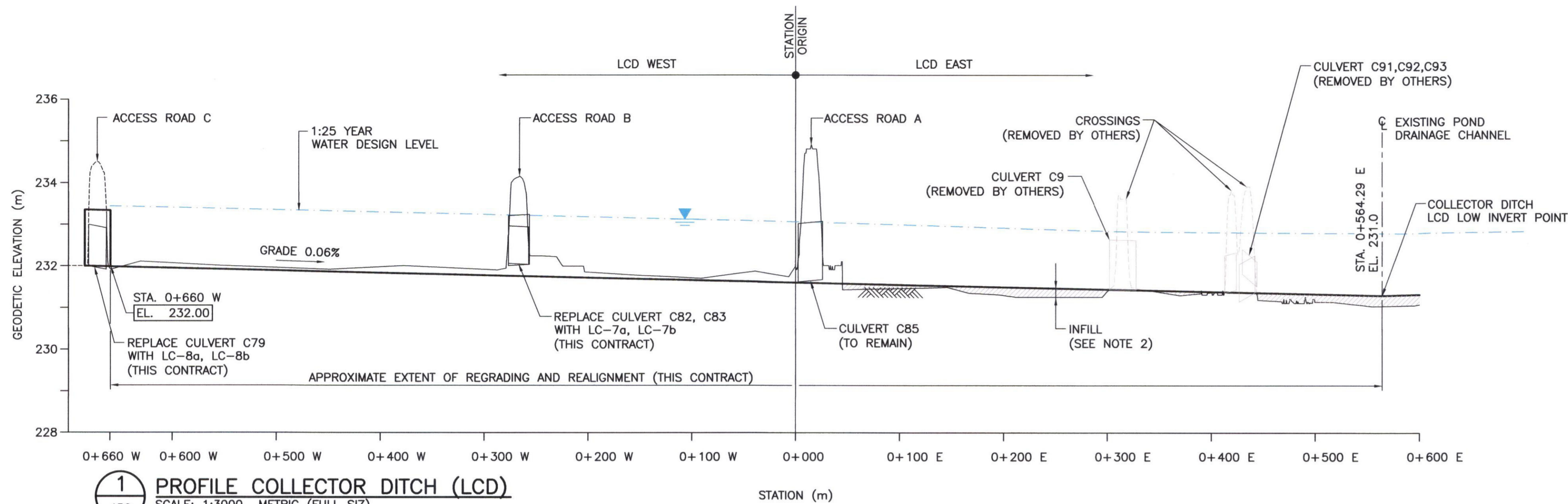


**LEGEND:**

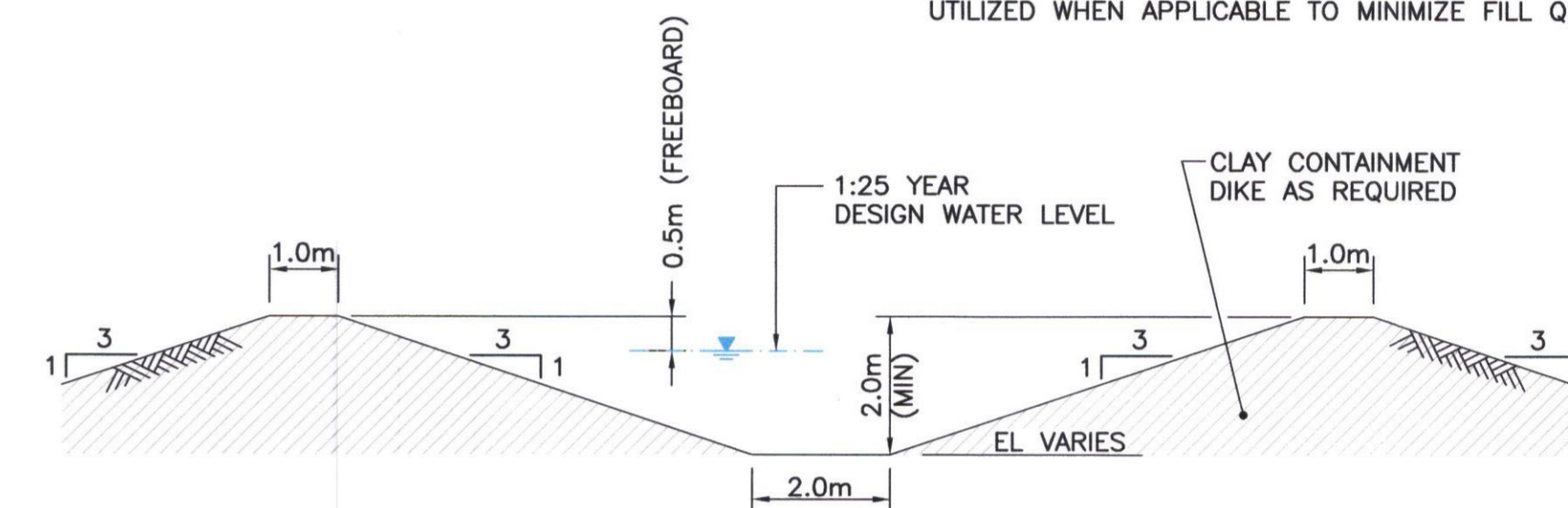
1:25 YEAR DESIGN WATER LEVEL

**NOTES:**

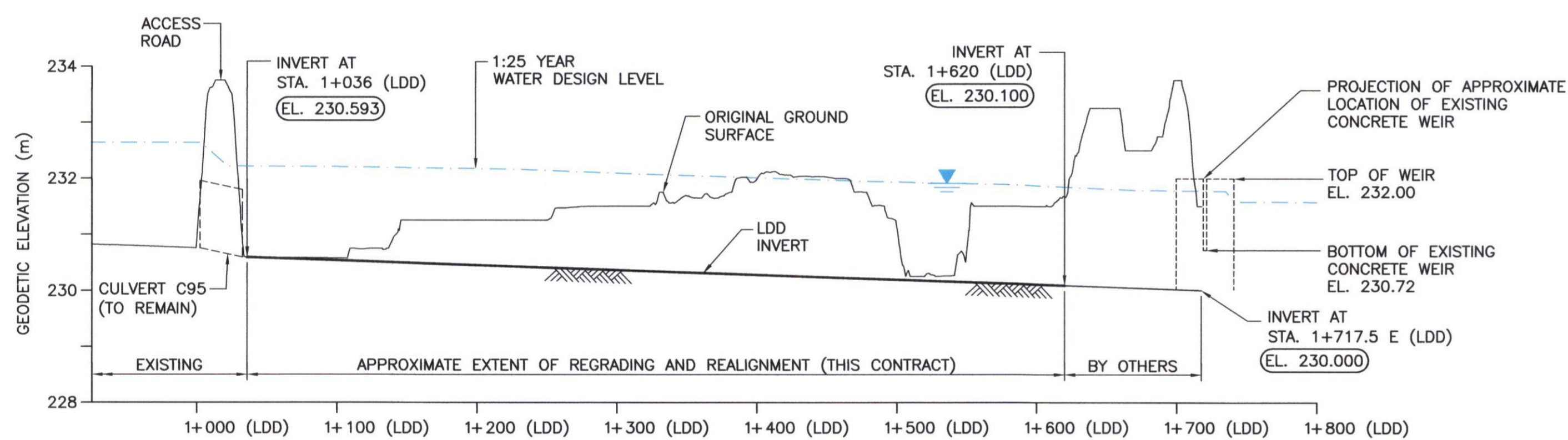
1. FOR EROSION PROTECTION AND VEGETATION OF REWORKED SURFACES REFER TO THE SPECIFICATIONS.
2. INFILL DITCH BASE AS REQUIRED TO MAINTAIN GRADE AS PART OF REGRADING WORK.
3. CULVERTS SHALL BE INSTALLED WITH A 50mm POSITIVE CAMBER AT MID LENGTH.
4. TEMPORARY EXCAVATION SIDE SLOPES FOR CULVERT INSTALLATION SHALL BE A STABLE SLOPE TO SUIT SITE CONDITIONS.
5. THIS CONTRACT DOES NOT INCLUDE ANY LANDFILL SLOPE CAPPING AND IS ASSUMED TO BE DONE BY OTHERS.
6. CONTAINMENT DIKE MAY BE LOCATED ON HIGHER GROUND OUTSIDE THE DITCH TEMPLATE OR FINAL COVERED LANDFILL SLOPES MAY BE UTILIZED WHEN APPLICABLE TO MINIMIZE FILL QUANTITIES.



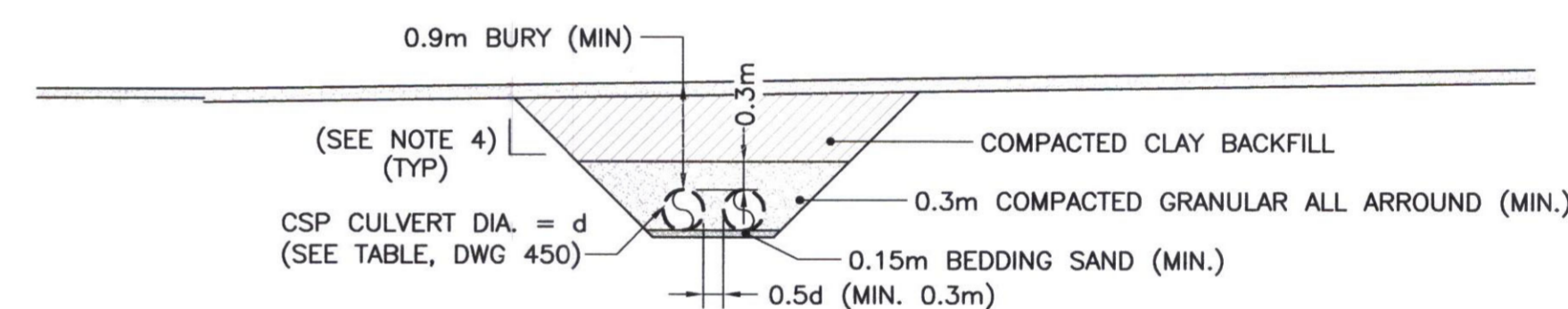
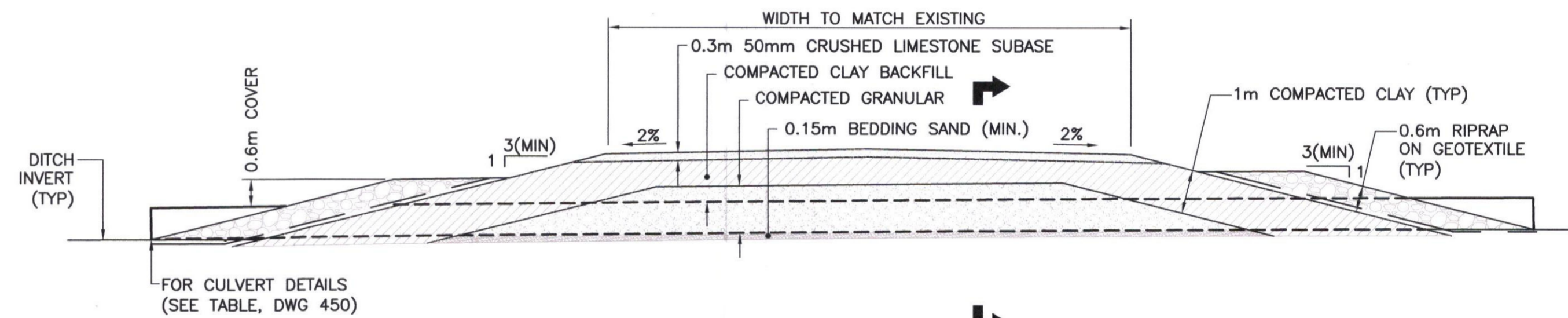
**1 PROFILE COLLECTOR DITCH (LCD)**  
SCALE: 1:3000 METRIC (FULL SIZE)  
VERTICAL SCALE: 40 TIMES EXAGGERATION



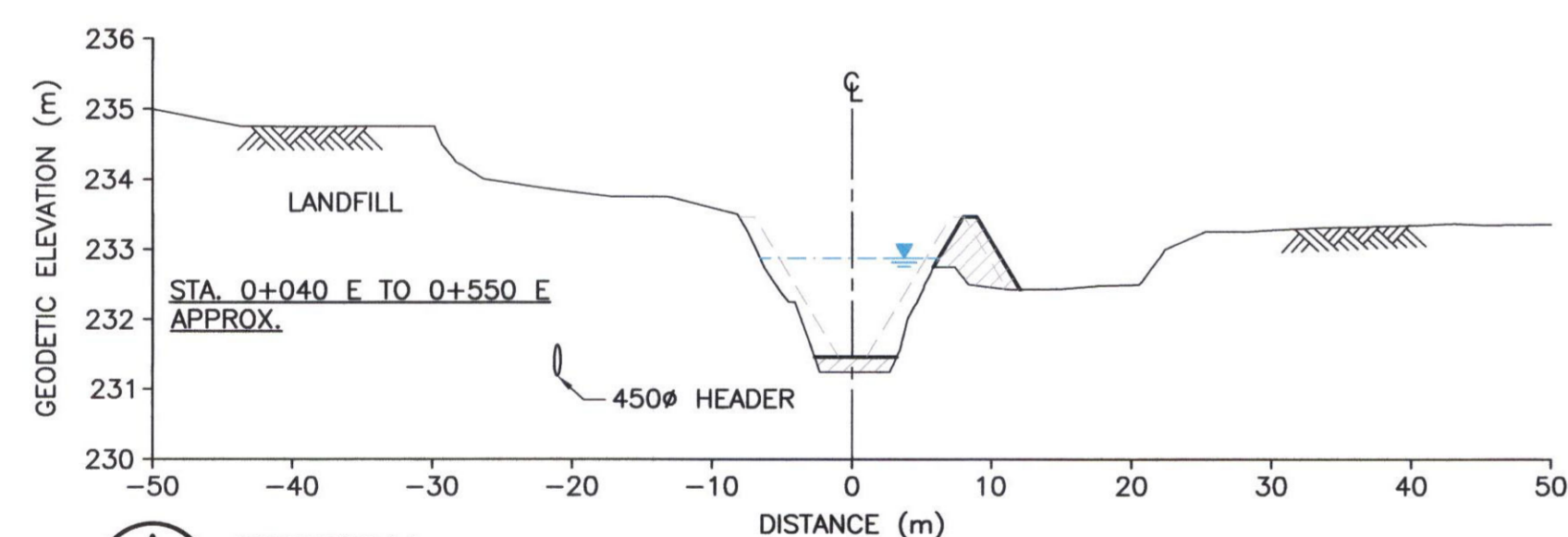
**TYPICAL DITCH CROSS SECTIONAL TEMPLATE (LCD/LDD)**  
SCALE: 1:100 METRIC (FULL SIZE)



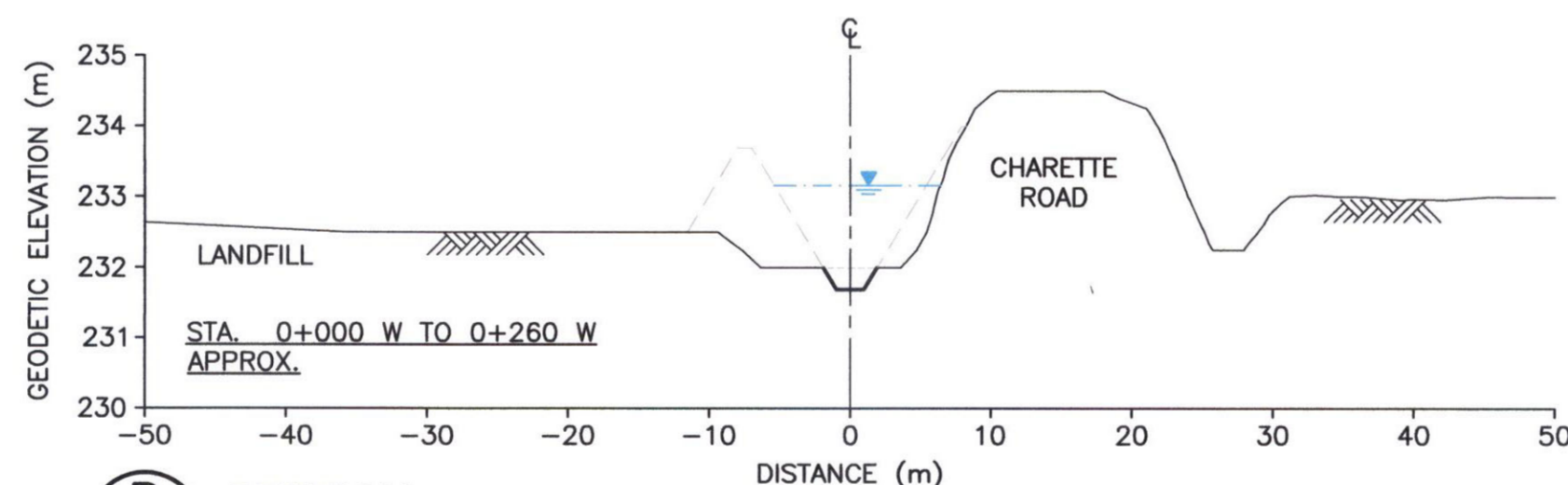
**2 PROFILE LAND DRAINAGE DITCH (LDD)**  
SCALE: 1:3000 METRIC (FULL SIZE)  
VERTICAL SCALE: 40 TIMES EXAGGERATION



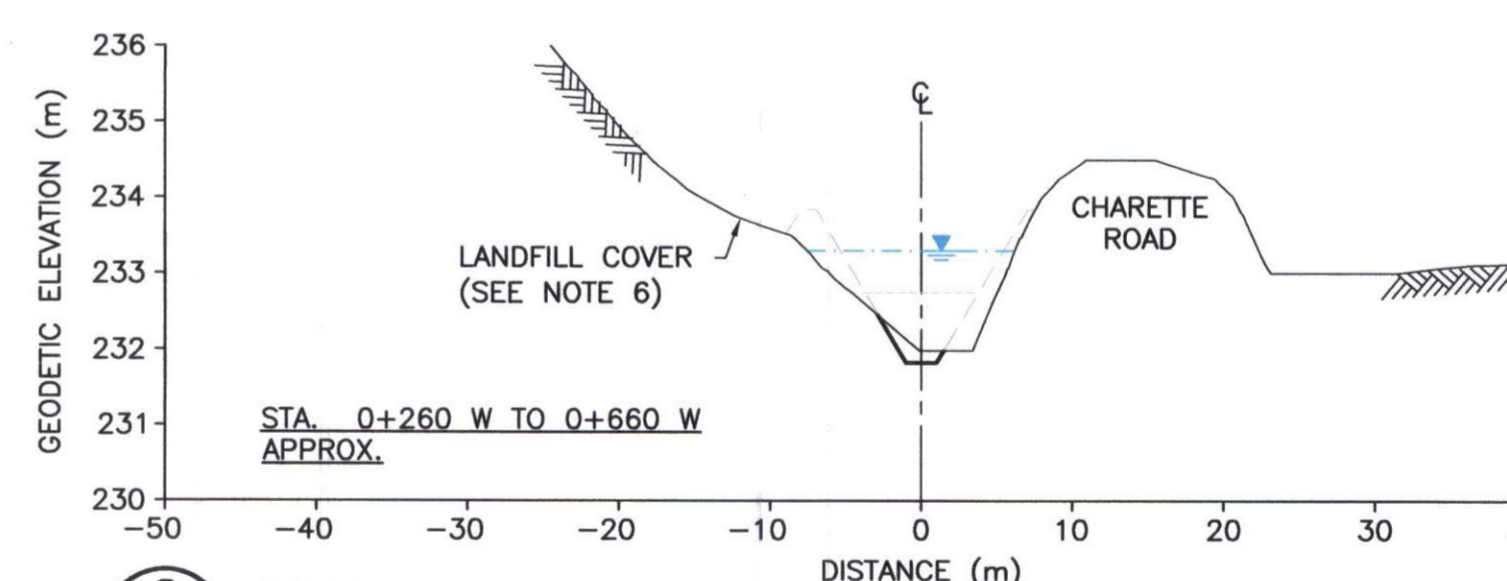
**TYPICAL CULVERT INSTALLATION**  
SCALE: 1:100 METRIC (FULL SIZE)



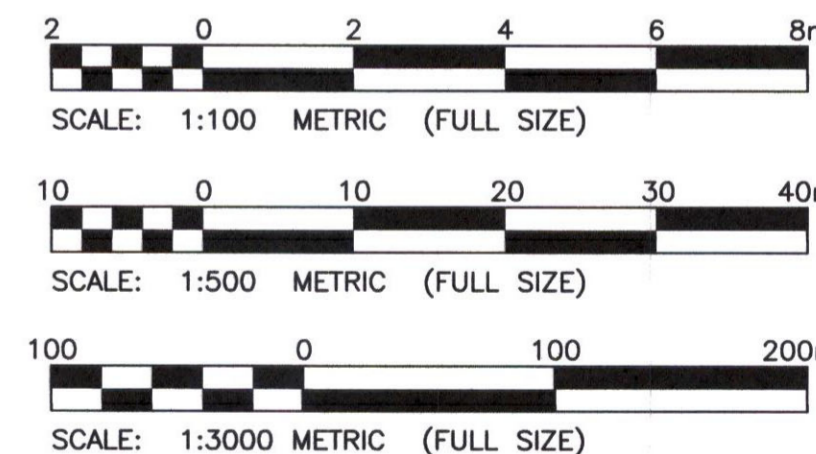
**A SECTION (LCD EAST)**  
SCALE: 1:500 METRIC (FULL SIZE)  
VERTICAL SCALE: 5 TIMES EXAGGERATION



**B SECTION (LCD EAST)**  
SCALE: 1:500 METRIC (FULL SIZE)  
VERTICAL SCALE: 5 TIMES EXAGGERATION



**C SECTION (LCD EAST)**  
SCALE: 1:500 METRIC (FULL SIZE)  
VERTICAL SCALE: 5 TIMES EXAGGERATION



COWLEND

150 WM	WATERMAIN	150 WM	HYDRO M.T.S.	---	EXISTING	LEGEND-PLAN	PROPOSED
300 LGS	LAND DRAINAGE SEWER	300 LGS	PROPERTY LINE	---	EXISTING	LEGEND-PROFILE	PROPOSED
250 WWS	WASTE WATER SEWER	250 WWS	SURVEY BAR	---	EXISTING	LEGEND-PLAN	PROPOSED
○	MANHOLE	●	LIGHT STANDARD	---	EXISTING	LEGEND-PROFILE	PROPOSED
□	CATCH BASIN	■	HYDRO POLE	---	EXISTING	LEGEND-PLAN	PROPOSED
▽	CURB INLET	○	GUY WIRE	---	EXISTING	LEGEND-PROFILE	PROPOSED
+	JUNCTIONS	+	SIGN	---	EXISTING	LEGEND-PLAN	PROPOSED
---	CULVERT	---	BUSH LINE	---	EXISTING	LEGEND-PROFILE	PROPOSED
---	GAS	---	FENCE	---	EXISTING	LEGEND-PLAN	PROPOSED

**LOCATION APPROVED UNDERGROUND STRUCTURES**

SUPV. U/G STRUCTURES COMMITTEE 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		

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

DESIGNED BY JS	CHECKED BY RDS
DRAWN BY MO	APPROVED BY TK
HOR. SCALE: AS NOTED	RELEASED FOR CONSTRUCTION:
VERTICAL: AS NOTED	DATE
NO. REVISIONS	DATE BY

ENGINEER'S SEAL  
PROVINCE OF MANITOBA  
A. J. KULUK  
REGISTERED ENGINEER  
CONSULTANT DRAWING NO. 13-0107-015-DWG04

**THE CITY OF WINNIPEG**  
WATER & WASTE DEPARTMENT  
BRADY LANDFILL - SURFACE WATER MANAGEMENT-PHASE 2  
LANDFILL COLLECTOR DITCH (LCD)  
LAND DRAINAGE DITCH (LDD)  
PROFILES AND SECTIONS

SHEET 04 OF 06
CAD FILE DRAWING NUMBER
CITY DRAWING NUMBER SWD-D-452

**APEGN**  
Certificate of Authorization  
KGS Group  
No. 245