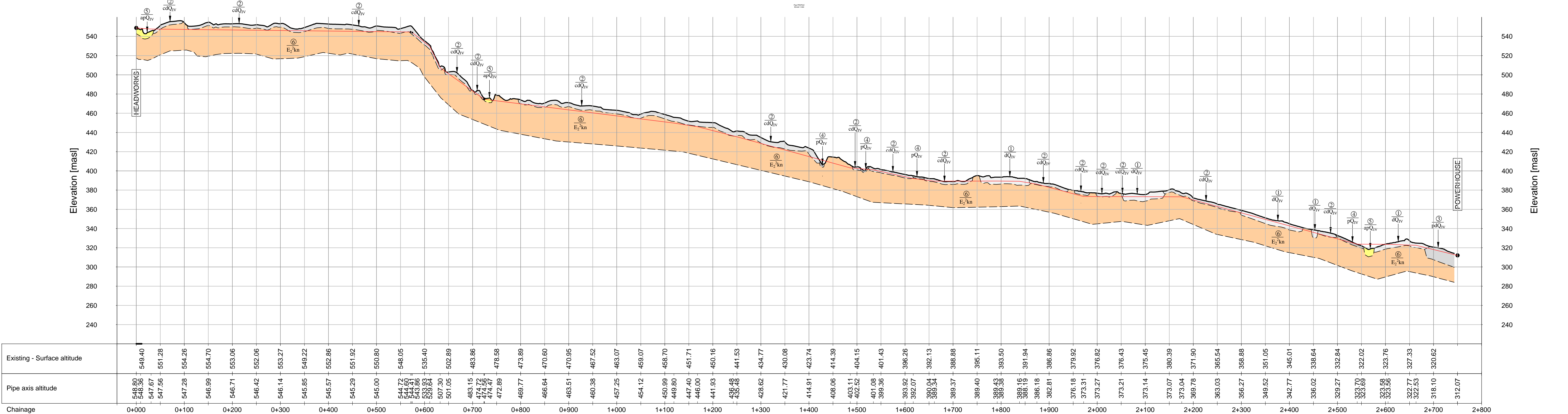
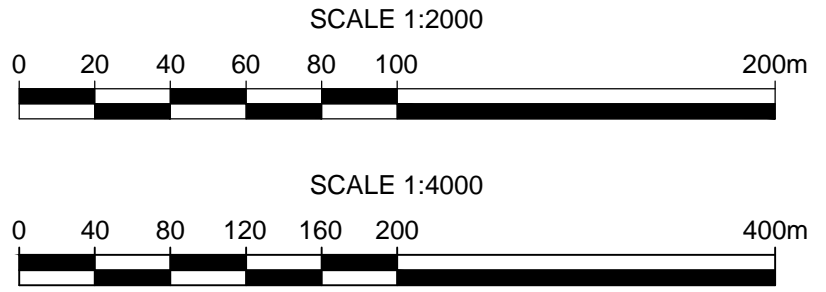
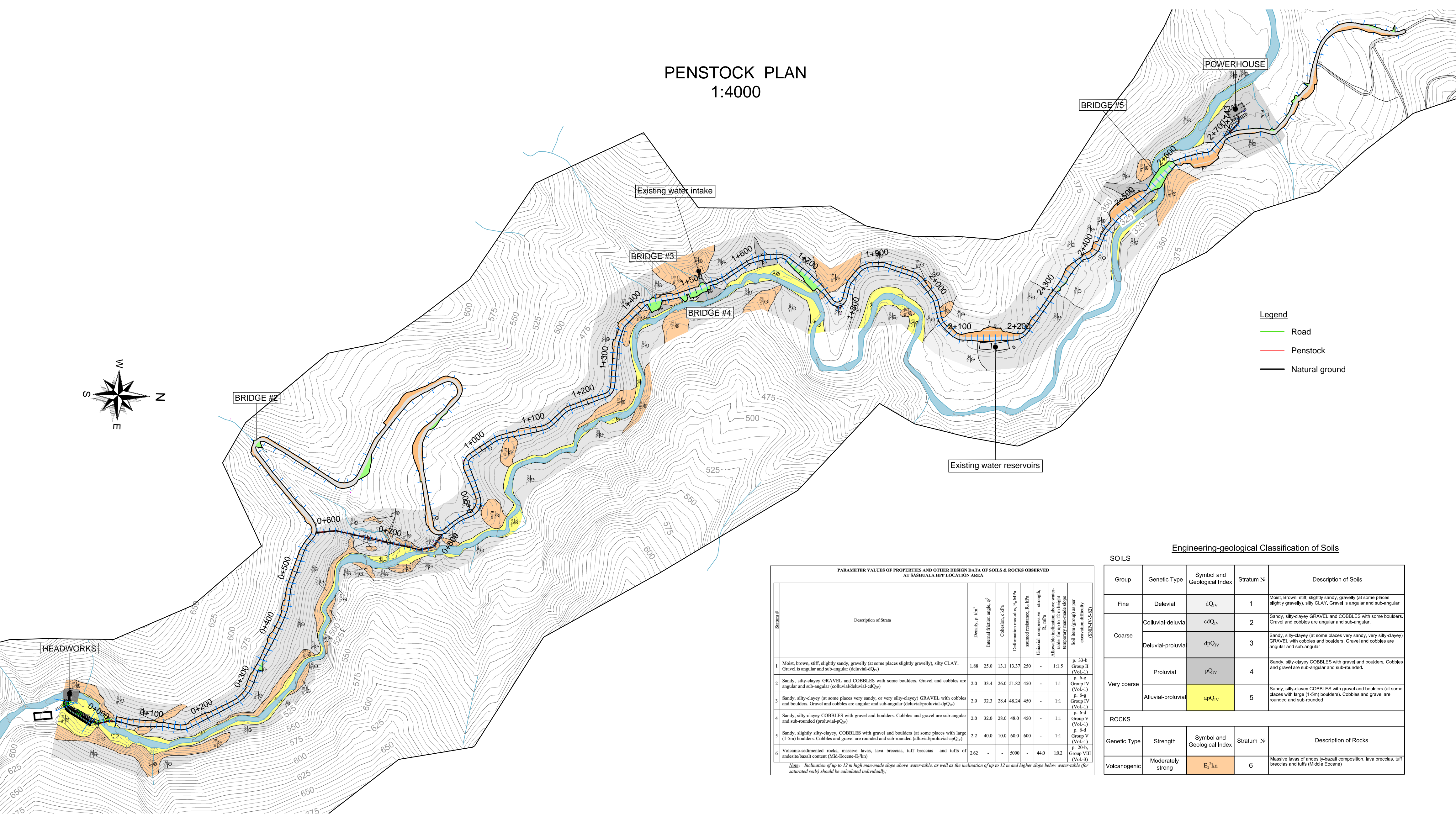


PENSTOCK LONGITUDINAL PROFILE
H/V 1:4000/2000



PENSTOCK PLAN
1:4000



- Remark(s):
- All dimensions are in meters.
 - The maps and coordinates are based on UTM-WGS 84 grid system.

Reference(s):

All geological information comes from geological-geotechnical investigation performed in 2017 by Geoengineering.

d	c	b	a	-	Index
				Initial version	
				31.10.17	SLGI TP REPA
				Date	Draftsman Verified Approved

PARAMETER VALUES OF PROPERTIES AND OTHER DESIGN DATA OF SOILS & ROCKS OBSERVED AT SASHUALA HPP LOCATION AREA									
Stratum #	Description of Strata	Density, ρ t/m ³	Internal friction angle, ϕ (°)	Cohesion, c kPa	Deformation modulus, E_s MPa	Uniaxial compressive strength, σ_{cu} MPa	Uniaxial tensile strength, σ_{tu} MPa	Mass specific weight, γ kN/m ³	Soil name (group) as per (SNIP IV.4-82)
1	Moss, brown, stiff, slightly sandy, gravelly (at some places slightly gravelly), silty CLAY. Gravel is angular and sub-angular (deluvial-dQ _{IV}).	1.88	25.0	13.1	13.37	250	-	11:5	P. 33a-b Group II (Vol.1)
2	Sandy, silty-clayey GRAVEL and COBBLES with some boulders. Gravel and cobbles are angular and sub-angular (colluvial-dQ _{IV}).	2.0	33.4	26.0	31.82	450	-	1:1	P. 6-4 Group IV (Vol.1)
3	Sandy, silty-clayey (at some places very sandy, or very silty-clayey) GRAVEL with cobbles and boulders. Gravel and cobbles are angular and sub-angular (deluvial-proluvial-dQ _{IV}).	2.0	32.3	28.4	48.24	450	-	1:1	P. 6-4 Group IV (Vol.1)
4	Sandy, silty-clayey COBBLES with gravel and boulders. Cobbles and gravel are sub-angular and sub-rounded (proluvial-dQ _{IV}).	2.0	32.0	28.0	48.0	450	-	1:1	P. 6-4 Group V (Vol.1)
5	Sandy, slightly silty-clayey, COBBLES with gravel and boulders (at some places with large (1-5m) boulders). Cobbles and gravel are rounded and sub-rounded (alluvial-proluvial-dQ _{IV}).	2.2	40.0	10.0	60.0	600	-	1:1	P. 6-4 Group V (Vol.1)
6	Volcanic-sedimental rocks, massive lava, lava breccias, tuff breccias and tuffs of (Vol.3).	2.62	-	-	3000	440	16.2	10.2	P. 20a-b, Group VIII (Vol.3)

Engineering-geological Classification of Soils				
Group	Genetic Type	Symbol and Geological Index	Stratum №	Description of Soils
Fine	Deluvial	dQ _{IV}	1	Moss, Brown, stiff, slightly sandy, gravelly (at some places slightly gravelly), silty CLAY. Gravel is angular and sub-angular.
Coarse	Colluvial-deluvial	cdQ _{IV}	2	Sandy, silty-clayey GRAVEL and COBBLES with some boulders. Gravel and cobbles are angular and sub-angular.
	Deluvial-proluvial	dpQ _{IV}	3	Sandy, silty-clayey (at some places very sandy, or very silty-clayey) GRAVEL with cobbles and boulders. Gravel and cobbles are angular and sub-angular.
Very coarse	Proluvial	pQ _{IV}	4	Sandy, silty-clayey COBBLES with gravel and boulders. Cobbles and gravel are sub-angular and sub-rounded.
	Alluvial-proluvial	apQ _{IV}	5	Sandy, silty-clayey COBBLES with gravel and boulders (at some places with large (1-5m) boulders). Cobbles and gravel are rounded and sub-rounded.
ROCKS				
Genetic Type	Strength	Symbol and Geological Index	Stratum №	Description of Rocks
Volcanogenic	Moderately strong	E ₂ kn	6	Massive lavas of andesite-basalt composition, lava breccias, tuff breccias and tuffs (Middle Eocene)

SASHUALA HPP 2

PHASE 2

SCALE 1:2000/4000

FORMAT A1

DRAFTSMAN SLGI DATE 31.10.2017

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