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Tertiary and Vocational Education Commission		
High National Diploma in Quantity Surveying		
NVQ Level 06 –Semester I		
Measurement II	F45C002M13	Three Hours
Answer all questions		

Instructions to candidates:

- I. Query Sheet – All Queries should be listed together in a Query Sheet with assumptions made and should be attached with your answer papers.
- II. Method of Measurement – All taking shall be strictly in accordance with the CESMM4
- III. Non programmable calculators can be used.

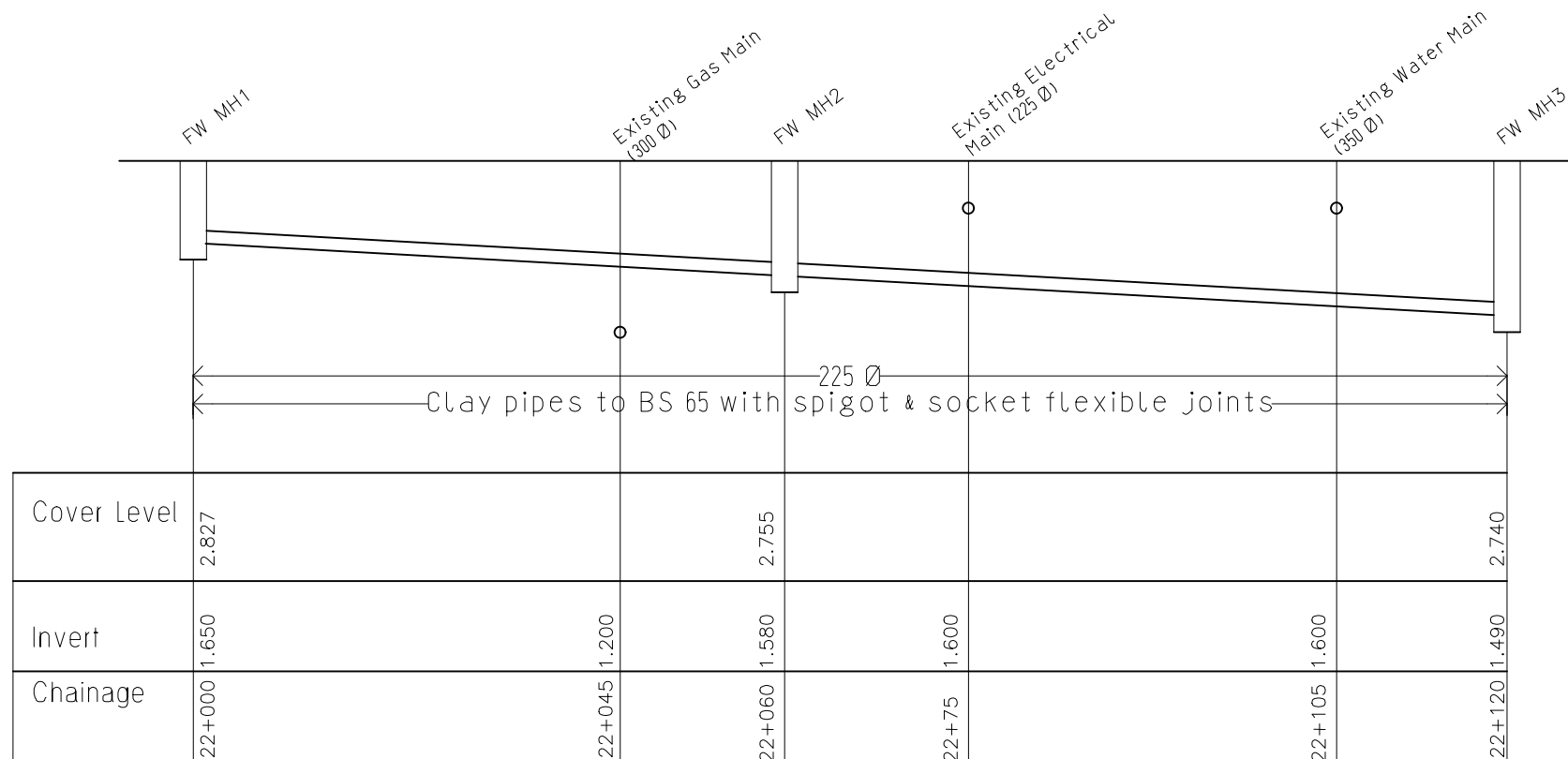
QUESTION 01

“Rehabilitation and improving of Colombo to Kandy Road”. The consultant of the project, Ministry of Irrigation and Water Resource Management has requested you to retake measurement and prepare a BOQ. You have been appointed as quantity surveyor for this project and requested to prepare the BOQ for the chainage 22+000 to 22+40. You have been given cross-section drawings of chainage from 22+000 to 22+40, pipe layout and Manhole Detail.

Take off has to be taken as per CESMM4 for Earthworks, Roads and Paving and Pipe work.

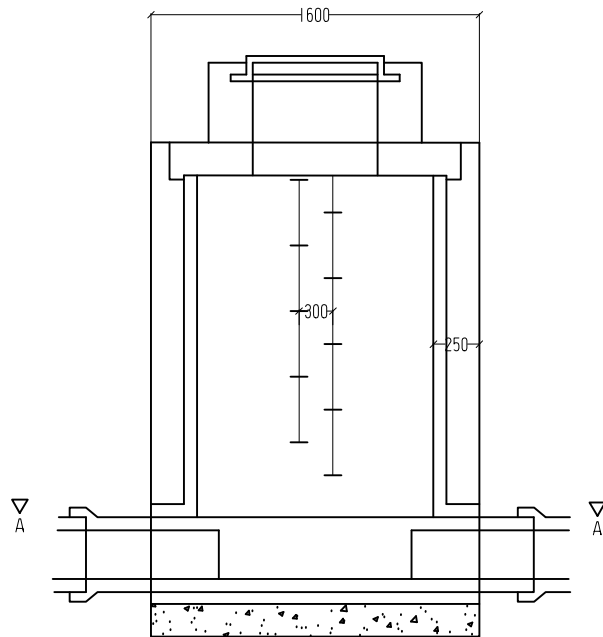
Take off and price in CESSM4 bill format for the followings,

- 1) Piling and piling ancillaries, concrete and concrete ancillaries **(50marks)**
- 2) Earthwork, road, pavings and pipe work for chainage from 22+000 to 22+40 of Colombo to Kandy Road. **(50marks)**

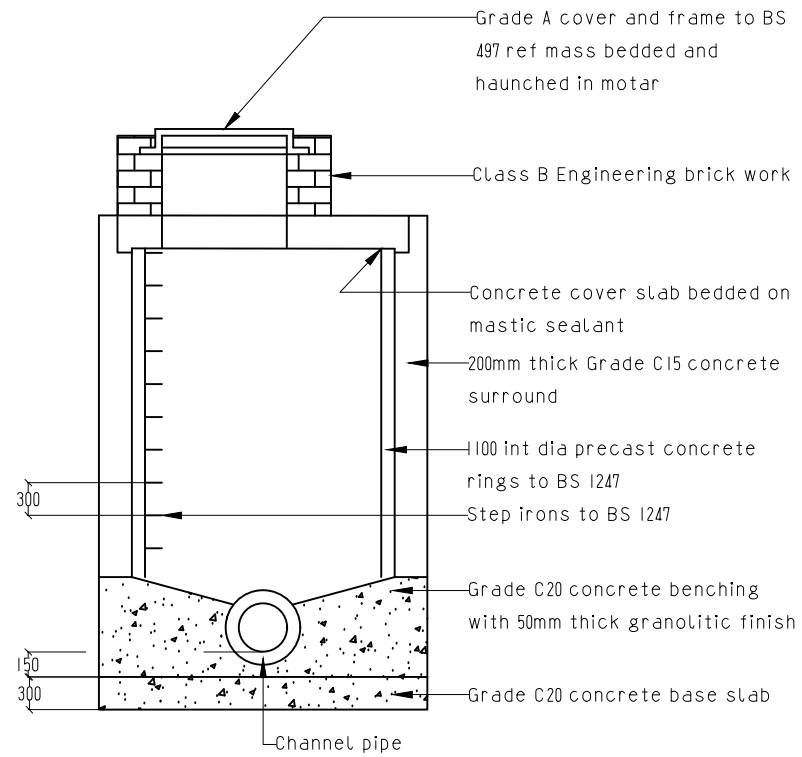


Foul water sewer section

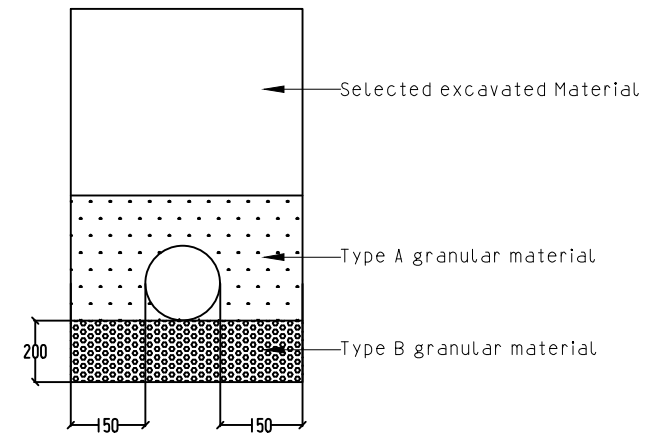
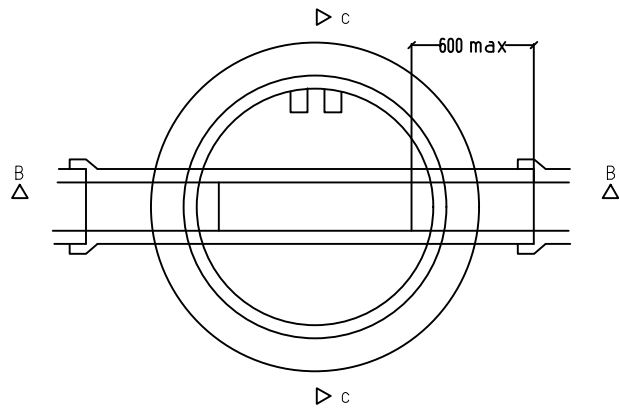
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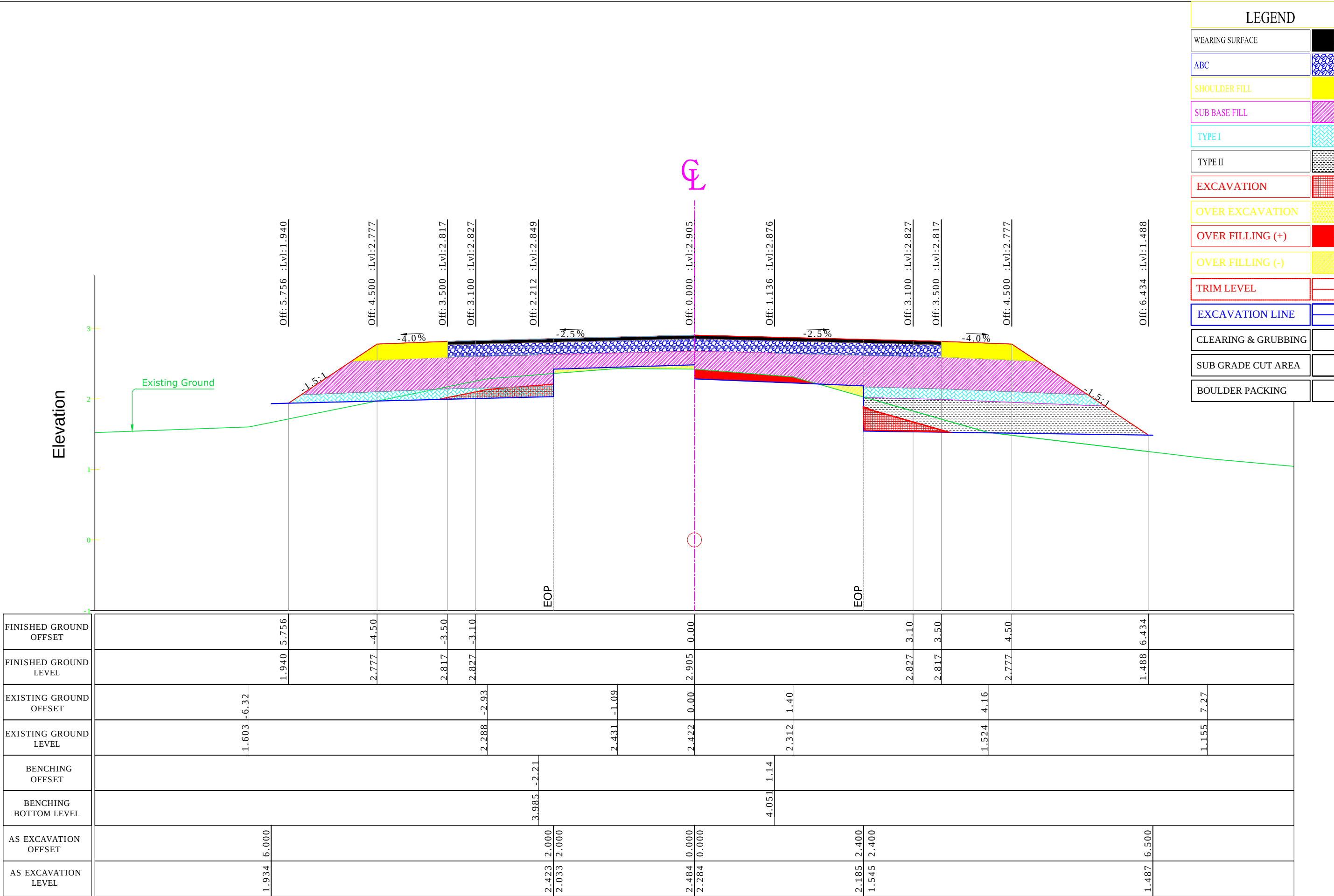
Section B — B



Section C — C



Bedding Details



FINISHED GROUND OFFSET		5.524	-4.50	-3.50	-3.10															
FINISHED GROUND LEVEL		2.072	2.754	2.794	2.804					2.882				2.804	2.794	2.754	2.493			
EXISTING GROUND OFFSET																				
EXISTING GROUND LEVEL	1.827			2.214				2.414		2.498		2.551					2.470			
BENCHING OFFSET																				
BENCHING BOTTOM LEVEL																				
AS EXCAVATION OFFSET		5.600																		
AS EXCAVATION LEVEL	2.070																			

Elevation

Existing Ground

Off: 5.610 :Lvl: 2.014

Off: 4.500 :Lvl: 2.754

Off: 3.500 :Lvl: 2.794

Off: 3.100 :Lvl: 2.804

Off: 2.053 :Lvl: 2.831

Off: 0.000 :Lvl: 2.882

Off: 1.123 :Lvl: 2.854

Off: 3.100 :Lvl: 2.804

Off: 3.500 :Lvl: 2.794

Off: 4.500 :Lvl: 2.754

Off: 4.893 :Lvl: 2.493

EOP

EOP

LEGEND

WEARING SURFACE

ABC

SHOULDER FILL

SUB BASE FILL

TYPE I

TYPE II

EXCAVATION

OVER EXCAVATION

OVER FILLING (+)

OVER FILLING (-)

TRIM LEVEL

EXCAVATION LINE

CLEARING & GRUBBING

SUB GRADE CUT AREA

BOULDER PACKING

NOTE :

Minimum Design Thicknesses

Sub Base :275 mm

ABC :175 mm

AC :50 mm

AS BUILT DRAWING

STATION 22 + 020

