

GAS METER SET INSTALLATION DETAILS
(TYPICAL)

NOTES

1. TYPE OF METER BASED ON CAPACITIES/CONS.
< 2000 CFH – DIAPHRAGM
> 2000 CFH – TURBINE OR ROTARY
2. ALL MATERIAL TO BE SUPPLIED BY UBC UTILITIES. USER MUST PROVIDE THE REQUIRED GAS LOADS.
3. METER SET TO BE FABRICATED USING WELDED FITTINGS WHERE POSSIBLE.
4. METERS TO BE INSTALLED OUTDOORS ONLY.
5. METER ASSEMBLY TO MEET CANADA ELECTRICITY AND GAS INSPECTIONS ACT AND MEASUREMENT CANADA'S PRESSURE FACTOR MEASUREMENT (PFM) REQUIREMENTS.
6. BOLLARDS AND/OR CHAINLINK FENCE ARE REQUIRED WHERE THERE IS RISK OF DAMAGE BY VEHICLES OR VANDALISM.
7. METER TO BE INTEGRATED INTO ELECTRICAL METERING SYSTEM AS PER DIVISION-16, SECTION 16460, DRAWING E4-6.
8. DEMARCATION POINT OF SERVICE IS:
a) IMMEDIATELY DOWNSTREAM LAST VALVE.
b) IMMEDIATELY DOWNSTREAM OF SERVICE TEE IF THERE IS NO VALVE AT METER OUTLET.
9. SEISMIC VALVE

PART LIST:

- ① DIAPHRAGM GAS METER (SEE NOTE 1)
- ② GAS PRESSURE REGULATOR
- ③ GAS VALVE
- ④ STRAINER
- ⑤ PRESSURE TEST PORT
- ⑥ DIELECTRIC UNION
- ⑦ SUPPORT BRACKET
- ⑧ DEMARCATION POINT
- ⑨ SEISMIC VALVE (SEE NOTES)
- ⑩ SERVICE TEE

NO.	DATE	REVISIONS	BY
3	MAR 13/17	NOTE 9	D.B.
2	JULY 13/09	UPDATE UBC TECHNICAL GUIDELINES	D.B.
1	DEC 19/02	UPDATE UBC TECHNICAL GUIDELINES	A.P.
0	DEC 13/00	FOR UBC TECHNICAL GUIDELINES	A.P.



UBC ENERGY & WATER SERVICES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

PROJECT TITLE
GAS METER
MECHANICAL INSTALLATION STANDARD

DRAWING TITLE
METER INSTALLATION DETAILS

SCALE N.T.S. DATE MARCH 17, 2017

DRAWN A.P./D.B. SHEET NO.

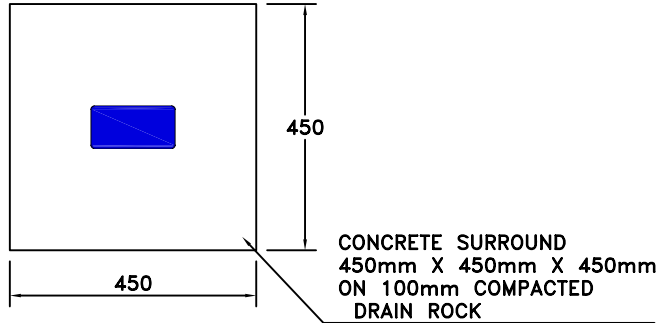
REVIEWED J.L.

CAD FILENAME T:\TECH GUIDELINE\1100-UT-01-GasMeterStd

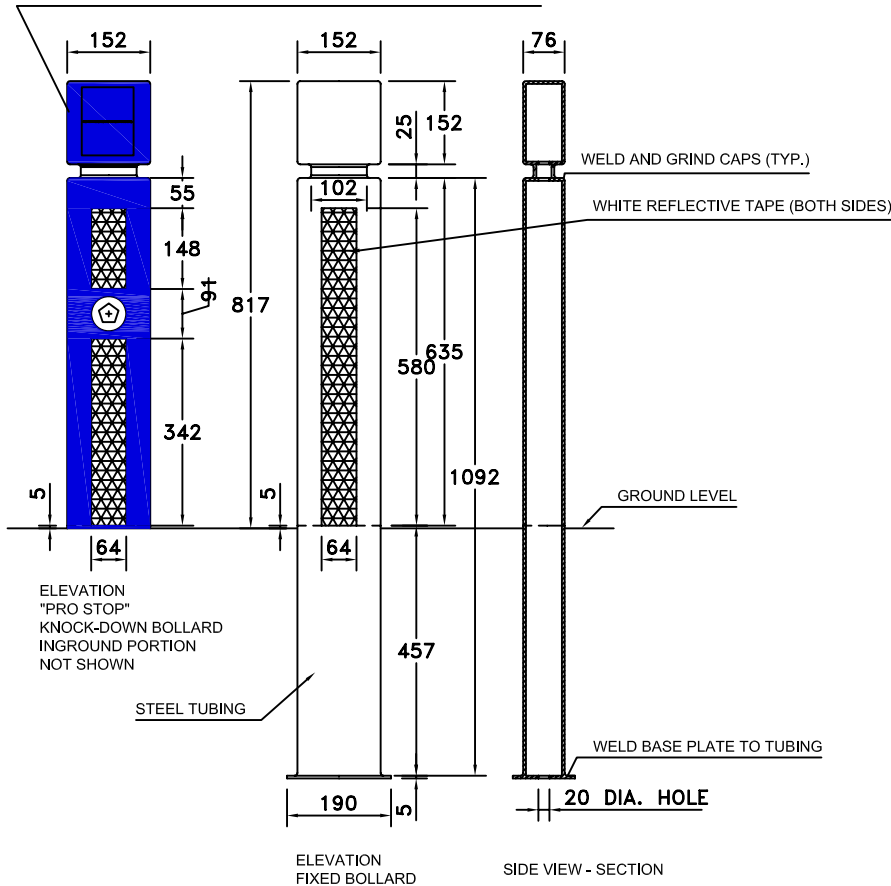
UBC PROJECT NO. ... 1 OF 1

UBC DRAWING NO. 1100-UT-01-GasMeterStd.dwg REV. 3

NOTES



REFLECTIVE WHITE INFORMAL UBC CREST (BOTH SIDES)
ON UBC BLUE (GENERAL PAINT AC076N "HARBOUR BLUE")



PRE-FAB "PRO-STOP" KNOCK-DOWN BOLLARD
& CUSTOM FIXED BOLLARD TO MATCH

NO.	DATE	REVISIONS	BY
3			
2			
1			
0	07-07-08	NEW DETAIL FOR BOLLARD	



UBC UTILITIES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

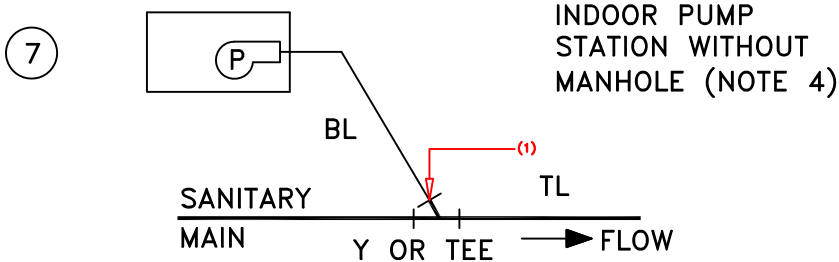
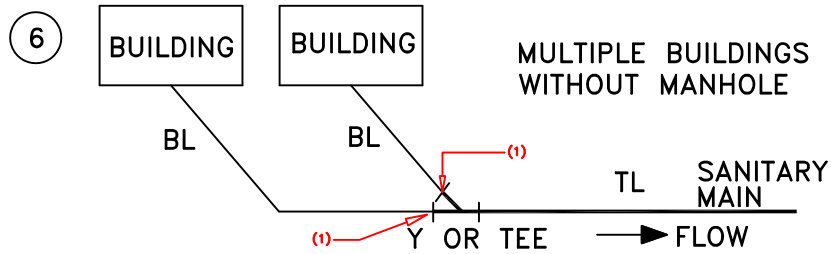
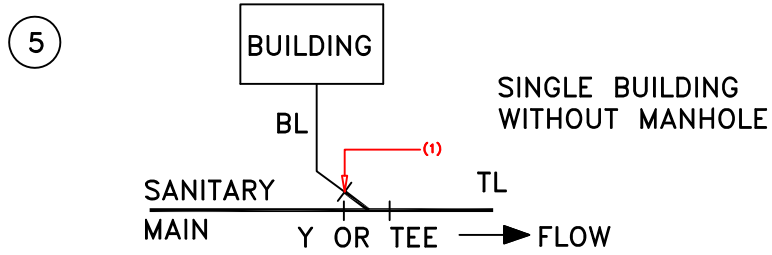
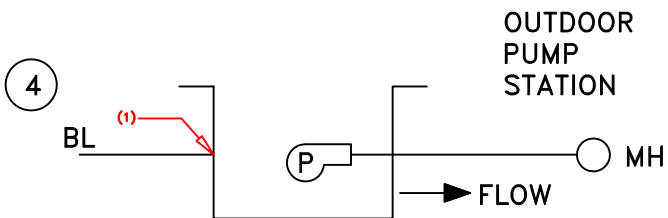
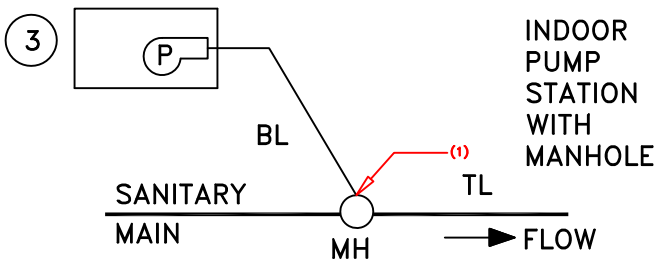
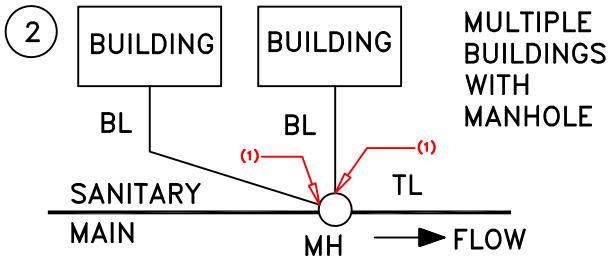
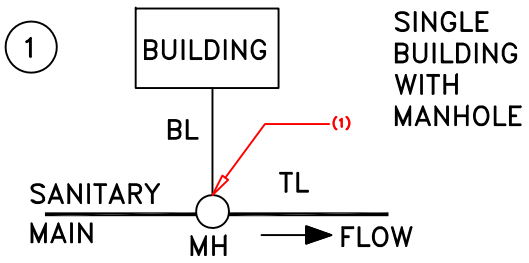
PROJECT TITLE

BOLLARD - GAS METER
PROTECTION

DRAWING TITLE

BOLLARD INSTALLATION DETAILS

SCALE	N.T.S.	DATE	JUL. 07/08
DRAWN		SHEET NO.	
REVIEWED	A.P.		
CAD FILENAME			
UBC PROJECT NO.	...		1 OF 1
UBC DRAWING NO.	1100-UT-02-Bollard.dwg	REV.	1



MH = MANHOLE
 P = PUMP
 BL = BRANCH LINE
 TL = TRUNK LINE

NOTES

(1) ARROW SHOWS DEMARCATION POINTS OF UBC UTILITIES' SERVICE. UBC UTILITIES IS RESPONSIBLE FOR SYSTEM DOWNSTREAM OF DEMARCATION POINT.

(2) "RESPONSIBILITY" REFERS TO DEPARTMENT OWNERSHIP, NOT TRADE JURISDICTION.

(3) DETAILS SHOW EXISTING INSTALLATIONS AT UBC, NOT NECESSARILY ALLOWABLE FOR NEW CONSTRUCTION.

(4) UBC UTILITIES IS RESPONSIBLE FOR FOUR OUTDOOR PUMP STATIONS:

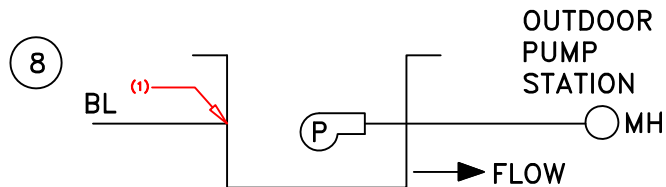
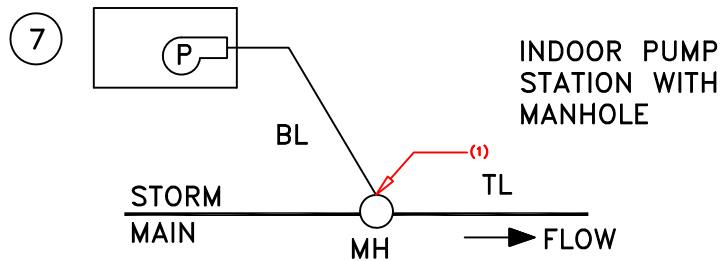
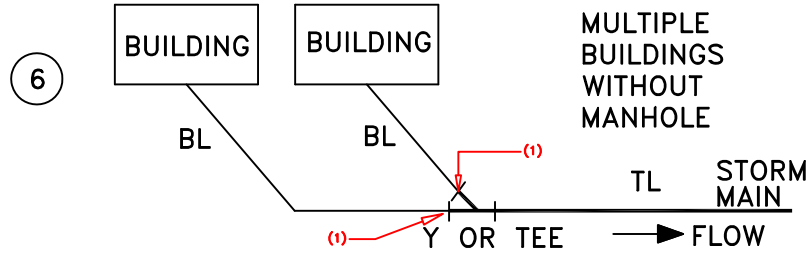
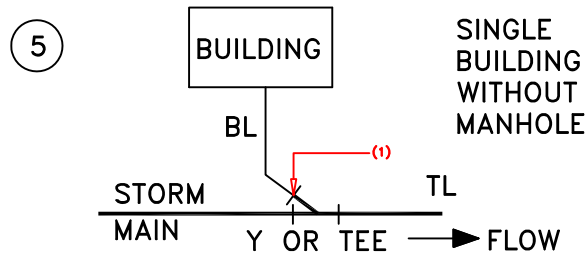
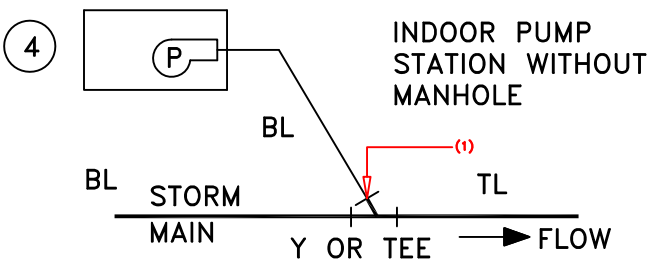
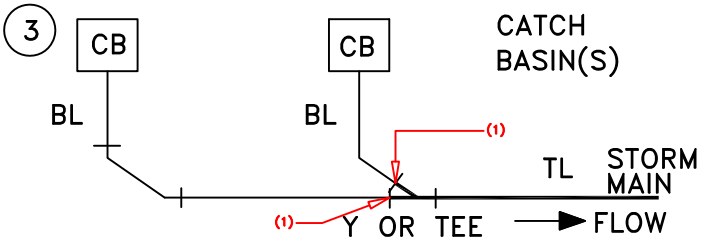
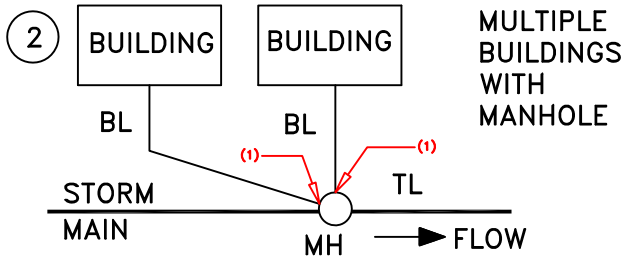
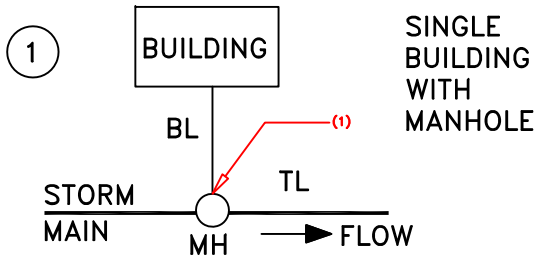
- a) BOTANICAL GARDEN
- b) CECIL GREEN PARK
- c) PLACE VANIER
- d) ACADIA PRESIDENT'S ROW

D	25/02/2015	FILE LOCATION IN TECH GUIDELINES	D.B.
C	17/12/2014	ADD SANITARY MAIN NOTES	D.B.
B	05/06/00	ADD NOTES	E.K.
A	06/09/99	DRAFT FOR REVIEW	
NO.	DATE	REVISIONS	BY



BUILDING/FACILITY	SANITARY SYSTEM
PROJECT TITLE	SANITARY
DRAWING TITLE	DEMARCATION POINT OF UBC UTILITIES SERVICE

SCALE	N/A	DATE	FEB 2, 2015
DRAWN	P.L.	SHEET NO.	
REVIEWED	L.A.K.		
CAD FILENAME			
UBC PROJECT NO.			1 OF 1



MH = MANHOLE
P = PUMP
CB = CATCH BASIN
BL = BRANCH LINE
TL = TRUNK LINE

NOTES

(1) ARROW SHOWS DEMARCATION POINTS OF UBC UTILITIES' SERVICE. UBC UTILITIES IS RESPONSIBLE FOR SYSTEM DOWNSTREAM OF DEMARCATION POINT.

(2) "RESPONSIBILITY" REFERS TO DEPARTMENT OWNERSHIP, NOT TRADE JURISDICTION.

(3) DETAILS SHOW EXISTING INSTALLATIONS AT UBC, NOT NECESSARILY ALLOWABLE FOR NEW CONSTRUCTION.

(4) UBC UTILITIES IS RESPONSIBLE FOR ONE OUTDOOR PUMP STATION, LOCATED IN CECIL GREEN PARK.

(5) UBC UTILITIES IS RESPONSIBLE FOR CULVERTS CONNECTING DRAINAGE DITCHES, BUT NOT THE DITCHES.

D	25/02/2015	FILE LOCATION IN TECH GUIDELINES	D.B.
C	17/12/2014	ADD STORM MAIN NOTES	D.B.
B	05/06/00	ADD NOTES	E.K.
A	05/09/99	DRAFT FOR REVIEW	
NO.	DATE	REVISIONS	BY

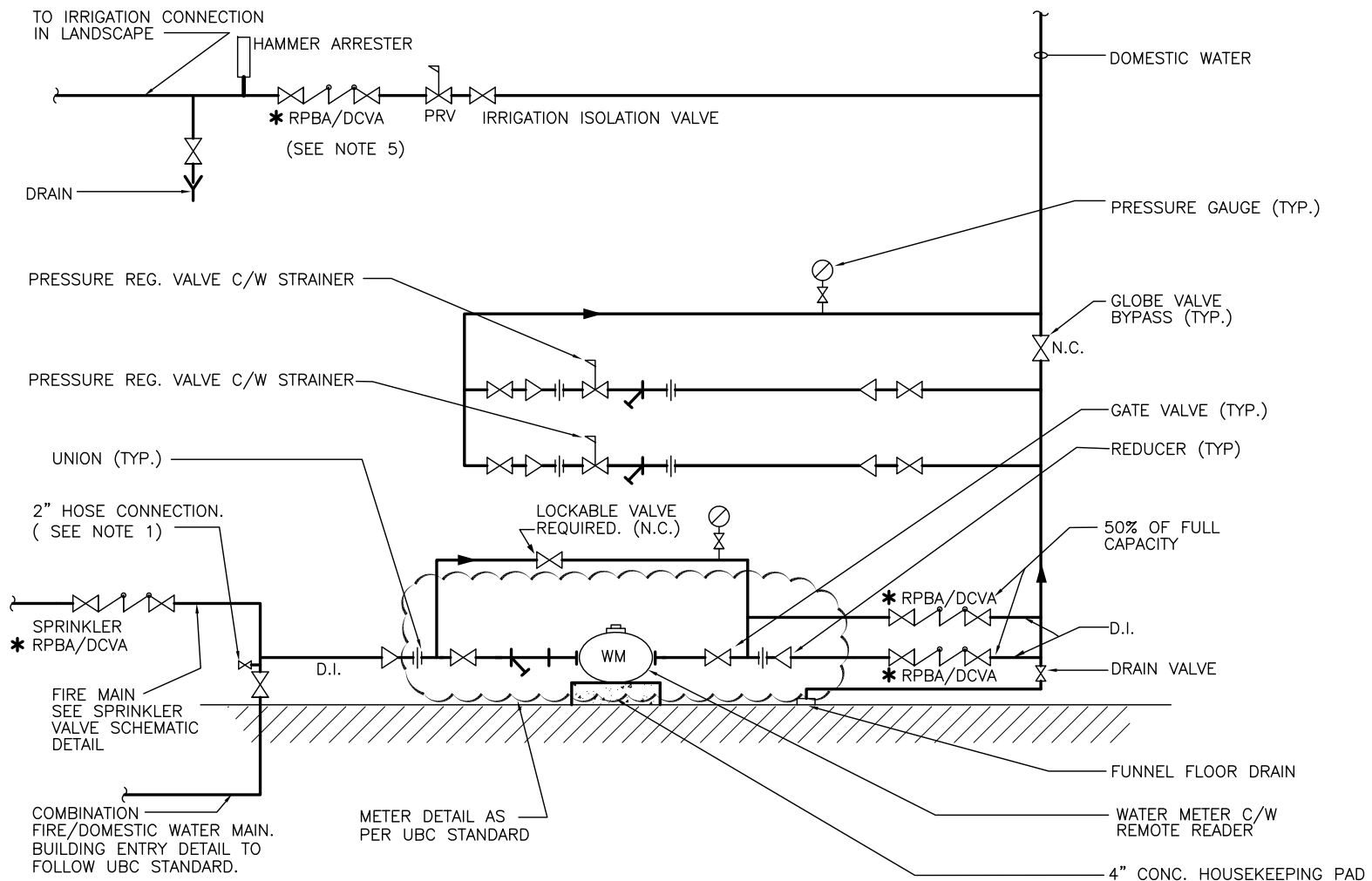


BUILDING/FACILITY
STORM SEWER SYSTEM

PROJECT TITLE
STORM

DRAWING TITLE
DEMARCATION POINT OF UBC UTILITIES SERVICE

SCALE	N/A	DATE	FEB 02, 2015
DRAWN	P.L.	SHEET NO.	
REVIEWED	L.A.K.		
CAD FILENAME			
UBC PROJECT NO.			1 OF 1



MAIN WATER STATION SCHEMATIC
N.T.S.

NOTES

1. 2" HOSE CONNECTION: BALL VALVE WITH THREADED FITTINGS – LOCKABLE VALVE REQUIRED (N.C.).
2. TWO BACKFLOW PREVENTION ASSEMBLIES PIPED IN PARALLEL ARE REQUIRED AT THE WATER SERVICE ENTRY TO ALL BUILDINGS, TO ALLOW FOR SERVICING WITHOUT HAVING TO COMPLETELY ISOLATE THE WATER SUPPLY TO THE BUILDING.
3. STAINER TO BE INSTALLED BEFORE METER AND BACKFLOW DEVICES.
4. CROSS CONNECTION PROTECTION TO FOLLOW CSA STANDARDS.
5. IRRIGATION SYSTEM CONNECTIONS ARE PERMITTED TO USE A DCVA AS A BACKFLOW PREVENTION DEVICE DUE TO THE UBC POLICY TO NOT USE PESTICIDES OR OTHER LANDSCAPE CHEMICALS THAT POSE A RISK TO THE WATER SYSTEM. ANY VARIANCE MUST BE APPROVED BY THE SENIOR MANAGER OF MECHANICAL UTILITIES IN ENERGY & WATER SERVICES.

NO.	DATE	REVISIONS	BY
7	Mar.18.20	MOVE BYPASS TEES, NOTE 5	DB
6	May.28.19	ADDED HAMMER ARRESTER	NP
5	Mar.22.12	ADDED NOTE 2 & 3	EP
4	Sept.7.11	HOSE CONNECTION & NOTE 1	EP
3	Mar.26.09	DCVA AND CROSS CONN. NOTE	DB
2	DEC.18.07	BACKFLOW ASSEMBLY NOTE	DB
1	Oct.22.07	DOUBLE RPBA	DB
0	Oct.10.07	SPRINKLER RPBA, METER STD. REFER.	EK

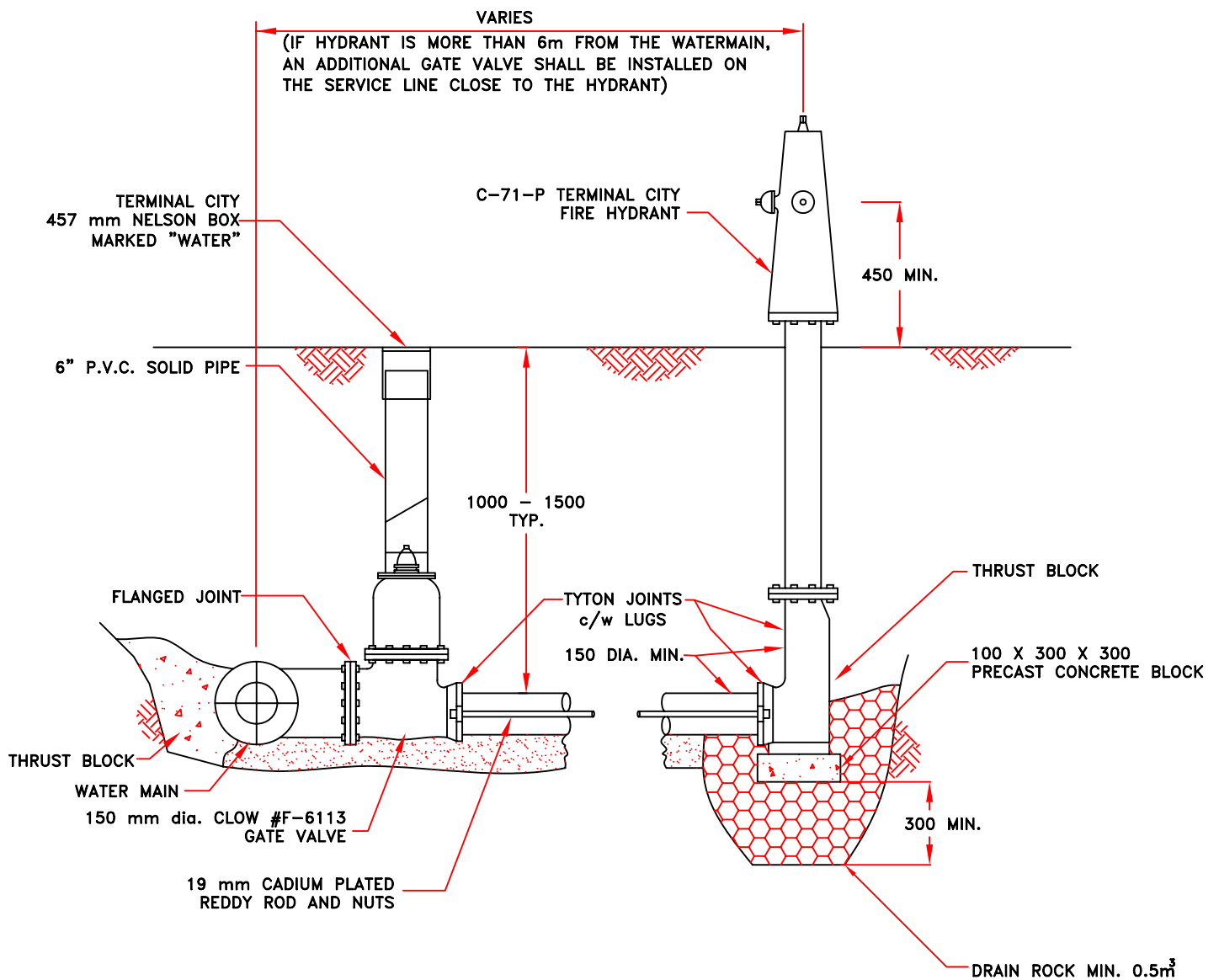
ENERGY & WATER SERVICES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

PROJECT TITLE
BUILDING WATER SUPPLY


DRAWING TITLE
MAIN WATER STATION SCHEMATIC

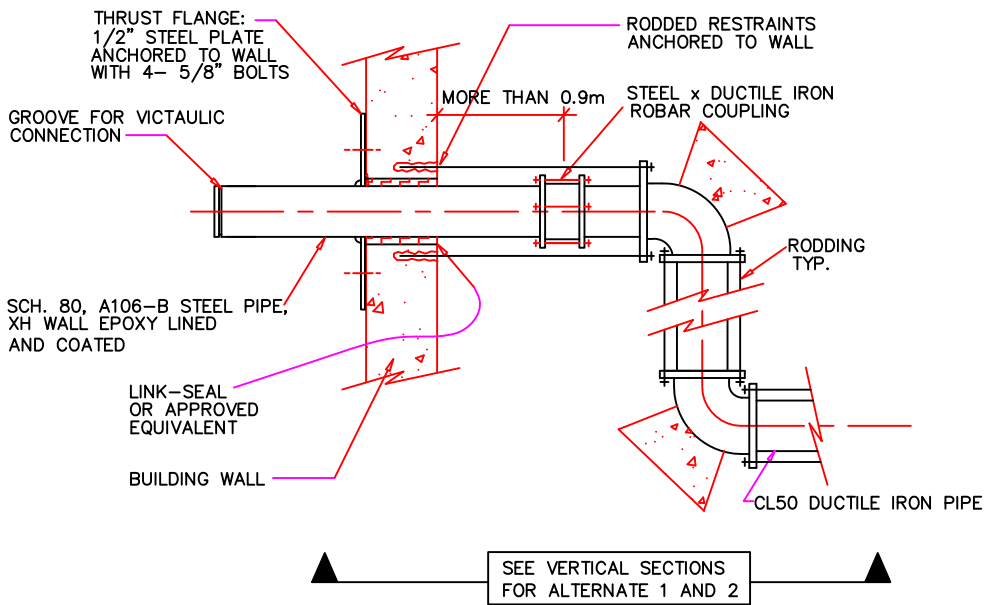
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DRAWN	D.B.	SHEET NO.	1 OF 1
REVIEWED	J.L./D.D.		
CAD FILENAME	T: \FinalTechGuidelines\1140-UT-01-WaterStnSchematic		
UBC UTILITIES DRAWING NO.	1140-UT-01-WaterStnSchematic		
		REV.	7



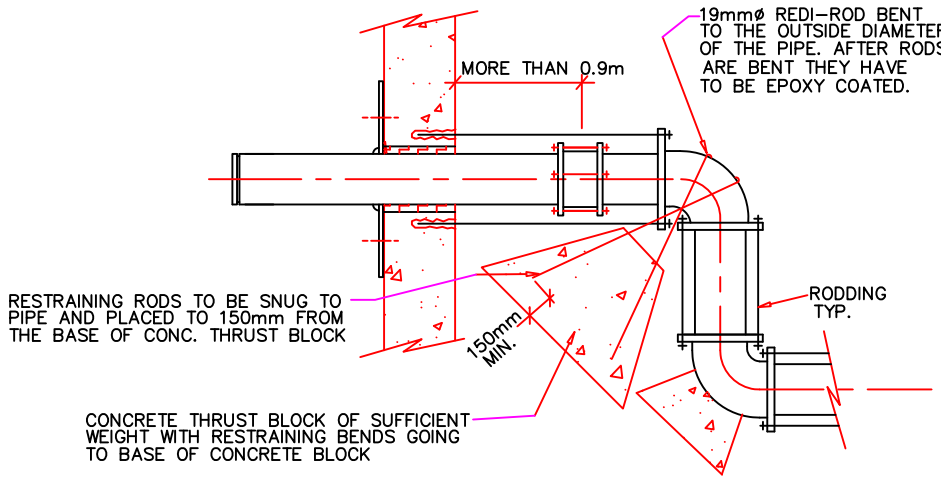
NOTES:

1. A HUB X FLANGE ISOLATION VALVE SHALL BE INSTALLED DIRECTLY AT THE WATER MAIN TAKE-OFF.
2. IN CASES WHERE THE FIRE HYDRANT LOCATION EXCEEDS 6m FROM THE WATER MAIN, A SECOND VALVE SHALL BE INSTALLED DIRECTLY AT THE HYDRANT.

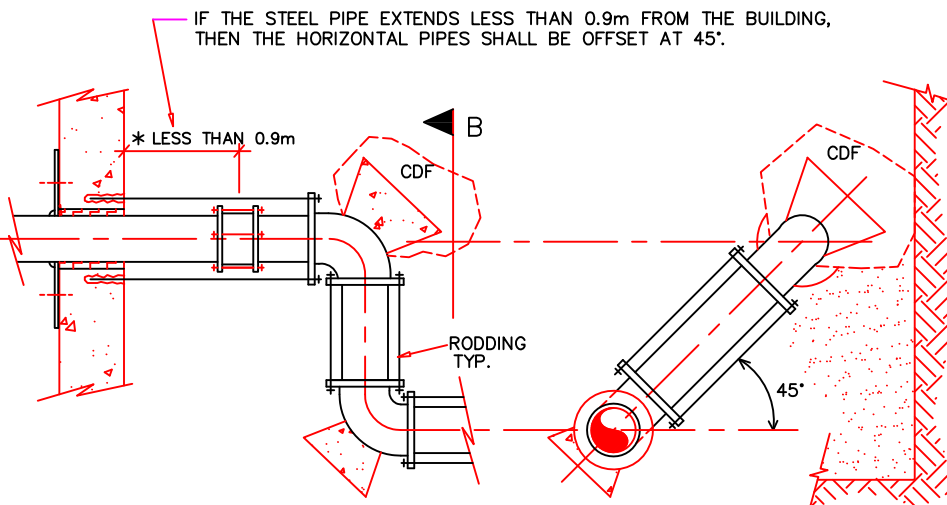
 <p>UBC UTILITIES THE UNIVERSITY OF BRITISH COLUMBIA</p>	DRAWING TITLE	
	FIRE HYDRANT DETAIL	
BUILDING/FACILITY	SCALE	DATE
	N.T.S.	FEB. 27, 2006
PROJECT TITLE	DRAWN	UBC PROJECT NO.
	B.C.	
FIRE HYDRANT DETAIL	CAD FILENAME	SHEET NO.
	FIRE HYDRANT DETAIL	1 OF 1
	UBC DRAWING NO.	REV.
	1140-UT-02-Fire Hydrant Detail	4



PLAN VIEW (TYPICAL)



VERTICAL SECTION - ALTERNATE 1



SECTION B

VERTICAL SECTION - ALTERNATE 2

NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. THRUST BLOCKS
 - PLACE 6 mil POLYETHYLENE ON INTERFACE BETWEEN CONCRETE AND FITTING.
 - PLACE 20 MPa CONCRETE AGAINST UN-DISTURBED GROUND; KEEP CONCRETE CLEAR OF FITTING JOINTS.
 - IF THRUST BLOCKS CANNOT BE PLACED AGAINST UNDISTURBED SOIL, THE SPACE BETWEEN THRUST BLOCK AND UNDISTURBED SOIL SHALL BE FILLED WITH CONTROL DENSITY FILL (CDF).
3. THRUST FLANGE
 - 1/2" STEEL PLATE WELDED TO SCH. 80, A106-B STEEL PIPE XH WALL
 - EPOXY LINED AND COATED

NO.	DATE	REVISIONS	BY
3	12-Mar-12	NOTE 3 ADDED	E.K.
2	08-Mar-09	Revised for UBC Technical Guidelines	D.B.
1	07-Dec-04	Revised for UBC Technical Guidelines	E.K.
0	07-06-02	FOR UBC TECHNICAL GUIDELINES	A.P.



UBC UTILITIES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

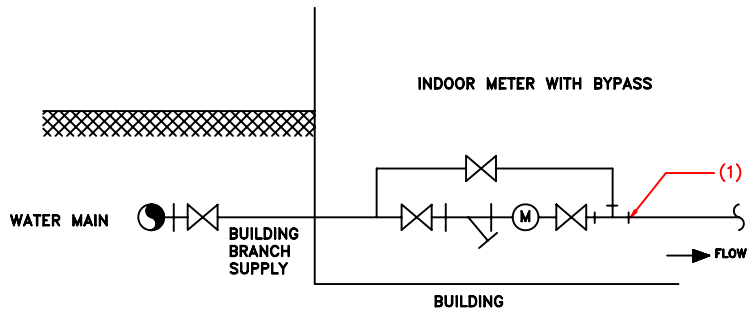
PROJECT TITLE

BUILDING WATER SUPPLY

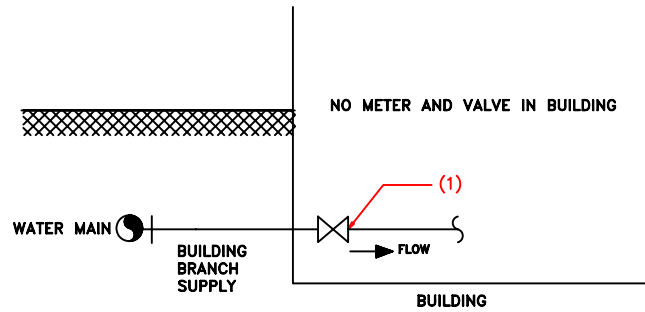
DRAWING TITLE

WATER SERVICE
BUILDING ENTRY STANDARD

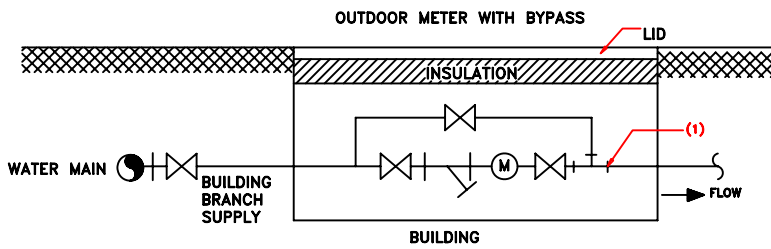
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REVIEWED	J.L.		
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UBC PROJECT NO.	...		
UBC DRAWING NO.	1140-UT-03-WATERENTRY.DWG		1 OF 1
	REV.	1	



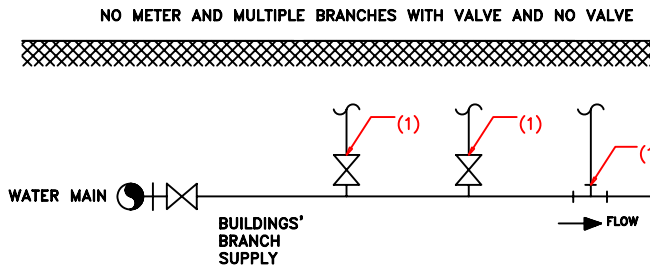
UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF THROUGH RUN OF LAST TEE IN BRANCH LINE DOWNSTREAM OF METER



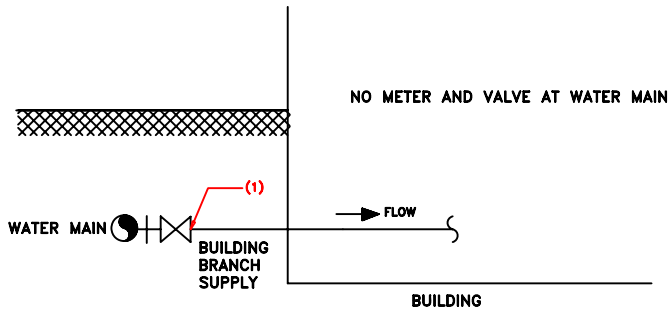
UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE



UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF THROUGH RUN OF LAST TEE IN BRANCH LINE DOWNSTREAM OF METER



UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE AND AT BRANCH RUN END OF TEE IN WATER MAIN



UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE

NOTES

(1) ARROW SHOWS DEMARCATION POINTS OF UBC UTILITIES' SERVICE. UBC UTILITIES IS RESPONSIBLE FOR SYSTEM UPSTREAM OF TERMINATION POINT.

(2) "RESPONSIBILITY" REFERS TO DEPARTMENT OWNERSHIP, NOT TRADE JURISDICTION.

(3) DETAILS SHOW EXISTING INSTALLATIONS AT UBC, NOT NECESSARILY ALLOWABLE FOR NEW CONSTRUCTION.

B		UPDATE DRAWING NOTES	
A	05/13/99	DRAFT FOR REVIEW	
NO.	DATE	REVISIONS	BY



BUILDING/FACILITY
WATER DISTRIBUTION SYSTEM

PROJECT TITLE
BUILDING WATER SUPPLY

DRAWING TITLE
DEMARCATION POINT OF UBC UTILITIES SERVICE.

SCALE N/A DATE MAY 13, 1999

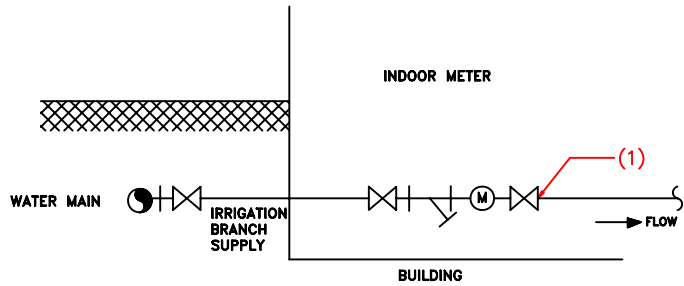
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REVIEWED L.A.K.

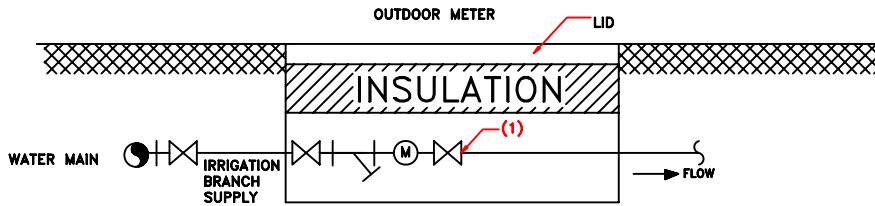
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UBC PROJECT NO. 1 OF 1

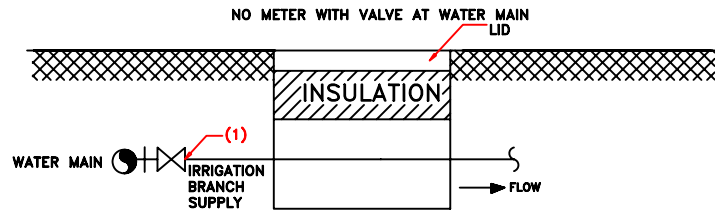
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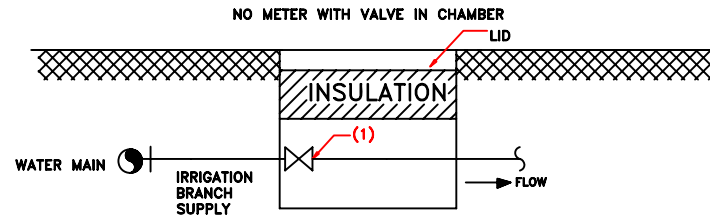
UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE DOWNSTREAM OF METER



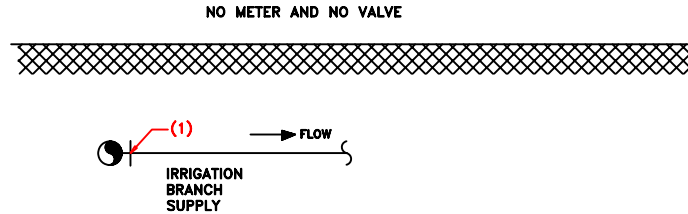
UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE DOWNSTREAM OF METER



UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE



UTILITIES' RESPONSIBILITY ENDS AT DOWNSTREAM END OF FIRST VALVE IN BRANCH LINE



UTILITIES' RESPONSIBILITY ENDS AT BRANCH RUN END OF TEE IN WATER MAIN

NOTES

(1) ARROW SHOWS DEMARCATION POINTS OF UBC UTILITIES' SERVICE. UBC UTILITIES IS RESPONSIBLE FOR SYSTEM UPSTREAM OF TERMINATION POINT.

(2) "RESPONSIBILITY" REFERS TO DEPARTMENT OWNERSHIP, NOT TRADE JURISDICTION.

(3) DETAILS SHOW EXISTING INSTALLATIONS AT UBC, NOT NECESSARILY ALLOWABLE FOR NEW CONSTRUCTION.

A	05/13/99	DRAFT FOR REVIEW	
NO.	DATE	REVISIONS	BY



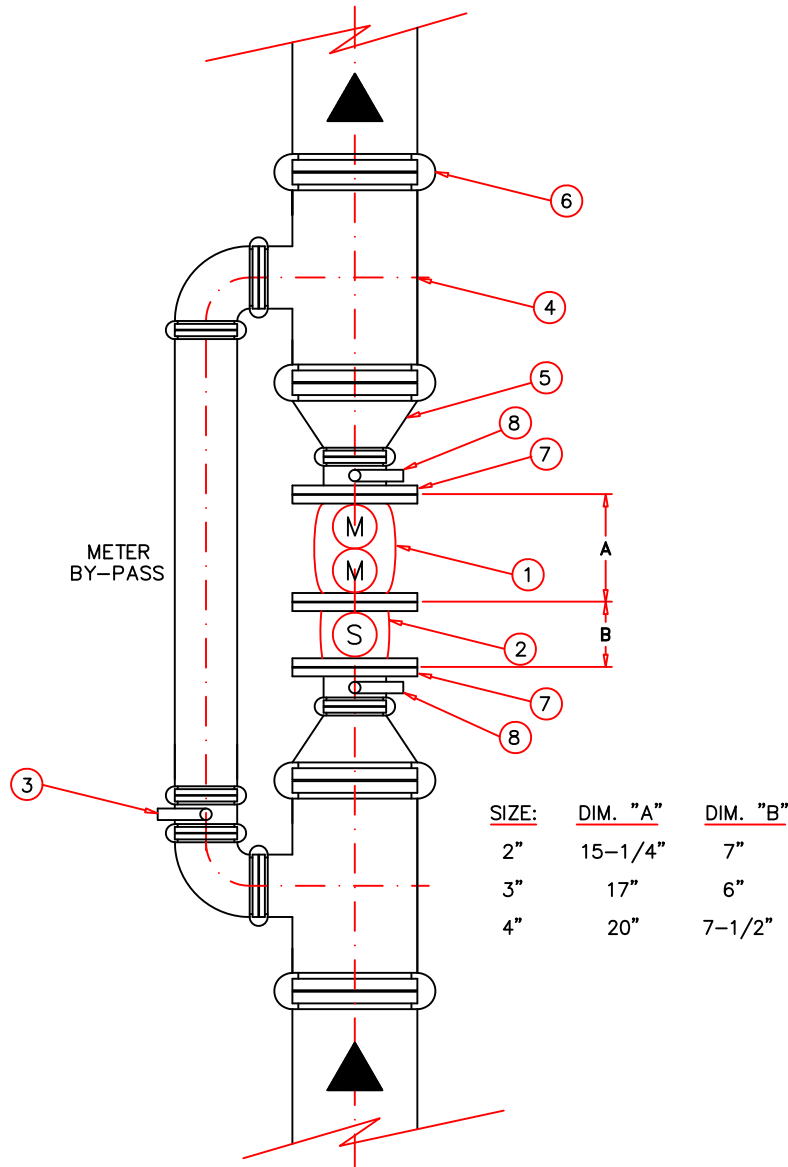
BUILDING/FACILITY
WATER DISTRIBUTION SYSTEM

PROJECT TITLE
IRRIGATION WATER SUPPLY

DRAWING TITLE
DEMARCATION POINT OF UBC UTILITIES SERVICE.

SCALE	N/A	DATE	MAY 13, 1999
DRAWN	P.L	SHEET NO.	
REVIEWED	L.A.K		
CAD FILENAME	UtilityService		
UBC PROJECT NO.			1 OF 1

UBC DRAWING NO.
1140-UT-05-WaterIrrigDemarc REV. A



METER INSTALLATION DETAILS
(TYPICAL)

NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. PIPE MATERIAL:
 $\phi 4"$ AND LARGER TO BE CL 54 DUCTILE IRON (CEMENT LINED)
 SMALLER THAN $\phi 4"$ TO BE TYPE "K" COPPER
3. METER TO BE INTEGRATED INTO ELECTRICAL METERING SYSTEM AS PER DIVISION-16, SECTION 16460, DRAWING E4-6.
4. MINIMUM AND MAXIMUM INSTALLATION HEIGHT OF THE CENTRELINE OF THE WATER METER:
 MINIMUM ABOVE THE FINISHED FLOOR: 600 mm
 MAXIMUM ABOVE THE FINISHED FLOOR: 1350mm

PART LIST:

- ① NEPTUNE WATER METER (COMPOUND) WITH TRICON-S REGISTER OR R900i ARB PIT METER RECEPTACLE, AS SPECIFIED BY UBC ENERGY & WATER SERVICES (SUPPLIED ONLY BY UBC EWS, AT PROJECT COST).
- ② NEPTUNE STRAINER (SUPPLIED BY UBC EWS, AT PROJECT COST).
- ③ VIC 300 BUTTERFLY VALVE (LOCKABLE REQUIRED)
- ④ VIC 25 REDUCING TEE (2 OFF)
- ⑤ VIC 50 REDUCER (2 OFF)
- ⑥ STYLE 77 STD FLEXIBLE COUPLING
- ⑦ STYLE 741 VIC FLANGE ADAPTER
- ⑧ VIC 300 BUTTERFLY VALVE

NO.	DATE	REVISIONS	BY
7	17-11-16	PART LIST 8	J.L.
6	25-02-15	PART LIST 1, R900i FOR TECH GUIDELINES	E.K
5	07-09-11	PART LIST 1, SPECIFIED	E.P
4	04-02-08	NOTE 6 REFERENCE AT ELBOW REMOVED	E.K
3	12-10-07	PART 7 BY J. LIU	D.B
2	16-09-07	NOTE 4 BY J. LIU	D.B
1	19-12-02	UPDATE TECHNICAL GUIDELINES	A.P.
0	13-12-00	FOR UBC TECHNICAL GUIDELINES	A.P.



ENERGY & WATER SERVICES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

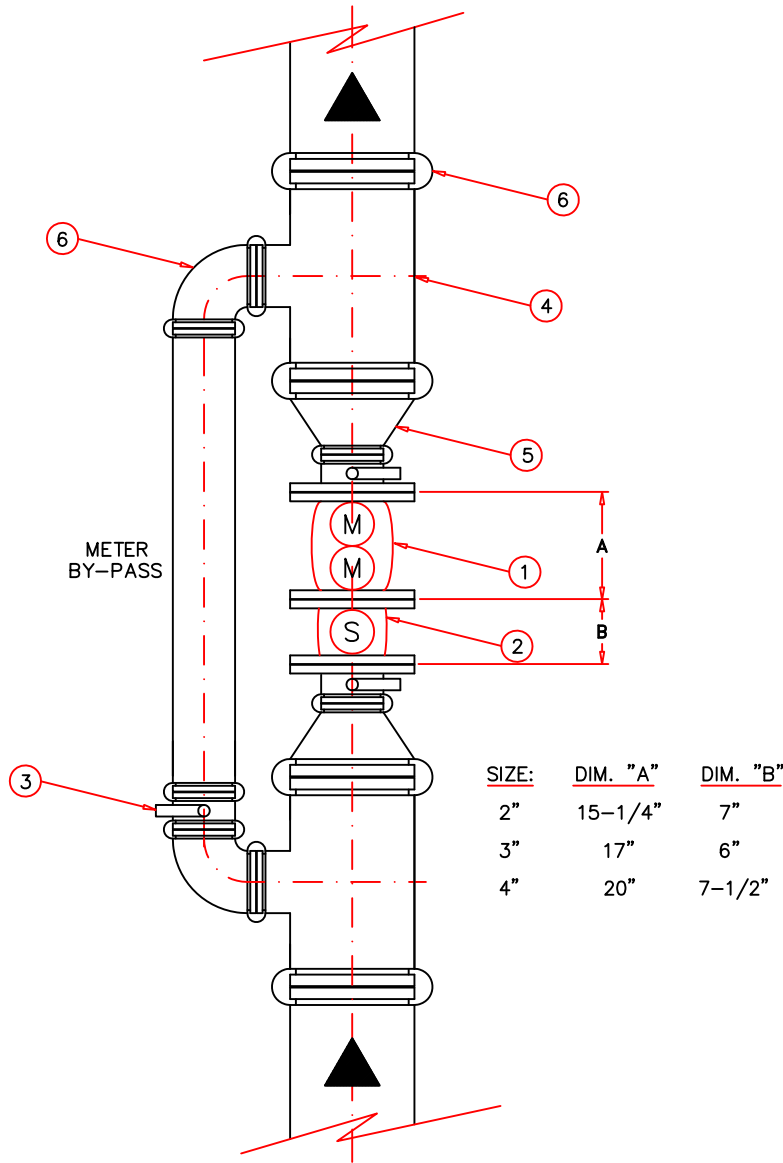
PROJECT TITLE

WATER METER
(COMPOUND)
MECHANICAL INSTALLATION STANDARD

DRAWING TITLE

METER INSTALLATION DETAILS

SCALE	N.T.S.	DATE	NOV 17, 2016
DRAWN	DB/AP	SHEET NO.	1 OF 1
REVIEWED	J.L.		
CAD FILENAME	T:\Tech Guidelines\WaterMeterStdComp		
UBC PROJECT NO.	...		
UBC DRAWING NO.	1140-UT-06A-WaterMeterStdComp	REV.	6



METER INSTALLATION DETAILS
(TYPICAL)

NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. PIPE MATERIAL:
 $\phi 4"$ AND LARGER TO BE CL 54 DUCTILE IRON (CEMENT LINED)
 SMALLER THAN $\phi 4"$ TO BE TYPE "K" COPPER
3. METER TO BE INTEGRATED INTO ELECTRICAL METERING SYSTEM AS PER DIVISION-16, SECTION 16460, DRAWING E4-6.
4. MINIMUM AND MAXIMUM INSTALLATION HEIGHT OF THE CENTRELINE OF THE WATER METER:
 MINIMUM ABOVE THE FINISHED FLOOR: 600 mm
 MAXIMUM ABOVE THE FINISHED FLOOR: 1350mm

PART LIST:

- 1 NEPTUNE WATER METER (COMPOUND) WITH TRICON-S REGISTER OR R900i ARB PIT METER RECEPTACLE
 -SUPPLY ONLY BY UBC UTILITIES AT PROJECT COST
- 2 NEPTUNE STRAINER - SUPPLY BY UBC UTIL.
- 3 VIC 300 BUTTERFLY VALVE (LOCKABLE REQUIRED)
- 4 VIC 25 REDUCING TEE (2 OFF)
- 5 VIC 50 REDUCER (2 OFF)
- 6 STYLE 77 STD FLEXIBLE COUPLING (4 OFF)

NO.	DATE	REVISIONS	BY
3	27-02-15	PART LIST 1 FOR TECH GUIDELINES	D.B
2	16-09-07	NOTE 4 BY J. LIU	D.B
1	19-12-02	UPDATE TECHNICAL GUIDELINES	A.P.
0	13-12-00	FOR UBC TECHNICAL GUIDELINES	A.P.



UBC UTILITIES
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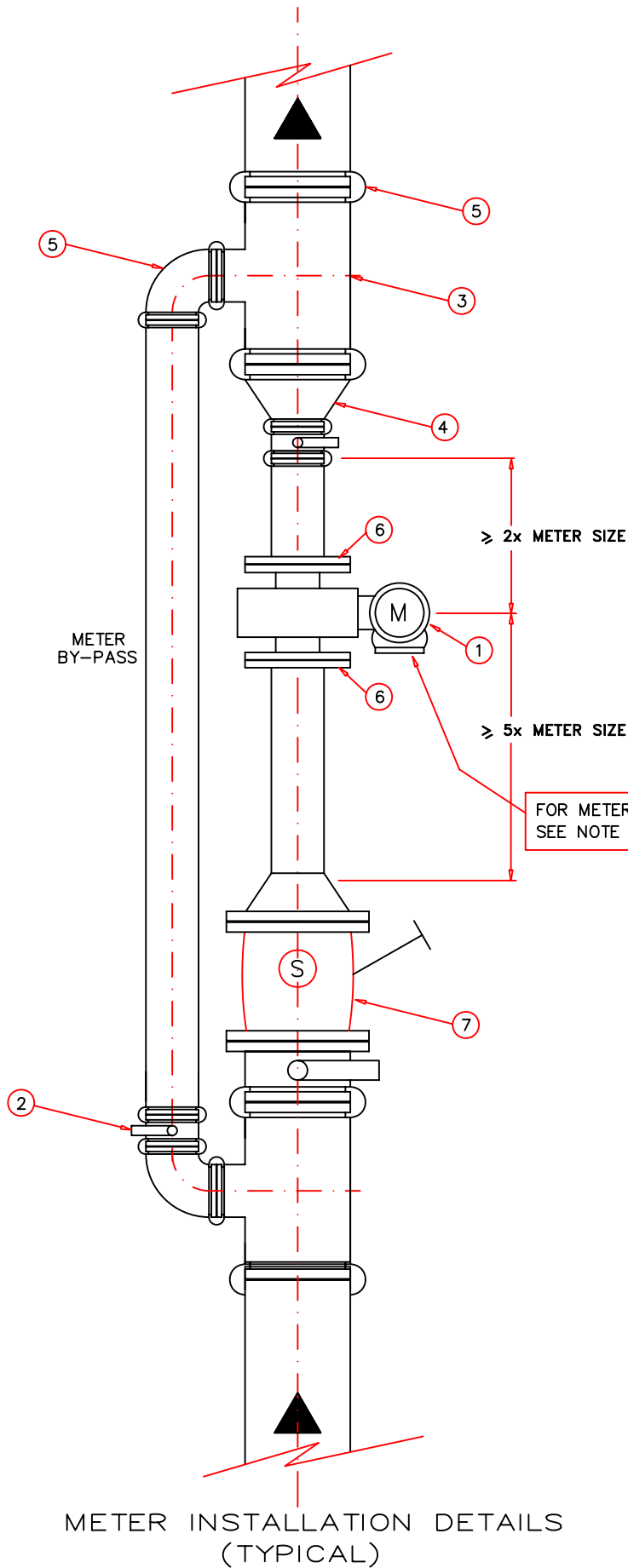
PROJECT TITLE

WATER METER
MECHANICAL INSTALLATION STANDARD

DRAWING TITLE

METER INSTALLATION DETAILS

SCALE	N.T.S.	DATE	FEB 02, 2015
DRAWN	A.P.	SHEET NO. 1 OF 1	
REVIEWED	E.M.		
CAD FILENAME	T: \Tech Guidelines\...		
UBC PROJECT NO.	...		
UBC DRAWING NO.	1140-UT-06-WaterMeterStd	REV.	3



METER INSTALLATION DETAILS
(TYPICAL)

NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. PIPE MATERIAL:
 Ø4" AND LARGER TO BE CL 54 DUCTILE IRON (CEMENT LINED)
 SMALLER THAN Ø4" TO BE TYPE "K" COPPER
3. METER TO BE INTEGRATED INTO ELECTRICAL METERING SYSTEM AS PER DIVISION-16, SECTION 16460, DRAWING E4-6A.
4. MINIMUM AND MAXIMUM INSTALLATION HEIGHT OF THE CENTRELINE OF THE WATER METER:
 MINIMUM ABOVE THE FINISHED FLOOR: 600 mm
 MAXIMUM ABOVE THE FINISHED FLOOR: 1350mm

PART LIST:

- ① WATER METER: ENDRESS & HAUSER PROMAG ELECTROMAGNETIC FLOW METER 50W.
 -SUPPLY ONLY BY UBC UTILITIES
- ② VIC 300 BUTTERFLY VALVE (LOCKABLE REQUIRED)
- ③ VIC 25 REDUCING TEE (2 OFF)
- ④ VIC 50 REDUCER (2 OFF)
- ⑤ STYLE 77 STD FLEXIBLE COUPLING
- ⑥ STYLE 741 VIC FLANGE ADAPTER
- ⑦ NEPTUNE STRAINER - SUPPLY BY UBC UTIL.

NO.	DATE	REVISIONS	BY
3	03-10-08	ADD STRAINER	D.B
2	02-28-08	ENDRESS & HAUSER METER	D.B
1	12-10-07	PART 6	D.B
0	11-10-07	NEW DETAIL REV'D FOR MAG METER	D.B



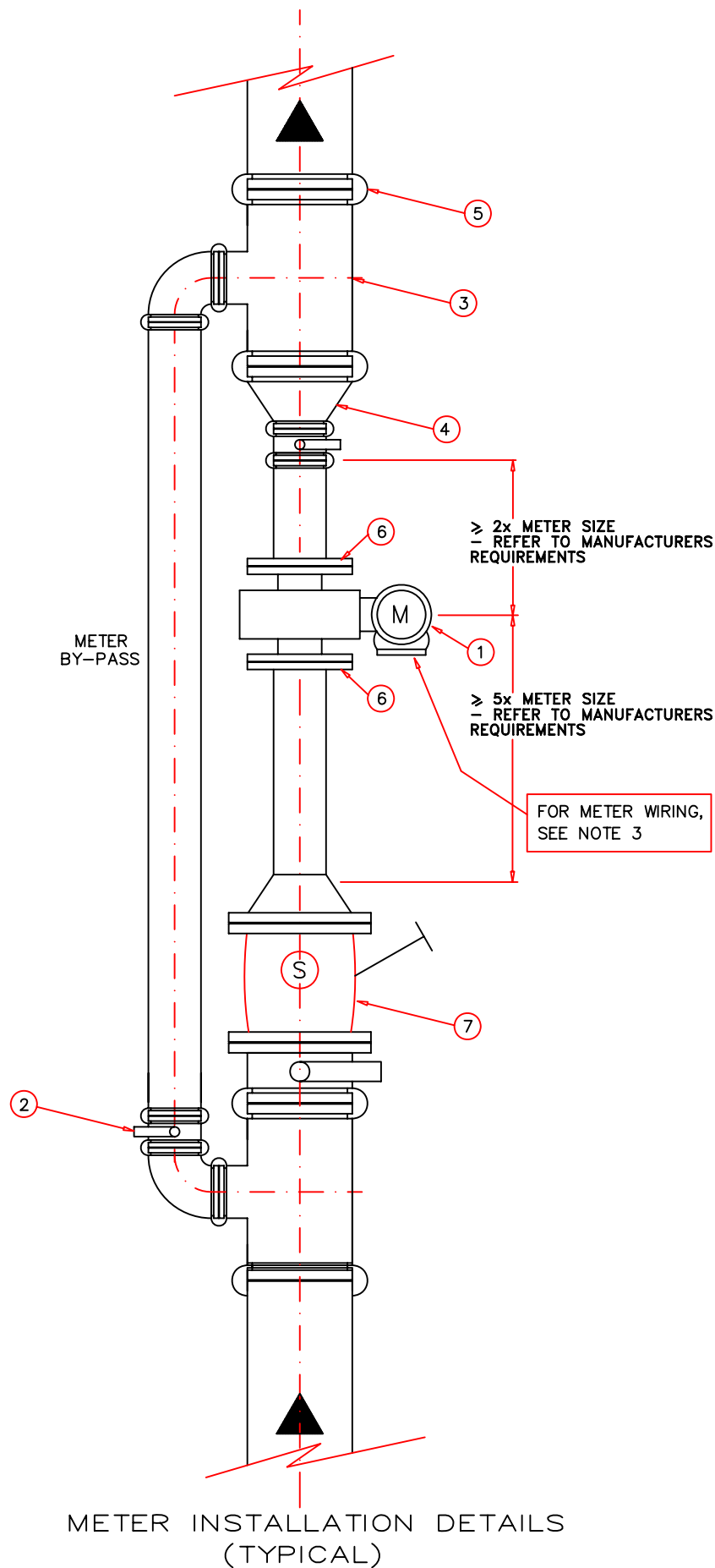
UBC UTILITIES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

PROJECT TITLE
 WATER METER
 ENDRESS & HAUSER PROLINE PROMAG 50
 (MAGNETIC)
 MECHANICAL INSTALLATION STANDARD

DRAWING TITLE
 METER INSTALLATION DETAILS

SCALE	N.T.S.	DATE	FEB. 27/08
DRAWN	D.B.	SHEET NO.	1 OF 1
REVIEWED	J.L.		
CAD FILENAME	WaterMeterStdMagE&H		
UBC PROJECT NO.	...		
UBC DRAWING NO.	1140-UT-07A-WaterMeterStdMagE&H	REV.	1



NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. PIPE MATERIAL:
 Ø4" AND LARGER TO BE CL 54 DUCTILE IRON (CEMENT LINED)
 SMALLER THAN Ø4" TO BE TYPE "K" COPPER
3. METER TO BE INTEGRATED INTO ELECTRICAL METERING SYSTEM AS PER DIVISION-16, SECTION 16460, DRAWING E4-6A.
4. MINIMUM AND MAXIMUM INSTALLATION HEIGHT OF THE CENTRELINE OF THE WATER METER:
 MINIMUM ABOVE THE FINISHED FLOOR: 600 mm
 MAXIMUM ABOVE THE FINISHED FLOOR: 1350mm

PART LIST:

- ① WATER METER: ENDRESS & HAUSER PROMAG ELECTROMAGNETIC FLOW METER 50W OR EQUIVALENT.
 -SUPPLY ONLY BY UBC UTILITIES
- ② VIC 300 BUTTERFLY VALVE (LOCKABLE REQUIRED)
- ③ VIC 25 REDUCING TEE (2 OFF)
- ④ VIC 50 REDUCER (2 OFF)
- ⑤ STYLE 77 STD FLEXIBLE COUPLING
- ⑥ STYLE 741 VIC FLANGE ADAPTER
- ⑦ NEPTUNE STRAINER - SUPPLY BY UBC UTIL.

NO.	DATE	REVISIONS	BY
3	05-28-08	ADD STRAINER	D.B
2	02-28-08	ENDRESS & HAUSER METER	D.B
1	12-10-07	PART 6	D.B
0	11-10-07	NEW DETAIL REV'D FOR MAG METER	D.B



UBC UTILITIES
 THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

PROJECT TITLE

WATER METER
 (MAGNETIC)
 MECHANICAL INSTALLATION STANDARD

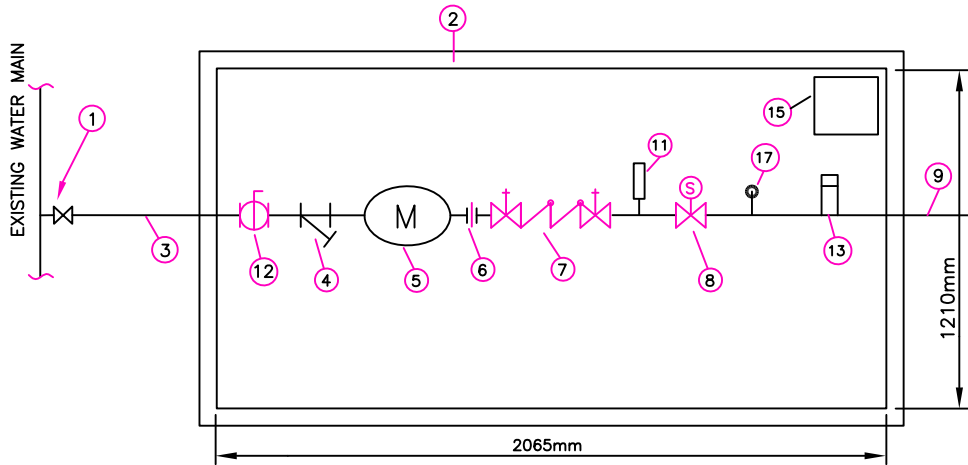
DRAWING TITLE

METER INSTALLATION DETAILS

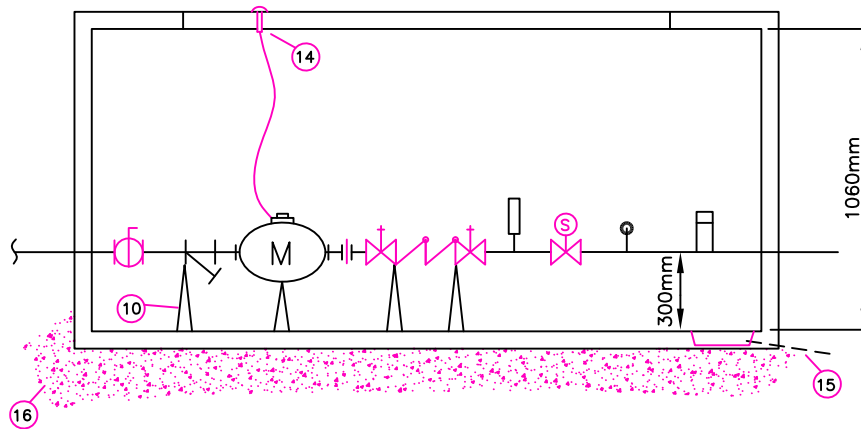
SCALE	N.T.S.	DATE	FEB. 27/08
DRAWN	D.B.	SHEET NO.	1 OF 1
REVIEWED	J.L.		
CAD FILENAME	WaterMeterStdMag		
UBC PROJECT NO.	...		
UBC DRAWING NO.	1140-UT-07-WaterMeterStdMag	REV.	1

NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. ALL WORK TO CONFORM TO UBC TECHNICAL GUIDELINES, BC PLUMBING CODE AND MMCD.
3. IRRIGATION SYSTEM CONNECTIONS ARE PERMITTED TO USE A DCVA AS A BACKFLOW PREVENTION DEVICE DUE TO THE UBC POLICY TO NOT USE PESTICIDES OR OTHER LANDSCAPE CHEMICALS THAT POSE A RISK TO THE WATER SYSTEM. ANY VARIANCE MUST BE APPROVED BY THE SENIOR MANAGER OF MECHANICAL UTILITIES IN ENERGY & WATER SERVICES.



IRRIGATION WATER SUPPLY VAULT – PLAN
N.T.S



IRRIGATION WATER SUPPLY VAULT – PROFILE
N.T.S

- ① CONNECT TO EXISTING WATERMAIN WITH SERVICE CONNECTION DIRECT TAP UP TO 75mm DIA. C/W DOUBLE STRAPPED SADDLE AND CURB STOP WITH 50mm SQUARE OPERATING NUT, VALVE BOX AND EXTENSION (MIN. 50mm DIA. OFF MAIN). (OVER 75mm SERVICE CONNECTION, SUPPLY AND INSTALL D.I. TEE ON EXISTING WATERMAIN).
- ② WATER SUPPLY VAULT : LANGLEY CONCRETE VAULT MODEL 2121 WITH GALVANIZED STEEL HATCH (LOCKING HASP STYLE) AND 100mm DIA. DRAIN (2.06m LONG x 1.25m WIDE x 1.203m HIGH (INSIDE DIMENSIONS)) OR APPROVED EQUIVALENT.
- ③ TYPE K COPPER PIPE (TYP.) OR APPROVED EQUIVALENT.
- ④ NEPTUNE STRAINER
- ⑤ NEPTUNE T-10 WATER METER WITH PROREAD PAD AS PER UBC'S STANDARDS AND SPECIFICATIONS (METER PROCURED AND SUPPLIED BY UBC ENERGY & WATER SERVICES, AT COST).
- ⑥ UNION
- ⑦ DCVA – WATTS SERIES 007 DOUBLE CHECK VALVE ASSEMBLY (007M1QT) OR APPROVED EQUIVALENT.
- ⑧ SOLENIOD VALVE AND CONTROLS BY PUMP CONTRACTOR. (MAY BE INSTALLED DOWNSTREAM OF VAULT).
- ⑨ SCHED. 40 PVC PIPE , DOWNSTREAM OF DCV ASSEMBLY ONLY, UNLESS OTHERWISE NOTED.
- ⑩ PIPE SUPPORT TO SATISFACTION OF ENGINEER, MINIMUM 300mm FROM FLOOR OF VAULT TO PIPE.
- ⑪ WATTS 25mmØ MODEL 15M2 WATER HAMMER ARRESTOR OR APPROVED EQUIVALENT.
- ⑫ ISOLATION VALVE (APPROVED BALL VALVE)
- ⑬ QUICK COUPLER FOR COMPRESSED AIR.
- ⑭ PIT PAD, PROREAD OR R900 PIT MIU.
- ⑮ 100mm SDR28 PVC DRAIN TO STORM SEWER FROM SUMP.
- ⑯ MIN. 100mm BEDDING GRAVEL COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
- ⑰ HOSE BIB (MOUNTED SIDEWAYS)

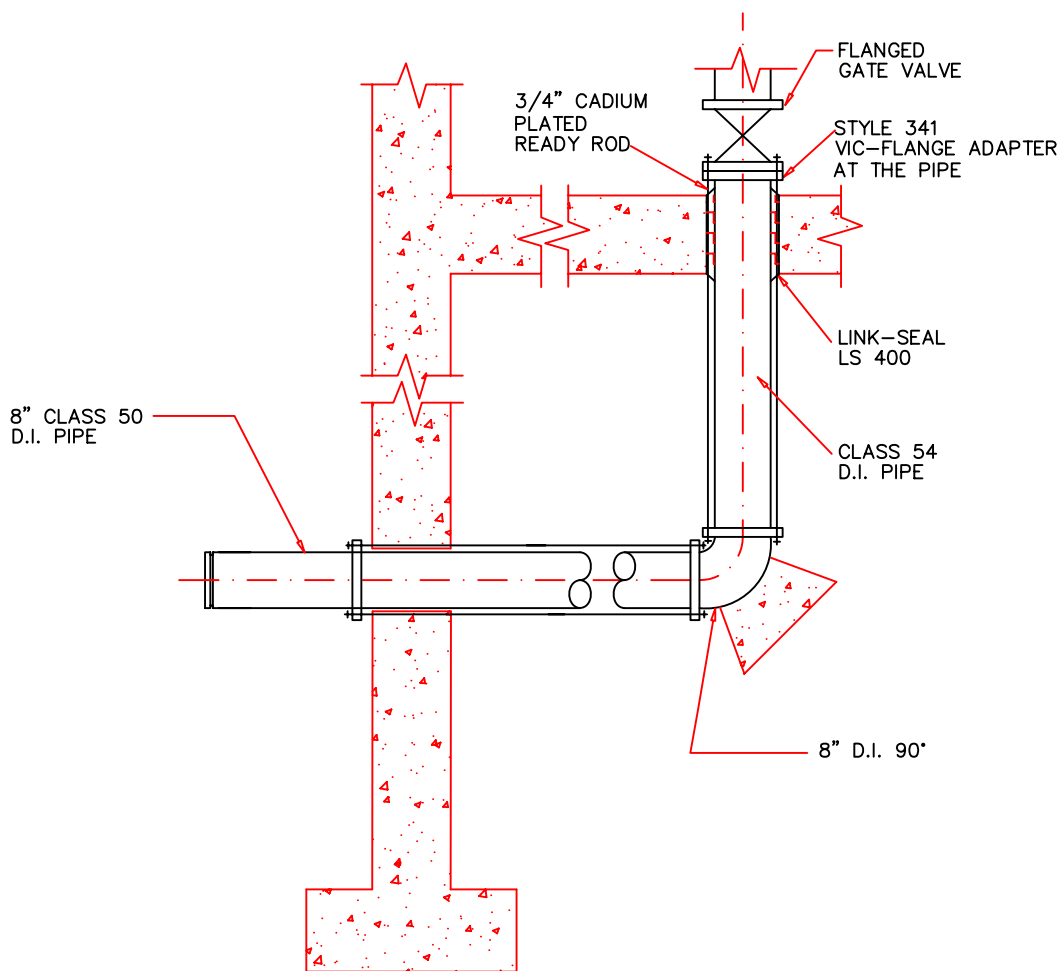
1	MAR.18/20	ADD NOTE 3	D.D.
NO.	DATE	REVISIONS	BY

UBC ENERGY & WATER SERVICES
THE UNIVERSITY OF BRITISH COLUMBIA

DRAWING TITLE

IRRIGATION WATER SUPPLY VAULT

SCALE N.T.S.	DATE NOVEMBER 5, 2015
DRAWN D.B.	SHEET NO. 1
DESIGN E.P.	OF 1
CAD LOCATION T: \FINALTECHGUIDELINES\	
UBC DRAWING NAME 1140-UT-11-Water Irigation Vault.dwg	REV. 1



WATER SERVICE BUILDING ENTRY
(FOR SLAB ON GRADE)
N.T.S.

1	JULY 18/08	VIC-FLANGE ADAPTER	DB
NO.	DATE	REVISIONS	BY



UBC UTILITIES
THE UNIVERSITY OF BRITISH COLUMBIA

BUILDING/FACILITY

PROJECT TITLE

BUILDING WATER SUPPLY

DRAWING TITLE

WATER SERVICE BUILDING ENTRY
(FOR SLAB ON GRADE)

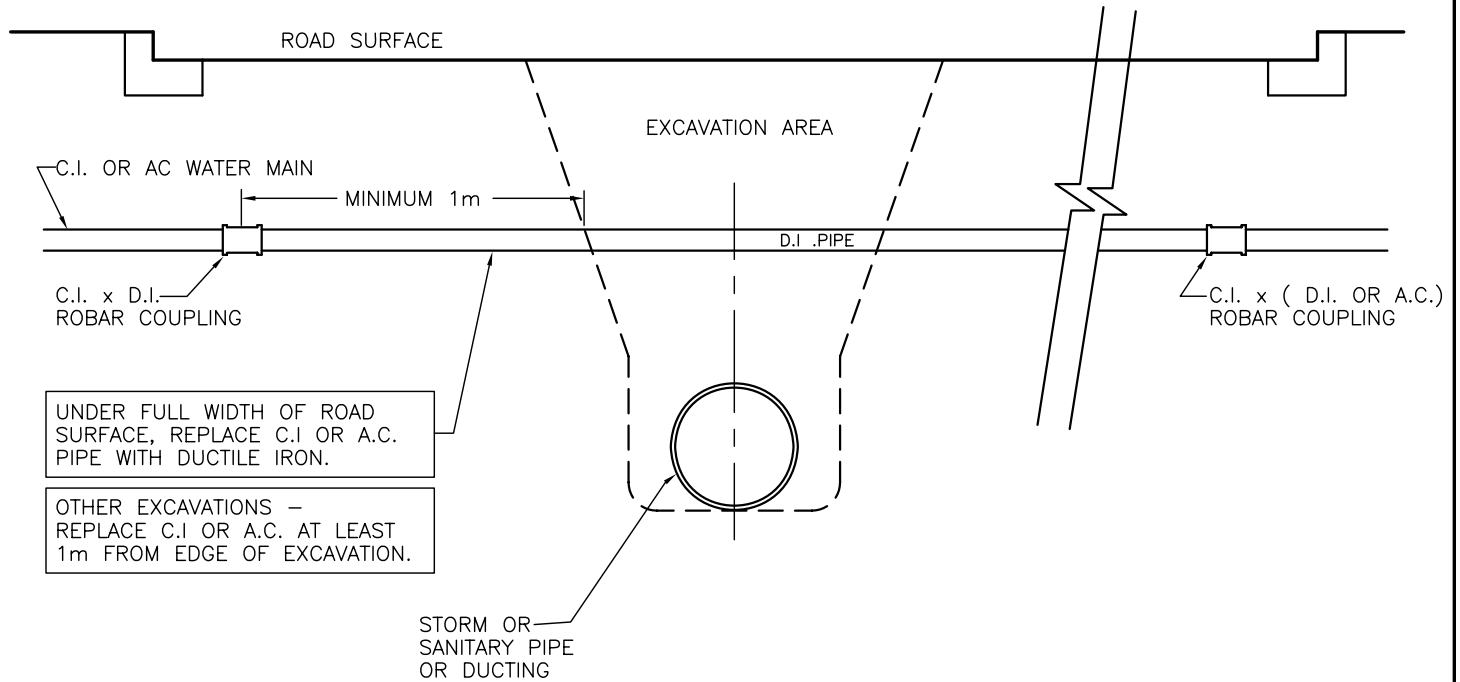
SCALE N.T.S. DATE Sept. 17, 2007

DRAWN D.B. SHEET NO.

REVIEWED J.L.

CAD FILENAME T:\Tech Guidelines\ WaterEntrySOG
UBC PROJECT NO. ... 1 OF 1

UBC DRAWING NO. 1140-UT-08-WaterEntrySOG REV. 1



UBC UTILITIES
THE UNIVERSITY OF BRITISH COLUMBIA

DRAWING TITLE

WATER MAIN PIPE REPLACEMENT
AT EXCAVATIONS

SCALE

N.T.S.

DATE

FEB 4, 2010

DRAWN

D.B

UBC PROJECT NO.

CAD FILENAME

T:\Tech Guidelines\
1140-UT-09-WaterMainAtExcavations

SHEET NO.

1 OF 1

UBC DRAWING NO.

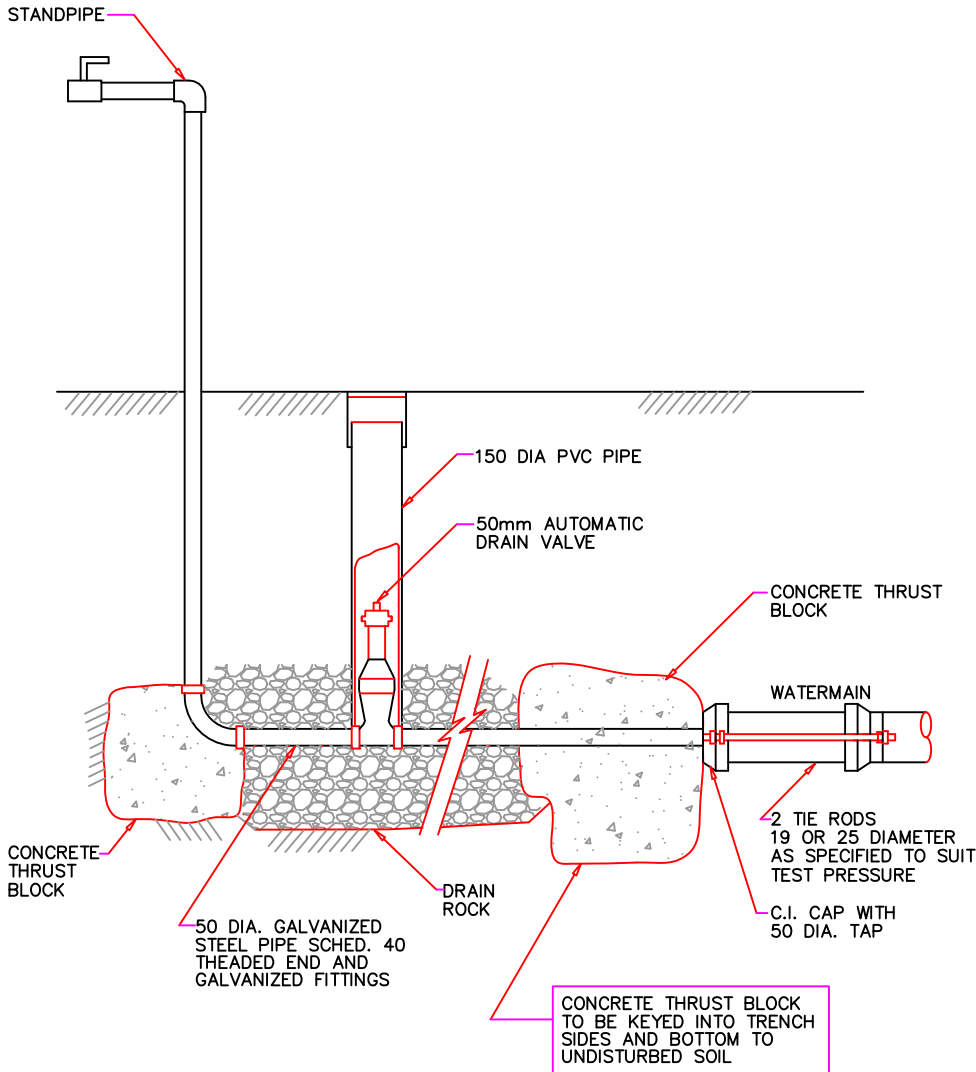
1140-UT-09-WaterMainAtExcavations

REV.

0

NOTES

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
2. THRUST BLOCKS
 - PLACE 6 mil POLYETHYLENE ON INTERFACE BETWEEN CONCRETE AND PIPING.
 - PLACE 20 MPa CONCRETE AGAINST UN-DISTURBED GROUND; KEEP CONCRETE CLEAR OF FITTING JOINTS.
 - IF THRUST BLOCKS CANNOT BE PLACED AGAINST UNDISTURBED SOIL, THE SPACE BETWEEN THRUST BLOCK AND UNDISTURBED SOIL SHALL BE FILLED WITH CONTROL DENSITY FILL (CDF).
3. FROST PROTECTION
 - 50mm AUTOMATIC DRAIN VALVE MUST BE TURNED OFF DURING PERIODS OF LOW TEMPERATURES, WHEN NOT IN USE.



0	MAY 1/14	FOR UBC TECHNICAL GUIDELINES	E.P./D.B.
NO.	DATE	REVISIONS	BY



UBC UTILITIES
THE UNIVERSITY OF BRITISH COLUMBIA

DRAWING TITLE

STANDPIPE FOR TEMPORARY
CONSTRUCTION WATER

SCALE	N.T.S.	DATE	MAY 1, 2014
DRAWN	D.B.	SHEET NO.	1 OF 1
DESIGN	E.P.		
CAD LOCATION	T:\TECH GUIDELINES\		
UBC DRAWING NAME		REV.	
1140-UT-10-TempStandpipe.dwg		O	