

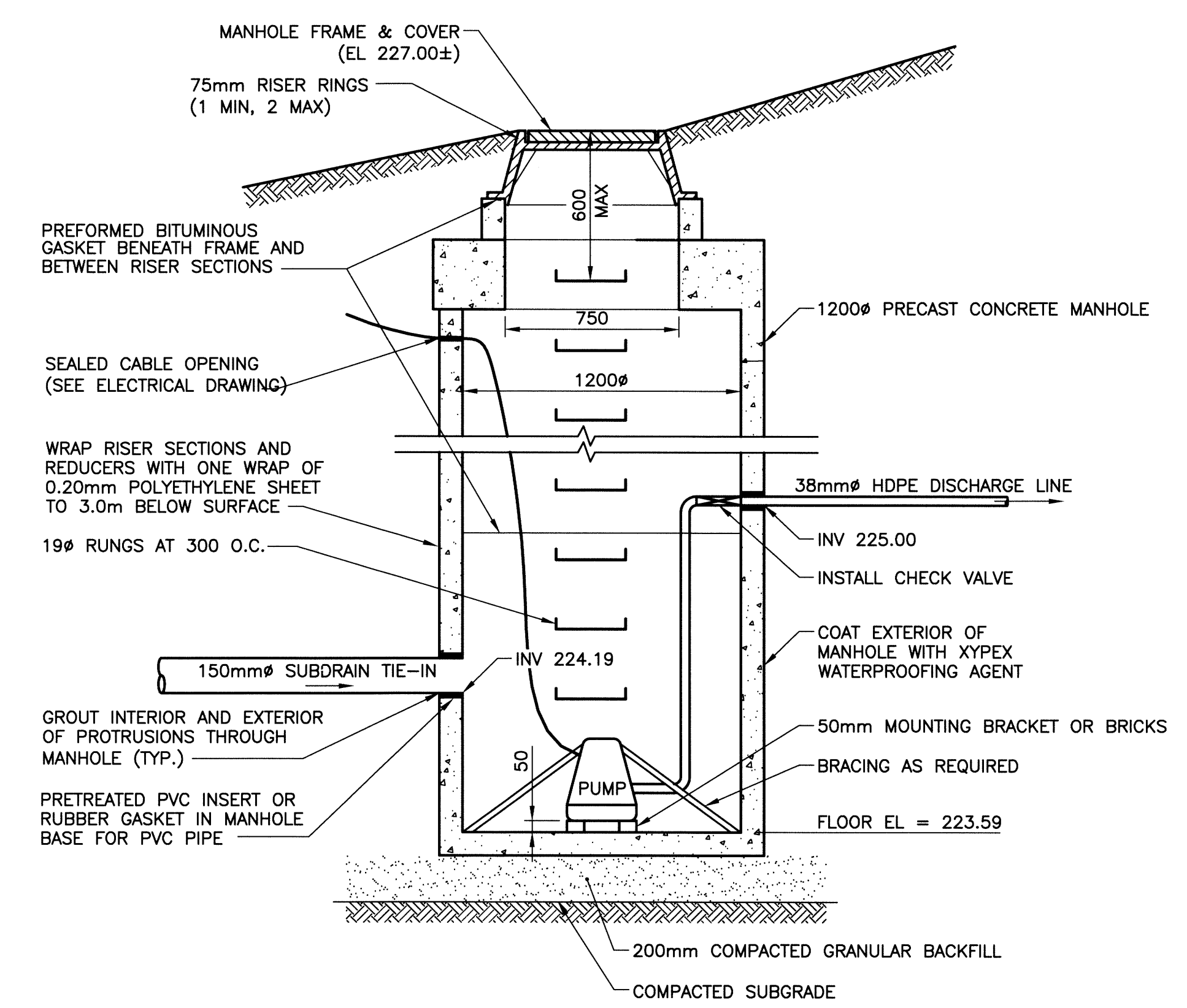
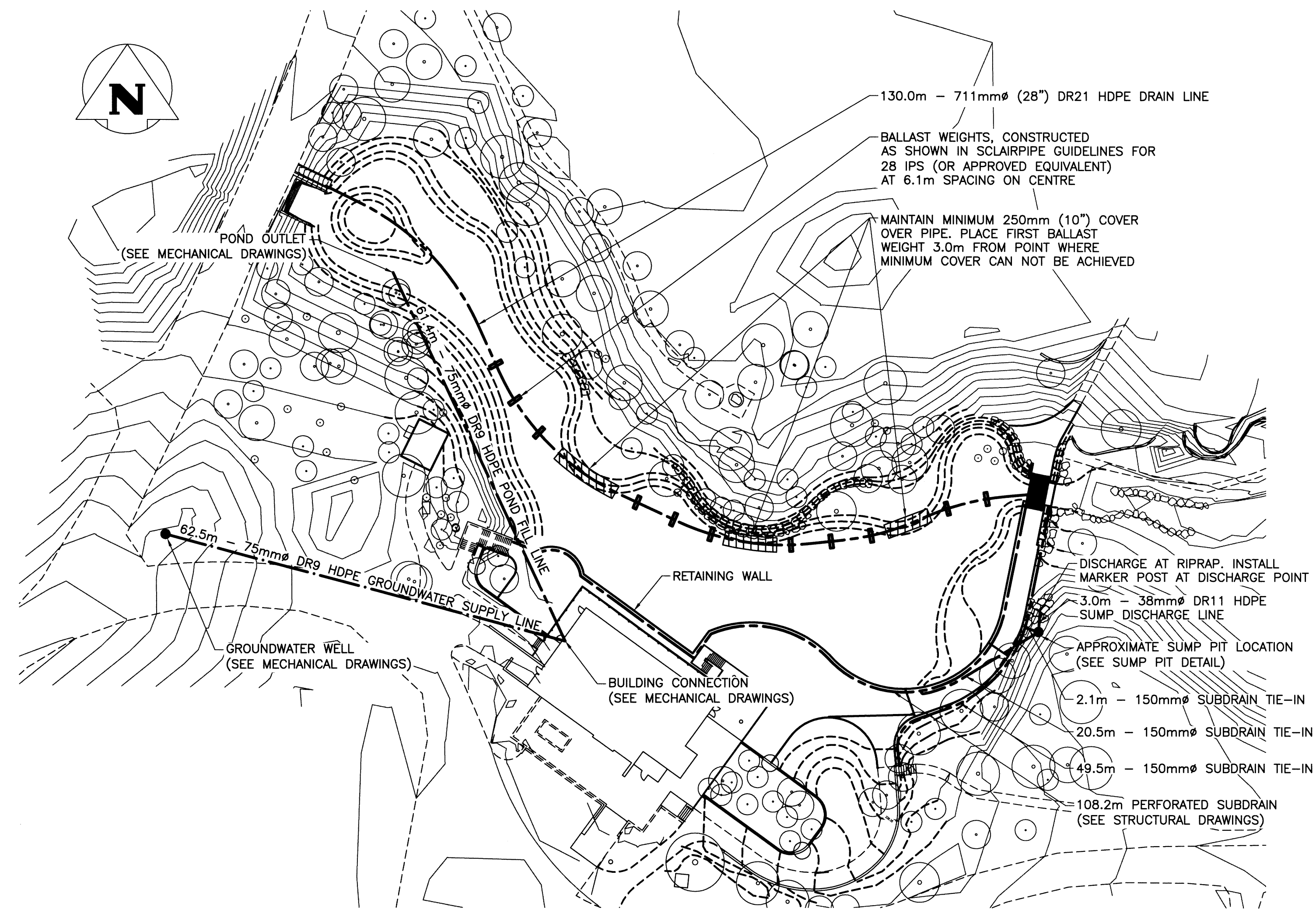
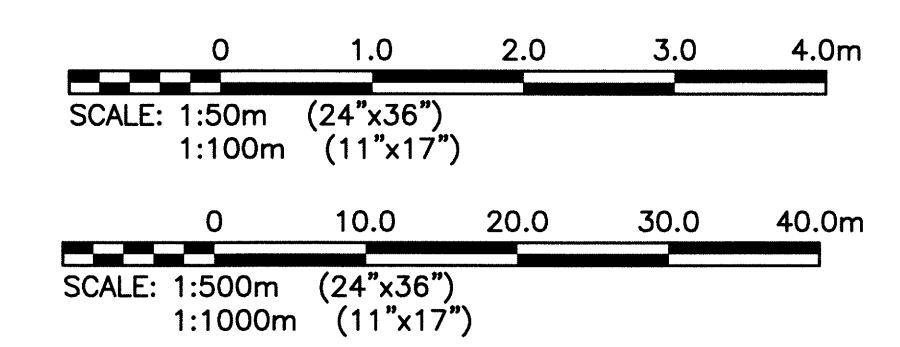
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

**WARNING**

1. NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
2. TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.
3. SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.

**METRIC**

WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES



**SUMP PIT DETAIL**  
SCALE 1:50

**SITE PLAN**  
SCALE 1:500

**GROUNDWATER SUPPLY LINE NOTES:**

1. PIPE SHALL BE 75mm (3") OUTER DIAMETER DR9 HDPE, WITH A MINIMUM INNER DIAMETER OF 62mm (2 $\frac{1}{2}$ ") AND PRESSURE RATING OF 1379 kPa (200psi).
2. PIPE SHALL BE INSTALLED USING THE DIRECTIONAL DRILLING METHOD, IN ACCORDANCE WITH CITY OF WINNIPEG STANDARD CONSTRUCTION METHODS.
3. PIPE JOINTS SHALL BE BUTT-FUSED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. COUPLERS SHALL NOT BE USED.
4. A MINIMUM OF 2.4m (8') COVER MEASURED TO THE TOP OF PIPE WILL BE MAINTAINED, EXCEPT WHERE CROSSING UNDER THE PATIO DIRECTLY ADJACENT TO THE BUILDING TIE-IN LOCATION.
5. WHERE PIPE CROSSES UNDER TREES, THE CONTRACTOR SHALL ENSURE THAT IT IS AT SUFFICIENT DEPTH TO AVOID DAMAGE TO THE TREES' ROOT SYSTEMS.
6. HEAT TRACING WILL BE REQUIRED ON THE LAST 10m OF THE PIPE, AS MEASURED FROM THE BUILDING TIE-IN LOCATION.
7. PRIOR TO ACCEPTANCE BY THE ENGINEER, THE GROUNDWATER SUPPLY LINE IS TO BE SUBJECTED TO PRESSURE TESTING IN ACCORDANCE WITH CITY OF WINNIPEG STANDARDS AT A PRESSURE OF 1241 kPa (180 psi).
8. REFER TO MECHANICAL DRAWINGS FOR WELL AND BUILDING TIE-IN DETAILS.

**POND FILL LINE NOTES:**

1. PIPE SHALL BE 75mm (3") OUTER DIAMETER DR9 HDPE, WITH A MINIMUM INNER DIAMETER OF 62mm (2 $\frac{1}{2}$ ") AND PRESSURE RATING OF 1379 kPa (200psi).
2. PIPE SHALL BE INSTALLED USING THE DIRECTIONAL DRILLING METHOD, IN ACCORDANCE WITH CITY OF WINNIPEG STANDARD CONSTRUCTION METHODS.
3. PIPE JOINTS SHALL BE BUTT-FUSED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. COUPLERS SHALL NOT BE USED.
4. A MINIMUM OF 1.8m (6') COVER MEASURED TO THE TOP OF PIPE WILL BE MAINTAINED.
5. WHERE PIPE CROSSES UNDER TREES, THE CONTRACTOR SHALL ENSURE THAT IT IS AT SUFFICIENT DEPTH TO AVOID DAMAGE TO THE TREES' ROOT SYSTEMS.
6. PRIOR TO ACCEPTANCE BY THE ENGINEER, THE POND FILL LINE IS TO BE SUBJECTED TO PRESSURE TESTING IN ACCORDANCE WITH CITY OF WINNIPEG STANDARDS AT A PRESSURE OF 1241 kPa (180 psi).
7. REFER TO MECHANICAL DRAWINGS FOR BUILDING TIE-IN AND POND OUTLET DETAILS.

**DRAIN LINE NOTES:**

1. PIPE SHALL BE 711mm (28") OUTER DIAMETER DR21 HDPE, WITH A MINIMUM INNER DIAMETER OF 639mm (25.2") AND PRESSURE RATING OF 690 kPa (80psi).
2. PIPE SHALL BE INSTALLED USING THE OPEN TRENCH METHOD, IN ACCORDANCE WITH GEOTECHNICAL DRAWINGS.
3. PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
4. PIPE SHALL BE INSTALLED IN A SNAKED ALIGNMENT ALONG ITS FULL LENGTH THAT DEVIATES BY A HORIZONTAL DISTANCE OF 450mm (18") ON EITHER SIDE OF CENTRE IN ORDER TO ACCOUNT FOR THERMAL EXPANSION AND CONTRACTION. THE SNAKING SHALL DEVIATE FROM CENTRE AND RETURN TO CENTRE OVER A 6.1m (20') DISTANCE, THEN REPEAT ON THE OTHER SIDE OF CENTRE.
5. PIPE SHALL BE INSTALLED AT A SINGLE, FIXED VERTICAL GRADE FROM THE INLET STRUCTURE TO THE OUTLET STRUCTURE. NO GRADE CHANGES OR POINTS OF VERTICAL INFLECTION WILL BE ACCEPTED.
6. PIPE JOINTS SHALL BE BUTT-FUSED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. COUPLERS SHALL NOT BE USED.
7. PIPE ALIGNMENT SHALL BE ACHIEVED BY INCREMENTAL PIPE DEFLECTION/BENDING, NO BENDS OR FITTINGS WILL BE EMPLOYED. MINIMUM CURVE RADIUS SHALL BE THE GREATER OF THE MANUFACTURER'S RECOMMENDED MINIMUM RADIUS OR 50 TIMES THE PIPE OUTER DIAMETER.
8. PENETRATIONS OF THE POND'S CLAY LINER SHALL BE MINIMIZED AND REPAIRED IN ACCORDANCE WITH GEOTECHNICAL DRAWINGS.
9. GABION BASKET CROSSINGS SHALL BE AVOIDED WHERE POSSIBLE. WHERE GABION BASKET CROSSINGS ARE REQUIRED, DRAIN PIPE SHALL CROSS PERPENDICULAR TO GABION BASKET LINE.
10. PRIOR TO ACCEPTANCE BY THE ENGINEER, THE DRAIN LINE MUST BE FLUSHED OF ALL AIR POCKETS THAT RESULT IN PIPE HEAVE.
11. REFER TO GEOTECHNICAL DRAWINGS FOR TYPICAL INSTALLATION CROSS-SECTIONS.
12. REFER TO STRUCTURAL DRAWINGS FOR INLET AND OUTLET STRUCTURE TIE-IN DETAILS.

**SUMP PIT NOTES:**

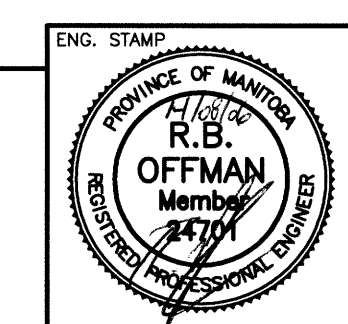
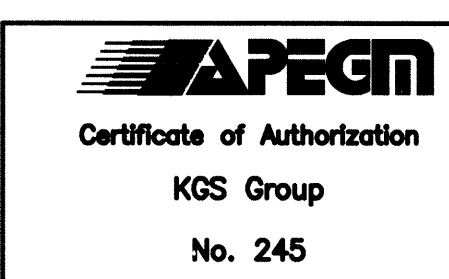
1. THE SUMP PIT SHALL BE A STANDARD 1200mm $\varnothing$  PRECAST MANHOLE, CONFORMING TO CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS, WITH PRECAST PIPE AND CABLE ENTRIES AS INDICATED ON THE DRAWINGS.
2. THE PIT SHALL HAVE A STANDARD MANHOLE REDUCER, FRAME AND SOLID COVER, CONFORMING TO CITY OF WINNIPEG STANDARD CONSTRUCTION SPECIFICATIONS.
3. THE FINISHED COVER ELEVATION SHALL BE SET SUCH THAT IT IS APPROXIMATELY FLUSH TO THE SURROUNDING GRADE AND WILL INCLUDE A MINIMUM OF ONE (1) 76mm LIFTER RING IN ITS INITIAL INSTALLATION TO ACHIEVE THIS GRADE. NO MORE THAN TWO (2) LIFTER RINGS WILL BE PERMITTED IN INITIAL INSTALLATION TO ACHIEVE A MATCHING GRADE.
4. SUMP PUMP SHALL BE A 1/2 HP, 115V ZOELLER M98 OR APPROVED EQUIVALENT, WITH A 38mm $\varnothing$  DISCHARGE LINE AND CAPABLE OF PASSING UP TO 13mm SOLIDS.
5. THE PUMP SHALL BE ABLE TO DELIVER A FLOW OF APPROXIMATELY 160 LITRES PER MINUTE UNDER 5m OF TOTAL DYNAMIC HEAD.
6. THE PUMP SHALL HAVE AN OPERATIONAL TEMPERATURE RANGE FROM -20 $^{\circ}$ C TO 55 $^{\circ}$ C.
7. THE PUMP SHALL BE MOUNTED, EITHER ON BLOCKS OR A PERMANENT STAND, SUCH THAT IT RESTS APPROXIMATELY 50mm ABOVE THE FLOOR OF THE SUMP CHAMBER, AND SHALL BE BRACED, IF REQUIRED, TO ENSURE THAT IT DOES NOT BECOME DISLODGED FROM ITS MOUNT.
8. THE PUMP SHALL HAVE AN AUTOMATED ON/OFF MECHANISM, WHICH ENGAGES THE PUMP AT A WATER LEVEL 290mm MEASURED FROM THE SUMP PIT FLOOR AND DISENGAGES THE PUMP AT A WATER LEVEL OF 125mm MEASURED FROM THE SUMP PIT FLOOR.
9. THE PUMP SHALL BE LOCATED AT AN APPROXIMATELY CENTRAL POINT IN THE SUMP PIT, WITH ADEQUATE CLEARANCE ON ALL SIDES FOR INSPECTION AND MAINTENANCE PURPOSES.
10. THE SUMP PUMP BASED ON A SUBDRAIN LENGTH OF APPROXIMATELY 100m, WHICH IS ROUGHLY EQUIVALENT TO A 7,000 ft $^3$  BUILDING. SUMP PUMP DEMAND AND FLOW WERE BASED ON THIS ASSUMPTION.

1	14/08/06	RE-ISSUED FOR TENDER	RBO
0	14/04/14	ISSUED FOR TENDER	RBO
NO.	YY/MM/DD	DESCRIPTION	BY
REVISIONS / ISSUE			
CLIENT:			
PROJECT:			

**PEGUIS PAVILION  
POND REDEVELOPMENT  
& LANDSCAPE RENOVATIONS**

**GROUNDWATER SUPPLY SYSTEM  
AND SUBDRAIN SUMP DETAIL**

DESIGN BY:	JB	DATE (YY/MM/DD):	14/04/14
DESIGN CHECK:	RJH	DATE:	14/04/14
DRAWN BY:	GEL	DATE:	14/04/14
DWG CHECK:	DMW	DATE:	14/04/14
DWG. NO.	13-0109-001 C01		REV:
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