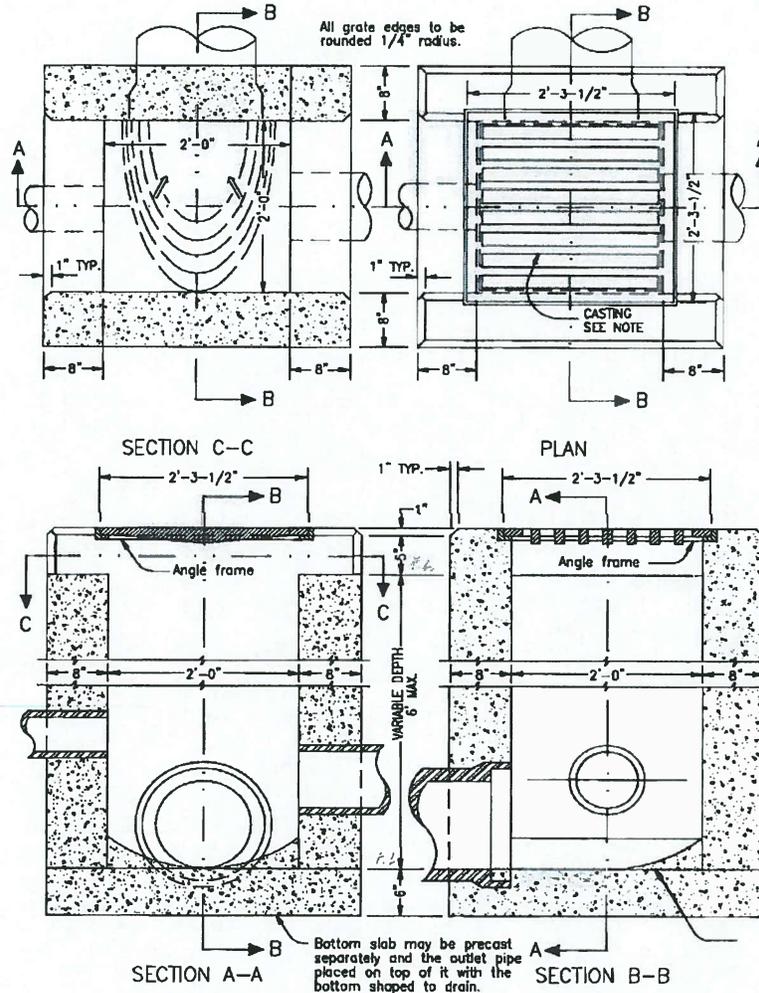


STANDARD No. 2-2-A CATCH BASIN



NOTES:

GRATE AND FRAME: GRATING AND FRAME SHALL MEET THE REQUIREMENTS OF ODOT 604. THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THE ONE SHOWN. MINIMUM WEIGHT OF GRATE - 120 LBS. MINIMUM WEIGHT OF FRAME - 40 LBS

WALLS: BRICK, CONCRETE BLOCK, OR CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 8". PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6", AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING. BRICK SHALL NOT BE USED ABOVE THE FLOW LINE OF THE SIDE OPENING. CAST IN PLACE CONCRETE SHALL BE CLASS C.

2-2-A SIDE INLETS: SIDE INLETS ARE TO BE PLACED 4" TO 6" BELOW NORMAL ELEVATIONS OF THE MEDIAN OR DITCH FLOW LINE. FLOW LINE SHALL RETURN TO NORMAL 10' EACH SIDE OF BASIN. SIDE INLETS SHALL BE PROVIDED ON BOTH SIDES OF THE 2-2-A CATCH BASIN IN SAGS AND ON THE UPSTREAM SIDE ONLY, WHERE THE DITCH HAS A CONTINUOUS DOWN GRADE PAST THE BASIN.



City of Marysville
Division of Engineering

STANDARD CONSTRUCTION DRAWING

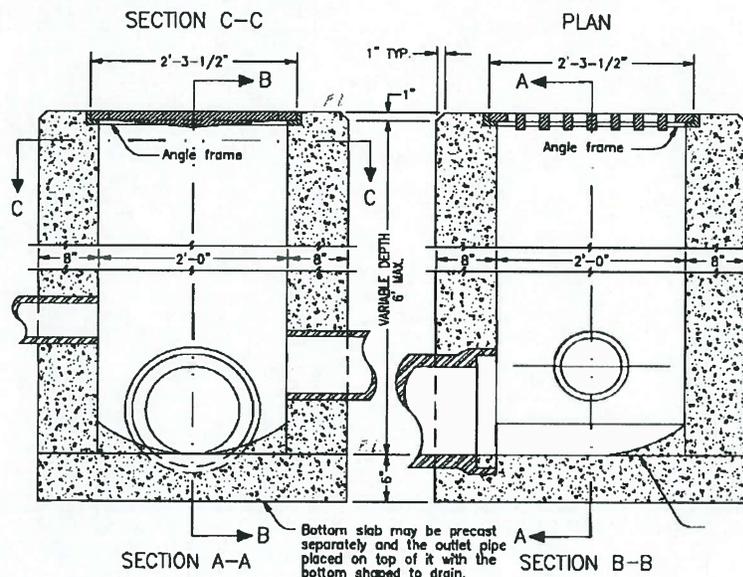
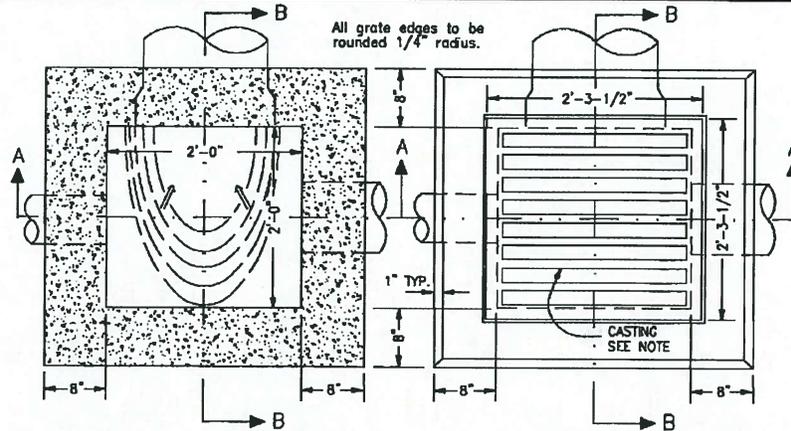
Approved:

Jeremy J. [Signature]
City Engineer

12/31/2013
Date

TYPICAL STORM WATER
2-2-A CATCH BASIN

Drawing
No.
STS-01



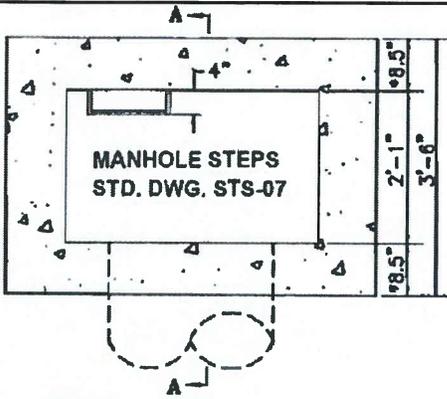
NOTES:

GRATE AND FRAME: GRATING AND FRAME SHALL MEET THE REQUIREMENTS OF ODOT 604. THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THE ONE SHOWN. MINIMUM WEIGHT OF GRATE - 120 LBS. MINIMUM WEIGHT OF FRAME - 40 LBS

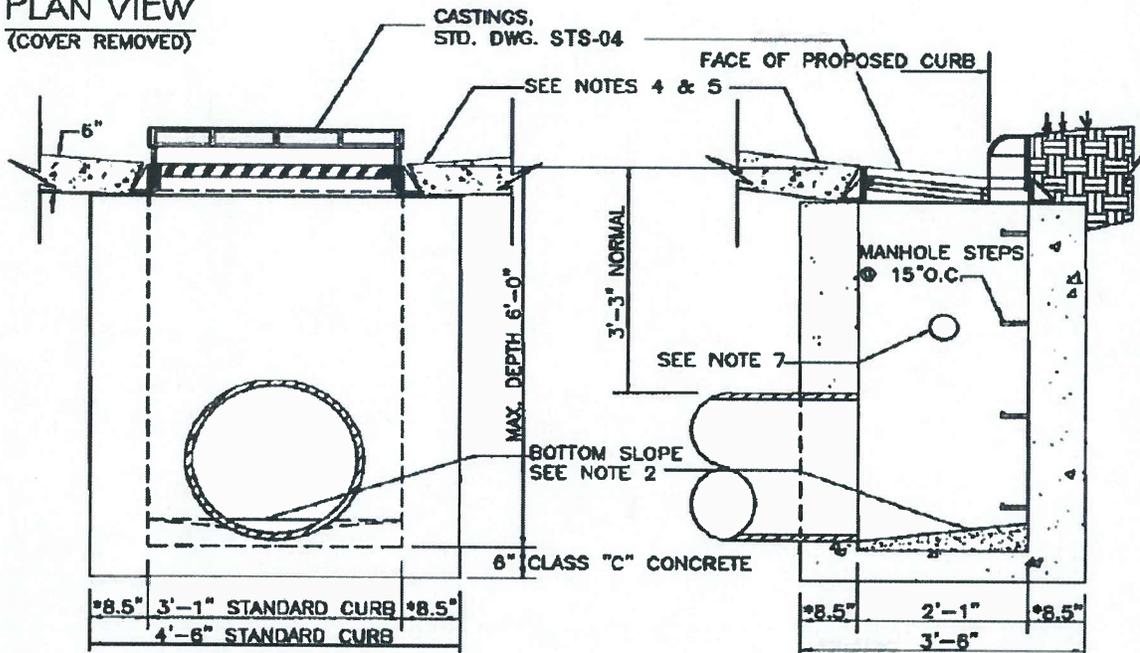
WALLS: BRICK, CONCRETE BLOCK, OR CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 8". PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6", AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING. WHEN SIDE OPENINGS ARE PROVIDED, ELEVATION SHALL BE THE FLOW LINE OF THE SIDE OPENING. CAST IN PLACE CONCRETE SHALL BE CLASS C.

2-2-B GRATE ELEVATION: 2-2-B GRATE IS TO BE PLACED 4" TO 6" BELOW NORMAL ELEVATIONS OF THE MEDIAN OR DITCH FLOW LINE. FLOW LINE SHALL RETURN TO NORMAL 10' EACH SIDE OF BASIN.

	City of Marysville Division of Engineering		STANDARD CONSTRUCTION DRAWING	
	Approved: <i>[Signature]</i> City Engineer	12/31/2013 Date	TYPICAL STORM WATER 2-2-B CATCH BASIN	



PLAN VIEW
(COVER REMOVED)

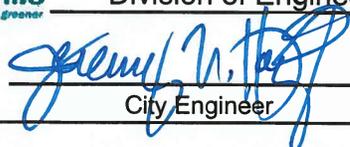


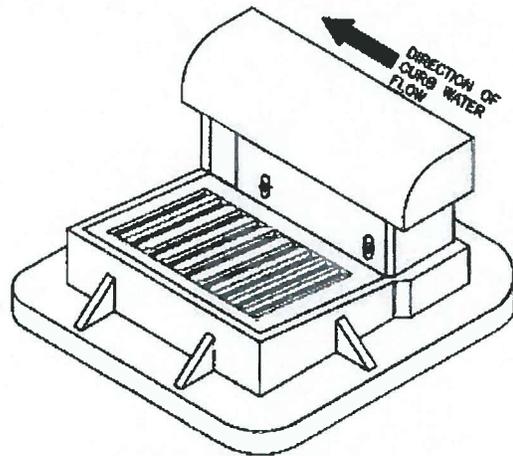
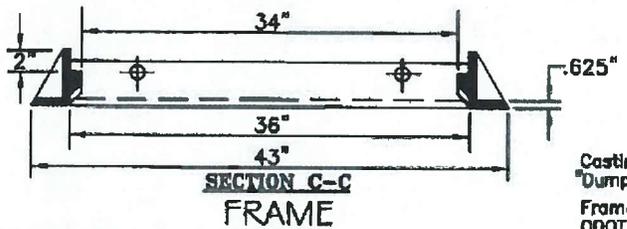
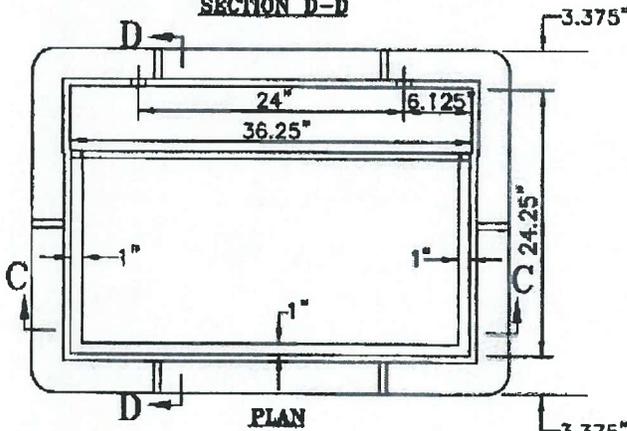
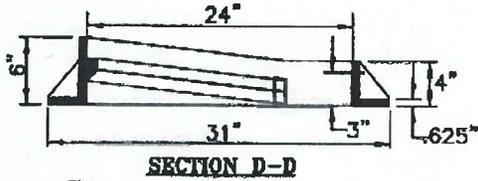
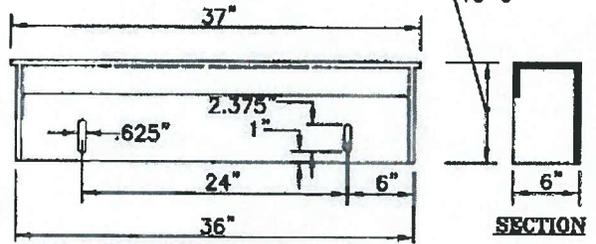
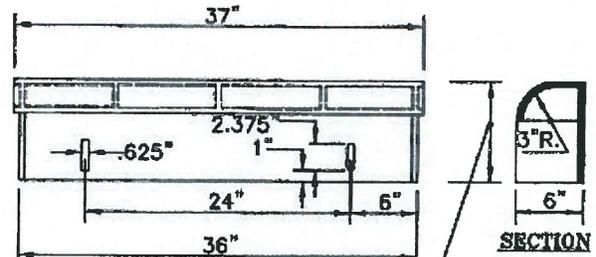
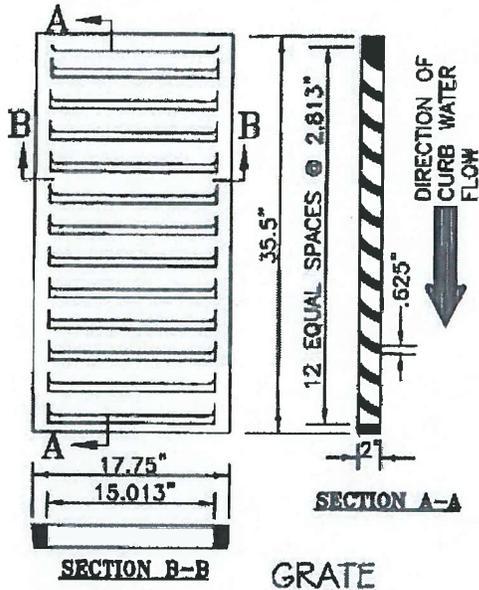
NOTES

ELEVATION

SECTION A-A

1. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.
2. THE INLET BOTTOM SHALL BE SHAPED TO PROVIDE SLOPE OF 3" TO 4" TO OUTLET PIPE. THE CROSS SECTIONAL FORM OF BOTTOM AND LONGITUDINAL SLOPE IS TO BE ADAPTED TO LOCATION OF OUTLET PIPE AS DIRECTED.
3. OUTLET PIPE MAY BE LOCATED IN FRONT OR BACK AND SHALL BE DIRECTED TOWARDS THE CENTER INLET.
4. THE EXISTING GUTTER WITHIN THE AREA AROUND THE INLET WHERE CUT OUT, SHALL BE REPLACED WITH CLASS "C" CONCRETE OR ASPHALTIC CONCRETE PAVING AS ORDERED.
5. BACKFILLING SHALL BE ODOT 304 COMPACTED TO 98% AT +/-1.5% OPTIMUM MOISTURE OR COM LSM-185.
6. WALLS MAY BE BRICK, PRECAST SOLID CONCRETE BLOCKS, CAST IN PLACE CLASS "C" CONCRETE OR PRECAST CONCRETE. MINIMUM WALL THICKNESS FOR BRICK, BLOCK, OR CAST IN PLACE CONCRETE IS 8.5". *
7. PLACE 4" CURB DRAIN STUBS 30" BELOW TOP OF CURB OR AS DIRECTED.
8. MAXIMUM PIPE DIAMETERS ARE 15" INTO SIDE WALLS AND 24" INTO FRONT OR BACK WALLS.

 <p>City of Marysville Division of Engineering</p>	STANDARD CONSTRUCTION DRAWING	
	<p>TYPICAL STORM WATER CURB AND GUTTER INLET</p>	<p>Drawing No. STS-03</p>
<p>Approved: </p> <p style="text-align: center;">City Engineer</p>	<p>12/31/2013</p> <p>Date</p>	



Castings shall be permanently cast with a fish emblem and "Dump No Waste" and "Drains to Waterways".
 Frames, Grates, and covers shall meet the requirements of ODOT Item 711 and AASHTO M306



City of Marysville
 Division of Street and Storm Water

Standard Construction Drawing

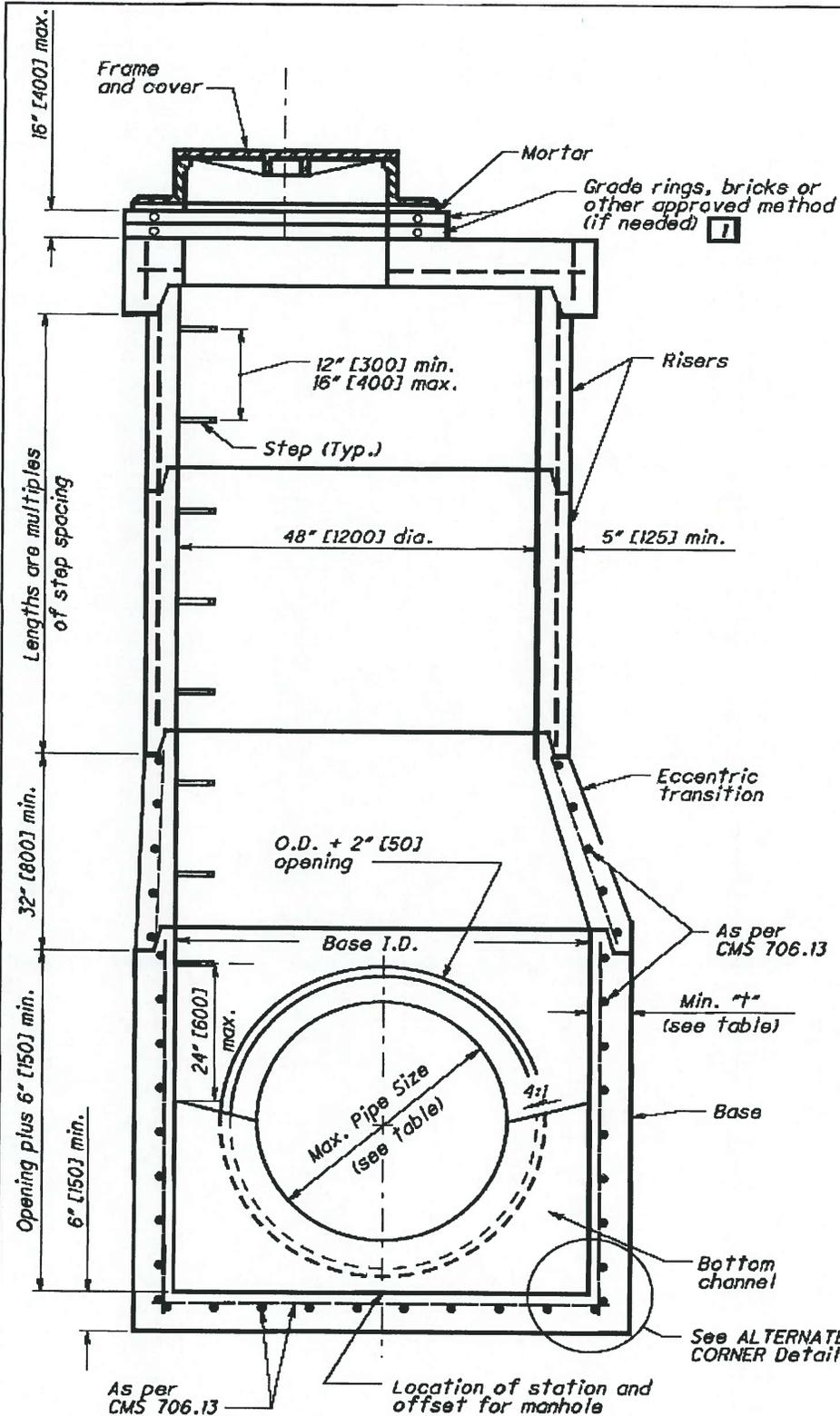
Approved: _____

Jerry V. Hoff
 City Engineer

12/31/2013
 Date

**Cast Iron Frame and Grate
 For Curb and Gutter Inlet
 (Standard Curb and Gutter)**

**Drawing
 Number
 STS-04**

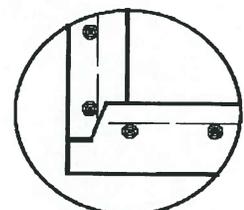


0° TO 45° MAXIMUM PIPE SIZE		
BASE I.D.	MIN. "t"	MAX PIPE SIZE *
48"	5"	30"
60"	5"	36"
72"	6"	42"
84"	7"	48"
96"	8"	60"
108"	9"	72"

* MAXIMUM PIPE SIZE FOR A GIVEN MANHOLE DIAMETER IS BASED ON STRAIGHT THROUGH ALIGNMENT TO 45° DEFLECTION THROUGH THE MANHOLE.

45° TO 90° MAXIMUM PIPE SIZE		
BASE I.D.	MIN. "t"	MAX PIPE SIZE **
48"	5"	18"
60"	5"	27"
72"	6"	30"
84"	7"	36"
96"	8"	42"
108"	9"	48"

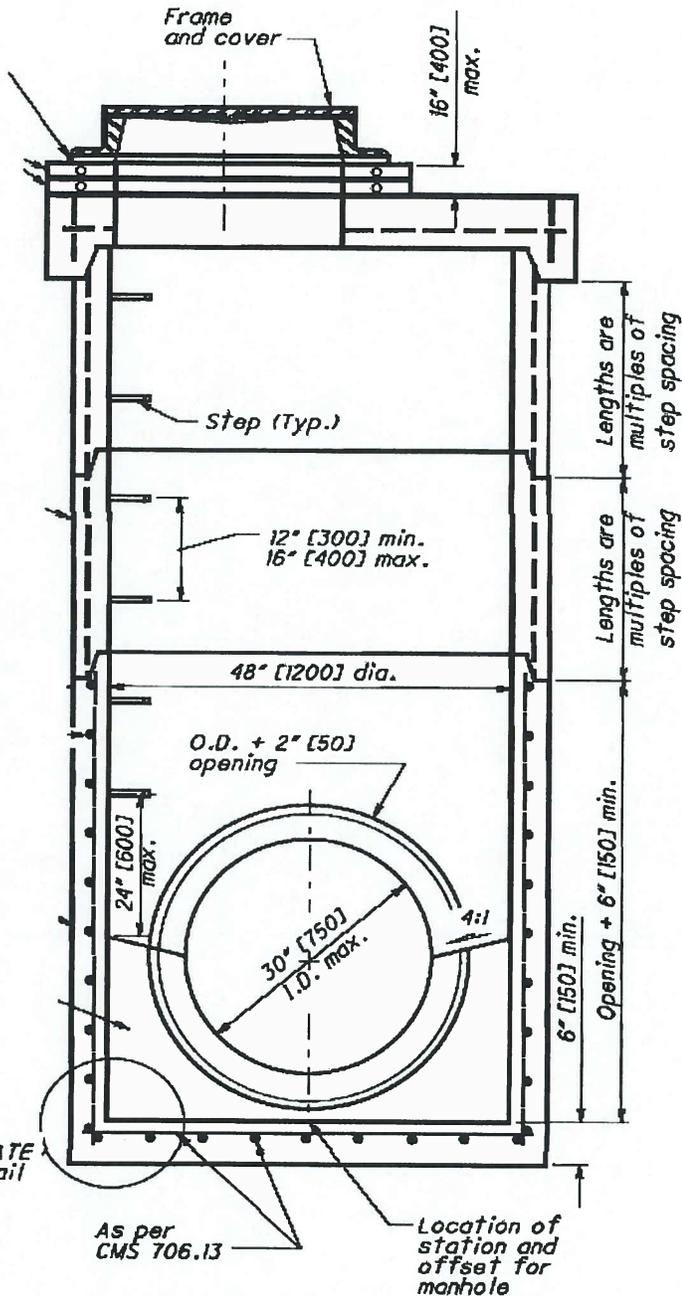
**MAXIMUM PIPE SIZE FOR A GIVEN MANHOLE DIAMETER IS BASED ON 45° TO 90° DEFLECTION THROUGH THE MANHOLE, WITHOUT ANY OTHER PIPE CONNECTION TO THE MANHOLE. A MINIMUM OF A 6" STRUCTURAL LEG BETWEEN PIPES, MEASURED ON THE INSIDE OF THE MANHOLE MUST BE MAINTAINED IN THE DESIGN.



ALTERNATE CORNER DETAIL


City of Marysville
 Division of Engineering
 Approved: *Jeremy W. Taylor* 12/31/2013
 City Engineer Date

STANDARD CONSTRUCTION DRAWING
ODOT MANHOLE 3
PRECAST CONCRETE
STORMWATER MANHOLE
 1 of 3
 Drawing No. STS-05



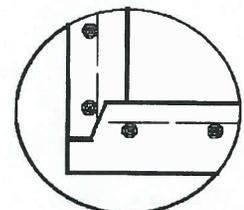
48" [1200] PRECAST BASE

0° TO 45° MAXIMUM PIPE SIZE		
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ALTERNATE CORNER DETAIL

See ALTERNATE CORNER Detail

As per CMS 706.13

Location of station and offset for manhole



City of Marysville
Division of Engineering

STANDARD CONSTRUCTION DRAWING

**ODOT MANHOLE 3
PRECAST CONCRETE
STORMWATER MANHOLE**

2 of 3
Drawing No.
STS-05

Approved:

Jeremy V. Hart
City Engineer

12/31/2013
Date

NOTES

GENERAL: WITH NORMAL SOIL AND SITE CONDITIONS, THIS STANDARD PRECAST MANHOLE MAY BE USED FOR ANY REQUIRED DEPTH. PRECAST SECTIONS OF THE MANHOLE MAY BE CAST WITH TONGUE END EITHER UP OR DOWN. 1 1/4 INCH LIFT HOLES MAY BE PROVIDED IN EACH SECTION FOR HANDLING. HANDLING DEVICE FOR THE FLAT SLAB SHALL BE LEFT IN PLACE.

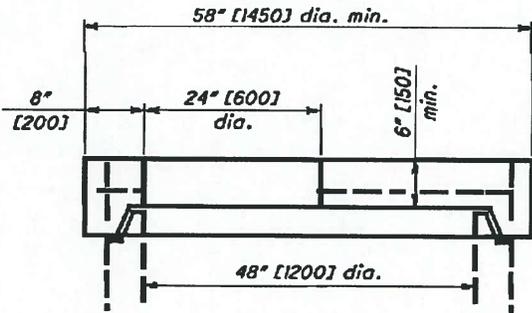
TOPS: TOPS MAY BE ECCENTRIC CONE OR FLAT SLAB.

TRANSITIONS: THIS SECTION MAY BE ECCENTRIC CONE OR FLAT SLAB.

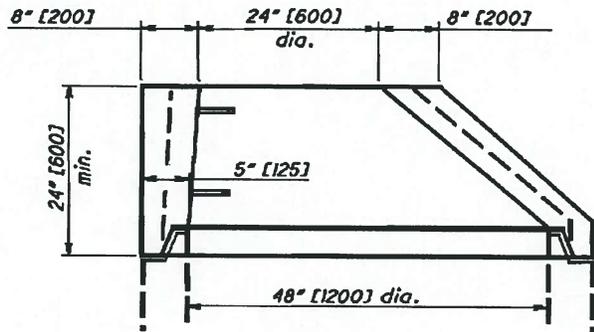
OPENINGS: THE MAXIMUM PIPE OPENING SHALL BE THE O.D. OF THE PIPE SUPPLIED PLUS 2 INCHES.

STEPS: STEPS SHALL BE POLYPROPYLENE AND COMPLY WITH CITY OF MARYSVILLE DRAWING STS-07.

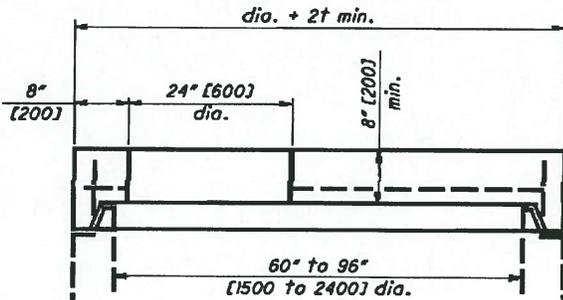
MANHOLE CASTINGS: FRAME AND COVER SHALL BE EITHER NEENAH R-1762, EAST JORDAN IRONWORKS 1661, OR AN APPROVED EQUAL. THE WORDING "MARYSVILLE STORM SEWER" SHALL BE CAST INTO THE CENTER OF THE LID.



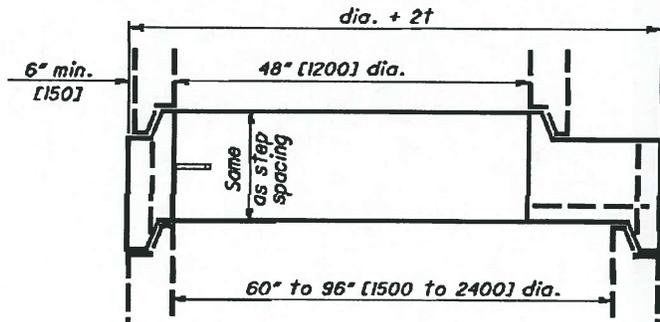
FLAT SLAB TOP



ALTERNATE ECCENTRIC CONE TOP
(Only if specified)



FLAT SLAB TOP



FLAT SLAB TRANSITION



City of Marysville
Division of Engineering

Approved:

Jeremy R. Taylor
City Engineer

12/31/2013
Date

STANDARD CONSTRUCTION DRAWING

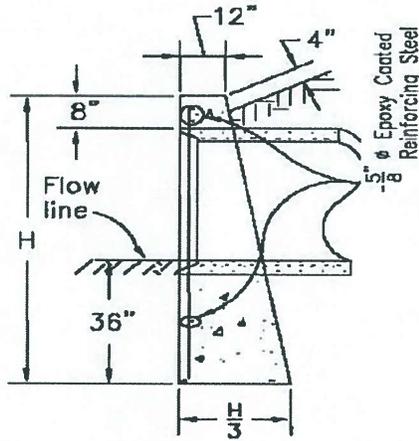
**ODOT MANHOLE 3
PRECAST CONCRETE
STORMWATER MANHOLE**

3 of 3
Drawing
No.
STS-05

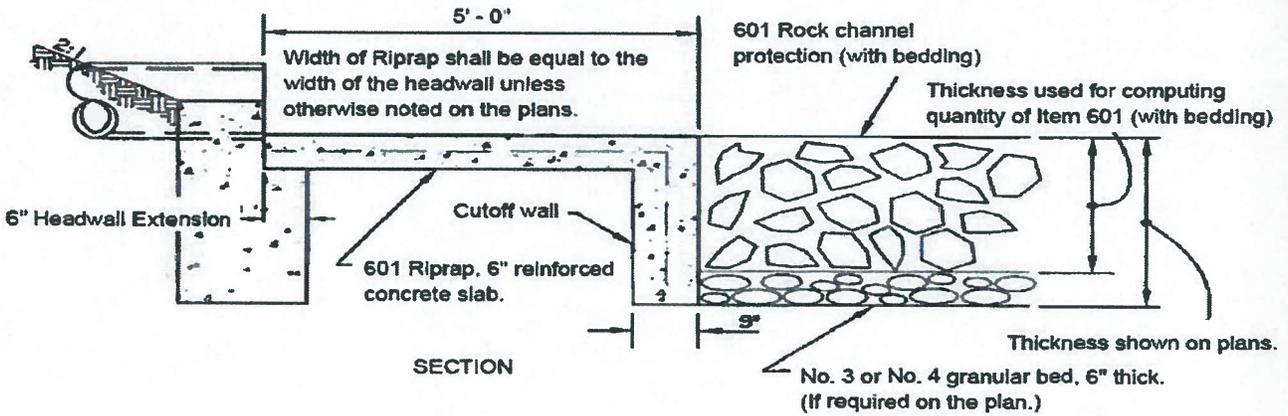
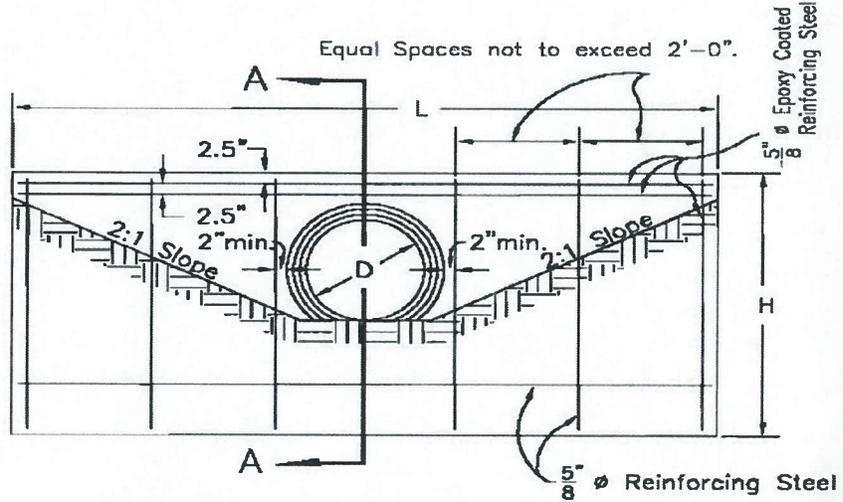
Diameter	H	L	Concrete Cu. Yds.	Reinforcing Steel, Lbs.
12"	4'-11"	5'-8"	1.2	36
15"	5'-2"	7'-0"	1.7	41
18"	5'-5"	8'-4"	2.2	57
21"	5'-8"	9'-8"	2.8	62
24"	5'-11"	11'-0"	3.3	69
30"	6'-5"	13'-8"	4.7	92
36"	7'-0"	16'-4"	6.5	105

NOTES

Concrete to be Class C.
Reinforcing Steel Bars shall be 5/8" round.
 Chamfer all exposed corners 3/4".
Foundation: Where the soil borings indicate a bearing capacity of less than 2600 PSF, it will be necessary to increase the width of the base.
Concrete quantities are based on headwalls without the 6" extension for the channel protection.
Inlet and Outlet protection will be provided as required.



SECTION A-A



OUTLET CHANNEL PROTECTION DETAIL

Cutoff Wall depth is variable to match the required thickness of the rock.



City of Marysville
 Division of Engineering

STANDARD CONSTRUCTION DRAWING

Approved:

Jerry W. Hall
 City Engineer

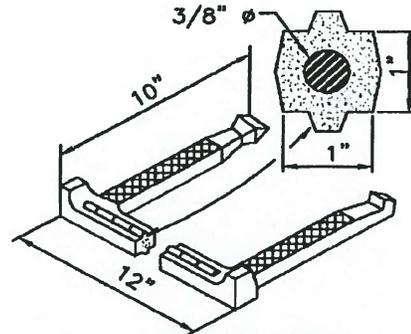
12/31/2013
 Date

**CAST IN PLACE
 HEADWALLS**

Drawing No.
STS-06

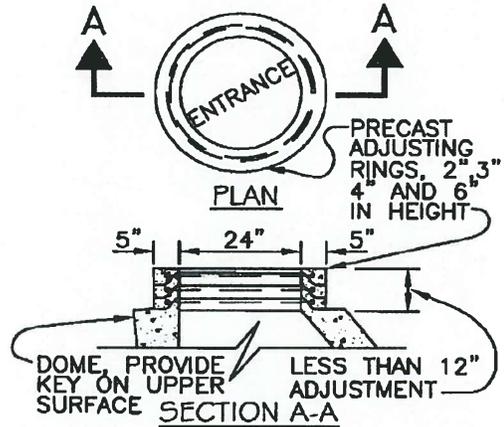
NOTES

GENERAL : Manhole sections shall conform to ASTM C478.
 Manhole joints shall conform to ASTM C443.
 Openings for pipes shall be precast into the manhole sections. Openings shall be fitted with "Kor-N-Seal" rubber boots or approved equal.
 Openings for the inlet and outlet sewer pipe shall be cast in the precast section unless the manhole base is built to an elevation two inches above the top of the outlet pipe.
 Openings for pipes 18" diameter or less entering the manhole above the spring line of the outlet sewer may be cut in the field provided the portion of the pipe (15" or 18" diam.) inside the manhole is cut to fit the circumference of the manhole. pipes over 18" diameter entering the manhole above the spring line of the outlet sewer shall be connected to the manhole by a tee connection precast with the barrel of the manhole.
 All joints at pipe openings in the manhole shall be thoroughly caulked with cement mortar or other suitable material to prevent infiltration of earth into the manhole.
MATERIALS : Concrete for the manhole base and connection box shall be class "C".
 Precast reinf. conc. manhole sections and domes shall comply with the requirements of 706.13.
 Minimum wall thickness shall be 5 inches for 48" sections and 6 inches for 60" sections. 1 1/4" holes for handling may be cast in domes and sections.
 Sections may be set with tongue end either up or down.
 In lieu of the design shown for the junction between the manhole base and the manhole barrel, the base may be flat and the barrel may have a square end without tongue or groove and shall be set in a bed of mortar.
 Manhole castings shall be: Neenah R-1762, or East Jordan Ironworks 1661, Frame and Cover with self sealing gasket. or approved equal, with wording "Marysville Storm Sewer" cast into the center of the lid.
STEPS shall meet the requirements of 604.
 Manhole steps shall be vertically aligned and be reinforced plastic.
 Manhole steps must be precast in place.
 Reinforcing steel shall have 2 inch clearance except where otherwise specified.
 Bulkheads shall be constructed by providing P.V.C. cap & timber blocking.

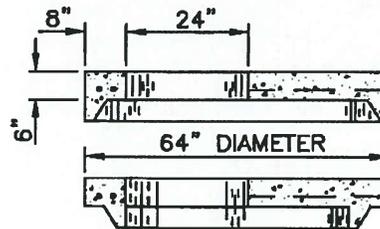


NOTE: M.H. STEPS AT 16" ON CENTER, UNO.

**POLYPROPYLENE STEP
 MANHOLE STEP DETAIL**

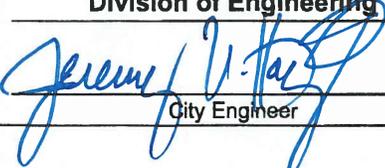


**METHODS
 OF ADJUSTING TO GRADE**



**SECTIONS
 DOME ALTERNATES**

 **City of Marysville**
 Division of Engineering

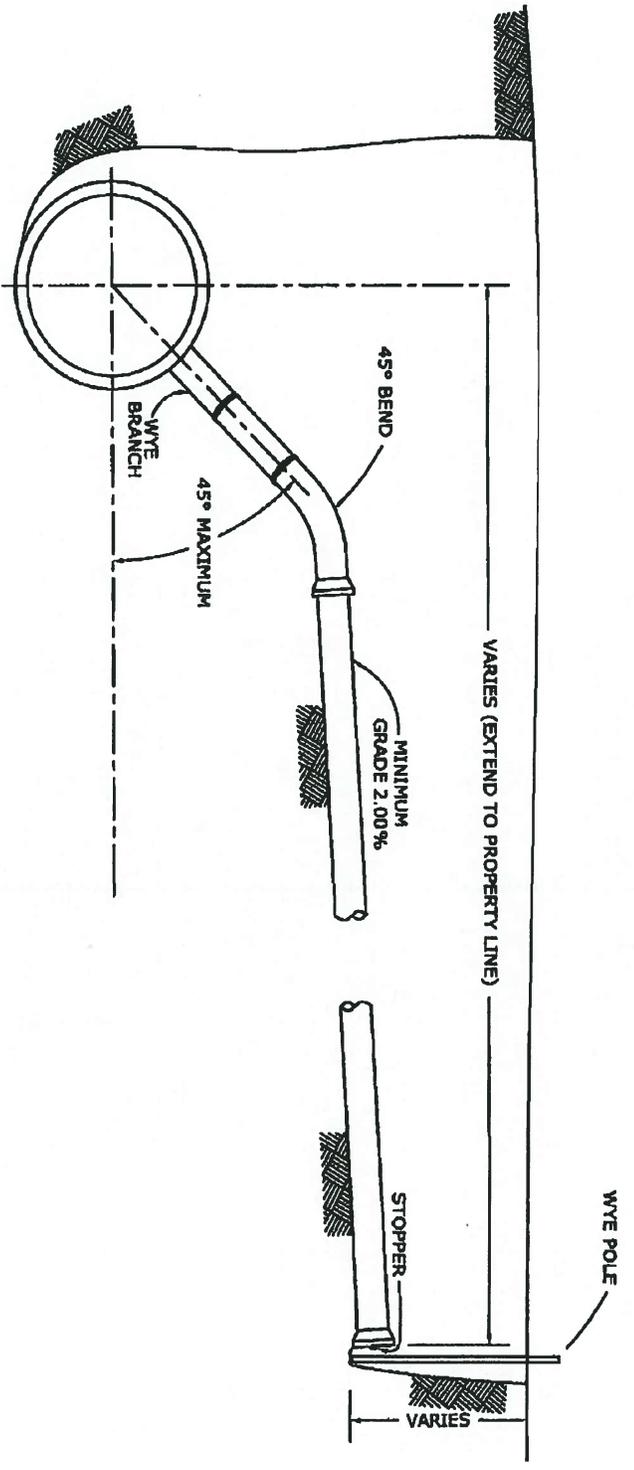
Approved:  City Engineer

Date

STANDARD CONSTRUCTION DRAWING

**STANDARD MANHOLE
 DETAILS**

Drawing No. STS-07



NOTES:
 STORM WATER LATERAL IS FOR THE CONVEYANCE OF WATER FROM THE DOWNSPOUTS AND SUMP PUMP DISCHARGES TO THE MAIN STORM SEWER. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL CONNECTIONS FROM THE HOUSE TO THE STORM WATER LATERAL STUB AT THE RIGHT OF WAY. DEVELOPERS/BUILDERS CONSTRUCTING HOUSES SHALL BE RESPONSIBLE FOR CONSTRUCTING THE STORM WATER LATERALS. STORM WATER LATERALS MUST HAVE A MINIMUM OF 12" COVER IN THE SUB GRADE IF THE LATERAL IS IN THE STREET. BENDS MAY BE ELIMINATED IF NECESSARY TO ACHIEVE 12" OF COVER. ONLY UNCONTAMINATED WATER FROM DOWNSPOUTS OR GROUNDWATER INFILTRATION INTO A SUMP PUMP MAY BE DISCHARGED INTO THIS LATERAL.

 <p>City of Marysville Division of Storm Water</p>	<p>STANDARD CONSTRUCTION DRAWING</p>	
	<p>4" STORM WATER SERVICE LATERAL</p>	<p>Drawing No. STS-08</p>
<p>Approved: </p> <p>City Engineer</p>	<p>12/31/2013</p> <p>Date</p>	