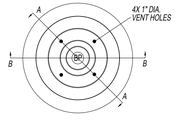
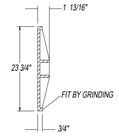
CAST IRON RING AND COVER DETAIL

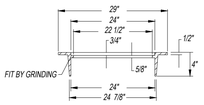
APPROVED FOR NON TRAFFIC



COVER FACE

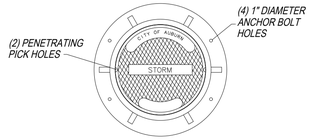


SECTION A - A

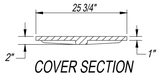


SECTION B - B

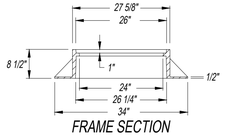
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COVER FACE



COVER SECTION

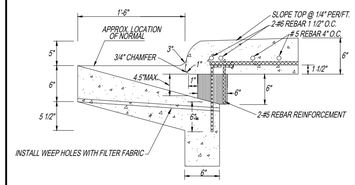


FRAME SECTION

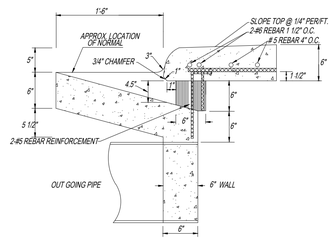
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DEPRESSED GUTTER DETAIL

DEPRESSED GUTTER DETAIL #1

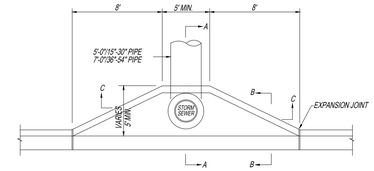


DEPRESSED GUTTER DETAIL #2

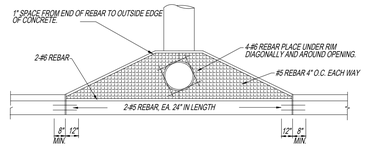


7.01

DOUBLE WING INLET

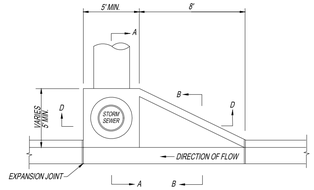


DOUBLE WING INLET PLAN

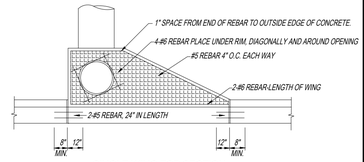


DOUBLE WING INLET TOP SECTION

SINGLE WING INLET



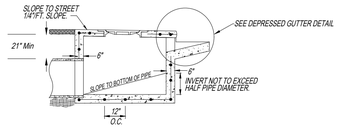
SINGLE WING INLET PLAN



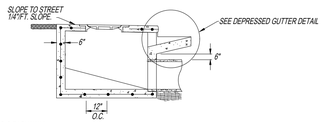
SINGLE WING TOP SECTION

7.02

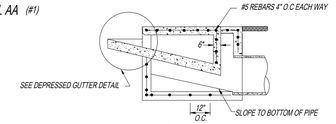
INLET BOX DETAIL



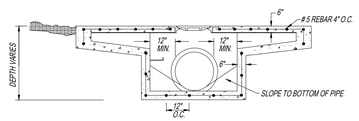
INLET BOX DETAIL AA (#1)



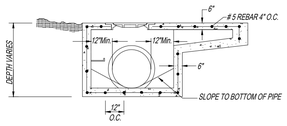
INLET BOX DETAIL AA (#2)



INLET BOX DETAIL BB



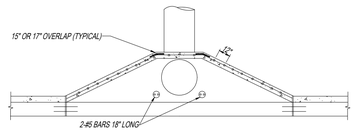
DOUBLE WING INLET DETAIL CC



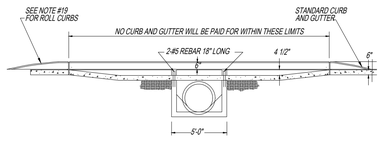
SINGLE WING INLET DETAIL DD

7.03

DOUBLE WING INLET DETAIL



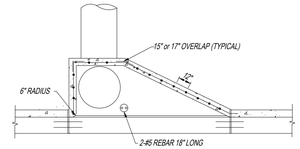
DOUBLE WING INLET SLAB SECTION



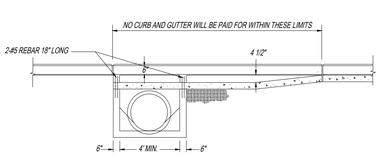
DOUBLE WING INLET ELEVATION

7.04

SINGLE WING INLET DETAIL



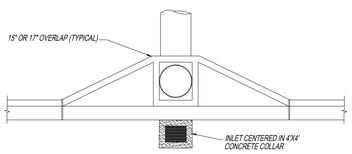
SINGLE WING INLET SLAB SECTION



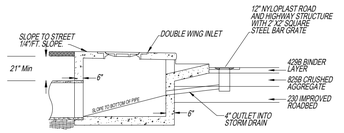
SINGLE WING INLET ELEVATION

7.05

INLET BOX DETAIL(temporary drain)



PLAN VIEW

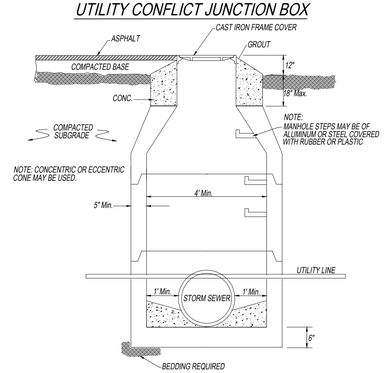


PROFILE VIEW

NOTE:
THIS DETAIL SHALL BE USED AT THE SAG INLETS. WHERE WEARING SURFACE WILL NOT BE PLACED AT THIS TIME.

INLET SHALL BE PLACED AT LOWEST POINT IN THE ROADWAY.

UTILITY CONFLICT JUNCTION BOX

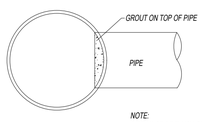


SECTIONAL ELEVATION

NOTES:
1. INSTALL JUNCTION BOX WHEN THERE IS A CONFLICT BETWEEN STORM SEWER AND OTHER UTILITY LINES.
2. IF THE CONFLICTING UTILITY LINE IS A SANITARY SEWER LINE, REPLACE THE V.C. OR PVC PIPE WITH DUCTILE IRON PIPE.
3. IF POSSIBLE INSTALL THE CONFLICTING UTILITY IN THE UPPER 1/3 OF THE STORM SEWER.

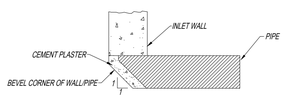
7.06

PIPE BEVELL

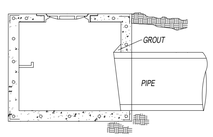


NOTE:
PIPE MUST BE FLUSH ON SIDES OF BOX.

PLAN VIEW
PIPE ENTRANCE IN BOX



BEVELLED RING
(POURED IN PLACE APPLICATION)



ELEVATION

7.07

NOTES

1. HEADWALL AND WINGWALLS SHALL HAVE A RUBBED SMOOTH FINISH. PIPE SHALL BE CUT FLUSH WITH THE INSIDE FACE OF THE HEADWALL.
2. JUNCTION BOX INVERTS SHALL BE SMOOTH AND APPROXIMATE THE CROSS SECTION OF THE PIPE USED. AT LEAST 0.25' OF FALL IS REQUIRED ACROSS ALL JUNCTION BOXES AND/OR INLETS. THE FLOOR SHALL BE SLOPED TO DRAIN ALL WATER TO THE INVERT. ALL PIPE SHALL BE CUT FLUSH WITH THE FACE OF THE JUNCTION BOX AND INLET JUNCTION BOX.
3. CAST IRON FRAME AND COVER SHALL WEIGH 375 POUNDS IN TRAFFIC AND 325 POUNDS OFF TRAFFIC.
4. ALL PIPES SHALL BE LAID WITH ENDS ABBUTTING AND TRUE TO LINE AND GRADE. PIPE SHALL BE FITTED AND MATCHED TO FORM A LINE WITH A SMOOTH, UNIFORM INVERT. GROUT SHALL THEN BE APPLIED SMOOTHLY TO THE OUTSIDE TOP TWO THIRDS AND THE INSIDE BOTTOM ONE HALF TO WATER PROOF ALL PIPE.
5. PRECAST MANHOLES MAY BE USED FOR PIPE UP TO 36". LARGER SIZES MUST BE APPROVED PRIOR TO USE.
6. FOR PIPE SIZES LARGER THAN 42", HEADWALLS SHALL BE AS SPECIFIED BY THE CITY ENGINEER.
7. INLETS SHALL NOT BE PLACED IN A RADIUS OF INTERSECTING STREETS OR DRIVES.
8. PRECAST ITEMS MUST BE APPROVED PRIOR TO USE.
9. CHAMFER STRIPS ARE REQUIRED ON ALL HEADWALL EDGES.
10. RIPRAP IS REQUIRED AT ALL PIPE OUTLETS WITH GEOFABRIC. THE SIZE OF THE PAD SHALL BE AS DESIGNED BY THE ENGINEER BUT SHALL BE CONSTRUCTED PER THE DETAIL.
11. DISTANCE FROM RADIUS POINT TO EXISTING EXPANSION OR CONSTRUCTION JOINT SHALL BE AT LEAST 3.0'. IF LESS THAN 3.0', CURB AND GUTTER SHALL BE REPLACED TO EXISTING JOINT.
12. MINIMUM INSIDE DIMENSION OF JUNCTION BOXES AND INLETS SHALL BE 4 FEET.
13. TOP OF INLET SHALL BE THE SAME ELEVATION AS ADJOINING CURB AND GUTTER.
14. 2" MINIMUM WEEP HOLES SHALL BE CONSTRUCTED IN INLETS TO FACILITATE SUBGRADE DRAINAGE.
15. IF INLETS ALSO SERVES AS A JUNCTION BOX, CONTOUR BOTTOM AS PER JUNCTION BOX REQUIREMENTS.
16. MORTAR: A CONCRETE MIX EQUIVALENT TO AT LEAST A 3000 PSI STABILITY.
17. NUMBER 5 REBAR SHALL BE INSTALLED INTO ALL CURB AND GUTTER COLD JOINT TIE INS. AT ALL INLETS & JUNCTION BOXES, OR TO BE DETERMINED BY THE PROJECT ENGINEER/ PROJECT INSPECTOR.
18. INSTALL STEPS IN JUNCTION BOXES OR INLET EVERY 16" ON CENTER ACCESSIBLE TO MANHOLE COVER. AT LEAST ONE STEP IS REQUIRED PER BOX, MINIMUM.
19. FOUR FOOT (4') MINIMUM TRANSITIONS FROM ROLL CURB TO STANDARD CURB AND GUTTER TO ALLOW STANDARD INLET TO BE CONSTRUCTION.
20. INVERTS SHALL BE POURED CONCRETE. NO BRICK OR ROCKS SHALL BE USED AS FILLER MATERIAL.
21. #5 BARS REQUIRED IN GUTTER.
22. INVERTS SHALL NOT EXCEED HALF THE DIAMETER OF THE PIPE. NO FLAT AREAS ARE PERMITTED.
23. INLET TOPS SHALL BE SLOPED AT 1/4"/ft TOWARD THE STREET (SEE DETAIL).
24. CONCRETE USED FOR STORM STRUCTURES MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi.
25. MODIFIED INLETS MUST HAVE SAME CARRYING CAPACITY AS STANDARD INLETS. DIMENSIONS/DETAILS MUST BE APPROVED BY CITY OF AUBURN ENGINEER PRIOR TO INSTALLATION.
26. HDPE CAN BE USED IN AREAS WHERE IT WILL BE OUTSIDE OF THE ROADWAY PAVEMENT UPON CITY ENGINEER APPROVAL.
27. AN EXPANSION JOINT MUST BE PROVIDED AT THE INLET / CURB FACE.
28. MECHANICAL TAMPING IS REQUIRED AROUND AND BEHIND INLETS.

7.08

STANDARD DETAILS: STORM - SHEET 1 OF 2

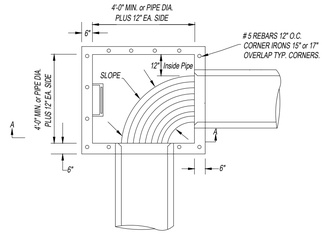
City of Auburn

DEPARTMENT:	ENGINEERING SERVICES
SCALE:	N.T.S.
DRAWN BY:	GINA McCRICKARD
CITY ENGINEER:	ALISON FRAZIER
APPVD. BY:	ALISON FRAZIER
IMPLEMENTED:	01-01-2022

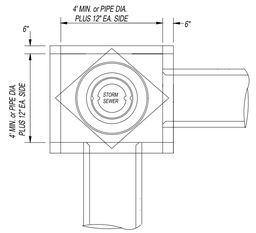
REVISIONS:
01-01-2024: 7.08

EFFECTIVE DATE:
2024

JUNCTION BOX DETAIL



SECTIONAL PLAN

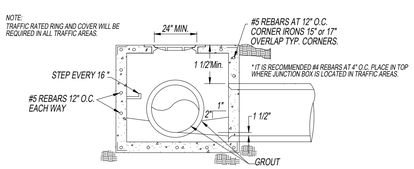


PLAN

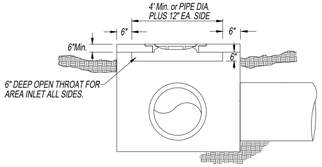
7.09

AREA INLET/JUNCTION BOX ELEVATION

NOTE:
TRAFFIC RATED RING AND COVER WILL BE REQUIRED IN ALL TRAFFIC AREAS.



SECTIONAL ELEVATION AA



AREA INLET ELEVATION

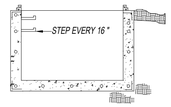
NOTE:
NOT TO BE USED ON ALDOT RIGHT OF WAY UNLESS APPROVED BY ALDOT IN WRITING.

7.10

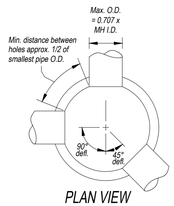
BASE AND RISER DETAIL



RISER DETAIL



SECTIONAL ELEVATION



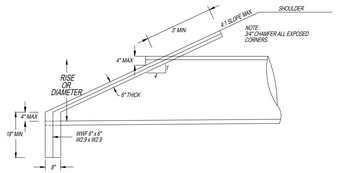
PLAN VIEW

		MANHOLE DIA. (IN.)				
Pipe Dia.	Req'd* Opening	48	60	72	84	96
15"	23"	85	>90	>90	>90	>90
18"	27"	83	>90	>90	>90	>90
21"	30"	72	>90	>90	>90	>90
24"	36"	55	85	>90	>90	>90
30"	42"	–	65	90	>90	>90
36"	48"	–	45	75	90	>90
42"	56"	–	–	50	70	90
48"	63"	–	–	15	45	70
54"	70"	–	–	–	30	56

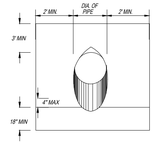
* Opening = Pipe Dia. + (wall thickness x 2) + 3.5" free space

7.11

SLOPED PAVED HEADWALL



SLOPED HEADWALL ELEVATION

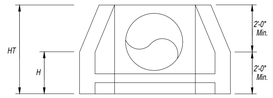


END VIEW

7.12

WINGED HEADWALL

HEADWALL DETAIL



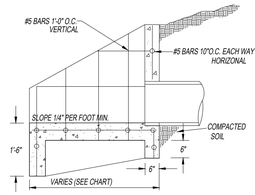
WINGED HEADWALL ELEVATION

PIPE SIZE CHART

PIPE SIZE	A MIN.	W MIN.	H MIN.	HT MIN.
15 IN	4 FT	DIA.+3 FT	2 FT	4 FT
18 IN	4 FT	DIA.+3 FT	2 FT	4 FT
24 IN	4 FT	DIA.+3 FT	2'-6"	4 FT
30 IN	4.5 FT	DIA.+3 FT	2'-6"	4'-6"
36 IN	5 FT	DIA.+3 FT	3 FT	5 FT
42 IN	5 FT	DIA.+3 FT	3 FT	6 FT
48 IN	5.5 FT	*****	3 FT	6'-6"
54 IN	6 FT	*****	3'-6"	7 FT
60 IN	6.5 FT	*****	3'-6"	7'-6"
72 IN	7 FT	*****	4 FT	8 FT

NOTE: HEADWALL HEIGHT MAY VARY FROM THE CHART WITH APPROVAL OR RECOMMENDATION OF THE CITY ENGINEER

WINGED HEADWALL PLAN

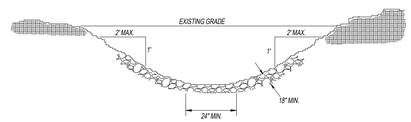


SECTIONAL ELEVATION

7.13

RIP RAP SWALE

RIPRAP DITCH SECTION

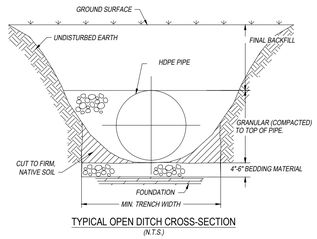


NOTE:
1. BOTTOM WIDTH IS DETERMINED BY ENGINEER.
2. A 3:1 SIDE SLOPE IS PREFERRED, BUT NO SLOPE CAN EXCEED 2:1.

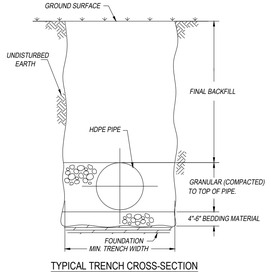
PIPE SIZE	BOTTOM WIDTH MINIMUM
15 IN	2 FT
18 IN	2 FT
24 IN	3 FT
30 IN	3 FT
36 IN	4 FT
42 IN	4 FT
48 IN	5 FT
54 IN	5 FT
60 IN	6 FT
72 IN	7 FT

7.14

HDPE PIPE INSTALLATION



TYPICAL OPEN DITCH CROSS-SECTION
(N.T.S.)



TYPICAL TRENCH CROSS-SECTION
(N.T.S.)

7.15

HDPE PIPE INSTALLATION

NOTES

1. BEDDING AND BACKFILL MATERIAL SHALL BE CLASS I MEETING ASTM D 2321. SEE DEFINITIONS BELOW.
2. TO PREVENT MIGRATION OF FINES AND LOSS OF PIPE SUPPORT FOR INSTALLATIONS WHERE SIGNIFICANT GROUND-WATER FLOW IS ANTICIPATED, CLASS I BEDDING AND BACKFILL MUST BE USED AND THE ENTIRE PERIMETER OF THE ENCASEMENT SHALL BE WRAPPED WITH AN APPROVED GEOTEXTILE FABRIC.
3. FOR INSTALLATIONS WHERE THE TRENCH BOTTOM IS UNSTABLE, UNDERCUT TO A DEPTH AS REQUIRED BY THE ENGINEER AND REPLACE WITH A SUITABLE BEDDING MATERIAL, PLACED IN 6-INCH LIFTS.
4. ALL HIGH-DENSITY POLYETHYLENE (HDPE) PIPE USED FOR CULVERT AND STORMDRAIN APPLICATIONS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M294, TYPE S, CURRENT EDITION AND VERIFIED THROUGH THE PLASTIC PIPE INSTITUTE (PPI) THIRD PARTY CERTIFICATION PROGRAM. ALL HDPE PIPE DELIVERED AND USED SHALL BEAR THE THIRD PARTY ADMINISTERED PPI SEAL.
5. INSTALLATIONS WHICH MEASURE OVER 15 FEET OF FILL FROM TOP OF PIPE TO FINISHED GRADE LEVEL ARE TO BE APPROVED BY CITY ENGINEER

ASTM D 2321 MATERIAL DEFINITIONS:
CLASS I - ANGULAR CRUSHED STONE OR ROCK, DENSE OR OPEN GRADED WITH LITTLE TO NO FINES. (1/4" TO 1.5" IN SIZE). INCLUDED NOT LIMITED TO SIZES 5, 57, 67, 8, 9, 10, & 610.

UNLESS SPECIFIED BY THE ENGINEER, MINIMUM RECOMMENDED TRENCH WIDTH SHALL BE AS FOLLOWS:

NOMINAL DIAMETER (IN.)	MIN. TRENCH WIDTH (IN.)
15	34
18	39
24	48
30	56
36	64
42	72
48	80
60	96

7.16

STANDARD DETAILS: STORM - SHEET 2 OF 2

City of Auburn

DEPARTMENT:	ENGINEERING SERVICES
SCALE:	N.T.S.
DRAWN BY:	GINA McCRICKARD
CITY ENGINEER:	ALISON FRAZIER
APPVD. BY:	ALISON FRAZIER
IMPLEMENTED:	01-01-2022

REVISIONS:

EFFECTIVE DATE: 2024