

**DRAWING INDEX**

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**ABBREVIATIONS**

WWS	WASTE WATER SEWER
CS	COMBINED SEWER
LDS	LAND DRAINAGE SEWER
PL	PROPERTY LINE
CL	CENTER LINE
G.I.S.	GEOGRAPHIC INFORMATION SYSTEM
B.M.	BENCH MARK
TH	TEST HOLE
ELEV	ELEVATION
INV	INVERT
MIN	MINIMUM
MAX	MAXIMUM
SL	STREET LIGHTING
TS	TRAFFIC SIGNALS
ABAND	ABANDONED
BLDG	BUILDING
HSE	HOUSE
CRN	CORNER
OPP	OPPOSITE
C/S OR S/C	CURB STOP
MTS	MANITOBA TELEPHONE SYSTEM
R.O.W.	RIGHT-OF-WAY
WM	WATERMAIN
CULV	CULVERT
MH	MANHOLE
CB	CATCH BASIN
CI	CURB INLET
VERT.	VERTICAL
HORZ.	HORIZONTAL
I.B.	IRON BAR
FIBRE	FIBRE OPTIC
TYP	TYPICAL
X-ING	CROSSING
HYD	HYDRANT
EXIST	EXISTING
N	NORTH
E	EAST
S	SOUTH
W	WEST
W/	WITH
C/W	CONSTRUCTED WITH
CONC	CONCRETE
AC	ASBESTOS CEMENT
VC OR CLAY	VITRIFIED CLAY
CI	CAST IRON
DI	DUCTILE IRON
PVC	POLYVINYL CHLORIDE
HDPE	HIGH DENSITY POLYETHYLENE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE

**LEGEND**

DESCRIPTION	PLAN VIEW	
	EXISTING	PROPOSED
WATER PIPE		
FIRE HYDRANT		
VALVE		
CURB STOP		
REDUCER		
COUPLING OR SLIDDER		
CROSS		
BEND - 11.25', 22.5', 45', 90'		
TEE		
VERTICAL BEND		
ANODE		
REPAIR MARKER		
PLUG		
SEWER PIPE		
MANHOLE		
CATCH BASIN		
CURB INLET		
JUNCTION		
DITCH		
CULVERT		
SURVEY BAR		
SURVEY MONUMENT		
TREE - DECIDUOUS		
TREE - CONIFEROUS		
HYDRO		
HYDRO POLE		
LAMP STANDARD		
HYDRO POLE W/STREET LIGHTING		
POLE		
GUY ANCHOR		
M.T.S. POLE		
PEDESTAL OR BOX		
CABINET		
M.T.S., SHAW, OR VIDEON		
TRAFFIC SIGNALS		
TRAFFIC LIGHT STANDARD		
GAS		
STEAM		
FIBRE OPTIC		
FENCE		
EDGE OF PAVEMENT OR GUTTER		
EDGE UNPAVED OR GRAVEL ROAD		
PROJECTED E		
LOT LINE		
SIDEWALK - PATHWAY		
EASEMENT		
EDGE OF BUILDING		
MAILBOX		
PARKING METER		
TEST HOLE		
TREE LINE OR BUSH		

**HATCH PATTERNS**

EXISTING	PROPOSED	DESCRIPTION
		EARTH OR GROUND ABOVE PIPE
		SAND OR OTHER FINE MATERIAL
		CONCRETE
		GROUT
		WASHED STONE OR GRANULAR MATERIAL
		INTERLOCKING STONE
		METAL
		GRAVEL OR STONE

**CONSTRUCTION NOTES**

- NO ALLOWABLE SHUTDOWN TIME.
- CRITICAL BASEMENT ELEVATION: 225.582
- REMOVE EXISTING PIPING AND FITTINGS AS REQUIRED.
- PROVIDE TEMPORARY PUMPING OF WASTEWATER DURING CONSTRUCTION OF PUMPING STATION UPGRADES.
- INSTALL MECHANICAL WORKS AS INDICATED AND ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- EXCAVATIONS TO BE BACKFILLED WITH CLASS 3 OR CLASS 5 BACKFILL IN ACCORDANCE WITH CW 2030 AND SD-002.
- FLANGE NUTS & BOLTS TO BE ASTM A276-TYPE 316 STAINLESS STEEL - SIZED TO REQUIREMENTS OF FLANGE.
- GASKETS TO BE FULL FACED, 3 THICK RED RUBBER.
- CONTRACTOR TO CONFIRM ALL DIMENSIONS BEFORE ASSEMBLING PIPE.

LOCATION APPROVED UNDERGROUND STRUCTURES		B.M. ELEV.		ENGINEER'S SEAL	
SUPV. U/G STRUCTURES COMMITTEE		CONSTRUCTION COMPLETION DATE: YYYY MM DD		ORIGINAL SIGNED K.R. ZUREK 13/02/05	
DATE		DESIGNED BY DB		CHECKED BY KZ/SC	
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.		DRAWN BY CJH		APPROVED BY KZ	
NO.		REVISIONS		SCALE: HORIZONTAL 1:250 VERTICAL 1:50	
DATE		DATE 2013 02 05		RELEASED FOR CONSTRUCTION	
BY		DATE 2013 02 05		CONSULTANT DRAWING NUMBER	
PLOT DATE: 2013 02 05		CONTRACT NUMBER: 17		THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION	
2013 RIVERWOOD FORCEMAIN REPLACEMENT AND WILLOW PUMPING STATION UPGRADES				SHEET 1 OF 8 CITY DRAWING NUMBER	
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