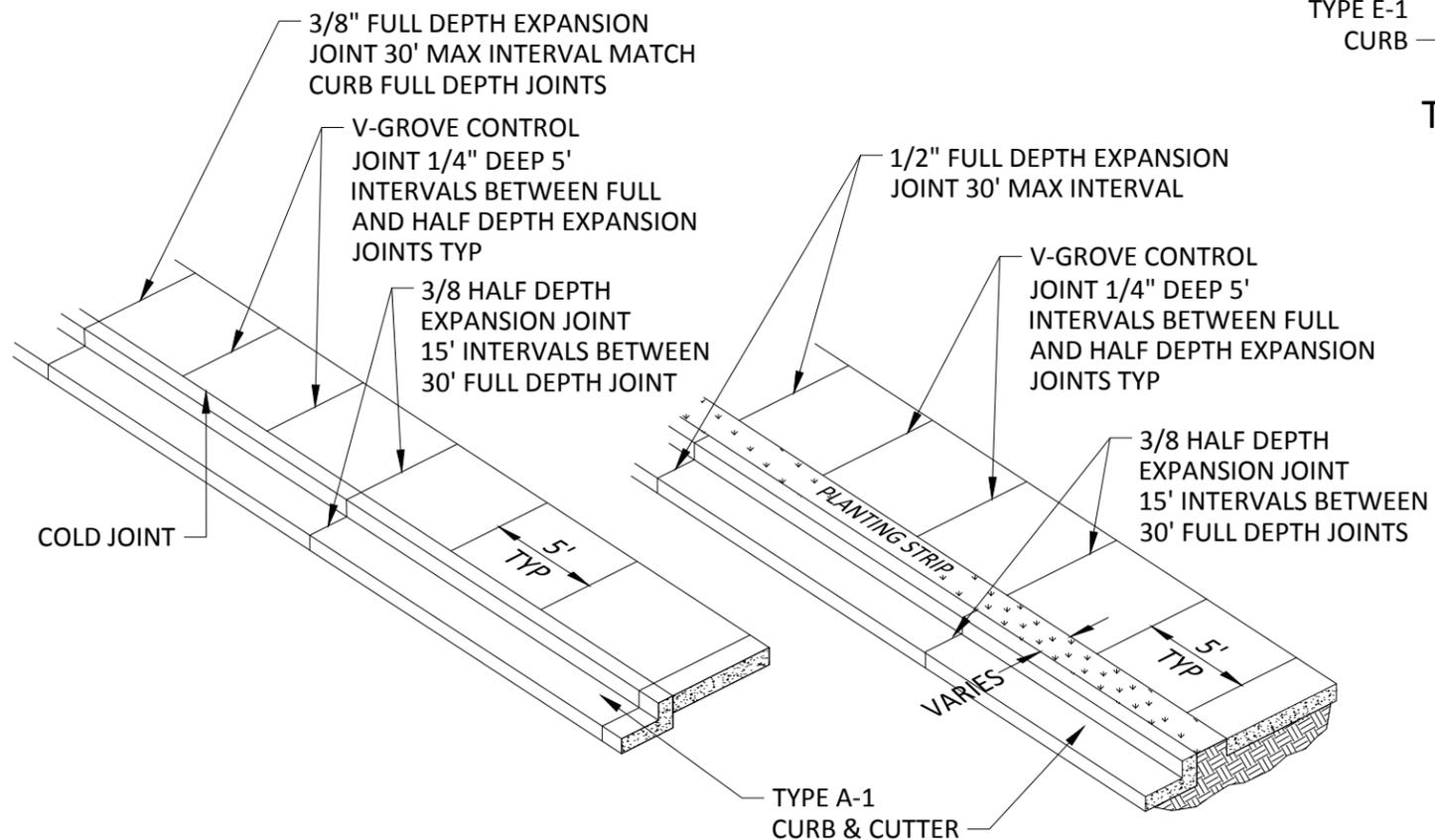
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 <b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT				
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>EXTRUDED CEMENT CONCRETE SECTIONS</b>				STANDARD DRAWING No. <b>311</b>

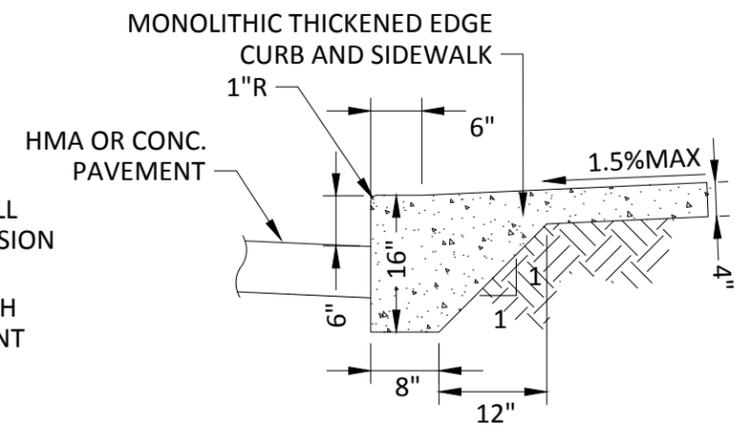
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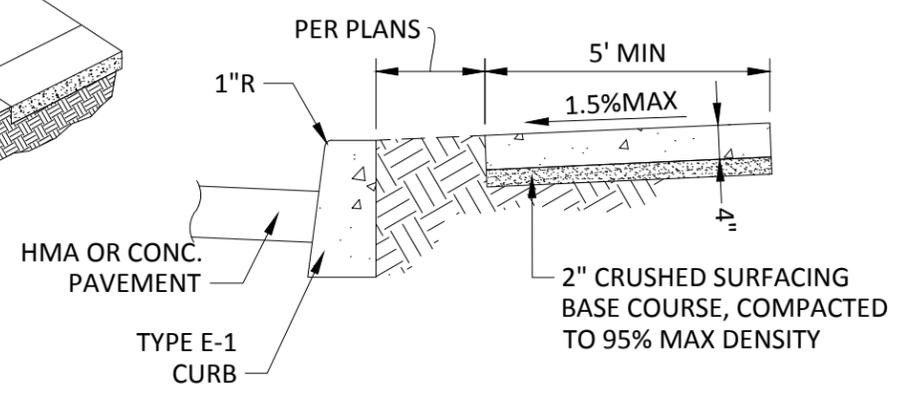
**TYPE E-1 CURB & SW**



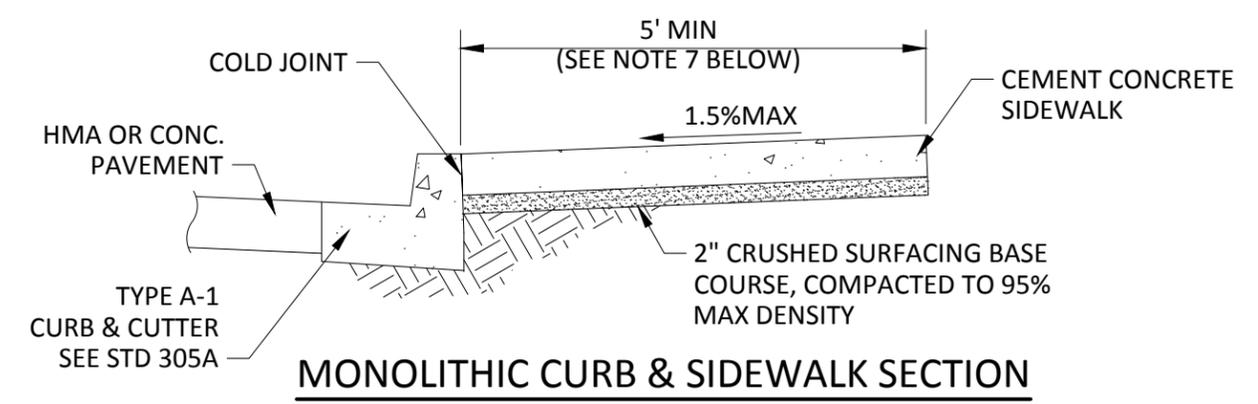
**TYPE A CURB & SW**



**MONOLITHIC CURB & SIDEWALK SECTION**



**TYPE E-1 CURB, PLANTER STRIP & SIDEWALK SECTION**



**MONOLITHIC CURB & SIDEWALK SECTION**

**NOTES**

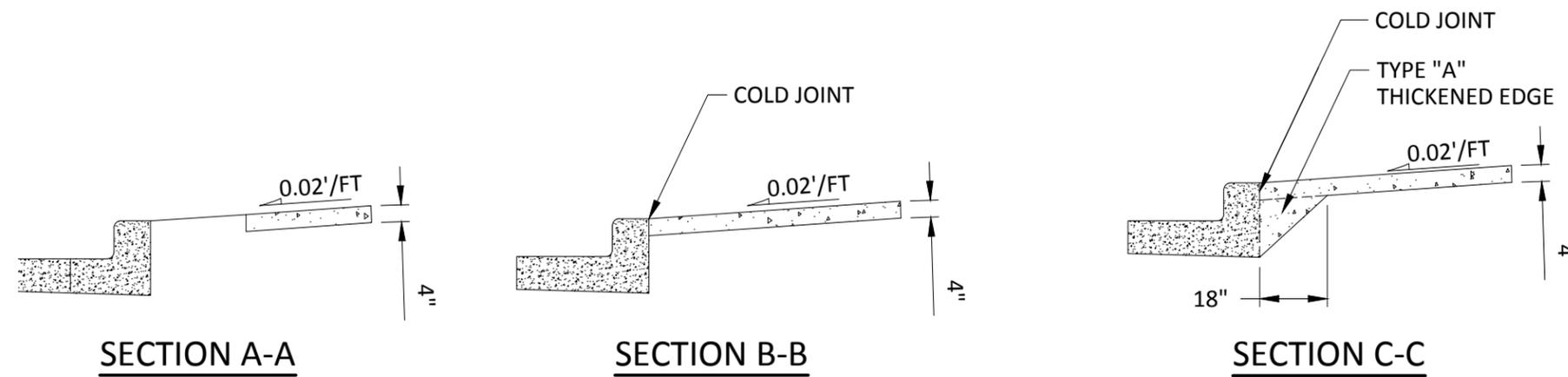
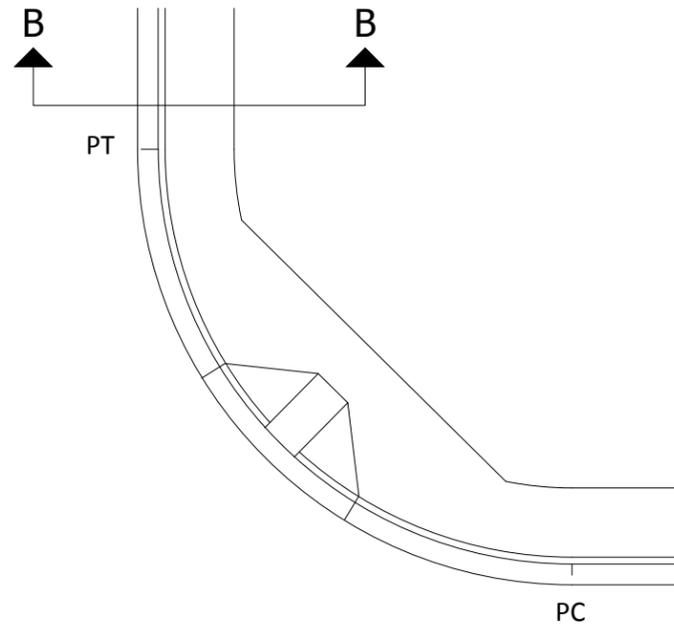
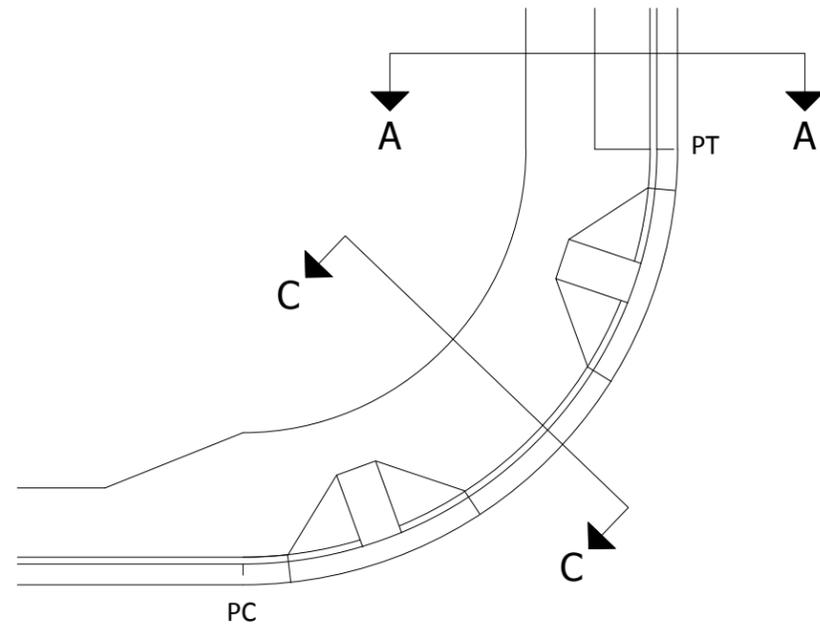
1. SIDEWALKS SHALL BE A MINIMUM OF 4" THICK, AND SHALL BE COMMERCIAL MIX CONCRETE AS CALLED OUT IN WSDOT STD SPECS., WITH AIR ENTRAINMENT (MIN 4.5 %, MAX 6.5 %).
2. SIDEWALK FULL DEPTH EXPANSION JOINTS SHALL GENERALLY BE PLACED TO MATCH THOSE IN ADJACENT CURB & GUTTER (WITHOUT PLANTER STRIP). MAXIMUM SPACING OF 30 FEET, FINAL SPACING DETERMINATION SHALL BE DECIDED BY THE INSPECTOR IN THE FIELD.
3. SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY.
4. SIDEWALK SHALL BE AT LEAST 6" THICK IN DRIVEWAYS AND BEHIND ROLL-CURB (STD 305B).
5. THE FINISHED SIDEWALK SHALL BE SPRAYED WITH A TRANSPARENT CURING COMPOUND COVERED BY WATERPROOF PAPER OR PLASTIC SHEETING IN THE EVENT OF RAIN OR OTHER INCLEMENT WEATHER. CURING TIME SHALL BE FOR A MINIMUM OF 72 HOURS.
6. ALL JOINTS SHALL BE CLEANED AND EDGED WITH AN EDGER HAVING A 3/8" RADIUS AFTER FINAL BROOM FINISH IS COMPLETED.
7. SIDEWALKS ARE 5' MIN. WIDE, EXCEPT 6' ALONG ARTERIALS, IN COMMERCIAL AREAS, OR AS APPROVED BY THE CITY ENGINEER.
8. CURB REVEAL MUST MATCH EXISTING TOP OF CURB FOR REPLACEMENT PROJECTS. THIS MEANS THAT THE FULL CURB IS PLACED IN AS SHOWN IN THE TYPICAL SECTION BUT THE ASPHALT STREET WILL COVER FACE OF CURB SO LESS THAN 6" MAYBE REVEALED.

<p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>		<p>City Engineer: RYAN SASS    Section Manager: TOM HOOD    CAD Manager: PAUL WILHELM    Drawn By: WRB</p>		<p>Current Rev Date: 12/30/2016</p>
		<p>TITLE: CEMENT CONCRETE CURB &amp; SIDEWALK DETAILS</p>		

**DRAFT**

## NOTES

- "V" GROOVES SHALL BE SPACED TO CORRESPOND TO THE MARKINGS IN EXISTING SIDEWALKS, OR AS DIRECTED BY THE ENGINEER.
- ALL UTILITY POLES, METER BOXES AND OTHER OBSTRUCTIONS SHALL HAVE FULL DEPTH 3/8" EXPANSION JOINT MATERIAL PLACED AROUND THEM.
- ALL SIDEWALK EDGES SHALL HAVE 1/2" RADIUS.
- MINIMUM WIDTH OF SIDEWALK IS 5' (NOT INCLUDING THE WIDTH OF THE CURB).
- THICKENED EDGES ARE REQUIRED FOR SIDEWALKS AT CORNERS, BUT NOT ON TANGENT SECTIONS. ALL CURB RAMPS SHALL HAVE A THICKENED EDGE TO THE DEPTH OF THE ADJACENT CURB, INCLUDING CURB RAMPS BUILT ON TANGENT SECTIONS OF SIDEWALK. MONOLITHIC CURB AND SIDEWALK CONFORMING TO STD DWG 306 DO NOT REQUIRE ADDITIONAL THICKENED EDGE.
- FOR CURB RAMP DETAILS SEE STANDARD PLANS 310A, 310B AND 310C.



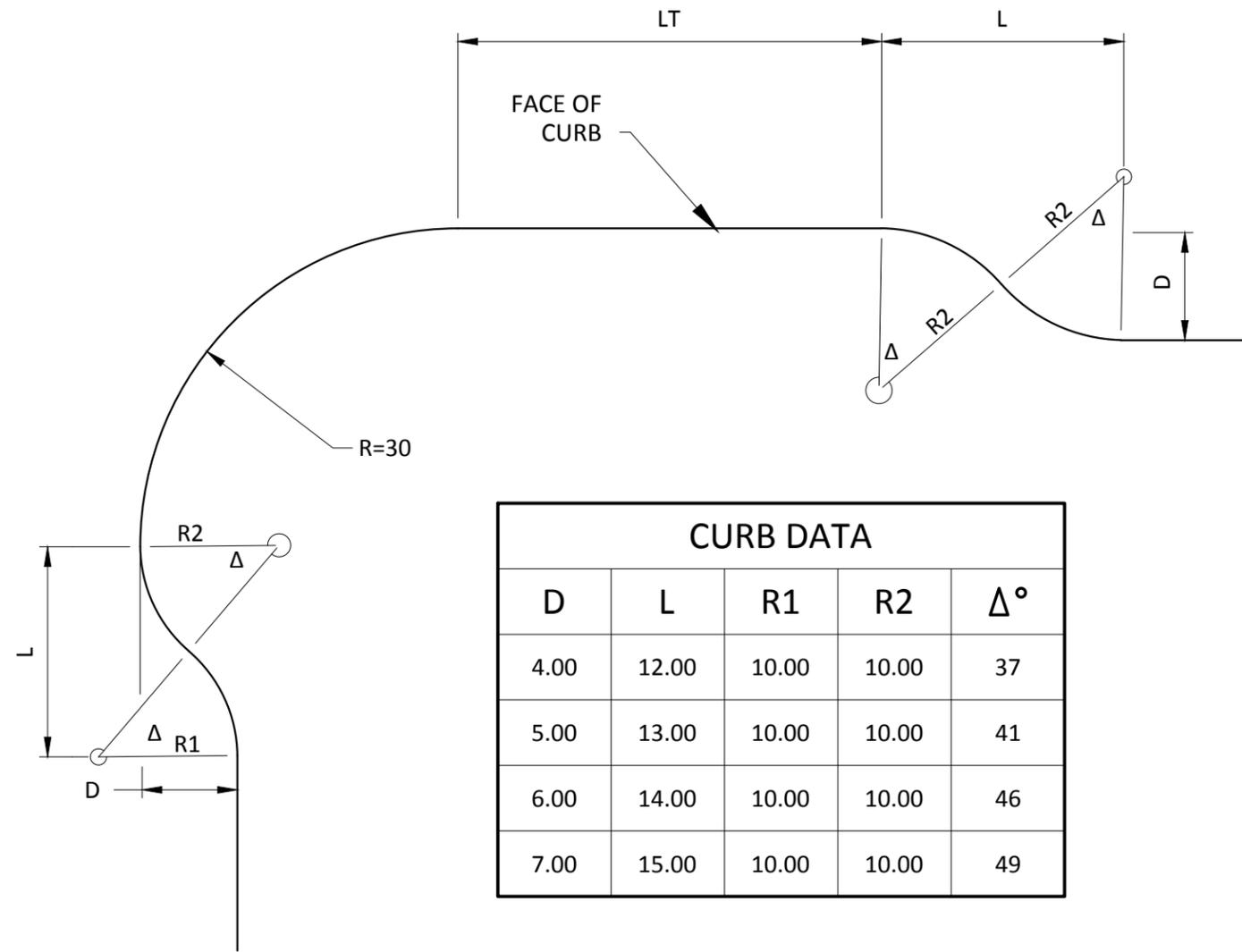
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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>CEMENT CONCRETE SIDEWALK AT CORNERS</b>				STANDARD DRAWING No. <b>313</b>

**DRAFT**

**NOTES**

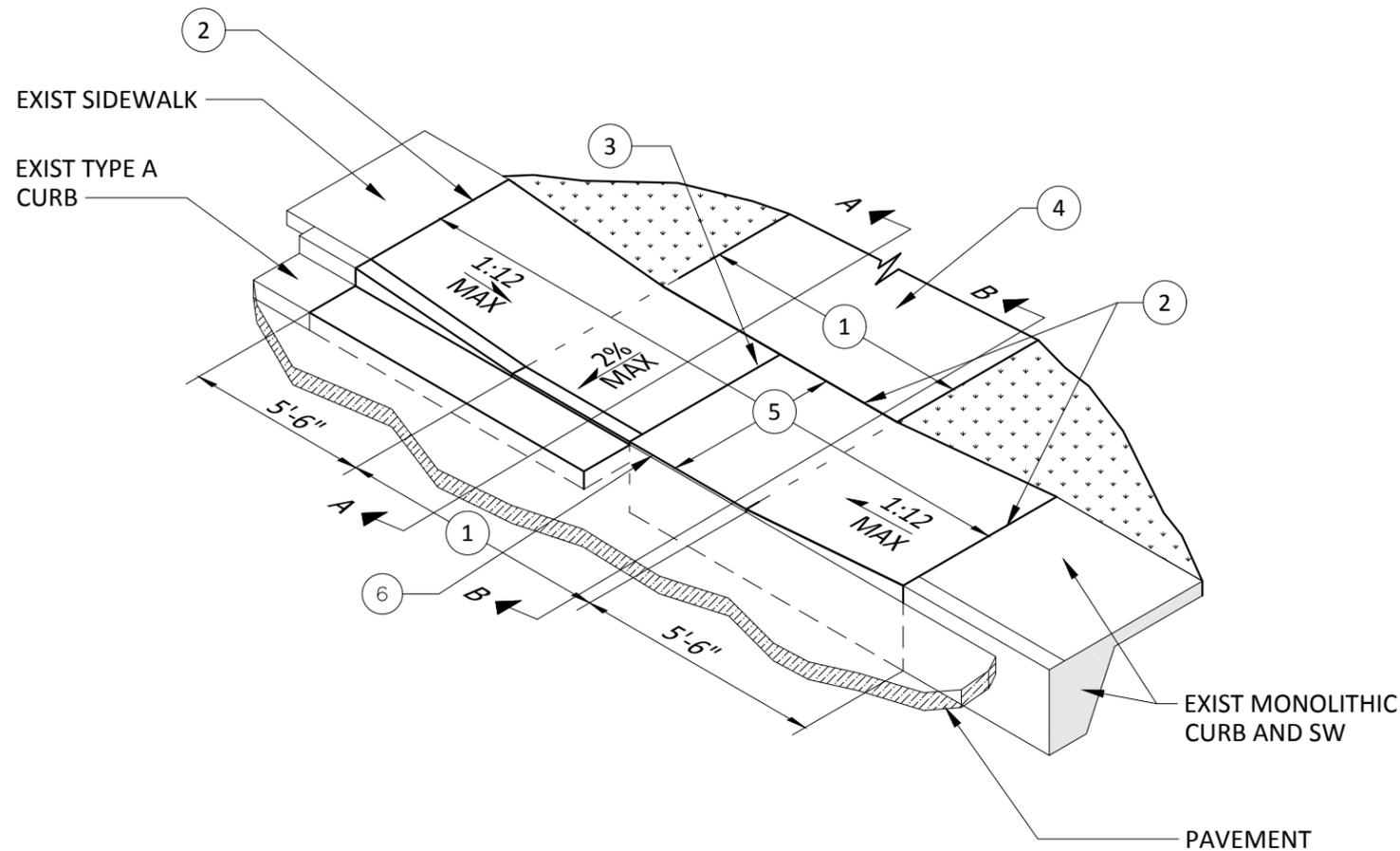
1. R3 TO ACCOMMODATE DESIGN VEHICLE.
2. LT FOR TRANSIT STOP.
3. CURB EXPOSURE VARIES ACCORDING TO SITE AND DRAINAGE REQUIREMENTS.



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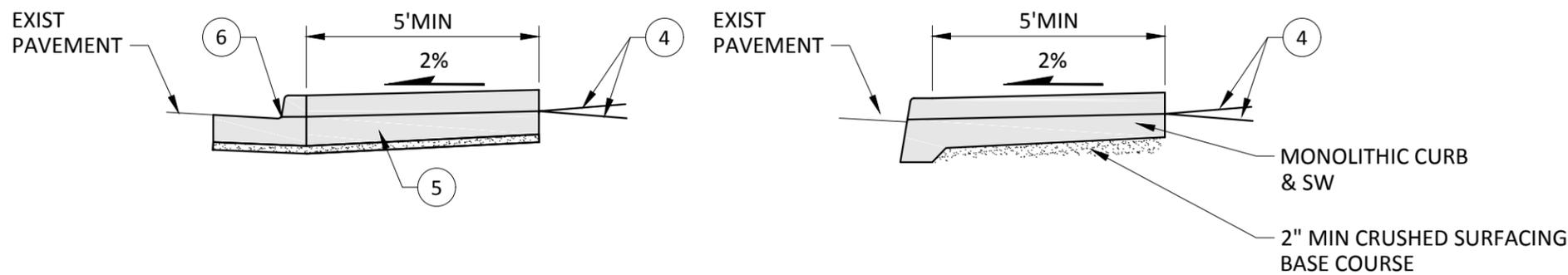
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		<p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>		
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<p>TITLE</p> <p style="text-align: center;"><b>CURB EXTENSIONS</b></p>				<p>STANDARD DRAWING No.</p> <p style="text-align: center;"><b>314</b></p>



# **NOTES**

1. EQUALS WIDTH OF DRIVEWAY AT PROPERTY LINE.
2. 3/8" WIDE FULL DEPTH EXPANSION JOINT.
3. 3/8" WIDE FULL DEPTH EXPANSION JOINT IF NOTE 1 ABOVE IS 15' OR GREATER.
4. WITHIN THE CITY RIGHT-OF-WAY THE DRIVEWAY SHALL BE SURFACED WITH ASPHALT OR CONCRETE.
5. THE DRIVEWAY RAMP INCLUDING WING RAMP SHALL BE CONCRETE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS., A MIN OF 6" THICK AND PLACED ON A MINIMUM OF 2" CRUSHED SURFACING BASE COURSE COMPACTED TO 95% MAXIMUM DENSITY.
6. MAINTAIN 1/2" LIP AT GUTTER.



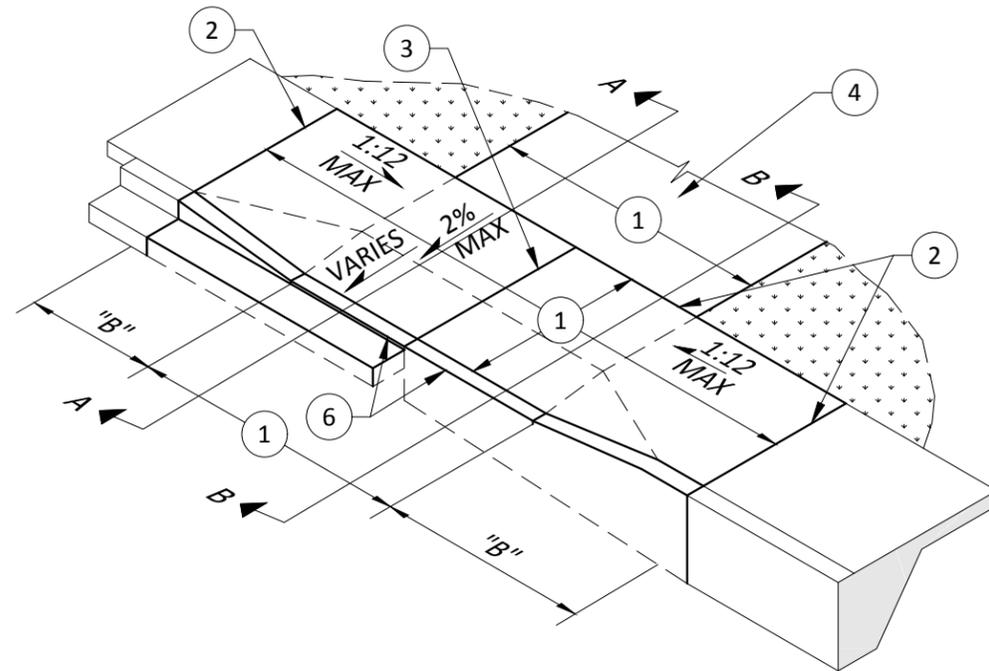
**SECTION A-A**  
USING TYPE A-1 CURB

**SECTION B-B**  
USING MONOLITHIC CURB & SW

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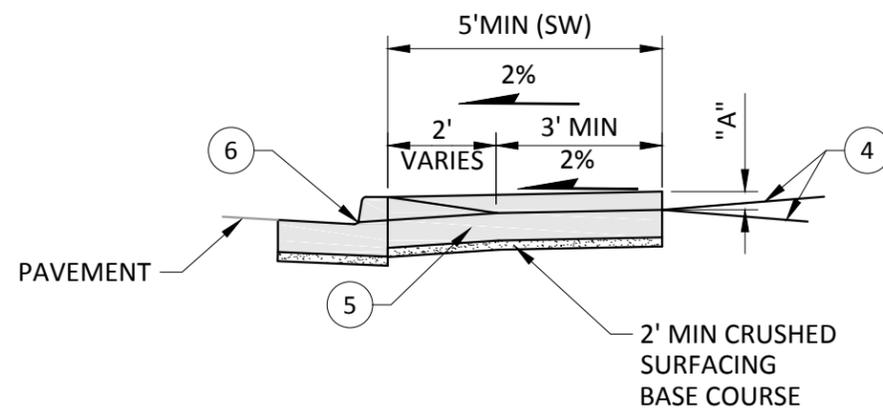
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>CEMENT CONCRETE DRIVEWAY RAMP TYPE - 1</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>315</b>



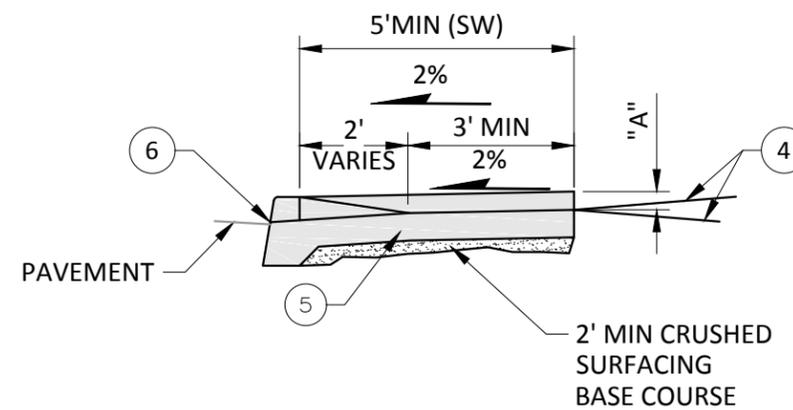
# **NOTES**

1. EQUALS WIDTH OF DRIVEWAY AT PROPERTY LINE.
2. 3/8" WIDE FULL DEPTH EXPANSION JOINT.
3. 3/8" WIDE FULL DEPTH EXPANSION JOINT IF NOTE 1 ABOVE IS 15' OR GREATER.
4. WITHIN THE CITY RIGHT-OF-WAY THE DRIVEWAY SHALL BE SURFACED WITH ASPHALT OR CONCRETE.
5. THE DRIVEWAY RAMP INCLUDING WING RAMP SHALL BE CONCRETE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS., A MIN OF 6" THICK AND PLACED ON A MINIMUM OF 2" CRUSHED SURFACING BASE COURSE COMPACTED TO 95% MAXIMUM DENSITY.
6. MAINTAIN 1/2" LIP AT GUTTER.

LOWERING BACK OF SIDEWALK "A" (IN)	LENGTH OF TRANSITION "B" (FT)
3	3
4	4
5	5



**SECTION A-A**  
USING TYPE A-1 CURB



**SECTION B-B**  
USING MONOLITHIC CURB & SW

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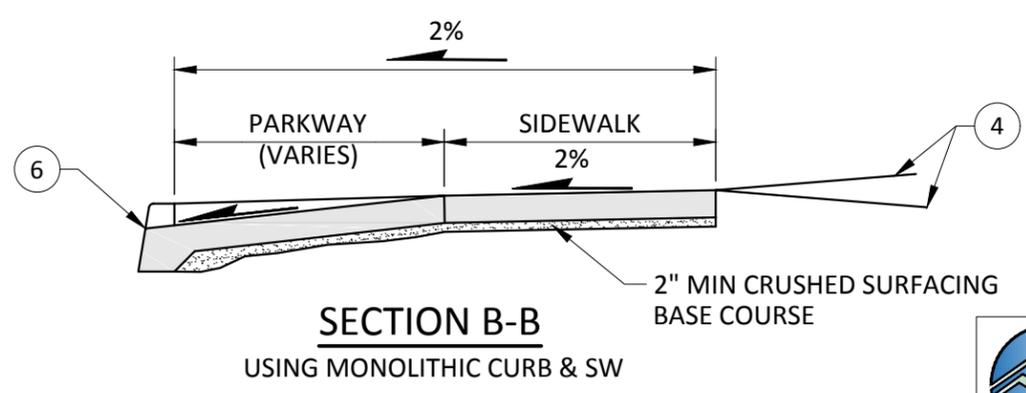
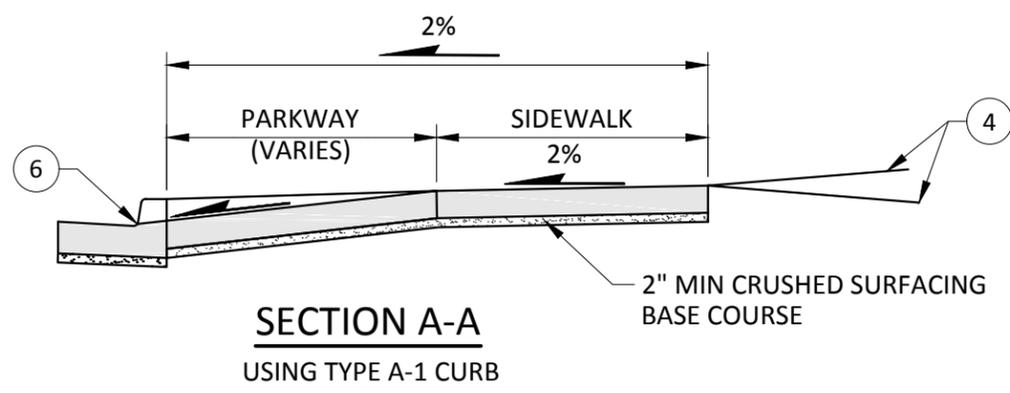
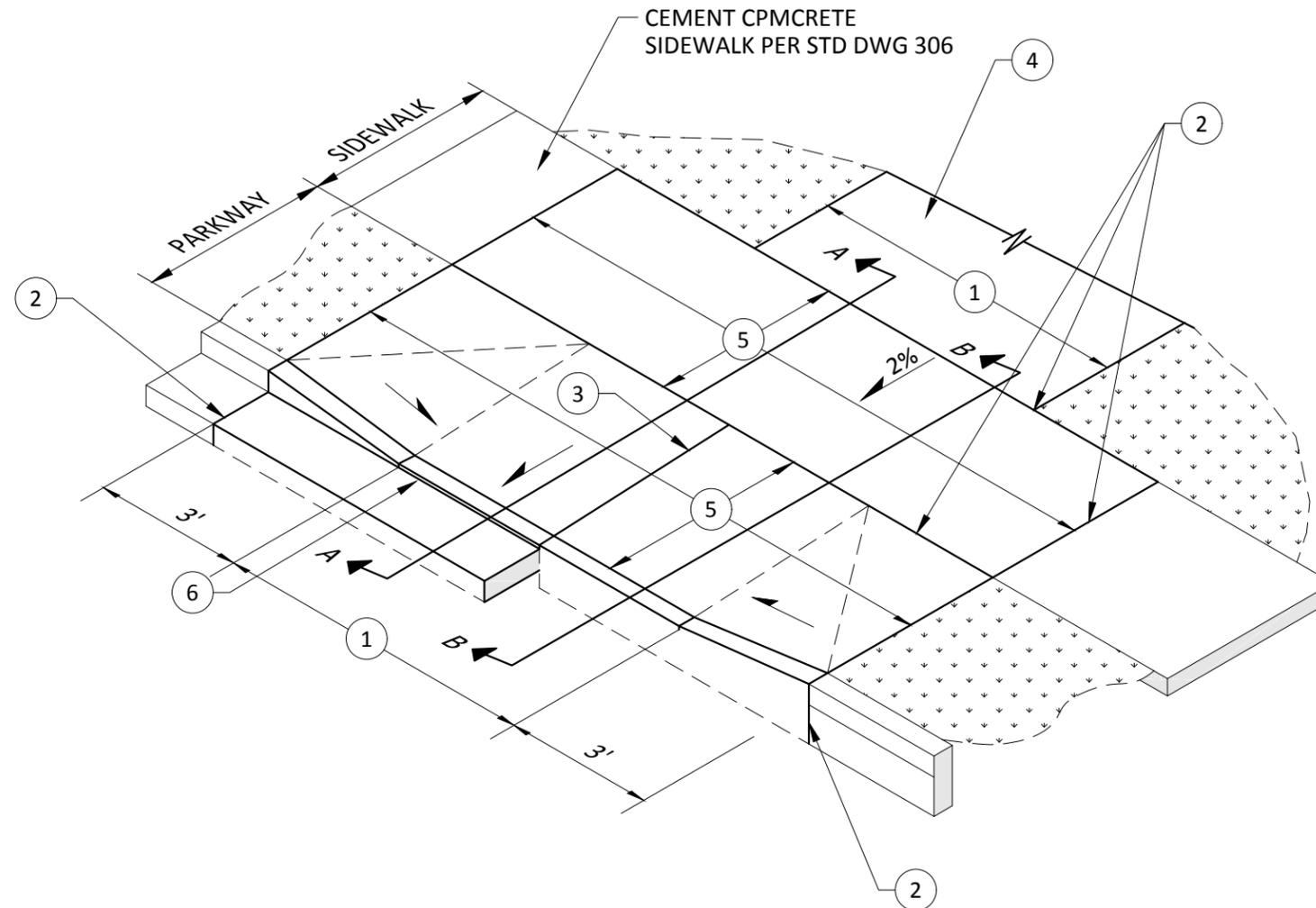


**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date <b>12/30/2016</b>
CEMENT CONCRETE DRIVEWAY RAMP TYPE - 2				316

# **NOTES**

1. EQUALS WIDTH OF DRIVEWAY AT PROPERTY LINE.
2. 3/8" WIDE FULL DEPTH EXPANSION JOINT.
3. 3/8" WIDE FULL DEPTH EXPANSION JOINT IF NOTE 1 ABOVE IS 15' OR GREATER.
4. WITHIN THE CITY RIGHT-OF-WAY THE DRIVEWAY SHALL BE SURFACED WITH ASPHALT OR CONCRETE.
5. THE DRIVEWAY RAMP INCLUDING WING RAMPs SHALL BE CONCRETE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS., A MIN OF 6" THICK AND PLACED ON A MINIMUM OF 2" CRUSHED SURFACING BASE COURSE COMPACTED TO 95% MAXIMUM DENSITY.
6. MAINTAIN 1/2" LIP AT GUTTER.



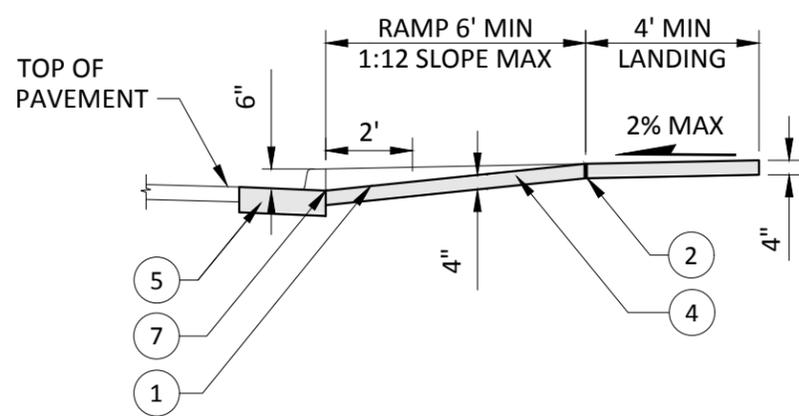
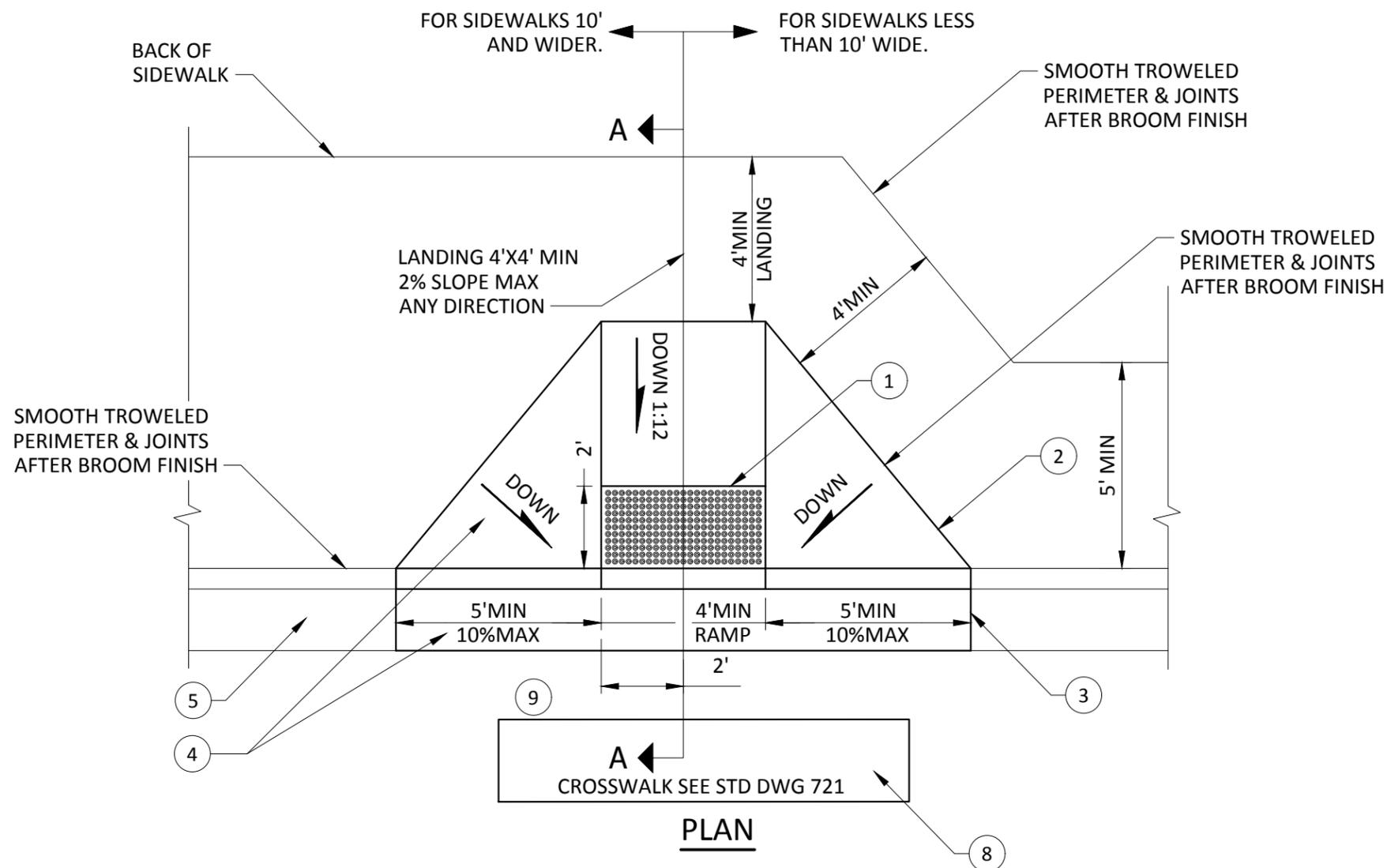
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**DRAFT**

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>CEMENT CONCRETE DRIVEWAY RAMP TYPE - 3</b>				STANDARD DRAWING No. <b>317</b>

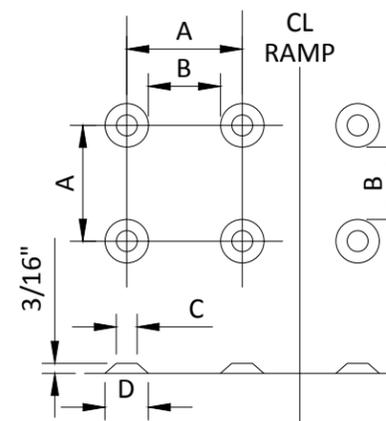
# **NOTES**

- 1 DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW IN COMPLIANCE WITH WSDOT/APWA STANDARD SPEC SECTION 8-14.3(3).
- 2 CURB RAMP SHALL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED FROM ADJACENT SIDEWALK BY A 3/8" FULL DEPTH EXPANSION JOINT.
- 3 GUTTER SECTION AT CURB RAMP SHALL NOT BE POURED INTEGRAL WITH ADJACENT GUTTER SECTIONS AND SHALL BE ISOLATED BY A 3/8" FULL DEPTH EXPANSION JOINT.
- 4 CURB RAMP AND GUTTER SECTION AT CURB RAMP MAY BE POURED AS AN INTEGRAL SECTION.
- 5 TYPE A-1 INTEGRAL CURB AND GUTTER PER CITY STD DWG 307.
- 6 FOR RETROFIT INSTALLATION SAWCUT AND REMOVE EXISTING SIDEWALK, CURB AND GUTTER SECTION ALONG NEW EXPANSION JOINT LOCATION. SAWCUT EXISTING PAVEMENT AS REQUIRED FOR FORMING OF NEW CURB AND GUTTER. PATCH PAVEMENT AS REQUIRED.
- 7 FLUSH WITH GUTTER (NO LIP PERMITTED)
- 8 MID BLOCK CROSSINGS OF STREETS WITH STOP CONTROL ARE ALLOWED 2% MAX CROSS SLOPE AND 5% RUNNING SLOPE. CROSSINGS WITHOUT STOP CONTROL ARE LIMITED TO A 5% MAX SLOPE IN EITHER DIRECTION. REFER TO GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS-OF-WAY.
- 9 A MIN OF 4' OF THE RAMP WIDTH MUST FALL WITHIN THE CROSS WALK SERVED BY THE RAMP.



**SECTION A-A**

	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

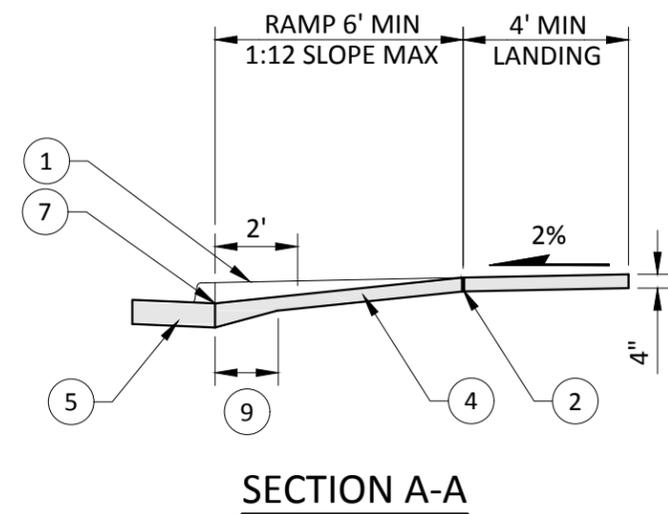
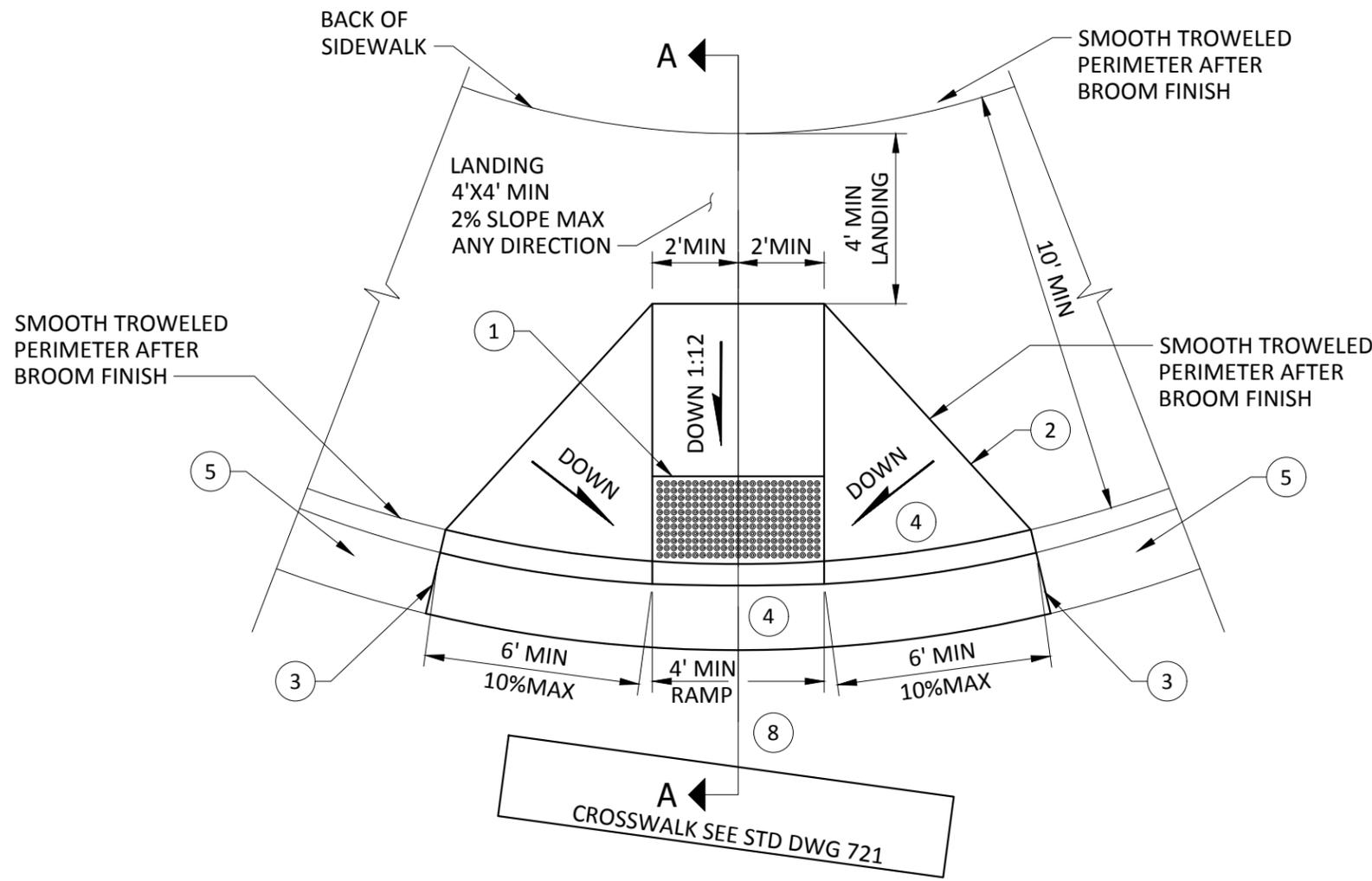


**DETECTABLE WARNING PATTERN**

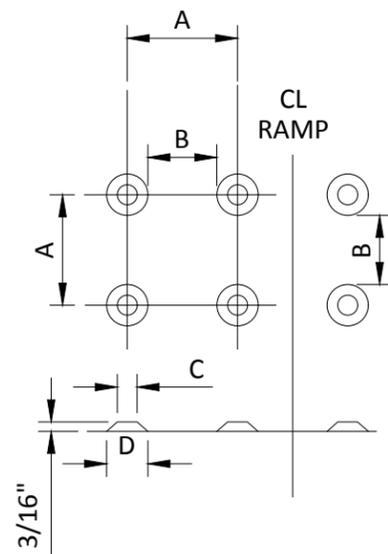
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**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>TOM HOOD</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>WRB</b>	Current Rev Date <b>12/30/2016</b>
TITLE				STANDARD DRAWING No.
<b>TYPE A CURB RAMP</b>				<b>318</b>



	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"



**DETECTABLE WARNING PATTERN**

**NOTES**

- 1 DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW IN COMPLIANCE WITH WSDOT/APWA STANDARD SPEC SECTION 8-14.3(3).
- 2 CURB RAMPS SHALL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED FROM ADJACENT SIDEWALK BY A 3/8" FULL DEPTH EXPANSION JOINT.
- 3 GUTTER SECTION AT CURB RAMP SHALL NOT BE POURED INTERGAL WITH ADJACENT GUTTER SECTIONS AND SHALL BE ISOLATED BY A 3/8" FULL DEPTH EXPANSION JOINT.
- 4 CURB RAMP AND GUTTER SECTION AT CURB RAMP MAY BE POURED AS AN INTERGAL SECTION.
- 5 TYPE A-1 INTEGRAL CURB AND GUTTER PER CITY STD DWG 305A.
- 6 FOR RETROFIT INSTALLATION SAWCUT AND REMOVE EXISTING SIDEWALK, CURB AND GUTTER SECTION ALONG NEW EXPANSION JOINT LOCATION. SAWCUT EXISTING PAVEMENT AS REQUIRED FOR FORMING OF NEW CURB AND GUTTER. PATCH PAVEMENT AS REQUIRED.
- 7 FLUSH WITH GUTTER (NO LIP PERMITTED)
- 8 A MIN OF 4' OF THE RAMP WIDTH MUST FALL WITHIN THE CROSS WALK SERVED BY THE RAMP.
- 9 THICKEN EDGE TO FULL DEPTH OF ADJACENT CURB SECTION.

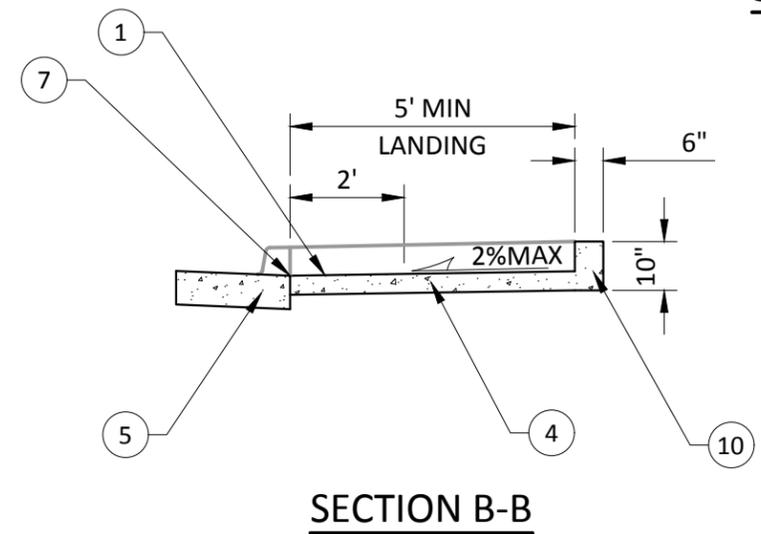
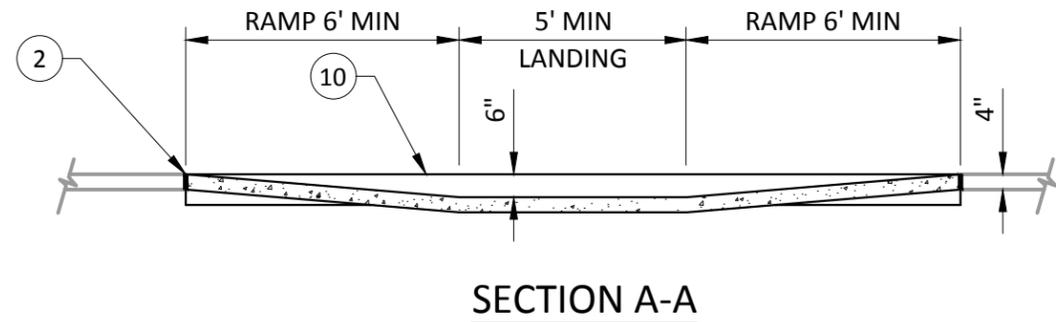
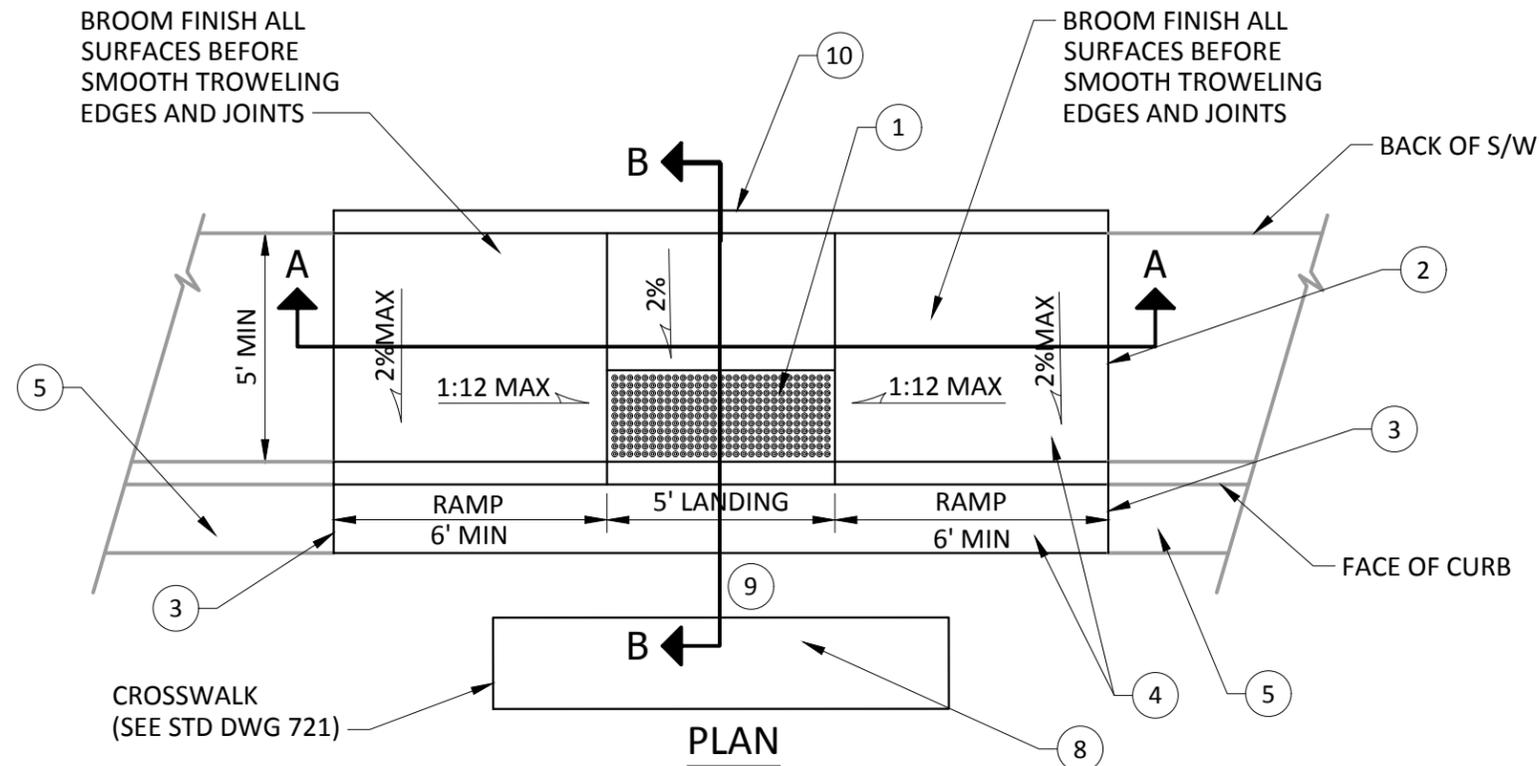
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**CITY OF EVERETT**

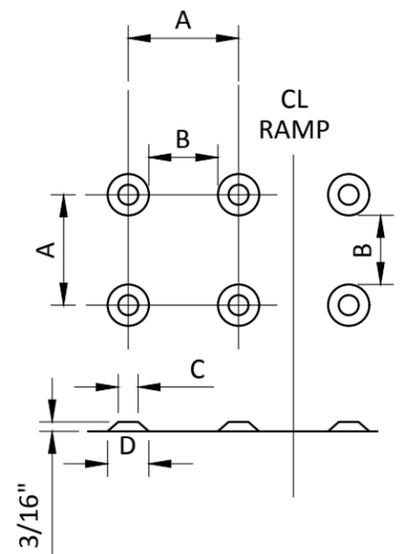
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date <b>12/30/2016</b>
TITLE				STANDARD DRAWING No.
<b>TYPE B CURB RAMP</b>				<b>319</b>

**DRAFT**



	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"



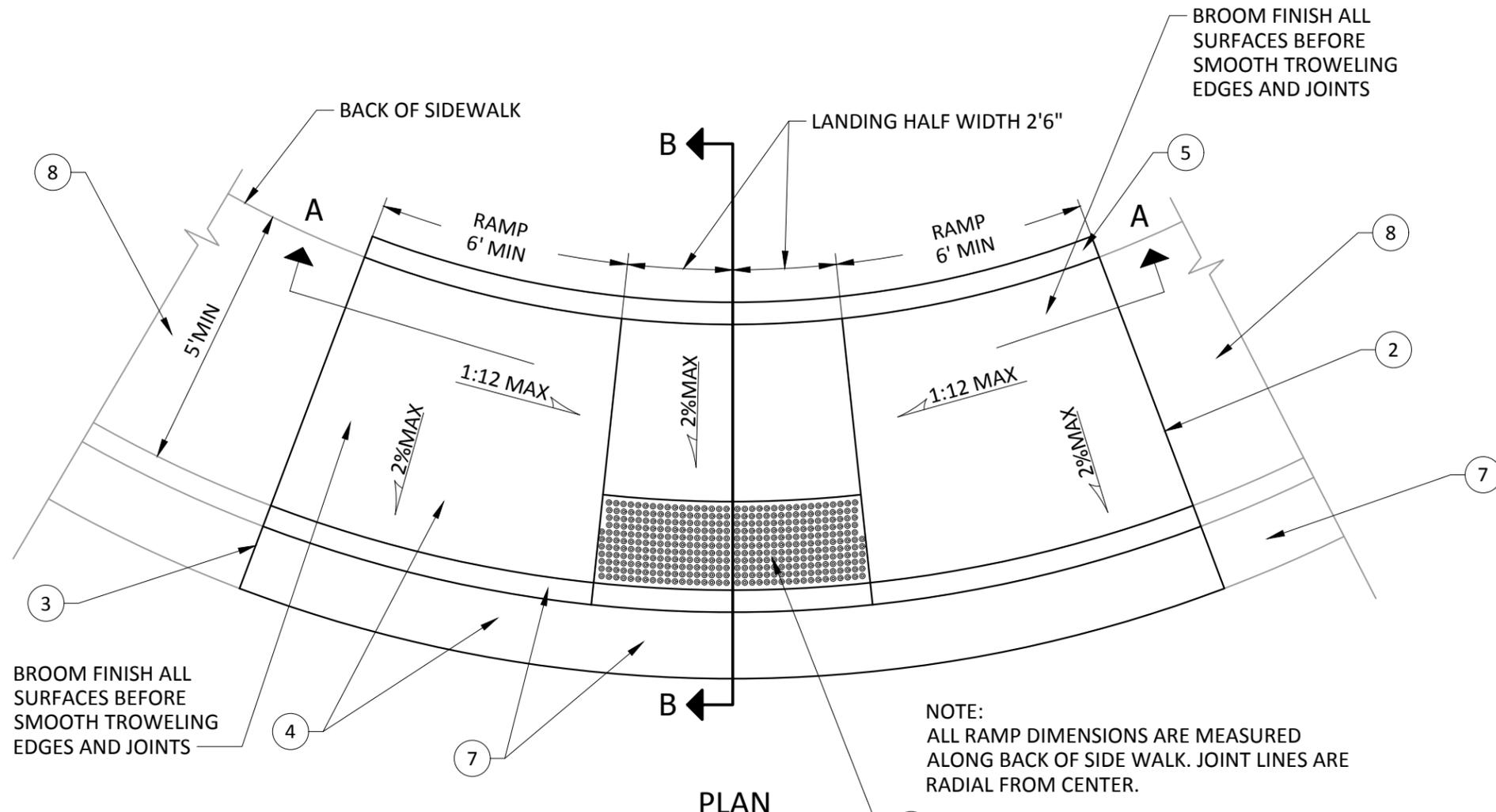
- # NOTES**
- 1 DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW IN COMPLIANCE WITH WSDOT/APWA STANDARD SPEC SECTION 8-14.3(3).
  - 2 CURB RAMPS SHALL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED FROM ADJACENT SIDEWALK BY A 3/8" FULL DEPTH EXPANSION JOINT.
  - 3 GUTTER SECTION AT CURB RAMP SHALL NOT BE POURED INTERGAL WITH ADJACENT GUTTER SECTIONS AND SHALL BE ISOLATED BY A 3/8" FULL DEPTH EXPANSION JOINT.
  - 4 CURB RAMP AND GUTTER SECTION AT CURB RAMP MAY BE POURED AS AN INTERGAL SECTION.
  - 5 TYPE A-1 INTEGRAL CURB AND GUTTER PER CITY STD DWG 305A.
  - 6 FOR RETROFIT INSTALLATION SAWCUT AND REMOVE EXISTING SIDEWALK, CURB AND GUTTER SECTION ALONG NEW EXPANSION JOINT LOCATION. SAWCUT EXISTING PAVEMENT AS REQUIRED FOR FORMING OF NEW CURB AND GUTTER. PATCH PAVEMENT AS REQUIRED.
  - 7 FLUSH WITH GUTTER (NO LIP PERMITTED)
  - 8 A MIN OF 4' OF THE RAMP WIDTH MUST FALL WITHIN THE CROSS WALK SERVED BY THE RAMP.
  - 9 THICKEN EDGE TO FULL DEPTH OF ADJACENT CURB SECTION.

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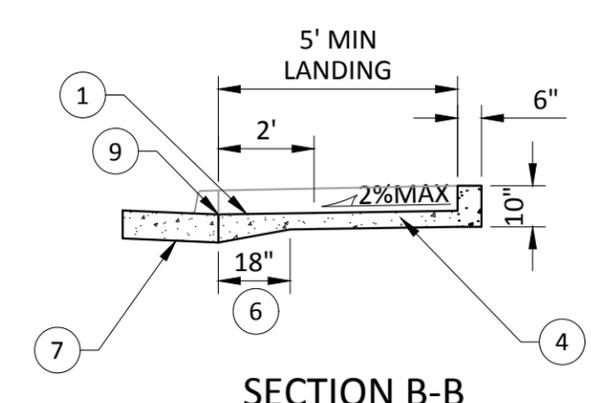
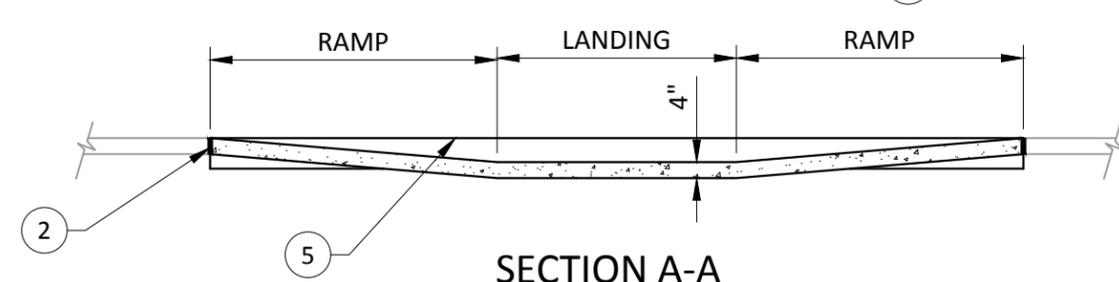
**CITY OF EVERETT**  
EVERETT PUBLIC WORKS DEPARTMENT

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date <b>12/30/2016</b>
TITLE <b>TYPE C CURB RAMP</b>				STANDARD DRAWING No. <b>320</b>

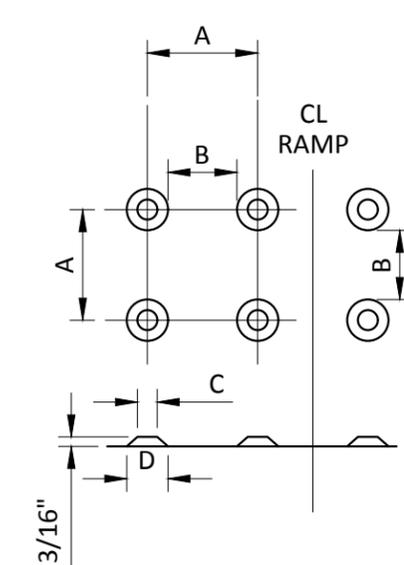
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**PLAN**



	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"



**DETECTABLE WARNING PATTERN**

**NOTES**

- 1 DETECTABLE WARNING PATTERN AREA SHALL BE YELLOW IN COMPLIANCE WITH WSDOT/APWA STANDARD SPEC SECTION 8-14.3(3).
- 2 CURB RAMPS SHALL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED FROM ADJACENT SIDEWALK BY A 3/8" FULL DEPTH EXPANSION JOINT.
- 3 GUTTER SECTION AT CURB RAMP SHALL NOT BE POURED INTERGAL WITH ADJACENT GUTTER SECTIONS AND SHALL BE ISOLATED BY A 3/8" FULL DEPTH EXPANSION JOINT.
- 4 CURB RAMP AND GUTTER SECTION AT CURB RAMP MAY BE POURED AS AN INTERGAL SECTION.
- 5 6"W X 10"H X 17'/18'L POURED IN PLACE CONCRETE CURB. INTERGAL WITH RAMP.
- 6 THICKEN EDGE TO FULL DEPTH OF ADJACENT CURB SECTION.
- 7 TYPE A-1 INTEGRAL CURB AND GUTTER PER CITY STD DWG 305A.
- 8 FOR RETROFIT INSTALLATION SAWCUT AND REMOVE EXISTING SIDEWALK TO FIRST EXISTING JOINT EITHER SIDE OF NEW RAMP. SAWCUT AND REMOVE EXISTING CURB AND GUTTER SECTION AS REQUIRED. SAWCUT EXISTING PAVEMENT AS REQUIRED FOR FORMING OF NEW CURB AND GUTTER. PATCH PAVEMENT AS REQUIRED.
- 9 FLUSH WITH GUTTER (NO LIP PERMITTED)

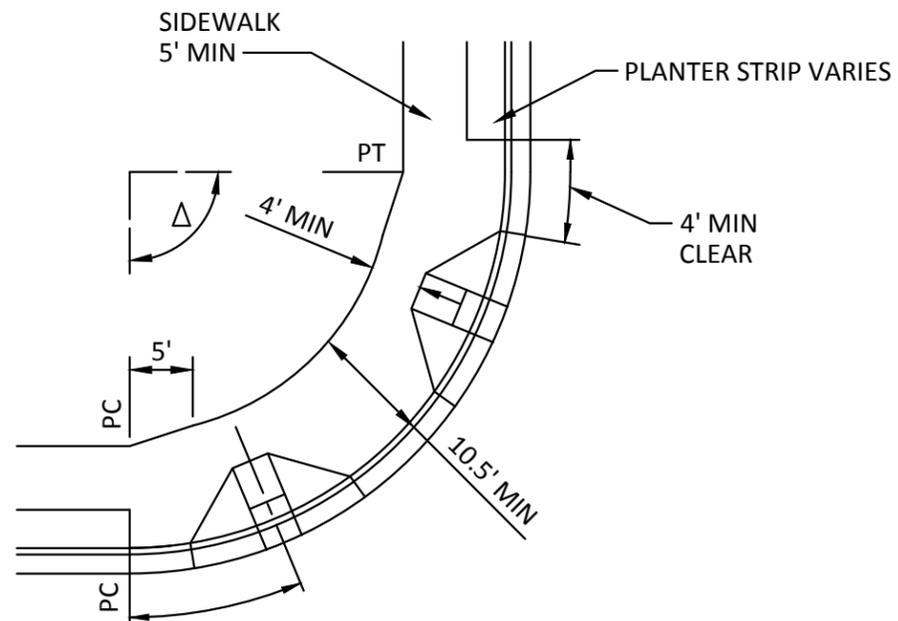
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**CITY OF EVERETT**

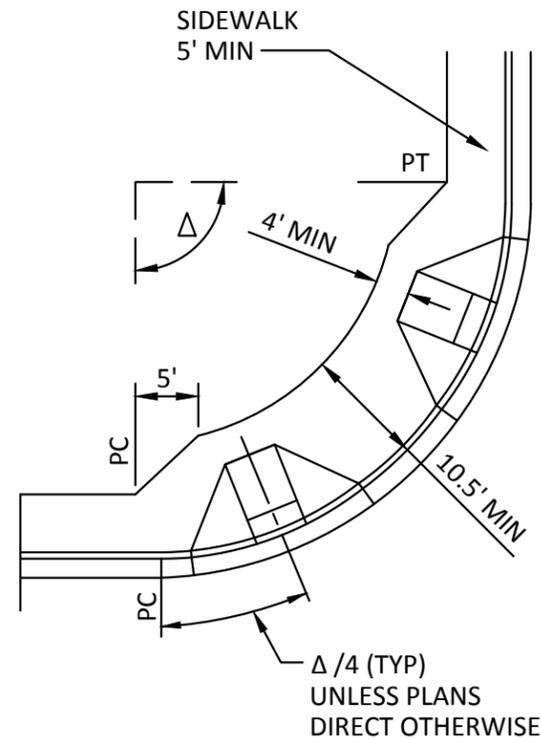
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date <b>12/30/2016</b>
TITLE				STANDARD DRAWING No.
<b>TYPE D CURB RAMP</b>				<b>321</b>

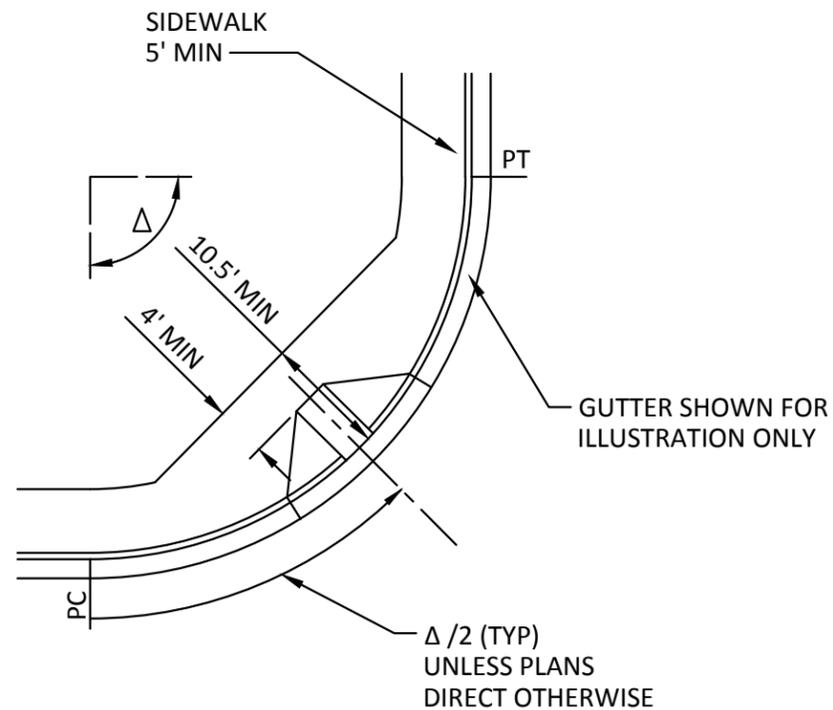
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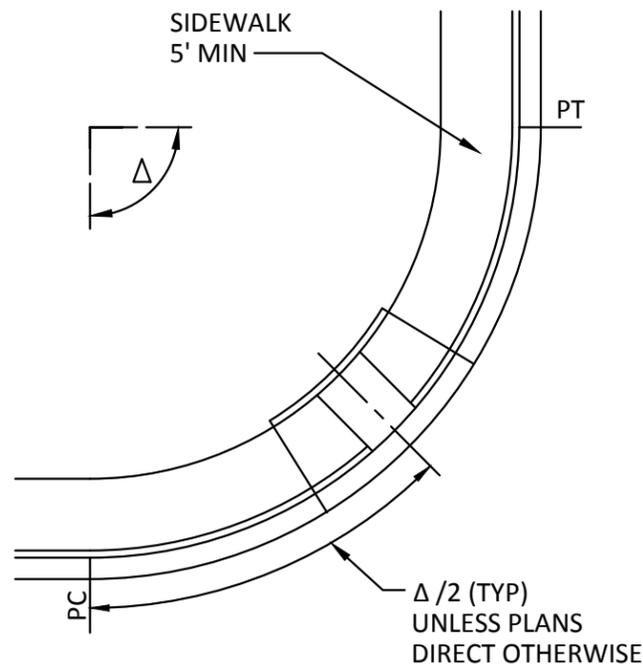
**ALTERNATE "A"**



**ALTERNATE "B"**



**ALTERNATE "C"**



**ALTERNATE "D"**

**NOTES**

1. ALTERNATES "A" & "B" FOR USE AT ARTERIAL/ARTERIAL AND ARTERIAL/LOCAL ACCESS INTERSECTIONS.
2. ALTERNATES "C" & "D" FOR USE AT LOCAL ACCESS/LOCAL ACCESS INTERSECTIONS OR AS APPROVED BY CITY ENGINEER.
3. FOR ALTERNATE "A", "B" AND "C" USE CURB RAMP PER STD DWGS 306A AND 310B.
4. FOR ALTERNATE "D" USE CURB RAMP PER STD DWGS 306A AND 310D.
5. THE USE OF ALTERNATE "C" & "D" SHALL NOT DIRECT THE WHEEL CHAIR INTO A THROUGH TRAFFIC LANE. USE OF ALTERNATE "A" & "B" MAY BE NECESSARY TO ACCOMPLISH THIS.
6. THE USE OF ALTERNATE "C" & "D" SHALL NOT DIRECT THE WHEEL CHAIR INTO A THROUGH TRAFFIC LANE. USE ALTERNATE "A" OR "B" MAY BE NECESSARY TO ACCOMPLISH THIS.

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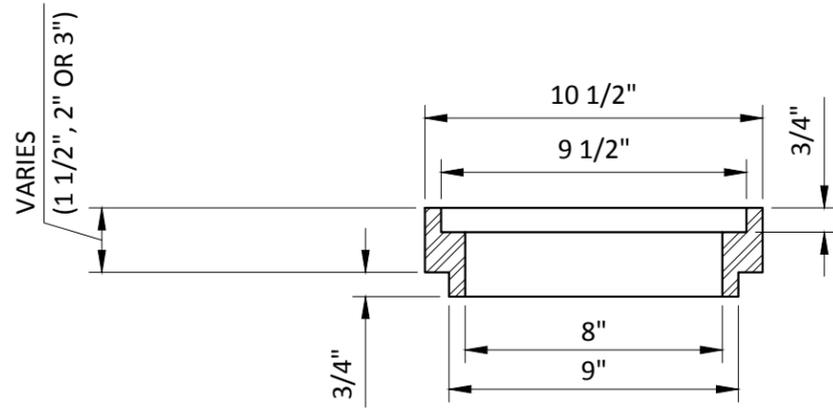
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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TITLE STANDARD DRAWING No.

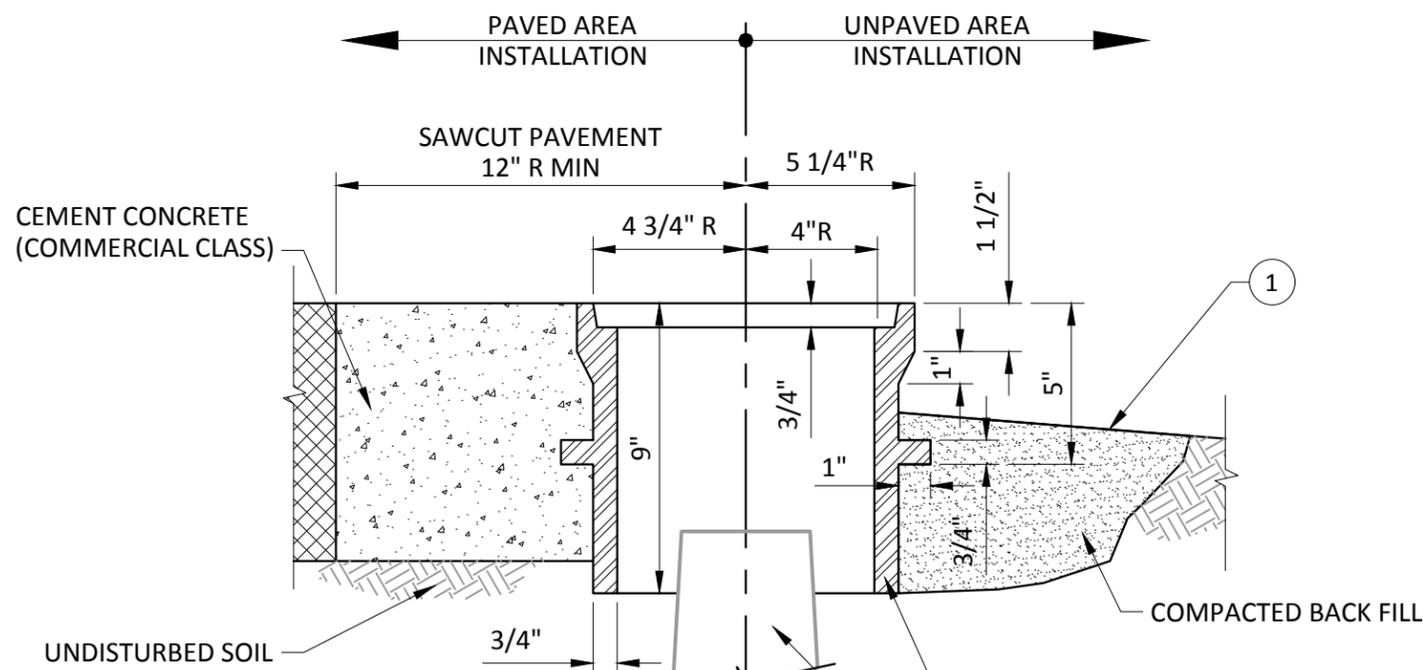
**TYPICAL CURB RAMP LOCATIONS**

**322**

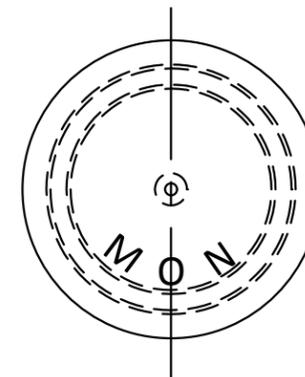
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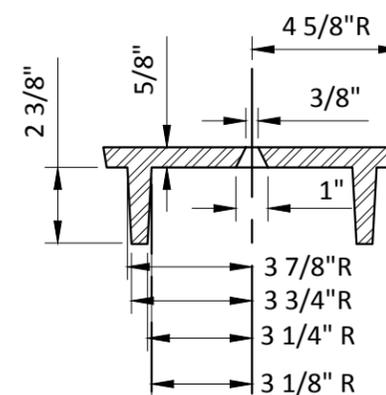
**EXTENSION SECTION**



**CASE SECTION**



**COVER PLAN**



**COVER SECTION**

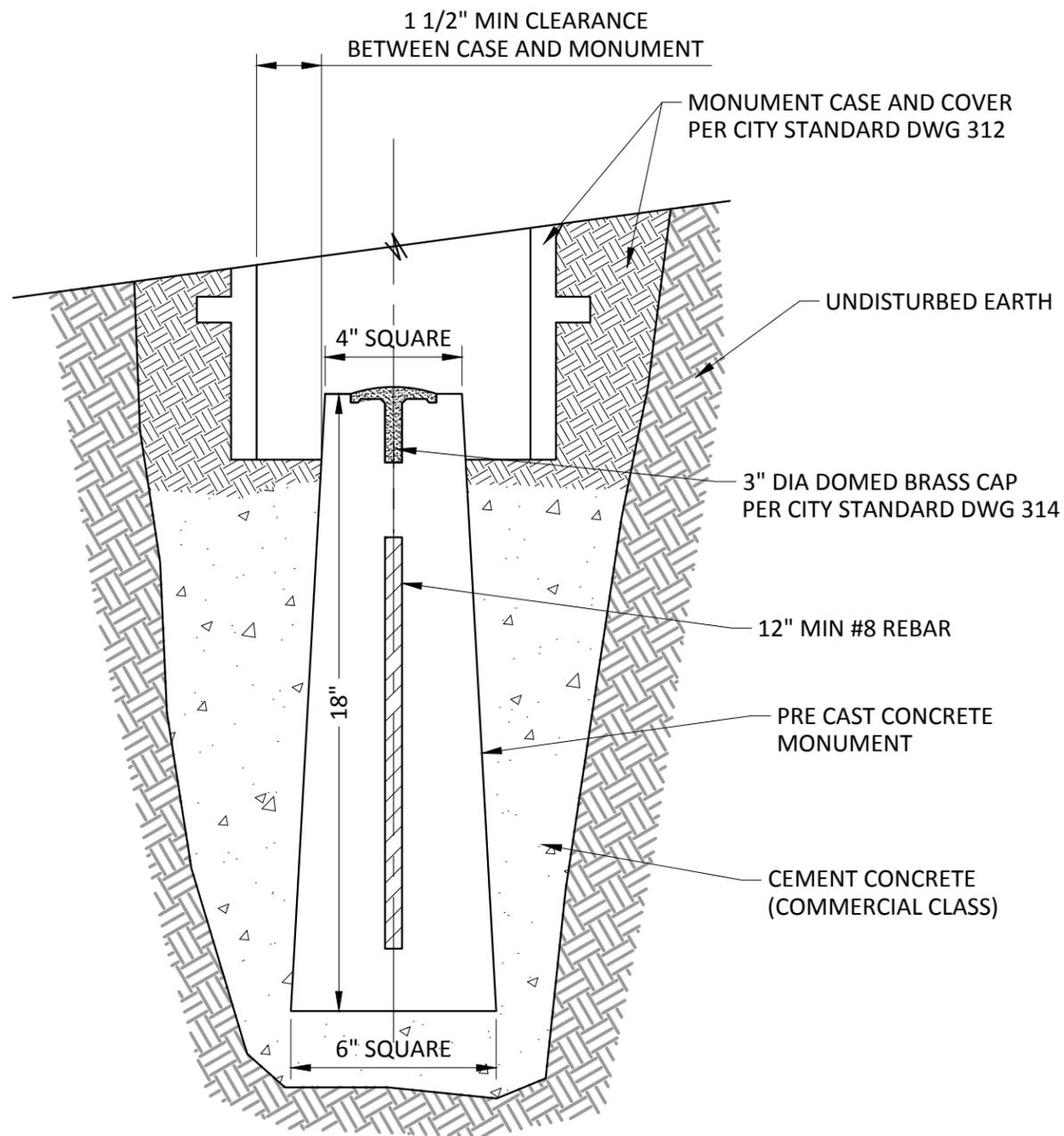
**NOTES**

1. MONUMENTS IN UN-IMPROVED AREAS SHALL BE 3" ABOVE GRADE.
2. MONUMENT CASE AND RISER SECTION SHALL BE CAST IRON PER ASTM-A48, CLASS 30, WITH BITUMINOUS COATING.
3. COVER SHALL BE CAST IRON PER ASTM-A48 CLASS 30. WITH BITUMINOUS COATING.
4. LEGEND ON COVER SHALL BE 1/8" RAISED INTEGRALLY CAST LETTERS 1" HIGH WITH A MIN FACE WIDTH OF 3/16".

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City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>MONUMENT CASE &amp; COVER DESCRIPTION &amp; INSTALLATION</b>				<b>323</b>

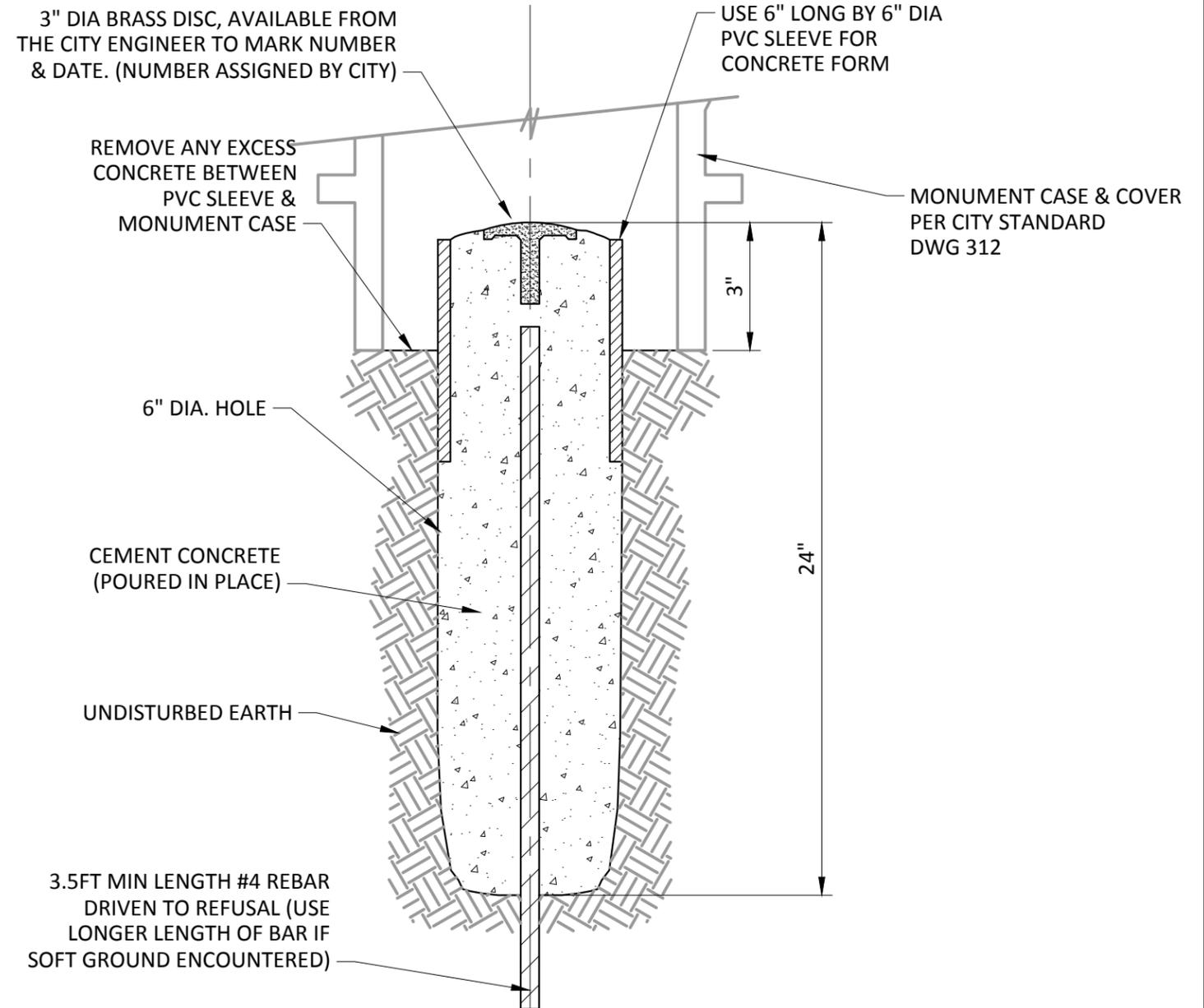
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**PRECAST MONUMENT SECTION**

**NOTE**

ALL NEW MONUMENTS SHALL BE PRECAST OR CAST IN PLACE COMMERCIAL CLASS CONC, WITH REBAR AND 3" DIA BRASS CAP.



**CAST IN PLACE MONUMENT SECTION**

**NOTE**

THIS MONUMENT SHALL BE USED ONLY FOR CONTROL MONUMENTATION SURVEYS AT LOCATIONS AS APPROVED BY THE CITY ENGINEER.

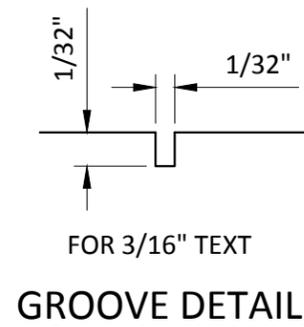
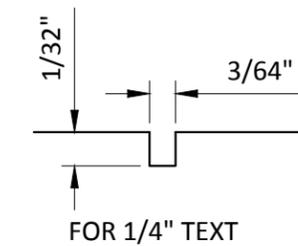
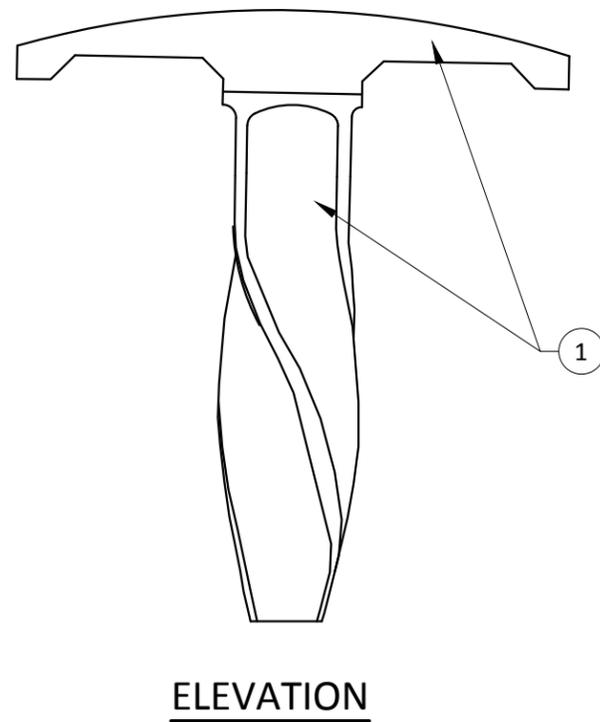
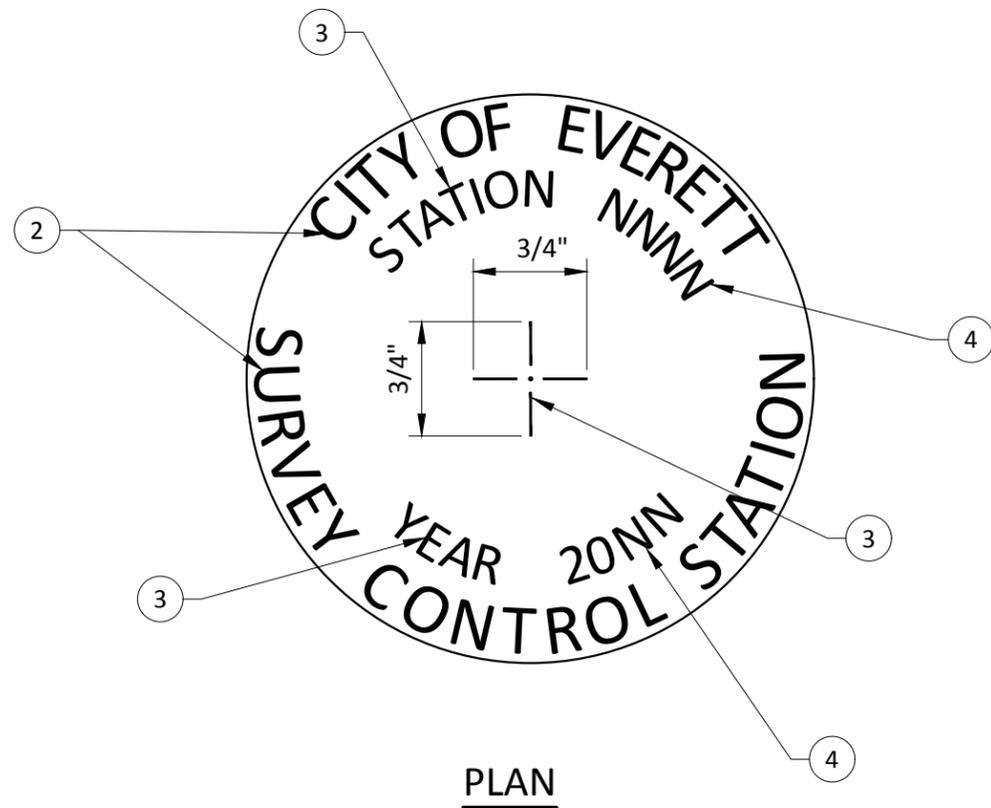


ORIENTATE BRASS CAP SO LETTERING CAN BE READ FROM SOUTH

**DRAFT**

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>SURVEY CONTROL MONUMENTS</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>324</b>

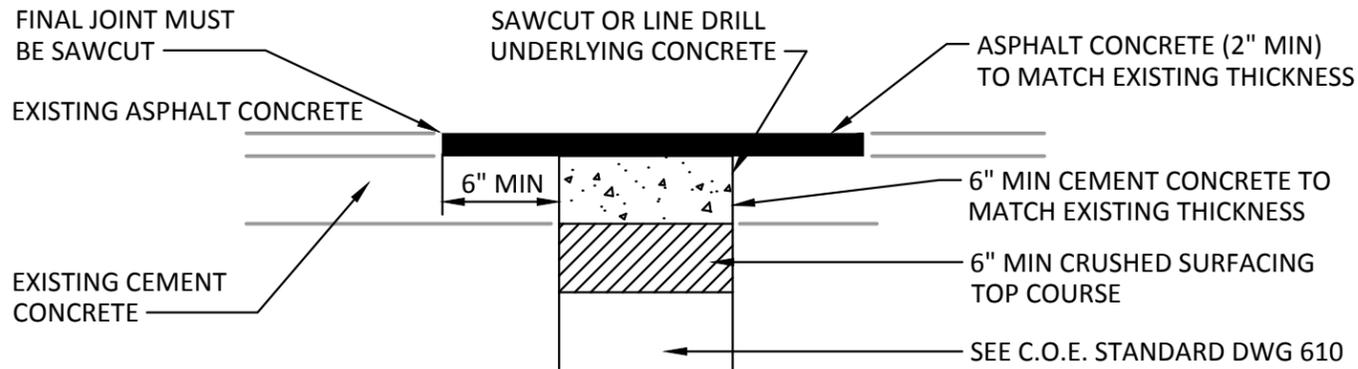


## NOTES

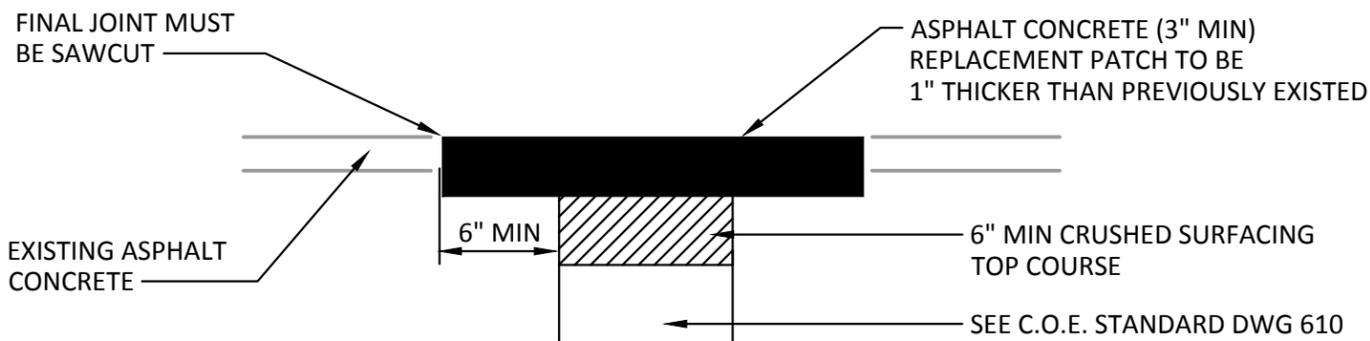
1. DIMENSIONS OF CASTING BASE & CAP PER WSDOT/APWA STANDARD PLAN H-6.
2. GROOVE FOR 1/4" HIGH CAST LETTERING ON CAP SHALL BE 1/32 IN DEEP BY 3/64 IN WIDE.
3. GROOVE FOR 3/16" HIGH CAST LETTERING AND LINES ON CAP SHALL BE 1/32 IN DEEP BY 1/32 IN WIDE.
4. FIELD STAMPED "STATIONING" AND "YEAR" NUMBERS SHALL BE OF SUFFICIENT DEPTH AND WIDTH SO AS TO BE CLEARLY READABLE AND SHALL BE A MIN. OF 3/16 IN. HIGH.
5. THIS BRASS DISC SHALL ONLY BE USED FOR CONTROL MONUMENTATION PER STD DWG 314 AND AS DIRECTED BY THE CITY SURVEYOR. BRASS DISC AND STATION NO SHALL BE SUPPLIED BY CITY SURVEYOR.

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	TOM HOOD	PAUL WILHELM	WRB	12/30/2016
TITLE					STANDARD DRAWING No.	
Survey Control Monuments					325	

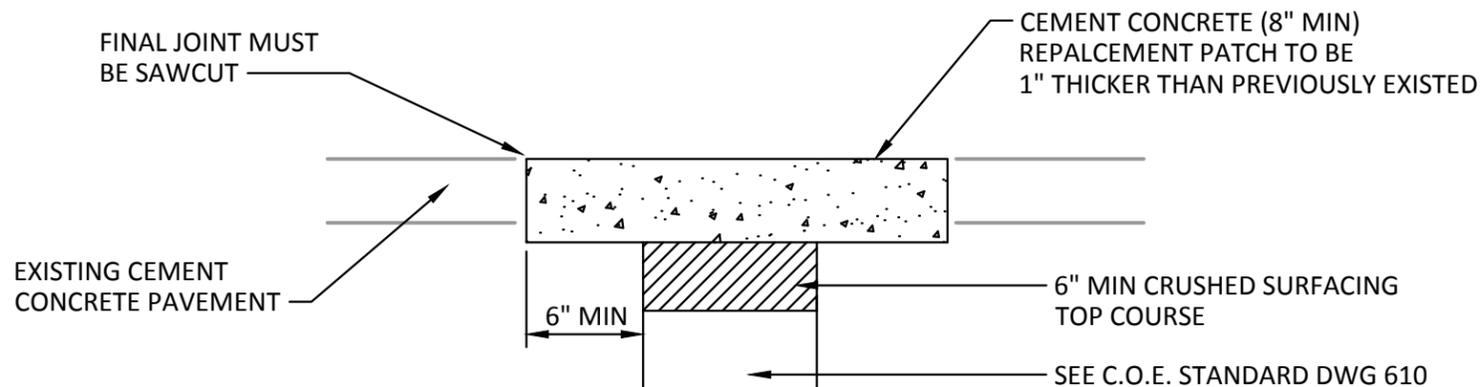
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**EXISTING ASPHALT CONCRETE OVER CEMENT CONCRETE**



**EXISTING ASPHALT CONCRETE OVER PREPARED GRADE**



**EXISTING CEMENT CONCRETE OVER PREPARED GRADE**

**NOTES**

1. ALL TRENCHES IN ROADWAY AREAS SHALL BE BACKFILLED AND PATCHED WITH TEMPORARY ASPHALT AT THE END OF EACH WORK DAY, UNLESS PERMISSION IS GRANTED TO DO OTHERWISE BY THE CITY ENGINEER.
2. ALL TEMPORARY PATCHES ON TRENCHES SHALL BE PERMANENTLY PATCHED WITHIN 2 WEEKS OF COMPLETION OF WORK WITHIN ROADWAY AREA.
3. CEMENT CONCRETE FOR PATCHING SHALL BE COMMERCIAL MIX AS CALLED OUT IN WSDOT STD SPECS.

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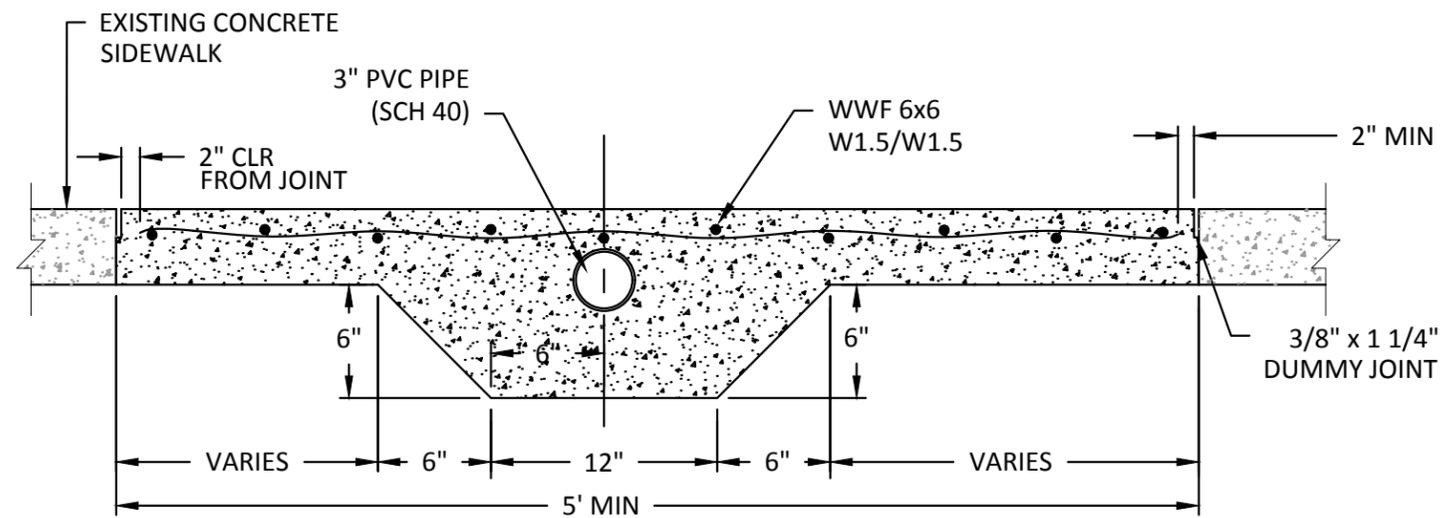
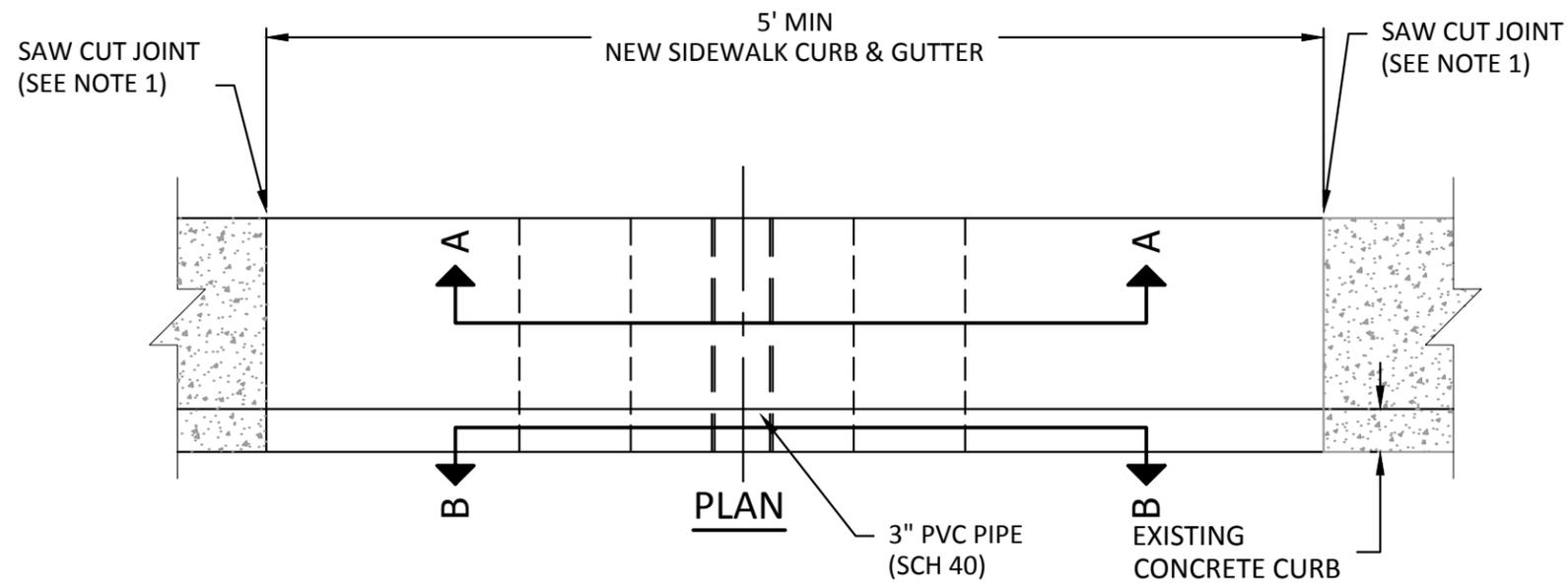


City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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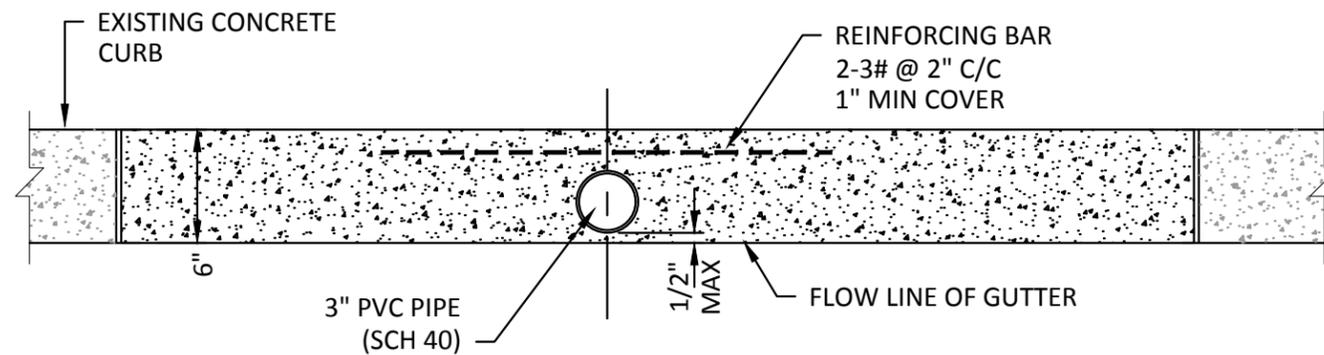
TITLE STANDARD DRAWING No.

PAVEMENT PATCHING DETAILS 326

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**SIDEWALK SECTION A-A**



**CURB SECTION B-B**

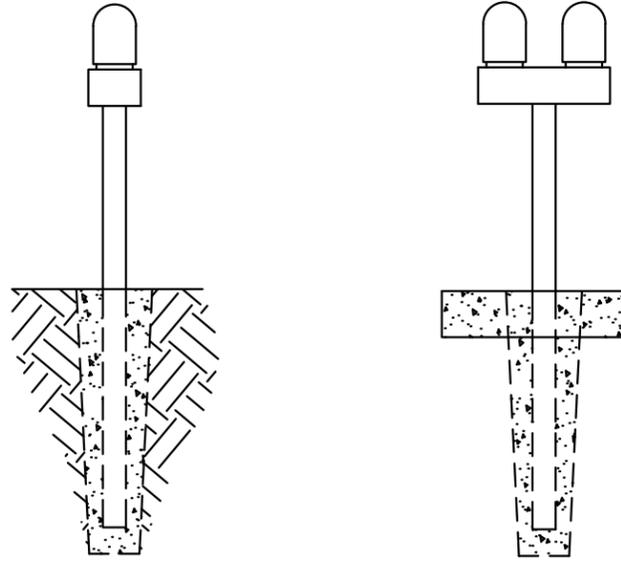
**NOTES**

1. SIDEWALK AND CURBING MUST BE SAW-CUT AT A DUMMY JOINT OR FULL EXPANSION JOINT.
2. FULL DEPTH OF CURB AND GUTTER MUST BE REMOVED AND REPLACED.
3. ALL NEW CURB, GUTTER AND SIDEWALK SHALL BE CLASS 3000 CEMENT CONCRETE.

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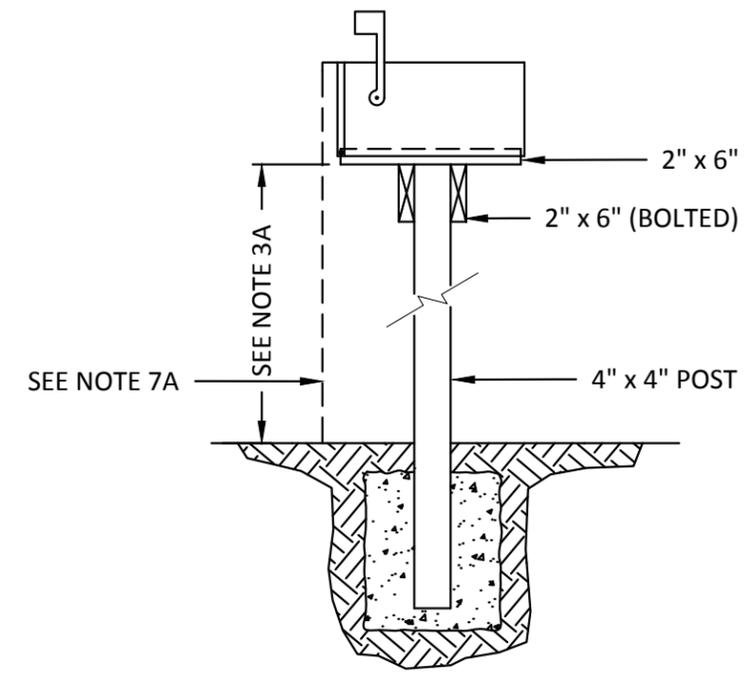
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date <b>12/30/2016</b>
RESIDENTIAL SIDEWALK DRAIN			STANDARD DRAWING No. <b>327</b>



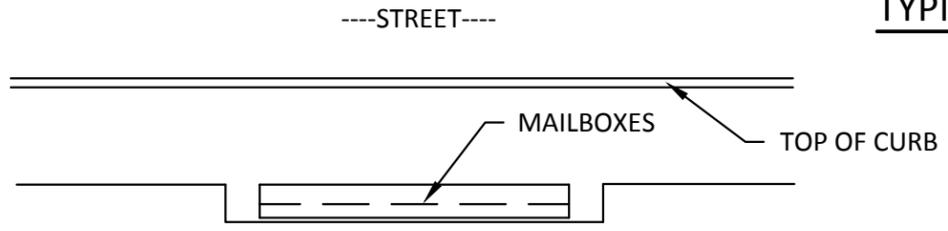
SINGLE

DOUBLE

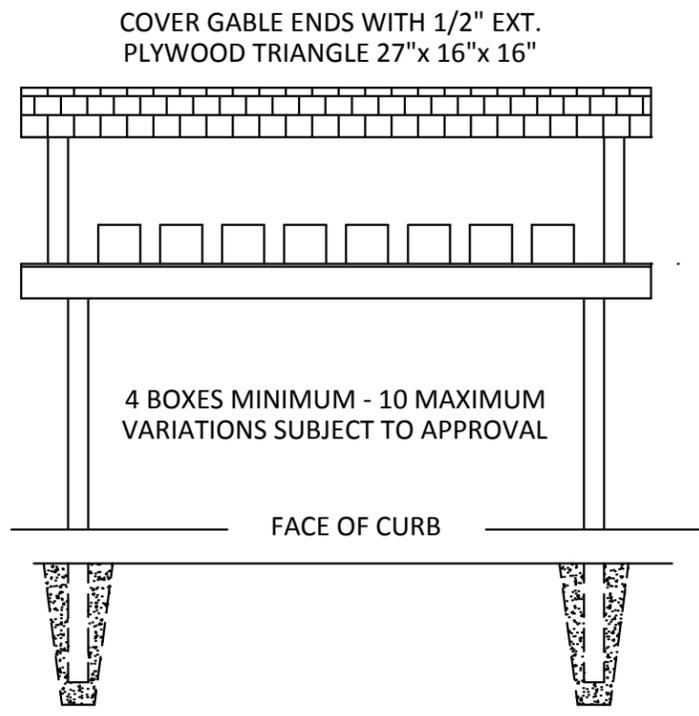
TYPICAL CONFIGURATIONS



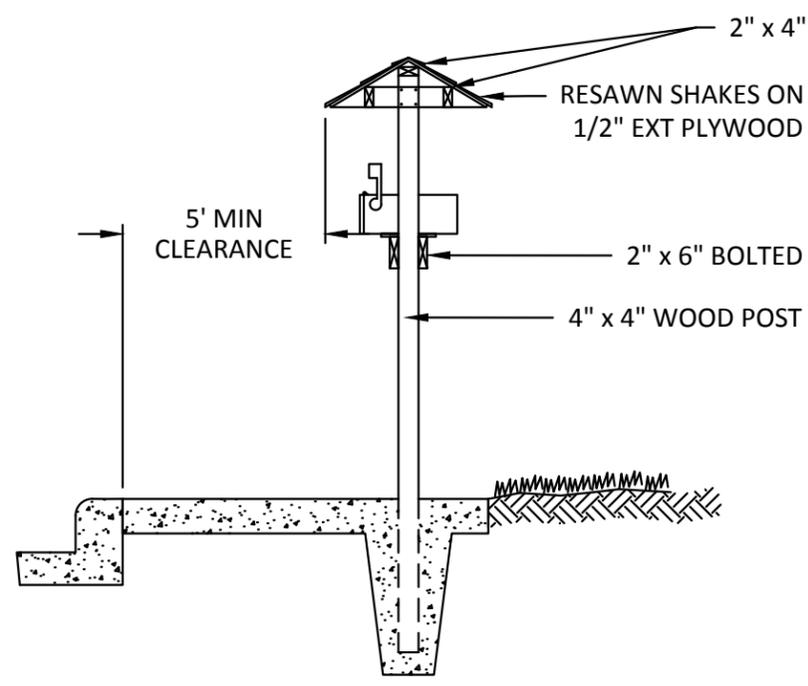
TYPICAL SECTION



PLAN



ELEVATION FROM STREET



STANDARD CURB

NOTES (1 OR 2 MAILBOXES)

1. FOR 1 OR 2 MAILBOXES PER STRUCTURE USE SINGLE 4"x4" POST.
2. ALL WOOD TO BE PRESSURE TREATED FIR OR HEMLOCK.
- 3A. MAILBOX HEIGHT VARIES ACCORDING TO THE TYPE OF DELIVERY VEHICLE. WHERE MAIL DELIVERY IS ACCOMPLISHED BY MAIL TRUCKS ("MOUNTED" ROUTES) THE MAILBOX HEIGHTS SHALL BE 44". WHERE MAIL DELIVERY IS ACCOMPLISHED BY PASSENGER VEHICLE ("RURAL" ROUTES) THE MAILBOX HEIGHT SHALL BE 36" TO 38".
4. MAILBOXES MUST BE POSTMASTER APPROVED WITH A UNIFORM BOX STYLE AND METHOD OF ADDRESS IDENTIFICATION.
5. LOCATIONS OF MAILBOXES ARE SUBJECT TO APPROVAL BY THE CITY ENGINEER FOR PROTECTION OF VIEWS AND ACCESS.
6. THIS DRAWING DEPICTS A MINIMUM STRUCTURAL AND DIMENSIONAL STANDARD. INNOVATIVE DESIGNS MEETING OR EXCEEDING THIS MINIMUM STANDARD MUST BE APPROVED BY THE CITY ENGINEER.
- 7A. ALL MAILBOX STRUCTURES SHALL BE PLACED BACK OF SIDEWALK WITH NO PORTION OF THE BOX OR STRUCTURE PROTRUDING INTO THE SIDEWALK. IF NO SIDEWALK EXISTS SETBACK WILL BE SET BY THE CITY ENGINEER.

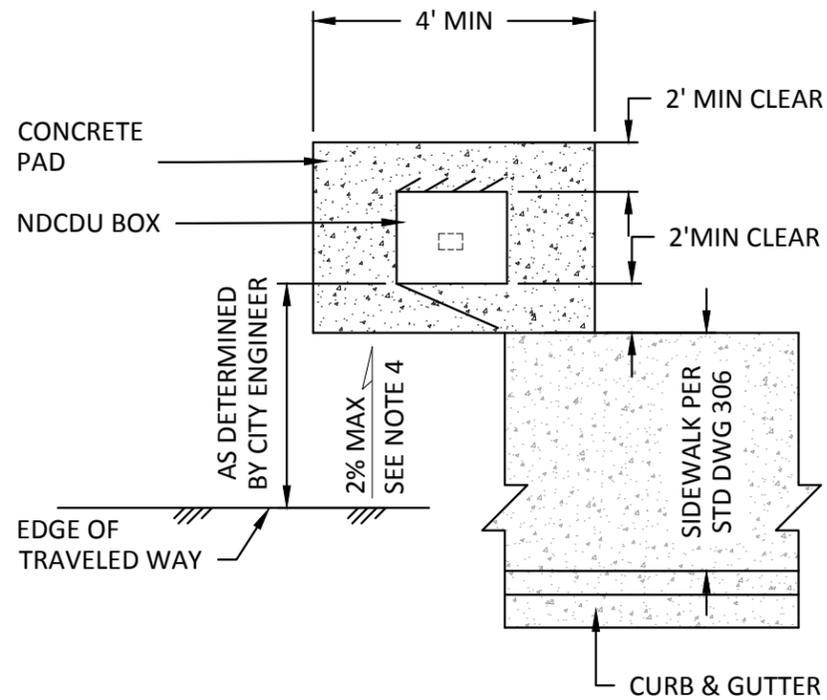
NOTES (3 OR MORE MAILBOXES)

1. MAILBOX MUST BE TYPE "APPROVED BY THE POSTMASTER GENERAL" WITH A UNIFORM BOX STYLE AND METHOD OF ADDRESS IDENTIFICATION PER EACH STANDARD.
2. LOCATION IS SUBJECT TO APPROVAL BY THE CITY FOR PROTECTION OF VIEWS AND ACCESS AND IS TO BE SHOWN ON STREET IMPROVEMENT PLANS.
3. THE SKETCH DEPICTS A MINIMUM STRUCTURAL AND DIMENSIONAL STANDARD. INNOVATIVE DESIGNS MEETING THE MINIMUM DIMENSIONAL AND STRUCTURAL REQUIREMENTS ARE ACCEPTABLE.
4. ALL WOOD TO BE PRESSURE TREATED FIR OR HEMLOCK.

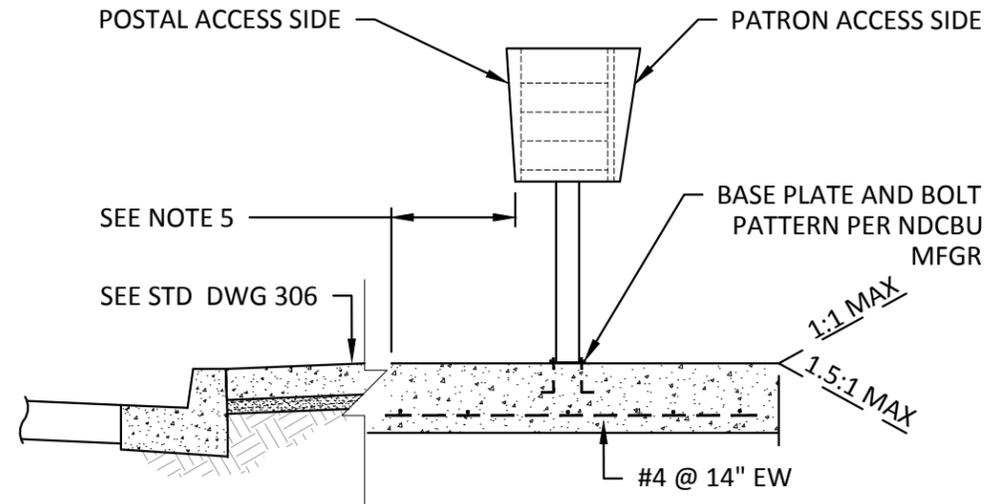
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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	TOM HOOD	PAUL WILHELM	ESH	12/30/2016
TITLE						STANDARD DRAWING No.
<b>MAILBOX STRUCTURE INSTALLATION</b>						<b>328</b>

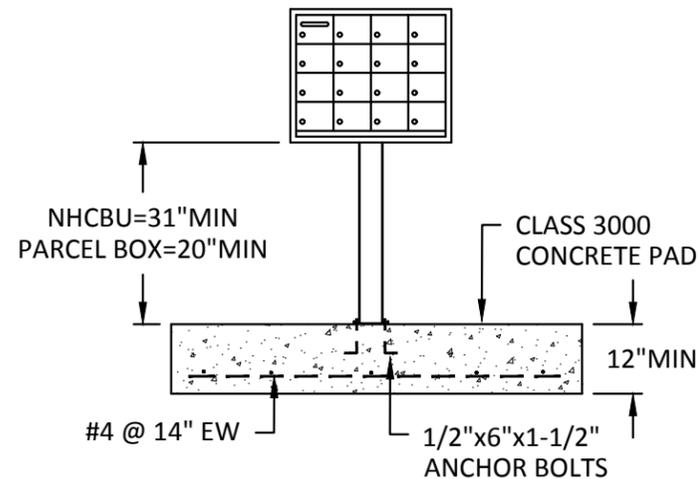
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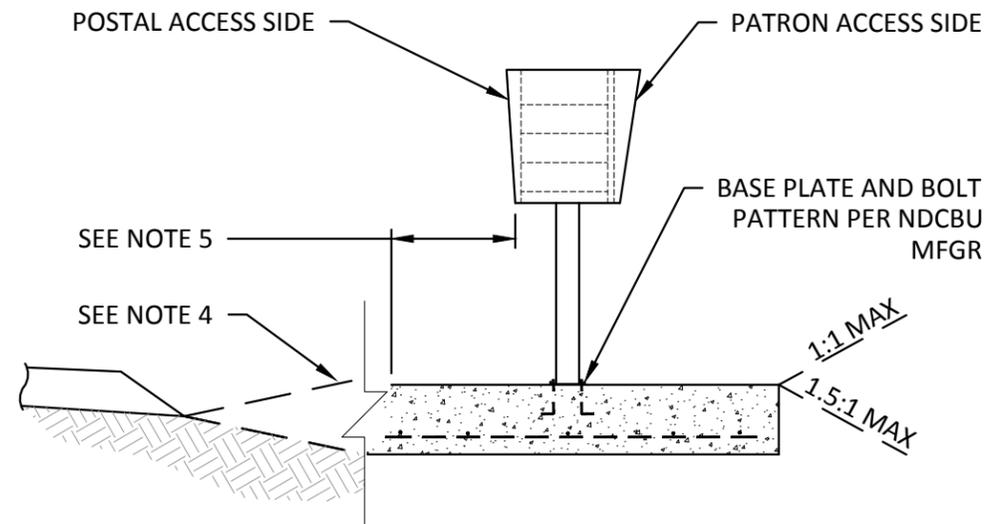
**SETBACK PLAN**



**SIDE ELEVATION WITH SIDEWALK**



**FRONT ELEVATION**



**SIDE ELEVATION WITH OUT SIDEWALK**

**NOTES**

1. THIS DRAWING DEPICTS A MINIMUM STRUCTURAL AND DIMENSIONAL STANDARD FOR NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (NDCBU) AND PADS FOR SPECIFIC POSTAL REQUIREMENTS CONTACT THE POSTMASTER.
2. MAILBOXES MUST BE POSTMASTER APPROVED WITH A UNIFORM BOX STYLE AND METHOD OF ADDRESS IDENTIFICATION.
3. LOCATIONS OF MAILBOXES ARE SUBJECT TO APPROVAL BY THE CITY ENGINEER FOR PROTECTION OF VIEWS AND ACCESS.
4. INSTALLATION OF DRAINAGE CULVERT MAY BE NECESSARY IN AREAS WHERE THERE IS NO CONCRETE SIDEWALK AND THE REQUIRED SETBACK SPANS A ROADSIDE DITCH. ACCESS TO SUCH STRUCTURES WILL HAVE A MAX. SLOPE OF 2%. AND SHALL HAVE A PAD CONSISTING OF A MINIMUM OF 2" OF CRUSHED SURFACING TOP COURSE COMPACTED TO 95% MAXIMUM DENSITY.
5. ALL MAILBOX STRUCTURES SHALL BE PLACED BACK OF SIDEWALK WITH NO PORTION OF BOX OR STRUCTURE PROTRUDING INTO THE SIDEWALK. IF NO SIDEWALK EXISTS SETBACK WILL BE SET BY THE CITY ENGINEER.
6. SUGGESTED SOURCE SECURITY MFG CORP (800) 762-6937, 8000 SERIES PEDESTAL BOXES, SALSBURY INDUSTRIES (800) 323-3003 OR POSTAL APPROVED EQUAL.
7. PLACEMENT LOCATION OF PEDESTAL PARCEL LOCKER WILL BE APPROVED BY THE CITY ENGINEER AND THE POSTAL SERVICE.

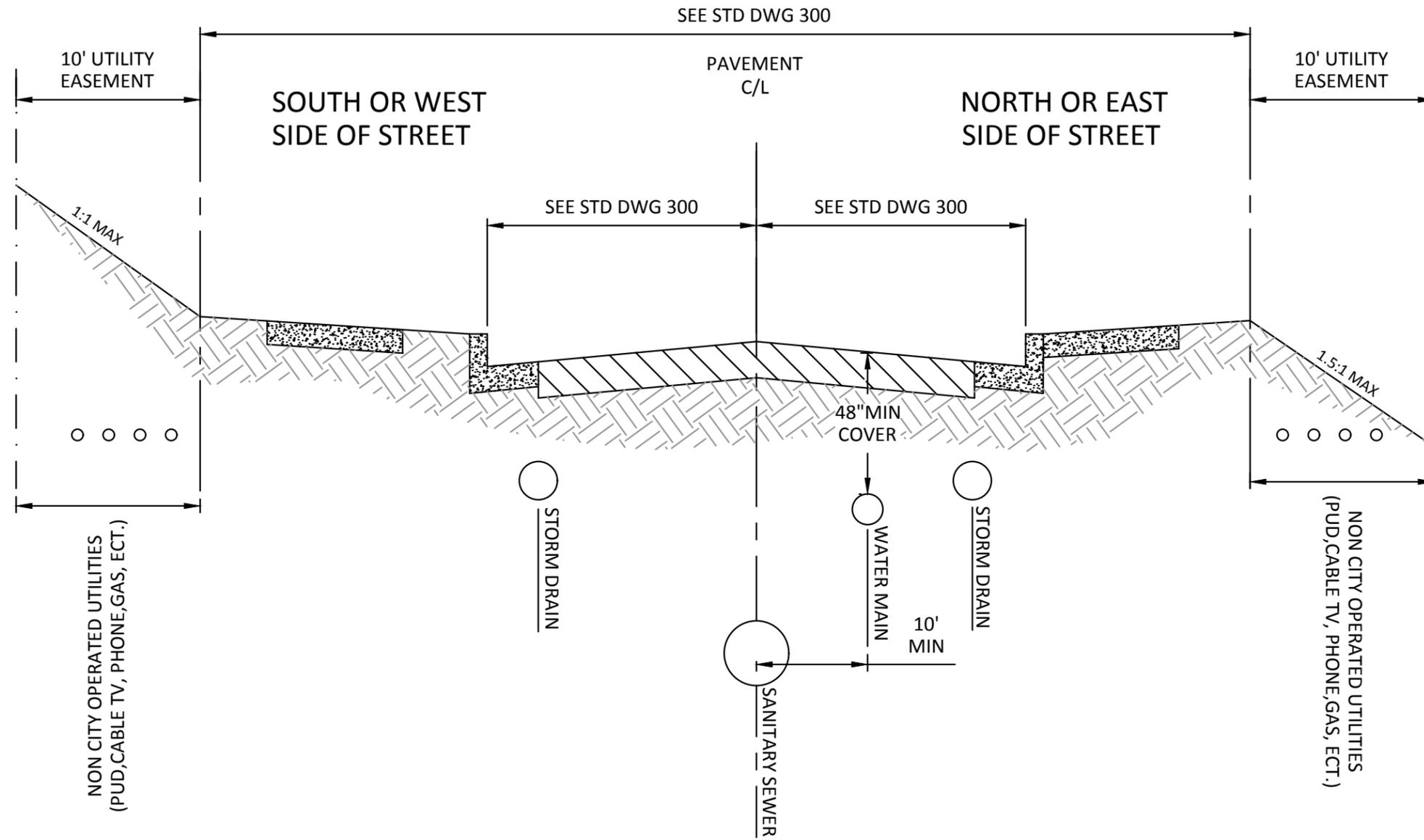
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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
TITLE <b>NDCBU MAILBOX CLUSTER</b>				STANDARD DRAWING No. <b>329</b>

**NOTES**

1. 5' MIN SEPARATION BETWEEN PUBLIC UTILITIES OR FROM PRIVATE UTILITIES.
2. MIN SEPARATION REQUIREMENTS FROM PUBLIC UTILITIES APPLY WITHIN EASEMENTS AND PRIVATE PROPERTY.

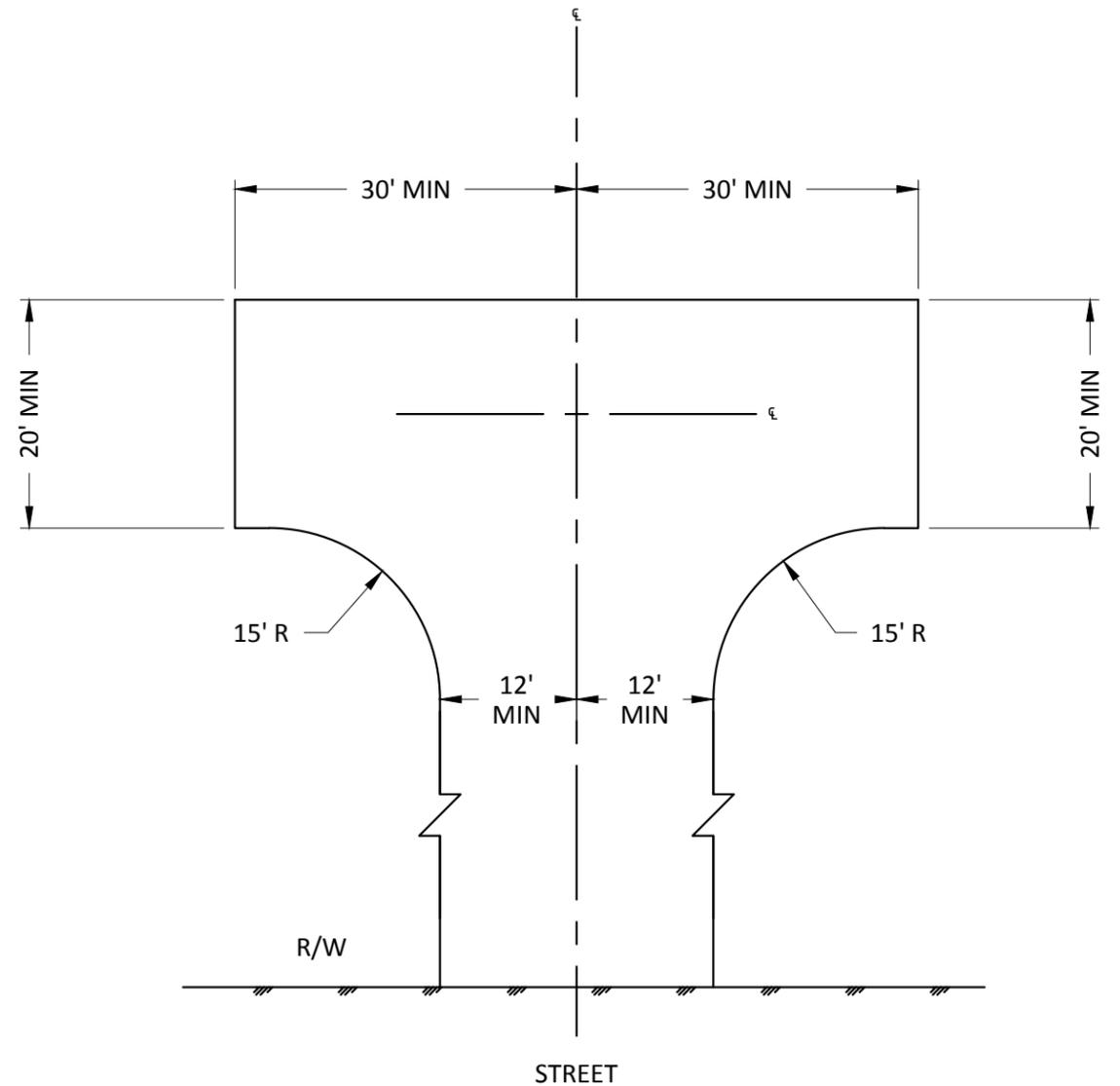
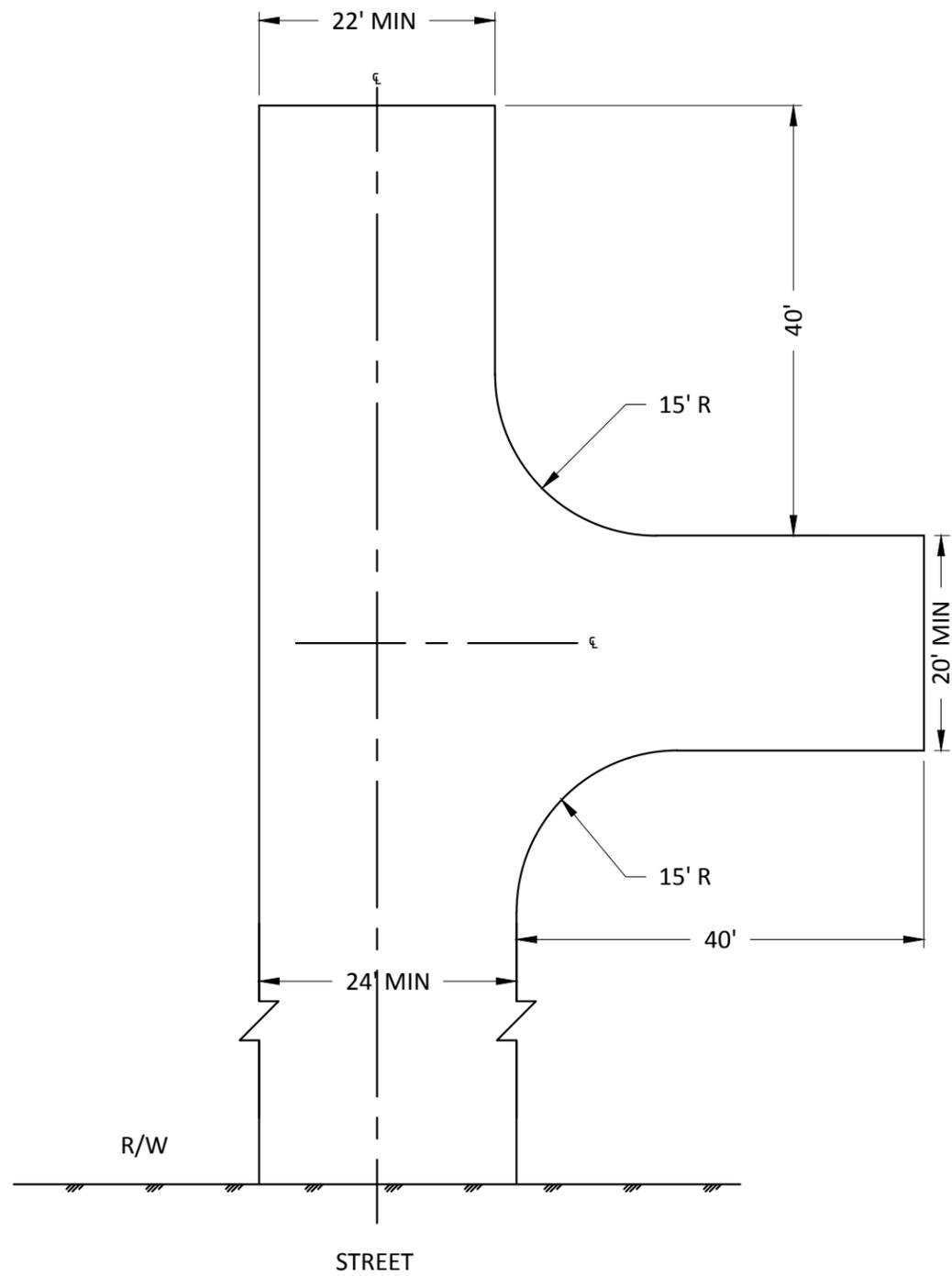


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		<p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date 12/30/2016
TYPICAL UTILITY LOCATIONS			STANDARD DRAWING No. 330

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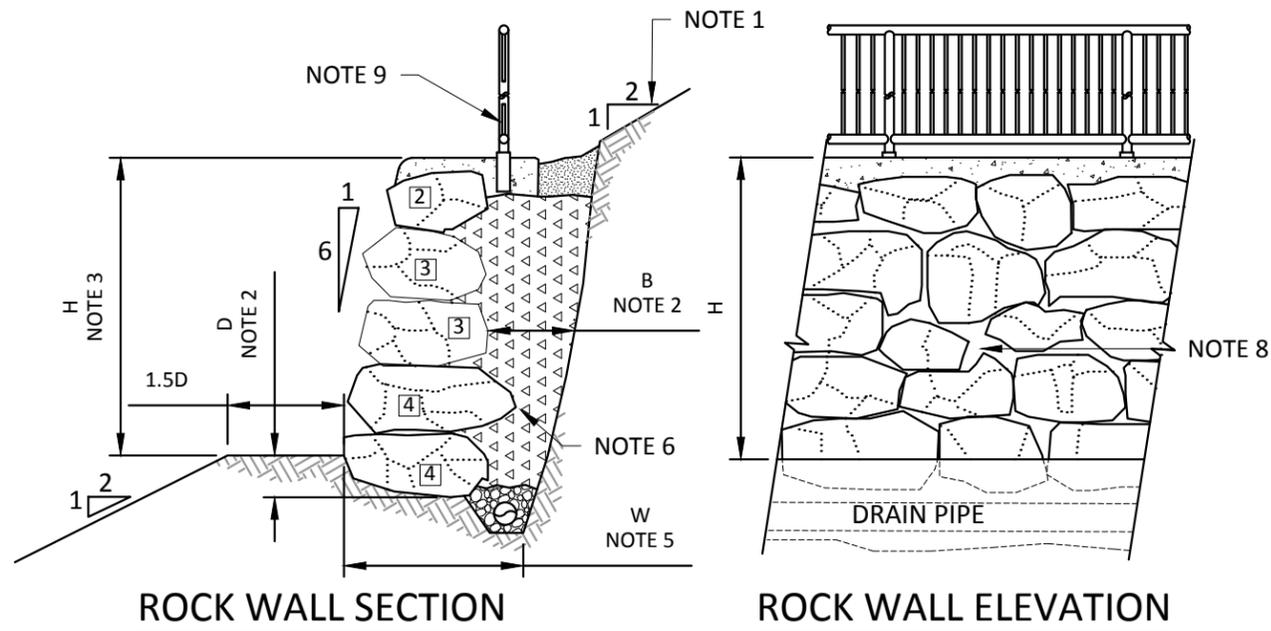


City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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TITLE STANDARD DRAWING No.

TEMPORARY TURNAROUNDS	331
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**DRAFT**



### LEGEND

- DRAINAGE MATERIALS TO CONSIST OF CLEAN 4"-2" ANGULAR SPALLS.
- GRADING #57 AGGREGATE PER SECTION 9.03.1(4)C OF WSDOT/APWA STANDARD SPECIFICATION
- CONCRETE ROCKERY CAP. REQUIRED IN R.O.W., OPTIONAL ON PRIVATE PROPERTY.
- UNDISTURBED FIRM NATIVE SOIL
- SEED OR SOD ON 12" OF TOPSOIL WITH UNDERLAYER OF FILTER FABRIC.
- 4 INCH DIAMETER, HDPE OR SDR35 PVC, PERFORATED OR SLOTTED, WITH SMOOTH INTERIOR PIPE. SET SLIGHTLY LOWER THAN THE BASE ROCK TO PREVENT DAMAGE. LAY WITH A POSITIVE SLOPE TO DISCHARGE AWAY FROM ROCKERY.
- DESIGNATES SIZE OF ROCK, I.E. 4 MAN. SEE NOTE 11.

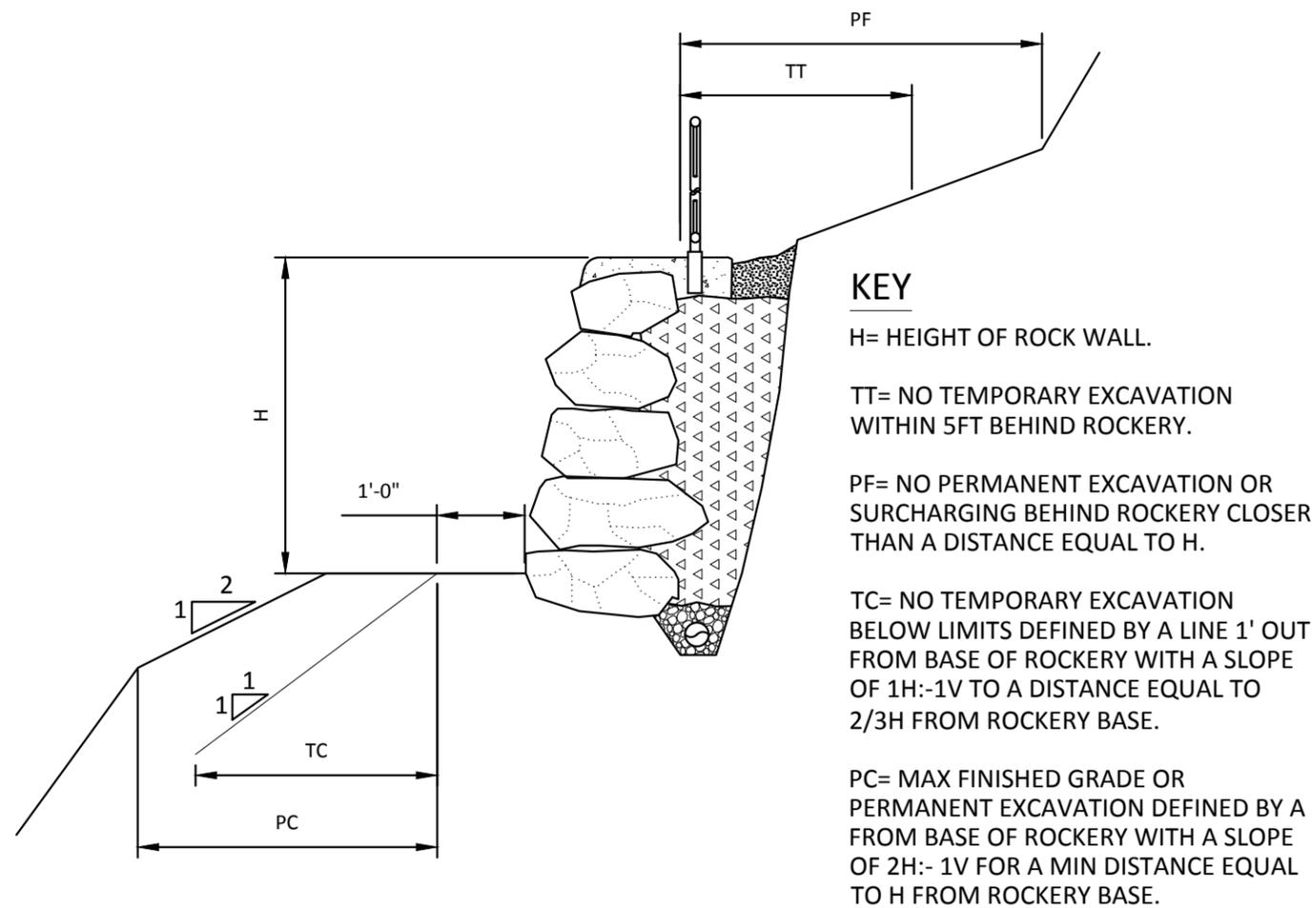
### NOTES

1. MAXIMUM INCLINATION OF THE SLOPES ABOVE AND BEHIND ROCK WALL SHALL BE 2:1 (HORIZONTAL:VERTICAL)
2. MINIMUM THICKNESS OF ROCK FILTER LAYER B=12 INCHES. MINIMUM EMBEDMENT D=12 INCHES.
3. MAXIMUM ROCK WALL HEIGHT H=8 FEET. ROCK WALLS GREATER THAN 8 FEET IN HEIGHT SHALL BE DESIGNED BY A CIVIL ENGINEER LICENSED IN THE STATE OF WASHINGTON.
4. ROCK SHALL BE PLACED TO GRADUALLY DECREASE IN SIZE WITH INCREASING WALL HEIGHT.
5. MINIMUM WIDTH OF KEYWAY EXCAVATION W, SHALL BE EQUAL TO THE THICKNESS OF THE BASE ROCK PLUS B (ROCK FILTER)
6. THE LONG DIMENSION OF THE ROCKS SHALL EXTEND BACK TOWARDS THE CUT OR FILL FACE TO PROVIDE MAXIMUM STABILITY.
7. WHENEVER POSSIBLE EACH ROCK SHALL BEAR ON TWO OR MORE ROCKS BELOW IT, WITH GOOD FLAT-TO-FLAT CONTACT.
8. WHERE VOIDS OF GREATER THAN 6 INCHES IN DIMENSIONS EXIST IN THE ROCK FACE AND THERE IS NO ROCK CONTACT WITHIN THE ROCK WALL THICKNESS, THE VOID SHALL BE CHINKED WITH SMALL PIECES OF ROCK.
9. ROCKERIES WHICH ARE MORE THAN 30 INCHES ABOVE GRADE OR FLOOR BELOW SHALL BE PROTECTED BY GUARDRAIL SUCH AS A ORNAMENTAL OR PEDESTRIAN RAIL. TYPE TO BE DETERMINED BY THE CITY ENGINEER, SEE DWGS 325 & 326
10. FOR DESIGN LOCATION AND UNDERGROUND UTILITY LIMITATIONS REFER TO STD DWG 324B.
11. THE DENSITY OF ROCK MATERIAL SHALL BE A MINIMUM OF 155 PCF. THE SIZE CATEGORIES FOR ROCK SHALL BE AS FOLLOWS:

SIZE	APPROXIMATE WEIGHT - LBS	APPROXIMATE DIAMETER-INCHES
1 MAN	50-200	12-18
2 MAN	200-700	18-28
3 MAN	700-2000	28-36
4 MAN	2000-4000	36-48
5 MAN	4000-6000	48-54
6 MAN	6000-8000	54-60

### PLACEMENT NOTES

1. ALL NEW ROCKERY DESIGN AND PLACEMENT WILL FOLLOW TO CONSTRUCTION LIMITATIONS DESCRIBE ABOVE, AND FOLLOW THE GUIDELINES ESTABLISHED BY THE ASSOCIATED ROCKERY CONTRACTORS "STANDARD ROCK WALL CONSTRUCTION GUIDELINES" DATED 12/2/92 INCLUDING ANY AND ALL REVISIONS.
2. MODIFICATIONS TO OR PLACEMENT OF SUBSEQUENT UNDERGROUND UTILITIES WILL ALSO FOLLOW LIMITATIONS DESCRIBED ABOVE.



### KEY

- H= HEIGHT OF ROCK WALL.
- TT= NO TEMPORARY EXCAVATION WITHIN 5FT BEHIND ROCKERY.
- PF= NO PERMANENT EXCAVATION OR SURCHARGING BEHIND ROCKERY CLOSER THAN A DISTANCE EQUAL TO H.
- TC= NO TEMPORARY EXCAVATION BELOW LIMITS DEFINED BY A LINE 1' OUT FROM BASE OF ROCKERY WITH A SLOPE OF 1H:-1V TO A DISTANCE EQUAL TO 2/3H FROM ROCKERY BASE.
- PC= MAX FINISHED GRADE OR PERMANENT EXCAVATION DEFINED BY A FROM BASE OF ROCKERY WITH A SLOPE OF 2H:- 1V FOR A MIN DISTANCE EQUAL TO H FROM ROCKERY BASE.

### DESIGN AND POST CONSTRUCTION LIMITATIONS

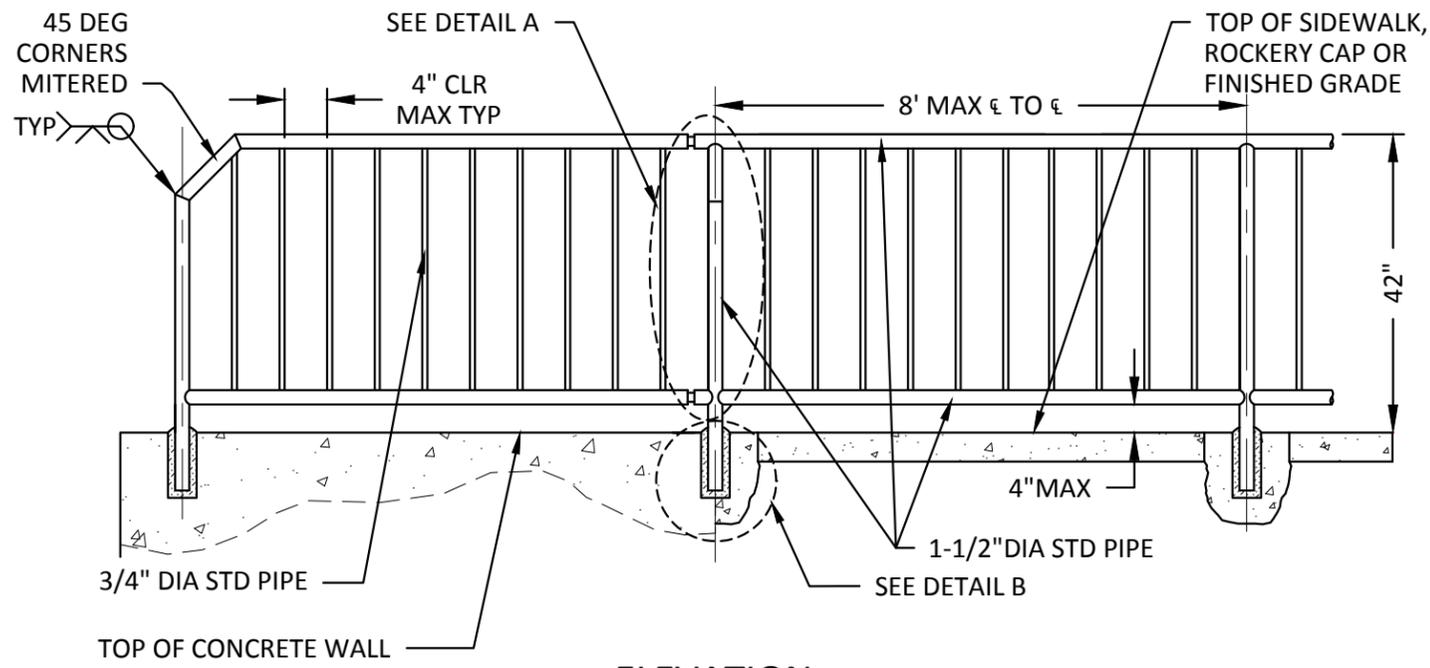
**DRAFT**



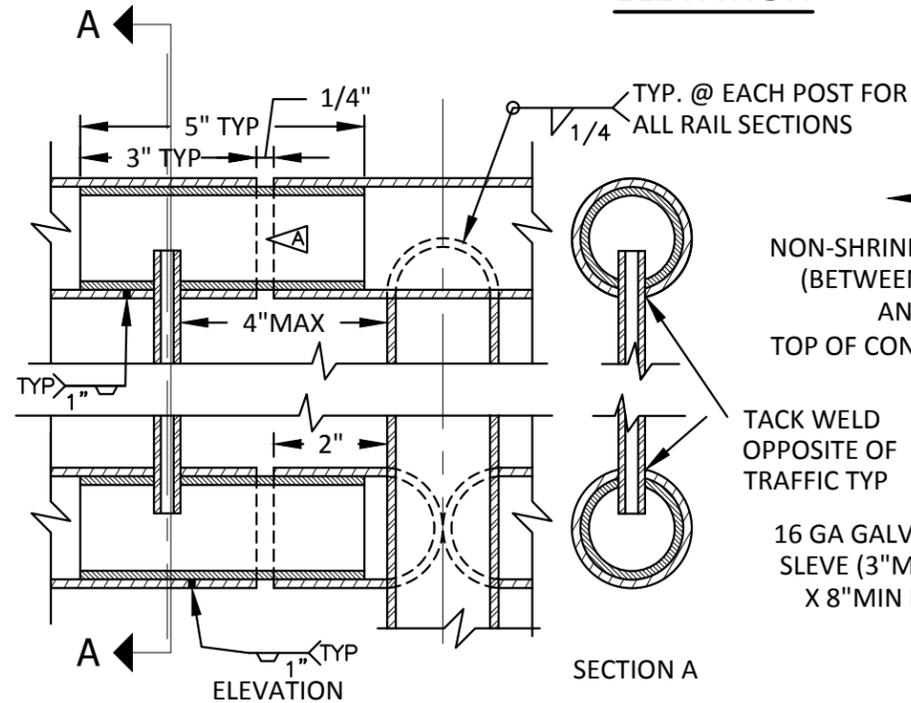
## CITY OF EVERETT

### EVERETT PUBLIC WORKS DEPARTMENT

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>ROCKERY</b> DESIGN, CONSTRUCTION REQUIREMENTS, PLACEMENT & POST CONSTRUCTION LIMITS			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>332</b>

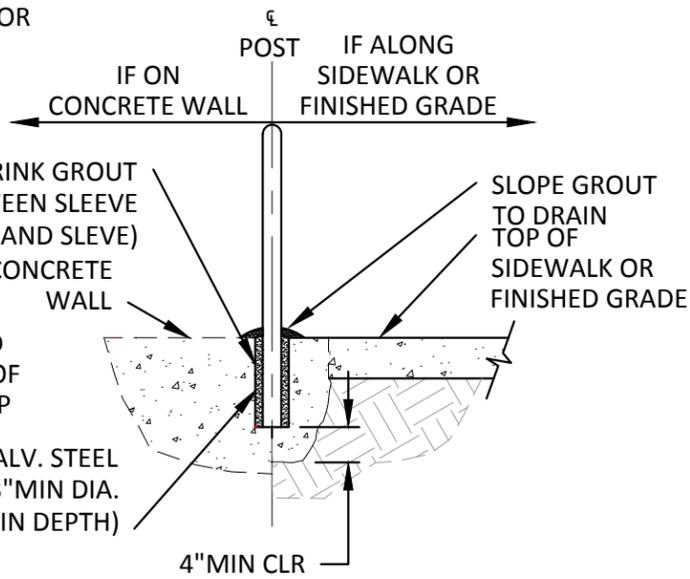


**ELEVATION**



**SLIP JOINT & RAIL CONNECTIONS TO POSTS**

**DETAIL A**



**POST MOUNTING**

**DETAIL B**

**NOTES**

1. MATERIAL FOR PEDESTRIAN HANDRAIL SHALL BE ALUMINUM (ASTM B-429) OR GALVANIZED STEEL (ASTM 120) AS APPROVED BY THE CITY ENGINEER.
2. SEE SHEET 2 OF 2 THIS DRAWING FOR ADDITIONAL FABRICATION AND SPECIFICATION REQUIREMENTS.
3. PROVIDE SLIP JOINTS AT STAIRWAY EXPANSION JOINTS AND AT EVERY 24 FEET ON CENTER MAXIMUM.

**ALUMINUM PEDESTRIAN RAIL NOTES**

1. ALUMINUM PEDESTRIAN RAIL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND THIS DRAWING.
2. ALUMINUM PEDESTRIAN RAIL SHALL BE NATURAL ALUMINUM COLOR.
3. COMPLETED ALUMINUM RAILING UNITS SHALL BE ANODIZED AFTER FABRICATION CONFORMING TO THE REQUIREMENTS OF THE ALUMINUM ASSOCIATION STANDARD FOR ANODIZED ARCHITECTURAL ALUMINUM, CLASS I ANODIC COATING, AA-C22-A41.
4. WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR ALUMINUM STRUCTURES" OF THE ALUMINUM ASSOCIATION. ALL EXPOSED WELDS SHALL BE GROUND FLUSH WITH ADJACENT SURFACES.
5. THE BASE METAL FOR ALUMINUM RAILING SHALL BE ASA ALLOY DESIGNATION 6063-T6. PIPE AND TUBING SHALL BE EXTRUDED CONFORMING TO THE REQUIREMENTS OF ASTM B 429, PLATES AND SHEETS SHALL BE ROLLED CONFORMING TO ASTM B 209, AND RODS, BARS OR SHAPES SHALL BE EXTRUDED CONFORMING TO ASTM B 221.
6. HORIZONTAL RAILS AND VERTICAL SUPPORT POSTS SHALL BE 1 1/2 INCH DIAMETER STANDARD ALUMINUM PIPE AND BALUSTERS SHALL BE 3/4 INCH DIAMETER STANDARD ALUMINUM PIPE. RAILS, POSTS, AND BALUSTERS SHALL BE MACHINE CUT TO PROVIDE A UNIFORM LENGTH PRIOR TO ASSEMBLY.
7. RAILING SHALL BE ERECTED AND ADJUSTED, IF NECESSARY, TO ASSURE A CONTINUOUS LINE AND GRADE.

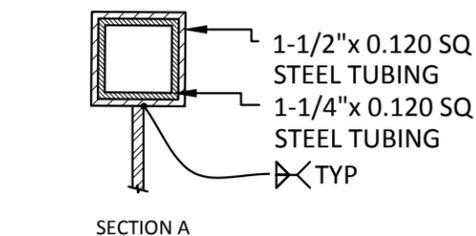
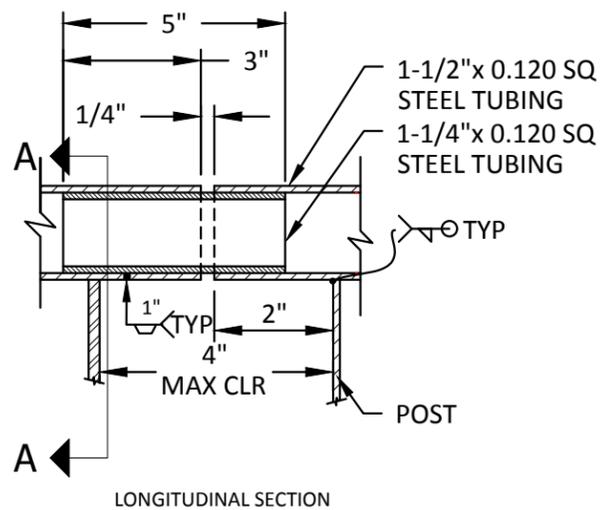
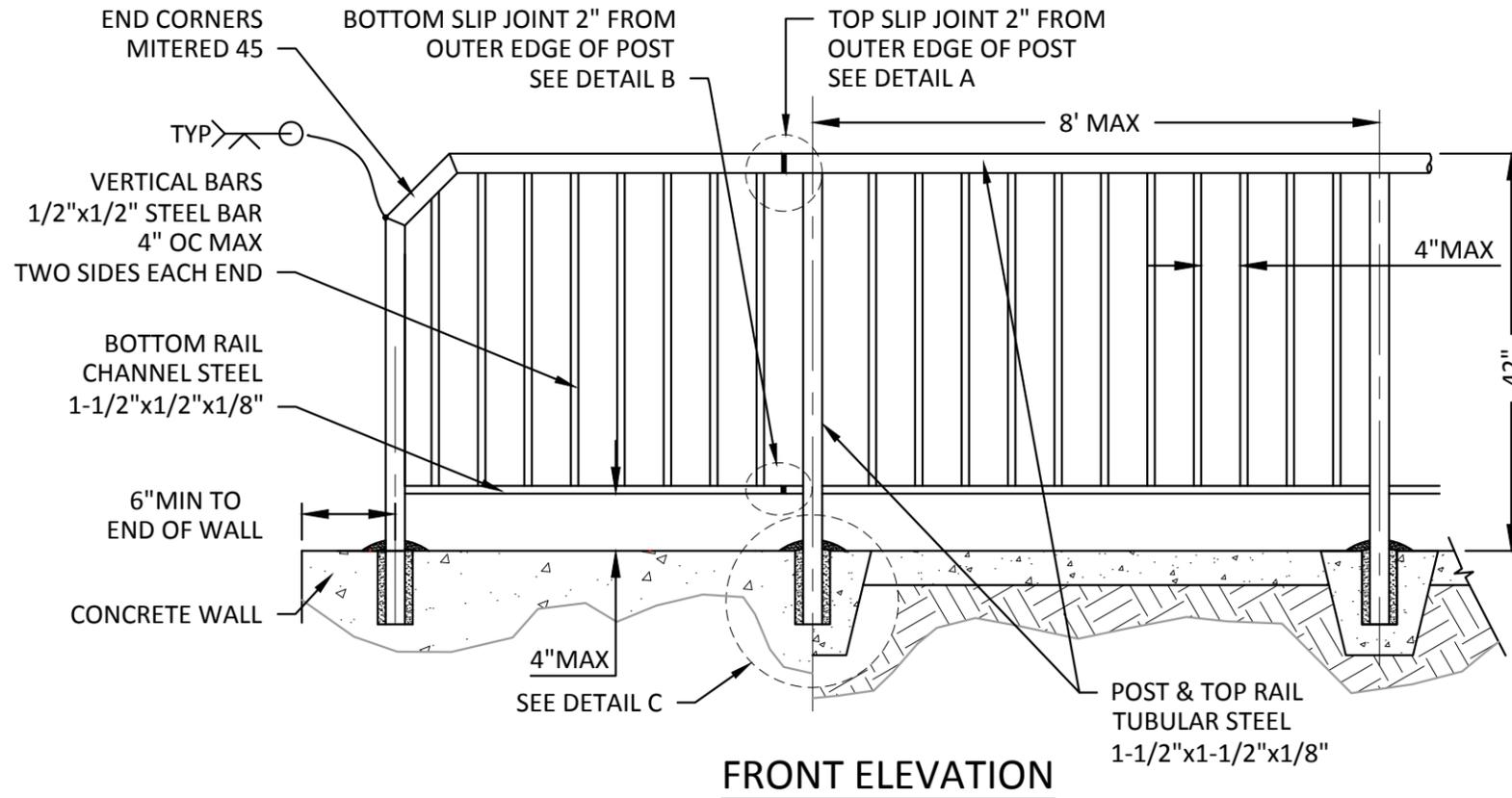
**GALVANIZED STEEL PEDESTRIAN RAIL NOTES**

1. GALVANIZED PEDESTRIAN RAIL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND THIS DRAWING.
2. STEEL RAILINGS MATERIALS SHALL BE WELDED OR SEAMLESS STEEL PIPE CONFORMING TO THE REQUIREMENTS OF ASTM A 53, STRUCTURAL STEEL CONFORMING TO ASTM A 36, OR TUBULAR SECTIONS OF HOT ROLLED MILD STEEL, CONFORMING TO ASTM A 501. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1. AFTER FABRICATION EACH SECTION OF RAILING SHALL BE HOT-DIPPED GALVANIZED WITH A MINIMUM ZINC COATING OF 2 OUNCES PER SQUARE FOOT. ALL BURRS AND SHARP EDGES SHALL BE REMOVED PRIOR TO GALVANIZING.
3. FIELD WELDS SHALL BE GALVANIZED WITH SUCH MATERIALS AS "GALVALLOY" OR "GALVICON". PAINTING OF WELDS WILL NOT BE PERMITTED.
4. HORIZONTAL RAILS AND VERTICAL SUPPORT POSTS SHALL BE BE 1 1/2 INCH DIAMETER AND BALUSTERS SHALL BE 3/4 INCH DIAMETER STANDARD WEIGHT GALVANIZED STEEL PIPE. RAILS, POSTS AND BALUSTERS SHALL BE MACHINE CUT TO PROVIDE A UNIFORM LENGTH PRIOR TO ASSEMBLY.
5. RAILING SHALL BE ERECTED AND ADJUSTED, IF NECESSARY, TO ASSURE A CONTINUOUS LINE AND GRADE.

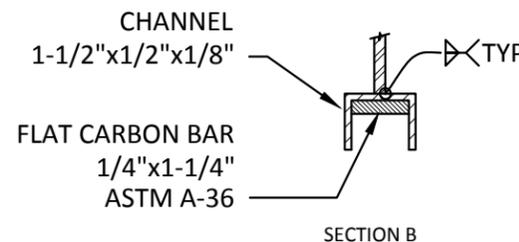
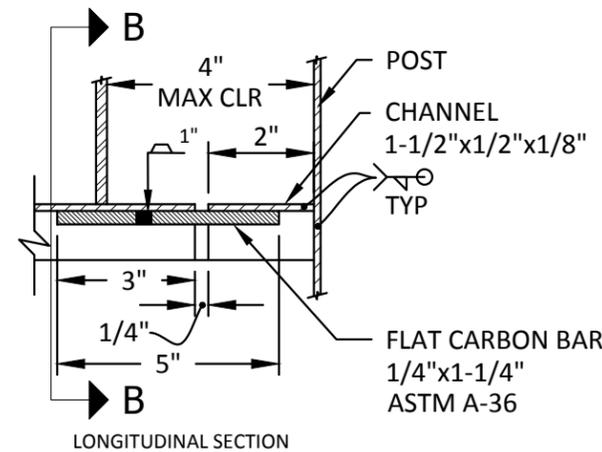
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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH
<b>PEDESTRIAN HANDRAIL</b> DESIGN, & CONSTRUCTION (ALUMINUM & GALVANIZED STEEL)			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>333</b>

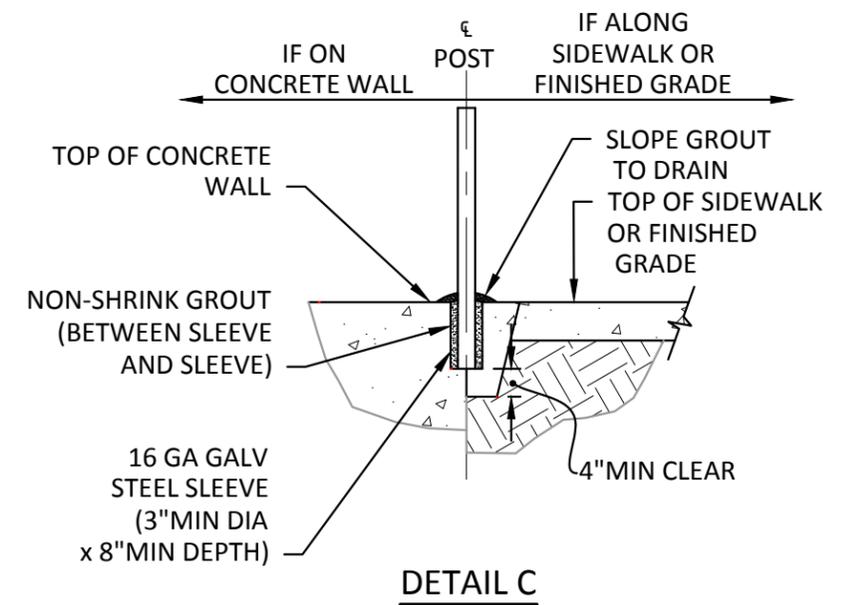
**DRAFT**



**TOP SLIP JOINT  
DETAIL A**



**BOTTOM SLIP JOINT  
DETAIL B**



**NOTES**

1. ORNAMENTAL RAILING SHALL BE CONSTRUCTED OF STEEL CONFORMING TO ASTM A-53.
2. WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE "STRUCTURAL WELDING CODE" AWS D 1.1.
3. PROVIDE SLIP JOINTS AT STAIRWAY EXPANSION JOINTS AND AT EVERY 24 FEET ON CENTER MAXIMUM.
4. MAXIMUM SPACING OF POSTS SHALL BE 8 FEET ON STRAIGHT ALIGNMENT AND 6 FEET ON CURVED ALIGNMENT LESS THAN 30 FEET RADIUS.
5. AFTER FABRICATION, ALL BURRS AND SHARP EDGES SHALL BE REMOVED.
6. APPLY RUST PROOF METAL PRIMER AND ONE COAT OF BLACK ORNAMENTAL IRON METAL PAINT.

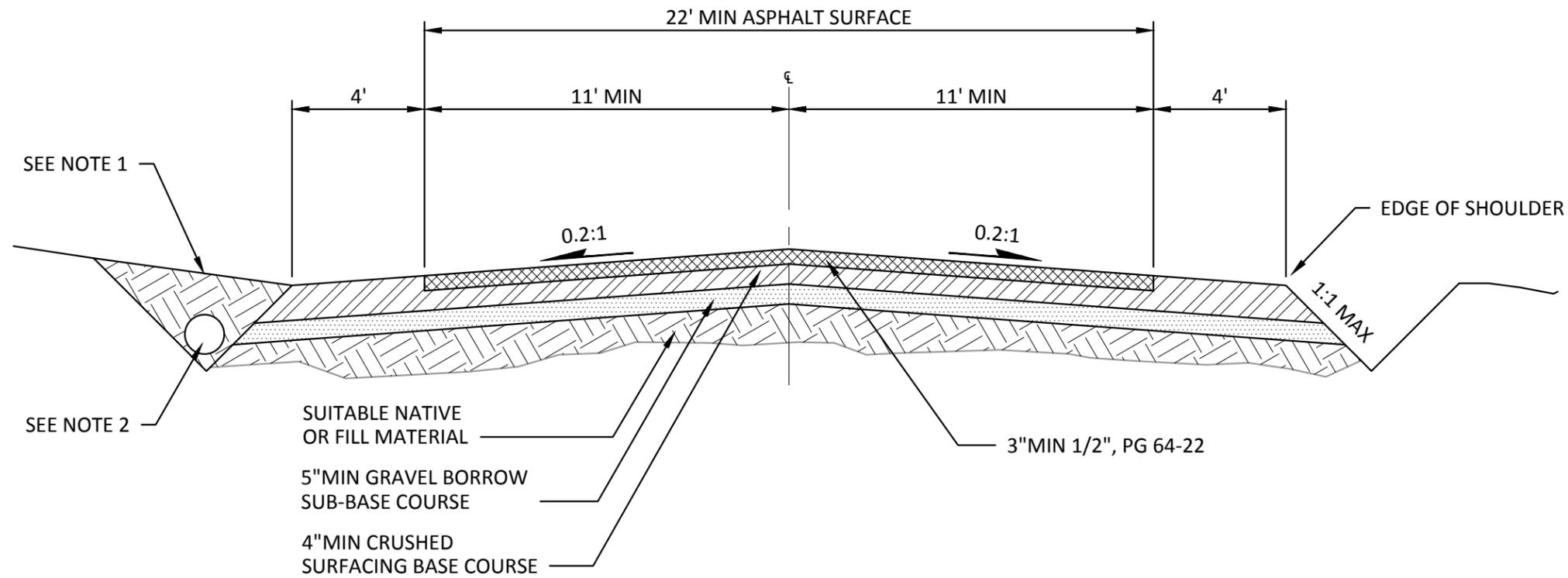
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City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
TITLE				STANDARD DRAWING No.
ORNAMENTAL HANDRAIL				334

**DRAFT**

## NOTES

1. DRIVE GRADE AT RIGHT-OF-WAY LINE SHALL CONFORM TO SECTION 3 EVERETT STANDARDS UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
2. A 12 INCH MINIMUM CORRUGATED POLYETHYLENE SMOOTH INTERIOR PIPE IS REQUIRED UNDER ALL DRIVEWAYS.
3. SUB-BASE AND TOP COURSE MATERIALS SHALL BE COMPACTED TO 95% AASHTO MAXIMUM DRY DENSITY.
4. ALL MANHOLES, CATCH BASINS, HAND HOLES AND OTHER STRUCTURES IN THE ASPHALT SURFACE SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT CITY STANDARD SPECIFICATIONS.



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12/30/2016 9:44 AM



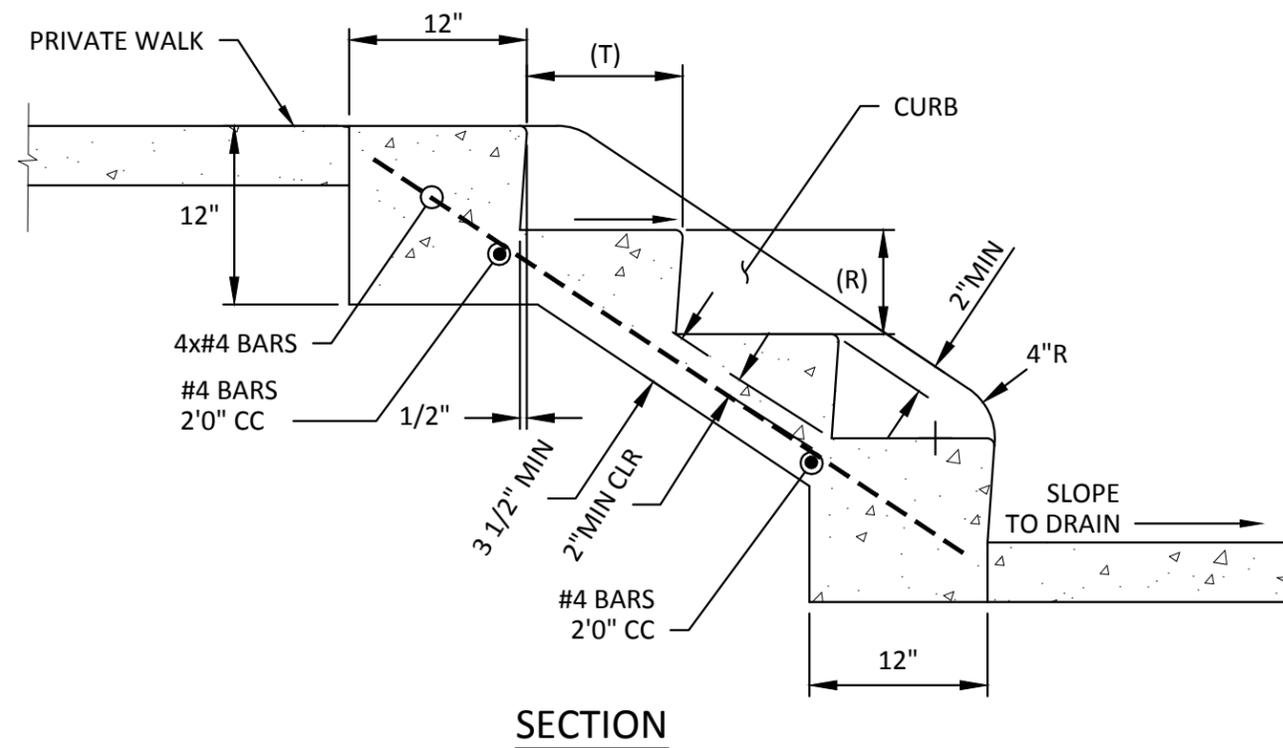
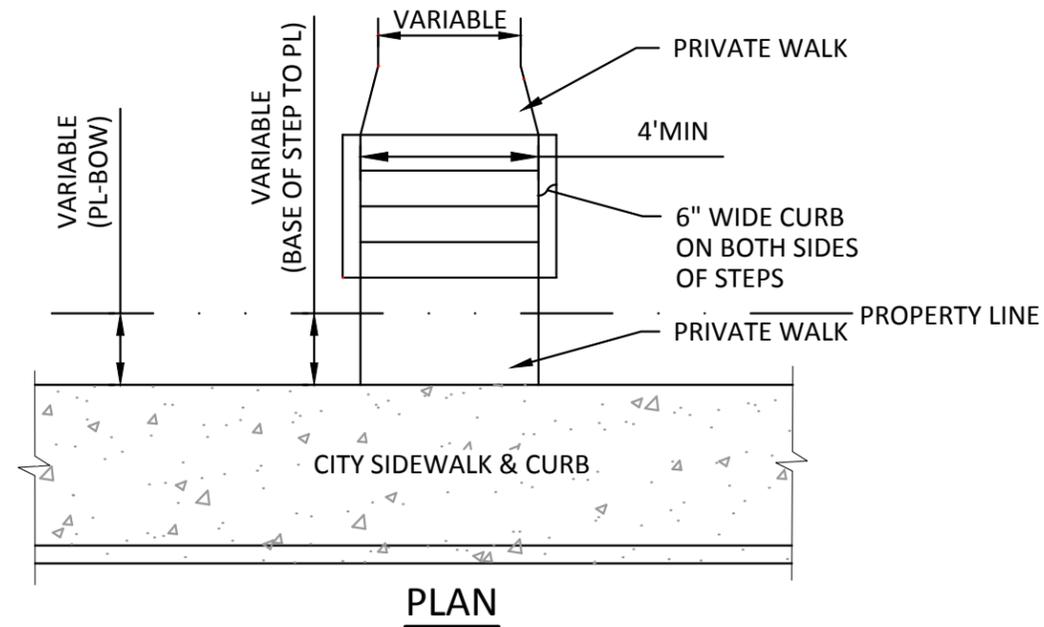
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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TITLE TYPICAL ROADWAY SECTION SPECIAL INTERIM STREET	STANDARD DRAWING No. 335
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**DRAFT**

## NOTES

1. STEPS SHALL BE 4'-0" MIN WIDE, CURB TO CURB, PLUS 6" CURBS ON EACH SIDE.
2. CEMENT CONCRETE SHALL BE CLASS 3000, TROWEL FINISHED.
3. NUMBER OF STEPS SHALL SUIT INDIVIDUAL CONDITIONS, WITH TREAD AND RISER DIMENSIONS TO SUIT THE GRADE.
4. RISERS (R) SHALL BE 5" MIN 7" MAX, TREADS (T) (2R+T SHOULD EQUAL BETWEEN 24 AND 25) SHALL BE 11" MIN 14" MAX.
5. STEPS WITH MORE THAN 4 RISERS SHALL HAVE RAILINGS (BOTH SIDES) INSTALLED PER COE STANDARD DRAWING 337.



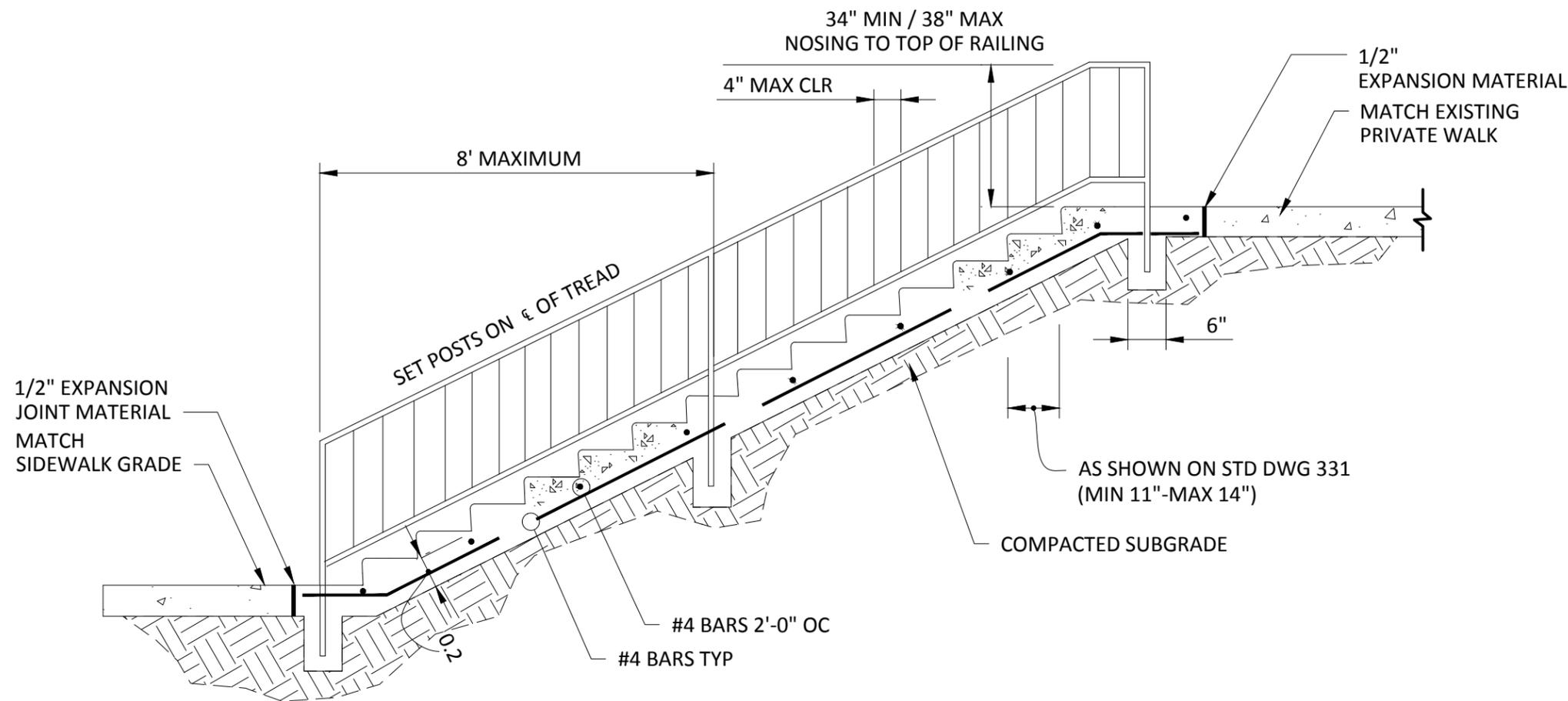
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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE CEMENT CONCRETE STEPS			Current Rev Date 12/30/2016 STANDARD DRAWING No. 336

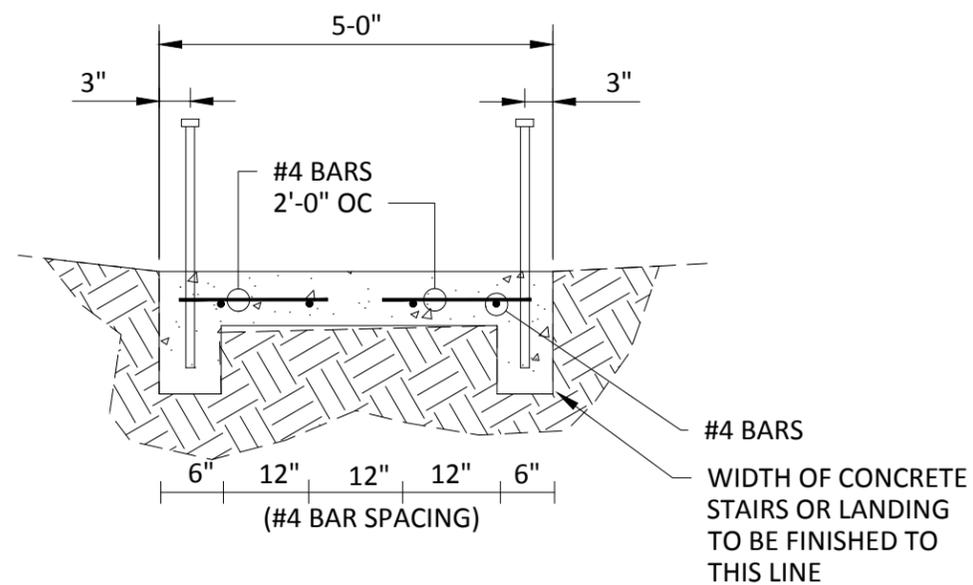
**DRAFT**

## NOTES

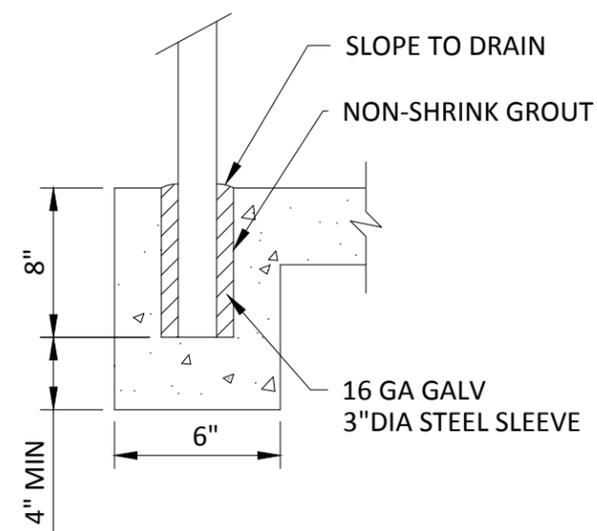
1. CEMENT CONCRETE STEPS AND CURBS SHALL BE CONSTRUCTED WITH COMMERCIAL MIX CONCRETE AS CALLED OUT IN WSDOT STD SPECS. AND AS SHOWN ON STANDARD DRAWING NO. 331.
2. HEIGHT OF RAILING SHALL BE 34" MINIMUM, 38" MAXIMUM TOP OF NOSING TO TOP OF RAILING
3. USE PEDESTRIAN OR ORNAMENTAL HANDRAIL AS DIRECTED BY THE CITY ENGINEER. SEE STANDARD DRAWING NOS. 325, 325A, AND 326.
4. CLEAR SPACE BETWEEN BALUSTERS SHALL BE A MAXIMUM OF 4".
5. STEPS WITH MORE THAN 4 RISERS SHALL HAVE HANDRAIL ON BOTH SIDES.



**ELEVATION**



**SECTION A-A**

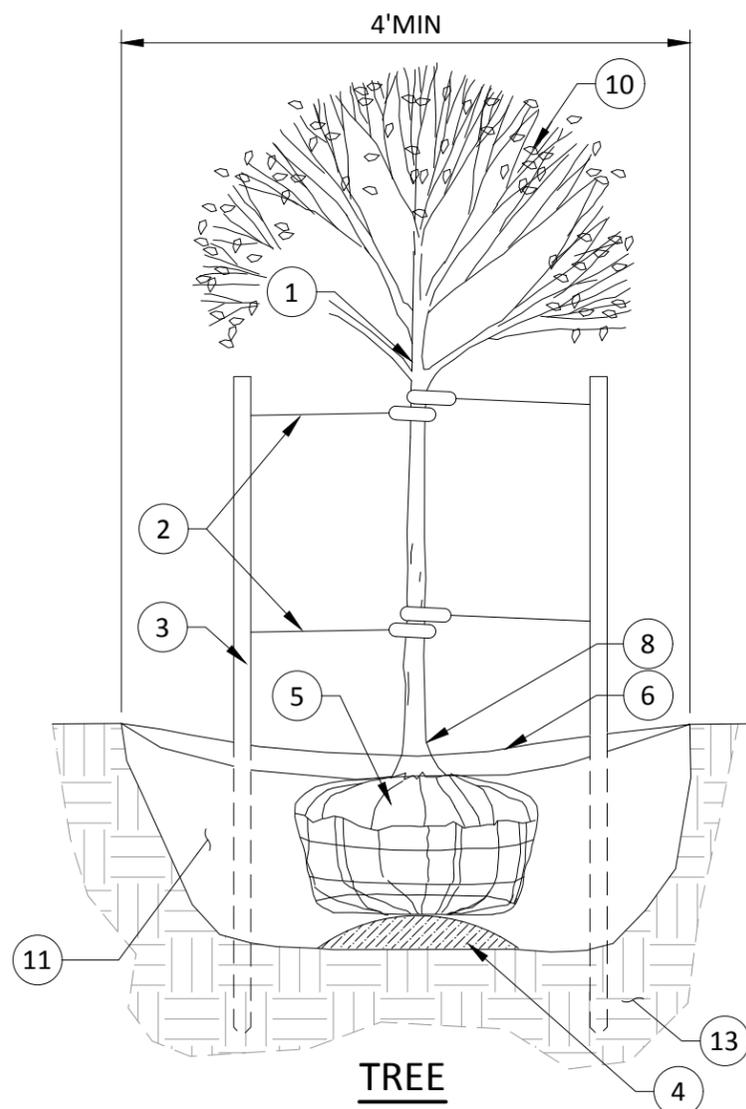
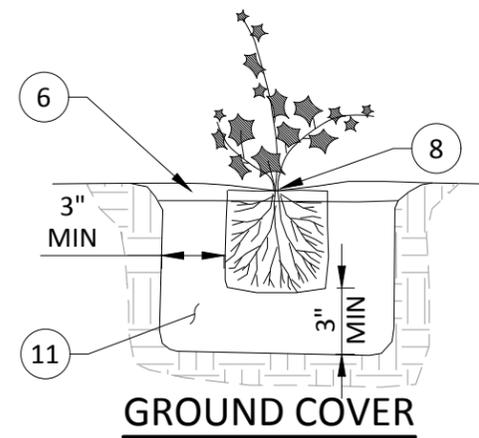
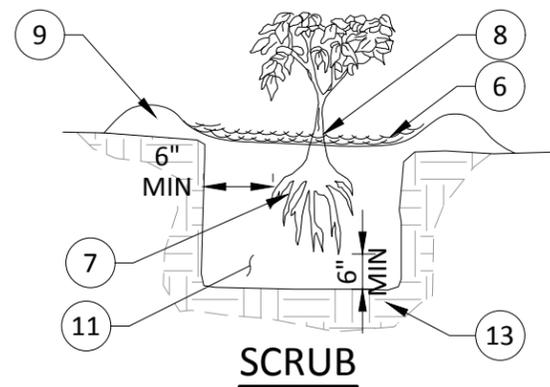
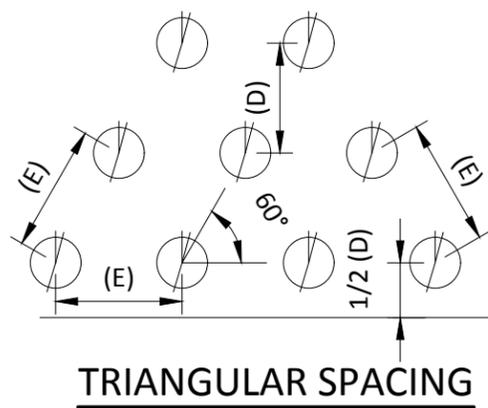


**POST DETAIL**

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 12/30/2016 9:45 AM

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
<b>CEMENT CONCRETE STAIRWAY CONSTRUCTION DETAILS</b>				STANDARD DRAWING No. <b>337</b>



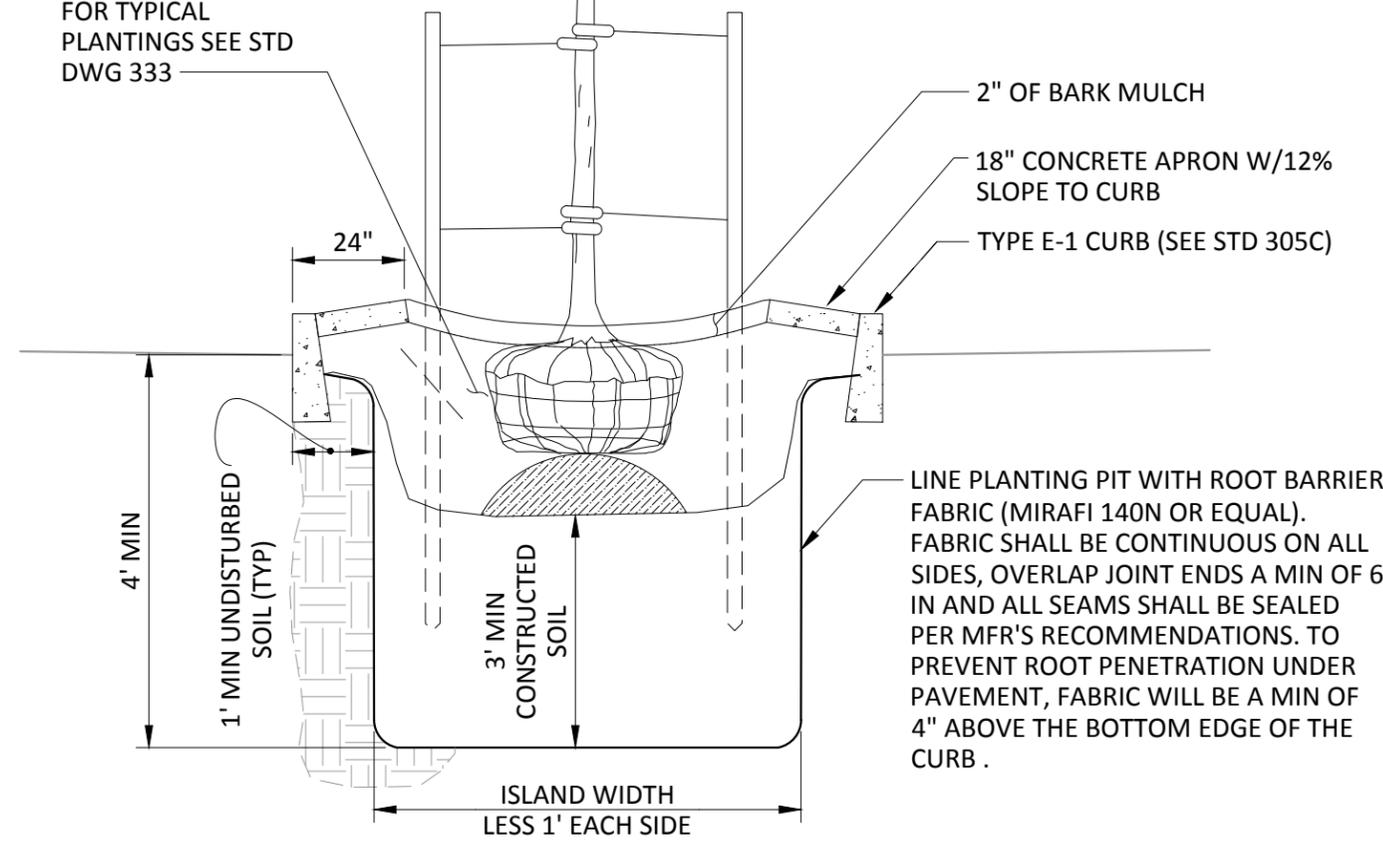
## # NOTES

1. APPROVED EVERETT SMALL OR MEDIUM TREE SPECIES.
2. PLASTIC TREE STRAPS (1/2" WIDE). UPPER TIES 3" MIN (6" MAX) FROM TOP OF STAKE. IF UPPER TIE IS MORE THAN 4' ABOVE FINISHED GROUND, LOCATE LOWER TIES MIDPOINT UPPER TIE AND FINISHED GRADE. TOP STRAP SHALL BE A MIN. OF 1/3 OF THE TREE HEIGHT.
3. TWO STAKES MIN. 2"X2"X8' CEDAR/DOUGLAS FIR OR 2"X8' ROUND POLES. POUND 1' MIN. INTO UNDISTURBED OR CONSTRUCTED SOIL. TRIPLE STAKE DECIDUOUS TREES LARGER THAN 2" CALIPER.
4. PLACE ROOT BALL ON 6" MIN COMPACTED TOPSOIL MIX.
5. REMOVE TOP 1/3 OF BURLAP AND WIRE BASKET, REMOVE ALL TIES.
6. 2" MIN BARK MULCH OVER ALL PLANTED AREAS.
7. MINIMUM ROOT SPREAD TO BE IN ACCORDANCE WITH "AMERICAN STANDARDS FOR NURSERY STOCK". PRUNE ALL DAMAGED, DISEASED OR WEAK ROOTS. DO NOT ALLOW ROOTS TO DRY OUT DURING INSTALLATION PROCESS. SOAK ROOTS IN WATER OVERNIGHT BEFORE PLANTING ANY BARE ROOT STOCK.
8. SHRUBS AND TREES SHALL BE SLIGHTLY HIGHER IN RELATIONSHIP TO THE OLD SOIL MARK ON THE TRUNK AND THE FINISHED GRADE OF THE PLANTING.
9. CREATE SAUCER WITH TOPSOIL (6"R MIN.)
10. IF NECESSARY, THIN BRANCHES BY 1/8 RETAINING NORMAL PLANT SHAPE
11. GENTLY COMPACTED PLANTING MIX (AS SPECIFIED).
12. ALL GROUND COVER/SHRUB SPACING SHALL BE EQUIDISTANT UNLESS OTHERWISE SPECIFIED. DISTANCE ON CENTER AS SPECIFIED 'E'. SPACING BETWEEN ROWS 'D' AS SPECIFIED. START FIRST ROW OF PLANTING AT 1/2 'D' FROM PLANTING BORDER.
13. UNDISTURBED NATIVE SOIL OR CONSTRUCTED SOIL.

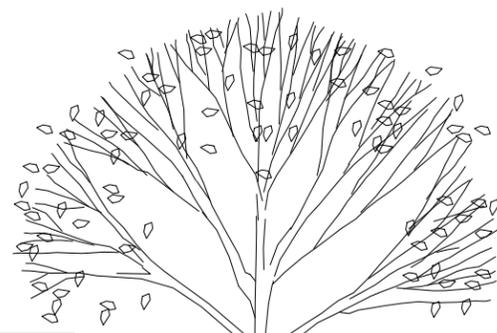
EXCAVATE CONSTRUCTION SOIL AS REQUIRED FOR LANDSCAPING. FOR TYPICAL PLANTINGS SEE STD DWG 333



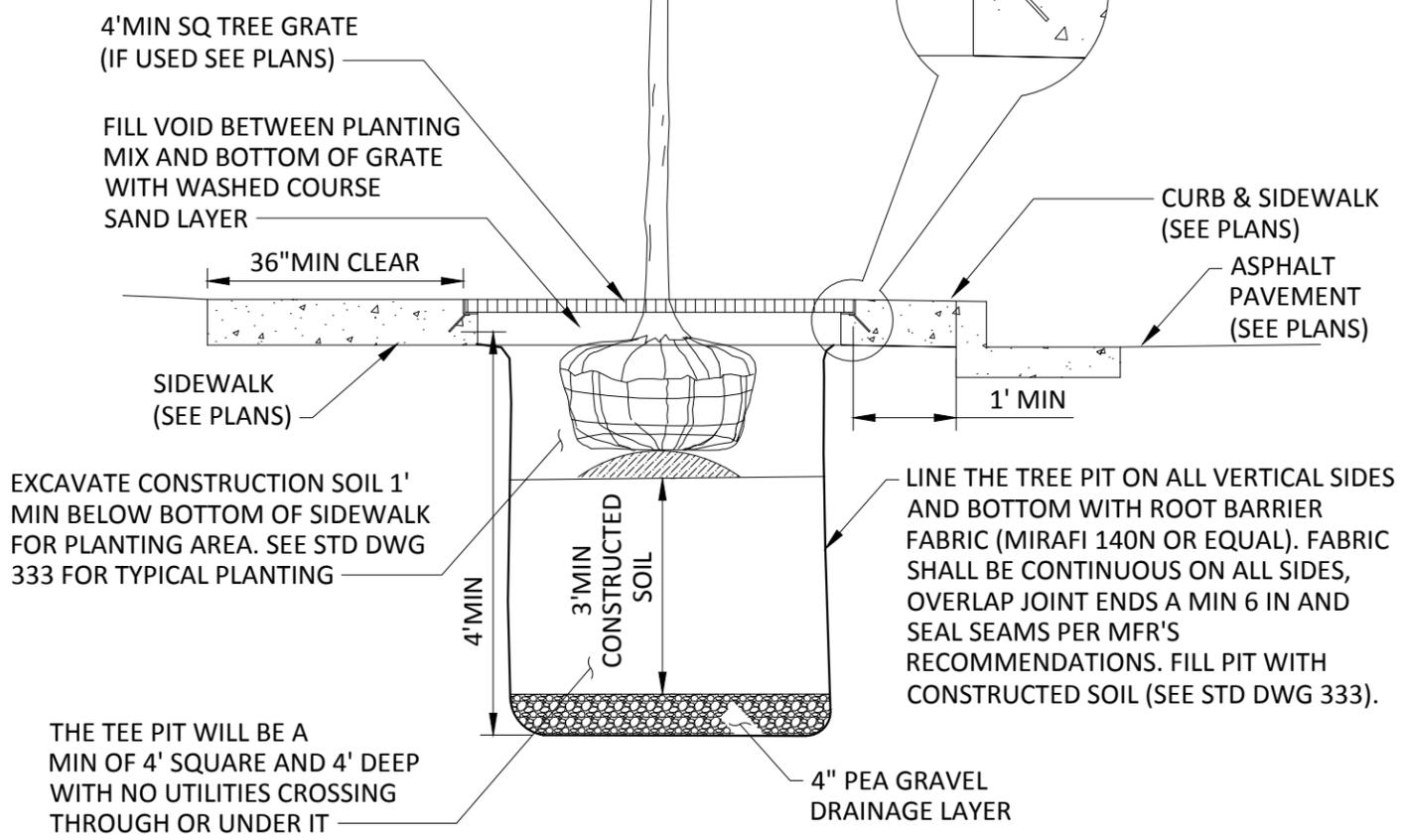
EVERETT STD "SMALL" OR "MEDIUM TREE SPECIES (SEE PLANS)



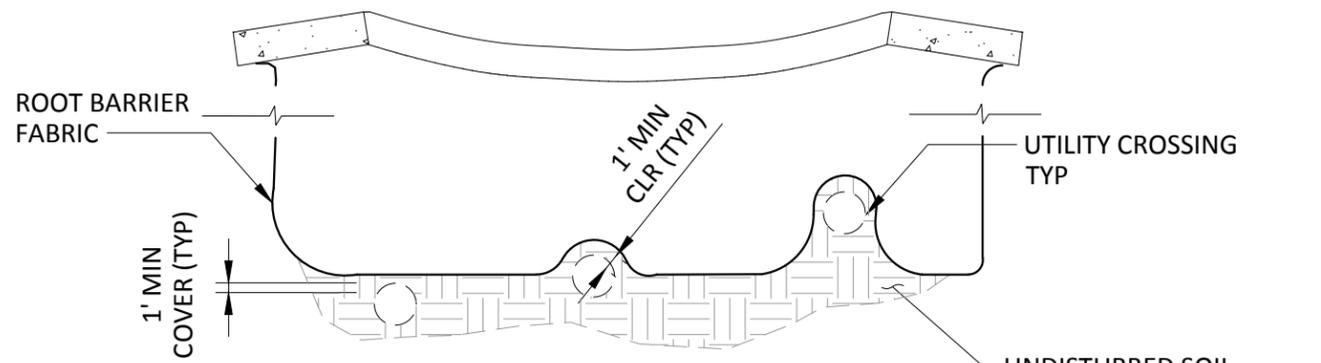
**TRAFFIC ISLAND/MEDIAN**



TREE GRATE STEEL FRAME  
#4 REBAR (8" SPACING LATERALLY)



**SIDEWALK**

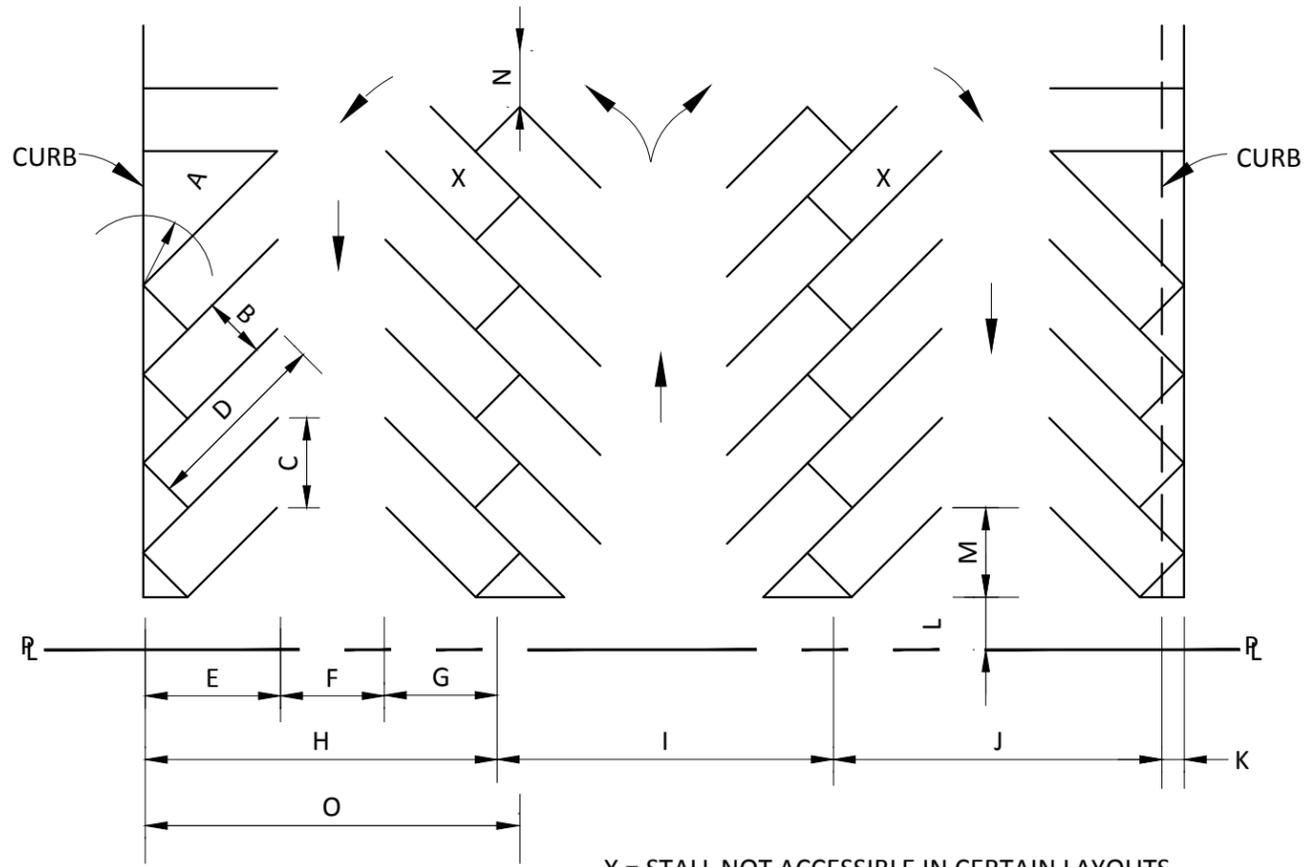


**TYP LONGITUDINAL SECTION**

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD339.DWG

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date 12/30/2016
<b>PLANTING</b> IN TRAFFIC ISLANDS OR MEDIANS			STANDARD DRAWING No. <b>339</b>

**DRAFT**



X = STALL NOT ACCESSIBLE IN CERTAIN LAYOUTS.

### STALL GEOMETRY

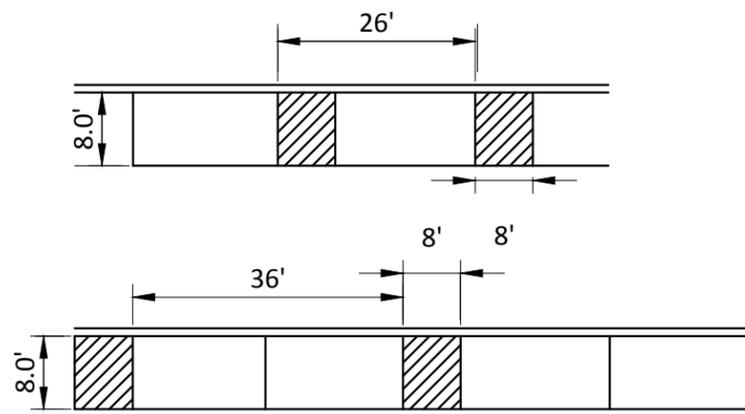
PARKING ANGLE (DEGREES)	STALL WIDTH PERPENDICULAR TO STALL LINES	STALL WIDTH PARALLEL TO AISLE	LENGTH OF STALL LINE	STALL DEPTH PERPENDICULAR TO AISLE	STALL DEPTH BETWEEN STALL LINES (SEE NOTE)	STALL DEPTH INTERLOCKING	MODULE, WALL TO INTERLOCK	MODULE, INTERLOCK TO INTERLOCK	MODULE, INTERLOCK TO INTERLOCK	CURB BUMPER OVERHANG (TYPICAL)	OFFSET	SETBACK	CROSS AISLE (ONE WAY)	CROSS AISLE (TWO WAY)	MODULE, WALL TO WALL	
A	B	C	D	E	F	G	H	I	J	K	L	M	N		O	
45	8.5	12.0			13.0		49.0	46.0	47.0	2.0	6.4	13.1	14.0	24.0	52.0	
	9.0	12.7	27.5	19.5	12.0	16.5	48.0	45.0	46.0						51.0	
	9.5	13.4			11.0		47.0	44.0	45.0						50.0	
	C	8.0	11.3	22.5	17.0	11.0										45.0
	A	13.0	18.3	27.5	19.5	11.0										
	V	16.0	22.5	27.5	22.6	12.0										
60	8.5	9.8			18.0		57.0	55.0	54.7	2.3	2.6	9.3	14.0	24.0	59.0	
	9.0	10.4	23.7	20.5	16.0	18.5	55.0	53.0	53.7						57.0	
	9.5	11.0			15.0		54.0	52.0	51.7						56.0	
	C	8.0	9.3	19.5	17.8	15.0										51.0
	A	13.0	15.0	23.7	20.5	15.0										
	V	16.0	18.5	23.7	23.3	16.0										
75	8.5	8.8			25.0		64.0	63.0	61.5	2.5	0.6	4.8	14.0	24.0	65.0	
	9.0	9.3	20.9	20.0	23.0	19.0	62.0	61.0	59.5						63.0	
	9.5	9.8			22.0		61.0	60.0	58.5						62.0	
	C	8.0	8.3	17.0	17.5	19.0										54.0
	A	13.0	13.5	20.9	20.0	22.0										
	V	16.0	16.6	20.9	22.4	24.0										
90	8.5	8.5			28.0		65.0	65.0	62.5	2.5	0.0	0.0	14.0	24.0	65.0	
	9.0	9.0	18.5	18.5	26.0	18.5	63.0	63.0	60.5						63.0	
	9.5	9.5			25.0		62.0	62.0	59.5						62.0	
	C	8.0	8.0	15.0	16.0	23.0										55.0
	A	13.0	13.0	18.5	18.5	25.0										
	V	16.0	16.0	18.5	20.0	24.0										

### LEGEND

- A = PARKING ANGLE
- B = STALL WIDTH, PERPENDICULAR TO STALL LINES
- C = STALL WIDTH, PARALLEL TO AISLE
- D = LENGTH OF STALL LINE
- E = STALL DEPTH, PERPENDICULAR TO AISLE
- F = AISLE WIDTH, BETWEEN STALL LINES
- G = STALL DEPTH, INTERLOCKING
- H = MODULE, WALL TO INTERLOCK
- I = MODULE, INTERLOCK TO INTERLOCK
- J = MODULE, INTERLOCK TO CURB
- K = BUMPER OVERHANG
- L = OFFSET
- M = SETBACK
- N = CROSS AISLE, ONE WAY
- N = CROSS AISLE, TWO WAY
- O = MODULE, WALL TO WALL

### NOTES

1. SEE SECTION 3-5 OF DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS FOR FURTHER CONDITIONS AND RESTRICTIONS.
2. AISLE WIDTH MAY BE REQUIRED TO BE WIDER IF MULTIPLE UTILITY LINES ARE LOCATED WITHIN THE AISLE CORRIDOR.
3. C = COMPACT SPACE, SEE SECTION 3-5 OF THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS FOR DETAILS AND RESTRICTIONS. EACH SPACE SHALL BE IDENTIFIED BY PAINTING "COMPACT" ON PAVEMENT.
4. A = ACCESSIBLE SPACE, PER ADA. REQUIRES A 5' ACCESS AISLE, MINIMUM ADJOINING AN 8' PARKING SPACE.
5. V = VAN ACCESSIBLE SPACE PER ADA. REQUIRES AN 8' ACCESS AISLE ADJOINING AN 8' PARKING SPACE. OR A 5' ACCESS AISLE ADJOINING AN 11' PARKING SPACE. ACCESS ISLE TO BE ON PASSENGER SIDE FOR ANY ANGLE PARKING OTHER THAN 90 DEGREE PARKING WHICH ALLOW FOR AISLE BEING ON EITHER SIDE OF PARKING SPACE.



PARALLEL

**DRAFT**

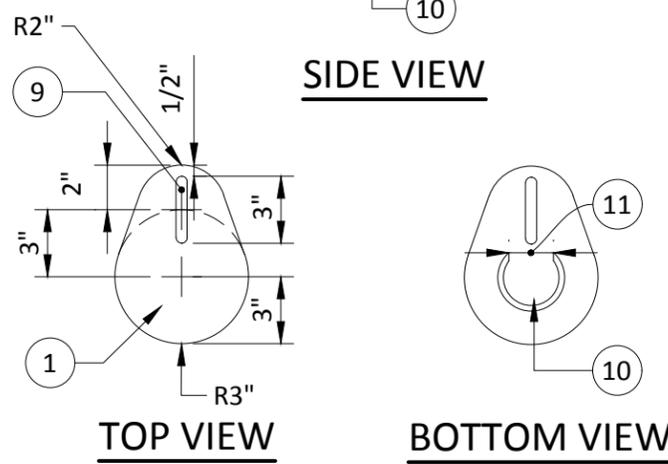
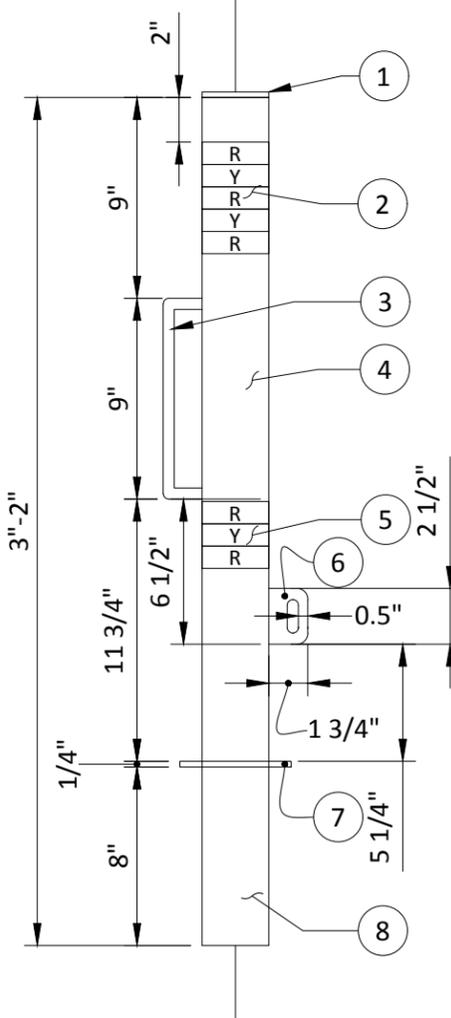
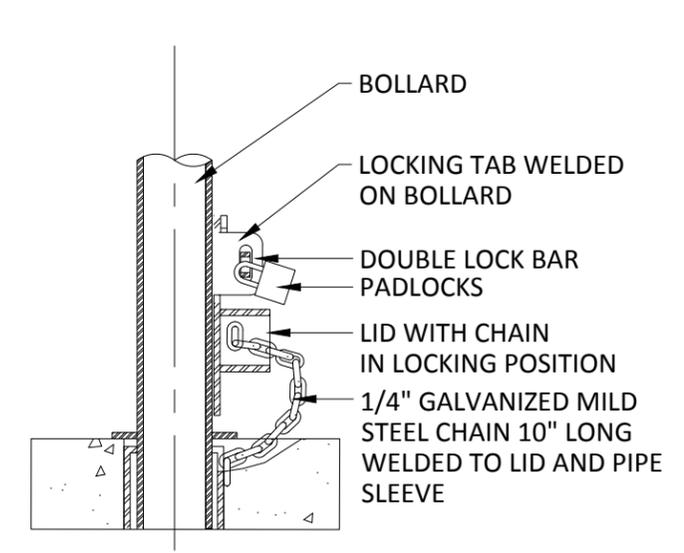
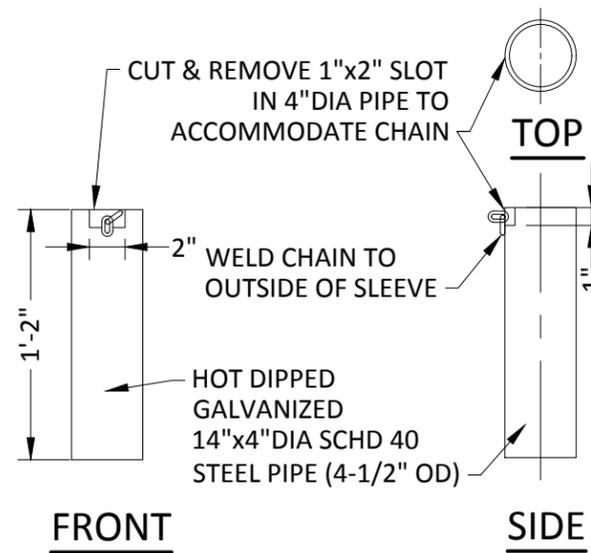
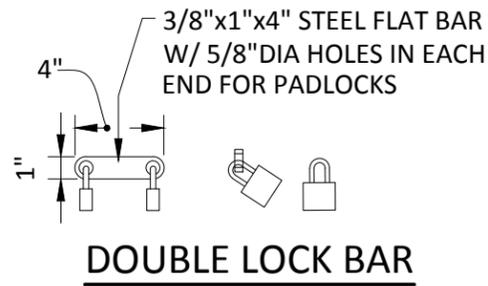
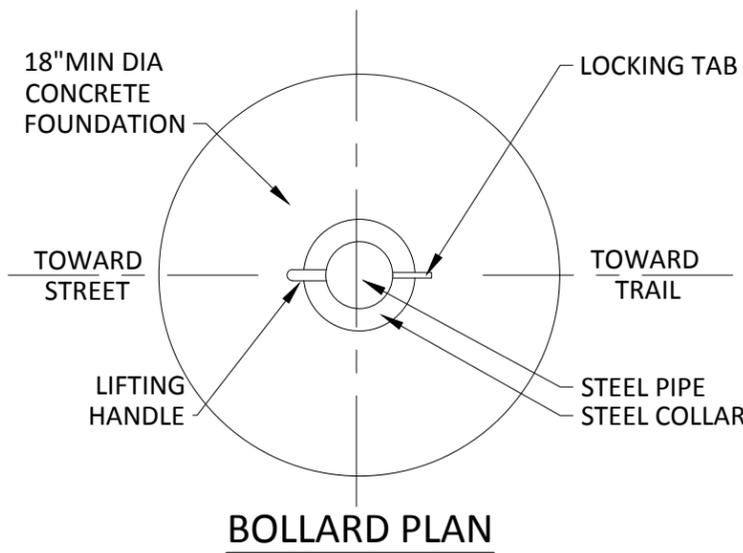


## CITY OF EVERETT

### PUBLIC WORKS DEPARTMENT

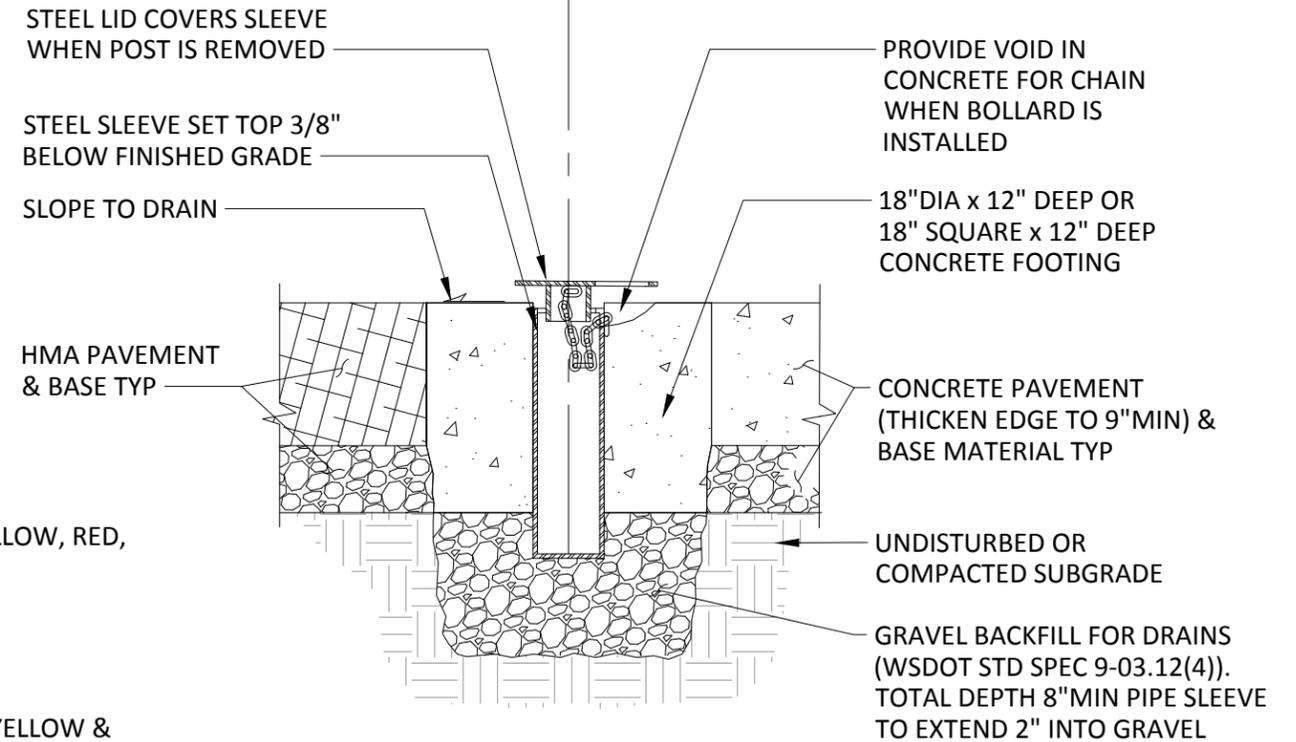
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
<h2 style="margin: 0;">PARKING LOT</h2> <h3 style="margin: 0;">DETAILS AND DIMENSIONS</h3>				340

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**NOTES**

1. 1/4" THICK STEEL CAP WELD TO 3" PIPE (GRIND SMOOTH).
2. FIVE ROWS HIGH INTENSITY PRISMATIC 1" WIDE REFLECTIVE TAPE (RED, YELLOW, RED, YELLOW & RED).
3. 1/2" DIA STEEL ROD HANDLE WELD TO 3" DIA STEEL PIPE.
4. PAINT BOLLARD FLUORESCENT "YELLOW-GREEN" ABOVE LOCKING TAB.
5. THREE ROWS HIGH INTENSITY PRISMATIC 1" WIDE REFLECTIVE TAPE (RED, YELLOW & RED).
6. 1/4" THICK LOCKING TAB WELD TO 3" DIA STEEL PIPE. PROVIDE 1/2"x1-1/2" SLOT FOR DOUBLE LOCK BAR, ROUND CORNERS 1/2" RADIUS.
7. 5" DIA x 1/4" THICK COLLAR WELD TO 3" STEEL PIPE.
8. 3" NOMINAL PIPE SIZE (3 1/2" OUTER DIA).
9. CUT AND REMOVE 3"x1-1/2" SLOT IN 1/4" STEEL CAP FOR LOCK TAB.
10. 3" DIA SCH 40 PIPE WELD TO STEEL CAP.
11. PROVIDE WITH 2" W x FULL DEPTH SLOT IN 3" DIA x 2" STEEL PIPE AND WELD TO UNDERSIDE OF CAP.



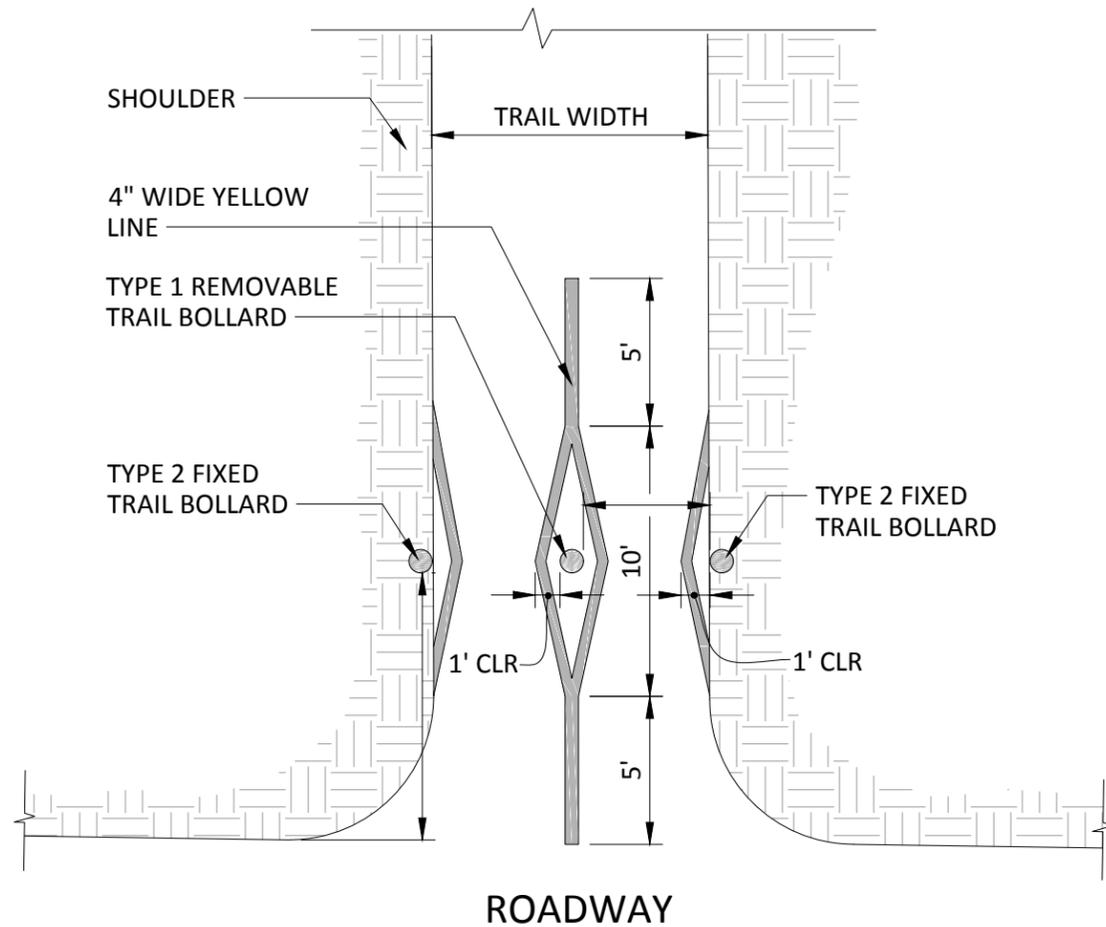
**FOUNDATION SECTION (POST REMOVED)**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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TITLE <b>TRAIL BOLLARD</b> TYPE 1 STEEL REMOVABLE	STANDARD DRAWING No. <b>341</b>
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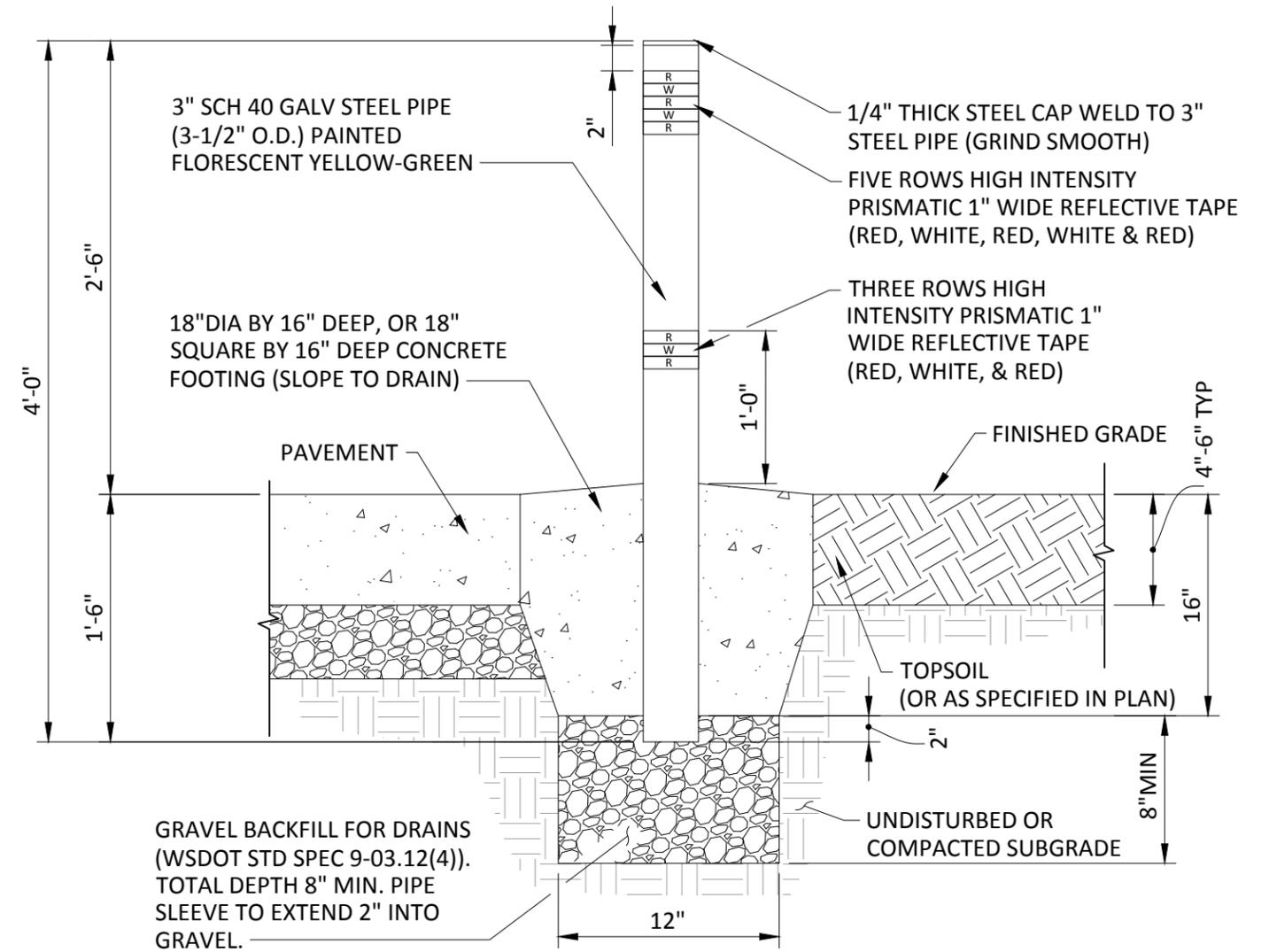
**DRAFT**



**PLACEMENT & STRIPING**

**NOTES**

1. DIMENSIONS PER PLANS. RECOMMENDED: 10' TO 30' BACK OF SIDEWALK OR ROADWAY EDGE. 5' TO 10' FROM BRIDGE.
2. 5'-2" CLEAR BETWEEN BOLLARDS TYP ± 2".
3. 4" WIDE WHITE EDGE LINE TO BE ADDED IF SIDE BOLLARDS ARE WITHIN TRAIL PAVEMENT OR ARE WITHIN 4" FROM THE EDGE OF PAVEMENT.



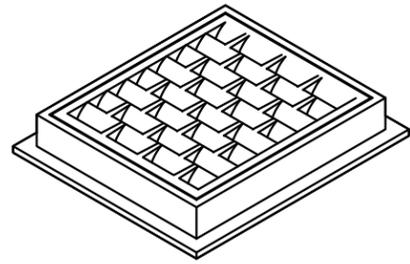
**TYPE 2 BOLLARD ELEVATION**

**NOTES**

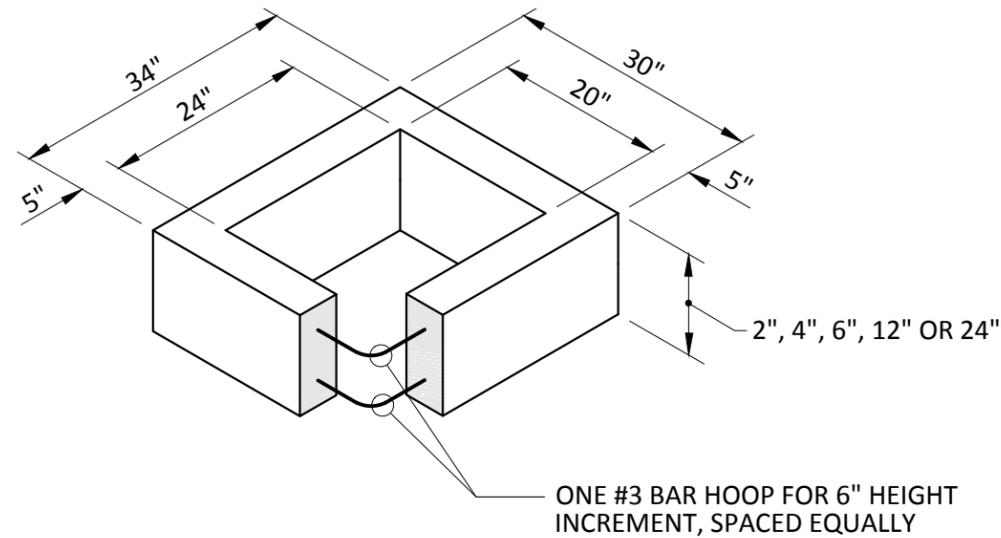
1. ALL PIPE SECTIONS SHALL BE CONSTRUCTED OF SCHEDULE 40 STEEL PIPE.
2. ALL CUTS OR HOLES TO BE SHOP DRILLED OR CUT AND GROUND SMOOTH WITH NO REMAINING SHARP EDGES.
3. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. FLORESCENT YELLOW-GREEN TO MATCH PANTONE COLOR 382C (SHERWIN-WILLIAMS 39121031)

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager TOM HOOD	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
<b>TRAIL BOLLARD</b> TYPE 2 FIXED & TYPE 1 & 2 PLACEMENT/STRIPING				STANDARD DRAWING No. <b>342</b>

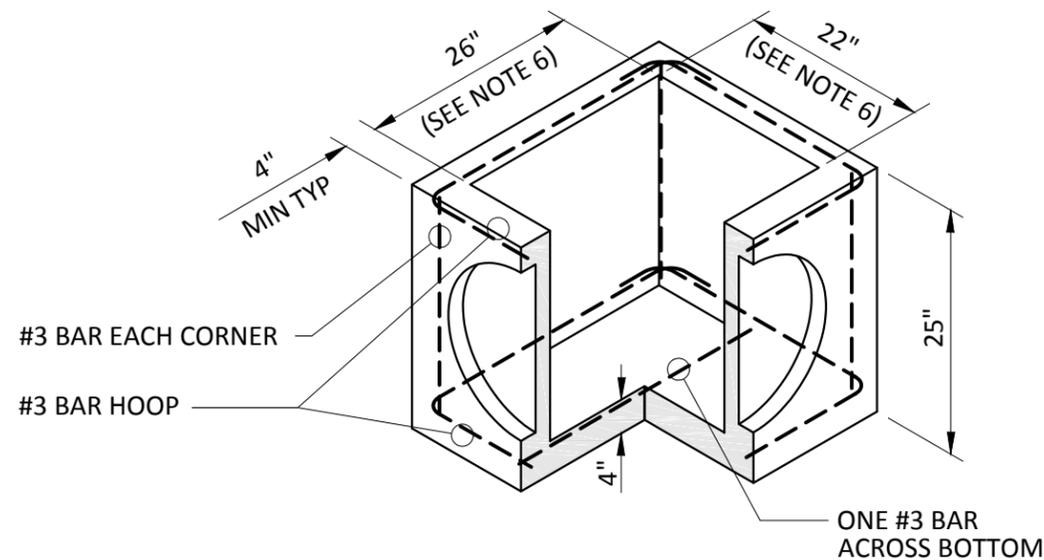
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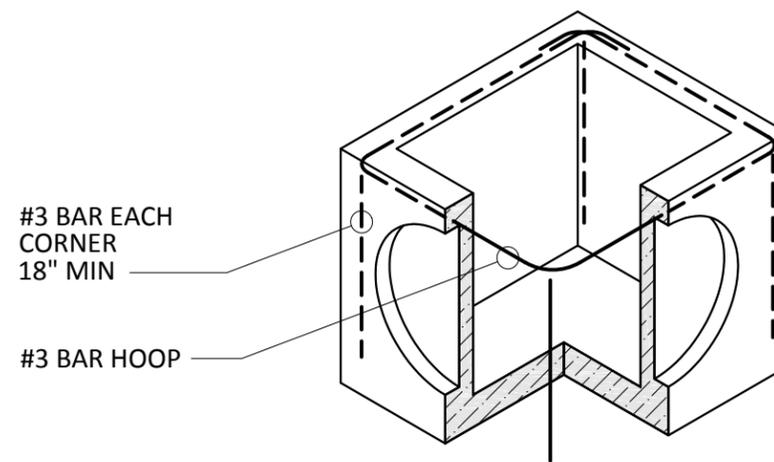
**FRAME AND VANED GRATE**



**RECTANGULAR ADJUSTMENT SECTION**



**PRECAST BASE SECTION**



**ALTERNATIVE PRECAST BASE SECTION**

(SEE NOTE 1)

**DRAFT**

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
*CPSSP (WSDOT STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (WSDOT STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (WSDOT STD. SPEC. 9-05.12(2))	15"

\* CORRUGATED POLYETHYLENE STORM SEWER PIPE

**NOTES**

- AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE WSDOT STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 18". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-04.3.
- THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5'.
- THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
- THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
- THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
- ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE INLET HAS BEEN PLACED.

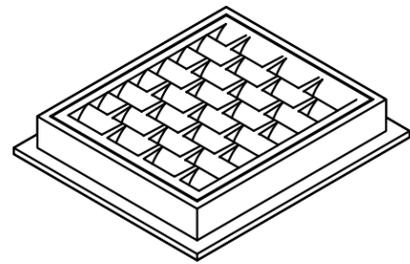
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WSDOT STD PLAN B-25.60-00 ACCEPTABLE SUBSTITUTE

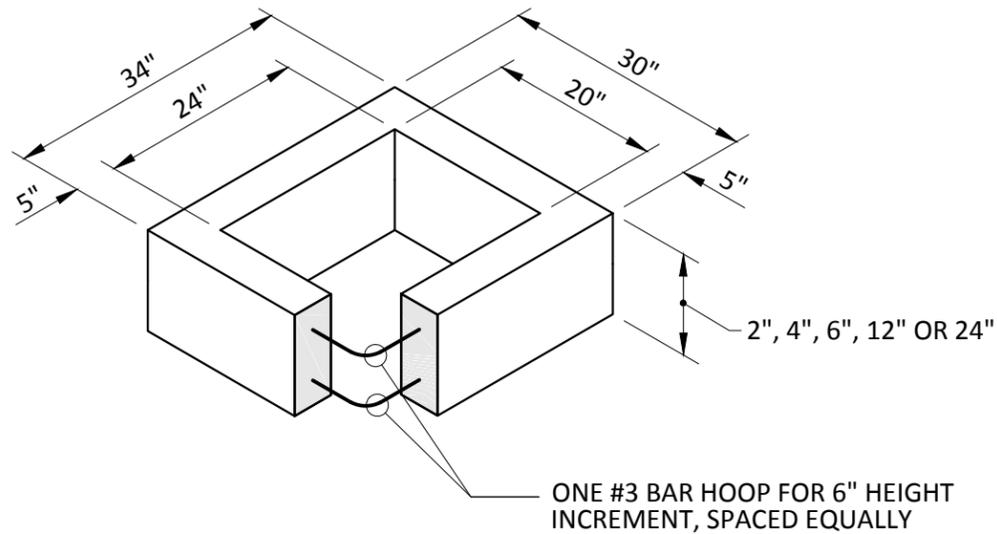


City Engineer: RYAN SASS | Section Manager: HEATHER GRIFFIN | CAD Manager: PAUL WILHELM | Drawn By: WRB | Current Rev Date: 12/30/2016

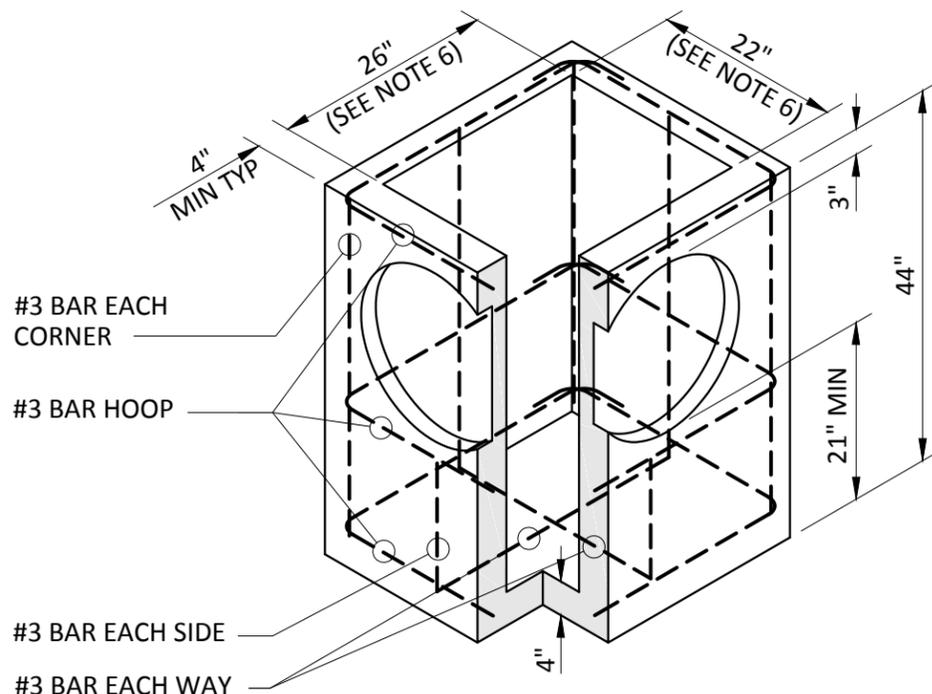
TITLE: CONCRETE INLET | STANDARD DRAWING No. 401



**FRAME AND VANED GRATE**



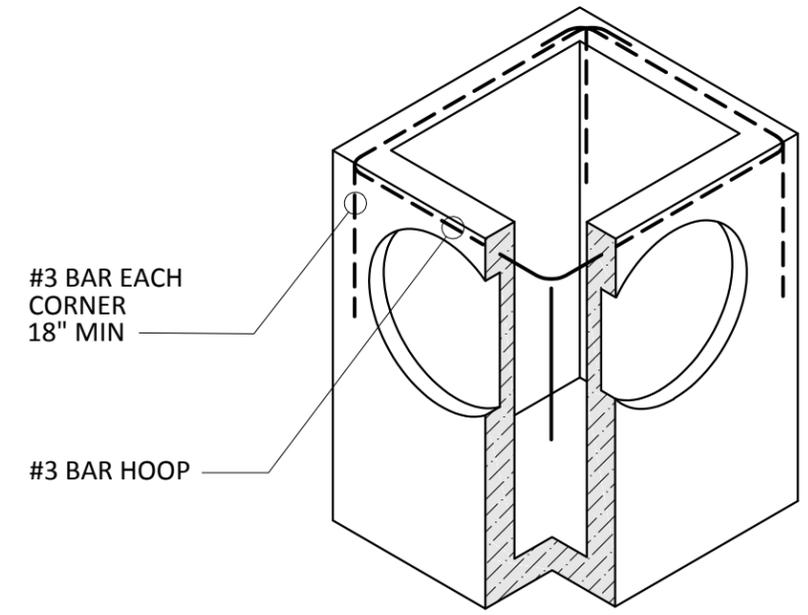
**RECTANGULAR ADJUSTMENT SECTION**



**PRECAST BASE SECTION**

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
*CPSSP (WSDOT STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (WSDOT STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (WSDOT STD. SPEC. 9-05.12(2))	15"

\* CORRUGATED POLYETHYLENE STORM SEWER PIPE



**ALTERNATIVE PRECAST BASE SECTION**

(SEE NOTE 1)

**NOTES**

- AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE WSDOT STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD WSDOT SPECIFICATION 9-04.3.
- THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5'.
- THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN, OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
- THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
- THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
- ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

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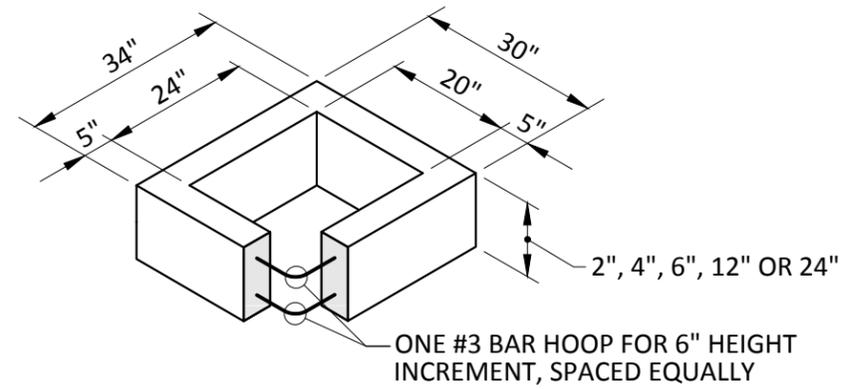
WSDOT STD PLAN B-5.20-01 ACCEPTABLE SUBSTITUTE



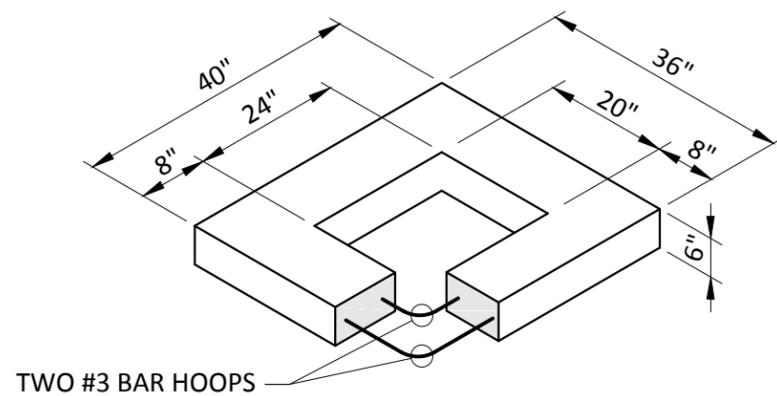
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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TITLE <b>CATCH BASIN TYPE 1</b>	STANDARD DRAWING No. <b>402</b>
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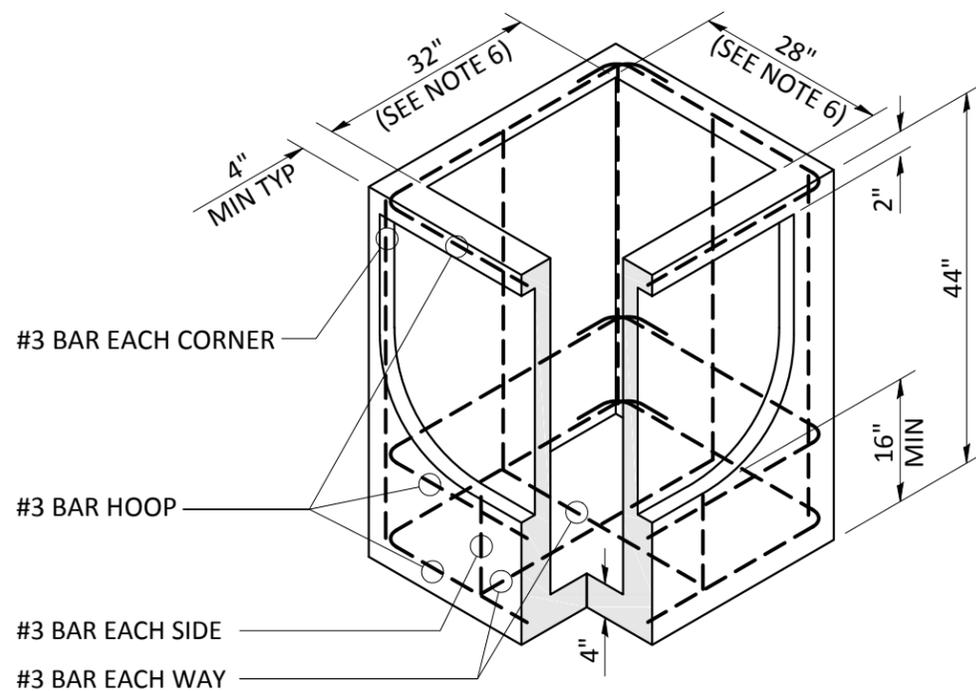
**DRAFT**



**RECTANGULAR ADJUSTMENT SECTION**



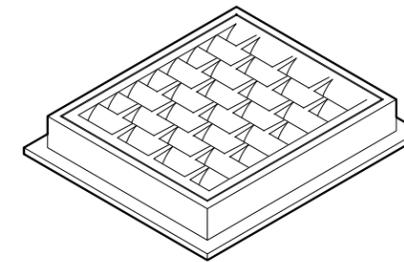
**REDUCING SECTION**



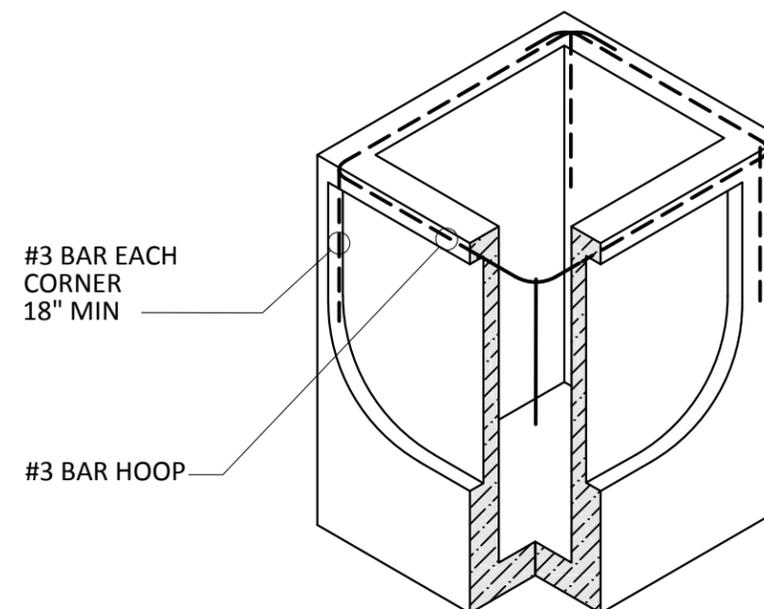
**PRECAST BASE SECTION**

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	18"
ALL METAL PIPE	21"
*CPSSP (WSDOT STD. SPEC. 9-05.20)	18"
SOLID WALL PVC (WSDOT STD. SPEC. 9-05.12(1))	21"
PROFILE WALL PVC (WSDOT STD. SPEC. 9-05.12(2))	21"

\* CORRUGATED POLYETHYLENE STORM SEWER PIPE



**FRAME AND VANED GRATE**



**ALTERNATIVE PRECAST BASE SECTION**

(SEE NOTE 1)

**DRAFT**

**NOTES**

- AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE WSDOT STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 26". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-04.3.
- THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5'.
- THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN, OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
- THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
- THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
- ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

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WSDOT STD PLAN B-5.40-01 ACCEPTABLE SUBSTITUTE

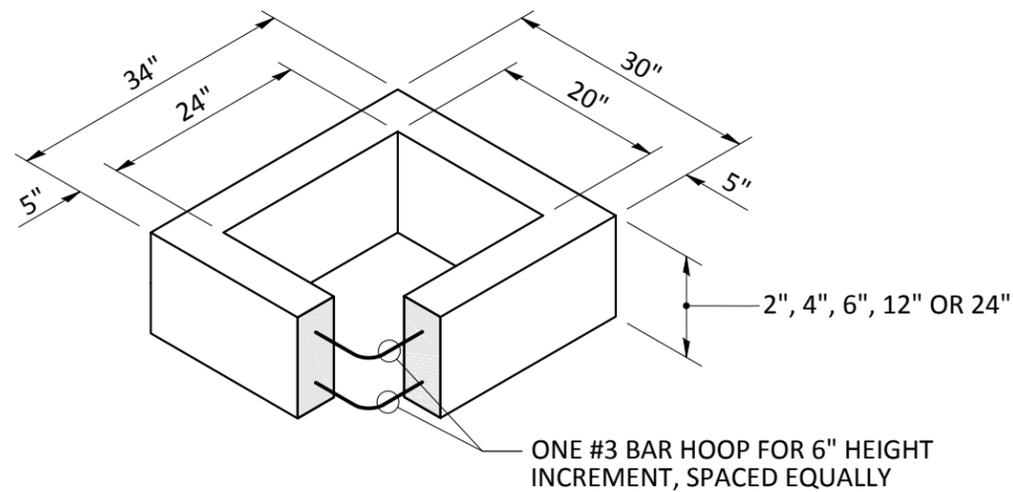


City Engineer: RYAN SASS | Section Manager: HEATHER GRIFFIN | CAD Manager: PAUL WILHELM | Drawn By: WRB | Current Rev Date: 12/30/2016

**CATCH BASIN TYPE 1L**

403

STANDARD DRAWING No.



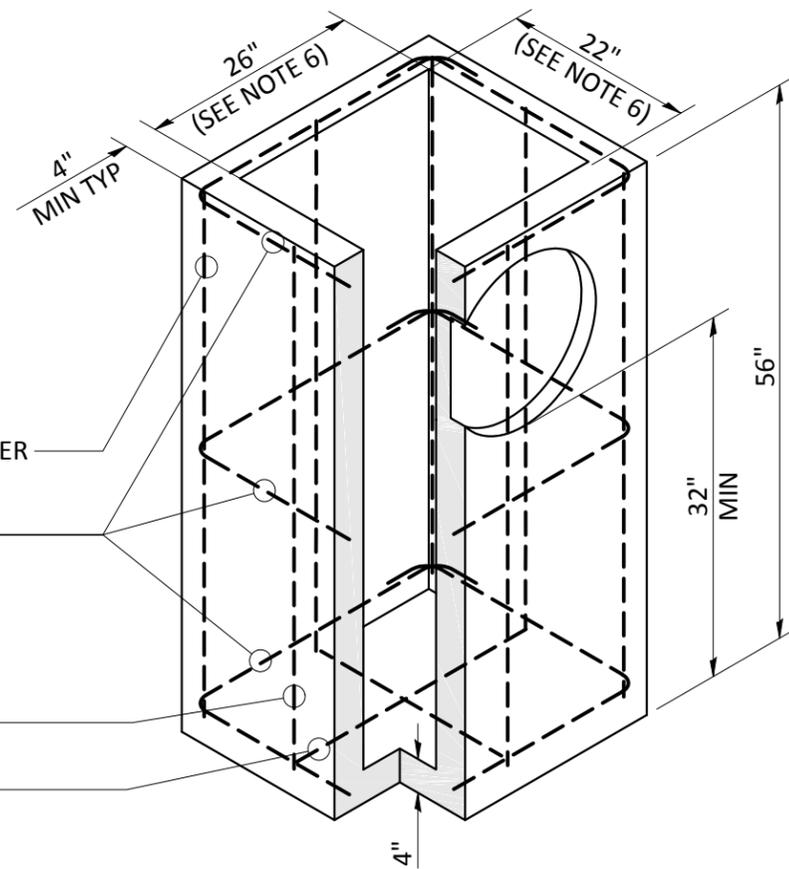
**RECTANGULAR ADJUSTMENT SECTION**

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
*CPSSP (WSDOT STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (WSDOT STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (WSDOT STD. SPEC. 9-05.12(2))	15"

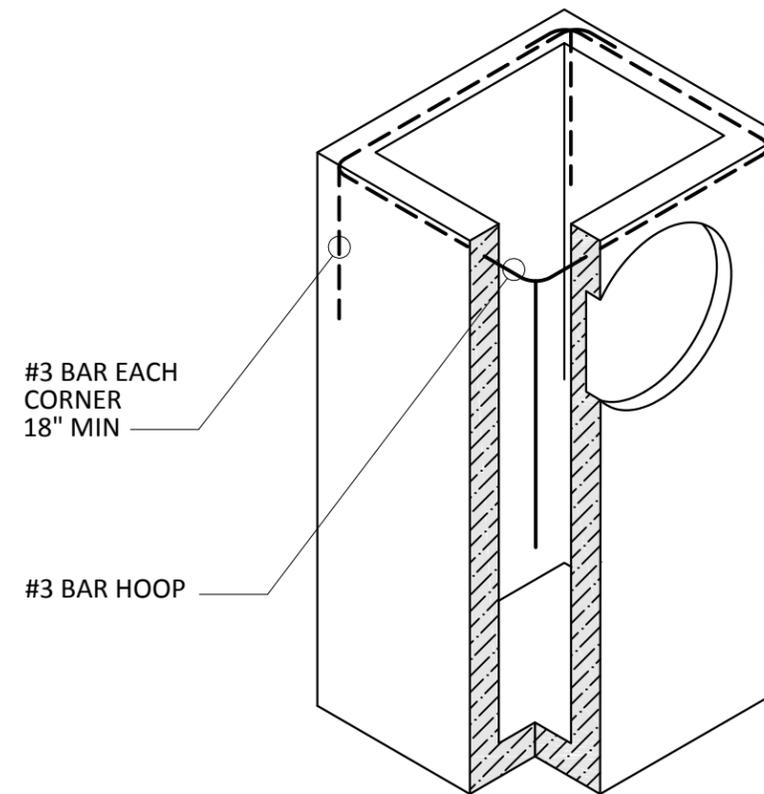
\* CORRUGATED POLYETHYLENE STORM SEWER PIPE

**NOTES**

- AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE WSDOT STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 18". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-04.3.
- THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5'.
- THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN, OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
- THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
- THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
- ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

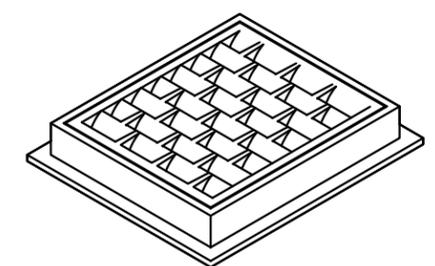


**PRECAST BASE SECTION**



**ALTERNATIVE PRECAST BASE SECTION**

(SEE NOTE 1)



**FRAME AND VANED GRATE**

WSDOT STD PLAN B-5.60-01 ACCEPTABLE SUBSTITUTE



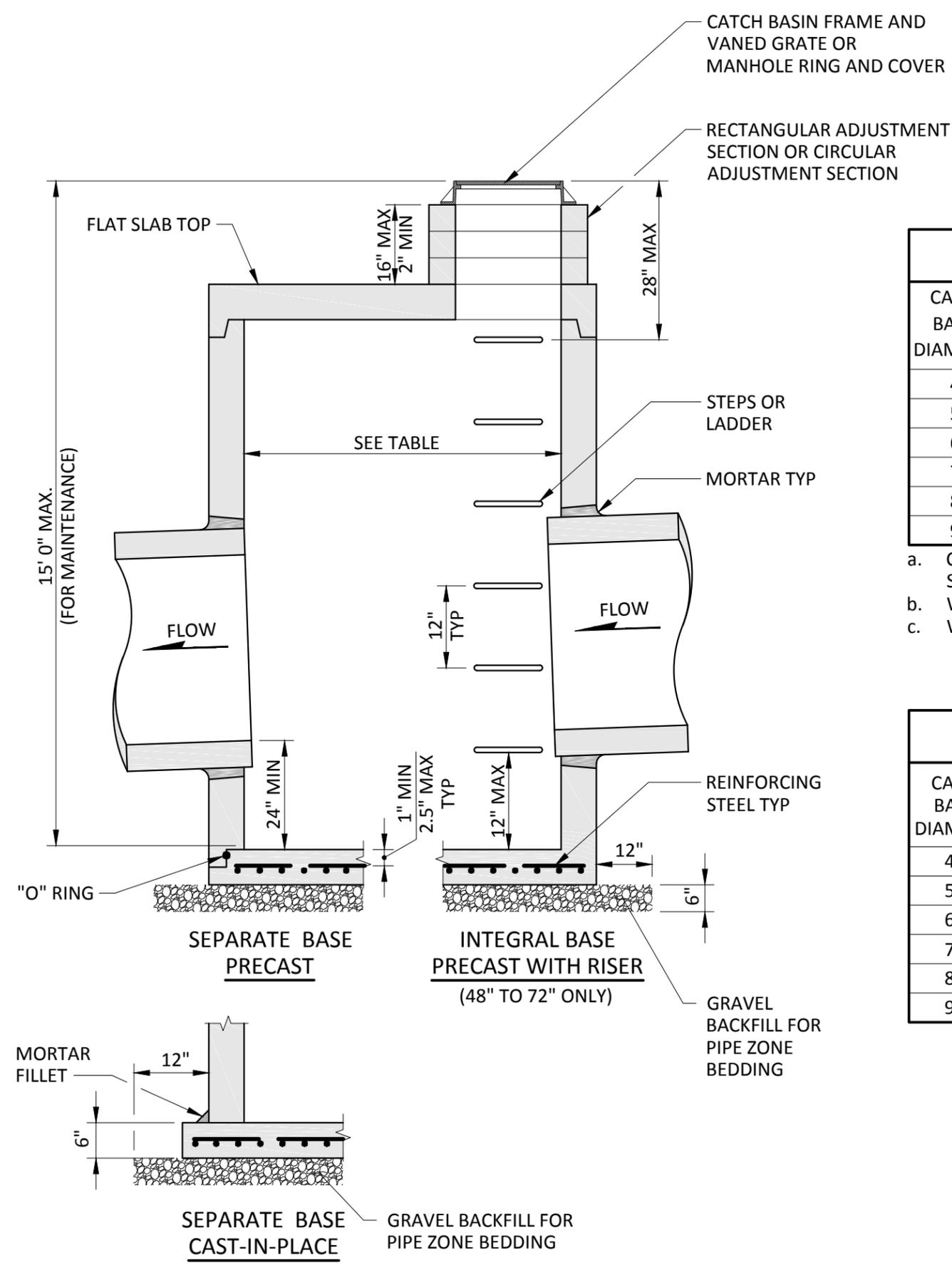
City Engineer: RYAN SASS | Section Manager: HEATHER GRIFFIN | CAD Manager: PAUL WILHELM | Drawn By: WRB | Current Rev Date: 12/30/2016

**CATCH BASIN TYPE 1P**  
(FOR PARKING LOT)

404

**DRAFT**

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PIPE ALLOWANCES					
CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP (a)	SOLID WALL PVC (b)	PROFILE WALL PVC (c)
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"

- a. CORRUGATED POLYETHYLENE STORM SEWER PIPE, WSDOT STANDARD PLAN 9-05.20.
- b. WSDOT STANDARD PLAN 9-05.12(1).
- c. WSDOT STANDARD PLAN 9-05.12(2).

CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"

**NOTES**

1. NO STEPS ARE REQUIRED WHEN HEIGHT IS 4' OR LESS.
2. THE BOTTOM OF THE PRECAST CATCH BASIN MAY BE SLOPED TO FACILITATE CLEANING.
3. THE RECTANGULAR FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE UP OR DOWN. THE FRAME MAY BE CAST INTO THE ADJUSTMENT SECTION.
4. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-04.3.
5. CONCRETE STRUCTURE SHALL MEET THE REQUIREMENTS OF AASHTO M199.
6. FOR MANHOLE COVER SEE STANDARD DRAWING 607A AND 607B. REFER TO DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS SECTION 4 FOR ADDITIONAL REQUIREMENTS.
7. STEPS PER STANDARD DRAWING 606.

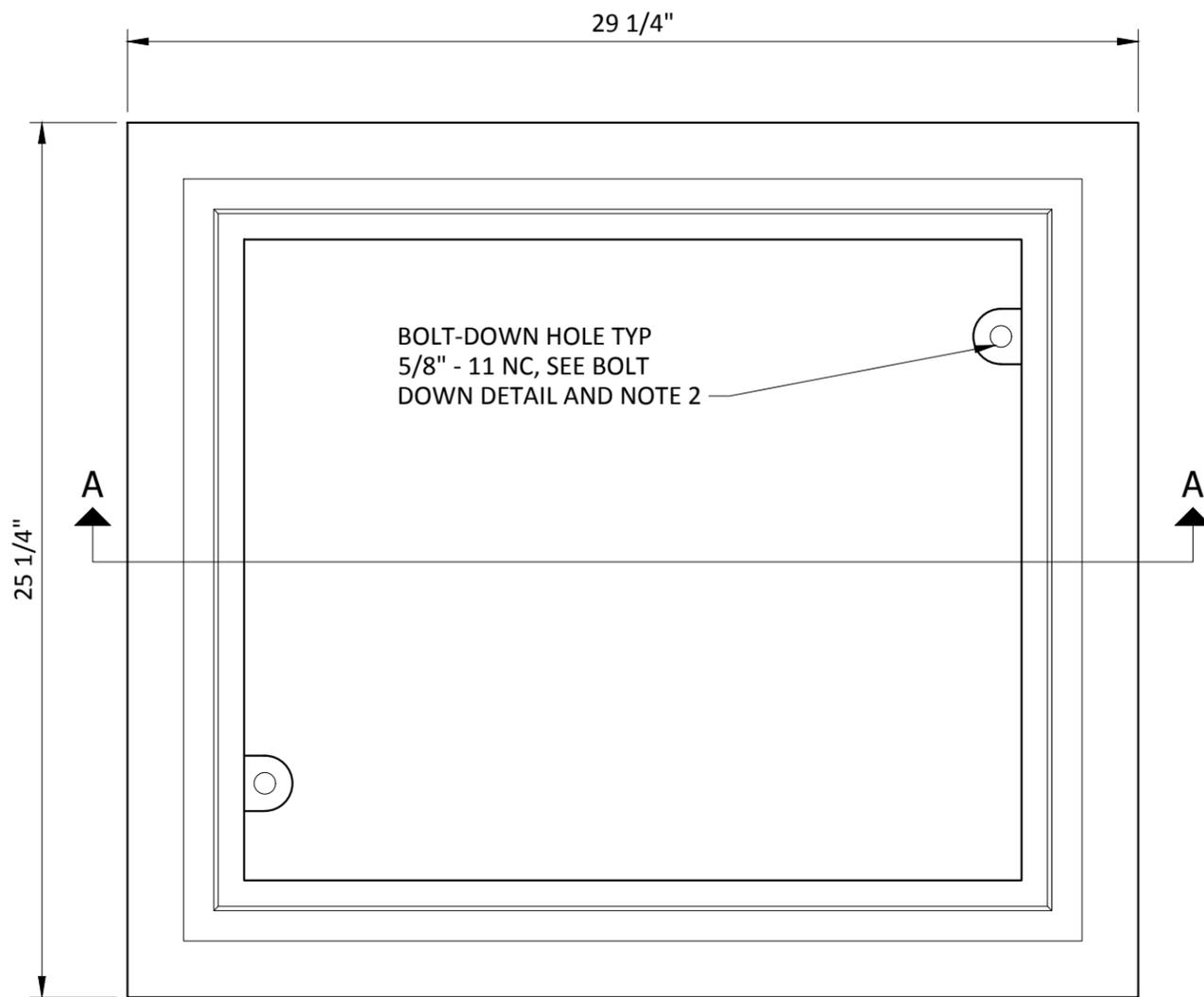
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WSDOT STD PLAN B-10.20-01 ACCEPTABLE SUBSTITUTE



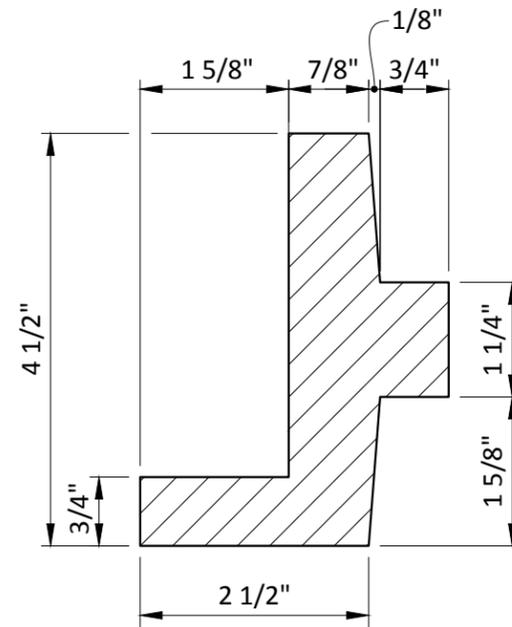
**CITY OF EVERETT**  
EVERETT PUBLIC WORKS DEPARTMENT

City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date <b>12/30/2016</b>
TITLE <b>CATCH BASIN TYPE 2</b>				STANDARD DRAWING No. <b>405</b>



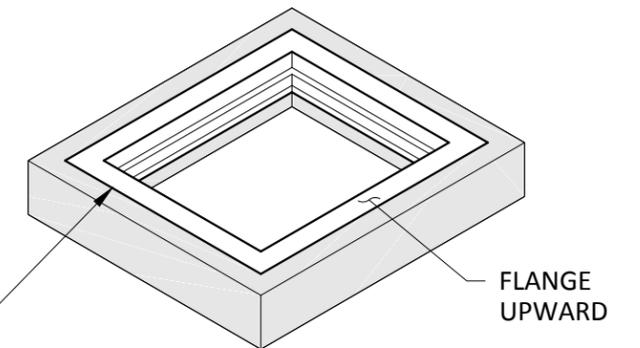
BOLT-DOWN HOLE TYP  
5/8" - 11 NC, SEE BOLT  
DOWN DETAIL AND NOTE 2

TOP

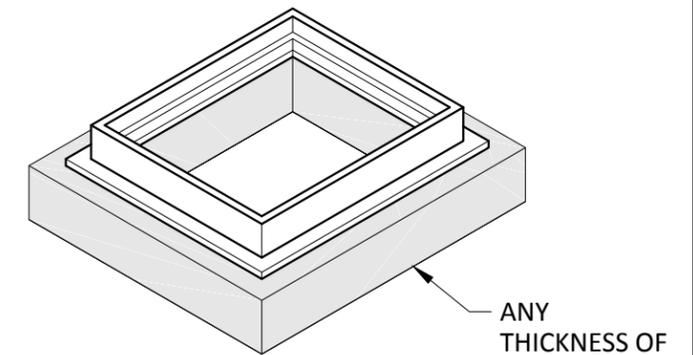


DETAIL B

FRAME CAST INTO  
6" OR 12" PRECAST  
ADJUSTMENT  
SECTION.  
SEE STANDARD  
DRAWINGS 401,  
402, 403 OR 404  
FOR ADJUSTMENT  
SECTION DETAILS



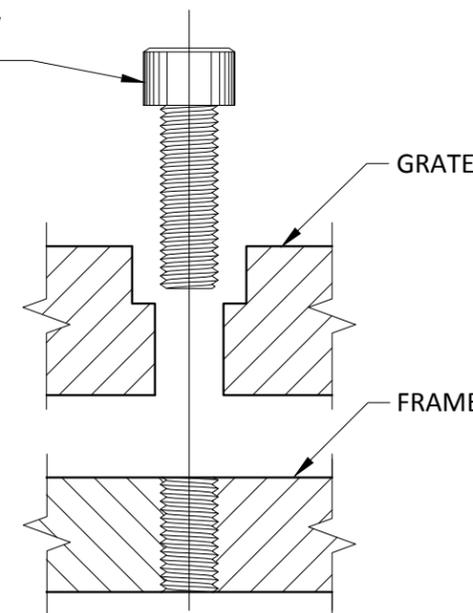
FLANGE UP



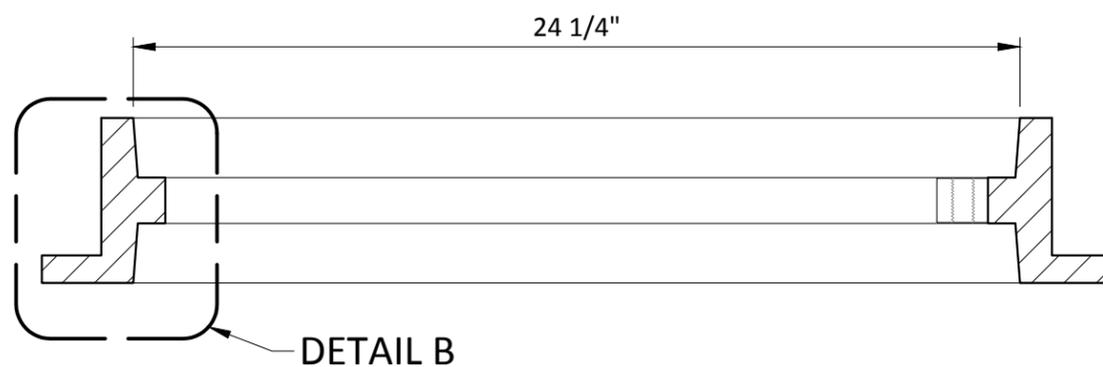
FLANGE DOWN

WSDOT STD PLAN B-30.10-01, ACCEPTABLE  
SUBSTITUTE EXCEPT ALL STEEL RECESSED ALLEN  
SCREWS MUST BE STAINLESS STEEL

STAINLESS STEEL  
RECESSED ALLEN  
HEAD CAP SCREW  
5/8" - 11 NC x 2



BOLT-DOWN DETAIL  
(SEE NOTE 2)



SECTION A-A

**NOTES**

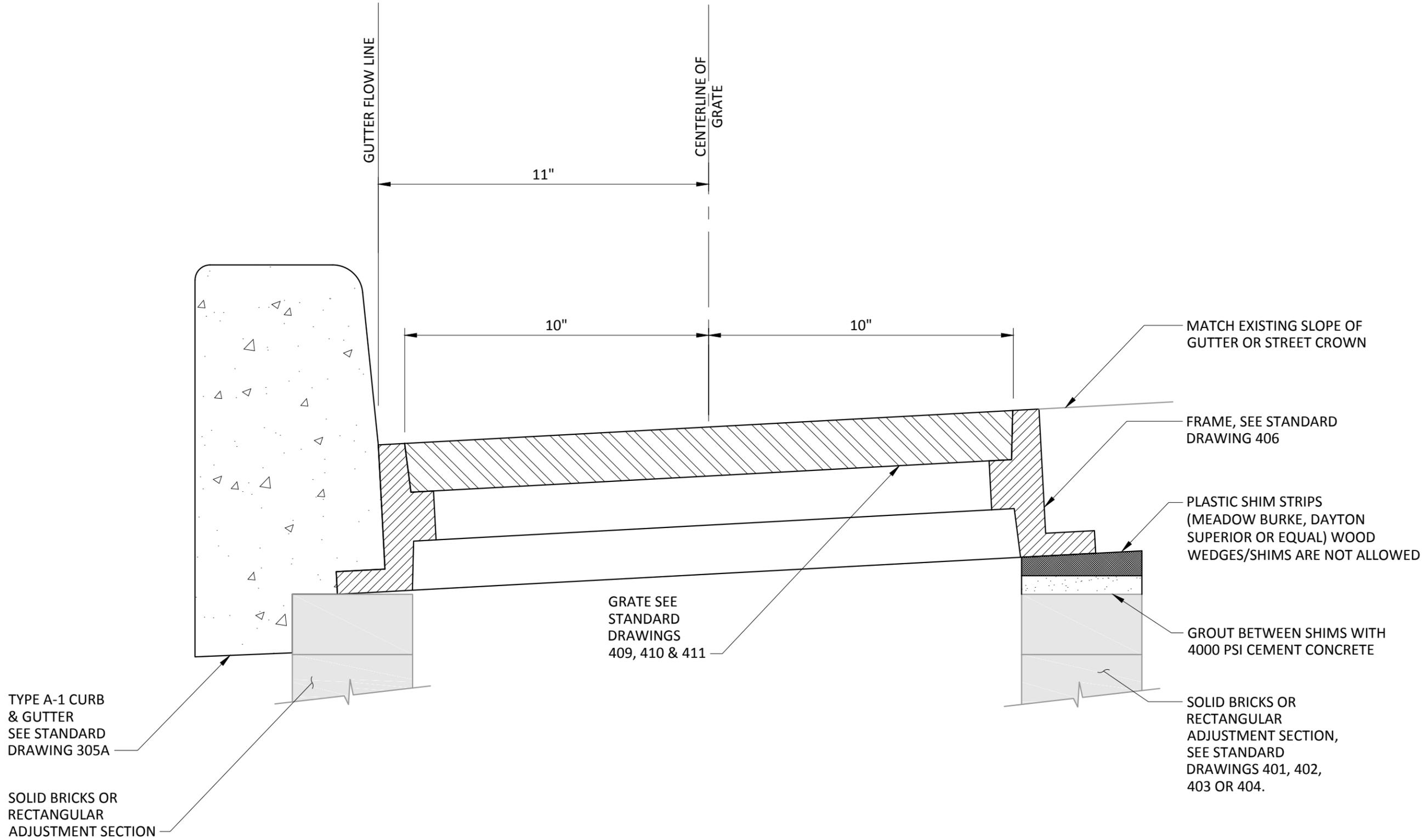
1. THIS FRAME IS DESIGNED TO ACCOMMODATE 20"X24" GRATES OR COVERS AS SHOWN ON STANDARD DRAWINGS 409 , 410 AND 411.
2. BOLT-DOWN CAPABILITY IS REQUIRED ON ALL FRAMES, GRATES AND COVERS UNLESS SPECIFIED OTHERWISE IN THE CONTRACT. PROVIDE TWO HOLES IN THE FRAME THAT ARE VERTICALLY ALIGNED WITH THE GRATE OR COVER SLOTS. THE FRAME SHALL ACCEPT THE 5/8" - 11 NC X 2" STAINLESS STEEL RECESSED ALLEN HEAD CAP SCREW BEING TAPPED, OR OTHER APPROVED MECHANISM. LOCATION OF BOLT DOWN HOLES VARIES BY MANUFACTURER.
3. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) AND DESIGN CONSTRUCTION STANDARDS AND SPECIFICATIONS SECTION 4 FOR ADDITIONAL REQUIREMENTS.

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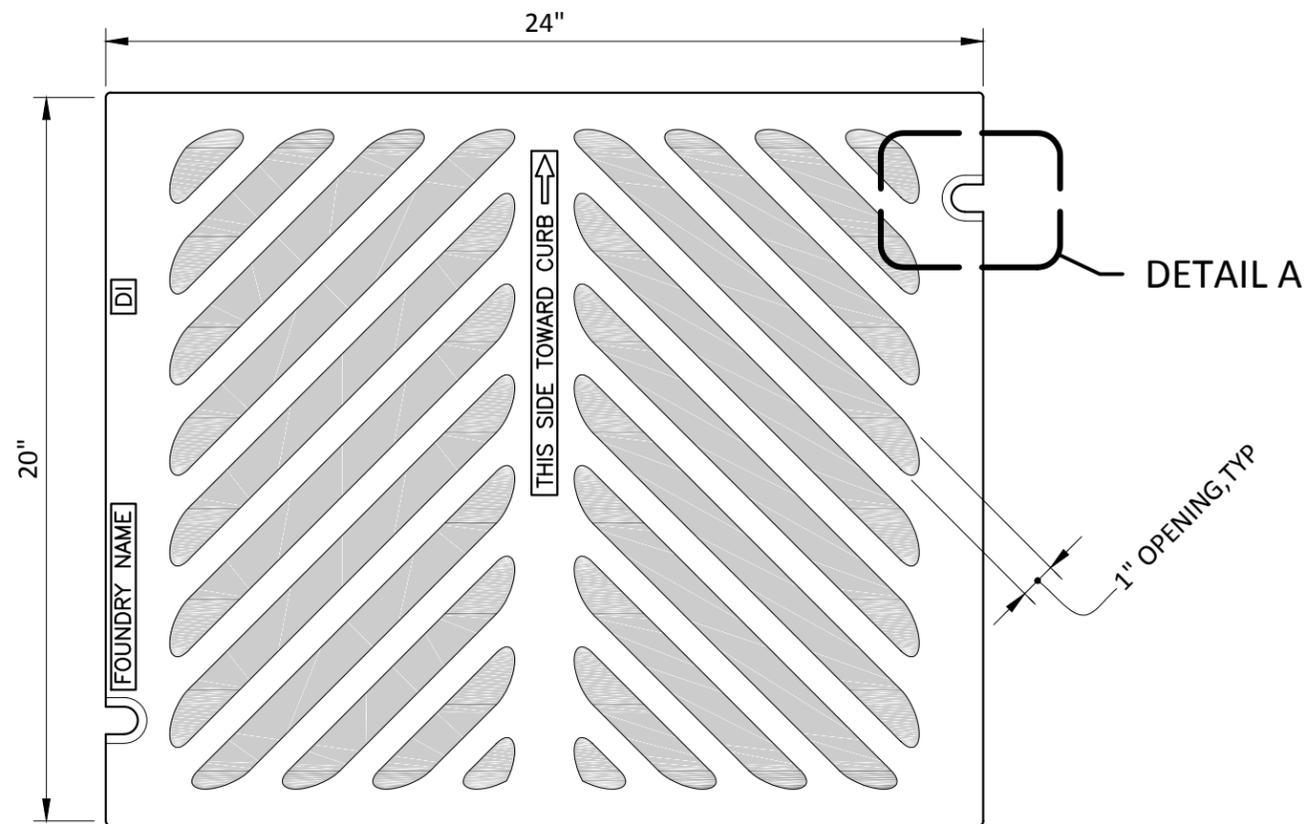
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>RECTANGULAR FRAME</b> (REVERSIBLE)			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>406</b>

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD407.DWG

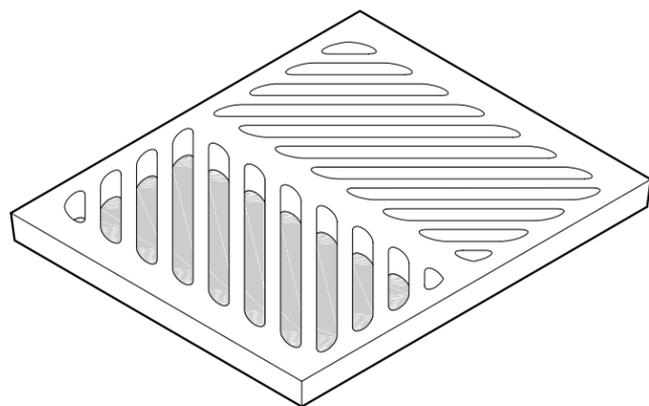


 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer R SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>TYPICAL FRAME AND GRATE INSTALLATION</b>				STANDARD DRAWING No. <b>407</b>

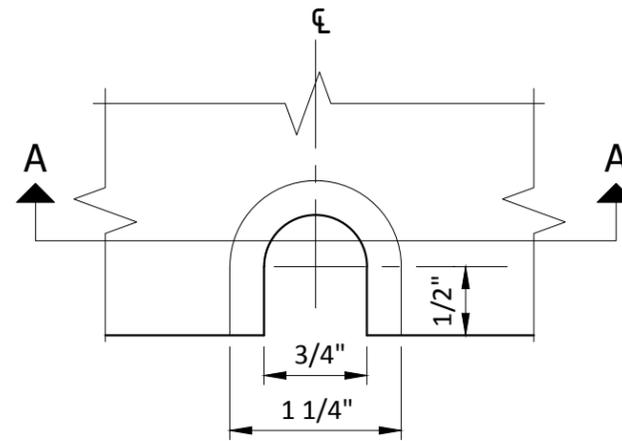
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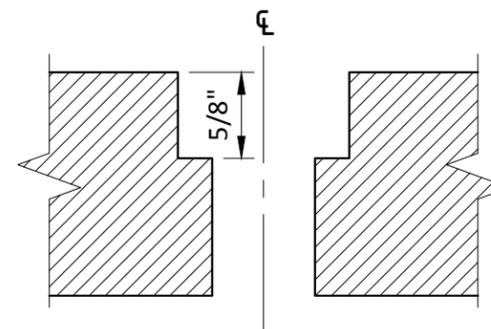
TOP



ISOMETRIC



BOLT-DOWN SLOT  
DETAIL A



SECTION A-A  
(SEE NOTE 1)

**NOTES**

1. BOLT-DOWN CAPABILITY IS REQUIRED ON ALL FRAMES, GRATES AND COVERS UNLESS SPECIFIED OTHERWISE IN THE CONTRACT. PROVIDE TWO HOLES IN THE FRAME THAT ARE VERTICALLY ALIGNED WITH THE GRATE OR COVER SLOTS. THE FRAME SHALL ACCEPT THE 5/8" - 11 NC X 2" STAINLESS STEEL RECESSED ALLEN HEAD CAP SCREW BEING TAPPED, OR OTHER APPROVED MECHANISM. LOCATION OF BOLT DOWN HOLES VARIES BY MANUFACTURER.
2. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) AND DESIGN CONSTRUCTION STANDARDS AND SPECIFICATIONS SECTION 4 FOR ADDITIONAL REQUIREMENTS.
3. FOR FRAME DETAILS, SEE STANDARD DRAWING 406.
4. THE THICKNESS OF THE GRATE SHALL NOT EXCEED 1 5/8".
5. VANED GRATES SHALL BE SPECIFIED, SEE STANDARD DRAWING 411 . THE CITY OF EVERETT SHALL GRANT THE USE OF A HERRINGBONE GRATE ON A CASE BY CASE BASIS.

WSDOT STD PLAN B-30.50-01, ACCEPTABLE SUBSTITUTE EXCEPT ALL STEEL RECESSED ALLEN SCREWS MUST BE STAINLESS STEEL

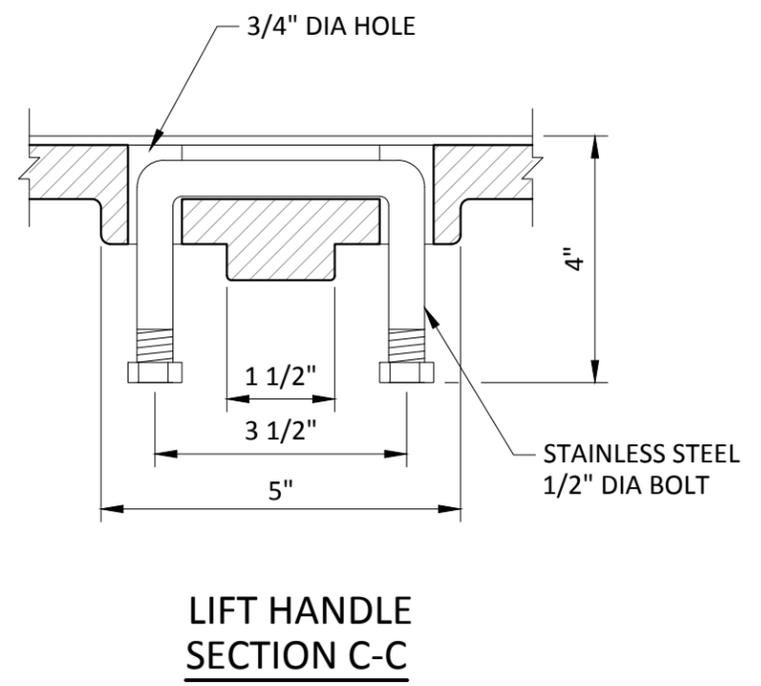
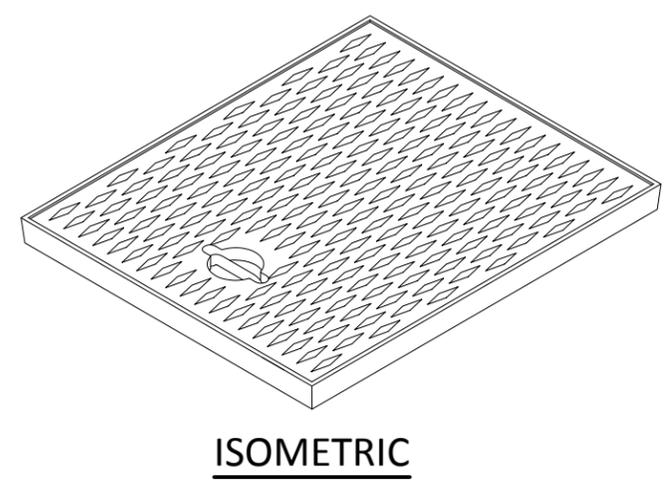
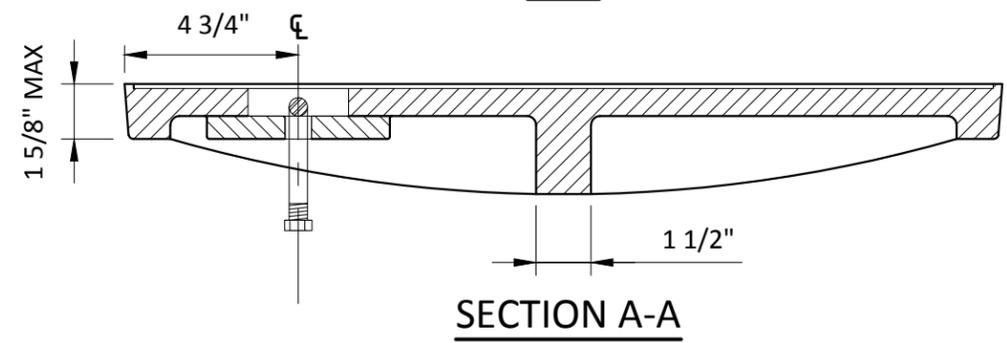
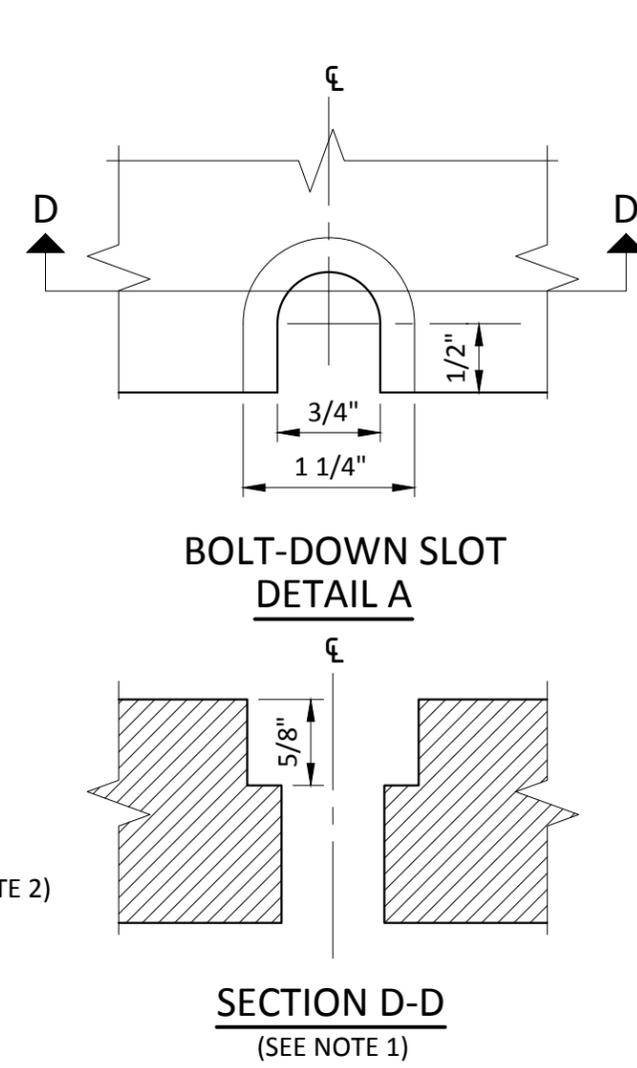
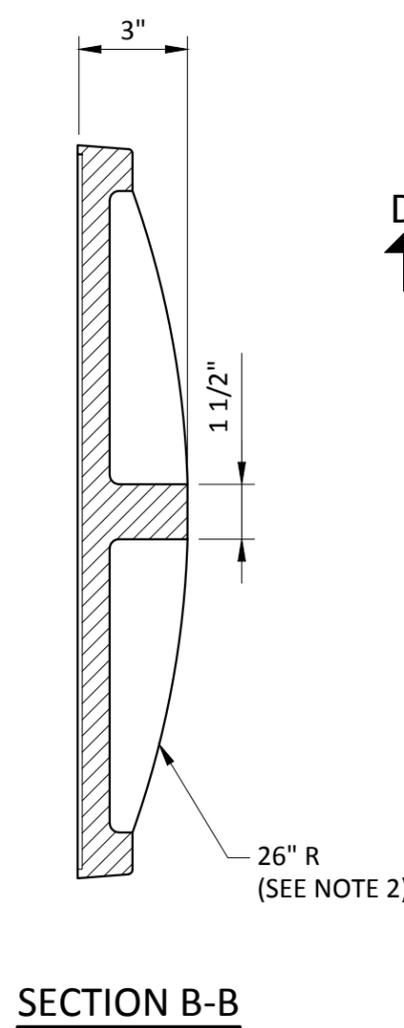
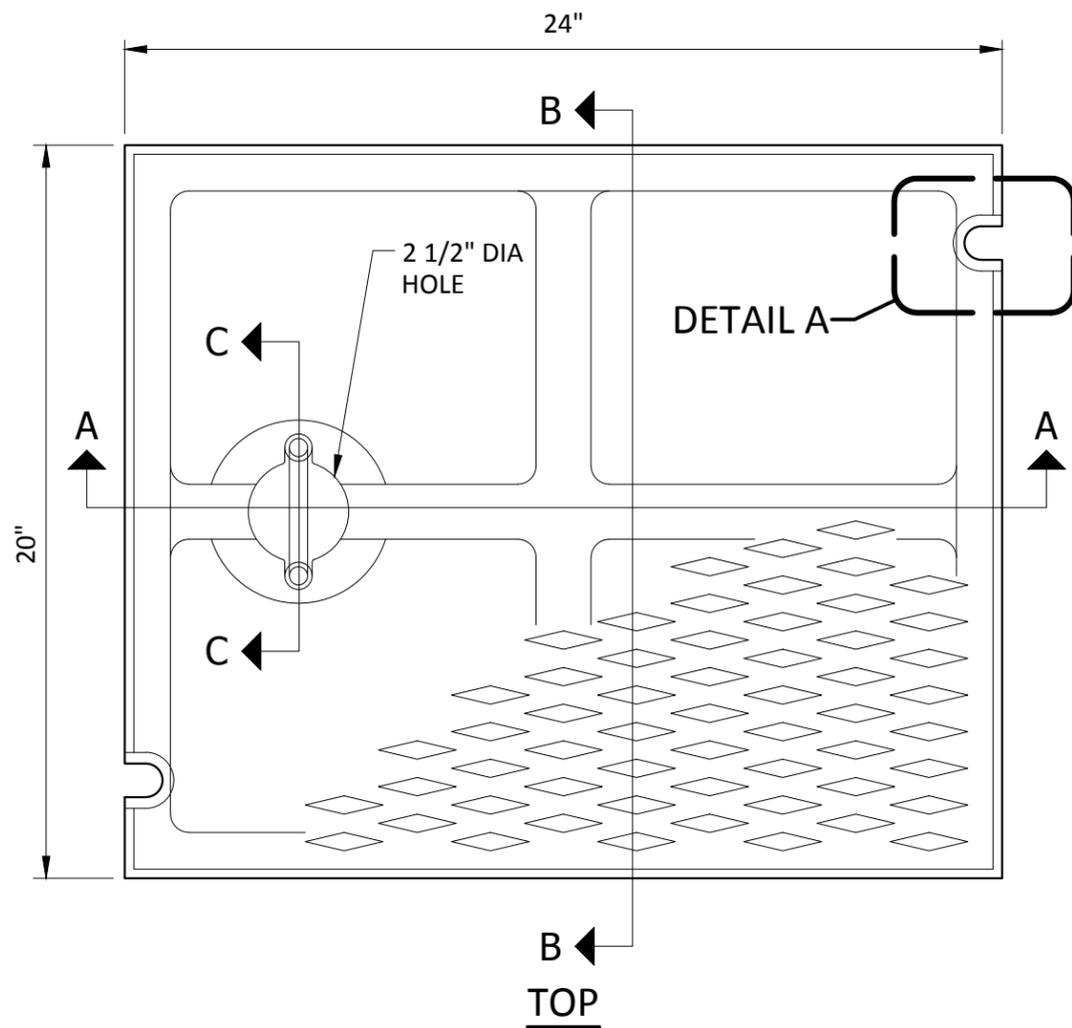


City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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**HERRINGBONE GRATE**  
FOR CATCH BASIN OR INLET

409

**DRAFT**



**NOTES**

1. THIS FRAME IS DESIGNED TO ACCOMMODATE 20"X24" GRATES OR COVERS AS SHOWN ON STANDARD DRAWINGS 409 , 410 AND 411.
2. ALTERNATIVE REINFORCING DESIGNS ARE ACCEPTABLE IN LIEU OF THE RIB DESIGN.
3. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) AND DESIGN CONSTRUCTION STANDARDS AND SPECIFICATIONS SECTION 4 FOR ADDITIONAL REQUIREMENTS.
4. FOR FRAME DETAILS, SEE STANDARD DRAWING 406.

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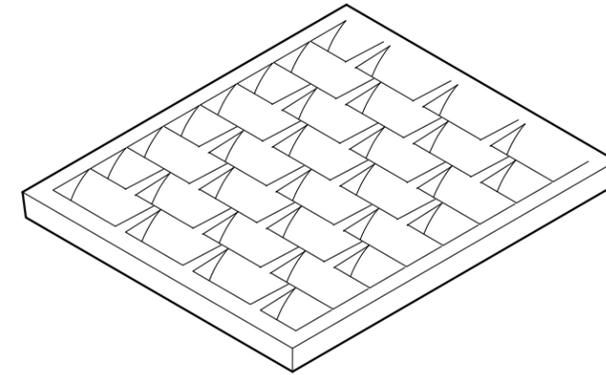
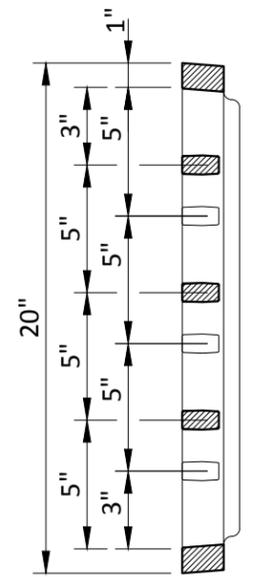
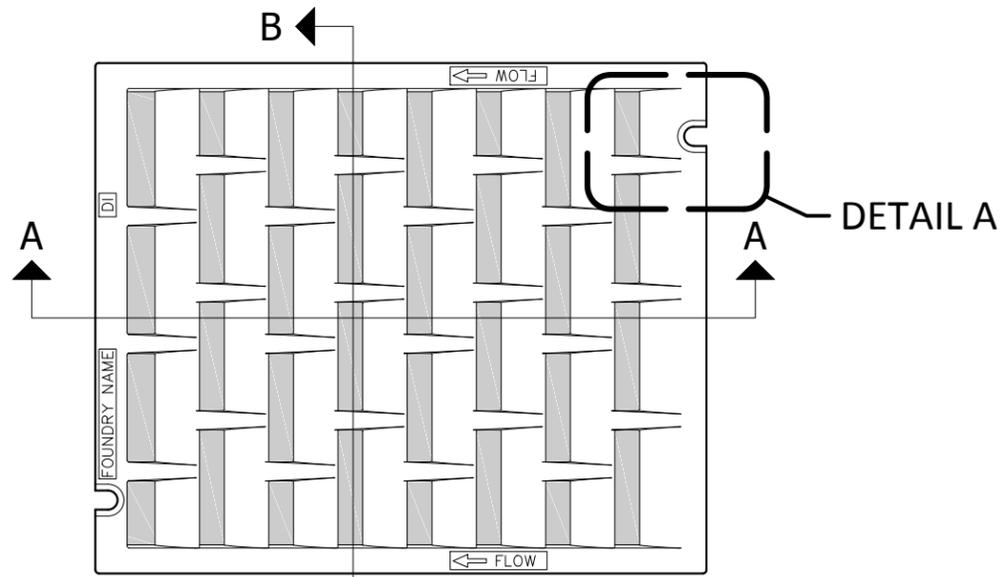
WSDOT STD PLAN B-30.20-02, ACCEPTABLE  
 SUBSTITUTE EXCEPT ALL STEEL RECESSED ALLEN  
 SCREWS MUST BE STAINLESS STEEL



City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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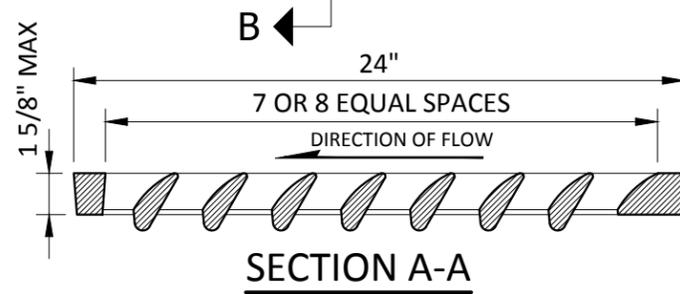
TITLE	STANDARD DRAWING No.
<b>SOLID COVER FOR CATCH BASIN OR INLET</b>	<b>410</b>

**DRAFT**



SECTION B-B

ISOMETRIC

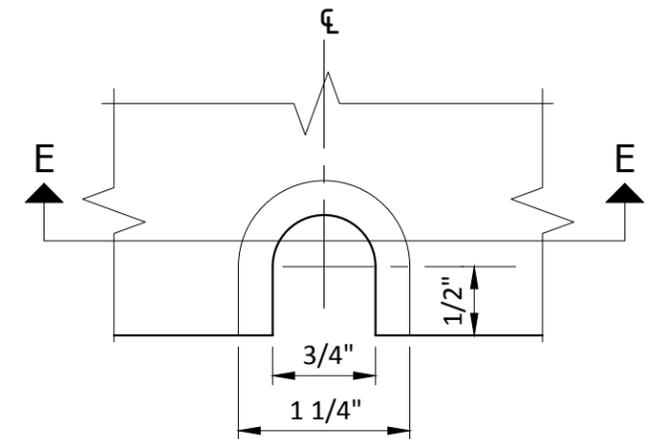


SECTION A-A

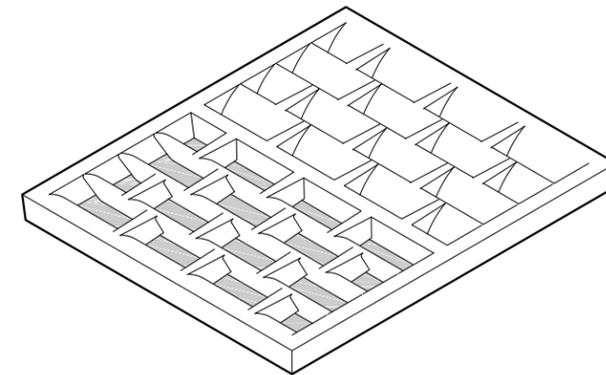
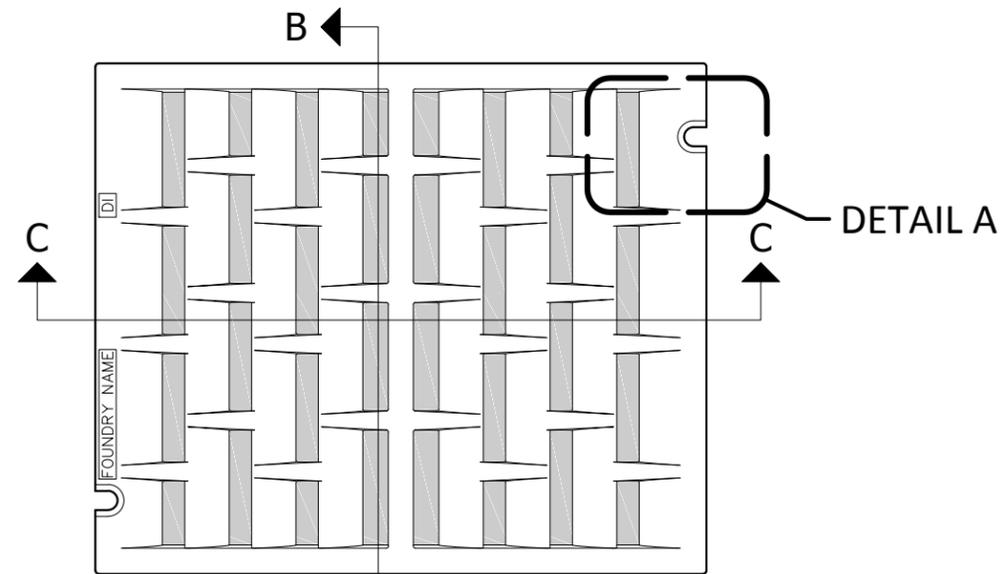
STANDARD DIRECTIONAL GRATE

**NOTES**

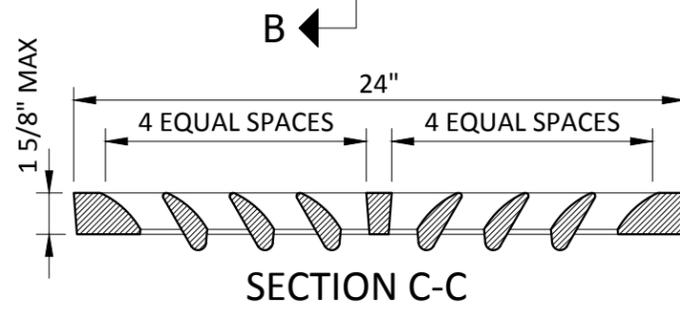
1. THIS FRAME IS DESIGNED TO ACCOMMODATE 20"X24" GRATES OR COVERS AS SHOWN ON STANDARD DRAWINGS 409 , 410 AND 411.
2. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) AND DESIGN CONSTRUCTION STANDARDS AND SPECIFICATIONS SECTION 4 FOR ADDITIONAL REQUIREMENTS.
3. FOR FRAME DETAILS, SEE STANDARD DRAWINGS 406 AND 407.



BOLT-DOWN SLOT  
DETAIL A

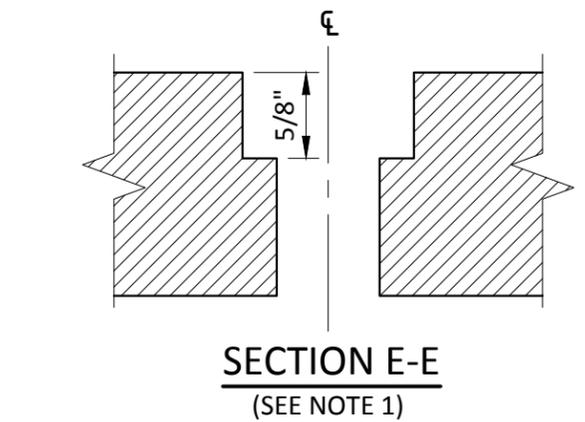


ISOMETRIC



SECTION C-C

BI-DIRECTIONAL OPTION



SECTION E-E  
(SEE NOTE 1)

WSDOT STD PLAN B-30.30-01 AND B-30.40-01, ACCEPTABLE SUBSTITUTE EXCEPT ALL STEEL RECESSED ALLEN SCREWS MUST BE STAINLESS STEEL

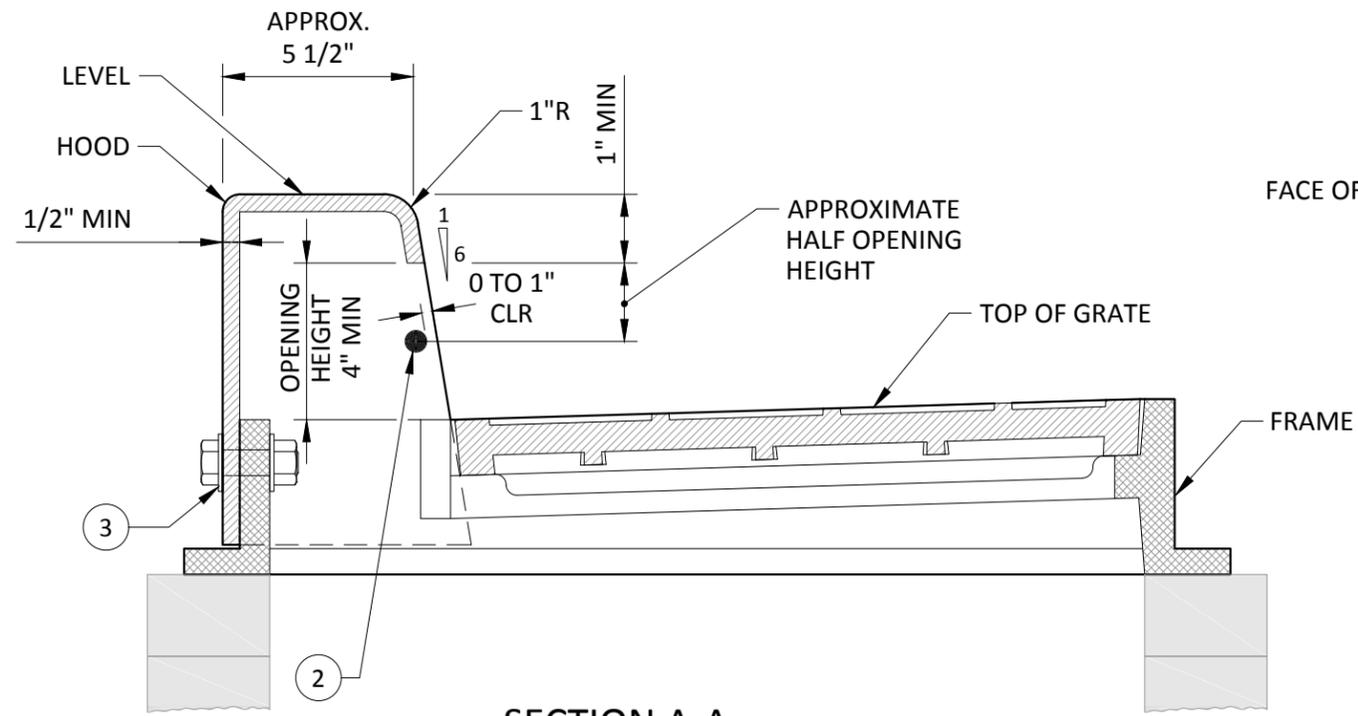


City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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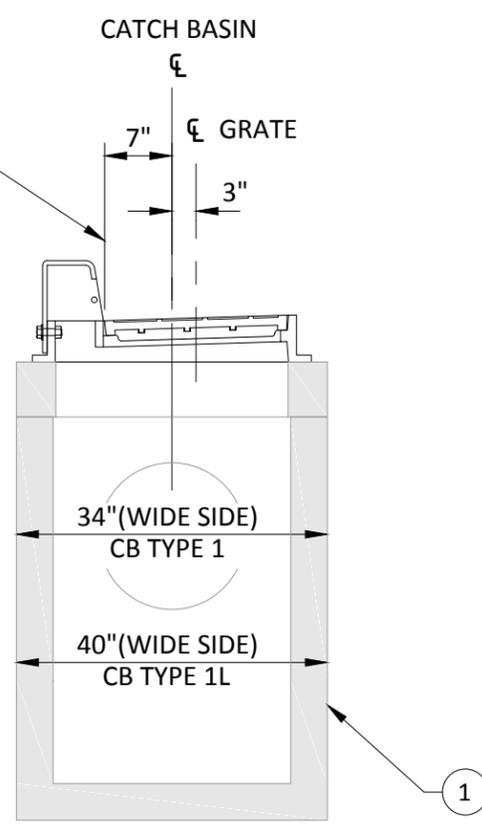
**VANED GRATES**  
FOR CATCH BASIN OR INLET

411

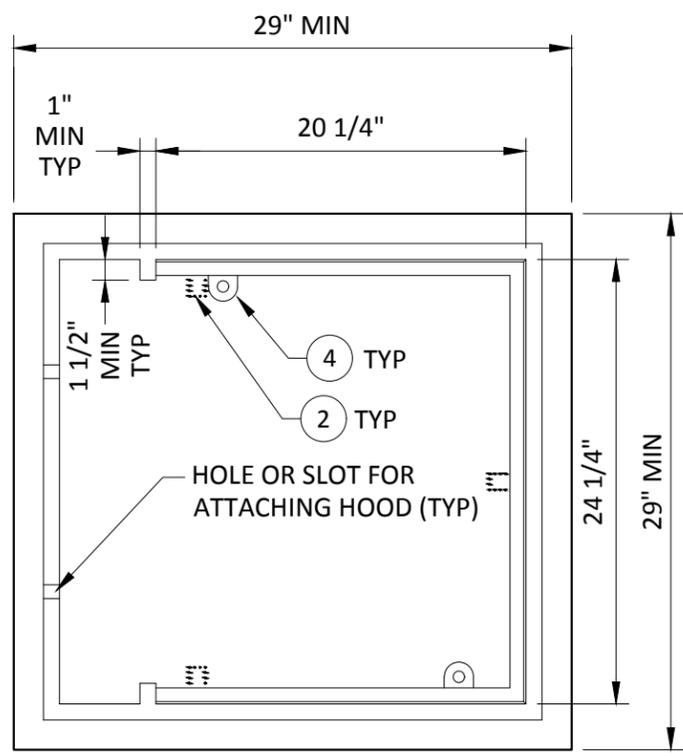
**DRAFT**



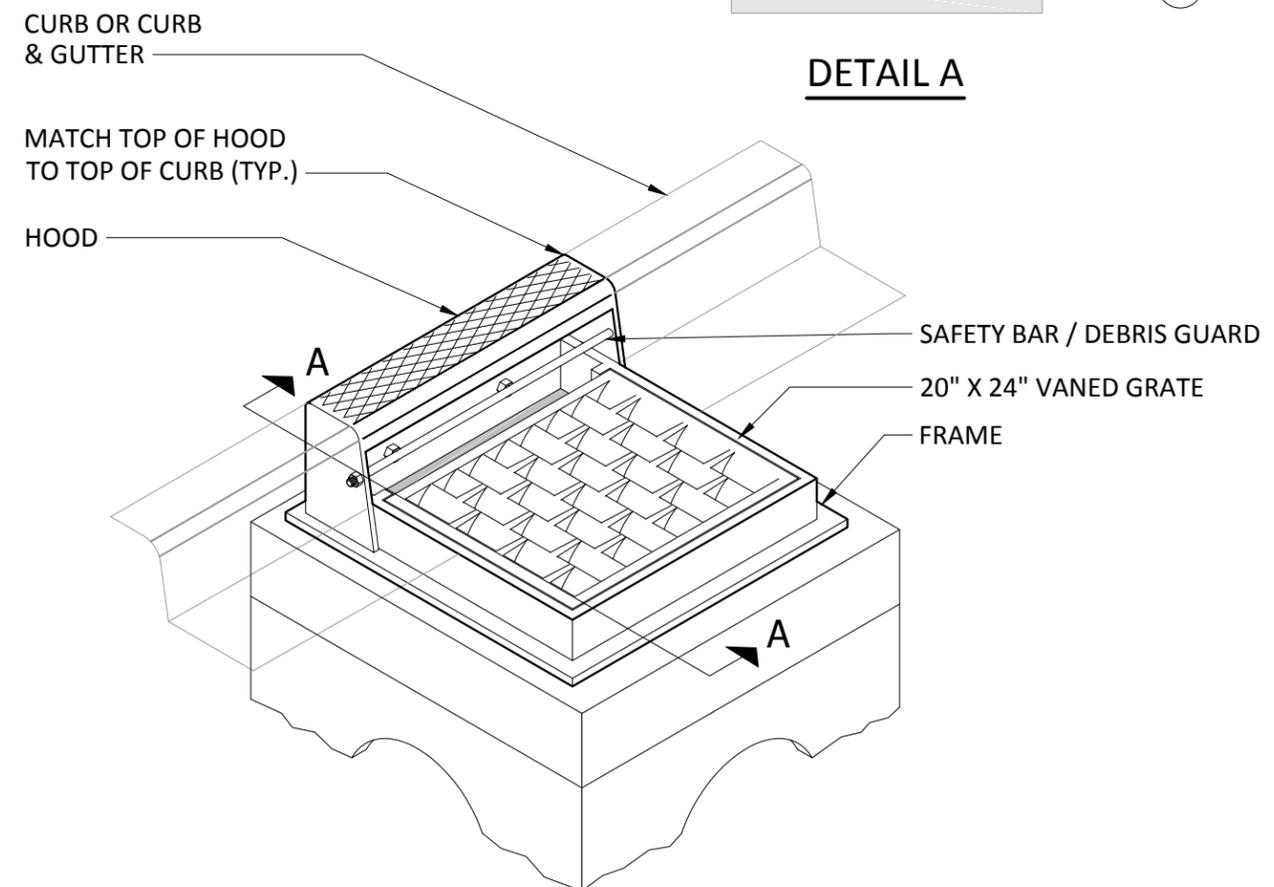
**SECTION A-A**



**DETAIL A**



**TOP VIEW FRAME DETAIL**



**ISOMETRIC VIEW COMBINATION INLET FRAME, HOOD, AND VANED GRATE**

**NOTES**

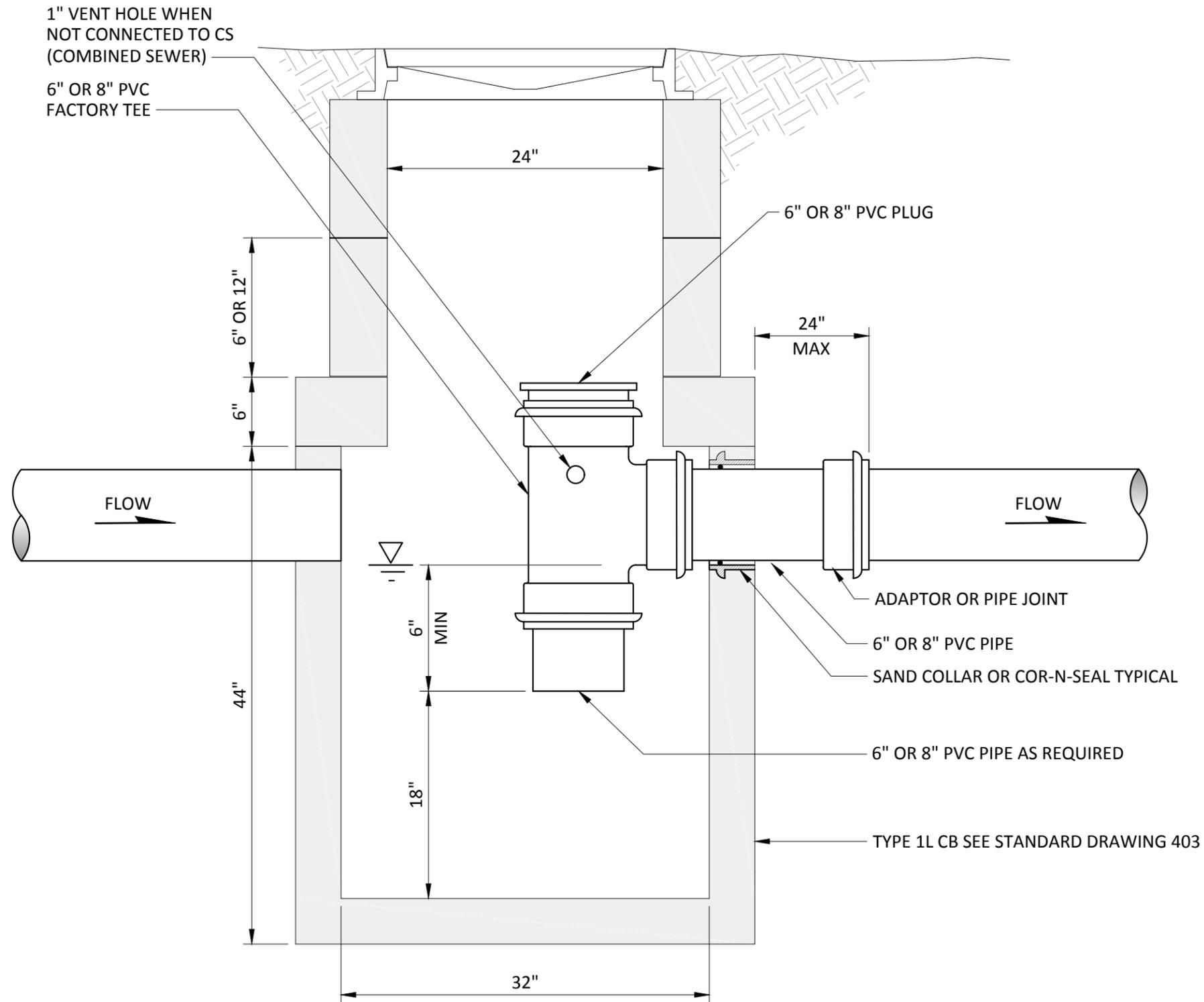
1. THIS INLET REQUIRES THE PRECAST CATCH BASIN UNIT TO BE ROTATED 90 DEGREES SO THAT THE NARROW SIDE IS PARALLEL TO THE CURB LINE. WHEN CALCULATING OFFSETS FROM CURB TO CENTERLINE OF THE PRECAST CATCH BASIN, PLEASE NOTE THAT THE CENTERLINE OF THE GRATE IS NOT THE CENTERLINE OF THE PRECAST CATCH BASIN. SEE SECTION A.
2. THE DIMENSIONS OF THE FRAME AND HOOD MAY VARY SLIGHTLY AMONG DIFFERENT MANUFACTURERS. THE FRAME MAY HAVE CAST FEATURES INTENDED TO SUPPORT A DEBRIS GUARD. HOOD UNITS MAY BE MOUNTED INSIDE OR OUTSIDE OF THE FRAME. THE METHODS FOR FASTENING THE SAFETY BAR / DEBRIS GUARD TO THE HOOD MAY VARY. THE HOOD MAY INCLUDE CASTING LUGS. THE TOP OF THE HOOD MAY BE CAST WITH A PATTERN.
3. ATTACH THE HOOD TO THE FRAME WITH TWO 3/4" x 2" STAINLESS STEEL HEX HEAD BOLTS, NUTS, AND OVERSIZE WASHERS. THE WASHERS SHALL HAVE DIAMETERS ADEQUATE TO ENSURE FULL BEARING ACROSS THE SLOTS.
4. BOLT-DOWN CAPABILITY IS REQUIRED ON ALL FRAMES, GRATES AND COVERS, UNLESS SPECIFIED IN THE CONTRACT. PROVIDE TWO HOLES IN THE FRAME THAT ARE VERTICALLY ALIGNED WITH THE GRATE SLOTS. THE FRAME SHALL ACCEPT THE 5/8" - 11 NC x 2" STAINLESS STEEL ALLEN HEAD CAP SCREW BY BEING TAPPED, OR OTHER APPROVED MECHANISM. THE LOCATION OF BOLT-DOWN HOLES VARIES AMONG DIFFERENT MANUFACTURERS. SEE BOLT-DOWN DETAIL, STANDARD DRAWING 406.
5. ONLY DUCTILE IRON VANED GRATES SHALL BE USED. SEE STANDARD DRAWING 411 FOR GRATE DETAILS. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) AND DESIGN CONSTRUCTION STANDARDS AND SPECIFICATIONS SECTION 4 FOR ADDITIONAL REQUIREMENTS.
6. THIS PLAN IS INTENDED TO SHOW THE INSTALLATION DETAILS OF A MANUFACTURED PRODUCT. THIS PLAN IS NOT INTENDED TO SHOW THE SPECIFIC DETAILS NECESSARY TO FABRICATE THE CASTINGS DEPICTED IN THIS DRAWING.

WSDOT STD PLAN B-25.20-01, ACCEPTABLE SUBSTITUTE EXCEPT ALL STEEL RECESSED ALLEN SCREWS MUST BE STAINLESS STEEL

City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>OPEN CURB FACE FRAME AND GRATE</b>				STANDARD DRAWING No. <b>412</b>

**DRAFT**

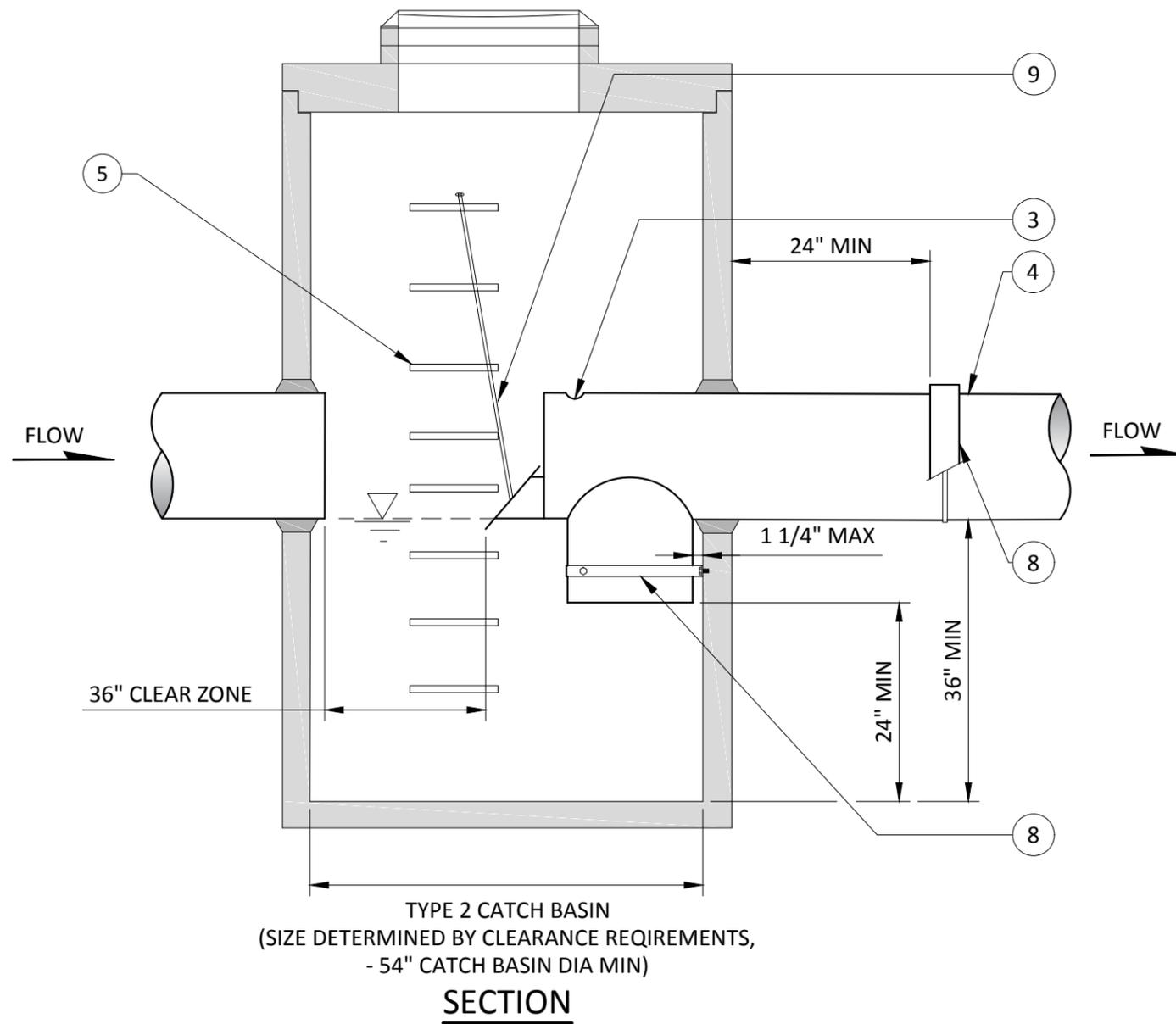
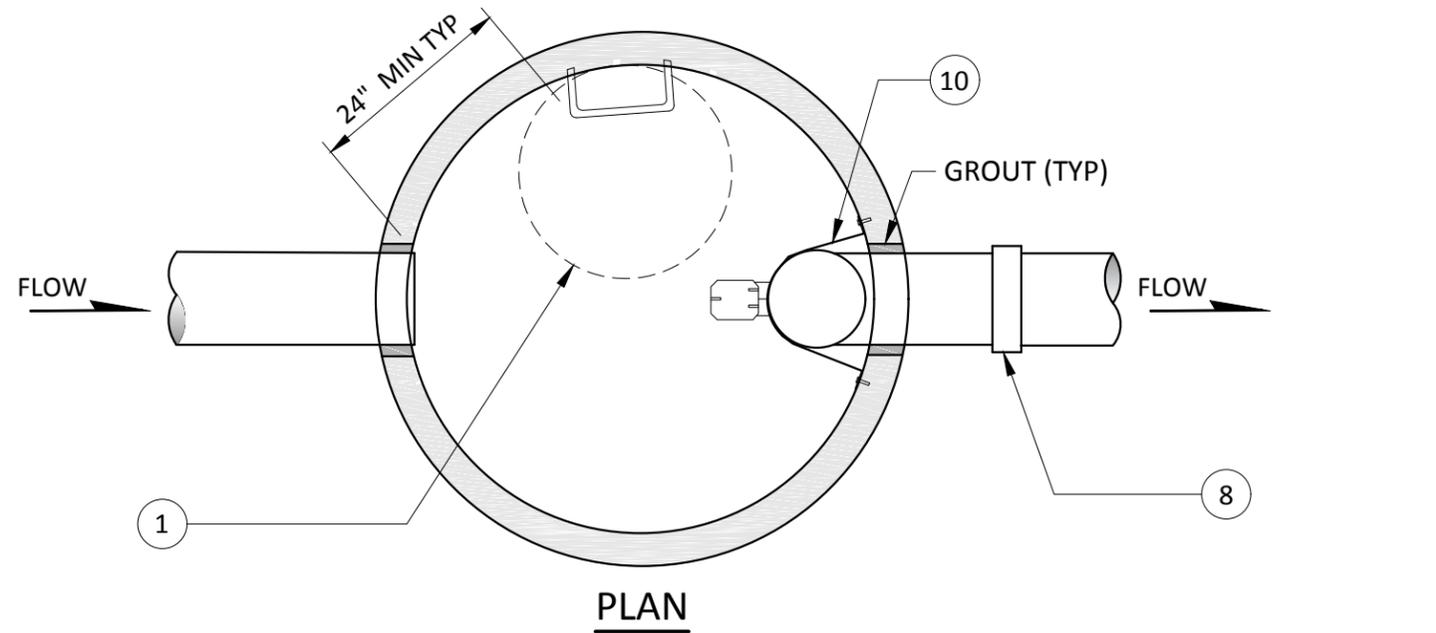
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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>TITLE</b> <b>FLOATABLE MATERIAL SEPARATOR &amp; GAS TRAP</b> FOR 6" OR 8" LINES				<b>STANDARD DRAWING No.</b> <b>413</b>



TYPE 2 CATCH BASIN  
(SIZE DETERMINED BY CLEARANCE REQUIREMENTS,  
- 54" CATCH BASIN DIA MIN)

**SECTION**

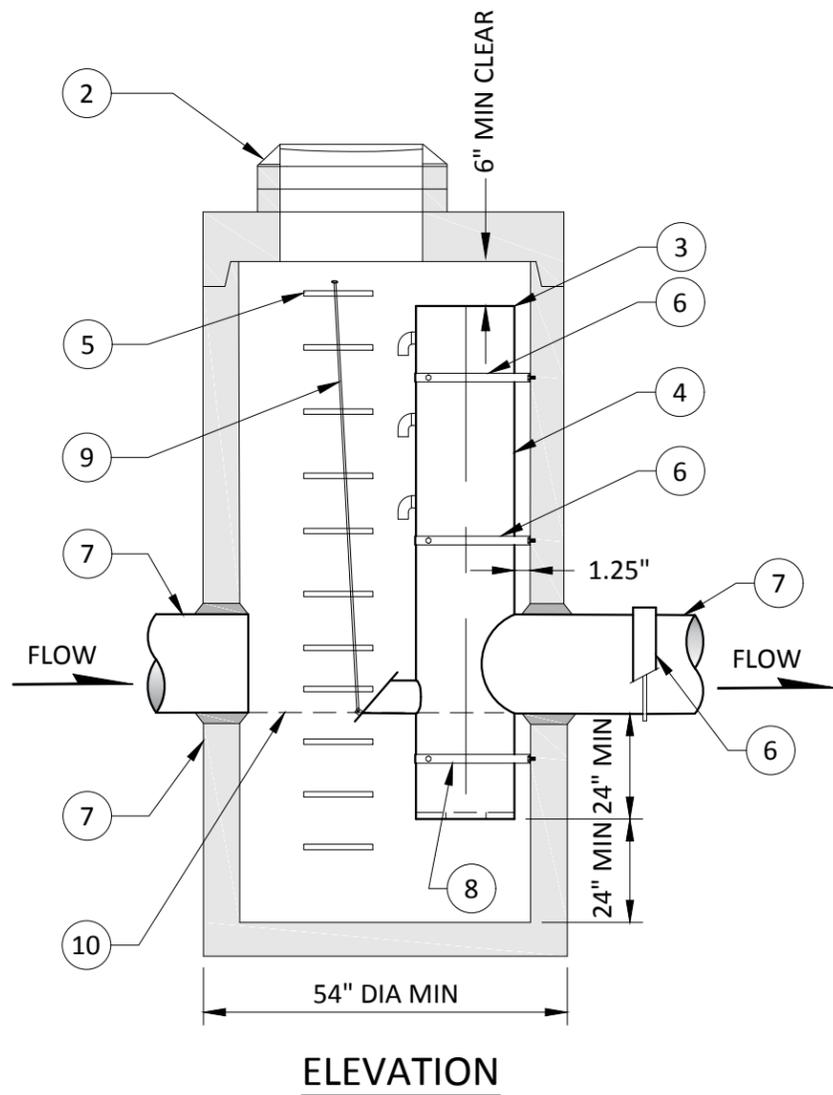
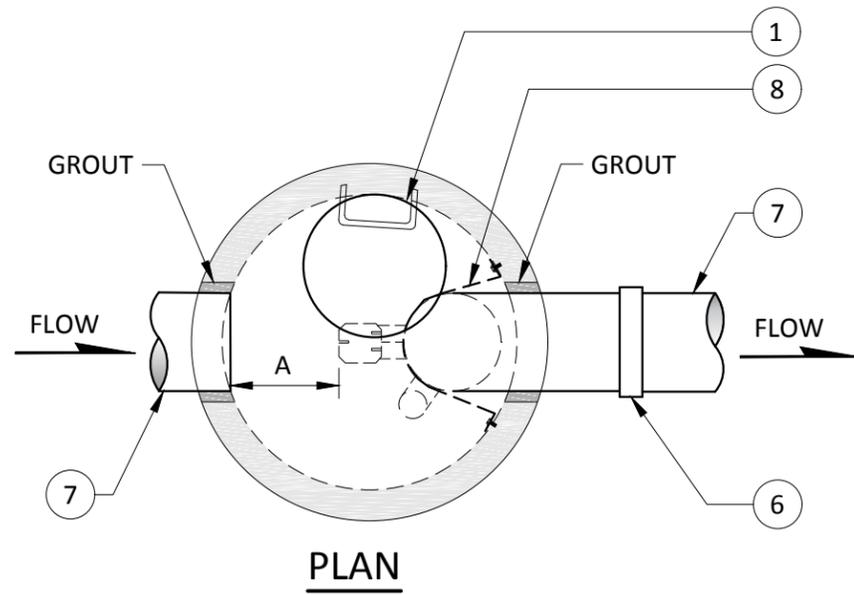
**NOTES**

1. INSTALL CATCH BASIN TOP, FRAME, GRATE AND SECTIONS SO THAT LIFT GATE IS VISIBLE THROUGH OPENING AND STEPS CLEAR INLET AND RESTRICTOR UNIT.
2. INSTALL LOCKING FRAME & GRATE OR COVER PER STANDARD DRAWINGS 406 AND 607. FRAME AND COVER PER STANDARD DRAWING 607 IS REQUIRED IF INSTALLATION IS NOT IN PAVED AREA OR IS NOT TO FUNCTION AS A CATCH BASIN.
3. 1" VENT HOLE WHEN NOT CONNECTED TO COMBINED SEWER SYSTEM.
4. SEPARATOR ASSEMBLY SEE STANDARD DRAWING 413 AS APPLICABLE.
5. STEPS PER STANDARD DRAWING 606.
6. MIN CLEARANCE: 36" FOR OUTLETS OF 24" AND LARGER 18", FOR OUTLETS OF 18" AND SMALLER
7. BAND STRAP WITH GASKET
8. SECURE SEPARATOR TO CATCH BASIN WITH 8 GA ALUMINUM STRAP. BOLT TO CATCH BASIN WALL WITH STAINLESS STEEL ANCHOR BOLTS AND TO SEPARATOR UNIT.
9. FOR LIFT GATE ASSEMBLY AND ALUMINUM ROD LIFT HANDLE ASSEMBLY SEE STANDARD DRAWING 416.

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB
<b>FLOATABLE MATERIAL SEPARATOR AND/OR GAS TRAP FOR 12" AND LARGER LINES</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>414</b>



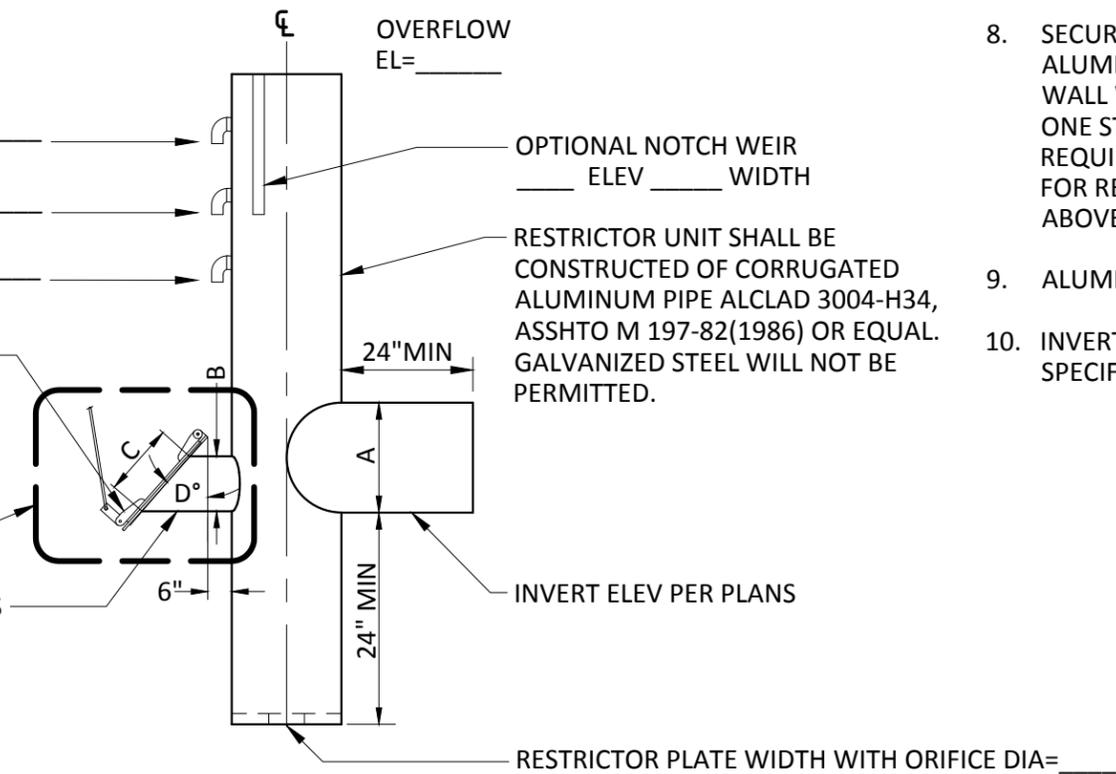
SECONDARY ORIFICES

ORIFICE INVERT ELEV= \_\_\_\_\_  
DIA= \_\_\_\_\_  
ORIFICE INVERT ELEV= \_\_\_\_\_  
DIA= \_\_\_\_\_  
ORIFICE INVERT ELEV= \_\_\_\_\_  
DIA= \_\_\_\_\_

ALUMINUM LIFT GATE

SEE STANDARD DRAWING 416, DETAIL "C"

INVERT ELEV PER PLANS



ITEM	DESCRIPTION	SIZE	
A	OUTLET	18" AND SMALLER	24" AND LARGER
B	CLEAN OUT	8" ID	
C	GATE SIZE	8" OPENING	12" OPENING
D	ANGLE	42°±	

**NOTES**

1. INSTALL CB TOP, FRAME, GRATE AND SECTIONS SO THAT LIFT GATE IS VISIBLE THROUGH OPENING AND STEPS CLEAR INLET AND RESTRICTOR UNIT.
2. INSTALL LOCKING FRAME & GRATE OR LID SEE STANDARD DRAWINGS 405 OR 607. FRAME AND LID SEE STANDARD DRAWING 607 IS REQUIRED IF INSTALLATION IS NOT IN PAVED AREA OR IS NOT TO FUNCTION AS A CB.
3. OVERFLOW ELEVATION PER PLANS.
4. RESTRICTOR ASSEMBLY SEE DETAIL B AND STANDARD DRAWING 416, DETAIL C.
5. FOR STEPS SEE STANDARD DRAWING 606.
6. BAND STRAP WITH GASKET.
7. SEE PLAN AND SPECIFICATIONS FOR SIZE AND TYPE OF PIPE ENTERING AND EXITING CB.
8. SECURE RESTRICTOR TO CATCH BASIN WITH 8 GA ALUMINUM STRAPS AND BOLT TO CATCH BASIN WALL WITH STAINLESS STEEL ANCHOR BOLTS. ONE STRAP ABOVE AND BELOW OUTLET REQUIRED, INTERMEDIATE STRAPS REQUIRED FOR RESTRICTOR RISERS GREATER THAN 12' ABOVE OUTLET.
9. ALUMINUM ROD LIFT HANDLE ASSEMBLY
10. INVERT ELEVATION: SEE PLANS AND SPECIFICATIONS.

**DETAIL "A" TYPICAL RESTRICTOR INSTALLATION**

**DETAIL "B" TYPICAL RESTRICTOR ASSEMBLY**

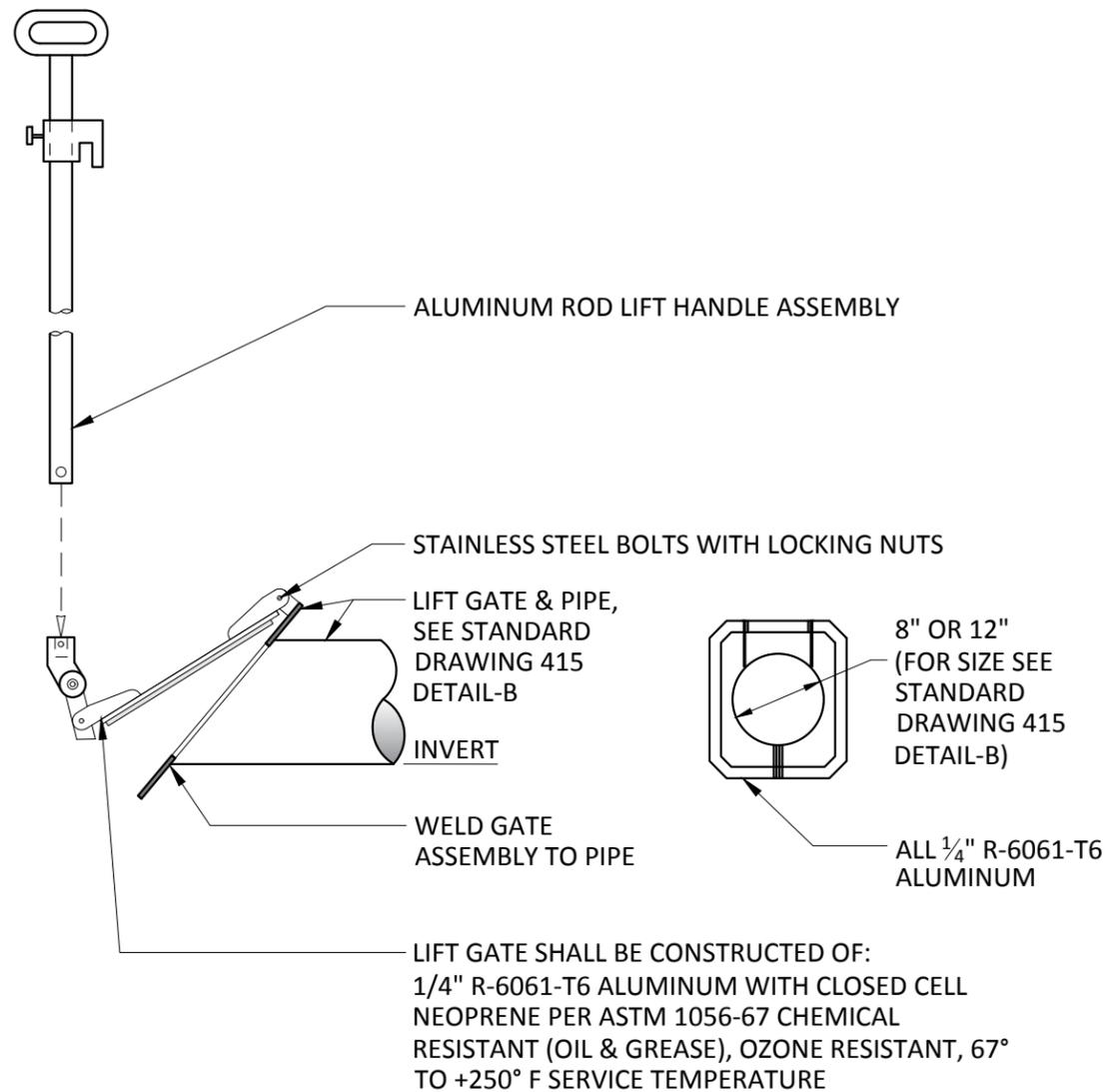
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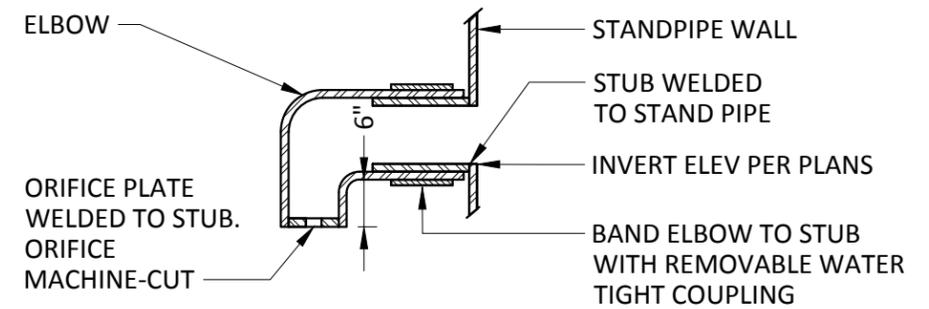
**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>HEATHER GRIFFIN</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>WRB</b>	Current Rev Date <b>12/30/2016</b>
<b>TYPICAL RESTRICTOR INSTALLATION</b>				<b>415</b>

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**DETAIL "C" LIFT GATE ASSEMBLY & GATE DETAIL**



**ALL PARTS TO BE R-6061-T6 ALUMINUM  
SECONDARY ORIFICE DETAIL**

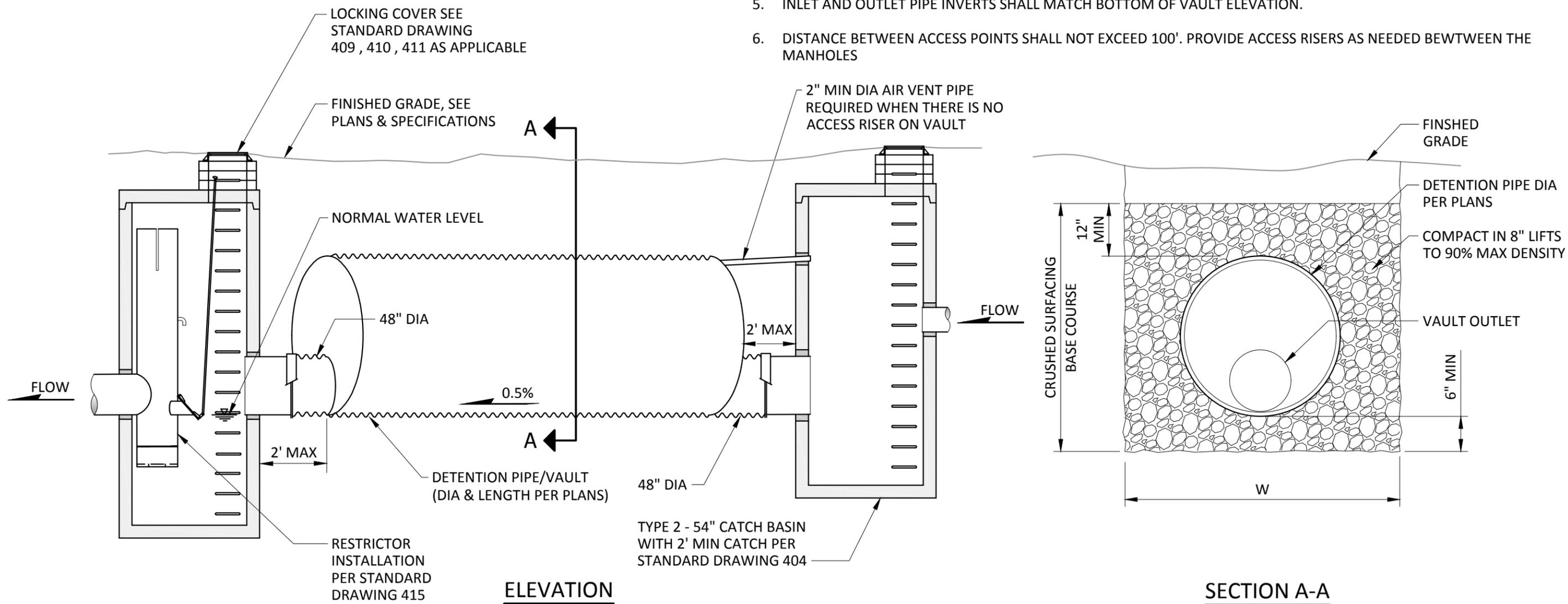
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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>LIFT GATE ASSEMBLY &amp; SECONDARY ORIFICE DETAIL</b>				STANDARD DRAWING No. <b>416</b>

**DRAFT**

## NOTES

1. DETENTION STRUCTURE SHALL BE FABRICATED FROM ONE OF THE FOLLOWING:
  - A. CORRUGATED ALUMINUM PIPE 12 GAGE MIN.
  - B. HIGH DENSITY POLYETHYLENE PIPE.
2. ANNUAL INSPECTIONS AND CLEANING REQUIRED BY OWNER TO ENSURE PROPER OPERATION OF DETENTION SYSTEM.
3. W = MAXIMUM WIDTH OF TRENCH FOR PIPE/VAULT PER MANUFACTURER INSTALATION INSTRUCTIONS.
4. COMPACT IN 8" LIFTS TO 90% MAX DENSITY.
5. INLET AND OUTLET PIPE INVERTS SHALL MATCH BOTTOM OF VAULT ELEVATION.
6. DISTANCE BETWEEN ACCESS POINTS SHALL NOT EXCEED 100'. PROVIDE ACCESS RISERS AS NEEDED BEWTWEEN THE MANHOLES

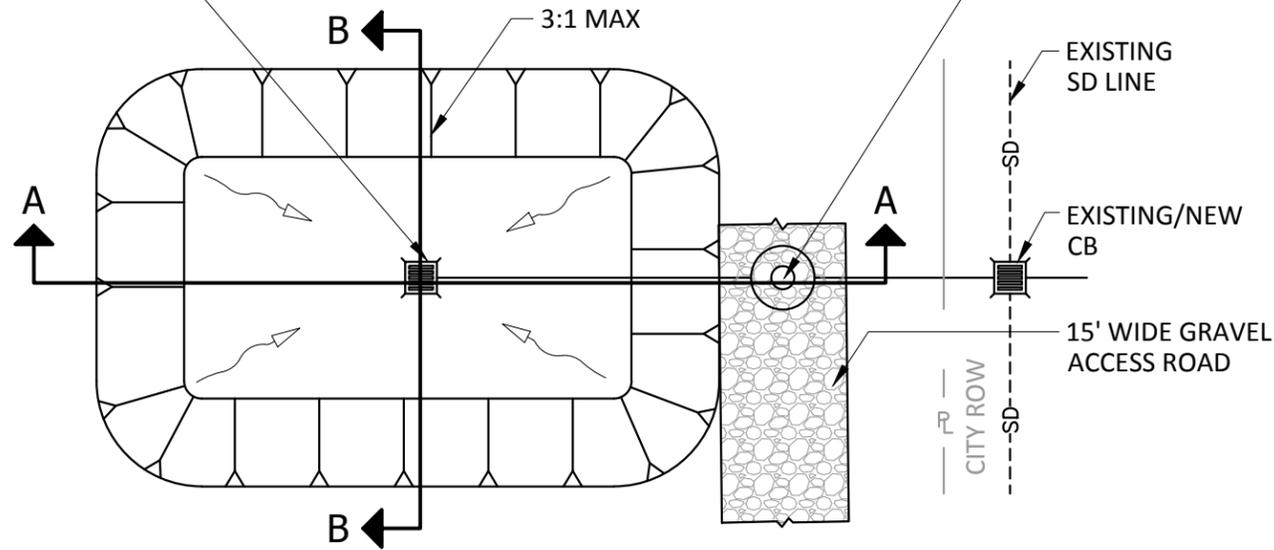


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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>TYPICAL CLOSED UNDERGROUND DETENTION SYSTEM</b>				STANDARD DRAWING No. <b>418</b>

CB ELEVATIONS PER PLAN



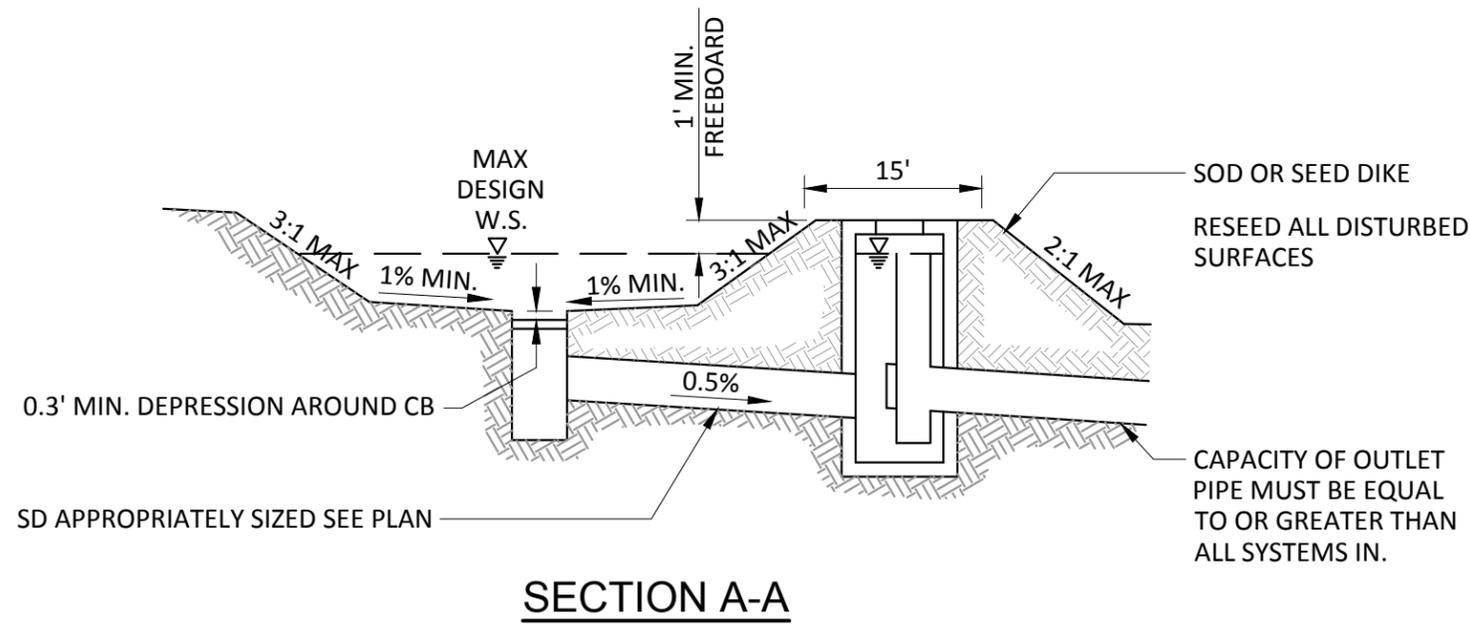
TYPE 2 CATCH BASIN SEE STANDARD DRAWING 415 WITH RESTRICTOR (CB SIZE & RESTRICTOR TYPE PER PLAN)

EXISTING SD LINE

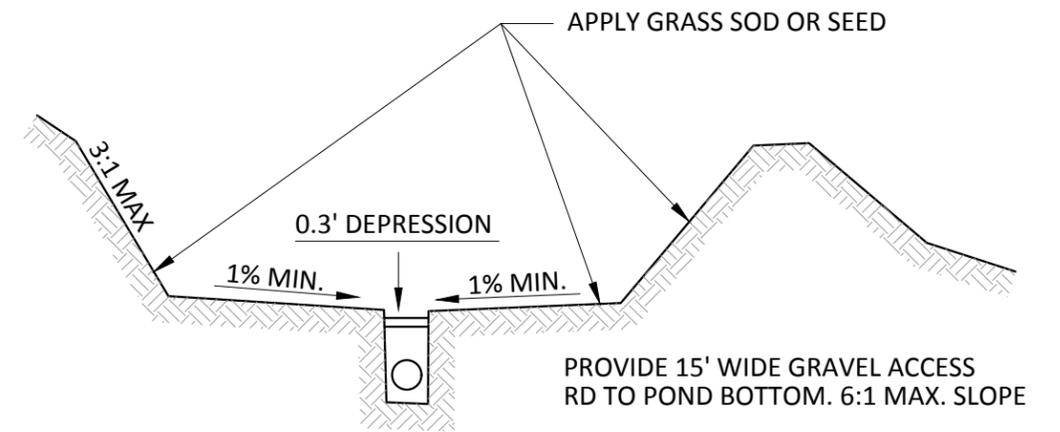
EXISTING/NEW CB

15' WIDE GRAVEL ACCESS ROAD

CITY ROW



**SECTION A-A**



**SECTION B-B**

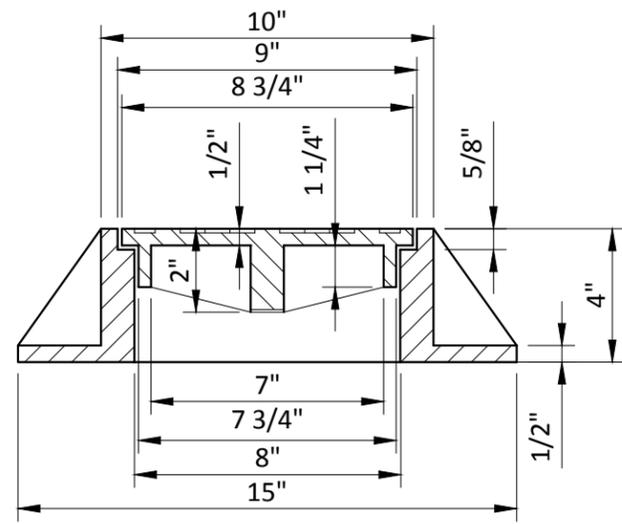
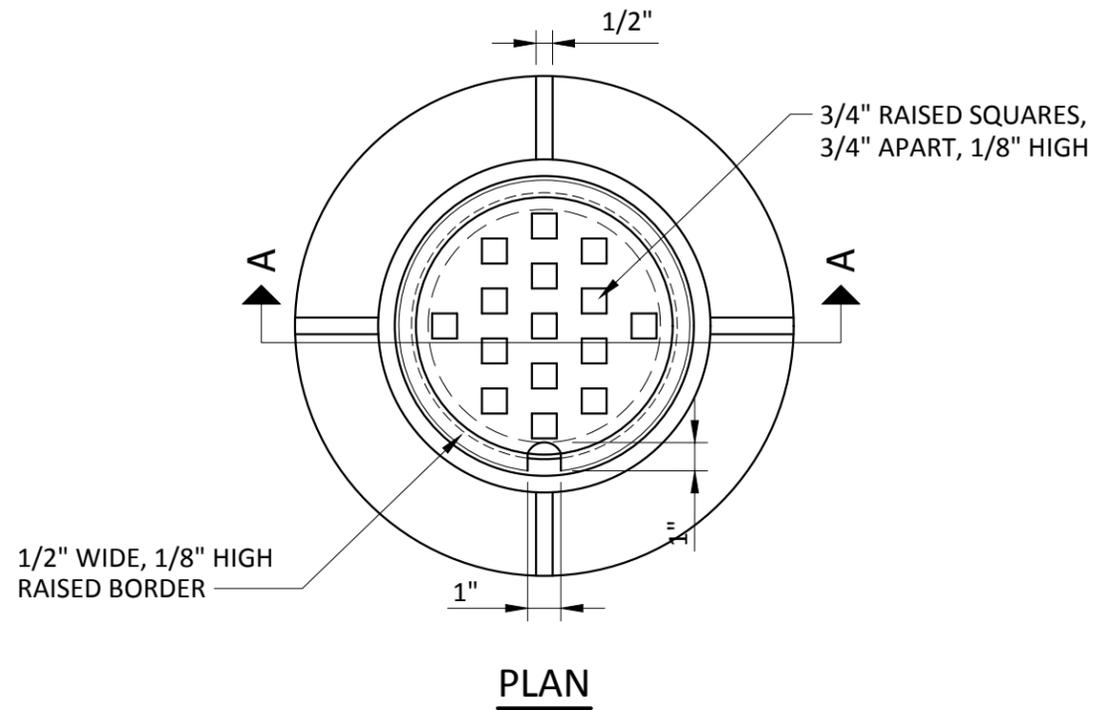
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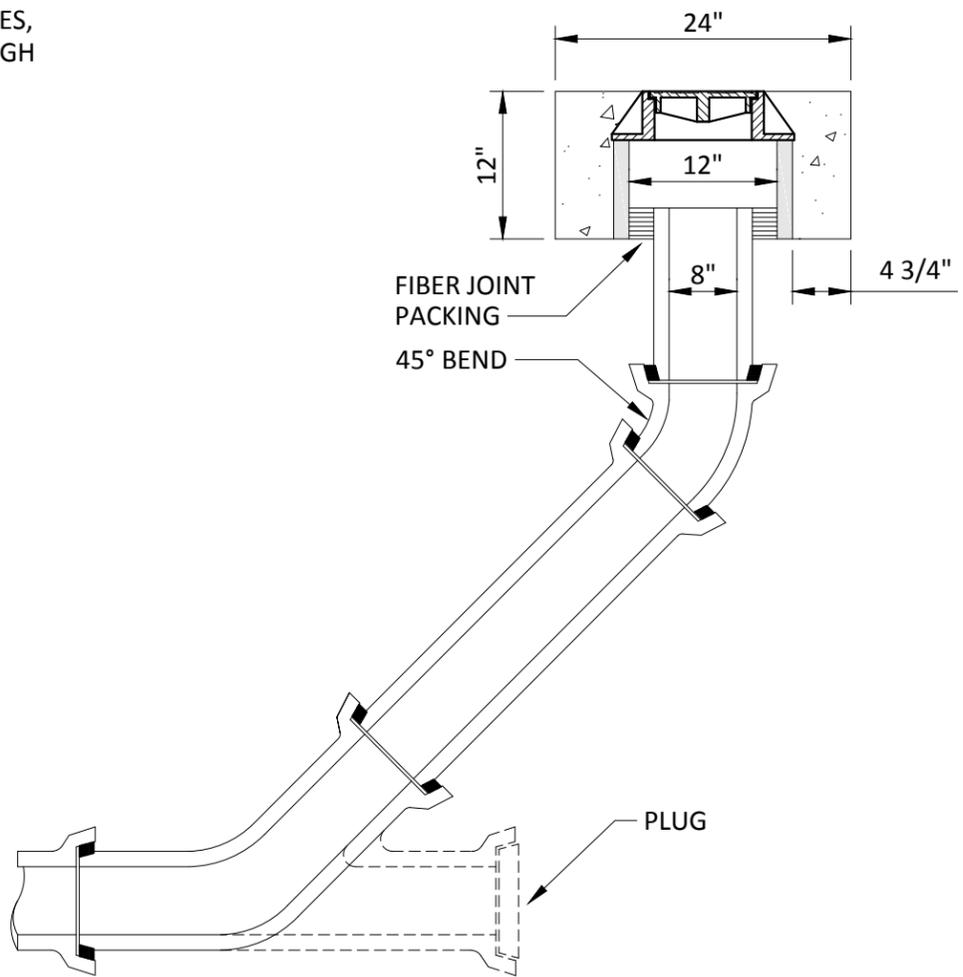
 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date <b>12/30/2016</b>
<b>TYPICAL DRY TYPE DETENTION POND</b>				STANDARD DRAWING No. <b>419</b>

**NOTES**

1. 8" PVC THREADED PLUG MAYBE SUBSTITUTED FOR CAST IRON RING AND COVER IN LANDSCAPING AREA.



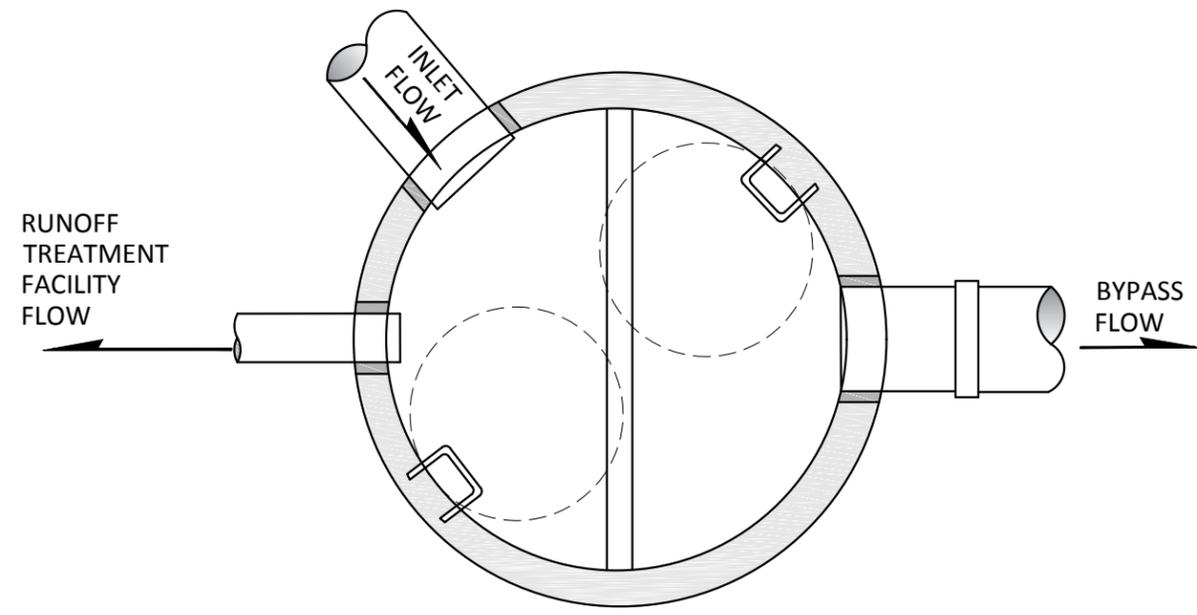
**SECTION A-A  
CAST IRON RING AND COVER**



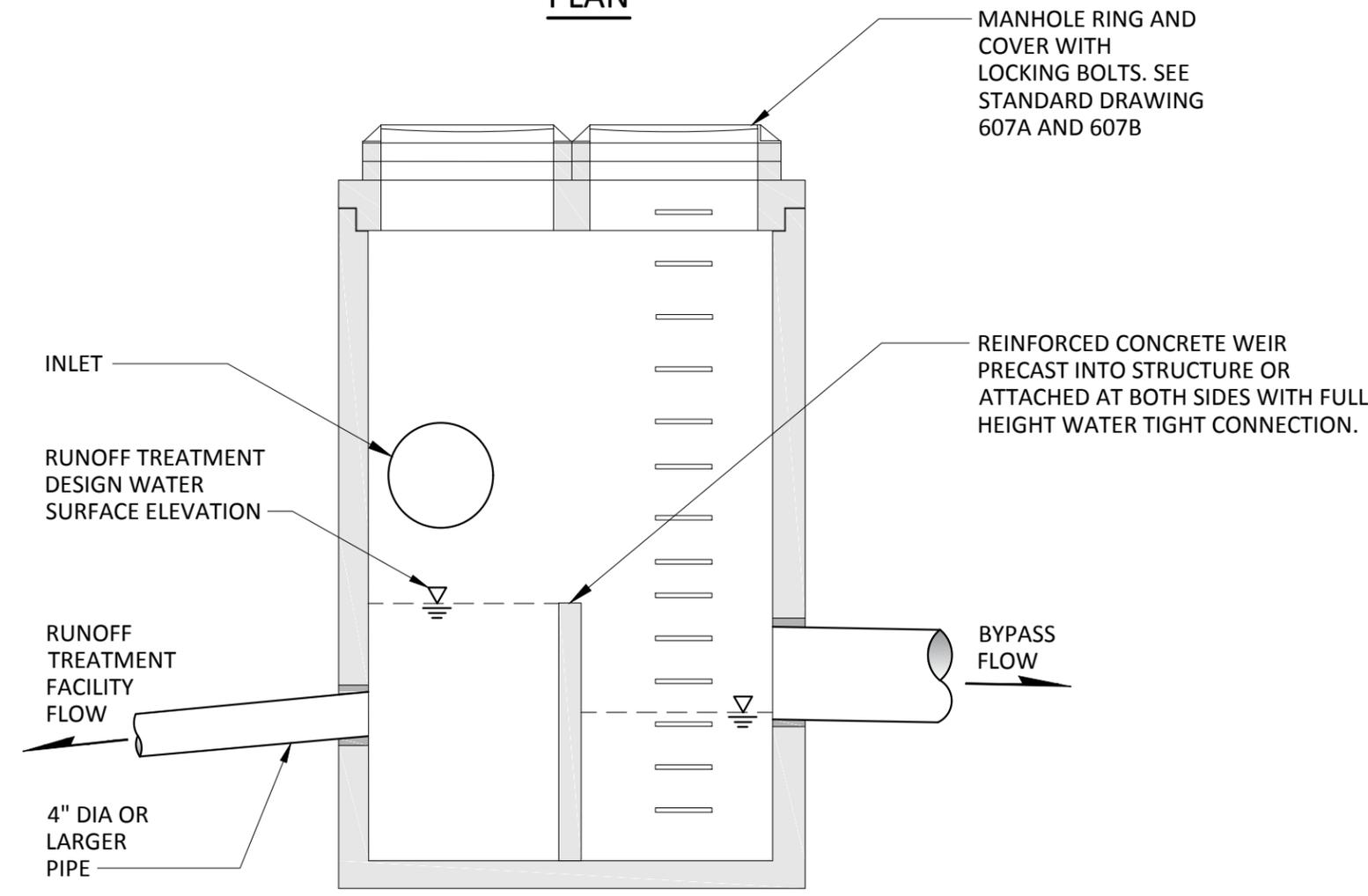
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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
<b>8 INCH STORMWATER CLEAN-OUT</b>			Current Rev Date <b>12/30/2016</b> <small>STANDARD DRAWING No.</small> <b>421</b>



**PLAN**



CONCRETE VAULT OR TYPE 2 CATCH BASIN  
(SIZE DETERMINED BY CLEARANCE REQUIREMENTS,  
- 60" CATCH BASIN MIN)

**SECTION**

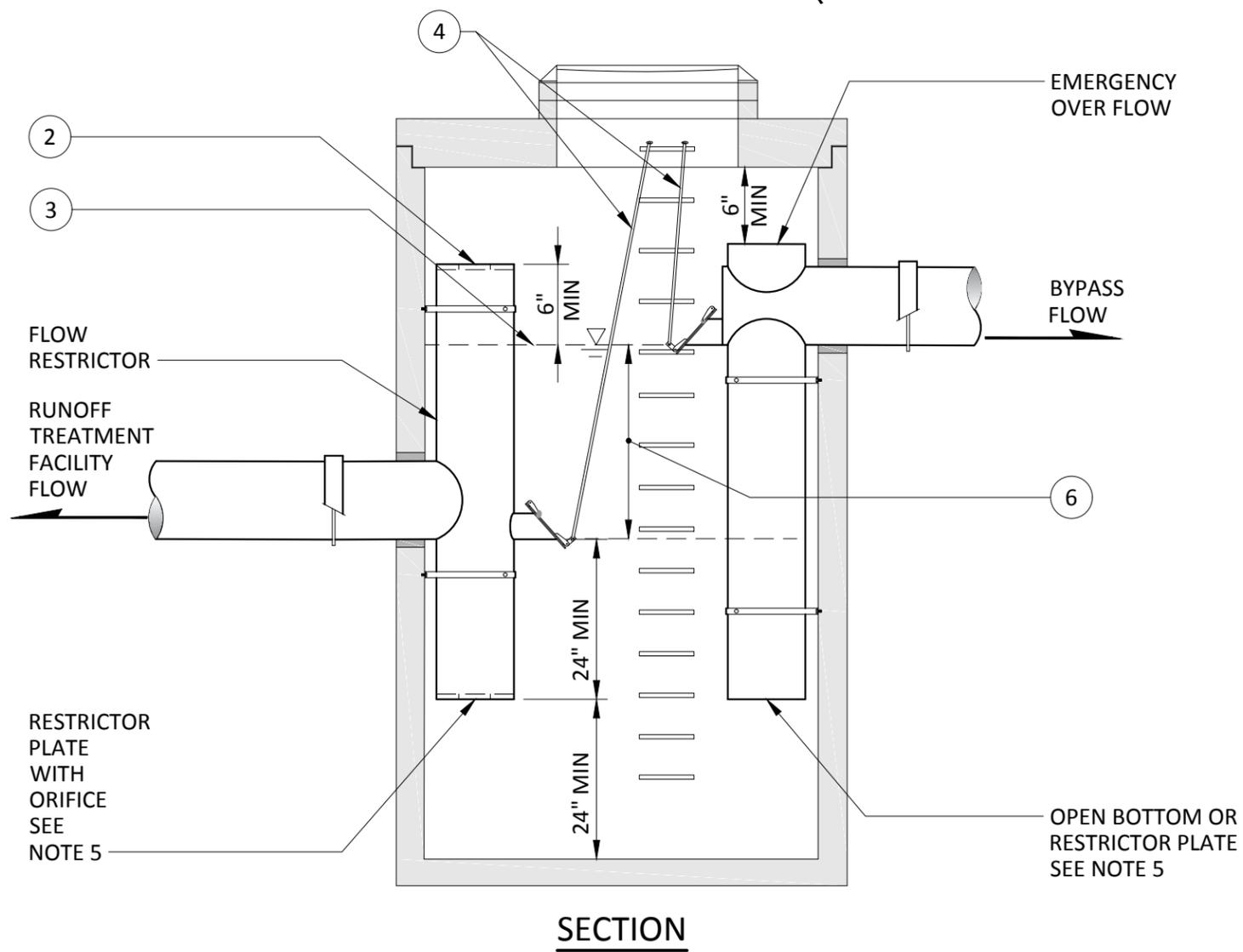
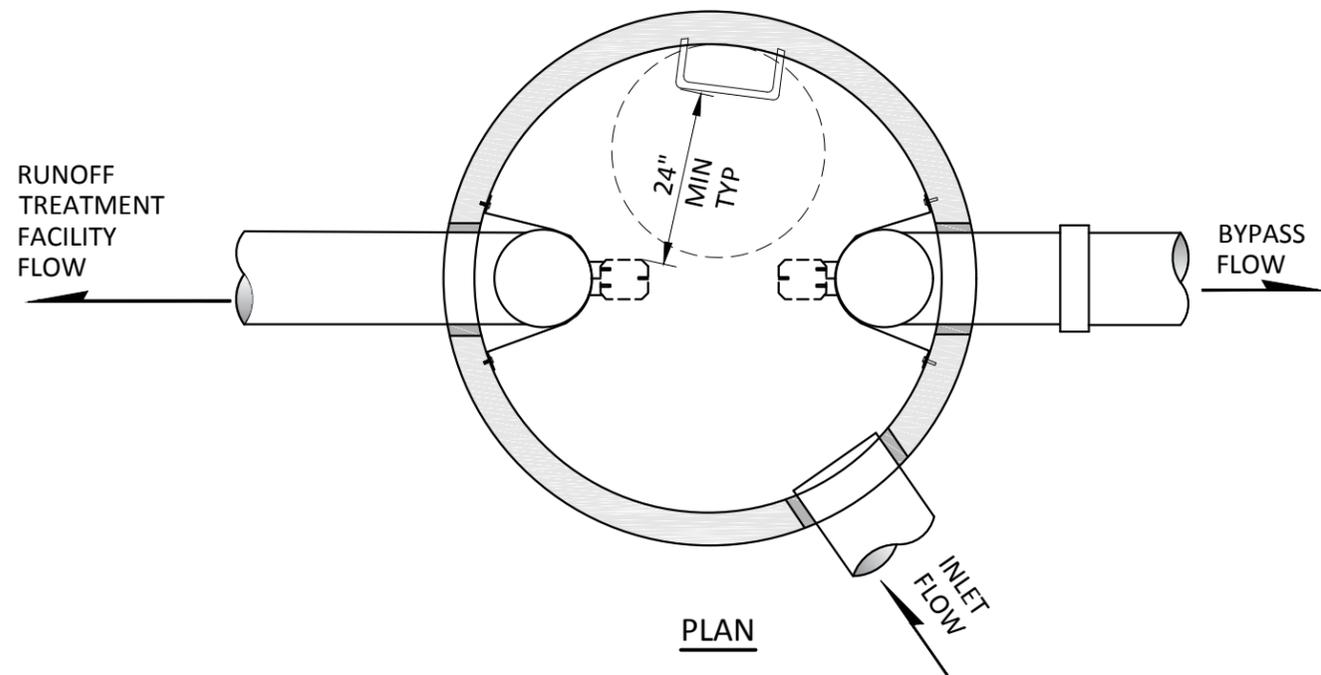
**NOTES**

1. WATER QUALITY OUTFLOW PIPE SIZED TO CONVEY THE WATER QUALITY FLOW RATE AT THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION.
2. THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION SHALL BE A MINIMUM OF 2x THE PIPE DIAMETER ABOVE THE PIPE INVERT. WEIR HEIGHT SHALL BE AT RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION.
3. INLET PIPE MAY BE AT OR BELOW THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION, BUT BACKWATER EFFECTS ON THE UPSTREAM SYSTEM MUST BE ACCOUNTED FOR.
4. WEIR SHALL HAVE #4 BAR AT 12" SPACING EACH WAY.
5. STEPS PER STANDARD DRAWING 606.

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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>TITLE</b> BYPASS STRUCTURE TYPE A				STANDARD DRAWING No. <b>422</b>

**DRAFT**



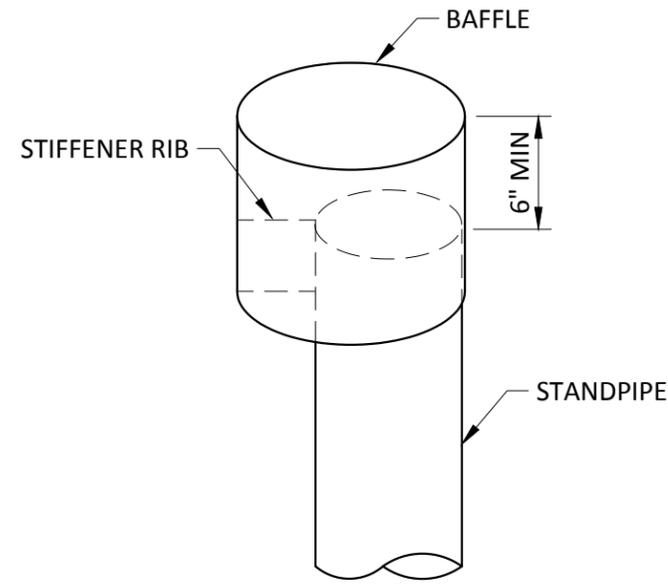
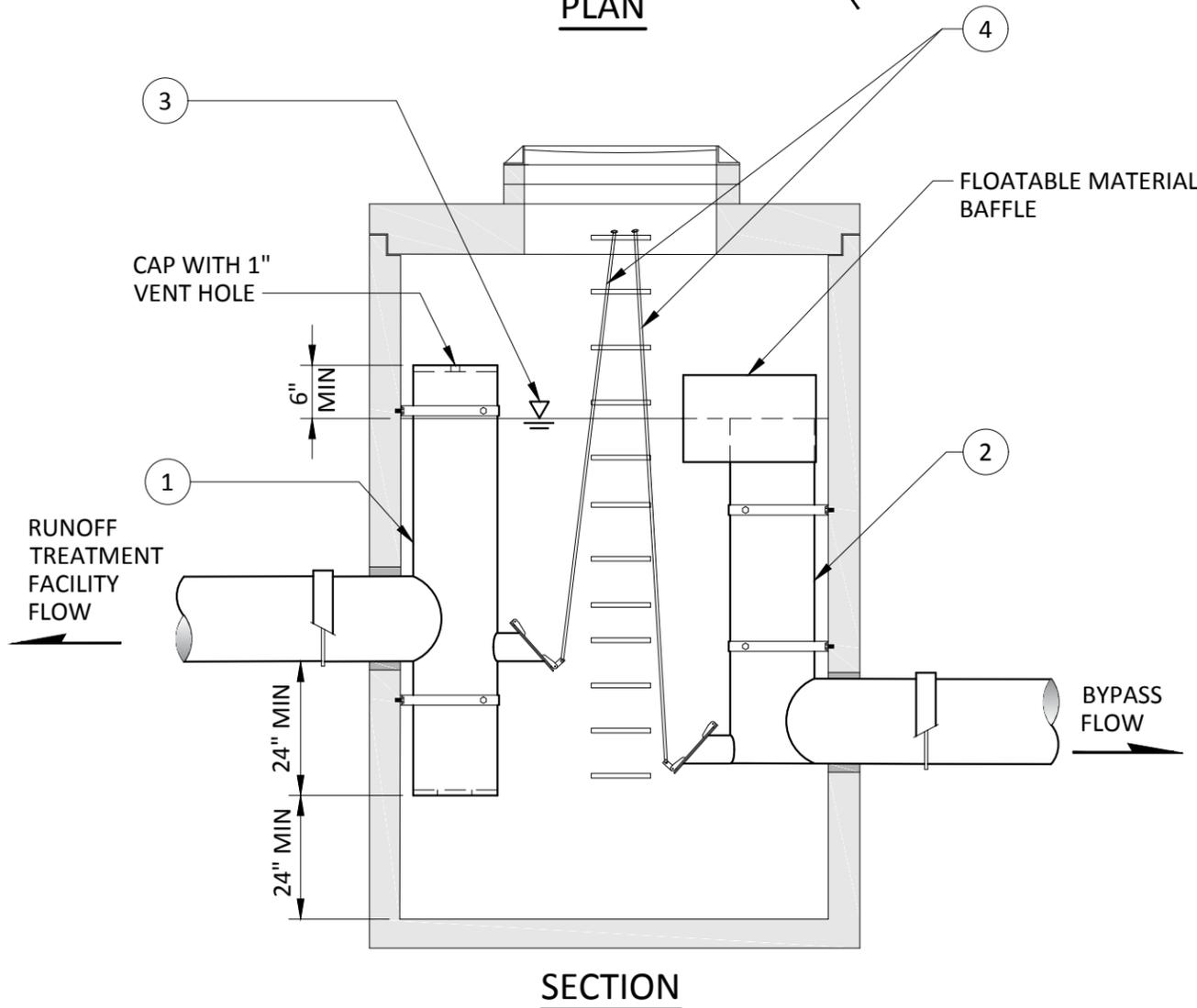
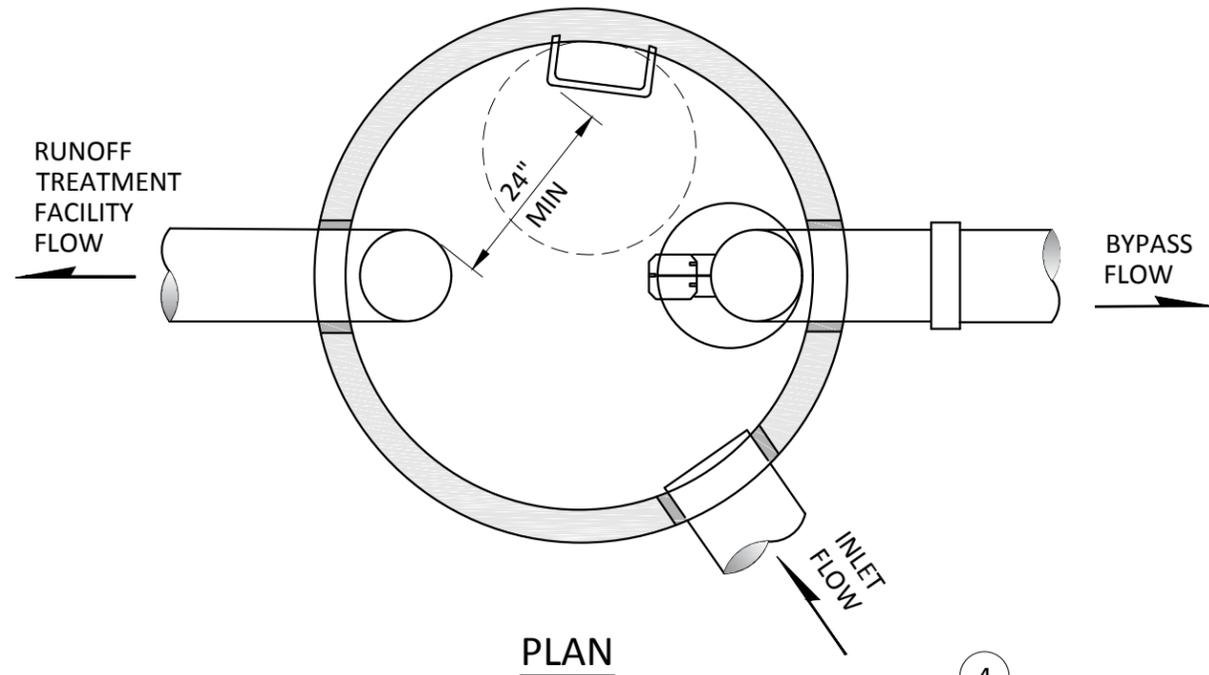
**NOTES**

1. FLOATABLE MATERIAL BAFFLE SEE STANDARD DRAWING 424, WITHOUT VENT HOLE.
2. CAP OR PLATE WITH 1" DIAMETER VENT HOLE (INSTALLATION SEE STANDARD DRAWING 413) FOR RESTRICTOR STANDPIPE WITHOUT SECONDARY OVERFLOW ORIFICE.
3. RUNOFF TREATMENT DESIGN STORM WATER SURFACE ELEVATION, PER PLANS.
4. FOR LIFT GATE ASSEMBLY AND ALUMINUM ROD LIFT HANDLE ASSEMBLY SEE STANDARD DRAWING 416.
5. WATER QUALITY OUTFLOW PIPE SIZED TO CONVEY THE WATER QUALITY FLOW RATE AT THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION. AN 8" DIAMETER MINIMUM ORIFICE PLATE MAY BE INSTALLED IN THE WATER QUALITY OUTFLOW PIPE TO FURTHER REDUCE DISCHARGE RATES.
6. THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION SHALL BE A MINIMUM OF 2X THE PIPE DIAMETER ABOVE THE PIPE INVERT.
7. INLET PIPE MAY BE AT OR BELOW THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION, BUT BACKWATER EFFECTS ON THE UPSTREAM SYSTEM MUST BE ACCOUNTED FOR.
8. FOR TYPICAL RESTRICTOR ASSEMBLY AND LIFT GATE ASSEMBLY SEE STANDARD DRAWINGS 415 AND 416.
9. STEPS PER STANDARD DRAWING 606.

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>BYPASS STRUCTURE</b> <b>TYPE B</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>423</b>

**DRAFT**



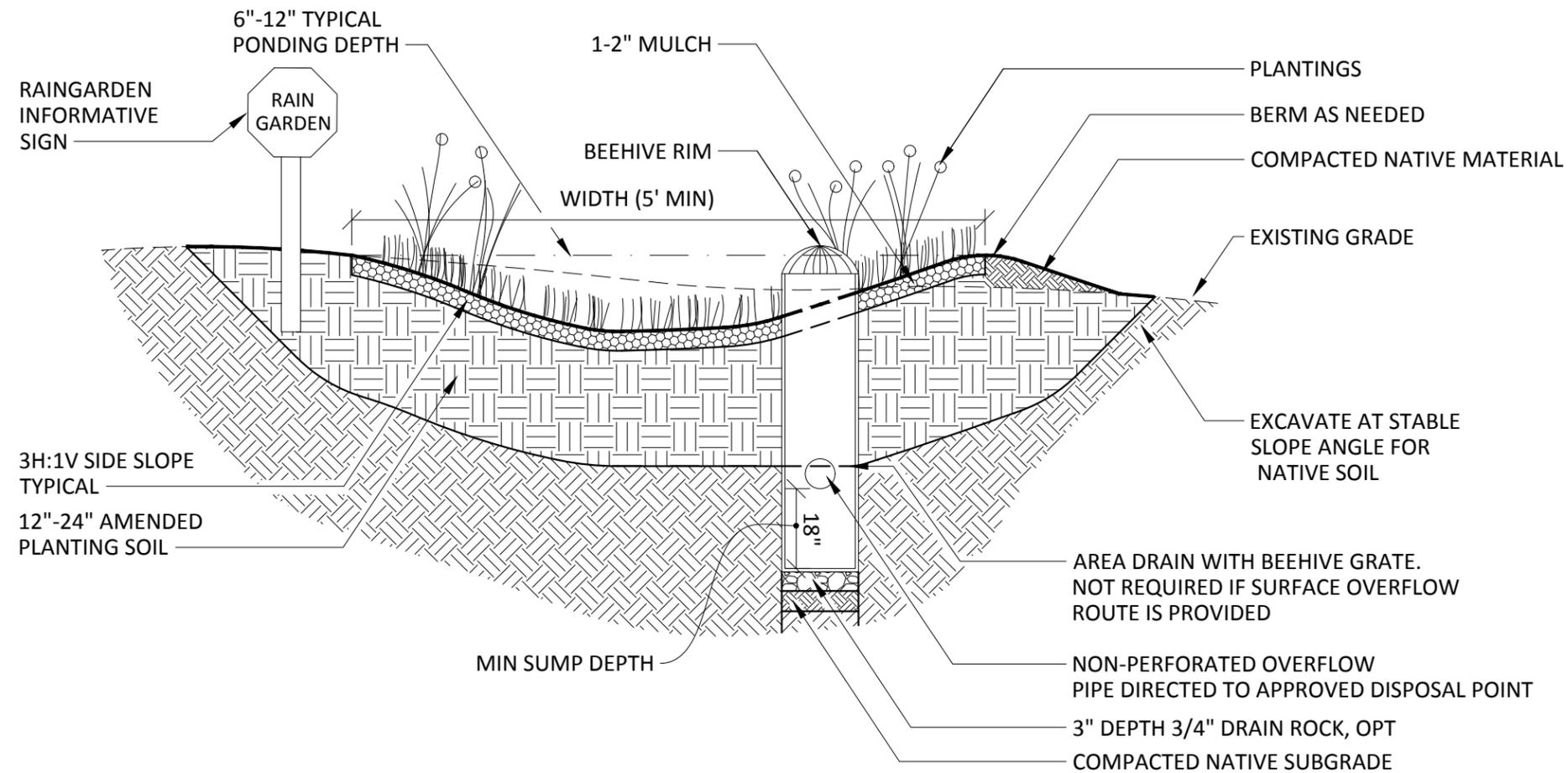
**NOTES**

1. CAP OR PLATE WITH 1" DIAMETER VENT HOLE (INSTALL SEE STANDARD DRAWING 413) FOR RESTRICTOR STANDPIPE WITHOUT SECONDARY OVERFLOW ORIFICE.
2. RESTRICTOR STANDPIPE WITHOUT ANY PRIMARY OR SECONDARY ORIFICES AND WITH FLOATABLE MATERIAL BAFFLE. INSTALLATION SEE STANDARD DRAWING 415.
3. RUNOFF TREATMENT DESIGN STORM WATER SURFACE ELEVATION, PER PLANS.
4. FOR LIFT GATE ASSEMBLY AND ALUMINUM ROD LIFT HANDLE ASSEMBLY SEE STANDARD DRAWING 416.
5. WATER QUALITY OUTFLOW PIPE SIZED TO CONVEY THE WATER QUALITY FLOW RATE AT THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION.
6. THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION SHALL BE A MINIMUM OF 2X THE PIPE DIAMETER ABOVE THE PIPE INVERT.
7. INLET PIPE MAY BE AT OR BELOW THE RUNOFF TREATMENT DESIGN WATER SURFACE ELEVATION, BUT BACKWATER EFFECTS ON THE UPSTREAM SYSTEM MUST BE ACCOUNTED FOR.
8. STEPS PER STANDARD DRAWING 606.

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**DRAFT**

City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>BYPASS STRUCTURE TYPE C</b>				STANDARD DRAWING No. <b>424</b>



## INFILTRATION RAIN GARDEN

## NOTES

### DESIGN:

- SEE THE RAIN GARDEN HANDBOOK FOR WESTERN WASHINGTON FOR DESIGN AND PLANTING INSTRUCTIONS. NATIVE PLANTS ARE PREFERRED, BECAUSE NON-NATIVE AND INVASIVE SPECIES CAN MOVE DOWNSTREAM AND DAMAGE HABITAT. IF NON-NATIVES ARE CHOSEN, BE SURE THAT THEY WILL NOT DAMAGE DOWNSTREAM HABITAT.
- RAIN GARDENS MAY BE USED TO MEET STORMWATER MINIMUM REQUIREMENT #5 FOR SITES WHICH ADD OR REPLACE LESS THAN 5000 SF OF NEW OR REPLACED HARD SURFACE.
- PROVIDE RAIN GARDEN INFORMATIVE SIGNS FOR RAIN GARDEN ASSOCIATED WITH NEW CONSTRUCTION. SIGNS ARE AVAILABLE FROM PERMIT SERVICES.
- MAINTENANCE AGREEMENTS ARE REQUIRED FOR RAIN GARDEN INSTALLATION USED TO MEET STORMWATER MINIMUM REQUIREMENTS.

### CONSTRUCTION:

- BUILD AND VEGETATE RAIN GARDEN AS EARLY AS POSSIBLE TO ESTABLISH PLANTINGS BEFORE DIRECTING STORMWATER RUNOFF TO IT.
- INFILTRATION AREAS (THE AREA OF THE RAIN GARDEN AS DEFINED BY THE TOP ELEVATION OF THE FACILITY) SHALL BE FENCED OFF FROM THE FIRST DAY OF EARTH MOVING UNTIL PROJECT COMPLETION TO PREVENT COMPACTION OF THE SUBGRADE, DIRT TRACKING ONTO ANY LAYER OF THE FACILITY AND STOCKPILING OF CONSTRUCTION MATERIALS THAT MAY CLOG THE SURFACE.
- DURING EXCAVATION OF NATIVE SOILS TO THE BOTTOM OF THE FACILITY, RAINFALL MAY CAUSE FINES TO CLOG THE SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
- DURING AREA DRAIN INSTALLATION, DISTURB NATIVE SOILS AS LITTLE AS POSSIBLE.

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City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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TITLE

RAIN GARDEN WITH  
OVERFLOW

STANDARD DRAWING No.  
426

**DRAFT**

## NOTES

### DESIGN:

- SEE THE RAIN GARDEN HANDBOOK FOR WESTERN WASHINGTON FOR DESIGN AND PLANTING INSTRUCTIONS. NATIVE PLANTS ARE PREFERRED, BECAUSE NON-NATIVE AND INVASIVE SPECIES CAN MOVE DOWNSTREAM AND DAMAGE HABITAT. IF NON-NATIVES ARE CHOSEN, BE SURE THAT THEY WILL NOT DAMAGE DOWNSTREAM HABITAT.
- RAIN GARDENS MAY BE USED TO MEET STORMWATER MINIMUM REQUIREMENT #5 FOR SITES WHICH ADD OR REPLACE LESS THAN 5000 SF OF NEW OR REPLACED HARD SURFACE.
- PROVIDE RAIN GARDEN INFORMATIVE SIGNS FOR RAIN GARDEN ASSOCIATED WITH NEW CONSTRUCTION. SIGNS ARE AVAILABLE FROM PERMIT SERVICES.
- MAINTENANCE AGREEMENTS ARE REQUIRED FOR RAIN GARDEN INSTALLATION USED TO MEET STORMWATER MINIMUM REQUIREMENTS.

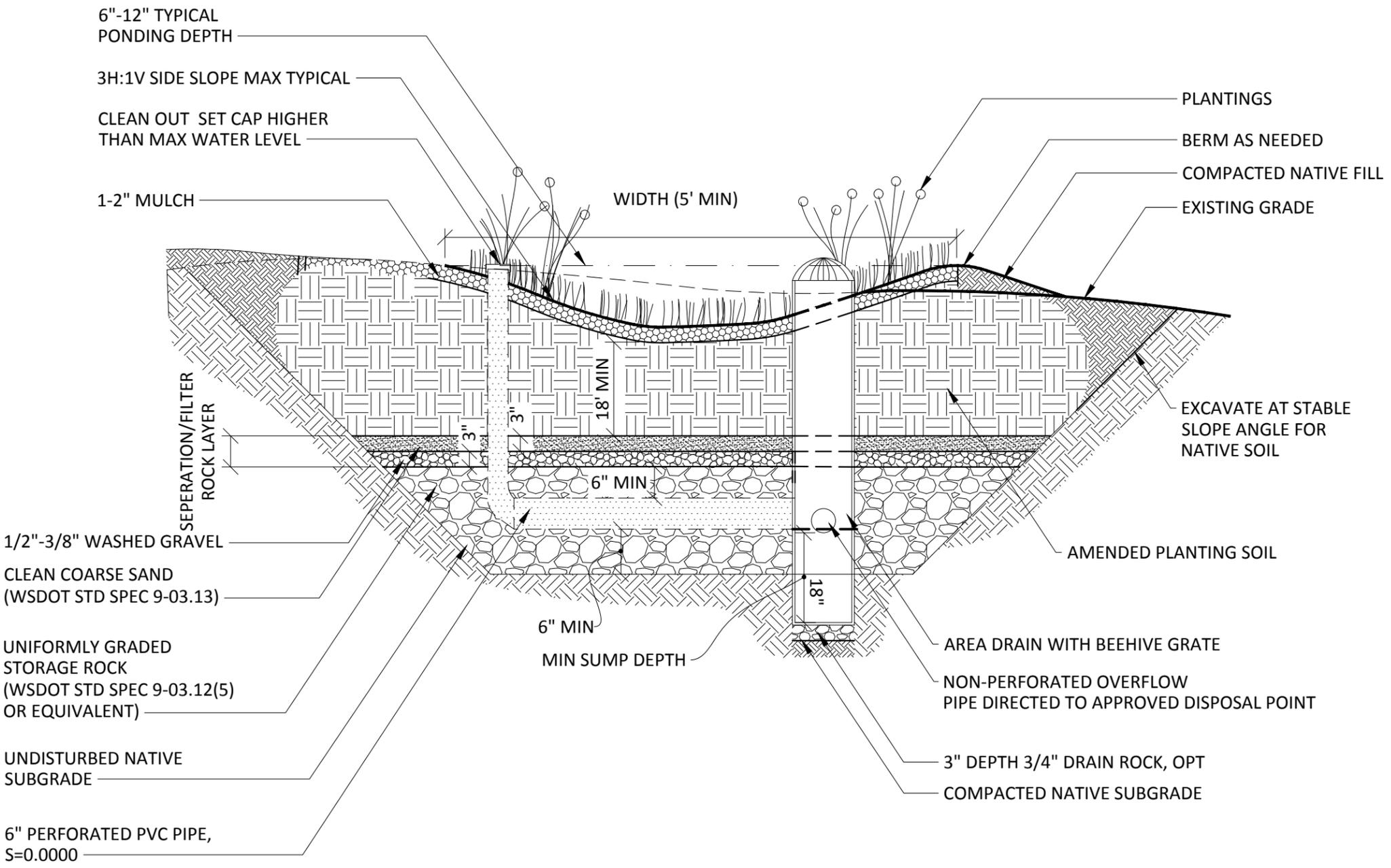
### CONSTRUCTION:

- BUILD AND VEGETATE RAIN GARDEN AS EARLY AS POSSIBLE TO ESTABLISH PLANTINGS BEFORE DIRECTING STORMWATER RUNOFF TO IT.
- INFILTRATION AREAS (THE AREA OF THE RAIN GARDEN AS DEFINED BY THE TOP ELEVATION OF THE FACILITY) SHALL BE FENCED OFF FROM THE FIRST DAY OF EARTH MOVING UNTIL PROJECT COMPLETION TO PREVENT COMPACTION OF THE SUBGRADE, DIRT TRACKING ONTO ANY LAYER OF THE FACILITY AND STOCKPILING OF CONSTRUCTION MATERIALS THAT MAY CLOG THE SURFACE.
- DURING EXCAVATION OF NATIVE SOILS TO THE BOTTOM OF THE FACILITY, RAINFALL MAY CAUSE FINES TO CLOG THE SURFACE OF THE FACILITY. IF THE NATIVE SOIL HAS BEEN EXPOSED TO RAINFALL, HAND RAKE THE SURFACE TO A DEPTH OF 3" TO RESTORE INFILTRATION CAPACITY.
- DURING AREA DRAIN INSTALLATION, DISTURB NATIVE SOILS AS LITTLE AS POSSIBLE.



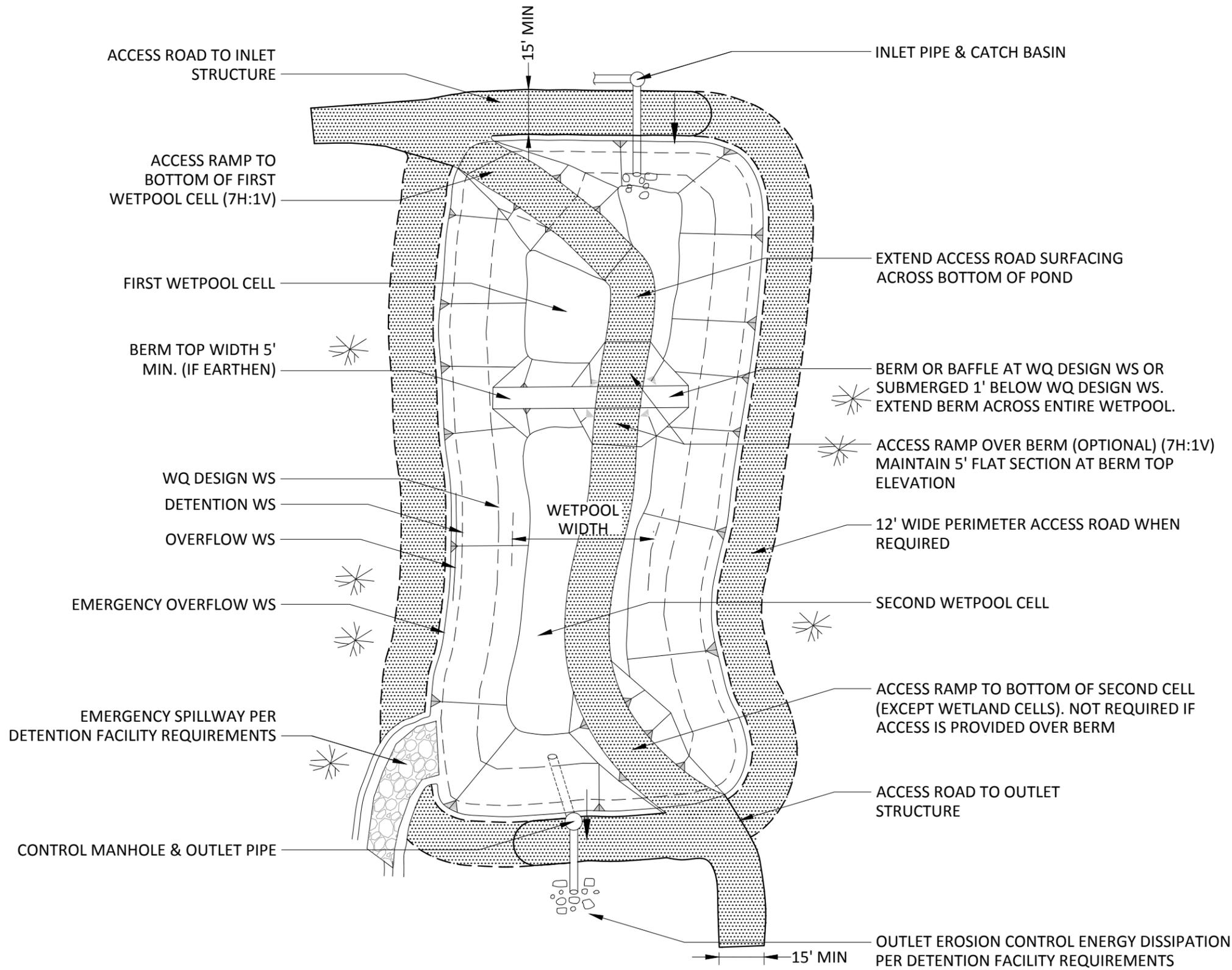
City Engineer: RYAN SASS | Section Manager: HEATHER GRIFFIN | CAD Manager: PAUL WILHELM | Drawn By: ESH | Current Rev Date: 12/30/2016

TITLE: RAIN GARDEN WITH UNDERDRAIN | STANDARD DRAWING No. 427



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**DRAFT**



**PLAN VIEW**

**NOTES**

1. FOR ALL PONDS WITHOUT AN INTERNAL BERM ONLY A SINGLE ACCESS RAMP IS REQUIRED. EXTEND ACCESS ROAD MATERIAL ALONG THE ENTIRE LENGTH OF THE POND BOTTOM.
2. SEE TEXT FOR ROAD SURFACING MATERIAL REQUIREMENTS.
3. REFER TO THE CITY OF EVERETT STORMWATER MANAGEMENT MANUAL FOR ADDITIONAL DESIGN REQUIREMENTS.

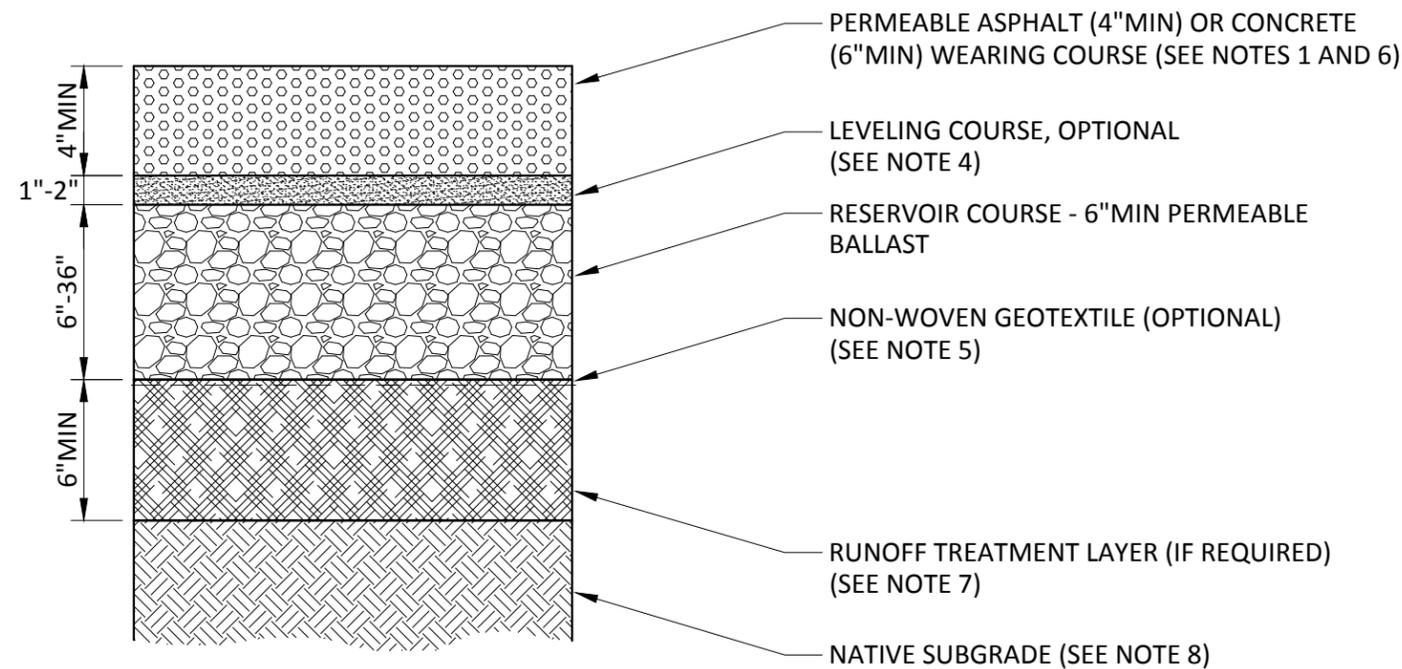
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 PLOTTED: 12/28/2016 1:46 PM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date <b>12/19/2016</b>
<b>TYPICAL DETENTION AND/OR WETPOND</b>			STANDARD DRAWING No. <b>429</b>

## NOTES

- PERMEABLE PAVEMENT WITHIN CITY RIGHT-OF-WAY REQUIRES APPROVAL BY THE CITY ENGINEER WHEN PLACED BENEATH A TRAVELED WAY. THESE GUIDELINES PROVIDE A MINIMUM DEPTH FOR THE HYDROLOGIC PERFORMANCE OF THE PERMEABLE PAVEMENT. THE STRUCTURAL CAPACITY OF PAVEMENT SECTIONS WHEN SUBJECT TO VEHICULAR LOADS DEPENDS ON SEVERAL FACTORS AND MUST BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER.
- LONGITUDINAL SLOPE, 0 TO 5% MAX. FOR PERMEABLE ASPHALT, 8% MAX. FOR PERMEABLE CONCRETE.
- USE CHECK DAM OR OTHER METHODS TO MAXIMIZE PONDING IN THE SUBSURFACE FOR LONGITUDINAL SLOPES EXCEEDING 2%. SEE STANDARD DRAWING 431.
- LEVELING COURSE MATERIALS: 1.5" TO U.S. NO. 8 UNIFORMLY GRADED, CRUSHED (ANGULAR), THOROUGHLY WASHED STONE.
- GEOTEXTILE SHALL BE PROVIDED BETWEEN RUNOFF TREATMENT LAYER OR NATIVE SOIL AND PERMEABLE BALLAST WHEN RECOMMENDED BY GEOTECHNICAL PROFESSIONAL OR PAVEMENT DESIGNER. GEOTEXTILE SHALL BE PROVIDED WHEN FINES IN NATIVE SUBGRADE EXCEED 7% ON THE #200 SIEVE. GEOTEXTILE SHALL BE PLACED BETWEEN PERMEABLE BALLAST AND TREATMENT LAYER IF A TREATMENT LAYER IS USED. GEOTEXTILE SHALL BE GEOTEXTILE FOR SEPARATION PER WSDOT/APWA STANDARD SPECIFICATION 9-33.2, NON WOVEN, TABLE 3.
- PERMEABLE CONCRETE MUST BE INSTALLED BY A CERTIFIED PERMEABLE CONCRETE INSTALLER. PERMEABLE ASPHALT MUST BE INSTALLED BY AN EXPERIENCED PERMEABLE ASPHALT INSTALLER.
- RUNOFF TREATMENT LAYER SHALL BE REQUIRED FOR PAVEMENT WHICH IS SUBJECT TO VEHICULAR TRAFFIC OR OTHER POLLUTANTS WHERE NATIVE SOILS DO NOT MEET THE REQUIREMENTS FOR TREATMENT. SEE THE STORMWATER MANAGEMENT MANUAL.
- SUBGRADE SHALL BE COMPACTED TO A FIRM AND UN YIELDING CONDITION IN ACCORDANCE WITH THE PROJECT PAVEMENT DESIGN. DO NOT OVER COMPACT SUBGRADE. HEAVY TRUCK AND CONSTRUCTION EQUIPMENT SHALL BE PROHIBITED FROM DRIVING ON THE SUBGRADE THROUGH OUT CONSTRUCTION.



**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>PERMEABLE ASPHALT OR          CONCRETE PAVEMENT SECTION</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>430</b>

WATER STORAGE WITHIN CELL (SEE NOTES)

PERMEABLE PAVEMENT PER STANDARD DRAWING 430

RESERVOIR COURSE

6" DAM EMBEDMENT INTO SUBGRADE

GEOTEXTILE ON BOTTOM AND SIDES (OPTIONAL) SEE NOTE 5

TREATMENT LAYER (IF REQUIRED)

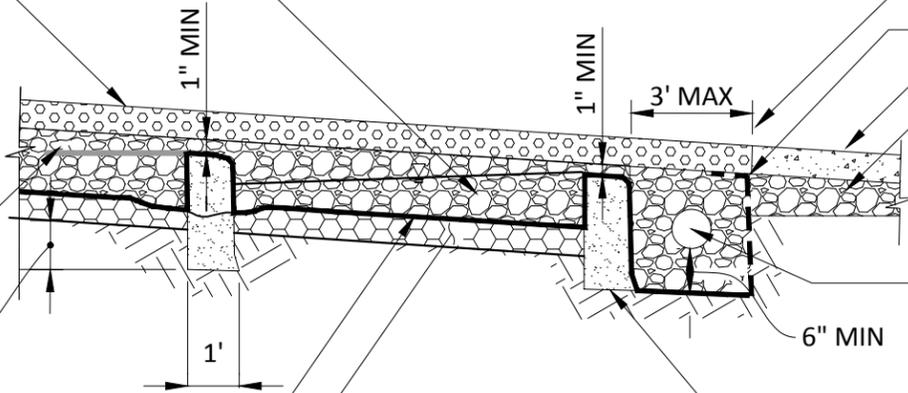
END OF PERMEABLE PAVEMENT

IMPERMEABLE LINER  
CONVENTIONAL PAVEMENT

GRAVEL BASE

8" PVC UNDERDRAIN PIPE CONNECT TO CATCH BASIN OR DAYLIGHT (SEE NOTE 5)

1' WIDE CONTROLLED DENSITY FILL DAM. EXTEND DAM INTO NATIVE MATERIAL 1' ON EACH SIDE AS DIRECTED BY THE ENGINEER TYP (SEE NOTE 7)



1" MIN FROM BOTTOM OF PAVEMENT

PERMEABLE PAVEMENT

PERMEABLE BALLAST

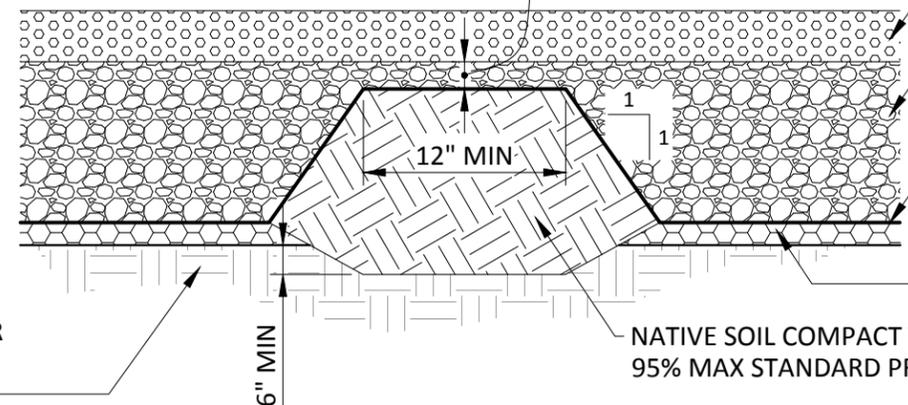
GEOTEXTILE IF REQUIRED

TREATMENT LAYER (IF REQUIRED)

COMPACT SUBGRADE PER PAVEMENT DESIGN REQUIREMENTS

6" MIN

NATIVE SOIL COMPACT TO 95% MAX STANDARD PROCTOR DENSITY



### ALTERNATE CHECK DAM

CITY ENGINEER'S APPROVAL REQUIRED IN RIGHT OF WAY

## NOTES

1. CHECK DAM OR INTERCEPTOR REQUIRED FOR LONGITUDINAL SLOPES > 2%.
2. SPACE CHECK DAMS BASED ON SLOPE TO ACHIEVE DESIGN AVERAGE PONDING DEPTH BEFORE OVERTOPPING DAM.
3. CALCULATE STORAGE VOLUME BETWEEN CHECK DAMS BASED ON CHECK DAM HEIGHT AND SLOPE FOR MODELING.
4. CHECK DAMS SHALL EXTEND THE FULL WIDTH OF THE PERMEABLE PAVEMENT INSTALLATION.
5. UNDERDRAIN PIPE SHALL BE PROVIDED AT THE LOWEST END OF ANY PERMEABLE PAVEMENT INSTALLATION WITHIN THE CITY ROW.
6. SEE CITY STANDARDS FOR CDF MIX REQUIREMENTS DCSS SECTION 3-20.1.
7. THE TOP OF THE DOWN SLOPE FILL DAM MUST BE LEVEL WITH OR HIGHER THAN THE BOTTOM OF THE UP SLOPE FILL DAM AT THE NATIVE MATERIAL LINE.

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City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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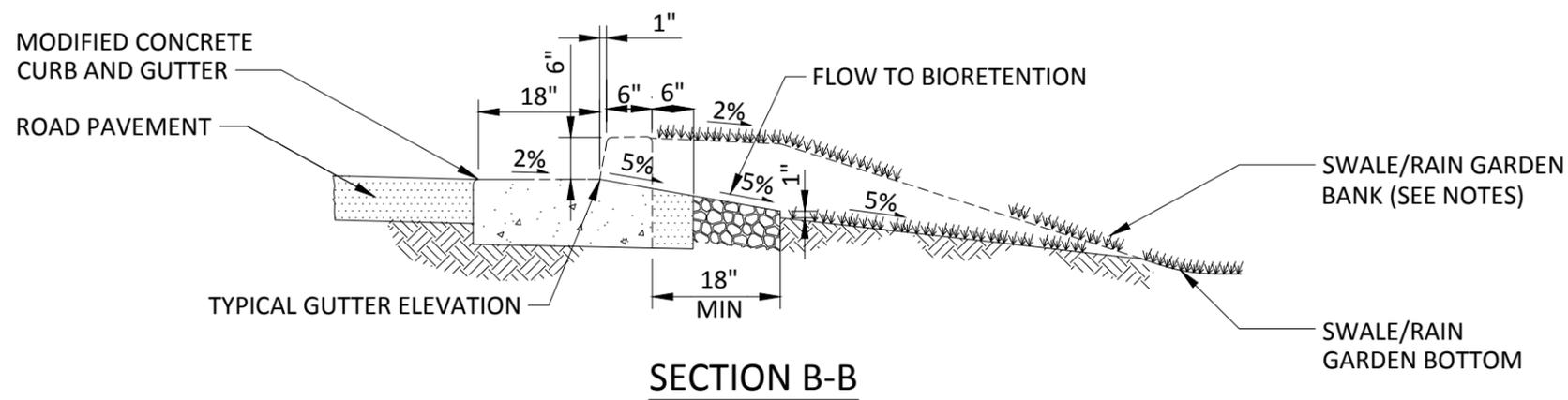
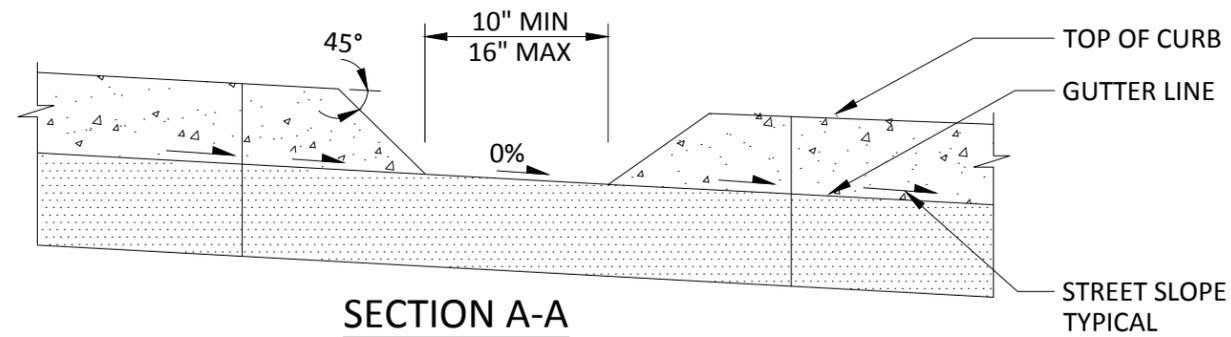
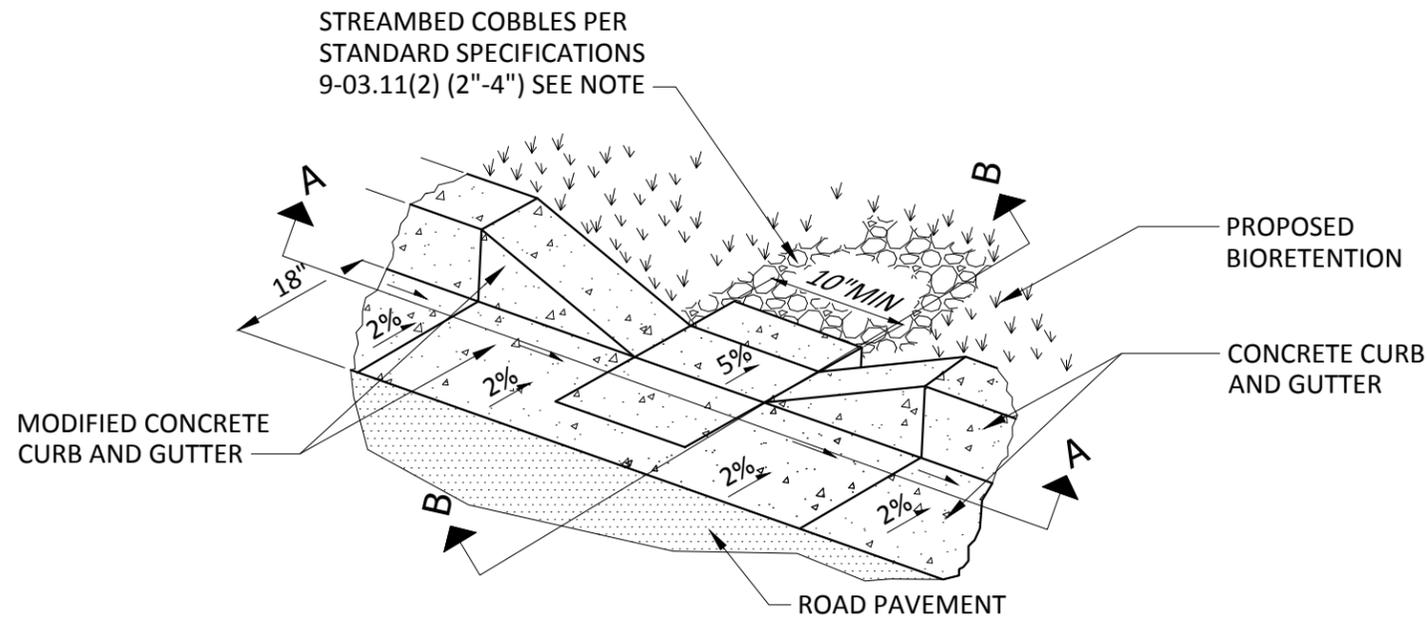
TITLE STANDARD DRAWING No.

PERMEABLE PAVEMENT ON SLOPES 431

**DRAFT**

**NOTES**

1. MODIFY INLET TO BIORETENTION PLANTER AS NEEDED TO PREVENT EROSION. THE STREAMBED COBBLES ARE OPTIONAL UNLESS REQUIRED BY THE UTILITY REVIEWER OR THE ENGINEER.



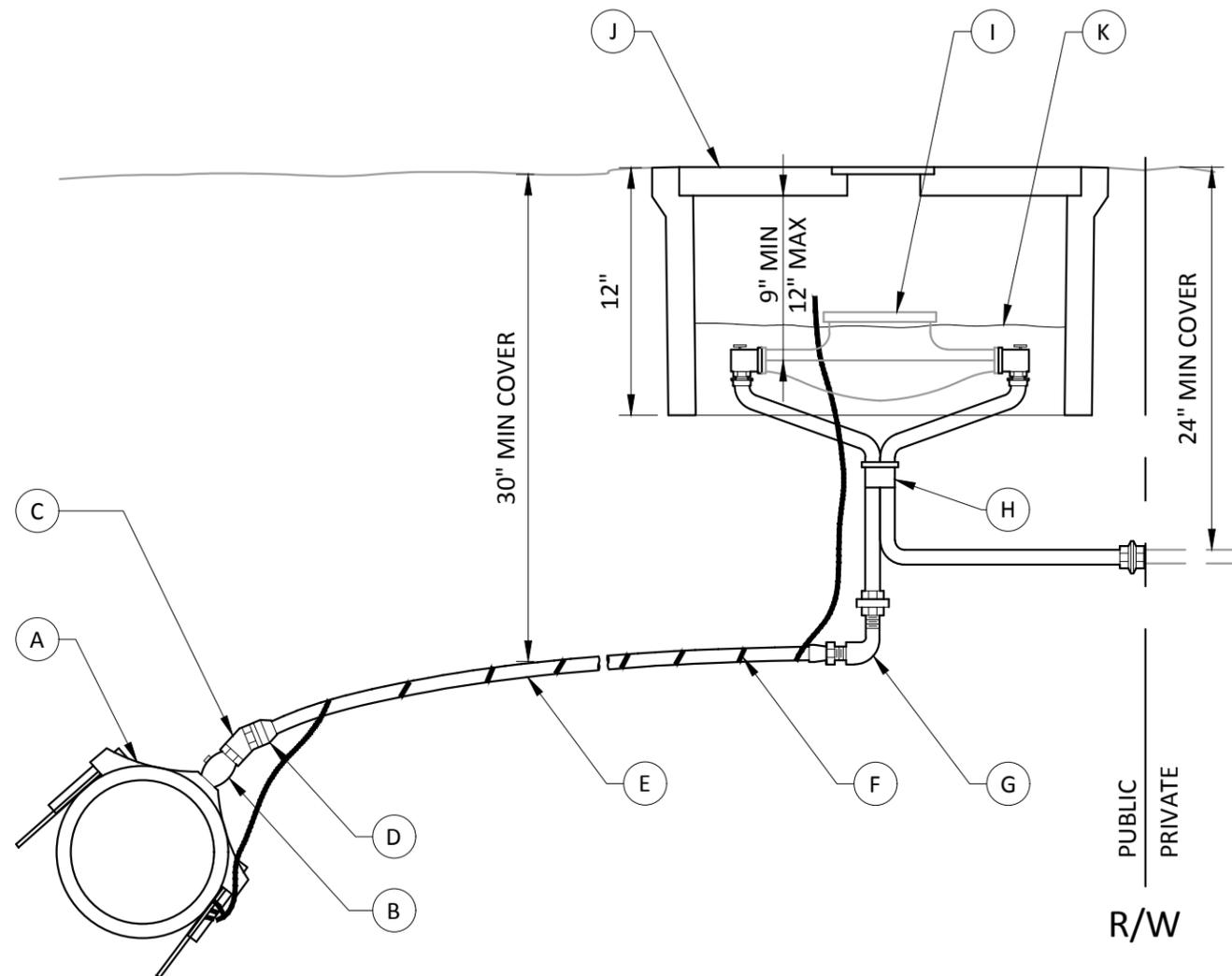
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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager HEATHER GRIFFIN	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
<b>CURB CUT OPENING FOR BIORETENTION</b>				STANDARD DRAWING No. <b>432</b>

## NOTES

- A. ROMAC, FORD, OR MUELLER SERVICE SADDLE WITH C.C. THREAD TO BE USED ON ALL MAINS 4" DIA. AND LARGER. ALL NEW TAPS ON EXISTING WATER MAINS SHALL BE DONE BY THE CITY OF EVERETT UTILITIES DEPARTMENT AT THE DEVELOPERS OR CONTRACTORS EXPENSE
- B. CORPORATION STOP:  
3/4" OR 1" - FORD FB600,  
OR CITY APPROVED EQUAL
- C. FORD SERIES LAO-2-33 NL (1/8 BEND) OR LO-2-33 NL (1/4 BEND) FITTING FOR FLARE x FLARE COPPER. PHYSICAL BENDS IN POLYETHYLENE PIPE ARE NOT ALLOWED. USE APPROPRIATE 1/4 OR 1/8 BENDS PER NOTE B ABOVE.
- D. USE MUELLER H-15073 N INSTA-TITE FITTING OR CITY APPROVED EQUAL FOR IPS-PE PLASTIC PIPE X FEMALE COPPER FLARE THREAD.
- E. RESIDENTIAL SERVICE
  1. PROVIDE 3/4" OR 1" POLYETHYLENE TUBING MEETING THE FOLLOWING REQUIREMENTS:
    - a. AWWA C901.
    - b. ASTM D2239, SIDR 7, FOR ID IRON PIPE SIZE (IPS).
    - c. ASTM 3350 - PE3608 OR PE4710.
  2. PROVIDE A #10 AWG, SINGLE STRAND COPPER WIRE WITH BLUE TYPE UF OR USE COATING SUITABLE FOR DIRECT BURY.
    - a. WRAP WIRE AROUND TUBING, ONE WRAP PER FT, ITS ENTIRE LENGTH.
    - b. SECURE ONE END AROUND THE SADDLE BOLT BETWEEN TWO NUTS AND EXPOSE A MINIMUM OF 18" OF THE OTHER END IN THE METER BOX.
- F. NON-RESIDENTIAL SERVICE
  1. PROVIDE 3/4" OR 1" TYPE K COPPER TUBING MEETING ASTM B88, ANSI/NSF 61 & APPLICABLE IAPMO STANDARDS.
- G. USE 1/4 OR 1/8 BEND BRASS ST BEND WITH MUELLER H-15426 N INSTA-TITE FITTING OR CITY APPROVED EQUAL FOR IPS-PE PLASTIC PIPE X MALE IRON PIPE THREAD.
- H. 3/4" METER SETTER SHALL BE "A.Y. MCDONALD" 62-212WWDD33-15 OR APPROVED EQUAL.  
1" METER SETTER SHALL BE "A.Y. MCDONALD" 62-415WWDD44-15 OR CITY APPROVED EQUAL.
- I. METERS SHALL BE SUPPLIED AND INSTALLED BY CITY UTILITIES DEPARTMENT AT THE DEVELOPERS OR CONTRACTOR EXPENSE.
- J. PROVIDE METER BOX BODY MANUFACTURED BY "RAVEN PRODUCTS, FOR A 3/4" USE MODEL RMB-11-18-12, FOR A 1" USE MODEL RMB-15-27-12", MOUSEHOLES CUT, WITH AASTHO H-20 RATED DI FLUSH SOLID COVER LID OR EQUAL.
- K. PLACE SAWDUST IN METER BOX AROUND PIPE TO TOP OF METER TO PREVENT FREEZING.



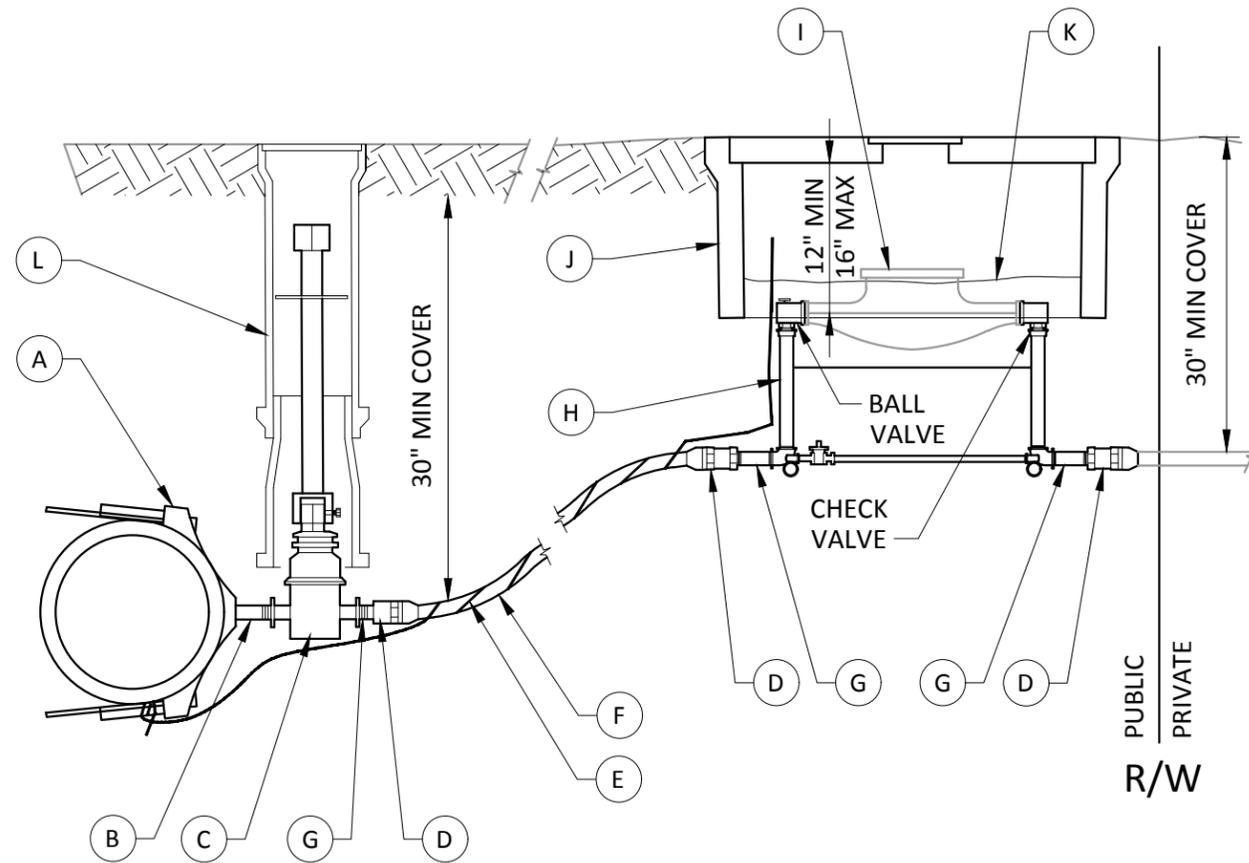
3/4" OR 1" METERED WATER SERVICE

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>METERED WATER SERVICES</b> 3/4" & 1"			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>501</b>

## NOTES

- A. ROMAC, FORD OR MUELLER DOUBLE STRAP SERVICE SADDLE WITH I.P. THREAD TO BE USED ON ALL MAINS 4" DIA AND LARGER. ALL NEW TAPS ON EXISTING WATER MAINS SHALL BE DONE BY THE CITY OF EVERETT UTILITIES DEPARTMENT AT THE DEVELOPERS OR CONTRACTORS EXPENSE.
- B. 2" BRASS NIPPLE.
- C. HEAVY DUTY 2" GATE VALVE WITH RESILIENT SEAT AND 2" OPERATING NUT. GATE VALVES SHALL BE "WATEROUS" SERIES 2500 OR CITY APPROVED EQUAL.
- D. MUELLER H-15451N OR H-15428N OR APPROVED EQUAL. USE APPROPRIATE STAINLESS STEEL INSERT STIFFENER WITH POLYETHYLENE TUBING. PHYSICAL BENDS IN POLY PIPE ARE NOT ALLOWED, USE BRASS ELBOWS.
- E. RESIDENTIAL SERVICE
  - 1. PROVIDE 2" POLYETHYLENE TUBING MEETING THE FOLLOWING REQUIREMENTS:
    - a. AWWA C901.
    - b. ASTM D2737, SIDR 9 (pe3608/4710).
    - c. ASTM 3350 - PE3608 OR PE4710.
  - 2. PROVIDE A #10 AWG, SINGLE STRAND COPPER WIRE WITH BLUE TYPE UF OR USE COATING SUITABLE FOR DIRECT BURY.
    - a. WRAP WIRE AROUND TUBING, ONE WRAP PER FT, ITS ENTIRE LENGTH.
    - b. SECURE ONE END AROUND THE SADDLE BOLT BETWEEN TWO NUTS AND EXPOSE A MINIMUM OF 18" OF THE OTHER END IN THE METER BOX.
- F. NON-RESIDENTIAL SERVICE
  - 1. PROVIDE 2" TYPE K COPPER TUBING MEETING ASTM B88, ANSI/NSF 61 & APPLICABLE IAPMO STANDARDS.
- G. BRASS ELBOWS & NIPPLES AS NEEDED.
- H. METER SETTERS SHALL BE "FORD" 70 SERIES COPPER SETTER VBH77-12B-11-77 WITH HORIZONTAL INLET AND OUTLET OR APPROVED EQUAL.
- I. METER SHALL BE SUPPLIED AND INSTALLED BY CITY UTILITIES DEPARTMENT AT THE DEVELOPERS OR CONTRACTORS EXPENSE.
- J. PROVIDE METER BOX BODY MANUFACTURED BY "RAVEN PRODUCTS, MODEL RMB-17-30-12", MOUSEHOLES CUT, WITH AASTHO H-20 RATED DUCTILE IRON FLUSH SOLID COVER LID OR EQUAL.
- K. PLACE SAWDUST IN METER BOX AROUND PIPE TO TOP OF METER TO PREVENT FREEZING.
- L. ADJUSTABLE VALVE BOX AND EXTENSION SEE STD 505.



**2" METERED WATER SERVICE**

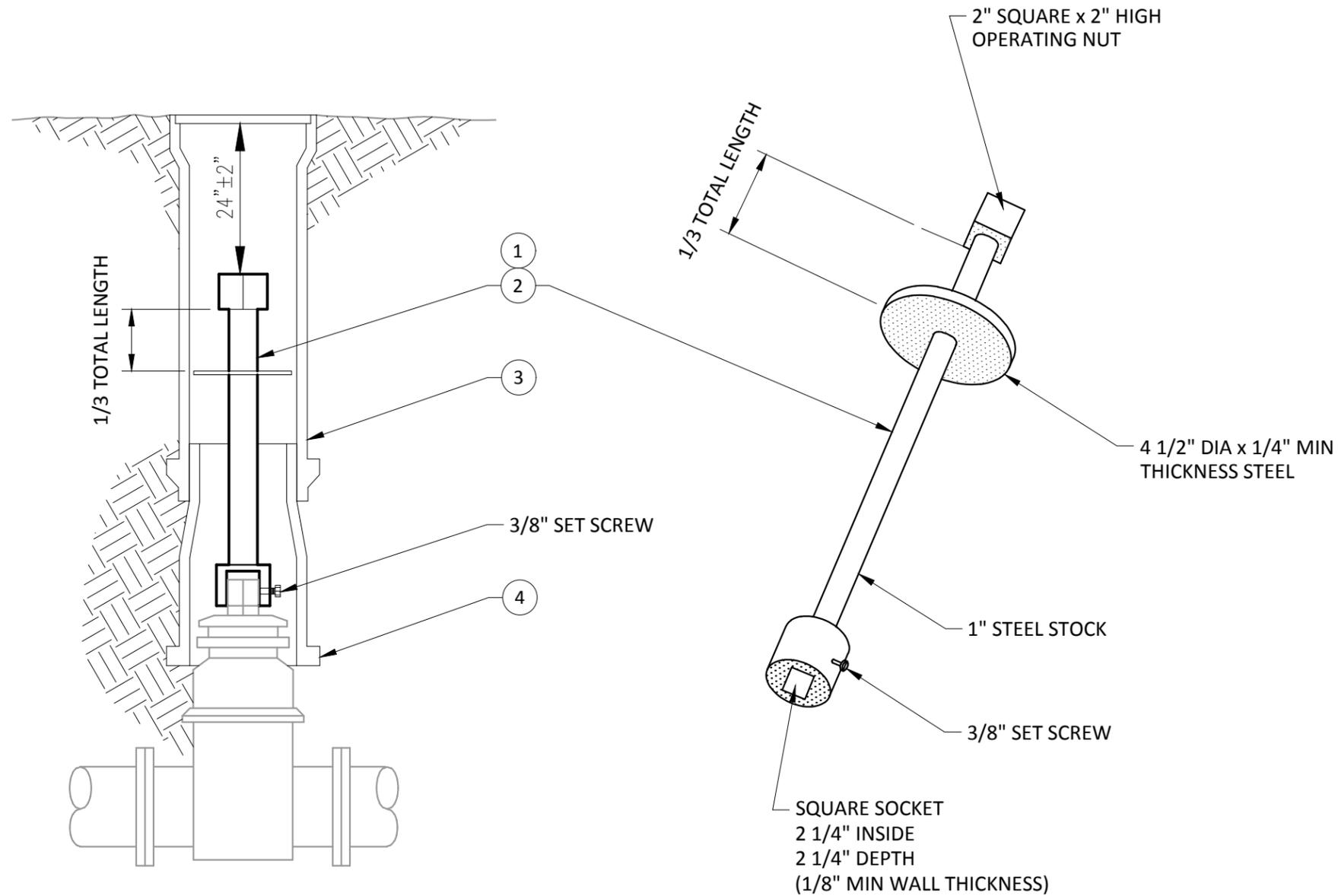
**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>METERED WATER SERVICES</b> <b>2"</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>502</b>



## NOTES

1. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG. ONLY ONE EXTENSION WILL BE ALLOWED PER VALVE.
2. ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.
3. VALVE BOXES IN PAVED AREAS SHALL BE #940 STYLE CAST IRON, TWO PIECE UNITS, DESIGNED WITH LUGS ON COVER AND DEEP SKIRT. IN GRASS, NON-PAVED OR NON-TRAFFIC AREAS USE OF PLASTIC VALVE BOXES, WITH CAST IRON LID AS MANUFACTURED BY HANDLEY INDUSTRIES ARE ACCEPTABLE.
4. USE OF PLASTIC VALVE BOX EXTENSIONS, AS MANUFACTURED BY HANDLEY INDUSTRIES ARE ACCEPTABLE.

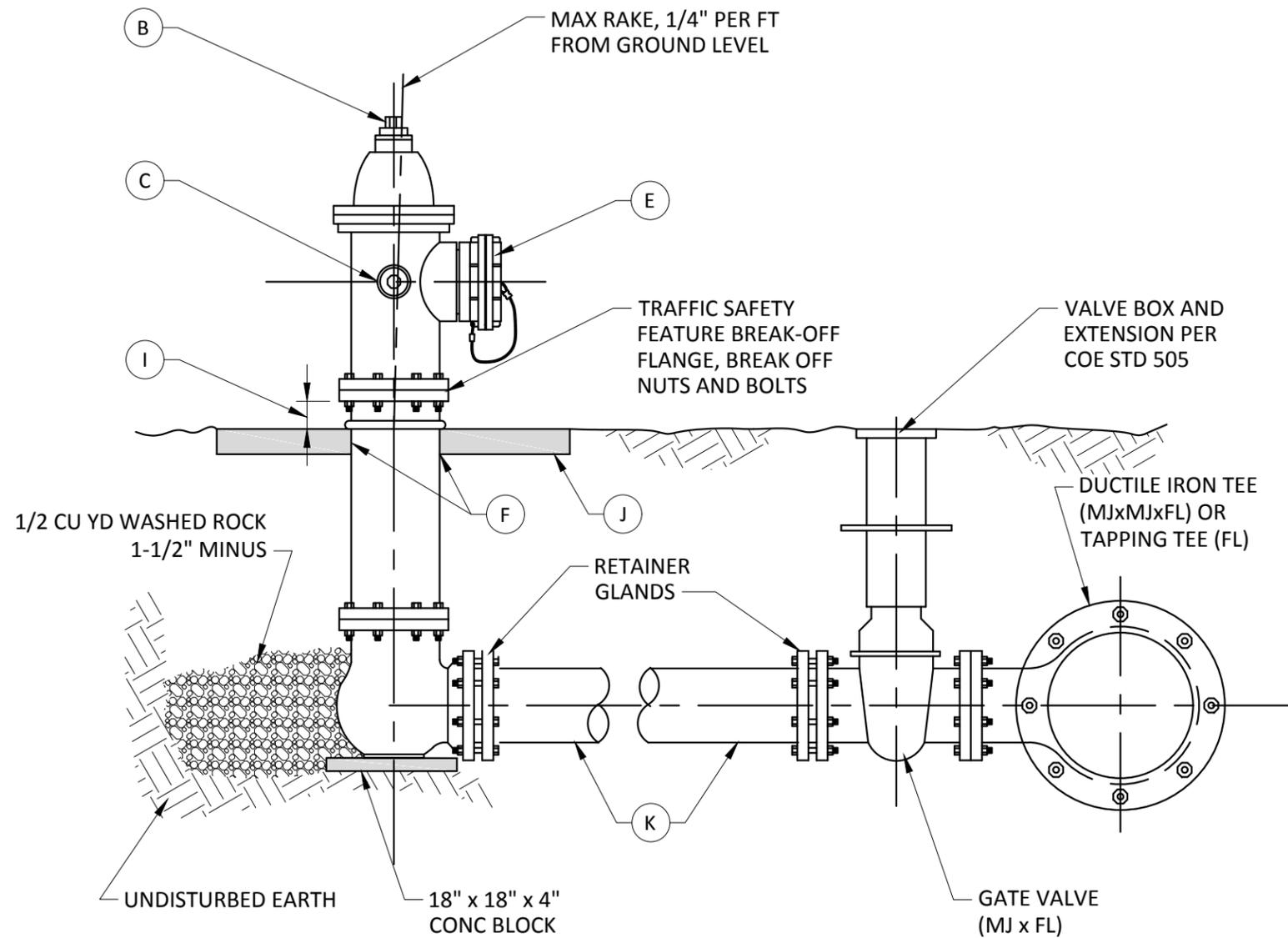


VALVE BOX AND EXTENSION

VALVE OPERATING NUT EXTENSION

## PARTS

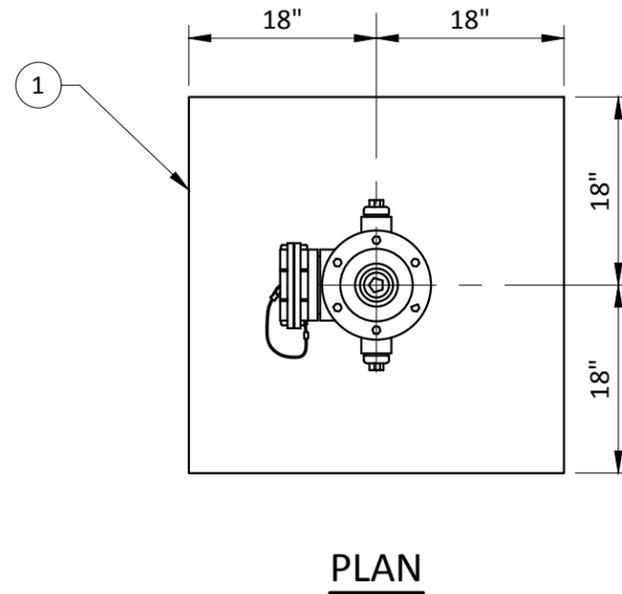
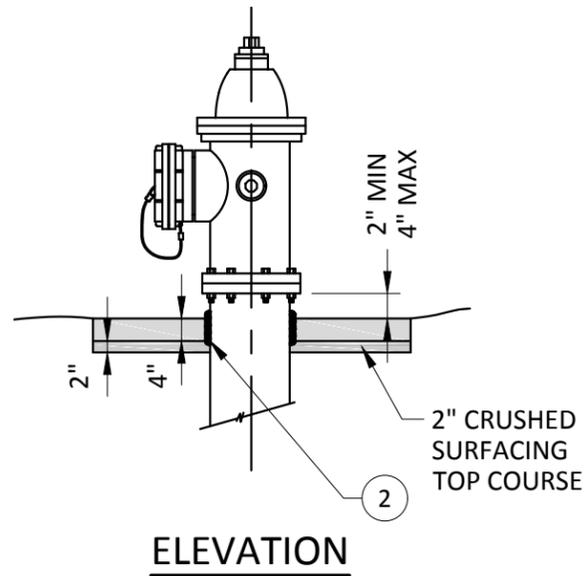
- A. HYDRANTS AND ALL MATERIALS SHALL CONFORM TO AWWA STANDARDS AND SHALL BE OF STANDARD MANUFACTURE (MUELLER SUPER CENTURION #250, WATEROUS PACER #WB67, OR CITY APPROVED EQUAL).
- B. 5-1/4" VALVE MINIMUM.
- C. 1-1/4" OPERATING NUT AND CAP NUT FOR 2-1/2" PORTS.
- D. NATIONAL STANDARD THREAD ON 2-1/2" PORTS.
- E. 5" STORZ FITTING WITH NATIONAL STANDARD THREAD ON THE 4-1/2" PORT.
- F. IF HYDRANT RISES THROUGH CONCRETE, USE EXPANSION STRIP AROUND HYDRANT BARREL, PER STD PLAN 509. IN ADDITION, INSTALLATION OF THE HYDRANT ON PRIVATE PROPERTY SHALL EQUAL OR EXCEED THE STANDARDS FOR INSTALLATION OF PUBLIC FIRE HYDRANTS IN THE CITY OF EVERETT.
- G. PROVIDE FOR VEHICULAR TRAFFIC PROTECTION WHEN NECESSARY PER STD. PLAN 508.
- H. STEAMER PORT TO BE FACING STREET OR ROADWAY FOR FIRE ENGINE ACCESS.
- I. BREAK-OFF FLANGE TO BE 2"-4" ABOVE GROUND LEVEL.
- J. INSTALL CONCRETE PAD AROUND HYDRANT IN UNPAVED, SOD AND ASPHALT AREAS PER STD. PLAN 508.
- K. HYDRANT CONNECTION PIPE TO BE DUCTILE IRON CLASS 52, ANY INTERMEDIATE JOINTS TO BE MJ WITH RETAINER GLANDS, OR FIELD LOCK GASKETS.
- L. FIRE HYDRANTS SHALL BE PAINTED WITH TWO COATS OF HIGH GLOSS CATERPILLAR YELLOW, LUXLITE #6100-516 OR "RUST-OLEUM" #7448 OR APPROVED EQUAL. THE PORT CAPS WILL BE PAINTED BLACK.
- M. PROVIDE FOR A MINIMUM OF 3' CLEAR ZONE AROUND HYDRANT.



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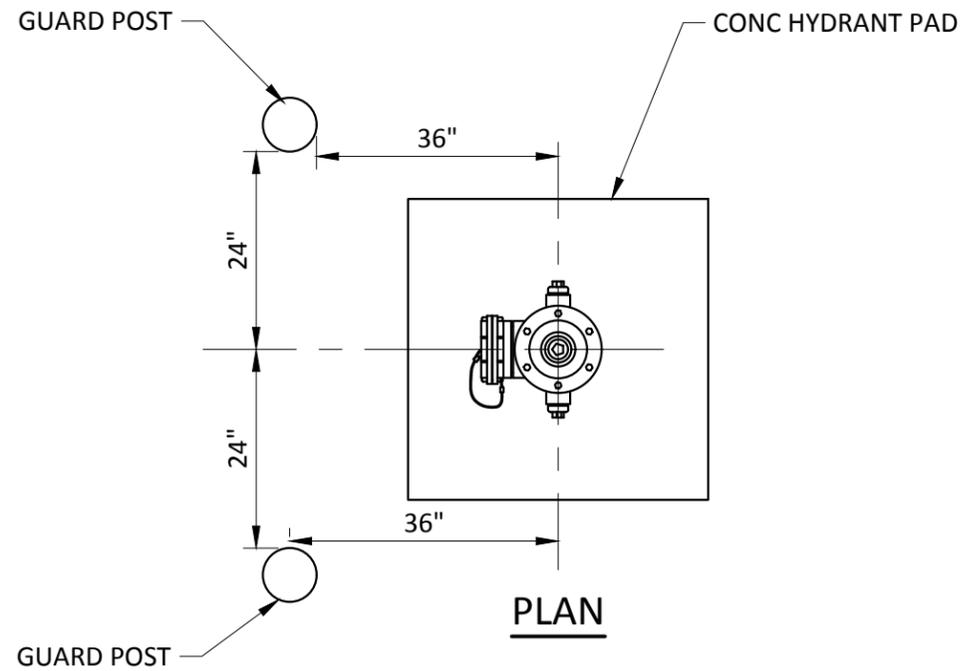
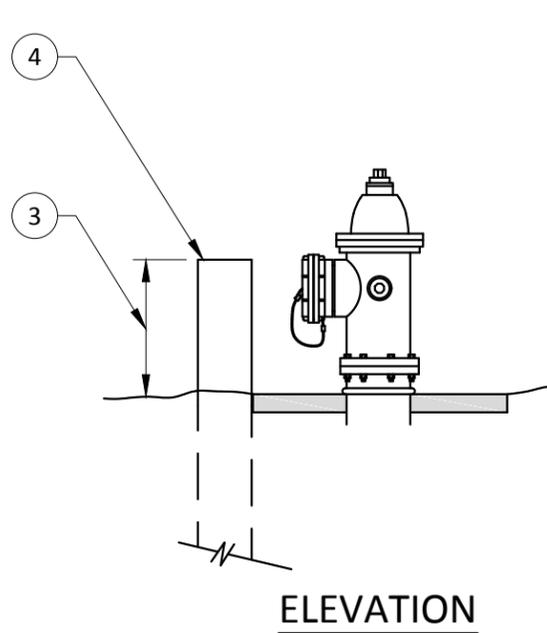
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date 12/30/2016
FIRE HYDRANT INSTALLATION			STANDARD DRAWING No. 507



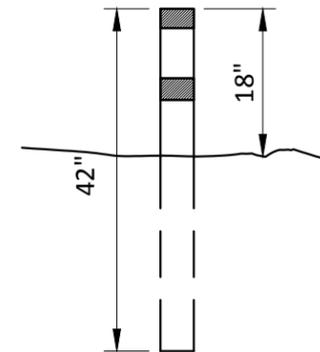
**FIRE HYDRANT CONCRETE PAD**  
(SEE NOTES 1 AND 2)

**NOTES**

1. CONCRETE SHALL BE CLASS 3000.
2. INSTALL 1/2"x4" EXPANSION STRIP AROUND HYDRANT.
3. GUARD POSTS SHALL BE 6' LONG, 9" IN DIAMETER PRECAST CONCRETE OR 6' LONG, 6" DIAM SCH 40, CONCRETE FILLED CLASS 52 STEEL PIPE. PAINTED WITH TWO COATS OF KELLY-MOORE LUXLITE Q.D. ALKYD GLOSS ENAMEL #6100-516 CAT YELLOW OR CITY APPROVED EQUAL.
4. TOP OF GUARD POST SHALL BE LEVEL WITH TOP OF PUMPER PORT.
5. VALVE MARKER POST SHALL BE 42" PORTABLE TRAFFIC DELINEATOR POST W/TWO REFLECTOR STRIPS. THEY SHALL BE FURNISHED NEW AND UNUSED AND BURIED 24" DEEP, TO LEAVE 18" EXPOSED AS A MARKER POST THE LETTER "V" AND THE DISTANCE TO THE VALVE SHALL BE STENCILED ON THE POST WITH 2" HIGH NUMERALS, WITH BLACK ENAMEL PAINT.
6. VALVE MARKER POSTS SHALL BE INSTALLED FOR ALL VALVES LOCATED IN UNIMPROVED OR UNPAVED AREAS. VALVE MARKER POSTS SHALL BE SET AS DIRECTED BY THE PUBLIC WORKS INSPECTOR IN A SAFE AND REASONABLY CONSPICUOUS LOCATION.
7. VALVE MARKER POSTS ARE NOT REQUIRED FOR AUXILIARY HYDRANT VALVES.



**FIRE HYDRANT GUARD POSTS**  
(SEE NOTES 3 AND 4)

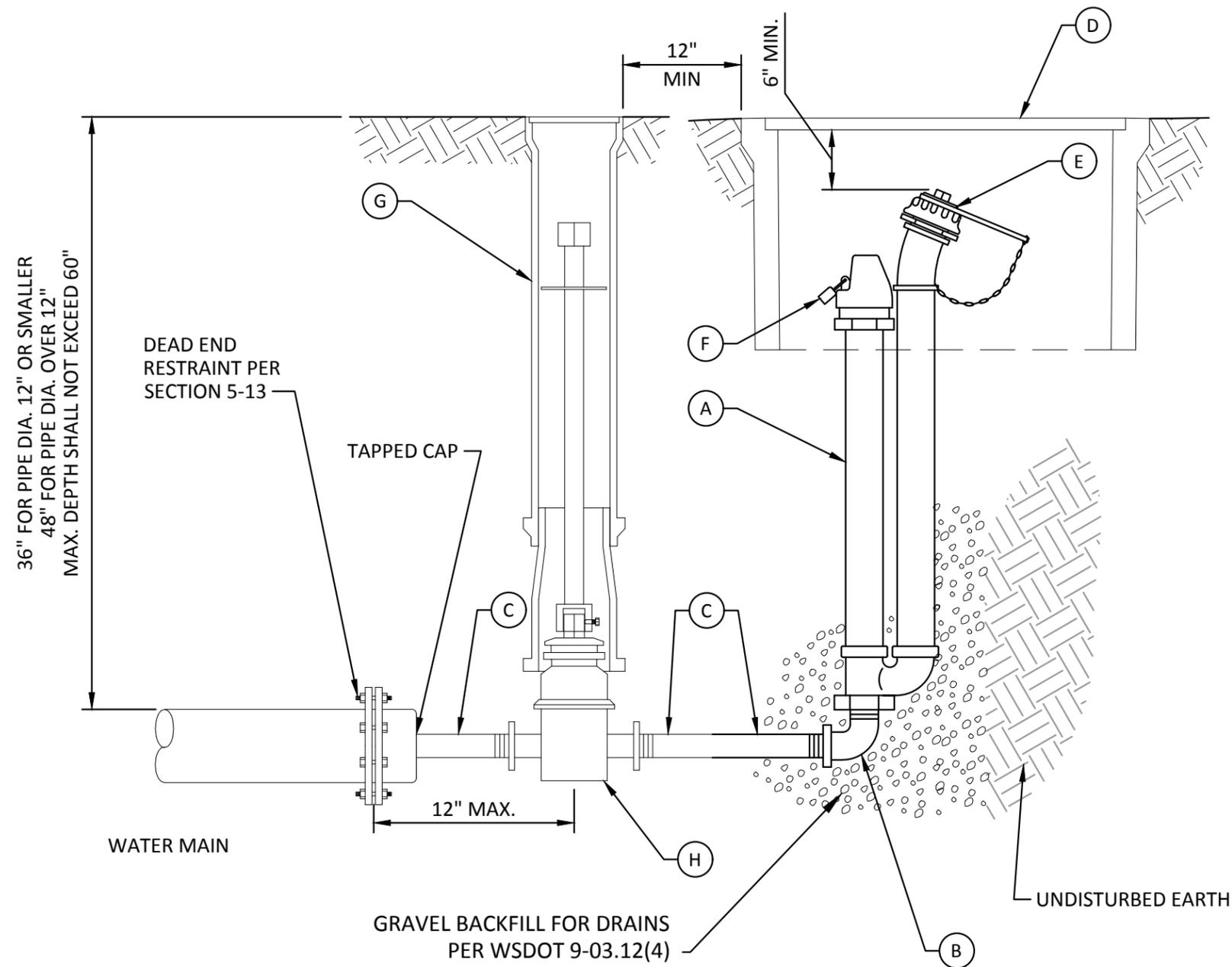


**VALVE MARKER POST**  
(SEE NOTES 5, 6 AND 7)

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
<b>TITLE</b> <b>FIRE HYDRANT CONC. PAD, GAURD POSTS &amp; VALVE MARKER</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>508</b>



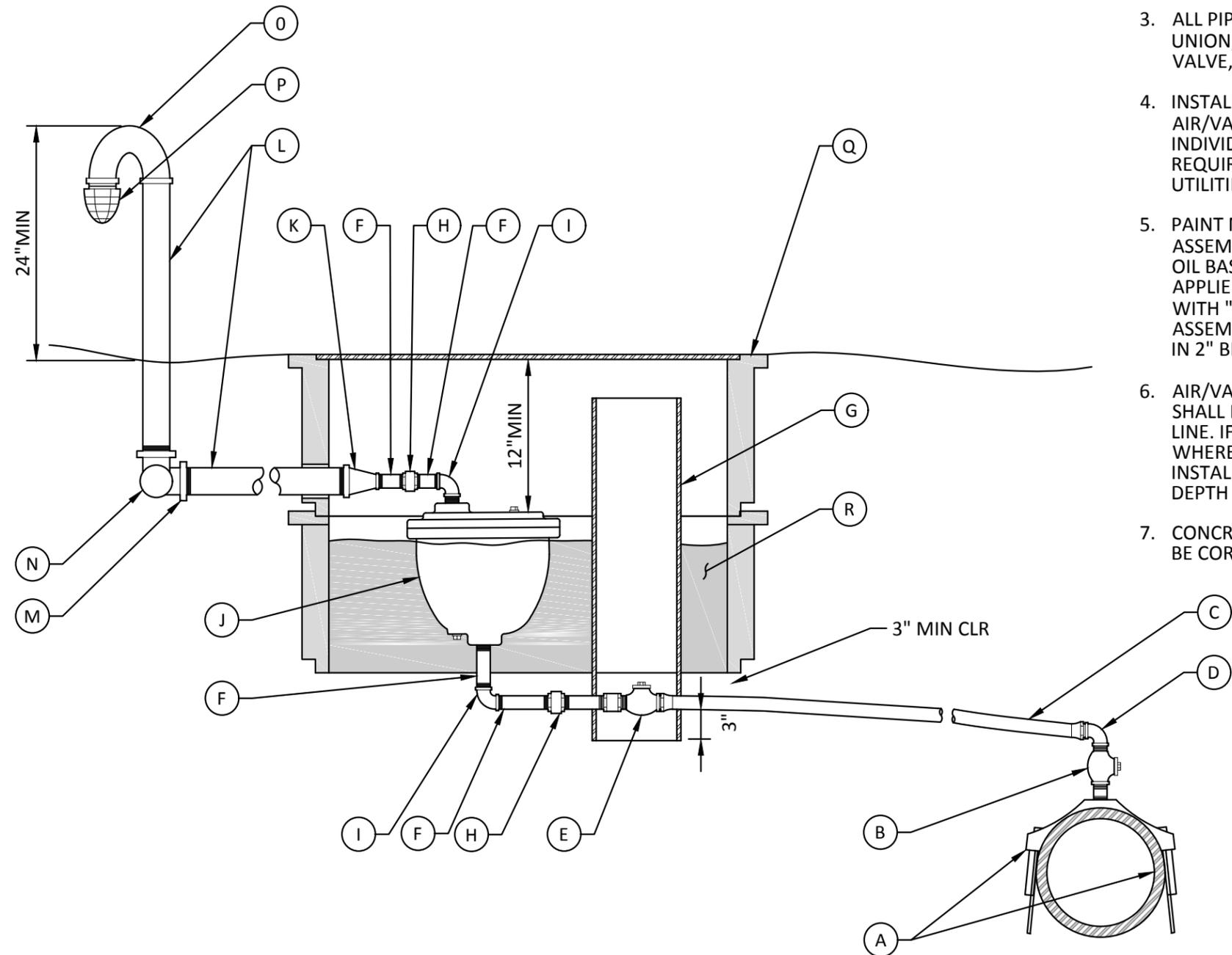
**PARTS:**

- A. GIL # 101GHS BLOW-OFF
- B. 2" BRASS STREET "ELL"
- C. 2" BRASS NIPPLE
- D. PROVIDE METER BOX BODY MANUFACTURED BY "RAVEN PRODUCTS, MODEL RMD-17-30-12", MOUSEHOLES CUT, WITH AASTHO H-20 RATED DUCTILE IRON FLUSH SOLID COVER LID OR EQUAL.
- E. 2" CAP NATIONAL STANDARD THREAD.
- F. LOCK TO BE SUPPLIED BY CITY OF EVERETT UTILITIES DEPARTMENT.
- G. VALVE BOX AND EXTENSION PER STD DWG 505
- H. HEAVY DUTY 2" GATE VALVE WITH RESILIENT SEAT. GATE VALVES SHALL BE "WATEROUS" SERIES 2500 OR CITY APPROVED EQUAL

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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date 12/30/2016
BLOW-OFF ASSEMBLY			STANDARD DRAWING No. 511



**NOTES**

1. AIR-VAC UNIT AND BOX TO BE INSTALLED IN NON-TRAFFIC AREA.
2. USE MUELLER DOUBLE STRAP SERVICE CLAMP OR APPROVED EQUAL ON ALL MAINS LESS THAN 8" IN DIAMETER.
3. ALL PIPE FITTINGS BETWEEN MAIN AND UNION, AFTER AIR/VACUUM RELIEF VALVE, SHALL BE BRASS.
4. INSTALLATIONS FOR OTHER SIZE AIR/VACUUM RELIEF VALVES SHALL BE INDIVIDUALLY DESIGNED AND WILL REQUIRE APPROVAL BY THE CITY UTILITIES DEPARTMENT.
5. PAINT METER BOX LID AND RISER ASSEMBLY (2) COATS SAFETY YELLOW, OIL BASE ENAMEL- HAND BRUSH APPLIED. STENCIL RISER ASSEMBLY WITH "AV" AND SIZE OF AIR/VAC ASSEMBLY ON SIDE FACING ROADWAY IN 2" BLACK LETTERS.
6. AIR/VAC RELEASE VALVE ASSEMBLY SHALL BE INSTALLED AT HIGH POINT ON LINE. IF HIGH POINT FALLS IN LOCATION WHERE ASSEMBLY CANNOT BE INSTALLED, PROVIDE ADDITIONAL DEPTH TO CREATE NEW HIGH POINT.
7. CONCRETE VAULT PENETRATIONS SHALL BE CORE DRILLED AND GROUTED.

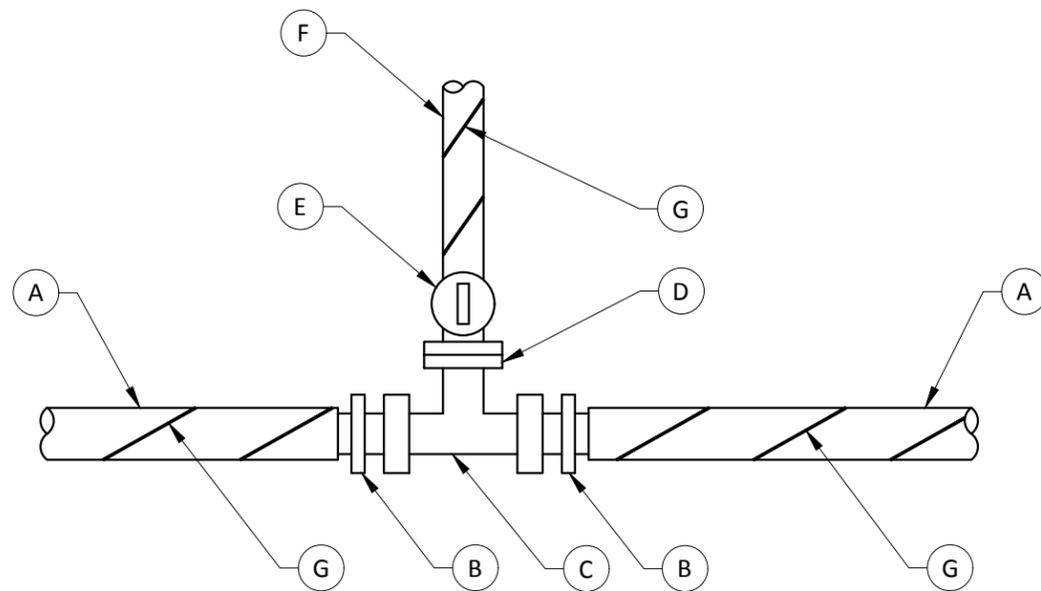
**PARTS**

- A. CL 52 DUCTILE IRON PIPE WITH ROMAC, FORD OR MUELLER SERVICE SADDLE.
- B. 1" FORD F600 SERIES CORPORATION STOP.
- C. 1" TYPE "K" COPPER TUBING.
- D. 1" FORD 602-44 ANGLE COUPLING.
- E. 1" FORD B21-444 CURB STOP.
- F. 1" BRASS NIPPLE.
- G. 6" PVC PIPE.
- H. 1" BRASS UNION.
- I. 1" BRASS 90° ELL.
- J. 1" COMBINATION AIR AND VACUUM RELIEF VALVE APCO 143-C, VALMATIC 201C OR EQUAL.
- K. 2"x1" GALV REDUCER.
- L. 2" GALV PIPE.
- M. 2" STREET ELL (HORIZ).
- N. 2" GALV 90° ELL (VERT).
- O. 2" GALV RETURN BEND.
- P. GALV BEEHIVE STRAINER GREENBURG P-24-08, FOR 2" PIPE.
- Q. UTILITY BOX CARSON BCF1730-12 OR CITY APPROVED EQUAL.
- R. BACKFILL WITH SAWDUST TO BONNET.

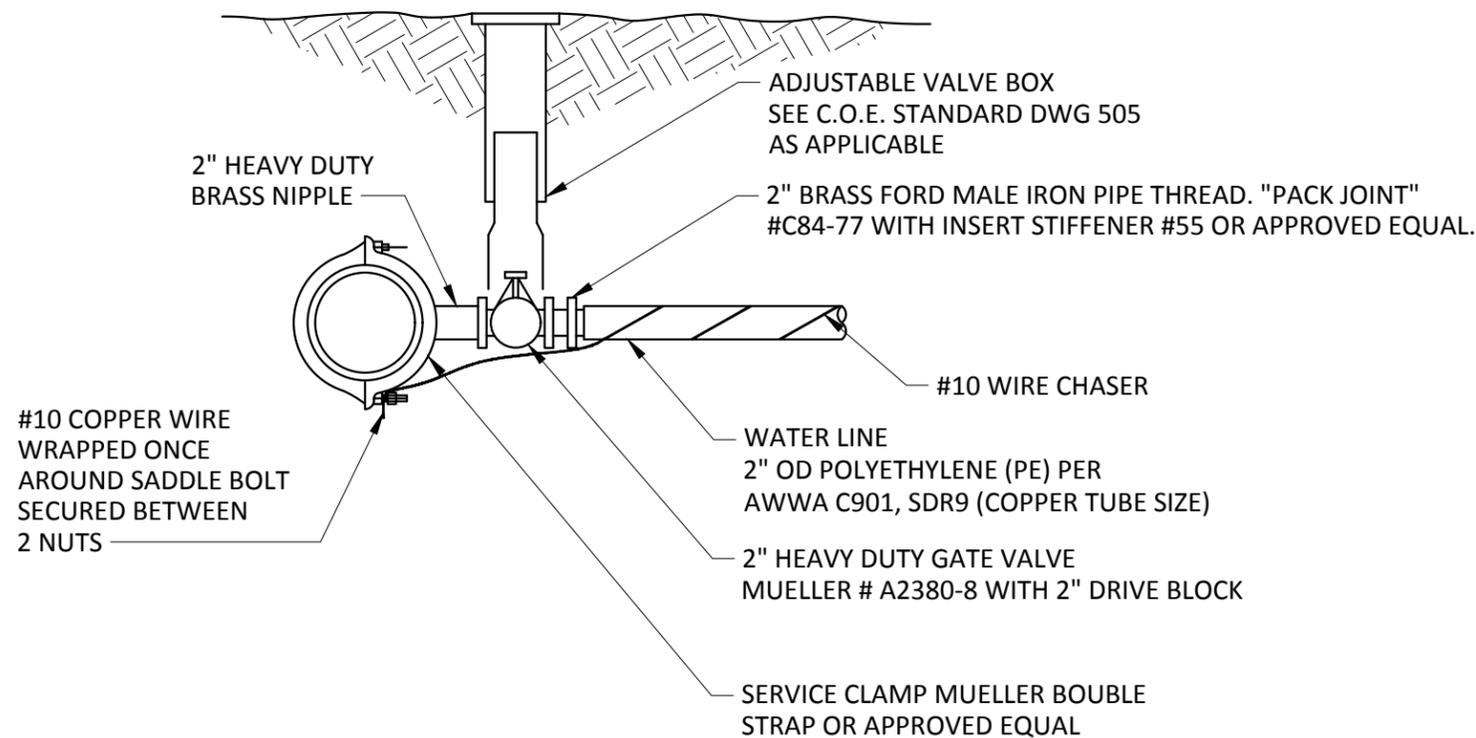
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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>1" AIR-VACUUM VALVE ASSEMBLY</b>				STANDARD DRAWING No. <b>512</b>



**SERVICE CONNECTION PLAN**



**CONNECTION TO MAIN**

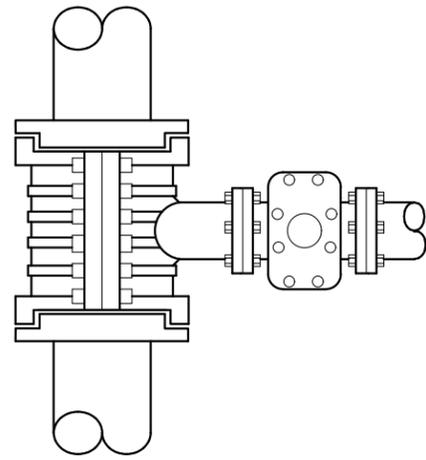
**NOTES**

- A. 2" WATER MAIN SHALL BE POLYETHYLENE PER STANDARD DETAIL 502B. CONNECTION TO MAIN TO BE MADE PER STANDARD DETAIL 502B.
- B. 2" BRASS MALE IRON PIPE THREAD X COMPRESSION FITTING WITH STAINLESS STEEL INSERT STIFFENER. COUPLING SHALL BE "FORD" C84-77 NL OR CITY APPROVED EQUAL.
- C. 2" BRASS TEE (FIP).
- D. BRASS HEX BUSHING 2" X SERVICE SIZE.
- E. CORPORATION STOP SHALL BE FORD FB700 OR CITY APPROVED EQUAL.
- F. METERED WATER SERVICE PER STANDARD 502A OR 502C.
- G. # 10 COPPER TRACE WIRE WRAPPED ALONG ENTIRE LENGTH (ONE WRAP PER FOOT) WITH ONE END WRAPPED AROUND THE SADDLE BOLT AND SECURED BETWEEN 2 NUTS, ON MAIN CONNECTION. THE OTHER END WILL BE EXPOSED IN THE METER BOX. A SCOTCH CAST ELECTRICAL SPLICE KIT TO BE USED TO SPLICE ALL WIRES WHERE REQUIRED. SCOTCH CAST ELECTRICAL SPLICE KITS SHALL BE 3M INSULATION DISPLACEMENT CONNECTORS OR CITY APPROVED EQUAL.

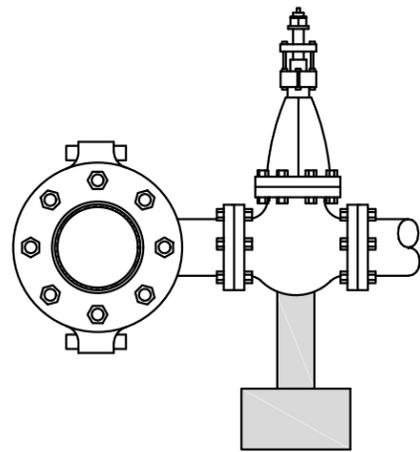
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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>2" POLYETHYLENE WATER MAIN</b>				STANDARD DRAWING No. <b>513</b>



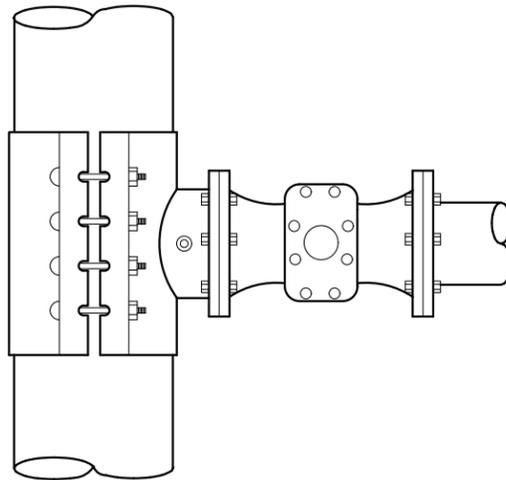
PLAN



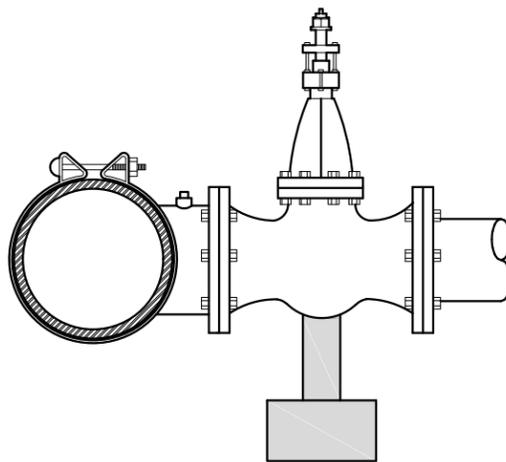
ELEVATION

INSTALLED ON ASBESTOS CEMENT PIPE,  
CAST IRON PIPE AND DUCTILE IRON PIPE.

**CAST IRON MECHANICAL JOINT  
TAPPING TEE**



PLAN



ELEVATION

INSTALLED ON ASBESTOS CEMENT PIPE,  
CAST IRON PIPE AND DUCTILE IRON PIPE.

**STAINLESS STEEL  
TAPPING SLEEVE**

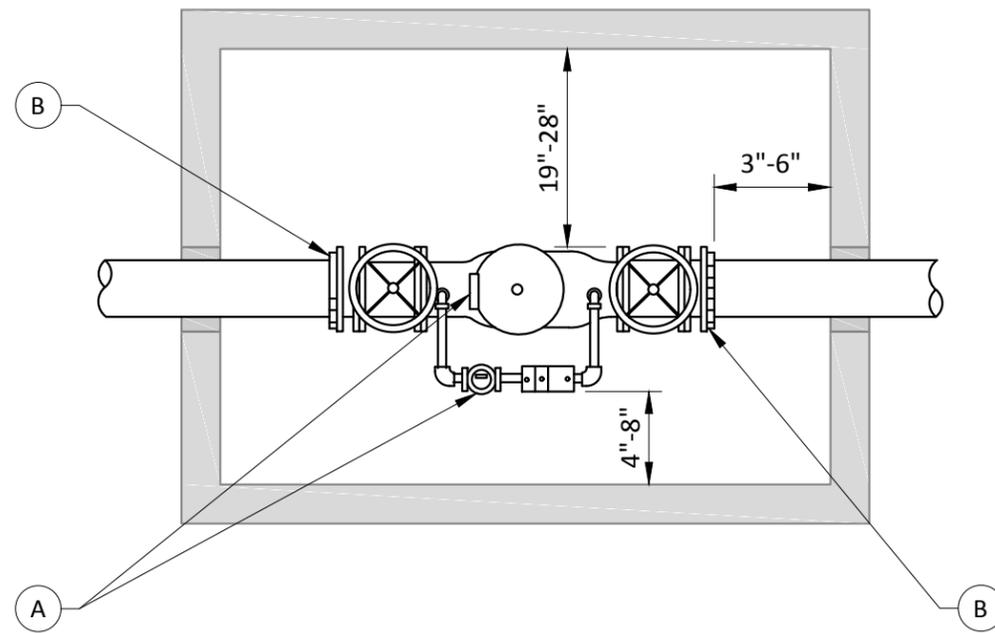
**NOTES**

1. STAINLESS STEEL TAPPING SLEEVES SHALL HAVE FULL CIRCLE SEAL.
2. ALL TEES AND VALVES TO BE WATER TESTED BEFORE TAP.
3. SIZE ON SIZE TAPS ALLOWED ONLY WITH MJ TAPPING TEES. ALL OTHER TAPS SHALL BE AT LEAST 2" SMALLER THAN THE EXISTING MAIN.
4. BRANCH LINE SHALL BE RESTRAINED AS IF A DEAD-END PER SECTION 5-13.

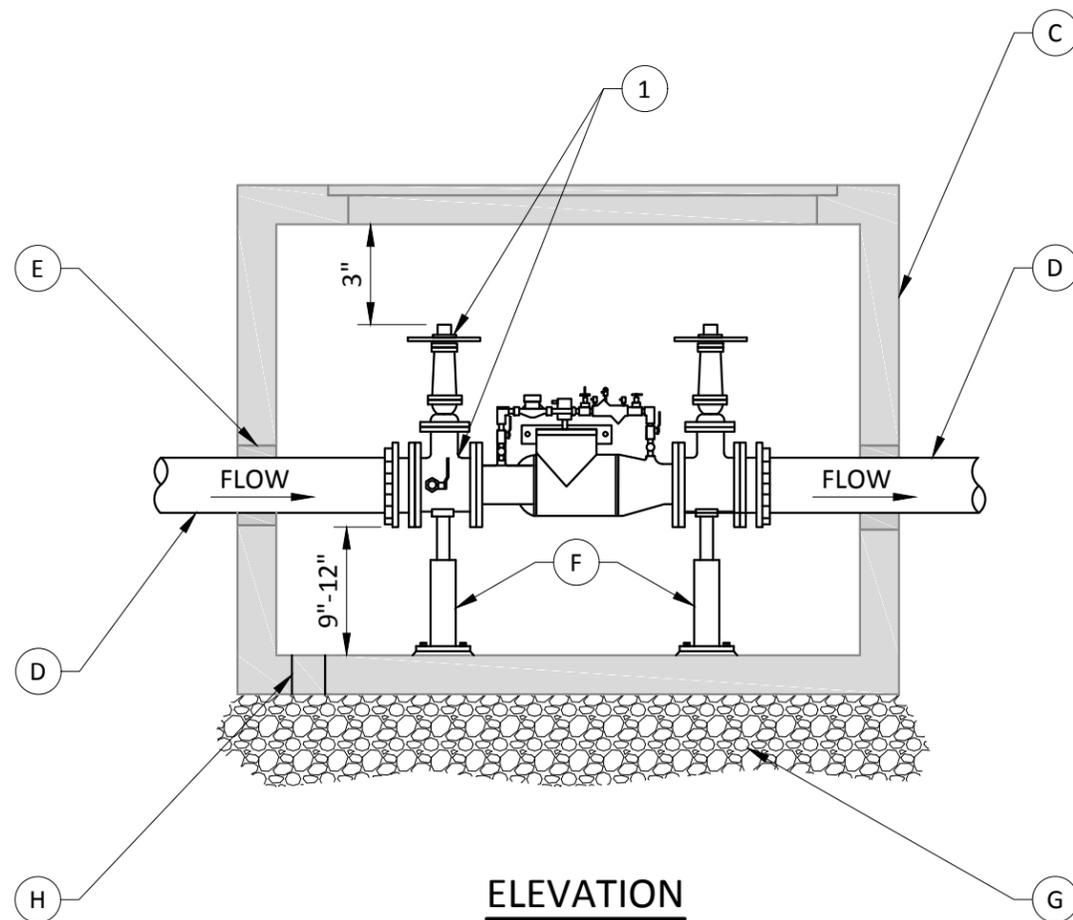
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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>TAPPING TEES</b>				STANDARD DRAWING No. <b>514</b>



**PLAN**



**ELEVATION**

**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLY INCLUDING 2-0.S.&Y RESILIENT SEATED GATE VALVES, TEST COCKS, 3/4" BRASS OR COPPER BYPASS WITH INLINE VALVES, 5/8" X 3/4" NEPTUNE METER W/E-CODER R900 I, CU FT W/STUB ANTENNA & A 3/4" DOUBLE CHECK VALVE ASSEMBLY.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTER WITH MEGALUG.
- C. PRE CAST CONCRETE VAULT WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO OR APPROVED EQUAL). PROVIDE OSHA APPROVED HOT DIPPED GALVANIZED STEEL LADDER INSTALLED IN SUCH A WAY THAT VAULT ACCESS DOES NOT INTERFERE WITH INSTALLED EQUIPMENT MAINTENANCE. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT LOCATED IN PEDESTRIAN WALKWAY.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. VAULT PENETRATIONS SHALL BE SEALED WITH WATER TIGHT GROUT, LINK-SEAL WALL SLEEVE OR APPROVED EQUAL.
- F. TWO (2) GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2-1/2" DIAMETER AND LARGER PIPE.
- G. MINIMUM 6" COARSE AGGREGATE AASHTO GRADING NO.4 PER WSDOT 9-03.1(4)C.
- H. 6" FLOOR OPENING FOR DRAINAGE.
- I. 3" MIN. CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF OS&Y WHEN FULLY OPEN.

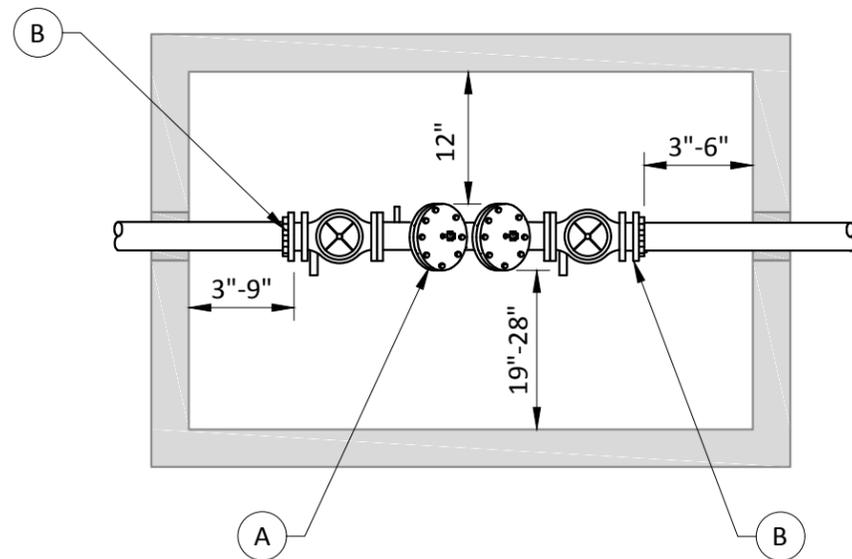
**NOTES**

- 1. TEE AND GATE VALVE REQUIRED ON MAIN.
- 2. SINGLE DETECTOR CHECKS ARE NOT APPROVED BACKFLOW PREVENTION DEVICES.
- 3. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RE-CERTIFICATION ANNUALLY BY OWNER.
- 4. ALL TEST COCKS MUST HAVE BRASS PLUGS.
- 5. ROUND MANHOLE LIDS ARE NOT TO BE USED.
- 6. INSIDE DEPTH IS TO BE KEPT AT A MINIMUM AS PER DIMENSION IN SKETCHES ABOVE AND/OR AS APPROVED BY CITY OF EVERETT UTILITIES DEPARTMENT.
- 7. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITH ACCESS HATCH OPEN AND WITHOUT ENTERING THE VAULT.
- 8. ALL DIMENSIONS ARE MINIMUM CLEARANCE.
- 9. ALL BACKFLOW DEVICES WILL BE INSTALLED IN A VAULT OUTSIDE THE BUILDING UNLESS OTHERWISE APPROVED BY UTILITIES SUPERINTENDENT.

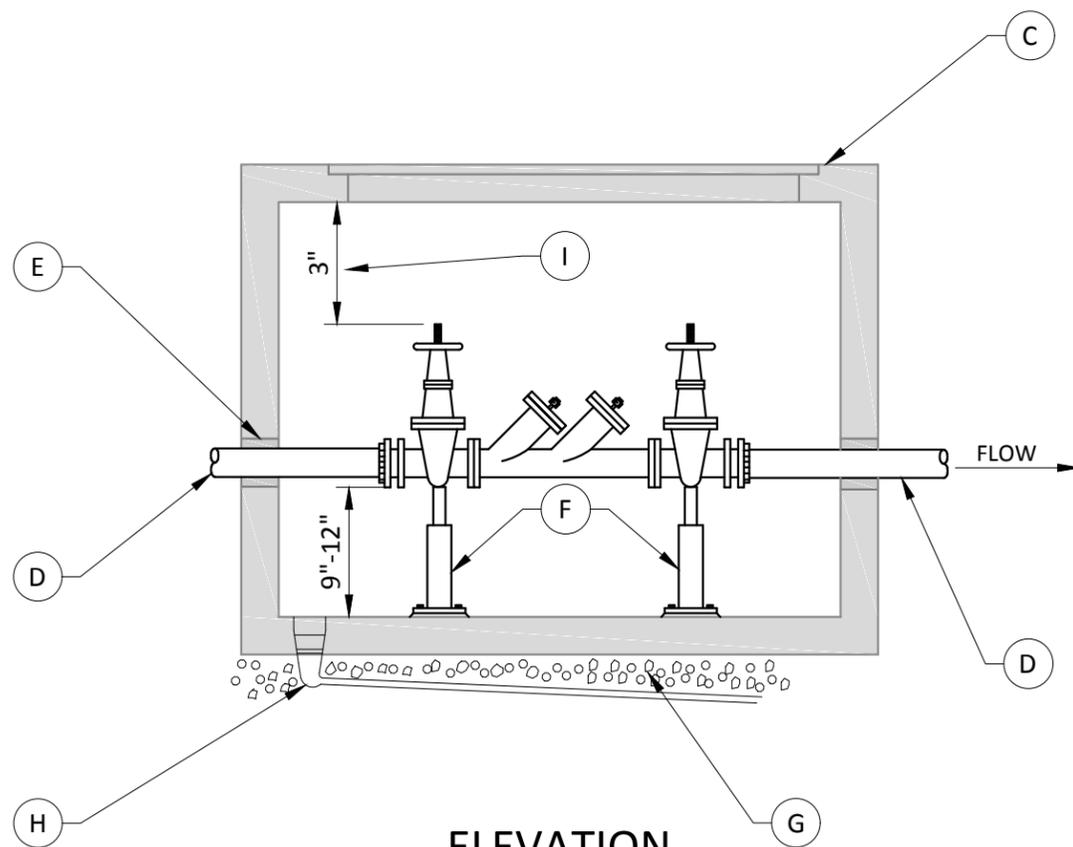
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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>DOUBLE CHECK          DETECTOR VALVE (DCDA)          3" &amp; LARGER SERVICE</b>				STANDARD DRAWING No. <b>515</b>

**DRAFT**



**PLAN**



**ELEVATION**

**NOTES**

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. SINGLE DETECTOR CHECKS ARE NOT APPROVED BACKFLOW PREVENTION DEVICES.
3. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY BY OWNER.
4. ALL TEST COCKS MUST HAVE BRASS PLUGS.
5. MAXIMUM HEIGHT OF ASSEMBLY IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
6. INSIDE DEPTH IS TO BE KEPT AT A MINIMUM AS PER DIMENSION IN SKETCHES ABOVE AND/OR AS APPROVED BY CITY OF EVERETT UTILITIES DEPARTMENT.
7. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.

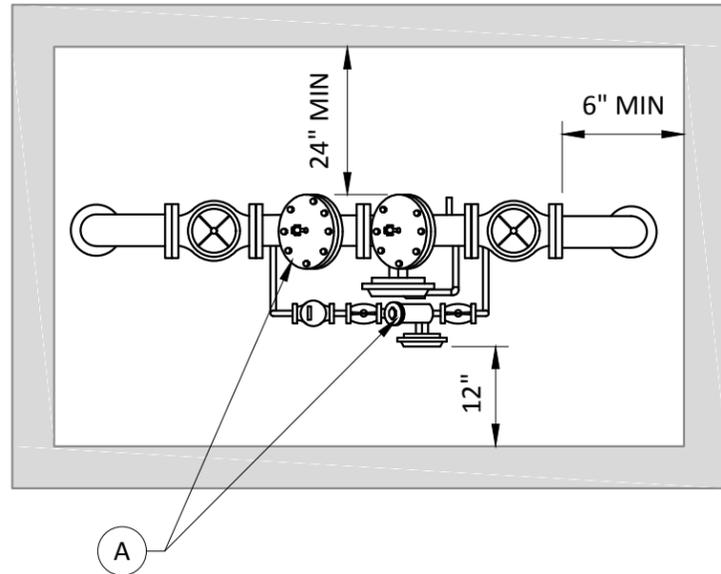
**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY INCLUDING: 2-O.S. & Y RESILIENT SEATED GATE VALVES, AND TEST COCKS.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTER WITH MEGALUG.
- C. PRECAST CONCRETE VAULT WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO OR AN APPROVED EQUAL). PROVIDE OSHA APPROVED HOT DIPPED GALVANIZED STEEL LADDER. INSTALL LADDER IN SUCH A WAY AS TO PROVIDE VAULT ACCESS THAT DOES NOT INTERFERE WITH INSTALLED EQUIPMENT OR MAINTENANCE THEREOF. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT LOCATED IN PEDESTRIAN WALKWAY.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
- F. 2 - GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA. AND LARGER PIPE.
- G. MINIMUM 6" COARSE AGGREGATE, AASHTO GRADING NO. 4 PER WSDOT 9-03.1(4)C.
- H. 6" FLOOR OPENING FOR DRAIN.
- I. 3" MIN CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF O.S. & Y WHEN FULLY OPEN.

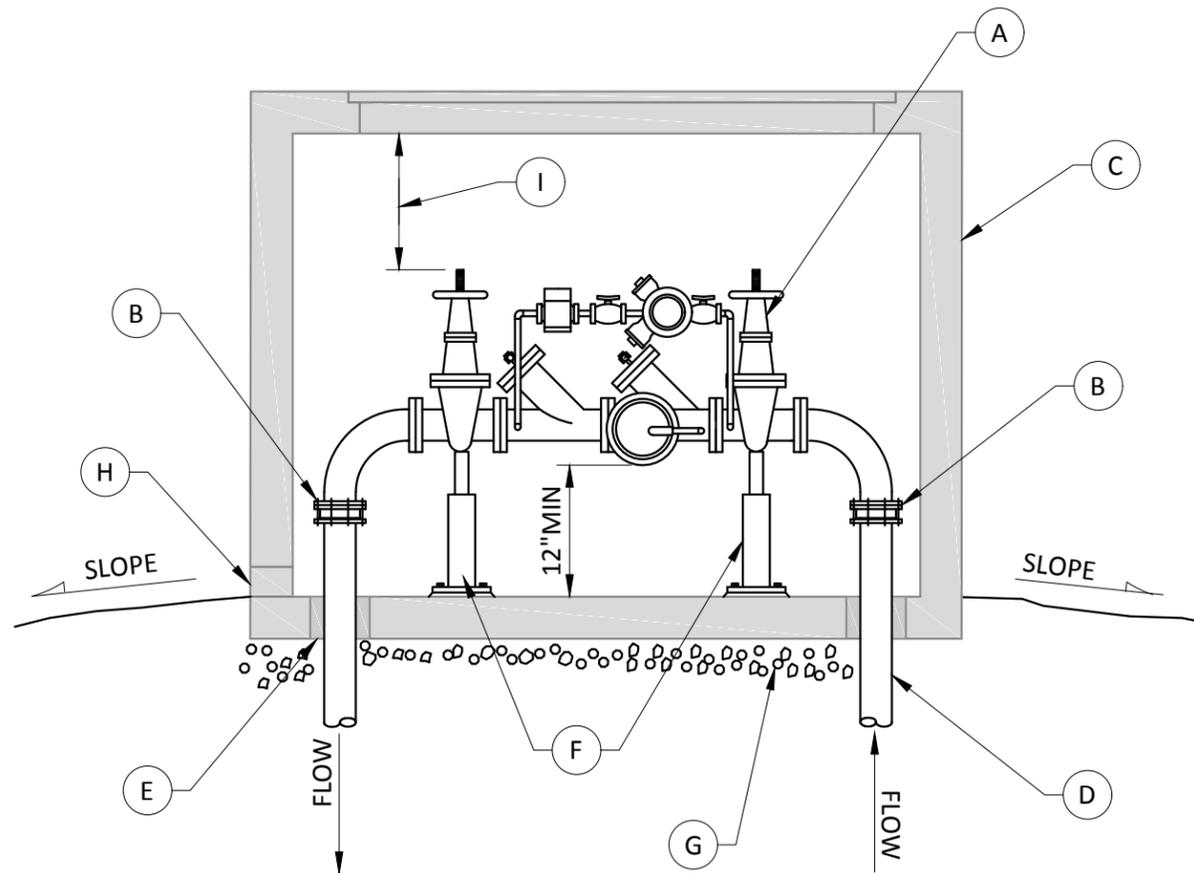
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**DRAFT**

		<p><b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
<p>TITLE <b>DOUBLE CHECK VALVE ASSEMBLY</b> (DCVA) 3" &amp; LARGER SERVICE</p>			<p>Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>516</b></p>



**PLAN**



**ELEVATION**

**NOTES**

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. ALL TEST COCKS MUST HAVE BRASS PLUGS.
3. MAXIMUM HEIGHT OF ASSEMBLY IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
4. MINIMUM INSIDE VAULT HEIGHT IS 78", OR AS APPROVED BY THE CITY UTILITIES DEPARTMENT.
5. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITHOUT ENTERING VAULT WITH ACCESS HATCH OPEN AND WITHOUT ENTERING THE VAULT.
6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
7. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY BY OWNER.

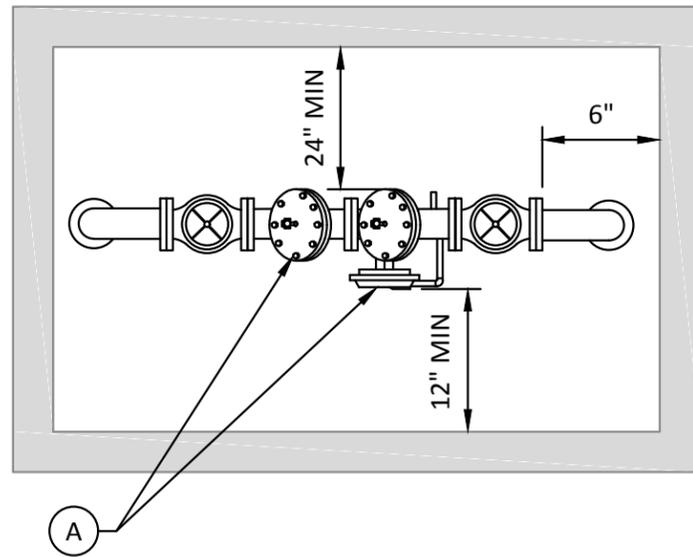
**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED REDUCED PRESSURE DETECTOR ASSEMBLY INCLUDING: 2-O.S.& Y RESILIENT SEATED GATE VALVES, TEST COCKS, 3/4" BRASS OR COPPER BYPASS WITH IN LINE VALVES, 5/8" METER (METER TO READ IN CUBIC FEET), AND A 3/4" REDUCED PRESSURE BACKFLOW ASSEMBLY.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTOR WITH MEGALUG OR GALVANIZED SHACKLE TO MAIN WITH 2-3/4" RODS, OR MJ RETAINER GLANDS.
- C. HOT BOX OR APPROVED EQUAL. DEVICE CAN BE INSIDE BUILDING WITH PROPER DRAIN IN FLOOR AND WITH PRIOR APPROVAL.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
- F. 2 - GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA AND LARGER PIPE.
- G. GRAVEL FOUNDATION AS REQUIRED.
- H. DRAIN SHALL BE INSTALLED WITH APPROVED AIR GAP (SEE STD 519) AND BE ABLE TO BE BORE SIGHTED TO DAYLIGHT WHICH MUST BE ABOVE 100 YEAR FLOOD LEVEL. DRAIN WILL BE SIZED SO AS TO PROVIDE FREE GRAVITY DRAINAGE OF MAX DISCHARGE OF RELIEF VALVE PORT.
- I. 3" MIN CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF OS&Y WHEN FULLY OPEN.

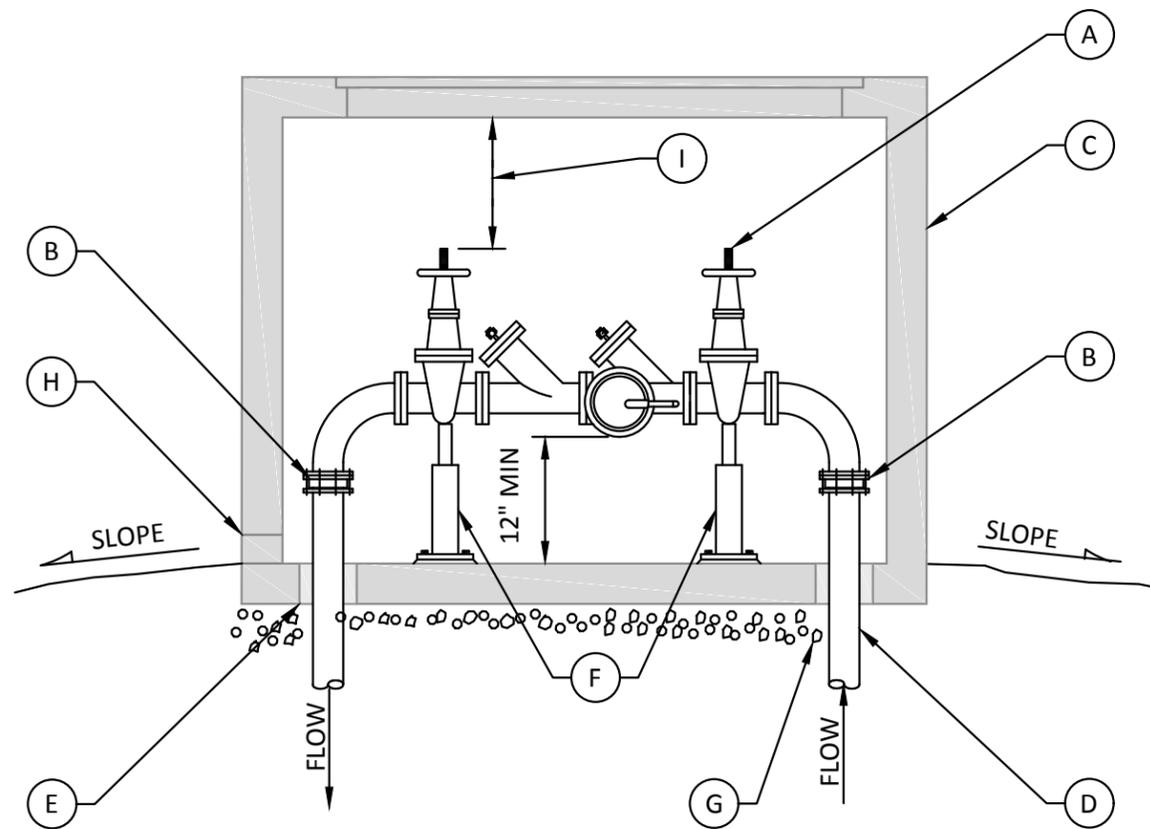
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**DRAFT**

		<p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>	
City Engineer RYAN SASS	Section Manager RICHARD HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
<p>TITLE <b>REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) ALL SIZES</b></p>			<p>Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>517</b></p>



**PLAN**



**ELEVATION**

**NOTES**

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. ALL TEST COCKS MUST HAVE BRASS PLUGS.
3. MAXIMUM HEIGHT OF ASSEMBLY IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
4. MINIMUM INSIDE VAULT HEIGHT IS 78", OR AS APPROVED BY THE CITY UTILITIES DEPARTMENT.
5. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITHOUT ENTERING VAULT WITH ACCESS HATCH OPEN AND WITHOUT ENTERING THE VAULT.
6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
7. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY BY OWNER.

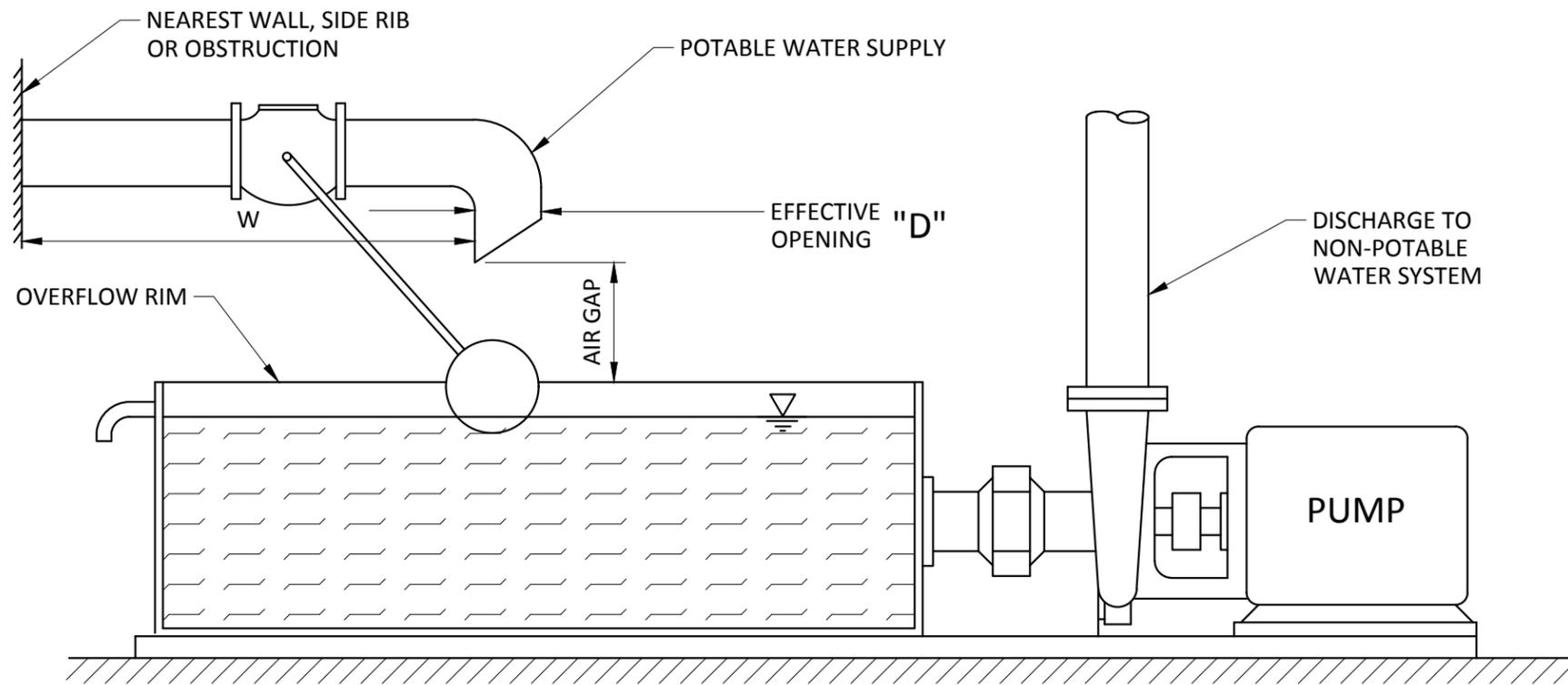
**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY INCLUDING: 2-O.S.& Y RESILIENT SEATED GATE VALVES, AND TEST COCKS.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTOR WITH MEGALUG OR GALVANIZED SHACKLE TO MAIN WITH 2-3/4" RODS, OR MJ RETAINER GLANDS.
- C. PRECAST CONCRETE ENCLOSURE WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO OR AN APPROVED EQUAL). ABOVE GROUND INSTALLATIONS WILL: BE PROVIDED WITH 6'-6"x36" STEEL DOOR FOR ACCESS, THE EXTERIOR WILL BE PAINTED WITH AN APPROVED PAINT, PROVIDED WITH SUFFICIENT INSULATION TO PREVENT FREEZING AND SITE WILL BE PROVIDED WITH A 6' HIGH SECURITY FENCE WITH PEDESTRIAN AND VEHICLE GATES. SEMI-BURIED INSTALLATIONS WILL: BE PROVIDED WITH OSHA APPROVED LADDER. INSTALLED IN SUCH A WAY AS TO NOT INTERFERE WITH INSTALLED EQUIPMENT MAINTENANCE. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT LOCATED IN PEDESTRIAN WALKWAY.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
- F. 2 - GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA AND LARGER PIPE.
- G. GRAVEL FOUNDATION AS REQUIRED.
- H. DRAIN SHALL BE INSTALLED WITH APPROVED AIR GAP (SEE STD 519) AND BE ABLE TO BE BORE SIGHTED TO DAYLIGHT WHICH MUST BE ABOVE 100 YEAR FLOOD LEVEL. DRAIN WILL BE SIZED SO AS TO PROVIDE FREE GRAVITY DRAINAGE OF MAX DISCHARGE OF RELIEF VALVE PORT.
- I. 3" MIN CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF OS&Y WHEN FULLY OPEN.

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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) ALL SIZES</b>				STANDARD DRAWING No. <b>518</b>



**NOTES**

1. ALL INSTALLED AIR GAPS MUST BE WA DOH APPROVED.
2. THE HEIGHT OF THE AIR GAP MUST MEET THE CRITERIA IN TABLE A UNLESS OTHERWISE NOTED.
3. THE CITY UTILITIES DEPARTMENT MAY REQUIRE THE AIR GAP TO BE INCREASED IF INSTALLED WITHIN A BUILDING WHERE THE AIR PRESSURE IS ARTIFICIALLY MAINTAINED OR INCREASED.
4. AIR GAPS LESS THAN 1 INCH SHALL BE APPROVED ONLY AS A PART OF A LISTED DEVICE THAT HAS BEEN TESTED UNDER BACKSIPHONAGE CONDITIONS WITHIN A VACUUM OF A MINIMUM OF 25 INCHES OF MERCURY.
5. TUBULAR SCREENS MAY BE ATTACHED OR THE SUPPLY LINE OUTLET MAY BE CUT AT A 45° ANGLE.
6. HOSES AND BYPASSES ARE NOT ALLOWED.
7. THE INSPECTION OF AIR GAPS SHALL BE INCLUDED IN THE YEARLY TESTING PROGRAM FOR BACKFLOW DEVICES.

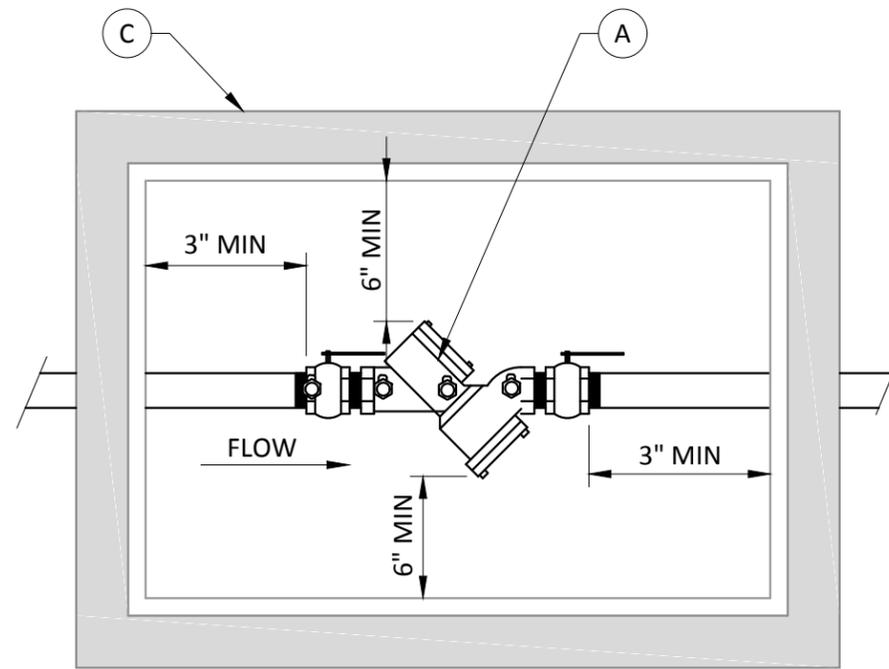
D	AIR GAP (INCHES)	
	IF W > 3D	IF W ≤ 3D (SINGLE WALL) OR IF W ≤ 4D (INTERSECTING WALLS)
< 0.5 INCH	1	1.5
< 0.75 INCH	1.5	2.25
≥ 1 INCH	2 X D	3 X D

TABLE A

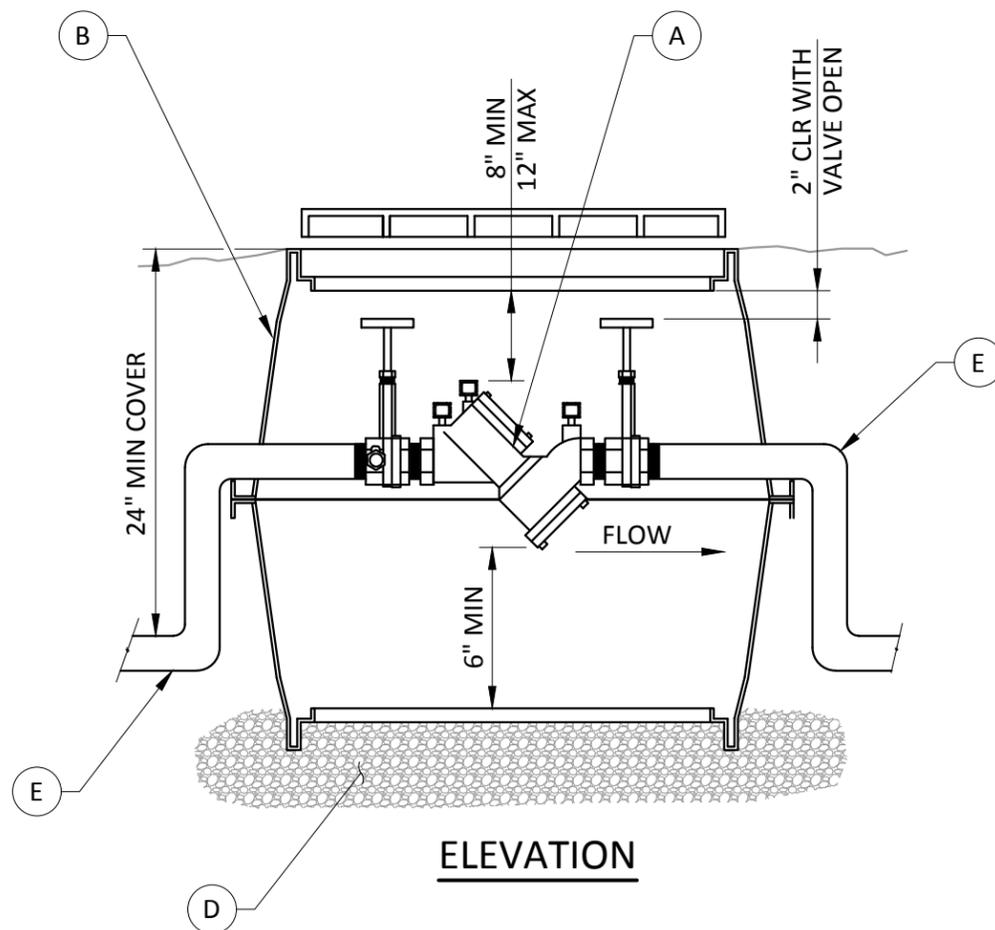
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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer		Section Manager		CAD Manager		Drawn By		Current Rev Date	
		RYAN SASS		R. HEFTI		PAUL WILHELM		WRB		12/30/2016	
TITLE										STANDARD DRAWING No.	
AIR GAP FOR MAKEUP TANK										519	



**PLAN**



**ELEVATION**

**NOTES**

1. ALL TEST COCKS MUST HAVE BRASS PLUGS.
2. TEST COCKS MUST FACE UP OR SIDEWAYS WHICH EVER IS MORE ACCESSIBLE.
3. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT IS LOCATED IN PEDESTRIAN WALKWAY.

**PARTS**

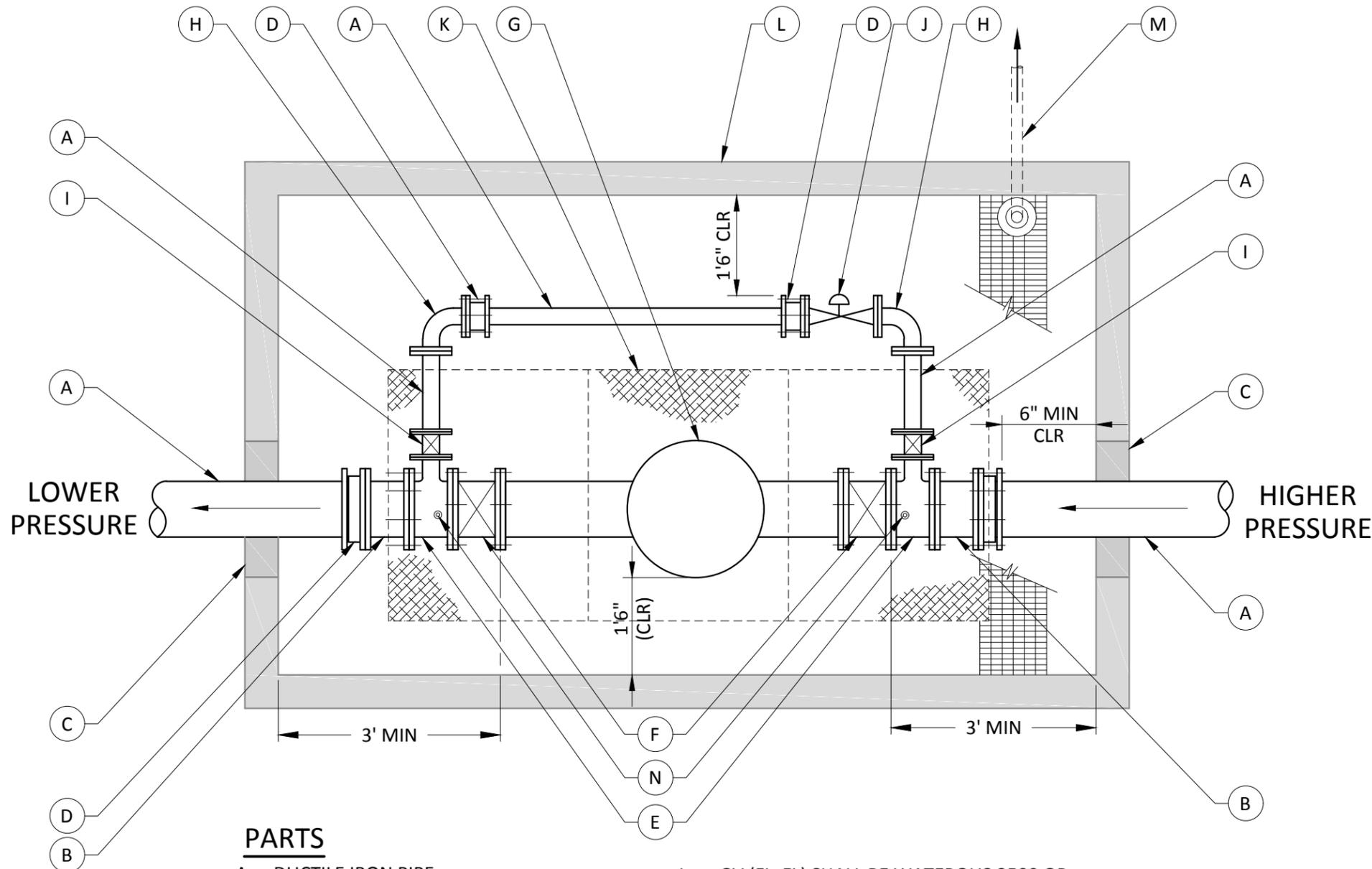
- A. WA STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY.
- B. IN NON-TRAFFIC AREAS USE:  
PRECAST CONCRETE VAULT (UTILITY VAULT CO 233-LA, OR APPROVED EQUAL) OR PLASTIC VALVE BOX (UTILITY VAULT CO 1324-12L OR APPROVED EQUAL)
- C. IN TRAFFIC AREAS:  
A TRAFFIC LOADED BOX MUST BE USED AND LOCATION APPROVED BY THE THE CITY OF EVERETT PRIOR TO INSTALLATION.
- D. IF A DAYLIGHT DRAIN CANNOT BE PROVIDED THERE MUST BE A 4" MIN LAYER OF FREE DRAINING GRAVEL AT THE BOTTOM OF BOX.
- E. ANGLES MAY BE IN OR OUT OF BOX SO LONG AS SUFFICIENT ROOM IS ALLOWED AT EACH END FOR VALVE OPERATOR AND DCVA REPAIR OR MAINTENANCE.

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City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>DOUBLE CHECK VALVE ASSEMBLY</b>				STANDARD DRAWING No. <b>520</b>
(DCVA) FOR 2-1/2" & SMALLER SERVICE				

**DRAFT**



**NOTES**

1. MINIMUM VAULT INSIDE HEIGHT SHALL BE 78", OR AS APPROVED BY THE CITY UTILITIES DEPARTMENT.
2. MINIMUM CLEARANCE BETWEEN PRV VALVES AND FLOOR SHALL BE 12".
3. PROVIDE LIQUID FILLED 2 1/2" PRESSURE GAUGES AMETEK SERIES 550L OR CITY APPROVED EQUAL.
4. ALL EQUIPMENT MUST BE RATED FOR SOURCE PRESSURE.
5. PIPING AND VALVES SHALL BE SUPPORTED BY POURED-IN-PLACE CONCRETE OR STEEL STANDS. NUMBER OF AND PLACEMENT OF STANDS TO BE DETERMINED BY CITY UTILITIES DEPARTMENT ACCORDING TO VALVE SIZE.
6. BRAND, SIZE, MINIMUM CLEARANCES, TYPE OF PRV AND ACCESSORIES TO BE DETERMINED BY CITY OF EVERETT UTILITIES DEPARTMENT.
7. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT IS LOCATED IN PEDESTRIAN WALKWAY.

**PARTS**

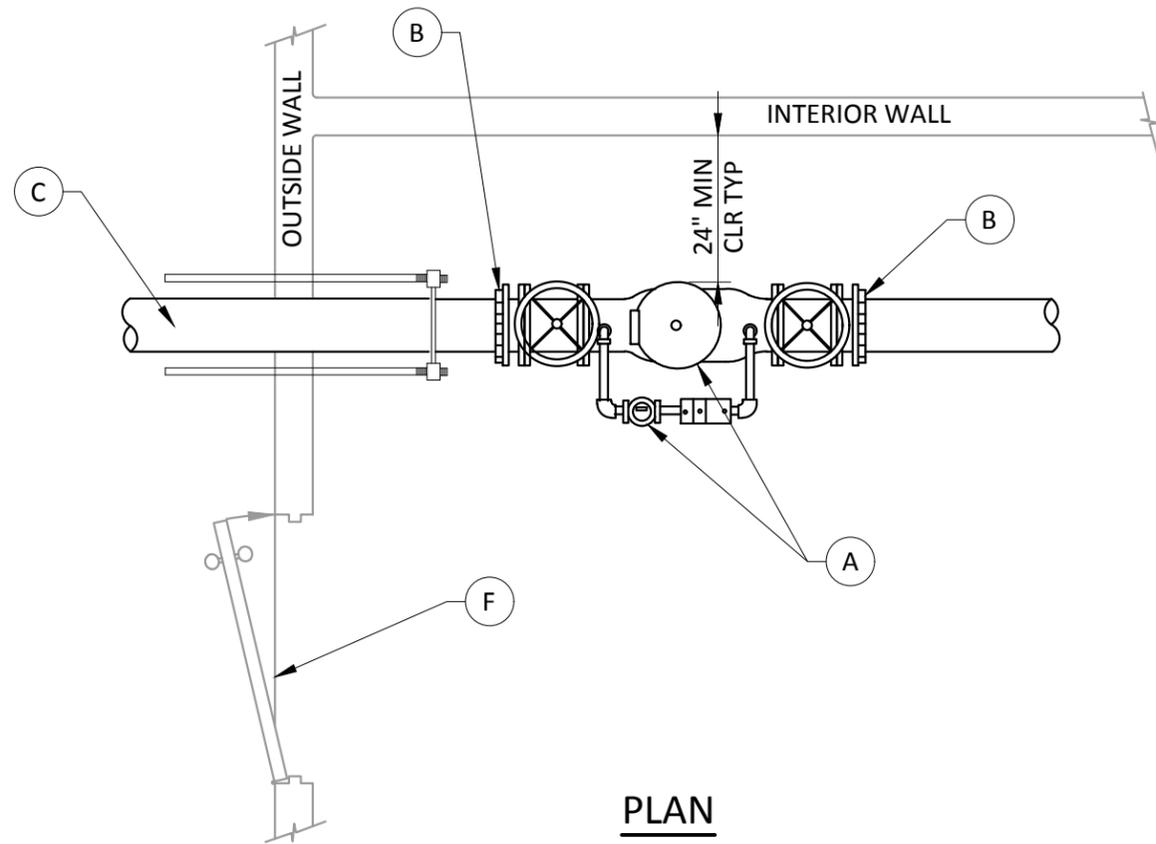
- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>A. DUCTILE IRON PIPE.</li> <li>B. SPOOL (FLxFL), IF NEEDED.</li> <li>C. NON-SHRINK GROUT.</li> <li>D. FLANGE COUPLING ADAPTOR (FLxMJ) WITH MEGA LUG OR GALVANIZED SHACKLE TO MAIN WITH 2- 3/4" RODS OR MJ RETAINER GLANDS.</li> <li>E. TEE (FL).</li> <li>F. GV SHALL BE WATEROUS 2500OR APPROVED EQUAL.</li> <li>G. PRV (FLxFL).</li> <li>H. 90° ELL (ALL MJ WITH/MEGA LUGS).</li> </ul> | <ul style="list-style-type: none"> <li>I. GV (FLxFL) SHALL BE WATEROUS 2500 OR APPROVED EQUAL.</li> <li>J. PRV (FLxFL).</li> <li>K. UTILITY VAULT CO LID WITH TRAFFIC LOADED LOCKING STEEL COVERS OR EQUAL.</li> <li>L. UTILITY VAULT CO PRECAST VAULT OR APPROVED EQUAL.</li> <li>M. 2" GRAVITY SUMP DRAIN EXTEND TO DAY-LIGHT OR TO STORM DRAINAGE SYSTEM.</li> <li>N. 1/4" GAUGE TAPS WITH 1/4" BALL VALVES FOR ISOLATION.</li> </ul> |
|--|--|

**PLAN**

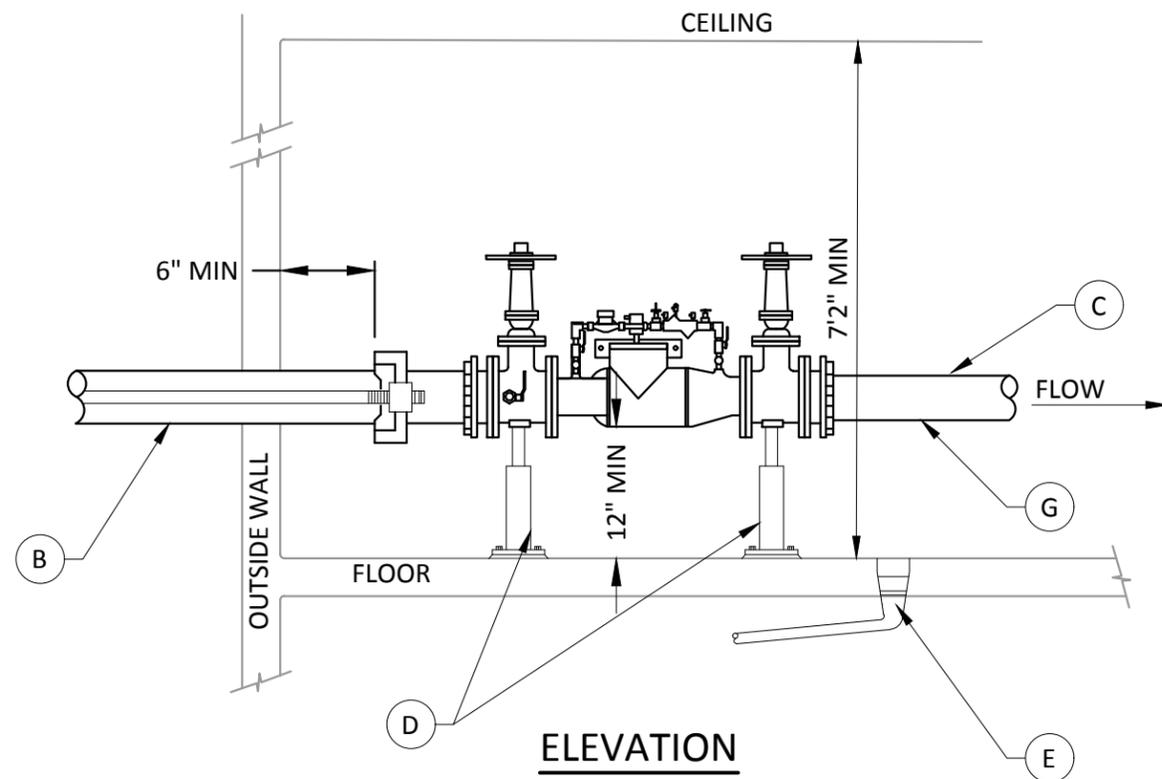
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**DRAFT**

		<p><b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
		<p>City Engineer RYAN SASS</p>	<p>Section Manager R. HEFTI</p>
<p>TITLE <b>TYPICAL PRESSURE REDUCING VALVE (PRV) INSTALLATION</b></p>			<p>Current Rev Date <b>12/30/2016</b></p>
<p>STANDARD DRAWING No.</p>			<p><b>521</b></p>



**PLAN**



**ELEVATION**

**PARTS**

- A. UL-FM LISTED SOFT SEATED WA STATE APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLY WHICH MUST BE INSTALLED IN THE SAME ORIENTATION FOR WHICH IT WAS APPROVED. ASSEMBLY TO INCLUDE; TEST COCKS, 3/4" BRASS OR COPPER BYPASS WITH IN-LINE VALVES AND A 5/8" REMOTE METER. METER TO READ IN CUBIC FEET, AND BE REMOTED TO AN EXTERNAL WALL OF BUILDING METER BOX.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTER WITH MEGALUG RESTRAINT FOR BOTH UPSTREAM AND DOWNSTREAM OF ASSEMBLY.
- C. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- D. TWO GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA AND LARGER PIPE.
- E. A SUFFICIENTLY SIZED FLOOR DRAIN OR WALL FOOTING DRAIN MUST BE PROVIDED IN THE SAME ROOM. DRAIN TO SLOPE TO DAYLIGHT OR CONNECT TO STORM DRAIN SYSTEM.
- F. EXTERNAL DOOR WITH KEY IS REQUIRED. EITHER A LOCKSET IN THE DOOR HARDWARE OR A KEY VAULT (I.E. SUPRA S.S.) WITH A 1 5/8" DIAMETER X 1 1/8" LENGTH MORTISE CYLINDER. MORTISE CYLINDER MUST ACCEPT THE CITY STANDARD "BEST" LOCKING SYSTEM. THE WIDTH AND HEIGHT OF THE DOOR(S) MUST EXCEED THE WIDTH AND HEIGHT OF THE ASSEMBLY. CLEARANCE BOTH INSIDE AND OUTSIDE ROOM MUST BE SUFFICIENT TO REMOVE ASSEMBLY INTACT. THE ASSEMBLY MUST BE FULLY ACCESSIBLE (2FT MIN HORIZONTAL CLEARANCE TO ALL WALLS AND OR EQUIPMENT) FOR TESTING AND REPAIRS.
- G. FLUSHING CAPABILITIES MUST BE PROVIDED WITH A 2" FLUSHING LINE DOWNSTREAM OF ASSEMBLY TO OUTSIDE OR SUFFICIENTLY SIZED INTERNAL DRAIN.
- H. WHERE ASSEMBLY IS TO BE LOCATED ABOVE EXTERNAL GROUND LEVEL, ALL BENDS REQUIRED TO LOWER INLET PIPE TO PROVIDE REQUIRED EXTERNAL GROUND COVER SHALL BE FLANGE FITTINGS OR BE FITTED WITH HORIZONTAL AND VERTICAL THRUST RESTRAINTS.
- I. THE ROOM SHOULD BE INSULATED WITH R-19 INSULATION OR GREATER AND HEATED TO ABOVE FREEZING. ONLY CONSTRUCTION MATERIALS THAT CAN WITHSTAND OCCASIONAL SUBMERSION WILL BE ALLOWED.

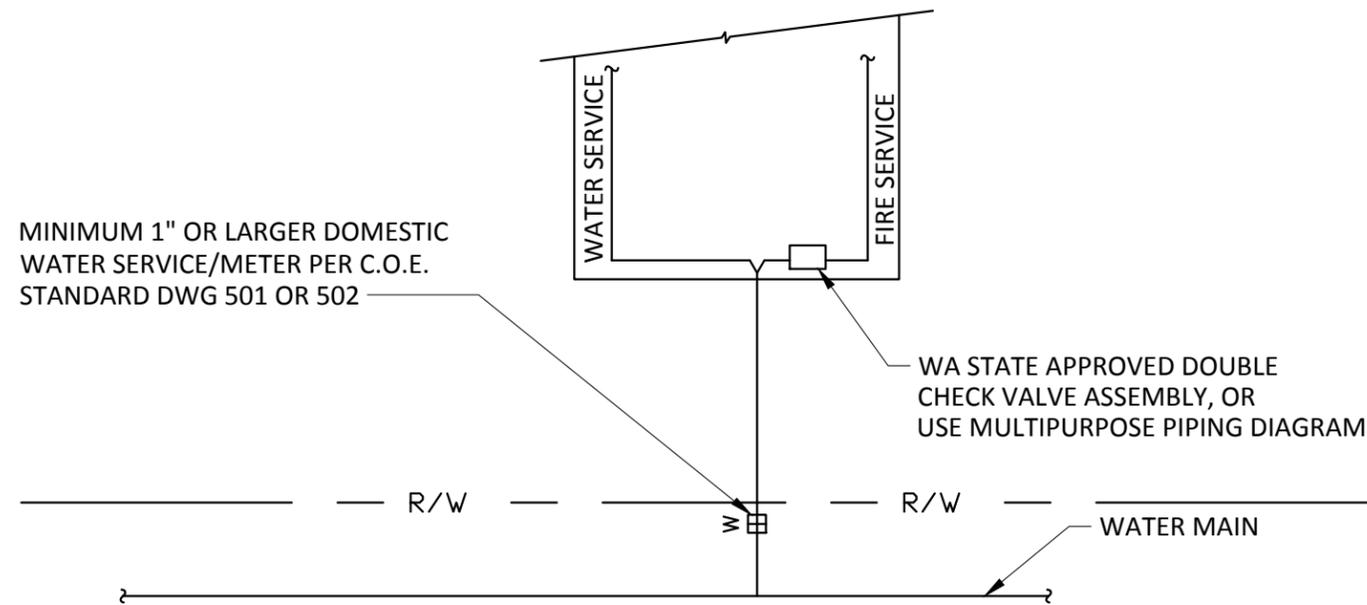
**NOTES**

- 1. TEE AND GATE VALVE REQUIRED ON MAIN.
- 2. SINGLE DETECTOR CHECKS ARE NOT APPROVED BACKFLOW PREVENTION DEVICES.
- 3. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION, AND RECERTIFICATION ANNUALLY BY OWNER.
- 4. ALL TEST COCKS MUST HAVE BRASS PLUGS.
- 5. MAXIMUM HEIGHT OF ASSEMBLY FROM FLOOR IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
- 6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
- 7. FIRE DEPARTMENT PUMPER CONNECTION MUST BE DOWNSTREAM OF ASSEMBLY.
- 8. THE OSY VALVE CAN NOT BE USED AS A POST INDICATOR VALVE. (THESE ARE ONLY PART OF THE BACKFLOW ASSY.)

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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
		City Engineer RYAN SASS	Section Manager R. HEFTI
TITLE <b>DOUBLE CHECK DETECTOR VALVE ASSEMBLY</b> (DCDA) 3" & LARGER SERVICE INSIDE A BUILDING			Current Rev Date <b>12/30/2016</b> <small>STANDARD DRAWING No.</small>
			<b>523</b>

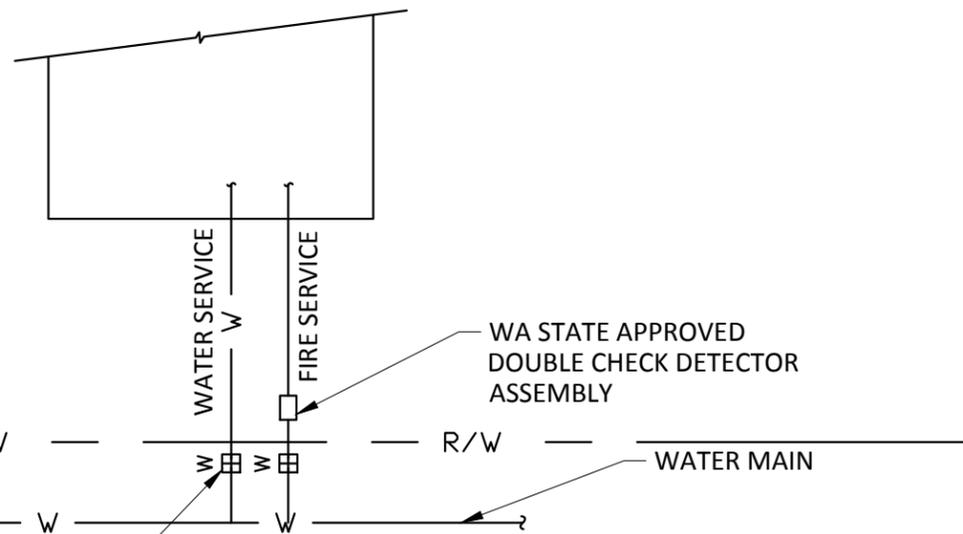


MINIMUM 1" OR LARGER DOMESTIC WATER SERVICE/METER PER C.O.E. STANDARD DWG 501 OR 502

WA STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY, OR USE MULTIPURPOSE PIPING DIAGRAM

IRC DEFINED SINGLE FAMILY, DUPLEX OR TOWNHOUSE STRUCTURES THAT ARE REQUIRED TO OR OPT TO HAVE A FIRE SPRINKLER SYSTEM MAY USE A SINGLE DOMESTIC WATER METER PER COE STD DWG 502B OR 502C. THE SIZE OF THE SERVICE METER SHALL BE CALCULATED BY THE CIVIL ENGINEER OR FIRE SPRINKLER DESIGNER, WHO IS SOLELY RESPONSIBLE FOR THESE CALCULATIONS. THE FIRE SERVICE SIDE OF THE SYSTEM MUST HAVE A WA STATE APPROVED BACKFLOW PREVENTION DEVICE, OR BE INSTALLED PER STD DWG 524B. SYSTEMS INSTALLED IN THIS CONFIGURATION SHALL BE IN ACCORDANCE WITH NFPA 13D.

**1 OR 2 UNITS**

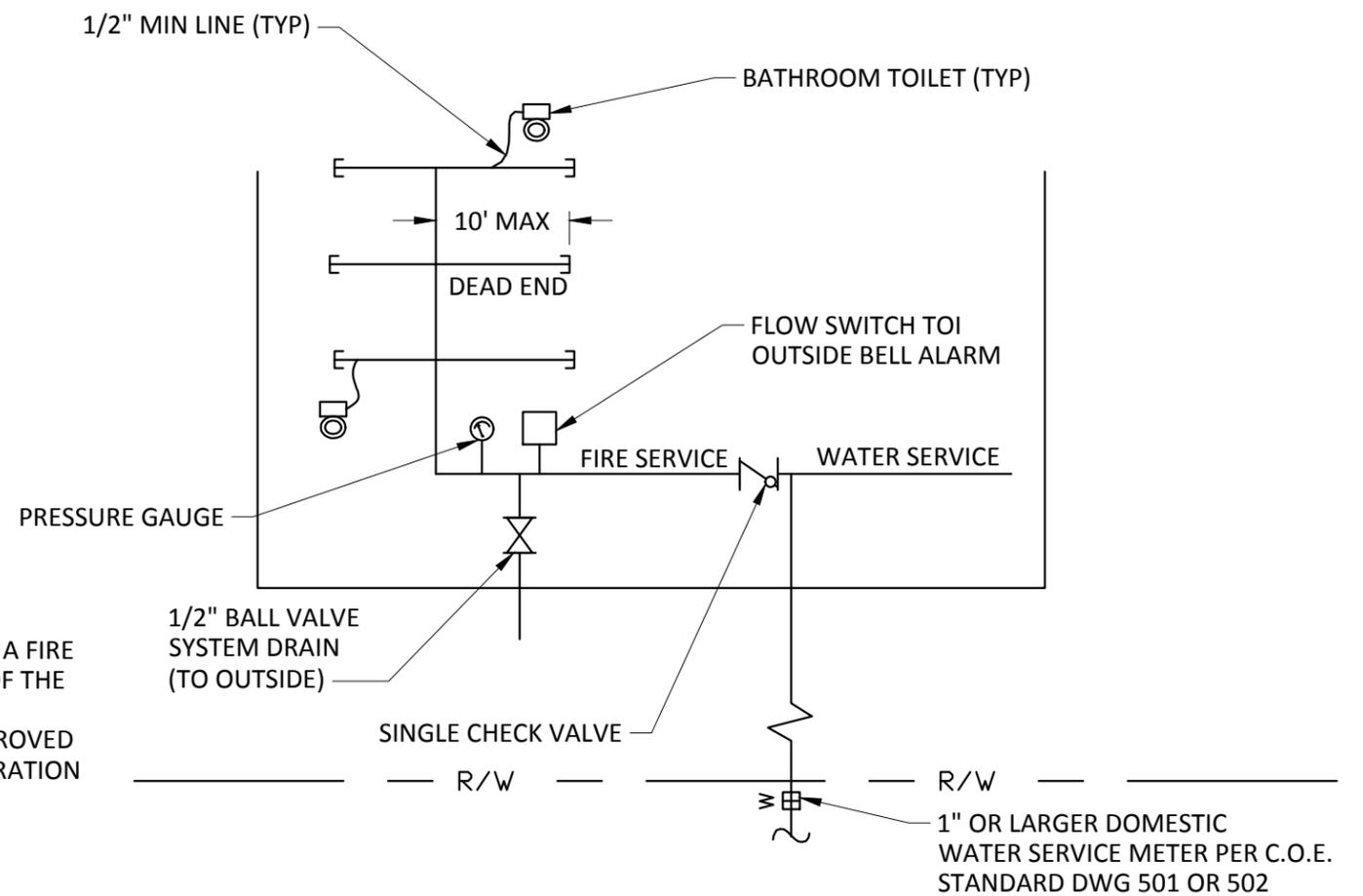


1" OR LARGER DOMESTIC WATER SERVICE/METER PER C.O.E. STANDARD DWG 501 OR 502

WA STATE APPROVED DOUBLE CHECK DETECTOR ASSEMBLY

IBC DEFINED MULTIFAMILY OR COMMERCIAL STRUCTURES THAT ARE REQUIRED TO HAVE A FIRE SPRINKLER SYSTEM MUST HAVE A SEPARATE FIRE SERVICE. THE SIZE OF FIRE SPRINKLER SERVICE AND METER SHALL BE CALCULATED BY A CIVIL ENGINEER OR FIRE SPRINKLER DESIGNER WHO IS SOLELY RESPONSIBLE FOR THIS CALCULATION. FIRE SERVICES LARGER THAN 2" MUST CONFORM TO CITY STANDARD 515 AND 523. THE FIRE SERVICE SIDE OF THE SYSTEM MUST HAVE A STATE APPROVED BACKFLOW PREVENTION DEVICE. SYSTEMS INSTALLED WITH THIS CONFIGURATION SHALL BE IN ACCORDANCE WITH NFPA 13R OR NFPA 13.

**3 UNITS OR MORE**



THIS IS A SCHEMATIC DIAGRAM OF THE MINIMUM REQUIREMENTS FOR A MULTIPURPOSE PIPING SYSTEM, PER NFPA 13D. ALL APPLICABLE CODES ARE TO BE FOLLOWED IN THE DESIGN AND INSTALLATION OF THE RESIDENTIAL PLUMBING. CONTACT THE CITY OF EVERETT FIRE MARSHAL'S OFFICE AT (425) 257-8124 OR (425) 257-8120 TO DISCUSS SPECIFIC PROJECTS.

**REQUIRED:**

- SINGLE CHECK VALVE.
- FLOW SWITCH TO OUTSIDE ALARM BELL.
- 1/2" BALL VALVE SYSTEM DRAIN (TO OUTSIDE).
- PRESSURE GAUGE.
- 1/2" MIN LINES TO MINIMUM 2 TOILETS, AT LEAST ONE TOILET PER FLOOR, FOR EFFECTIVE FLOW THROUGH SYSTEM.

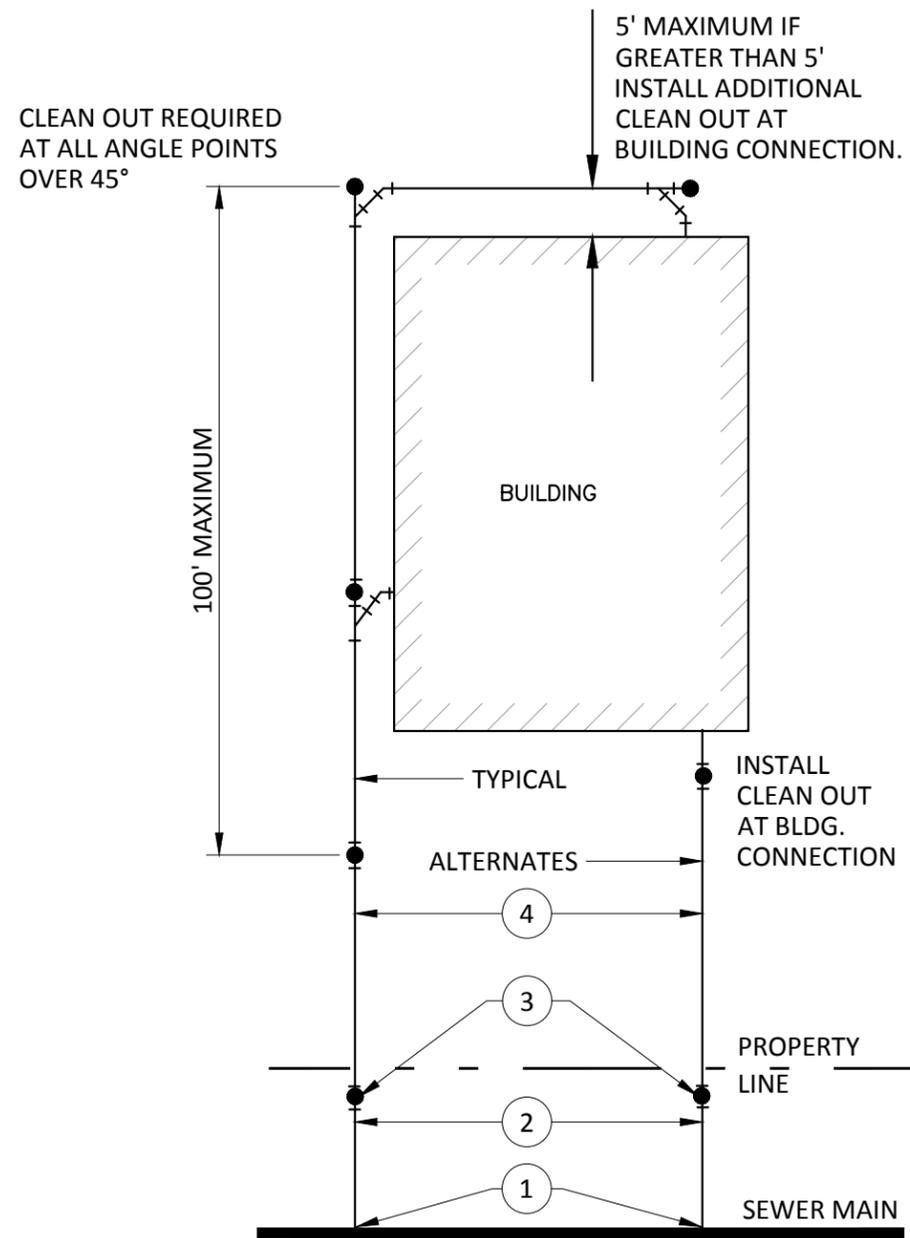
**MULTIPURPOSE PIPING SYSTEM DIAGRAM FOR 1 OR 2 UNITS**

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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>RESIDENTIAL FIRE SPRINKLER SYSTEM METERING REQUIREMENTS</b>				STANDARD DRAWING No. <b>524</b>

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## NOTES

1. CONNECTION TO SEWER MAIN PER SEC. 7 OF STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS AND STANDARD DRAWING 602.
2. INSTALL 6" MINIMUM PIPE SIZE IN RIGHT OF WAY.
3. INSTALL 6" CLEAN OUT PER STANDARD DRAWING 604.
4. PRIVATE SIDE SEWER PIPE DIAMETER:  
4" MINIMUM FOR SINGLE FAMILY  
6" MINIMUM FOR ALL OTHER USES.

## GENERAL NOTES

1. SEE SECTION 7 OF STANDARD SPECIFICATIONS FOR ROADS; BRIDGE AND MUNICIPAL CONSTRUCTION WSDOT/APWA AND CITY SPECIAL PROVISIONS SECTION 7-18 FOR DETAILS AND REQUIREMENTS ON LATERALS.
2. ALL CLEAN OUT'S ON PRIVATE PROPERTY ARE TO BE ADJUSTED TO GRADE IF IN PAVED AREAS PER STANDARD DRAWING 604.
3. CLEAN OUT'S ARE TO BE CONSTRUCTED WITH WYES OR SANITARY "T"'S (SWEEPS). STRAIGHT "T"'S ARE NOT PERMITTED.
4. ALLOWABLE GRADES ARE 2% (1/4"/FT) MINIMUM TO 100% (FT/FT) MAXIMUM.
5. SEWER MUST BE STRAIGHT BETWEEN ANGLE POINTS, CHANGES IN LINE OR GRADE SHALL BE MADE WITH APPROVED FITTINGS.
6. NORMALLY ONLY ONE(1) CONNECTION TO THE SEWER MAIN PER BLDG. IS ALLOWED. TWO (2) DIFFERENT LAYOUTS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY!



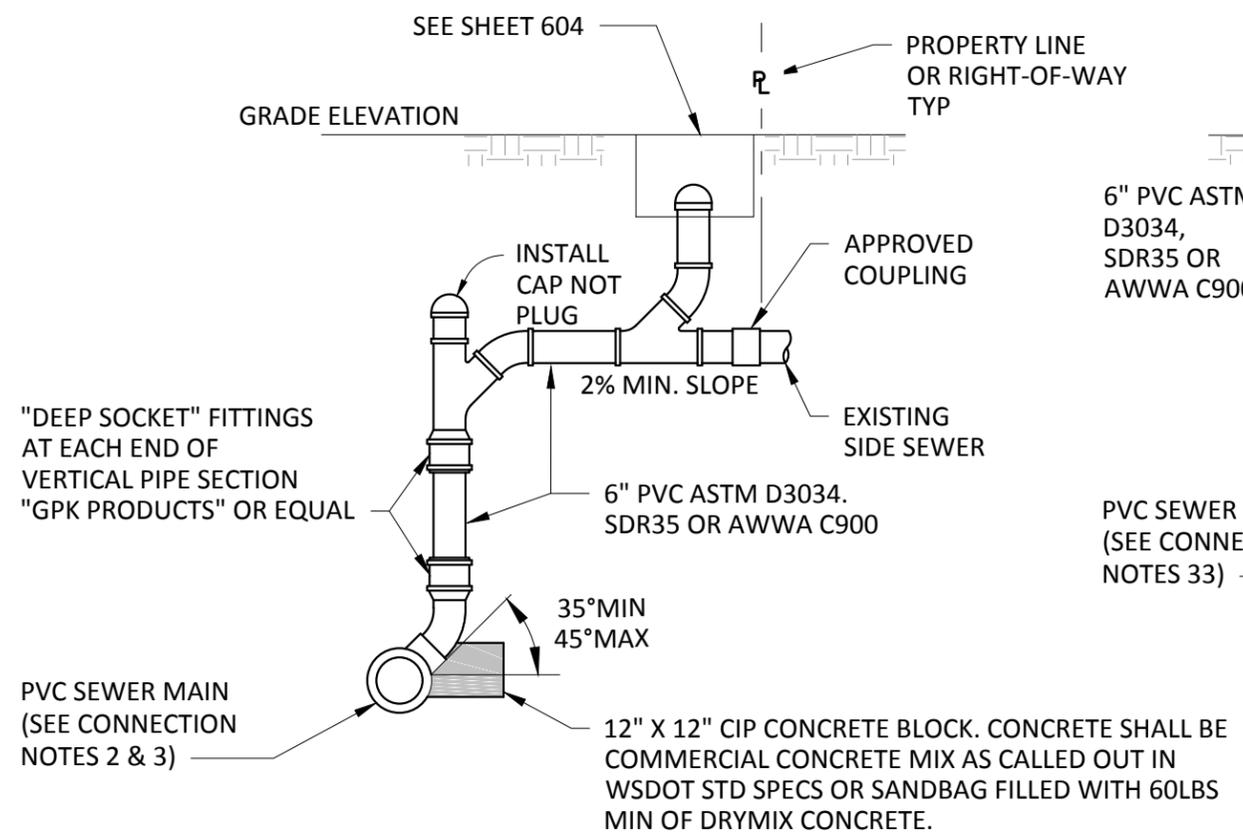
**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE				STANDARD DRAWING No.

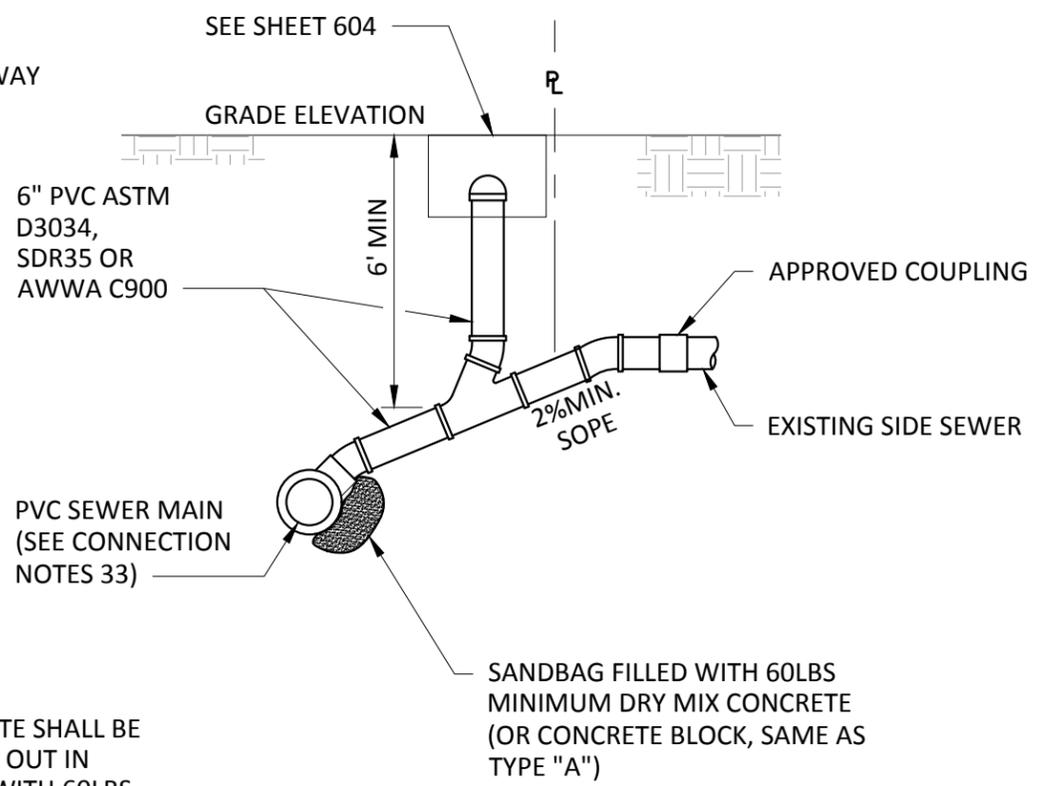
TYPICAL SIDE SEWER LAYOUTS

601

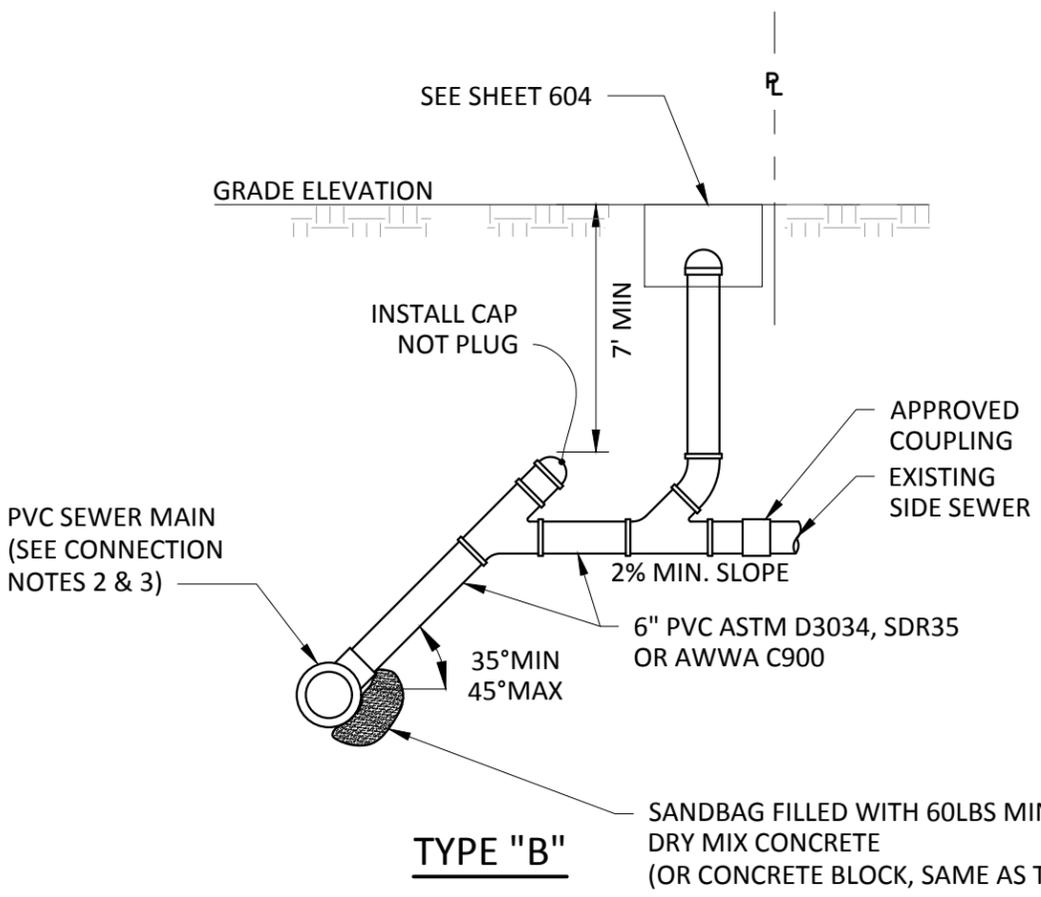
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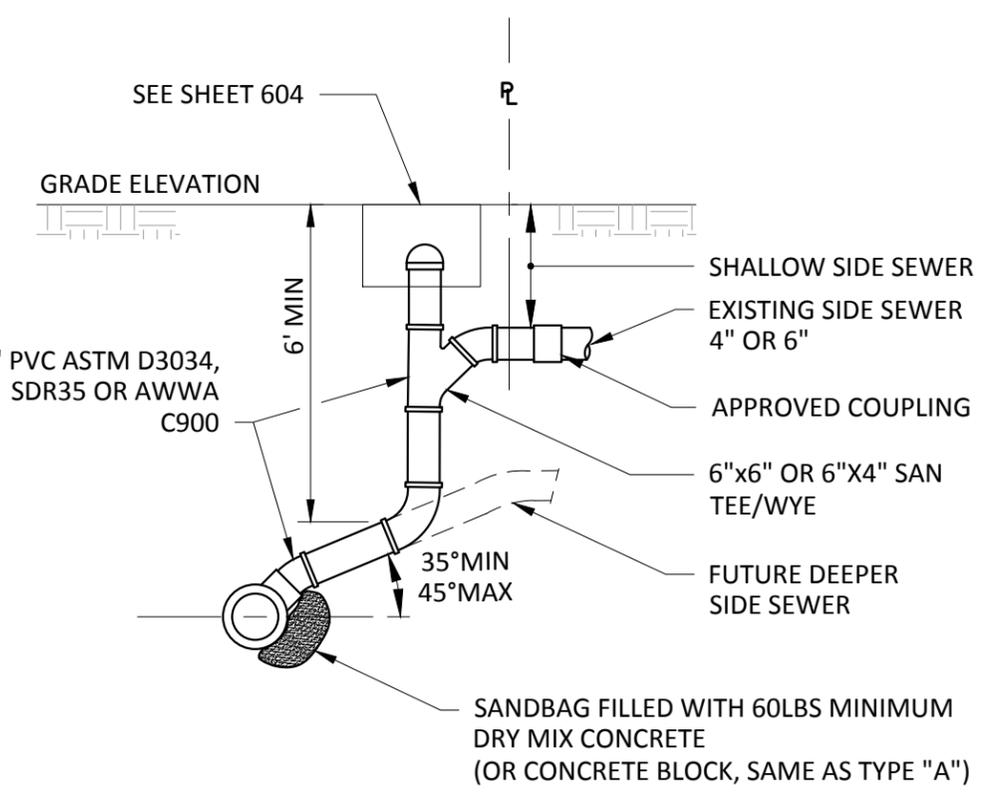
**TYPE "A"**



**TYPE "C"**



**TYPE "B"**



**TYPE "D"**

- NOTES**
1. PVC SIDE SEWER CONNECTIONS TO PVC NEW MAINS SHALL BE FACTORY TEES.
  2. TYPE A & B SHALL BE USED ONLY WHEN SEWER MAIN DEPTH EXCEEDS 15 FEET OR AS APPROVED BY THE ENGINEER. TYPE D SHALL BE USED WHEN EXISTING SIDE SEWER IS SHALLOW (LESS THAN 6' DEPTH AT PROPERTY LINE)
  3. CONNECTIONS TO EXISTING CONCRETE SEWER MAINS SHALL BE MADE PER STANDARD DRAWINGS 612 & 613 OR BY APPROVED MANUFACTURED CONCRETE TEE.
  4. SEE STANDARD DRAWING 604. WHERE RING AND COVER INSTALLATIONS ARE SHOWN FOR PAVED AND UNPAVED AREAS, FIELD CONDITIONS WILL DICTATE WHICH INSTALLATION IS APPROPRIATE.
  5. CONNECTIONS TO EXISTING HDPE SEWER MAINS SHALL BE MADE PER STANDARD DRAWING 612 OR SIDE-WALL FUSION.

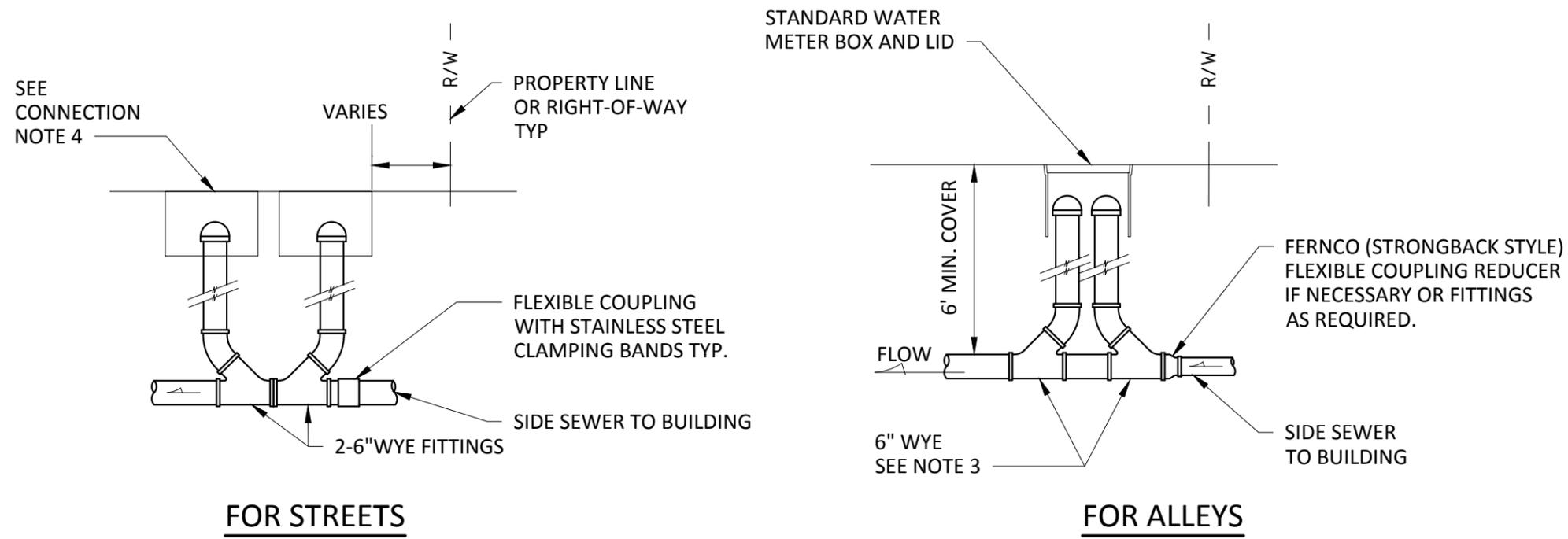
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**DRAFT**

 <p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	DAVID VOIGT	PAUL WILHELM	WRB	12/30/2016
<p>TITLE</p> <p><b>TYPICAL SIDE SEWER CONNECTIONS</b> TYPE A, B, C, &amp; D</p>						<p>STANDARD DRAWING No.</p> <p><b>602</b></p>

**NOTES**

1. OPPOSING CLEANOUTS SHALL BE INSTALLED.
2. CLEAN-OUT PIPE AND FITTINGS SHALL BE PVC ASTM D3034, SDR 35 OR AWWA C900.
3. SANITARY TEE OR WYE FITTINGS SHALL BE INSTALLED. STRAIGHT TEES ARE NOT ALLOWED.
4. TWO-WAY SEWER CLEAN OUTS ARE ONLY REQUIRED WHERE DIRECTED BY THE CITY.

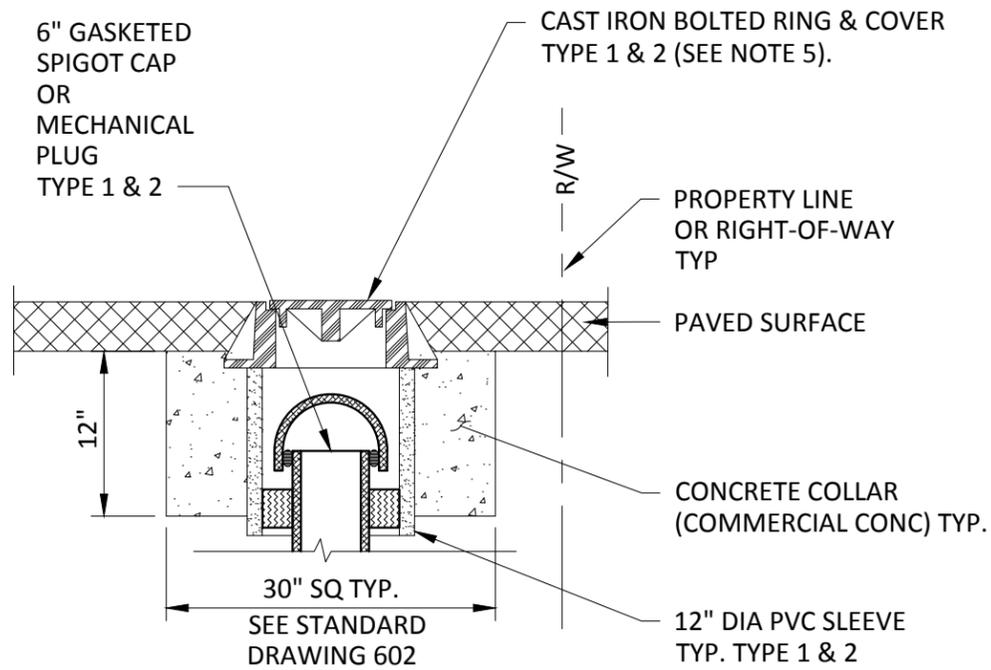


**TWO-WAY SEWER CLEANOUT**

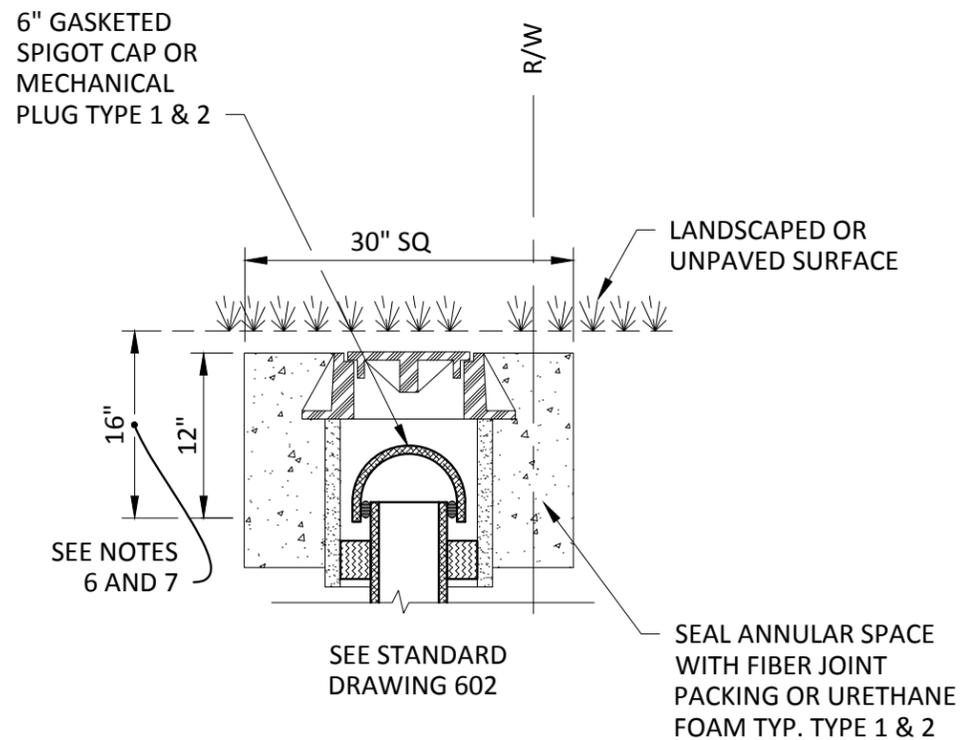
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**DRAFT**

		<p><b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH
<p>TITLE</p> <p><b>TYPICAL SIDE SEWER CONNECTIONS</b> <b>TWO-WAY CLEAN-OUTS</b></p>			<p>Current Rev Date <b>12/30/2016</b></p> <p>STANDARD DRAWING No. <b>603</b></p>

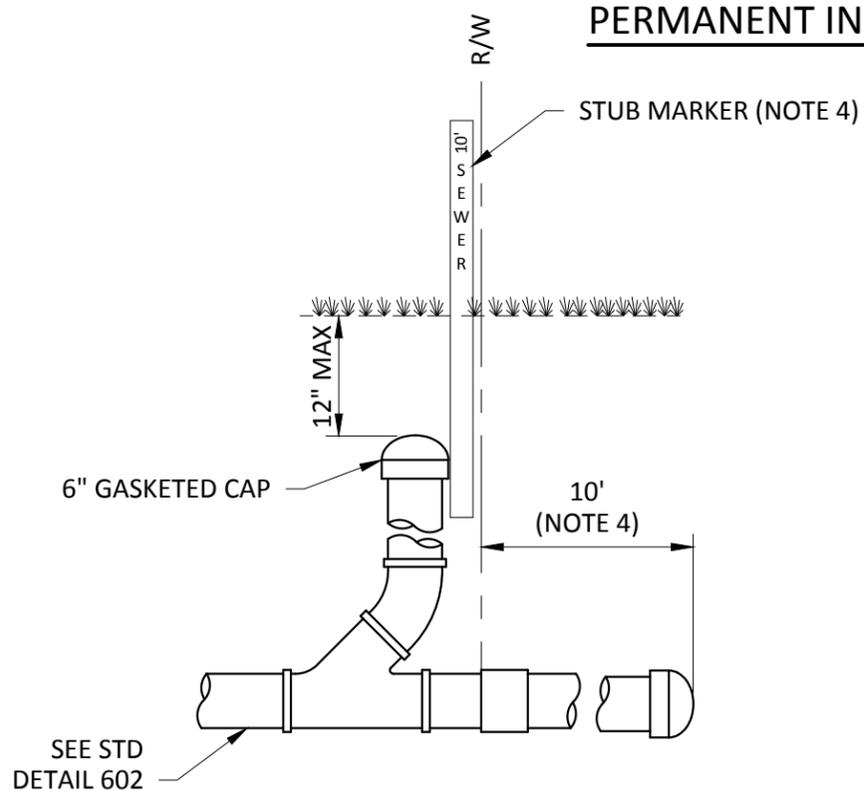


**TYPE 1  
PAVED AREAS**

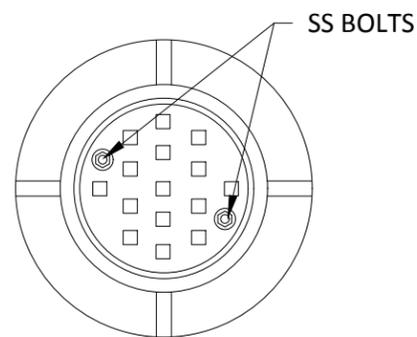


**TYPE 2  
UNPAVED AREAS**

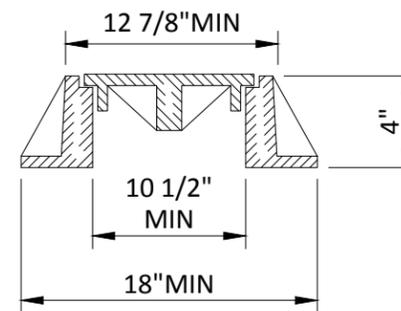
**PERMANENT INSTALLATIONS**



**TYPE 3  
UNPAVED AREA  
TEMPORARY INSTALLATION FOR NEW DEVELOPMENT**



**PLAN**



**SECTION**

**12" CAST IRON BOLTED RING AND COVER**

(SEE NOTE 5)

**NOTES**

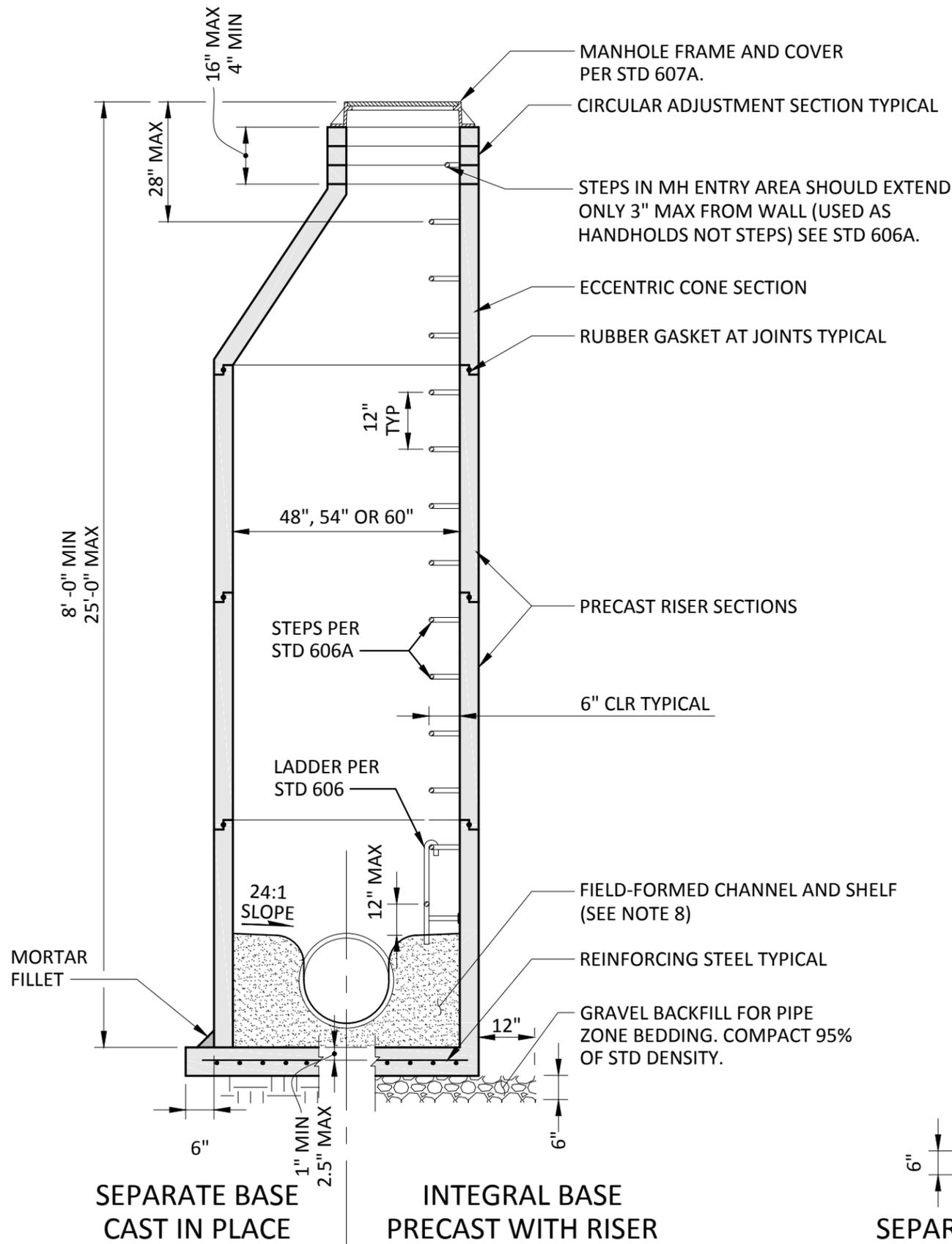
1. CLEAN-OUT PIPE AND FITTINGS SHALL BE PVC, ASTM D3034, SDR 35 OR AWWA C900.
2. A SANITARY TEE MAY BE INSTALLED IN LIEU OF A WYE AS SHOWN. STRAIGHT TEES ARE NOT ACCEPTABLE.
3. SEWER STUB WILL BE EXTENDED 10' BEYOND PROPERTY LINE TO PREVENT DAMAGE TO CLEAN-OUT AND MINIMIZE CONFLICTS WITH OTHER UTILITIES WHEN SERVICE TO BUILDING IS INSTALLED.
4. TYPE 3 TEMPORARY INSTALLATIONS (NEW DEVELOPMENT) SHALL HAVE A PRESSURE TREATED 2"X4" STUB MARKER THAT EXTENDS DOWN TO A MIN OF 24" BELOW GROUND. A MIN OF 36" SHALL EXTEND ABOVE GROUND. STUB MARKER SHALL BE PAINTED WITH WHITE TRAFFIC PAINT. THE WORD "SEWER" AND THE DEPTH IN FEET FROM GROUND SURFACE TO SEWER STUB PIPE INVERT SHALL BE PAINTED ON THE MARKER WITH 3" HIGH BLACK PAINTED LETTERS.
5. CAST IRON BOLTED RING AND COVER SHALL BE EAST JORDAN IRON WORKS NO. 3660CPT OR EQUAL.
6. RING AND COVER INSTALLATION IS SHOWN FOR PAVED AND UNPAVED AREAS, FIELD CONDITIONS WILL DICTATE WHICH INSTALLATION IS APPROPRIATE.
7. RING AND COVER WITH CONCRETE COLLAR MAY BE PLACED AT GROUND SURFACE IN UNPAVED AREAS IF DESIRED.



City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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TITLE <b>SEWER CLEAN-OUT TYPE 1, 2, 3 &amp; 12" CAST IRON RING &amp; COVER</b>	STANDARD DRAWING No. <b>604</b>
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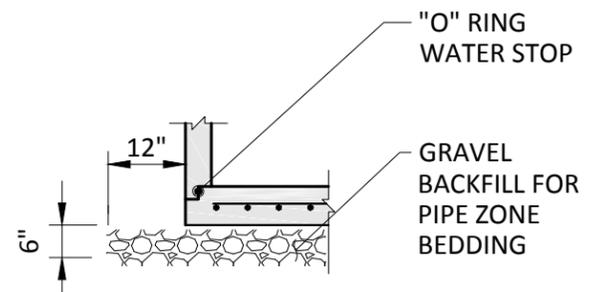
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**SEPARATE BASE  
CAST IN PLACE**

**INTEGRAL BASE  
PRECAST WITH RISER**

**SEPARATE BASE PRECAST**



**NOTES**

1. MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M-199 (ASTM C 478) UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN STANDARD SPECIFICATIONS.
2. ALL REINFORCED CAST IN PLACE CONCRETE SHALL BE CLASS 4000. NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE 7 SACK MIX SAND AND CEMENT GROUT. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
3. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS FOR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OR 2" MINIMUM.
4. ALL BASE REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI AND BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MINIMUM CLEARANCE.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS MANHOLE WALL THICKNESS.
6. MANHOLE DIA. DEPENDS ON: SIZE, LOCATION AND NUMBER OF PENETRATIONS FOR PIPES. MANHOLE DESIGN AND SIZE SHALL BE APPROVED AND WARRANTED BY THE MANHOLE SUPPLIER.
7. FOR HEIGHTS OVER 25' MANHOLE BASE SLAB SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
8. CONCRETE CHANNEL AND SHELF SHALL BE FIELD-FORMED EXCEPT WHERE APPROVED IN ADVANCE BY CITY.

NOTE: KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM.

MANHOLE DIMENSIONS TABLE						
DIA	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCK OUT SIZE	MINIMUM DISTANCE BWT KNOCKOUTS	BASE REINFORCING STEEL IN <sup>2</sup> /FT IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
48"	4"	6"	36"	8"	0.23	0.15
54"	4.5"	8"	42"	8"	0.19	0.19
60"	5"	8"	48"	8"	0.25	0.25

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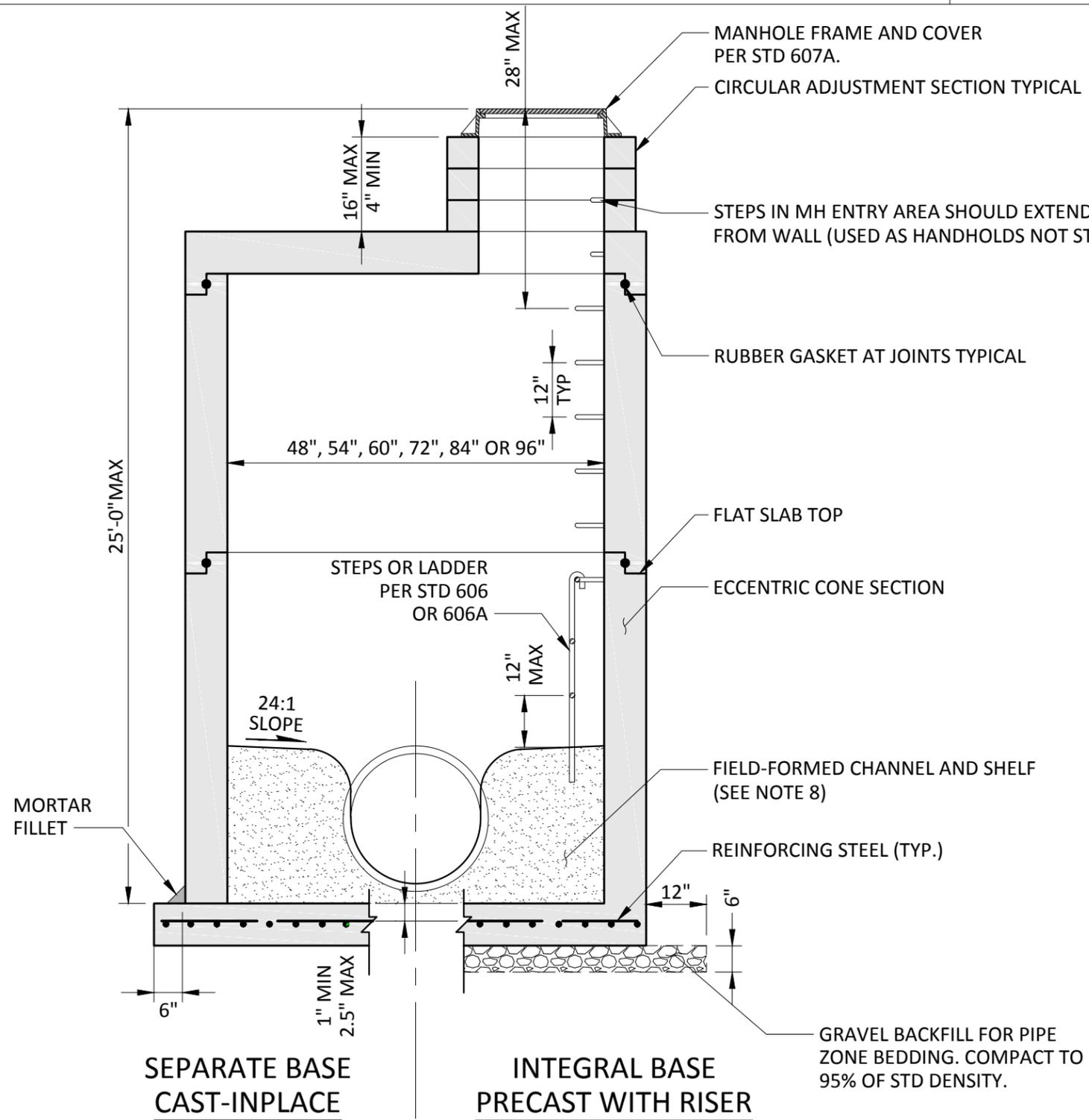
**DRAFT**



**CITY OF EVERETT**  
EVERETT PUBLIC WORKS DEPARTMENT

City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
<p><b>TYPE 1 MANHOLE</b> 48", 54" &amp; 60"</p>				<p>STANDARD DRAWING No. <b>605</b></p>



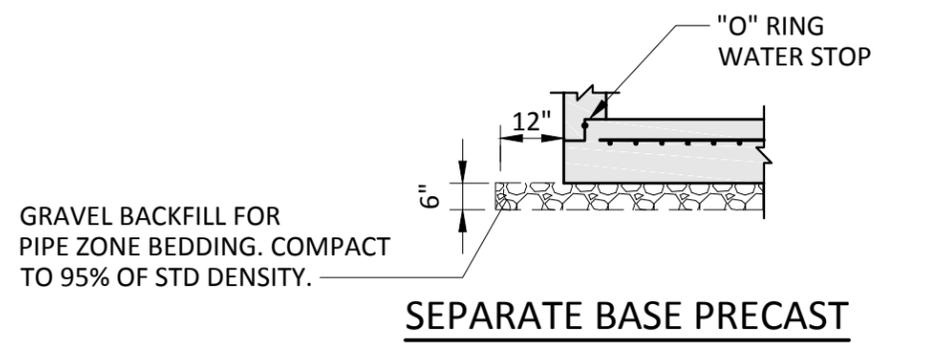


**NOTES**

1. MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M-199 (ASTM C 478) UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN STANDARD SPECIFICATIONS.
2. ALL REINFORCED CAST IN PLACE CONCRETE SHALL BE CLASS 4000. NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE 7 SACK MIX SAND AND CEMENT GROUT. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
3. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS FOR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OR 2" MINIMUM.
4. ALL BASE REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI AND BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MINIMUM CLEARANCE.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS MANHOLE WALL THICKNESS.
6. MANHOLE DIA. DEPENDS ON: SIZE, LOCATION AND NUMBER OF PENETRATIONS FOR PIPES. MANHOLE DESIGN AND SIZE SHALL BE APPROVED AND WARRANTED BY THE MANHOLE SUPPLIER.
7. FOR HEIGHTS OVER 25' MANHOLE BASE SLAB DESIGN SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
8. CONCRETE CHANNEL AND SHELF SHALL BE FIELD-FORMED EXCEPT WHERE APPROVED IN ADVANCE BY CITY.

MANHOLE DIMENSIONS TABLE						
DIA	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCK OUT SIZE	MINIMUM DISTANCE BWT KNOCKOUTS	BASE REINFORCING STEEL IN <sup>2</sup> /FT IN EACH DIRECTION	
					SEPARATE BASE	INTEGRAL BASE
48"	4"	6"	36"	8"	0.23	0.15
54"	4.5"	8"	42"	8"	0.19	0.19
60"	5"	8"	48"	8"	0.25	0.25
72"	6"	8"	60"	12"	0.35	0.24
84"	8"	12"	72"	12"	0.39	0.29
96"	8"	12"	84"	12"	0.39	0.29

NOTE: KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM.



WSDOT STD PLAN B-15.60.00,  
MANHOLE TYPE 3  
ACCEPTABLE SUBSTITUTE

**DRAFT**

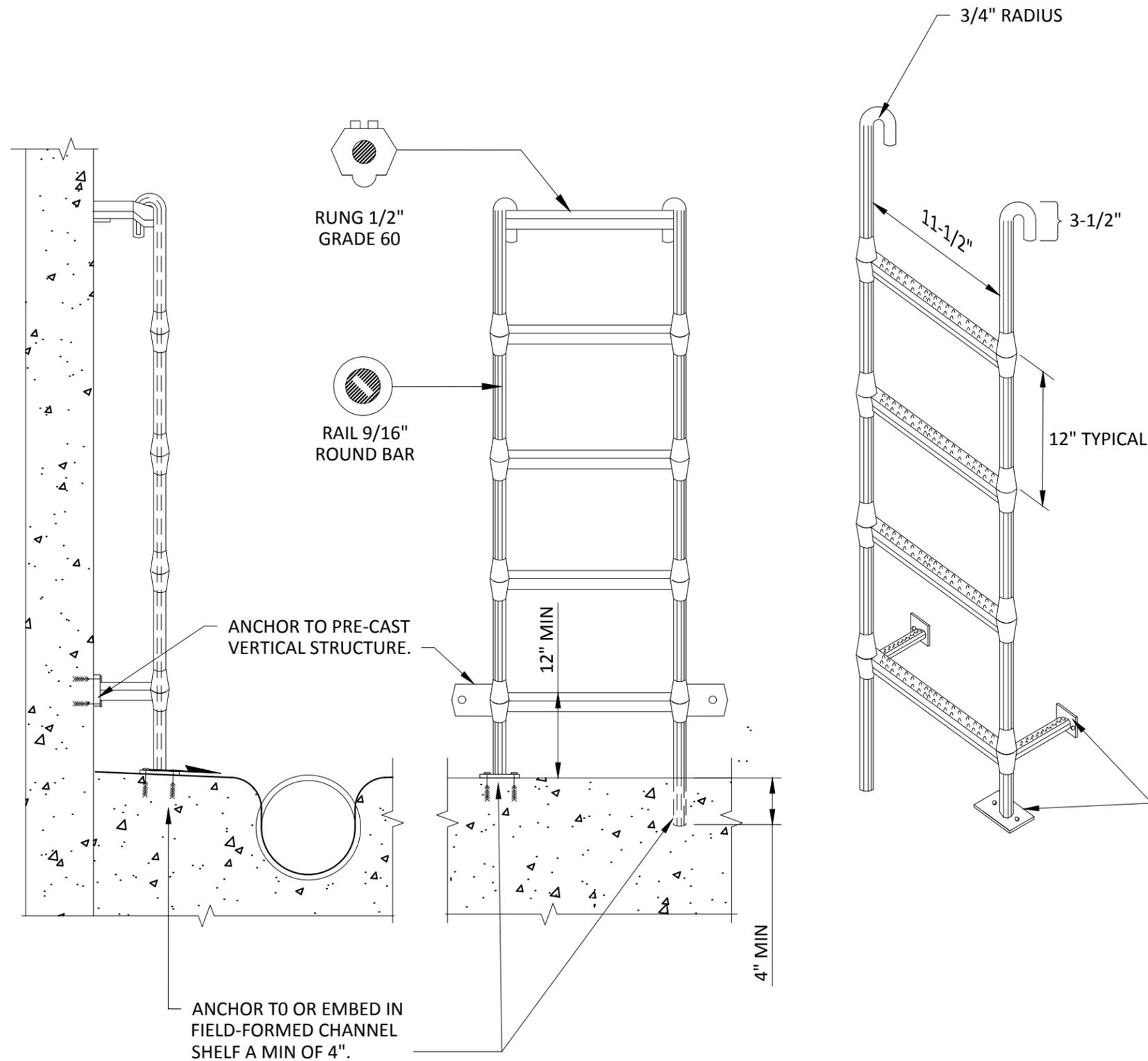


**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>DAVID VOIGT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>ESH</b>	Current Rev Date <b>12/30/2016</b>
<p><b>TITLE</b></p> <p><b>TYPE 3 SS OR CS MANHOLE</b> 48", 54", 60", 72", 84" &amp; 96" WITH 48" OR 54" RISER</p>				<p>STANDARD DRAWING No.</p> <p><b>607</b></p>

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## NOTES

1. STEPS SHALL BE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO:
  - (A) ASTM C 478 AND AASHTO M-199, ANCHOR-BOLTS SHALL HAVE A MINIMUM HORIZONTAL PULLOUT RATING OF 1500 LBS.
  - (B) ASTM A615 GRADE 60 (DEFORMED REINFORCING STEEL BAR).
  - (C) POLYPROPYLENE CONFORMS TO D-4101.
2. MANHOLE STEPS SHALL HAVE MOLDED SAFETY HAND GRIP. RED REFLECTORS ARE PREFERRED.
3. ALL FABRICATION DIMENSIONS INDICATED ARE MINIMUM.
4. THE ENTIRE POLYPROPYLENE PLASTIC MATERIAL SURROUNDING THE REINFORCING STEEL BAR SHALL BE CAST MONOLITHICALLY. MINIMUM COVER SHALL BE 3/16-INCH.
5. STEP RUNGS SHALL BE SPACED AT A MAXIMUM OF 14 INCHES.
6. STEPS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED MANUFACTURERS RECOMMENDED PROCEDURE.

ANCHOR PADS 2-3/4" X 2" WITH TWO 7/8" DIA HOLES ANCHOR USING TWO 1/2" DIA 3" STAINLESS STEEL ANCHOR BOLTS

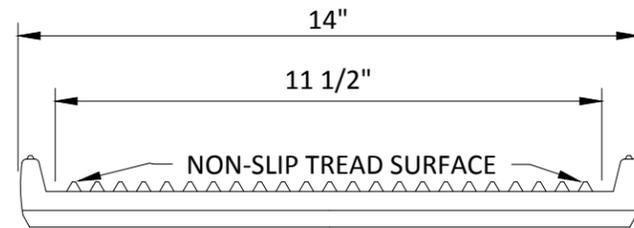


City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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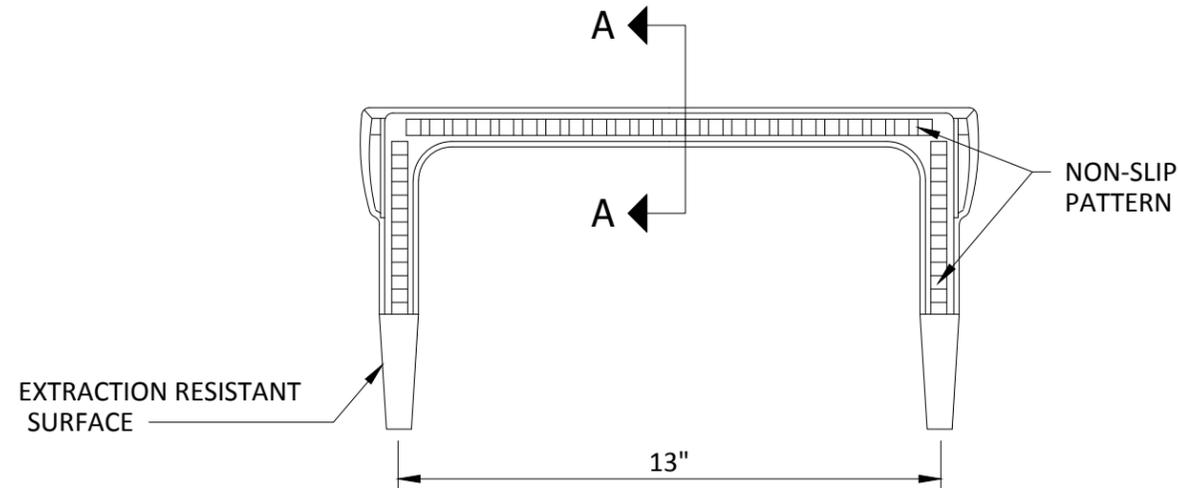
POLYPROPYLENE LADDER

608

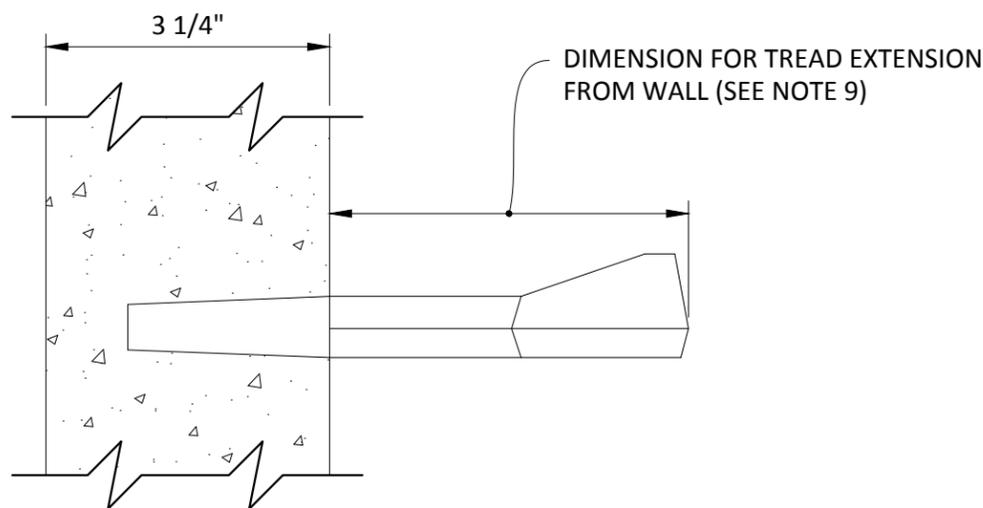
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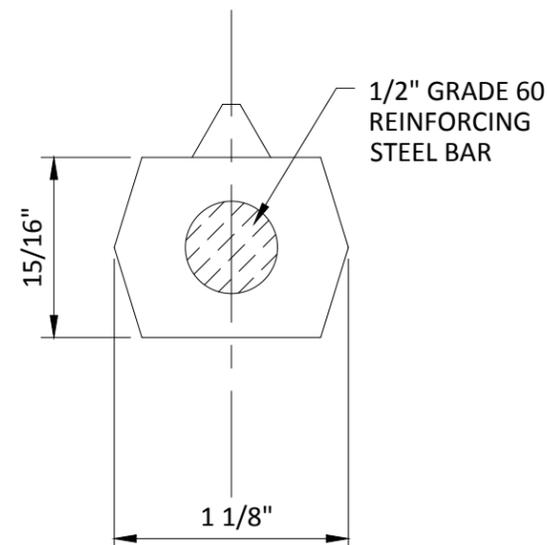
**ELEVATION**



**PLAN**



**SIDE ELEVATION**



**SECTION A-A**

**NOTES**

1. STEPS SHALL BE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO:
  - A. ASTM D 478 AND AASHTO M-199, MINIMUM HORIZONTAL PULLOUT RATING SHALL BE 1500 LBS.
  - B. ASTM A 615 GRADE 60 (DEFORMED REINFORCING STEEL BAR).
2. ONLY STEPS APPROVED BY THE ENGINEER SHALL BE USED.
3. ALL FABRICATION DIMENSIONS INDICATED ARE MINIMUM.
4. THE MINIMUM TOTAL CROSS-SECTIONAL AREA OF THE EXPOSED PORTION OF THE STEP, INCLUDING THE 1/2-INCH DEFORMED REINFORCING STEEL BAR, AND EXCLUDING THE NON-SLIP TREAD SURFACE, SHALL BE ONE SQUARE INCH
5. THE ENTIRE POLYPROPYLENE PLASTIC MATERIAL SURROUNDING THE REINFORCING STEEL BAR SHALL BE CAST MONOLITHICALLY. MINIMUM COVER SHALL BE 3/16-INCH.
6. THE FOLLOWING DIMENSIONS SHALL APPLY UNLESS OTHERWISE NOTED ON THE DRAWINGS OR STANDARD PLANS FOR SPECIFIC STRUCTURES: D=6" ±1/4", E=3 1/4" ±1/4"
7. STEP RUNGS SHALL BE SPACED AT A MAXIMUM OF 14-INCHES.
8. STEPS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED MANUFACTURERS RECOMMENDED PROCEDURE.
9. STEPS IN THE CONE AND RISER SECTIONS WILL HAVE 6" EXTENSION FROM WALL. STEPS INSTALLED ABOVE CONE OR TOP SLAB SHALL BE A MAX OF 3" EXTENSION FROM WALL AND USED AS HANDHOLD. ALSO SEE 605A, 605B OR 605C.

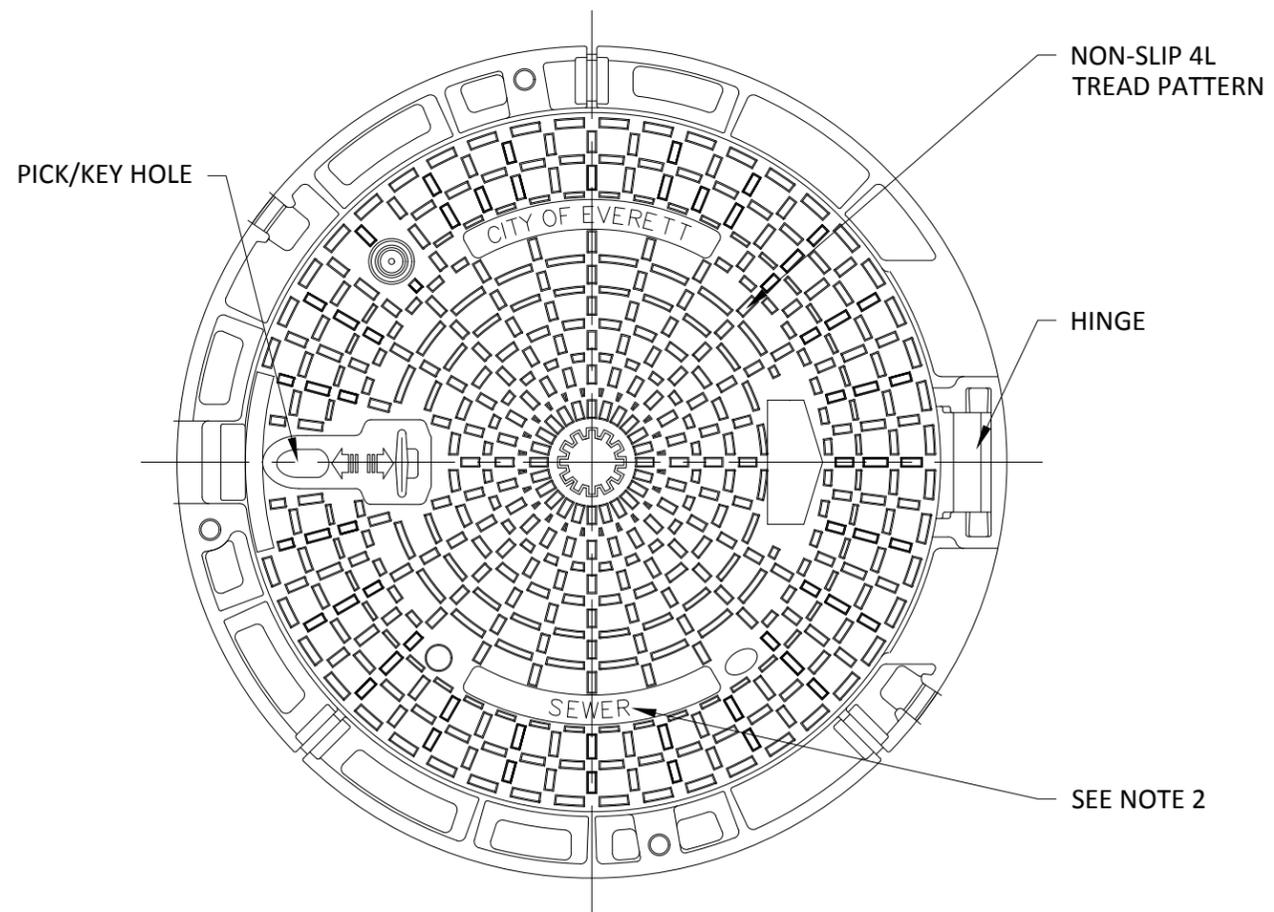
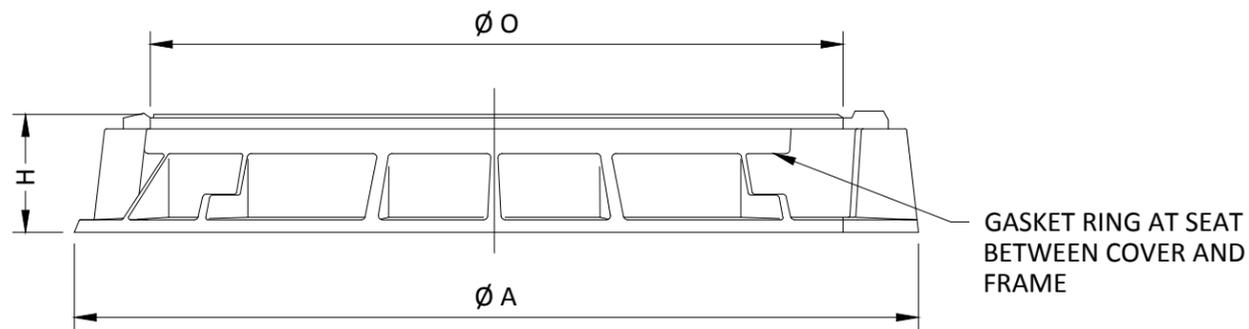
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City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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TITLE <b>ALTERNATE POLYPROPYLENE PLASTIC STEPS</b>	STANDARD DRAWING No. <b>609</b>
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**DRAFT**



## NOTES

1. MANHOLE COVER AND FRAME SHALL BE AS MANUFACTURED BY PAMREX, EAST JORDAN IRON WORKS (EJIW) OR APPROVED EQUAL. COVER SHALL BE MANUFACTURED FROM DUCTILE IRON, ASTM A536.
2. COVER SHALL BE STAMPED "SEWER", OR "DRAINAGE" DEPENDING ON APPLICATION.
3. COVERS SHALL BE HINGED AND INCORPORATE A 90 DEGREE SAFETY CATCH BLOCKING SYSTEM TO PREVENT ACCIDENTAL CLOSURE AND REMOVABLE AT 120° OPEN. FRAME AND COVER SHALL EXCEED AASHTO H20, M306 OR M105 LOADINGS..
4. FRAMES SHALL BE CIRCULAR, INCORPORATE A SEATING RING AND A FITTED PLUG IN EACH HINGE HOUSING, AND BE AVAILABLE IN A 24 INCH MINIMUM CLEAR OPENING. THE STANDARD FRAME DEPTH SHALL NOT EXCEED 5 INCHES, AND THE FLANGE SHALL INCORPORATE BEDDING SLOTS, BOLT HOLES, AND LIFTING EYES.
5. SHALL BE USED FOR ALL NEW SEWER MANHOLES AND WHERE EXISTING STANDARD MANHOLE FRAME AND COVER ARE TO BE REPLACED.

DIMENSIONS (INCHES)			REFERENCE	MANUFACTURE
A	O	H		
33-1/2	24	4	CDPA60EH	PAMREX
34	24	4	00104042L01	EJIW

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**CITY OF EVERETT**

**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
HINGED MANHOLE FRAME & COVER				610



ONE LENGTH OF DUCTILE IRON PIPE CLASS 50 TO SOLID BEARING WHEN SPAN IS MORE THAN 48"

DUCTILE IRON PIPE TEE

TYPICAL MANHOLE PER STANDARD DRAWING 605, 606 OR 607

FLEXIBLE JOINT

NON-SHRINK CEMENT GROUT

BACKFILL WITH COMPACTED MATERIAL AS DIRECTED BY ENGINEER

DUCTILE IRON PIPE SLEEVE

3" MAX

2" MIN CLEARANCE

SHELF ELEVATION AT OR ABOVE HIGHEST CROWN

6" MIN

20' MAX

FIELD-FORMED

CHANNEL TO MAIN LINE

SECTION A-A

DIP 90° BEND MIN CLEAR TO BASE

COMMERCIAL CONCRETE BLOCK POURED IN PLACE

COMPACTED GRAVEL BASE

MANHOLE BASE SEE STD 605, 606 OR 607

NON-SHRINK GROUT

ELEVATION

6" MIN TYP

LOCATE MANHOLE STEPS AND LADDER ADJACENT TO DROP PIPE DISCHARGE

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WSDOT STD PLAN B-85.50.00 ACCEPTABLE SUBSTITUTE



City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
TITLE OUTSIDE DROP MANHOLE CONNECTION DUCTILE IRON PILE				STANDARD DRAWING No. 612

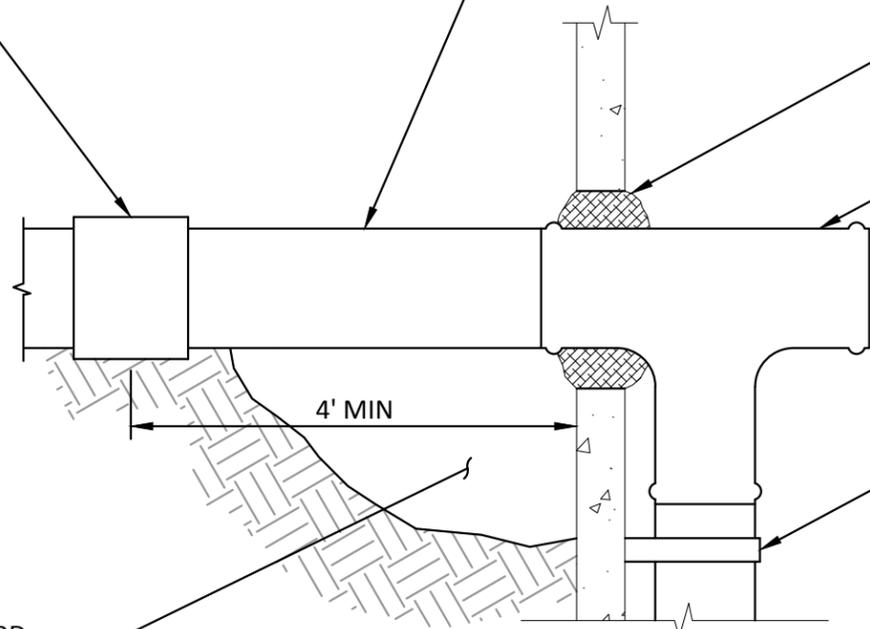
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GASKETED PIPE ADAPTOR ON SOLID BEARING

ONE LENGTH OF PVC ASTM 3034 (SDR) 35 PIPE TO SOLID BEARING

CORE DRILL WALL AND FILL ANNULAR SPACE WITH NON-SHRINK GROUT

APPROVED TEE



1" MIN 12 GAUGE STAINLESS STRAPS WITH STAINLESS STEEL BOLTS TO MANHOLE WALL WITH MAXIMUM SPACING OF 5 FEET

BACKFILL PER STANDARD DRAWING 601 (TYP)

2" MAX

12" MAX DIA PVC ASTM 3034, SDR 26 OR 35

MATCH CROWNS

SHELF ELEVATION AT OR ABOVE HIGHEST CROWN, TYP

APPROVED BEND CAST INTO BASE

MANHOLE SEE STANDARD DRAWING 605, 606 OR 607

CHANNEL TO MAIN LINE

NOTE: LOCATE MANHOLE STEPS AND LADDER ADJACENT TO DROP PIPE DISCHARGE. SEE SEC "A" STD 612

**54" MINIMUM DIAMETER MANHOLE REQUIRED**



City Engineer RYAN SASS Section Manager DAVID VOIGT CAD Manager PAUL WILHELM Drawn By WRB Current Rev Date 12/30/2016

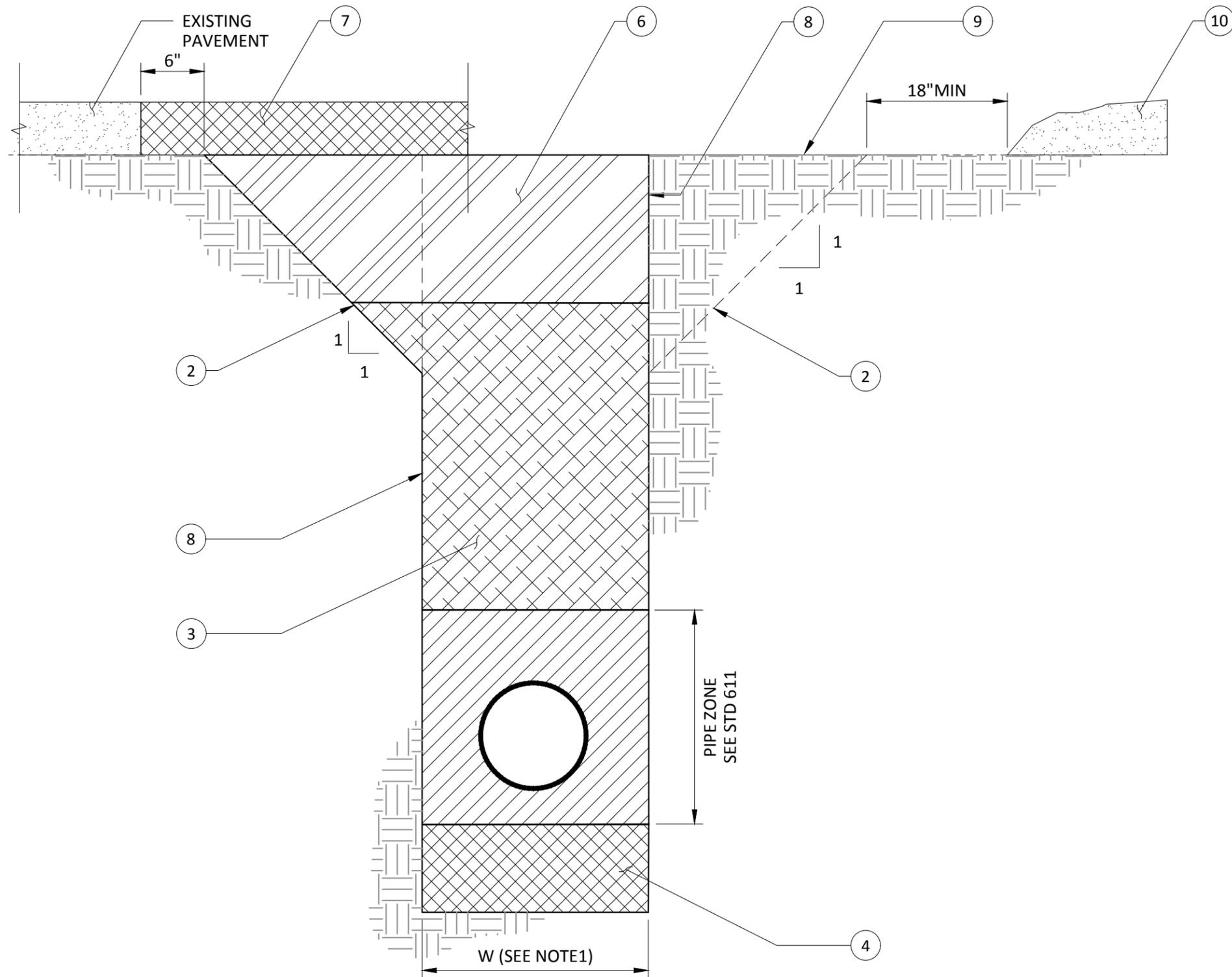
TITLE INSIDE DROP MANHOLE CONNECTION DUCTILE IRON PIPE STANDARD DRAWING No. 613

**DRAFT**

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## NOTES

1. W = MAXIMUM WIDTH OF TRENCH. FOR PIPES 15" OR LESS IN DIA W=40". FOR PIPES 18" OR GREATER W=1.5 X I.D. + 18". PIPE MUST BE CENTERED IN TRENCH.
2. ALTERNATE SLOPING TRENCH WALL TO MEET O.S.H.A. REQUIREMENTS (NO SLOPES STEEPER THAN 1:1 EXCEPT FOR ROCK).
3. SUIABLE NATIVE MATERIAL OR IMPORTED GRAVEL BORROW AS DIRECTED. COMPACT TO 90% MAXIMUM DENSITY.
4. FOUNDATION GRAVEL IF REQUIRED BY THE ENGINEER TO REPLACE UNSUIABLE MATERIAL. SHALL BE FOUNDATION MATERIAL CLASS A, B OR AS APPROVED BY THE ENGINEER.
5. FOR ADDITIONAL COMPACTION INFORMATION SEE STANDARD DWG 615.
6. IF DIRECTED BY THE ENGINEER THE TOP THREE TO FIVE FEET OF BACKFILL SHALL BE IMPORTED GRAVEL BORROW OR SUIABLE NATIVE MATERIAL COMPACTED TO 95% MAXIMUM DENSITY.
7. SEE CITY OF EVERETT STANDARD DWG 316 FOR PAVEMENT PATCH DETAILS.
8. VERTICAL TRENCH WALLS WITH SHORING TO CONFORM TO O.S.H.A. REGULATIONS.
9. SUBGRADE OR GROUND SURFACE IN NON-PAVED AREAS.
10. EXCAVATED NATIVE MATERIAL OR STOCKPILED BACKFILL MATERIAL.
11. FOR ALL TRENCHING TRANSVERSE TO THE ROADWAY BACKFILL ABOVE THE PIPE ZONE SHALL BE CONTROLLED DENSITY FILL. SEE SECTION 3-9.6 & 3-20.1 OF THESE STANDARDS.
12. FOR UTILITY CUTS SUCH AS GAS, TELEPHONE, POWER, AND CABLE TV LONGITUDINAL TO THE ROADWAY, BACKFILL SHALL BE CONTROLLED DENSITY FILL. SEE SECTION 3-9.5 OF THESE STANDARDS.



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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date 12/30/2016
TYPICAL TRENCH SECTION DUCTILE IRON PIPE			STANDARD DRAWING No. 614

## LIMITS OF TRENCH

W = MAXIMUM WIDTH OF TRENCH. FOR PIPES 15" OR LESS IN DIAMETER W = 40". FOR PIPES 18" OR GREATER W = 1 1/2 x I.D. + 18". PIPE MUST BE CENTERED IN TRENCH.

## MATERIALS

PIPE BEDDING MATERIAL SHALL BE CRUSHED SURFACING BASE COURSE CONFORMING TO SECTION 9-03.9(3) OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION WSDOT/APWA.

OPTIONAL PIPE BEDDING (TO SPRING-LINE) FOR PIPE 15" DIA AND LARGER: PEA GRAVEL OR 3/4" CLEAN ROCK CHIPS AS APPROVED IN ADVANCE BY ENGINEER.

OVER EXCAVATION AND PLACEMENT OF FOUNDATION MATERIAL, IF REQUIRED SHALL BE FOUNDATION MATERIAL CLASS A OR B CONFORMING TO SECTION 9-03.17 OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION WSDOT/APWA.

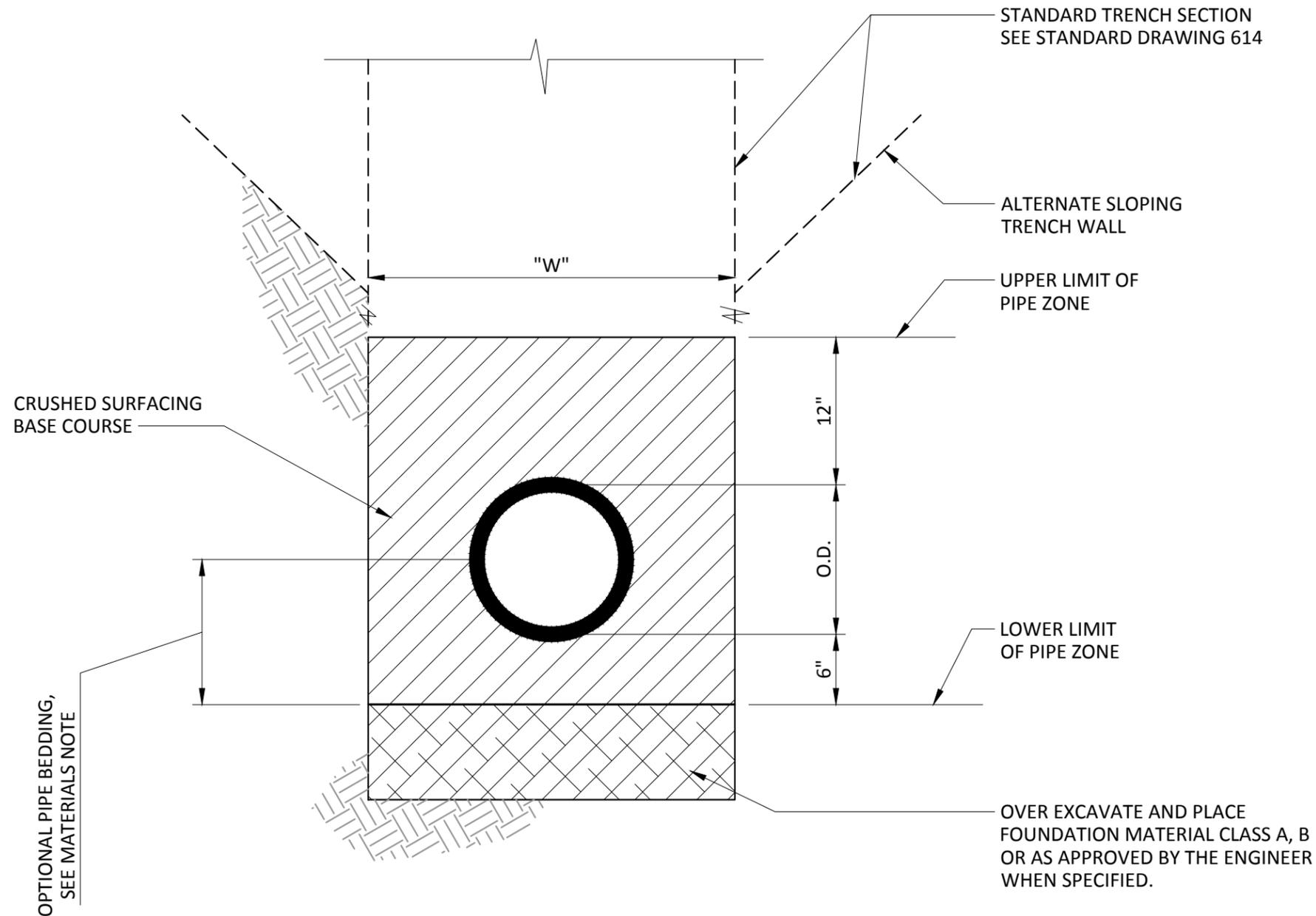
## PROCEDURE FOR COMPACTION

PROVIDE UNIFORM SUPPORT UNDER PIPE BARREL.

COMPACT BEDDING MATERIAL TO 90% MAXIMUM DENSITY EXCEPT DIRECTLY OVER PIPE, HAND TAMP ONLY.

HAND TAMP UNDER PIPE HAUNCHES FOR ALL BEDDING MATERIALS.

FOR ADDITIONAL COMPACTION INFORMATION SEE STANDARD DWG 615.



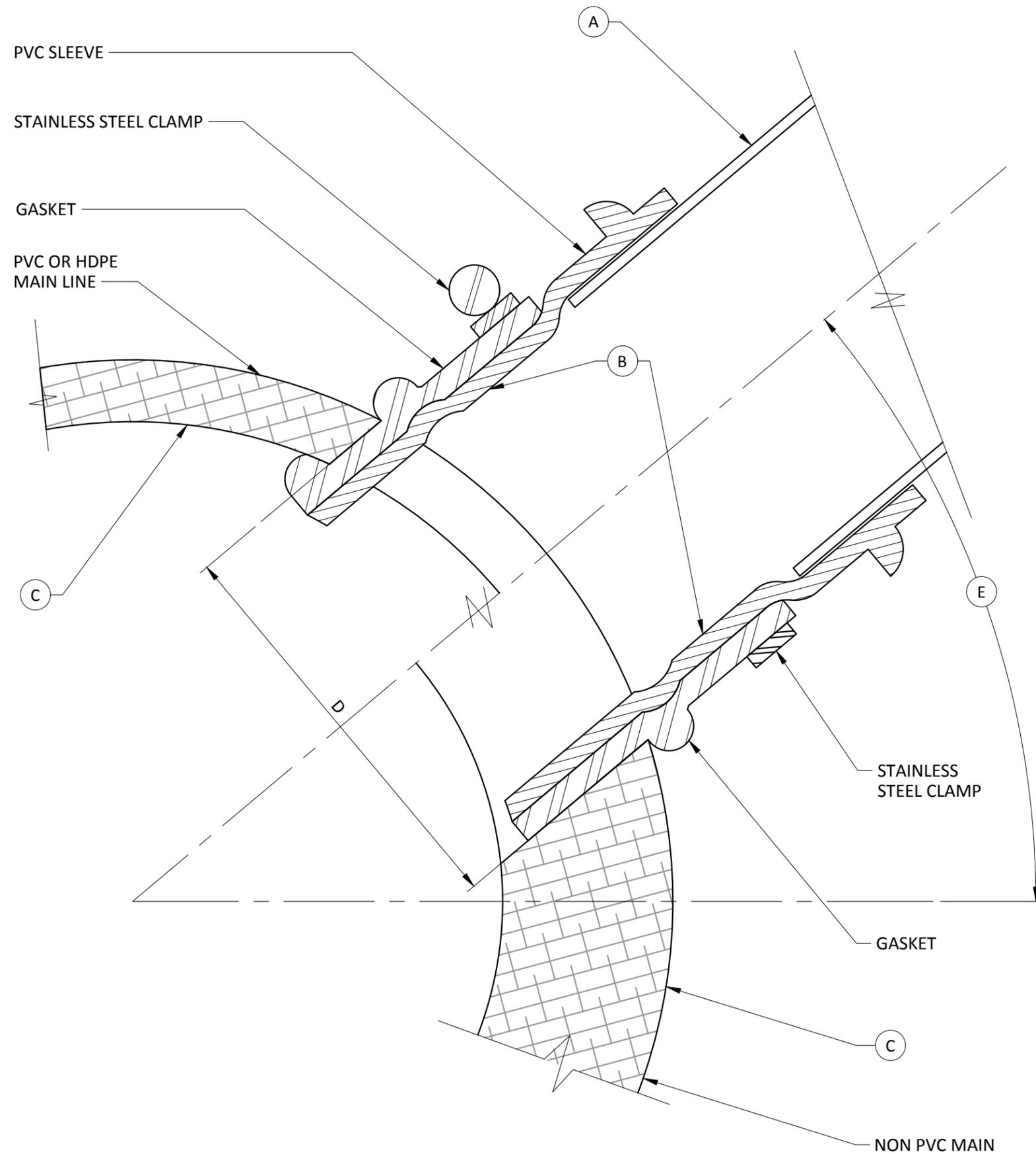
## BEDDING AND FOUNDATION:

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12/27/2016 11:56 AM

OPTIONAL PIPE BEDDING,  
SEE MATERIALS NOTE

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE BEDDING FOR PIPE IN TRENCHES			Current Rev Date 12/30/2016 STANDARD DRAWING No. 615



**NOTES**

- A. PVC SIDE SEWER. FOR REMAINDER OF PVC SERVICE SEE STD DWG 602.
- B. "INSERTA TEE" OR APPROVED EQUAL.
- C. EXISTING SANITARY SEWER MAIN.
- D. CORE DRILL EXISTING MAINLINE PIPE PER MFG'S SPECIFICATIONS.
- E. 35° MIN, 45° MAX

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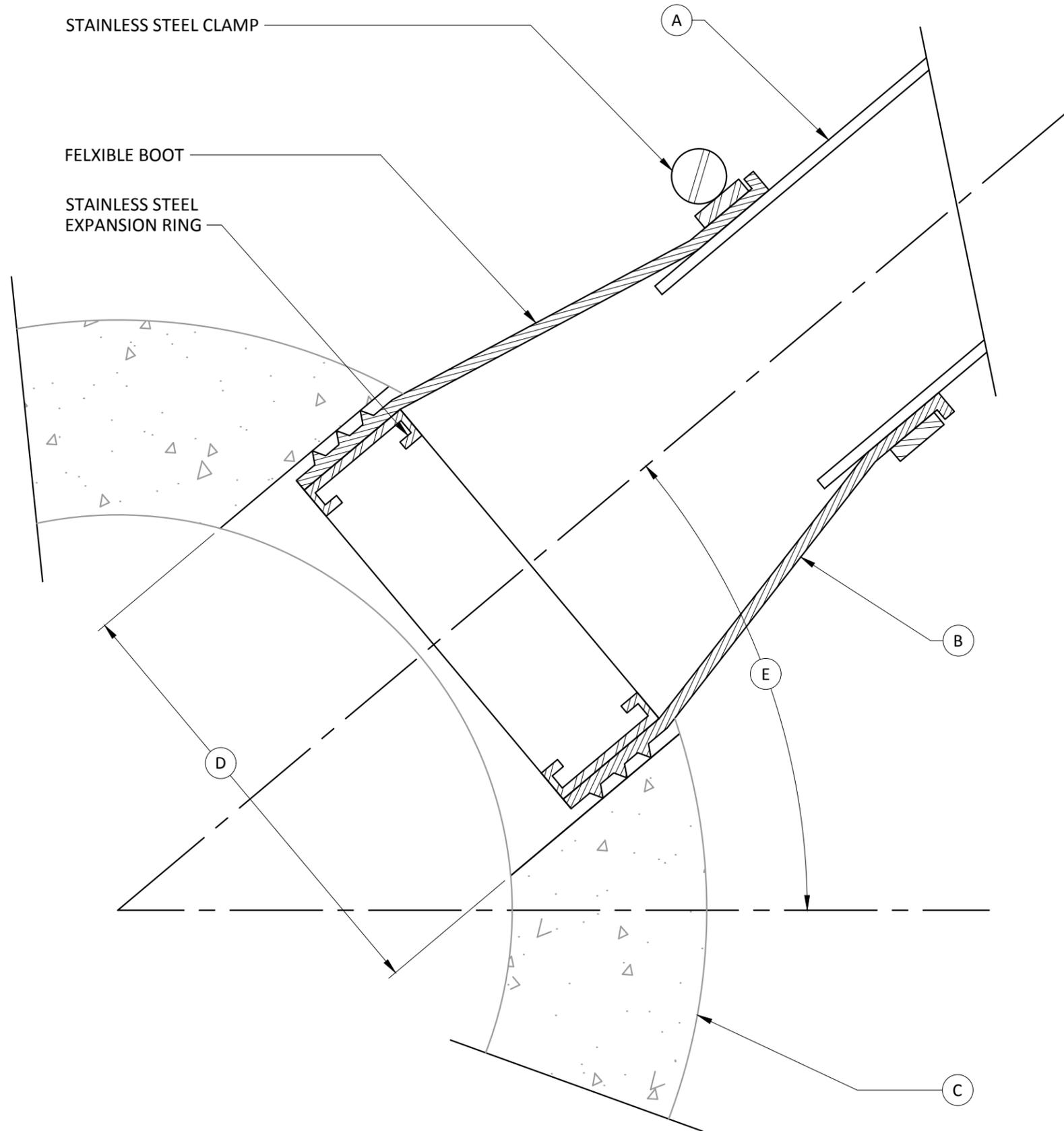
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date 12/30/2016
<b>TYPICAL SEWER CONNECTION          TO EXISTING SEWER MAINS</b>			STANDARD DRAWING No. <b>616</b>

**DRAFT**

STAINLESS STEEL CLAMP

FELXIBLE BOOT

STAINLESS STEEL  
EXPANSION RING



**LEGEND:**

- A. PVC SIDE SEWER. FOR REMAINDER OF PVC SERVICE SEE STD DWG 602.
- B. "KOR-N-TEE" OR APPROVED EQUAL.
- C. EXISTING OR NEW CONCRETE SANITARY SEWER MAIN.
- D. CORE DRILL EXISTING MAINLINE PIPE PER MFG'S SPECIFICATIONS.
- E. 35° MIN, 45° MAX

**NOTES:**

- 1. USE OF THIS SEWER CONNECTION ALTERNATE MUST HAVE APPROVAL OF THE CITY ENGINEER ON A CASE BY CASE BASIS.

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12/27/2016 11:57 AM

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	DAVID VOIGT	PAUL WILHELM	WRB	12/30/2016
TITLE					STANDARD DRAWING No.	
<b>ALTERNATE SEWER CONNECTION</b> TO EXISTING/NEW CONCRETE SEWER MAIN					<b>617</b>	

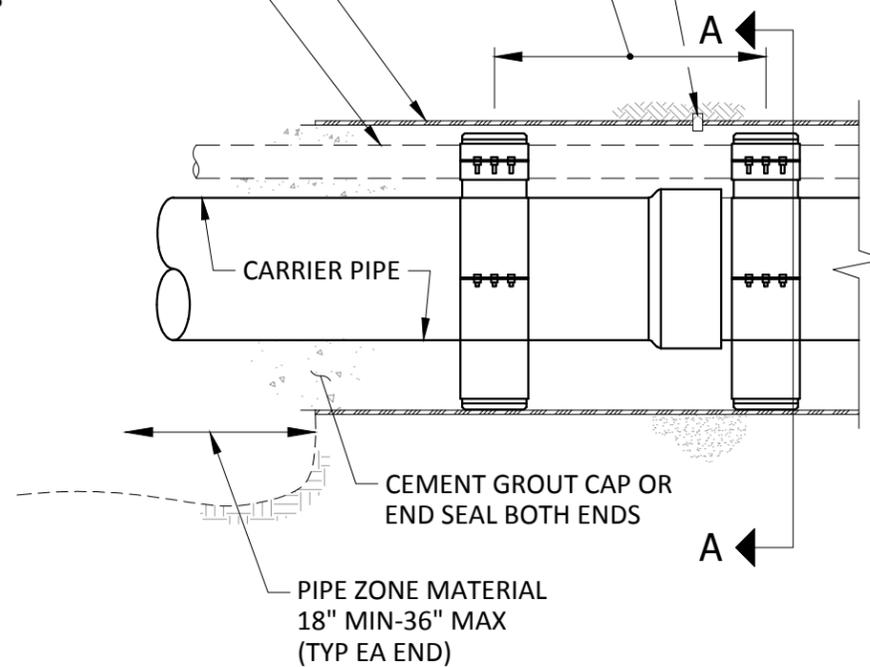
**DRAFT**

STEEL CASING,  
WALL THICKNESS & SIZE  
PER PLANS

SECONDARY  
CARRIER  
PIPE PER  
PLANS

6'-0" OC FOR CARRIER PIPE OR AS RECOMMENDED  
BY MFR-MIN. 3 INSULATORS PER PIPE LENGTH.  
INSTALL ON THE SPIGOT END ALIGNED W/THE  
REFERENCE MARK

1 1/2" GROUT PORTS  
EVERY 10'



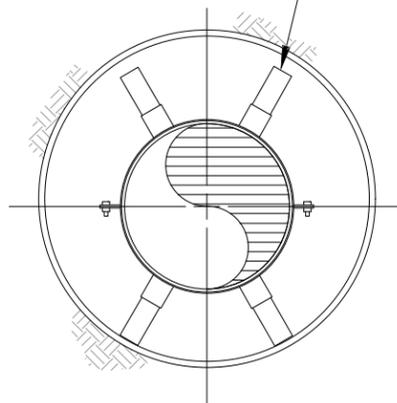
CEMENT GROUT CAP OR  
END SEAL BOTH ENDS

PIPE ZONE MATERIAL  
18" MIN-36" MAX  
(TYP EA END)

## NOTES

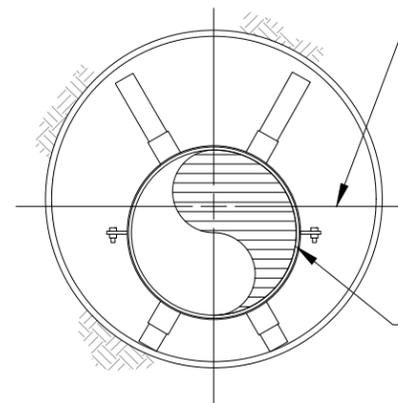
1. NEW ANSI/AWWA C200 STEEL CASING AS REQUIRED (SEE PLANS AND SPECIFICATIONS).
2. PROVIDE 1" MINIMUM CLEARANCE BETWEEN CASING AND CARRIER PIPE BELLS AND APPURTENANCES.
3. CONTRACTOR TO VERIFY CASING SIZES PRIOR TO ORDERING AND SIZING CASING INSULATORS.
4. ALL JOINTS OF CARRIER PIPE TO BE RESTRAINED.
5. CASING SHALL BE FILLED WITH FINE CLEAN DRY SAND CAREFULLY AIR BLOWN IN SUCH A WAY TO ELIMINATE ANY VOIDS.
6. BACKFILL BORE PIT ABOVE PIPE ZONE WITH SPECIFIED CLASS BACKFILL MATERIAL.
7. CASING, APPURTENANCES AND ALL OTHER MISCELLANEOUS ITEMS TO BE FURNISHED BY CONTRACTOR.

PROVIDE 1" MIN CLEAR BETWEEN  
CARRIER AND CASING. (TYP)



CASING INSULATOR  
W/CENTERED AND  
RESTRAINED  
CONFIGURATION.

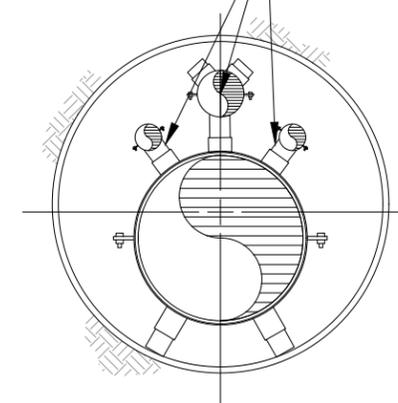
CASING CENTER LINE  
(TYP)



CASING INSULATOR  
RESTRAINED AND CARRIER  
AT BOTTOM OF CASING  
CONFIGURATION.

PRE-FABRICATED  
INSULATOR (TYP)

SECONDARY  
CARRIERS



CASING INSULATOR  
RESTRAINED WITH  
MULTIPLE SECONDARY  
CARRIERS.

EXAMPLE OF PRE-FABRICATED SKIDS AND INSULATOR CONFIGURATIONS

## SECTION A-A



City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
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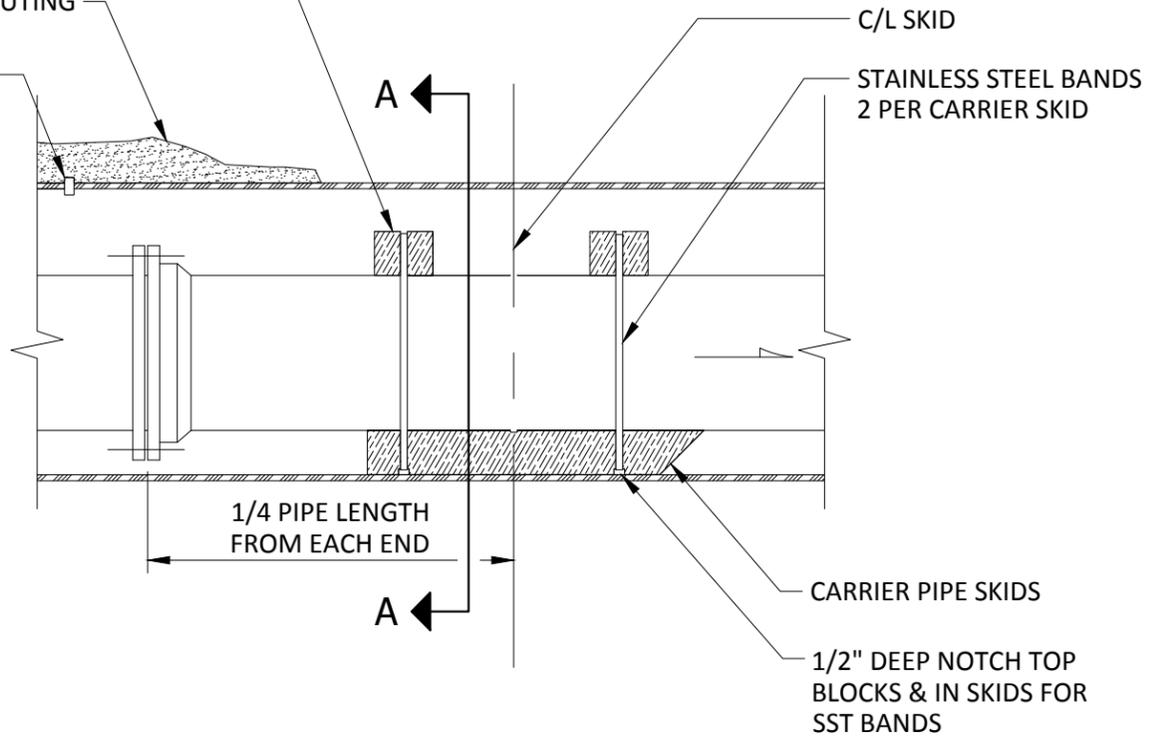
TITLE  
CASING DETAIL  
PRE-FABRICATED SKIDS

STANDARD DRAWING No.

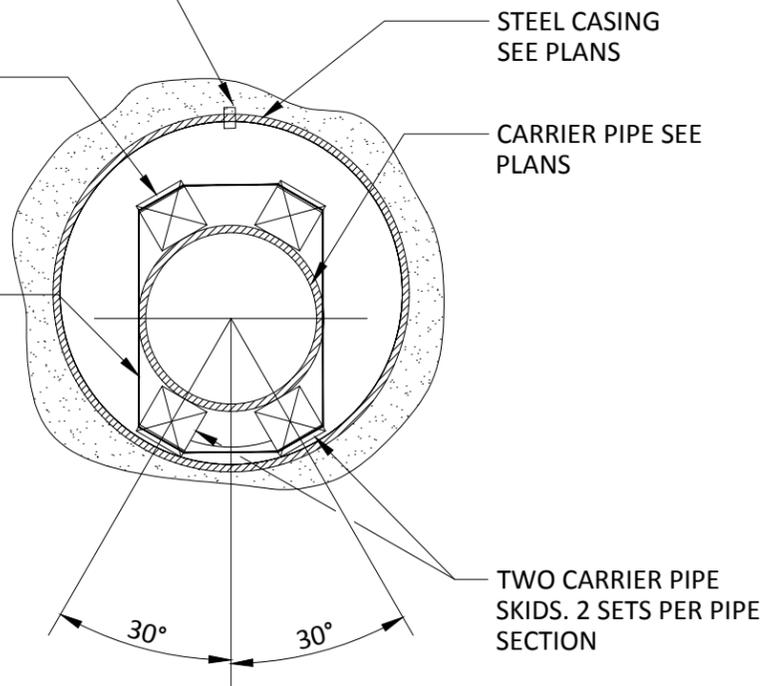
618

**DRAFT**

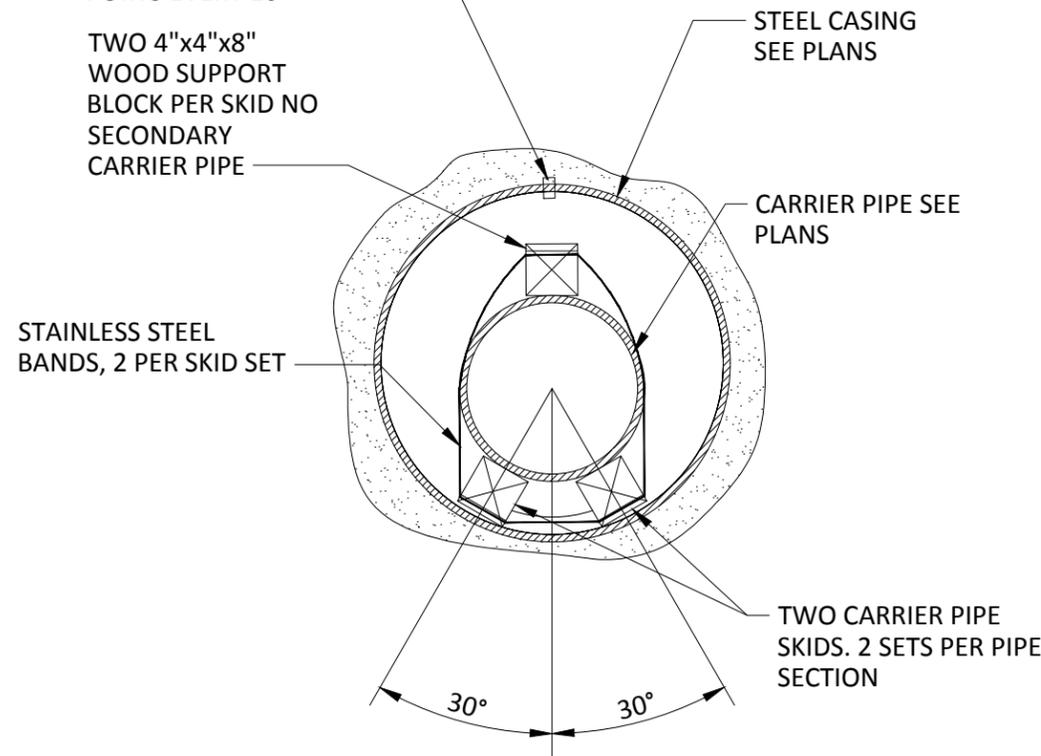
TWO OR FOUR 4"x4"x8" WOOD SUPPORT BLOCK PER SKID.  
VOIDS CREATED BY BORING SHALL BE FILLED BY PRESSURE GROUTING  
1 1/2" GROUT PORTS EVERY 10'



1 1/2" GROUT PORTS EVERY 10'  
FOUR 4"x4"x8" WOOD SUPPORT BLOCKS PER SKID  
NO SECONDARY CARRIER PIPE



1 1/2" GROUT PORTS EVERY 10'  
TWO 4"x4"x8" WOOD SUPPORT BLOCK PER SKID  
NO SECONDARY CARRIER PIPE



EXAMPLES OF FIELD ASSEMBLED CASING SKIDS

SECTION A-A

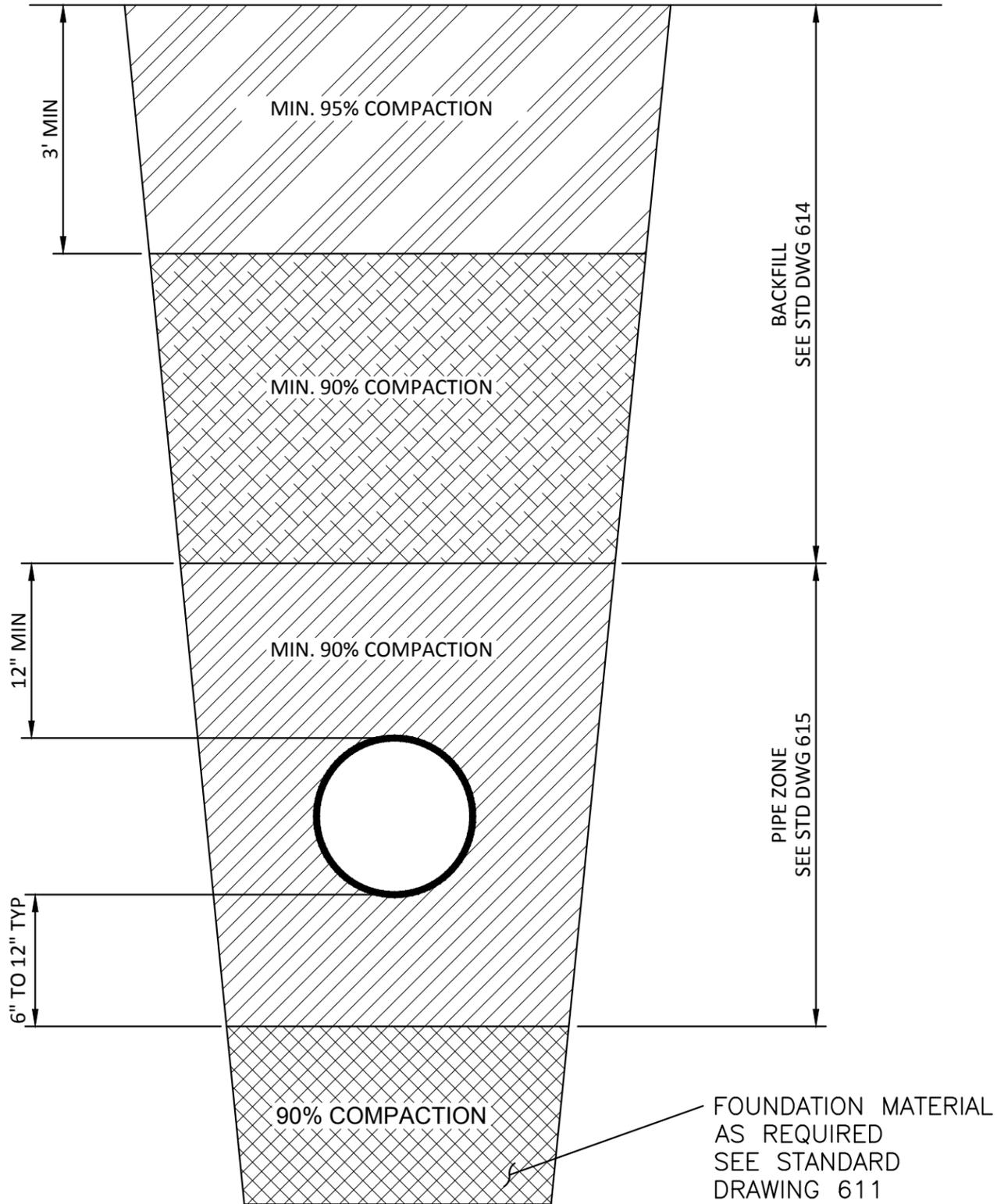
**NOTES**

1. ALL JOINTS OF CARRIER PIPE WITHIN CASING SHALL BE FLANGED (FL) OR MECHANICAL JOINT (MJ) FITTINGS WITH MEG-A-LUG RESTRAINTS.
2. CARRIER PIPE WILL BE PRESSURE TESTED BY CONTRACTOR AND TV INSPECTION BY CITY CREWS.
3. CARRIER SKIDS SHALL BE SECURELY ATTACHED TO CARRIER PIPE W/STAINLESS STEEL (SST) BANDS (MIN 2 BANDS PER SKID SET).
4. CARRIER SKIDS SHALL BE ROUNDED OR BEVELED ON LEADING EDGE, AND SHALL BE NOTCHED TO RECEIVE SST BANDS.
5. CARRIER SKIDS SHALL BE PRESSURE TREATED WOOD 4"x4"x48" (2 SETS OF 2 SKIDS PER LENGTH OF PIPE). CONTRACTOR MAY USE APPROVED PREFABRICATED SKIDS PROVIDED A 1" MIN CLEARANCE IS MAINTAINED BETWEEN JOINT FLANGE AND CASING.
6. SECONDARY CARRIER PIPES SHALL BE SECURED TO THE TOP OF THE MAIN CARRIER PIPE AS SHOWN.
7. SECONDARY CARRIER PIPE WILL BE TESTED BEFORE CASING ANNULAR SPACE IS FILLED.
8. END SEALS SHALL BE PROVIDED FOR THE JACKED CASING PIPES. THE END SEALS SHALL BE APS STANDARD MODEL AM AS MANUFACTURED BY ADVANCED PRODUCTS (WWW.APSONLINE.COM) OR APPROVED EQUIVALENT.
9. CASING, APPURTENANCES AND ALL OTHER MISCELLANEOUS ITEMS TO BE FURNISHED BY CONTRACTOR.

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**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	DAVID VOIGT	PAUL WILHELM	WRB	12/30/2016
<b>CASING DETAIL</b> <b>FIELD ASSEMBLED SKIDS</b>						STANDARD DRAWING No. <b>619</b>



FOUNDATION MATERIAL  
AS REQUIRED  
SEE STANDARD  
DRAWING 611

## NOTES

1. ALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES BEFORE COMPACTION UNLESS AUTHORIZED BY THE ENGINEER DUE TO THE CHARACTER OF THE MATERIAL AND THE COMPACTING EQUIPMENT.
2. MECHANICAL COMPACTION OF BACK FILL MATERIAL SHALL NOT BEGIN UNTIL THE DEPTH OF COMPACTED BACKFILL MATERIAL IS 2 FEET ABOVE THE TOP OF PIPE.
3. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE REQUIRED DENSITY PRIOR TO PLACING SUBSEQUENT LIFTS OF BACKFILL MATERIAL.
4. COMPACTION TESTS SHALL BE AS REQUIRED BY THE CITY ENGINEER, BUT IN NO CASE LESS THAN 2 TESTS EVERY 200 FEET OF TRENCH (ONE AT SUBGRADE AND ONE AT 50% OF TRENCH DEPTH).
5. IN PLACE DENSITY AND MOISTURE CONTENT WILL BE DETERMINED USING NUCLEAR METHOD, ASTM 2922-71.
6. LABORATORY MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT WILL BE DETERMINED USING THE MODIFIED PROCTOR METHOD IN ACCORDANCE WITH ASTM D-1557.

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>TYPICAL TRENCH COMPACTION</b>				STANDARD DRAWING No. <b>620</b>

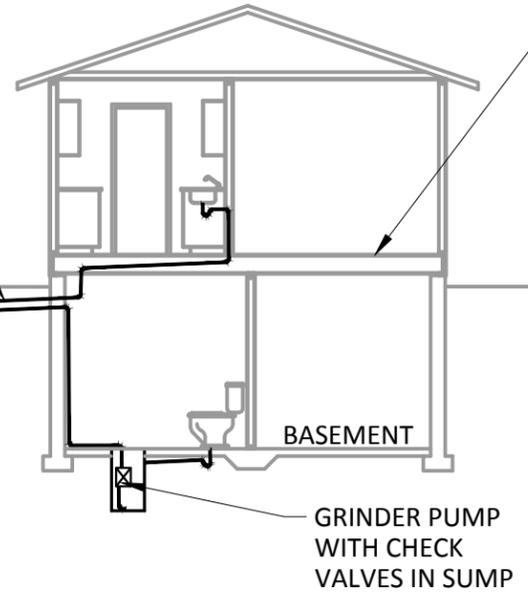
**DRAFT**

UPPER FLOOR PLUMBING SHOULD BE CONNECTED TO PRIVATE MH ACCESS STRUCTURE

PRIVATE MANHOLE ACCESS STRUCTURE CLEAN OUT PER STANDARD DRAWING 604

SEWER MAIN IN STREET OR ALLEY

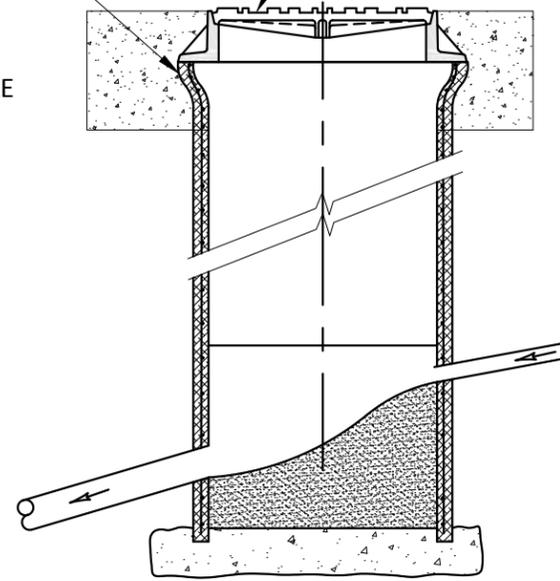
PROPERTY LINE



CONCRETE COLLAR TYP

FINISH FLOOR ELEVATION ABOVE UPSTREAM MANHOLE COVER IN STREET

FRAME AND COVER PER STANDARD DRAWING 610 OR 611



**NOTES:**

1. PUMP SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
2. ANY PLUMBING WITHIN THE BUILDING MUST COMPLY WITH THE CURRENT UNIFORM PLUMBING CODE AS AMENDED BY THE STATE OF WASH..
3. THE SIDE-SEWER OUTSIDE THE BUILDING MUST COMPLY WITH THE CITY'S DESIGN AND CONSTRUCTION STANDARDS.
4. OTHER METHODS FOR BACK-WATER PREVENTION MUST BE APPROVED BY THE CITY.
5. PRIVATE MH ACCESS STRUCTURE MUST BE WATERTIGHT, CORROSION RESISTANT & SUITABLE FOR UNDERGROUND BURIAL. COVER MUST BE GAS-TIGHT, LOAD-SUPPORTING AND REMOVABLE. RECOMMENDED STRUCTURE IS 30" DIA REINFORCED CONCRETE WITH BELL UP. PROVIDE MANHOLE (MH) FRAME AND COVER (STD 607A OR 607B).
6. COMMERCIAL MFD FRP PUMP WITH SUMP IS ALSO SUITABLE.

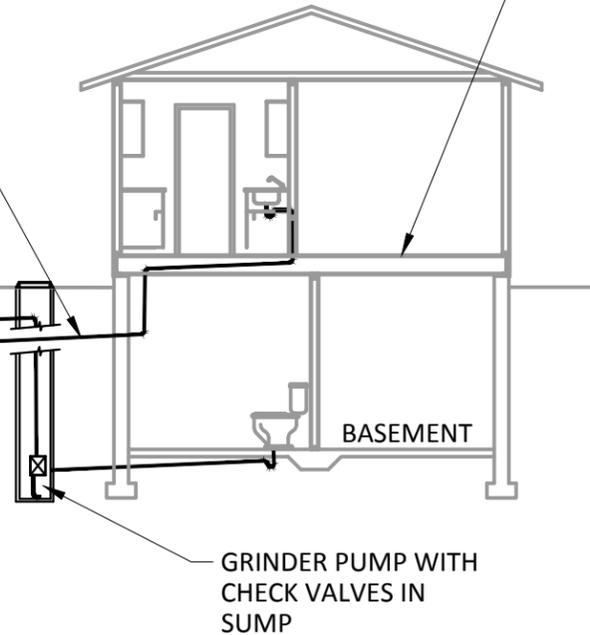
**GRINDER PUMP INSIDE HOUSE**

UPPER FLOOR PLUMBING SHOULD BYPASS THE PUMP SUMP AND BE CONNECTED DIRECTLY TO THE PRIVATE MH ACCESS STRUCTURE

PRIVATE MH ACCESS STRUCTURE CLEAN OUT PER STANDARD DRAWING 604

SEWER MAIN IN STREET OR ALLEY

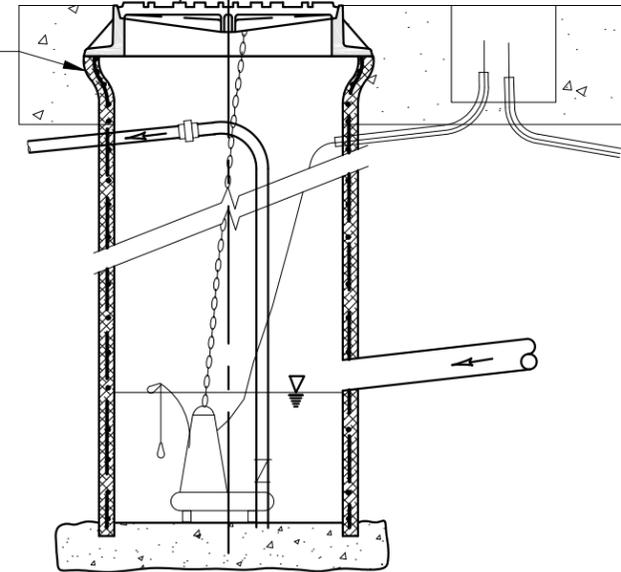
PROPERTY LINE



FINISH FLOOR ELEVATION ABOVE UPSTREAM MANHOLE COVER IN STREET

CONCRETE COLLAR TYP

FRAME AND COVER PER STANDARD DRAWING 610 OR 611



**GRINDER PUMP IN SUMP**

**GRINDER PUMP OUTSIDE HOUSE**

**PRIVATE MH ACCESS STRUCTURES**

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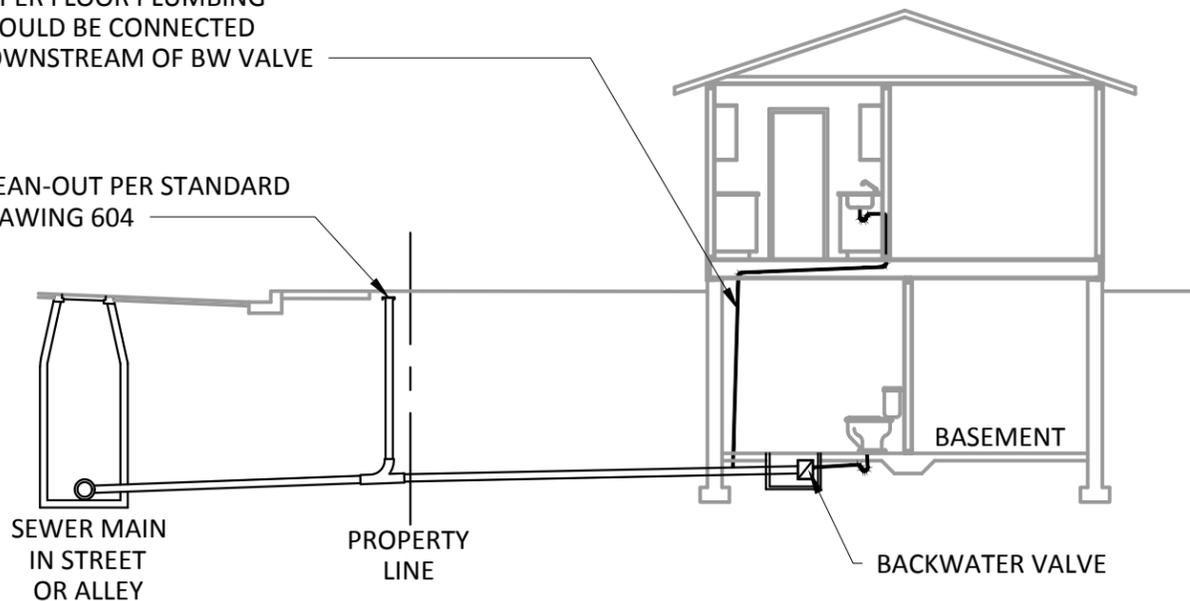
**DRAFT**



City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>GRINDER PUMP CONNECTION TO SANITARY SEWER</b>				STANDARD DRAWING No. <b>621</b>
PUMP INSIDE OR OUTSIDE HOUSE				

NEW CONSTRUCTION & RETROFIT:  
UPPER FLOOR PLUMBING SHOULD BE CONNECTED DOWNSTREAM OF BW VALVE

CLEAN-OUT PER STANDARD DRAWING 604



**BACKWATER VALVE INSIDE HOUSE/BASEMENT**

FINISHED GRADE  
CAST IRON RING & COVER PER STANDARD DRAWING 604

REMOVABLE "CLEAN CHECK" FLAPPER ASSEMBLY

4"/6" GRAVITY SEWER OUT

6" DIA. RISER PIPE AND CAP

4"/6" GRAVITY SEWER IN



BACKWATER VALVE

ALTERNATE "CLEAN-CHECK" INSTALLATION

CITY RECOMMENDS "CLEAN CHECK" BY RECTORSEAL WITH REMOVABLE INSERT/FLAPPER ASSEMBLY

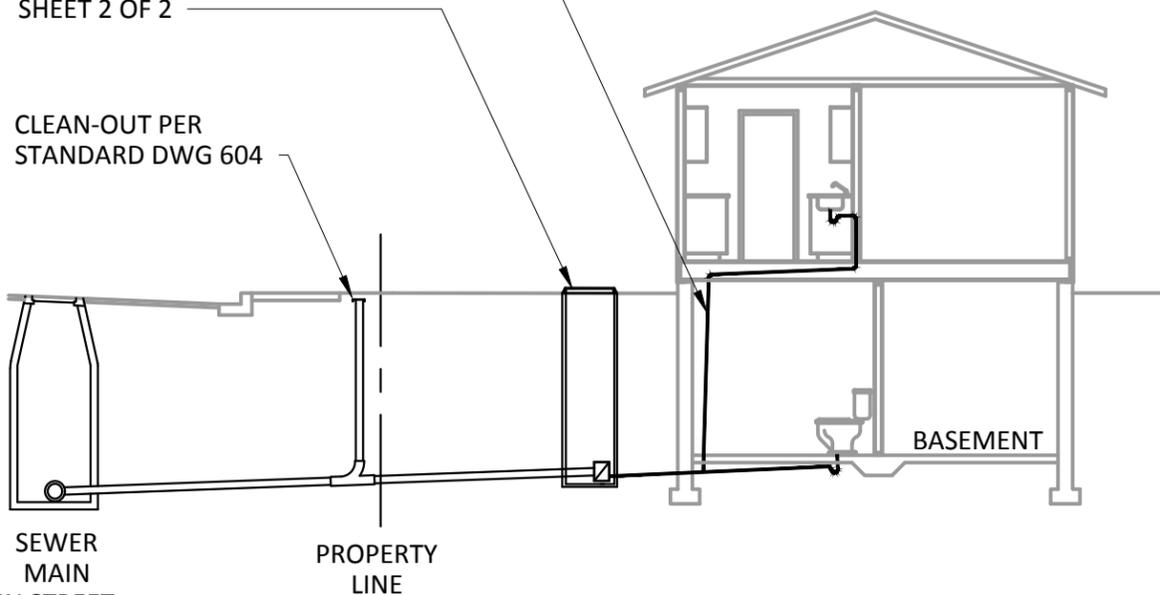
**NOTES**

1. ANY PLUMBING WITHIN THE BUILDING MUST COMPLY WITH THE CURRENT UNIFORM PLUMBING CODE AS AMENDED BY THE STATE OF WASH..
2. THE SIDE-SEWER OUTSIDE THE BUILDING MUST COMPLY WITH THE CITY'S DESIGN AND CONSTRUCTION STANDARDS.
3. OTHER METHODS FOR BACK-WATER PREVENTION MUST BE APPROVED BY THE CITY.
4. PRIVATE MH ACCESS STRUCTURE MUST BE WATERTIGHT, CORROSION RESISTANT & SUITABLE FOR UNDERGROUND BURIAL. COVER MUST BE GAS-TIGHT LOAD-SUPPORTING AND REMOVABLE. RECOMMENDED STRUCTURE IS 30" DIA REINFORCED CONCRETE PIPE (RCP) PLACED VERTICAL ON CAST IN PLACE (CIP) CONCRETE BASE WITH BELL UP. PROVIDE MANHOLE (MH) FRAME AND COVER (STD 607A OR 607B).

RETROFIT ONLY:  
UPPER FLOOR PLUMBING CONNECTED UPSTREAM OF BW VALVE

BACKWATER (BW) VALVE: INSTALLATIONS SEE DETAILS SHEET 2 OF 2

CLEAN-OUT PER STANDARD DWG 604



**BACKWATER VALVE OUTSIDE HOUSE**

FINISHED GRADE

RING AND COVER PER STD DWG 610 OR 611

30" DIA RCP

4"/6" GRAVITY SEWER OUT

4"/6" GRAVITY SEWER IN

4" TO 6" CAST IN PLACE CONCRETE BASE

BACKWATER VALVE

**PRIVATE MANHOLE ACCESS INSTALLATION**

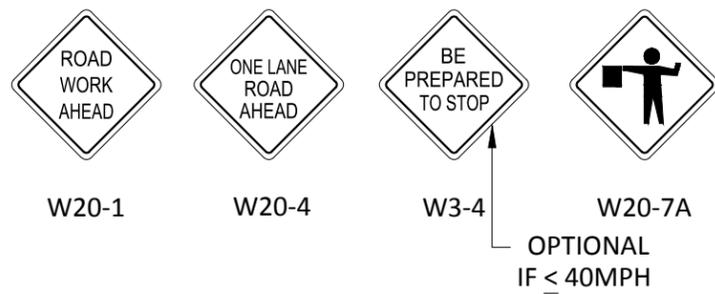
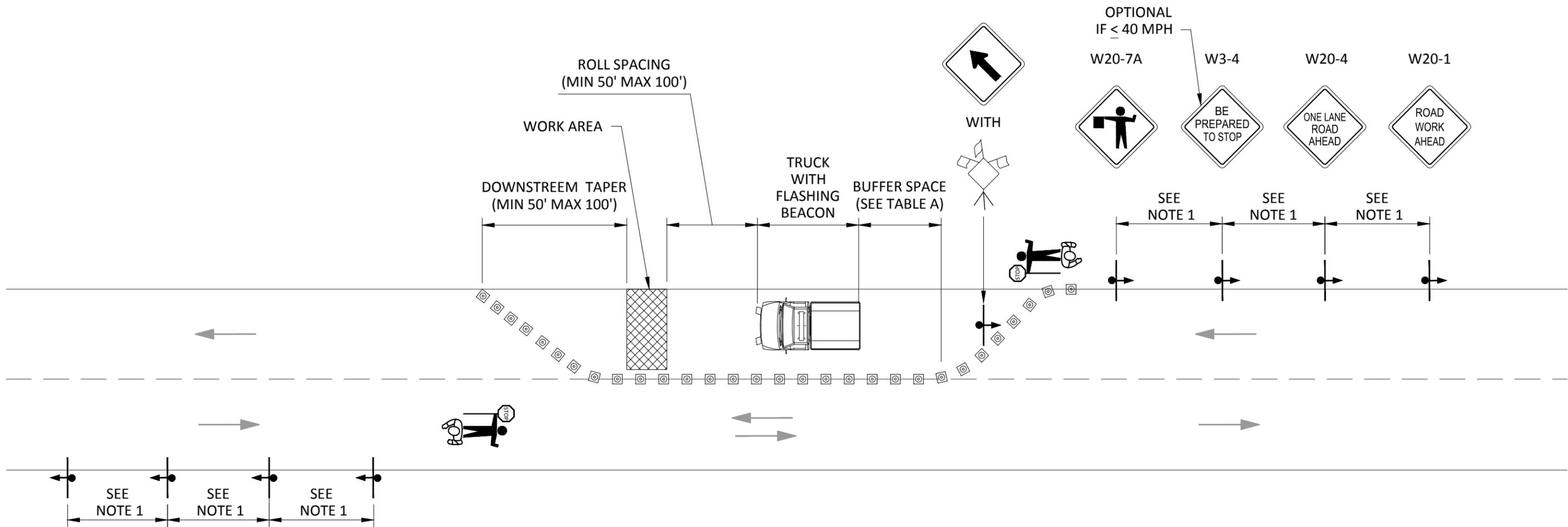


City Engineer RYAN SASS	Section Manager DAVID VOIGT	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE BACKWATER VALVE CONNECTION TO SANITARY SEWER INSIDE & OUTSIDE INSTALLATIONS				STANDARD DRAWING No. 622

**DRAFT**

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**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS.
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTER REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

TABLE A			
SPEED (MPH)	CONE SPACING (FT)		BUFFER SPACING (FT)
	TANGENT	TAPER	
25	25	20	55
30	30		85
35	35		120
40	40		170
45	45		220

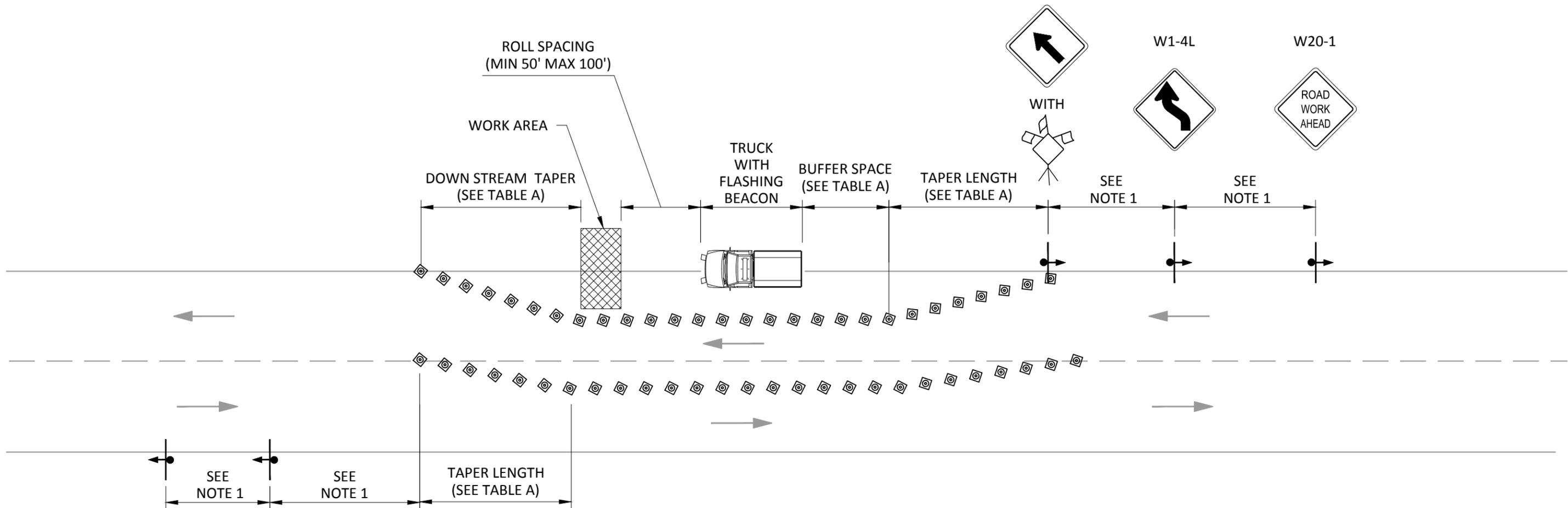
**DRAFT**

**CITY OF EVERETT**

**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
<p><b>TRAFFIC CONTROL PLAN</b></p> <p><b>2 LANE ROADWAY:</b></p> <p><b>ONE LANE CLOSED WITH ALTERNATING</b></p> <p><b>ONEWAY TRAFFIC AND SPOTTERS</b></p>				<p><b>701</b></p>

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### NOTES

- DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREET (25 MPH) AND 350' FOR ARTERIAL ROADWAYS.
- FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
- DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
- SPOTTERS REQUIRED TO CONTROL TRAFFIC WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
- FOR ALTERNATE LANE SHIFT WIDTH REFER TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) TABLE 6C-2 PAGE 6C-10.
- SIGN SIZE PER MUTCD.
- THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON THE TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

### LEGEND

- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

TABLE A					
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING (FT)		BUFFER SPACING (FT)
	5'	6'	TANGENT	TAPER	
25	26'	31'	25	20	55
30	38'	45'	30		85
35	51'	61'	35		120
40	67'	80'	40		170
45	113'	135'	45		220

## CITY OF EVERETT

### EVERETT PUBLIC WORKS DEPARTMENT

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TRAFFIC CONTROL PLAN</b> <b>2 LANE ROADWAY:</b> PARTIAL LANE CLOSURE			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>702</b>

DRAFT

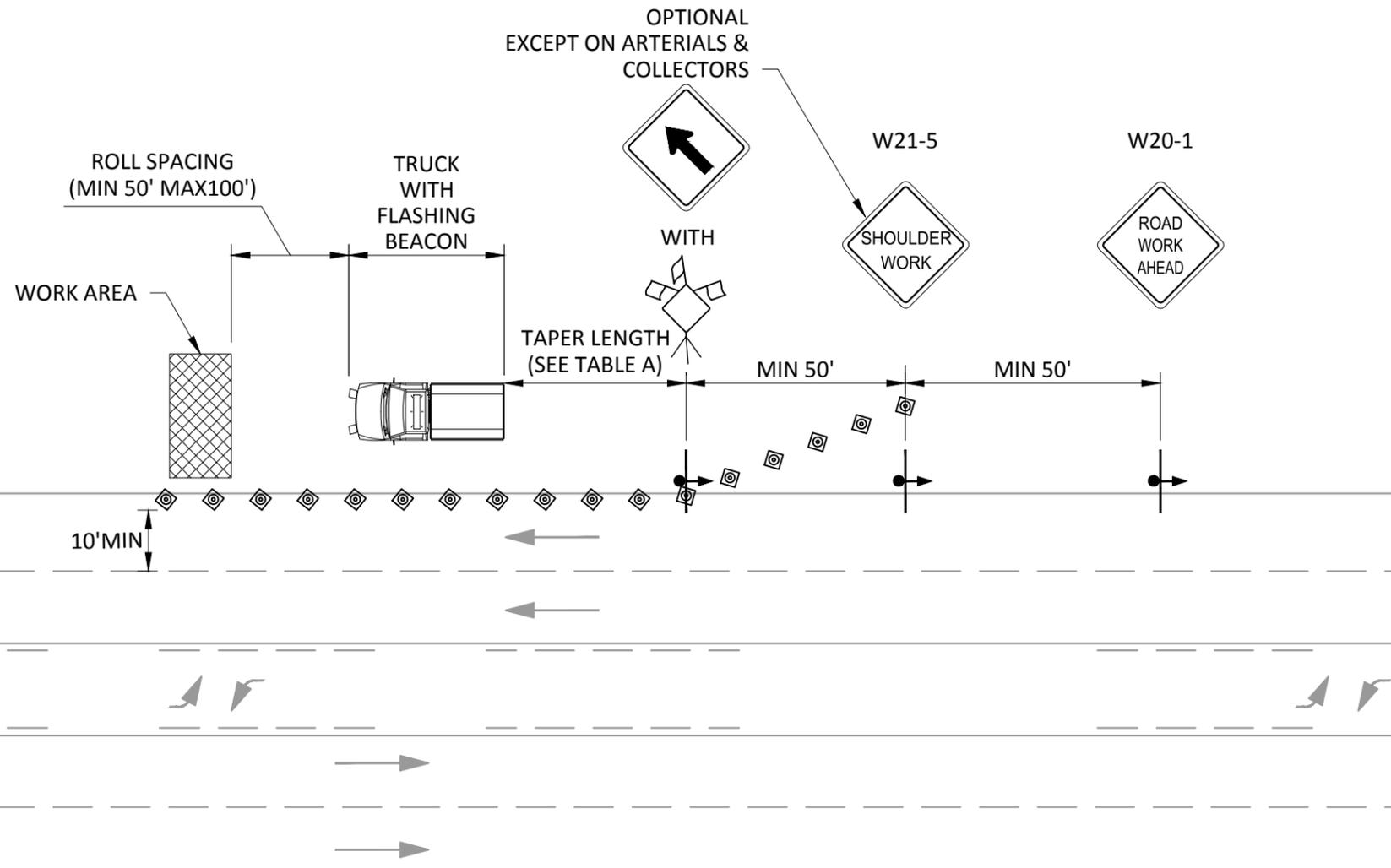


TABLE A			
SPEED (MPH)	CONE SPACING (FT)		BUFFER SPACING (FT)
	TANGENT	TAPER	
25	25	20	55
30	30		85
35	35		120
40	40		170
45	45		220

**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

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**DRAFT**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TRAFFIC CONTROL PLAN</b> SHOULDER WORK			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>703</b>

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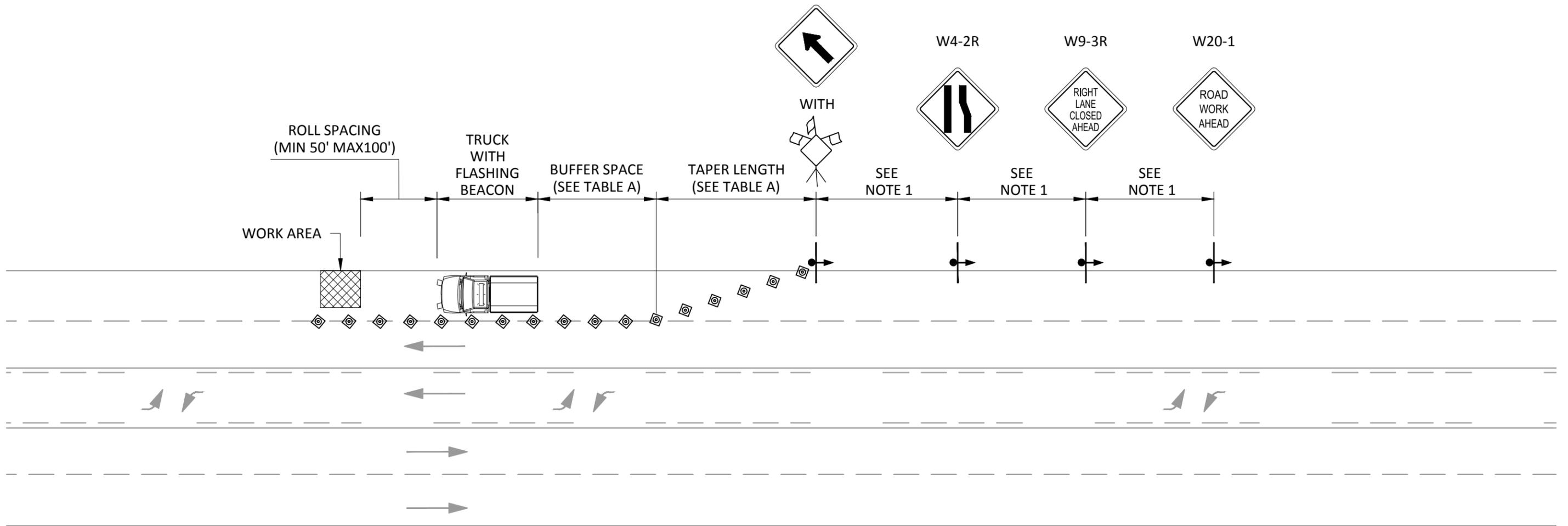


TABLE A					
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING (FT)		BUFFER SPACING (FT)
	10'	12'	TANGENT	TAPER	
25	105'	125'	25	20	55
30	150'	180'	30		85
35	205'	245'	35		120
40	270'	320'	40		170
45	420'	540'	45		220

**NOTES**

- DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
- FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
- DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
- SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
- SIGN SIZE PER MUTCD.
- THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

**DRAFT**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TRAFFIC CONTROL PLAN</b> 5 LANE ROADWAY WITH RIGHT LANE CLOSED			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>704</b>

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD705.DWG

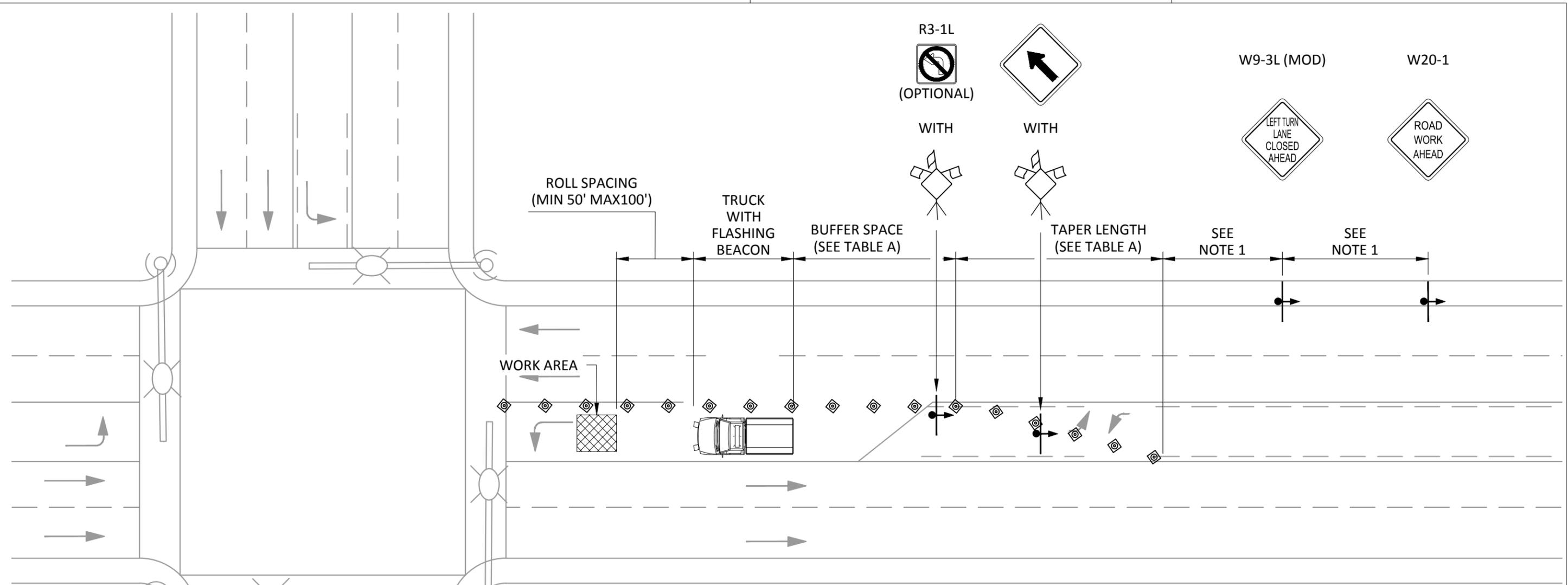


TABLE A			
SPEED (MPH)	CONE SPACING (FT)		BUFFER SPACING (FT)
	TANGENT	TAPER	
25	25	20	55
30	30		85
35	35		120
40	40		170
45	45		220

**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTER REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.



**CITY OF EVERETT**

**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
<p><b>TRAFFIC CONTROL PLAN</b></p> <p><b>5 LANE ROADWAY</b></p> <p><b>INTERSECTION WITH LEFT TURN LANE CLOSED</b></p>				705

DRAFT

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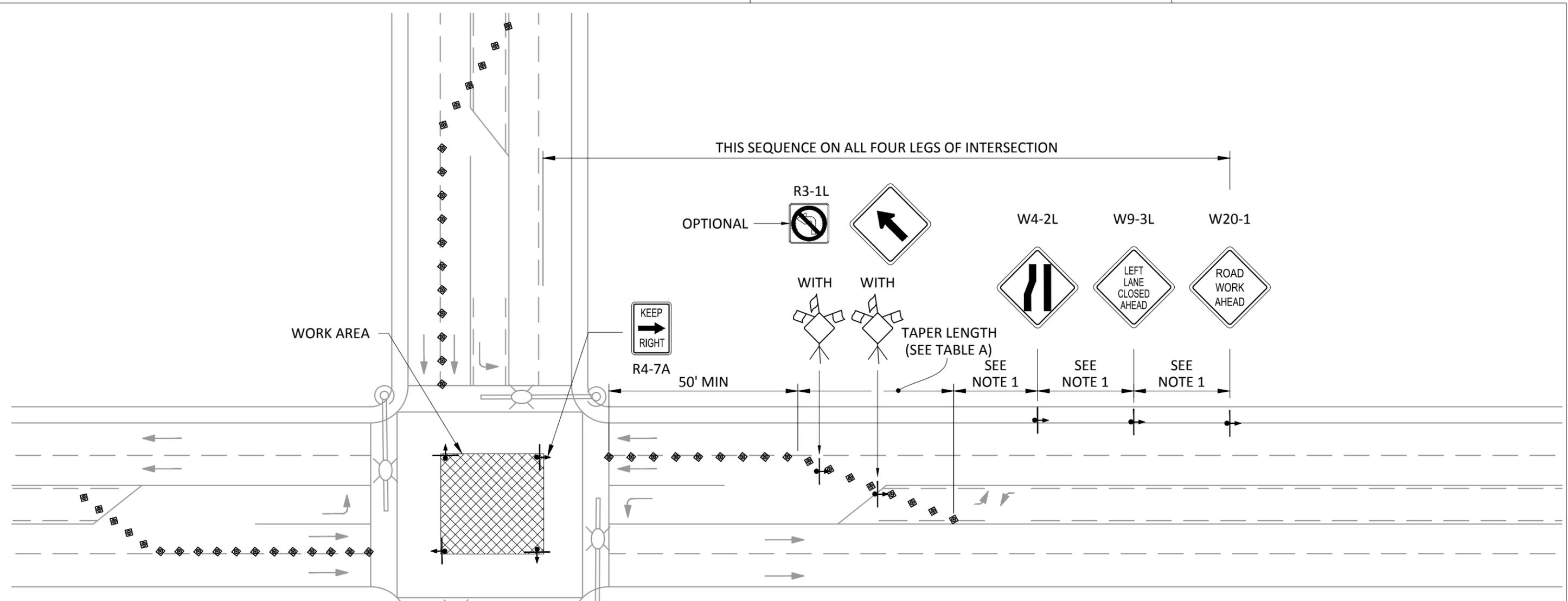


TABLE A			
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING ALONG TAPER (FT)
	10'	12'	
25	105'	125'	25
30	150'	180'	30
35	205'	245'	35
40	270'	320'	40
45	450'	540'	45

**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON SHALL BE INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGNING SHALL BE AS SHOWN ON ALL LEGS OF THE INTERSECTION.
6. SIGN SIZE PER MUTCD.
7. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

- ◊ CONE OR CHANNELIZING DEVICE SEE STD 713.

**DRAFT**



**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer: RYAN SASS  
Section Manager: COREY HERT  
CAD Manager: PAUL WILHELM  
Drawn By: ESH

Current Rev Date: 12/30/2016  
STANDARD DRAWING No. 706

**TRAFFIC CONTROL PLAN**  
CENTER OF INTERSECTION WORK



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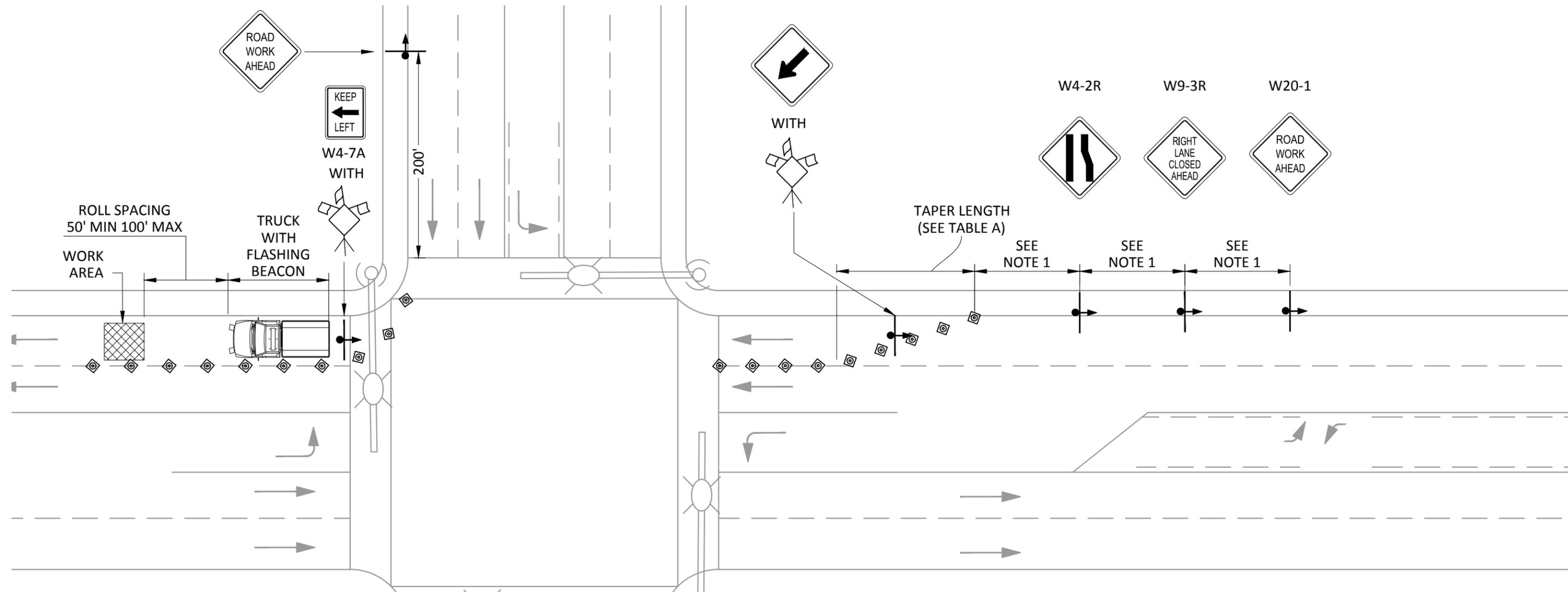


TABLE A			
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING ALONG TAPER (FT)
	10'	12'	
25	105'	125'	25
30	150'	180'	30
35	205'	245'	35
40	270'	320'	40
45	450'	540'	45

**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

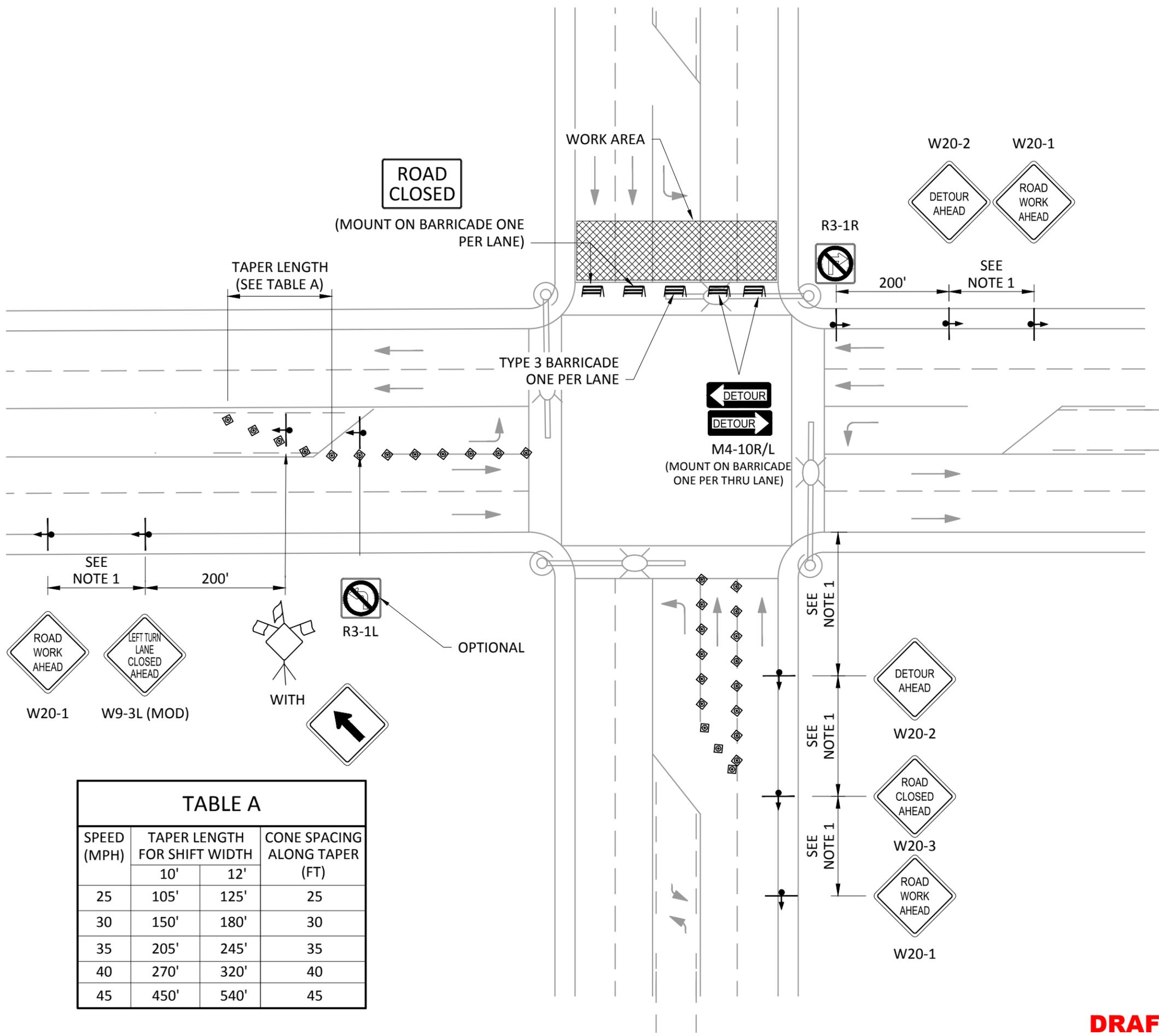
- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>ESH</b>	Current Rev Date <b>12/30/2016</b>
<b>TRAFFIC CONTROL PLAN</b>				<b>708</b>
5 LANE ROADWAY WITH RIGHT LANE CLOSURE FAR SIDE OF INTERSECTION				

DRAFT

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**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

☉ CONE OR CHANNELIZING DEVICE SEE STD 713.

TABLE A			
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING ALONG TAPER (FT)
	10'	12'	
25	105'	125'	25
30	150'	180'	30
35	205'	245'	35
40	270'	320'	40
45	450'	540'	45

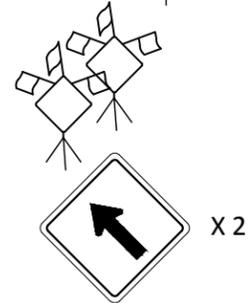
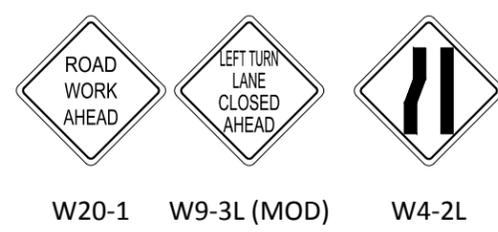
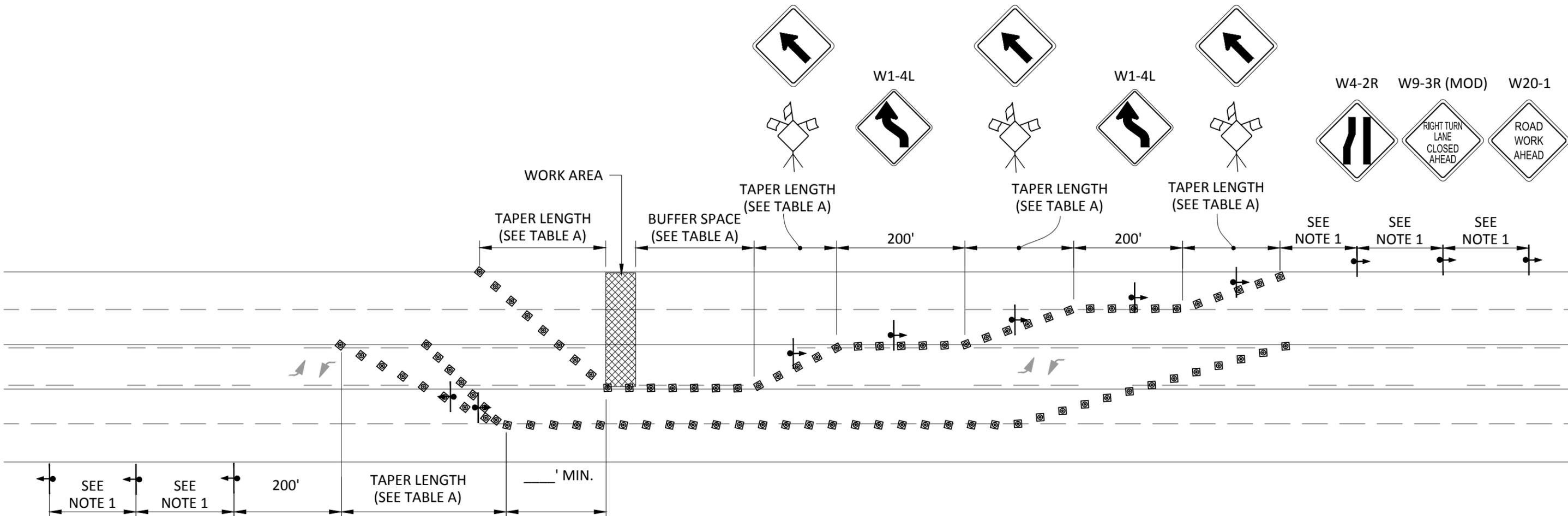


**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>ESH</b>	Current Rev Date <b>12/30/2016</b>
<b>TRAFFIC CONTROL PLAN</b>				<b>709</b>
5 LANE ROADWAY WITH FULL STREET CLOSURE FAR SIDE OF INTERSECTION				

**DRAFT**

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD710.DWG



**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

TABLE A			
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING ALONG TAPER (FT)
	10'	12'	
25	105'	125'	25
30	150'	180'	30
35	205'	245'	35
40	270'	320'	40
45	450'	540'	45

**DRAFT**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>ESH</b>	Current Rev Date <b>12/30/2016</b>
<b>TRAFFIC CONTROL PLAN</b>				STANDARD DRAWING No.
5 LANE ROADWAY WITH MULTILANE CLOSURE				<b>710</b>

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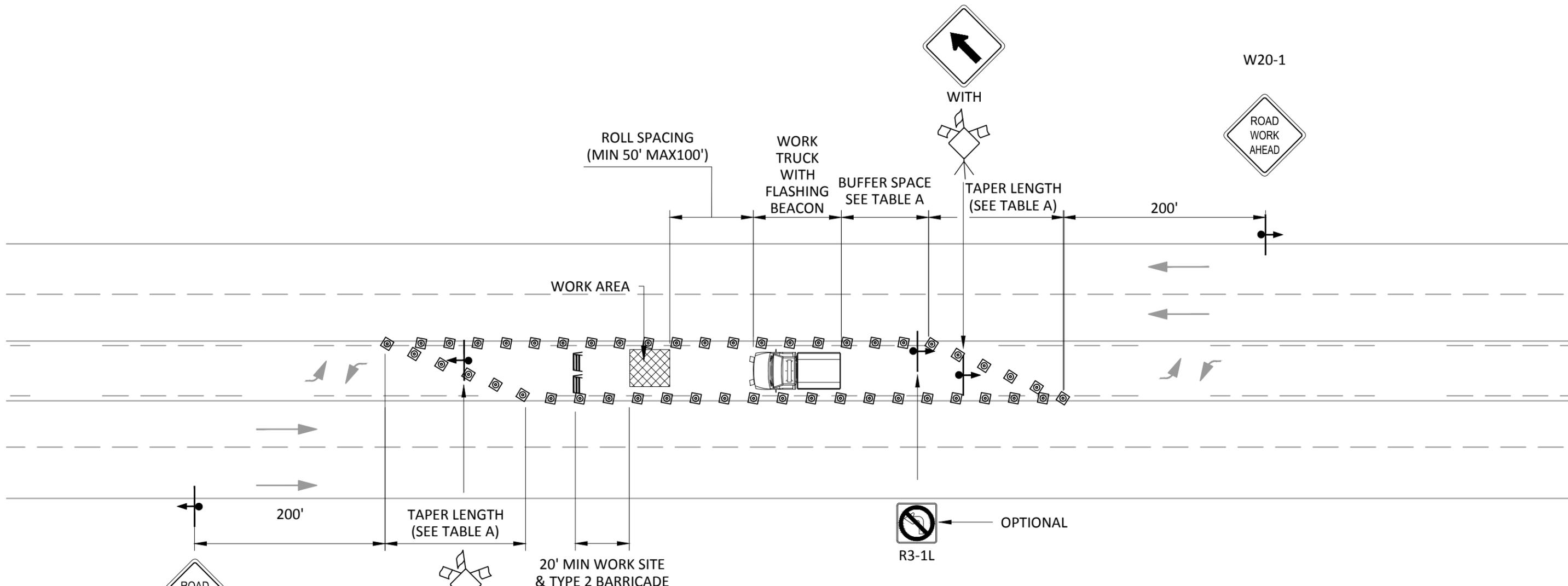


TABLE A			
SPEED (MPH)	CONE SPACING (FT)		BUFFER SPACING (FT)
	TANGENT	TAPER	
25	25	20	55
30	30		85
35	35		120
40	40		170
45	45		220

**NOTES**

1. DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
2. FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
3. DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
4. SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
5. SIGN SIZE PER MUTCD.
6. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

**LEGEND**

- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

**DRAFT**

**CITY OF EVERETT**

**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
TITLE <b>TRAFFIC CONTROL PLAN 5 LANE ROADWAY WITH TWO WAY LEFT TURN LANE CLOSURE</b>				STANDARD DRAWING No. <b>711</b>

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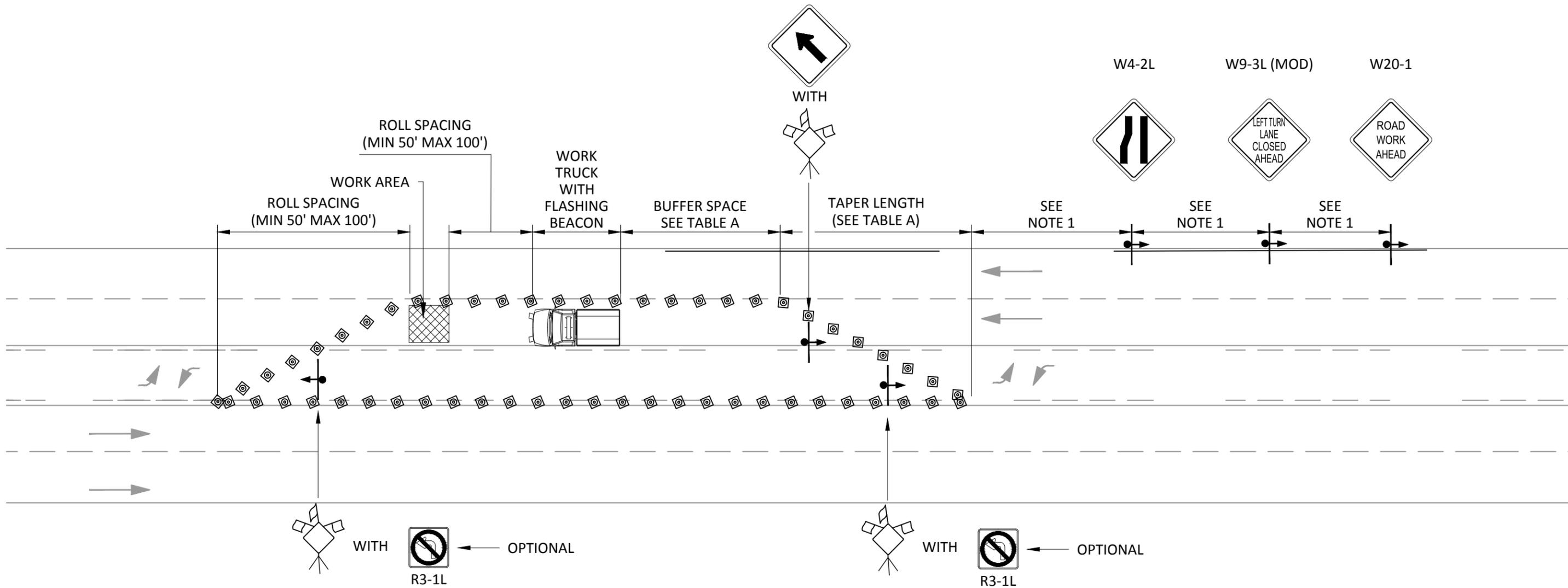


TABLE A					
SPEED (MPH)	TAPER LENGTH FOR SHIFT WIDTH		CONE SPACING (FT)		BUFFER SPACING (FT)
	5'	6'	TANGENT	TAPER	
25	26'	31'	25	20	55
30	38'	45'	30		85
35	51'	61'	35		120
40	67'	80'	40		170
45	113'	135'	45		220

**NOTES**

- DISTANCE BETWEEN SIGNS SHALL BE 100' FOR RESIDENTIAL STREETS (25 MPH) AND 350' FOR ARTERIAL ROADWAYS
- FLASHING BEACON INSTALLED AT EACH SIGN FOR NIGHT-TIME USE (OPTIONAL).
- DISTANCES MAY VARY AS APPROVED BY THE ENGINEER.
- SPOTTERS REQUIRED WHENEVER THE CONTRACTOR MUST INTERRUPT TRAFFIC FLOW TO ACCESS THE WORK SITE WITH MATERIALS OR EQUIPMENT (FLAGGING REQUIRES 3 OR 4 SIGN SETUP).
- SIGN SIZE PER MUTCD.
- THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.

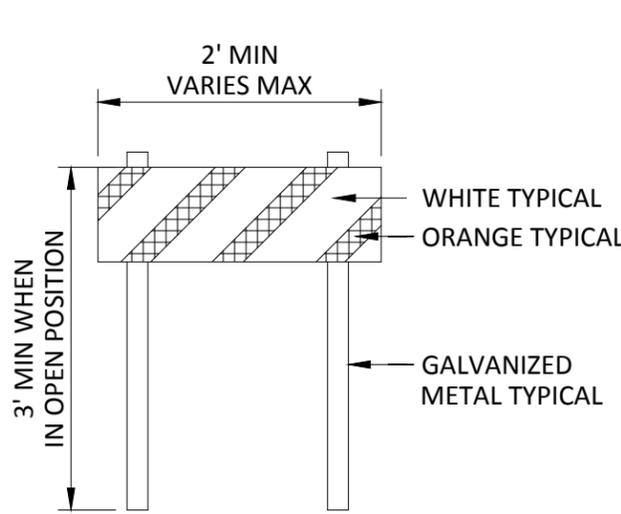
**LEGEND**

- ⊗ CONE OR CHANNELIZING DEVICE SEE STD 713.

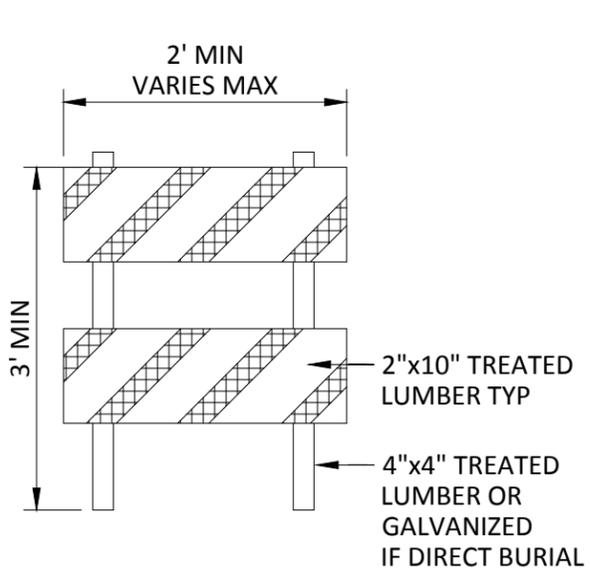
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**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

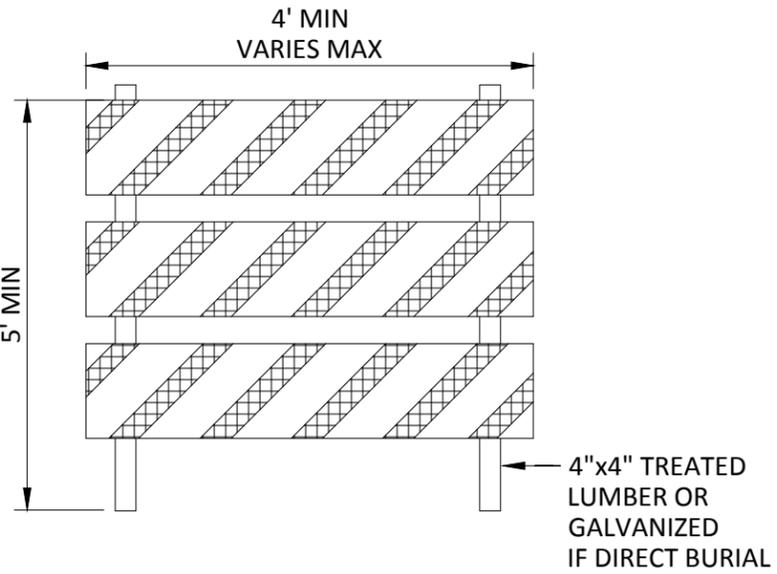
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date <b>12/30/2016</b>
TITLE <b>TRAFFIC CONTROL PLAN</b> <b>5 LANE ROADWAY</b> <b>WITH LEFT LANE CLOSURE</b>				STANDARD DRAWING No. <b>712</b>



**TYPE 1 BARRICADE**



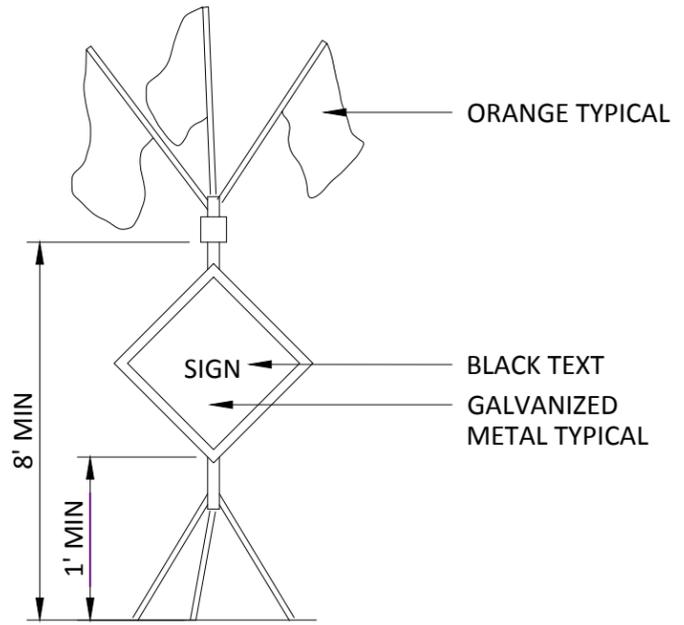
**TYPE 2 BARRICADE**



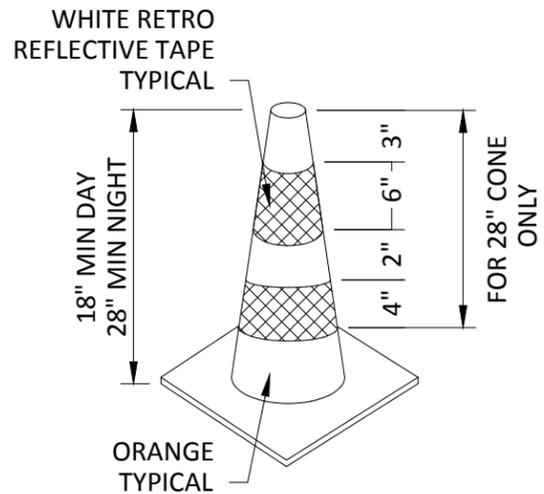
**TYPE 3 BARRICADE**

**NOTES**

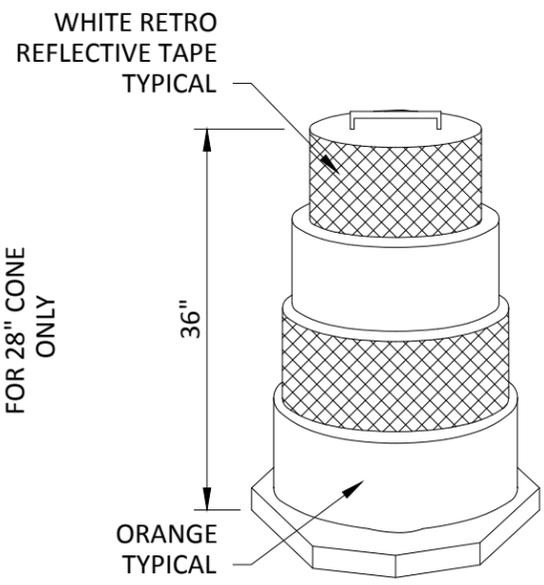
1. THIS PLAN IS PROVIDED AS A GUIDE ONLY. FOR SPECIFIC INFORMATION ON TRAFFIC CONTROL PLANS SEE CURRENT MUTCD.
2. SEE FIGURE 6F-2 OF THE MUTCD FOR OTHER METHODS OF MOUNTING SIGNS OTHER THAN ON POSTS
3. FOR ADDITIONAL INFORMATION REGARDING BARRICADES AND CHANNELIZING DEVICES SEE FIGURE 6F-4 IN MUTCD



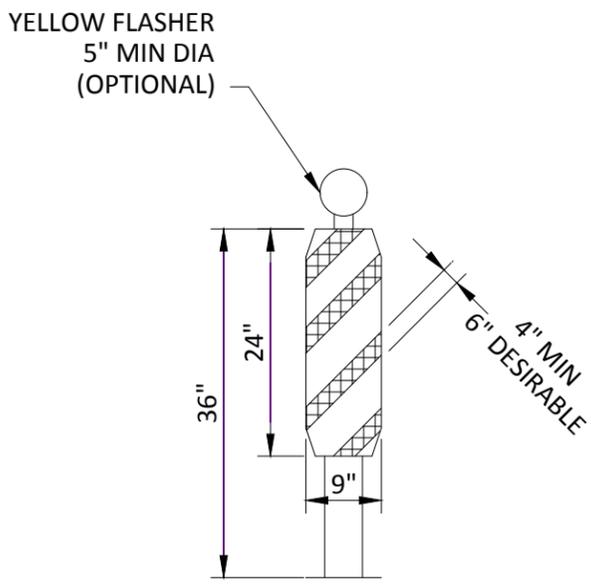
**HIGH LEVEL WARNING DEVICE**



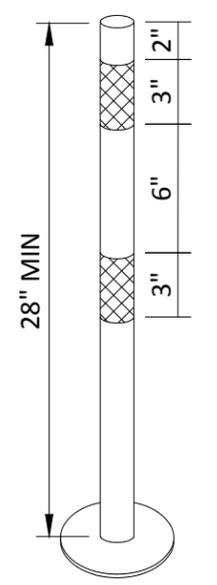
**CONE**



**CHANNELIZING DRUM**



**VERTICAL PANEL**

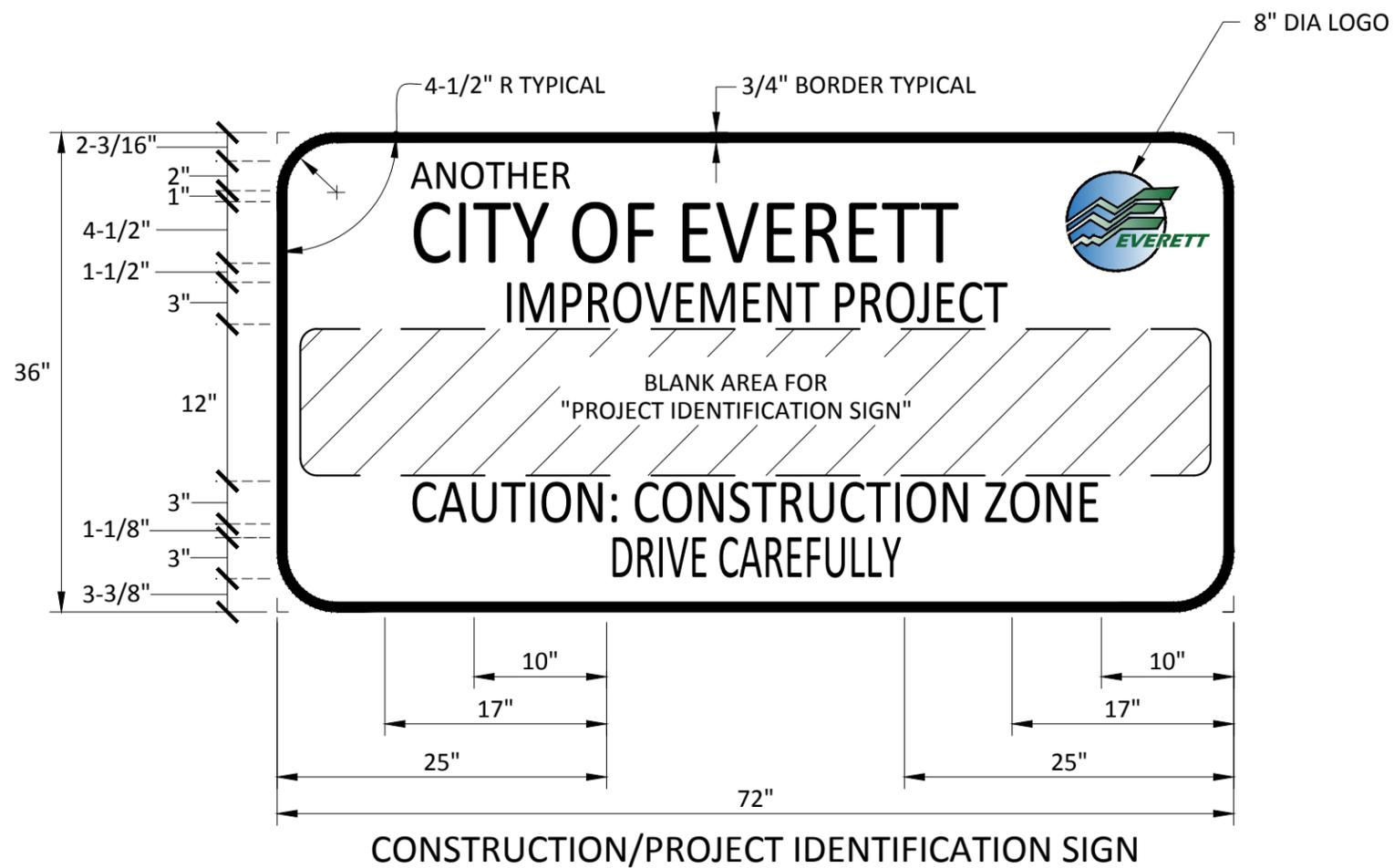


**GUIDE POST**

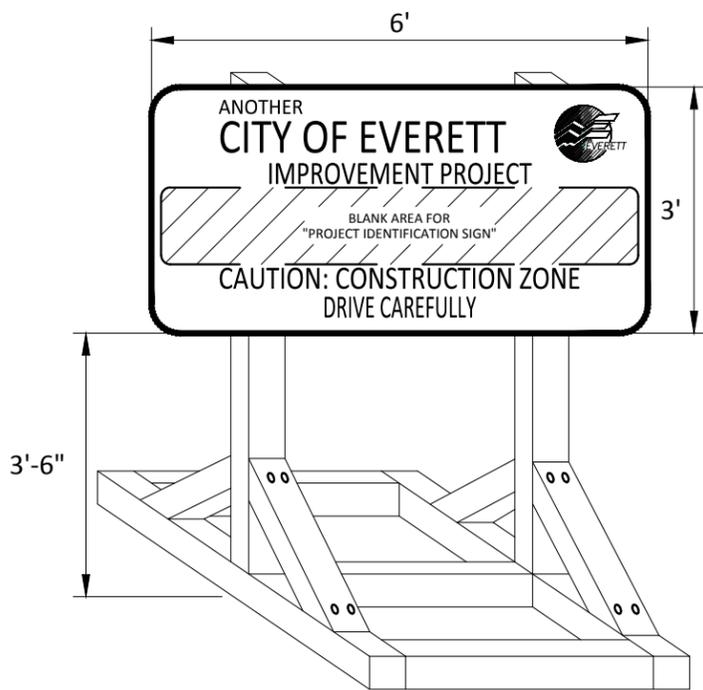
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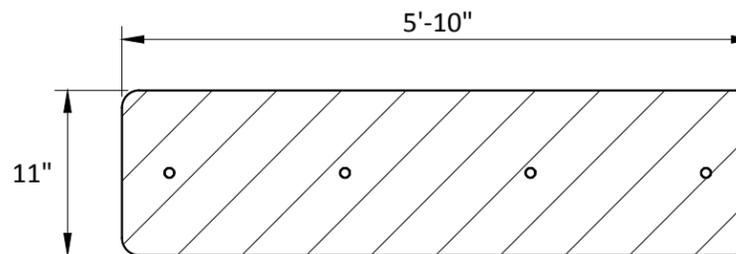
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TRAFFIC CONTROL DEVICES</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>713</b>



**CONSTRUCTION/PROJECT IDENTIFICATION SIGN**



**CONSTRUCTION SIGN STAND**



**PROJECT IDENTIFICATION SIGN**

**NOTES**

1. PROJECT INFORMATION SIGN SHALL BE A REMOVABLE METAL PLATE, SHEET ALUMINUM, 0.080 GAUGE, WITH 2 COATS OF INDUSTRIAL GRADE ENAMEL, 1-SHOT, COLOR 101-L WHITE OR EQUAL.
2. LETTERING SHALL BE 1 SHOT, COLOR 144-L MED. GREEN OR EQUAL. INFORMATION TO BE PROVIDED BY THE ENGINEER AND USED ON THE SIGN IN A STYLE AND MANNER CONSISTENT WITH LETTERING ON CONSTRUCTION IDENTIFICATION SIGN.
3. REMOVABLE PORTION OF SIGN SHALL BE ATTACHED TO WOODEN SIGN WITH FOUR(4) 1-1/2"X1/4" STAINLESS STEEL BOLTS WITH NUTS.
4. WOOD FRAME CONSTRUCTED WITH 4"x4" TREATED FIR LUMBER WITH GALVANIZED STEEL LAG BOLTS.
5. USE SANDBAGS ON BASE OF FRAME TO PREVENT OVERTURNING BY WIND GUSTS.
6. FINISHED FRAME TO BE PAINTED WITH WHITE EXTERIOR ENAMEL (2 COATS).
7. SIGN BOARD SHALL BE DURA-PLY, M.D.O. OR EQUAL, WITH 2 COATS OF EXTERIOR PRIMER-SEALER PLUS 2 COATS OF INDUSTRIAL GRADE ENAMEL, 1-SHOT, COLOR 101-L WHITE OR EQUAL. BORDER AND LETTERING SHALL BE 1-SHOT, COLOR 144-L MED. GREEN OR EQUAL FONT STYLE SHALL BE "ARIAL NARROW". LOGO TO BE SUPPLIED BY THE CITY OF EVERETT. SIGN AND COLORS TO BE APPROVED BY THE ENGINEER.
8. "PROJECT INFORMATION SIGN" INFORMATION TO BE PROVIDED BY THE ENGINEER.

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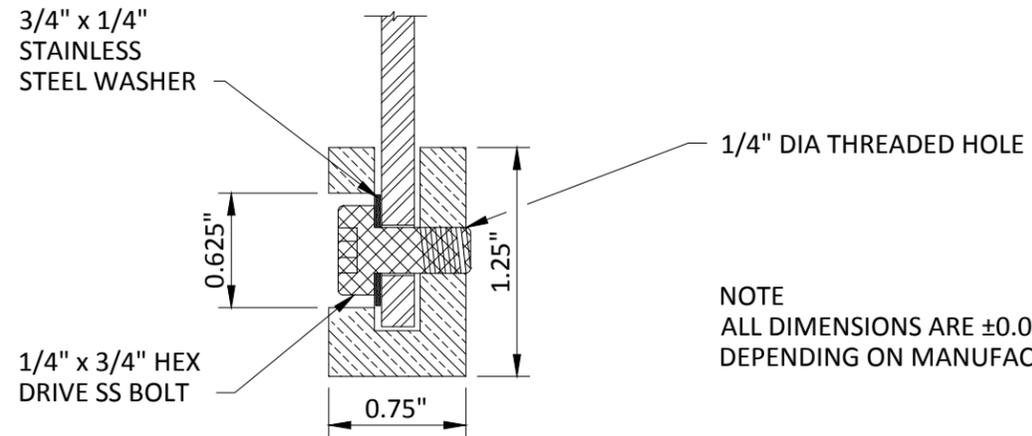
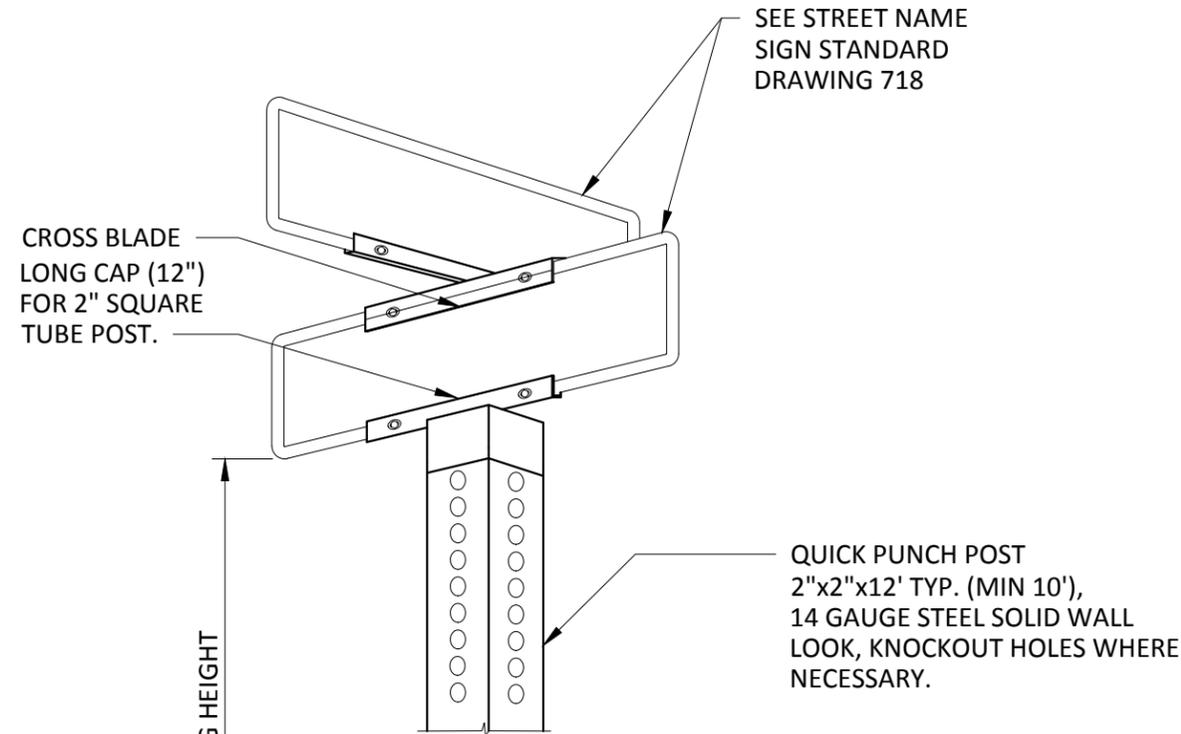
**DRAFT**

		<b>CITY OF EVERETT</b> <b>PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>PROJECT/CONSTRUCTION IDENTIFICATION SIGN</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>714</b>

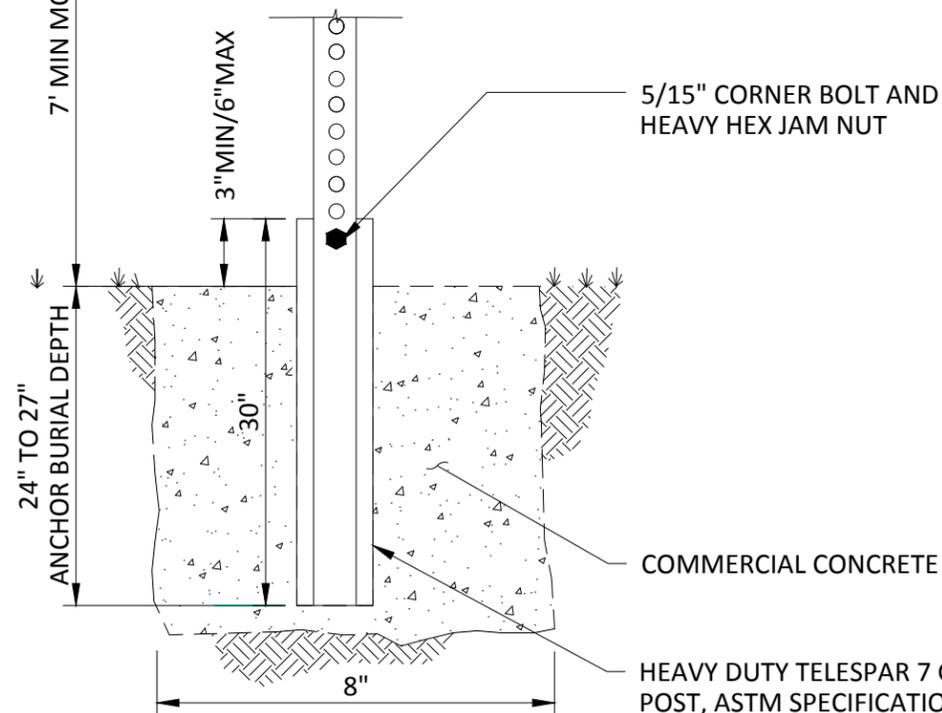
**NOTES**

1. ALL NEW SIGN INSTALLATIONS SHALL USE 2" SQUARE TUBE POSTS.

NOTE  
ALL DIMENSIONS ARE ±0.005  
DEPENDING ON MANUFACTURE

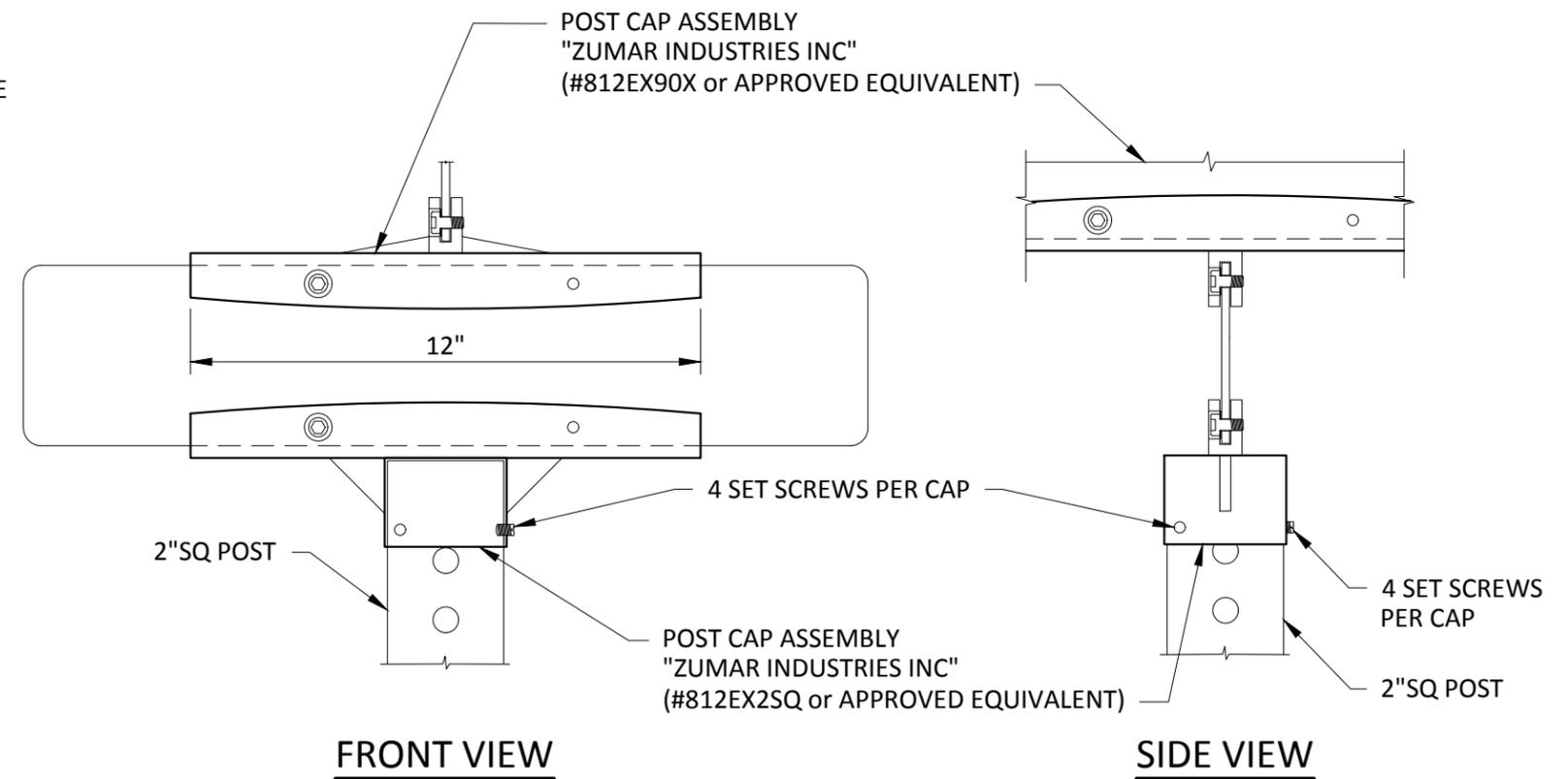


**STREET NAME ARM SECTION**



**TYPICAL SECTION**

HEAVY DUTY TELESPAR 7 GAUGE ANCHOR FOR 2"  
POST, ASTM SPECIFICATION A653, HOT DIP  
GALVANIZED CONFORMING TO COATING  
DESIGNATION G-90 2.5"x2.5"x30" POST, WALL  
THICKNESS IS  $\frac{3}{16}$ ", DRILL (2) HOLES  $\frac{3}{8}$ " DIA. AT ONE END,  
1" DOWN, ONE ON EACH ADJACENT SIDE ON CENTER  
FOR THE CORNER BOLT. SEE STANDARD DETAIL 717A



**FRONT VIEW**

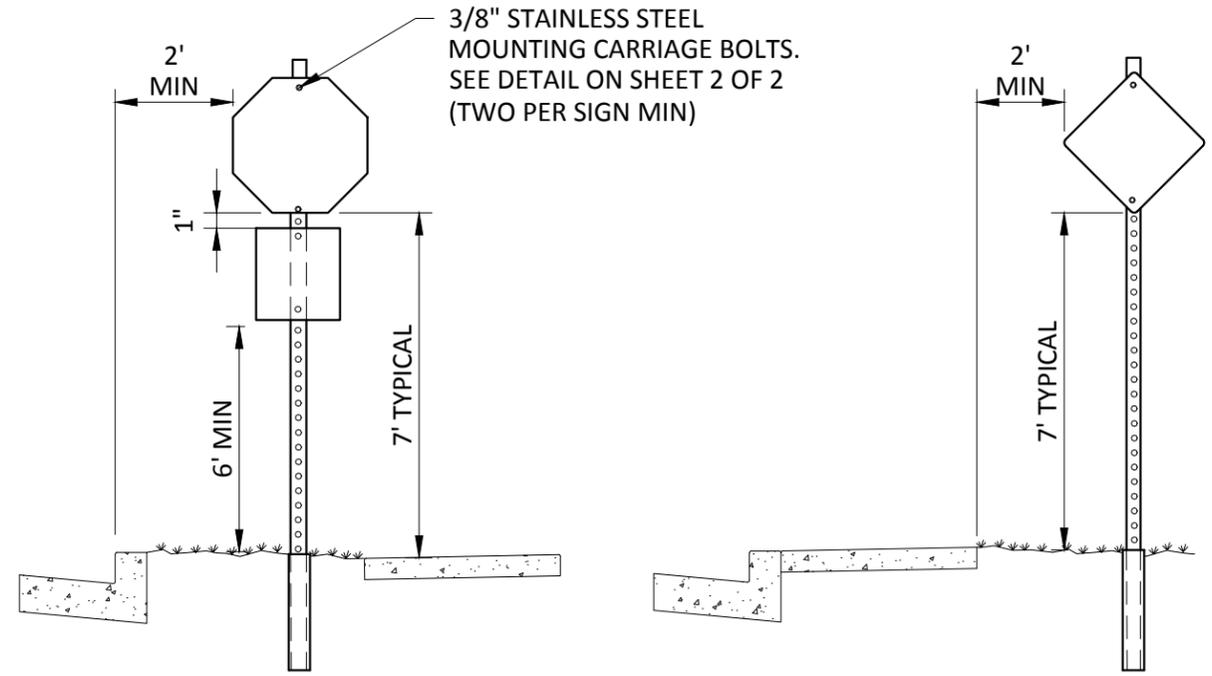
**SIDE VIEW**

**TYPICAL STREET NAME SIGN MOUNTING**

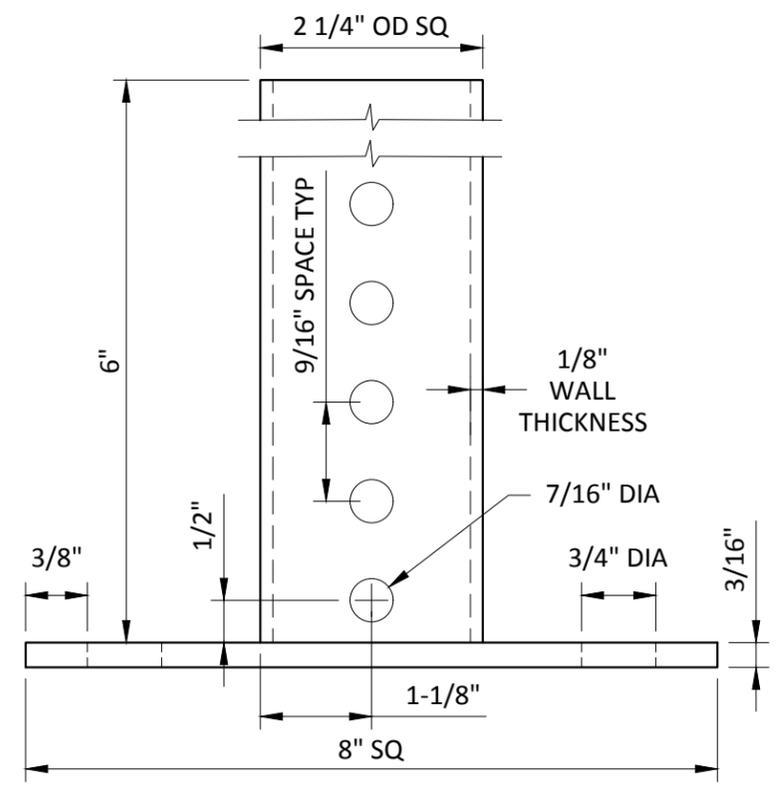
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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
STREET NAME SIGN POST 2" SQUARE STEEL MOUNTING HARDWARE			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>715</b>



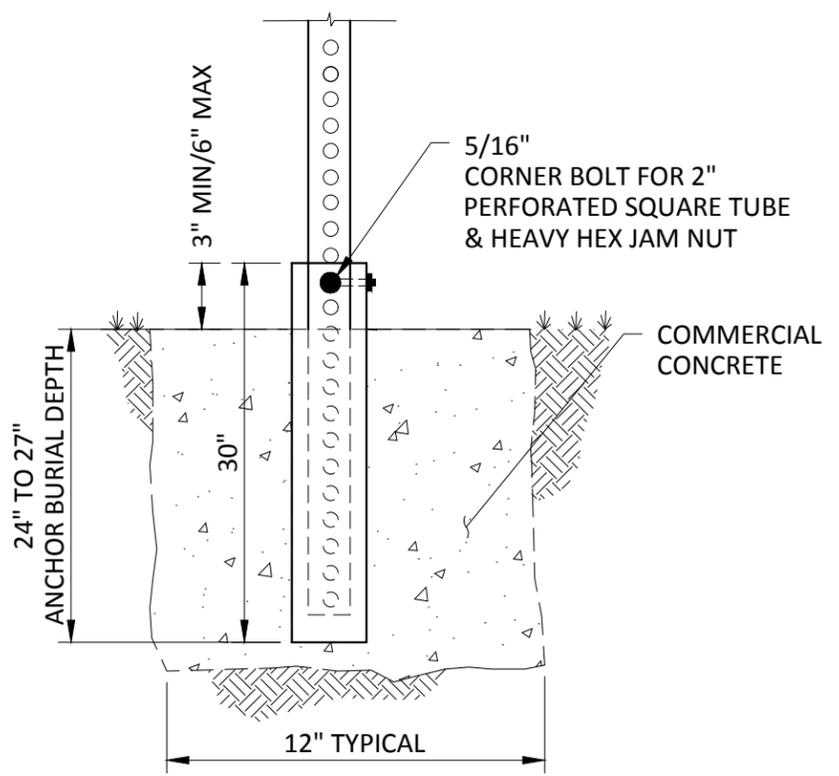
**TYPICAL SIGN INSTALLATION HEIGHTS**



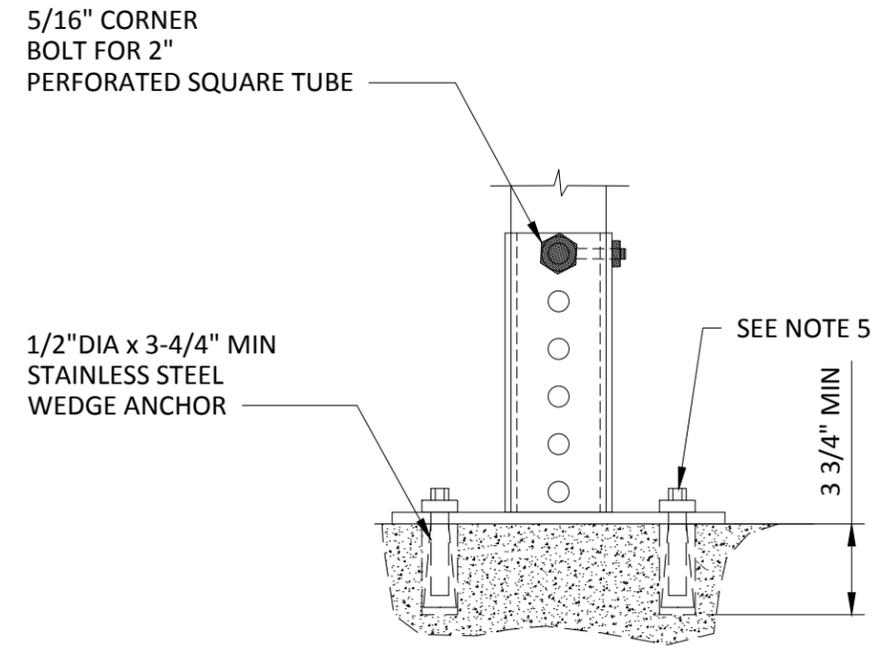
**STEEL BASE PLATE SECTION**

**NOTES**

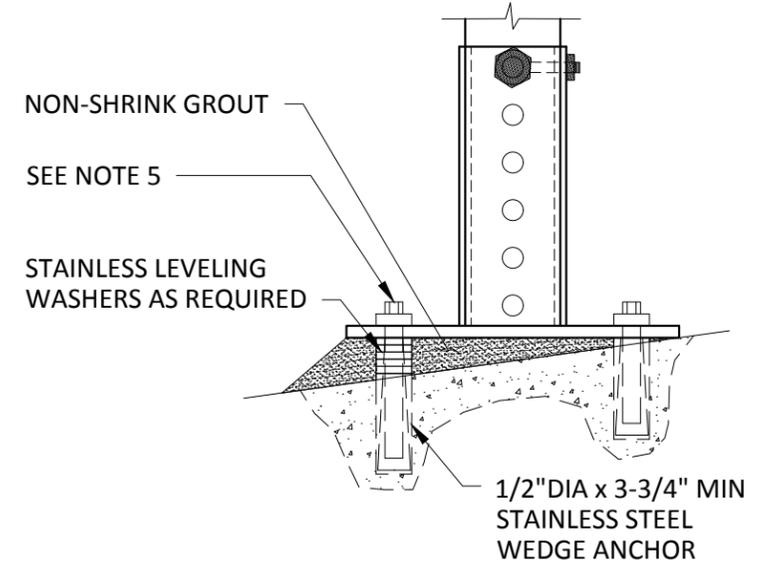
1. STANDARD STOP SIGNS SHALL BE 30"X30" PER MUTCD #R1-1 UNLESS OTHERWISE APPROVED OR DIRECTED BY CITY OF EVERETT TRAFFIC ENGINEER.
2. STREET NAME SIGNS SHALL BE INSTALLED AT TOP OF POST. SEE STANDARD DRAWING 715.
3. ALL NEW SIGN INSTALLATIONS SHALL USE 2" SQUARE TUBE POSTS.
4. ANCHOR MUST NOT PROTRUDE MORE THAN 1/4" ABOVE THE NUT.
5. SHALL USE (4) 1/2" X 3-3/4" (MIN) STAINLESS STEEL WEDGE ANCHORS.
6. STEEL BASE PLATE MUST BE PRIMED WITH "RUSTOLEUM" OR APPROVED EQUIVALENT AND PAINTED WITH TWO COATS OF ALUMINUM HOT DIPPED GALVANIZED OR POWDER COATED TO PREVENT RUSTING, ALL SURFACES.
7. ALL NEW SIGN INSTALLATIONS SHALL USE 2" SQUARE TUBE POSTS.



**TYPICAL SQUARE POST INSTALLATION SECTION**



**TYPICAL LEVEL SURFACE ANCHOR PLATE INSTALLATION**



**TYPICAL SLOPED SURFACE ANCHOR PLATE INSTALLATION**

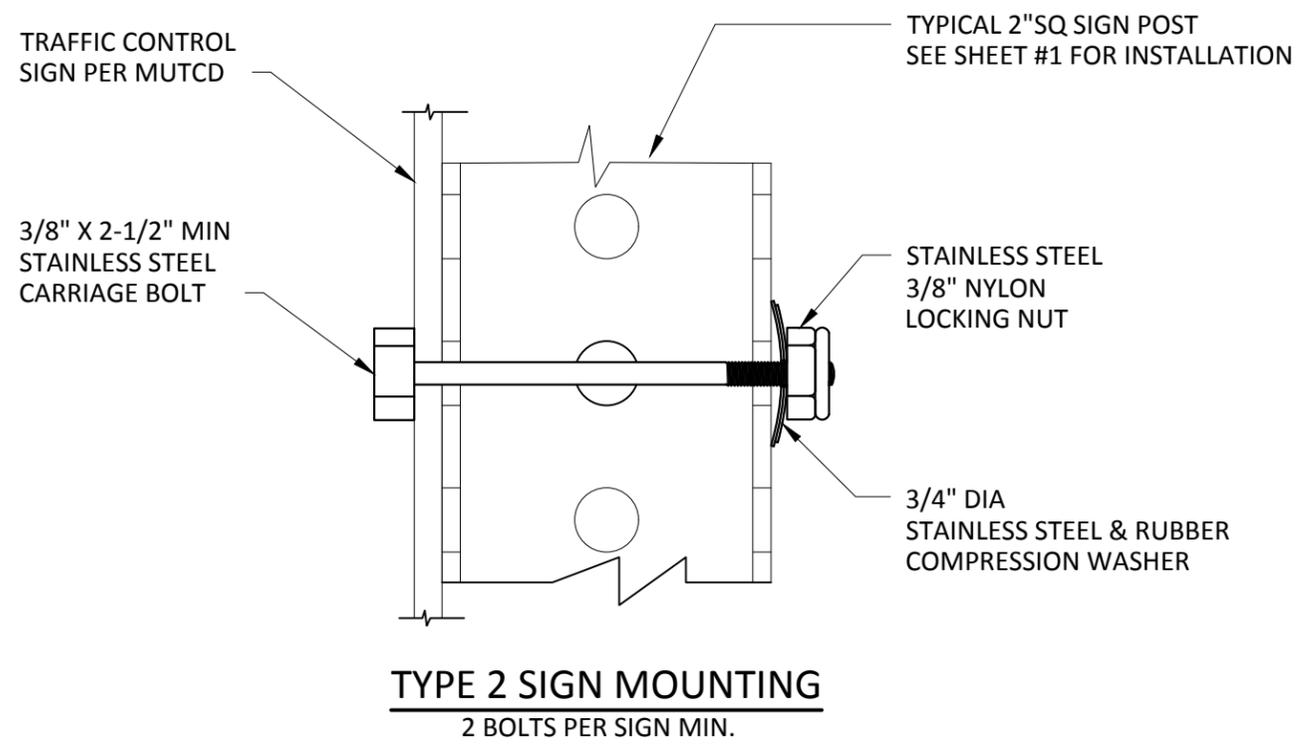
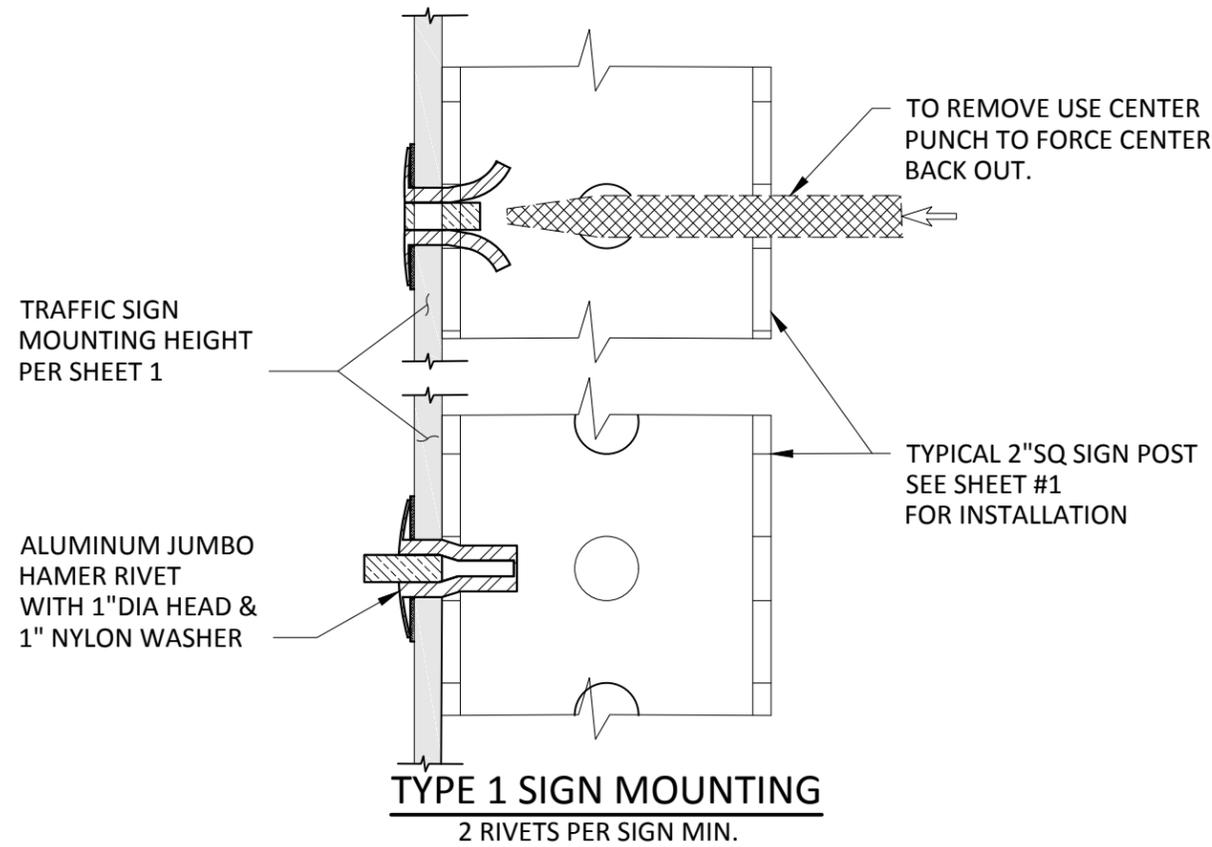
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 PLOTTED: 12/27/2016 12:46 PM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE <b>TRAFFIC SIGN INSTALLATION</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>716</b> SHT 1 OF 2

**NOTES**

- SIGNS MOUNTED ON WOOD POSTS WILL USE A 3/8" STAINLESS STEEL CARRIAGE BOLT WITH 3/4" X 1/4" STAINLESS STEEL WASHER AND 3/8" STAINLESS STEEL NYLON LOCKING NUT.



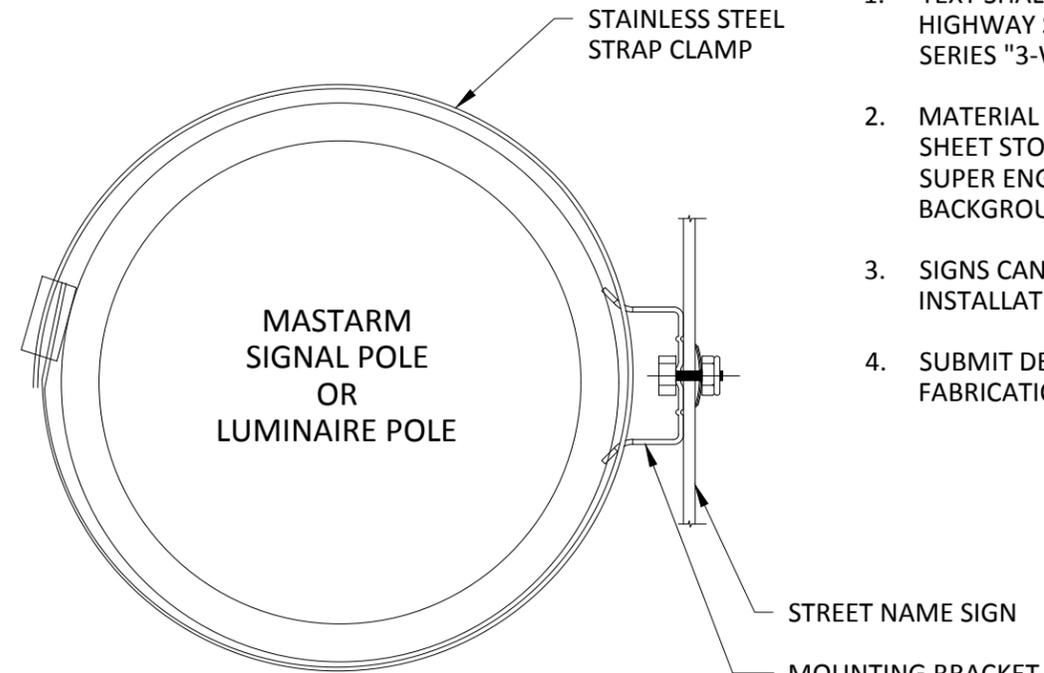
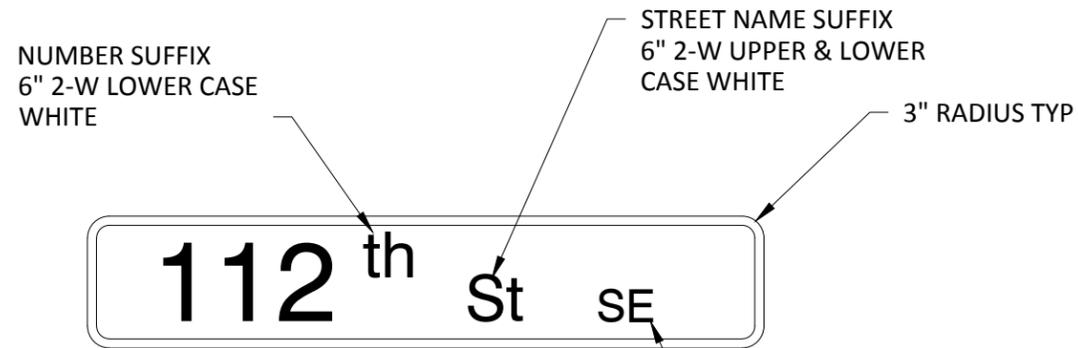
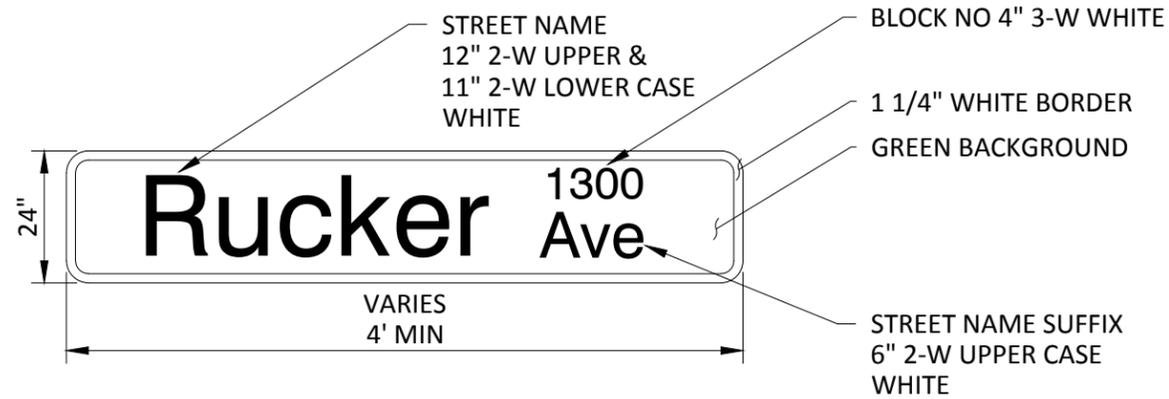
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 PLOTTED: 12/27/2016 12:46 PM

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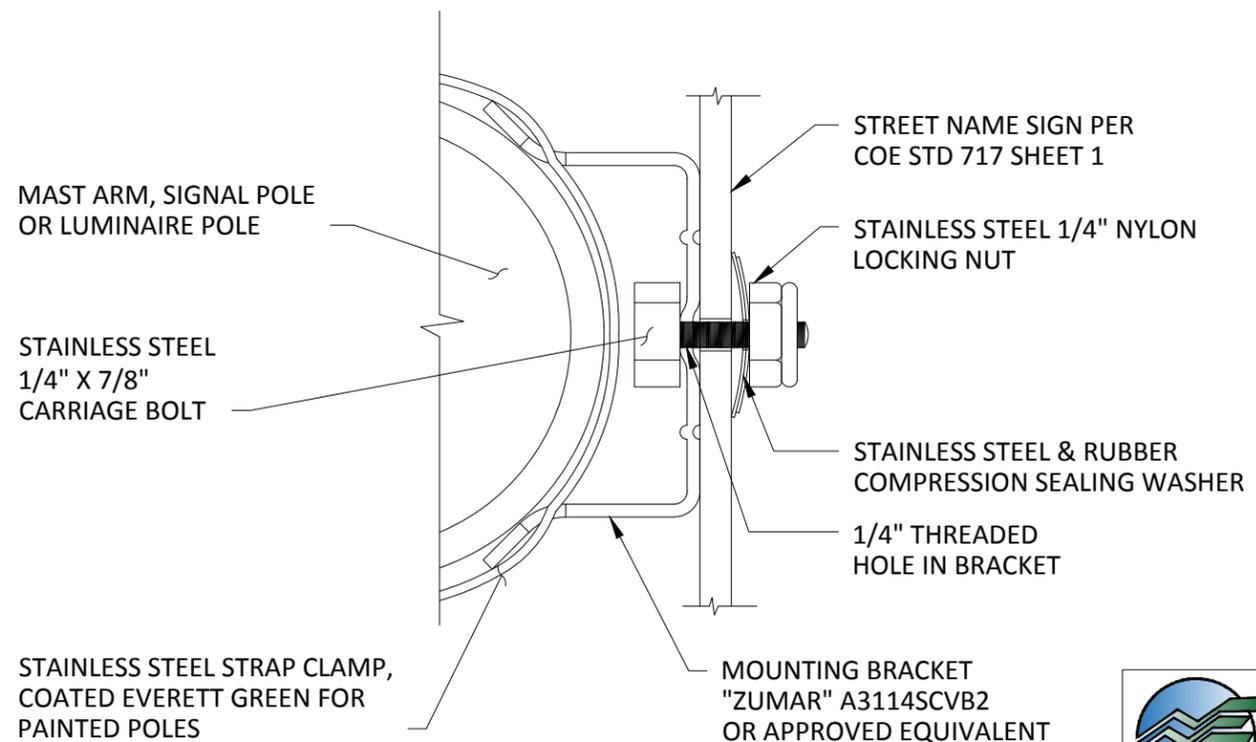
 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
TITLE <b>TRAFFIC SIGN INSTALLATION</b>						STANDARD DRAWING No. <b>716</b> SHT 2 OF 2

**NOTES**

1. TEXT SHALL BE CAPS AND LOWER CASE CLEARVIEW HIGHWAY SERIES "2-W" LETTERS AND HIGHWAY SERIES "3-W" NUMBERS.
2. MATERIAL SHALL BE .10" ANODIZED ALUMINUM SHEET STOCK UNLESS OTHERWISE SPECIFIED, WITH SUPER ENGINEERING GRADE REFLECTIVE BACKGROUND AND TEXT.
3. SIGNS CAN ALSO BE USED ON SPAN WIRE INSTALLATIONS.
4. SUBMIT DESIGN LAYOUT FOR APPROVAL PRIOR TO FABRICATION.



**STREET NAME MOUNTING**



**BRACKET DETAIL**

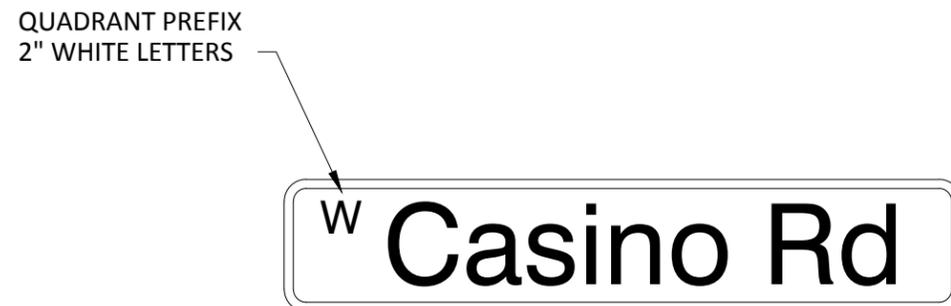
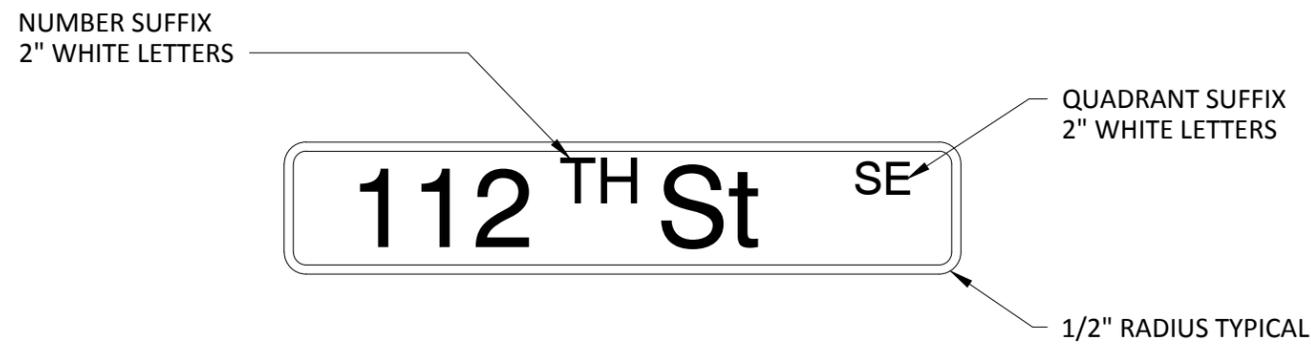
**DRAFT**

		<p><b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
<p>TITLE <b>MASTARM STREET NAME SIGN</b> SIGN SYNTAX, TEXT SIZE &amp; MOUNTING DETAILS</p>			<p>Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>717</b></p>

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 PLOTTED: 12/27/2016 12:46 PM

**NOTES**

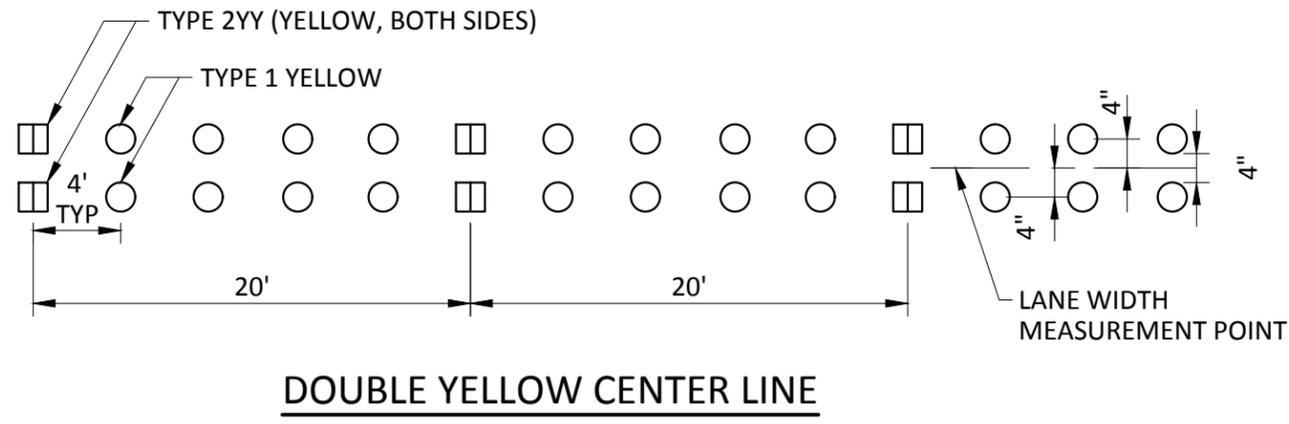
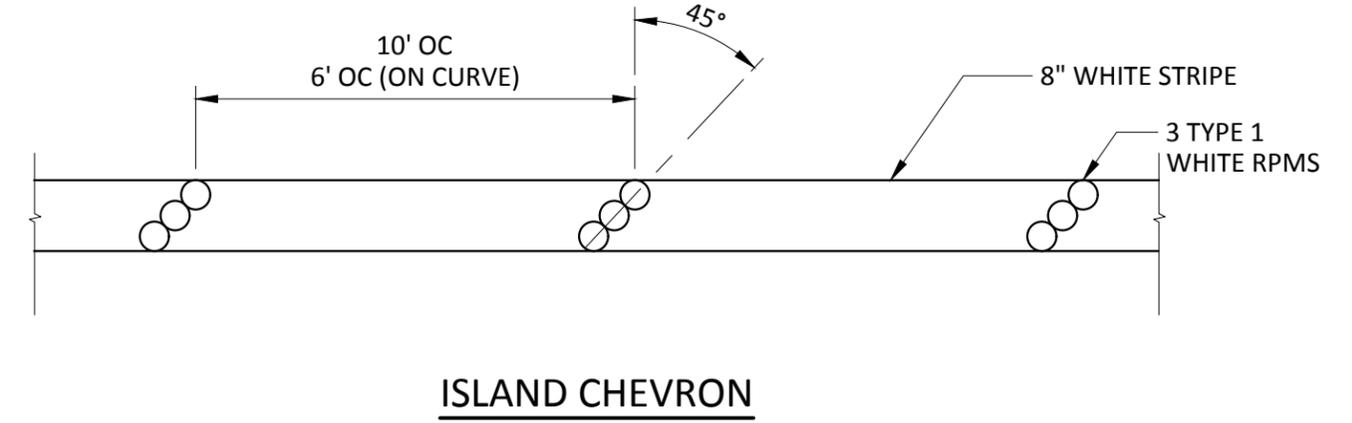
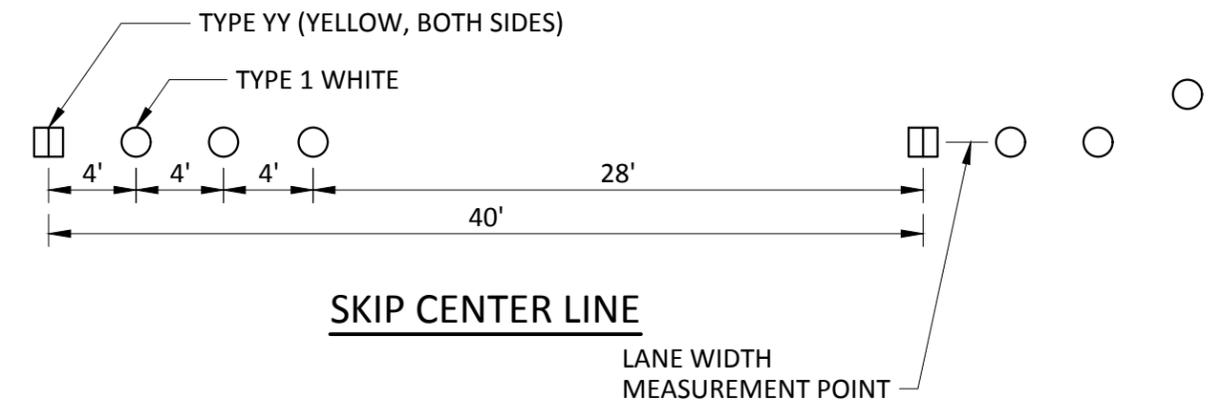
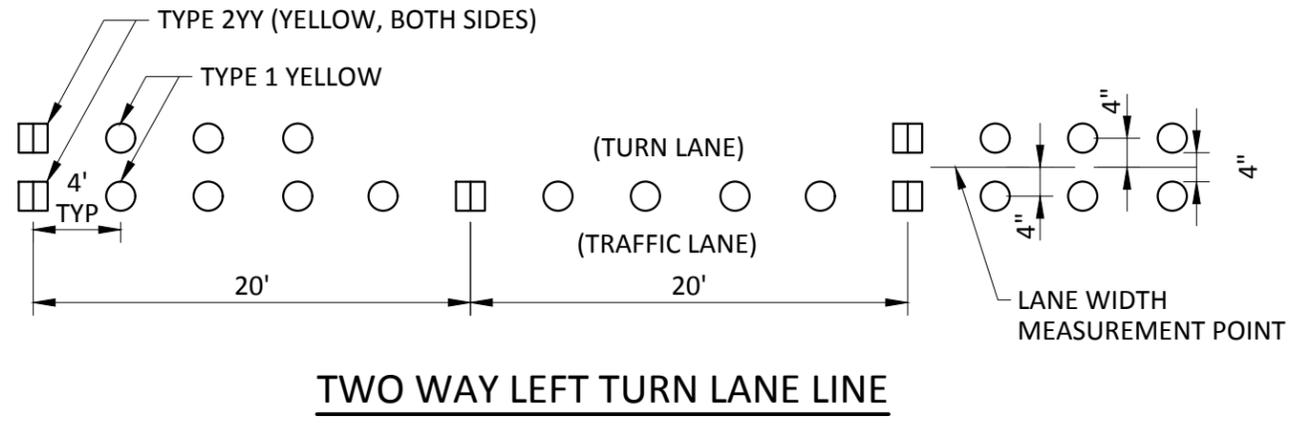
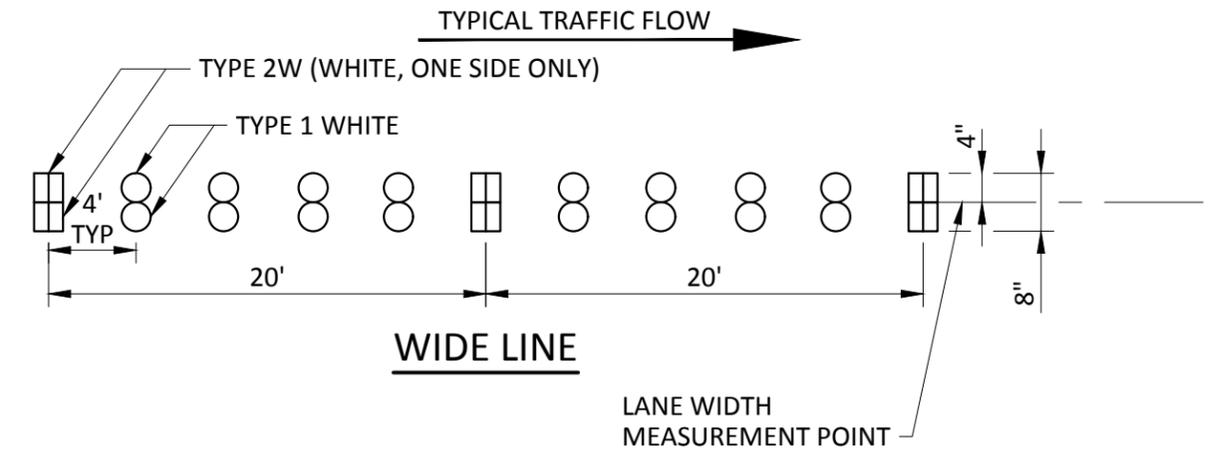
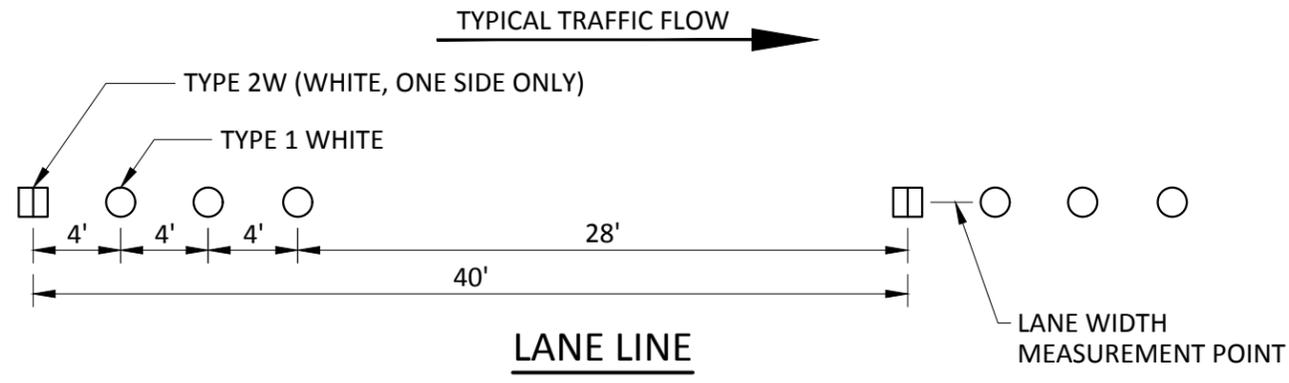
1. ALL SIGNS SHALL HAVE HIGH INTENSITY PRISMATIC SHEETING WITH GRAFFITI COATING. STREET NAME SHALL BE 6" WHITE LETTERING USING CLEAR VIEW FONT.
2. MATERIAL SHALL BE .08" ANODIZED ALUMINUM SHEET STOCK UNLESS OTHERWISE SPECIFIED.
3. BACK SIDE OF SIGN TO BE THE SAME AS THE FRONT.
4. ALL LETTERING, BORDERS AND BACK GROUND SHALL BE HIGH INTENSITY PRISMATIC SHEETING PER FHWA SHEETING GUIDE LINES ASTM D4956-04 "TYPE" DESIGNATIONS.



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 PLOTTED: 12/27/2016 12:46 PM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
TITLE POST MOUNTED STREET SIGN				STANDARD DRAWING No. 718



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 PLOTTED: 12/27/2016 12:47 PM

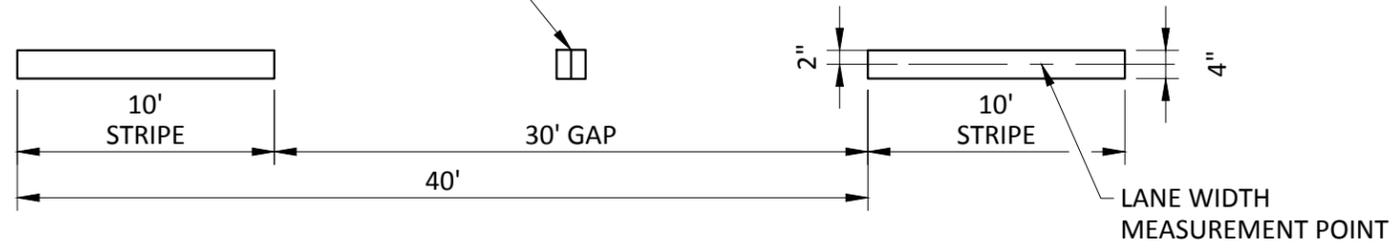
**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
<b>RAISED PAVEMENT MARKERS (RPM) LANE DETAILS</b>			Current Rev Date <b>12/30/2016</b> <small>STANDARD DRAWING No.</small> <b>719</b>

**NOTES**

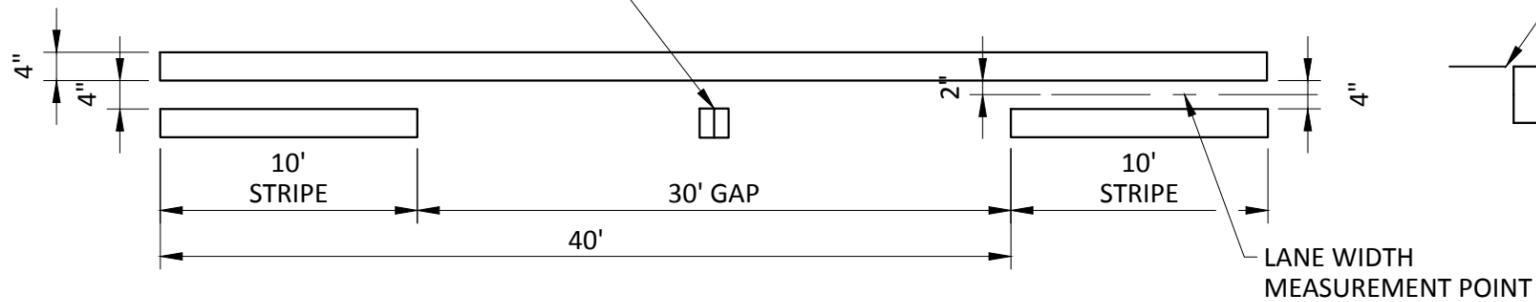
1. REFERENCES SEE STANDARD DRAWING 722
2. MATERIAL THICKNESS SHALL BE MIN. 25 MILS, CONSISTING OF TWO COATS PAINT OR EQUIVALENT HOT TAPE OR METHYL METHACRYLATE (MMA).

TYPE 2W  
(WHITE, ONE SIDE, ARTERIAL STREETS ONLY)

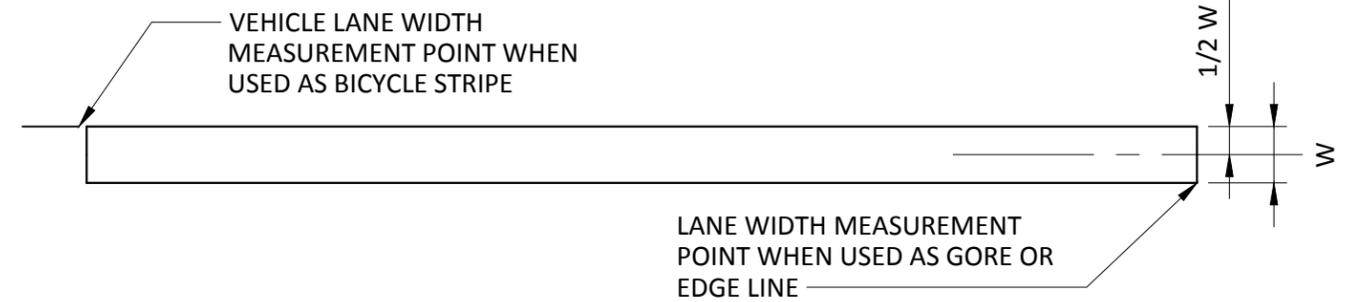


**LANE LINE (WHITE)**

TYPE 2YY  
(YELLOW, BOTH SIDES, ARTERIAL STREETS ONLY)



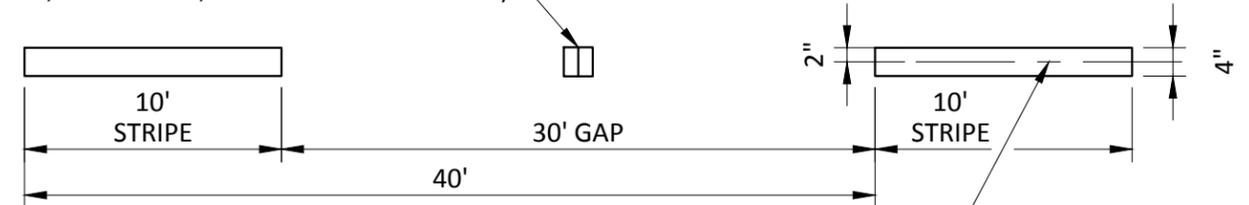
**TWO WAY LEFT TURN LANE LINE (YELLOW)**



GORE, X=8"; EDGE, W=4"; BICYCLE, W= 8"

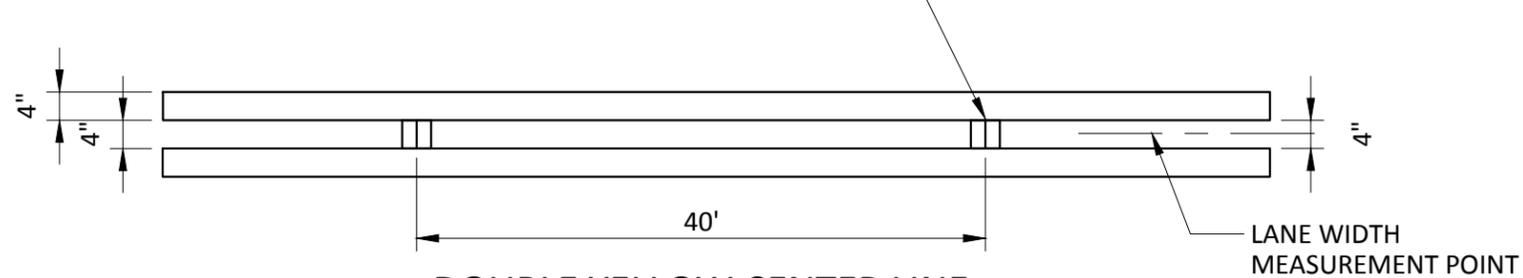
**WIDE, EDGE AND BICYCLE LINE (WHITE)**

TYPE 2YY  
(YELLOW, BOTH SIDES, ARTERIAL STREETS ONLY)



**SKIP CENTER LINE (YELLOW)**

TYPE 2YY  
(YELLOW, BOTH SIDES, ARTERIAL STREETS ONLY)



**DOUBLE YELLOW CENTER LINE**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 12/30/2016
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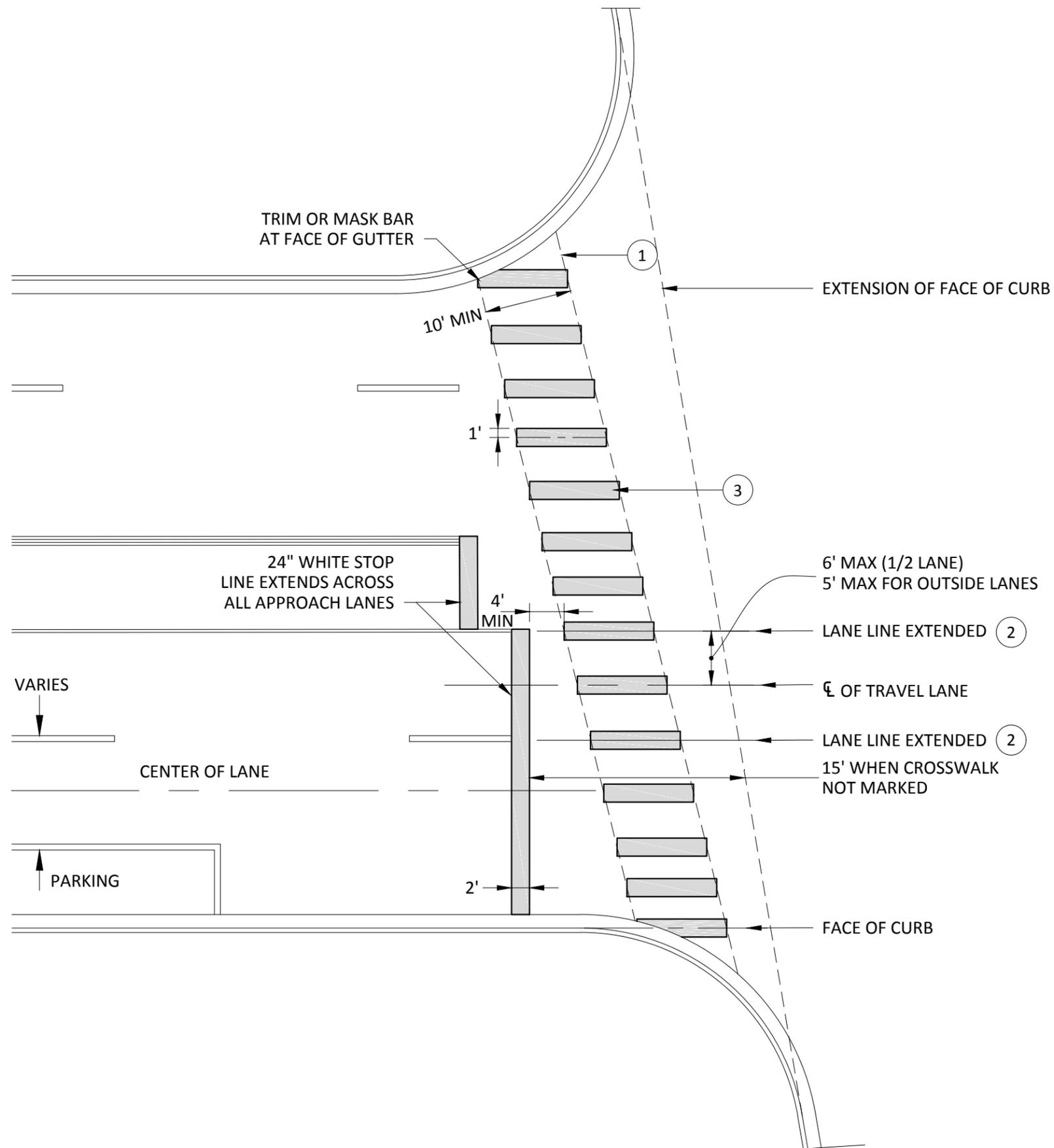
TITLE <b>ROADWAY STRIPING DETAILS</b>	STANDARD DRAWING No. <b>720</b>
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**DRAFT**

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 PLOTTED: 12/27/2016 12:47 PM

## NOTES

1. LEADING EDGE OF CROSSWALK BARS SHALL BE EVEN WITH A LINE BETWEEN THE MIDPOINTS OF ASSOCIATED CURB RETURNS, OR AS LOCATED BY FIELD ENGINEER. LOCATION MAY BE ADJUSTED TO ASSURE CURB RAMPS, IF PRESENT, ACCESS THE CROSSWALK.
2. FOR LANE WIDTHS OF 12' AND LESS CENTER LEADING EDGE OF BARS ON MIDPOINT OF LANE LINE EXTENDED.
3. FOR LANE WIDTHS GREATER THAN 12' SPACE BARS EVENLY BETWEEN LANE LINES WITH A MAXIMUM SPACE BETWEEN STRIPES OF 4'.
4. 2' WIDE X 10' LONG CROSSWALK BARS PARALLEL TO DIRECTION OF VEHICLE TRAVEL.
5. REFERENCES SEE STANDARD DRAWING 722.



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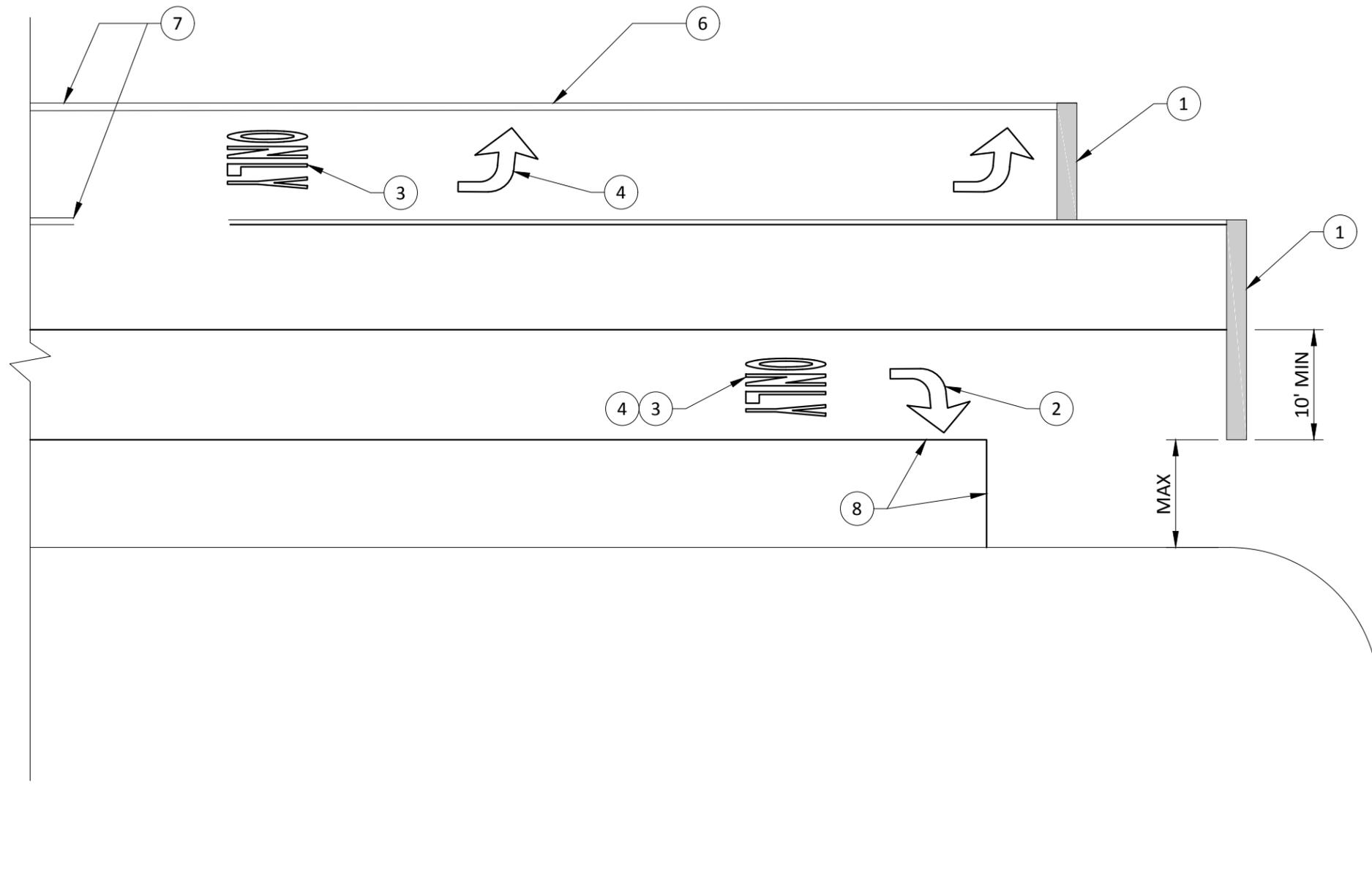
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
TITLE			Current Rev Date 12/30/2016
TYPICAL STOP LINE AND CROSSWALK LAYOUT			STANDARD DRAWING No. 721

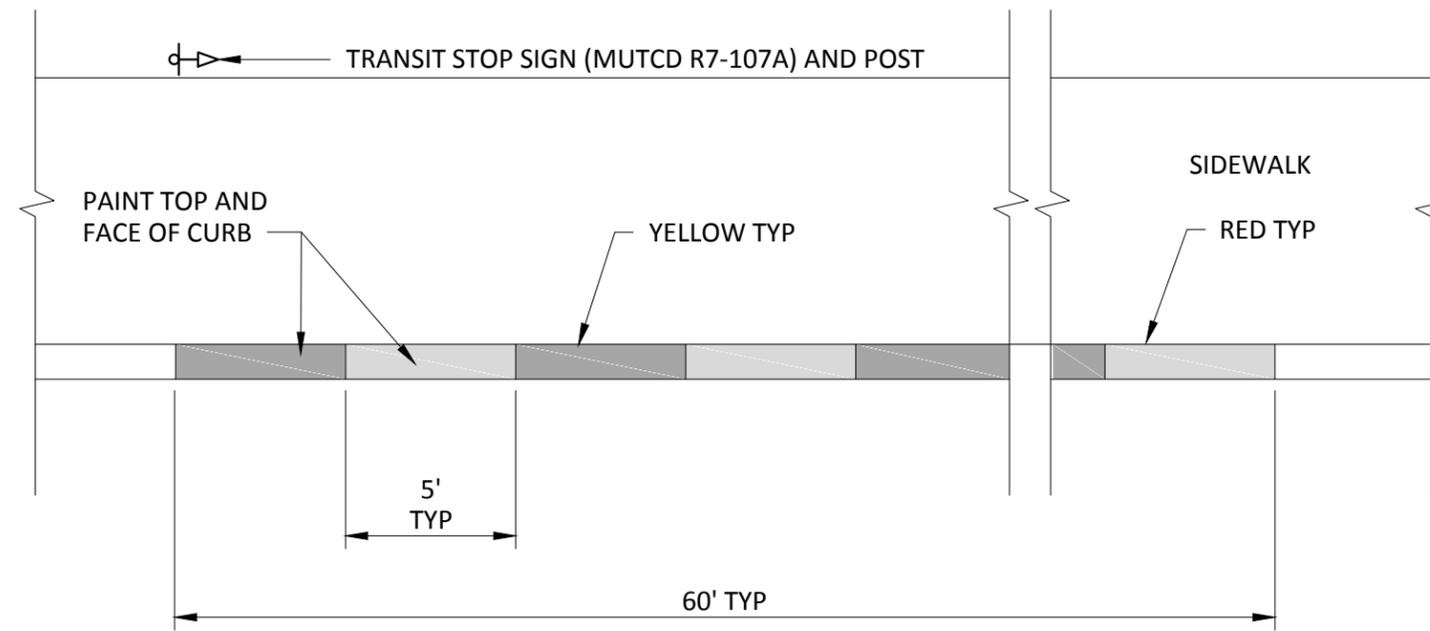
## NOTES

1. STOP LINE AS REQUIRED BY ENGINEER, SEE CONSTRUCTION PLANS.
2. PAVEMENT MARKINGS (SYMBOLS, ETC) PER WSDOT/APWA STANDARD PLAN M24.40-02.
3. SIZE OF LEGENDS SUCH AS "ONLY", "SCHOOL", "STOP", ETC SHALL BE PER THE CURRENT MUTCD 3B, 7C. ONLY TO BE USED SPECIFICALLY FOR DROP LANES.
4. INTERMEDIATE PAVEMENT MARKINGS AND LEGENDS AS REQUIRED BY ENGINEER SEE PLANS.
5. 8" WHITE WIDE LINE, LENGTH PER CONSTRUCTION PLAN.
6. DOUBLE YELLOW CENTER STRIPE.
7. TWO WAY LEFT TURN STRIPE.
8. 4" WHITE PARKING STRIPE.

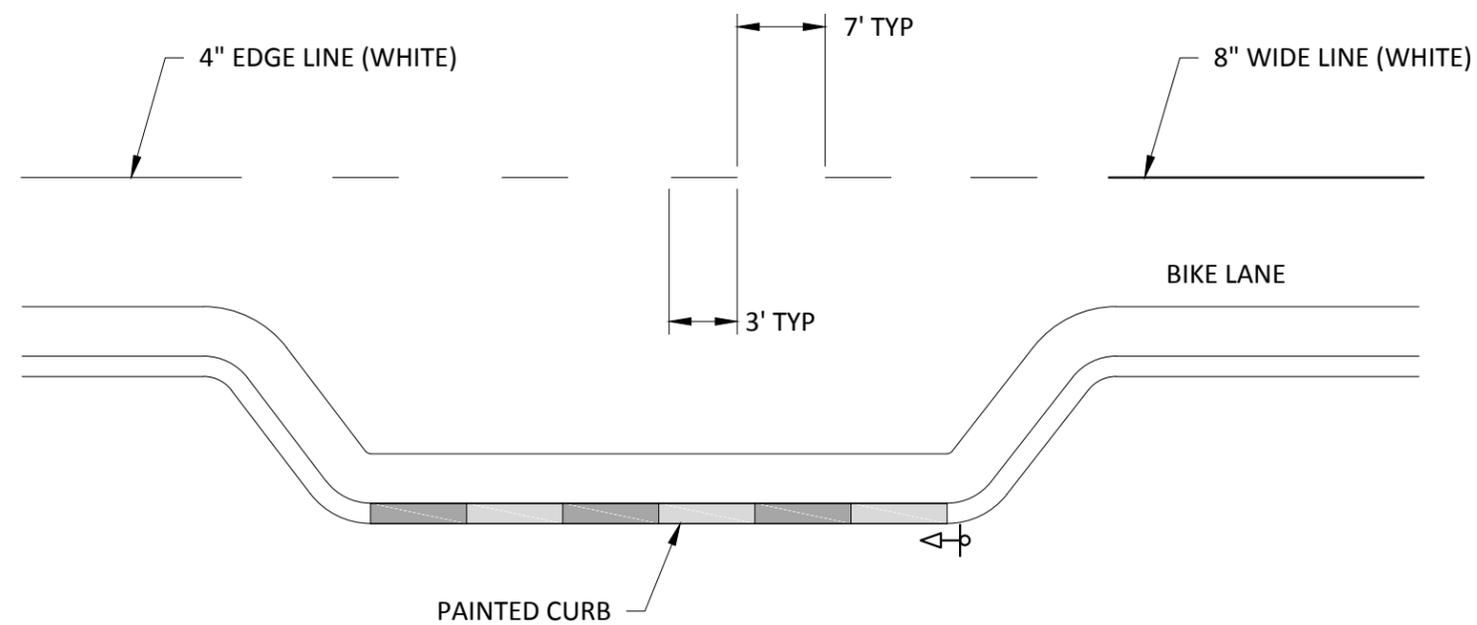
## REFERENCES

- A. WSDOT STANDARD SPECIFICATIONS SECTIONS 8-22, 9-34 AND AMENDMENTS.
- B. MUTCD PART 2, 3 AND 9C.
- C. WSDOT/APWA STANDARD PLANS SECTION "M" ROADWAY DELINEATION.





**PLAN**

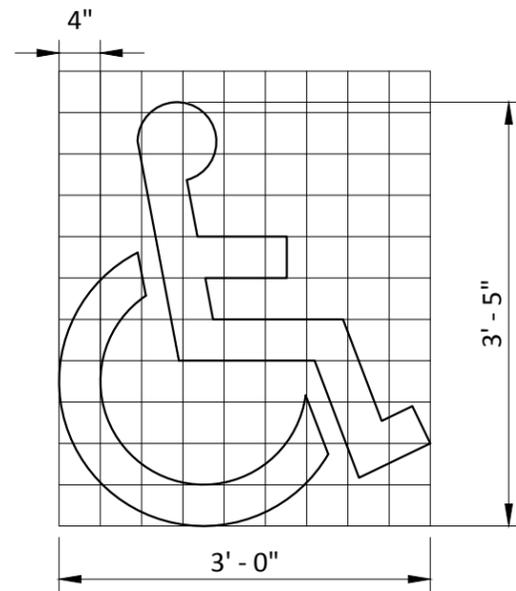


**BUS PULL OUT**

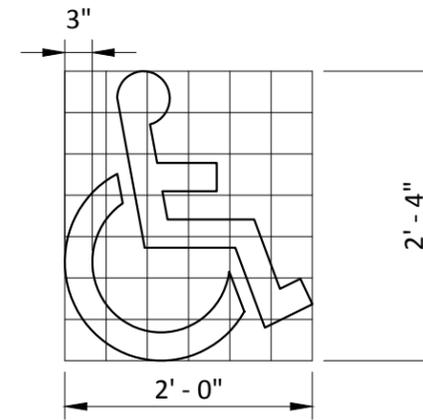
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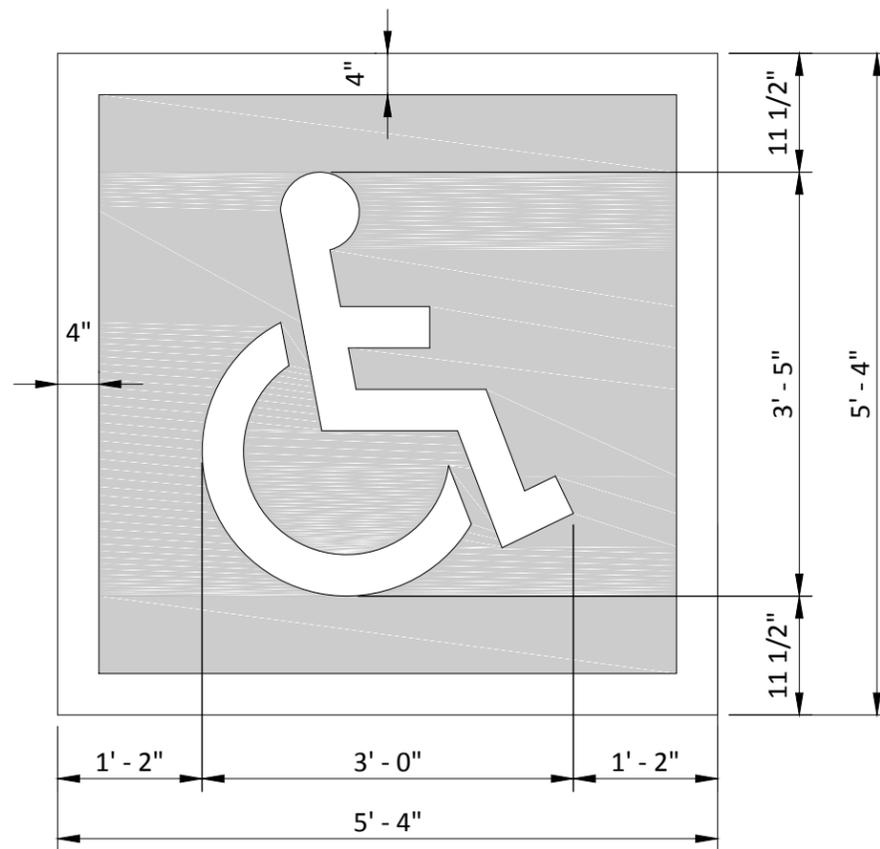
 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH	Current Rev Date 0
<b>TRANSIT STOP STRIPING</b>				STANDARD DRAWING No. <b>723</b>



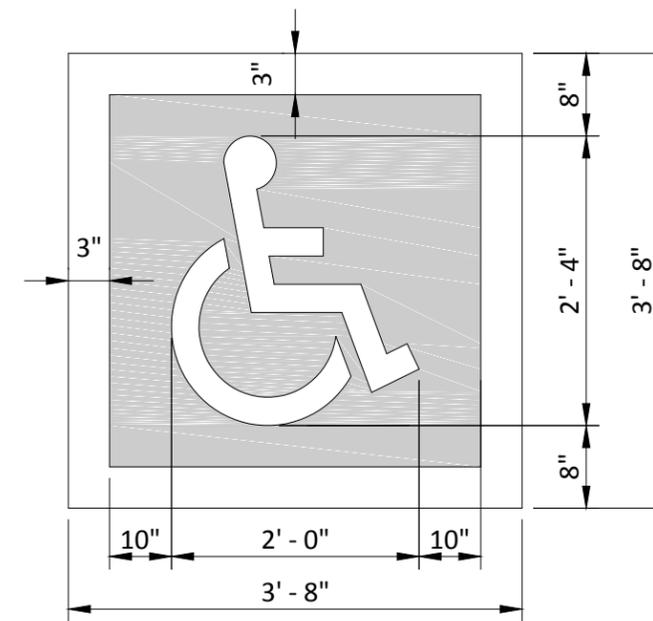
GRID IS 4" SQUARE  
ACCESS PARKING SPACE  
SYMBOL (STANDARD)



GRID IS 4" SQUARE  
ACCESS PARKING SPACE  
SYMBOL (MINIMUM)



**ACCESS PARKING SPACE SYMBOL (STANDARD)**  
WITH BLUE BACKGROUND AND WHITE BORDER  
(FOR USE IN PRIVATE PARKING AREAS ONLY)

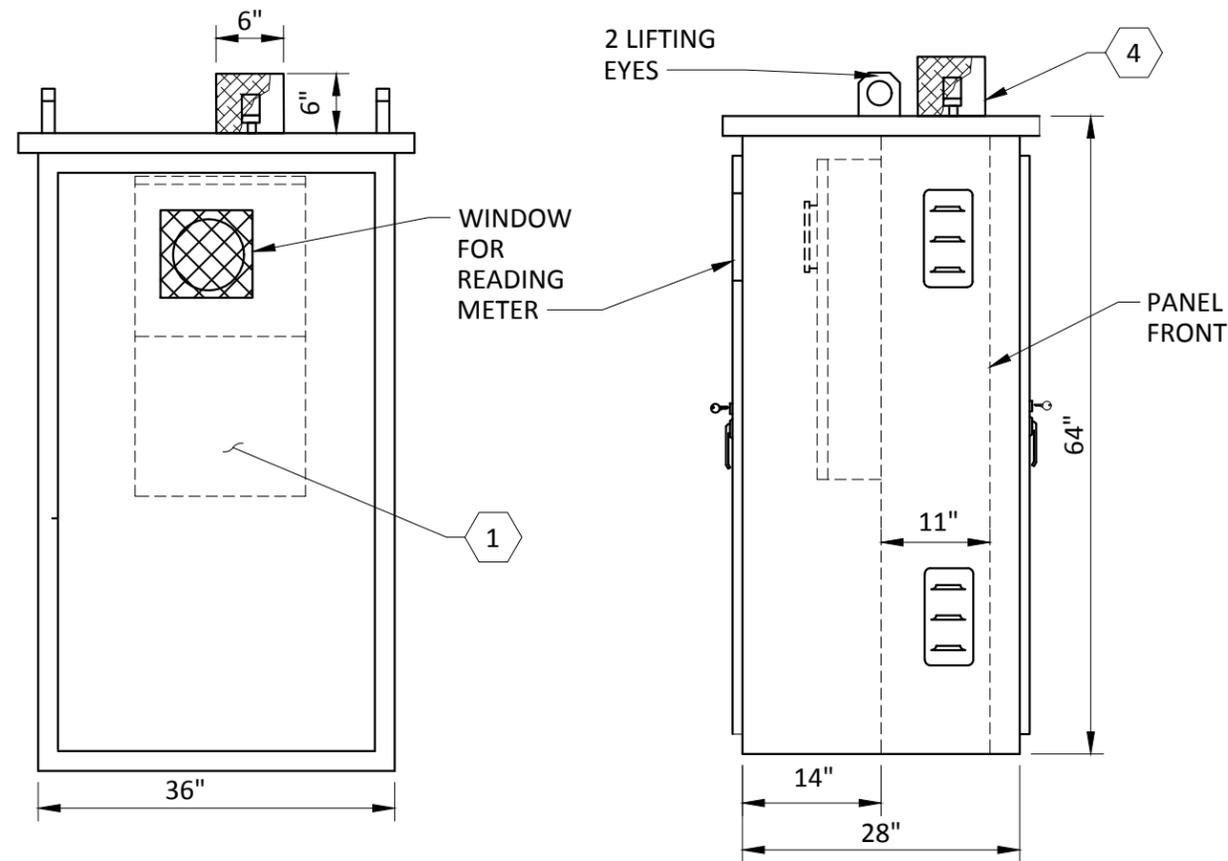


**ACCESS PARKING SPACE SYMBOL (MINIMUM)**  
WITH BLUE BACKGROUND AND WHITE BORDER  
(FOR USE IN PRIVATE PARKING AREAS ONLY)

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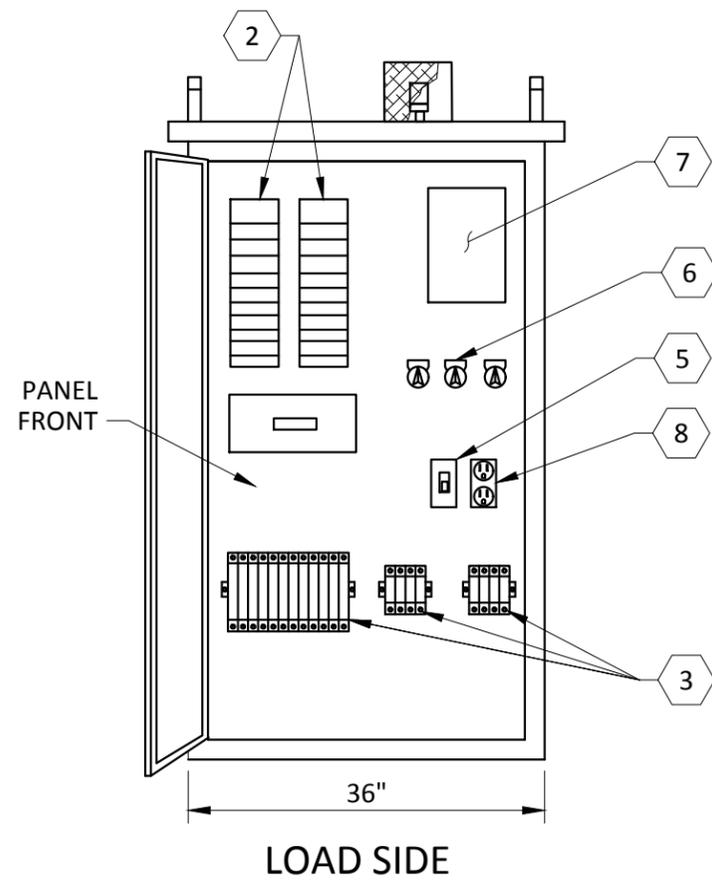
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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By ESH
<b>ACCESS PARKING SPACE SYMBOL</b> BASED ON WADOT/APWA STD PLAN M-24.60-04 6/24/14			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>724</b>



PUD METER SIDE

SIDE



LOAD SIDE

# **COMPONENT SCHEDULE:**

1. METERBASE: 400 AMP MAX, 320 CONT, 4 JWA, AW #324N WITH BYPASS BLOCKS (CONTRACTOR TO VERIFY WITH PUD).
2. PANELBOARD: 120V/240 VAC, 400 AMP, 1 PHASE, 3 WIRE, COPPER BUS SERIES RATED AT 65 KAIC, 30 CKT INTERIOR. MAIN BREAKER 300 AMP, 2 POLE, "CUTLER HAMMER" #DK2300, "CUTLER HAMMER" TYPE BAB BOLT-ON BRANCH BREAKERS:
  - 2 - 30/2 STREET LIGHTING BRANCH (PROVISIONS FOR 2 MORE).
  - 2 - 30/2 ORNAMENTAL LIGHTING BRANCH
  - 2 - 30/1 SIGNAL BRANCH
  - 1 - 15/1 CONTROL CKT BRANCH.
  - 1 - 20/1 RECEPTACLE BRANCH
  - 2 - 20/1 SPARE BRANCH
  - 12 - 20/1 HOLIDAY LIGHTING BRANCH.
  - 4 - SPARE SPACE
3. CONTACTOR: 30 A, LIGHTING RATED, 120 VAC COIL. 2 - REQUIRED, 4-POLE, STREET LIGHTING & ORNAMENTAL LIGHTING (PROVISIONS FOR 1 MORE). 1 - REQUIRED, 12-POLE, HOLIDAY LIGHTING
4. PHOTOCELL: 1800 WATT, 105 TO 305 VAC, PHOTO DIODE TYPE PER WSDOT SPEC, ALR #SST-PV-IES.
5. PHOTO-CELL BYPASS SWITCH SPDT, 20 AMP, 277 VOLT RATED "TEST SWITCH".
6. CONTROL SWITCH: 30MM, HOA SWITCH SQ D #9001KS43B.  
3-REQUIRED: STREET LTG, ORNAMENTAL LTG, HOLIDAY LIGHTING.
7. TIMER: 24 HR, 120 VAC, 40 AMP, WITH SPRING WOUND CARRYOVER WIRED IN SERIES WITH PHOTOCELL, FOR ORNAMENTAL LTG & HOLIDAY LIGHTING.
8. CONVENIENCE OUTLET: DUPLEX RECEPTACLE, GFCI, 120 VAC, 20A.

**CABINET FABRICATION NOTES:**

1. CABINET: NEMA 3R, PADMOUNT, WELDED SEAM CONSTRUCTION, #12 PRE-GALVANIZED STEEL, OPEN BOTTOM WITH 2" INSIDE RETURN, 2 SCREENED AND GASKETSED VENTS AND U.L. LISTED. FOUNDATION PER CITY STD. DWG 826.
2. DOORS: HEAVY DUTY CONCEALED HINGE (LIFT-OFF TYPE). CLOSED CELL NEOPRENE GASKET AND PADS. METER DOOR WITH POLISHED WIRE GLASS WINDOW.
3. LOCKABLE VAULT HANDLES: STAINLESS STEEL.
4. PANEL DOOR: 3 POINT LATCH, TUMBLER LOCK, KEYED FOR "BEST" LOCK AND SUPPLIED WITH A BLUE CONSTRUCTION CORE.
5. METER DOOR: SINGLE POINT LATCH WITH PADLOCK. HANDLE TO OPEN AWAY FROM KEY/LOCK.
6. INCLUDE LIFTING EYES ON CABINET ROOF.
7. PAINT: ZINC RICH ALUMINUM OUTSIDE, POLYESTER POWDER COAT WHITE INSIDE.
8. ALL UNFUSED POWER SHALL BE PROTECTED FROM ACCIDENTAL CONTACT BY MAINTENANCE PERSONNEL AND ISOLATED IN ENCLOSED RACEWAYS/WIRE CUTTERS.
9. PANEL BOARDS SHALL EITHER BE TOTALLY ENCLOSED OR PROTECTED WITH A DEAD-FRONT DOOR.
10. FEEDS TO PANEL BOARDS TO OCCUR DIRECTLY THROUGH BACK OF PANEL BOARD OR VIA ENCLOSED WIRE CUTTER.

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 PLOTTED: 12/29/2016 8:16 AM

WSDOT STD PLAN X-20.10-10 ACCEPTABLE SUBSTITUTE



City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
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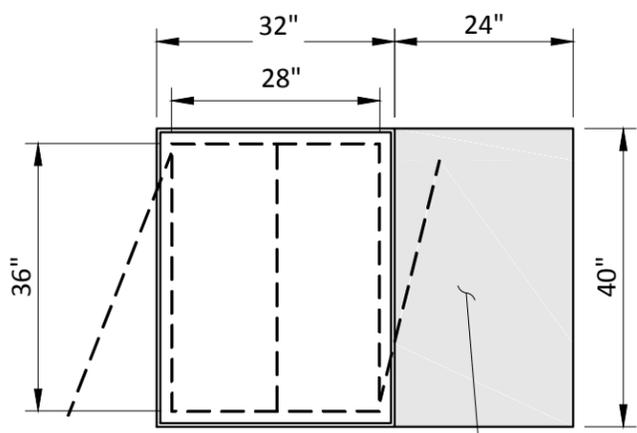
400 AMP SERVICE CABINET

801

**DRAFT**

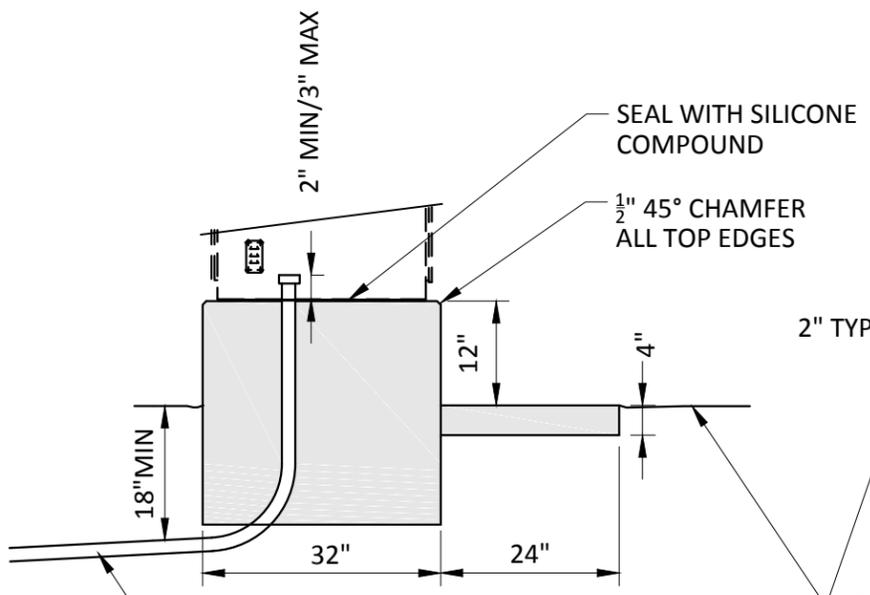
**FOUNDATION & SAFETY PAD NOTES**

1. FORMED CONSTRUCTION.
2. COMMERCIAL CONCRETE.
3. 1/2" CHAMFER AT FOUNDATION TOP.
4. STAINLESS STEEL ANCHOR BOLTS, LOCATION, SIZE AND QUANTITY PER CABINET MFG SPEC.
5. FOUNDATION AND PAD TO SIT ON UNDISTURBED SOIL.
6. CONDUIT TO EXTEND 2" MIN TO 3" MAX ABOVE FOUNDATION.
7. TOP SURFACE SHALL BE LEVEL.



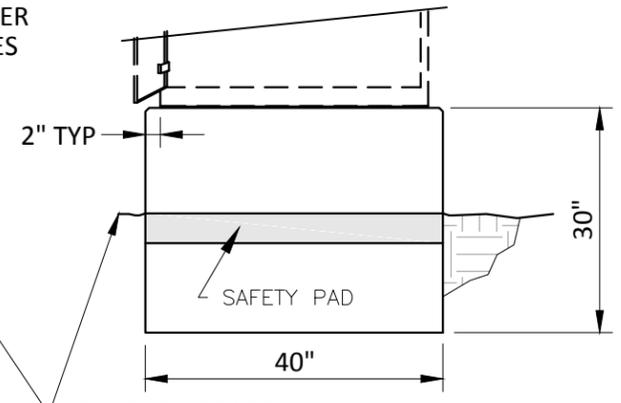
2FT WIDE 4" THICK CONC SAFETY PAD REQUIRED ON ALL SIDES WITH ACCESS.

**TOP**



CONDUIT TYPE & SIZE PER PLANS & SPECIFICATIONS

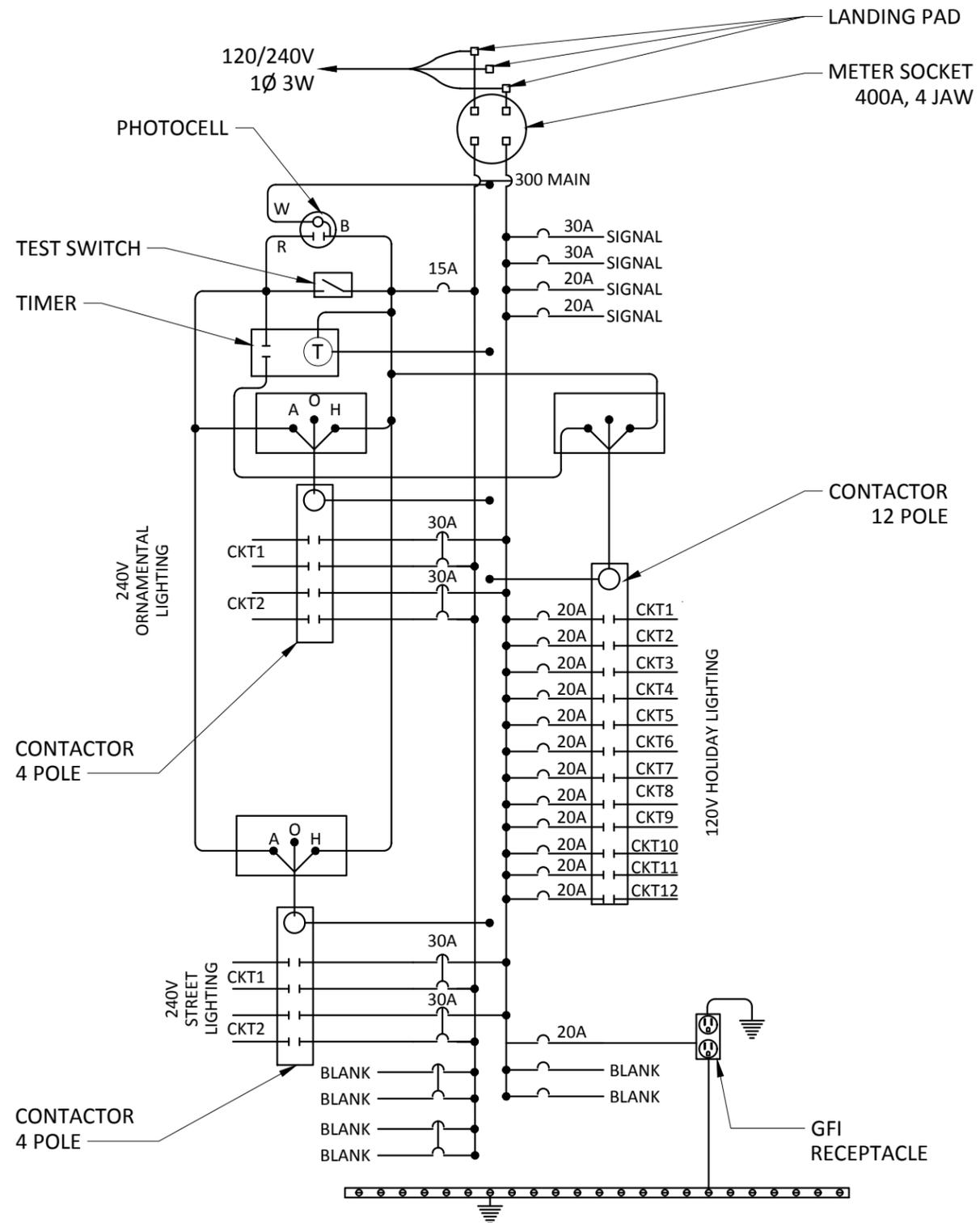
**SIDE**



FINISHED GRADE

**FRONT**

WSDOT STD PLAN X-20.10-10 ACCEPTABLE SUBSTITUTE

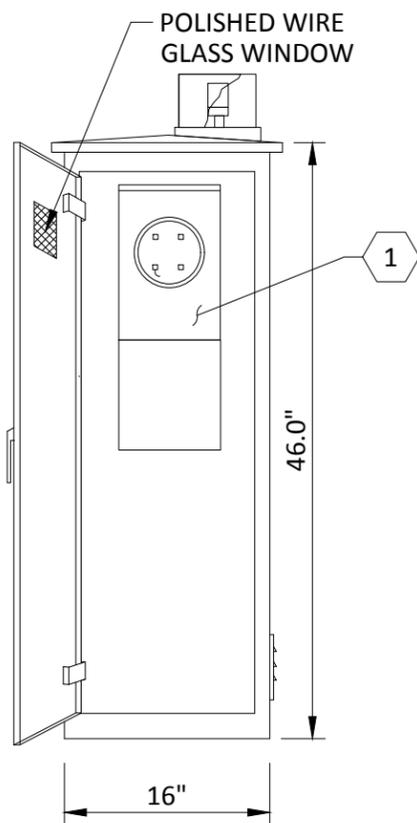


**WIRING SCHEMATIC**

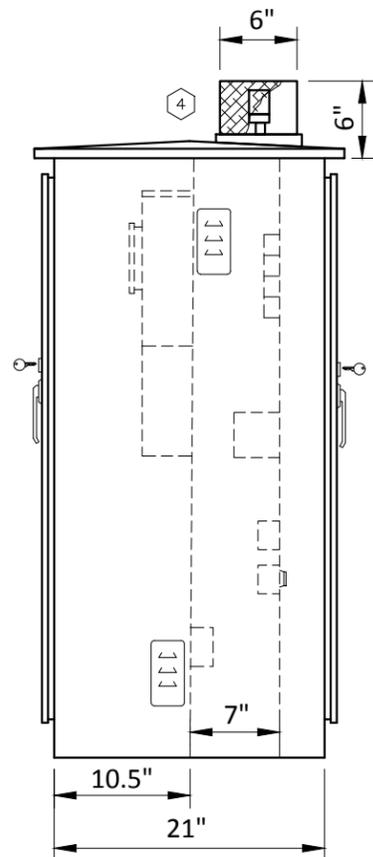
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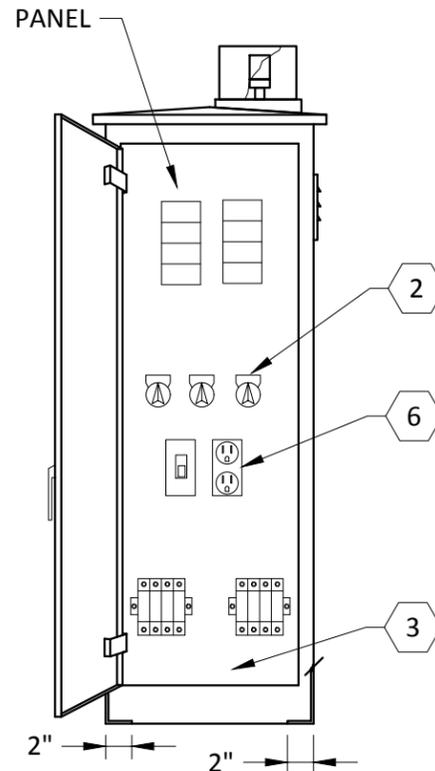
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
TITLE <b>400 AMP SERVICE CABINET</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>802</b>



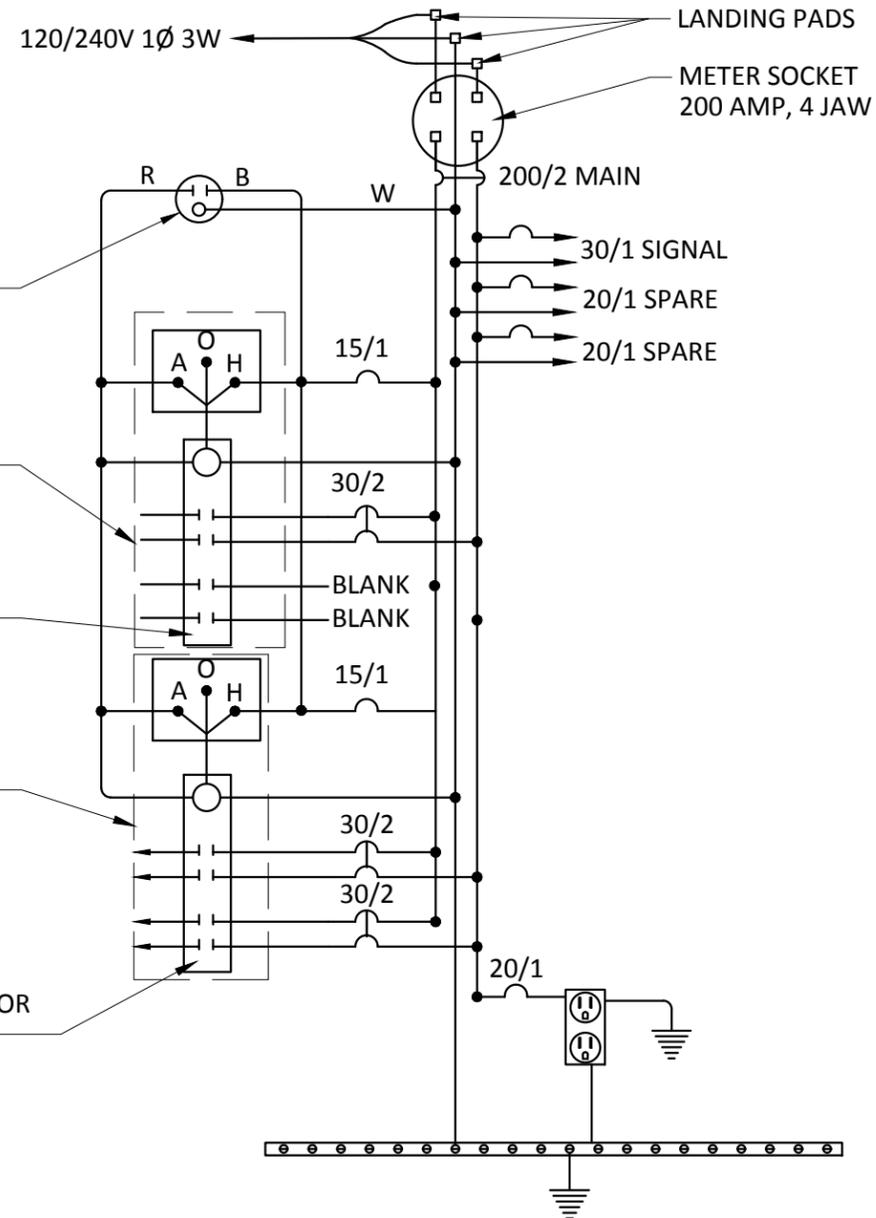
**PUD METER SIDE**



**SIDE**



**LOAD SIDE**



**WIRING SCHEMATIC**

**CABINET ENCLOSURE NOTES**

CABINET: NEMA 3R, PADMOUNT, WELDED SEAM CONSTRUCTION, #12 PRE-GALVANIZED STEEL, OPEN BOTTOM WITH 2" INSIDE RETURN, 2 SCREENED AND GASKETED VENTS AND U.L. LISTED. FOUNDATION PER CITY STD DWG 826.

DOORS: HEAVY DUTY CONCEALED HINGE (LIFT-OFF TYPE) CLOSED CELL NEOPRENE GASKET AND PADS. METER DOOR WITH POLISHED WIRE GLASS WINDOW.

LOCKABLE VAULT HANDLES: STAINLESS STEEL

PANEL DOOR: WITH 3 POINT LATCH, TUMBLER LOCK, KEYED FOR "BEST" LOCK AND SUPPLIED WITH A BLUE CONSTRUCTION CORE.

METER DOOR: SINGLE POINT LATCH WITH PADLOCK. HANDLE TO OPEN AWAY FROM KEY/LOCK.

INCLUDE LIFTING EYES ON CABINET ROOF.

PAINT: ZINC RICH ALUMINUM OUTSIDE, INSIDE POLYESTER POWDER COAT WHITE.

ALL UNFUSED POWER SHALL BE PROTECTED FROM ACCIDENTAL CONTACT BY MAINTENANCE PERSONNEL AND ISOLATED IN ENCLOSED RACEWAYS/WIRE GUTTERS.

PANEL BOARDS SHALL EITHER BE TOTALLY ENCLOSED OR PROTECTED WITH A DEAD-FRONT DOOR.

FEEDS TO PANEL BOARDS TO OCCUR DIRECTLY THROUGH BACK OF PANEL BOARD OR VIA ENCLOSED WIRE GUTTER.

**COMPONENT SCHEDULE**

1. METERBASE: 200 AMP, 4 JAW, AW #U264 WITH BYPASS BLOCKS (CONTRACTOR TO VERIFY WITH PUD).
2. PANELBOARD: 120V/240 200 AMP, 1 PHASE, 3 WIRE, COPPER BUS SERIES RATED AT 65 KAIC, 18 CKT INTERIOR. MAIN BREAKER 200 AMP, 2 POLE, "CUTLER HAMMER" #ED2200, "CUTLER HAMMER" TYPE BAB BOLT-ON BRANCH BREAKERS:
  - 2 - 30/2 STREET LIGHTING BRANCH.
  - 1 - 30/2 ORNAMENTAL LIGHTING BRANCH
  - 1 - 30/1 SIGNAL BRANCH
  - 1 - 15/1 CONTROL CKT BRANCH.
  - 1 - 20/1 RECEPTACLE BRANCH
  - 2 - 20/1 SPARE BRANCH
  - 7 - SPARE SPACE.
3. CONTACTOR: 30 A, LIGHTING RATED, 4 POLE, 120 VAC COIL, 2 REQUIRED.
4. PHOTOCELL: 1800 WATT, 105 TO 305 VAC, PHOTO DIODE TYPE PER WSDOT SPEC, ALR #SST-PV-IES.
5. PHOTO-CELL BYPASS SWITCH HOA, 30 MM, "SQ D #9001KS43B".
6. CONVENIENCE OUTLET: DUPLEX RECEPTACLE, 120 VAC, GFCI. 125 VAC, 20 A.

WSDOT STD PLAN X-20.10-10 ACCEPTABLE SUBSTITUTE



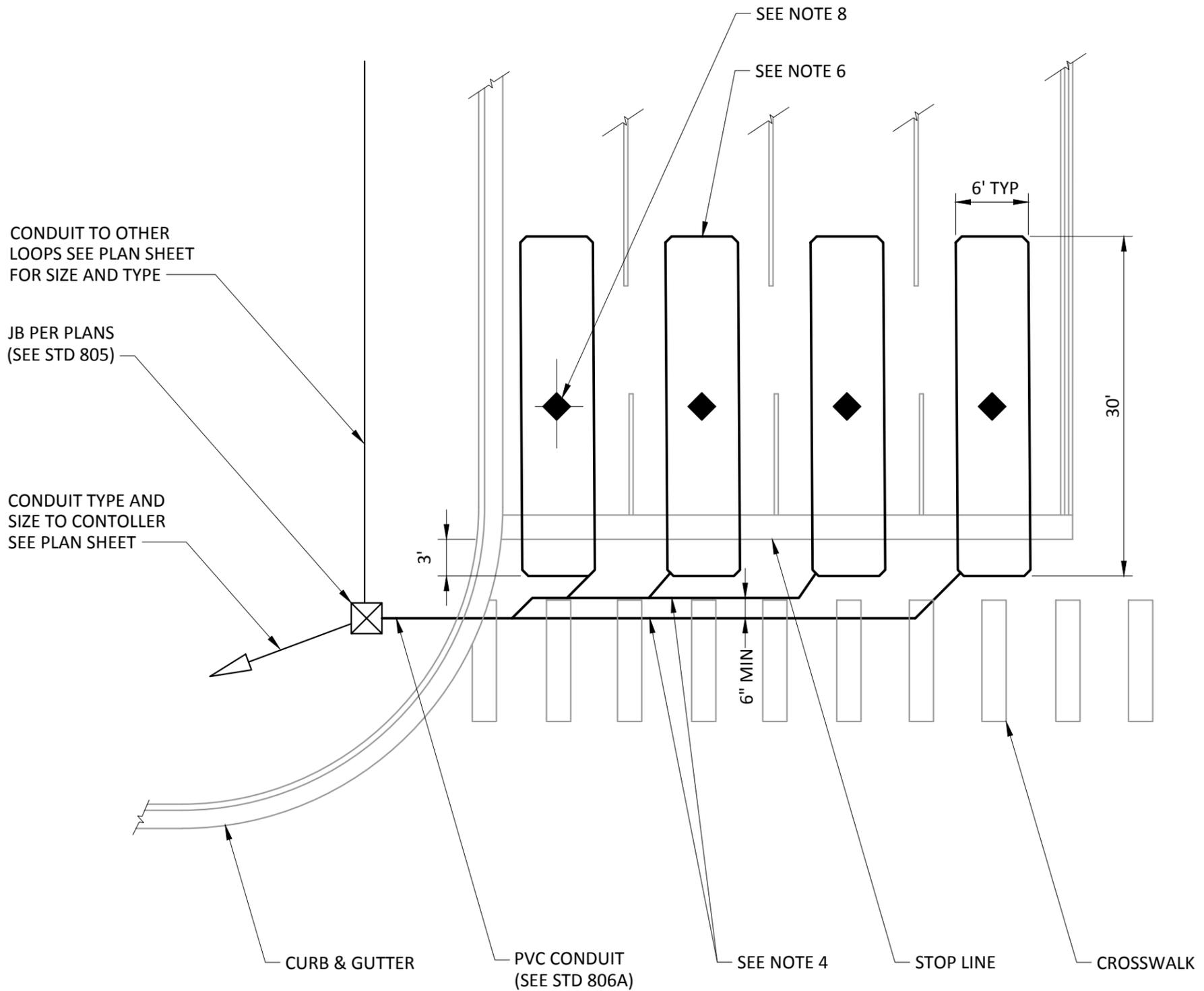
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
TITLE <b>200 AMP SERVICE CABINET</b> FOR METERED SIGNAL, ORNAMENTAL LIGHTING W/PHOTOCELL FOR LIGHTING				STANDARD DRAWING No. <b>803</b>

**DRAFT**

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PLOTTED: 12/29/2016 8:17 AM

**NOTES:**

1. UNLESS OTHERWISE INDICATED ON PLANS ALL LOOP DETECTORS SHALL BE CENTERED IN THE LANE.
2. FOR LANES 14' AND WIDER, 8'x30' LOOP WILL BE USED.
3. ALL LOOP DETECTORS SHALL BE BROUGHT BACK AS INDIVIDUALLY TWISTED AND SHIELDED PAIR, THIS SHIELDED PAIR MAY BE CONTAINED IN MULTI-PAIR (INDIVIDUALLY SHIELDED AND TWISTED) CABLE.
4. INSTALL MAXIMUM OF 3 LOOPS PER SAWCUT. ONLY LOOPS ASSOCIATED WITH THE SAME SIGNAL PHASE SHALL BE INSTALLED IN THE SAME SAWCUT.
5. FOR CROSSWALK AND STOPLINE LAYOUT SEE STANDARD DRAWING 721.
6. FOR LOOP INSTALLATION SPECIFICATIONS SEE STANDARD DRAWING 806A & 806B.
7. HOME RUNS WILL CROSS ADJACENT LANES AT RIGHT ANGLE TO DIRECTION OF TRAVEL SO AS TO NOT CONFLICT WITH FUTURE LOOP INSTALLATION IN THE ADJACENT LANES.
8. 6"x6" WHITE STAMARK TAPE LOCATED AT THE CENTER OF THE LOOP, ORIENTED AS A DIAMOND IN THE LANE TO BE INSTALLED BY CITY FORCES OR STRIPING CONTRACTOR.



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 PLOTTED: 12/29/2016 8:17 AM

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
TITLE <b>TYPE 1 STOP LINE LOOP          DETECTION LAYOUT</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>804</b>

CONDUIT TO OTHER  
LOOPS SEE PLAN SHEET  
FOR SIZE & TYPE

PVC CONDUIT (SEE STD  
806A)

JUNCTION BOX PER  
PLANS (SEE STD 805)

CONDUIT TYPE & SIZE  
TO CONTROLLER SEE  
PLAN SHEET

SEE NOTE 8 (TYP)

SEE NOTE 6 (TYP)

6' Ø CENTERED IN  
LANE (TYP)

6" MIN

12' O.C.  
12' O.C.

3'

CURB & GUTTER

STOP LINE

CROSSWALK

## NOTES:

1. UNLESS OTHERWISE INDICATED ON PLANS ALL LOOP DETECTORS SHALL BE CENTERED IN THE LANE.
2. FOR LANES 14' AND WIDER, LOOP LAYOUT WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER.
3. LOOP SPLICING TO LEAD-IN CABLE PER PLANS.
4. INSTALL MAXIMUM OF 3 LOOPS PER SAWCUT. ONLY LOOPS ASSOCIATED WITH THE SAME SIGNAL PHASE SHALL BE INSTALLED IN THE SAME SAWCUT.
5. FOR CROSSWALK AND STOPLINE LAYOUT SEE STANDARD DRAWING 721.
6. FOR LOOP INSTALLATION SPECIFICATIONS SEE STANDARD DRAWING 806A & 806B.
7. HOME RUNS WILL CROSS ADJACENT LANES AT RIGHT ANGLE TO DIRECTION OF TRAVEL SO AS TO NOT CONFLICT WITH FUTURE LOOP INSTALLATION IN THE ADJACENT LANES.
8. 6"x6" WHITE STAMARK TAPE LOCATED AT THE CENTER OF THE LOOP, ORIENTED AS A DIAMOND IN THE LANE TO BE INSTALLED BY CITY FORCES OR STRIPING CONTRACTOR.

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 PLOTTED: 12/29/2016 8:17 AM



City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
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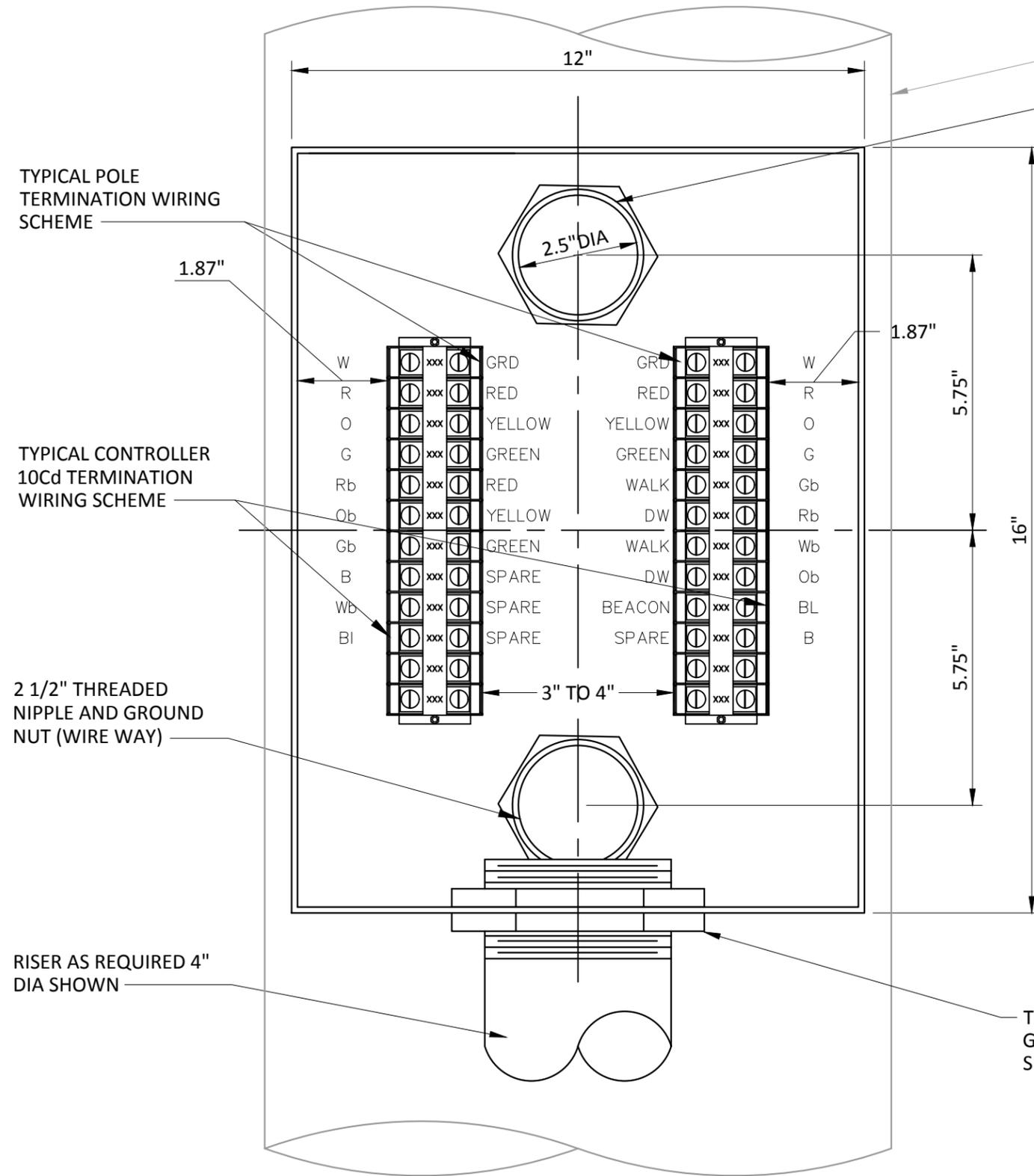
TITLE  
**TYPE 2 STOP LINE LOOP  
DETECTION LAYOUT**

STANDARD DRAWING No.  
**805**

**DRAFT**

**NOTES**

1. CABINET MATERIALS AND FABRICATION PER WSDOT/APWA STANDARD SPECIFICATIONS 9- 29.5.
2. PLACEMENT OF TERMINAL STRIPS PER THIS DRAWING.
3. PLACEMENT OF WIRE TERMINATION LABELS SHALL BE PER PLAN.



**SECTION A-A**

EXISTING POLE  
2 1/2" Ø THREADED NIPPLE AND GROUND NUT (WIRE WAY)

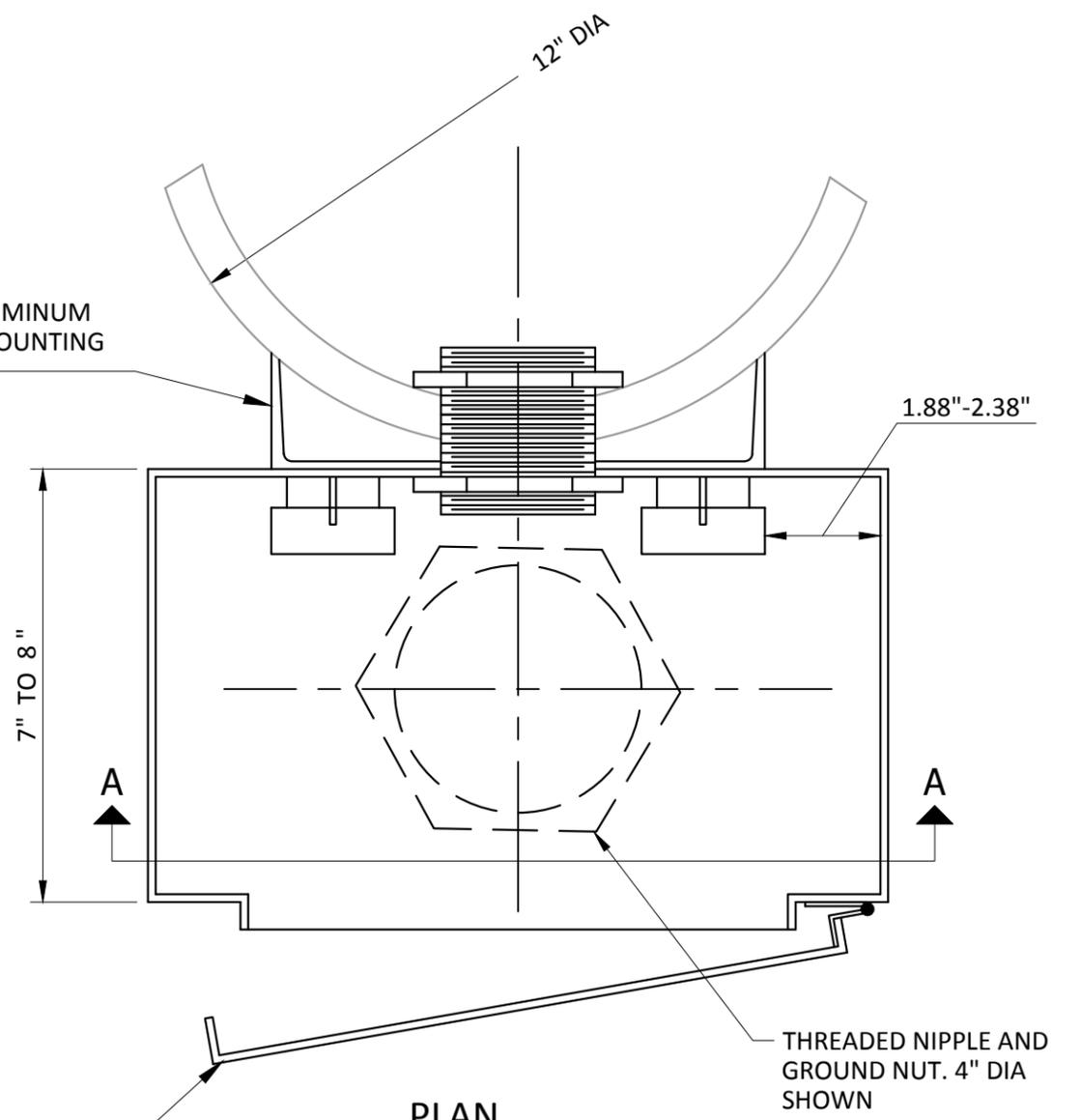
TYPICAL POLE TERMINATION WIRING SCHEME

TYPICAL CONTROLLER 10Cd TERMINATION WIRING SCHEME

2 1/2" THREADED NIPPLE AND GROUND NUT (WIRE WAY)

RISER AS REQUIRED 4" DIA SHOWN

THREADED NIPPLE AND GROUND NUT. 4" DIA SHOWN



**PLAN**

ACCESS OPENING

THREADED NIPPLE AND GROUND NUT. 4" DIA SHOWN

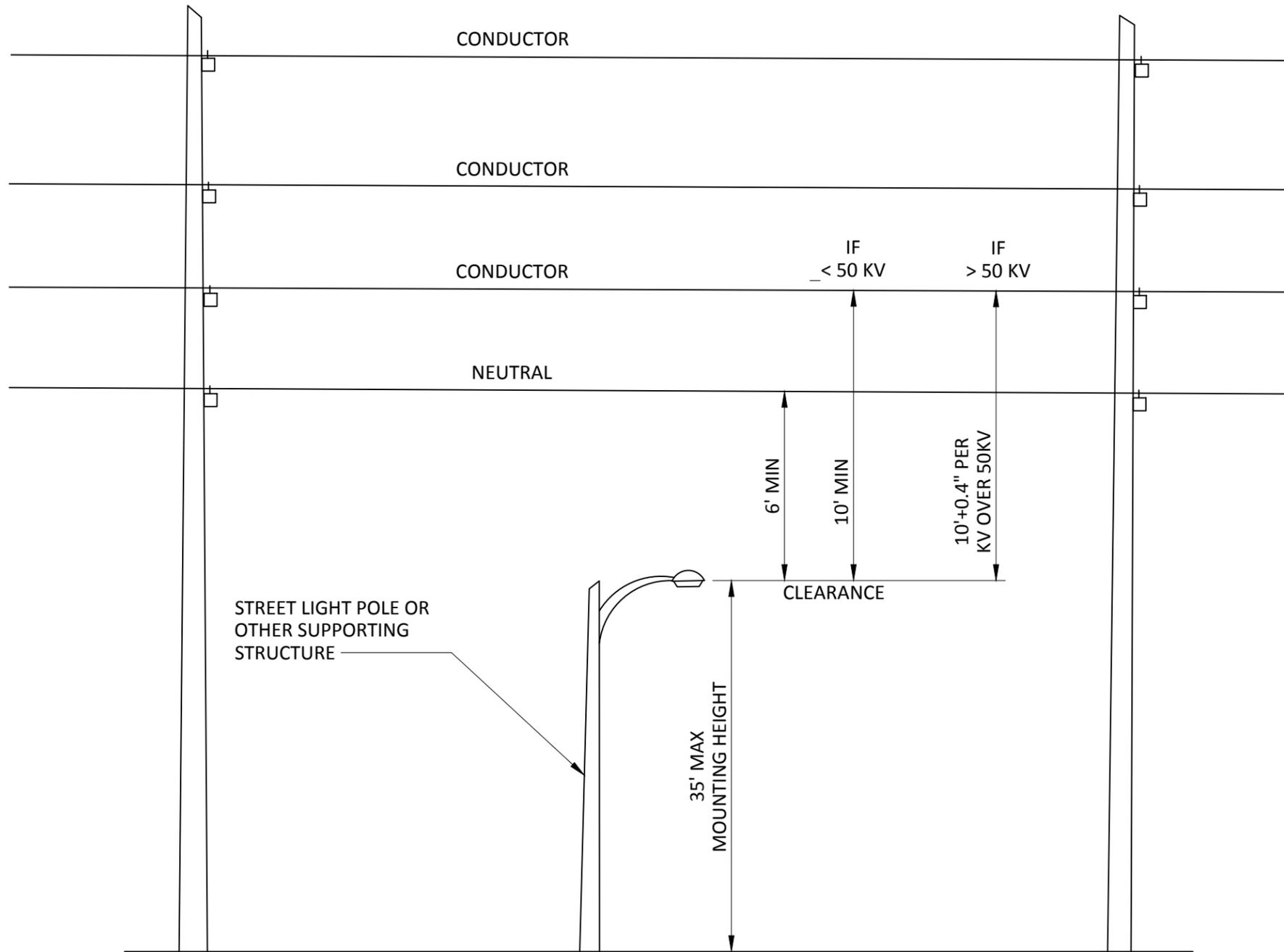
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 PLOTTED: 12/29/2016 8:18 AM

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
TITLE <b>POLE MOUNTED TERMINAL CABINET</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>806</b>

**NOTES:**

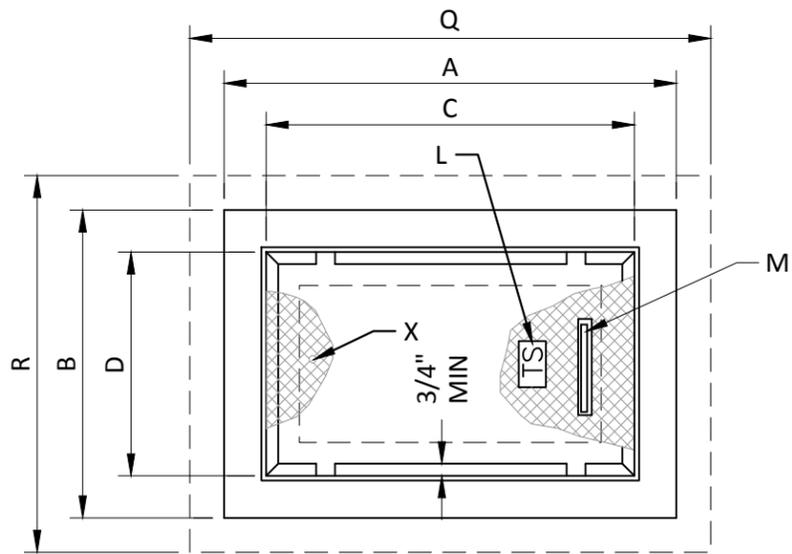
1. FOR ADDITIONAL INFORMATION ON MIN CLEARANCES REFER TO SNOHOMISH COUNTY PUD NO 1 T&D GUIDELINES SECTION 4 & W.A.C 296-155-428.
2. ANY FINAL INSTALLATION CLEARANCES FROM EXISTING UTILITIES LESS THAN SHOWN ABOVE MUST BE APPROVED BY THE AFFECTED UTILITY.



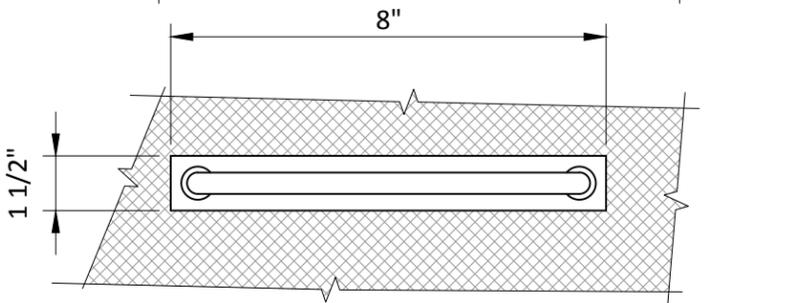
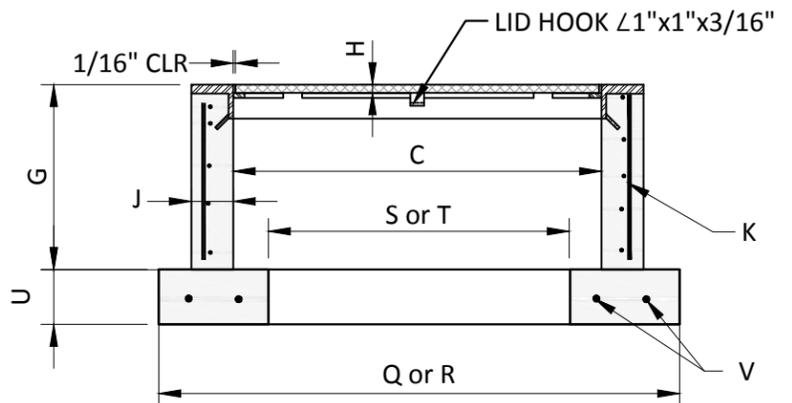
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 PLOTTED: 12/29/2016 8:18 AM

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager CORY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
<b>LUMINAIRE MOUNTING HEIGHT &amp; UTILITY CLEARANCES</b>				STANDARD DRAWING No. <b>807</b>

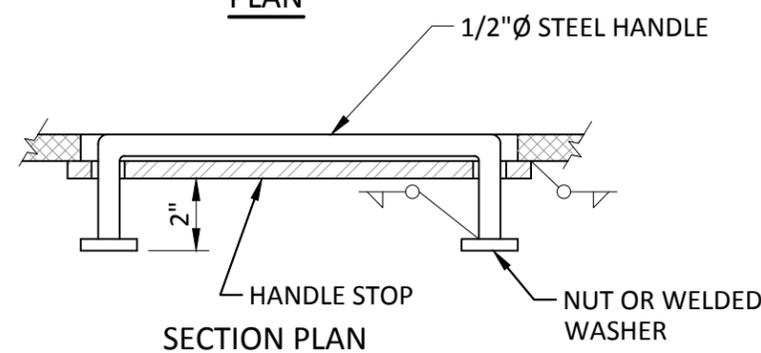
**DRAFT**



**PLAN**



**PLAN**



**SECTION PLAN**

**LID HANDLE**

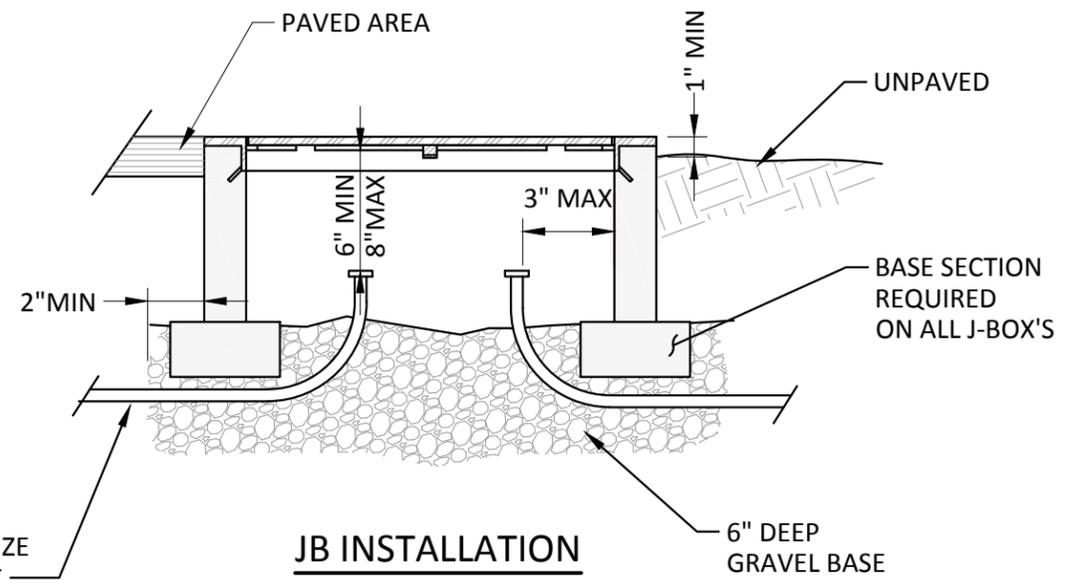
JUNCTION BOX DIMENSIONS				
DIM.	ITEM	BOX TYPE		
		TYPE 1	TYPE 2	TYPE 8
A	BOX OUTSIDE LENGTH	22"	33"	42"
B	BOX OUTSIDE WIDTH	17"	22 1/2"	30"
C	BOX INSIDE LENGTH	18"	28"	36"
D	BOX INSIDE WIDTH	13"	17"	24"
E	LID LENGTH	17 7/8"	26 3/8"	37 7/8"
F	LID WIDTH	12 7/8"	16 7/8"	25 7/8"
G	BOX DEPTH	12"	12"	12"
H	LID THICKNESS	5/16"	5/16"	1/2"
J	WALL THICKNESS	1 1/2"	1 1/2"	3"
K	BOX OR EXTEN WALL WIRE REINF	W-3	W-2.5	W-5
L	LEGEND	1"x1" LTRS	1"x1" LTRS	1"x1" LTRS
M	HANDLE	N/A	N/A	ONE
Q	FOUNDATION OUTSIDE LENGTH	24-1/2"	35-1/2"	48"
R	FOUNDATION OUTSIDE WIDTH	19-1/2"	25"	36"
S	FOUNDATION INSIDE LENGTH	16-1/2"	27-1/2"	36"
T	FOUNDATION INSIDE WIDTH	11-1/2"	17-1/2"	20"
U	FOUNDATION DEPTH	3"	3"	3"
V	FOUNDATION REINF.	N/A	N/A	2-W-5
W	BOX EXTENSION DEPTH	N/A	N/A	12"
X	FINGER HOLE #/DIA	2 @ 5/16"	2 @ 5/8"	1 @ 5/8"
	CAPACITY CONDUIT INCH Ø'S	6	12	24

**NOTES:**

- ALL DIMENSIONS ARE MINIMUM. EXACT CONFIGURATIONS VARY AMONG DIFFERENT MANUFACTURERS.
- THE NOTED LID THICKNESSES ARE OVERALL MINIMUMS. NON-SKID LID SHALL BE HOT DIP GALVANIZED IN ACCORDANCE W/ ASTM A 123. AN APPROVED SURFACE PLATE IS STEEL "SLIPNOT GRADE 3 - COARSE" BY "W.S. MOLNAR CO".
- LID SUPPORT MEMBERS SHALL BE WELDED TO FRAME.
- 4000 PSI CONCRETE IS ALLOWED IF BOX REINFORCEMENT CONSISTS OF 6x6 - W3xW3 WELDED WIRE FABRIC WELDED TO THE FRAME.
- WHEN NOTED IN THE CONTRACT TYPE 2 AND TYPE 7 BOXES SHALL BE PROVIDED WITH 12" DEEP EXTENSION BOXES.
- WHEN NOTED IN THE CONTRACT TYPE 2 BOXES SHALL BE PROVIDED WITH A 10"x27 1/2" 10 GAGE DIVIDER PLATE COMPLETE WITH FASTENERS.
- NON CONCRETE BOXES MAY BE SUBMITTED FOR APPROVAL EVALUATION WILL INCLUDE AN H-20 LOAD TEST.
- ALL BOXES WILL BE WSDOT APPROVED AND CERTIFIED.
- LEGEND FOR TRAFFIC SIGNAL SYSTEM BOXES WILL BE "TS", AND "LT" FOR ILLUMINATION SYSTEMS. LEGEND LETTERS WILL BE FORMED WITH 1/8" WELD BEAD.
- FOR ADDITIONAL INFORMATION SEE STD DWG 805A.

**JB MATERIALS**

ITEM	MATERIAL
BOX	6000 PSI CONC
FRAME	FLAT OR DIA- MOND GALV STEEL A786
LID SUPPORT	1/8" MIN GALV STEEL C,L OR T, -A36
LID	NON-SKID PLATE STEEL (GALV)
ANCHORS	STEEL WIRE OR TEE PLATE
REINF	ASTM A-82 STEEL
HANDLE	GALV STEEL
FOUNDATION	3000 PSI CONC



**JB INSTALLATION**

FOR CONDUIT SIZE SEE PLAN SHEET

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**DRAFT**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

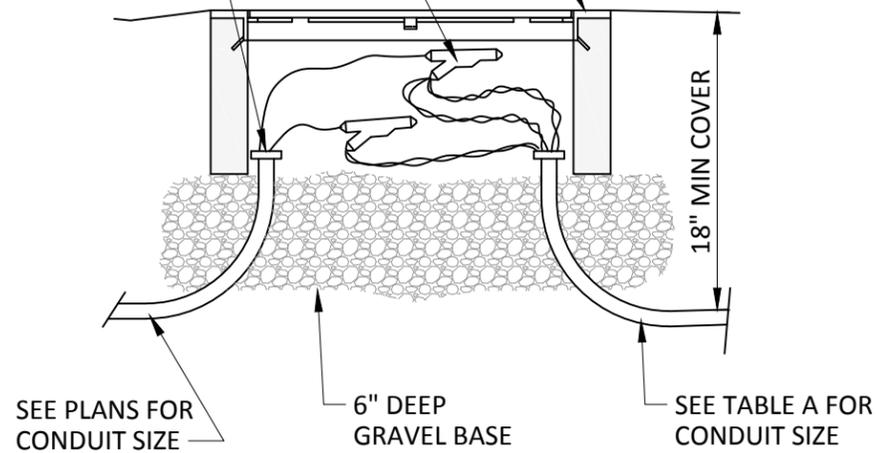
City Engineer: RYAN SASS | Section Manager: COREY HERT | CAD Manager: PAUL WILHELM | Drawn By: LAK | Current Rev Date: 12/30/2016

TITLE: **TRAFFIC JUNCTION BOX DETAILS** | STANDARD DRAWING No.: **808**

SEE STD DWG 805A & 805B FOR JUNCTION BOX INSTALLATION

SEE SPLICE DETAIL THIS SHEET

SEE NOTE 6

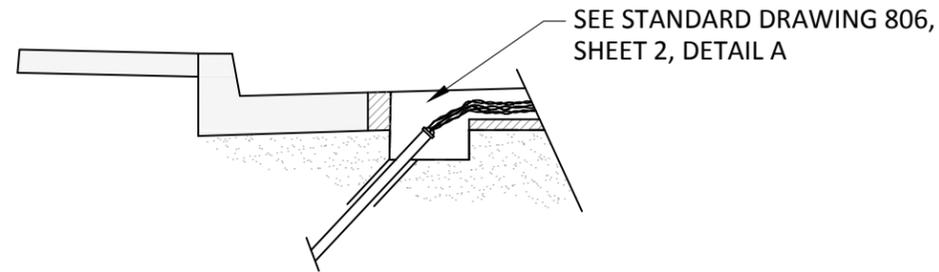


**JUNCTION BOX**

PAVED SHOULDER OR SIDEWALK AREA TRAVELLED WAY

SEE STANDARD DRAWING 806, SHEET 2, DETAIL A

**PAVED SHOULDER**



**GURB & GUTTER**

**TYP COND PLACEMENT FOR LOOP LEAD-IN WIRES**

LOOP LEAD PAIRS	1-2	3	4-5	6-8	9-12
CONDUIT SIZE (MIN)	1"	1 1/4"	1 1/2"	2"	2 1/2"
TRENCH WIDTH (MIN)	3"	3 1/4"	3 1/2"	4"	4 1/2"

**TABLE A**

**# INSTALLATION NOTES:**

1. SEALANT - CRAFCO PART NO 34271, OR APPROVED EQUAL.
2. LOOP WIRE - NUMBER VARIES SEE LOOP WINDING DETAILS STANDARD DRAWING 806 SHEET 2.
3. LEAD-IN WIRES: ONE PAIR FOR EACH LOOP SERVED, 3 PAIR MAX PER SAWCUT SEE INSTALLATION NOTES.
4. EXTEND SAWCUT SUFFICIENT LENGTH TO PROVIDE FULL SAWCUT DEPTH AROUND CORNERS.
5. LOCATE CORNER SAWCUT AT 45° TO SIDE CUTS TO PREVENT KINK IN LOOP WIRE AND ALSO MINIMIZE VOID. TRIANGULAR VOID WILL BE REMOVED AND FILLED WITH SEALANT.
6. SEAL ENDS OF CONDUIT WITH ELECTRICAL PUTTY OR SILCONE.
7. BUCHANAN 2006S SPLICE CAPS, CRIMP WITH CUCHANAN C-24 CRIMPER FOLOWING MANUFACTURER'S INSTALLATION PROCEDURE. SOLDER CRIMP (NO OPEN FLAME TORCH OR SIMILAR IS ALLOWED) AND TAPE 2 LAYERS OF TAPE.

DETECTOR LEAD-IN CABLE (IMSA 50-2-1984) OR 3 SHIELDED PAIR CABLE (BELDEN 1037A) AS NOTED

FOIL SHIELD

SEE NOTE 7

LOOP WIRE #14 (IMSA 51-7)

\*DRAIN WIRE

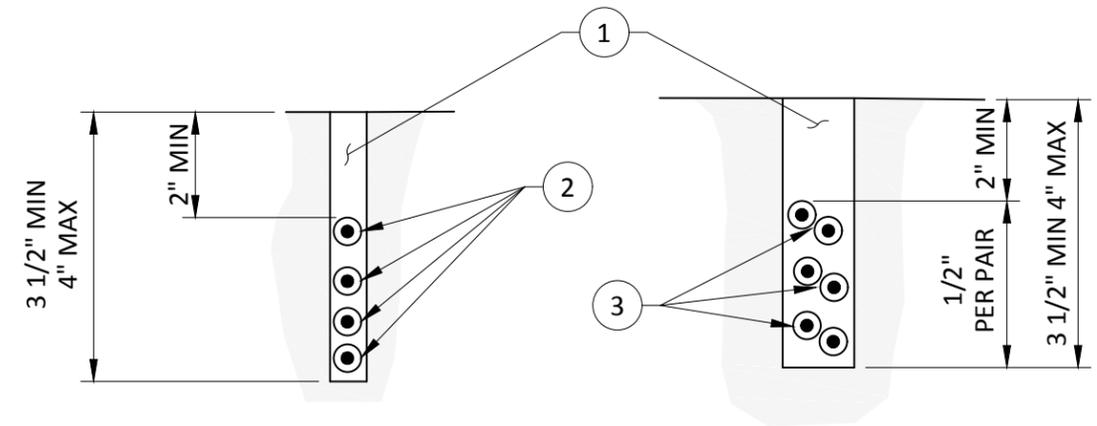
\*GROUND DRAIN WIRE AT AMPLIFIER ONLY

SEAL ENDS WITH ELECTRICAL PUTTY AND TAPE

SCOTCHAST EPOXY 82-B1 SPLICE KIT FILLED WITH EPOXY

USE SAME PROCEDURE FOR 3 PAIR LEAD-IN CABLE AND MULTIPLE LOOP SPLICE

**SPLICE DETAIL**



**SECTION A-A**

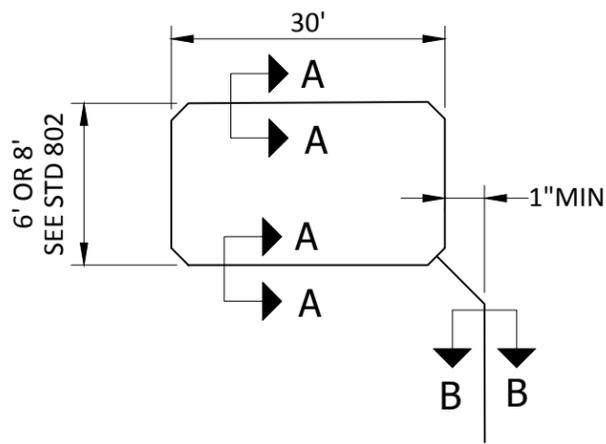
**SECTION B-B**

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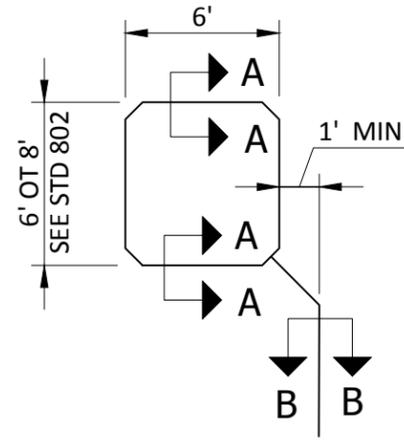
**DRAFT**

**CITY OF EVERETT**  
EVERETT PUBLIC WORKS DEPARTMENT

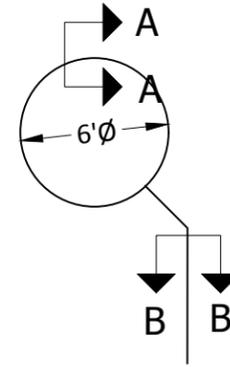
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
TITLE TRAFFIC INDUCTION LOOP JUNCTION BOX, SPLICE, LOOP TYPES, SAWCUT SECTIONS & NOTES				STANDARD DRAWING No. 809



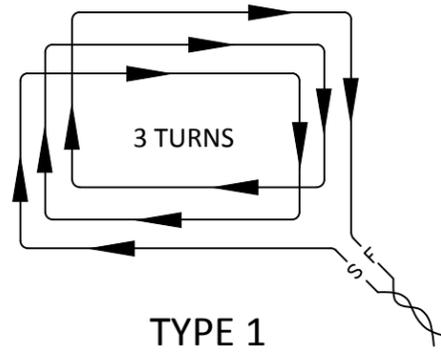
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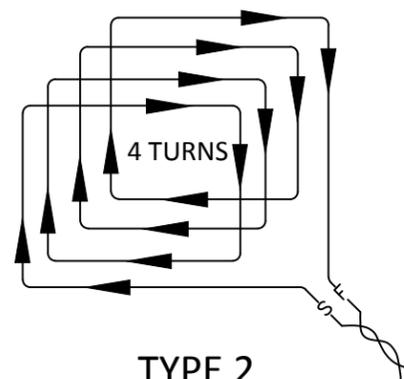
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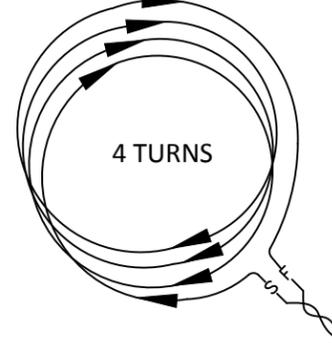
TYPE 3



TYPE 1

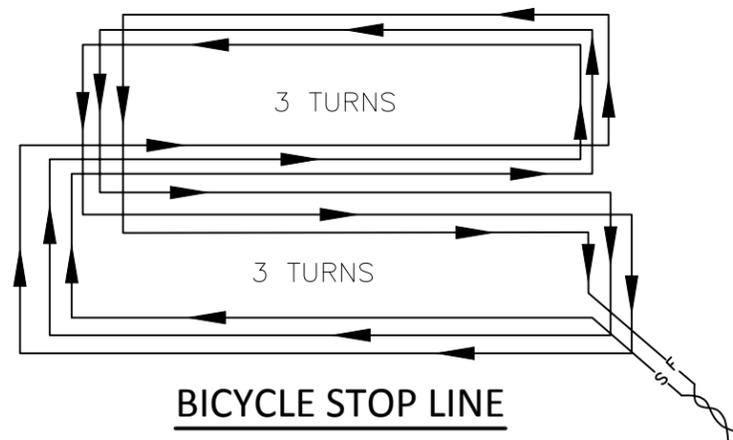


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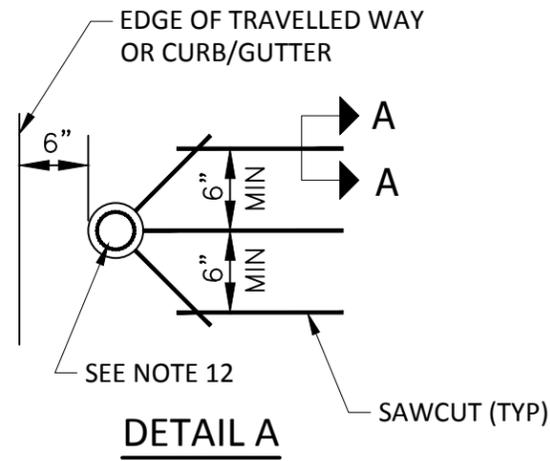


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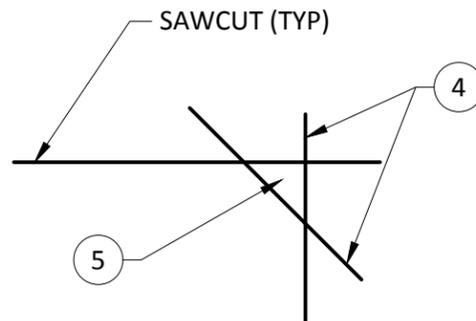
LOOP WINDING DETAILS



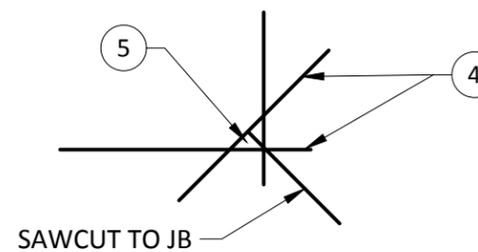
BICYCLE STOP LINE



DETAIL A



DETAIL C



DETAIL C

GENERAL NOTES FOR LOOP INST.

1. INSTALL JUNCTION BOX AND LEAD-IN CONDUIT.
2. SAW LOOP SLOTS AND LEAD-IN SLOTS.
3. LAY OUT LOOP WIRE BEGINNING AT JUNCTION BOX, ALLOWING 5' MINIMUM SLACK.
4. INSTALL WIRE IN LOOP SLOT. SEE LOOP WINDING DETAIL.
5. RETURN TO JUNCTION BOX AND IDENTIFY LEADS WITH PLAN DETECTOR NUMBER AND "S" FOR START AND "F" FOR FINISH.
6. TWIST EACH PAIR OF LEAD-IN WIRES TWO TURNS PER FOOT FROM LOOP TO JUNCTION BOX AND INSTALL IN LEAD-IN SLOT AND CONDUIT. REVERSE DIRECTION OF TWIST FOR EACH SUCCESSIVE PAIR INSTALLED.
7. CONSTRUCT SUPPLEMENTAL SPLICE CONTAINING ANY SERIES OR PARALLEL LOOP CONNECTIONS REQUIRED IN PLANS. SUPPLEMENTAL SPLICES ARE SUBJECT TO THE SAME REQUIREMENTS SHOWN FOR THE LOOP LEAD AND SHIELDED CABLE SPLICE. IF APPROVED BY ENGINEER SCOTCHLOK 3570 EPOXY KIT SEALING PACKS MAY BE SUBSTITUTED FOR THE SCOTCHCAST 82-B1 FOR SUPPLEMENTAL SPLICES.
8. SPLICE LOOP LEADS OR SUPPLEMENTAL SPLICE LEADS TO SHIELDED CABLE AS NOTED.
9. COMPLETE INSTALLATION AND TEST LOOP CIRCUITS OR COMBINATION LOOP CIRCUITS. SEE WSDOT STD SPEC 8-20.3(14)D.
10. FOR LOOP LOCATION REFER TO STD DWG 802 AND PLANS.
11. DRILL HOLE FOR HOME-RUN CONDUIT 1" LARGER THAN CONDUIT AND FILL VOID WITH HOT MIX ASPHALT.
12. ALL SPLICES SHALL BE ABLE TO BE RAISED A MINIMUM OF 16" ABOVE GROUND LINE.

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 PLOTTED: 12/29/2016 8:19 AM



City Engineer RYAN SASS	Section Manager CORY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
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TITLE  
**TRAFFIC INDUCTION LOOP**  
 JUNCTION BOX, SPLICE, LOOP TYPES,  
 SAW CUT SECTIONS & NOTES

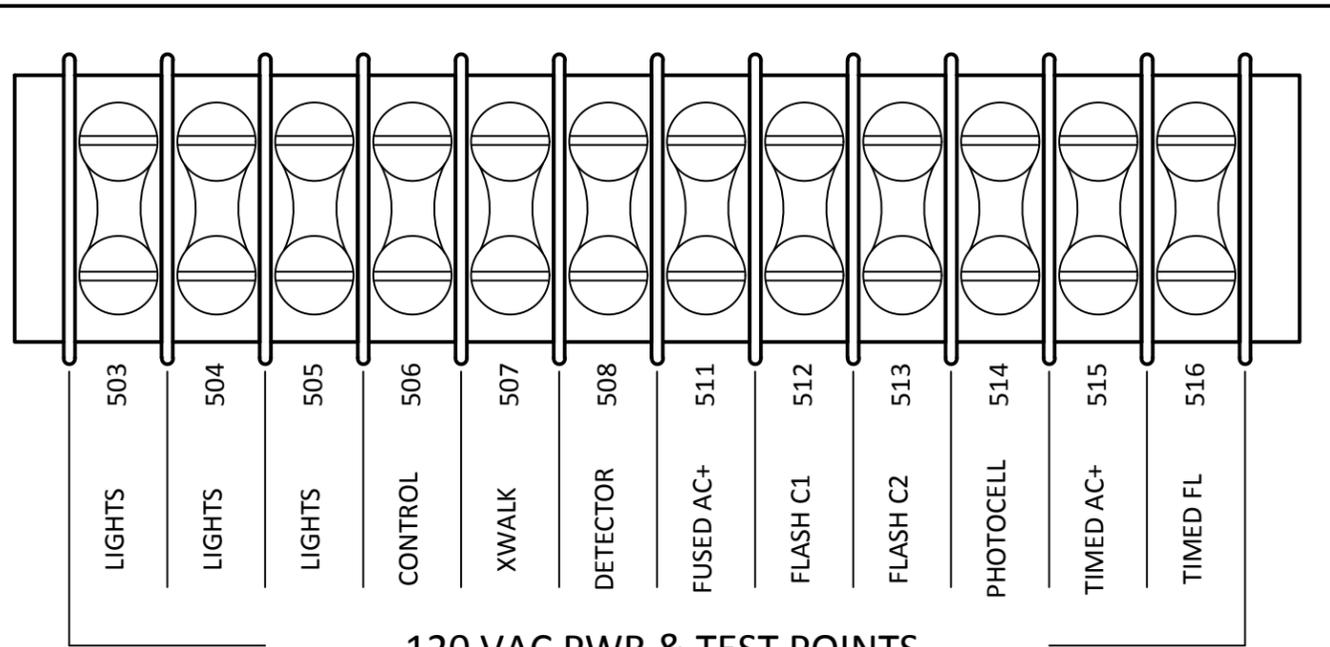
STANDARD DRAWING No.

**810**

**DRAFT**

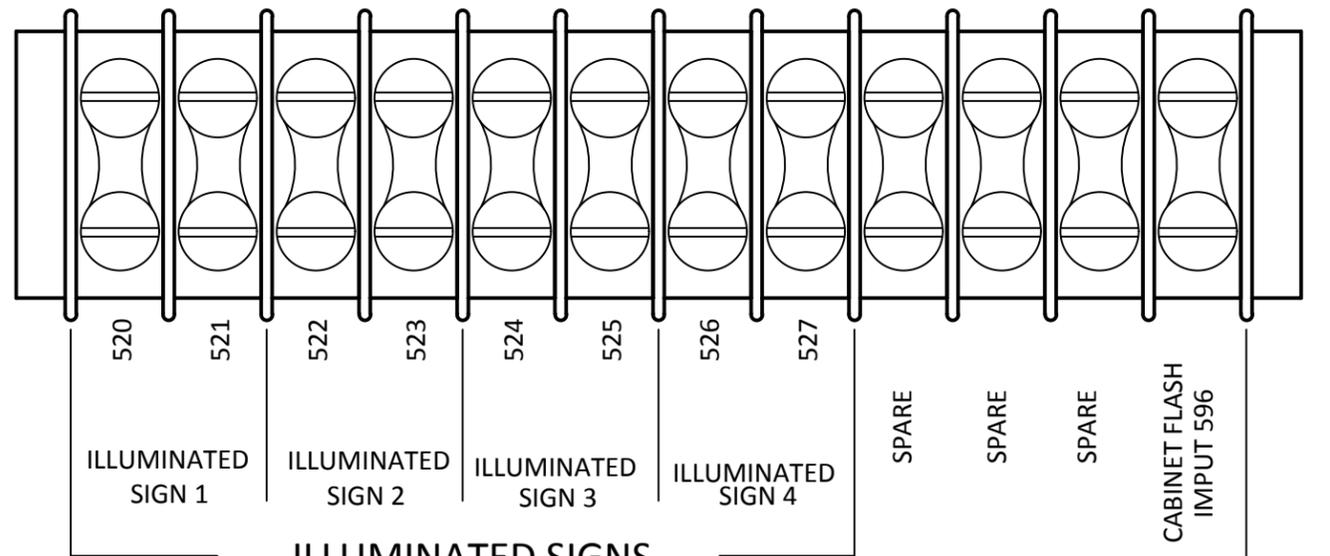
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PLOTTED: 12/29/2016 7:40 AM

CABINET  
A  
B  
FIELD



120 VAC PWR & TEST POINTS

CABINET  
A  
B  
FIELD



ILLUMINATED SIGNS



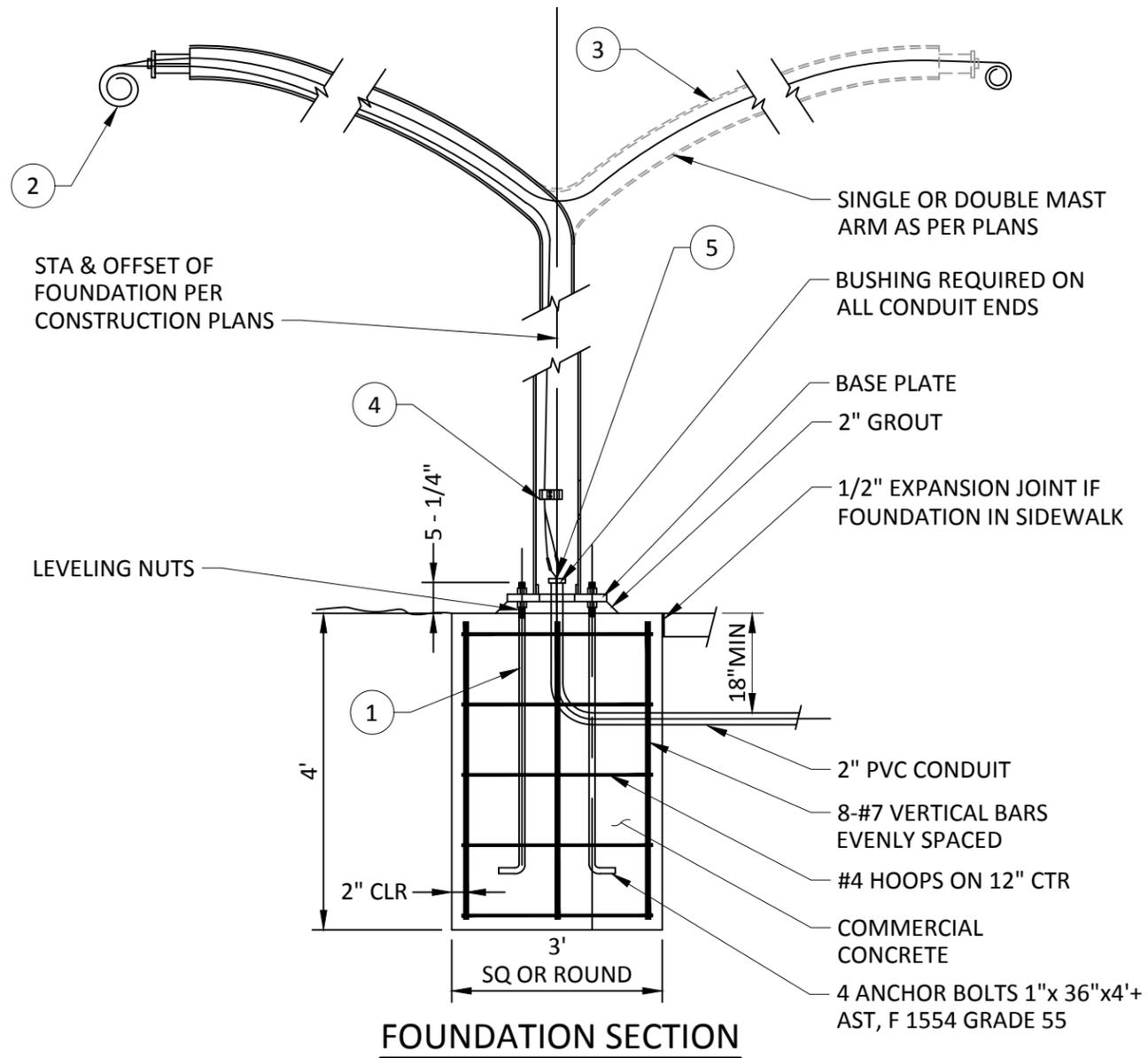
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
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TITLE STANDARD DRAWING No.

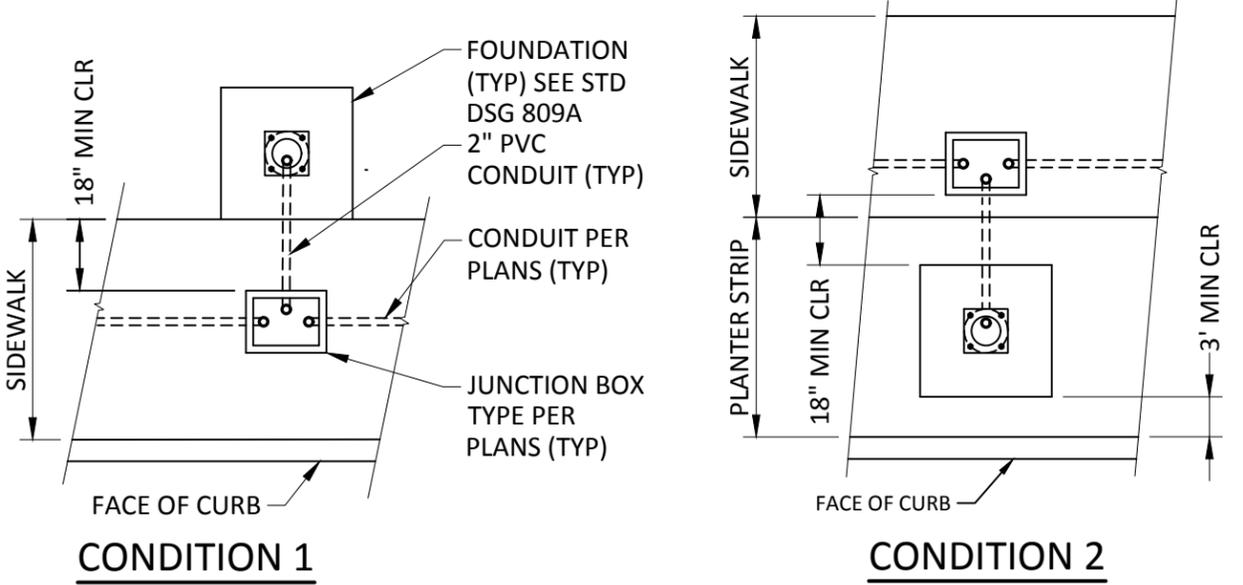
**DRAFT**

AC POWER PANEL DETAIL

811

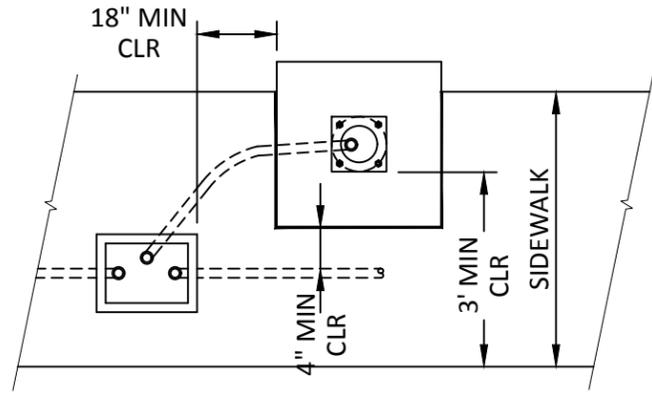


**FOUNDATION SECTION**



**CONDITION 1**

**CONDITION 2**



**CONDITION 3 NOTES:**

1. IF POLE FOUNDATION FALLS WITHIN SIDEWALK AREA, TOP OF FOUNDATION WILL BE FLUSH WITH FINISHED SIDEWALK AND BE FINISHED IN THE SAME MANNER AS SIDEWALK.
2. 1/2" EXPANSION JOINT WILL BE PLACED BETWEEN FOUNDATION AND SIDEWALK.

**CONDITION 3**

**BASE PLATE & BOLT CIRCLE NOTES:**

1. BASE PLATE PER POLE FABRICATOR'S DRAWINGS:
2. FOR ALUMINUM POLES, BOLT CIRCLE IS 11-1/2" +/- 1/2".
3. FOR STEEL POLES, BOLT CIRCLE IS DEPENDENT ON TYPE AND HEIGHT OF POLE.

**# POLE & FOUNDATION NOTES:**

1. THE TOP 12" OF ANCHOR BOLTS SHALL BE GALVANIZED.
2. INSTALL 2" x 1" REDUCING WASHER AND 1" CONNECTOR TO SECURE CONDUCTORS, AND COIL 30" OF CABLE FOR FUTURE CONNECTION AT END OF MAST ARM.
3. FOR DOUBLE MAST ARM INSTALL 2ND CABLE BETWEEN LUMINAIRES WHEN BOTH LUMINAIRES ARE ON SAME CIRCUIT.
4. CONDUCTOR ATTACHMENT BRACKET PER WSDOT/APWA STD PLAN J-1E.
5. PLACE POLE AND BRACKET CABLE IN CONDUCTOR ATTACHMENT BRACKET. STRIP OUTER CABLE SHEATH BELOW BRACKET AND CONNECT TO FEED CABLE WITH QUICK DISCONNECTS PER WSDOT/APWA STD SPEC 9-29.7

**PLACEMENT NOTES:**

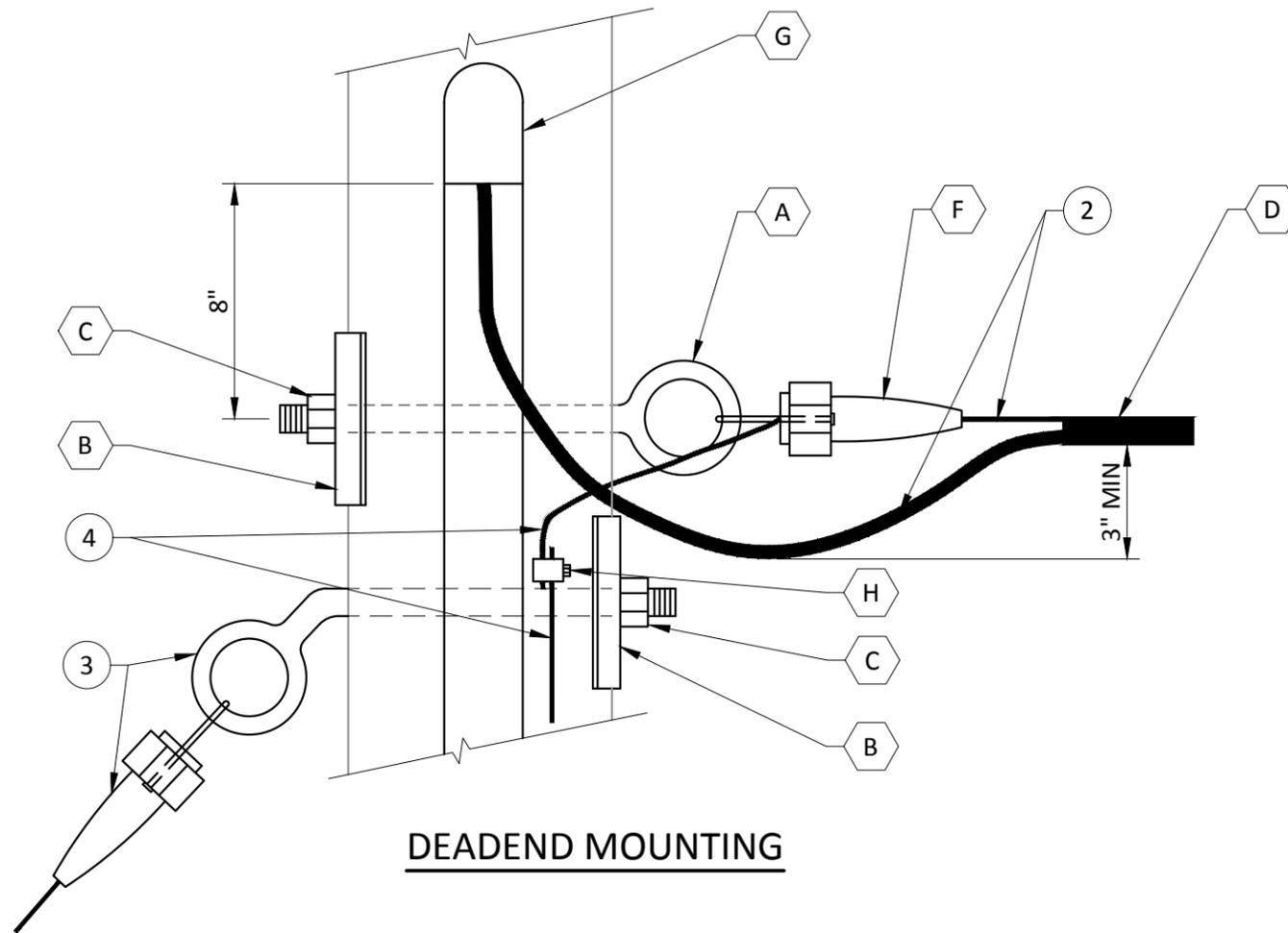
1. CONDITION 1 & 2 ARE NORMAL INSTALLATION OPTIONS DEPENDING ON STREET DESIGN.
2. CONDITION 3 INSTALLATION IS ALLOWED WITH APPROVAL OF CITY ENGINEER WHERE EXISTING R/W OR PHYSICAL CONDITIONS WARRANT THIS TYPE INSTALLATION.

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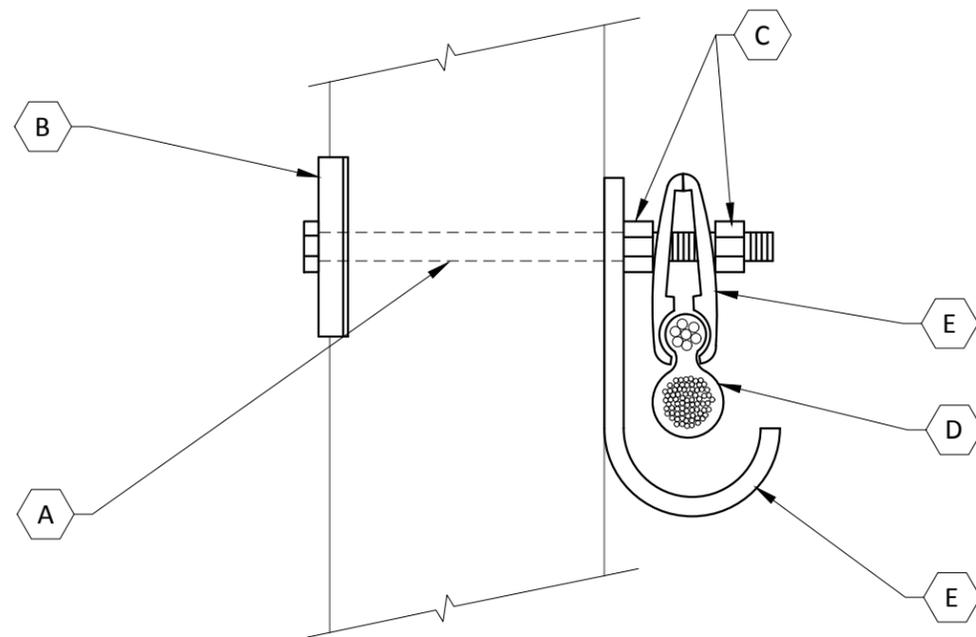
**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
		City Engineer RYAN SASS	Section Manager COREY HERT
TITLE <b>STREET LIGHT</b> <b>POLE &amp; FOUNDATION DETAILS &amp;</b> <b>PLACEMENT CONDITIONS</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>812</b>

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**DEADEND MOUNTING**



**CABLE SUSPENSION CLAMP**

**A EQUIPMENT LEGEND**

- A. 5/8" STRAIGHT HOT-DIPPED GALVANIZED STEEL BOLT (LENGTH VARIES DUE TO POLE DIAMETER).
- B. 3" SQ x 3/16" THICK CURVED GALVANIZED WASHER.
- C. 5/8" GALVANIZED HEX NUT.
- D. FIGURE 8 CABLE. FOR SIZE AND TYPE SEE PLANS AND SPEC'S. (MESSENGER 1/4" HS STEEL MIN).
- E. J-HOOK & CABLE SUSPENSION CLAMP ASSEMBLY (TANGENTIAL SUPPORT W/ CLAMP FOR 5/8" BOLT).
- F. SHORT-BALE STRANDWISE SIZED TO MESSENGER CABLE (1/4" MIN).
- G. FRISER W/WEATHER HEAD PER STANDARD DRAWING 330.
- H. BRASS CABLE CONNECTOR.
- I. POLE GROUND TO 5/8"x8' COPPER PLATED GROUND ROD.

**# INSTALLATION NOTES**

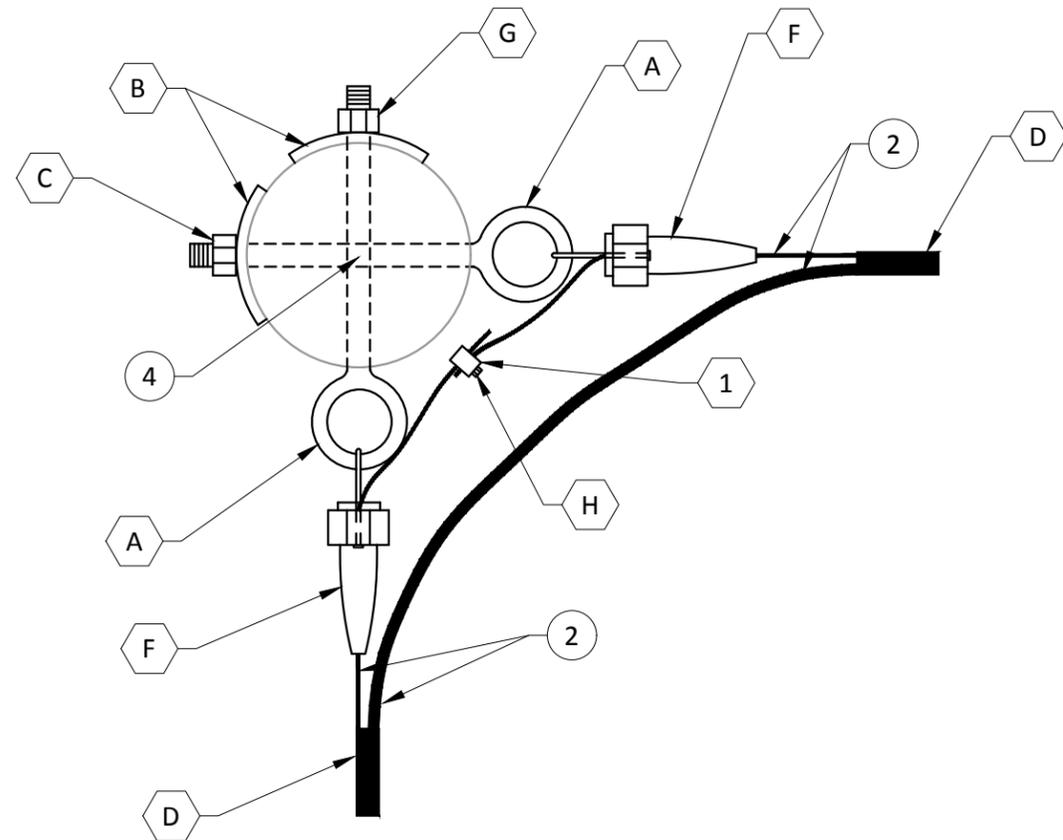
1. CONNECT MESSENGER CABLE TO POLE GROUND WIRE.
2. SPLIT MESSENGER CABLE AWAY FROM MAIN CABLE.
3. FOR DOWN GUY SEE WSDOT STANDARD PLAN J-7d.
4. IF HORIZONTAL DEFLECTION IS GREATER THAN 2 DEGREES USE ANGLE POINT MOUNTING STANDARD DRAWING 810C, SHEET 2.



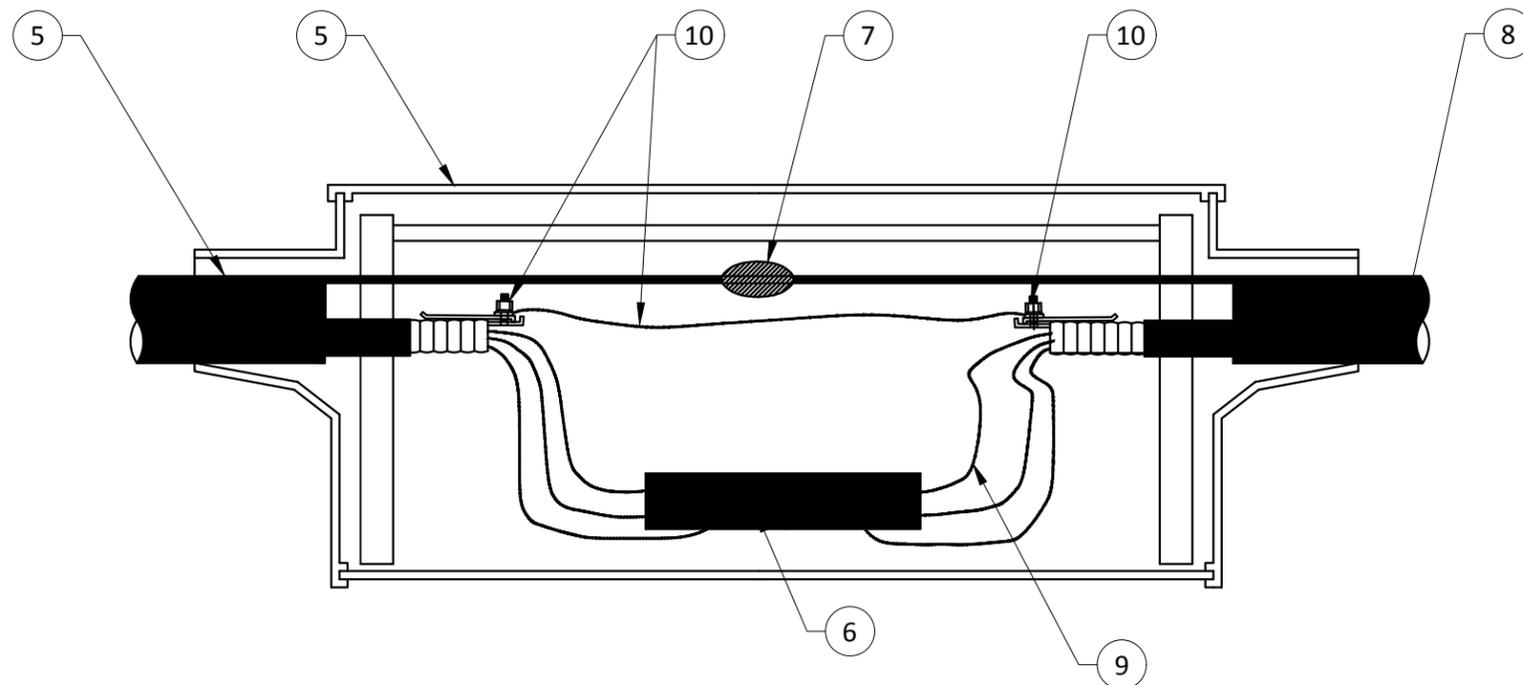
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
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TITLE <b>AERIAL TELEMTRY/SPANWIRE INSTALLATION</b> DEADEND & CABLE SUSPENSION CLAMP	STANDARD DRAWING No. <b>813</b>
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**DRAFT**



**ANGLE POINT MOUNTING**



**TELEMETRY JUNCTION BOX**

**# INSTALLATION NOTES**

1. CONNECT MESSENGER CABLES TOGETHER SUITABLE FOR GROUNDING WIRE.
2. SPLIT MESSENGER CABLE AWAY FROM MAIN CABLE.
3. FOR DOWN GUY SEE WSDOT STANDARD PLAN J-7d.
4. 3" MINIMUM VERTICAL CLEARANCE BETWEEN GROSSING BOLTS.
5. SINGLE ACCESS CABLE CLOSURE FOR PLASTIC JACKETED TELEPHONE CABLE (RELIABLE ELECTRIC MODEL 100-MB OR EQUAL).
6. TERMINAL BLOCK SIZED AS REQUIRED.
7. MESSENGER CABLE SPLICE WITH STRAND LINK.
8. FIGURE 8 CABLE. SEE PLANS & SPEC'S FOR SIZE AND TYPE.
9. BARE ENDS OF TWISTED PAIRS MUST BE AT LEAST 24" LONG BEFORE TERMINATING.
10. SPLICE CABLE SHIELDING USING 2 CASEY CLIPS (COMMUNICATIONS TECHNOLOGY # C4029 OR EQUAL) AND 1 BONDING JUMPER WITH GREEN INSULATION (NO. 14 AWG STRANDED).

**A EQUIPMENT LEGEND**

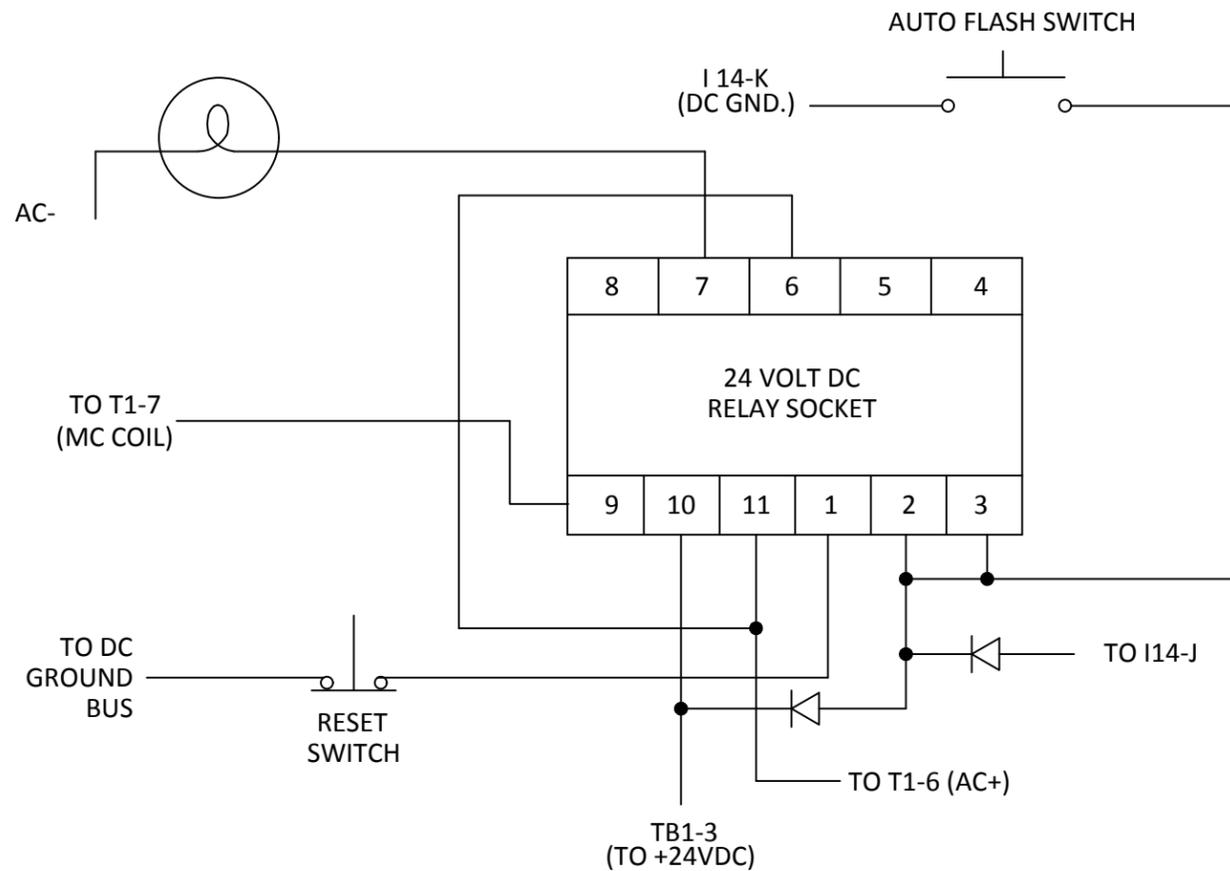
- A. 5/8" STRAIGHT HOT-DIPPED GALVANIZED STEEL BOLT (LENGTH VARIES DUE TO POLE DIAMETER).
- B. 3" SQ x 3/16" THICK CURVED GALVANIZED WASHER.
- C. 5/8" GALVANIZED HEX NUT.
- D. FIGURE 8 CABLE. FOR SIZE AND TYPE SEE PLANS AND SPEC'S. (MESSENGER 1/4" HS STEEL MIN).
- E. J-HOOK & CABLE SUSPENSION CLAMP ASSEMBLY (TANGENTIAL SUPPORT W/ CLAMP FOR 5/8" BOLT).
- F. SHORT-BALE STRANDWISE SIZED TO MESSENGER CABLE (1/4" MIN).
- G. F.RISER W/WEATHER HEAD PER CITY OF EVERETT STANDARD DWG 330.
- H. BRASS CABLE CONNECTOR.
- I. POLE GROUND TO 5/8"x8' COPPER PLATED GROUND ROD.
- J. IF HORIZONTAL DEFLECTION IS GREATER THAN 2 DEGREES USE ANGLE POINT MOUNTING PER CITY OF EVERETT STANDARD DWG 810C.

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 PLOTTED: 12/29/2016 8:20 AM



City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
TITLE AERIAL TELEMETRY/SPANWIRE INSTALLATION ANGLE INSTALLATION & TELEMETRY JUNCTION BOX				STANDARD DRAWING No. 814

**DRAFT**



**NOTES:**

1. THE AUTO-FLASH SWITCH SHALL BE A PUSH BUTTON SWITCH RATED AT 15 AMPS, 125 VOLTS AC.
2. THE RESET SWITCH SHALL BE A PUSH BUTTON SWITCH RATED AT 15 AMPS, 125 VOLTS AC.

**POLICE PANEL WIRING**



**NOTES:**

1. THE SIGNALS "ON-OFF" SWITCH SHALL BE AN "ON-OFF" SWITCH RATED AT 15 AMPS, 125 VOLTS AC
- 2.
3. THE RESET SWITCH SHALL BE A PUSH BUTTON SWITCH RATED AT 15 AMPS, 125 VOLTS AC.

**POWER SUPPLY - FRONT VIEW**

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**KEY**

- (IND) INDICATOR LIGHT
- ⬡ PUSH BUTTON RESET SWITCH
- ⏻ TOGGLE ON-OFF SWITCH

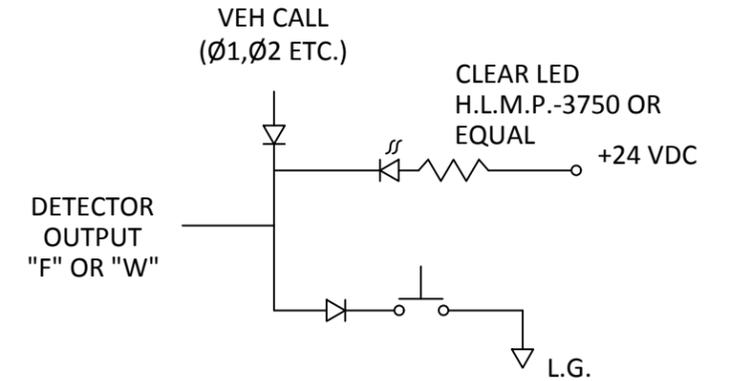
**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer <b>RYAN SASS</b>	Section Manager <b>CORY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>LAK</b>	Current Rev Date <b>12/30/2016</b>
<b>POLICE PANEL &amp; POWER SUPPLY</b>						STANDARD DRAWING No. <b>815</b>
MODEL 332 CABINET						

MARKER AREA (TYP)

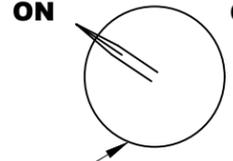
	1	2	3	4	5	6	7	8	9	12	13	
										28, 29	68, 69	
ON OFF TEST	Ø1 IND S	Ø2 IND S	Ø2 IND S	Ø2 IND S	Ø3 IND S	Ø4 IND S	Ø4 IND S	Ø4 IND S	Ø1 OR SD IND S	Ø2 P IND S	Ø6 P IND S	ON OFF TEST
ON OFF TEST	IND S Ø1	IND S Ø2	IND S Ø2	IND S Ø2	IND S Ø3	IND S Ø4	IND S Ø4	IND S Ø4	IND S Ø3 OR SD	IND S Ø4 P	IND S Ø8 P	ON OFF TEST
										48, 49	88, 89	

ON OFF TEST	Ø5 IND S	Ø6 IND S	Ø6 IND S	Ø6 IND S	Ø7 IND S	Ø8 IND S	Ø8 IND S	Ø8 IND S	Ø5 OR SD IND S			ON OFF TEST
ON OFF TEST	IND S Ø5	IND S Ø6	IND S Ø6	IND S Ø6	IND S Ø7	IND S Ø8	IND S Ø8	IND S Ø8	IND S Ø7 OR SD			ON OFF TEST



**DETECTOR TEST SWITCH WIRING**

ON OFF/TEST



ROTARY WAFER SWITCH

**DETECTION PANEL**

**KEY**

- INDICATOR LIGHT
- PUSH BUTTON TEST SWITCH

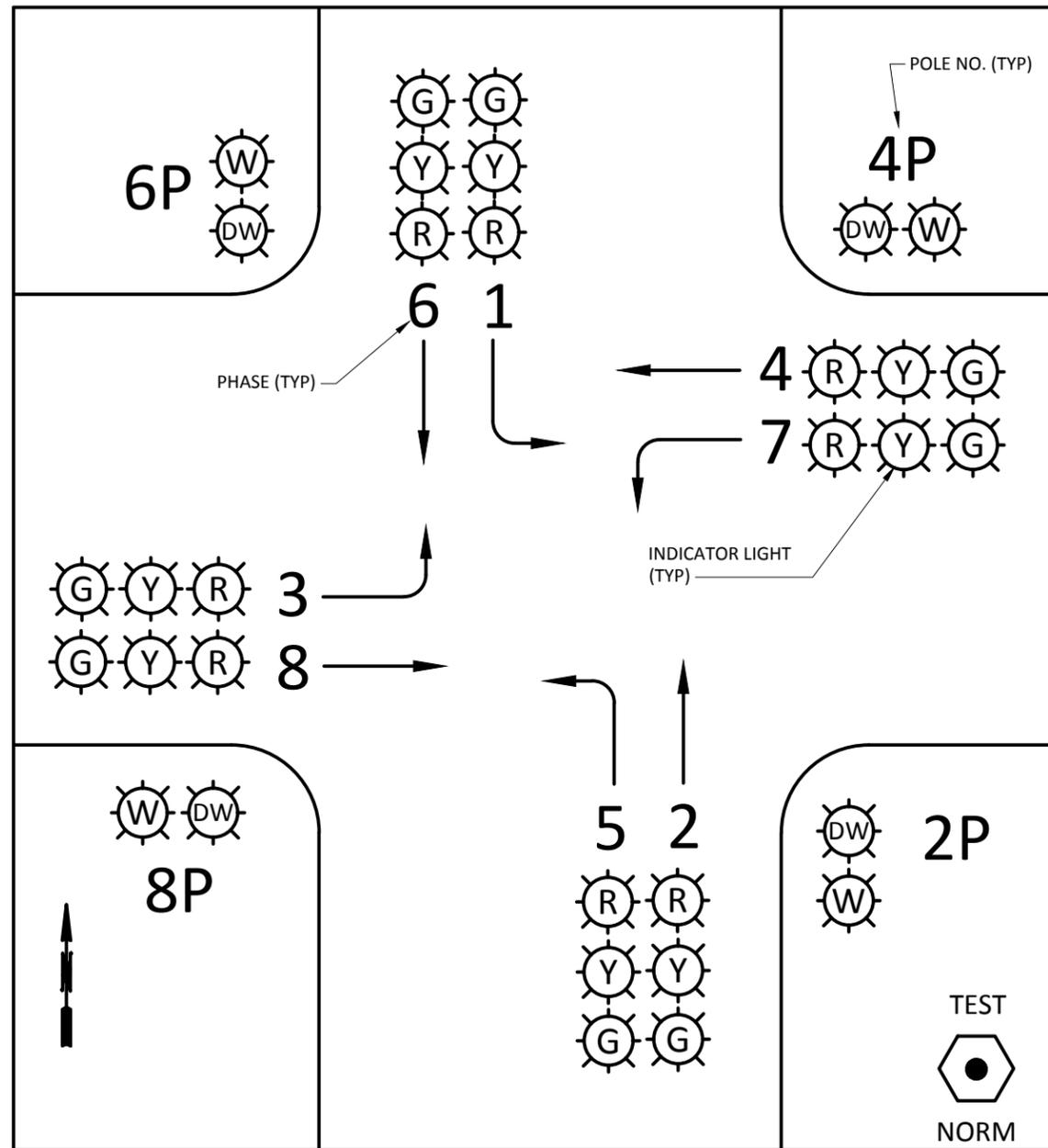
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**DRAFT**

**CITY OF EVERETT**  
**EVERETT PUBLIC WORKS DEPARTMENT**

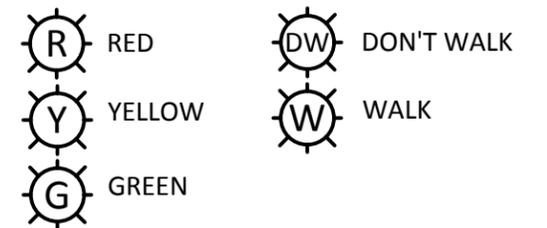
City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>LAK</b>	Current Rev Date <b>12/30/2016</b>
<p><b>DETECTION PANEL</b> MODEL 332 CABINET</p>				<p><b>816</b></p>

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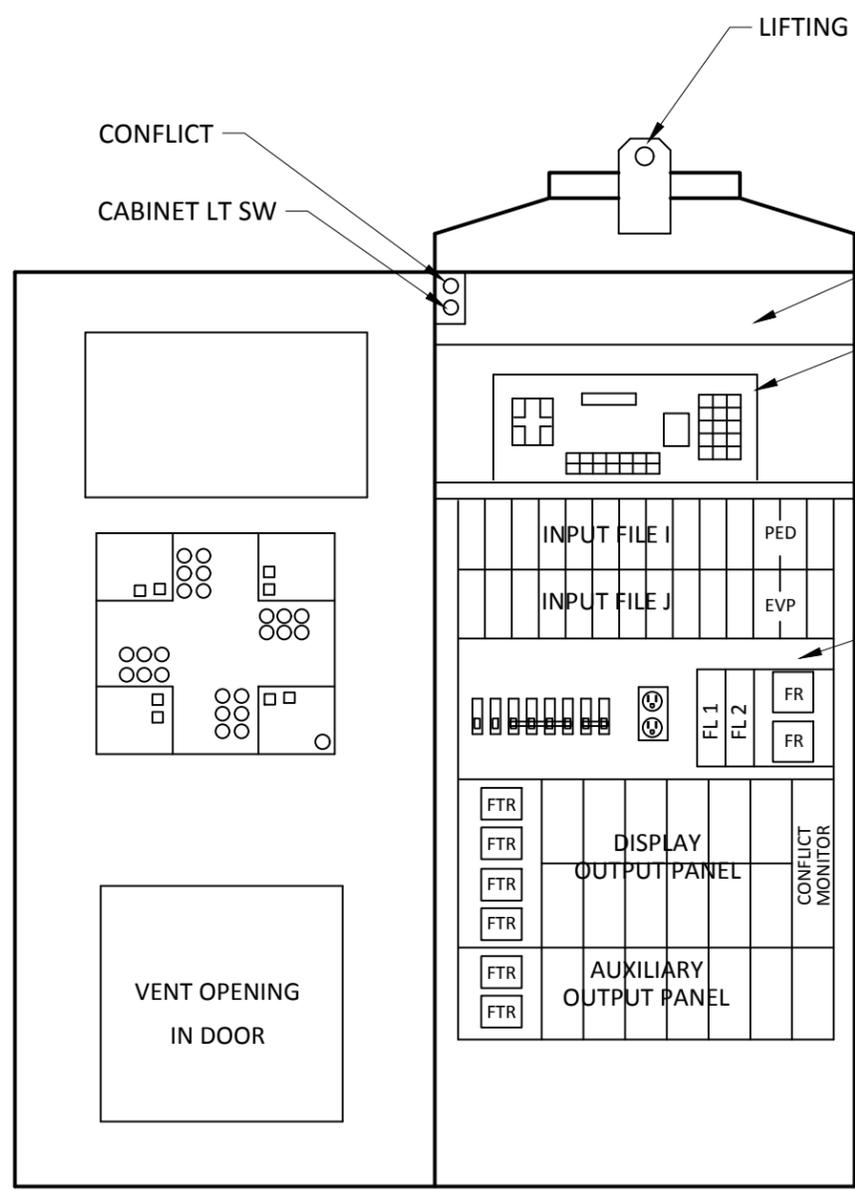
DISPLAY PANEL CONFIGURATION

INDICATOR LIGHT KEY



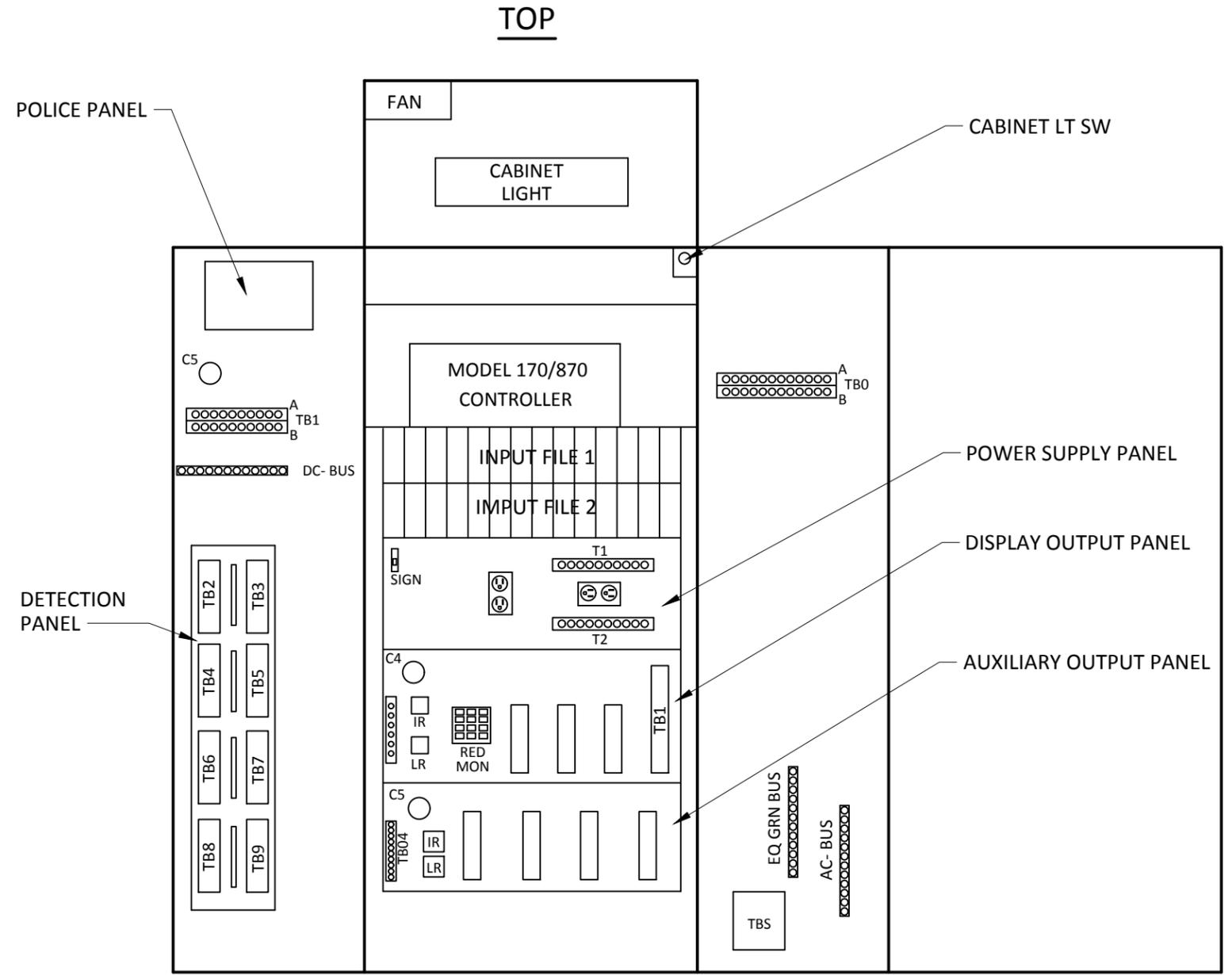
**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
TITLE DISPLAY PANEL MODEL 332 CABINET			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>817</b>



DOOR

FRONT



LEFT SIDE

REAR

RIGHT SIDE

DOOR

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## CITY OF EVERETT

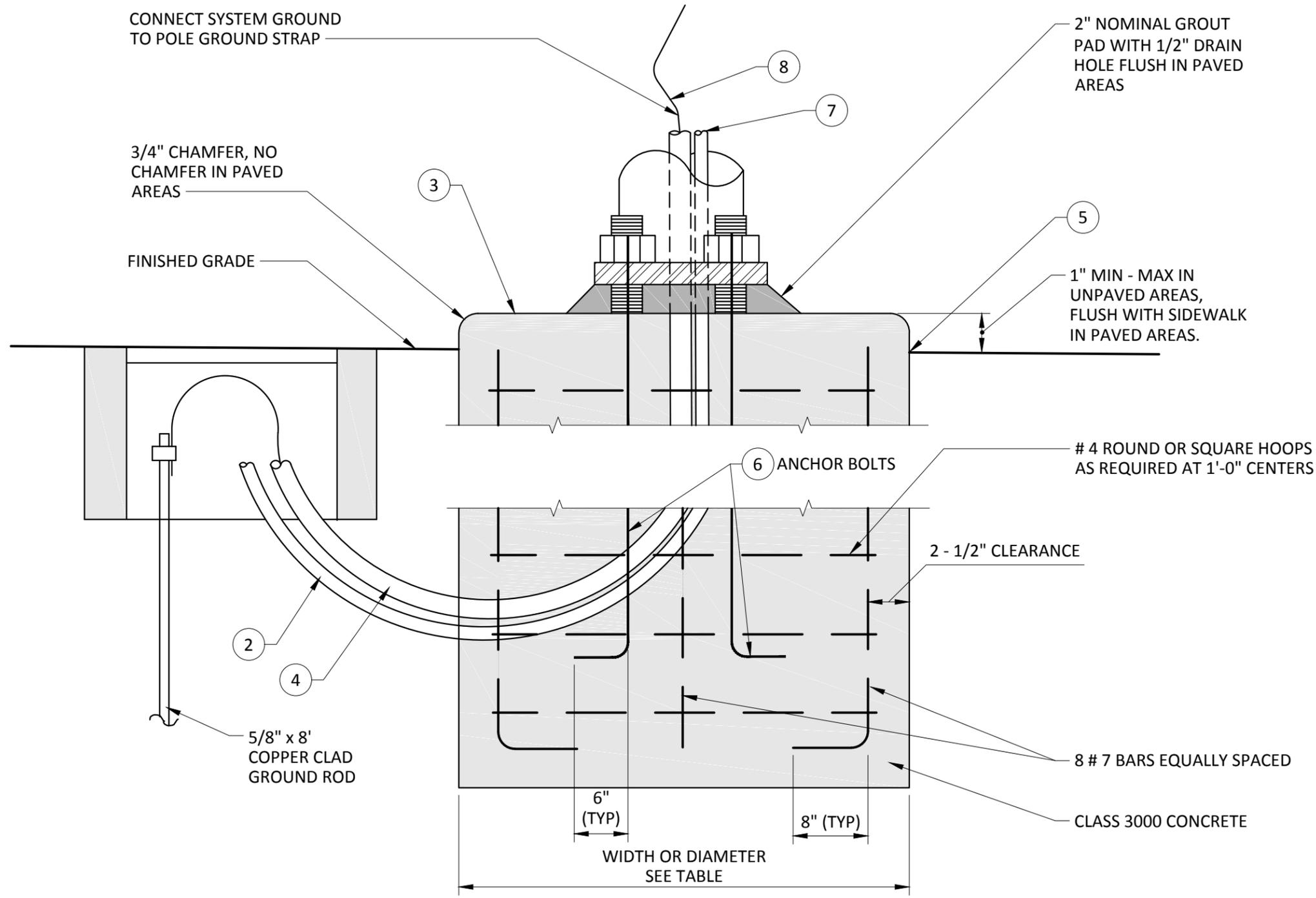
### EVERETT PUBLIC WORKS DEPARTMENT

City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>LAK</b>	Current Rev Date <b>12/30/2016</b>
332 CABINET LAYOUT				818

**DRAFT**

1 **NOTES**

1. FOUNDATION DEPTHS BASED ON 2500 PSF AVERAGE LATERAL BEARING PRESSURE AND  $\phi @ 26"$ . IF SOIL CONDITIONS AT SITE ARE NOT EQUAL TO OR BETTER THAN THIS THE CONTRACTOR SHALL PROVIDE NEW FOUNDATION DIMENSIONS.
2. ALL POLES AND POLE BASES SHALL HAVE ONE EXTRA 2" CONDUIT THAT EXTENDS TO AND IS CAPPED IN THE NEAREST JUNCTION BOX. UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. CONCRETE SHALL BE CLASS 3000 POURED IN PLACE WITH FORMING ON THE TOP 3-1/2" AND ALL ABOVE GRADE PORTIONS OF THE FOUNDATION.
4. SIZE AND NUMBER OF CONDUIT(S) PER PLAN.
5. SAW CUT PAVING WHEN FOUNDATION IS IN EXISTING PAVED SURFACE.
6. BOLT CIRCLES AND ANCHOR BOLTS ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AND SPECS.
7. CONDUIT SHALL EXTEND 3" ABOVE FOUNDATION.
8. EXTEND SYSTEM GROUND TO ALL EQUIPMENT (PPB'S, TERMINAL CABINETS, PED SIGNAL HEADS, ETC.) THAT IS LESS THAN 12' ABOVE ABOVE POLE BASE WHEN CONCRETE POLES ARE REQUIRED.



**TYPICAL SECTION**

FOUNDATION DEPTH		
W x R= (FT) <sup>3</sup>	3' RD	3' SQ 4' RD
≤ 740	10'	7'
≤ 1100	14'	8'
≤ 1720	19'	13'

W = WINDLOAD PROJECTED AREA  
R = MOMENT ARM  
SEE NOTE 1

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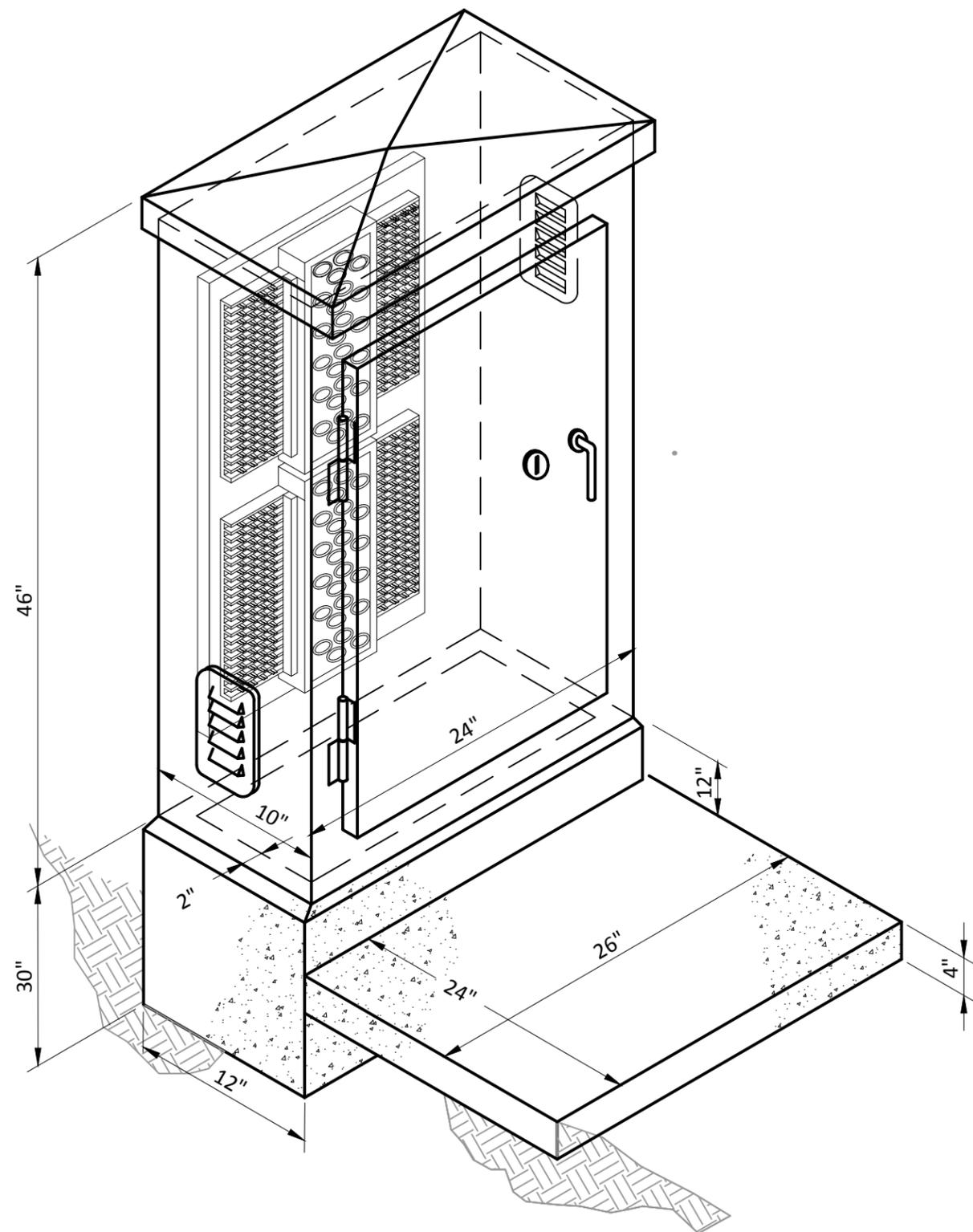
**DRAFT**



**CITY OF EVERETT**

**EVERETT PUBLIC WORKS DEPARTMENT**

City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>LAK</b>	Current Rev Date <b>12/30/2016</b>
<p><b>SIGNAL POLE FOUNDATION</b></p> <p>TYPE 2 &amp; 3</p>				<p><b>819</b></p>



ISOMETRIC

**PANEL NOTES:**

1. NEMA R3, PADMOUNT WELDED SEAM ALUMINUM  
0.125" REMOVABLE EQUIPMENT MOUNTING PAN  
HEAVY DUTY LIFT-OFF HINGE CLOSED CELL  
NEOPRENE GASKET ON DOOR STAINLESS STEEL  
VAULT HANDLE BEST CO LOCK WITH CX CORE 2  
SCREENED AND GASKETED VENTS.
2. 50 PAIR TERMINAL BLOCK WITH GAS TUBE  
PROTECTION MODULES RELIANCE COMM/TEC  
#50VSR4P4MH(OR EQUAL)
3. FINISH: POWDER COAT WHITE INSIDE AND OUT  
EPOXY ALUMINUM OVERCOAT OUTSIDE.

**FOUNDATION & RAMP NOTES:**

1. FORMED CONSTRUCTION.
2. CLASS 3000 CONCRETE.
3. 1/2" CHAMFER AT TOP SERVICE.
4. 1/2"x3" STAINLESS STEEL ANCHOR BOLTS (4EA).
5. CONDUIT TO EXTEND A MIN OF 2" ABOVE  
FOUNDATION.
6. FOUNDATION AND RAMP TO SIT ON UNDISTURBED  
SOIL

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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
TITLE <b>TELEMETRY CABINET &amp;          FOUNDATION</b> TYPES 2 & 3				STANDARD DRAWING No. <b>820</b>

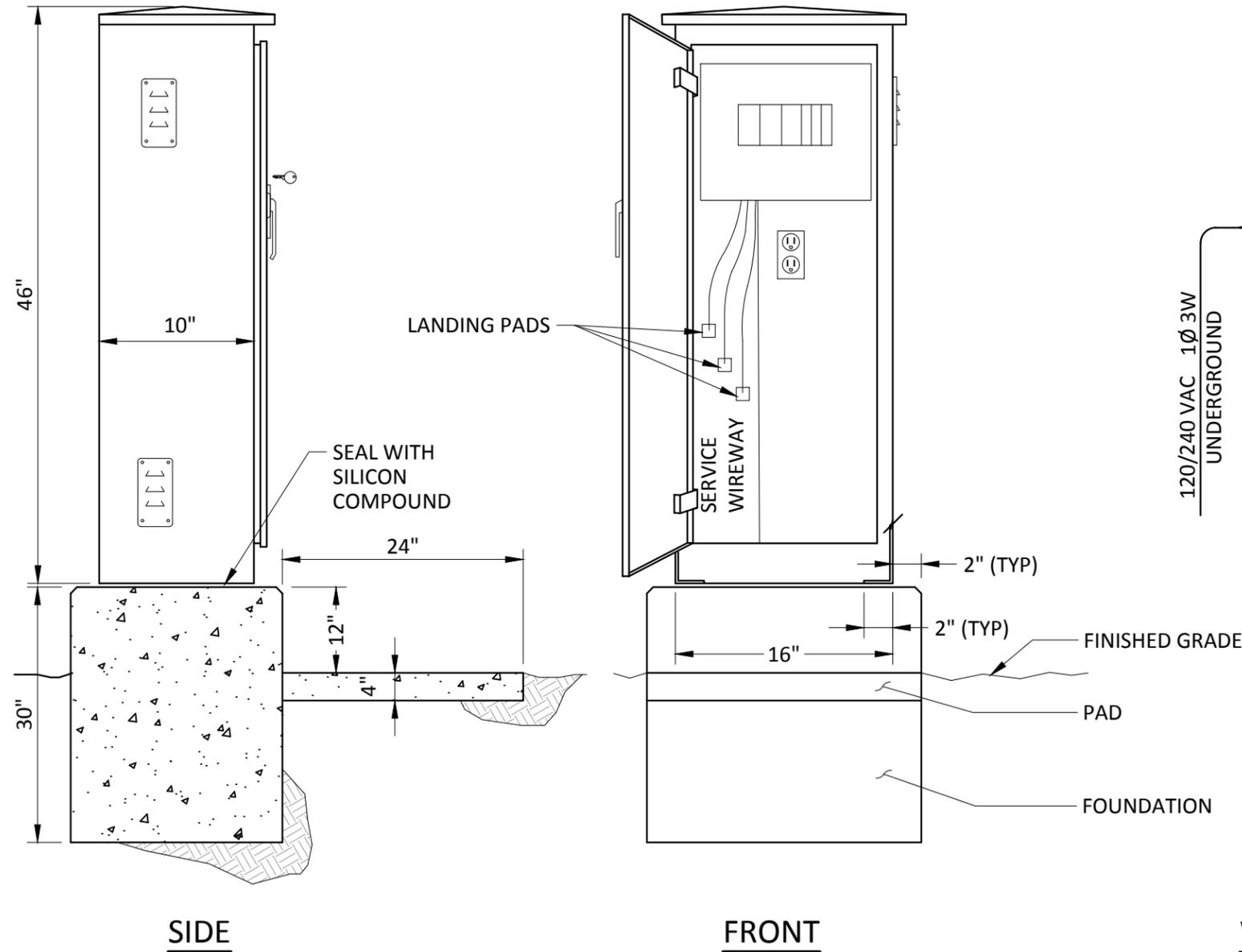
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## FOUNDATION & PAD NOTES

1. FORMED CONSTRUCTION.
2. CLASS 3000 CONCRETE.
3. 1" CHAMFER AT FOUNDATION TOP.
4. 3/8"x3" STAINLESS STEEL ANCHOR BOLTS (4EA)
5. FOUNDATION AND PAD TO SIT ON UNDISTURBED SOIL.
6. CONDUIT TO EXTEND A MIN. OF 6" ABOVE FOUNDATION.

## CABINET NOTES:

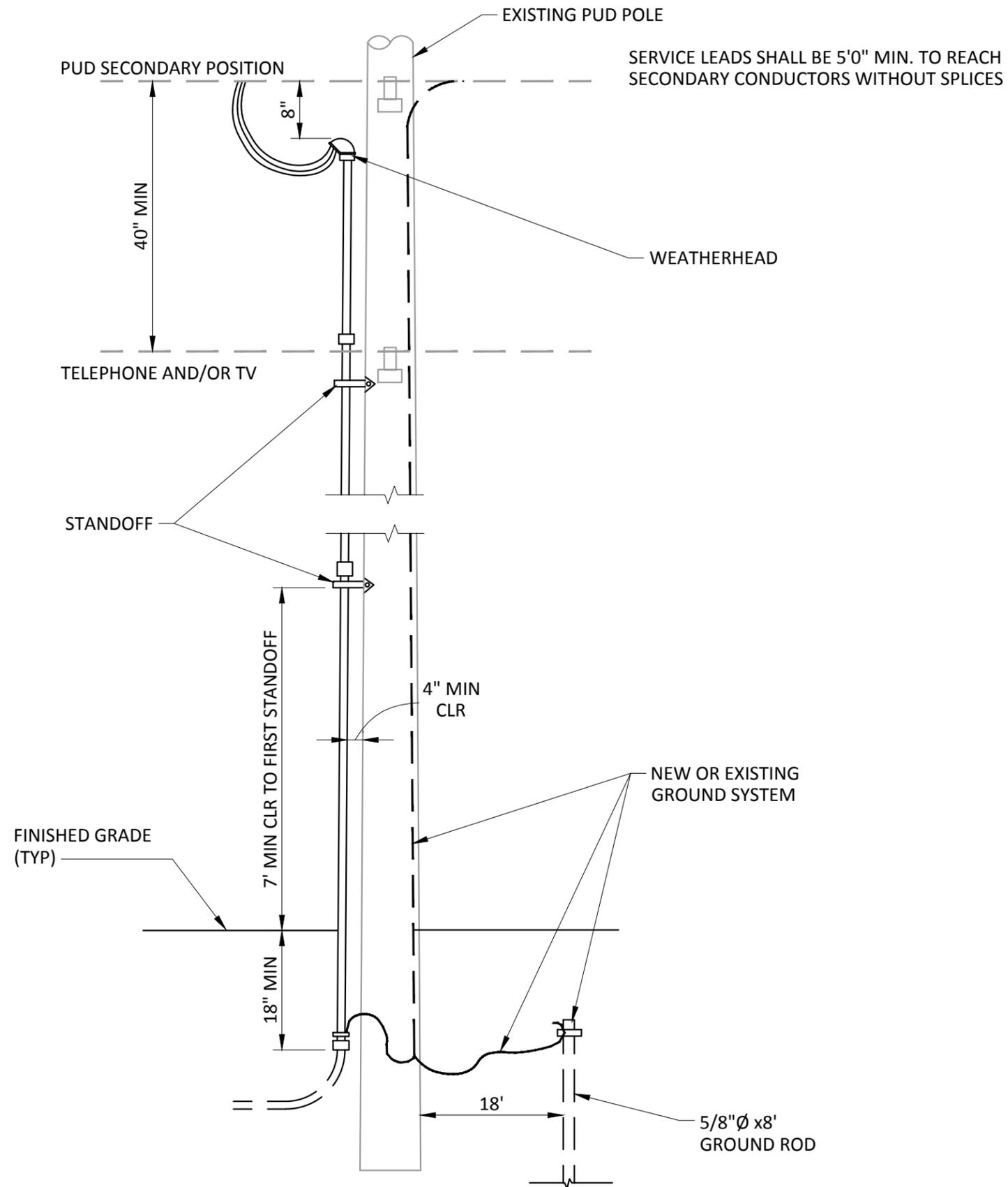
7. CABINET: NEMA 3R, PAD MOUNT, 12 GA PRE GALVANIZED STEEL, OPEN BOTTOM WITH 2" RETURN. REMOVABLE EQUIPMENT MOUNTING PAN. 2 SCREENED AND GASKETED VENTS. U.L. LISTED.
8. DOOR: HEAVY DUTY CONCEALED HINGE, LIFTOFF TYPE, WITH STAINLESS STEEL VAULT HANDLE, AND CLOSED CELL NEOPRENE GASKET. SUPPLY WITH "BEST" LOCK AND BLUE CONSTRUCTION CORE.
9. PANEL BOARD: 120/240 VAC,  $\emptyset$ , 3 WIRE, 100 AMP, 8CKT (SQUARE D Q08-16L100S MAIN LUG ONLY, OR EQUAL), 10 KAIC, WITH TWO (2) 40/2 ILLUMINATION BRANCHES, ONE (1) 20/1 GROUND FAULT RECEPTACLE BRANCH.
10. PAINT: ZINC RICH ALUMINUM OUTSIDE, WHITE INSIDE OVER PRIME OVEN BAKED ENAMEL.
11. TOTAL NUMBER OF BREAKERS IN CABINET NOT TO EXCEED 6.
12. DESIGN BASED ON "SKYLINE: MODEL 47550.



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 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
<b>SERVICE CABINET</b> FOR STREET ILLUMINATION (UNMETERED)				STANDARD DRAWING No. <b>821</b>



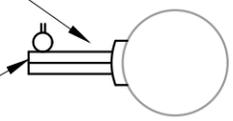
**RISER DETAIL**

**NOTES**

1. WEATHERHEAD SHALL BE LOCATED 8" BELOW SECONDARY. THE PUD WILL MAKE ALL SECONDARY
2. SERVICE CONNECTIONS AT THE POLE.
3. THE FIRST TEN (10) FEET OF RISER SHALL BE RIGID GALVANIZED STEEL OR SCHEDULE 80 PVC CONDUIT AND REMAINING PORTION SHALL BE SCHEDULE 40 PVC OR SCHEDULE 80 PVC.
4. APPLY A BITUMINOUS COATING ON BURIED PORTION OF STEEL CONDUIT
5. GROUND CLAMP & TAP TO POLE GROUND REQUIRED WHEN FIRST TEN (10) FEET OF RISER IS RIGID STEEL.

4" MIN SPACING FROM POLE TO CONDUIT

RISER AND STANDOFF ON SAME SIDE AS TRANSFORMER AND/OR GRID GAIN

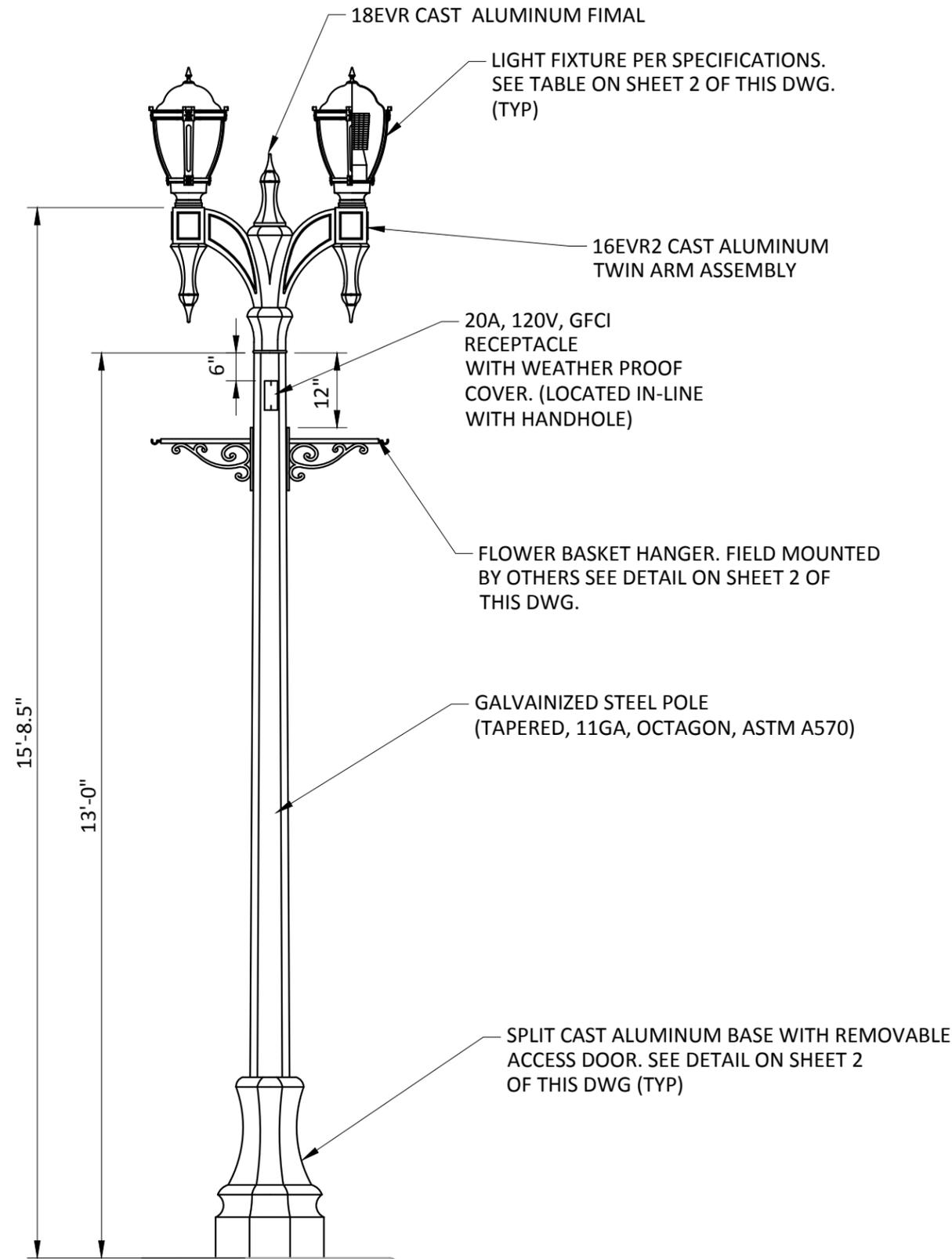


**RISER POSITION DETAIL**

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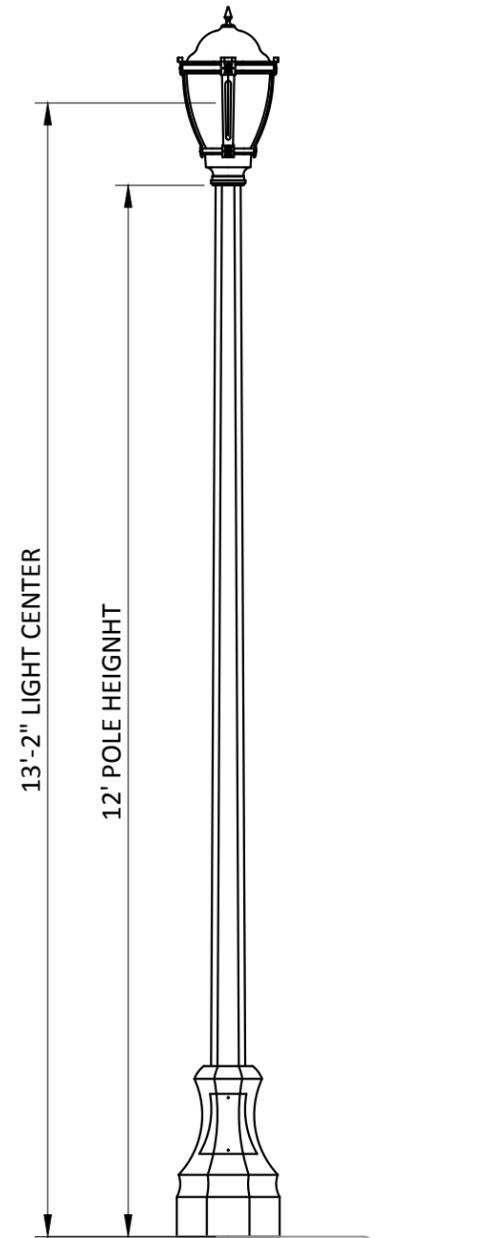
**DRAFT**

		<p><b>CITY OF EVERETT</b>  <b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
<p>TITLE  <b>CONDUIT RISER DETAIL</b>          FOR PUD SERVICE DROP</p>			<p>Current Rev Date  <b>12/30/2016</b>          STANDARD DRAWING No.  <b>822</b></p>



LIGHTING REFERENCE NO.  
VI-EVR/9-EVR2-DCT/13'

**TYPE A**  
**TWIN FIXTURE MOUNTING**



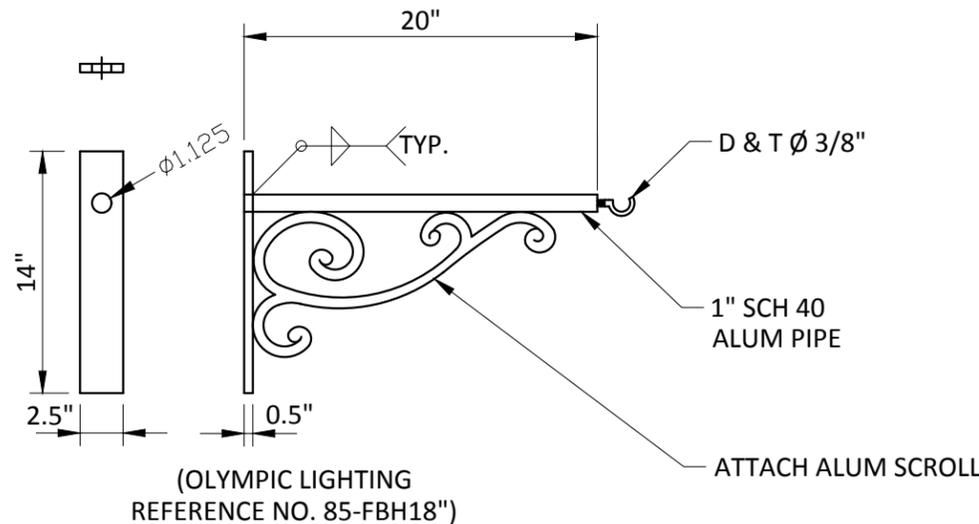
PEDESTRIAN LIGHT ONLY USED WITH  
APPROVAL OF CITY ENGINEER

**TYPE B**  
**SINGLE FIXTURE MOUNTING**

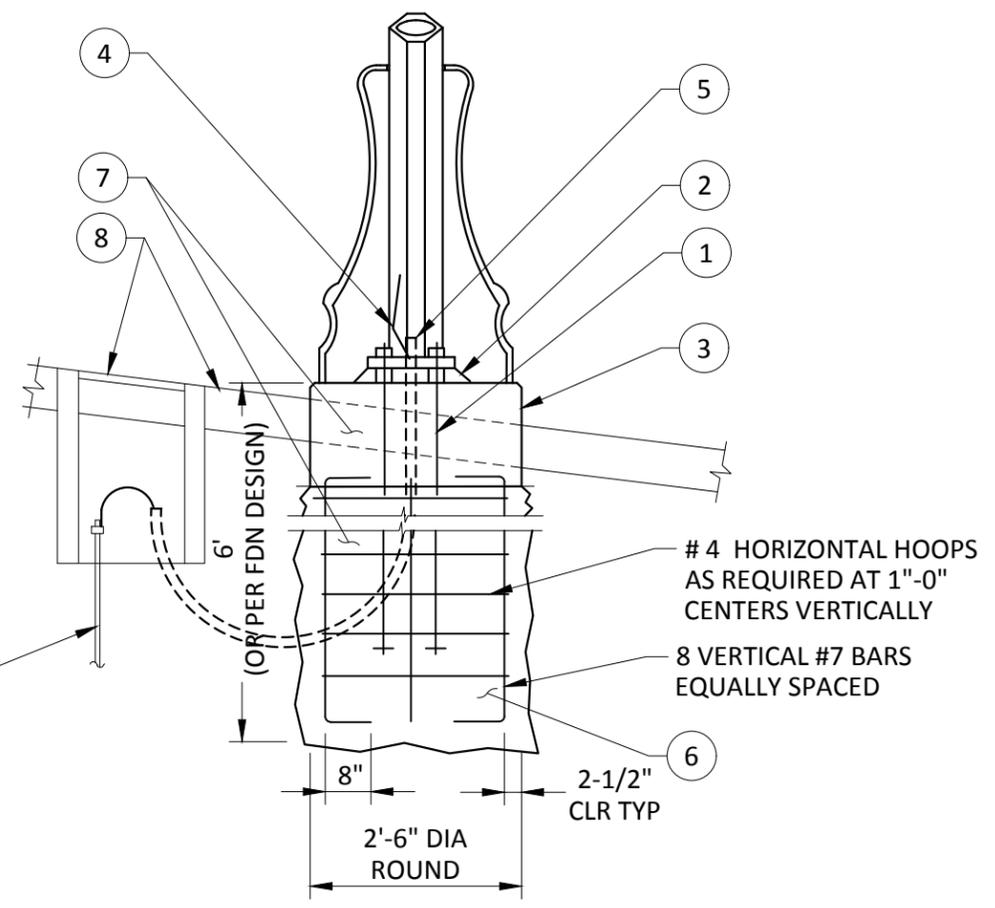
SPECIFICATIONS	
LAMP POST STYLE:	PER MANUFACTURER
CASTINGS STYLE:	"EVERETT" SPLIT BASE ASSEMBLY
MATERIAL:	ASTM A356 ALUMINUM
SUPPORT POLE:	TAPERED, 11GA. OCTAGON
MATERIAL:	ASTM A570=88, Gr. 33 STEEL
FIXTURE STYLE:	CYCLONE CG21T4-AGPF-3L-67W-4K-240-EA1- GCY03P-F1AP-R30-RAL6012TX
LIGHT SOURCE:	LED, 67 WATTS, 4000K, IES TYPE III - OR AS SPECIFIED
FINISH:	PRIME & FINISH PAINT, EVERETT GREEN
ANCHOR BOLTS:	1x36x6 A307 GALV.
FLOWER BASKET HANGER:	TWIN 20" DECORATIVE

**DRAFT**

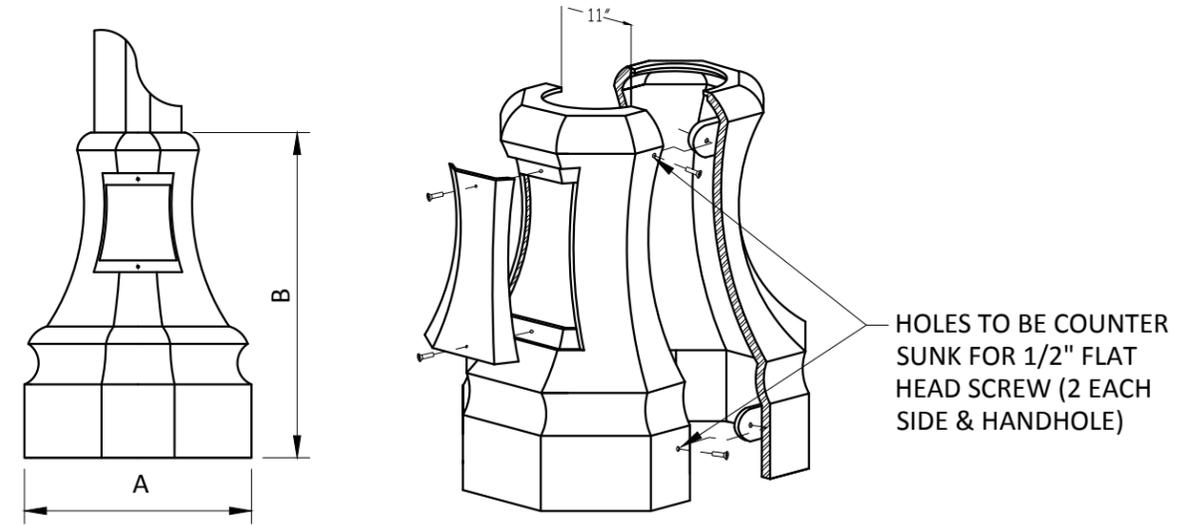
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
TITLE DECORATIVE STREET LIGHT TYPE A & TYPE B POLES			Current Rev Date 12/30/2016 STANDARD DRAWING No. 823



**FLOWER BASKET HANGER (OPTIONAL)**

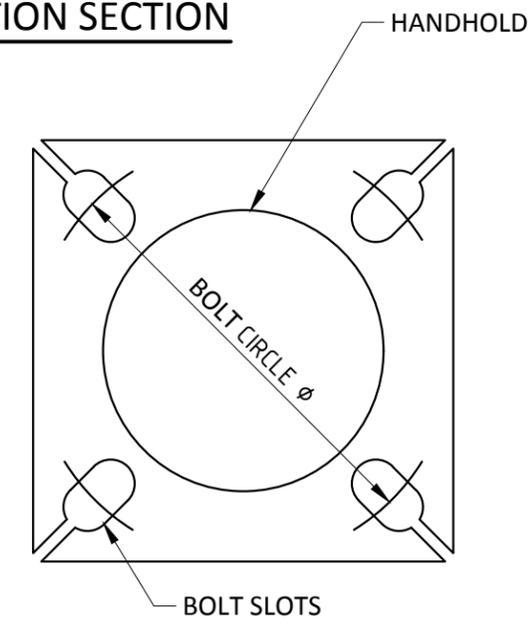


**FOUNDATION SECTION**



BASE SPECIFICATIONS		
ITEM	SINGLE FIXTURE	TWIN FIXTURE
DIMENSION "A"	18"	24"
DIMENSION "B"	30"	40"
MATERIAL	CAST ALUMINUM	CAST ALUMINUM

**BASE**



**ANCHOR PLATE DETAIL**

- # **NOTES**
1. ANCHOR BOLT, SIZE & CIRCLE DIAMETER PER MANUFACTURERS SHOP DRAWINGS.
  2. 2" NOM GROUT PAD WITH 1/2" DRAIN HOLE. FOUNDATION FLUSH IN PAVED AREAS.
  3. EXTEND 2'-6" DIAMETER FOUNDATION 1" MINIMUM ABOVE FINISHED SIDEWALK. TOP SURFACE OF FOUNDATION SHALL BE LEVEL WITH 1/2" CHAMFER.
  4. CONNECT SYSTEM GROUND TO POLE GROUND STRAP AND EXTEND GROUND TO ALL EQUIPMENT.
  5. ALL CONDUITS SHALL EXTEND 3" ABOVE FOUNDATION.
  6. CONCRETE SHALL BE COMMERCIAL MIX CONCRETE AS CALLED OUT IN WSDOT STANDARD SPECIFICATIONS.
  7. FOUNDATION WILL BE POURED IN PLACE WITH FORMING OF TOP 3-1/2".
  8. FOR SPECIFIC LOCATION AND SURROUNDING ITEMS LIKE JUNCTION BOXES AND SIDEWALKS SEE PLANS.

ANCHOR PLATE SPECIFICATIONS		
ITEM	TYPE A TWIN FIXTURE	TYPE B SINGLE FIXTURE
PLATE	1' THICK A36 STEEL	1' THICK A36 STEEL
BOLT CIRCLE	12" $\phi$	9" $\phi$
BOLT SLOTS	(4) 1 - 1/4" ACCEPTING *	(4) 1 - 1/8" ACCEPTING 1" $\phi$
ANCHOR BOLT	A307 GALVANIZED *	1" x 36" GALVANIZED

\* LENGTH PER MANUFACTURE SPECIFICATIONS.

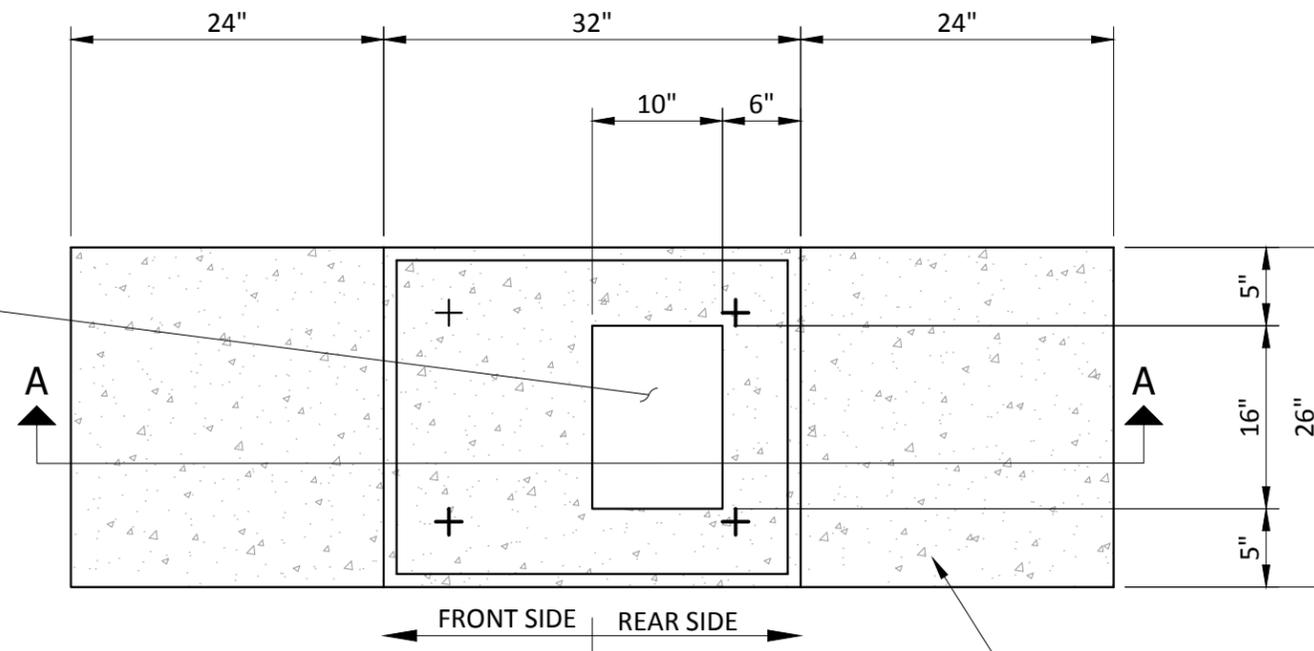
**CITY OF EVERETT**  
EVERETT PUBLIC WORKS DEPARTMENT

City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
TITLE DECORATIVE STREET LIGHT				STANDARD DRAWING No. 824

**DRAFT**

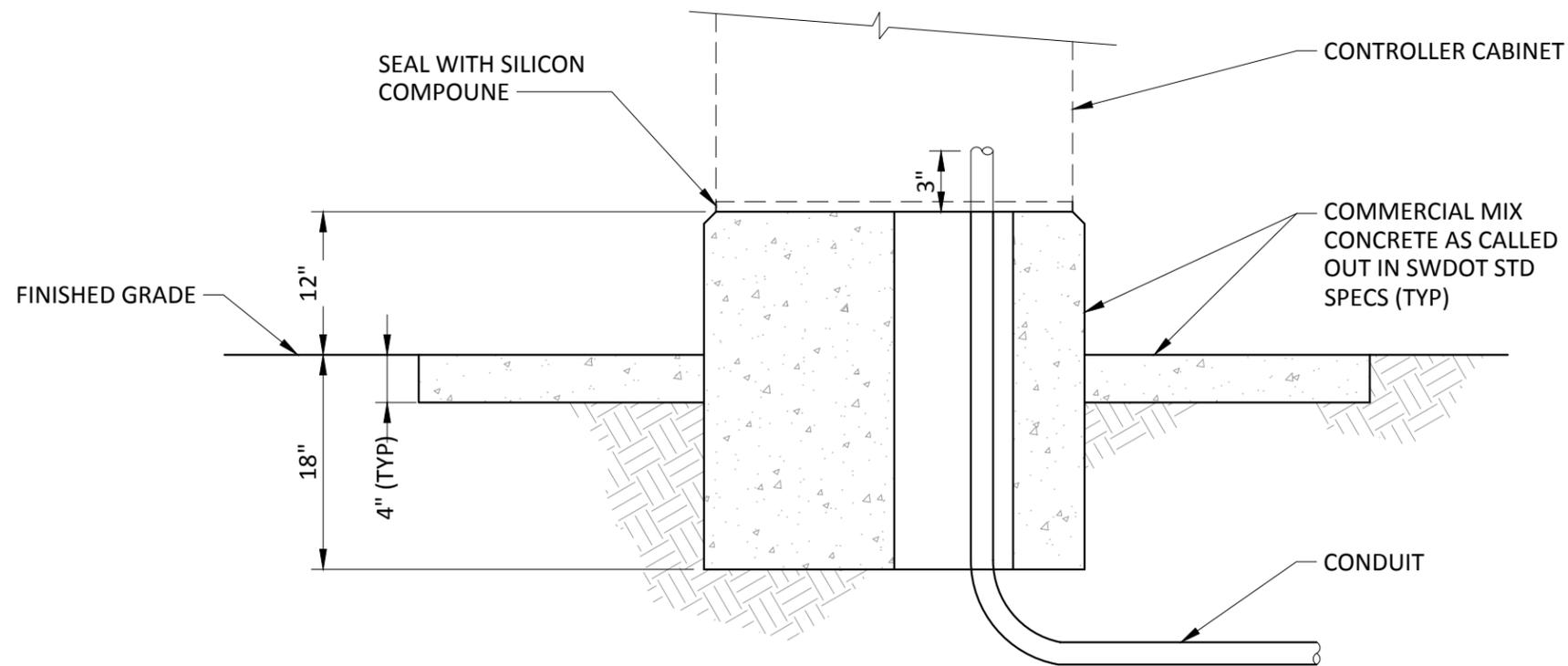
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 PLOTTED: 12/29/2016 8:23 AM

CONDUIT SHALL EXIT FOUNDATION IN THIS AREA



**PLAN VIEW**

CONCRETE PAD EACH SIDE IN UNPAVED AREAS



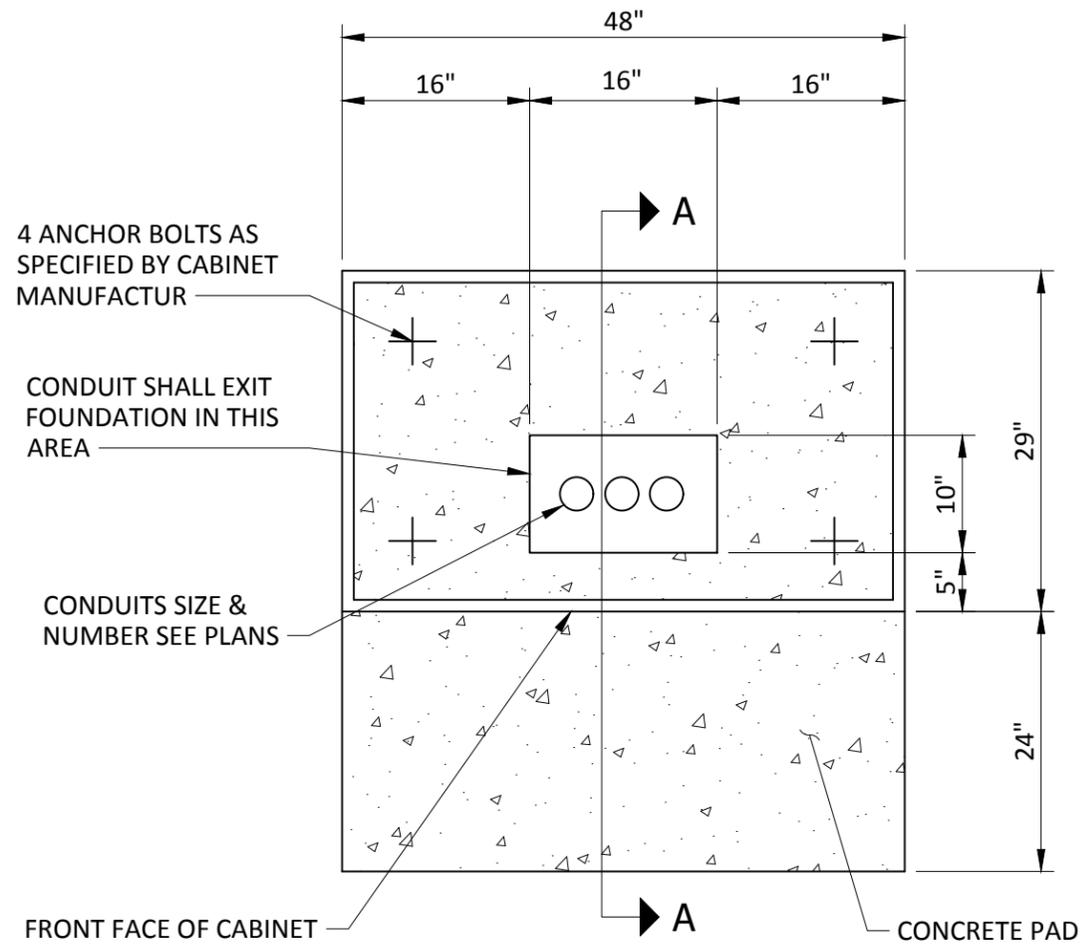
**SECTION A-A**



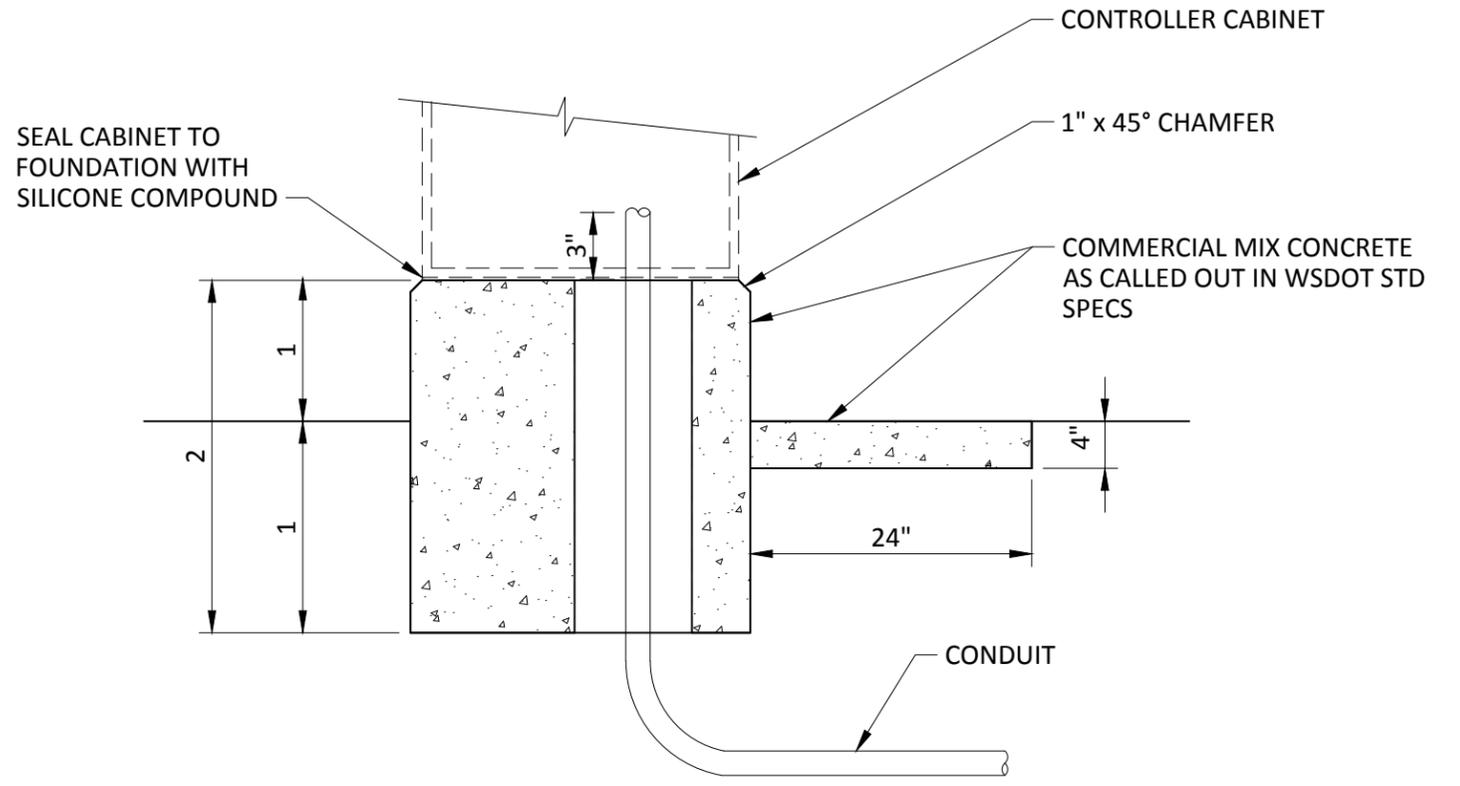
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK	Current Rev Date 12/30/2016
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TITLE 332 CABINET FOUNDATION DETAIL	STANDARD DRAWING No. 825
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**DRAFT**



PLAN VIEW



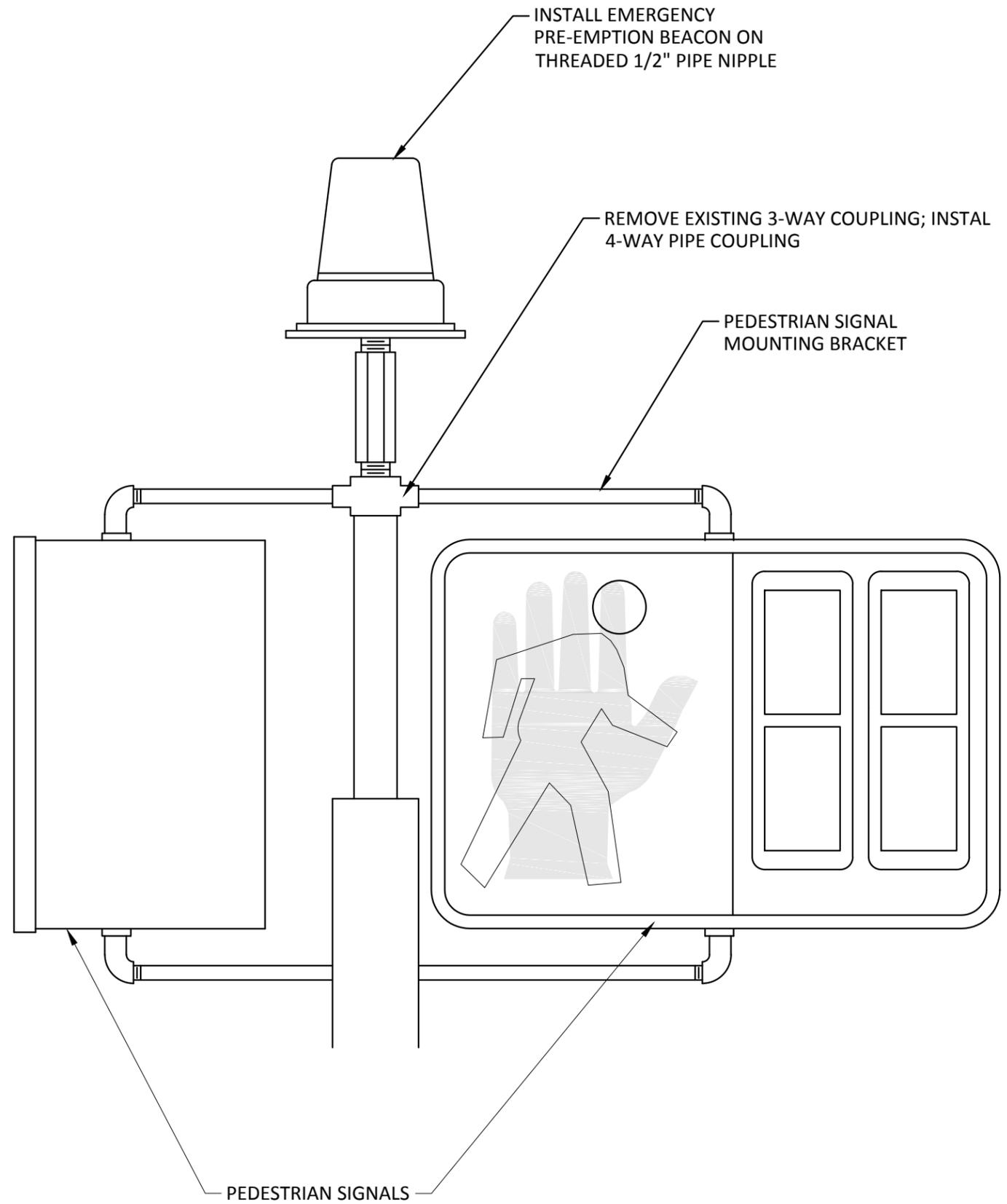
SECTION A-A

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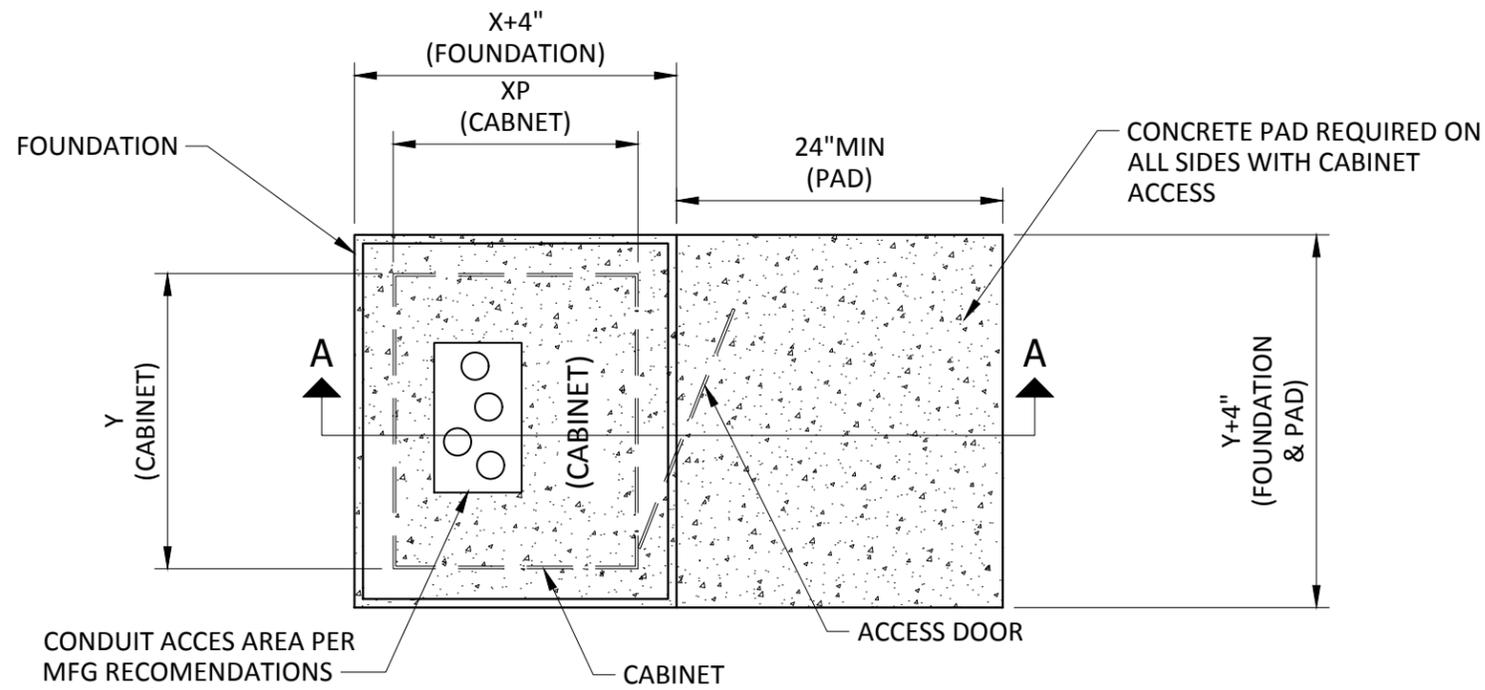
 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>LAK</b>	Current Rev Date <b>12/30/2016</b>
TITLE <b>NEMA "P" CABINET</b> <b>FOUNDATION DETAIL</b>						STANDARD DRAWING No. <b>826</b>

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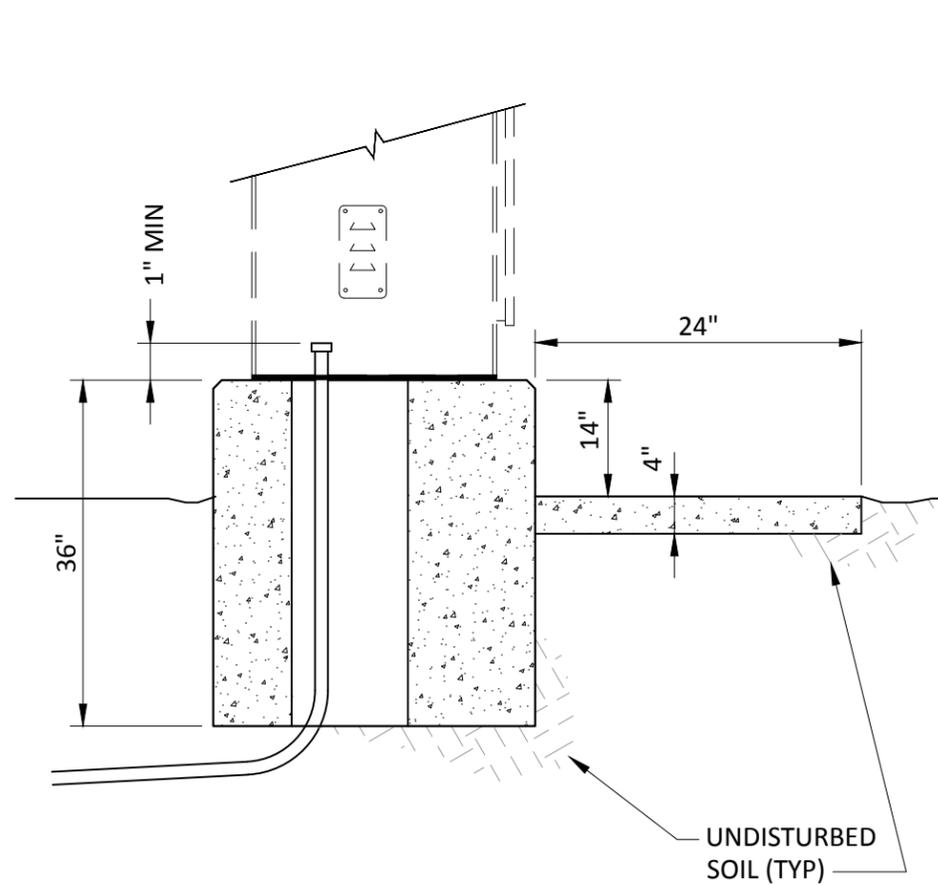


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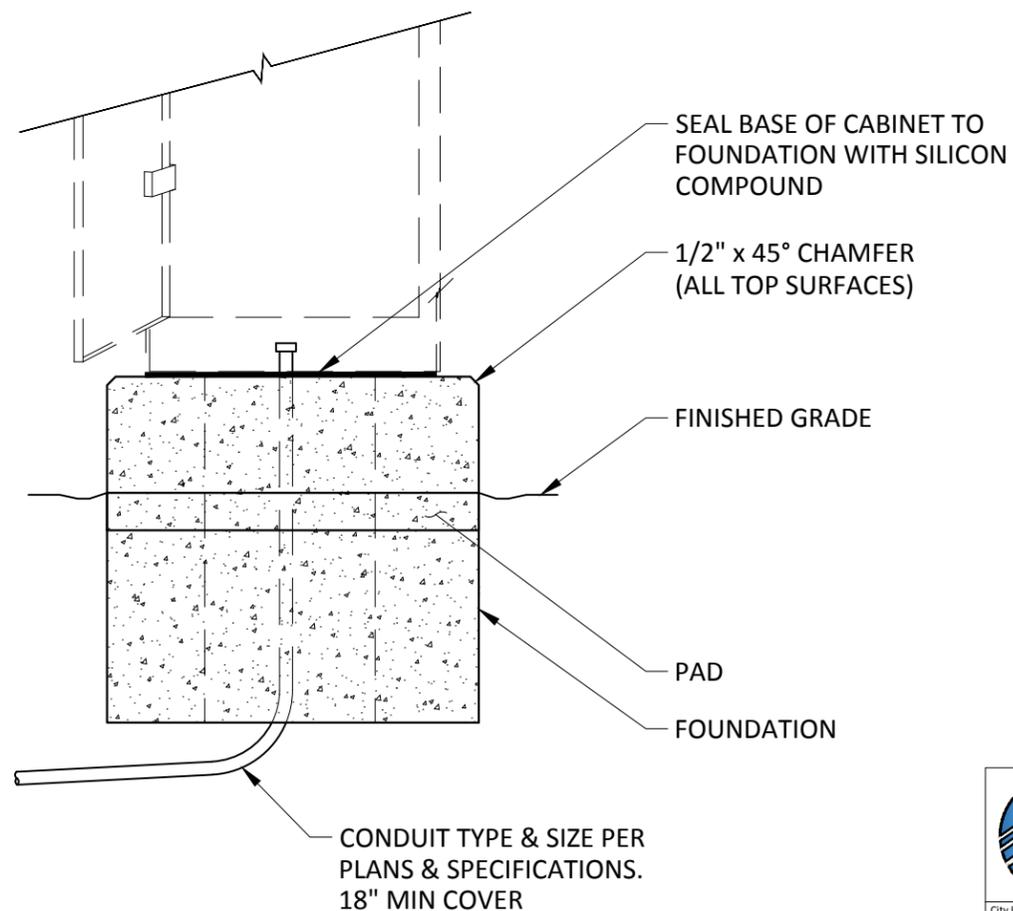
		<b>CITY OF EVERETT</b>	
		<b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By LAK
TITLE <b>EMERGENCY PRE-EMPTION BEACON</b>			Current Rev Date <b>12/30/2016</b>
MOUNTING DETAIL FOR TYPE PS POLE			STANDARD DRAWING No. <b>827</b>



**PLAN**



**SECTION A-A**



**ACCESS SIDE**

**FOUNDATION & PAD NOTES**

1. FORMED CONSTRUCTION
2. COMMERCIAL MIX CONCRETE AS CALLED OUT IN WSDOT STD SPECS.
3. 1/2" CHAMFER AT FOUNDATION TOP
4. STAINLESS STEEL ANCHOR BOLTS, LOCATION, SIZE AND QUANTITY PER CABINET MFG SPEC.
5. FOUNDATION AND PAD TO SIT UNDISTURBED SOIL.
6. CONDUIT TO EXTEND A MIN OF 6" ABOVE FOUNDATION.
7. TOP SURFACE SHALL BE LEVEL.

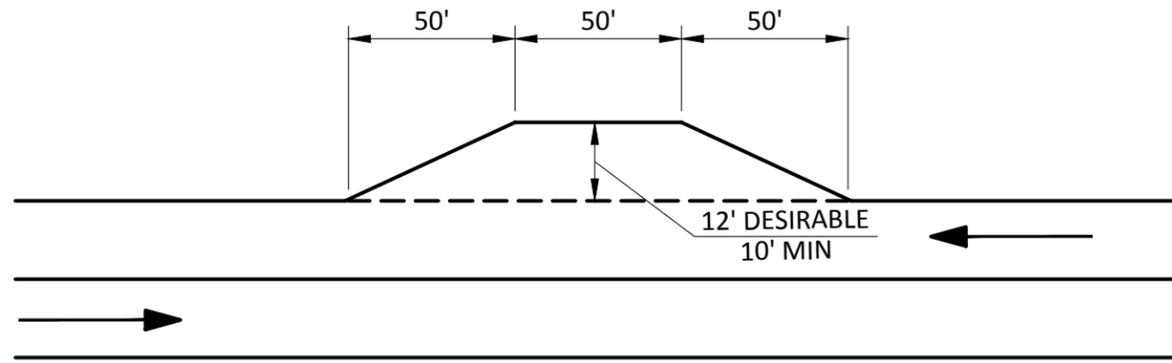
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**DRAFT**

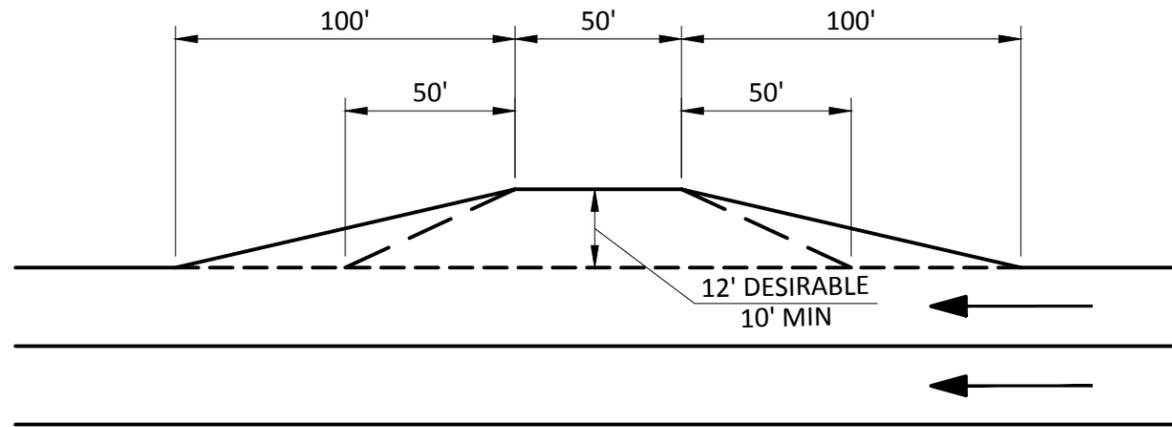
 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer <b>RYAN SASS</b>	Section Manager <b>COREY HERT</b>	CAD Manager <b>PAUL WILHELM</b>	Drawn By <b>LAK</b>	Current Rev Date <b>12/30/2016</b>
<b>TRAFFIC ELECTRICAL CABINET</b> FOUNDATION DETAIL						STANDARD DRAWING No. <b>828</b>

**NOTES**

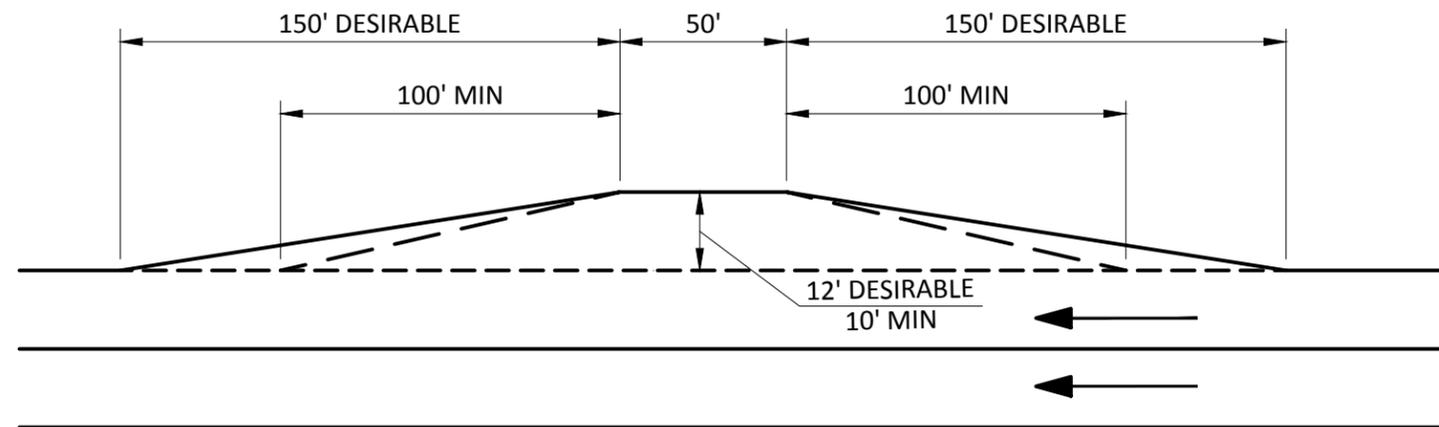
1. LOCAL ACCESS "A" & "B" STREETS AS DEFINED BY STANDARD DRAWING 300, DO NOT REQUIRE BUS TURNOUTS.
2. LOCATION AND REQUIREMENT FOR BUS STOPS WILL BE AT THE DIRECTION OF THE CITY ENGINEER.
3. PAVEMENT SECTION FOR BUS TURNOUT SHALL BE THE SAME AS REQUIRED FOR THE ADJACENT STREET, SEE STANDARD DRAWING 301.



**COLLECTOR ARTERIAL**



**MINOR ARTERIAL**



**PRINCIPAL ARTERIAL**

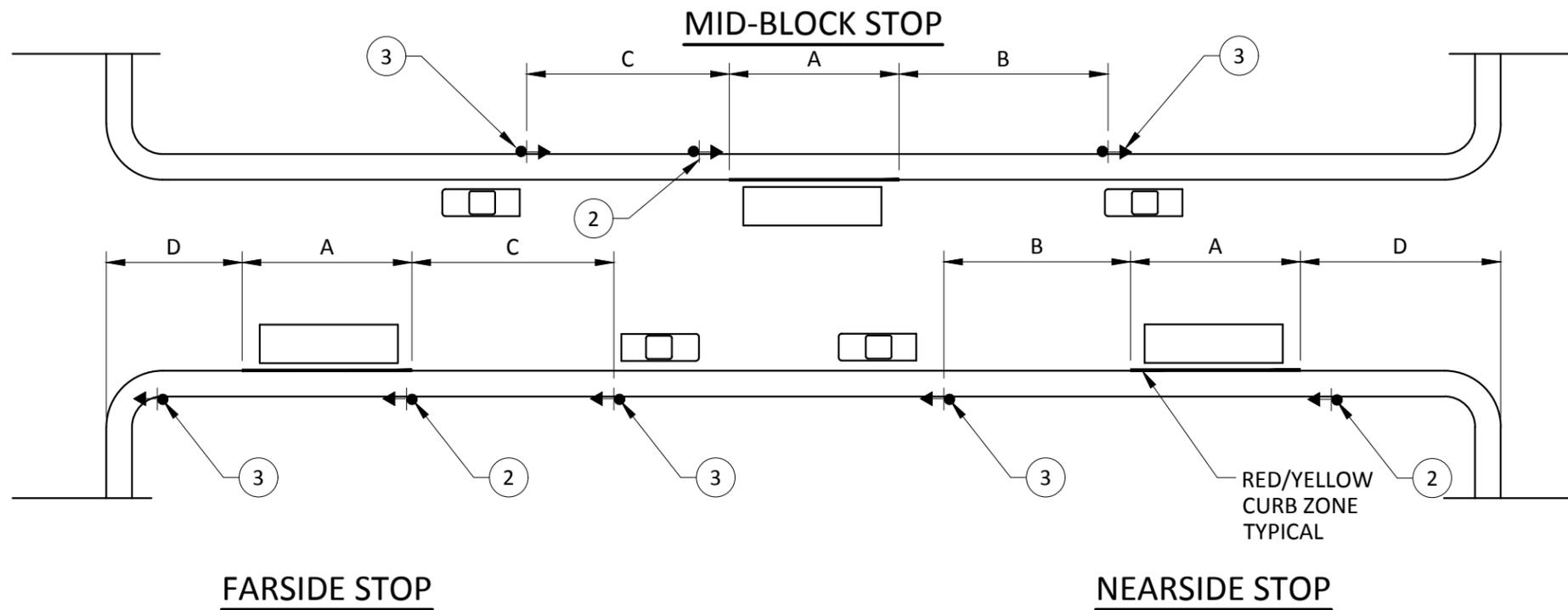
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**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>BUS TURNOUT DIMENSIONS</b>				STANDARD DRAWING No. <b>901</b>

## NOTES

1. LOCATION OF BUS STOPS MUST BE APPROVED BY THE CITY ENGINEER.
2. INSTALL BUS STOP SIGN (R7-28 OR R7-29) A MIN OF 2-1/2' BACK FROM FACE OF CURB OR BEHIND BACK OF SIDEWALK AS APPLICABLE.
3. INSTALL BUS ZONE NO PARKING SIGNS (R7-107A) A MIN OF 2-1/2' BACK FROM FACE OF CURB OR BEHIND BACK OF SIDEWALK AS APPLICABLE.



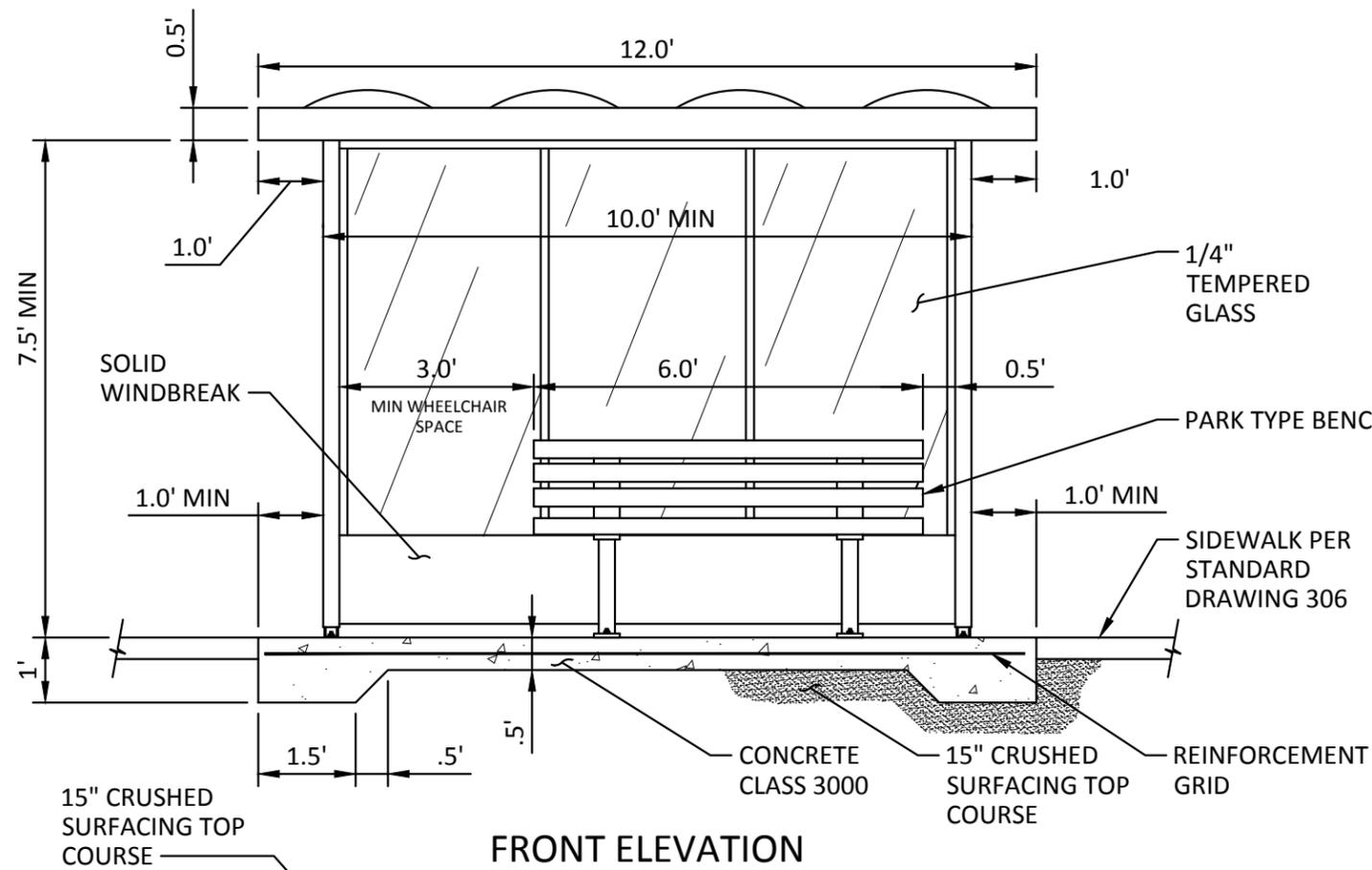
## DIMENSIONS

- A. BERTH - 50' FOR SINGLE 40' BUS. 70' FOR ARTICULATED BUS.
- B. ENTRANCE CLEARANCE - 60' MIN. 70' FOR ARTICULATED BUS, OR HIGH SPEED AND/OR HIGH VOLUME STREETS.
- C. EXIT CLEARANCE - 40' MIN, 50' DESIRABLE FOR HIGH SPEED AND/OR HIGH VOLUME STREETS, AND REQUIRED FOR ARTICULATED BUS.
- D. CLEARANCE - 25' IF ROUTE APPROACH/CONTINUES STRAIGHT. 50' IF ROUTE APPROACH/CONTINUATION REQUIRES TURN AT INTERSECTION.

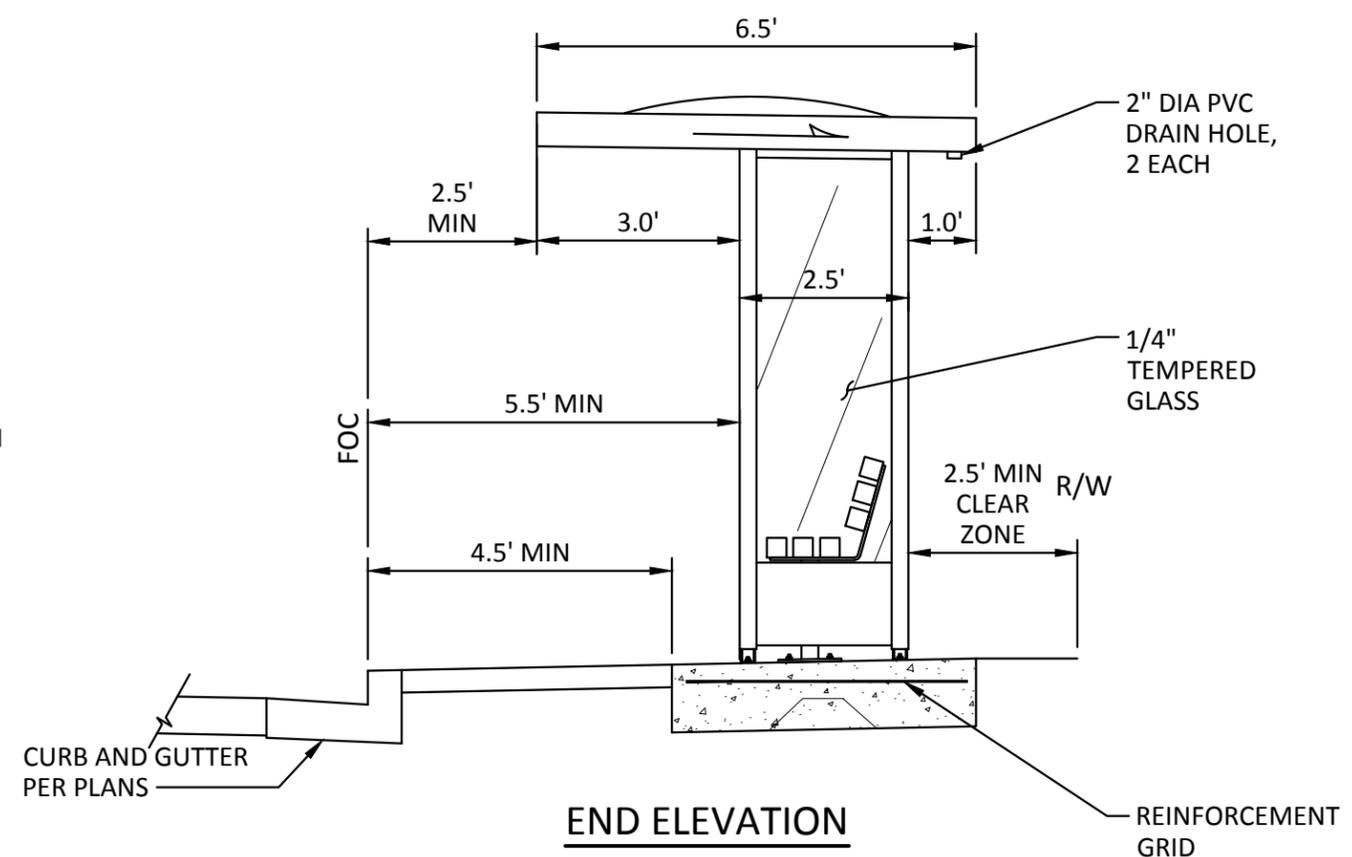
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		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE BUS STOP DIMENSIONS			Current Rev Date 12/30/2016 STANDARD DRAWING No. 902

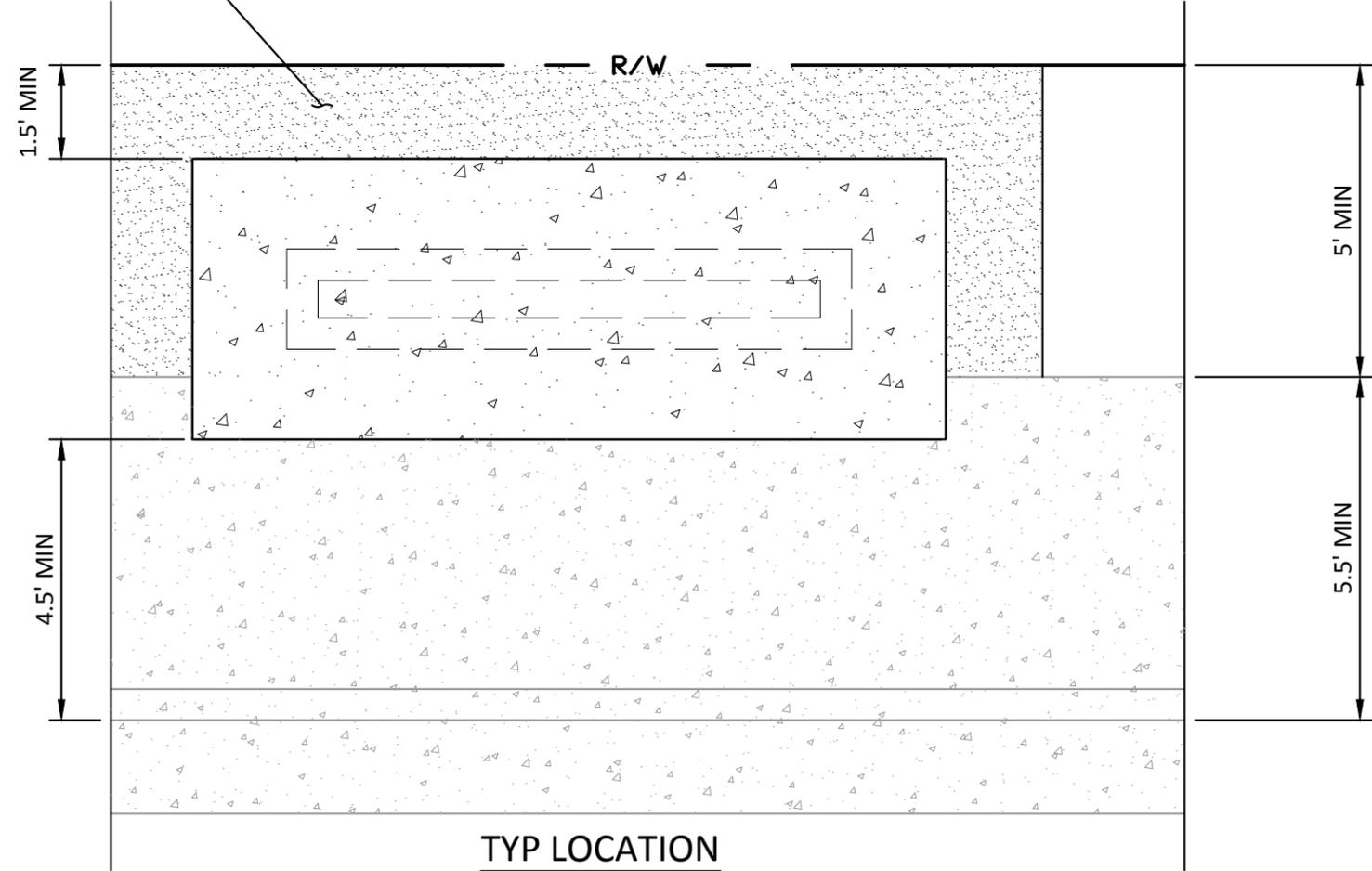
**DRAFT**



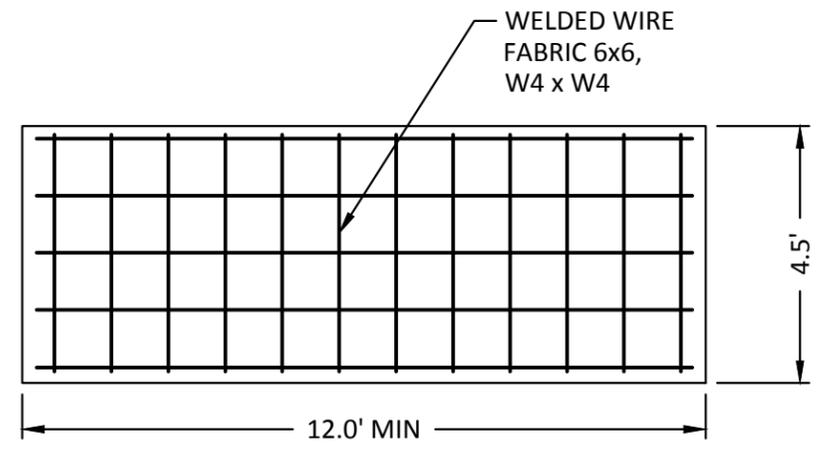
**FRONT ELEVATION**



**END ELEVATION**



**TYP LOCATION**

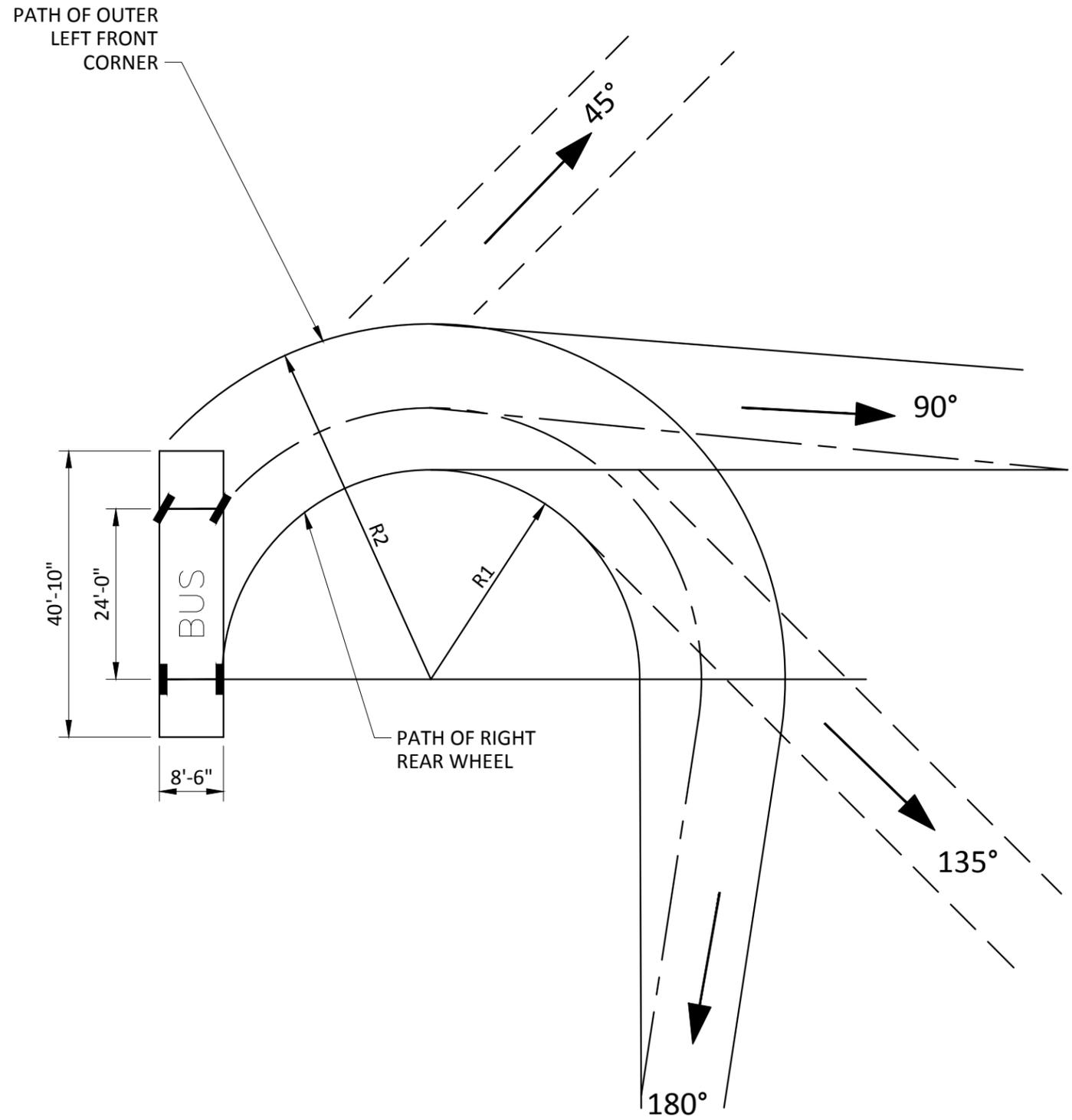


**REINFORCEMENT LAYOUT**

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 PLOTTED: 12/27/2016 2:10 PM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>BUS SHELTER &amp; FOUNDATION PAD DETAILS</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>904</b>



**NOTES**

TEMPLATES FOR RIGHT-TURN ONLY.  
REVERSE FOR LEFT-TURN.

MINIMUM

R1=RADIUS OF INNER REAR WHEEL 30'

R2= RADIUS OF OUTER FRONT CORNER 50'

RECOMMENDED

R1=RADIUS OF INNER REAR WHEEL 35'

R2= RADIUS OF OUTER FRONT CORNER 55'

TURNING TEMPLATE

SCALE



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 PLOTTED: 12/27/2016 2:10 PM

		<p><b>CITY OF EVERETT</b></p> <p><b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
City Engineer RYAN SASS	Section Manager COREY HERT	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date
BUS TURNING RADII			12/30/2016
			STANDARD DRAWING No. 905

**DRAFT**