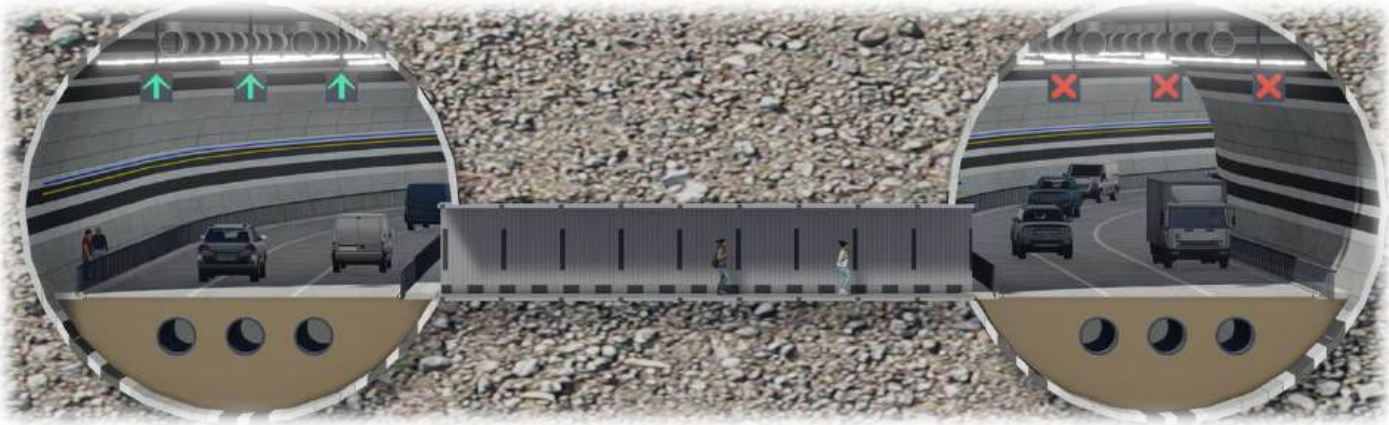
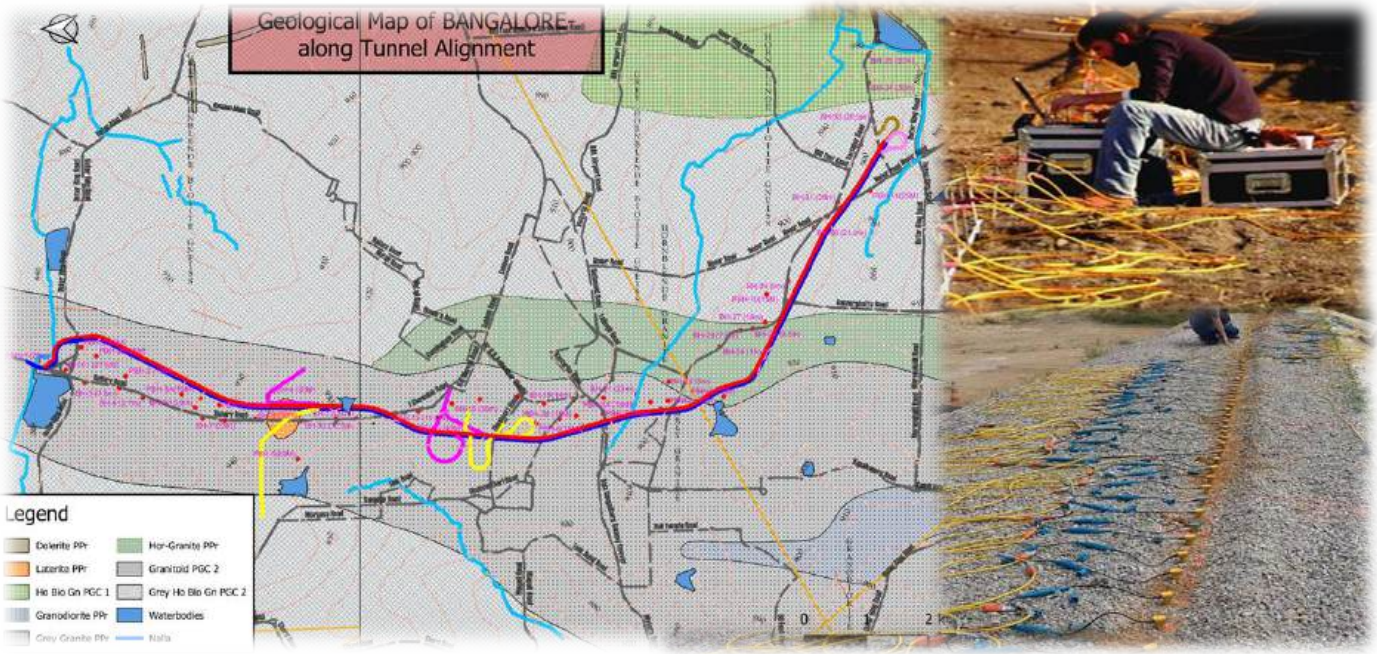
GOVERNMENT OF KARNATAKA



CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR THE WORK OF CONSTRUCTION OF UNDERGROUND VEHICULAR TUNNEL FROM HEBBAL ESTEEM MALL JUNCTION TO SILK BOARD KSRP JUNCTION



DRAFT DETAILED PROJECT REPORT

VOLUME - III

GEOTECHNICAL INTERPRETIVE REPORT

September 2024

Rodic

RODIC CONSULTANTS PVT. LTD

BRUHAT BENGALURU MAHANAGARA PALIKE

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CHAPTER 1: INTRODUCTION

1.1 General

Bruhat Bengaluru Mahanagara Palike (BBMP) intends to Construct a Underground Vehicular Tunnel for the North – South Corridor starting from Hebbal Esteem Mall junction to Silk Board KSRP Junction.

In pursuance of the above**, Rodic Consultants Pvt Ltd., New Delhi** has been appointed as consultants to carry out **Consultancy Services for Preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbel Esteem Mall junction to Silk Board KSRP junction.**

1.2 Project Location

The entire project is located in Bengaluru city.

The North – South Corridor starting from Hebbal Esteem Mall junction to Silk Board KSRP Junction is going to develop as Underground Vehicular tunnel having 04 connecting stretches with Entry and Exit are as below:

- Esteem Mall-Hebbal-Mekri circle-Palace Ground
- Palace Ground- Golf Course-Race Course-Palace Road Jn
- Racecourse/Chalyuka circle-Lalbagh BG
- Lalbagh Botanical Garden- Silk Board KSRP Jn

CHAPTER 2
REGIONAL GEOLOGY

CHAPTER 2: REGIONAL GEOLOGY

2.1. Geomorphology

Physiographic Character of Bangalore Urban District (BUD) can be defined as plateau (as it is part of Mysore plateau) and undulating terrain. Rocky upland, plateau & flat-topped hills at a general elevation of about 950m above mean sea level (amsl) define the Geomorphology of BUD. The major part is sloping towards south and south- east forming Pedi plains interspersed with hills all along the western part. The Pedi plains form most of the BUD underlain by granites and gneiss with the highest elevation of 850 to 950 m amsl. The Pedi plain constitutes a low relief area having matured dissected rolling topography with erosional land slope covered by a layer of red loamy soil of varied thickness.

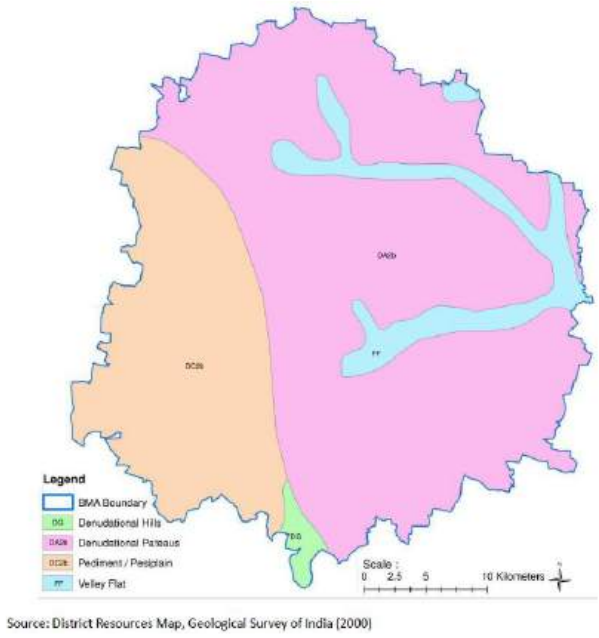


Figure 1:Geomorphological Map of BMA

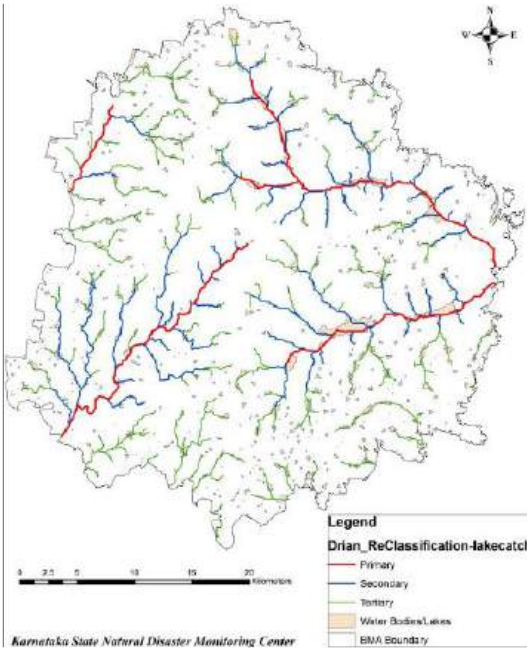


Figure 2:Drainage Network -BMA

Source: Revised Masterplan for Banglore 2031 (Draft)

It has two topological terrains, the one at the North Bangalore taluk and the other being the South Bangalore taluk. The north taluk a level plateau and lies between 839-962 m above sea level. At the middle of it along the NNE to SSW, runs the ridge, and the highest point at Doddabettahalli at 962 meters elevation. There are gentle slopes and valleys on either side of this ridge, forming low lying area which constitutes water tanks in varying sizes. The South Bangalore taluk has an uneven landscape with intermingling hills and valleys.

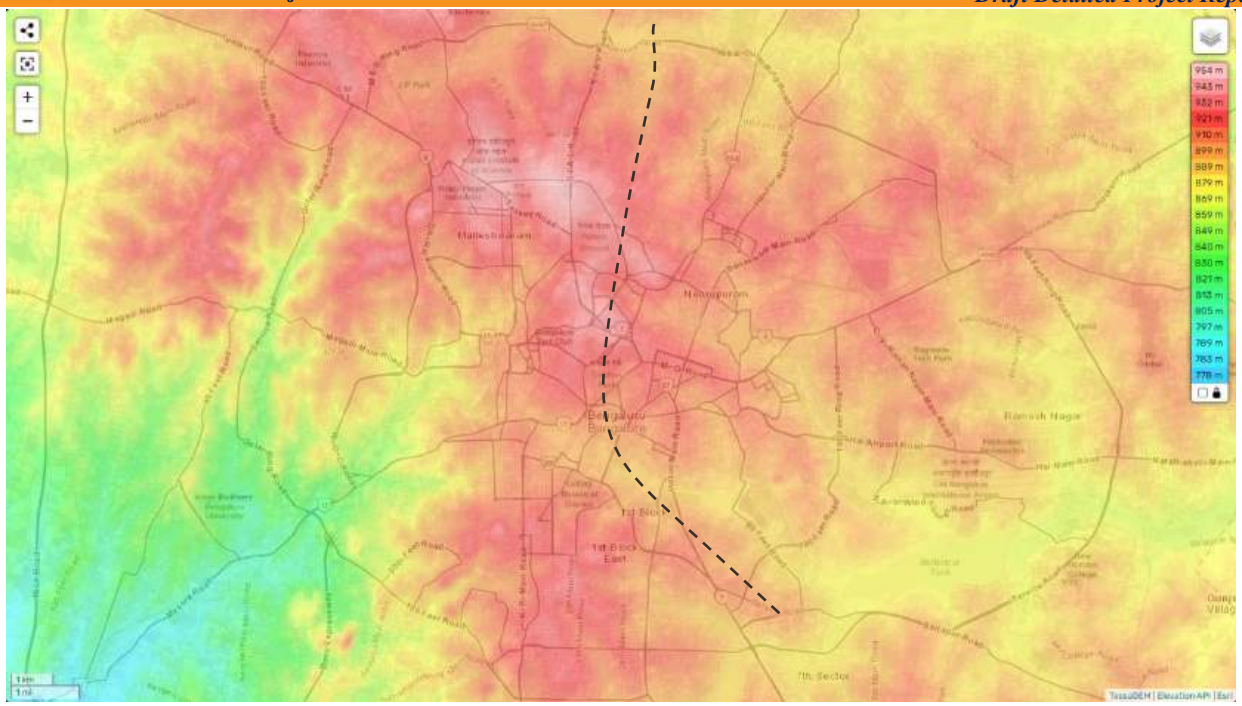


Figure 3: Topographic Map of Bangalore City

Source: https://en-gb.topographic-map.com/map-f88gp/Bengaluru/

2.2. Climate and Rainfall

The climate of Karnataka, particularly in Bengaluru, is largely influenced by its elevation and geographical location. Situated at an altitude of 920 meters above sea level, Bengaluru enjoys a generally mild climate throughout the year. The maximum temperature in the summer months can reach up to 35°C. In winter, the temperature rarely drops below 10°C. The coldest month is January, and the warmest month is April.

The state experiences its rainy season from June until September, influenced primarily by the Southwest Monsoon. Karnataka receives an average annual rainfall of 1,135 millimeters. Rain distribution varies significantly across the state, and the interior regions like Bangalore receive moderate amounts.

In Bengaluru, the average annual rainfall is about 970 millimeters. The precipitation ranges from light drizzle to heavy downpours. A study has observed that the heaviest rainfall even recorded over period of 2013 to 2015 by KSNDMC was in the center area of Bangalore Urban District (over180mm).

2.3. Ground Water Level

As per India WRIS (Portal), The CGWB data for ground water levels of Banglore Urban District, the ground water level is recorded at an average depth of 2-5m below ground level. The ground water seepage drains into either the networks of Cavery basin or the Ponniyar and Kanyakumari Basins.

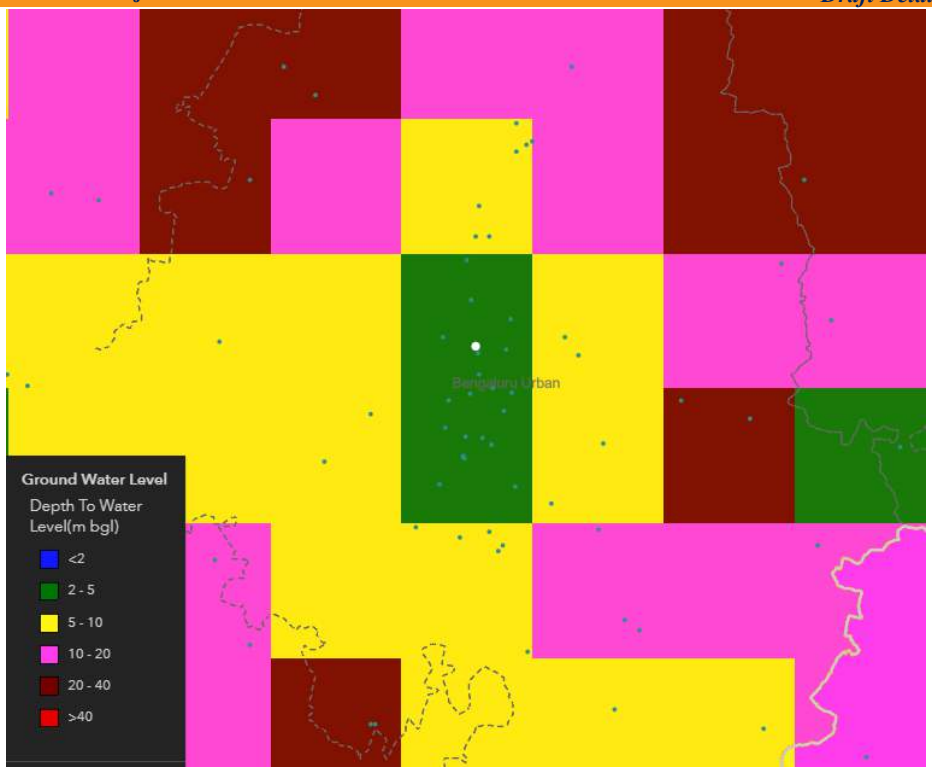


Figure 4: Ground Water Levels in around Banglore (White point), with Borewells (Blue Points)

Source: WRIS, CGWB

2.4. Regional Geology

The project area occurs at Eastern part of the Dharwar Craton. As its base, the Basement Gneiss, a polyphase migmatite (Tonalite- trondhjemite-granodiorite-TTG) originated over a period of 3400Ma. Over it the volcano- sedimentary Sargur Supracrustal (green stone belt) rocks were deposited and metamorphosed, and what was subsequently intruded by another phase of TTG about 3000Ma which is referred to as the Peninsular Granite Suite-1 groups of rocks.

Subsequent tectonic deformations created linear belts of basins for the deposition of the younger volcano-sedimentary deposits and their metamorphism, also referred to as the rocks of the younger Dharwar/ Kolar type Super Group around 2700Ma. These belts comprised of rocks which metamorphosed included grits/arenites, pelites, Bimodal mafic- felsic volcanics, pyro clasts, agglomerates, layers of BIF, local komatiites, Quartzites (locally cross bedded), manganese marble, stromatolitic carbonate, calc- silicate, cordierite bearing pelites, amphibolite etc. This was followed by the next phase of granitic- granodiorite intrusion rich in potassium and mafic constituents about 2350-2600My. The resultant rocks occurring to the East of the Closepet Granite is referred to as Peninsular Gneiss II (Bangalore Supersuite)/ Dharwar Batholith.

The Dharwar Batholith which is characterized by rocks of granites, granodirites, monzonites, diorites and their high strained gneissic equivalents. These rocks are understood to have been uplifted as diapiric structures following a process of anatexis. The melts that intruded the overlying rock, normally had a wedge or elongated dome shapes trending approximately N-S to NW-SE. Swarms of mafic dykes have cut across these granitic plutons during more recent ages.

The exposed rocks have been undergoing weathering processes, and the residual patches are exposed as laterites locally and are identified with the Neogene period and the transported soils of the Quaternary period.

The superimposed folding patterns in the rocks suggest that the entire sequence of the rock groups appears

to have deformed in a ductile manner. Throughout the gneissic terrain, small enclaves of reworked older rocks are observed to be signatures of even older deformational, metamorphic and magmatic history in the area.

The Diapiric uplift of the granitic melts was followed up by a prominent transcurrent sinistral Shear. Multiple generations of folding are interpreted in the rock groups at all scales. However, the NNW -SSE trend is the most prominent in the area and appears to represent the strike of the axial plane of a particular generation.

2.5. Project Geology

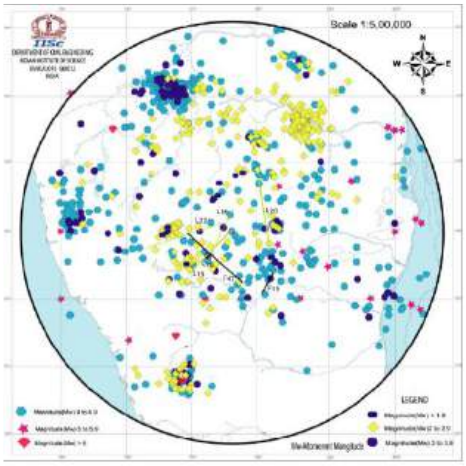
The project alignment is approximately N-S oriented between Esteem Mall Junction to Silk Board Junction. The bed rock Geological Stratification between the locations is shown in Figure 5. The project alignment takes off from close North of the Hebbal Lake near Esteem Mall. Proceeding southwards, the alignment passes through a topographic depression, thorough which a nalla/drain flows connecting the Hebbal and Nagavara Lakes. The area is suspected have a significant fill material and deeper weathered zone. The bedrock in the area is identified with Grey Granite equivalent to Closepet Granite Formation of Paleo-Proterozoic age.

Further south, near to the Palace Ground, where the proposed link Tunnels are proposed to connect the main tunnel and having the Sankey Tank towards the west of the Main Tunnel Alignment and the Palace lake over the alignment, a substantial outcropping and thickening of laterite rocks is observed.

Advancing further south, immediately after the Racecourse, the next set of intersections are also set in the same Grey Granite as bedrock. Further south, in the Lal Bagh area, the Bed rock is in a transition zone. The alignment is set to cross a prominent lineament, which the Lal bagh lake in the vicinity and the Grey Granite bedrock in contact with Hornblende Granite. The alignment curves eastward and is set to negotiate through the Hornblende Granite for about 1.5-2Km before crossing into the Hornblede-Biotie Gneiss of Precambrian Geiessic Complex-II.

2.6. Seismology

The project area in the Bangalore city is part of the least seismically active and low risk , Seismic Zone II, with a Zone Factor Z of 0.10 as per IS1893, (Part 1) 2002. The final report on Development of Probabilistic Seismic Hazard Map of India (PSHMI) by National Disaster Authority (NDMA), places Bangalore City under Zone 29 called Southern Craton, which has a maximum potential Earthquake of Magnitude up to 6.8Mw scale. According to PHSMI, Bangalore has a relative Seismic Hazard at 0.02,0.04,0.05 and 0.06 PGA(g) over 500,2500,5000 and 10000 years, time period.



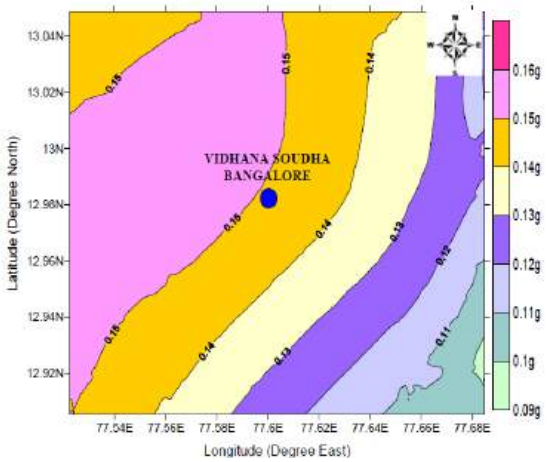


Figure 5:Seismotectonic Map of Bangalore area. **Figure 6: Rock Level PGA map for Bangalore**

Source: Seismic Microzonation of Banglore, TG Sitaram, IISC Banglore.

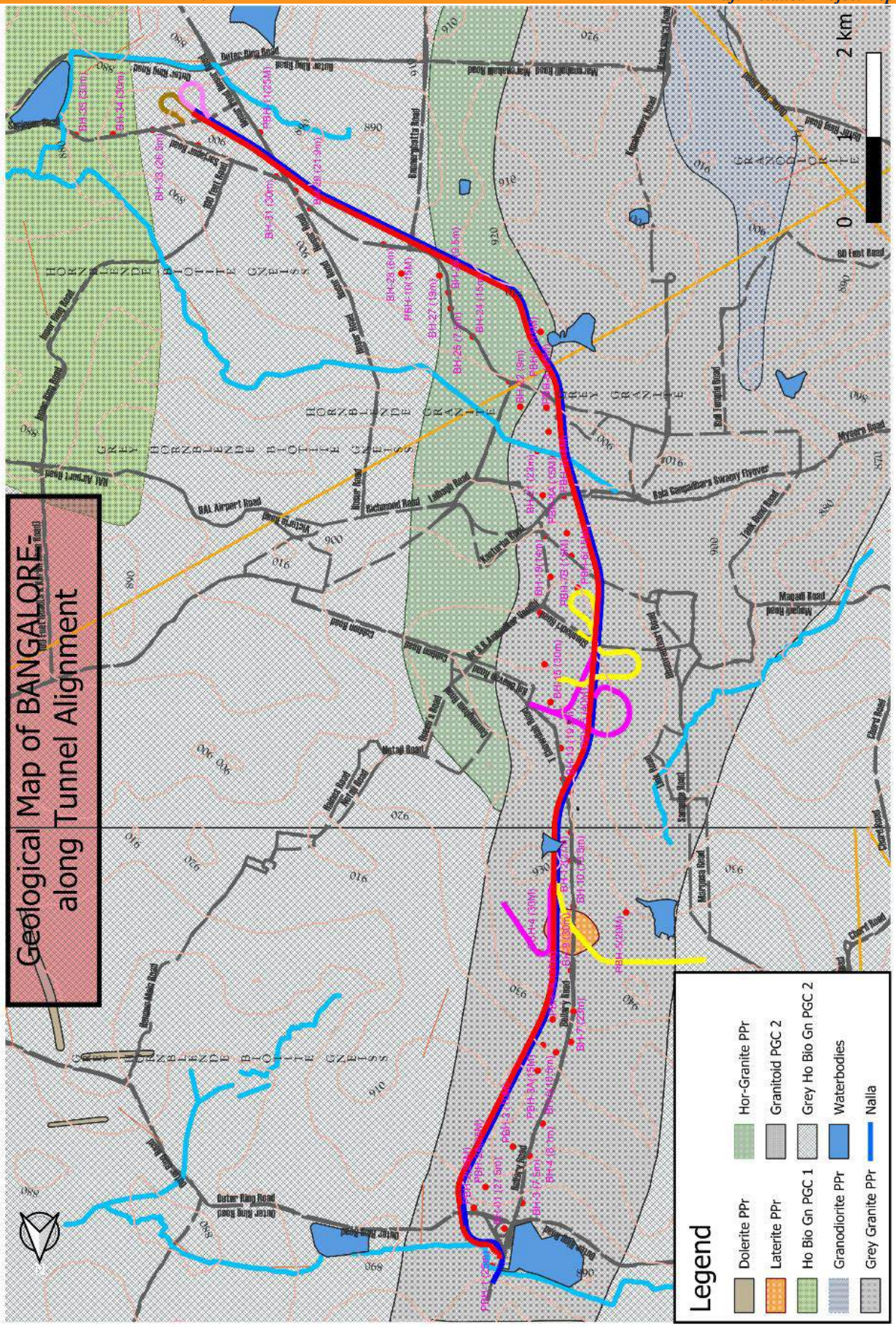


Figure 7: Geological Map of Project Alignment. Source: BHUKOSH, GSI

CHAPTER 3
GEOTECHNICAL INVESTIGATION

CHAPTER 3: GEOTECHNICAL INVESTIGATION

3.1. Geotechnical Survey

Geotechnical Investigation were carried out with the purpose to interpret subsurface ground conditions of the site and to present an evaluation and summary of the Rock and soil properties for design, awareness of the risks and to predict ground behaviour during construction.

The process of the survey included:

- Collection and Study of Existing Information/ data.
- Geologic Mapping-
- Geophysical Survey
- Subsurface Investigations/ Exploratory Drilling and in-situ & laboratory testing of soil/rock samples.

The data reviewed for the present project include that available from Feasibility Stage and DPRs for Phase2 and Phase 3 of Metro Lines- Bangalore from BMRCL. For regional interpretations, published information BHUKOSH of GSI, CGWB etc have been considered. Additional proposed Project Alignment Specific investigations could not be incorporated at the stage of preparation of the report. During further stages of the project, scope for investigations is advisable to update the alignment , location of structures and necessary accurate representative design parameters for emergent design interventions, if any.

The Geotechnical investigations aim to compile information on following aspects of area along the alignment.

- Stratification and sub surface profile
- Soil and intact Rock characteristics
- Rock mass condition (Blockings, Weathering)
- Discontinuity Details (Type, orientation, infilling, spacing, persistence)
- Structural features like fold, faults etc.
- Ground water levels and ground permeabilities

3.2. Geotechnical Survey

In general all GT investigations on the soil and rock samples carried out are as per relevant Codes as listed below:

Drilling Investigations:

- IS 5313 : 1980 Guide for core drilling observations
- IS 4464 : 1985 Code of practice for presentation of drilling information and core description information investigation
- IS 9143 : 1980 Code of practice for indexing and storage of cores
- IS 4078 : 1980 Code of practice for indexing and storage of drill cores
- IS 6935 : 1973 Method for determination of water level in a bore hole.
- BS 5930: Code of Practice for Site Investigations.

In-situ testing:

- IS 2131 : 1981 Method of Standard penetration test for soils
- IS 5529 : (Part 1) : 1985 In situ permeability testing in overburden
- IS 5529 : (Part 2) : 2006 In situ permeability testing in bed rock
- IS 15681 : Geological exploration by geophysical method (seismic refraction)

Laboratory testing:

- IS 2720: Part 1:1983 Preparation of dry soil samples for various tests.
- IS 2720: Part 2:1973 Determination of water content
- IS 2720: Part 3-1:1980 Determination of specific gravity, fine grained soils.
- IS 2720: Part 3-2: 1980 Determination of specific gravity, Fine, medium and coarse-grained soils.
- IS 2720: Part 4:1985 Grain size analysis.
- IS 2720: Part 5: 1986 Determination of Liquid and Plastic limit
- IS 2720: Part 10: 1991 Determination of unconfined compressive strength
- IS 2720 Part 11: 1993 Determination of the Shear Strength Parameters of a specimen tested in unconsolidated, undrained triaxial compression without the measurement of pore water pressure.
- IS 2720: Part 12: 1981 Determination of shear strength parameters of soil from consolidated undrained triaxial compression test with measurement of pore water pressure
- IS 2720: Part 13: 1986 Direct Shear Test
- IS 2720: Part 17: 1986 Laboratory Determination of Permeability
- IS 2720: Part 22: 1986 Determination of organic matter
- IS: 1498-1970 Classification and identification of soils for general engineering purposes
- IS 3025: Part 32: Determination of Ph value
- IS 3025: Part 11: Determination of total soluble sulphate
- IS 3025: Part 24: Determination of chloride content
- IS 13030-1991: Bulk density & water absorption of rock
- IS 8764-1998: Point Load Strength of rock
- IS 9143: Unconfined compressive strength of rock.

3.3. Borehole Location details

From the studies conducted by BMRCL for phase 3, Sarjapur to Habbal metro line, following boreholes are found relevant for the area of interest for our project

Table 1: Borehole Locations

Sl. No.	Bore Hole No.	Co-ordinates Latitude (N)	Longitude(E)	Depth of Borehole (m)	Location
1	1	13.043611°	77.591389°	27.5	Near by Kempe Gowda Statue and Hebbal Flyover
2	2	13.040833°	77.589444°	25	Hebbal Flyover Service road
3	3	13.035705°	77.588647°	7.5	Left side of IFAB (Floral Studio)

Sl. No.	Bore Hole No.	Co-ordinates Latitude (N)	Longitude(E)	Depth of Borehole (m)	Location
4	4	13.032187°	77.587234°	8.1	Inside of Dairy Science College
5	5	13.02445°	77.585790°	10.5	Inside Veterniary College
6	6	13.023333°	77.584166°	21	Indian Veterniary Research Center
7	7	13.02000°	77.583888°	23	Mekhri Circle Bus stop
8	8	13.015555°	77.584166°	30	The Parachute Regiment (Army School)
9	9	13.010737°	77.583953°	30	Palace Ground Busstop
10	10	13.008611°	77.583888°	13.5	Aramane Nagara (Gayathri Vihara Side)
11	11	13.003611°	77.584166°	24.2	Jayamahal (Shine Golf Green)
12	12	13.000555°	77.584166°	27	Palace Guttahalli Bus stop
13	13	12.994722°	77.585°	19.5	Guttahalli HMG Stones Shop
14	14	12.991388°	77.585277°	13.4	7 Minister Quateres Compound side
15	15	12.986388°	77.586388°	30	Sofia High School Back Side (Fair Field Layout Road)
16	16	12.982273°	77.587036°	30	Near by Basaveswhwara circle
17	17	12.976666°	77.587499°	8	SKSJTI College
18	18	12.972777°	77.586388°	9.2	Government Science and Art college or Footpath
19	19	12.968333°	77.586944°	14	Near by Hudson Circle
20	20	12.963888°	77.587222°	6.3	Inside of United Mission College
21	21	12.959082°	77.587821°	23	DHL express KH Road
22	22	12.954278°	77.589668°	9	Shanthi Nagara BMTC Office opposite
23	23	12.951475°	77.590895°	15	Lalbagh Circle
24	24	12.946645°	77.594847°	15	Near by Abhay Hospital
25	25	12.943593°	77.597242°	7.5	NIMHANS Badra hostel
26	26	12.9418373°	77.5974783°	9.5	NIMHANS Bus Stop
27	27	12.939997°	77.598467°	19	Dairy Circle Flyover(Dairy Circle Metro Station)
28	28	12.9366460°	77.6045520°	6	Christ University Compound wall
29	29	12.932711°	77.612510°	21.9	HP Gas Gowdon (Opposite of Smart Bazar)
30	30	12.930797°	77.614122°	30	Front of St. Anthony's Church
31	31	12.929229°	77.616234°	30	St.Jhon Medical College Hostel Compond wall
32	32	12.925845°	77.624717°	30	Near by Survey of India Office
33	33	12.924157°	77.629673°	26.5	Opposite of Krupanidhi institution
34	34	12.924627°	77.633944°	30	Near KSRP Housing
35	35	12.924723°	77.638002°	30	Near by Jakkasandra Canal

3.4. Investigation Results

3.4.1 Soil

Types: The subsoil consists of red/brownish/grey soil to sand/silt / Residual Soil. pits excavated by an agency were also studied. It revealed a top layer of filled material is about 2m depth and is succeeded by a layer of Sandy/silty/laterite clay extending variably deep bedrock. The depth of fill is likely to vary significantly based on the bed rock profile and can increase locally around nalla/drains or boundaries of lakes.

Grain size analysis on samples from borehole depths up to 15 m from ground surface, suggested a coarse-grained soil with the fines content (Silt+ Clay) less than 15%. The soil is generally Gravelly Sand (SW-GW)

1) Index properties

Limited soil samples recorded low plasticity Index (<20%).

The median values of soil samples for their Atterberg limits and Weight properties are as below.

Table 2: The median values of soil samples for their Atterberg limits and Weight properties

LL%	PL%	PI%	Blk Dn. gm/cc	NMC. %	Dry Dn. gm/cc	Sp. Gr
34.2	18	16.6	1.4	21.04	1.17	2.56

2) Field SPT

The SPT values appeared to vary and related to the depth of the bedrock. A conservative trend of field N-values obtained from the borehole tests along the project alignment is plotted below.

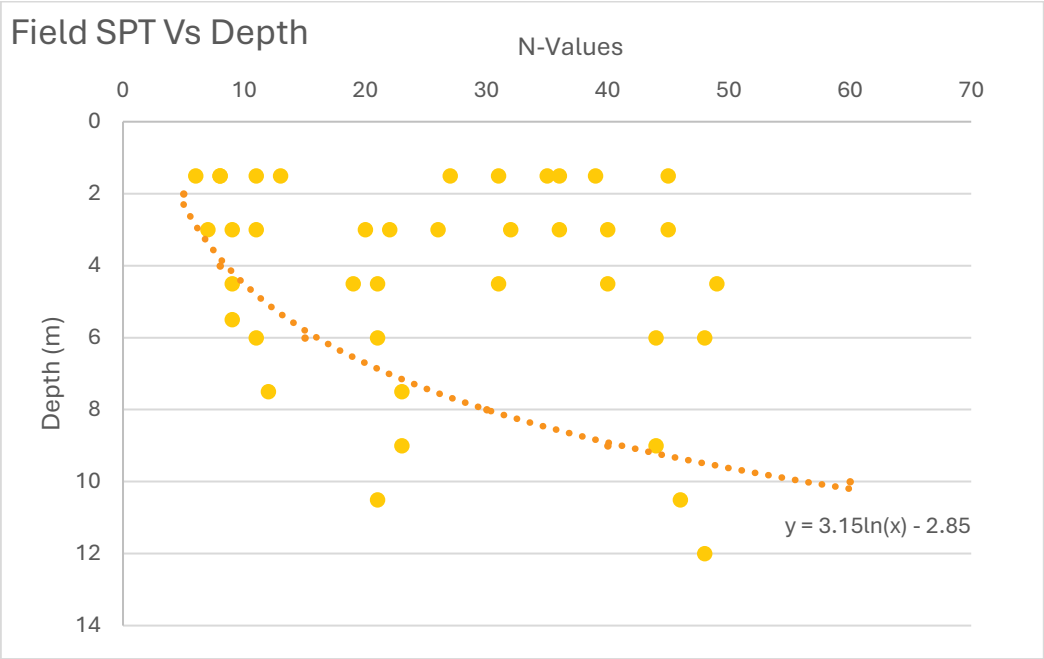


Figure 8:Plot showing Field SPT Values against depth and suggested trend line.

3.4.2 Intact Rock

Intact rocks collected from boreholes were tested for their mechanical properties. The rocks along the alignment is generally identified as grey granites, hornblende granites, and hornblende biotite granite gneisses.

The specific gravity of the rocks is found to be around 2.6. The rocks being of plutonic igneous origin, they are generally not porous in their fresh un-weathered state. With increase in weathering, they develop some porosity and also attract moisture content. The moisture content is observed to be between 0.15% to 2.9%.

Point load index strength (PLI)has been estimated for samples from different depths and boreholes. The uniaxial compressive strength (UCS) value has been indirectly approximated from these values, using the correlations for granitic rocks:

UCS=22*PLI

The range of UCS values were observed to be approximately between 5 MPa to 115MPa. This variation has been attributed to the variation in the weathering of the samples subjected to which in-turn is correlated with depth from surface. The intensity of weathering can be interpreted in terms of the percent core recoveries.

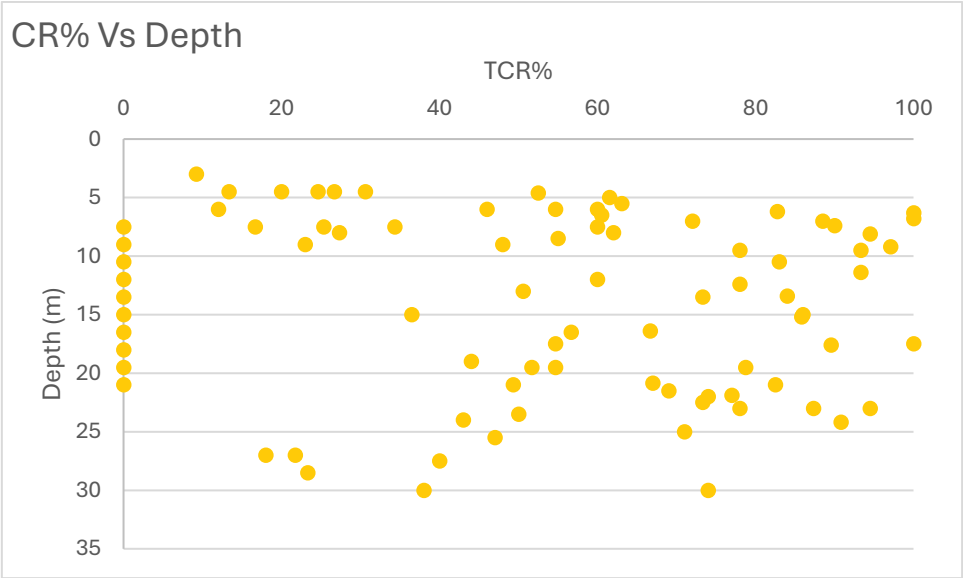


Figure 9: Plot showing Total Core Recover (CR%) with Depth.

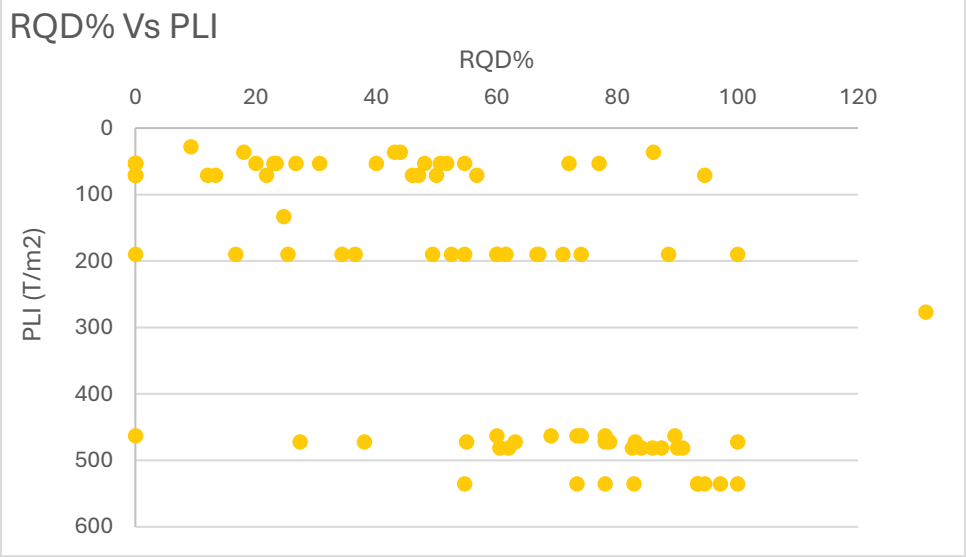


Figure 10: Plot showing Rock Quality Designation (RQD%) with Depth.

3.4.3 Rock Mass

At the scale of the structures of Tunnels and Shafts excavations, the rock mass characterization is to incorporate the influence of discontinuities their infillings. The failure modes and behaviour upon excavation is increasingly defined by such discontinuities and their disposition in space. Multiple empirical methods are popularly referred to assess the rock mass properties, each however, with their own limitations.

The key limitation comes from the fact, the exact location or property of a prominent discontinuity or a set is not known with the current means of investigations. The only means to have some assessment of the discontinuities present in the rock mass is through the recovery of cores from core drilling, which approximates to a linear data in the 3-dimensional space, leaving scope for extrapolations. The available process of their extraction too renders most of the discontinuity properties altered, as they get rotated and flushed with water during drilling. In such situation, broad generalization / categorization can only be done at the design stage with awareness of possible scenarios.

The rock mass evaluation system of - GSI (Geological Strength Index by Evert Hoek) is adopted further as the basis for assessing rock mass, in this GIR. The system allowed to incorporate characterization of discontinuities from another popular system – RMR (Rock mass Rating by Z.T.Bieneawski), together with freely available software RockLab, to derive rock mechanical parameters for design purposes. The system excludes the influence of Ground water and *In-situ* stresses, which are in turn applied separately as per the design of structure, in suitable modelling software and calculations.

The proximity of discontinuities in the rock mass defines block size. The influence of weathering on discontinuities and intact rock is interpreted from Core Recovery% and RQD% from Core drilling, and the laboratory tests conducted. The recovery indices for cores in general suggest an increasing trend with depth. A guide to interpretation of weathering on the rock properties is tabulated from literature below:

Table 3: Weathering Grades and implications on Core Recoveries, Strength and Porosity

Grade	Representation	Description	w.r.t. Intact rock (Fresh)		%TCR	%RQD /(often)
			% Residual Strength	% Increase in Porosity		
I	Fresh	No visible sign of rock material weathering; perhaps slight discoloration on major discontinuity surface	>75%	<2	>90	50-100/ (>90)
II	Slightly Weathered	Discoloration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discolored by weathering and the external surface may be somewhat weaker than in its fresh condition.	50-75%	2-5%	70-90	50-90/ (>75-90)
III	Moderately Weathered	Less than half (50% of the rock material is decomposed and/ or disintegrated to soil. Fresh or discoloured rock is present in either continuous framework or as core-stones.	30%-50%	5-7%	50-70	0-50/ (40-75)
IV	Highly Weathered	More than half (50%) of the rock material is decomposed and/or disintegrated to soil. Fresh or discoloured rock is present either as discontinuous framework or as core-stones.	15%-30%	7%-10%	>10-50	0-50/ (10-40)
V	Completely Weathered	All rock material is decomposed and/ or disintegrated to soil. The original rock mass fabric/structure is still largely intact and may be cohesive.	5%-15%	10%-20%	<10	NA/ (0-10)
VI	Residual Soil	All rock material is converted to Friable soil. The mass structure and material fabric are destroyed. There is a large change in volume, but the soil has not been significantly transported.	<5%	>20%	0	NA/0

The interpretation of Core Recovery (%) and RQD (%) from the investigation boreholes is grouped into 3 Basic combinations for rock masses as tabulated below, to evaluate representative Geological Strength Index (GSI) values. The Weathering Grade VI is considered equivalent to Soil.

Table 4: Basic Categorization of Rock Mass

Weathering	Grade	Core Recovery	Representative		
			RQD	JCn, (rating RMR_{76})	GSI= (2*JCn) + (RQD/2)
Completely (CW) to Highly Weathered (HW)	IV-V	<25	10	6	15 (upper limit)
Moderately Weathered (MW)	III	<50	30	12	40
Slightly Weathered (SW) to Fresh (FR)	I-II	>50	80	20	80

Note: The mechanical properties of rock mass can vary as per influence of parameters considered. The GSI method of evaluation is adopted for estimating properties of rock mass. Further, by varying parameters of Intact Strength and Disturbance factor in the GSI System, the intermediate values are evaluated. Interpreted boundaries for different graded and rock mass conditions is shown in the Geological L Section **(Annexure 1).**

Occurrence of relatively weaker zones, like large boulders zone or increased depth of weathering profiles are to be expected to occur which could be linked to the local topographic settings/ Geomorphology and structural geological interfaces. Such differing ground conditions may be transitional, however, abrupt changes both on the boring/ excavation and ground support, cannot be ignored.

3.4.4 In-Situ stresses (Rock)

The granitic rock mass of originated at great depth (plutonic) is understood to have been uplifted (unloaded) by surface weathering processes (spheroidal). This would suggest that probability of low in-situ stresses, at least at the low (near surface) depths equivalent to layout of projects components.

The coefficient of Earth Pressure at rest in rocks of geologically undisturbed regions may be attributed to the vertical stress and the Poisson's ratio of the rock and can be estimated using the relation $\mathbf{K_o=\nu/(1-\nu)}$.

CHAPTER 4
DESIGN PARAMETERS

CHAPTER 4: DESIGN PARAMETERS

4.1. Overburden Soil

Table 5: Design Parameters (Soil)

*Depth from Surface	Strata Description	Bulk Unit Weight [kN/m3]	Cohesion (c') [kPa]	Friction Angle(Ø') [o]	(E') [MPa]	Ko	Poisson's Ratio (ν) [-]	Permeability (k) [m/sec]
0-2 (7.5)m	Fill Material	16	0	25	5	0.58	0.3	5x10-5
2-4(12)m	Silty Sand/ Sandy silts with Clayey Sand	18	0-3	27-29	**EXP(Z+ 2.85)/ 3.15**	0.52	0.3	1x10-5
4-8m	Residual Soil	19	3-5	27-30	**100**	0.52	0.3	1x10-6

- The depths of soil and its types from ground surface to bedrock contact is variable. A tentative stratification interpreted is shown in the Geological L Section developed from the available borehole data. Depending on the local topography/Geomorphological setup, the thickness of soil layers can increase beyond the General thickness anticipated (given in brackets)

4.2. Bedrock

Table 6: Design Parameters (Rock Mass)

Overburden (m)		Design Parameters for Rock Mass			(General Case) D=0								
		Strata	Grade	ϒb	GSI	σci	(MR)	Ko	Em	υm	(c)	(Ø')	(k)
				[kN/m3]	[-]	[MPa]			[MPa]	[-]	[MPa]	[o]	[m/sec]
<30	Late-rite	CW -HW	V-IV	23	15	25	400	0.42	300	0.30	0.6	22	1x10-5
		MW*	III	25	40	35	465	0.35	1600	0.26	1.8	30	1x10-6
	>30	MW	III	25	40	45	500	0.35	3600	0.26	2.7	37	1x10-7
		SW*	II	26	70	55	500	0.27	15000	0.22	5.0	45	1x10-8
		FR	I	26	80	75	525	0.25	35000	0.20	8.0	50	1x10-8

- The Design Parameters for rock mass based on overburden thickness (wrt Formation Level) has been interpreted, to consider for the relatively lower competence in the Moderately and Slightly Weathered rock masses (MW*/SW*) at lower depths. A higher influence of weathering and possible disturbance (D=0.3) is considered applicable for portal areas, drain/ nalla sections, Shafts etc. The valuations are evaluated for the General case, as per RocLab.

CHAPTER 5
GEOTECHNICAL RISKS

CHAPTER 5: GEOTECHNICAL RISKS

5.1. List of Probable Risks

- The sudden departures from the anticipated trend of bedrock profile cannot be ignored, in between the points of investigation boreholes. Further, the regional geological trend being mostly parallel to the bored tunnel's alignment, could imply an undulating profile, with the valley and ridge sections roughly parallel to the tunnel alignment. Because of this, the parallel adjacent tunnel tube can negotiate markedly contrasting ground conditions, during progress.
- Occurrence of deep Fill locations along the fill alignment cannot be ruled out.
- The overlying sandy soil/ decomposed rock may be of relatively high permeability. The waterbodies and drainage trends could be associated with underlying fractures/ lineaments within the bedrock and can be of distinctly high permeability. During excavation an increase the possibility of increased seepage along with wash out of fines may have to be negotiated where such features come in the proximity of the tunnel. In extreme case wherever the confinement of the ground has been compromised, quick ground improvement by grouting could be required, to ensure global stability and heavy ingress of ground water into the tunnel. Probe drilling around suspected weak features would be advisable, before tunnelling through.
- Occurrence of large boulders, with bounding clay margins (characterized by low cohesion and friction) may occur close to/ partly embedded in the excavation profile. The boundary conditions between adjacent large boulders, may require to TBM to negotiate through highly mixed grounds, resulting in abrupt and directional loading of supports. Relatively smaller boulders, not fully encompassing the face/mixed ground conditions at face, can detrimentally affect the capability of the machine to efficiently transfer thrust to the rock, for breakage. This can affect the desired penetration/ progress rates.
- Occurrence of steep fractures/ joints is conspicuous, particularly where the weathering intensities are relatively higher. These joints may be very persistent and avenues for significant ground water inflows. The TBM cutter head may get aligned close to and below such weak fracture planes. This can lead to dislocation of wedge blocks from crown and side walls and jamming the shield , particularly in the low cover area.
- The intact granitic rocks can have intact strengths exceeding 150 MPa. Further the granites are relatively rich in quartz minerals. Therefore, high abrasion and cutter wear cannot be ruled out.
- Ground water level is likely to fluctuate seasonally and the surface water level in the nearby lakes could be an assessment. Sudden rise in ground water level and flooding of tunnels must be considered in design.

5.2. Ground Improvement and Additional Measures

The typical undulatory profile of the terrain, can create, sudden transitions of ground conditions, at the advancing TBM face while boring. The geological profile developed based on investigations leaves scope for more closer monitoring of ground conditions during actual progress. This could be carried out by advance probing, monitoring of Machine Parameters, Deformation/ Settlement/Vibration monitoring etc. If required, the ground ahead may be pre-treated. In general, wherever, abrupt transitioning to widely contrasting ground conditions (preferably when advancing into weaker conditions) at face is anticipated, probing is recommended.

Below are set of select probable locations (shown shaded in orange), where possible mixed grounds may be negotiated and is advisable to progress by probing. Based on probing and deformation assessments,

grouting of the ground ahead of Tunnel face can be considered.

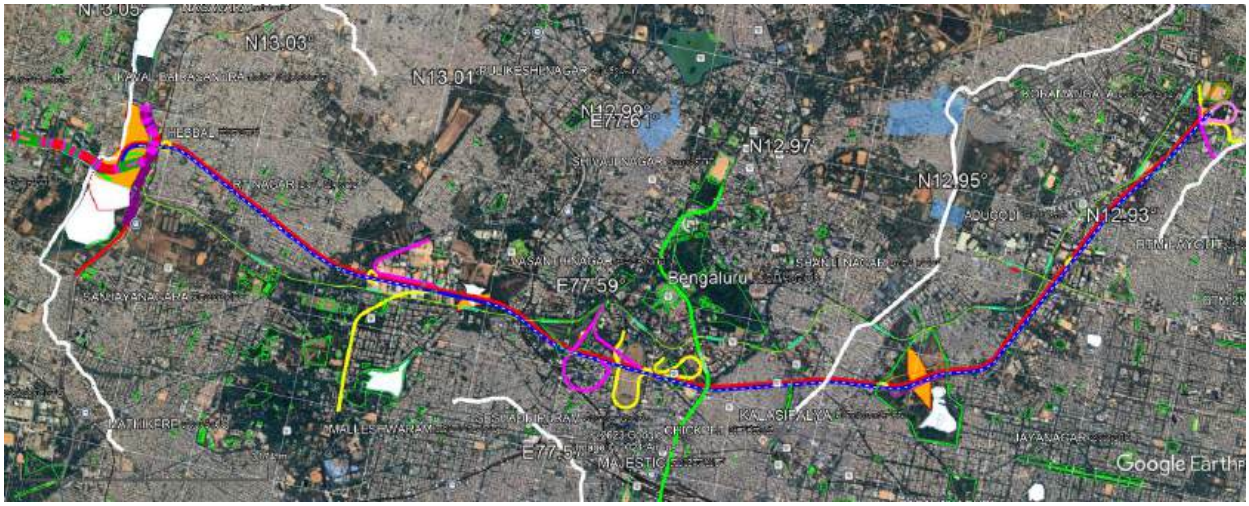


Figure 11: Set of Select Probable Locations (shown shaded in orange)

ANNEXURE

Following laboratory tests were conducted on collected soil samples shown in **Table 5-20.**

TABLE 5-20: LABORATORY TESTS

Sl. No.	Description of Test	Standard Code
1	Sieve Analysis	IS: 2720 (Part-4)
2	Hydrometer Analysis	IS: 2720 (Part-4)
3	Atterberg Limits • Liquid Limit • Plastic Limit	 IS: 2720 (Part-5) IS: 2720 (Part-5)
4	Bulk/Dry Density	IS 2720 (Part-2)
5	Specific Gravity	IS : 2720 (Part -3)
6	Natural Moisture Content	IS : 2720 (Part -2)
7	Direct Shear test	IS : 2720 (Part -11)
8	Triaxial Shear Test	IS : 2720 (Part -13)

5.2.4.7 Details of Geotechnical Investigation:

A. Field and Laboratory Investigations

The subsurface investigation of soil or rock strata in the field involves three basic operations:

- Drilling
- Sampling
- Conducting field tests, followed by laboratory tests on soil/rock samples retrieved from the field.

B. General

In total, 68 BHs have been drilled each upto maximum 30.00 m depth along the length of proposed Metro alignment. Details of Boreholes drilled are given in **Table 5-21.** In soil, boreholes of diameter 100mm to 150mm were drilled with the help of a posthole auger. A power winch was used to extend the boreholes with the help of extension rods and auger, upto the required depth. Any loose soil was carefully removed from the bottom of the borehole so that the penetration test could be performed on an undisturbed surface of strata. The water table was recorded in each borehole, if met.

TABLE 5-21: DETAILS OF BOREHOLES

Sl. No.	Bore Hole No.	Co-ordinates		Depth of Borehole (m)	Location
		Latitude (N)	Longitude(E)		
1	1	13.043611°	77.591389°	27.5	Near by Kempe Gowda Statue and Hebbal Flyover
2	2	13.040833°	77.589444°	25	Hebbal Flyover Service road
3	3	13.035705°	77.588647°	7.5	Left side of IFAB (Floral Studio)
4	4	13.032187°	77.587234°	8.1	Inside of Dairy Science College
5	5	13.02445°	77.585790°	10.5	Inside Veterniary College
6	6	13.023333°	77.584166°	21	Indian Veterniary Research Center
7	7	13.02000°	77.583888°	23	Mekhri Circle Bus stop

Sl. No.	Bore Hole No.	Co-ordinates		Depth of Borehole (m)	Location
		Latitude (N)	Longitude(E)		
8	8	13.015555°	77.584166°	30	The Parachute Regiment (Army School)
9	9	13.010737°	77.583953°	30	Palace Ground Busstop
10	10	13.008611°	77.583888°	13.5	Aramane Nagara (Gayathri Vihara Side)
11	11	13.003611°	77.584166°	24.2	Jayamahal (Shine Golf Green)
12	12	13.000555°	77.584166°	27	Palace Guttahalli Bus stop
13	13	12.994722°	77.585°	19.5	Guttahalli HMG Stones Shop
14	14	12.991388°	77.585277°	13.4	7 Minister Quateres Compound side
15	15	12.986388°	77.586388°	30	Sofia High School Back Side (Fair Field Layout Road)
16	16	12.982273°	77.587036°	30	Near by Basaveswhwara circle
17	17	12.976666°	77.587499°	8	SKSJTI College
18	18	12.972777°	77.586388°	9.2	Government Science and Art college or Footpath
19	19	12.968333°	77.586944°	14	Near by Hudson Circle
20	20	12.963888°	77.587222°	6.3	Inside of United Mission College
21	21	12.959082°	77.587821°	23	DHL express KH Road
22	22	12.954278°	77.589668°	9	Shanthi Nagara BMTC Office opposite
23	23	12.951475°	77.590895°	15	Lalbagh Circle
24	24	12.946645°	77.594847°	15	Near by Abhay Hospital
25	25	12.943593°	77.597242°	7.5	NIMHANS Badra hostel
26	26	12.9418373°	77.5974783°	9.5	NIMHANS Bus Stop
27	27	12.939997°	77.598467°	19	Dairy Circle Flyover(Dairy Circle Metro Station)
28	28	12.9366460°	77.6045520°	6	Christ University Compound wall
29	29	12.932711°	77.612510°	21.9	HP Gas Gowdon (Opposite of Smart Bazar)
30	30	12.930797°	77.614122°	30	Front of St. Anthony's Church
31	31	12.929229°	77.616234°	30	St.Jhon Medical College Hostel Compond wall
32	32	12.925845°	77.624717°	30	Near by Survey of India Office
33	33	12.924157°	77.629673°	26.5	Opposite of Krupanidhi institution
34	34	12.924627°	77.633944°	30	Near KSRP Housing
35	35	12.924723°	77.638002°	30	Near by Jakkasandra Canal
36	43	12.917175°	77.672756°	17.5	Amblipura Bus stop
37	44	12.914554°	77.675877°	17.5	Opposite of Elana Residentail (Bellanduru Metro gate)

Sl. No.	Bore Hole No.	Co-ordinates		Depth of Borehole (m)	Location
		Latitude (N)	Longitude(E)		
38	45	12.912716°	77.680467°	30	Infront of Motherhood Pharmacy
39	46	12.910890°	77.684041°	30	Bharat Petrol Bunk(Kasavanahalli)
40	47	12.909293°	77.688303°	30	Kaikondralli Bus Stop
41	48	12.907944°	77.692873°	24	Stone Style Marble and Granites
42	49	12.906985°	77.696566°	30	V V R School (Doddkanahalli Metro Station)
43	50	12.9055016°	77.7003618°	4.75	Someshwara Layout
44	51	12.9038699°	77.7033095°	10.5	Inspira Groups
45	52	12.9032166°	77.7045946°	20	Chikkanalli Bus Stop (Carmelaram Metro Staion)
46	53	12.9009740°	77.7090411°	26.5	Ramsons Groups Building
47	54	12.8987069°	77.714529°	28.5	Ambedkar Nagar Bus stop (Ambedkar Nagar Metro-Wipro SEZ)
48	55	12.8972290°	77.7188864°	30	Floating Walls Furniture Shop
49	56	12.8953371°	77.7229235°	23	Shell V Power Bunk
50	57	12.8933212°	77.7272402°	30	True Value Showroom
51	58	12.8909841°	77.7302758°	30	Near by Sulekunte Bus stop (Meenakshi Hardware opposite)
52	59	12.8892513°	77.7326569°	25	Near by Amazing Stones and Tiles shop
53	60	12.8877038°	77.7363905°	30	Near by Multi Mart
54	61	12.8874675°	77.7382550°	18	Near by Cycle World Shop
55	62	12.8861670°	77.7436620°	30	Near by HDFC Bank
56	63	12.8848185°	77.7476927°	30	Krishna Italian Marble and Granite Shop
57	64	12.883515°	77.751733°	19.5	Dommasandra circle flyover
58	65	12.8835147°	77.7517328°	30	Near by Lakshmi Frame Works shop
59	66	12.8825604°	77.7546520°	21	Near by Rin Fitness Club
60	67	12.8810762°	77.7584306°	21.5	Near by PSR Floora
61	68	12.8786984°	77.7629062°	30	Challenger's Badminton Academy
62	69	12.8755401°	77.7657319°	30	Kangaroo Kids International Pre School (Sompura Metro Station)
63	70	12.8730865°	77.7662982°	30	BSR Enterprises
64	71	12.8679660°	77.7669898°	21.75	Health Bear Children's Clinic
65	72	12.8636763°	77.7706973°	30	Trioline Interiors(Kada Agrahara)
66	73	12.8613811°	77.7748263°	30	Sarjapura Bus stop
67	74	12.8607610°	77.7795547°	30	Sarjapura Bus stop and Police Station
68	75	12.9624684°	77.5904763°	5.5	Government Pharmacy College

C. Standard PenetrationTest (SPT)

The standard penetration was conducted in boreholes (in soil) following the standard procedure as per IS 2131-1981 which specifies the procedure for conducting SPT for soils. SPT was conducted in the boreholes at every 1.5m interval and change of strata as per specifications. Standard split spoon sampler attached to lower end of drill rods was driven in the boreholes by means of standard hammer of 63.50 kg falling freely from a height of 75 cm. The sampler was driven 45 cm as per specifications and number of blows required for each 15 cm penetration was recorded. The number of blows for the first 15 cm penetration was not taken into account as it is considered seating drive. The number of blows for next 30 cm penetration was designated as SPT 'N' value. Wherever the total penetration was less than 45cm, the number of blows and the depth penetrated is incorporated in respective bore logs. Disturbed Soil samples obtained from standard split spoon sampler were collected in polythene bags of suitable size. These samples were properly sealed, labeled, recorded and carefully transported to laboratory for testing.

D. Undisturbed Soil Samples (UDS)

Undisturbed soil samples were collected at required depths in thin wall sampler tubes according to IS 2132-1986. UDS were collected from the boreholes at every 3.0 m interval & change of strata as per sampling specifications, in thin-walled sampling tubes of 100 mm dia. and 450 mm length. These sampling tubes after retrieval from the boreholes were properly waxed and sealed at both ends. These were carefully labelled and transported to the laboratory for testing.

The depth of Ground Water Table, wherever encountered is depicted in all bore holes.

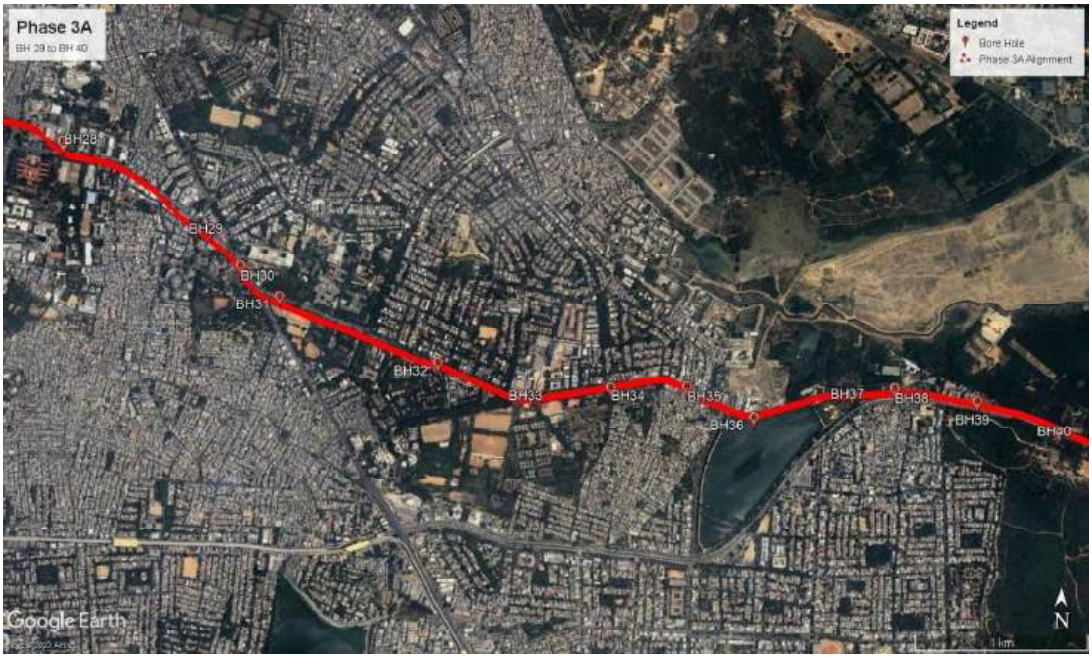
E. Ground water samples

As the water table was met in the boreholes, water samples were collected for chemical analysis and are provided in the report.

The location plan of boreholes drilled is given in **Figure 5-44.**

FIGURE 5-44: LOCATION OF BOREHOLES FROM 1 TO 75


Phase 3A
BH 15 to BH 27
Legend
Bore Hole
Phase 3A Alignment
BH15
BH16
BH17
BH18
BH19
BH20
BH21
BH22
BH23
BH24
BH25
BH27
Google Earth
N


Phase 3A
BH 28 to BH 40
Legend
Bore Hole
Phase 3A Alignment
BH28
BH29
BH30
BH31
BH32
BH33
BH34
BH35
BH36
BH37
BH38
BH39
BH40
Google Earth
N


Phase 3A
BH 41 to BH 54
Legend
Bore Hole
Phase 3A Alignment
BH41
BH42
BH43
BH44
BH45
BH46
BH47
BH48
BH49
BH50
BH51
BH52
BH53
BH54
Google Earth
1 km
N


Phase 3A
BH 55 to BH 69
Legend
Bore Hole
Phase 3A Alignment
BH55
BH56
BH57
BH58
BH59
BH60
BH61
BH62
BH63
BH64
BH65
BH66
BH67
BH68
BH69
Google Earth
1 km
N

5.2.4.8 Investigation of Rocky Strata

A. Rock Coring:

Rock coring was obtained by use of the rotary drilling method, because of its ability in retaining higher quality of rock samples. Rock coring was carried out by using diamond bits and tungsten carbide bits. For better core recovery in hard rock like basalt and granites, diamond bits were used. NX size of bit was used in coring. The drilling operation was conducted by attaching bits to core barrels through reamer shells. Methodology followed for boring confirmed IS: 1892-1979 and IS: 6926-1996. Water was used as the drilling fluid, care was taken to see that water into the hole, be minimum, consistent with adequate

removal of cutting from the hole and proper cooling of the bit. The rock core samples are preserved and stored as specified in IS: 4078-1980.

The ratio of total length of rock pieces collected to length drilled, expressed as percentage and known as core recovery was recorded. To obtain RQD (Rock Quality Designation), only those pieces of rock which were 101.6mm (4inches) and longer were measured for their total length. The above length divided by length drilled, expressed as percentage, was recorded as RQD. The Core Recovery and RQD value were assigned based on Standard procedure given in IS: 11315 (Part 11). Values of RQD were found to be less than the values for core recovery. Thus,

a) Core recovery in %=(Length of Core/ Length of run) x100
b) RQD in%= (Length of core in pieces of 101.6mm (4 inches) and above/Length of run) x100

The core recovery is an indication of soundness and degree of weathering of rock.

Rock cores have been classified based on their physical condition and unconfined compressive strength based on Clause 8.2 and Table – 2 of IRC: 78- 2000 as follows. The classification of Rocks is shown in **Table 5-22**.

TABLE 5-22: CLASSIFICATION OF ROCKS

RockType	Description	Unconfined Compressive Strength (UCS) in MPa
Extremely Strong	Cannot be scratched with knife or sharp pick. Breaking of specimen could be done by sledge hammer only.	>200
VeryStrong	Cannot be scratched with knife or sharp pick. Breaking of specimens requires several hard Blows of geologists'pick.	100 to 200
Strong	Can be scratched with knife or pick with difficulty.Hard blow of hammer required to detach hand specimen.	50 to 100
Moderately Strong	Can be scratched with knife or pick, 6mm deep gouges or grooves can be made by hand blow of geologists'pick.Hand specimen can be Detached by moderate blow.Can be grooved or gouged 1.5mm deep by firm pressure on knifeor pick point. Can be broken into pieces or chips of about 2.5mm maximum size by hard blows of the geologists pick.	12.5 to 50
Moderately weak	Can be grooved or gouged 1.5mm deep by firm pressure on knife or pick point. Can be broken into pieces or chips of about 2.5mm maximum size by hardblows of the geologists pick.	5 to 12.5
Weak	Can be grooved or gouged easily with knife or pick point. Can be break down in chips to pieces several cm's in size by moderate blows of pick point. Small thin pieces can be broken by finger pressure.	1.25 to 5

RockType	Description	Unconfined Compressive Strength (UCS) in MPa
VeryWeak	Can be carved with knife. Can be broken easily with point of pick. Pieces 25mm or more in thickness can be broken by finger pressure. Can be scratched easily by fingernail.	<1.25

B. Laboratory Tests for Rocks:

Rock samples recovered from various depths of strata were tested for the following properties.

Description of Test	Standard Code Applicable
Water Absorption	IS:13030, IS:1124
Specific Gravity	IS:1122
Unconfined Compressive Strength (UCS)	IS:9143
Point Load Index (PLI)	IS:8764
Rock Mass Rating (RMR)	IS:13365(Part-1)

C. Rock Mass Rating (RMR) Value Estimation:

The rock mass rating should be determined as an algebraic sum of ratings for all the parameters given below:

TABLE 5-23: STRENGTH OF INTACT ROCK MATERIAL (MPA)

Rock Type	Compressive Strength	Point Load Strength	Rating
ExtremelyStrong	>250	>8	15
VeryStrong	100-250	4-8	12
Strong	50-100	2-4	7
Average	25-50	1-2	4
Weak	10-25	Use of uniaxial compressive Strengths is preferred	2
VeryWeak	2-10		1
Extremely Weak	<2	-	0

TABLE 5-24: ROCK QUALITY DESIGNATION (RQD)

RockType	RQD	Rating
Excellent	90-100	20
Good	75-90	17
Fair	50-75	13
Poor	25-50	8
VeryPoor	<25	3

TABLE 5-25: SPACING OF DISCOUNTINUTIES

Rock Type	Spacing, (m)	Rating
Very Wide	>2	20
Wide	0.6-2	15
Moderate	0.2-0.6	10
Close	0.06-0.2	8
VeryClose	<0.06	5

TABLE 5-26: CONDITION OF DISCOUNTINUTIES

	Very rough and unearthed wall rock, tight and discontinuous no separation	Rough and slightly weathered wall rock surface, separation <1mm	Slightly rough and moderately to highly weathered wall rock surface, separation <1 mm	Slicken sided wall rock surface or 1-5 mm thick gauge or 1-5 mm wide opening, continuous discontinuity	5mm thick, soft gauge 5mm wide continuous discontinuity
Rating	30	25	20	10	0

TABLE 5-27: GROUND WATER CONDITION

General Description	Completely Dry	Damp	Wet	Dripping	Flowing
Rating	15	10	7	4	0

5.2.4.9 Foundation in Soil

A foundation must have an adequate depth to avoid adverse environmental influences. It must also be economically feasible in terms of overall structure. Depth of foundations in soil shall be decided as per clause 7 of IS:1904 for special cases like; where volume change is expected / scour is expected / foundations on sloping ground /frost action is expected etc.

A. Pile Load Carrying Capacity in Soil

Normal Bored Cast in-situ Pile Foundations.

The bearing capacity of a pile is dependent on the properties of soil in which it is embedded. Axial load from a pile is normally transmitted to the soil through skin friction along the shaft and end bearing at its tip. Axial load carrying capacity of the pile is calculated using the static formula given in Appendix-B of IS: 2911-1979 Part-1 Section-2 also the factor of safety is taken as the minimum value recommended in the same code.

B. Pile Load Carrying Capacity in Rock

Piles in rocks and weathered rocks of varying degree of weathering, derive their capacity by end bearing and socket side resistance. Axial load carrying capacity of the pile is calculated using the static formula given in Appendix – 5 of IRC: 78-2000.

C. Allowable Bearing Capacity of Foundations on Rock

As per IS: 12070-1987 & IS: 13365 (Part-1)-1998, analysis for allowable bearing capacity on rock has been done by the following three methods.

a) Based on Presumptive value (Classification of Rock)

Assessment of net safe bearing pressure can be done based on rockclassification as listed in Table 2 of IS: 12070. The presumptive value for various rock types listed here are multiplied with the correction factors according to the geological conditions as given in Clause 9.2, IS: 12070.

b) Based on rock mass rating (RMR value)

Table 3 in IS: 12070 gives net allowable pressure. This ensures settlement of foundation upto 6m thickness to be less than 12mm for raft foundations.

Classification No.	I	II	III	IV	V
RMR	100-81	80-61	60-41	40-21	20-0
qns(t/m2)	600-448	440-288	280-141	135-48	45-30

c) Based on core strength of intact rock specimen

Rock mass with favorable characteristics, that is the safe bearing pressure,is estimated as
qs=qcNj
Where,
qs=safe bearing pressure (gross),
qc=average uniaxial compressive strength of rockcores,
Nj=empirical coefficient depending on the spacing of discontinuities

Spacing of Discontinuities, cm	Nj
300	0.4
100-300	0.25
30-100	0.1

The safe bearing pressure obtained is multiplied with the correction factor according to the geological conditions to get the allowable bearing pressure as given in Clause 9.2 of IS: 12070.

Correction factor includes corrections for

- Submerged condition under watertable
- Cavities (major cavities inside limestone)
- Slope

Also as per clause 7.1 of IS: 12070, where the rock is of very low strength and has discontinuities at a very close spacing, or is weathered or fragmented the rock is considered as a granular mass and the design of foundation is on the basis of conventional soil mechanics and the net allowable bearing capacity obtained from shear and settlement criteria as mentioned in clause 1.9.2.1 above.

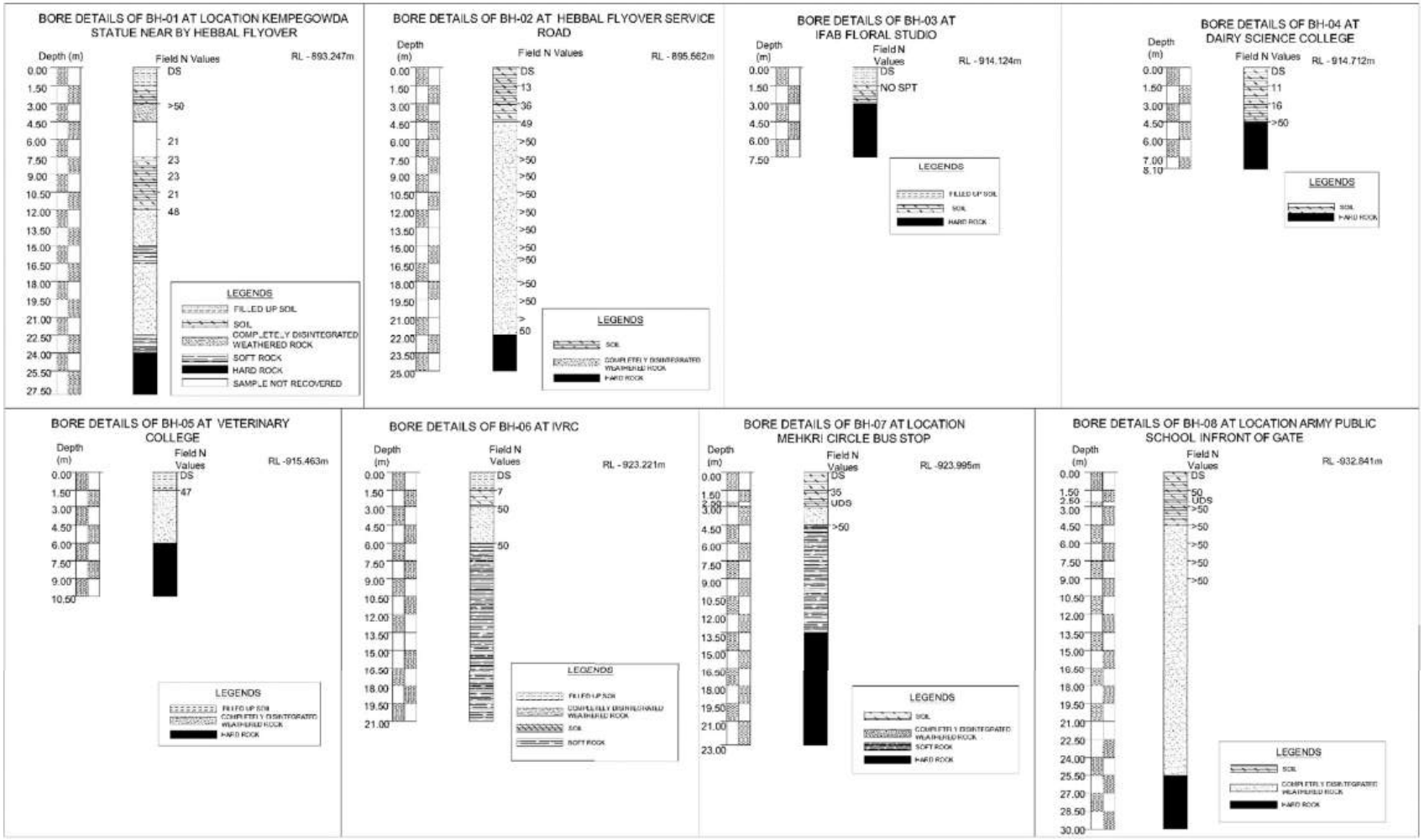
5.2.4.10 Conclusions and Recommendations

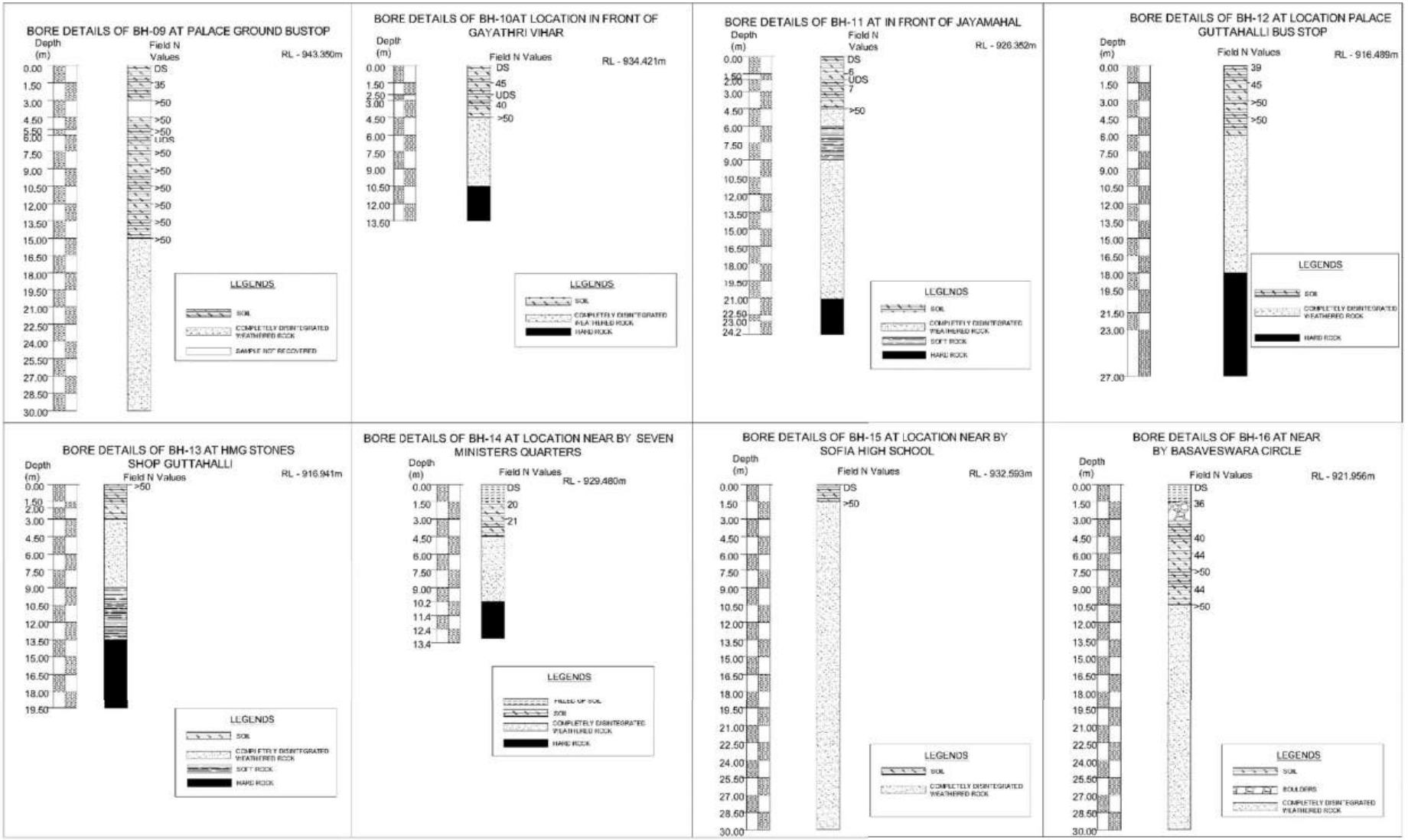
- The subsoil consists of red/brownish/grey soil to sand/silt followed by weathered rock with completely/ moderately weathered rock and underlain by fractured / jointed medium hard rock to hard rock.
- Water table was not encountered at any depths during field investigation.
- All observations and calculations were made based on the field investigation and laboratory testing.
- Based on the geotechnical investigation carried out in this particular site, SBC at appropriate depth may be adopted for further design after proper stabilization.
- For the construction of pillars of the proposed project, two types of foundations, namely isolated footings and deep foundations (bored cast-in-situ RCC pile footings) have been considered for computation of load bearing capacity of the underlying soil strata. The safe allowable bearing capacity for the open foundations have been calculated on the shear failure criteria suggested as per IS 6403-1981.
- If any loose pocket strata are found during the excavation, the foundation shall be laid only after ensuring that the same has been cleared and appropriate remedial measures have been adopted.
- Since heavy loads are to be transferred to sub soil strata at viaduct part of therefore **Pile Foundations** have been recommended for the proposed viaduct.
- The load capacities of piles are based on empirical correlation's and should be confirmed by conducting **pile load test as per IS: 2911 (Part 4)** on test piles before execution of working piles.
- Since the proposed site is situated in seismic **Zone II** having low seismic intensity. The project area does not have any history of severe earthquake damage.

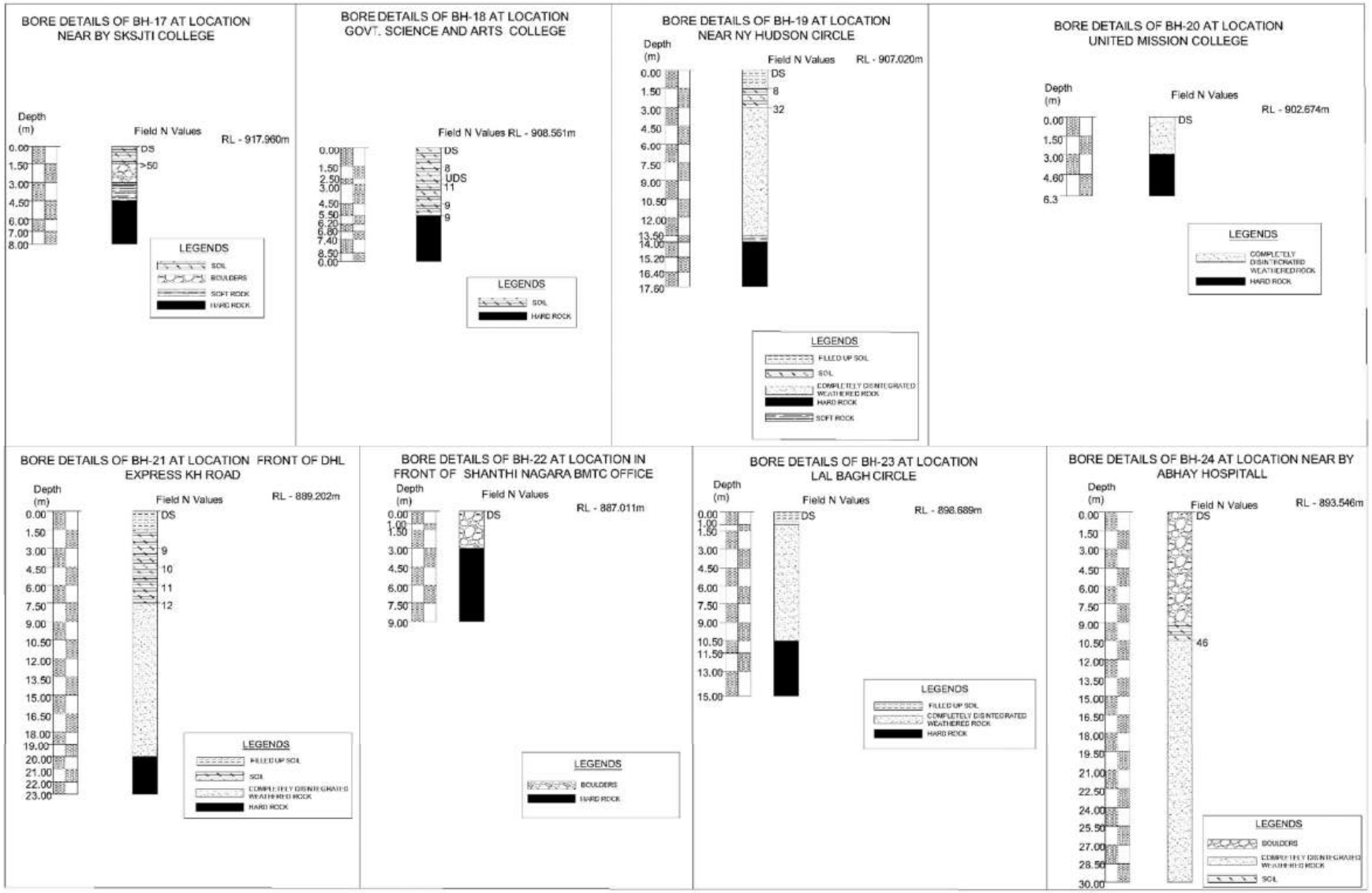
References:

- IS 1892:1979 – Code of Practice for Sub-surface investigation for foundations.
- IRC 78-2014 (Appendix 5/Method 2: Design and Construction of Pile Foundations).
- IS 2720- Methods of Tests for Soils (Relevant parts).
- IS 2131- Method for Standard Penetration Test for Soils.

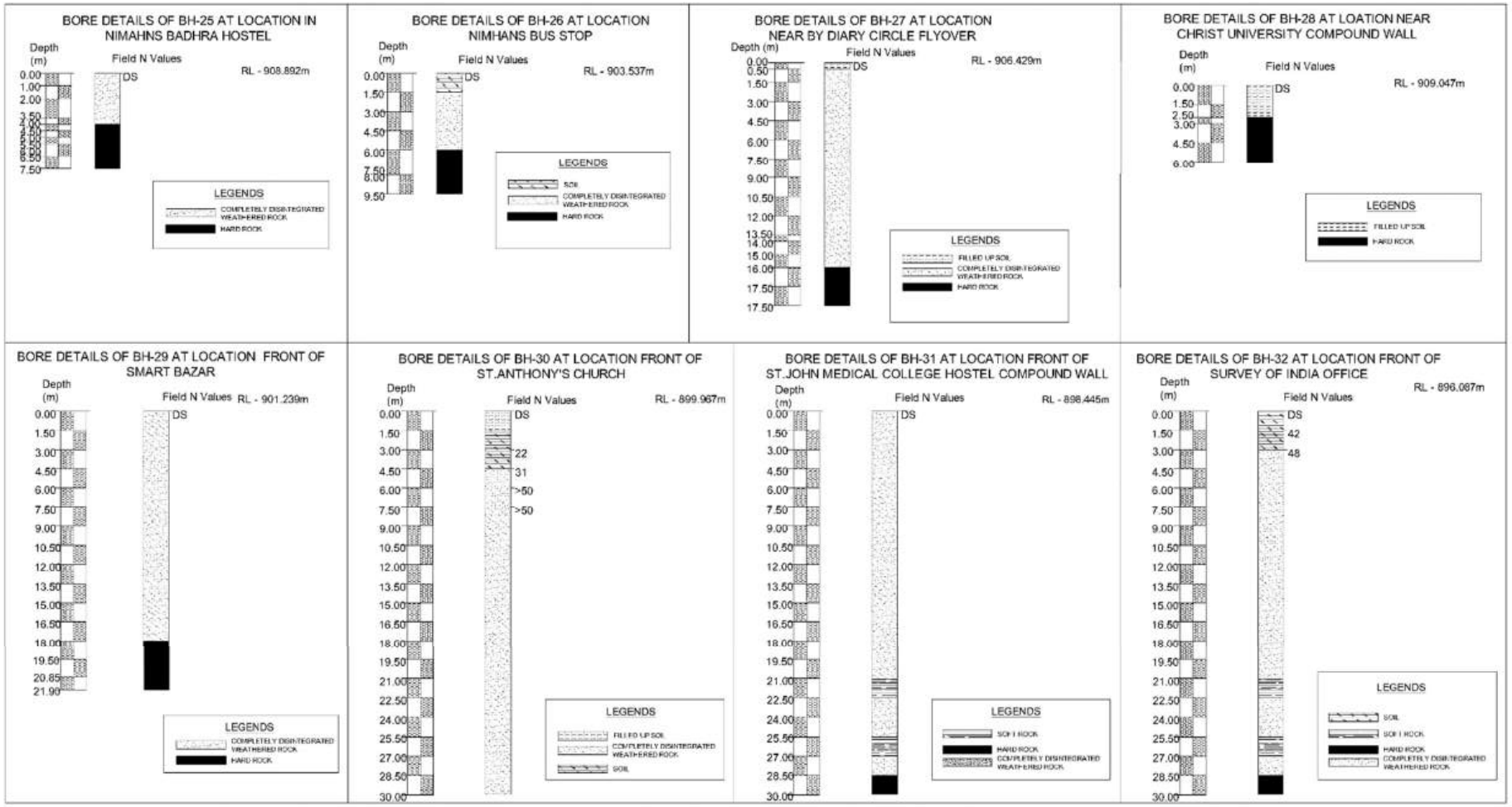
FIGURE 5-45: BORE LOGS AND SUB SOIL PROFILE DIAGRAM

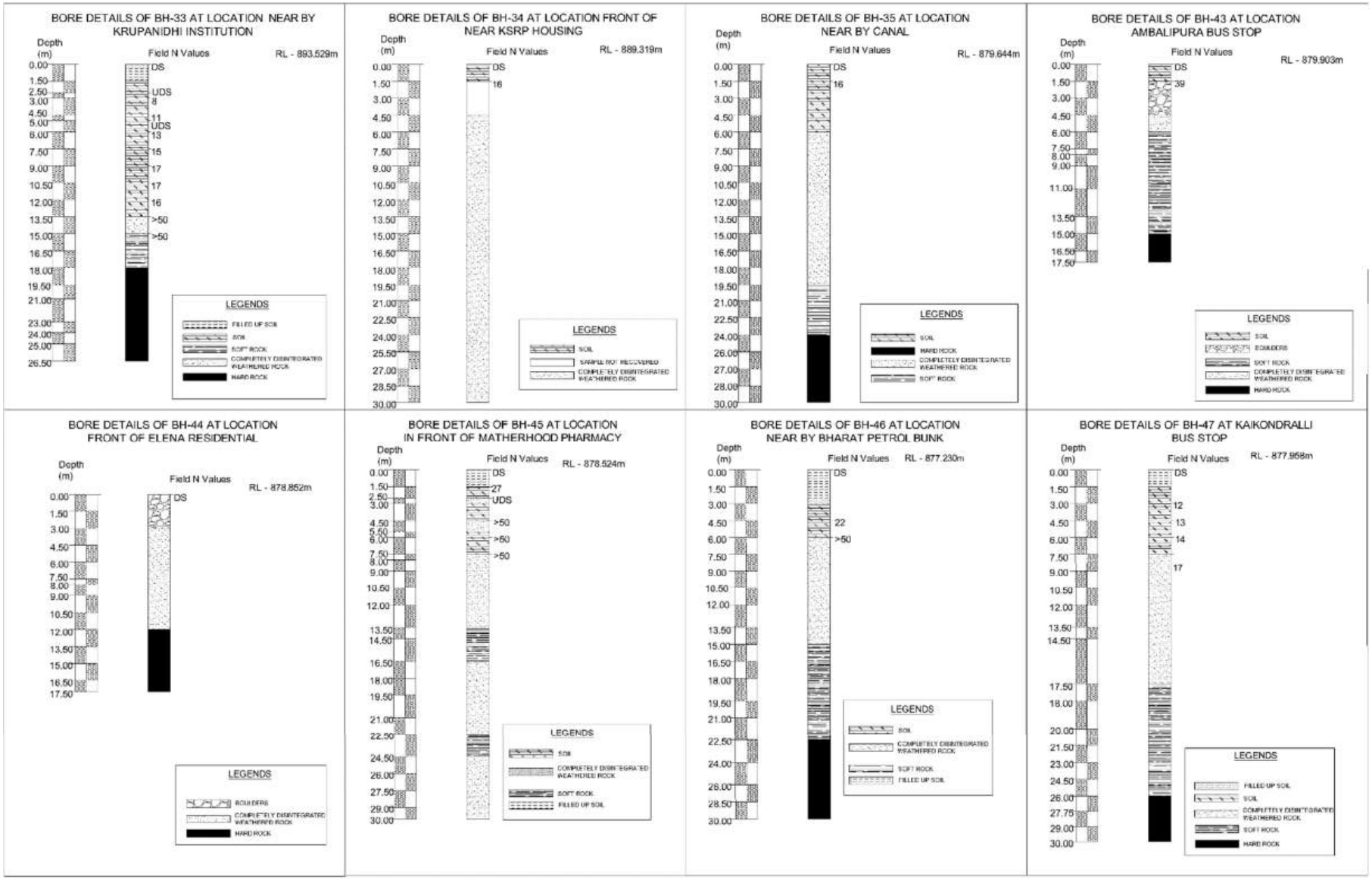


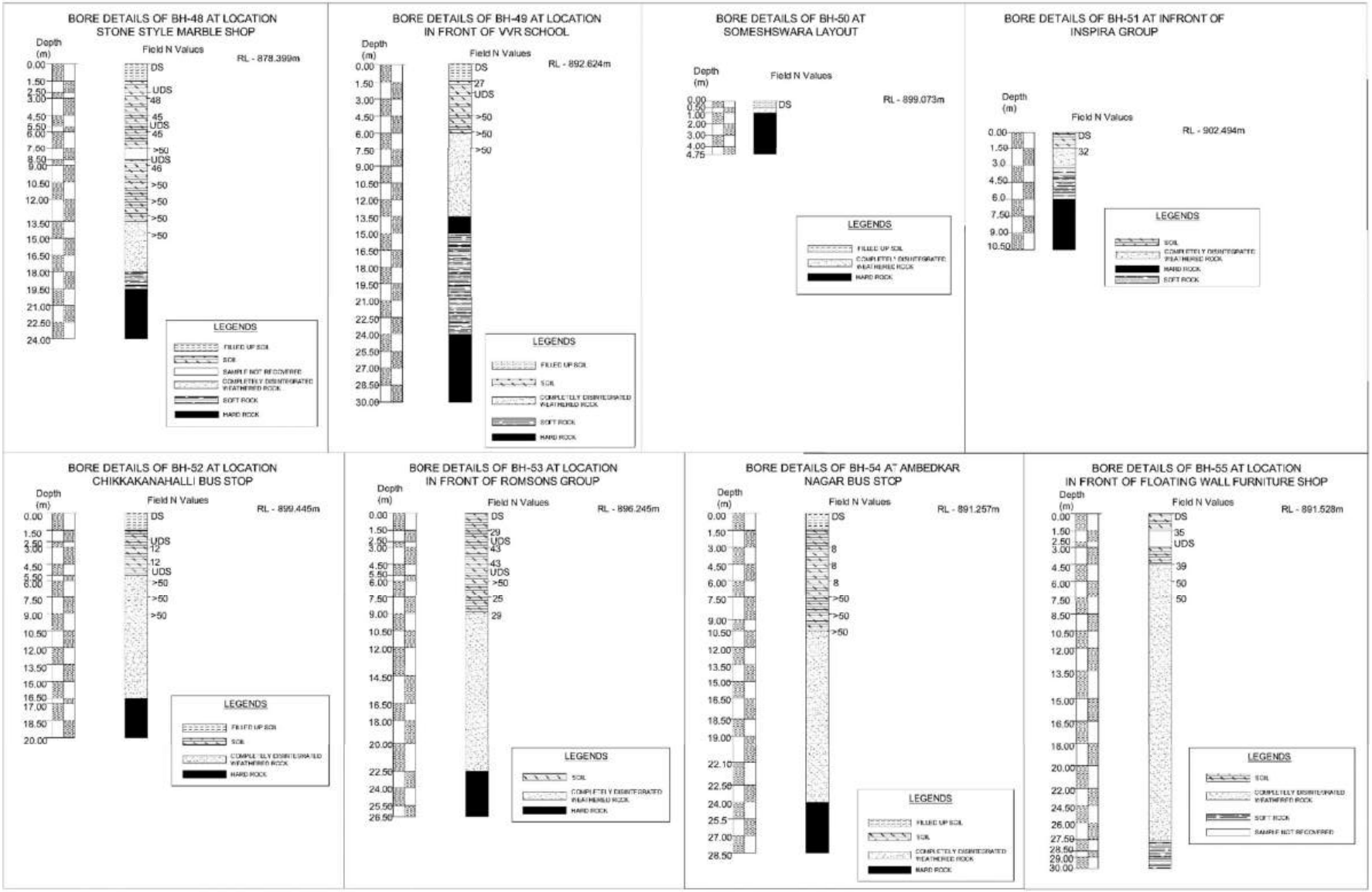

BORE DETAILS OF BH-09 AT PALACE GROUND BUSTOP
Depth (m)
Field N Values
RL - 943.350m
BORE DETAILS OF BH-10AT LOCATION IN FRONT OF GAYATHRI VIHAR
RL - 934.421m
BORE DETAILS OF BH-11 AT IN FRONT OF JAYAMAHAL
RL - 926.352m
BORE DETAILS OF BH-12 AT LOCATION PALACE GUTTAHALLI BUS STOP
RL - 916.489m
BORE DETAILS OF BH-13 AT HMG STONES SHOP GUTTAHALLI
RL - 916.941m
BORE DETAILS OF BH-14 AT LOCATION NEAR BY SEVEN MINISTERS QUARTERS
RL - 929.480m
BORE DETAILS OF BH-15 AT LOCATION NEAR BY SOFIA HIGH SCHOOL
RL - 932.593m
BORE DETAILS OF BH-16 AT NEAR BY BASAVESWARA CIRCLE
RL - 921.956m
LEGENDS
SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
SAMPLE NOT RECOVERED
SOFT ROCK
HARD ROCK
BOULDERS


BORE DETAILS OF BH-17 AT LOCATION NEAR BY SKSJTI COLLEGE
Depth (m)
Field N Values
RL - 917.960m
0.00
1.50
3.00
4.50
6.00
7.00
8.00
DS
>50
LEGENDS
SOIL
BOULDERS
SOFT ROCK
HARD ROCK
BORE DETAILS OF BH-18 AT LOCATION GOVT. SCIENCE AND ARTS COLLEGE
Field N Values RL - 908.561m
0.00
1.50
2.50
3.00
4.50
5.50
6.20
6.80
7.40
8.50
0.00
DS
8
UDS
11
9
9
LEGENDS
SOIL
HARD ROCK
BORE DETAILS OF BH-19 AT LOCATION NEAR NY HUDSON CIRCLE
Depth (m)
Field N Values
RL - 907.020m
0.00
1.50
3.00
4.50
6.00
7.50
9.00
10.50
12.00
13.50
14.00
15.20
16.40
17.60
DS
8
32
LEGENDS
FILLED UP SOIL
SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
SOFT ROCK
BORE DETAILS OF BH-20 AT LOCATION UNITED MISSION COLLEGE
Depth (m)
Field N Values
RL - 902.674m
0.00
1.50
3.00
4.60
6.3
DS
LEGENDS
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
BORE DETAILS OF BH-21 AT LOCATION FRONT OF DHL EXPRESS KH ROAD
Depth (m)
Field N Values
RL - 889.202m
0.00
1.50
3.00
4.50
6.00
7.50
9.00
10.50
12.00
13.50
15.00
16.50
18.00
19.00
20.00
21.00
22.00
23.00
DS
9
10
11
12
LEGENDS
FILLED UP SOIL
SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
BORE DETAILS OF BH-22 AT LOCATION IN FRONT OF SHANTHI NAGARA BMTC OFFICE
Depth (m)
Field N Values
RL - 887.011m
0.00
1.00
1.50
3.00
4.50
6.00
7.50
9.00
DS
LEGENDS
BOULDERS
HARD ROCK
BORE DETAILS OF BH-23 AT LOCATION LAL BAGH CIRCLE
Depth (m)
Field N Values
RL - 898.689m
0.00
1.00
1.50
3.00
4.50
6.00
7.50
9.00
10.50
11.50
13.00
15.00
DS
LEGENDS
FILLED UP SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
BORE DETAILS OF BH-24 AT LOCATION NEAR BY ABHAY HOSPITALL
Depth (m)
Field N Values
RL - 893.546m
0.00
1.50
3.00
4.50
6.00
7.50
9.00
10.50
12.00
13.50
15.00
16.50
18.00
19.50
21.00
22.50
24.00
25.50
27.00
28.50
30.00
DS
46
LEGENDS
BOULDERS
COMPLETELY DISINTEGRATED WEATHERED ROCK
SOIL

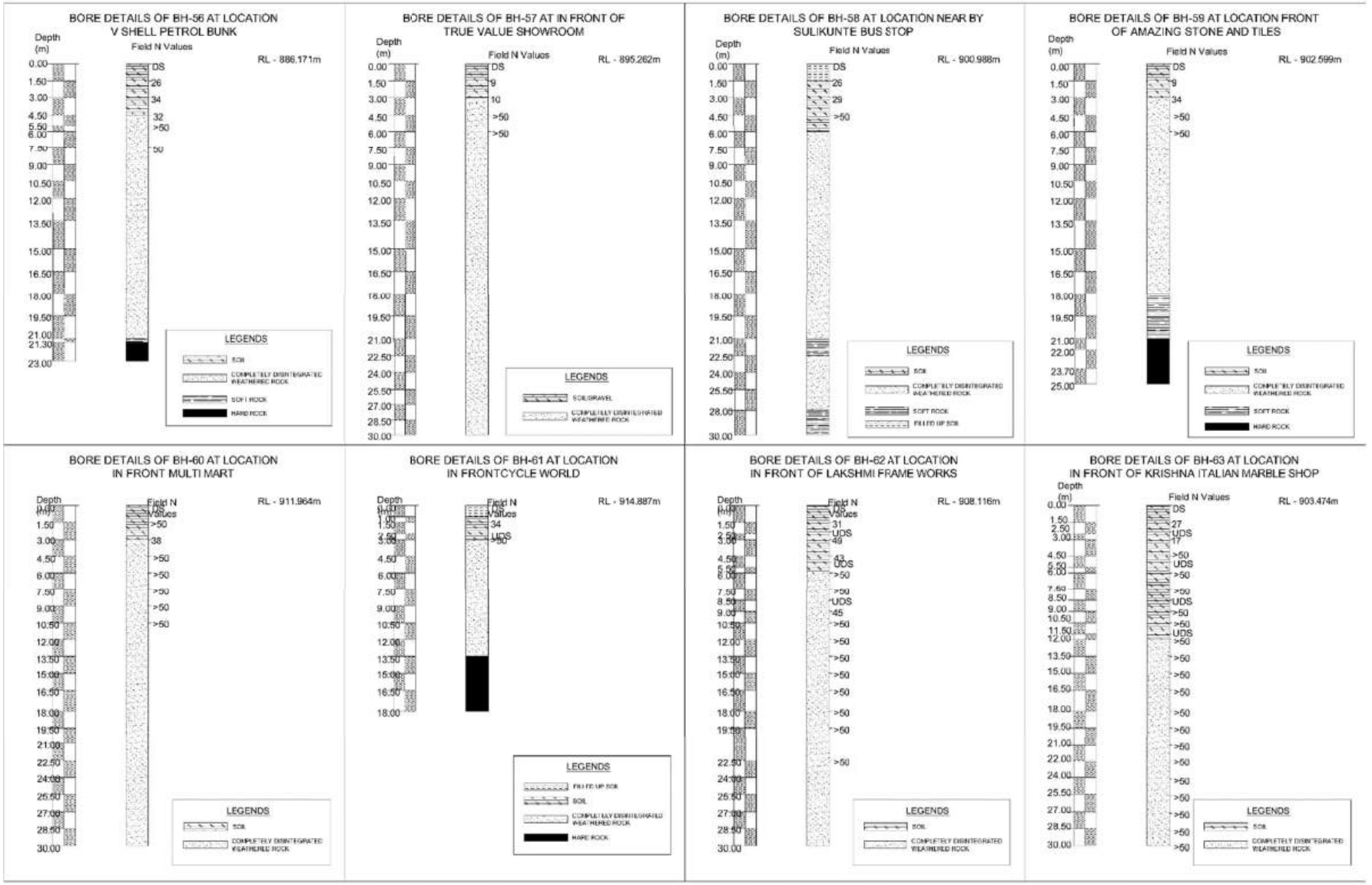
Annexure

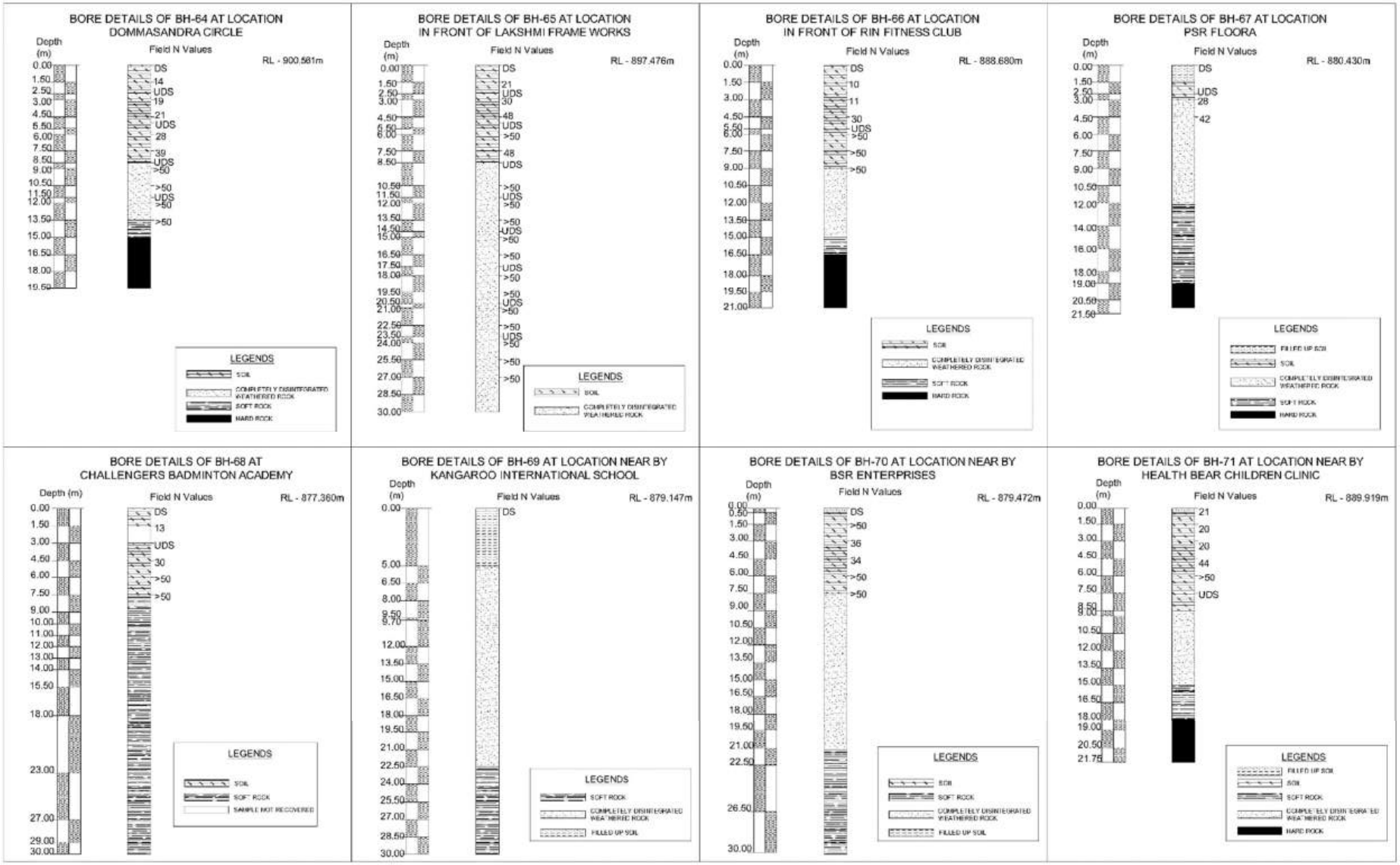

BORE DETAILS OF BH-25 AT LOCATION IN NIMAHNS BADHRA HOSTEL
Depth (m)
Field N Values
RL - 908.892m
DS
LEGENDS
BORE DETAILS OF BH-26 AT LOCATION NIMHANS BUS STOP
Depth (m)
Field N Values
RL - 903.537m
DS
LEGENDS
BORE DETAILS OF BH-27 AT LOCATION NEAR BY DIARY CIRCLE FLYOVER
Depth (m)
Field N Values
RL - 906.429m
DS
LEGENDS
BORE DETAILS OF BH-28 AT LOATION NEAR CHRIST UNIVERSITY COMPOUND WALL
Depth (m)
Field N Values
RL - 909.047m
DS
LEGENDS
BORE DETAILS OF BH-29 AT LOCATION FRONT OF SMART BAZAR
Depth (m)
Field N Values
RL - 901.239m
DS
LEGENDS
BORE DETAILS OF BH-30 AT LOCATION FRONT OF ST.ANTHONY'S CHURCH
Depth (m)
Field N Values
RL - 899.967m
DS
22
31
>50
>50
LEGENDS
BORE DETAILS OF BH-31 AT LOCATION FRONT OF ST.JOHN MEDICAL COLLEGE HOSTEL COMPOUND WALL
Depth (m)
Field N Values
RL - 898.445m
DS
LEGENDS
BORE DETAILS OF BH-32 AT LOCATION FRONT OF SURVEY OF INDIA OFFICE
Depth (m)
Field N Values
RL - 896.087m
DS
42
48
LEGENDS


BORE DETAILS OF BH-33 AT LOCATION NEAR BY KRUPANIDHI INSTITUTION
Depth (m)
Field N Values
RL - 893.529m
DS
UDS
8
11
UDS
13
15
17
17
16
>50
>50
LEGENDS
FILLED UP SOIL
SOIL
SOFT ROCK
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
BORE DETAILS OF BH-34 AT LOCATION FRONT OF NEAR KSRP HOUSING
Depth (m)
Field N Values
RL - 889.319m
DS
16
LEGENDS
SOIL
SAMPLE NOT RECOVERED
COMPLETELY DISINTEGRATED WEATHERED ROCK
BORE DETAILS OF BH-35 AT LOCATION NEAR BY CANAL
Depth (m)
Field N Values
RL - 879.644m
DS
16
LEGENDS
SOIL
HARD ROCK
COMPLETELY DISINTEGRATED WEATHERED ROCK
SOFT ROCK
BORE DETAILS OF BH-43 AT LOCATION AMBALIPURA BUS STOP
Depth (m)
Field N Values
RL - 879.903m
DS
39
LEGENDS
SOIL
BOULDERS
SOFT ROCK
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
BORE DETAILS OF BH-44 AT LOCATION FRONT OF ELENA RESIDENTIAL
Depth (m)
Field N Values
RL - 878.852m
DS
LEGENDS
BOULDERS
COMPLETELY DISINTEGRATED WEATHERED ROCK
HARD ROCK
BORE DETAILS OF BH-45 AT LOCATION IN FRONT OF MATHERHOOD PHARMACY
Depth (m)
Field N Values
RL - 878.524m
DS
27
UDS
>50
>50
>50
LEGENDS
SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
SOFT ROCK
FILLED UP SOIL
BORE DETAILS OF BH-46 AT LOCATION NEAR BY BHARAT PETROL BUNK
Depth (m)
Field N Values
RL - 877.230m
DS
22
>50
LEGENDS
SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
SOFT ROCK
FILLED UP SOIL
BORE DETAILS OF BH-47 AT KAIKONDRALLI BUS STOP
Depth (m)
Field N Values
RL - 877.958m
DS
12
13
14
17
LEGENDS
FILLED UP SOIL
SOIL
COMPLETELY DISINTEGRATED WEATHERED ROCK
SOFT ROCK
HARD ROCK


BORE DETAILS OF BH-48 AT LOCATION STONE STYLE MARBLE SHOP
Depth (m)
Field N Values
RL - 878.399m
LEGENDS
BORE DETAILS OF BH-49 AT LOCATION IN FRONT OF VVR SCHOOL
Depth (m)
Field N Values
RL - 892.624m
LEGENDS
BORE DETAILS OF BH-50 AT SOMESHSWARA LAYOUT
Depth (m)
Field N Values
RL - 899.073m
LEGENDS
BORE DETAILS OF BH-51 AT INFRONT OF INSPIRA GROUP
Depth (m)
Field N Values
RL - 902.494m
LEGENDS
BORE DETAILS OF BH-52 AT LOCATION CHIKKAKANAHALLI BUS STOP
Depth (m)
Field N Values
RL - 899.445m
LEGENDS
BORE DETAILS OF BH-53 AT LOCATION IN FRONT OF ROMSONS GROUP
Depth (m)
Field N Values
RL - 896.245m
LEGENDS
BORE DETAILS OF BH-54 AT AMBEDKAR NAGAR BUS STOP
Depth (m)
Field N Values
RL - 891.257m
LEGENDS
BORE DETAILS OF BH-55 AT LOCATION IN FRONT OF FLOATING WALL FURNITURE SHOP
Depth (m)
Field N Values
RL - 891.528m
LEGENDS

Annexure


BORE DETAILS OF BH-56 AT LOCATION V SHELL PETROL BUNK
RL - 886.171m
BORE DETAILS OF BH-57 AT IN FRONT OF TRUE VALUE SHOWROOM
RL - 895.262m
BORE DETAILS OF BH-58 AT LOCATION NEAR BY SULIKUNTE BUS STOP
RL - 900.988m
BORE DETAILS OF BH-59 AT LOCATION FRONT OF AMAZING STONE AND TILES
RL - 902.599m
BORE DETAILS OF BH-60 AT LOCATION IN FRONT MULTI MART
RL - 911.964m
BORE DETAILS OF BH-61 AT LOCATION IN FRONTCYCLE WORLD
RL - 914.887m
BORE DETAILS OF BH-62 AT LOCATION IN FRONT OF LAKSHMI FRAME WORKS
RL - 908.116m
BORE DETAILS OF BH-63 AT LOCATION IN FRONT OF KRISHNA ITALIAN MARBLE SHOP
RL - 903.474m
Depth (m)
Field N Values
LEGENDS


BORE DETAILS OF BH-64 AT LOCATION DOMMASANDRA CIRCLE
Depth (m)
Field N Values
RL - 900.581m
LEGENDS
BORE DETAILS OF BH-65 AT LOCATION IN FRONT OF LAKSHMI FRAME WORKS
Depth (m)
Field N Values
RL - 897.476m
LEGENDS
BORE DETAILS OF BH-66 AT LOCATION IN FRONT OF RIN FITNESS CLUB
Depth (m)
Field N Values
RL - 888.680m
LEGENDS
BORE DETAILS OF BH-67 AT LOCATION PSR FLOORA
Depth (m)
Field N Values
RL - 880.430m
LEGENDS
BORE DETAILS OF BH-68 AT CHALLENGERS BADMINTON ACADEMY
Depth (m)
Field N Values
RL - 877.360m
LEGENDS
BORE DETAILS OF BH-69 AT LOCATION NEAR BY KANGAROO INTERNATIONAL SCHOOL
Depth (m)
Field N Values
RL - 879.147m
LEGENDS
BORE DETAILS OF BH-70 AT LOCATION NEAR BY BSR ENTERPRISES
Depth (m)
Field N Values
RL - 879.472m
LEGENDS
BORE DETAILS OF BH-71 AT LOCATION NEAR BY HEALTH BEAR CHILDREN CLINIC
Depth (m)
Field N Values
RL - 889.919m
LEGENDS

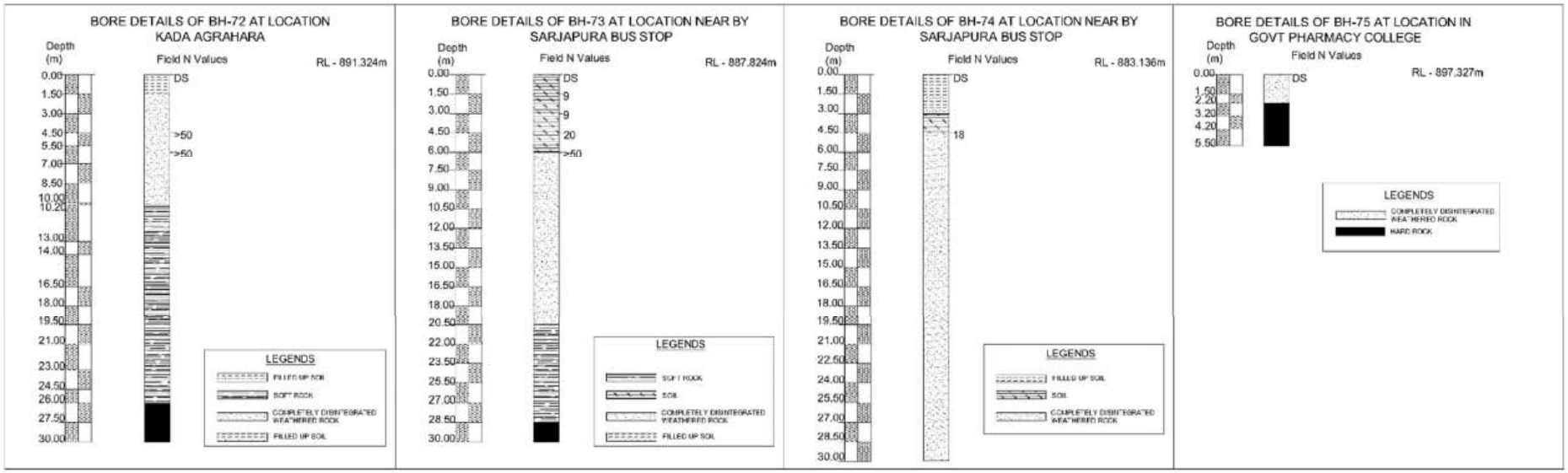

BORE DETAILS OF BH-72 AT LOCATION KADA AGRAHARA
Depth (m)
Field N Values
RL - 891.324m
DS
>50
>50
LEGENDS
BORE DETAILS OF BH-73 AT LOCATION NEAR BY SARJAPURA BUS STOP
Depth (m)
Field N Values
RL - 887.824m
DS
9
9
20
>50
LEGENDS
BORE DETAILS OF BH-74 AT LOCATION NEAR BY SARJAPURA BUS STOP
Depth (m)
Field N Values
RL - 883.136m
DS
18
LEGENDS
BORE DETAILS OF BH-75 AT LOCATION IN GOVT PHARMACY COLLEGE
Depth (m)
Field N Values
RL - 897.327m
DS
LEGENDS
HARD ROCK

TABLE 5-28: GEOTECHNICAL SUBSURFACE PROFILE & FOUNDATION DETAILS FOR CORRIDOR

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
1	1	Near by Kempe Gowda Statue and Hebbal Flyover	9	18.5	27.5	Nil	0-1.5-filledup soil 1.5-3-Soil 3-4.5-Completely disintegrated Weathered Rock 4.5-7.5 - Sample Not obtained 7.5-12- Soil 12-15 -Completely disintegrated Weathered Rock 15-16.5-Soft Rock 16.5-22.5 -Completely disintegrated Weathered Rock 22.5-24 -Soft Rock 24-27.5 - Hard Rock	...	...	...	270	360	893.247	890.747	875.747	15.000	Pile	3
2	2	Hebbal Flyover Service road	4.5	20.5	25	Nil	0-6 -Soil 6-21 -Completely disintegrated Weathered Rock 21-22 -Sample Not Obtained 22-25 -Hard Rock	...	...	...	270	360	895.562	893.062	870.562	22.500	Pile	3
3	3	Left side of IFAB (Floral Studio)	1.5	6	7.5	Nil	0-3 -Gravel 3-7.5- Hard Rock	...	...	...	270	360	914.124	911.624	905.624	6.000	Pile	3
4	4	Inside of Dairy Science College	3	5.1	8.1	Nil	1.5 -Gravel 1.5-4.5- Soil 4.5-8.1-Hard Rock	...	...	...	270	360	914.712	912.212	904.712	7.500	Pile	3
5	5	Inside Veterinary College	1.5	9	10.5	Nil	0-1.5 -Field up Soil 3-6 -Completely disintegrated Weathered Rock 6-10.5 Hard Rock	80-100	15	900.463	270	360	915.463	912.963	908.463	4.500	Pile	3
6	6	Indian Veterinary Research Center(Neear Veterinary college station)	1.5	19.5	21	Nil	0-1.5-filledup soil 1.5-03-Soil 3-6-Completely disintegrated Weathered Rock 6-21 Soft Rock	...	...	...	270	360	923.221	920.721	914.721	6.000	UG Raft/Pile	3
7	7	Mekhri Circle Bus stop	2.5	20.5	23	Nil	0-3 Soil 3-4.5 Completely disintegrated Weathered Rock 4.5-13.5- Rock pieces 13.5-23 Hard Rock	...	...	...	270	360	923.995	921.495	913.995	7.500	Pile	3
8	8	The Parachute Regiment (	4.5	25.5	30	Nil	0-6 Soil 6-25.5 Completely disintegrated Weathered Rock	...	...	...	270	360	932.841	930.341	918.341	12.000	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
		Army School)					4.5-13.5- Rock pieces 25.5-30 Hard Rock											
9	9	Palace Ground Busstop (Near Mekhri Circle station)	13.5	16.5	30	Nil	0-3 Soil 3-4.5- Sample not recoverd 4.5-15-Soil 15-30- Completely disintegrated Weathered Rock	80-100	15	928.350	270	360	943.350	940.850	924.350	16.500	UG Raft/Pile	3
10	10	Aramane Nagara (Gayathri Vihara Side)	2.5	11	13.5	Nil	0-3 Soil 3-10.5- Completely disintegrated Weathered Rock 4.5-15-Soil 10.5-13.5- Hard Rock	80-100	15	919.421	270	360	934.421	931.921	924.421	7.500	Pile	3
11	11	Jayamahal (Shine Golf Green)	2	22.2	24.2	Nil	0-3 Soil 3-21- Completely disintegrated Weathered Rock 21-24.2- Hard Rock	80-100	15	911.352	270	360	926.352	923.852	916.352	7.500	Pile	3
12	12	Palace Guttahalli Bus stop (Near palace Guttahalli station)	4.5	22.5	27	Nil	0-6 Soil 6-18- Completely disintegrated Weathered Rock 18-27- Hard Rock	80-100	15	901.489	270	360	916.489	913.989	904.989	9.000	UG Raft/Pile	3
13	13	Guttahalli HMG Stones Shop	1.5	18	19.5	Nil	0-2.5 Soil 2.5-09- Completely disintegrated Weathered Rock 9-13.5- Soft Rock 13.5-19.5 Hard Rock	80-100	15	901.941	270	360	916.941	914.441	902.441	12.000	Pile	3
14	14	No.7, Minister Quateres Compound side(Near Golf Course station)	3	10.4	13.4	Nil	0-1.5- Field up Soil 1.5-4.5-Soil 4.5-10.2-Completely disintegrated Weathered Rock 10.2-13.4-Hard Rock	80-100	15	914.480	270	360	929.480	926.980	919.480	7.500	UG Raft/Pile	3
15	15	Sofia High School Back Side (Fair Field Layout Road)	1.5	28.5	30	Nil	0-1.5-Soil 1.5-30-Completely disintegrated Weathered Rock	80-100	15	917.593	270	360	932.593	930.093	921.093	9.000	Pile	3
16	16	Near by Basaveswhw	9	21	30	Nil	0-1.5- Field up Soil 1.5-3-Boulders	80-100	15	906.956	270	360	921.956	919.456	905.956	13.500	UG Raft/Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
		ara circle (Near by Basaveswhwara circle station)					3-10.5-Soil 10.5-30-Completely disintegrated Weathered Rock											
17	17	SKSJTI College	1.5	6.5	8	Nil	0-1.5-Soil 1.5-3-Boulders 3-4.5-Soft Rock 4.5-08-Hard Rock	80-100	15	902.960	270	360	917.960	915.460	909.460	6.000	Pile	3
18	18	Government Science and Art college or Footpath(Near K.R Circle station)	4.5	4.7	9.2	Nil	0-5.5-Soil 5.5-9.2-Hard Rock	80-100	15	893.561	270	360	908.561	906.061	897.561	8.500	UG Raft/Pile	3
19	19	Near by Hudson Circle	1.5	16.1	17.6	Nil	0-1.5- Field up Soil 1.5-3-Soil 3-14-Soft Rock 14-17.6-Hard Rock	80-100	15	892.020	270	360	907.020	904.520	897.020	7.500	Pile	3
20	20	Inside of United Mission College(Near Town hall Station)	0	6.3	6.3	Nil	0-3-Completely disintegrated Weathered Rock 3-6.3-Hard Rock	80-100	15	887.674	270	360	902.674	...	...	...	UG Raft/Pile	...
21	21	DHL express KH Road	6	17	23	Nil	0-1.5- Field up Soil 1.5-7.5-soil 7.5-20-Completely disintigrated Weathered Rock 20-23-Hard Rock	80-100	15	874.202	270	360	889.202	886.702	874.702	12.000	Pile	3
22	22	Shanthi Nagara BMTC Office opposite(Near Shanthi Nagara station)			9	Nil	0-3- Boulders 3-9-Hard Rock	80-100	15	872.011	270	360	887.011	884.511	878.511	6.000	UG Raft/Pile	3
23	23	Lalbagh Circle	1	14	15	Nil	0-1- Field up Soil 01-10.5-Completely disintigrated Weathered Rock 10.5-15-Hard Rock	80-100	15	883.689	270	360	898.689	896.189	882.689	13.500	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
24	24	Abhay Hospital			30	Nil	0-9-Boulders 9-10.5-Red Soil 10.5-30-Completely disintigrated Weathered Rock	80-100	15	878.546	270	360	893.546	891.046	876.046	15.000	Pile	3
25	25	NIMHANS Badra hostel(Near NIMHANS station)	0	7.5	7.5	Nil	0-4-Completely disintegrated Weathered Rock 4-7.5-Hard Rock	80-100	15	893.892	270	360	908.892	906.392	899.892	6.500	UG Raft/Pile	3
26	26	NIMHANS Bus Stop	1.5	8	9.5	Nil	0-1.5-soil 1.5-06-Completely disintigrated Weathered Rock 06-9.5-Hard Rock	80-100	15	888.537	270	360	903.537	901.037	895.037	6.000	Pile	3
27	27	Dairy Circle Flyover (Near Diary Circle Station)	0.5	18.5	19	Nil	0-0.5- Field up Soil 0.5-16-Completely disintigrated Weathered Rock 16-19-Hard Rock	80-100	15	891.429	270	360	906.429	903.929	897.929	6.000	UG Raft/Pile	3
28	28	Christ University Compound wall	1.5	4.5	6	Nil	0-2.5- Field up Soil 2.5-6-Hard Rock	80-100	15	894.047	270	360	909.047	906.547	900.547	6.000	Pile	3
29	29	Opposite of Smart Bazar (Koramagala checkpost BMTC Bustop)	0	21.9	21.9	Nil	0-18-Completely disintigrated Weathered Rock 18-21.9-Hard Rock	80-100	15	886.239	270	360	901.239	898.739	894.239	4.500	Pile	3
30	30	Front of St. Anthony's Church	3	27	30	Nil	0-1.5- Field up Soil 1.5-4.5-Soil 4.5-30-Completely disintegrated Weathered Rock	80-100	15	884.697	270	360	899.697	897.197	889.697	7.500	Pile	3
31	31	St.Jhon Medical College Hostel Compond wall(Koramangala 3rd Block Station)	0	30	30	Nil	0-21-Completely disintegrated Weathered Rock 21-22.5-Soft Rock 22.5-25.5-Completely disintegrated Weathered Rock 25.5-27 Soft Rock 27-28.5-Completely disintegrated Weathered Rock 28.5-30-Hard Rock	80-100	15	883.445	270	360	898.445	895.945	880.945	15.000	UG Raft/Pile	3
32	32	Survey of India Office	1.5	28.5	30	Nil	0-3-Soil 3-30-Completely disintegrated Weathered Rock	...	...	...	270	360	896.087	893.587	883.087	10.500	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
33	33	Krupanidhi institution	12	14.5	26.5	Nil	0-1.5- Field up Soil 1.5-13.5-Soil 13.5-15-Completely disintegrated Weathered Rock 15-18-Soft Rock 18-26.5-Hard Rock	...	...	...	270	360	893.529	891.029	873.029	18.000	Pile	3
34	34	Near KSRP Housing	1.5	28.5	30	Nil	0-1.5- Soil 1.5-4.5-Sample not recoverd 4.5-30-Completely disintegrated Weathered Rock	...	...	...	270	360	889.319	886.819	879.319	7.500	Pile	3
35	35	Near by Canal	4.5	25.5	30	Nil	0-6-Soil 6-19.5-Completely disintegrated Weathered Rock 19.5-24-Soft Rock 18-26- Sample not recovered 26-30-Hard Rock	...	...	...	270	360	879.644	877.144	868.144	9.000	Pile	3
36	43	Amblipura Bus stop	3	14.5	17.5	Nil	0-1.5-Field up Soil 1.5-4.5-Boulders 4.5-6-Completely disintegrated Weathered Rock 6-15- Soft Rock 15-17.5-Hard Rock	...	...	...	270	360	879.903	877.403	868.403	9.000	Pile	3
37	44	Elana Residentail (Bellanduru Metro gate)			17.5	Nil	0-3-Boulders 3-12- Completely disintegrated Weathered Rock 12-17.5-Hard Rock	...	...	...	270	360	878.852	876.352	867.352	9.000	Pile	3
38	45	Motherhood Pharmacy	6	24	30	Nil	0-1.5-Field up Soil 1.5-2.5-Soil 2.5-5.5-Completely disintegrated Weathered Rock 5.5-7.5-Soil 7.5-13.5-Completely disintegrated Weathered Rock 13.5-16.5-Soft Rock 16.5-22.5-Completely disintegrated Weathered Rock 22.5-24.5-Soft Rock 24.5-30-Completely disintegrated Weathered Rock	...	...	...	270	360	878.524	876.024	864.024	12.000	Pile	3
39	46	Bharat Petrol Bunk (Kasavanahalli)	4.5	25.5	30	Nil	0-3-Field up Soil 3-6-Soil 6-15-Completely disintegrated Weathered Rock 15-22.5-Soft Rock 22.5-30-Hard Rock	...	...	...	270	360	877.230	874.730	865.730	9.000	Pile	3
40	47	Kaikondralli Bus Stop	6	24	30	Nil	0-1.5-Field up Soil 1.5-7.5-Soil 7.5-17.5-Completely disintegrated Weathered Rock	...	...	...	270	360	877.958	875.458	864.958	10.500	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
							17.5-26-Soft Rock 26-30-Hard Rock											
41	48	Stone Style Marble and Granites	12	12	24	Nil	0-1.5-Field up Soil 1.5-7.5-Soil 7.5-8.5-Sample not Recovered 8.5-13.5-Soil 13.5-18-Completely disintegrated Weathered Rock 18-19.5-Soft Rock 19.5-24-Hard Rock	...	...	...	270	360	878.399	875.899	857.899	18.000	Pile	3
42	49	V V R School (Doddkanahalli Metro Station)	4.5	25.5	30	Nil	0-1.5-Field up Soil 1.5-6- Soil 6-13.5-Completely disintegrated Weathered Rock 13.5-15-Hard Rock 15-24-Soft Rock 24-30- Hard Rock	...	...	...	270	360	892.624	890.124	879.624	10.500	Pile	3
43	50	Someshwara Layout	0.5	3.75	4.75	Nil	0-0.5-Field up Soil 0.5-1-Completely disintegrated Weathered Rock 1-4.75-Hard Rock	80-100	3	896.073	270	360	899.073	...	...	...	Open Raft	...
44	51	Inspira Groups	1.5	9	10.5	Nil	0-1.5-Soil 1.5-3-Completely disintegrated Weathered Rock 3-6-Soft Rock 6-10.5-Hard Rock	...	...	...	270	360	902.494	899.994	893.994	6.000	Pile	3
45	52	Chikkanalli Bus Stop (Carmelaram Metro Staion)	4.5	15.5	20	Nil	0-1.5-Field up Soil 1.5-5.5-Soil 5.5-16.5-Completely disintegrated Weathered Rock 16.5-20-Hard Rock	...	...	...	270	360	899.445	896.945	890.445	6.500	Pile	3
46	53	Ramsons Groups	7.5	19	26.5	Nil	0-9-Soil 9-22.5-Completely disintegrated Weathered Rock 22.5-26.5-Hard Rock	...	...	...	270	360	896.245	893.745	882.745	11.000	Pile	3
47	54	Ambedkar Nagar Busstop (Ambedkar Nagar Metro-Wipro SEZ)	4.5	24	28.5	Nil	0-1.5-Filled up soil 1.5-6-Soil 6-24-Completely disintegrated Weathered Rock 24-28.5-Hard Rock	...	...	...	270	360	891.257	888.757	882.257	6.500	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
48	55	Floating Walls Furniture	3	27	30	Nil	0-1.5-soil 1.5-3-Sample not recovered 3-4.5-Soil 4.5-7.5-Completely disintegrated Weathered Rock 7.5-8.5-Sample not recovered 8.5-27.5-Completely disintegrated Weathered Rock 27.5-30-Softy Rock	...	...	...	270	360	891.528	889.028	878.028	11.000	Pile	3
49	56	Shell V Power Bunk	3	20	23	Nil	0-4.5-soil 4.5-3-Sample not recovered 3-4.5-Soil 4.5-21-Completely disintegrated Weathered Rock 21-21.3-Soft Rock 21.3-23-Hard Rock	...	...	...	270	360	886.171	883.671	877.171	6.500	Pile	3
50	57	True Value Showroom	1.5	28.5	30	Nil	0-3- Gravel 3-30-Completely disintegrated Weathered Rock	...	...	...	270	360	895.262	892.762	884.762	8.000	Pile	3
51	58	Sulekunte Bus stop (Meenakshi Hardware opposite)	4.5	25.5	30	Nil	0-1.5-Field up Soil 1.5-4.5-Soil 4.5-6-Sample not recovered 6-21-Completely disintegrated Weathered Rock 21-22.5-Soft Rock 22.5-24-Sample not recovered 24-28-Completely disintegrated Weathered Rock 28-30-Soft Rock	...	...	...	270	360	900.988	898.488	890.488	8.000	Pile	3
52	59	Amazing Stones and Tiles	3	22	25	Nil	0-3-Soil 3-18-Completely disintegrated Weathered Rock 18-21-Soft Rock 21-21-Completely disintegrated Weathered Rock 21-25-Hard Rock	...	...	...	270	360	902.336	899.836	893.336	6.500	Pile	3
53	60	Front of Multi Mart	1.5	28.5	30	Nil	0-3-Soil 3-30-Completely disintegrated Weathered Rock	...	...	...	270	360	911.964	909.464	895.464	14.000	Pile	3
54	61	Cycle World	2.5	15.5	18	Nil	0-1-Filled up soil 1-3-Soil 3-13.5-Completely disintegrated Weathered Rock 13.5-18-Hard rock	...	...	...	270	360	914.887	912.387	908.887	3.500	Pile	3
55	62	HDFC Bank	5.5	24.5	30	Nil	0-6-Soil 6-30-Completely disintegrated Weathered Rock	...	...	...	270	360	908.116	905.616	893.116	12.500	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
56	63	Krishna Italian Marble and Granite	11.5	18.5	30	Nil	0-12-Soil 12-30-Completely disintegrated Weathered Rock	...	...	...	270	360	903.474	900.974	876.474	24.500	Pile	3
57	64	Dommasandra circle	7.5	12	19.5	Nil	0-8.5-Soil 8.5-13.5-Completely disintegrated Weathered Rock 13.5-15-Soft Rock 15-19.5-Hard Rock	...	...	...	270	360	900.561	898.061	885.561	12.500	Pile	3
58	65	Lakshmi Frame Works	7.5	22.5	30	Nil	0-8.5-Soil 8.5-10-Completely disintegrated Weathered Rock 10-11.5-Sample not recoverd 11.5-13.5-Completely disintegrated Weathered Rock 13.5-14.5-Sample not recoverd 14.5-19.5-Completely disintegrated Weathered Rock 19.5-20.5-Sample not recoverd 20.5-22.5-Completely disintegrated Weathered Rock 22.5-23.5-Sample not recoverd 23.5-30-Completely disintegrated Weathered Rock	...	...	...	270	360	897.476	894.976	871.976	23.000	Pile	3
59	66	Rin Fitness Club	7.5	13.5	21	Nil	0-9-Soil 9-15-Completely disintegrated Weathered Rock 15-16.5-Soft Rock 16.5-21-Hard Rock	...	...	...	270	360	888.680	886.180	869.180	17.000	Pile	3
60	67	PSR Floora	2.5	19	21.5	Nil	0-1.5-Filled up soil 1.5-3-Soil 3-12-Completely disintegrated Weathered Rock 12-19-Soft Rock 19-21.5-Hard Rock	...	...	...	270	360	880.430	877.930	869.930	8.000	Pile	3
61	68	Challenger's Badminton Academy	6	24	30	Nil	0-1.5-Soil 1.5-3-Sample not obtained 3-7.5-Soil 7.5-23-Soil 23-29-Sample not obtained 29-30-Soft Rock	...	...	...	270	360	877.360	874.860	866.860	8.000	Pile	3
62	69	Kangaroo Kids International Pre School (Sompura Metro Station)	5	25	30	Nil	0-5-Filledup soil 5-22.5-Completely disintegrated Weathered Rock 22.5-24-Soft Rock 24-25.5-Sample not obtained 25.5-28.5-Soft Rock 28.5-30-Sample not obtained	...	...	...	270	360	879.147	876.647	864.147	12.500	Pile	3

S. No.	Bore hole no.	Location of Bore hole	Depth in soil (m)	Depth in rock (m)	Total depth of Bore hole (m)	Ground water table Position	Sub soil Strata Profile	Raft Foundation in Viaduct/UG.			Pile Load Carrying capacity		BH level RL (m)	Cutoff Level of RL (m)	Pile Tremination RL (m)	Length of pile (Below pile cap of 2.50m)	Type of Expected Foundation	Socket length (m)
								Recommended Allowable net SBC (t/m²)	Expected Depth of Foundation (Below EGL in m.)	Foundation Level (Below EGL)	1.00m dia pile (Tonne)	1.20 dia pile (Tonne)						
63	70	BSR Enterprises	6	24	30	Nil	0-0.5-Filled up Soil 0.5-7.5-Soil 7.5-21-Completely disintegrated Weathered Rock 21-30-Soft Rock	...	...	...	270	360	879.472	876.972	868.972	8.000	Pile	3
64	71	Health Bear Children's Clinic	6	15.75	21.75	Nil	0-7.5-Soil 0.5-8.5-No sample obtained 8.5-15-Completely disintegrated Weathered Rock 15-18-Soft Rock 18-21.75-Hard Rock	...	...	...	270	360	889.919	887.419	879.419	8.000	Pile	3
65	72	Trioline Interiors(Kada Agrahara)	1.5	28.5	30	Nil	0-1.5-Filled up soil 1.5-10.2-Completely disintegrated Weathered Rock 10.2-26-Soft Rock 26-30-Hard Rock	...	...	...	270	360	891.324	888.824	881.324	7.500	Pile	3
66	73	Sarjapura Bus stop	3	27	30	Nil	0-4.5-soil 4.5-20.5-Completely disintegrated Weathered Rock 20.5-29-Soft Rock 29-30-Hard Rock	...	...	...	270	360	887.824	885.324	878.824	6.500	Pile	3
67	74	Sarjapura Bus stop and Police Station	3	27	30	Nil	0-3-Filled up soil 3-4.5-soil 4.5-30-Completely disintegrated Weathered Rock	...	...	...	270	360	883.136	880.636	874.136	6.500	Pile	3
68	75	Government Pharmacy College	0	5.5	5.5	Nil	0-1.5-Completely disintegrated Weathered Rock 1.5-5.5-Hard Rock	80-100	3	894.327	...	...	897.327	...	...	...	Open Raft	...

Annexure

TABLE 5-29: SUBSURFACE CHARACTERISTIC OF SOIL FOR CORRIDOR

SOIL CHARACTERISTICS																							
Project :		BH1 Kempegowda Statue Near by Hebbal Flyover			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation							
					1	1		Nil			27.50 m					RL=893.247m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filled up Strata																
1.5	3				Soil																
3	4.5				Completely disintegrated Weathered Rock																
4.5	6	21		18	Sample not recoverd																
6	7.5	23		19	Sample not recoverd																
7.5	9	23		19	Soil	2.38	0.38	33.89	31.3	22.61	27.1	5.4									
9	10.5	21		18	Soil	2.27	2.01	20.15	27.2	12.04	28.3	20.1									
10.5	12	48		31.5	Soil																
12	13.5	R			Completely disintegrated Weathered Rock	Core Recover=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recover=Nil							RQD=Nil								
15	16.5				soft rock	Core recovery = 8		RQD=Nil			Sp.Gravity=2.51		Water Content=2.89%								
16.5	18				Completely disintegrated Weathered Rock	Core recovery = Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core recovery = Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core recovery = Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core recovery = Nil							RQD=Nil								
22.5	24				Soft Rock	Core Recovery =43.33%		RQD=7.33 %			Sp.Gravity=2.54		Water Content=2.16%			P.L.I=36t/m^2					
24	25.5				Hard Rock	Core Recovery =47.33 %		RQD=14.66 %			Sp.Gravity=2.61		Water Content=1.69%			P.L.I=71t/m^2					
25.5	27.5				Hard Rock	Core Recovery =40.50 %		RQD=26.00 %			Sp.Gravity=2.58		Water Content=0.98%			P.L.I=53t/m^2					

SOIL CHARACTERISTICS

Project :		BH2 Hebbal Flyover Service Road			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation								
					2	2		Nil			25.00 m			RL=895.562 m								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	13		13	Soil	2.72	2.4	28.06	23.8	4.16	29.7	9.08									
1.5	3	36		25.5	Soil	4.22	6.04	30.77	25.47	5.3	20.1	8.1									
3	4.5	49		32	Soil	10.5	2	30.11	25.52	4.48	19.19	8.27									
4.5	6	R			Soil	3.05	1.9	31.135	25.32	5.815	25.36	7.42									
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22				Sample not recovered	Sample not recovered							Sample not recovered								
22	23.5				Hard Rock	Core Recovery =50.66 %		RQD=50.66%			Sp.Gravity =2.61		Water Content =1.66%			P.L.I =71t/m^2					
23.5	25				Hard Rock	Core Recovery =71 %		RQD=71 %			Sp.Gravity =2.64		Water Content =1.89%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH3 IFAB Floral Studio			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation								
					3	3		Nil			7.50 m			RL=914.124 m								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3				Filledup Strata																
3	4.5				Hard Rock	Core Recovery =13.33 %		RQD=9.33 %			Sp.Gravity =2.58		Water Content =1.62%			P.L.I =71t/m^2					
4.5	6				Hard Rock	Core Recovery =54.66 %		RQD=52.00 %			Sp.Gravity =2.56		Water Content =0.56%			P.L.I =535t/m^2					
6	7.5				Hard Rock	Core Recovery =34.33 %		RQD=34.33 %			Sp.Gravity =2.61		Water Content =0.68%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH4 Dairy Science College inside			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation								
					4	4		Nil			8.10 m			RL=914.712 m								
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained								Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel										C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse		L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	11			Gravel																	
1.5	3	26		20.5	Soil	2.15	1	31.15	24.15	6	30.63	4.92										
3	4.5	R			Soil	5.53	10.03	30.37	15.36	15.01	20	3.7										
4.5	6				Hard Rock	Core Recovery =56.00 %		RQD=Nil		Sp.Gravity =2.58				Water Content =2.36%								
6	7				Hard Rock	Core Recovery =72 %		RQD=12 %		Sp.Gravity =2.51				Water Content =1.56%			P.L.I =53t/m^2					
7	8.1				Hard Rock	Core Recovery =94.5 %		RQD=19.09 %		Sp.Gravity =2.62				Water Content =0.67%			P.L.I =71t/m^2					

SOIL CHARACTERISTICS

Project :		BH5 Veterinary College inside			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation								
					5	5		Nil			10.40 m			RL=915.463 m								
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained								Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel										C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse		L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	47		31	Filledup Strata	1.23	1.13	12.85	6.36	6.49	49.63	22.37										
1.5	3	R			Completely disintegrated Weathered Rock	Core Recovery=Nil								RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil								RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil								RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil								RQD=Nil								
7.5	8.5				Hard Rock	Core Recovery =92 %		RQD=Nil			Sp.Gravity=2.58			Water Content=1.25%								
8.5	9.5				Hard Rock	Core Recovery =78 %		RQD=64 %			Sp.Gravity=2.51			Water Content=0.59%			P.L.I=535t/m^2					
9.5	10.5				Hard Rock	Core Recovery =83 %		RQD=83 %			Sp.Gravity=2.62			Water Content=0.62%			P.L.I=472t/m^2					

SOIL CHARACTERISTICS

Project :		BH6 Indian Veterinary Research Center			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					6	6		Nil			21.00 m		**RL=923.221 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	27		21	Filledup Strata																
1.5	3	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Soft rock	Core Recovery =3.33 %		RQD=Nil			Sp.Gravity=2.61		Water Content=2.16%			P.L.I=53t/m^2					
7.5	9				Soft rock	Core Recovery =11.66 %		RQD=Nil			Sp.Gravity=2.56		Water Content=2.32%			P.L.I=53t/m^2					
9	10.5				Soft rock	Core Recovery =9.33 %		RQD=Nil			Sp.Gravity=2.65		Water Content=2.45%			P.L.I=71t/m^2					
10.5	12				Soft rock	Core Recovery =23.33 %		RQD=Nil			Sp.Gravity=2.55		Water Content=1.68%			P.L.I=190t/m^2					
12	13.5				Soft rock	Core Recovery =15.33 %		RQD=Nil			Sp.Gravity=2.62		Water Content=2.68%			P.L.I=53t/m^2					
13.5	15				Soft rock	Core Recovery =24.66 %		RQD=Nil			Sp.Gravity=2.65		Water Content=2.69%			P.L.I=71t/m^2					
15	16.5				Soft rock	Core Recovery =20.66 %		RQD=Nil			Sp.Gravity=2.56		Water Content=1.56%			P.L.I=463t/m^2					
16.5	18				Soft rock	Core Recovery =9.33 %		RQD=Nil			Sp.Gravity=2.58		Water Content=2.36%			P.L.I=53t/m^2					
18	19.5				Soft rock	Core Recovery =28 %		RQD=Nil			Sp.Gravity=2.61		Water Content=1.58%			P.L.I=71t/m^2					
19.5	21				Soft rock	Core Recovery =21.33 %		RQD=Nil			Sp.Gravity=2.68		Water Content=2.65%			P.L.I=71t/m^2					

SOIL CHARACTERISTICS

Project :		BH7 Mekhri Circle Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					7	7		Nil			23.00 m		**RL=923.995 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	35		25	Soil	3.29	2.1	36.03	25.33	10.7	15.36	7.16									
1.5	2.5	UDS			Soil	2.78	1.26	33.96	22.78	15.36	18.15	5.65	33.5	15.3	18.2	1.38	18.24	1.17	2.62	0.338	26.8
2.5	3	R			Soil	2.01	2.94	37.62	16.3	21.32	12.56	7.24									
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Hard Rock	Core Recovery =6.66 %		RQD=Nil			Sp.Gravity =2.52		Water Content =2.65%								
15	16.5				Hard Rock	Core Recovery =10 %		RQD=Nil			Sp.Gravity =2.56		Water Content =1.98%								
16.5	18				Hard Rock	Core Recovery =16.66 %		RQD=Nil			Sp.Gravity =2.58		Water Content =2.36%								
18	19.5				Hard Rock	Core Recovery =18.66 %		RQD=Nil			Sp.Gravity =2.61		Water Content =2.87%								
19.5	21				Hard Rock	Core Recovery =49.33 %		RQD=18.66 %			Sp.Gravity =2.56		Water Content =1.58%			P.L.I =190t/m^2					
21	23				Hard Rock	Core Recovery =26 %		RQD=Nil			Sp.Gravity =2.65		Water Content =2.68%								

SOIL CHARACTERISTICS

Project :		BH8 Parachute Regiment (Army School)			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation								
					8	8		Nil			30.00 m			**RL=932.841 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Soil	2.59	2.77	36.03	16.13	19.9	15.36	7.19									
1.5	2.5	R			Soil	2.36	2.55	35.45	15.25	18.45	13.36	12.56	35.6	18.4	17.2	1.42	21.58	1.17	2.55	0.326	25.4
2.5	3	R			Soil	2.56	3.5	37.12	20.63	16.49	12.56	7.14									
3	4.5	R			Soil	3.19	2.07	34.73	10.36	24.37	16.45	8.81									
4.5	6	R			Soil	3.36	2.12	38.35	20.92	17.43	13.85	3.96									
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	26				Hard Rock	Core recovery =26 %		RQD=Nil			Sp.Gravity =2.59		Water Content =2.36%								
26	27				Hard Rock	Core recovery =15 %		RQD=Nil			Sp.Gravity =2.58		Water Content =2.15%								
27	28.5				Hard Rock	Core Recovery =23.33 %		RQD=7.33 %			Sp.Gravity =2.62		Water Content =1.36%		P.L.I =53t/m^2						
28.5	30				Hard Rock	Core Recovery =38 %		RQD=34.66 %			Sp.Gravity =2.55		Water Content =0.85%		P.L.I =472/m^2						

Annexure

SOIL CHARACTERISTICS

Project :		BH9 Palace Ground Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					9	9		Nil			30.00 m					**RL=943.350 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	31		23	Soil	1.73	1.13	36.07	21.56	14.51	15.23	9.77									
1.5	3	R			Soil	1.36	1.34	35.13	23.63	11.5	18.36	8.67									
3	4.5				Sample not recoverd	Sample not recoverd							Sample not recoverd								
4.5	5.5				Soil	2.36	1.26	35.66	13.66	24.66	8.66	14.66	33.6	17.6	16	1.37	21.63	1.13	5.56	0.289	24.8
5.5	6				Soil	2.36	1.26	38.33	12.36	25.97	10.11	10.18									
6	7.5				Soil	2.3	1.3	12.36	25.97	38.33	11.1	9.9									
7.5	9				Soil	1.5	1.45	42.37	20.96	21.41	6.6	6.11									
9	10.5				Soil	2.1	0.96	38.77	31.63	7.08	10.3	9.6									
10.5	12				Soil	2.5	2.5	37	23.36	13.64	16.36	4.64									
12	13.5				Soil	3.96	1.4	36.66	12.85	23.81	18.45	4.22									
13.5	15				Soil	1.2	2.3	36.29	16.89	19.4	15.89	8.3									
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH10 Aramane Nagara			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					10	10		Nil			13.50 m			**RL=934.421 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	45		30	Soil	3.7	2.1	27.68	20.36	7.32	16.04	22.58									
1.5	2.5	UDS			Soil	2.45	2.65	25.45	15.656	12.15	15.45	26.1	34.8	19.6	15.2	1.42	20.5	1.18	2.56	0.243	25.2
2.5	3	40		27.5	Soil	6.59	3.9	20.97	15.68	4.29	23.96	24.7									
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Hard Rock	Core Recovery =60 %		RQD=30 %			Sp.Gravity =2.58		Water Content =0.56%			P.L.I =190t/m^2					
12	13.5				Hard Rock	Core Recovery =73.33 %		RQD=73.33 %			Sp.Gravity =2.55		Water Content =0.87%			P.L.I =463t/m^2					

SOIL CHARACTERISTICS

Project :		BH11 Jayamahal			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					11	11		Nil			24.20 m					**RL=926.352 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	6		10.5	Soil	3.62	2.3	28.2	7.23	16.16	20.19	21.9									
1.5	2	UDS			Soil	1.1	0.89	43.6	19.36	24.01	5.9	5.5	34.6	16.8	17.8	1.54	23.8	1.24	2.58	0.268	21.58
2	3	7		11	Soil	2.4	2.3	21	15.36	5.98	25.23	28.02									
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Soft Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Soft Rock	Core Recovery =48 %		RQD=39.33 %			Sp.Gravity =2.58		Water Content =1.52%			P.L.I =53t/m2					
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Hard Rock	Core Recovery =73 .3%		RQD=73 %			Sp.Gravity =2.56		Water Content =0.64%			P.L.I =535t/m^2					
22.5	23				Hard Rock	Core Recovery =78 %		RQD=78 %			Sp.Gravity =2.61		Water Content =0.74%			P.L.I =463t/m^2					
23	24.2				Hard Rock	Core Recovery =90.83 %		RQD=90.83 %			Sp.Gravity =2.59		Water Content =0.66%			P.L.I =481t/m^2					

SOIL CHARACTERISTICS

Project :		BH12 Palace Guttahalli Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					12	12		Nil			27.00 m		**RL=916.489 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	39		27	Soil	3.56	2.09	38.89	23.93	15.63	14.85	2.04									
1.5	3	45		30	Soil	1.55	1.5	40.26	20.69	19.57	14.36	2.52									
3	4.5	R			Soil	2.61	1.6	36.58	12.36	24.22	16.36	6.81									
4.5	6	R			Soil	2.7	1.5	38.75	25.36	13.39	12.36	6.39									
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Hard Rock	Core recovery =54.66 %		RQD=36.33 %			Sp.Gravity =2.56		Water Content =0.56%			P.L.I =190t/m^2					
19.5	21.5				Hard Rock	Core recovery =69 %		RQD=56 %			Sp.Gravity =2.58		Water Content =0.81%			P.L.I =463t/m^2					
21.5	23				Hard Rock	Core recovery =87.33 %		RQD=60 %			Sp.Gravity =2.51		Water Content =0.92%			P.L.I =481t/m^2					
23	27				Hard Rock	Core recovery =21.75 %		RQD=17 %			Sp.Gravity =2.62		Water Content =0.36%			P.L.I =71t/m^2					

Annexure

SOIL CHARACTERISTICS

Project :		BH13 Guttahalli HMG Stones Shop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					13	13		Nil			19.50 m		RL=916.941 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Soil	12.6	0.49	30.15	25.36	4.74	21.36	5.34									
1.5	3				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	12				Soft Rock	Core recovery =18.33 %		RQD=Nil			Sp.Gravity =2.56		Water Content =2.36%								
12	13.5				Soft Rock	Core recovery =63.33 %		RQD=Nil			Sp.Gravity =2.59		Water Content =2.61%								
13.5	15				Hard Rock	Core recovery =86 %		RQD=10 %			Sp.Gravity =2.58		Water Content =1.64%			P.L.I =36t/m^2					
15	16.5				Hard Rock	Core Recovery =56.66 %		RQD=9.3 %			Sp.Gravity =2.61		Water Content =1.25%			P.L.I =71t/m^2					
16.5	17.5				Hard Rock	Core Recovery =100 %		RQD=87 %			Sp.Gravity =2.56		Water Content =0.39%			P.L.I =190t/m^2					
17.5	19.5				Hard Rock	Core Recovery =78.75 %		RQD=74.5 %			Sp.Gravity =2.62		Water Content =0.42%			P.L.I =472t/m^2					

SOIL CHARACTERISTICS

Project :		BH14 Seven Minister Quarters			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					14	14		Nil			13.40 m		**RL=929.48 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	20		17.5	Soil	2.7	1.3	24.53	10.36	35.17	23.12	3.58									
3	4.5	21		18	Soil	2.3	2.4	31.3	23.63	7.67	25.36	7.97									
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.2				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.2	11.4				Hard Rock	Core Recovery =93.33 %		RQD=84.10 %			Sp.Gravity =2.52		Water Content =0.62%			P.L.I =535t/m^2					
11.4	12.4				Hard Rock	Core Recovery =78 %		RQD=78 %			Sp.Gravity =2.59		Water Content =0.68%			P.L.I =472t/m^2					
12.4	13.4				Hard Rock	Core Recovery =84 %		RQD=84 %			Sp.Gravity =2.56		Water Content =0.51%			P.L.I =481t/m^2					

Annexure

SOIL CHARACTERISTICS

Project :		BH15 Sofia High school Back side			Table No 15	B.H.No 15	Depth of Water Table Nil			Termination Depth 30 m				Surface Elevation **RL=932.539 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Soil	2.1	2.7	38.25	23.36	15.39	16.32	1.97									
1.5	3				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH16 Near by Basaveswara circle			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					16	16		Nil			30 m					RL=921.956 m					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	36		25.5	Filledup Strata																
1.5	3				Boulders																
3	4.5	40		27.5	Soil	2.55	2.55	28.06	23.36	4.7	23.36	15.42									
4.5	6	44		29.5	Soil	3.1	3.1	29.52	21.59	7.93	26.36	8.58									
6	7.5	R			Soil	1.9	1.4	38.23	23.63	14.65	13.36	7.23									
7.5	9	44		29.5	Soil	3.1	3.1	27.11	21.33	5.78	23.36	16.36									
9	10.5	R			Soil	2.6	1.1	29.52	21.56	7.96	20.96	16.39									
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :	BH17 SKSJTI College	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		17	17	Nil	8.00 m	**RL=917.960 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Soil	1.1	0.89	43.57	19.36	24.21	5.9	5.5									
1.5	3				Boulders																
3	4.5				Soft Rock	Core recovery =20 %		RQD=7.33 %			Sp.Gravity =2.51		Water Content =2.16			P.L.I =53t/m^2					
4.5	6				Hard Rock	Core Recovery =60 %		RQD=45.66 %			Sp.Gravity =2.56		Water Content =0.15%			P.L.I =190t/m^2					
6	7				Hard Rock	Core Recovery =88.5 %		RQD=58 %			Sp.Gravity =2.58		Water Content =0.26%			P.L.I =190t/m^2					
7	8				Hard Rock	Core Recovery =62 %		RQD=62 %			Sp.Gravity =2.61		Water Content =0.28%			P.L.I =481t/m^2					

SOIL CHARACTERISTICS

Project :	BH18 Government Science and Arts College K R Circle	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		18	18	Nil	9.20 m	**RL=908.561 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	8			soil	1.5	1	27.03	12.36	14.67	22.36	21.08									
1.5	2.5	UDS			Soil	1.16	2.33	23.23	25.4	11.3	18.4	18.23	32.6	15.4	17.2	1.67	25.6	1.33	2.63	0.348	26.54
2.5	3	11			soil	2.7	1.9	34.85	25.36	9.49	18.96	7.56									
3	4.5	9			soil	3.5	3.6	30.87	18.36	12.51	22.36	9.33									
4.5	5.5	9			soil	2.56	2.5	32.2	23.6	11.6	22.36	5.18									
5.5	6.2				Hard Rock	Core Recovery =82.75 %		RQD=75.71 %			Sp.Gravity =2.58		Water Content =0.85%			P.L.I =535t/m^2					
6.2	6.8				Hard Rock	Core Recovery =100 %		RQD=100 %			Sp.Gravity =2.61		Water Content =0.541%			P.L.I =535t/m^2					
6.8	7.4				Hard Rock	Core Recovery =90 %		RQD=90 %			Sp.Gravity =2.62		Water Content =0.86%			P.L.I =481t/m^2					
7.4	8.5				Hard Rock	Core recovery =55 %		RQD=55 %			Sp.Gravity =2.55		Water Content =0.58%			P.L.I =472t/m^2					
8.5	9.2				Hard Rock	Core recovery =97.10 %		RQD=97.10 %			Sp.Gravity =2.56		Water Content =0.32%			P.L.I =535t/m^2					

SOIL CHARACTERISTICS

Project :		BH19 Near by Hudson Circle			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation								
					19	19		Nil			17.60 m			**RL=907.020m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	8			Filledup Strata																
1.5	3	32		23.5	Soil	2.4	2.3	21.34	15.36	5.98	25.23	28.02									
3	4.5	R			Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	14				Soft Rock	Core Recovery =Nil							RQD=Nil								
14	15.2				Hard Rock	Core Recovery =85.83 %		RQD=85.83 %			Sp.Gravity =2.51		Water Content =0.25%			P.L.I =481t/m^2					
15.2	16.4				Hard Rock	Core Recovery =66.66 %		RQD=61.66 %			Sp.Gravity =2.58		Water Content =0.29%			P.L.I =190t/m^2					
16.4	17.6				Hard Rock	Core Recovery =89.58 %		RQD=62.91 %			Sp.Gravity =2.54		Water Content =0.31%			P.L.I =463t/m^2					

SOIL CHARACTERISTICS

Project :		BH20 Inside United Mission College			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					20	20		Nil			6.30 m		**RL=902.674 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength
						Silt	Clay	Sand			Gravel									C
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2
0	1.5	R			Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil							
1.5	3				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil							
3	4.6				Hard Rock	Core Recovery =52.5%		RQD=47.5%			Sp.Gravity =2.58		Water Content =0.69%			P.L.I =190t/m^2				
4.6	6.3				Hard Rock	Core Recovery =100%		RQD=71.76%			Sp.Gravity =2.55		Water Content =0.54%			P.L.I =472t/m^2				

Annexure

SOIL CHARACTERISTICS

Project :		BH21 DHL Express KH Road			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					21	21		Nil			23 m		RL=889.202 m								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	9			Soil	2.96	1	33.41	23.25	10.16	21.36	7.85									
3	4.5	10			Soil	2.3	2.4	31.3	14.56	16.74	21.36	11.97									
4.5	6	11			Soil	2.7	1.3	24.53	15.28	9.25	23.85	23.35									
6	7.5	12			Soil	1.59	1.4	39.47	30.26	9.21	15.23	3.19									
7.5	9	R			Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19				Completely disintigrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19	20				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
20	21				Hard Rock	Core Recovery =82.5%		RQD=82.5%			Sp.Gravity =2.56		Water Content =0.56%			P.L.I =481t/m^2					
21	22				Hard Rock	Core Recovery =74%		RQD=74%			Sp.Gravity =2.61		Water Content =0.62%			P.L.I =463t/m^2					
22	23				Hard Rock	Core Recovery =94.5%		RQD=94.5%			Sp.Gravity =2.58		Water Content =0.35%			P.L.I =535t/m^2					

SOIL CHARACTERISTICS

Project :		BH22 Shanthinagara BMTC Office Opposite			Table No	B.H.No		Depth of Water Table			Termination Depth				Surface Elevation					
					22	22		Nil			9 m				RL=887.011 m					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1				Boulders																
1	1.5				Boulders																
1.5	3				Boulders																
3	4.5				Rock	Core Recovery =26.66%		RQD=26.66%			Sp.Gravity =2.56		Water Content =1.26%			P.L.I =53t/m^2					
4.5	6				Rock	Core Recovery =22%		RQD=12%			Sp.Gravity =2.54		Water Content =1.36%			P.L.I =71t/m^2					
6	7.5				Rock	Core Recovery =25.33%		RQD=25.33%			Sp.Gravity =2.61		Water Content =1.55%			P.L.I =190t/m^2					
7.5	9				Rock	Core Recovery =23%		RQD=23%			Sp.Gravity =2.55		Water Content =1.25%			P.L.I =53t/m^2					

SOIL CHARACTERISTICS

Project :		BH23 Lalbagh East Gate (KH Circle)			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					23	23		Nil			15 m		**RL=898.689 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1				Filledup Strata																
1	1.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
2.5	3				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	11.5				Hard Rock	Core Recovery =17.50%		RQD=Nil			Sp.Gravity =2.53		Water Content =2.36%								
11.5	13				Hard Rock	Core Recovery =50.60%		RQD=Nil			Sp.Gravity =2.56		Water Content =2.45%			P.L.I =53t/m^2					
13	15				Hard Rock	Core Recovery =36.50%		RQD=36.50%			Sp.Gravity =2.54		Water Content =1.18%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH24 Near by Abhay Hospital			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					24	24		Nil			30 m					**RL=893.546 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1				Boulders																
1.5	3				Boulders																
3	4.5				Boulders																
4.5	6				Boulders																
6	7.5				Boulders																
7.5	9				Boulders																
9	10.5	46		30.5	Filledup Soil																
10.5	12	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :	BH25 NIMHANS Badhra Hostel	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		25	25	Nil	7.50 m	**RL=908.892 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
1	2				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
2	3.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3.5	4				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4	4.5				Hard Rock	Core Recovery =24.61%		RQD=Nil			Sp.Gravity =2.54		Water Content =2.55%			P.L.I =133t/m^2					
4.5	5				Hard Rock	Core Recovery =61.53%		RQD=49.23%			Sp.Gravity =2.55		Water Content =0.98%			P.L.I =190t/m^2					
5	5.5				Hard Rock	Core Recovery =63.07%		RQD=63.07%			Sp.Gravity =2.56		Water Content =0.45%			P.L.I =472t/m^2					
5.5	6.5				Hard Rock	Core Recovery =60.50%		RQD=49%			Sp.Gravity =2.61		Water Content =0.55%			P.L.I =481t/m^2					
6.5	7.5				Hard Rock	Core Recovery =60%		RQD=53.50%			Sp.Gravity =2.61		Water Content =0.36%			P.L.I =463t/m^2					

SOIL CHARACTERISTICS

Project :	BH26 NIMHANS Bus stop	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		26	26	Nil	9.50 m	**RL=903.537 m**

Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Soil	1.39	1.5	34.26	23.58	10.68	12.36	16.79									
1.5	3				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Hard Rock	Core Recovery =16.66%		RQD=16.66%			Sp.Gravity =2.58		Water Content =1.25%			P.L.I =190t/m^2					
7.5	8				Hard Rock	Core Recovery =27.33%		RQD=27.33%			Sp.Gravity =2.55		Water Content =1.26%			P.L.I =472t/m^2					
8	9.5				Hard Rock	Core Recovery =93.33%		RQD=73.33%			Sp.Gravity =2.62		Water Content =0.54%			P.L.I =535t/m^2					

SOIL CHARACTERISTICS

Project :		BH27 Diary Circle Flyover			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					27	27		Nil			19 m		RL=906.429 m								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	0.5				Filledup Strata																
0.5	1.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
1.5	3				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	14				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
14	16				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16	17.5				Hard Rock	Core Recovery =54.66%		RQD=22%			Sp.Gravity =2.56		Water Content =1.31%			P.L.I =53t/m^2					
17.5	19				Hard Rock	Core Recovery =44%		RQD=19%			Sp.Gravity =2.61		Water Content =1.14%			P.L.I =36t/m^2					

SOIL CHARACTERISTICS

Project :		BH28 Christ University College			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					28	28		Nil			6 m			**RL=909.047 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	2.5				Filledup Strata																
2.5	3				Rock	Core Recovery =9.2%		RQD=Nil			Sp.Gravity =2.56		Water Content =2.55%			P.L.I =28t/m^2					
3	4.5				Rock	Core Recovery =30.6%		RQD=30.60%			Sp.Gravity =2.58		Water Content =1.36%			P.L.I =53t/m^2					
4.5	6				Rock	Core Recovery = 46%		RQD=36.60%			Sp.Gravity =2.54		Water Content =1.35%			P.L.I =71t/m^2					

Annexure

SOIL CHARACTERISTICS

Project :		BH29 Relience Smart Bazar			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					29	29		Nil			21.90 m		**RL=901.239 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
1.5	3				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Hard Rock	Core Recovery =51.66%		RQD=40%			Sp.Gravity =2.54		Water Content =1.25%			P.L.I =53t/m^2					
19.5	20.85				Hard Rock	Core Recovery =67%		RQD= 67%			Sp.Gravity =2.56		Water Content =1.26%			P.L.I =190t/m^2					
20.85	21.9				Hard Rock	Core Recovery = 77%		RQD=59.50%			Sp.Gravity =2.55		Water Content =1.11%			P.L.I =53t/m^2					

SOIL CHARACTERISTICS

Project :		BH30 Front of St.Antony's Church			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					30	30		Nil			30 m			RL=899.697 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	22		18.5	Soil	2.89	2.6	32.95	12.36	20.54	16.23	11.79									
3	4.5	31		23	Soil	2.25	2.26	36.2	25.36	12.84	14.23	7.83									
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH31 St.John medical college Hostel Compound wall			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					31	31		Nil			30 m		RL=898.445 m								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3				Filledup Strata																
3	4.5				Filledup Strata																
4.5	6	48			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Soft Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Soft Rock	Core Recovery =18%		RQD=Nil			Sp.Gravity =2.56		Water Content =2.64%			P.L.I = 36 t/m^2					
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Hard Rock	Core Recovery=74 %		RQD=60%			Sp.Gravity =2.58		Water Content =0.58%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH32 Near by Survey of India office			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					32	32		Nil			30 m			RL=896.087 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	42		28.5	Soil	2.56	2.4	26.55	15.66	19.66	15.56	17.66									
1.5	3	48		31.5	Soil	2.5	2.5	28.35	16.36	11.99	18.56	19.58									
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH33 Opposite of Krupanidhi Institution			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					33	33		Nil			26.50 m		RL=893.529 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	2.5	UDS			Soil	1.39	1.5	34.26	23.58	10.68	12.36	16.79	38.6	18.5	20.1	1.36	23.38	1.1	2.56	0.265	20.69
2.5	3	8			Soil	4.4	3.4	31.45	25.36	16.45	18.36	1.36									
3	4.5	11			Soil	4.7	4.4	32.52	26.36	6.16	12.85	13.36									
4.5	5				No Sample																
5	6	13			Soil	6.6	3.1	29.85	20.36	9.49	15.3	15.3									
6	7.5	15			Soil	5.11	5.16	30.77	21.36	9.41	14.26	13.95									
7.5	9	17		16	Soil	5.5	4.66	30.08	18.29	11.79	23.63	6.06									
9	10.5	17		16	Soil	4.86	3.6	32.48	23.36	9.12	12.36	14.76									
10.5	12	16		15.5	Soil	2.6	1.4	26.13	14.23	11.9	23.56	2..53									
12	13.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Soft Rock	Core Recovery =26%		RQD=Nil			Sp.Gravity =2.56		Water Content =2.81%			P.L.I =38t/m^2					
16.5	18				Soft Rock	Core Recovery =40.60%		RQD=Nil			Sp.Gravity =2.55		Water Content =2.54%			P.L.I =42t/m^2					
18	19.5				Hard Rock	Core Recovery =26%		RQD=Nil			Sp.Gravity =2.58		Water Content =2.61%			P.L.I =48t/m^2					
19.5	21				Hard Rock	Core Recovery =53.33%		RQD=Nil			Sp.Gravity =2.58		Water Content =2.33%			P.L.I =63t/m^2					
21	23				Hard Rock	Core Recovery =17.5%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.34%			P.L.I =23t/m^2					
23	24				Hard Rock	Core Recovery =90%		RQD=48%			Sp.Gravity =2.56		Water Content =0.56%			P.L.I =47/m^2					
24	25				Hard Rock	Core Recovery =80%		RQD=44%			Sp.Gravity =2.62		Water Content =0.26%			P.L.I =36t/m^2					
25	26.5				Hard Rock	Core Recovery =16.67%		RQD=Nil			Sp.Gravity =2.58		Water Content =1.22%			P.L.I =28m/m^2					

SOIL CHARACTERISTICS

Project :	BH34 Opposite of KSRP Housing	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		34	34	Nil	30 m	**RL=889.319 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	16		15.5	soil	2.1	2.8	37.45	30.33	7.12	19.1	1.1									
1.5	3	R			Sample not recoverd	Sample not recoverd							Sample not recoverd								
3	4.5	R			Sample not recoverd																
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH35 Near By Jakkasandra Canal			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					35	35		Nil			30 m					RL=879.644 m					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	22		18.5	soil	1	0.92	42.31	23.36	18.95	7.15	6.31									
1.5	3	20		17.5	soil	0.69	0.3	29.35	21.36	7.99	20.8	20.49									
3	4.5	R			soil	0.79	0.2	29.67	20.45	9.22	30.12	9.72									
4.5	6	R			soil	1.7	1.2	39.11	22.33	16.78	15.23	3.82									
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Soft Rock	Core Recovery =Nil							RQD =Nil								
21	22.5				Soft Rock	Core Recovery =Nil							RQD =Nil								
22.5	24				Soft Rock	Core Recovery =Nil							RQD =Nil								
24	26				Sample not recovered	Sample not recovered							Sample not recovered								
26	27				Hard Rock	Core Recovery =Nil							RQD =Nil								
27	28				Hard Rock	Core Recovery =6 %		RQD= Nil			Sp.Gravity =2.54		Water Content =2.36%								
28	30				Hard Rock	Core Recovery = 5.5%		RQD=5.5%			Sp.Gravity =2.56		Water Content =1.55%			P.L.I =36t/m^2					

Annexure

SOIL CHARACTERISTICS

Project :		BH43 Ambalipura Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					43	43		Nil			17.50m		**RL=879.903m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3				Boulders																
3	4.5				Boulders																
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Soft Rock	Core Recovery =8%		RQD=Nil			Sp.Gravity =2.54		Water Content =1.26%								
7.5	8				Soft Rock	Core Recovery =Nil		RQD=Nil			Sp.Gravity =2.65		Water Content =1.63%								
8	9				Soft Rock	Core Recovery = 18%		RQD=Nil			Sp.Gravity =2.55		Water Content =2.11%			P.L.I =28t/m^2					
9	11				Soft Rock	Core Recovery =7.5%		RQD=Nil			Sp.Gravity =2.62		Water Content =1.89%								
11	13.5				Soft Rock	Core Recovery =54%		RQD=38%			Sp.Gravity =2.62		Water Content =1.65%			P.L.I =71t/m^2					
13.5	15				Soft Rock	Core Recovery = 14.66%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.33%								
15	16.5				Hard Rock	Core Recovery = 8%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.36%								
16.5	17.5				Hard Rock	Core Recovery = 29.33%		RQD=25%			Sp.Gravity =2.58		Water Content =0.55%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :	BH44 Opposite of Elina Resedentail	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		44	44	Nil	17.50 m	**RL=878.852 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Boulders																
1.5	3				Boulders																
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	5.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
5.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	8				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
8	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Hard Rock	Core Recovery =10%		RQD=Nil			Sp.Gravity =2.56		Water Content =2.36%			P.L.I = 23t/m^2					
13.5	15				Hard Rock	Core Recovery =8%		RQD=Nil			Sp.Gravity =2.58		Water Content =2.56%			P.L.I = 19t/m^2					
15	16.5				Hard Rock	Core Recovery = 50%		RQD=29.3%			Sp.Gravity =2.55		Water Content =1.36%			P.L.I =71t/m^2					
16.5	17.5				Hard Rock	Core Recovery =69%		RQD=60%			Sp.Gravity =2.61		Water Content =1.11%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH45 Front of Motherhood Pharamacy			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					45	45		Nil			30 m		**RL=878.524 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	27		21	Fieldup Strata																
1.5	2.5	UDS			Soil	10.4	3.8	26.68	23.23	3.45	16.23	16.91	25.1	16.8	8.3	1.46	21.41	1.2	2.58	0.355	21.68
2.5	3	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5	R			Soil	0.59	0.5	38.63	23.63	15	15.23	6.84									
4.5	5.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
5.5	6	R			Soil																
6	7.5	R			Soil																
7.5	8				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
8	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	14.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
14.5	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24.5	26				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
26	27.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27.5	29				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH46 Kasavanahalli			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					46	46		Nil			30 m					**RL=877.230 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3				Filledup Strata																
3	4.5	22		18.5	Soil	0.5	0.49	26.72	16.36	6.36	42.2	8.2									
4.5	6	R			Soil	0.99	0.51	34.97	16.47	18.5	16.23	12.26									
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				soft Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				soft Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				soft Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				soft Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				soft Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Hard Rock	Core Recovery =40%		RQD=6.66%			Sp.Gravity =2.68		Water Content =1.26%			P.L.I =48t/m^2					
24	26				Hard Rock	Core Recovery = 44.5%		RQD=24%			Sp.Gravity =2.65		Water Content =0.56%			P.L.I =190t/m^2					
26	28.5				Hard Rock	Core Recovery =14%		RQD=12.4%			Sp.Gravity =2.63		Water Content =0.36%			P.L.I =53t/m^2					
28.5	30				Hard Rock	Core Recovery =40%		RQD=Nil			Sp.Gravity =2.66		Water Content =0.48%			P.L.I =53t/m^2					

SOIL CHARACTERISTICS

Project :		BH47 Kaikondrahalli Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					47	47		Nil			30 m			RL=877.958 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	12			Soil	2.49	2.8	36.6	26.59	13.29	13.23	5.99									
3	4.5	13			Soil	1.1	0.22	26.54	15.23	11.31	26.36	19.31									
4.5	6	14			Soil	7.95	4	34.94	12.36	22.58	16.89	5.26									
6	7.5	17		16	Soil	1.59	1.4	39.47	30.26	9.21	15.23	3.19									
7.5	9	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	14.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
14.5	17.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
17.5	20				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
20	21.5				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
21.5	23				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
23	24.5				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
24.5	26				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
26	27.75				Rock	Core Recovery = 19.42%		RQD=5.88			Sp.Gravity =2.61		Water Content =2.36%			P.L.I =36t/m^2					
27.75	29				Rock	Core Recovery =21.33%		RQD=Nil			Sp.Gravity =2.58		Water Content =2.44%			P.L.I =49t/m^2					
29	30				Rock	Core Recovery =17.14%		RQD=Nil			Sp.Gravity =2.62		Water Content =2.22%			P.L.I =57t/m^2					

SOIL CHARACTERISTICS

Project :		BH48 Stone style marble Granite Shop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					48	48		Nil			24 m		**RL=878.399 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	0.5				Fieldup Strata																
0.5	1.5				Fieldup Strata																
1.5	2.5	UDS			soil	0.5	0.49	22.72	16.36	10.36	42.2	8.2	26.5	18.5	8	1.36	23.47	1.1	2.58	0.267	22.8
2.5	3	48		31.5	soil	14.53	1.95	26.34	12.85	13.49	16.23	14.61									
3	4.5	45		30	soil	6.68	8.87	29.32	21.45	7.87	12.36	13.46									
4.5	5.5				soil	0.99	0.51	34.97	16.47	18.5	16.23	12.26	28.4	16.4	12	1.45	18.91	1.22	2.57	0.318	25.7
5.5	6	45		30	soil	6.58	6.67	26.82	12.36	14.46	14.56	18.64									
6	7.5	R			soil	5.55	5.3	29.13	13.26	15.87	17.32	13.93									
7.5	8.5				Sample not Recovered	Sample not Recovered							Sample not Recovered								
8.5	9	46		30.5	soil	3.4	3.5	33.28	23.56	9.72	20.82	6.17									
9	10.5	R			soil	2.49	2.9	36.32	19.36	16.96	15.36	7.32									
10.5	12	R			soil	1.1	1.5	44.28	26.58	17.7	6.34	3									
12	13.5	R			soil	0.9	0.9	41.32	20.22	21.1	15.23	1.08									
13.5	15	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery = Nil							RQD=Nil								
19.5	21				Rock	Core Recovery =28.66%		RQD=Nil			Sp.Gravity =2.62		Water Content =2.56%			P.L.I=38t/m^2					
21	22.5				Hard Rock	Core Recovery =62.66%		RQD=51.6%			Sp.Gravity =2.65		Water Content =0.56%			P.L.I =472t/m^2					
22.5	24				Hard Rock	Core Recovery =92%		RQD=70%			Sp.Gravity =2.65		Water Content =0.35%			P.L.I =535t/m^2					

SOIL CHARACTERISTICS

Project :		BH49 VVR School			Table No	B.H.No		Depth of Water Table			Termination Depth						Surface Elevation					
					49	49		Nil			30m						**RL=892.624 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel										C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	9			Soil	2.69	2.01	32.14	14.36	19.78	14.85	15.15									
3	4.5	9			Soil	10.5	5.5	22.22	16.25	5.97	18.23	21.77									
4.5	6	12			Soil	1.69	1.3	34.01	23.58	10.43	14.69	14.56									
6	7.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
13.5	15				Rock	Core Recovery =23.50%		RQD=Nil			Sp.Gravity =2.33		Water Content =2.36%			P.L.I=25t/m2					
15	16.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
16.5	18				Soft Rock	Core Recovery =Nil							RQD=Nil								
18	19.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
19.5	21				Soft Rock	Core Recovery =Nil							RQD=Nil								
21	22.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
22.5	24				Soft Rock	Core Recovery =Nil							RQD=Nil								
24	25.5				Hard Rock	Core Recovery =32.35%		RQD=Nil			Sp.Gravity =2.68		Water Content =2.58%			P.L.I=63t/m^2					
25.5	27				Hard Rock	Core Recovery =17.64%		RQD=Nil			Sp.Gravity =2.69		Water Content =2.66%			P.L.I=44t/m^2					
27	28.5				Hard Rock	Core Recovery =29.40%		RQD=Nil			SpGravity =2.66		Water Content =2.68%			P.L.I=53t/m^2					
28.5	30				Hard Rock	Core Recovery =30%		RQD=Nil			Sp.Gravity =2.68		Water Content =2.61%			P.L.I=60t/m^2					

SOIL CHARACTERISTICS

Project :	BH50 Someshwara Layout	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		50	50	Nil	4.75 m	**RL=899.073 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	0.5				Filledup Strata																
0.5	1	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
1	2				Hard Rock	Core Recovery =15%		RQD=15%			Sp.Gravity =2.67		Water Content =1.56%			P.L.I =71t/m^2					
2	3				Hard Rock	Core Recovery =88%		RQD=88%			Sp.Gravity =2.68		Water Content =0.56%			P.L.I =472t/m^2					
3	4				Hard Rock	Core Recovery =27%		RQD=27%			Sp.Gravity =2.62		Water Content =0.88%			P.L.I =190t/m^2					
4	4.75				Hard Rock	Core Recovery =100%		RQD=100%			Sp.Gravity =2.65		Water Content =0.26%			P.L.I =535t/m^2					

SOIL CHARACTERISTICS

Project :	BH51 Inspira Groups Apartment	Table No	B.H.No	Depth of Water Table	Termination Depth	Surface Elevation
		51	51	Nil	10.5 m	**RL=902.494 m**

Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	32		23.5	Soil	1.55	1.5	24.4	13.56	10.84	26.58	22.02									
1.5	3	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
4.5	6				Soft Rock	Core Recovery =Nil							RQD=Nil								
6	7.5				Hard Rock	Core Recovery =46.6%		RQD=33.33%			Sp.Gravity =2.61		Water Content =1.26%			P.L.I =53t/m^2					
7.5	9				Hard Rock	Core Recovery =73.33%		RQD=73.33%			Sp.Gravity =2.65		Water Content =0.66%			P.L.I =472t/m^2					
9	10.5				Hard Rock	Core Recovery =80%		RQD=80%			Sp.Gravity =2.63		Water Content =0.52%			P.L.I =535t/m^2					

SOIL CHARACTERISTICS

Project :		BH52 Chikkanalli Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					52	52		Nil			20 m		**RL=899.445 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	2.5	UDS			Soil	16.48	8.38	7.56	15.45	12.45	22.15	17.58	35.4	19.6	15.8	1.32	25.26	1.05	2.58	0.119	15.6
2.5	3	12			Soil	16.85	9.95	14.45	10.23	4.22	26.23	18.07									
3	4.5	12			Soil	20.12	8.18	18.1	5.23	12.87	32.65	3.01									
4.5	5.5				No sample																
5.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	17				Hard Rock	Core Recovery =81.4%		RQD=72.64%			Sp.Gravity =2.69		Water Content =0.61%			P.L.I =472t/m^2					
17	18.5				Hard Rock	Core Recovery =70.58%		RQD=40.08%			Sp.Gravity =2.64		Water Content =0.63%			P.L.I =190t/m^2					
18.5	20				Hard Rock	Core Recovery =51.76%		RQD=44.7%			Sp.Gravity =2.64		Water Content =0.58%			P.L.I =463t/m^2					

SOIL CHARACTERISTICS

Project :		BH 53 Ramsons Groups Building			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation									
					53	53		Nil			26.50 m		**RL=896.245 m**									
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	29		22	Soil	2.5	1.7	20.41	14.4	6.01	26.12	29.48									
1.5	2.5	UDS			Soil	2.26	1.56	18.56	15.36	6.25	26.18	29.56	35.6	18.2	17.4	1.42	19.36	1.19	2.55	0.245	24.6
2.5	3	43		29	Soil	13.23	13.57	14.45	7.23	7.22	35.23	9.07									
3	4.5	43		29	Soil	11.25	11.25	18.1	11.23	6.87	36.23	5.07									
4.5	5.5	UDS			Soil	10.25	12.36	15.56	12.47	26.14	16.35	6.89	28.6	17.5	11.1	1.48	18.1	1.25	2.56	0.238	28.8
5.5	6	R			Soil	19.23	9.37	14.95	6.6	8.35	14.23	27.27									
6	7.5	25		20	Soil	19.36	2.14	16.85	5.26	11.59	25.46	19.34									
7.5	9	29		22	Soil	220.2	5.37	16.9	5.3	11.6	39.23	1.37									
9	10.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	14.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
14.5	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	20				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
20	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Hard Rock	Core Recovery =23.33%		RQD=16.66%			Sp.Gravity =2.68		Water Content =1.26%			P.L.I =53t/m^2					
24	25.5				Hard Rock	Core Recovery =41.33%		RQD=21.33%			Sp.Gravity =2.67		Water Content =1.11%			P.L.I =190t/m^2					
25.5	26.5				Hard Rock	Core Recovery =47%		RQD=47%			Sp.Gravity =2.61		Water Content =0.89%			P.L.I =472t/m^2					

SOIL CHARACTERISTICS

Project :		BH 54 Ambedkar Nagara Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					54	54		Nil			28.50 m		**RL=891.257 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	8			Soil	16.32	6.28	18.9	31.23	7.67	9.23	10.37									
3	4.5	8			Soil	13.23	12.57	16.2	12.3	3.9	25.45	16.35									
4.5	6	8			Soil	14.36	12.09	15.47	6.66	8.815	36.58	6.04									
6	7.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18.5	19				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Hrad Rock	Core Recovery =86%		RQD=72.20%			Sp.Gravity =2.65		Water Content =0.26%			P.L.I =535t/m^2					
25.5	27				Hrad Rock	Core Recovery =36.66%		RQD=26.6%			Sp.Gravity =2.67		Water Content =0.29%			P.L.I =190t/m^2					
27	28.5				Hrad Rock	Core Recovery =33.33%		RQD=23.33%			Sp.Gravity =2.69		Water Content =0.35%			P.L.I =53t/m^2					

SOIL CHARACTERISTICS

Project :		BH 55 Floating Wall Furniture Shop			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation						
					55	55		Nil			30 m			RL=891.528 m						
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	35		25	Soil	1.3	1.6	24.04	12.36	11.68	32.41	17.19									
1.5	2.5				Sample not recovered	Sample not recovered								Sample not recovered							
2.5	3				Sample not recovered	Sample not recovered								Sample not recovered							
3	4.5	39		27	Soil	5.5	5.4	23.43	16.23	7.2	36.45	6.15									
4.5	6	50		32.5	Soil	0.79	0.2	29.67	20.45	9.22	30.12	9.72									
6	7.5	50		32.5	Soil	1.7	1.2	39.11	22.33	16.78	15.23	3.82									
7.5	8.5	R			Sample not recovered	Core Recovery=Nil							RQD=Nil								
8.5	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	20				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
20	22				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22	24.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24.5	26				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
26	27.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27.5	28.5				Softy Rock	Core Recovery =11%		RQD=Nil			Sp.Gravity =6.62		Water Content =2.69%			P.L.I=22t/m^2					
28.5	29				Softy Rock	Core Recovery =5%		RQD=Nil			Sp.Gravity =6.65		Water Content =2.56%			P.L.I=16t/m^2					
29	30				Softy Rock	Core Recovery =8%		RQD=Nil			Sp.Gravity =6.63		Water Content =2.71%			P.L.I=19t/m^2					

SOIL CHARACTERISTICS

Project :		BH56 Shell V Petrol Bunk			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					56	56		Nil			23 m		**RL=886.171 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	26		20.5	Soil	5.3	5.6	14.67	6.66	8.01	32.32	27.98									
1.5	3	34		24.5	Soil	3.23	5.22	15.86	6.61	9.25	23.45	36.35									
3	4.5	32		23.5	Soil	6.4	3.7	17.06	11.23	5.83	23.23	33.17									
4.5	5.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
5.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	21.3				Soft Rock	Core Recovery =9%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.68%			P.L.I =82t/m^2					
21.3	23				Hard Rock	Core Recovery =32.35%		RQD=32.35%			Sp.Gravity =2.68		Water Content =1.1%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH 57 True Value Showroom			Table No	B.H. No		Depth of Water Table			Termination Depth				Surface Elevation					
					57	57		Nil			30 m				RL=895.262 m					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	9			Gravel	1.3	1.6	33.52	16.32	17.2	16.45	14.15									
1.5	3	10			Gravel	4.4	4.5	30.92	12.36	18.56	21.36	8.34									
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH 58 Sulikunte Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					58	58		Nil			30 m			RL=900.988 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	26		20.5	Soil	15.23	5.42	19.49	11.23	8.26	36.45	3.91									
3	4.5	29		22	Soil	13.23	8.45	19.33	11.23	8.1	29.23	10.42									
4.5	6	R			Sample not recovered	Sample not recovered							Sample not recovered								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Soft Rock	Core Recovery =4%		RQD=Nil			Sp.Gravity =2.63		Water Content =2.88%			P.L.I=14t/m^2					
22.5	24				Sample not recovered	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	28				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28	30				Soft Rock	Core Recovery =2.5%		RQD=Nil			Sp.Gravity =2.65		Water Content =2.79%			P.L.I=8t/m^2					

SOIL CHARACTERISTICS

Project :		BH 59 Amazing Stones and Tile Shop			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					59	59		Nil			25 m		**RL=902.336 m**								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	9			Soil																
1.5	3	34		24.5	Soil	12.36	1.32	25.32	12.33	12.99	14.23	21.45									
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12.5	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Soft Rock	Core Recovery =8.66%		RQD=Nil			Sp.Gravity =2.69		Water Content =2.66%			P.L.I=15t/m^2					
19.5	21				Soft Rock	Core Recovery =Nil							RQD=Nil =								
21	22				Hard Rock	Core Recovery =67%		RQD=Nil			Sp.Gravity =2.65		Water Content =2.56%								
22	23.7				Hard Rock	Core Recovery =86.417%		RQD=81.17%			Sp.Gravity =2.67		Water Content =0.56%			P.L.I =472t/m^2					
23.7	25				Hard Rock	Core Recovery =36.15%		RQD=36.15%			Sp.Gravity =2.61		Water Content =0.67%			P.L.I =190t/m^2					

SOIL CHARACTERISTICS

Project :		BH 60 Near by Multi Mart			Table No	B.H.No	Depth of Water Table			Termination Depth					Surface Elevation					
					60	60	Nil			30 m					**RL=911.964 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Soil	5.53	4.77	20.55	10.23	10.32	23.36	25.24									
1.5	3	38		26.5	Soil	16.58	5.95	15.8	11.23	4.57	32.23	13.37									
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH 61 HDFC Bank Side			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					61	61		Nil			18 m		**RL=914.887 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1				Filledup Strata																
1	1.5	34		24.5	Soil	4.6	4.2	24.7	20.32	4.38	39.13	2.94									
1.5	2.5	UDS			Soil	4.48	3.25	24.58	16.58	14.56	35.15	1.25	33.2	14.8	18.4	1.38	18.89	1.16	2.54	0.333	19.32
2.5	3	R			Soil	1.1	0.67	32.42	19.23	13.19	16.23	17.25									
3	4.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	6				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Hard rock	Core Recovery =24.66%		RQD=Nil			Sp.Gravity =2.69		Water Content =2.88%								
15	16.5				Hard rock	Core Recovery =23.33%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.69%								
16.5	18				Hard rock	Core Recovery =5.33%		RQD=Nil			Sp.Gravity =2.62		Water Content =2.84%								

SOIL CHARACTERISTICS

Project :		BH 62 HDFC Bank Opposite			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					62	62		Nil			30 m					RL=903.474 m					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	31		23	Soil	4.61	4.1	23.35	12.36	10.99	39.23	5.45									
1.5	2.5	UDS			Soil	4.56	3.56	28.45	13.56	9.56	32.15	8.18	35.6	15.7	19.9	1.33	19.65	1.11	2.56	0.3	24.23
2.5	3	49		32	Soil	6.21	3.4	19.3	11.23	8.07	45.23	6.61									
3	4.5	43		29	Soil	2.11	1.3	22.59	13.56	9.03	39.36	12.12									
4.5	5.5	UDS			Soil	2.45	1.35	23.6	15.08	7.15	35.15	15.26	36.8	15.2	21.6	1.31	18.83	1.1	2.68	0.379	24.6
5.5	6	R			Soil	1.1	0.64	27.83	19.23	8.6	31.23	11.45									
6	7.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	8.5	UDS			No Sample	Core Recovery=Nil							RQD=Nil								
8.5	9	45			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	22.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH 63 Krishna Italian Marble Shop			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					63	63		Nil			30 m					**RL=903.474 m**					
Depth		Observed	Correction Factor	Corrected	Soil Decsription	bution % of wt Retained						Atterberge Limits %				B.D.	M.C.	D.D.	Specific Gravity	ear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	27		21	Soil	16.23	2.02	16.76	11.56	5.2	23.23	25									
1.5	2.5	UDS			Soil	15.65	2.15	20.15	24.15	1.25	16.5	20.25	33.5	18.2	15.3	1.38	21.55	1.13	2.55	0.217	20.21
2.5	3	17			Soil	18.23	7.45	14.03	6.36	7.67	32.23	14.02									
3	4.5	R			Soil	11.55	3.81	17.69	11.56	6.135	36.23	13.02									
4.5	5.5	UDS			Soil	10.25	12.36	15.56	12.47	26.14	16.35	6.89	32.6	14.3	18	1.41	20.58	1.16	2.56	0.256	20.98
5.5	6	R			Soil	5.22	5.3	18.8	10.36	8.44	25.36	26.78									
6	7.5	R			Soil	6.61	3.4	24.1	20.12	3.98	12.23	29.92									
7.5	8.5	UDS			Soil	1.1	0.67	32.42	19.23	13.19	16.23	17.25	34.8	15.3	19.5	1.56	17.37	1.32	2.58	0.289	21.32
8.5	9	R			Soil	1.2	2.4	24.74	16.45	8.305	40.23	7.02									
9	10.5	R			Soil	1.1	0.24	33.58	23.23	10.35	16.23	15.35									
10.5	11.5	UDS			Soil	16.85	9.95	14.45	10.23	4.22	26.23	18.07	32.8	16.3	16.5	1.29	20.58	1.06	2.58	0.324	23.12
11.5	12	R			Soil	1.1	0.64	35.33	27.12	8.215	12.36	15.32									
12	13.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22	22.52	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH 64 Dommasandra Circle Flyover			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					64	64		Nil			30 m					RL=900.561m					
Depth		Observed	Correction Factor	Corrected	Soil	Grain size distrubution % of wt Retained						Atterberge Limits %				B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	14			Soil	13.23	5.23	17.37	11.11	6.29	26.23	20.57									
1.5	2.5	UDS			Soil	16.85	9.95	14.45	10.23	4.22	26.23	18.07	33.5	18.2	15.3	1.38	21.55	1.09	2.56	0.217	20.21
2.5	3	19		17	Soil	16.69	11.47	19.34	16.36	2.985	14.23	18.92									
3	4.5	21		18	Soil	16.23	15.03	15.29	5.63	9.66	14.23	23.93									
4.5	5.5	UDS			Soil	20.12	8.18	18.1	5.23	12.87	32.65	3.01	32.6	14.6	18	1.46	22.56	1.19	2.58	0.067	9.17
5.5	6	28		21.5	Soil	12.36	17.1	19.2	5.3	13.9	15.36	16.78									
6	7.5	39		27	Soil	11.11	7.05	18.1	12.36	5.74	23.56	22.07									
7.5	8.5	UDS			Soil	2.69	2.01	32.14	12.36	19.78	14.85	17.15	35.8	15.2	20.6	1.42	21.21	1.17	2.54	0.157	9.87
8.5	9	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	11.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
11.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Soft Rock	Core Recovery =24.33%		RQD=Nil			Sp.Gravity =2.65		Water Content =3.015%			P.L.I=43t/m^2					
15	16.5				Hard Rock	Core Recovery =64.66%		RQD=Nil			Sp.Gravity =2.64		Water Content =2.86%			P.L.I=123/m^2					
16.5	18				Hard Rock	Core Recovery =83.33%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.68%			P.L.I=148t/m^2					
18	19.5				Hard Rock	Core Recovery =14.66%		RQD=Nil			Sp.Gravity =2.63		Water Content =2.78%			P.L.I=37t/m^2					

SOIL CHARACTERISTICS

Project :		BH 65 Lakshmi Frame Work Shop			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					65	65		Nil			30 m			RL=897.476 m							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	21		18	Soil	6.23	6.09	22.77	16.56	6.21	12.36	29.78									
1.5	2.5	UDS			Soil	14.53	1.95	26.34	12.85	13.49	16.23	14.61	28.7	19.6	9.1	1.5	20.25	1.24	2.55	0.248	13.29
2.5	3	30		22.5	Soil	5.55	4.77	21.72	16.23	5.49	26.23	20.01									
3	4.5	48		31.5	Soil	4.6	4.4	21.06	18.23	2.83	36.12	13.12									
4.5	5.5	UDS			Soil	6.58	6.67	26.82	12.36	14.46	14.56	18.64	29.7	18.6	11.1	1.55	19.87	1.55	2.58	0.251	13.68
5.5	6	R			Soil	3.2	3.4	19.71	10.23	9.48	42.36	11.96									
6	7.5	48		31.5	Soil	2.2	2.4	28.16	20.36	7.8	21.23	18.09									
7.5	8.5	UDS			Soil	5.55	5.3	29.13	13.26	15.87	17.32	13.93	28.8	14.3	14.5	1.49	19.52	1.24	2.55	0.298	14.03
8.5	10	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10	11.5				Sample not recoverd	Sample not recoverd															
11.5	12	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	14.5				Sample not recoverd	Sample not recoverd															
14.5	15	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	17.5				Sample not recoverd	Sample not recoverd															
17.5	18	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	20.5				Sample not recoverd	Sample not recoverd															
20.5	21	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	23.5				Sample not recoverd	Sample not recoverd															
23.5	24	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24	25.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
25.5	27	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
28.5	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH 66 Near by Rin Fitness Club			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					66	66		Nil			21 m		RL=888.680 m								
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	10			Soil	1.76	1.76	39.74	29.45	10.29	10.23	6.67									
1.5	3	11			Soil	6.12	6.06	24.23	12.23	12	24.36	14.98									
3	4.5	13			Soil	4.9	4.9	32.08	25.12	7.46	12.45	13.18									
4.5	5.5	UDS			Soil	5.36	4.56	26.18	25.18	4.58	18.56	15.6	27	17.23	9.77	1.93	16.57	1.662	2.56	0.226	13
5.5	6	R			Soil	11.23	4.43	19.93	12.33	7.6	23.48	21									
6	7.5	R			Soil	11.11	5.86	20.42	10.89	9.53	23.63	18.54									
7.5	9	R			Soil																
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Soft Rock	Core Recovery =6%		RQD=Nil			Sp.Gravity =2.67		Water Content =3.15%			P.L.I=19t/m^2					
16.5	18				Hard Rock	Core Recovery =16%		RQD=Nil			Sp.Gravity =2.69		Water Content =2.89%			P.L.I=33t/m^2					
18	19.5				Hard Rock	Core Recovery =18.66%		RQD=Nil			Sp.Gravity =2.63		Water Content =2.56%			P.L.I=38t/m^2					
19.5	21				Hard Rock	Core Recovery =53.33%		RQD=Nil			Sp.Gravity =2.64		Water Content =2.69%			P.L.I=96t/m^2					

Annexure

SOIL CHARACTERISTICS

Project :		BH 67 Near by PSR Floara			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					67	67		Nil			21.50 m			**RL=888.680 m**							
Depth		Observed	Correction Factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Starta																
1.5	3	28		21.5	Soil	4.6	4.2	24.7	20.32	4.38	39.13	2.94	29	21.3	7.7	1.34	15.69	1.164	256	0.232	24
3	4.5	42		28.5	Soil	2.6	2.4	23.02	11.11	11.91	35.45	13.87									
4	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	14				Soft Rock	Core Recovery =4%		RQD=Nil			Sp.Gravity =2.68		Water Content =2.68%			P.L.I=7t/m^2					
14	16				Soft Rock	Core Recovery =4.5%		RQD=Nil			Sp.Gravity =2.67		Water Content =3.015%			P.L.I=16t/m^2					
16	18				Soft Rock	Core Recovery =5%		RQD=Nil			Sp.Gravity =2.69		Water Content =2.58%			P.L.I=13t/m^2					
18	19				Soft Rock	Core Recovery =9%		RQD=Nil			Sp.Gravity =2.63		Water Content =2.68%			P.L.I=33t/m^2					
19	20.5				Hard Rock	Core Recovery =27.3%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.48%			P.L.I=48t/m^2					
20.5	21.5				Hard Rock	Core Recovery =70%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.476%			P.L.I=186t/m^2					

SOIL CHARACTERISTICS

Project :		BH 68 Front of Challengers Badminton Academy			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					68	68		Nil			30 m					**RL=877.360 m**					
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	13			Soil	4.1	4.5	21.35	15.36	5.99	32.12	17.03									
1.5	3	UDS			Sample not obtained	Sample not obtained															
3	4.5	30		22.5	Soil	10.13	10.01	11.85	6.2	5.65	25.32	30.85									
4.5	6	R			Soil	8.36	7.12	19.71	11.11	8.6	26.32	18.78									
6	7.5	R			Soil	7.01	7.24	26.3	19.22	7.08	16.33	16.82									
7.5	9				Soft Rock	Core Recovery =23.33%		RQD=Nil			Sp.Gravity =2.61		Water Content =3.15%			P.L.I=33t/m2					
9	10				Soft Rock	Core Recovery =18%		RQD=Nil			Sp.Gravity =2.68		Water Content =3.26%			P.L.I=25t/m2					
10	12				Soft Rock	Core Recovery =10%		RQD=Nil			Sp.Gravity =2.63		Water Content =2.48%			P.L.I=28t/m2					
12	13				Soft Rock	Core Recovery =19%		RQD=Nil			Sp.Gravity =2.68		Water Content =3.18%			P.L.I=37t/m2					
13	14				Soft Rock	Core Recovery =28%		RQD=Nil			Sp.Gravity =2.68		Water Content =2.68%			P.L.I=43t/m2					
14	15.5				Soft Rock	Core Recovery =10.66%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.86%			P.L.I=29t/m2					
15.5	18				Soft Rock	Core Recovery =7.2%		RQD=Nil			Sp.Gravity =2.68		Water Content =2.49%			P.L.I=17t/m2					
18	23				Soft Rock	Core Recovery =13.4%		RQD=Nil			Sp.Gravity =2.65		Water Content =2.48%			P.L.I=33t/m2					
23	27				Sample not obtained	Sample not obtained															
27	29				Sample not obtained	Sample not obtained															
29	30				Soft Rock	Core Recovery =9%		RQD=Nil			Sp.Gravity =2.68		Water Content =2.67%			P.L.I=21t/m^2					

SOIL CHARACTERISTICS

Project :		BH 69 Kangaroo Kids Pre international School			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					69	69		Nil			30 m		**RL=879.147 m**								
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	5				Filledup Strata																
5	6.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6.5	8				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
8	9.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9.5	9.7				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9.7	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
22.5	24				Soft Rock	Core Recovery =3.6%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.87%			P.L.I=22t/m^2					
24	25.5				Sample not obtained	Sample not obtained															
25.5	27				Soft Rock	Core Recovery =5%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.47%			P.L.I=16t/m^2					
27	28.5				Soft Rock	Core Recovery =10%		RQD=Nil			Sp.Gravity =2.61		Water Content =2.68%			P.L.I=34t/m^2					
28.5	30				Sample not obtained	Sample not obtained															

SOIL CHARACTERISTICS

Project :		BH 70 BSR Enterprises Shop			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					70	70		Nil			30 m					**RL=879.472 m**					
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	0.5				Filledup Strata																
0.5	1.5	R			Soil	11.23	7.22	18.65	12.33	6.32	22.23	22.02									
1.5	3	36		25.5	Soil	8.23	7.45	17.68	11.53	6.15	21.23	27.72									
3	4.5	34		24.5	Soil	4.1	4.4	16.7	11.22	5.48	14.23	44.22									
4.5	6	R			Soil	12.36	3.12	15.92	9.99	5.93	25.23	27.45									
6	7.5	R			Soil	2.13	1	27.65	20.36	7.29	23.22	18.36									
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	22.5				Soft Rock	Core Recovery =3.33%		RQD=Nil			Sp.Gravity =2.64		Water Content =2.58%			P.L.I=19t/m^2					
22.5	26.5				Soft Rock	Core Recovery =8%		RQD=Nil			Sp.Gravity =2.62		Water Content =2.69%			P.L.I=32t/m^2					
26.5	30				Soft Rock	Core Recovery =11%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.79%			P.L.I=38t/m^2					

SOIL CHARACTERISTICS

Project :		BH 71 Health Bear Childrens Clinic			Table No	B.H.No		Depth of Water Table			Termination Depth					Surface Elevation					
					71	71		Nil			21.75 m					**RL=889.919 m**					
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	21		18	Soil	13.36	5.2	18.29	11.23	7.6	23.23	21.62									
1.5	3	20		17.5	Soil	30.3	3.5	14.1	4.36	14.74	15.33	18.32									
3	4.5	20		17.5	Soil	12.33	20.82	12.8	3.6	9.2	23.56	17.69									
4.5	6	44		29.5	Soil	13.26	22.89	12.35	5.3	7.05	16.23	22.92									
6	7.5	R			Soil	5.5	5.2	28.3	12.56	15.74	18.56	14.59									
7.5	8.5	UDS			Sample not Recovered	Sample not Recovered															
8.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Soft Rock	Core Recovery =10.2%		RQD=Nil			Sp.Gravity =2.67		Water Content =2.69%			P.L.I =38t/m^2					
16.5	18				Soft Rock	Core Recovery =16%		RQD=Nil			Sp.Gravity =2.69		Water Content =2.48%			P.L.I =42t/m^2					
18	19				Hard Rock	Core Recovery =16.66%		RQD=Nil			Sp.Gravity =2.62		Water Content =2.68%			P.L.I =60t/m^2					
19	20.5				Hard Rock	Core Recovery =44.6%		RQD=44.66%			Sp.Gravity =2.62		Water Content =0.78%			P.L.I =190t/m^2					
20.5	21.75				Hard Rock	Core Recovery =66.40%		RQD=66.44%			Sp.Gravity =2.68		Water Content =0.61%			P.L.I =472tm^2					

SOIL CHARACTERISTICS

Project :		BH 72 Kada Agrahara			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					72	72		Nil			30 m		**RL=891.324 m**							
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
3	4.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
4.5	5.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
5.5	7				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7	8.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
8.5	10				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10	10.2				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.2	13				Soft Rock	Core Recovery =Nil							RQD=Nil								
13	14				Soft Rock	Core Recovery =Nil							RQD=Nil								
14	16.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
16.5	18				Soft Rock	Core Recovery =Nil							RQD=Nil								
18	19.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
19.5	21				Soft Rock	Core Recovery =Nil							RQD=Nil								
21	23				Soft Rock	Core Recovery =Nil							RQD=Nil								
23	24.5				Soft Rock	Core Recovery =Nil							RQD=Nil								
24.5	26				Soft Rock	Core Recovery =Nil							RQD=Nil								
26	27.5				Hard Rock	Core Recovery =25.33%		RQD=Nil			Sp.Gravity =2.63		Water Content =1.56%			P.L.I =97t/m^2					
27.5	30				Hard Rock	Core Recovery =17.2%		RQD=11.2%			Sp.Gravity =2.65		Water Content =0.69%			P.L.I =53t/m^2					

SOIL CHARACTERISTICS

Project :		BH 73 Sarjapura Bus stop			Table No	B.H.No		Depth of Water Table			Termination Depth			Surface Elevation							
					73	73		Nil			30 m			RL=887.824 m							
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	9			Soil	13.33	19.82	14.35	10.23	4.12	14.56	23.59									
1.5	3	9			Soil	15.36	22.79	12.85	6.6	6.25	11.33	24.82									
3	4.5	20		17.5	Soil	10.23	21.92	6.25	12.85	6.6	20.23	21.92									
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	20.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
20.5	22				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
22	23.5				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
23.5	25.5				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
25.5	27				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
27	28.5				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
28.5	29				Completely disintegrated Weathered Rock	Core Recovery =Nil							RQD=Nil								
29	30				Rock	Core Recovery =15%		RQD=Nil			Sp.Gravity =2.67		Water Content =1.56%			P.L.I=93t/m^2					

SOIL CHARACTERISTICS

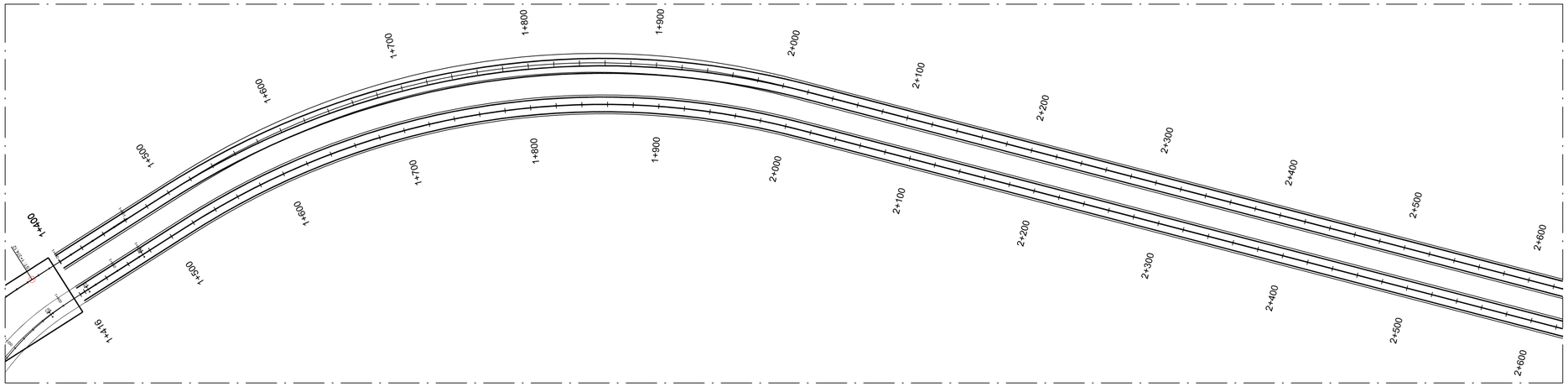
Project :		BH 74 Sarjapura Police Station			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation								
					74	74		Nil			30 m		**RL=883.136 m**								
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5				Filledup Strata																
1.5	3				Filledup Strata																
3	4.5	18		16.5	Soil	1	0.21	37.17	16.32	20.85	20.53	4.21									
4.5	6	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
6	7.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
7.5	9				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
9	10.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
10.5	12				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
12	13.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
13.5	15				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
15	16.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
16.5	18				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
18	19.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
19.5	21				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
21	23				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
23	24.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
24.5	26				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
26	27.5				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
27.5	29				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
29	30				Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								

SOIL CHARACTERISTICS

Project :		BH 75 Government Pharmacy College Inside			Table No	B.H.No		Depth of Water Table			Termination Depth		Surface Elevation							
					75	75		Nil			5.5 m		**RL=897.327 m**							
Depth		Observed	Correction factor	Corrected	Soil Decsription	Grain size distrubution % of wt Retained							Atterberge Limits %			B.D.	M.C.	D.D.	Specific Gravity	Shear Strength	
						Silt	Clay	Sand			Gravel									C	Ø
From (m)	To (m)	N	C_n	N_n				Fine	Medium	Coarse	Fine	Coarse	L.L	P.L	P.I	gm/cc	%	gm/cc		kg/cm^2	degree
0	1.5	R			Completely disintegrated Weathered Rock	Core Recovery=Nil							RQD=Nil								
1.5	2.2				Hard Rock	Core Recovery =10%		RQD=Nil			Sp.Gravity =6.67		Water Content =1.56%								
2.2	3.2				Hard Rock	Core Recovery =95.5%		RQD=95.5%			Sp.Gravity =6.62		Water Content =0.56%			P.L.I =535t/m^2					
3.2	4.2				Hard Rock	Core Recovery =56.5%		RQD=56.50%			Sp.Gravity =6.62		Water Content =0.36%			P.L.I =472t/m^2					
4.2	5.5				Hard Rock	Core Recovery =60.38%		RQD=53.07%			Sp.Gravity =6.63		Water Content =0.25%			P.L.I =472t/m^2					

GEOLOGICAL PLAN & PROFILE

Original Drawing Size A1



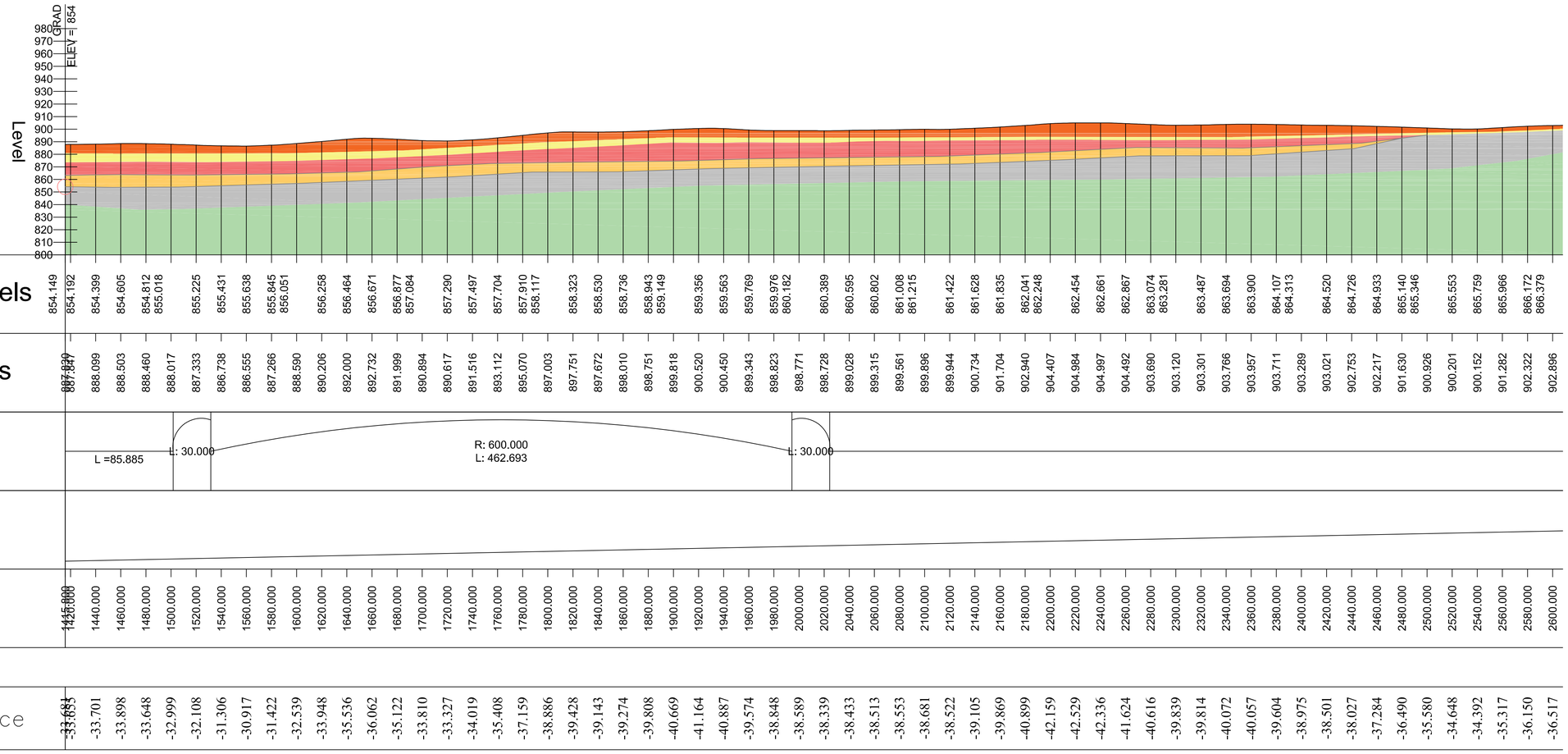
LAYOUT PLAN
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

1. ALL DIMENSION AND LEVELS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
4. ALIGNMENT DATA USED FOR GEOLOGICAL PROFILE HAS BEEN USED AS RECEIVED FROM JV AND IS INDICATIVE ONLY, FOR ALIGNMENT DETAILS LATEST REVISION OF ALIGNMENT DRAWING MUST BE USED.



LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:

RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA
CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near
Sikanderpur Metro Station Sector 28, Gurugram
Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road
JP Nagar 6th Phase Bengaluru,
Karnataka 560078 India

DRAFT PROJECT REPORT

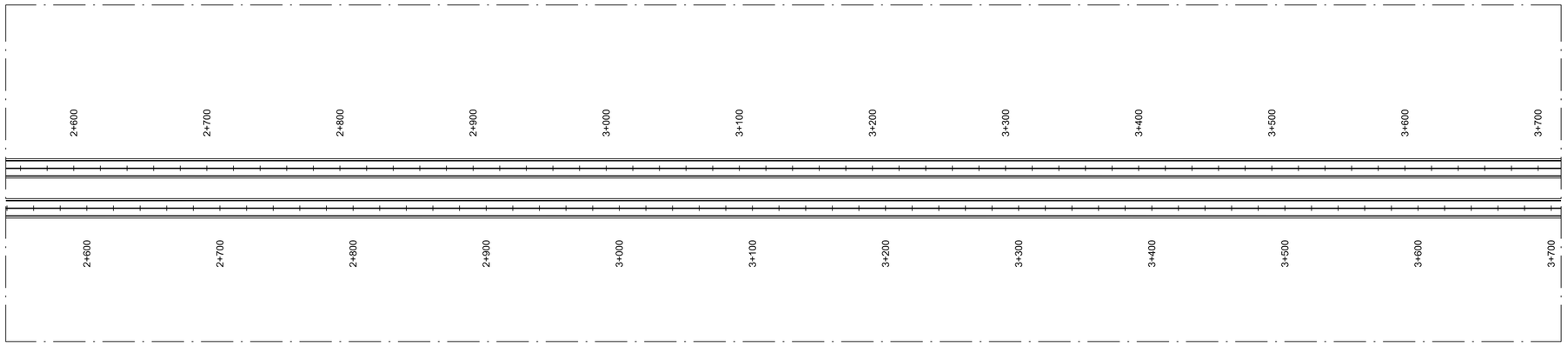
Designed:	RSt	Scale :- N.T.S.
Drawn:	ABa	
Checked:	VLj	
Approved:	PSi	Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 1+415.800 TO CH: 2+600

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/201/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

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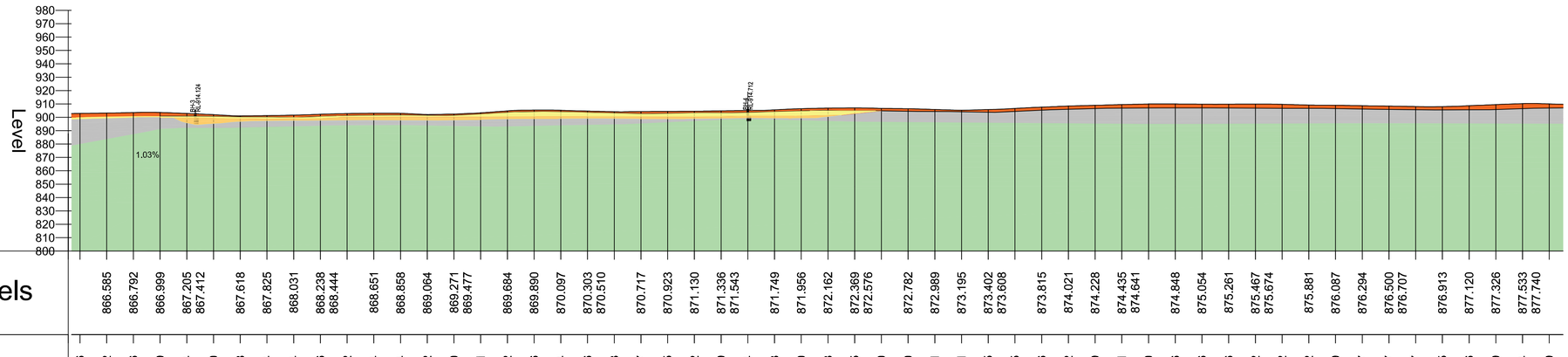


Proposed Levels	866.585 866.792 866.999 867.205 867.412 867.618 867.825 868.031 868.238 868.444 868.651 868.858 869.064 869.271 869.477 869.684 869.890 870.097 870.303 870.510 870.717 870.923 871.130 871.336 871.543 871.749 871.956 872.162 872.369 872.576 872.782 872.989 873.195 873.402 873.608 873.815 874.021 874.228 874.435 874.641 874.848 875.054 875.261 875.467 875.674 875.881 876.087 876.294 876.500 876.707 876.913 877.120 877.326 877.533 877.740
Existing Levels	902.896 903.172 903.566 903.599 902.844 901.970 901.028 901.274 901.614 902.236 902.802 903.014 902.974 902.062 902.460 903.341 904.782 905.376 905.224 904.656 904.153 904.327 904.435 904.512 904.799 905.084 905.543 906.430 906.853 907.035 906.690 906.430 905.831 905.221 905.765 906.625 907.596 908.422 908.969 909.511 909.940 909.946 909.836 909.816 909.932 909.682 909.172 908.999 908.667 908.387 908.057 907.985 908.666 909.489 910.234 910.019
Horizontal	L =2253.043
Vertical	G =1.033% L =2470.001
Chainage	2600.000 2620.000 2640.000 2660.000 2680.000 2700.000 2720.000 2740.000 2760.000 2780.000 2800.000 2820.000 2840.000 2860.000 2880.000 2900.000 2920.000 2940.000 2960.000 2980.000 3000.000 3020.000 3040.000 3060.000 3080.000 3100.000 3120.000 3140.000 3160.000 3180.000 3200.000 3220.000 3240.000 3260.000 3280.000 3300.000 3320.000 3340.000 3360.000 3380.000 3400.000 3420.000 3440.000 3460.000 3480.000 3500.000 3520.000 3540.000 3560.000 3580.000 3600.000 3620.000 3640.000 3660.000 3680.000 3700.000
Level Difference	-36.517 -36.587 -36.774 -36.600 -35.638 -34.558 -33.410 -33.449 -33.583 -33.998 -34.358 -34.363 -34.117 -32.998 -33.189 -33.864 -35.099 -35.485 -35.128 -34.352 -33.643 -33.610 -33.512 -33.382 -33.462 -33.541 -33.794 -34.474 -34.690 -34.666 -34.114 -33.648 -32.842 -32.026 -32.363 -33.017 -33.781 -34.400 -34.741 -35.077 -35.298 -35.098 -34.781 -34.555 -34.464 -34.008 -33.291 -32.912 -32.373 -31.887 -31.350 -31.071 -31.547 -32.163 -32.701 -32.280

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT
GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:
RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

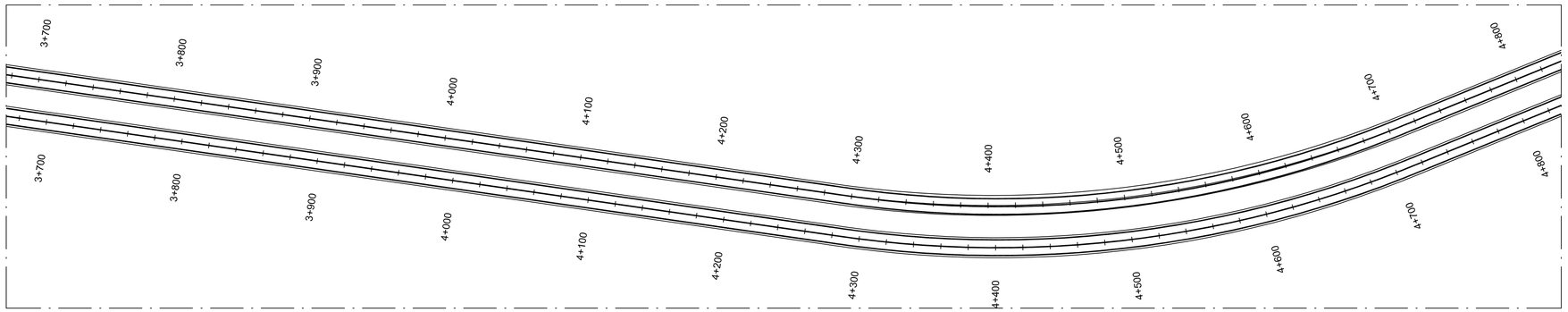
Scale :- N.T.S.
Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 2+600 TO CH: 3+700

Drawing No.: RC/1640/HO/HBT/TU/DWG//GEO/PLP/202/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

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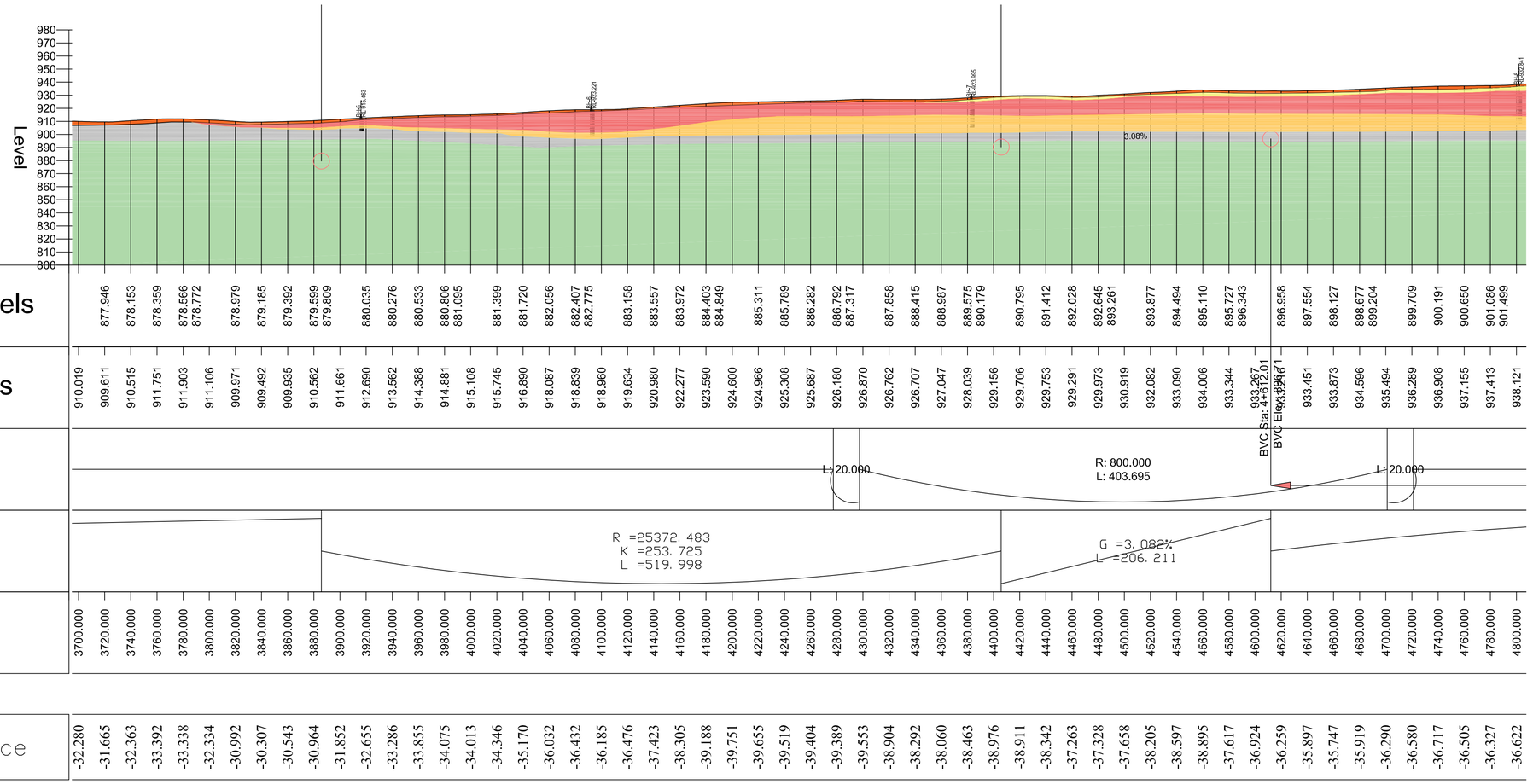

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT
GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:
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1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
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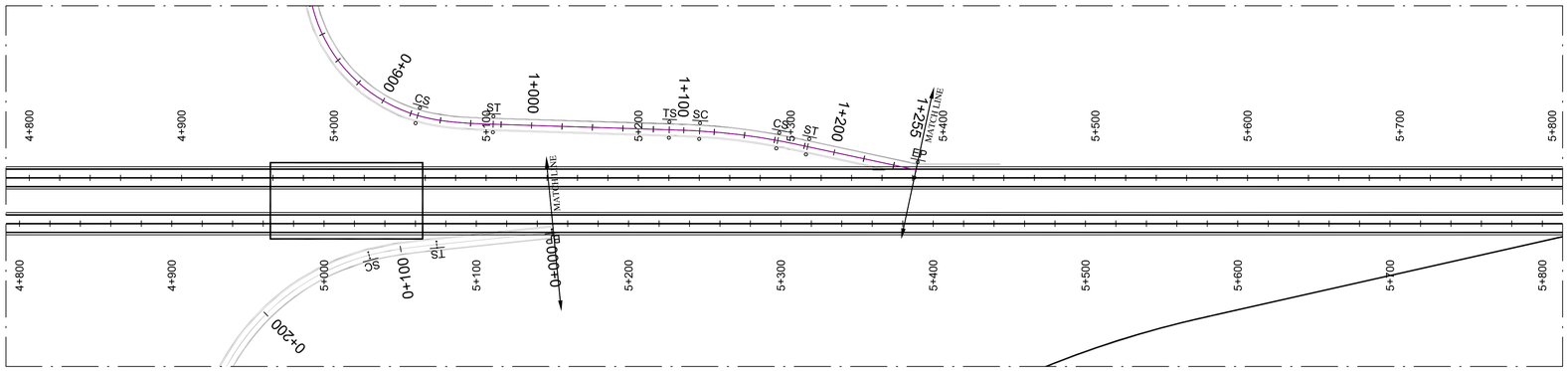
DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.
Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 3+700 TO CH: 4+800
Drawing No.: RC/1640/HO/HBT/TU/DWG/ /GEO/PLP/203/R0

Original Drawing Size A1



LAYOUT PLAN

SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

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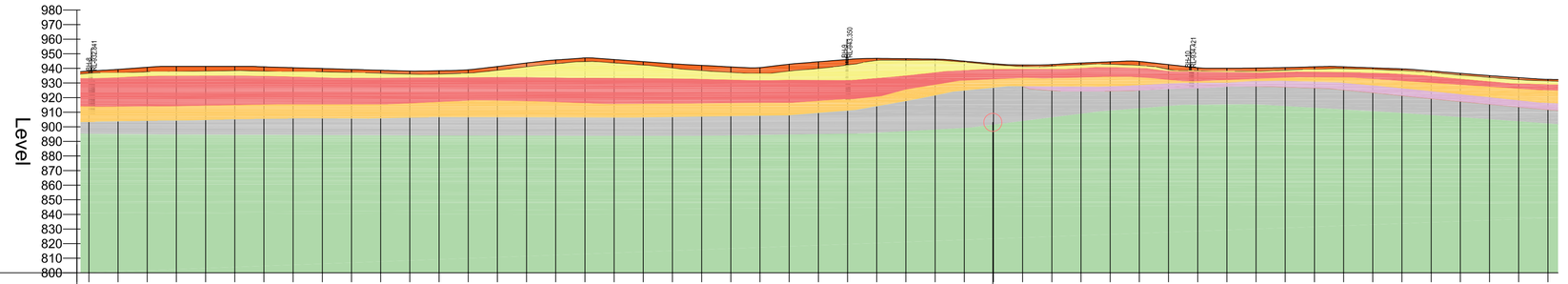
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
4. ALIGNMENT DATA USED FOR GEOLOGICAL PROFILE HAS BEEN USED AS RECEIVED FROM JV AND IS INDICATIVE ONLY, FOR ALIGNMENT DETAILS LATEST REVISION OF ALIGNMENT DRAWING MUST BE USED.



Proposed Levels	901.889 902.257 902.602 902.924 903.223 903.499 903.752 903.983 904.191 904.376 904.538 904.677 904.793 904.887 904.958 905.006 905.031 905.033 905.012 904.969 904.903 904.814 904.702 904.567 904.409 904.229 904.026 903.800 903.551 903.279 902.984 902.679 902.373 902.068 901.762 901.457 901.151 900.846 900.540 900.234 899.929 899.623 899.318 899.012 898.707 898.401 898.096 897.790 897.485 897.179
Existing Levels	938.121 939.322 940.755 941.389 941.390 941.383 941.083 940.469 939.905 939.298 938.698 938.142 938.373 939.060 941.302 943.688 945.806 947.170 946.067 944.591 943.150 942.062 941.045 940.541 942.857 944.529 946.105 946.867 946.618 946.358 944.957 942.338 942.618 943.665 944.501 944.758 942.591 940.432 940.109 940.227 940.575 941.096 941.086 940.355 939.688 938.238 936.625 935.035 933.665 932.478
Horizontal	LOW PT STA: ??? LOW PT ELEV: ??? PVI STA:5+015.80 PVI ELEV:0.56 K:175.18 LVC:807.58 EVCS: 5+419.59 EVCE: 5+823.75 L =1732.716
Vertical	R =17518. 304 K =175. 183 L =807. 580
Chainage	4800.000 4820.000 4840.000 4860.000 4880.000 4900.000 4920.000 4940.000 4960.000 4980.000 5000.000 5020.000 5040.000 5060.000 5080.000 5100.000 5120.000 5140.000 5160.000 5180.000 5200.000 5220.000 5240.000 5260.000 5280.000 5300.000 5320.000 5340.000 5360.000 5380.000 5400.000 5420.000 5440.000 5460.000 5480.000 5500.000 5520.000 5540.000 5560.000 5580.000 5600.000 5620.000 5640.000 5660.000 5680.000 5700.000 5720.000 5740.000 5760.000 5780.000 5800.000
Level Difference	-36.622 -37.432 -38.498 -38.787 -38.466 -38.160 -37.584 -36.717 -35.922 -35.108 -34.322 -33.604 -33.696 -34.267 -36.415 -38.730 -40.801 -42.139 -41.034 -39.579 -38.181 -37.159 -36.231 -35.839 -38.290 -40.120 -41.876 -42.841 -42.819 -42.807 -41.678 -40.191 -39.659 -40.244 -41.597 -42.739 -43.302 -41.440 -39.587 -39.569 -39.993 -40.646 -41.473 -41.769 -41.343 -40.982 -39.836 -38.530 -37.245 -36.180 -35.299

LONGITUDINAL SECTION

SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:

RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA
CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

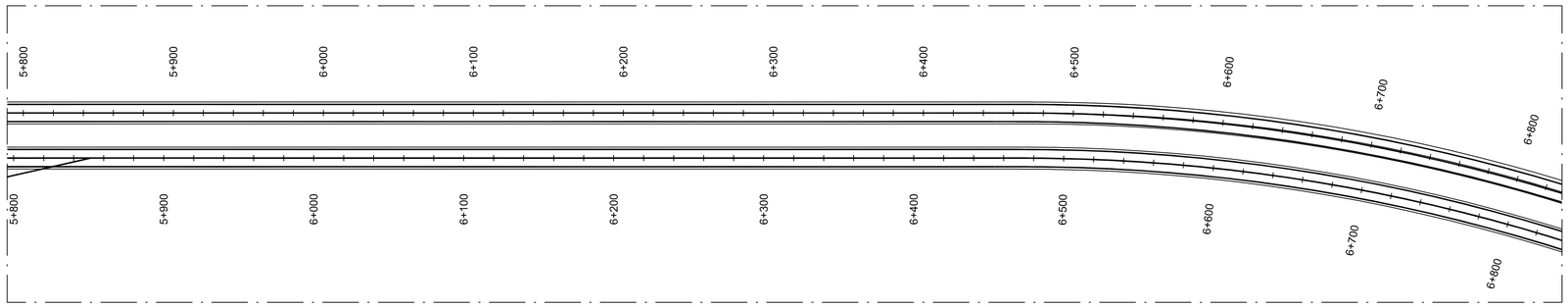
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.

Sheet size: A1

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 4+800 TO CH: 5+800
Drawing No.	RC/1640/HO/HBT/TU/DWG//GEO/PLP/204/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

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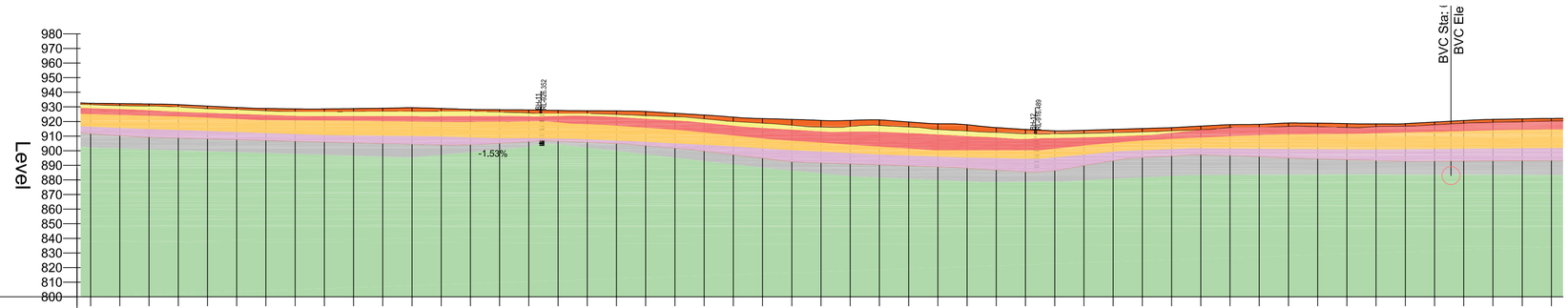


Proposed Levels	896.874 896.568 896.262 895.957 895.651 895.346 895.040 894.735 894.429 894.124 893.818 893.513 893.207 892.902 892.596 892.291 891.985 891.679 891.374 891.068 890.763 890.457 890.152 889.846 889.541 889.235 888.930 888.624 888.319 888.013 887.707 887.402 887.096 886.791 886.485 886.180 885.874 885.569 885.263 884.958 884.652 884.347 884.041 883.735 883.430 883.124 882.820 882.530 882.256 881.998
Existing Levels	932.478 932.232 931.975 931.517 930.559 929.609 928.923 928.623 928.578 928.833 929.082 929.415 928.941 928.273 928.050 927.927 927.560 927.341 927.229 926.867 925.643 924.435 922.989 922.009 921.443 920.717 920.774 921.116 919.713 918.476 917.752 915.846 914.615 913.621 913.984 914.595 915.201 915.805 916.855 917.813 918.049 918.984 918.885 918.531 918.360 918.563 919.634 920.685 921.450 921.827 922.103
Horizontal	L: 40.000 R: 1200.000 L: 533.669
Vertical	G =-1.528% L =1311.682
Chainage	5800.000 5820.000 5840.000 5860.000 5880.000 5900.000 5920.000 5940.000 5960.000 5980.000 6000.000 6020.000 6040.000 6060.000 6080.000 6100.000 6120.000 6140.000 6160.000 6180.000 6200.000 6220.000 6240.000 6260.000 6280.000 6300.000 6320.000 6340.000 6360.000 6380.000 6400.000 6420.000 6440.000 6460.000 6480.000 6500.000 6520.000 6540.000 6560.000 6580.000 6600.000 6620.000 6640.000 6660.000 6680.000 6700.000 6720.000 6740.000 6760.000 6780.000 6800.000
Level Difference	-35.299 -35.359 -35.407 -35.255 -34.602 -33.958 -33.577 -33.583 -33.844 -34.404 -34.958 -35.597 -35.428 -35.066 -35.148 -35.331 -35.270 -35.356 -35.549 -35.493 -34.574 -33.672 -32.532 -31.857 -31.597 -31.177 -31.539 -32.187 -31.089 -30.157 -29.739 -28.138 -27.213 -26.525 -27.193 -28.109 -29.021 -29.931 -31.286 -32.550 -33.092 -34.332 -34.539 -34.490 -34.624 -35.133 -36.509 -37.864 -38.920 -39.571 -40.105

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:

RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA
CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

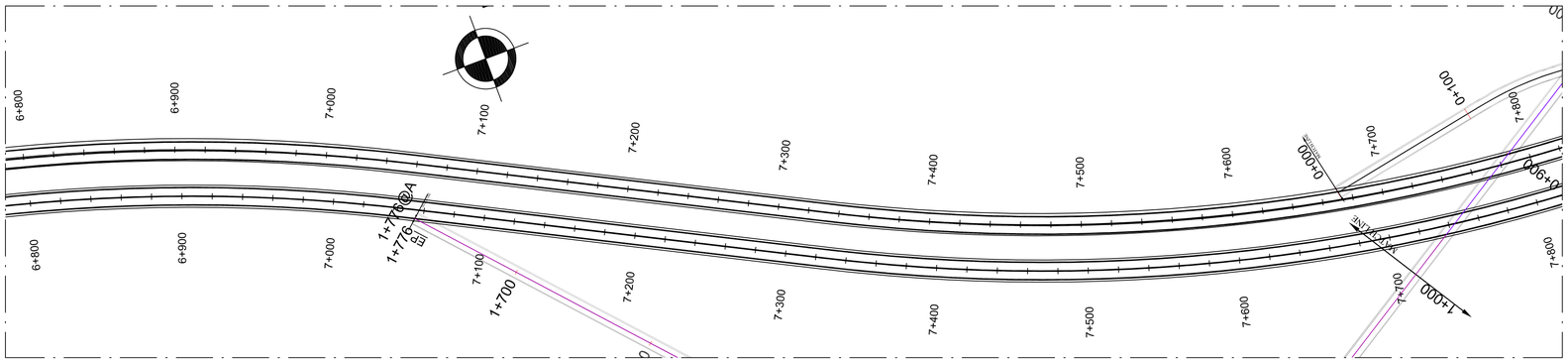
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.

Sheet size: A1

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 5+800 TO CH: 6+800
Drawing No.	RC/1640/HO/HBT/TU/DWG//GEO/PLP/205/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
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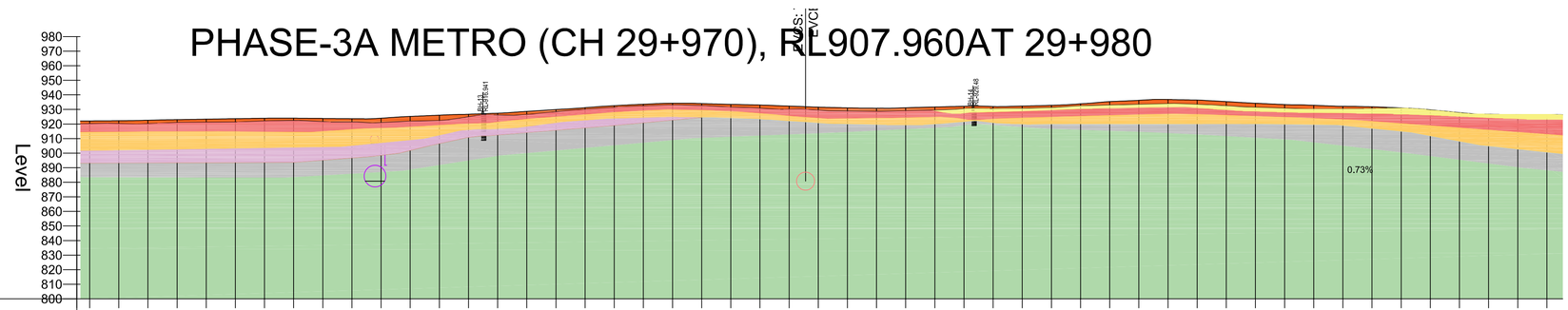


Proposed Levels	881.998 881.756 881.530 881.320 881.127 880.950 880.788 880.643 880.515 880.402 880.305 880.225 880.161 880.113 880.081 880.065 880.066 880.082 880.115 880.164 880.229 880.310 880.408 880.521 880.651 880.795 880.942 881.089 881.236 881.383 881.530 881.677 881.824 881.971 882.118 882.265 882.411 882.558 882.705 882.852 882.999 883.146 883.293 883.440 883.587 883.734 883.881 884.028 884.175 884.322 884.468
Existing Levels	922.103 922.239 922.596 922.999 923.316 923.642 923.965 924.017 923.810 923.623 923.992 925.192 926.059 926.696 927.404 928.658 929.896 931.191 932.575 933.562 934.255 934.039 933.468 933.016 932.311 931.545 931.087 930.835 931.155 931.683 932.163 931.983 932.305 932.825 933.846 935.401 936.251 936.821 936.412 935.377 934.229 933.344 932.838 932.126 931.804 931.009 929.757 927.842 926.735 926.470 926.475
Horizontal	L: 40.000 L =241.437 L: 40.000 R: 1200.000 L: 455.180
Vertical	R =24755.517 K =247.555 L =560.047 G =0.735% L =761.170
Chainage	6800.000 6820.000 6840.000 6860.000 6880.000 6900.000 6920.000 6940.000 6960.000 6980.000 7000.000 7020.000 7040.000 7060.000 7080.000 7100.000 7120.000 7140.000 7160.000 7180.000 7200.000 7220.000 7240.000 7260.000 7280.000 7300.000 7320.000 7340.000 7360.000 7380.000 7400.000 7420.000 7440.000 7460.000 7480.000 7500.000 7520.000 7540.000 7560.000 7580.000 7600.000 7620.000 7640.000 7660.000 7680.000 7700.000 7720.000 7740.000 7760.000 7780.000 7800.000
Level Difference	-40.105 -40.484 -41.066 -41.679 -42.189 -42.692 -43.177 -43.374 -43.295 -43.221 -43.687 -44.967 -45.898 -46.584 -47.323 -48.593 -49.830 -51.109 -52.460 -53.398 -54.026 -53.729 -53.060 -52.494 -51.660 -50.749 -50.145 -49.746 -49.919 -50.300 -50.633 -50.307 -50.481 -50.854 -51.728 -53.137 -53.840 -54.263 -53.707 -52.525 -51.230 -50.197 -49.545 -48.686 -48.217 -47.275 -45.876 -43.815 -42.560 -42.149 -42.007

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT
GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:
RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)
GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA
Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

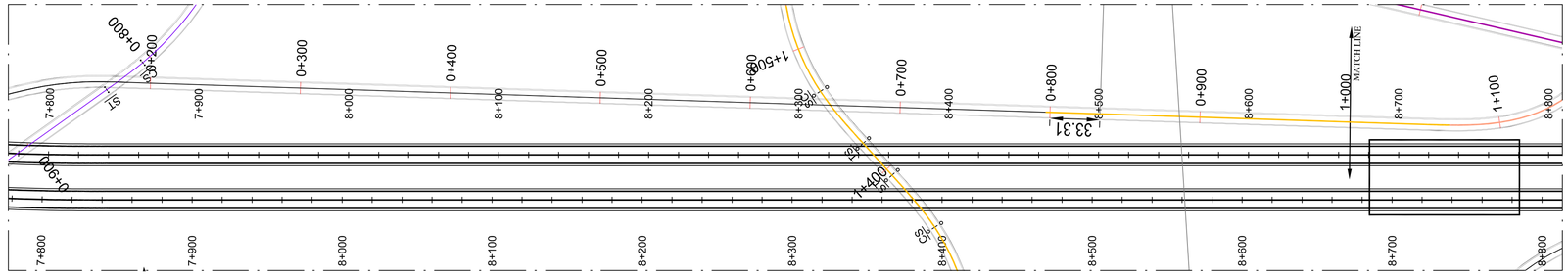
Scale :- N.T.S.
Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 6+800 TO CH: 7+800

Drawing No.: RC/1640/HO/HBT/TU/DWG//GEO/PLP/206/R0

Original Drawing Size A1



LAYOUT PLAN

SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
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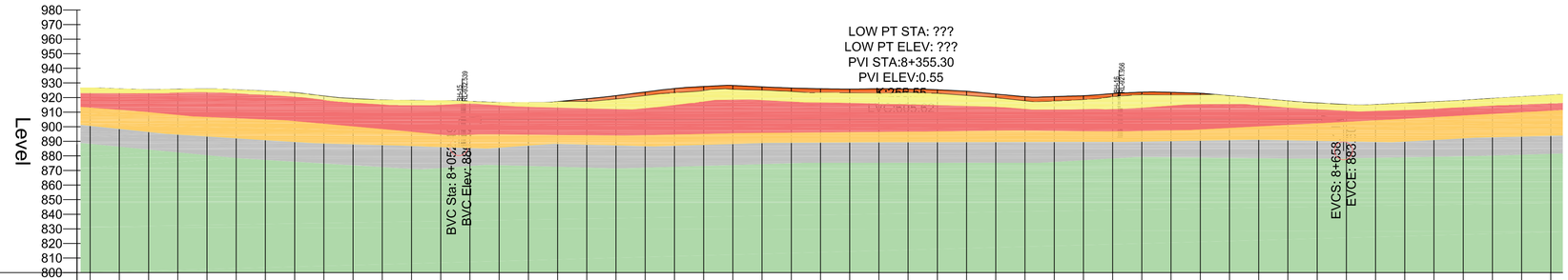

Proposed Levels	884.615 884.762 884.909 885.056 885.203 885.350 885.497 885.644 885.791 885.938 886.085 886.232 886.377 886.511 886.628 886.730 886.816 886.887 886.942 886.981 887.005 887.013 887.005 886.982 886.943 886.888 886.818 886.732 886.631 886.513 886.380 886.232 886.068 885.888 885.692 885.481 885.255 885.012 884.754 884.480 884.191 883.886 883.565 883.238 882.911 882.584 882.257 881.930 881.603 881.276
Existing Levels	926.475 925.944 925.377 925.692 925.900 925.332 924.456 923.343 921.009 919.293 918.297 917.991 917.781 917.327 916.578 916.528 917.180 919.133 921.276 923.807 926.131 927.562 928.268 927.281 926.537 926.038 925.774 925.974 925.862 925.329 924.345 922.402 920.585 920.639 921.233 922.688 923.674 923.541 922.917 921.208 919.428 917.636 916.234 915.143 915.155 916.116 917.085 918.064 919.352 920.502 921.630
Horizontal	L: 40.000 L =1459.710
Vertical	R =25554. 645 K =255. 546 L =605. 618
Chainage	7800.000 7820.000 7840.000 7860.000 7880.000 7900.000 7920.000 7940.000 7960.000 7980.000 8000.000 8020.000 8040.000 8060.000 8080.000 8100.000 8120.000 8140.000 8160.000 8180.000 8200.000 8220.000 8240.000 8260.000 8280.000 8300.000 8320.000 8340.000 8360.000 8380.000 8400.000 8420.000 8440.000 8460.000 8480.000 8500.000 8520.000 8540.000 8560.000 8580.000 8600.000 8620.000 8640.000 8660.000 8680.000 8700.000 8720.000 8740.000 8760.000 8780.000 8800.000
Level Difference	-42.007 -41.329 -40.615 -40.783 -40.844 -40.129 -39.106 -37.846 -35.365 -33.502 -32.359 -31.906 -31.549 -30.949 -30.067 -29.900 -30.450 -32.316 -34.389 -36.865 -39.149 -40.557 -41.255 -40.276 -39.555 -39.096 -38.886 -39.156 -39.130 -38.698 -37.832 -36.022 -34.353 -34.571 -35.345 -36.995 -38.192 -38.286 -37.904 -36.454 -34.948 -33.446 -32.348 -31.578 -31.917 -33.205 -34.501 -35.807 -37.422 -38.899 -40.354

LONGITUDINAL SECTION

SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

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DRAFT PROJECT REPORT

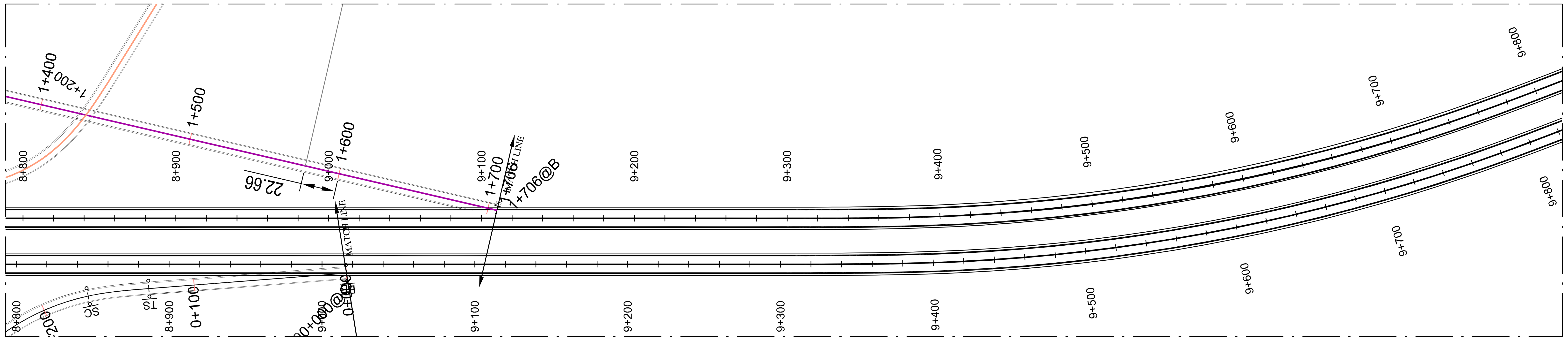
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.

Sheet size: A1

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 7+800 TO CH: 8+800
Drawing No.	RC/1640/HO/HBT/TU/DWG//GEO/PLP/207/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
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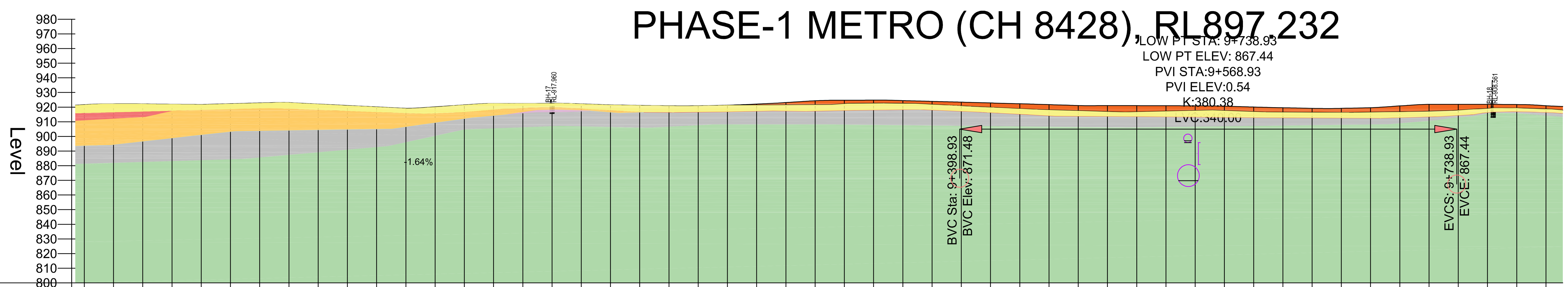


Proposed Levels (in order as printed): 880.949, 880.622, 880.295, 879.968, 879.641, 879.313, 878.986, 878.659, 878.332, 878.005, 877.678, 877.351, 877.024, 876.697, 876.370, 876.043, 875.716, 875.389, 875.062, 874.735, 874.408, 874.081, 873.754, 873.427, 873.099, 872.772, 872.445, 872.118, 871.791, 871.464, 871.143, 870.832, 870.532, 870.242, 869.963, 869.695, 869.436, 869.189, 868.952, 868.725, 868.509, 868.303, 868.108, 867.924, 867.750, 867.586, 867.433, 867.285, 867.137, 866.989

Horizontal: L: 115.000 | R: 1200.000, L: 333.962 | L: 115

Vertical: G =-1.635%, L =740.824 | R =38037.580, K =380.376, L =340.000

Chainage	Existing Levels	Level Difference
8800.000	921.630	-40.354
8820.000	922.202	-41.253
8840.000	922.153	-41.531
8860.000	921.927	-41.632
8880.000	921.764	-41.796
8900.000	922.292	-42.651
8920.000	922.815	-43.501
8940.000	923.063	-44.076
8960.000	922.067	-43.408
8980.000	921.085	-42.753
9000.000	920.112	-42.106
9020.000	919.165	-41.486
9040.000	920.162	-42.811
9060.000	921.494	-44.470
9080.000	922.409	-45.712
9100.000	922.398	-46.028
9120.000	922.548	-46.505
9140.000	922.168	-46.452
9160.000	921.501	-46.113
9180.000	921.141	-46.080
9200.000	920.894	-46.159
9220.000	920.913	-46.505
9240.000	921.287	-47.206
9260.000	922.110	-48.357
9280.000	923.131	-49.704
9300.000	924.352	-51.252
9320.000	924.714	-51.941
9340.000	924.754	-52.308
9360.000	924.469	-52.350
9380.000	923.933	-52.142
9400.000	923.412	-51.948
9420.000	922.851	-51.708
9440.000	922.290	-51.457
9460.000	921.720	-51.188
9480.000	921.083	-50.841
9500.000	921.057	-51.094
9520.000	921.027	-51.333
9540.000	920.959	-51.522
9560.000	920.891	-51.702
9580.000	920.673	-51.721
9600.000	920.087	-51.362
9620.000	919.594	-51.085
9640.000	919.196	-50.893
9660.000	919.172	-51.064
9680.000	919.620	-51.696
9700.000	920.838	-53.088
9720.000	921.875	-54.288
9740.000	921.865	-54.432
9760.000	921.873	-54.588
9780.000	921.774	-54.638
9800.000	920.943	-53.954

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT: GOVERNMENT OF KARNATAKA; GOVERNMENT OF KARANATAKA, Bruhat Bangalore Mahanagara Palike

CONSULTANT: RODIC CONSULTANTS PVT. LTD., 1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING, NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED, 04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India, #15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

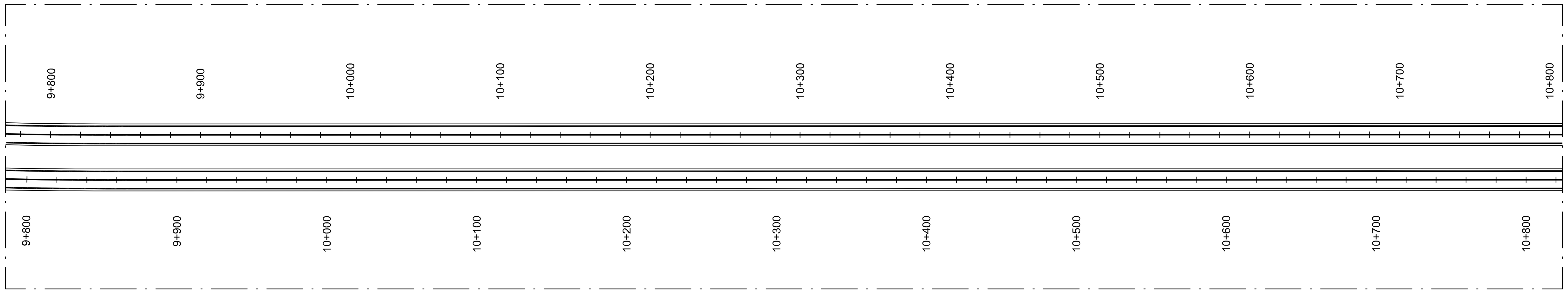
Scale :- N.T.S.
Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 8+800 TO CH: 9+800

Drawing No.: RC/1640/HO/HBT/TU/DWG/ /GEO/PLP/208/R0

Original Drawing Size A1

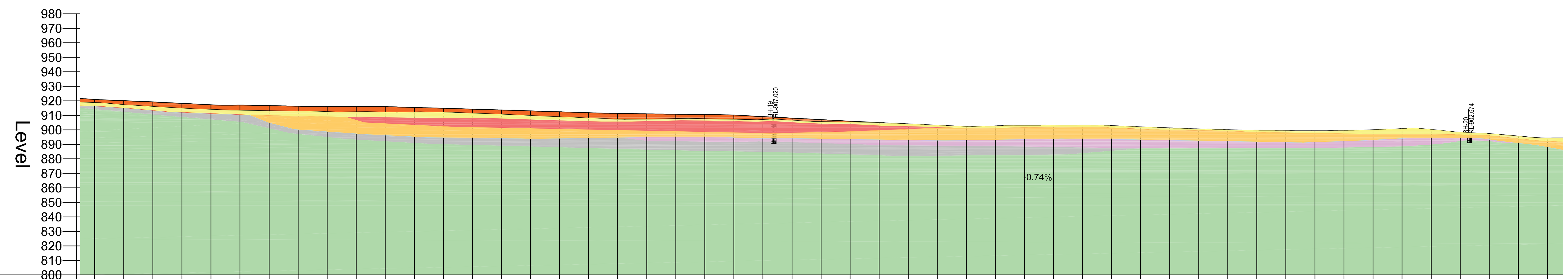


LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

1. ALL DIMENSION AND LEVELS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
4. ALIGNMENT DATA USED FOR GEOLOGICAL PROFILE HAS BEEN USED AS RECEIVED FROM JV AND IS INDICATIVE ONLY, FOR ALIGNMENT DETAILS LATEST REVISION OF ALIGNMENT DRAWING MUST BE USED.



Horizontal: L: 115.000

Vertical: G =-0.741% L =1420.143

Chainage	Proposed Levels	Existing Levels	Level Difference
9800.000	[illegible]	920.943	-53.954
9820.000	866.840	920.090	-53.250
9840.000	866.692	919.248	-52.556
9860.000	866.544	918.260	-51.716
9880.000	866.395	917.272	-50.876
9900.000	866.247	917.041	-50.793
9920.000	866.099	916.723	-50.624
9940.000	865.951	916.289	-50.338
9960.000	865.802	916.071	-50.268
9980.000	865.654	916.030	-50.376
10000.000	865.506	915.979	-50.473
10020.000	865.357	915.426	-50.069
10040.000	865.209	914.881	-49.671
10060.000	865.061	914.244	-49.183
10080.000	864.913	913.666	-48.754
10100.000	864.764	913.062	-48.298
10120.000	864.616	912.426	-47.810
10140.000	864.468	911.817	-47.349
10160.000	864.319	911.359	-47.040
10180.000	864.171	911.029	-46.858
10200.000	864.023	910.786	-46.764
10220.000	863.875	910.583	-46.708
10240.000	863.726	910.198	-46.471
10260.000	863.578	909.126	-45.548
10280.000	863.430	908.080	-44.650
10300.000	863.282	907.020	-43.739
10320.000	863.133	905.969	-42.835
10340.000	862.985	904.972	-41.987
10360.000	862.837	904.100	-41.264
10380.000	862.688	903.171	-40.482
10400.000	862.540	902.285	-39.745
10420.000	862.392	902.695	-40.303
10440.000	862.244	902.945	-40.701
10460.000	862.095	903.115	-41.020
10480.000	861.947	903.276	-41.329
10500.000	861.799	902.827	-41.029
10520.000	861.650	902.023	-40.372
10540.000	861.502	901.291	-39.789
10560.000	861.354	900.589	-39.235
10580.000	861.206	900.038	-38.833
10600.000	861.057	899.557	-38.500
10620.000	860.909	899.383	-38.474
10640.000	860.761	899.267	-38.506
10660.000	860.612	899.430	-38.818
10680.000	860.464	900.011	-39.547
10700.000	860.316	900.760	-40.444
10720.000	860.168	900.202	-40.034
10740.000	860.019	898.345	-38.325
10760.000	859.871	897.336	-37.465
10780.000	859.723	895.658	-35.935
10800.000	859.574	894.331	-34.756

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT: GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT: RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

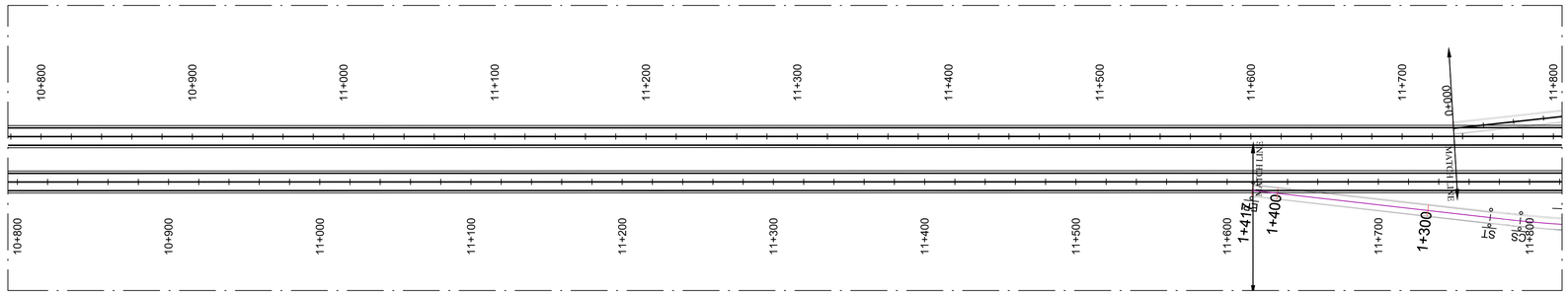
Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt	Scale :- N.T.S.
Drawn:	ABa	
Checked:	VLj	
Approved:	PSi	Sheet size: A1

Project	“Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction”
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 9+800 TO CH: 10+800
Drawing No.	RC/1640/HO/HBT/TU/DWG/ /GEO/PLP/209/R0

Original Drawing Size A1



LAYOUT PLAN

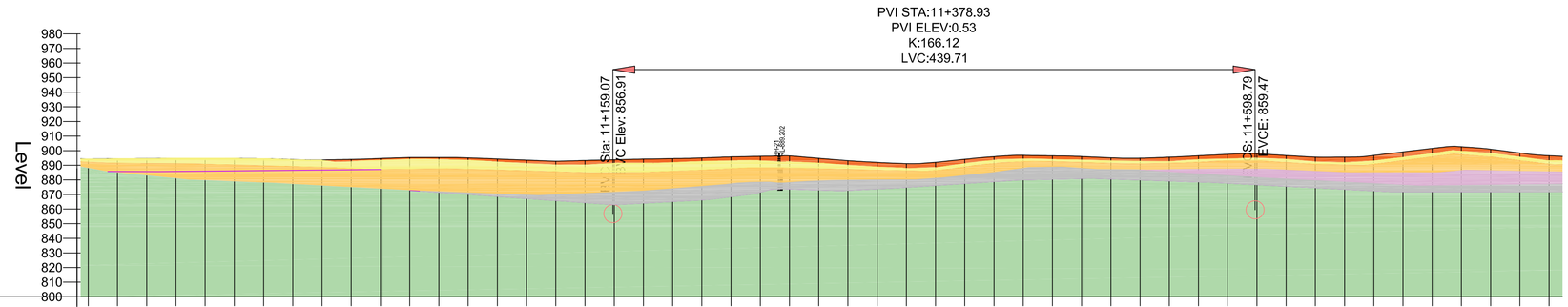
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

1. ALL DIMENSION AND LEVELS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
4. ALIGNMENT DATA USED FOR GEOLOGICAL PROFILE HAS BEEN USED AS RECEIVED FROM JV AND IS INDICATIVE ONLY, FOR ALIGNMENT DETAILS LATEST REVISION OF ALIGNMENT DRAWING MUST BE USED.



Proposed Levels	859.426 859.278 859.130 858.981 858.833 858.685 858.537 858.388 858.240 858.092 857.943 857.795 857.647 857.499 857.350 857.202 857.054 856.905 856.770 856.659 856.572 856.509 856.471 856.456 856.465 856.499 856.556 856.638 856.743 856.873 857.027 857.205 857.407 857.633 857.883 858.157 858.456 858.778 859.124 859.495 859.876 860.257 860.638 861.019 861.400 861.782 862.163 862.544 862.925 863.306
Existing Levels	894.331 894.495 894.658 894.755 894.817 894.733 894.552 893.962 893.681 894.026 894.682 895.317 895.293 895.073 894.315 893.536 892.767 893.294 893.777 894.238 894.590 895.047 895.757 896.152 896.392 894.779 893.133 891.993 891.139 892.039 894.116 895.929 896.808 896.504 895.995 895.128 894.867 895.566 896.544 897.517 898.016 896.693 895.599 895.575 896.759 899.191 901.578 902.691 901.014 898.445 896.577
Horizontal	L =3197.586
Vertical	R =16611. 854 K =166. 119 L =439. 715
Chainage	10800.000 10820.000 10840.000 10860.000 10880.000 10900.000 10920.000 10940.000 10960.000 10980.000 11000.000 11020.000 11040.000 11060.000 11080.000 11100.000 11120.000 11140.000 11160.000 11180.000 11200.000 11220.000 11240.000 11260.000 11280.000 11300.000 11320.000 11340.000 11360.000 11380.000 11400.000 11420.000 11440.000 11460.000 11480.000 11500.000 11520.000 11540.000 11560.000 11580.000 11600.000 11620.000 11640.000 11660.000 11680.000 11700.000 11720.000 11740.000 11760.000 11780.000 11800.000
Level Difference	-34.756 -35.069 -35.380 -35.626 -35.835 -35.900 -35.868 -35.425 -35.293 -35.786 -36.591 -37.374 -37.498 -37.426 -36.816 -36.186 -35.565 -36.240 -36.871 -37.468 -37.931 -38.474 -39.247 -39.681 -39.936 -38.314 -36.634 -35.436 -34.501 -35.296 -37.243 -38.902 -39.603 -39.097 -38.363 -37.244 -36.710 -37.111 -37.766 -38.392 -38.521 -36.817 -35.342 -34.937 -35.740 -37.790 -39.796 -40.528 -38.470 -35.520 -33.271

LONGITUDINAL SECTION

SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:

RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA
CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

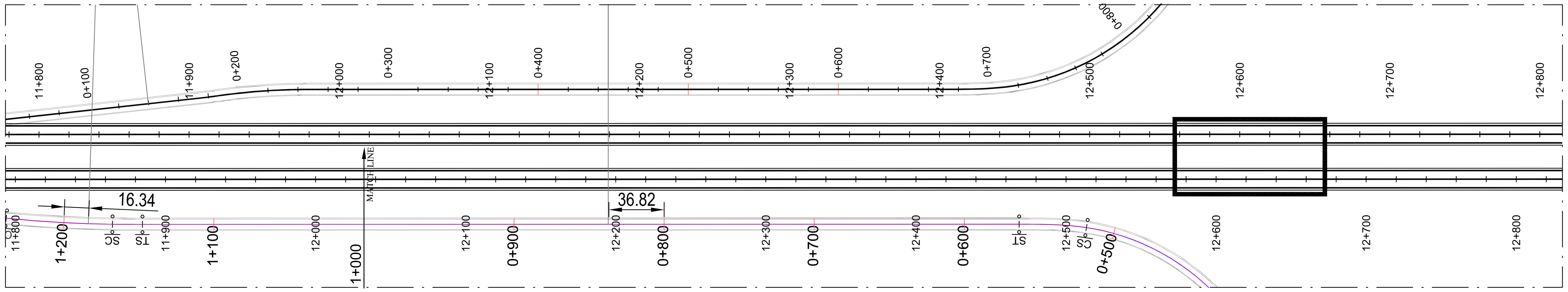
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.

Sheet size: A1

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 10+800 TO CH: 11+800
Drawing No.	RC/1640/HO/HBT/TU/DWG//GEO/PLP/210/R0

Original Drawing Size A1



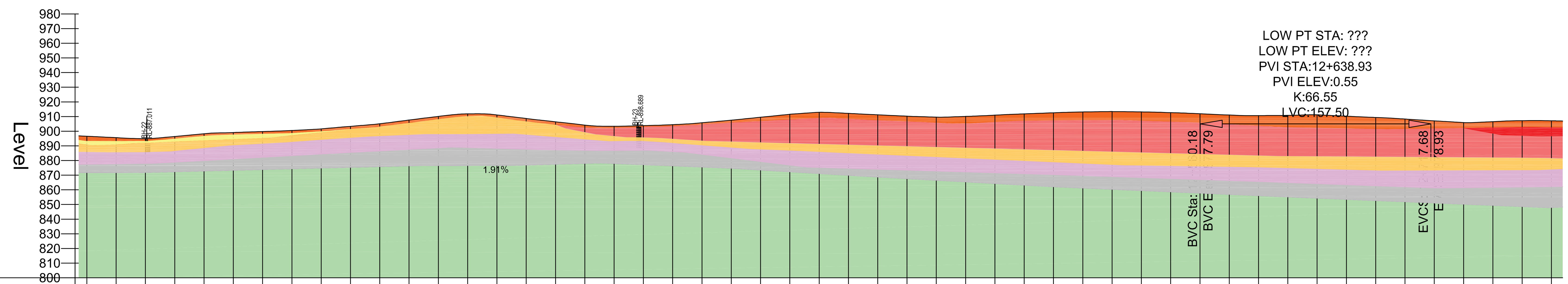
LAYOUT PLAN
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

1. ALL DIMENSION AND LEVELS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
4. ALIGNMENT DATA USED FOR GEOLOGICAL PROFILE HAS BEEN USED AS RECEIVED FROM JV AND IS INDICATIVE ONLY, FOR ALIGNMENT DETAILS LATEST REVISION OF ALIGNMENT DRAWING MUST BE USED.



Chainage	Proposed Levels	Existing Levels	Level Difference
11800.000		896.577	-33.271
11820.000	863.687	895.595	-31.907
11840.000	864.068	894.914	-30.846
11860.000	864.449	896.383	-31.933
11880.000	864.831 865.212	898.276	-33.446
11900.000		899.100	-33.888
11920.000	865.593	899.766	-34.173
11940.000	865.974	900.498	-34.524
11960.000	866.355	901.602	-35.247
11980.000	866.736 867.117	903.313	-36.577
12000.000		905.079	-37.962
12020.000	867.498	907.628	-40.130
12040.000	867.879	910.092	-42.212
12060.000	868.261	911.812	-43.551
12080.000	868.642 869.023	911.098	-42.456
12100.000		908.668	-39.645
12120.000	869.404	906.412	-37.008
12140.000	869.785	904.166	-34.381
12160.000	870.166	903.360	-33.194
12180.000	870.547 870.928	903.804	-33.257
12200.000		904.452	-33.523
12220.000	871.310	905.763	-34.453
12240.000	871.691	907.517	-35.826
12260.000	872.072	909.528	-37.456
12280.000	872.453 872.834	911.557	-39.104
12300.000		912.882	-40.048
12320.000	873.215	912.160	-38.944
12340.000	873.596	911.183	-37.587
12360.000	873.977	910.242	-36.264
12380.000	874.358 874.740	909.612	-35.253
12400.000		910.107	-35.368
12420.000	875.121	910.962	-35.842
12440.000	875.502	911.832	-36.330
12460.000	875.883	912.567	-36.684
12480.000	876.264 876.645	913.131	-36.867
12500.000		913.400	-36.754
12520.000	877.026	913.147	-36.121
12540.000	877.407	912.673	-35.266
12560.000	877.789	911.923	-34.135
12580.000	878.140 878.432	911.035	-32.894
12600.000		910.662	-32.231
12620.000	878.663	910.799	-32.136
12640.000	878.834	911.167	-32.333
12660.000	878.946	910.261	-31.316
12680.000	878.997 878.988	909.372	-30.375
12700.000		908.302	-29.314
12720.000	878.919	907.077	-28.158
12740.000	878.827	905.896	-27.069
12760.000	878.734	906.523	-27.789
12780.000	878.642 878.550	907.197	-28.555
12800.000		907.115	-28.565

Horizontal

Vertical: G =1. 906% L =961. 393 | R =6655. 153 K =66. 552 L =157. 500

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT
GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:
RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

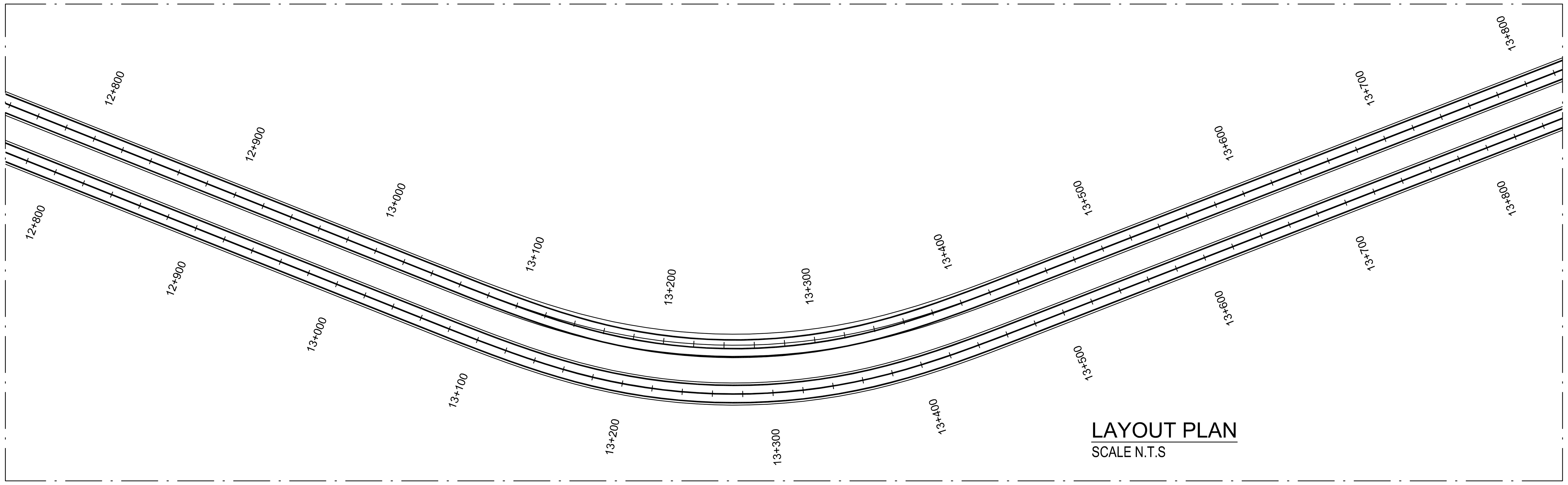
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.
Sheet size: A1

Project: “Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction”

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 11+800 TO CH: 12+800

Drawing No.: RC/1640/HO/HBT/TU/DWG/ /GEO/PLP/211/R0



LAYOUT PLAN
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

1. ALL DIMENSION AND LEVELS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
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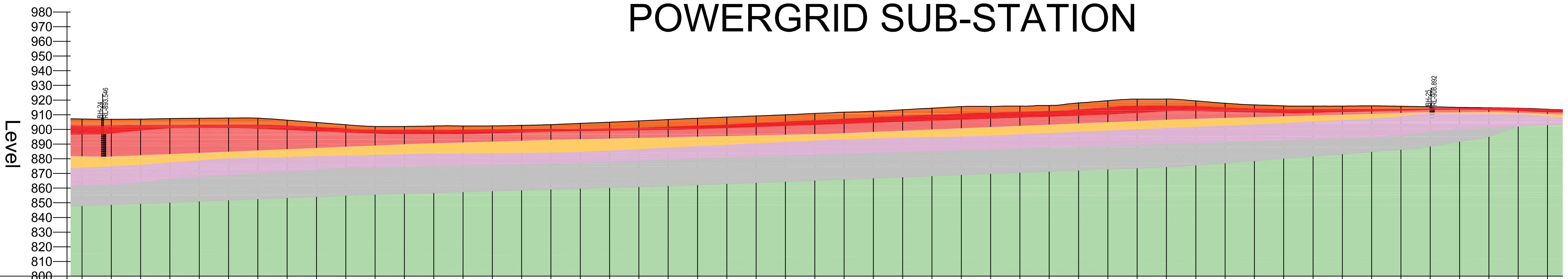
POWERGRID SUB-STATION



Chainage	Proposed Levels	Existing Levels	Level Difference
12800.000	[illegible]	907.115	-28.565
12820.000	878.458	906.912	-28.454
12840.000	878.366	907.002	-28.636
12860.000	878.273	907.398	-29.124
12880.000	878.181 878.089	907.590	-29.408
12900.000		907.751	-29.662
12920.000	877.997	907.658	-29.661
12940.000	877.905	906.308	-28.403
12960.000	877.812	904.735	-26.923
12980.000	877.720 877.628	903.162	-25.442
13000.000		902.033	-24.405
13020.000	877.536	902.034	-24.498
13040.000	877.444	902.356	-24.912
13060.000	877.351	902.376	-25.025
13080.000	877.259 877.167	902.410	-25.151
13100.000		902.762	-25.595
13120.000	877.075	903.282	-26.207
13140.000	876.983	904.125	-27.143
13160.000	876.890	904.940	-28.050
13180.000	876.798 876.706	905.811	-29.013
13200.000		906.726	-30.020
13220.000	876.614	907.630	-31.016
13240.000	876.522	908.411	-31.889
13260.000	876.429	909.175	-32.745
13280.000	876.337 876.245	909.970	-33.633
13300.000		910.921	-34.676
13320.000	876.153	911.761	-35.608
13340.000	876.061	912.366	-36.305
13360.000	875.968	913.416	-37.448
13380.000	875.876 875.784	914.493	-38.617
13400.000		915.581	-39.797
13420.000	875.692	915.679	-39.987
13440.000	875.600	915.867	-40.267
13460.000	875.507	916.355	-40.848
13480.000	875.415 875.323	918.066	-42.650
13500.000		919.623	-44.300
13520.000	875.231	920.653	-45.422
13540.000	875.139	920.707	-45.569
13560.000	875.046	919.474	-44.428
13580.000	874.954 874.862	917.814	-42.860
13600.000		916.731	-41.869
13620.000	874.770	916.086	-41.316
13640.000	874.678	915.916	-41.238
13660.000	874.585	915.913	-41.328
13680.000	874.493 874.401	916.089	-41.596
13700.000		915.790	-41.389
13720.000	874.309	915.447	-41.138
13740.000	874.217	914.995	-40.779
13760.000	874.124	914.771	-40.647
13780.000	874.032 873.940	914.420	-40.388
13800.000		913.724	-39.784

Horizontal: L: 115.000 | R: 400.000 L: 185.124 | L: 115.000

Vertical: G =-0. 461% L =1667. 615

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT: GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT: RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

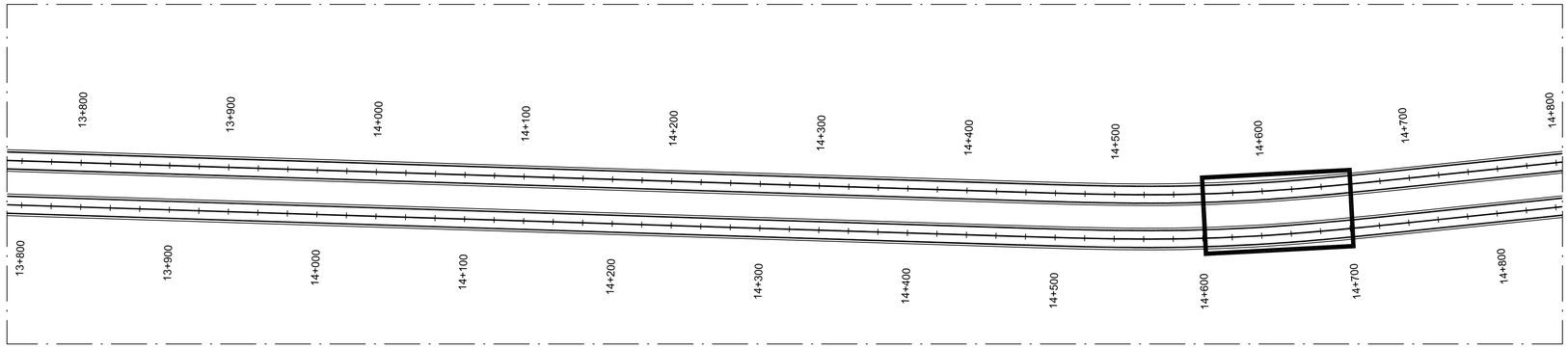
Scale :- N.T.S.
Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 12+800 TO CH: 13+800

Drawing No.: RC/1640/HO/HBT/TU/DWG/ /GEO/PLP/212/R0

Original Drawing Size A1



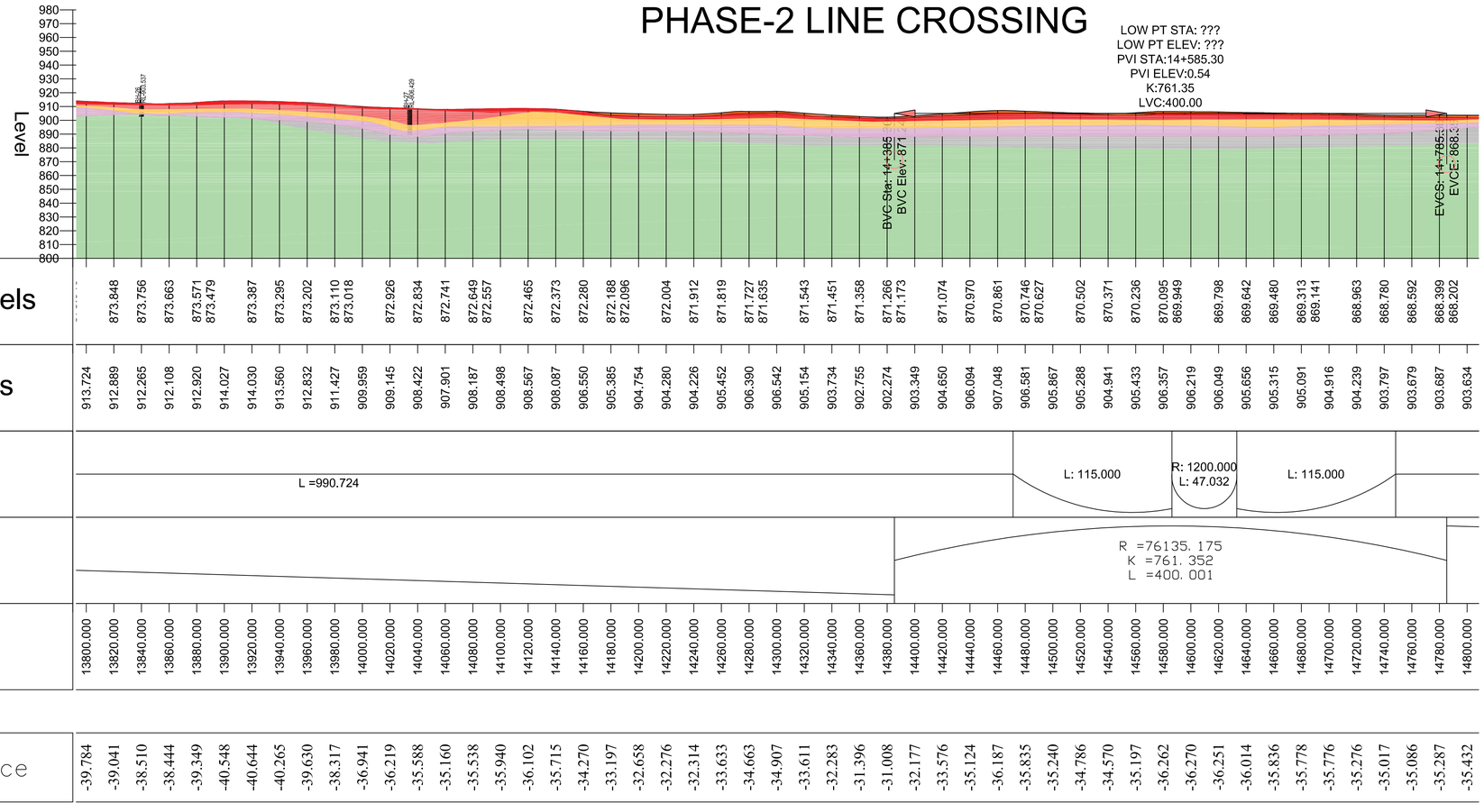
LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

1. ALL DIMENSION AND LEVELS ARE IN METERS, UNLESS OTHERWISE SPECIFIED.
2. GEOLOGICAL PROFILE IS BASED ON THE ALIGNMENT L-SECTION RECEIVED ON 12.09.24
3. SOIL AND ROCK STRATA HAS BEEN MARKED IN GEOLOGICAL PROFILE ON THE BASED OF RECEIVED BORE HOLE LOGS .
4. ALIGNMENT DATA USED FOR GEOLOGICAL PROFILE HAS BEEN USED AS RECEIVED FROM JV AND IS INDICATIVE ONLY, FOR ALIGNMENT DETAILS LATEST REVISION OF ALIGNMENT DRAWING MUST BE USED.

PHASE-2 LINE CROSSING



LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT
GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:
RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)
GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA
Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

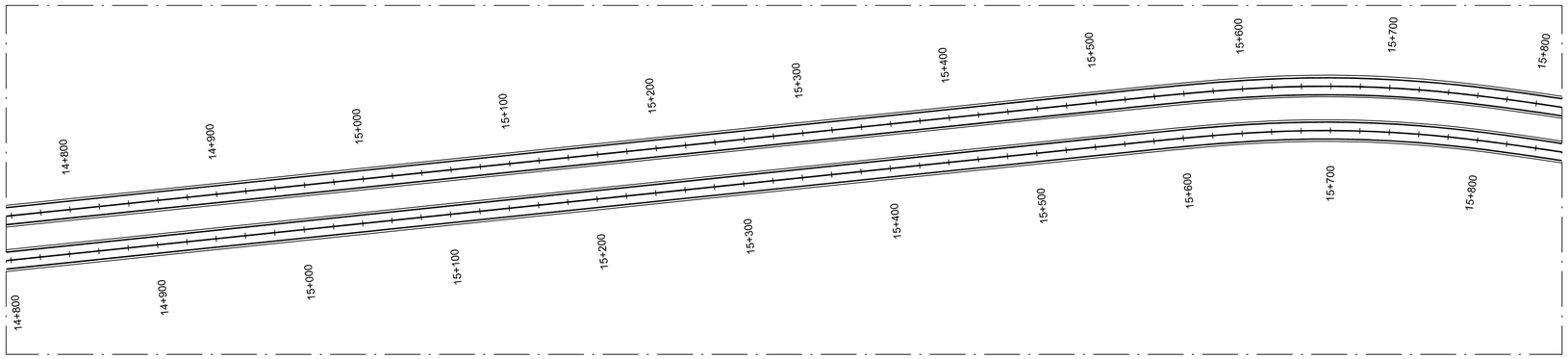
DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.
Sheet size: A1

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 13+800 TO CH: 14+800
Drawing No.	RC/1640/HO/HBT/TU/DWG//GEO/PLP/213/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

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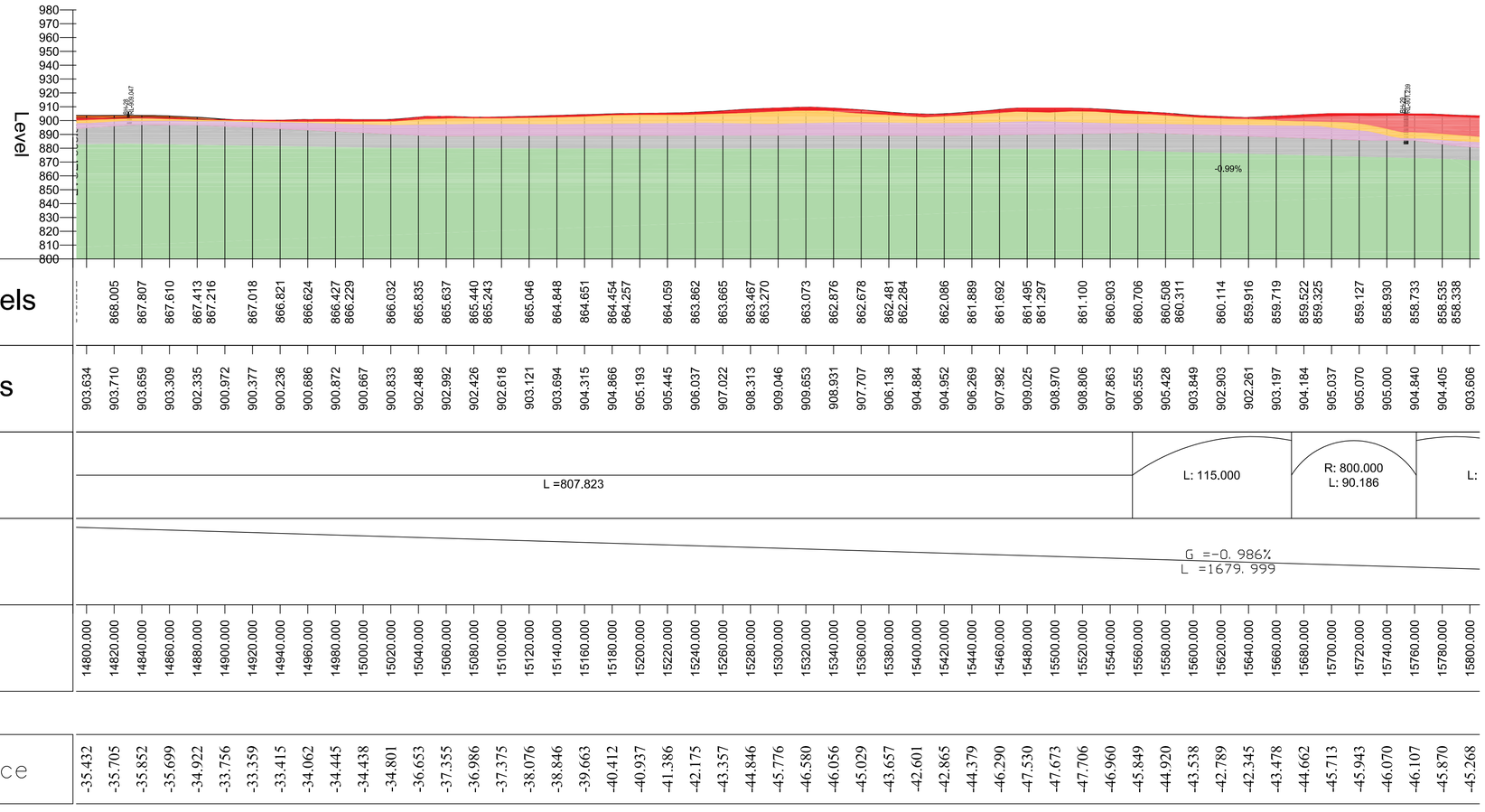

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT

GOVERNMENT OF KARNATAKA

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Bruhat Bangalore Mahanagara Palike

CONSULTANT:

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Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

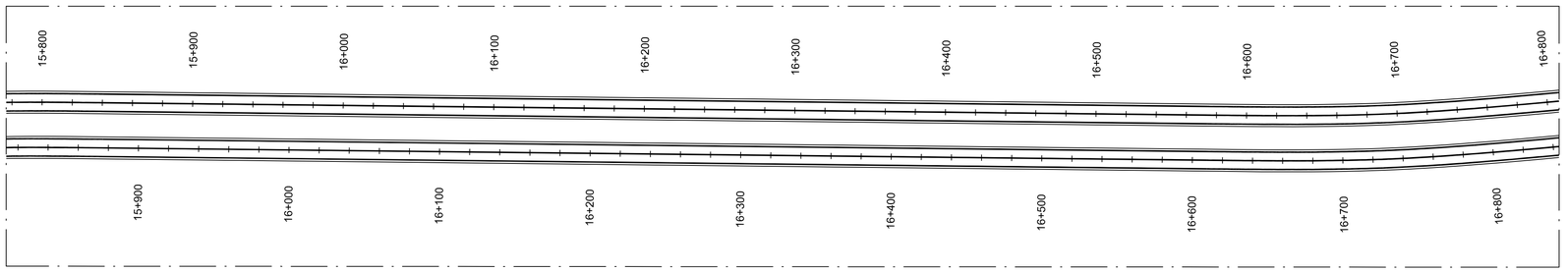
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

Scale :- N.T.S.

Sheet size: A1

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGICAL PLAN AND PROFILE CH: 14+800 TO CH: 15+800
Drawing No.	RC/1640/HO/HBT/TU/DWG//GEO/PLP/214/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
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- GR-II (SWR)
- GR-I (FR)

NOTES:-

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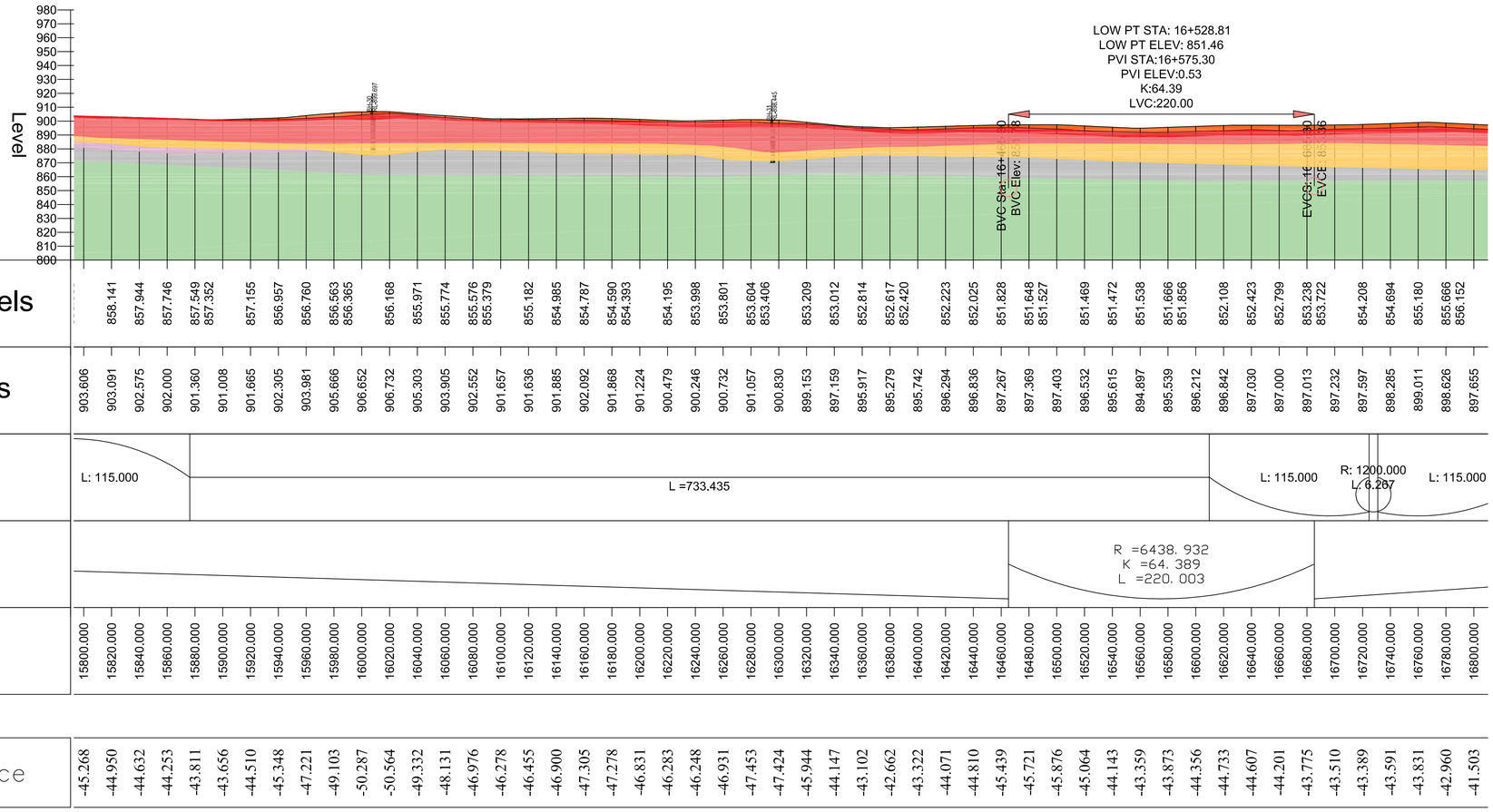

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT
GOVERNMENT OF KARNATAKA
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Bruhat Bangalore Mahanagara Palike

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NEW DELHI - 110001 (INDIA)
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Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

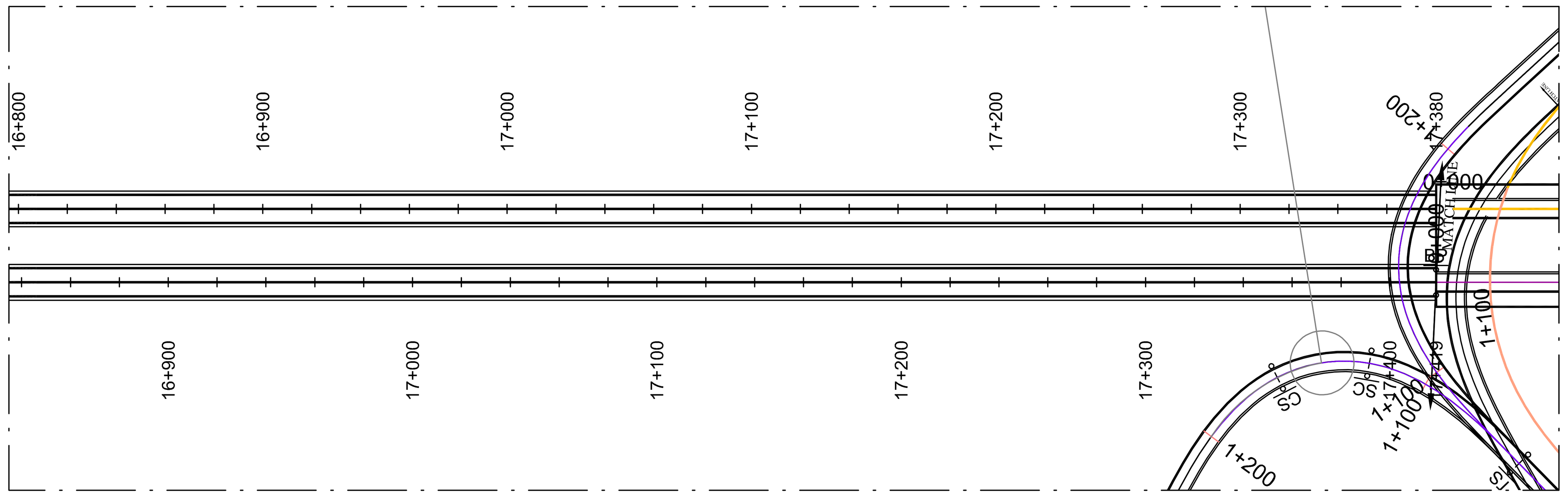
Scale :- N.T.S.
Sheet size: A1

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 15+800 TO CH: 16+800

Drawing No.: RC/1640/HO/HBT/TU/DWG//GEO/PLP/215/R0

Original Drawing Size A1



LAYOUT PLAN
SCALE N.T.S

LEGEND:-
- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
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NOTES:-

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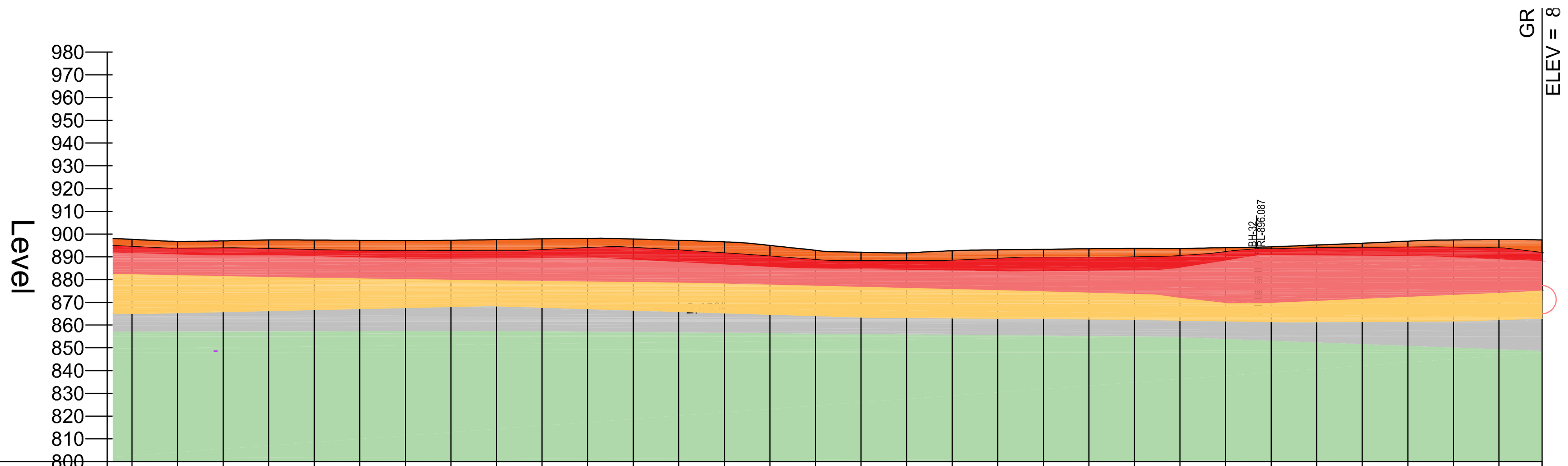


Horizontal: .000 ; L =572.963

Vertical: G =2.430% ; L =733.631

Chainage	Proposed Levels	Existing Levels	Level Difference
16800.000	[illegible]	897.655	-41.503
16820.000	856.638	896.706	-40.068
16840.000	857.124	897.014	-39.890
16860.000	857.610	897.396	-39.785
16880.000	858.096 858.582	897.363	-39.267
16900.000		897.221	-38.639
16920.000	859.068	897.098	-38.030
16940.000	859.554	897.287	-37.732
16960.000	860.041	897.568	-37.528
16980.000	860.527 861.013	897.939	-37.412
17000.000		898.128	-37.115
17020.000	861.499	897.837	-36.338
17040.000	861.985	897.263	-35.278
17060.000	862.471	896.581	-34.110
17080.000	862.957 863.443	894.985	-32.028
17100.000		892.869	-29.426
17120.000	863.929	891.994	-28.065
17140.000	864.415	891.743	-27.328
17160.000	864.901	892.653	-27.752
17180.000	865.387 865.873	893.077	-27.689
17200.000		893.259	-27.385
17220.000	866.360	893.586	-27.226
17240.000	866.846	893.676	-26.831
17260.000	867.332	893.623	-26.292
17280.000	867.818 868.304	894.015	-26.197
17300.000		894.416	-26.112
17320.000	868.790	895.185	-26.395
17340.000	869.276	895.977	-26.701
17360.000	869.762	896.885	-27.123
17380.000	870.248 870.734	897.437	-27.189
17400.000	871.194	897.632	-26.898
17418.930		897.412	-26.218

LONGITUDINAL SECTION
SCALE N.T.S.

(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	11.09.24	PRELIMINARY

CLIENT: GOVERNMENT OF KARNATAKA
GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT: RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

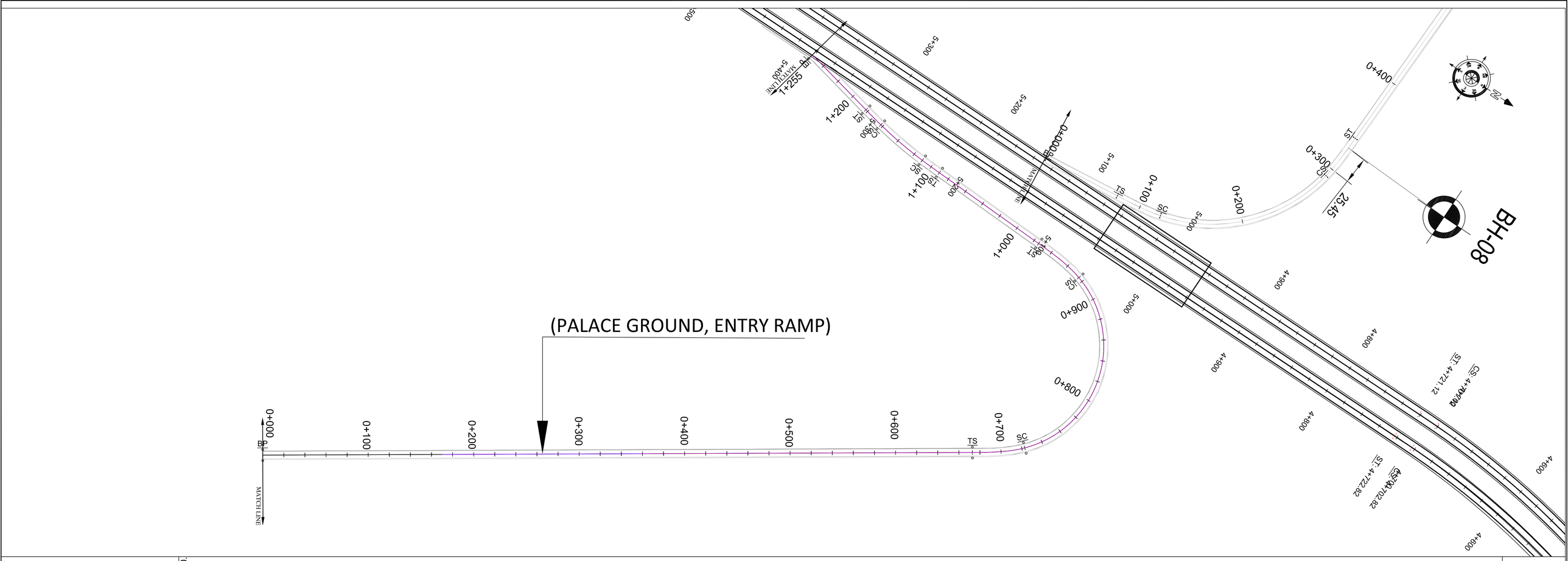
DRAFT PROJECT REPORT

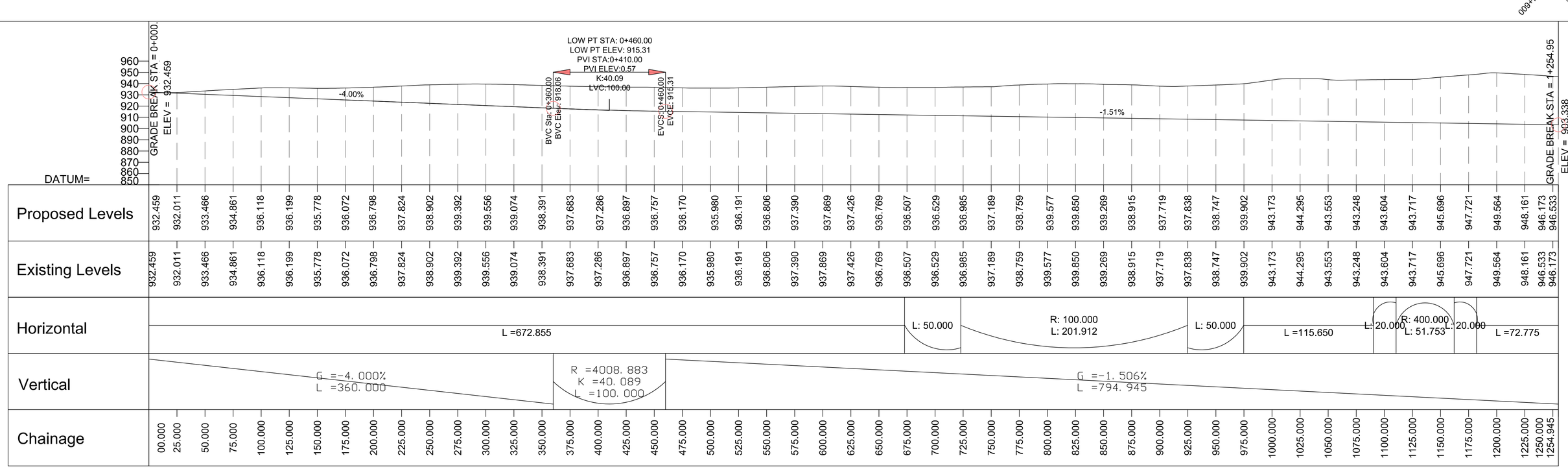
Designed:	RSt	Scale :- N.T.S.
Drawn:	ABa	
Checked:	VLj	
Approved:	PSi	Sheet size: A1

Project: “Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction”

Drawing Title: GEOLOGICAL PLAN AND PROFILE CH: 16+800 TO CH: 17+418.930

Drawing No. RC/1640/HO/HBT/TU/DWG/ /GEO/PLP/216/R0





(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	Sep.:- 2024	PRELIMINARY -

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:

RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA
CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near
Sikanderpur Metro Station Sector 28, Gurugram
Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road
JP Nagar 6th Phase Bengaluru,
Karnataka 560078 India

DRAFT PROJECT REPORT

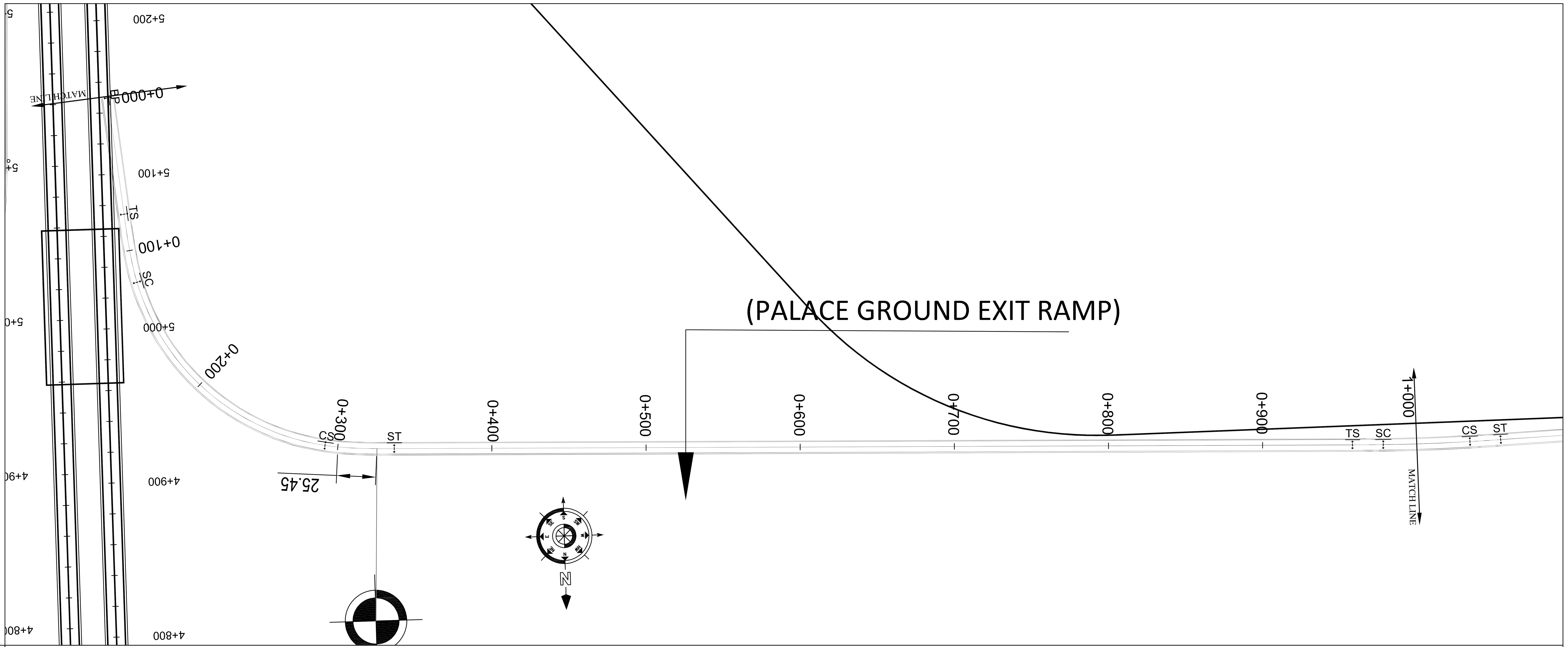
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSj

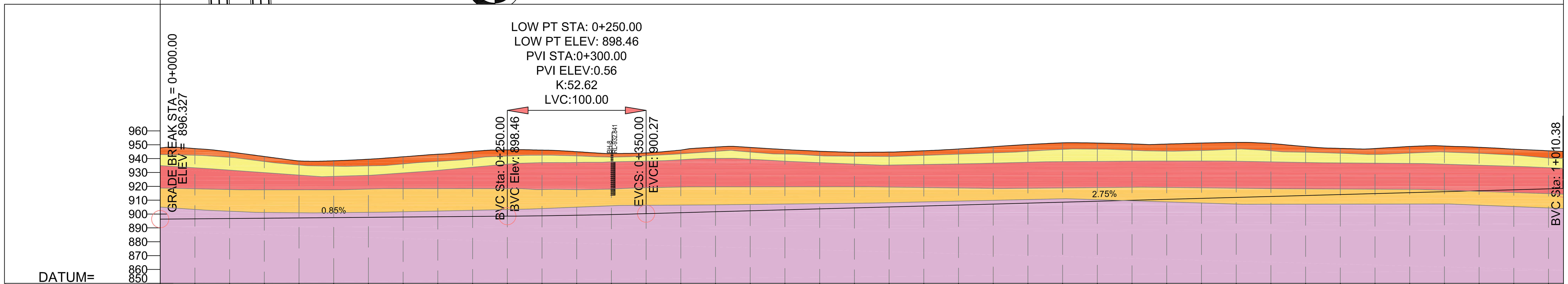
Scale :-1:2500

Sheet size: A2

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (PALACE GROUND, ENTRY RAMP) (Km.0+000 to Km.1+255)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/217/R0

(PALACE GROUND EXIT RAMP)





Chainage	Proposed Levels	Existing Levels
00.000	896.327	
25.000	896.541	947.251
50.000	896.754	944.836
75.000	896.968	941.523
100.000	897.181	938.310
125.000	897.395	938.436
150.000	897.608	939.537
175.000	897.822	941.307
200.000	898.035	943.158
225.000	898.249	945.243
250.000	898.462	946.309
275.000	898.735	946.127
300.000	899.127	944.996
325.000	899.637	943.626
350.000	900.266	944.144
375.000	900.955	946.160
400.000	901.644	948.321
425.000	902.332	948.054
450.000	903.021	946.511
475.000	903.709	945.311
500.000	904.398	944.539
525.000	905.087	944.706
550.000	905.775	945.671
575.000	906.464	946.934
600.000	907.152	948.595
625.000	907.841	950.176
650.000	908.530	951.385
675.000	909.218	951.216
700.000	909.907	950.595
725.000	910.595	950.517
750.000	911.284	951.242
775.000	911.973	951.650
800.000	912.661	950.944
825.000	913.350	948.676
850.000	914.039	947.369
875.000	914.727	947.282
900.000	915.416	948.753
925.000	916.104	949.090
950.000	916.793	948.159
975.000	917.482	946.835
1000.000	918.170	945.648

Horizontal: L =76.159 | L: 45.000 | R: 150.000 L: 170.504 | L: 45.000 | L =621.588 | L: 20.000 | R: 1200 L: 56.

Vertical: G =0. 854% L =250. 000 | R =5262. 107 K =52. 621 L =100. 000 | G =2. 754% L =660. 383

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
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NOTES:-

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REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	Sep.:- 2024	PRELIMINARY -

CLIENT
GOVERNMENT OF KARNATAKA
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Bruhat Bangalore Mahanagara Palike

CONSULTANT:
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DRAFT PROJECT REPORT

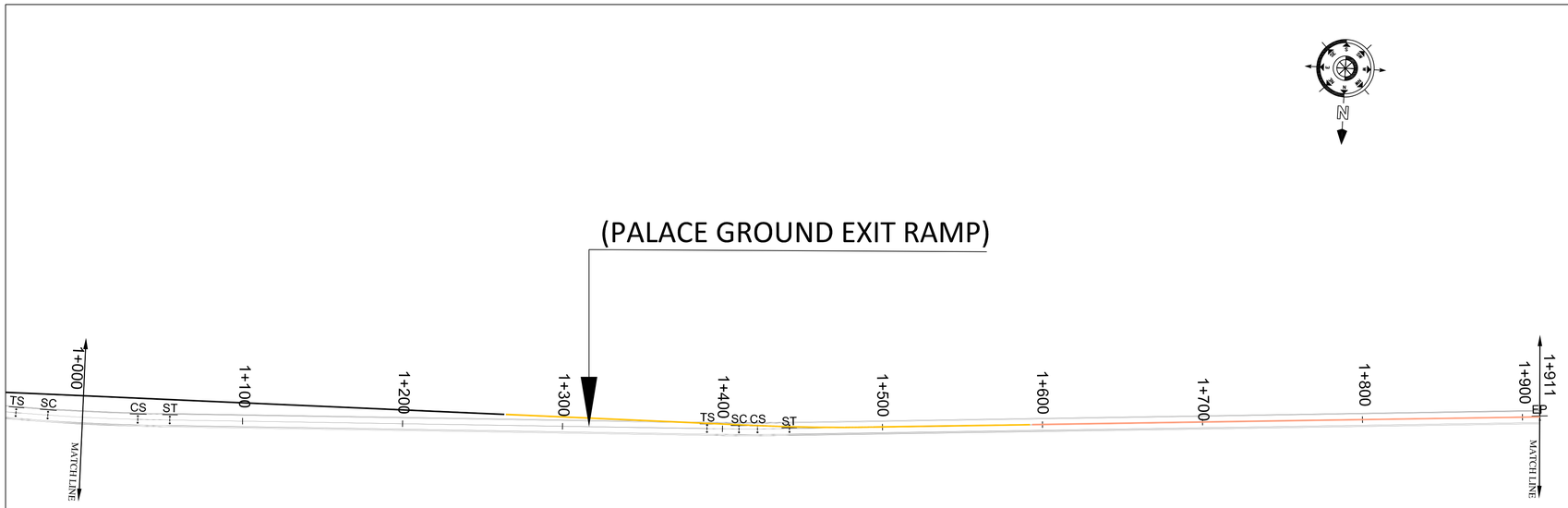
Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

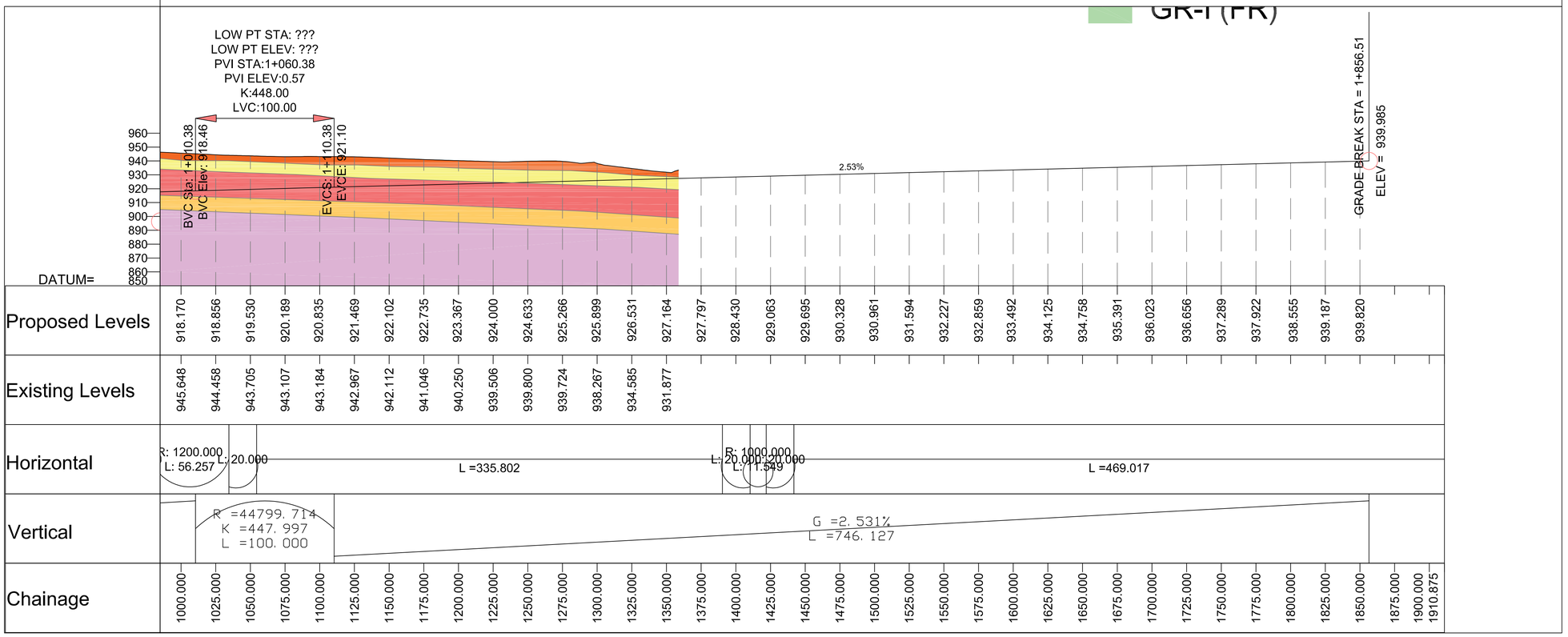
Scale :-1:2500
Sheet size: A2

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (PALACE GRΘUND EXIT RAMP)(Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/218/R0





GR-I (FR)

LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
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(PRELIMINARY)

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CLIENT

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Bruhat Bangalore Mahanagara Palike

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DRAFT PROJECT REPORT

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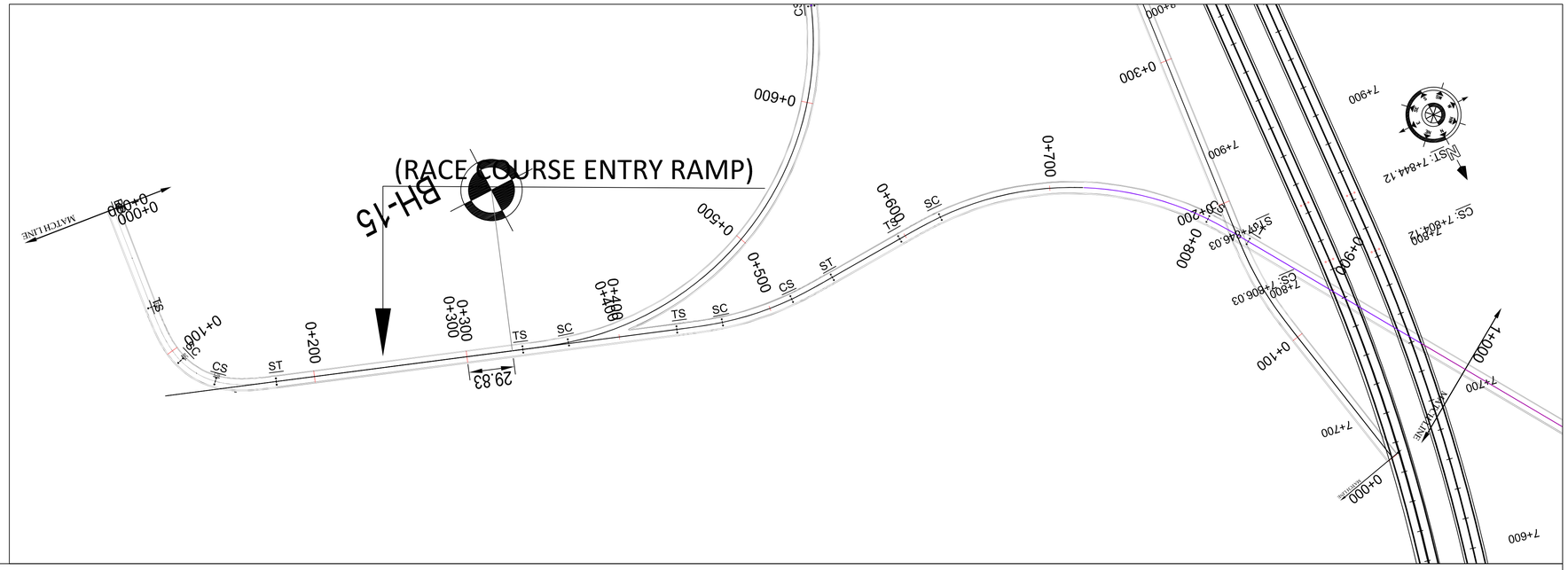
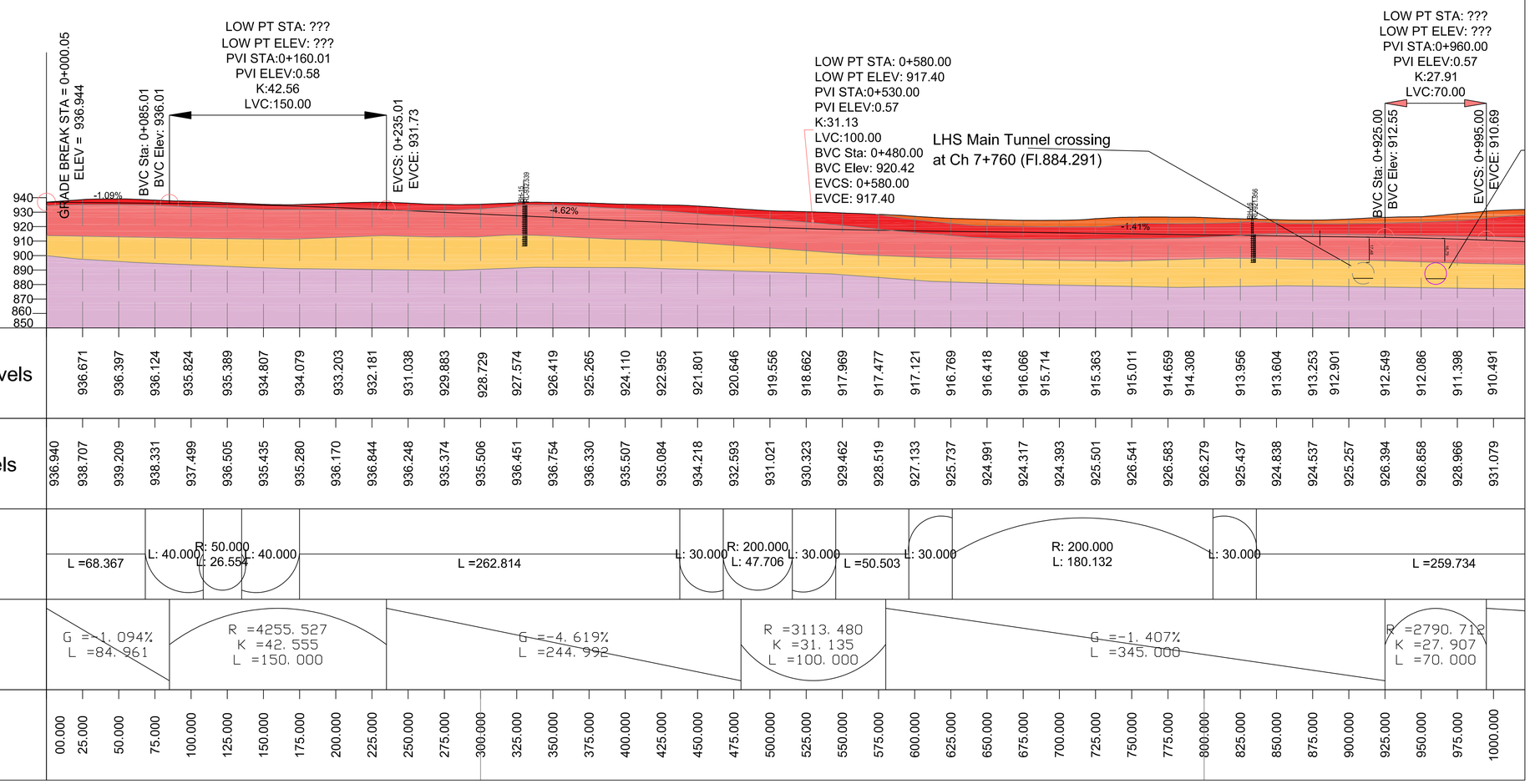
Drawn:	ABa
Checked:	VLj
Approved:	PSj

Scale :-1:2500

Sheet size: A2

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (PALACE GROUND EXIT RAMP) (Km.1+000 to Km.1+911)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/219/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
- GR-I (FR)

NOTES:-

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(PRELIMINARY)

REVISION	DATE	AMENDMENT \ ISSUE DESCRIPTION
R0	Sep.:- 2024	PRELIMINARY -

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:
RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near Sikanderpur Metro Station Sector 28, Gurugram Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

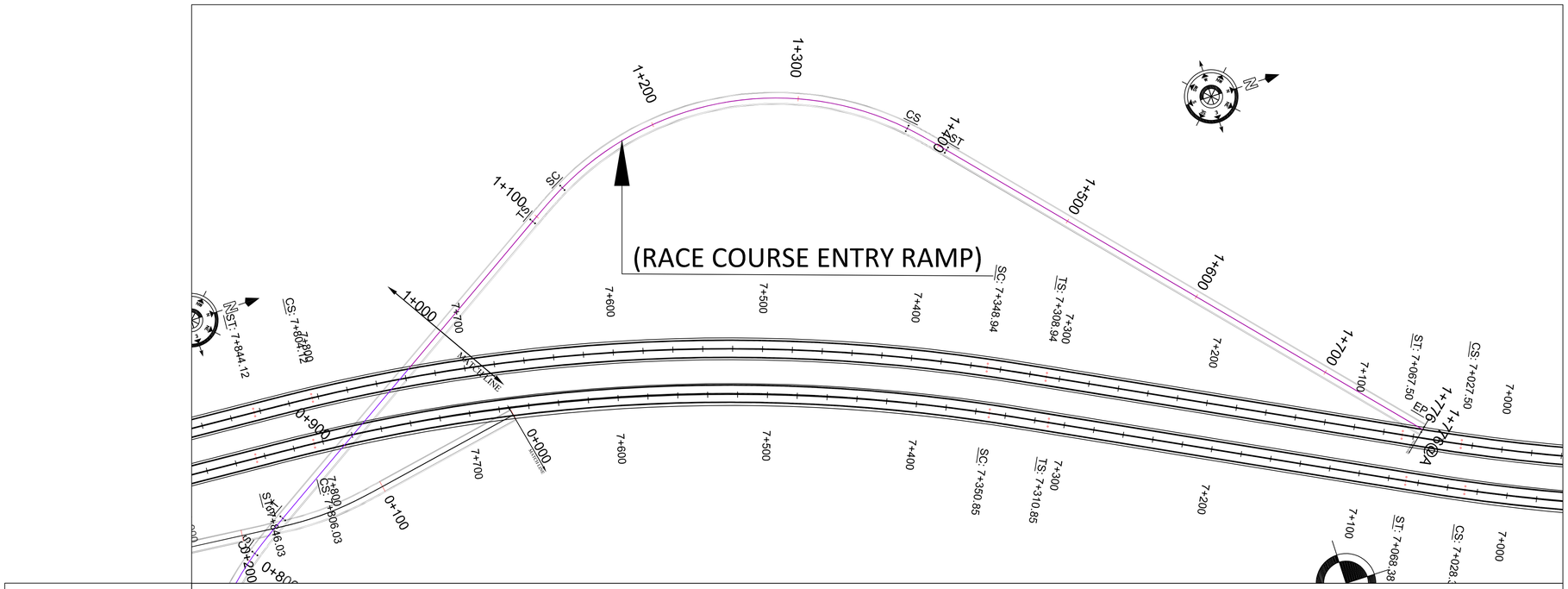
Scale :-1:2500

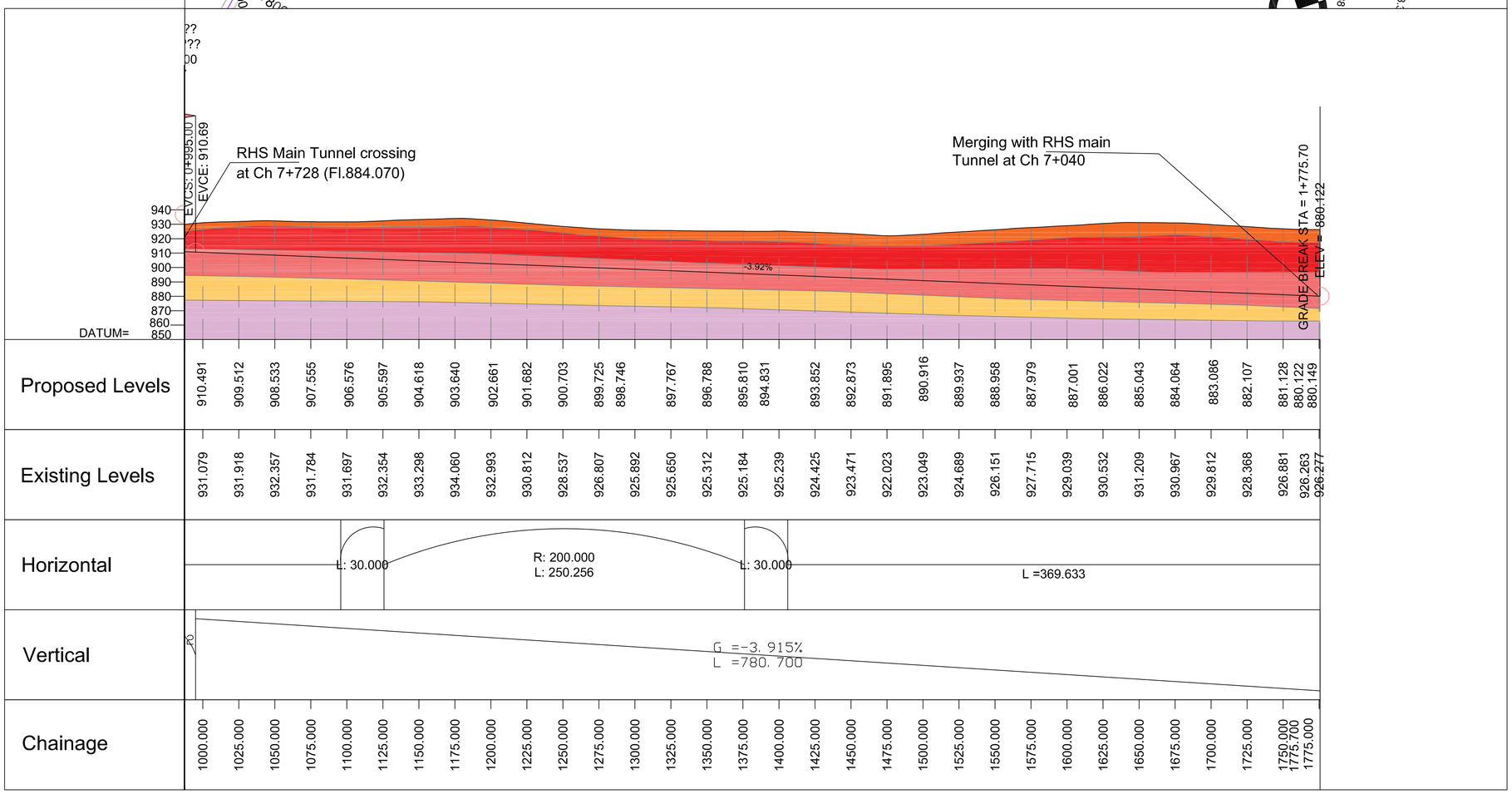
Sheet size: A2

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (RACE COURSE ENTRY RAMP) (Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/220/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
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Fluidyn India
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DRAFT PROJECT REPORT

Designed:	RSt	Scale :-1:2500
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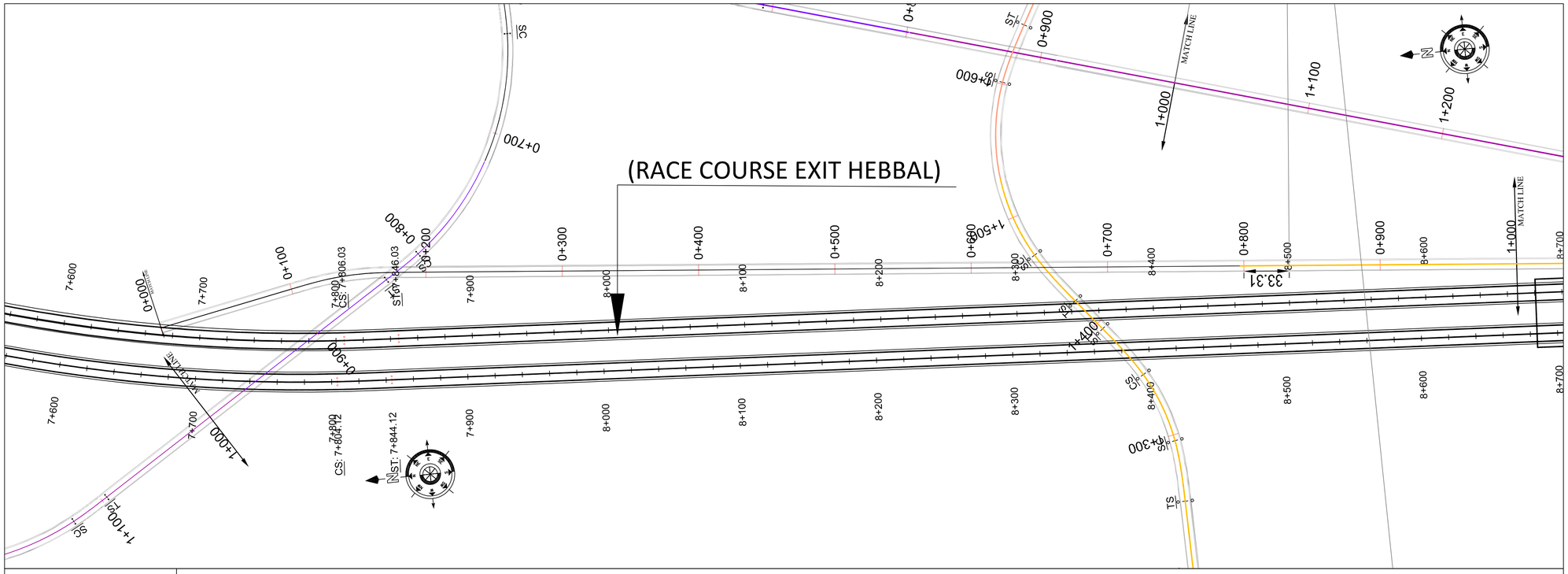
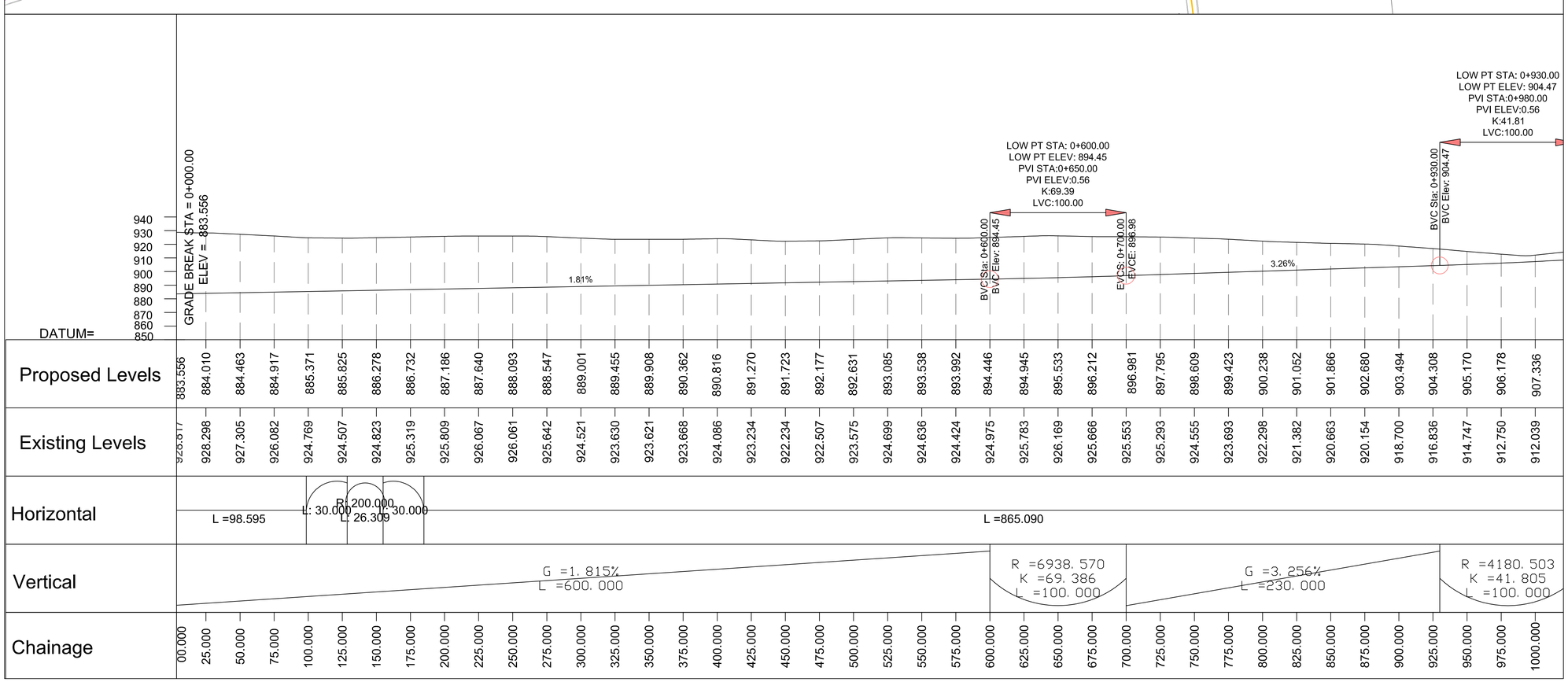
Checked:	VLj	
Approved:	PSi	Sheet size: A2

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (RACE COURSE ENTRY RAMP) (Km.1+000 to Km.1+776)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/221/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
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Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road
JP Nagar 6th Phase Bengaluru,
Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt	Scale :-1:2500
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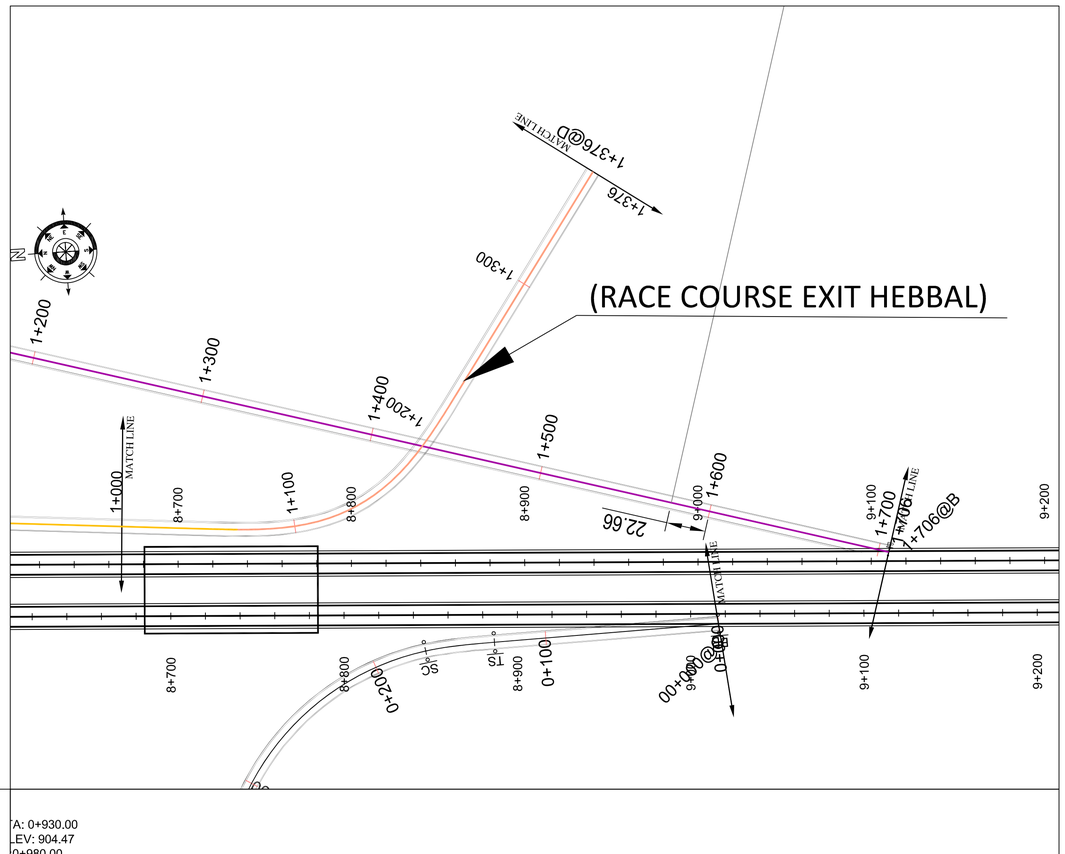
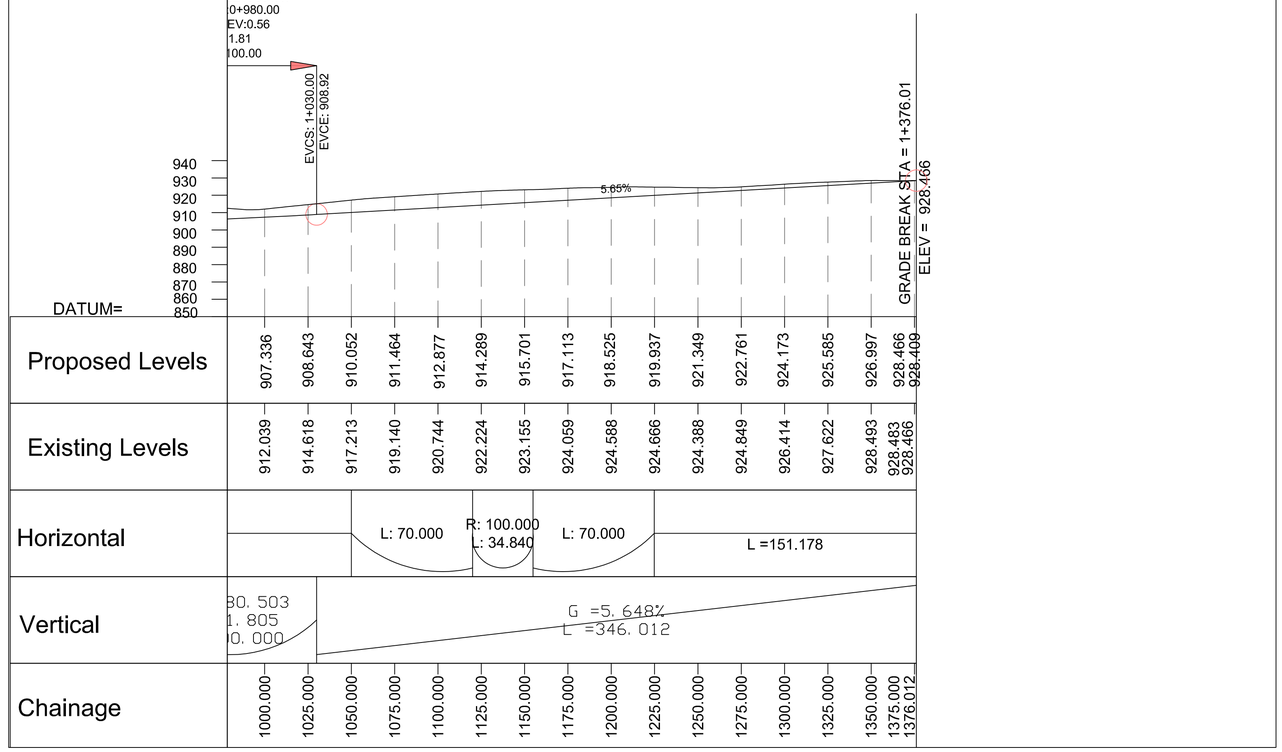
Checked:	VLj	
Approved:	PSj	Sheet size: A2

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (RACE COURSE EXIT HEBBAL) (Km.0+000 to Km.1+000)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/222/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
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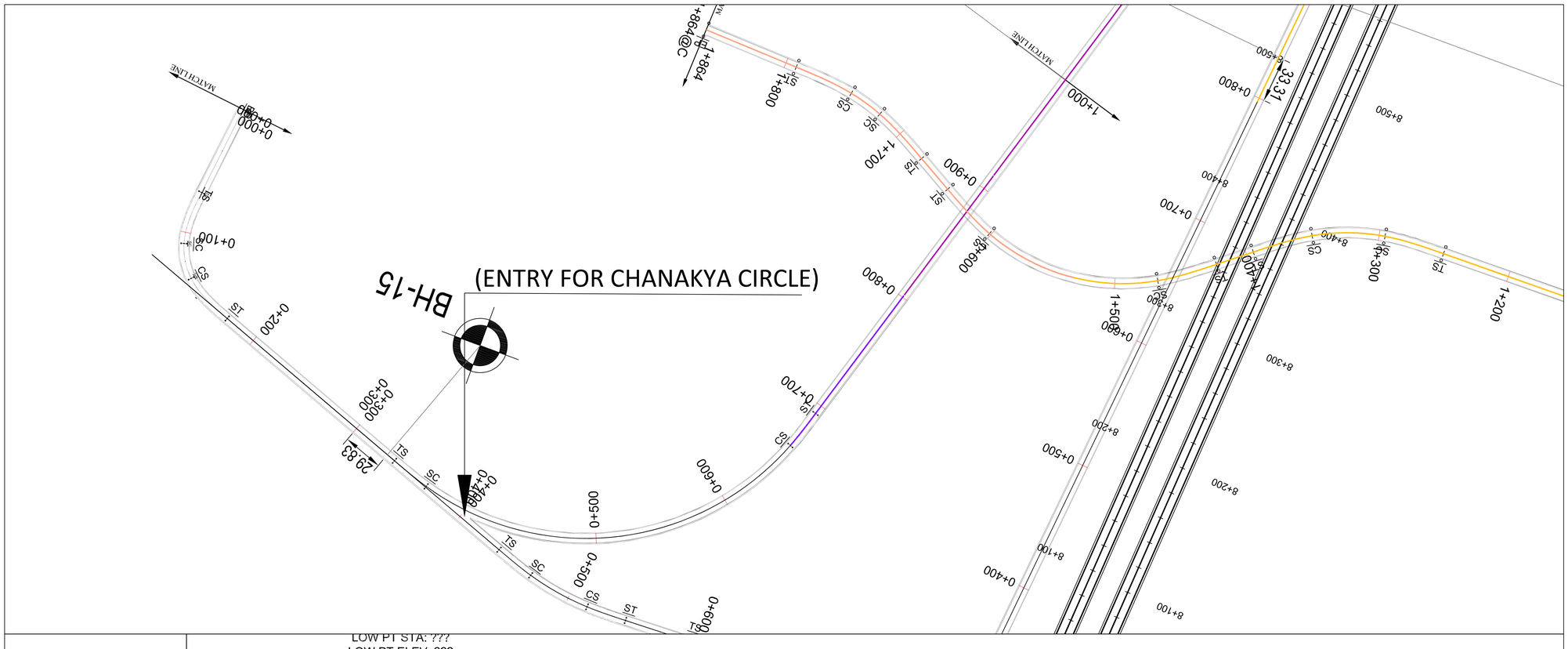
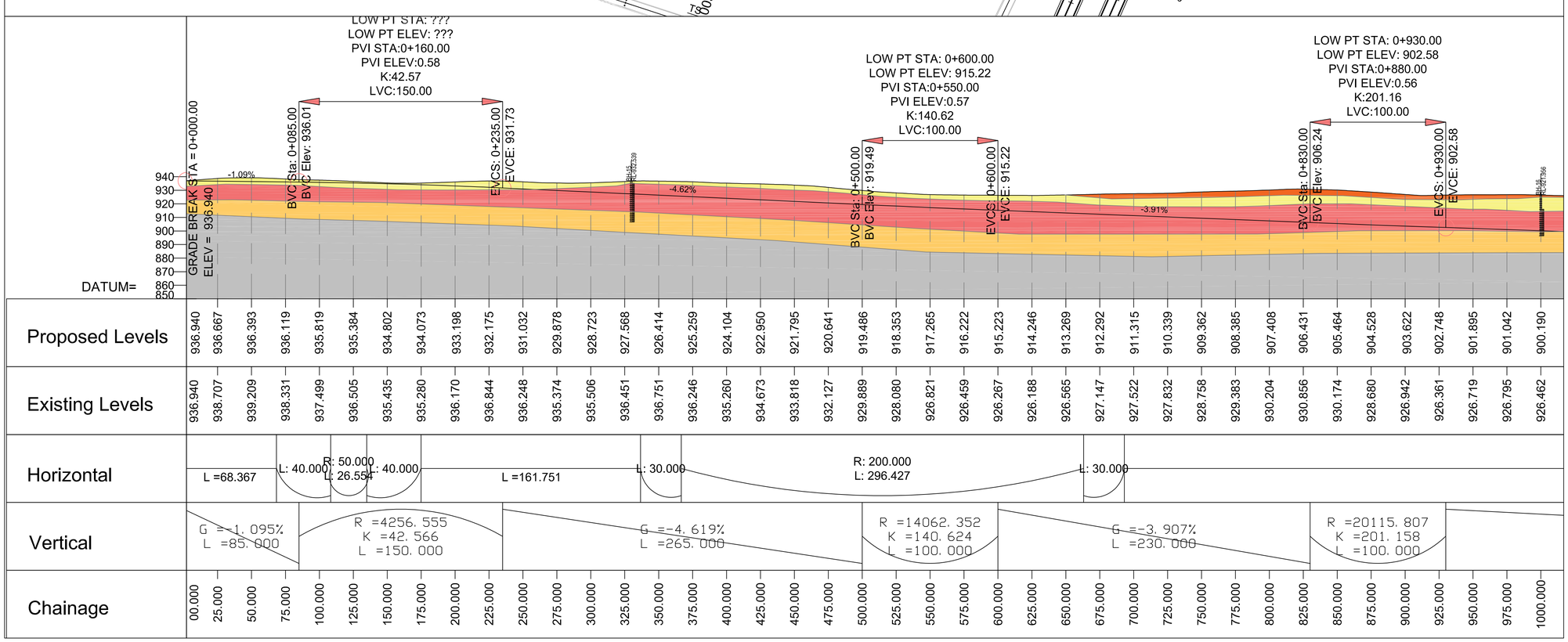
Sheet size: A2

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (RACE COURSE EXIT HEBBAL) (Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/223/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
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DRAFT PROJECT REPORT

Designed:	RSt
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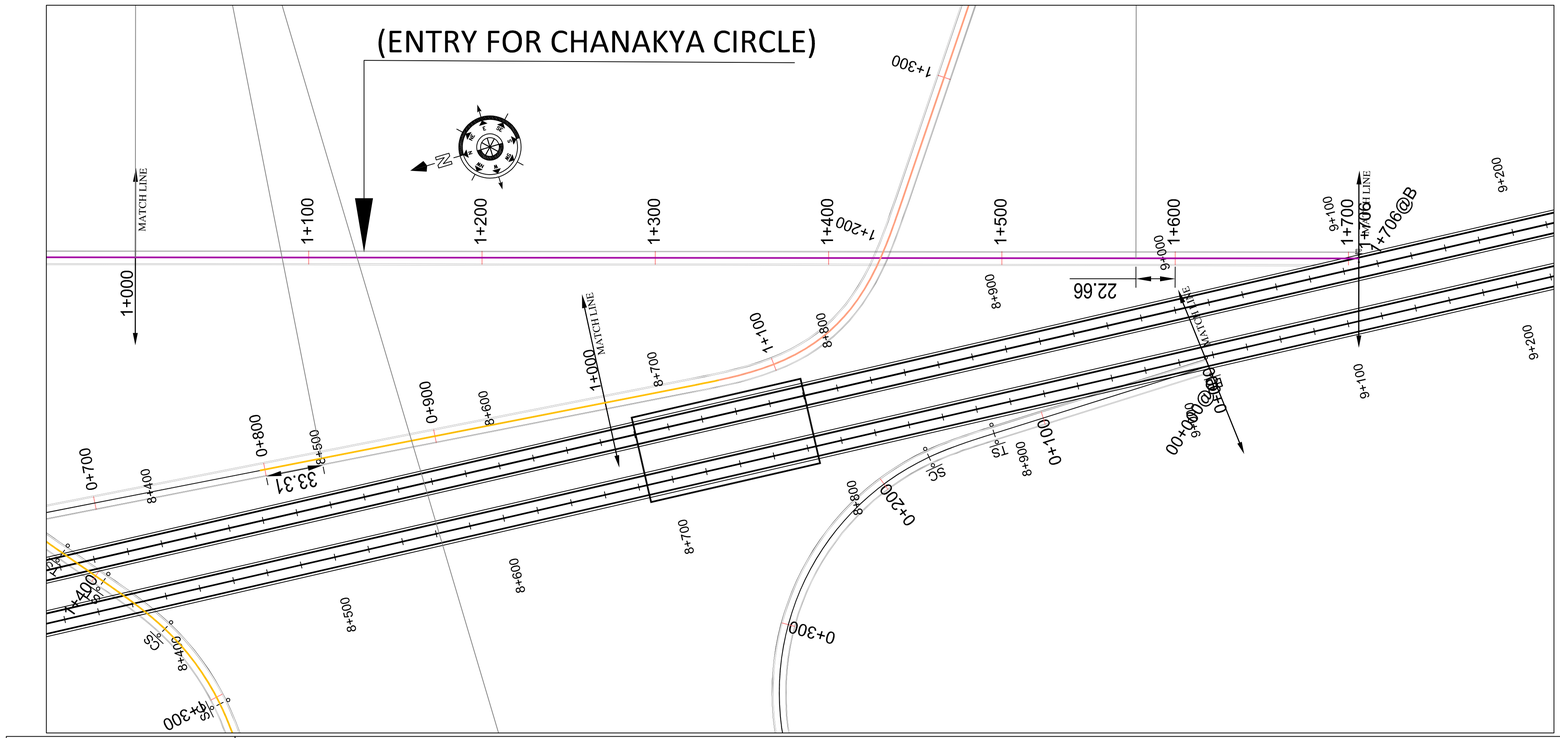
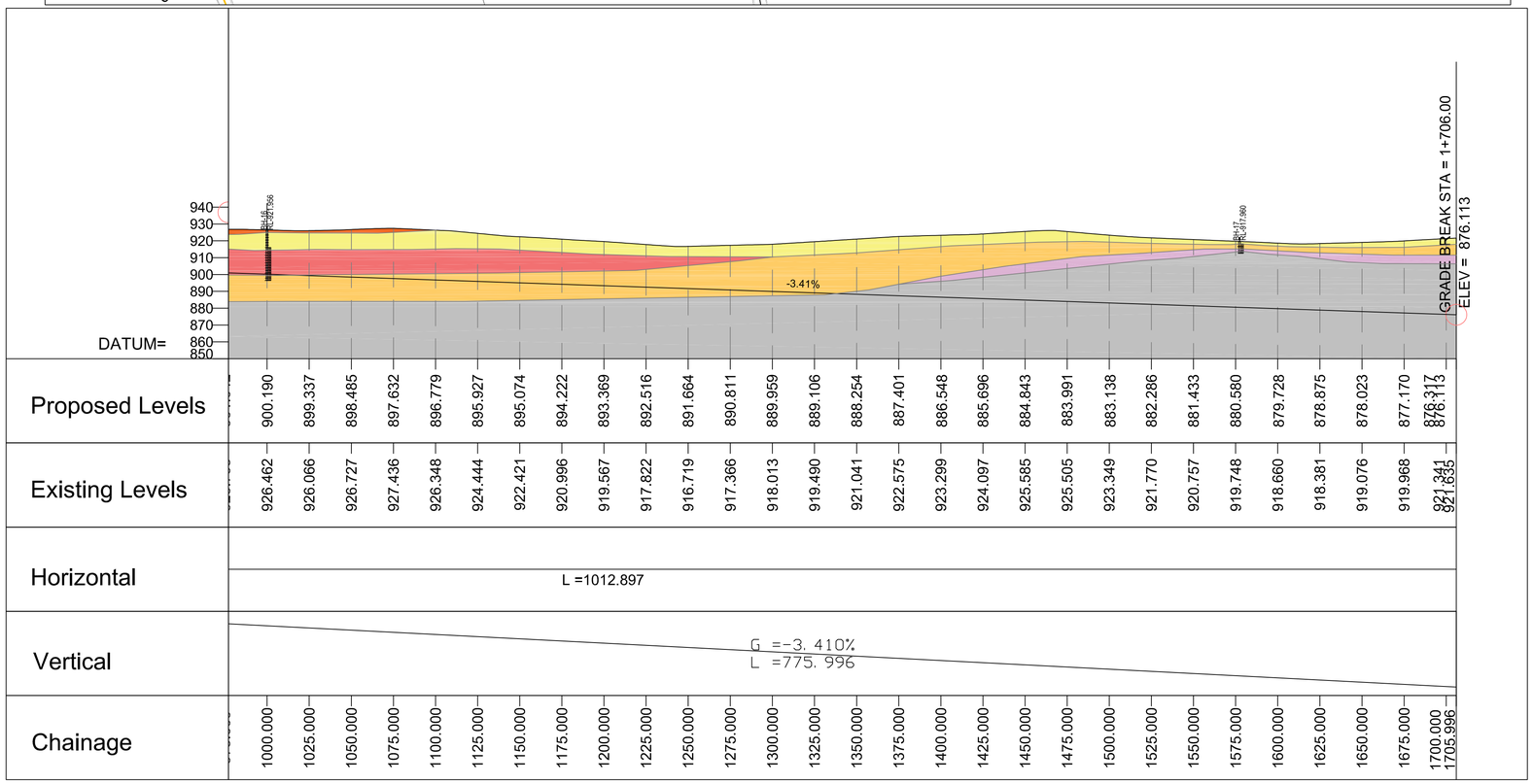
Scale :-1:2500

Sheet size: A2

Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (ENTRY FOR CHANAKYA CIRCLE) (Km.0+000 to Km.1+000)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/224/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
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CONSULTANT:

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Fluidyn India
#15, 4th Floor, Outer Ring Road JP Nagar 6th Phase Bengaluru, Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt
Drawn:	ABa
Checked:	VLj
Approved:	PSi

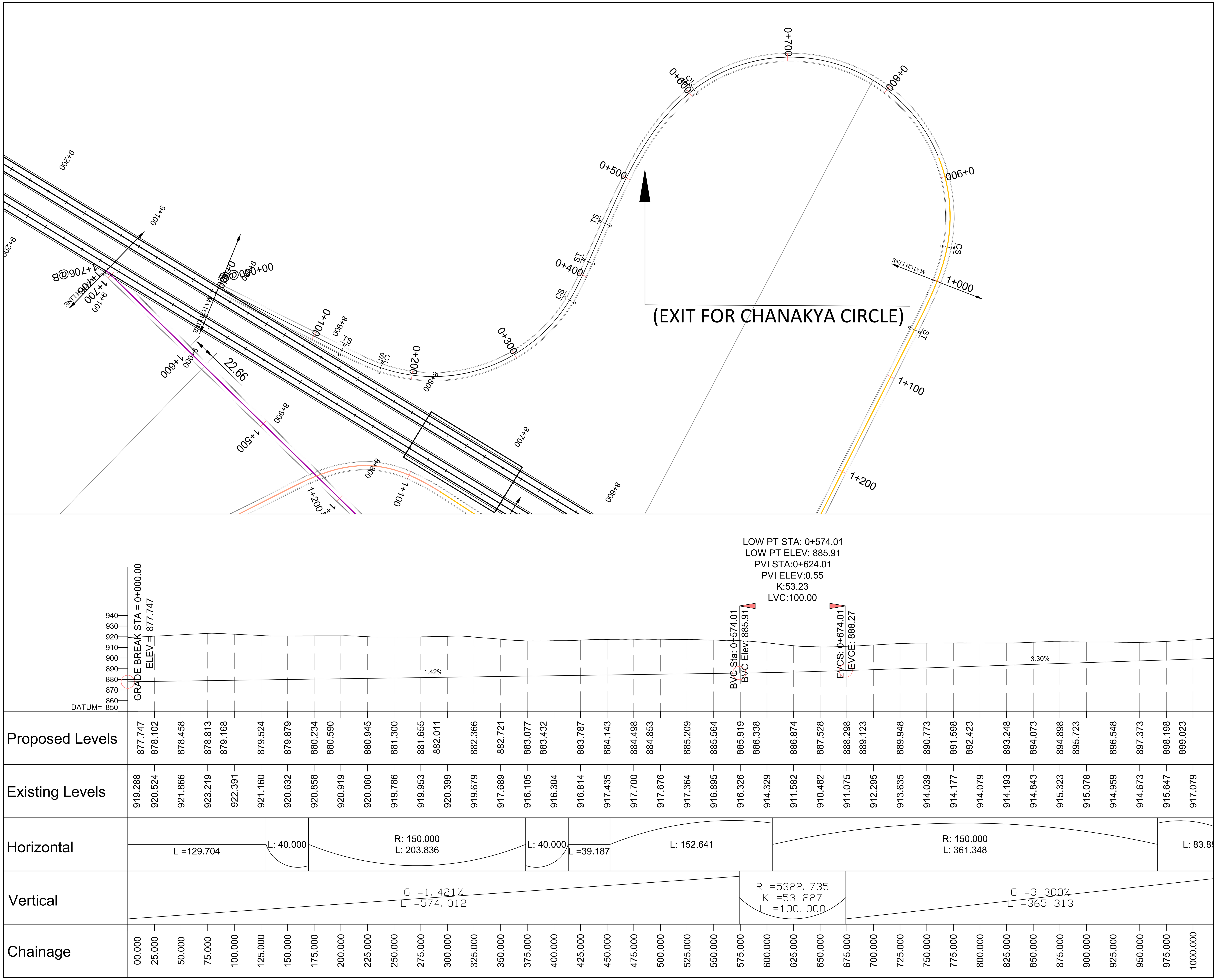
Scale :-1:2500

Sheet size: A2

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (ENTRY FOR CHANAKYA CIRCLE) (Km.1+000 to Km.1+705)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/225/R0



LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
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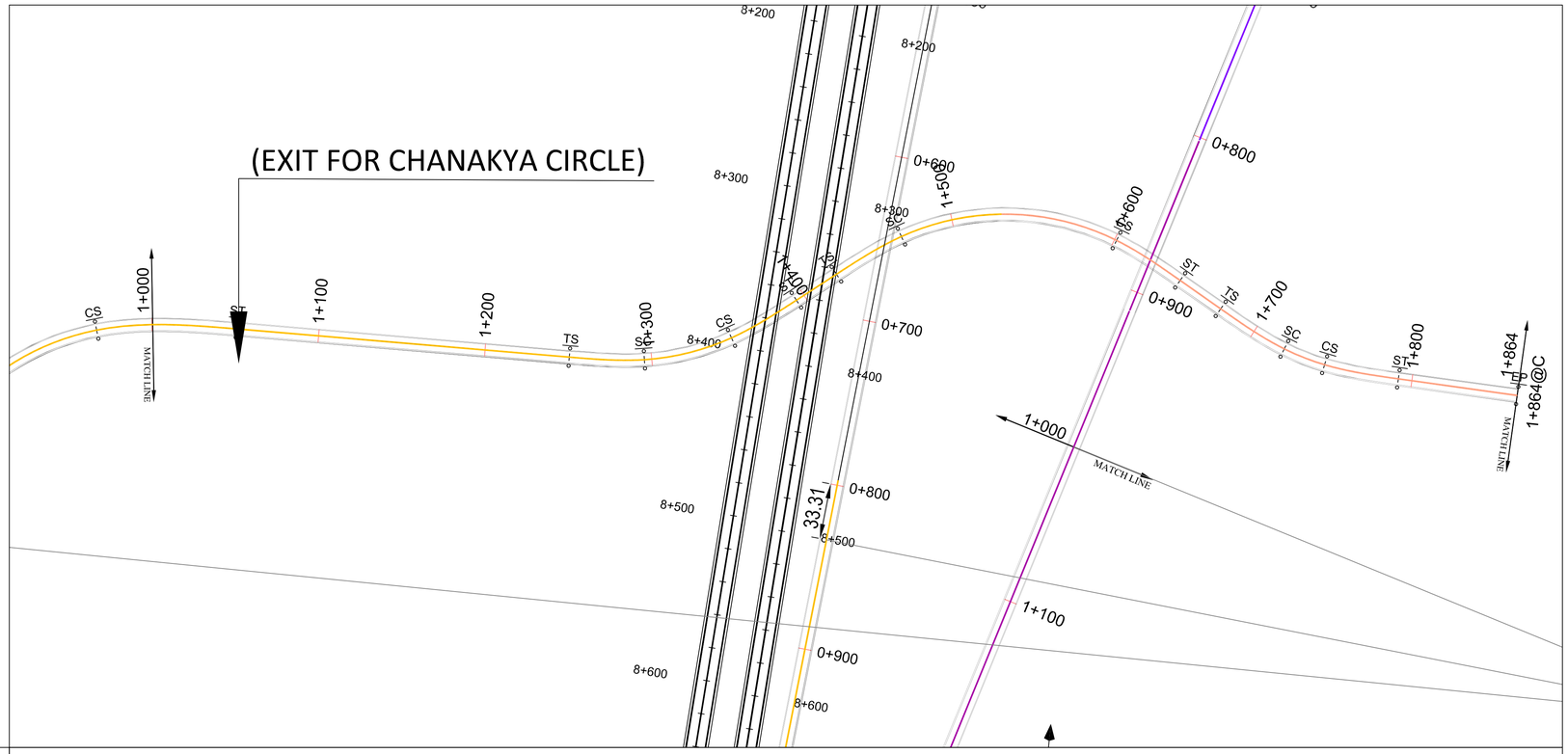
Scale :-1:2500

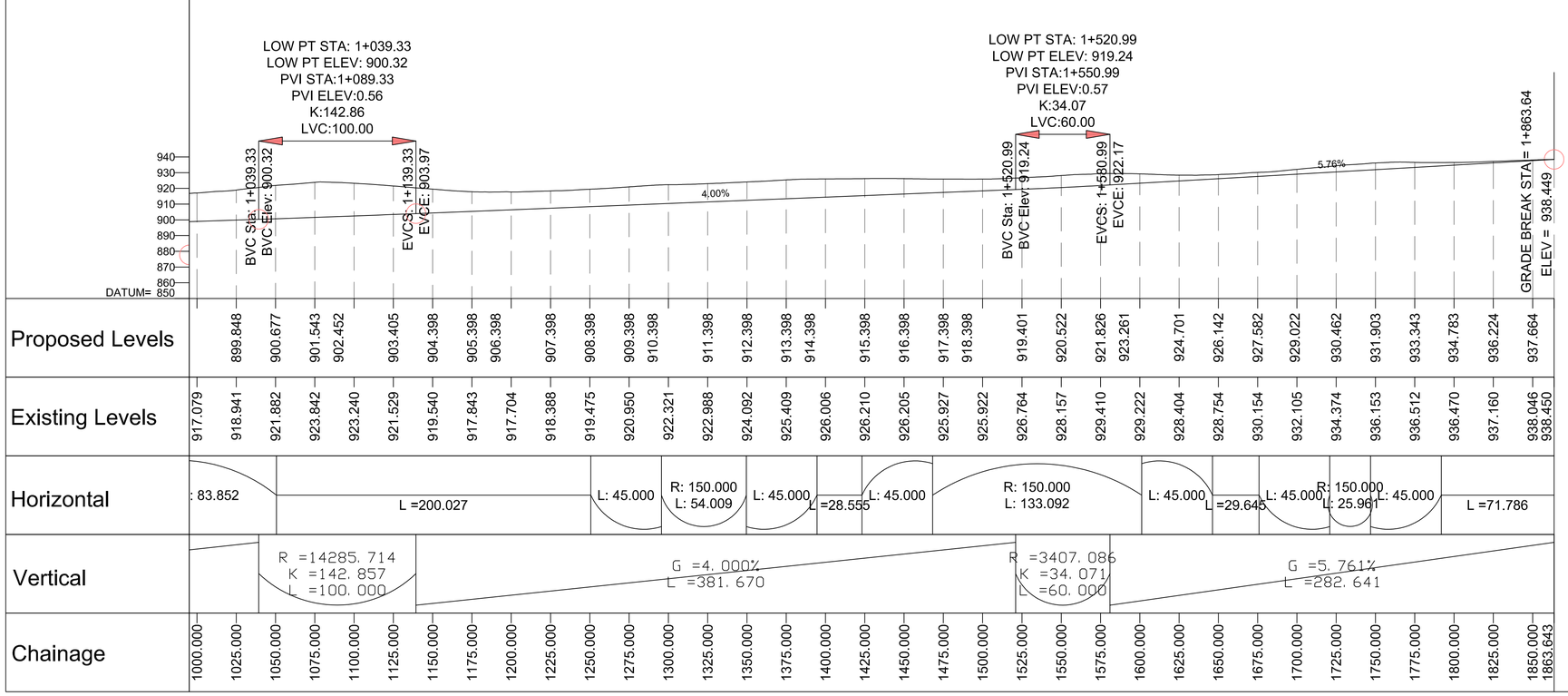
Sheet size: A2

Project: “Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction”

Drawing Title: GEOLOGY PLAN AND PROFILE (EXIT FOR CHANAKYA CIRCLE) (Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/226/R0





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
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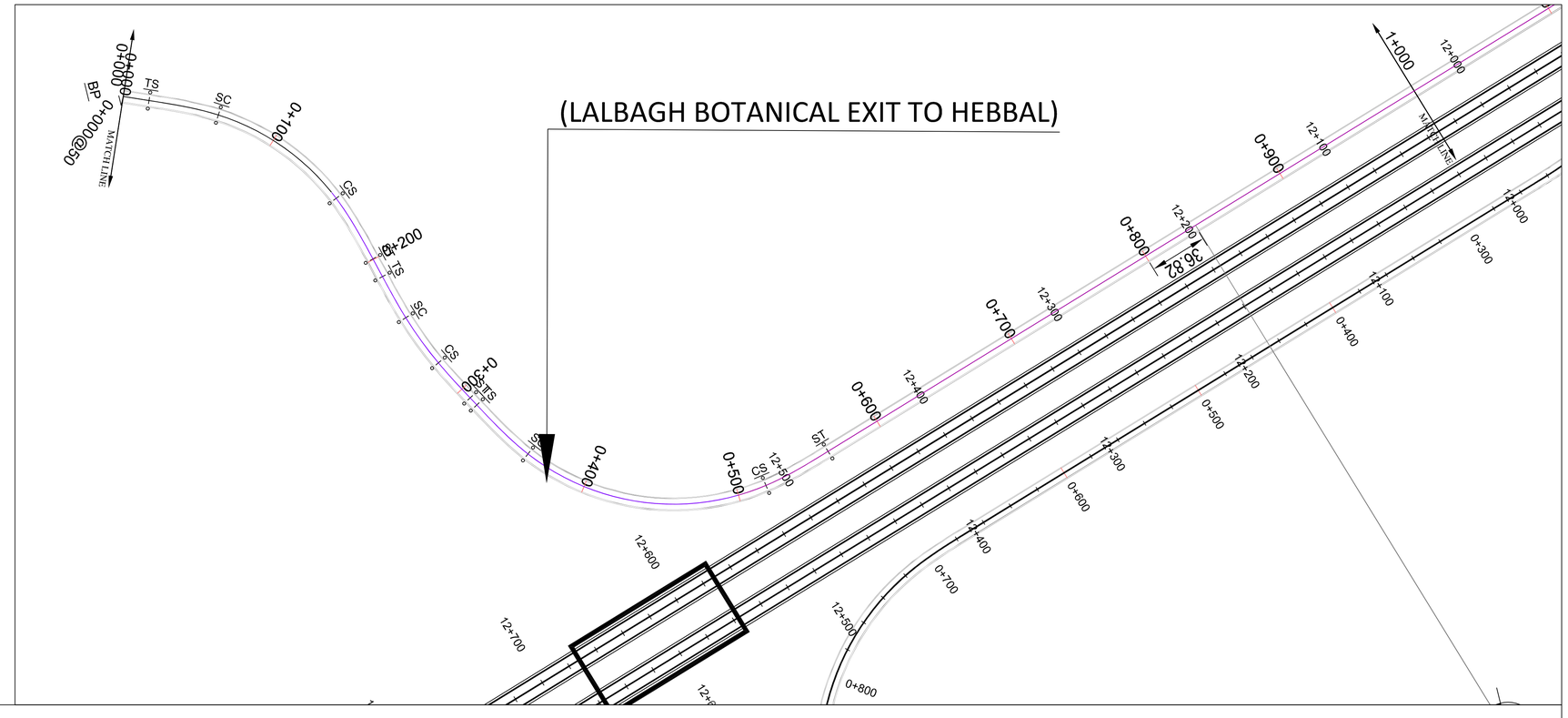
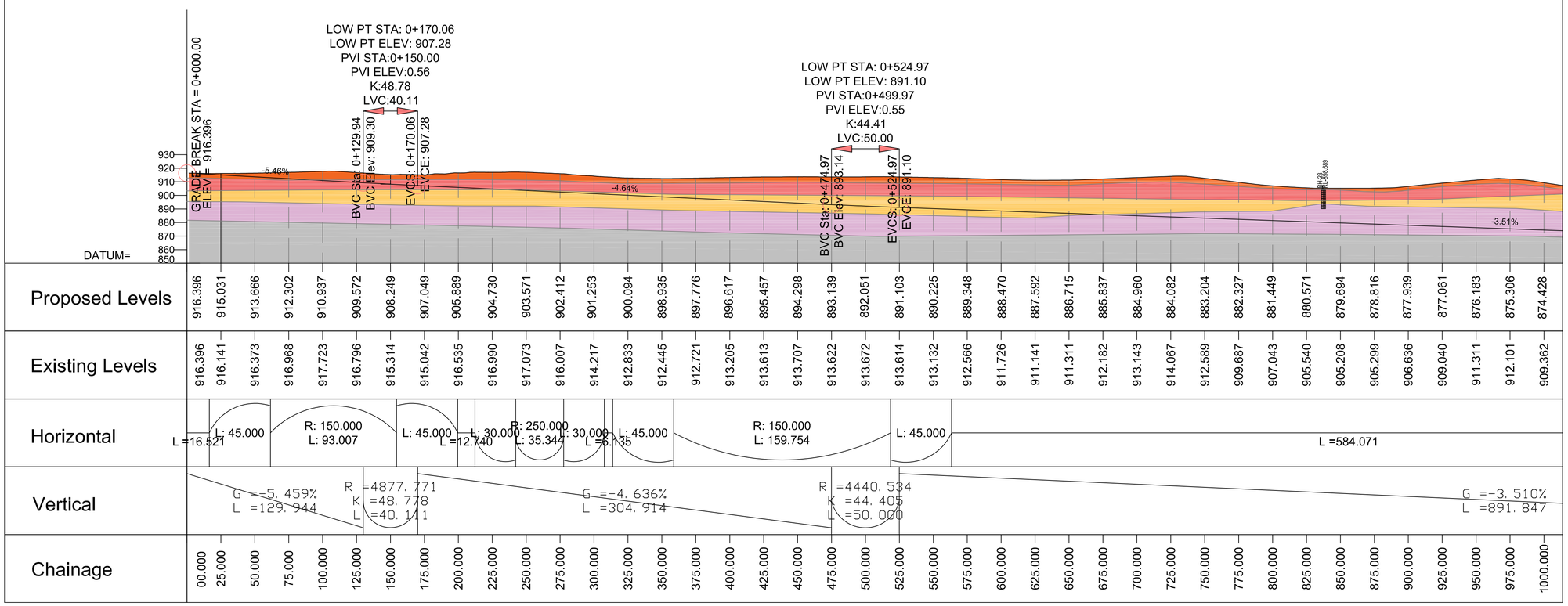
Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (EXIT FOR CHANAKYA CIRCLE) (Km.1+000 to Km.1+864)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/227/R0

(LALBAGH BOTANICAL EXIT TO HEBBAL)





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
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DRAFT PROJECT REPORT

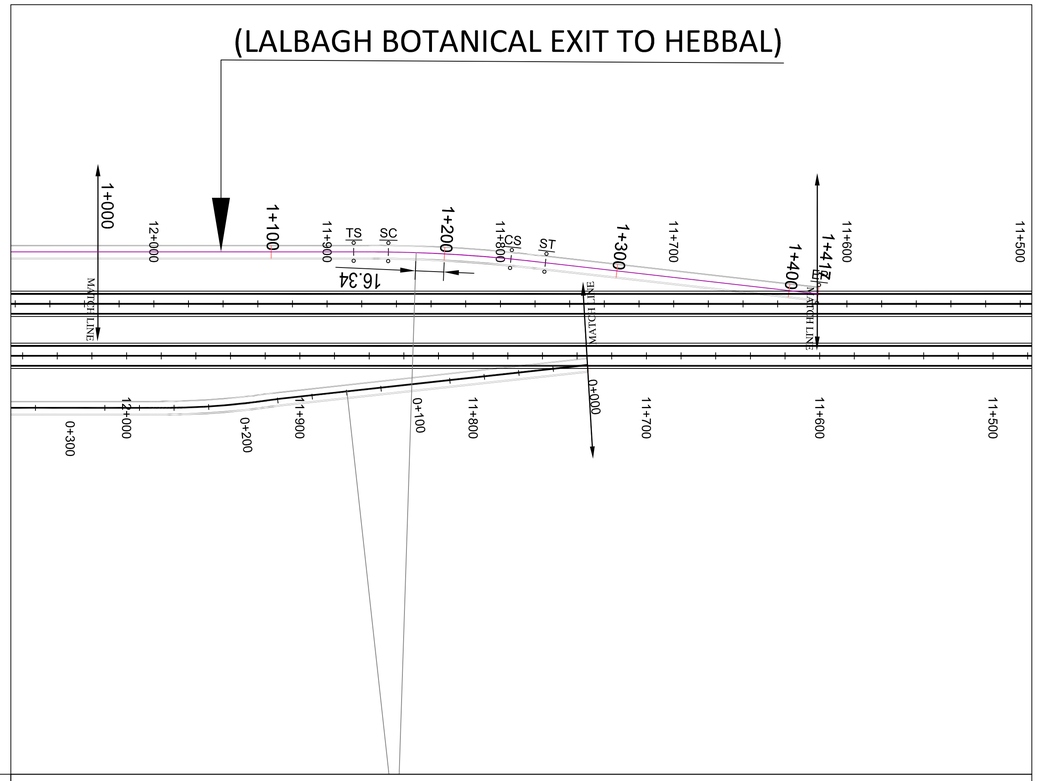
Designed:	RSt	Scale :-1:2500	
Drawn:	ABa		
Checked:	VLj		
Approved:	PSi	Sheet size: A2	

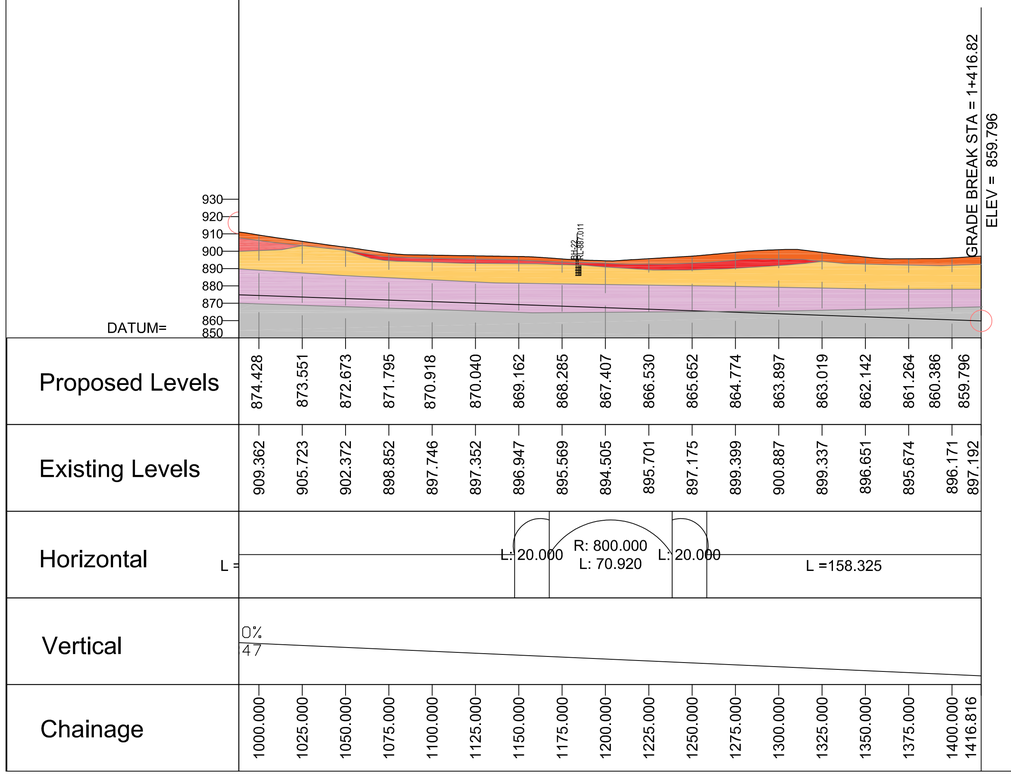
Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (LALBAGH BOTANICAL ENTRY TO HEBBAL) (Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/228/R0

(LALBAGH BOTANICAL EXIT TO HEBBAL)





LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
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(PRELIMINARY)

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R0	Sep.:- 2024	PRELIMINARY -

CLIENT

GOVERNMENT OF KARNATAKA

GOVERNMENT OF KARANATAKA
Bruhat Bangalore Mahanagara Palike

CONSULTANT:

RODIC CONSULTANTS PVT. LTD.
1, JAI SINGH MARG (FIRST FLOOR), YMCA
CULTURAL CENTRE BUILDING
NEW DELHI - 110001 (INDIA)

GEOCONSULT INDIA PRIVATE LIMITED
04B106 WeWork, Platina Tower MG Road Near
Sikanderpur Metro Station Sector 28, Gurugram
Haryana INDIA

Fluidyn India
#15, 4th Floor, Outer Ring Road
JP Nagar 6th Phase Bengaluru,
Karnataka 560078 India

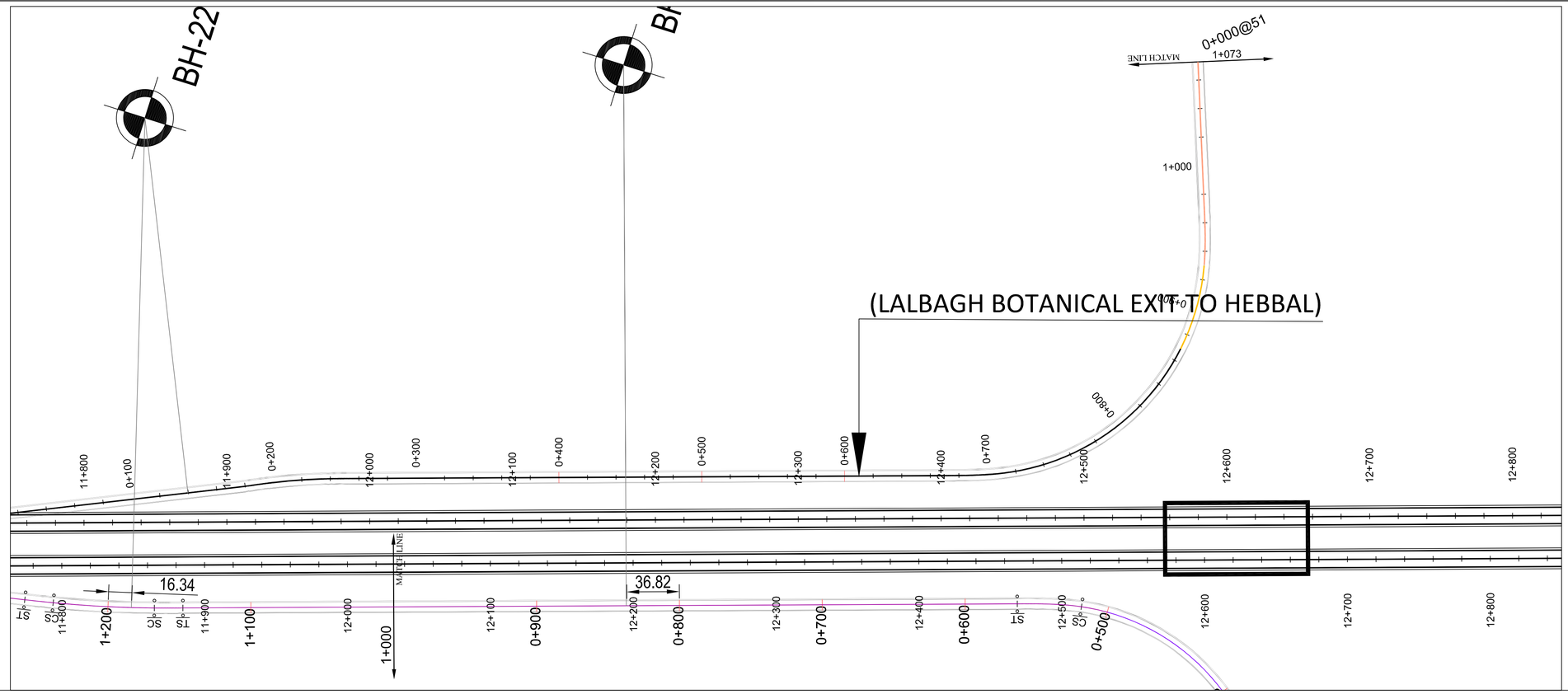
DRAFT PROJECT REPORT

Designed:	RSt	Scale :-1:2500
Drawn:	ABa	
Checked:	VLj	
Approved:	PSi	Sheet size: A2

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (LALBAGH BOTANICAL ENTRY TO HEBBAL) (Km.1+000 to Km.1+617)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/229/R0



LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
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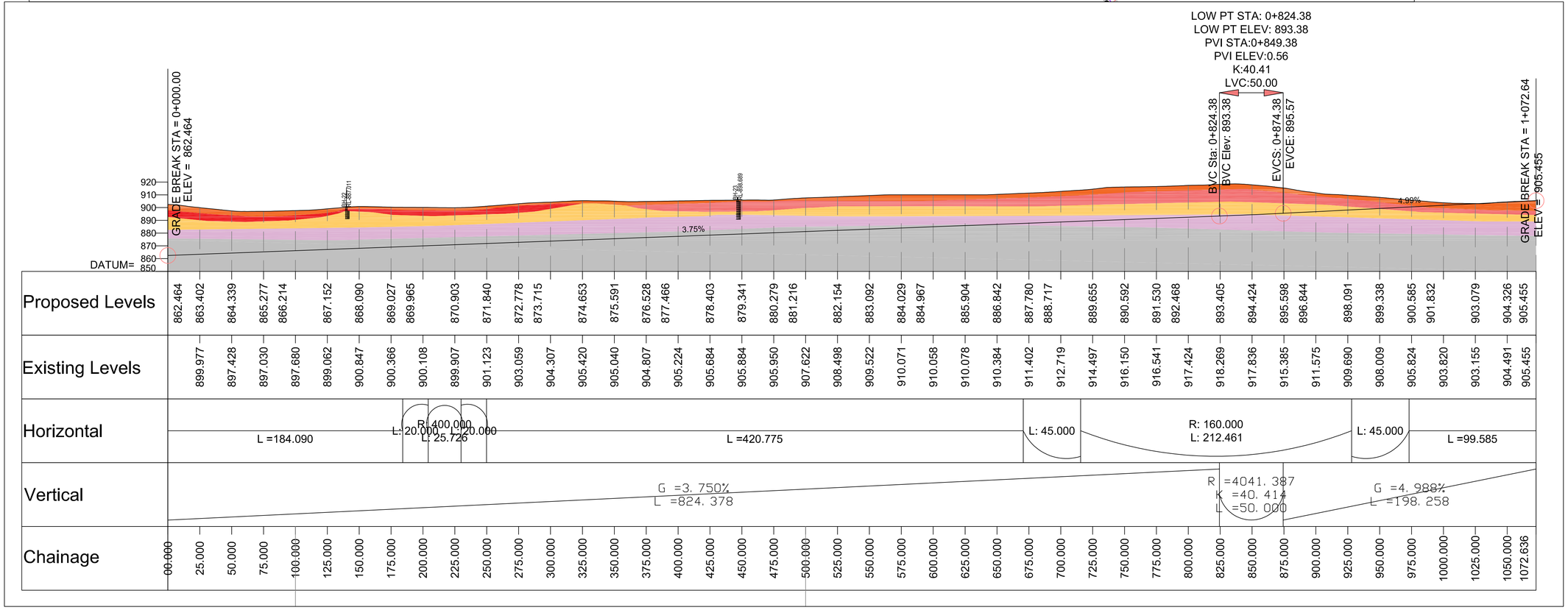

Proposed Levels	862.464	863.402	864.339	865.277	866.214	867.152	868.090	869.027	869.965	870.903	871.840	872.778	873.715	874.653	875.591	876.528	877.466	878.403	879.341	880.279	881.216	882.154	883.092	884.029	884.967	885.904	886.842	887.780	888.717	889.655	890.592	891.530	892.468	893.405	894.424	895.598	896.844	898.091	899.338	900.585	901.832	903.079	904.326	905.455
Existing Levels	899.977	897.428	897.030	897.680	899.062	900.847	900.366	900.108	899.907	901.123	903.059	904.307	905.420	905.040	904.807	905.224	905.684	905.884	905.950	907.622	908.498	909.522	910.071	910.058	910.078	910.384	911.402	912.719	914.497	916.150	916.541	917.424	918.269	917.836	915.385	911.575	909.690	908.009	905.824	903.820	903.155	904.491	905.455
Horizontal	L =184.090							L: 20.000	R: 400.000 L: 25.726	L: 20.000								L =420.775											L: 45.000		R: 160.000 L: 212.461								L: 45.000		L =99.585		
Vertical	G =3.750% L =824.378																																	R =4041.387 K =40.414 L =50.000								G =4.988% L =198.258			
Chainage	00.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	250.000	275.000	300.000	325.000	350.000	375.000	400.000	425.000	450.000	475.000	500.000	525.000	550.000	575.000	600.000	625.000	650.000	675.000	700.000	725.000	750.000	775.000	800.000	825.000	850.000	875.000	900.000	925.000	950.000	975.000	1000.000	1025.000	1050.000	1072.636

(PRELIMINARY)

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Karnataka 560078 India

DRAFT PROJECT REPORT

Designed:	RSt	Scale :-1:2500	
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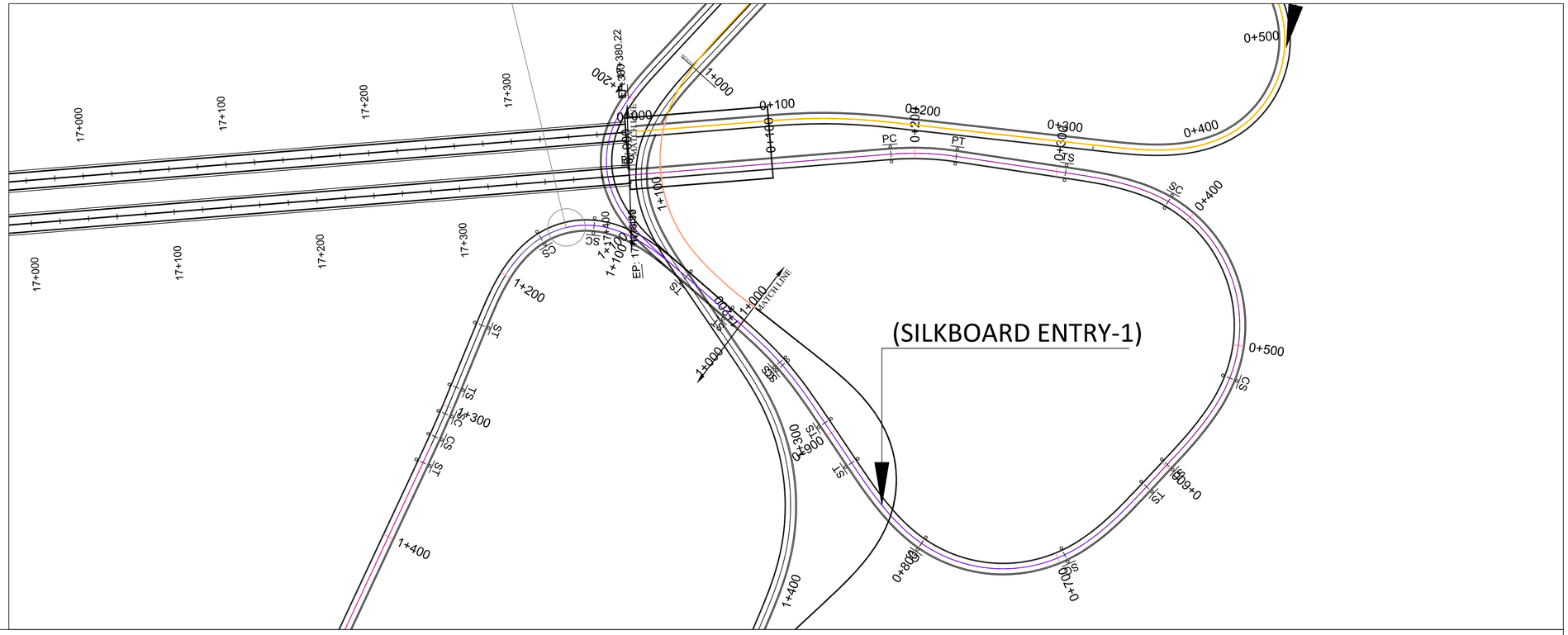
Checked:	VLj		
Approved:	PSi	Sheet size: A2	

Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (LALBAGH BOTANICAL EXIT TO HEBBAL) (Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/230/R0



LEGEND:-

- GR-VIII (FILL)
- GR-VII (S-SOIL)
- GR-VI (R-SOIL)
- GR-V (CWR)
- GR-IV (HWR)
- GR-III (MWR)
- GR-II (SWR)
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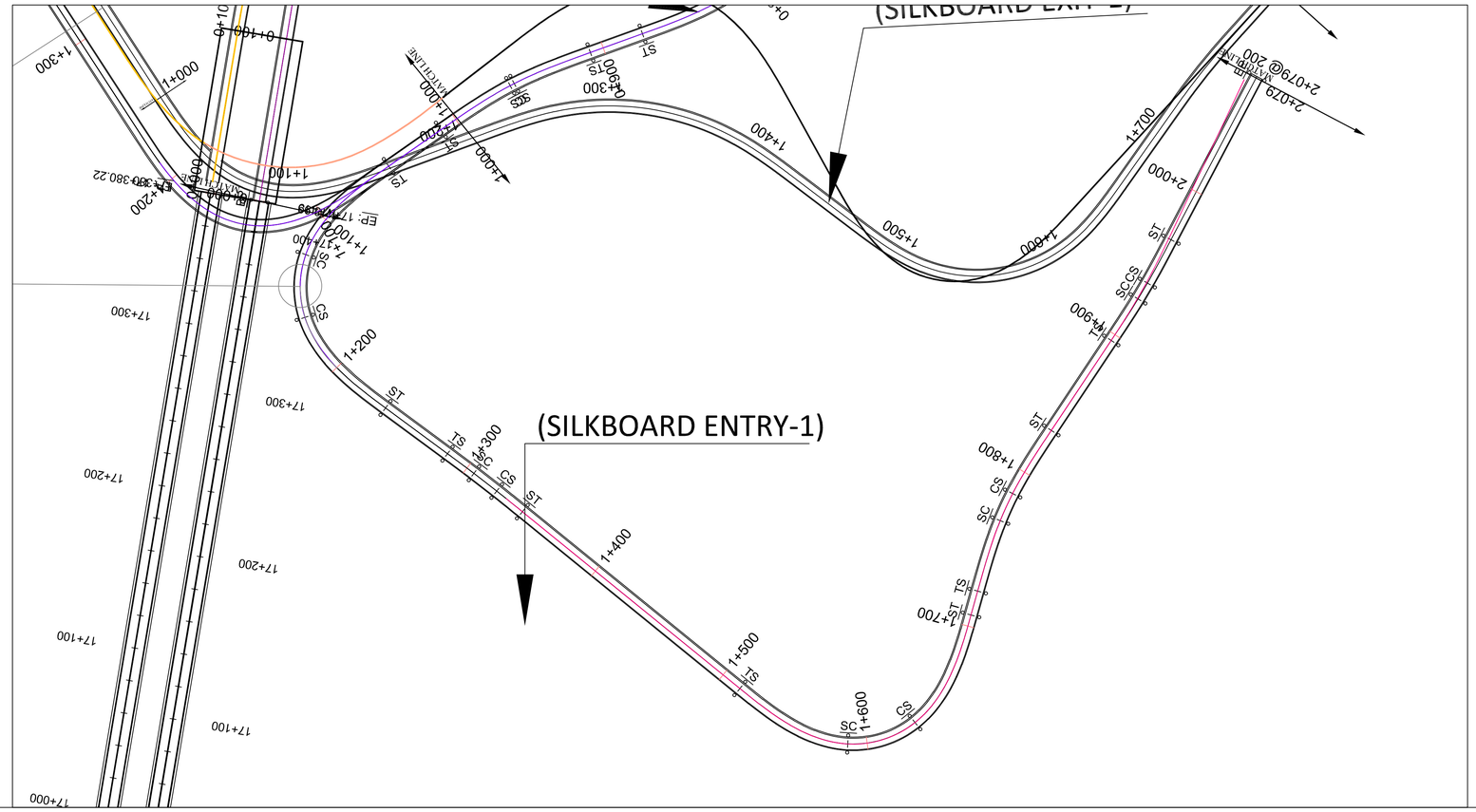
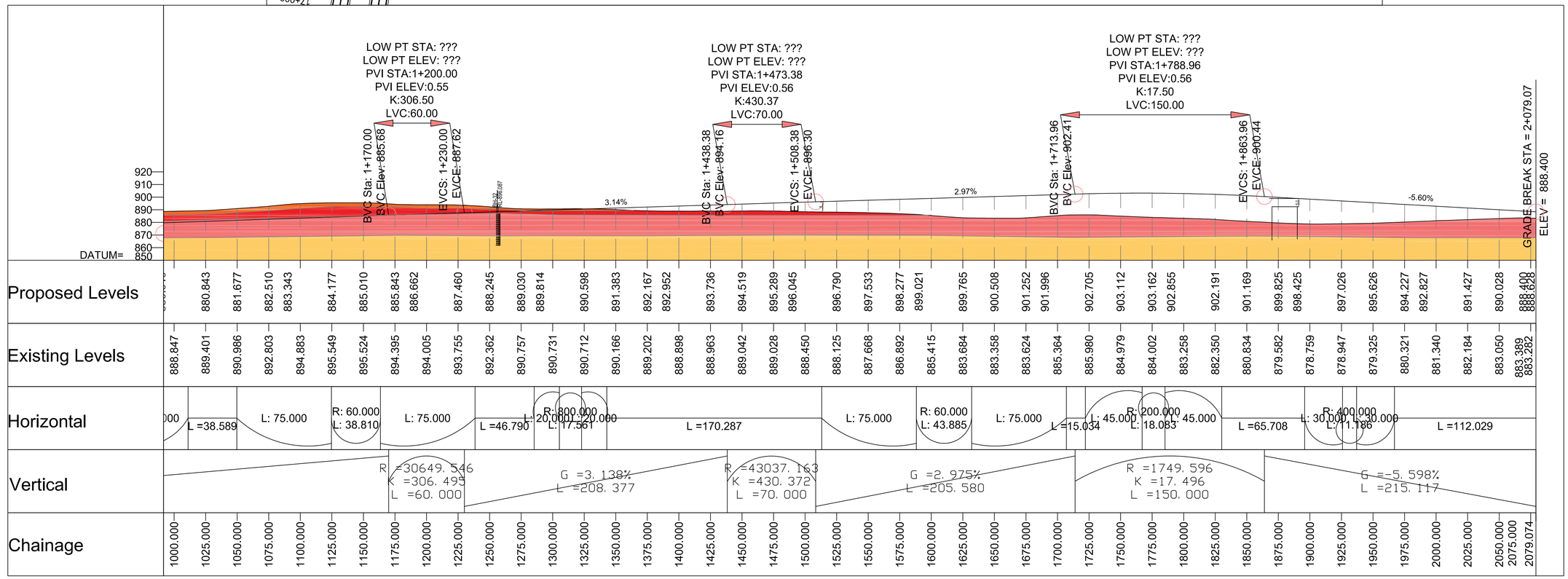
Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (SILKBOARD ENTRY-1) (Km.0+000 to Km.1+000)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/231/R0





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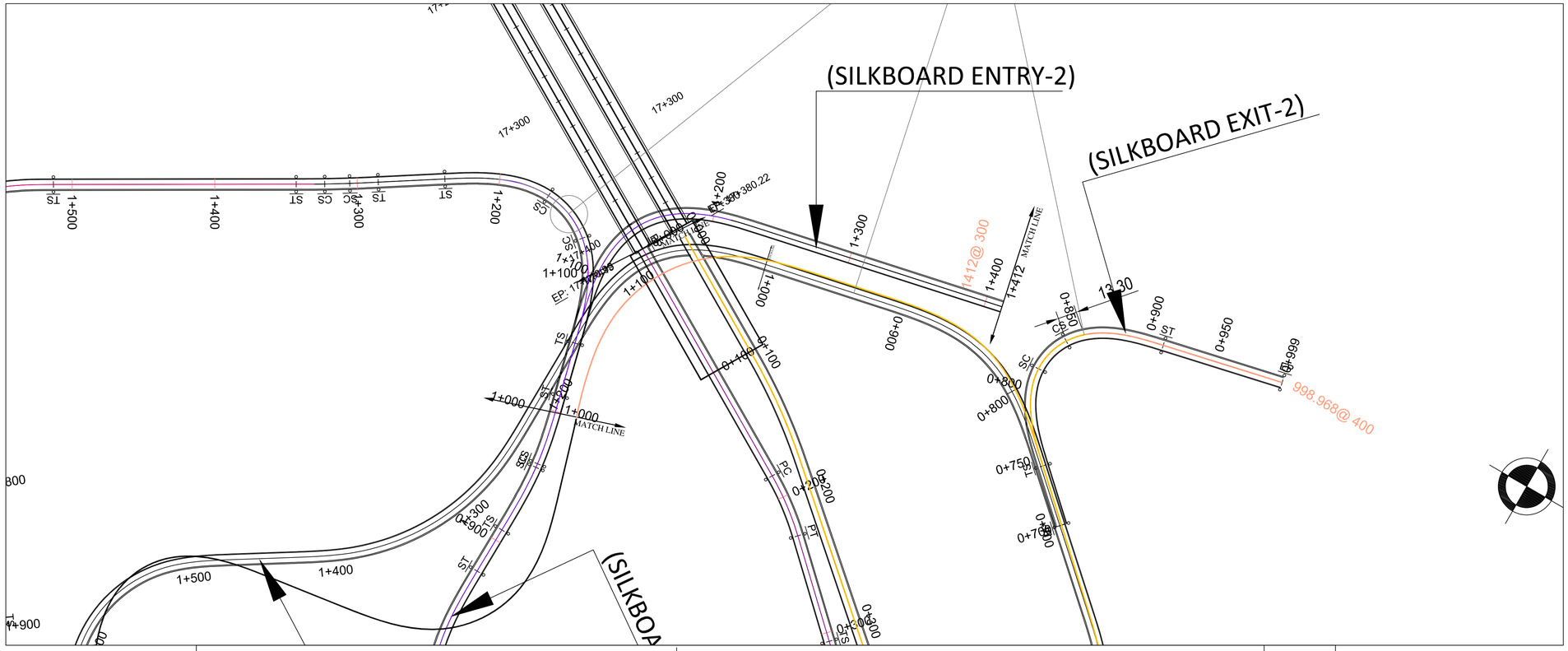
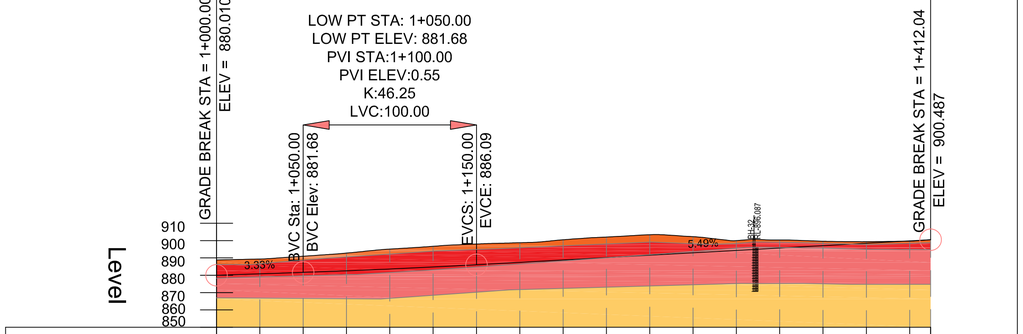
Project	"Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"
Drawing Title	GEOLOGY PLAN AND PROFILE (SILKBOARD ENTRY-1) (Km.1+000 to Km.2+079)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/232/R0





Proposed Levels	880.010	880.843	881.676	882.577	883.613	884.783	886.090	887.463	888.837	890.210	891.584	892.958	894.331	895.705	897.078	898.452	899.826	900.487
Existing Levels	888.847	889.401	890.987	892.802	895.122	896.728	898.054	898.803	900.473	902.063	903.401	902.281	900.005	900.385	899.623	899.363	899.717	900.487
Horizontal	L =62.682		L: 75.000		R: 60.000 L: 21.227		L: 75.000		L =178.130									
Vertical	G =3.332% L =80.000		R =4624.874 K =46.249 L =100.000				G =5.494% L =262.039											
Chainage	1000.000	1025.000	1050.000	1075.000	1100.000	1125.000	1150.000	1175.000	1200.000	1225.000	1250.000	1275.000	1300.000	1325.000	1350.000	1375.000	1400.000	1412.039

LEGEND:-

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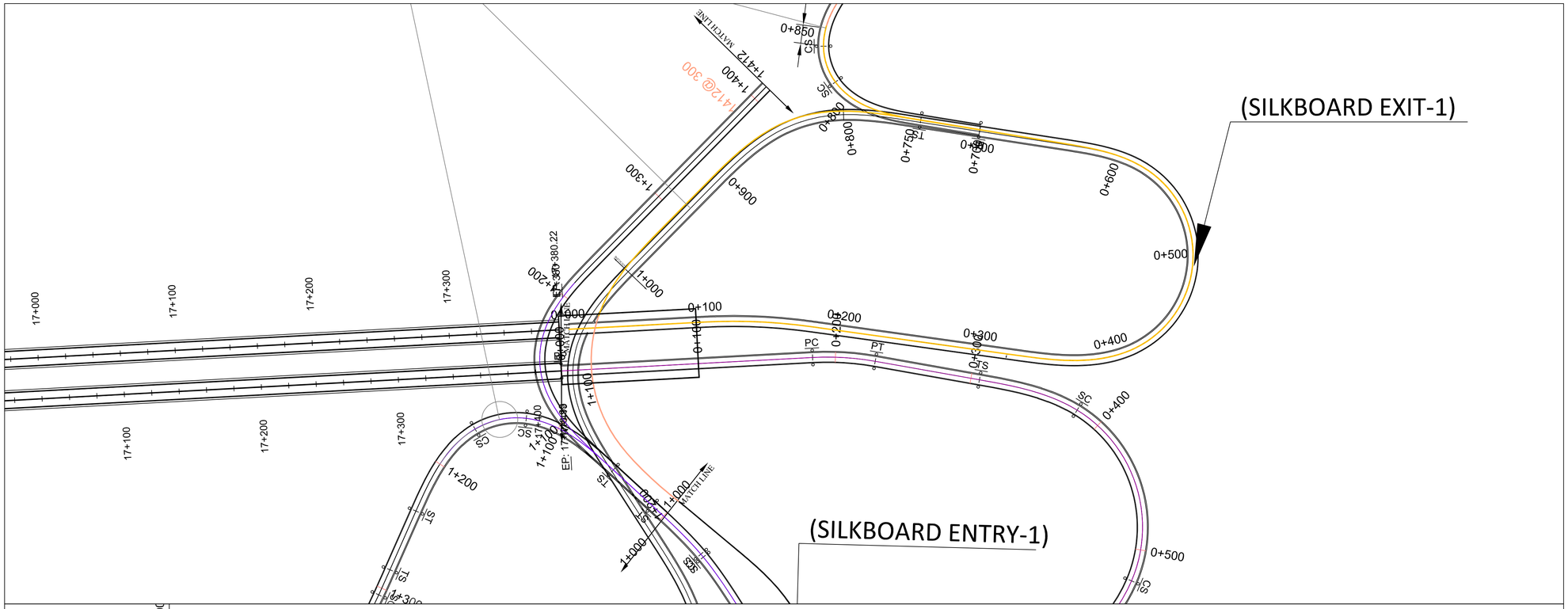
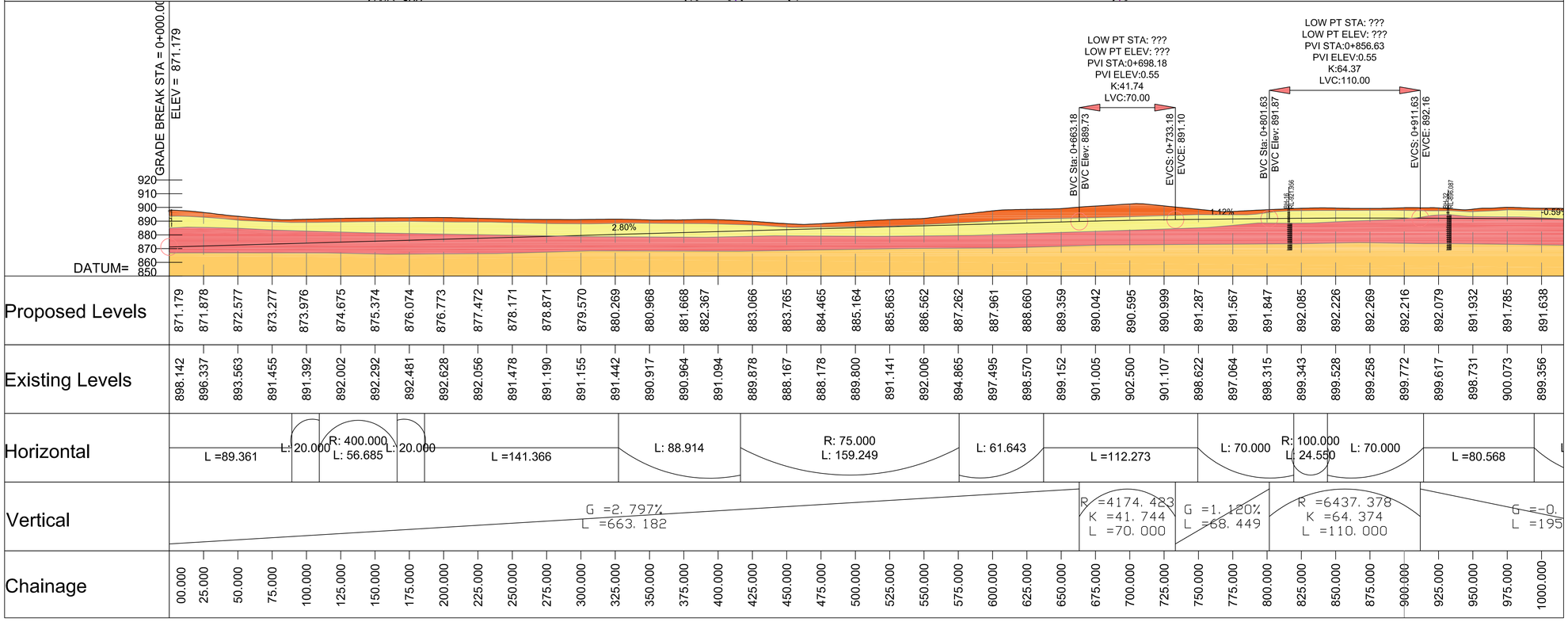
Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (SILKBOARD ENTRY-2) (Km1+000 to Km.1+412)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/233/R0





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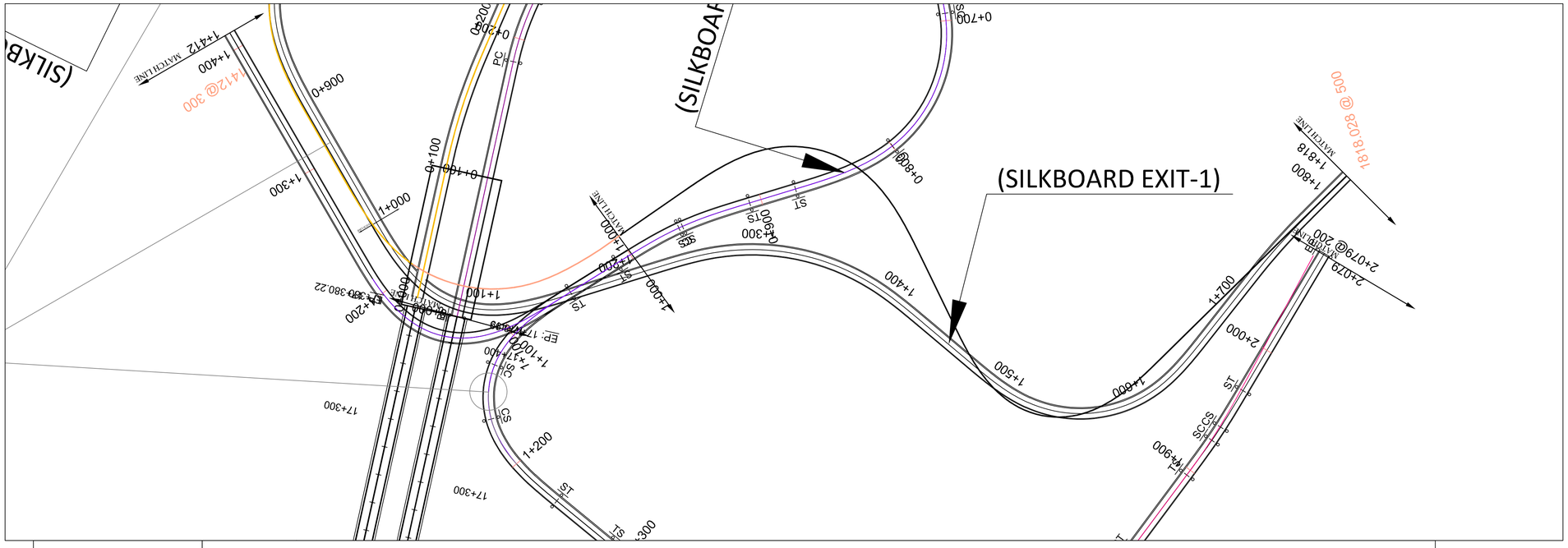
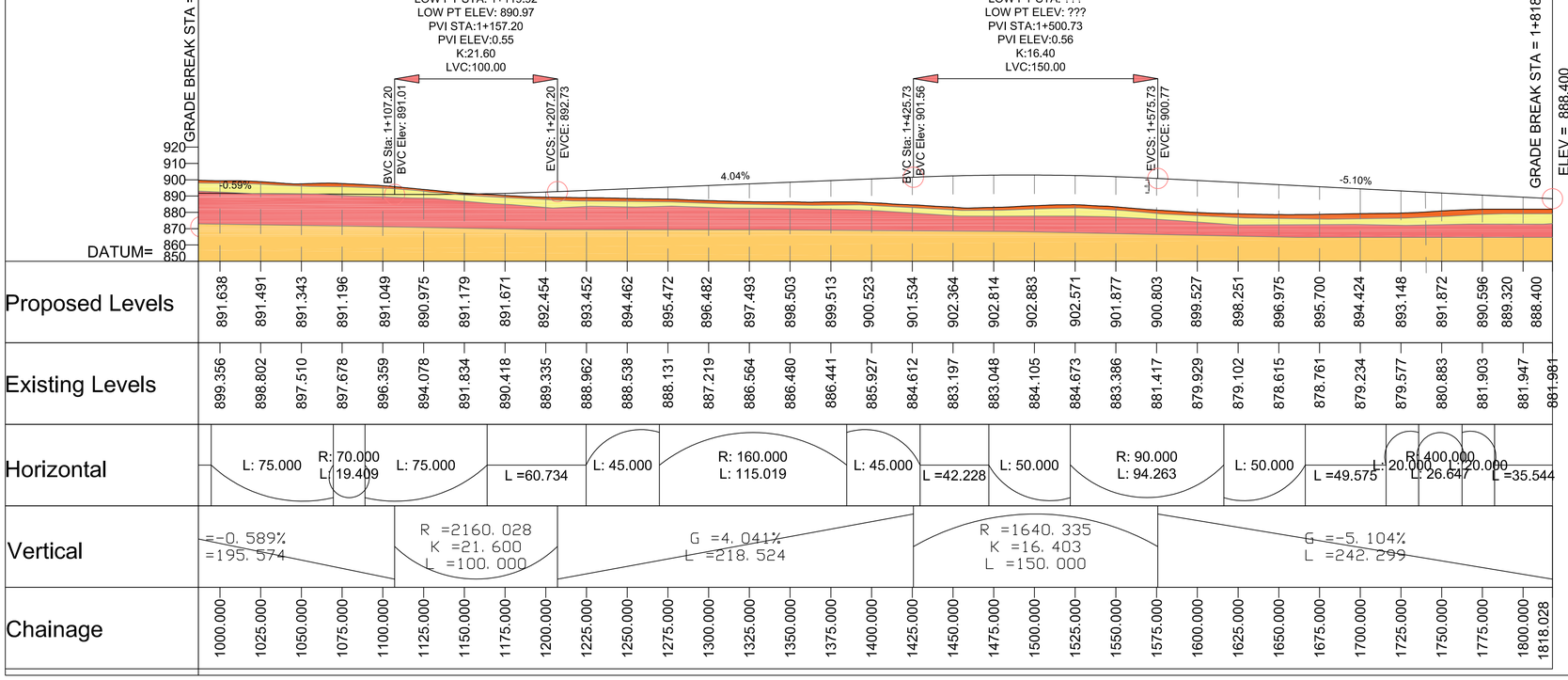
Project: "Consultancy services for preparation of DPR for the work of Construction of Underground Vehicular Tunnel from Hebbal Esteem mall junction to Silk Board KSRP junction"

Drawing Title: GEOLOGY PLAN AND PROFILE (SILKBOARD EXIT-1) (Km.0+000 to Km.1+000)

Drawing No.: RC/1640/HO/HBT/TU/DWG/GEO/PLP/234/R0





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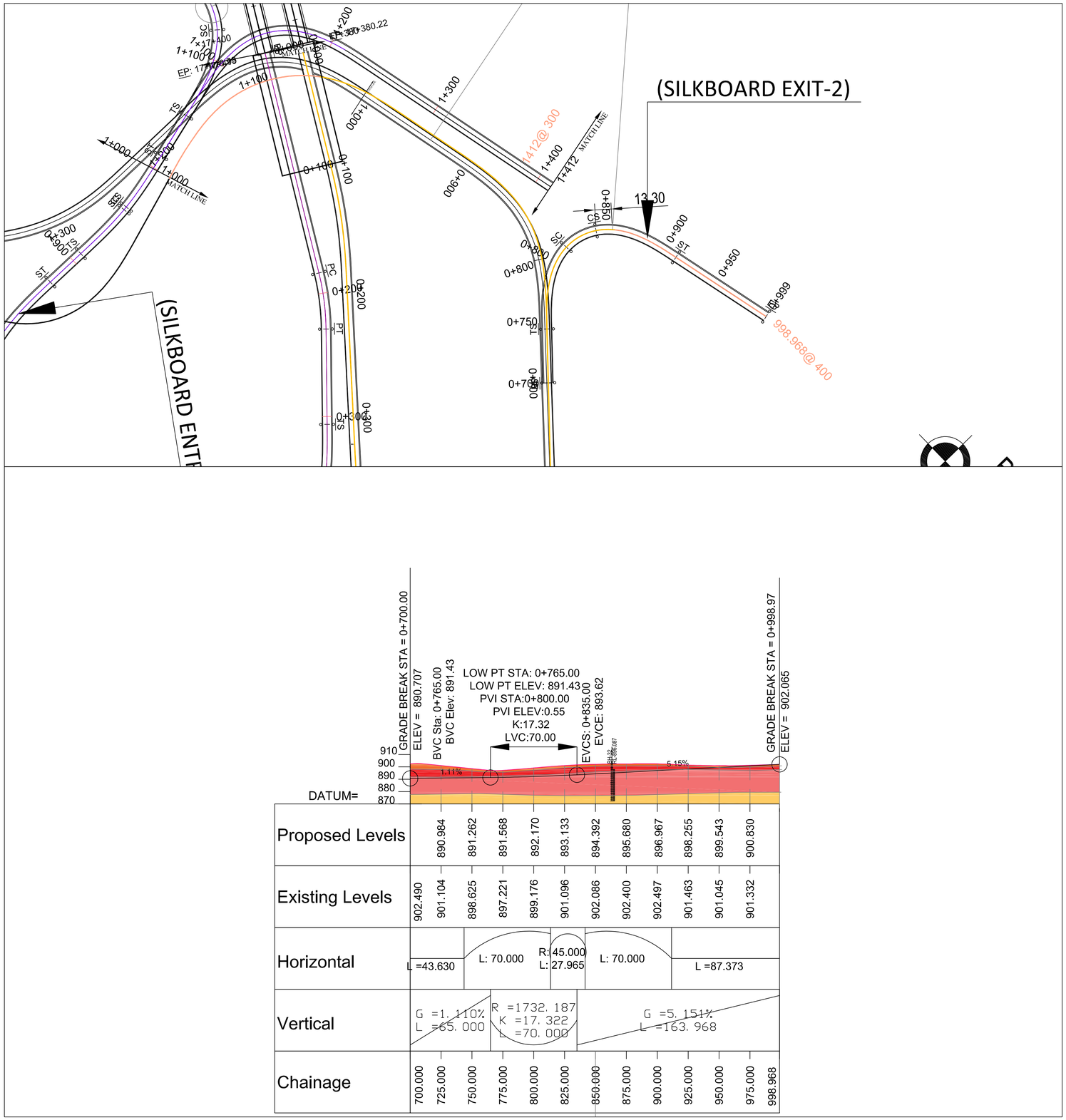
Drawing Title	GEOLOGY PLAN AND PROFILE (SILKBOARD EXIT-1) (Km.0+000 to Km.1+818)
Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/235/R0



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Drawing No.	RC/1640/HO/HBT/TU/DWG/GEO/PLP/236/R0

Rodic
ENGINEERING. PASSION

RODIC CONSULTANTS PRIVATE LIMITED
1st floor, Sarojini House 6,
Bhagwan Das Road, Mandi House,
New Delhi - 110001(INDIA)
e-mail: contact@rodicconsultants.com