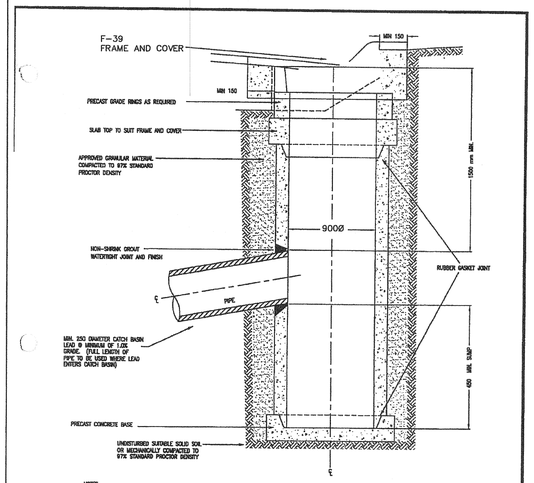


NOTES:

1. PRECAST CONCRETE COMPONENTS TO MEET CURRENT A.S.T.M. CATB STANDARDS
2. CAST IN PLACE CONCRETE TO BE 25 MPa AT 28 DAYS
3. ALL GRADE RING JOINTS TO BE SET WITH RAM NECK NON-SHRINK GROUT INSIDE AND OUTSIDE FOR FULL CIRCUMFERENCE. THIS INCLUDES JOINTS BETWEEN GRADE RINGS, GRADE RINGS AND FRAMES, AND BETWEEN GRADE RINGS AND SLAB TOPS.
4. ALL BARREL JOINTS TO BE RUBBER GASKET WITH NON-SHRINK GROUT INSIDE & OUT
5. ALL WICK DRAINS CONNECTED TO CATCH BASINS MUST ENSURE WATERTIGHT JOINTS

REVISIONS		
Date	Details	Drawn
00/ 18	K-7 FRAME & COVER	DRS
YY/MM/DD	x	x
YY/MM/DD	x	x

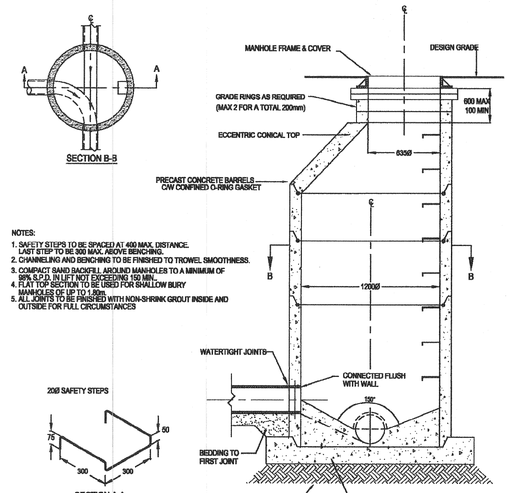
THE CITY OF St.Albert
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Alberta, T8N 3Z9, CANADA

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TYPICAL 900 DIAMETER CATCH BASIN

Approved: Guy Boston, P.Eng.
Checked: Jana Cleland, Engineering Supervisor
Date: 79/01/01 | Scale: N.T.S. | Moseley & Engineering Department

Drawing Number: No. 31



NOTES:

1. SAFETY STEPS TO BE SPACED AT 400 MAX. DISTANCE. LAST STEP TO BE 300 MAX. ABOVE BENCHING.
2. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
3. COMPACT SAND BACKFILL AROUND MANHOLES TO A MINIMUM OF 95% S.P.D. IN LIFT NOT EXCEEDING 150 MIN.
4. FLAT TOP SECTION TO BE USED FOR SHALLOW BURY MANHOLES OF UP TO 1.80m.
5. ALL JOINTS TO BE FINISHED WITH NON-SHRINK GROUT INSIDE AND OUTSIDE FOR FULL CIRCUMSTANCES

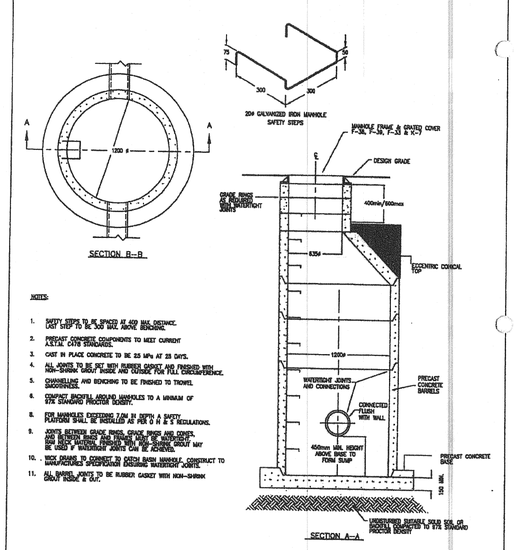
REVISIONS	
Date	Details
DD/MM/YY	
DD/MM/YY	
DD/MM/YY	

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Standard 1200 Diameter Manhole

Engineering Department
Date: 01/01/12 | Scale: N.T.S.

Drawing Number: No. 6.1



NOTES:

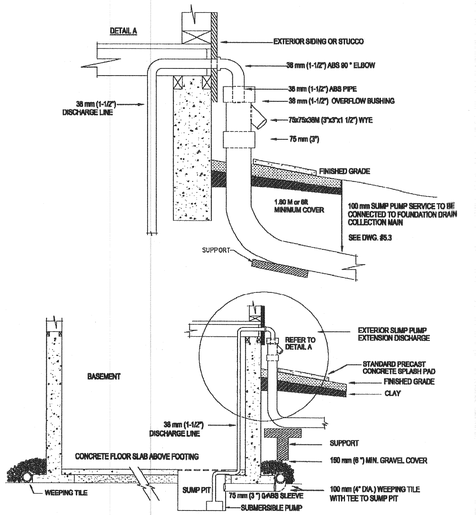
1. SAFETY STEPS TO BE SPACED AT 400 MAX. DISTANCE. LAST STEP TO BE 300 MAX. ABOVE BENCHING.
2. PRECAST CONCRETE COMPONENTS TO MEET CURRENT A.S.T.M. CATB STANDARDS.
3. CAST IN PLACE CONCRETE TO BE 25 MPa AT 28 DAYS.
4. ALL JOINTS TO BE SET WITH RUBBER GASKET AND FINISHED WITH NON-SHRINK GROUT INSIDE AND OUTSIDE FOR FULL CIRCUMFERENCE.
5. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
6. COMPACT BACKFILL AROUND MANHOLES TO A MINIMUM OF 97% STANDARD PROCTOR DENSITY.
7. FOR MANHOLES EXCEEDING 7.0M IN DEPTH A SAFETY PLATFORM SHALL BE INSTALLED AS PER O H & S REGULATIONS.
8. JOINTS BETWEEN GRADE RINGS, GRADE RINGS AND FRAMES, AND BETWEEN GRADE RINGS AND SLAB TOPS TO BE SET WITH RAM NECK MATERIAL. PARGED WITH NON-SHRINK GROUT MAY BE USED IF WATERTIGHT JOINTS CAN BE ACHIEVED.
9. WICK DRAINS TO CONNECT TO CATCH BASIN MANHOLE. CONSTRUCT TO MANUFACTURERS SPECIFICATIONS ENSURING WATERTIGHT JOINTS.
10. ALL BARREL JOINTS TO BE RUBBER GASKET WITH NON-SHRINK GROUT INSIDE & OUT.
11. ALL GRADE RINGS TO BE SET WITH RAM NECK NON-SHRINK GROUT INSIDE AND OUTSIDE FOR FULL CIRCUMFERENCE. THIS INCLUDES JOINTS BETWEEN GRADE RINGS, GRADE RINGS AND FRAMES, AND BETWEEN GRADE RINGS AND SLAB TOPS.

REVISIONS		
DATE	DETAILS	APPROVED
05/01/00	MORTERED BARREL	D.R.S.
05/01/00	K-7 FRAME & COVER	D.R.S.

THE CITY OF St.Albert

STANDARD 1200 DIAMETER PRECAST CATCH BASIN MANHOLE

APPROVED: STD. DWG. NO. 33
SCALE: N.T.S. | DRAWN BY:



NOTES:

1. ROOF LEADERS (DOWNSPOUTS) OR ANY OTHER STORM WATER SOURCE SHALL NOT BE CONNECTED TO THE FOUNTATION DRAIN DISCHARGE COLLECTION MAIN.
2. THE SUMP PUMP DISCHARGE EXTENSION SYSTEM MUST BE INSTALLED TO PROVIDE AN OVERFLOW IN THE EVENT THAT THE STORM DRAINAGE FLOWS CEASE DUE TO BLOCKAGE, FREEZING OR OTHER PROBLEMS.

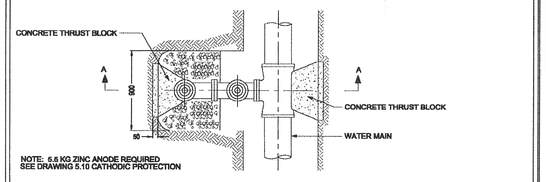
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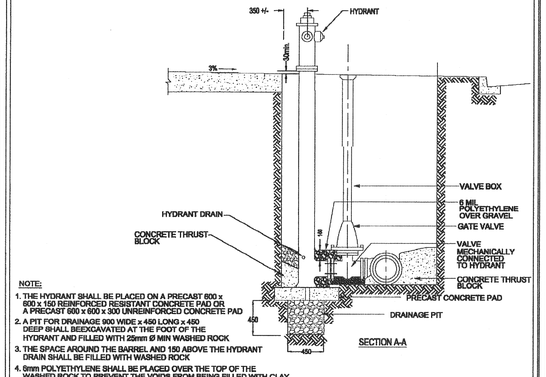
Storm Sewer Connection

Engineering Department
Date: 01/01/12 | Scale: N.T.S.

Drawing Number: No. 7.6



NOTE: 5.6 KG ZINC ANODE REQUIRED SEE DRAWING 5.10 CATHODIC PROTECTION



NOTE:

1. THE HYDRANT SHALL BE PLACED ON A PRECAST 600 x 600 x 150 REINFORCED RESISTANT CONCRETE PAD OR A PRECAST 600 x 600 x 300 UNREINFORCED CONCRETE PAD
2. A PIT FOR DRAINAGE 900 WIDE x 450 LONG x 450 DEEP SHALL BEEXCAVATED AT THE FOOT OF THE HYDRANT AND FILLED WITH 25mm Ø MIN WASHED ROCK
3. THE SPACE AROUND THE BARREL AND 150 ABOVE THE HYDRANT DRAIN SHALL BE FILLED WITH WASHED ROCK
4. 6mm POLYETHYLENE SHALL BE PLACED OVER THE TOP OF THE WASHED ROCK TO PREVENT THE VOIDS FROM BEING FILLED WITH CLAY
5. HYDRANT FLANGE TO BE MINIMUM 30mm ABOVE TOP OF SIDEWALK FOR MAINTENANCE SERVICE

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DD/MM/YY	
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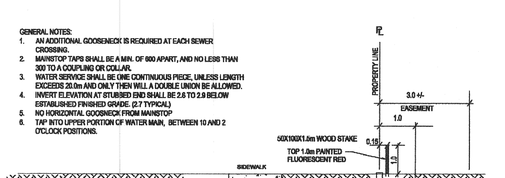
Typical Hydrant Connection & Valve Placement

Engineering Department
Date: 01/01/12 | Scale: N.T.S.

Drawing Number: No. 5.1

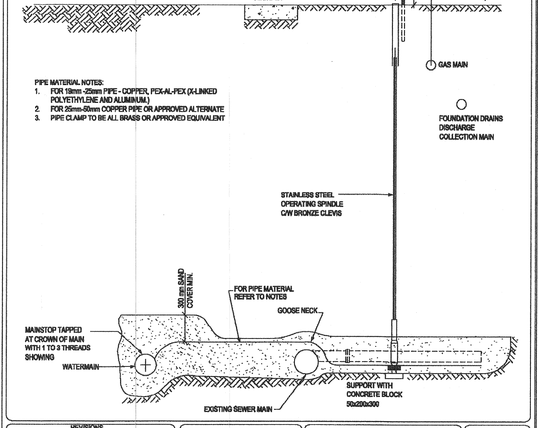
GENERAL NOTES:

1. AN ADDITIONAL GOOSENECK IS REQUIRED AT EACH SEWER CROSSING.
2. MAINSTOP TAPS SHALL BE A MIN. OF 600 APART, AND NO LESS THAN 300 TO A COUPLING OR COLLAR.
3. WATER SERVICE SHALL BE ONE CONTINUOUS PIECE, UNLESS LENGTH EXCEEDS 20.0m AND ONLY THEN WILL A DOUBLE UNION BE ALLOWED.
4. INVERT ELEVATION AT STUBBED END SHALL BE 2.6 TO 2.9 BELOW ESTABLISHED FINISHED GRADE. (2.7 TYPICAL)
5. NO HORIZONTAL GOOSNECK FROM MAINSTOP
6. TAP INTO UPPER PORTION OF WATER MAIN, BETWEEN 10 AND 2 O'CLOCK POSITIONS.



PIPE MATERIAL NOTES:

1. FOR 19mm -25mm PIPE - COPPER, PEX-AL-PEX (X-LINKED POLYETHYLENE AND ALUMINUM)
2. FOR 50mm-80mm COPPER PIPE OR APPROVED ALTERNATE
3. PIPE CLAMP TO BE ALL BRASS OR APPROVED EQUIVALENT



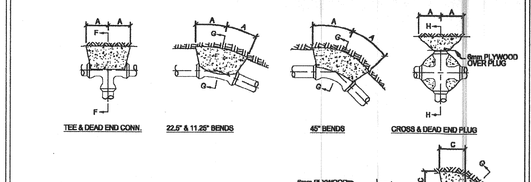
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Typical Water Service Connection

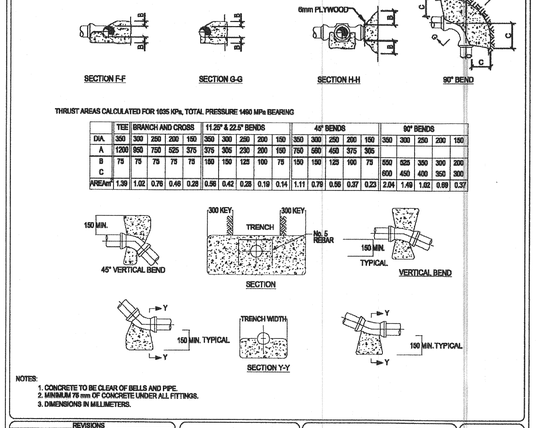
Engineering Department
Date: 01/01/12 | Scale: N.T.S.

Drawing Number: No. 5.2



THRUST AREAS CALCULATED FOR 1035 kPa, TOTAL PRESSURE 1460 kPa BEARING

	TEE	BRANCH AND CROSS			11.25° & 22.5° BENDS				45° BENDS				90° BENDS			
DIA	350	300	250	200	150	350	300	250	200	150	350	300	250	200	150	350	300	250	200	150
A	1200	900	750	525	375	375	305	230	200	150	750	660	450	375	305					
B	75	75	75	75	75	150	150	125	100	75	150	150	125	100	75	550	525	300	300	200
C																600	450	400	350	300
AREAm^2	1.39	1.02	0.76	0.49	0.28	0.56	0.42	0.28	0.19	0.14	1.11	0.79	0.56	0.37	0.23	2.04	1.49	1.02	0.69	0.37



NOTES:

1. CONCRETE TO BE CLEAR OF BELLS AND PIPE.
2. MINIMUM 75 mm OF CONCRETE UNDER ALL FITTINGS.
3. DIMENSIONS IN MILLIMETERS.

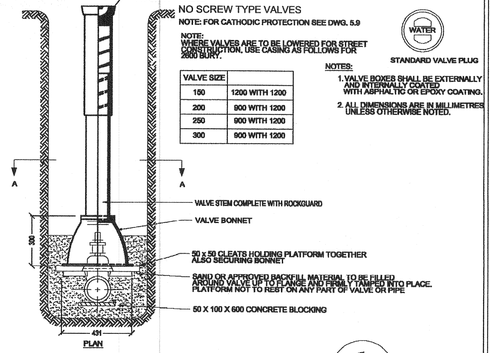
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Concrete Thrust Block Details for Water Mains

Engineering Department
Date: 01/01/12 | Scale: N.T.S.

Drawing Number: No. 5.7



NOTES: 1. BOTTOM SECTION AT 900 OR 1500 LENGTH IS OPTIONAL ON 200, 250 & 300 VALVES AND 1200 OR 1500 ON 150 VALVES.

REVISIONS	
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DD/MM/YY	
DD/MM/YY	

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Typical Main Valve

Engineering Department
Date: 01/01/12 | Scale: N.T.S.

Drawing Number: No. 5.4

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Rev.	yy-mm-dd	Revision /Drawing Issue	Drawn by
3	13-02-08	RE-ISSUED FOR APPROVAL	AHB
2	12-12-20	RE-ISSUED FOR APPROVAL	AHB
1	12-09-28	ISSUED FOR APPROVAL	AHB

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MARK V. MERKOSKY
ENGINEER

CITY OF ST. ALBERT
ENGINEERING SERVICES
EXAMINED
Per Greg Persson
Date Feb 19, 2013
Signature

PROJECT

NOBLE GREENS TOWNHOUSES

LOT 102, BLOCK 12, PLAN 072 6741
ST. ALBERT, ALBERTA

DRAWING TITLE

STANDARD DETAILS

Project number	Date	15 DEC 2011
C11-028	Scale	1:300
Drawn by AHB	Checked by	

C-103

REVISION 3