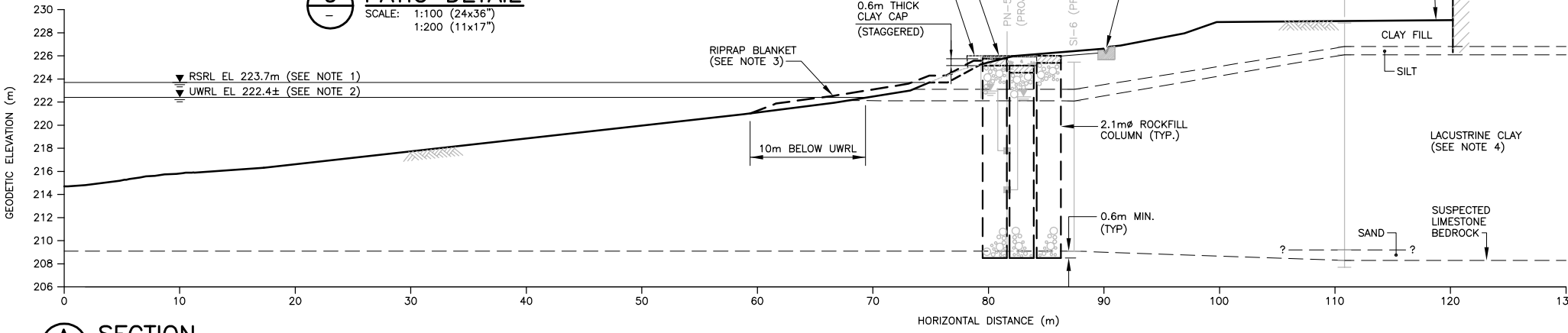
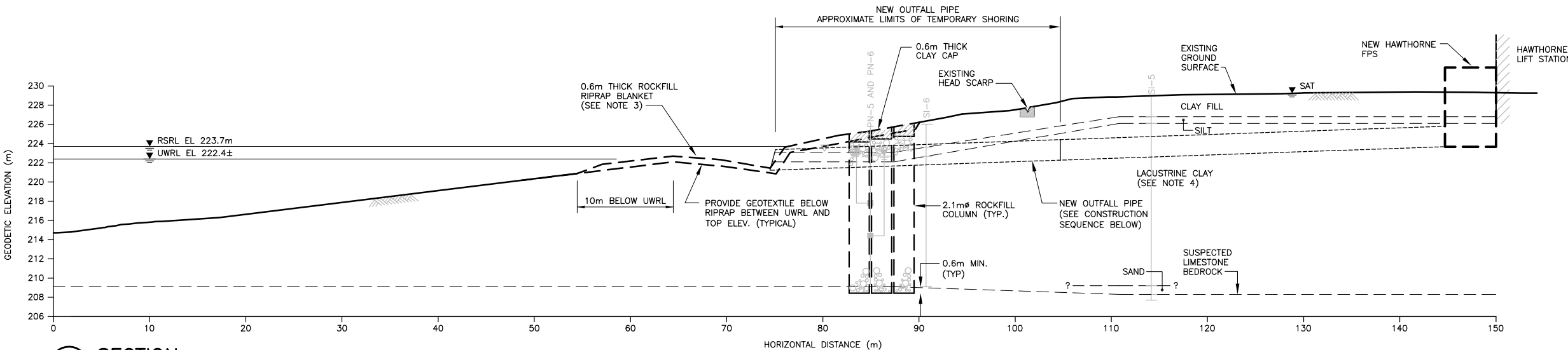


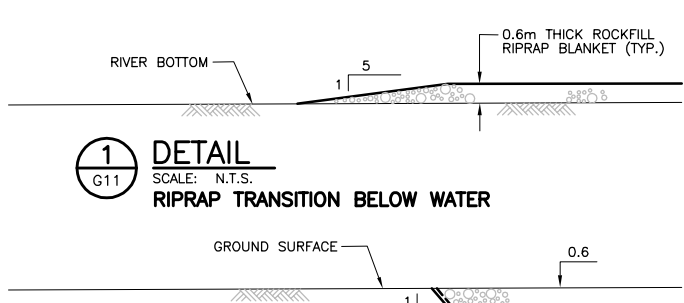
3 PATIO DETAIL
SCALE: 1:100 (24x36")
1:200 (11x17")



A SECTION
G11 SCALE: 1:250 (24x36")
1:500 (11x17")



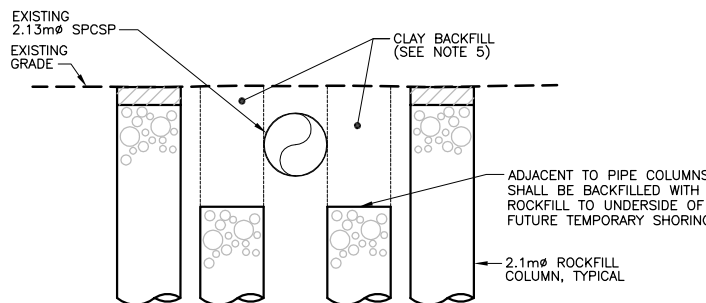
B SECTION
G11 SCALE: 1:250 (24x36")
1:500 (11x17")



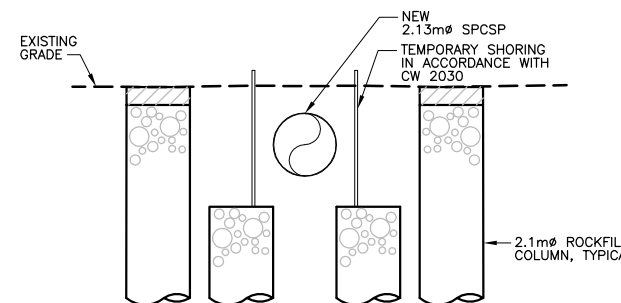
1 DETAIL
G11 SCALE: N.T.S.
RIPRAP TRANSITION BELOW WATER



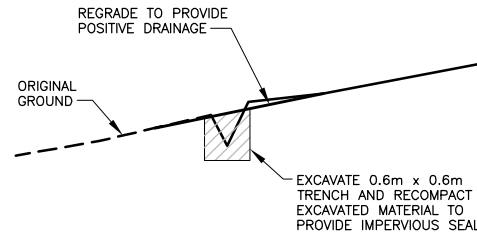
2 DETAIL
G11 SCALE: N.T.S.
RIPRAP TRANSITION SUB CUT ABOVE RSRL



STEP 1 - ROCKFILL COLUMN INSTALLATION
SCALE: 1:125 (24x36")
1:250 (11x17")



STEP 2 - SHORING & NEW SPCSP INSTALLATION
SCALE: 1:125 (24x36")
1:250 (11x17")

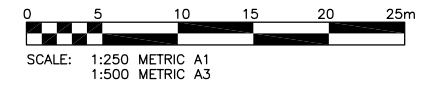


4 DETAIL
SCALE: N.T.S.
HEAD SCARP REGRADING

LEGEND

UWRL	UNREGULATED WINTER RIVER LEVEL
RSRL	REGULATED SUMMER RIVER LEVEL
	PNEUMATIC PIEZOMETER WITH MEASURED GROUNDWATER LEVEL (FEBRUARY 1, 2005)
	PIEZOMETER TIP LOCATION

- NOTES:**
- REGULATED SUMMER WINTER RIVER LEVEL (RSRL) REFERS TO REGULATION OF THE RED RIVER LEVEL TO APPROXIMATE EL. 223.7 m. AT THE CITY OF WINNIPEG JAMES AVENUE PUMPING STATION BY OPERATION OF THE ST. ANDREWS LOCK AND DAM.
 - UNREGULATED WINTER RIVER LEVEL (UWRL) REFERS TO THE NATURAL UNREGULATED LEVEL OF THE RED RIVER WHEN THE ST. ANDREWS LOCK AND DAM IS NOT OPERATING ACTUAL LEVELS AT THE SITE MAY VARY FROM THOSE SHOWN ON THE DRAWING.
 - RIPRAP ABOVE EL. 223.7 m SHALL BE SUB-CUT INTO BANK AND PLACED FLUSH WITH ORIGINAL GROUND SURFACE. ALL EXCAVATED SOIL SHALL BE REMOVED OFF SITE. EXISTING CONCRETE RUBBLE AND/OR LIMESTONE RIPRAP SHALL BE SALVAGED AND BLENDED IN WITH THE NEW RIPRAP TO FORM A SMOOTH UNIFORM GRADE.
 - INTERPRETATION OF THE STRATIGRAPHY BASED ON KGS GROUP TEST HOLE DRILLING, OCTOBER, 2004.
 - ABOVE ROCKFILL, BACKFILL SHAFT TO EXISTING GRADE WITH UNFROZEN CLAY. CLAY BACKFILL MAY BE OBTAINED FROM AUGER CUTTING AND SHALL BE COMPACTED TO 95% SPMD IN MAXIMUM 200mm THICK LIFTS.



APEGM
Certificate of Authorization
KGS Group
No. 245 Expiry: April 30, 2008

150 WM	WATERMAIN	150 WM	HYDRO	UNREGULATED WINTER RIVER LEVEL
+	HYDRANT	+	M.T.S.	REGULATED SUMMER RIVER LEVEL
+	VALVE	+	PROPERTY LINE	ASSUMED STRATIGRAPHIC CONTACT
+	LAND DRAINAGE SEWER	+	SURVEY BAR	ASSUMED GROUNDWATER LEVEL
+	WASTE WATER SEWER	+	LIGHT STANDARD	
○	MANHOLE	○	HYDRO POLE	
□	CATCH BASIN	□	GUY WIRE	
▽	CURB INLET	▽	SIGN	
+	JUNCTIONS	+	BUSH LINE	
+	CULVERT	+	FENCE	
+	GAS	+	ELEVATION	
+	EXISTING	+	LEGEND-PLAN	
-	PROPOSED	-	LEGEND-PROFILE	

UWRL	UNREGULATED WINTER RIVER LEVEL
RSRL	REGULATED SUMMER RIVER LEVEL
EL. 223.0m	ASSUMED GROUNDWATER LEVEL
---	LEGEND-PROFILE
---	PROPOSED

LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES DATE

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.

B.M. XX-XXX	ELEV. XXX.XXX
NO.	REVISIONS
DATE	BY
DATE	05/11/18

KGS GROUP CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG (204) 896-1209
THUNDER BAY (807) 345-2233

DESIGNED BY CWC	CHECKED BY CWC
DRAWN BY EC/ESM	APPROVED BY
HOR. SCALE: 1:200	RELEASED FOR CONSTRUCTION:
VERTICAL: -	DATE

ENGINEER'S SEAL

THE ORIGINAL ISSUE REV. 0 WAS STAMPED, DATED AND SIGNED

BY C.W. CARROLL ON 05/12/07 D/M/Y

CONSULTANT DRAWING NO. 05-0107-13.14_G12

THE CITY OF WINNIPEG
WATER & WASTE DEPARTMENT

HAWTHORNE FLOOD PUMPING STATION UPGRADE

SHORELINE PROTECTION PLAN
SECTIONS A AND B

SHEET 06 OF 24
CAD FILE DRAWING NUMBER 05-0107-13.14_G12
CITY DRAWING NUMBER LD-3243

F:\Projects\2005\05-0107-13\Geo\Draws\Tender\Revision A(G10-20)\05-0107-13.14-G12revA.dwg