

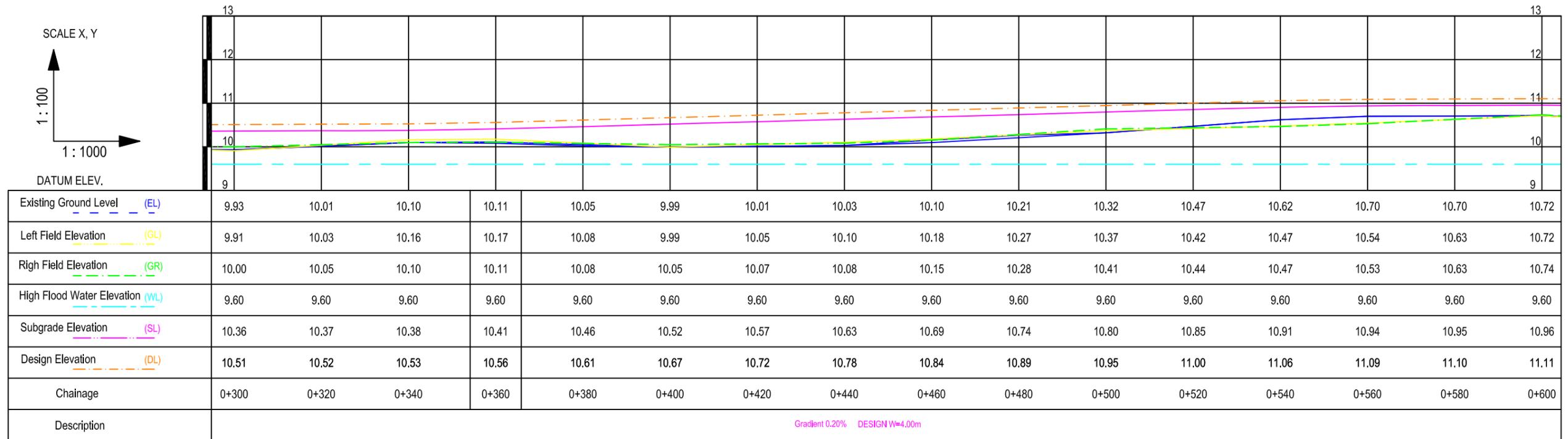
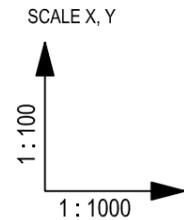
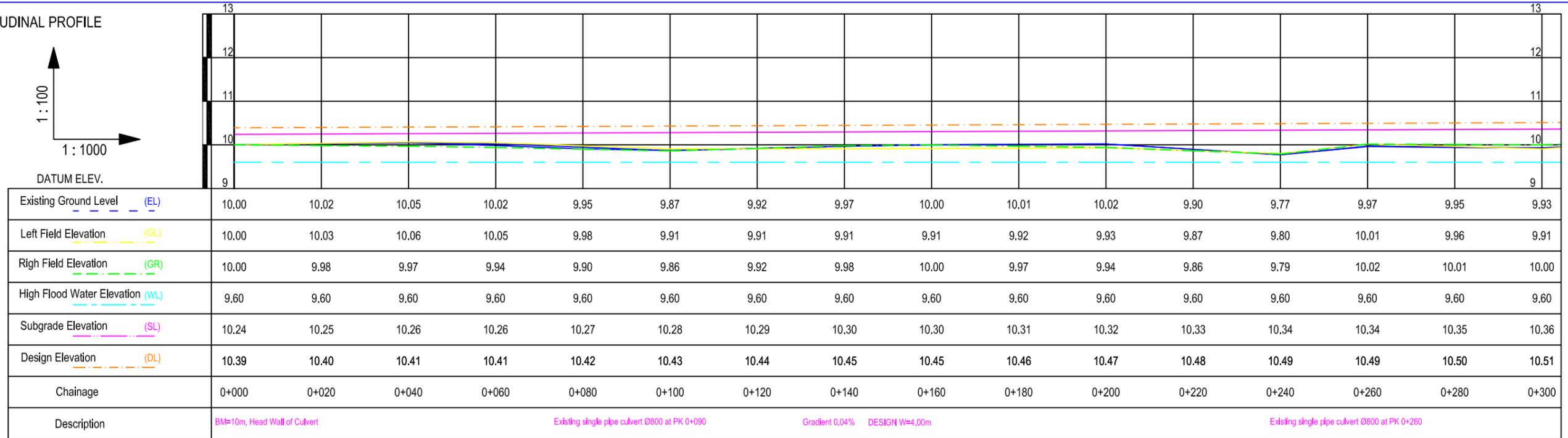
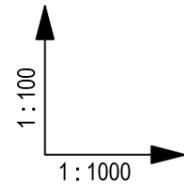
# **ANNEX III-C- DRAWINGS**

**ITB 06-2023**

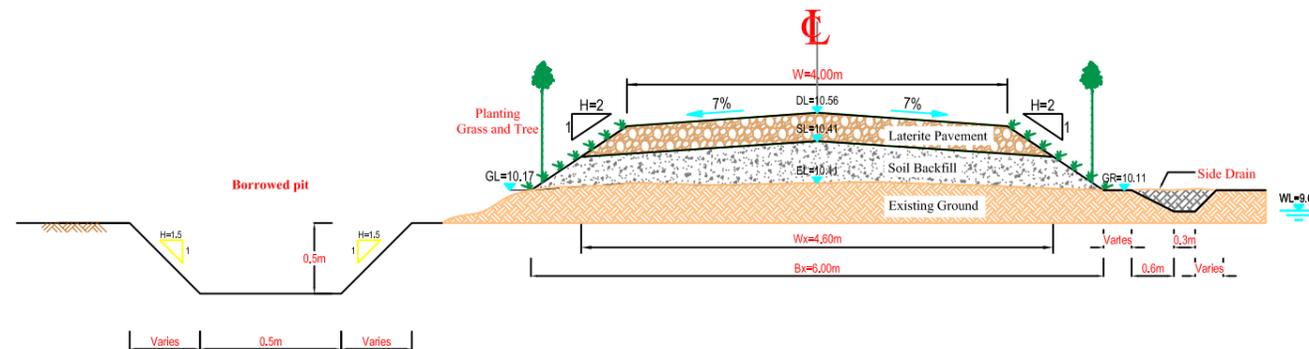
**REHABILITATION OF RURAL ROAD IN SRAE KHAV COMMUNE, ANGKOR  
CHUM DISTRICT, SIEM REAP PROVINCE**

**Cambodia, November 2023**

LONGITUDINAL PROFILE



TYPICAL CROSS SECTION 0+360



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

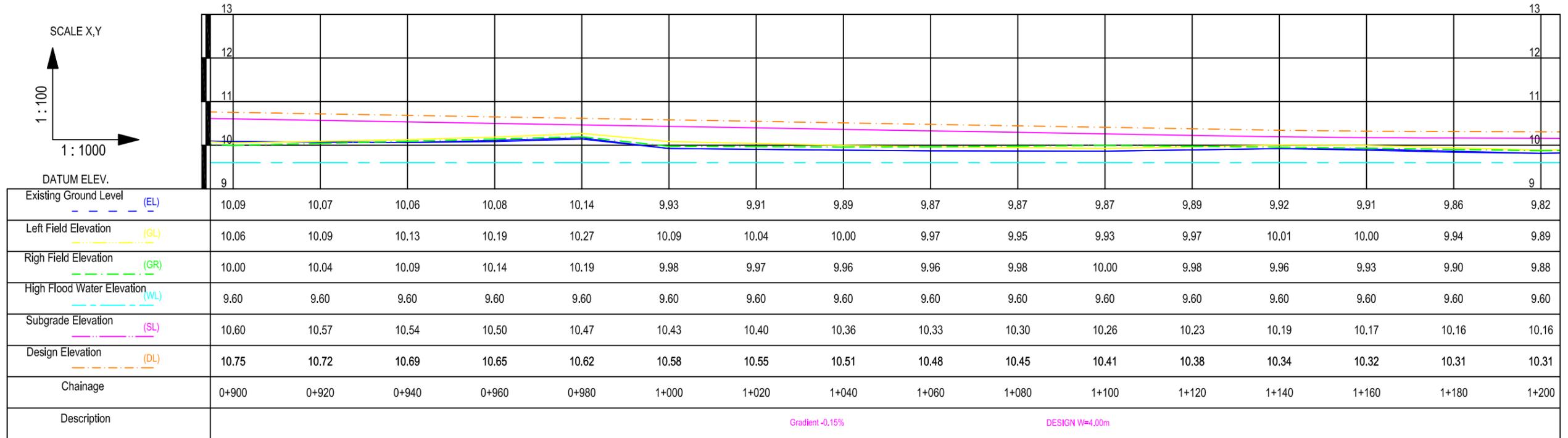
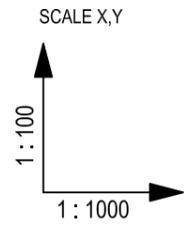
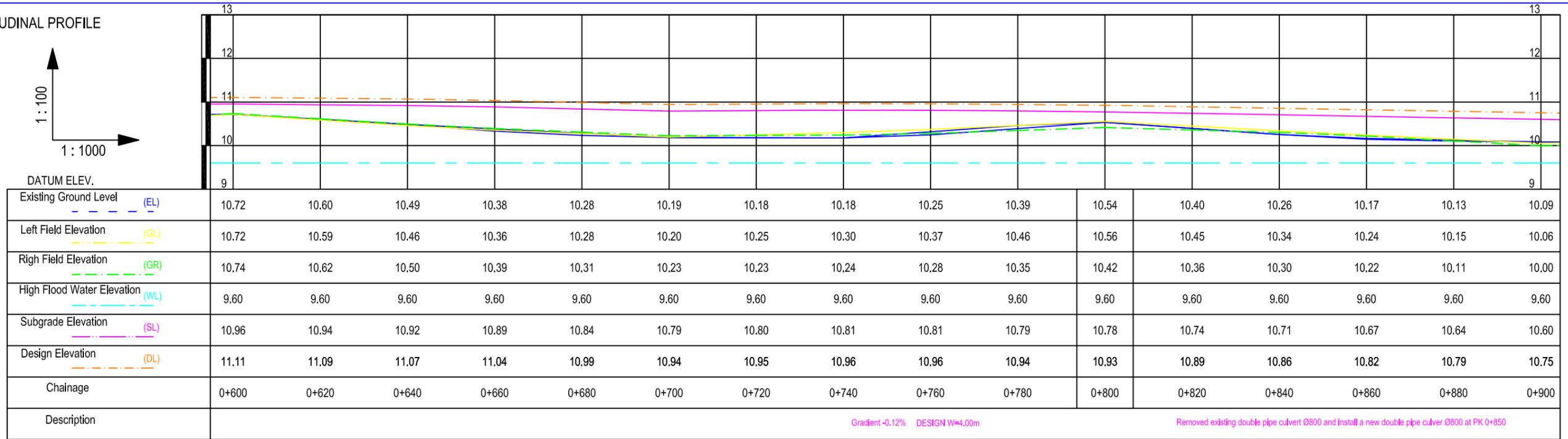
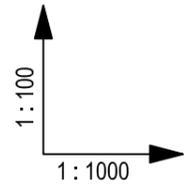
Longitudinal profile and cross section

DRAW BY: Nhep Sophara POSITION: FIELD ENGINEER

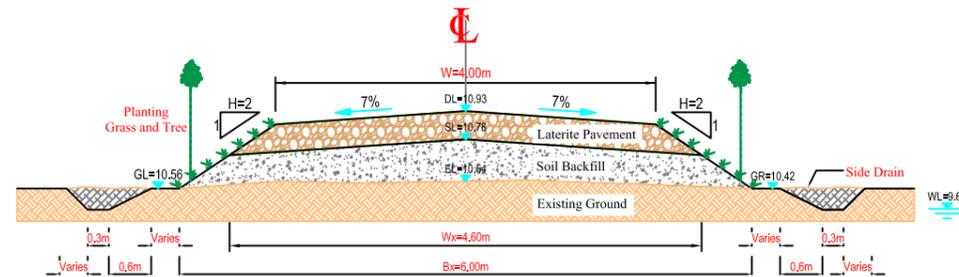
ORIGINAL SIZE: A3 SCALE: 1:100, 1:1000

SHEET: 1 OF 9 DATE: 19/09/2023

LONGITUDINAL PROFILE



TYPICAL CROSS SECTION 0+800



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

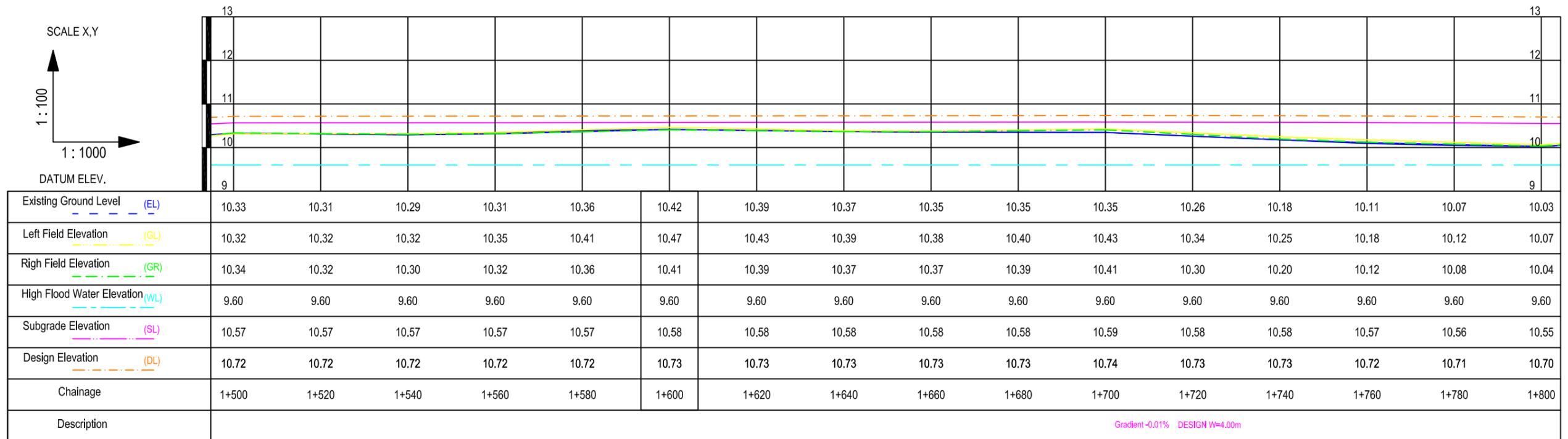
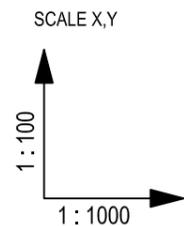
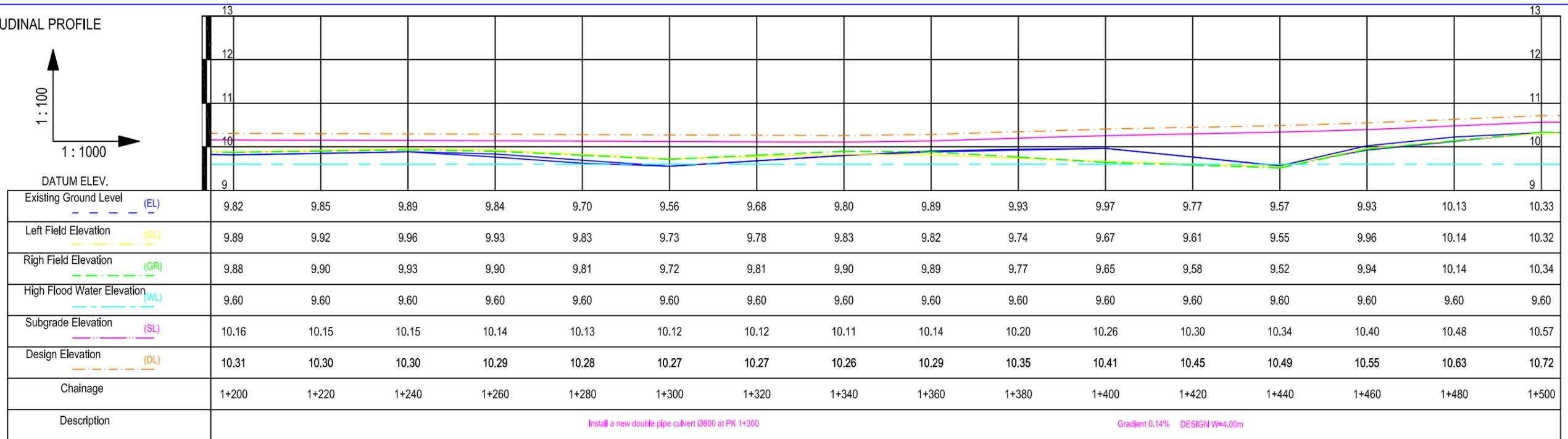
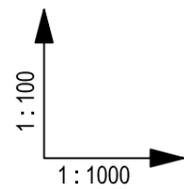
OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

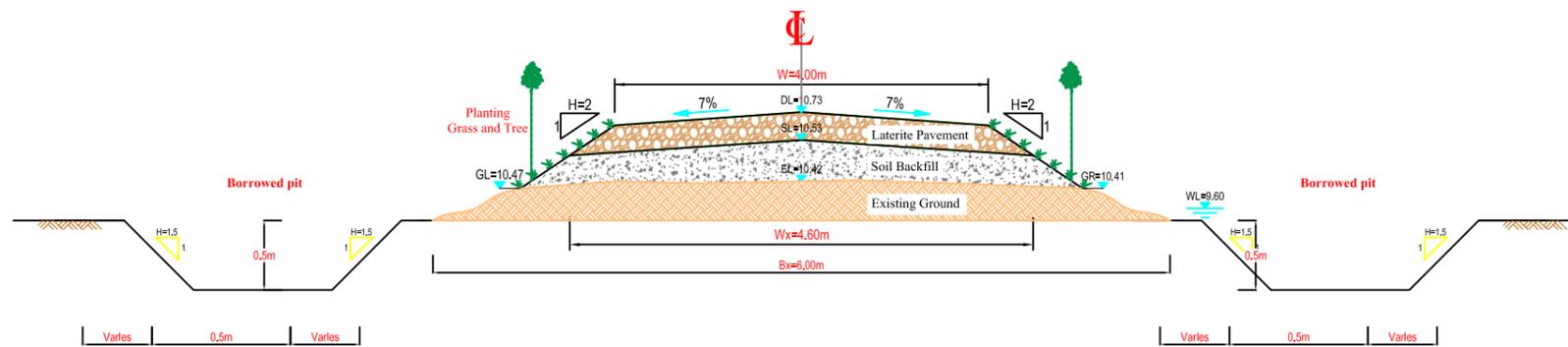
Longitudinal profile and cross section

DRAW BY: Nhep Sophara	POSITION: FIELD ENGINEER
ORIGINAL SIZE: A3	SCALE: 1:100, 1:1000
SHEET: 2 OF 9	DATE: 19/09/2023

LONGITUDINAL PROFILE



TYPICAL CROSS SECTION 1+600



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

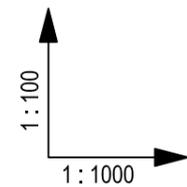
OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

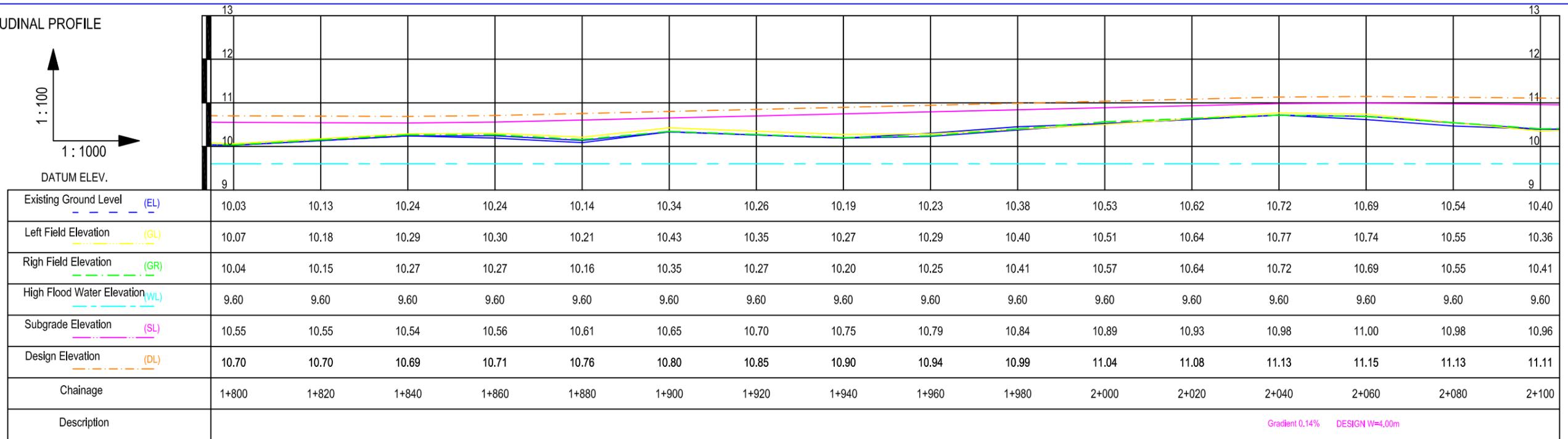
Longitudinal profile and cross section

DRAW BY: Nhep Sophara	POSITION: FIELD ENGINEER
ORIGINAL SIZE: A3	SCALE: 1:100, 1:1000
SHEET: 3 OF 9	DATE: 19/09/2023

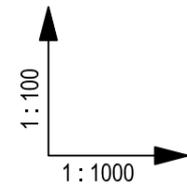
LONGITUDINAL PROFILE



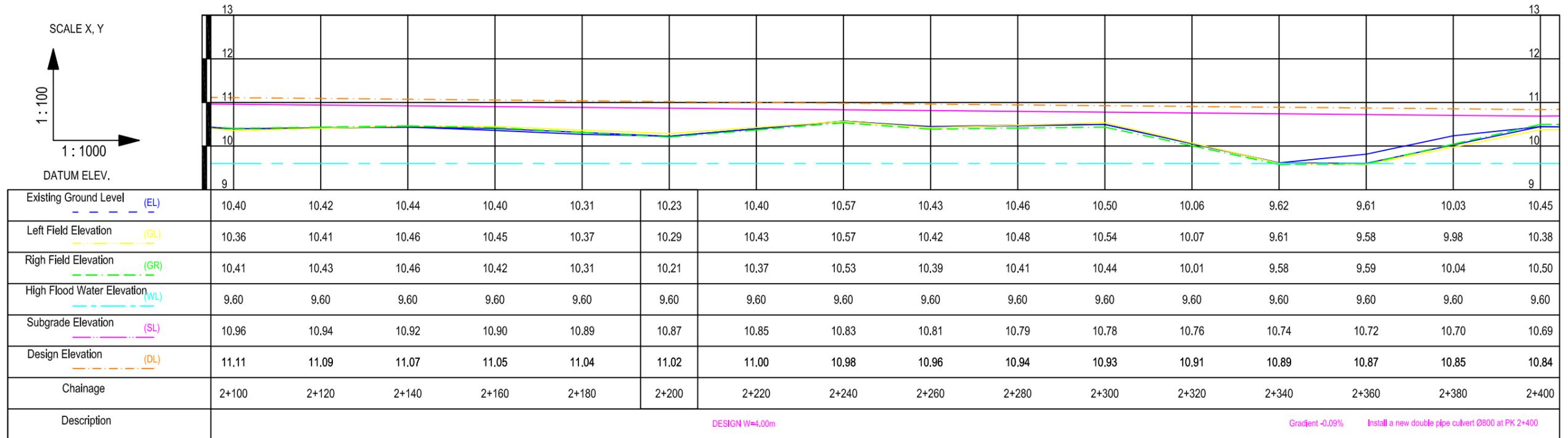
DATUM ELEV.



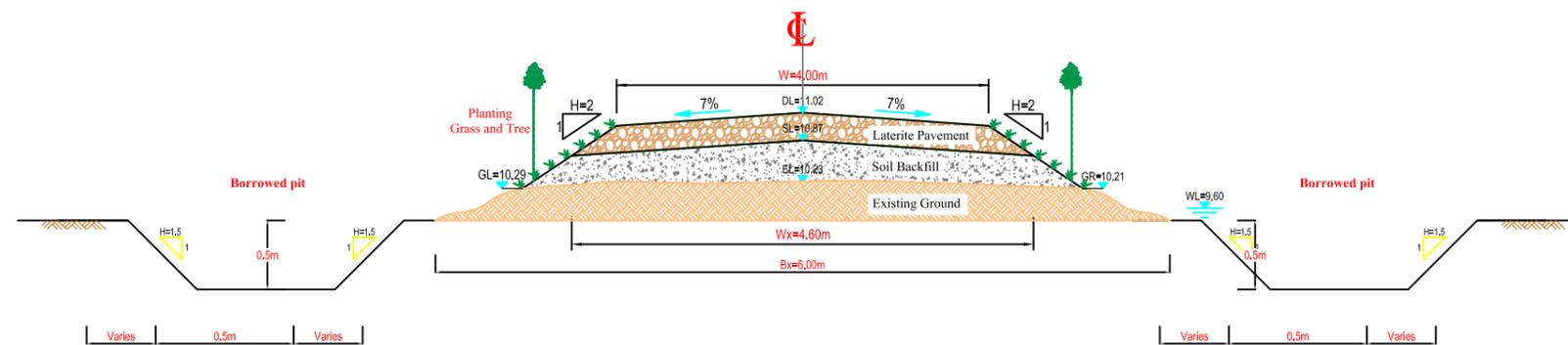
SCALE X, Y



DATUM ELEV.



TYPICAL CROSS SECTION 2+200



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

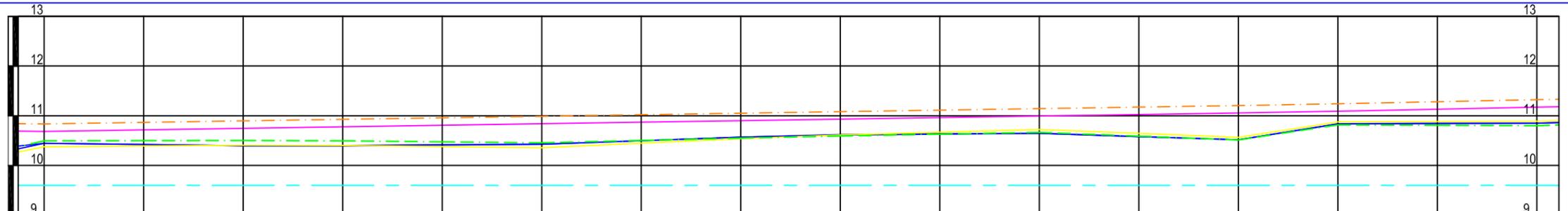
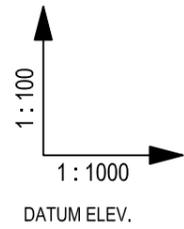
OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

Longitudinal profile and cross section

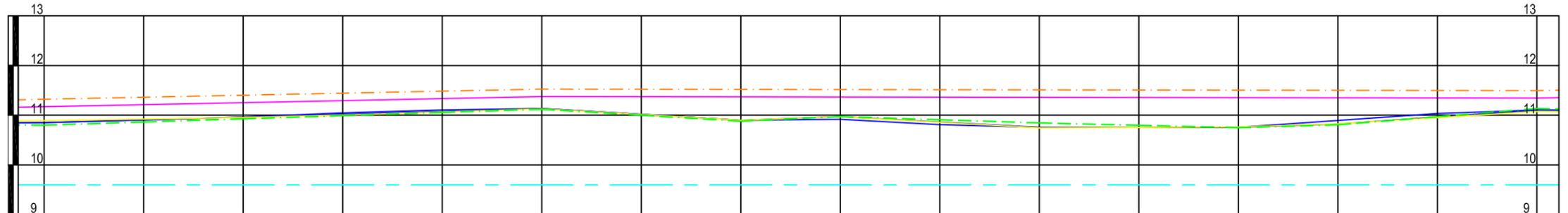
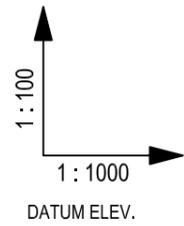
DRAW BY: Nhep Sophara	POSITION: FIELD ENGINEER
ORIGINAL SIZE: A3	SCALE: 1:100, 1:1000
SHEET: 4 OF 9	DATE: 19/09/2023

LONGITUDINAL PROFILE



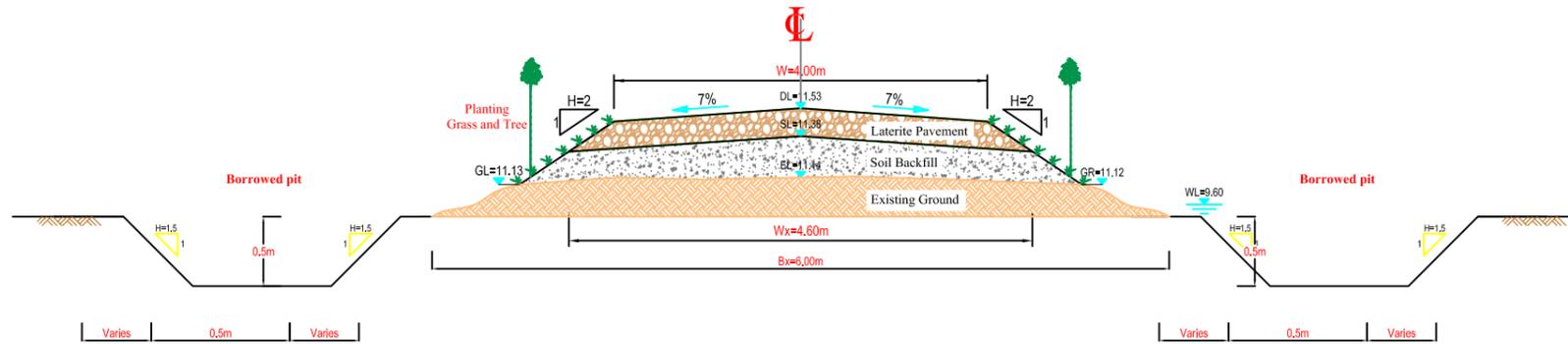
Existing Ground Level (EL)	10.45	10.42	10.40	10.39	10.41	10.43	10.50	10.57	10.61	10.63	10.65	10.58	10.52	10.83	10.84	10.85
Left Field Elevation (GL)	10.38	10.39	10.41	10.40	10.38	10.36	10.45	10.54	10.61	10.67	10.73	10.65	10.57	10.87	10.88	10.89
Right Field Elevation (GR)	10.50	10.50	10.50	10.50	10.48	10.46	10.50	10.55	10.59	10.63	10.67	10.59	10.51	10.82	10.81	10.80
High Flood Water Elevation (WL)	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60
Subgrade Elevation (SL)	10.69	10.72	10.75	10.78	10.81	10.84	10.87	10.90	10.93	10.96	10.99	11.02	11.05	11.09	11.13	11.17
Design Elevation (DL)	10.84	10.87	10.90	10.93	10.96	10.99	11.02	11.05	11.08	11.11	11.14	11.17	11.20	11.24	11.28	11.32
Chainage	2+400	2+420	2+440	2+460	2+480	2+500	2+520	2+540	2+560	2+580	2+600	2+620	2+640	2+660	2+680	2+700
Description	DESIGN W=4.00m Gradient 0.16%															

SCALE X, Y



Existing Ground Level (EL)	10.85	10.91	10.96	11.02	11.08	11.14	11.02	10.90	10.97	10.86	10.76	10.76	10.76	10.83	10.97	11.11
Left Field Elevation (GL)	10.89	10.92	10.95	11.00	11.07	11.13	11.01	10.90	10.97	10.86	10.75	10.75	10.76	10.83	10.95	11.08
Right Field Elevation (GR)	10.80	10.86	10.93	10.99	11.06	11.12	11.00	10.88	10.97	10.91	10.85	10.80	10.75	10.81	10.97	11.14
High Flood Water Elevation (WL)	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60	9.60
Subgrade Elevation (SL)	11.17	11.21	11.25	11.29	11.33	11.38	11.37	11.37	11.37	11.36	11.36	11.36	11.35	11.35	11.35	11.35
Design Elevation (DL)	11.32	11.36	11.40	11.44	11.48	11.53	11.52	11.52	11.52	11.51	11.51	11.51	11.50	11.50	11.50	11.50
Chainage	2+700	2+720	2+740	2+760	2+780	2+800	2+820	2+840	2+860	2+880	2+900	2+920	2+940	2+960	2+980	3+000
Description	Gradient -0.03% DESIGN W=4.00m															

TYPICAL CROSS SECTION 2+800



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

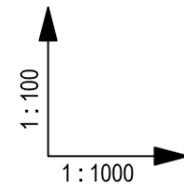
Longitudinal profile and cross section

DRAW BY: Nhep Sophara POSITION: FIELD ENGINEER

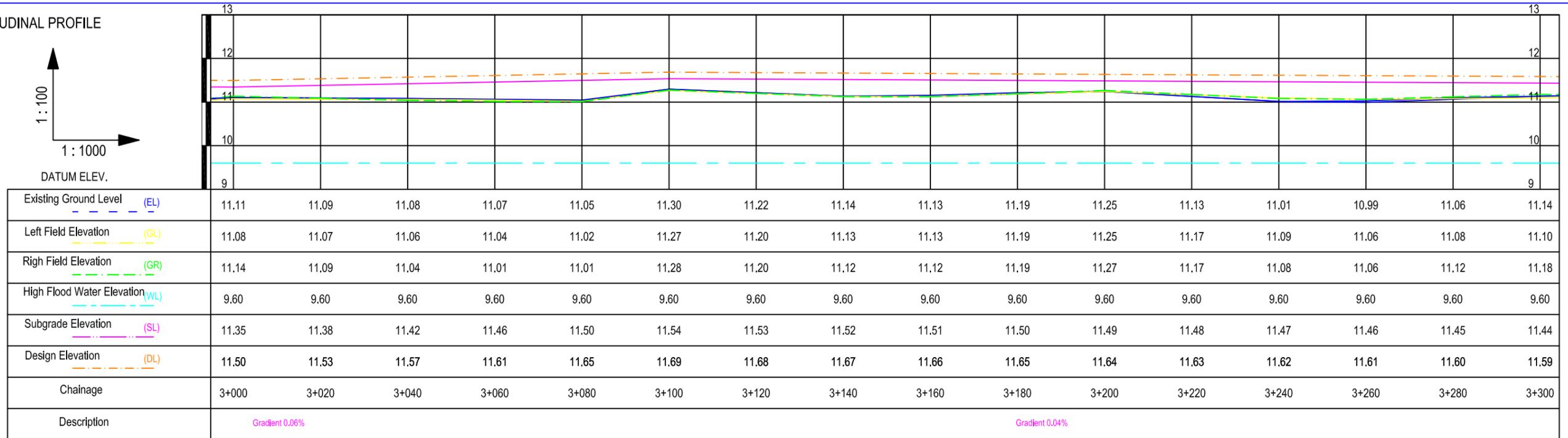
ORIGINAL SIZE: A3 SCALE: 1:100, 1:1000

SHEET: 5 OF 9 DATE: 19/09/2023

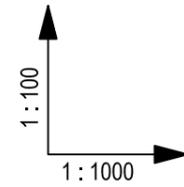
LONGITUDINAL PROFILE



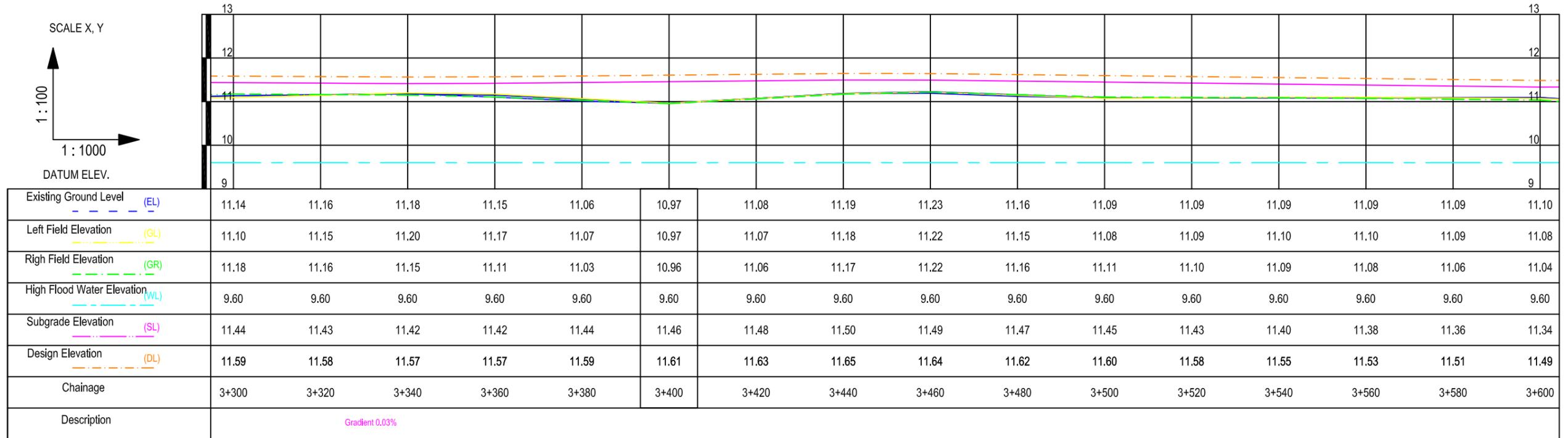
DATUM ELEV. 9



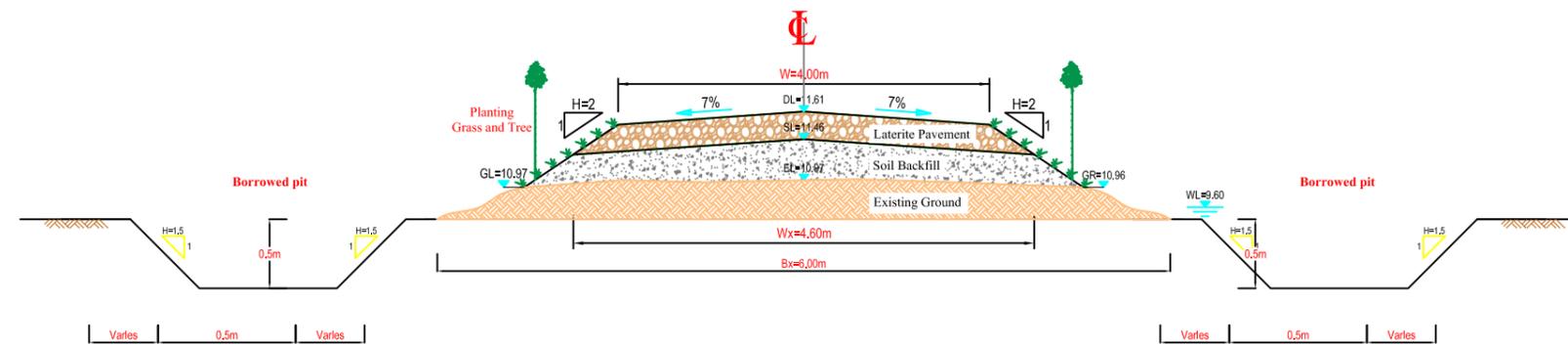
SCALE X, Y



DATUM ELEV. 9



TYPICAL CROSS SECTION 3+400



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

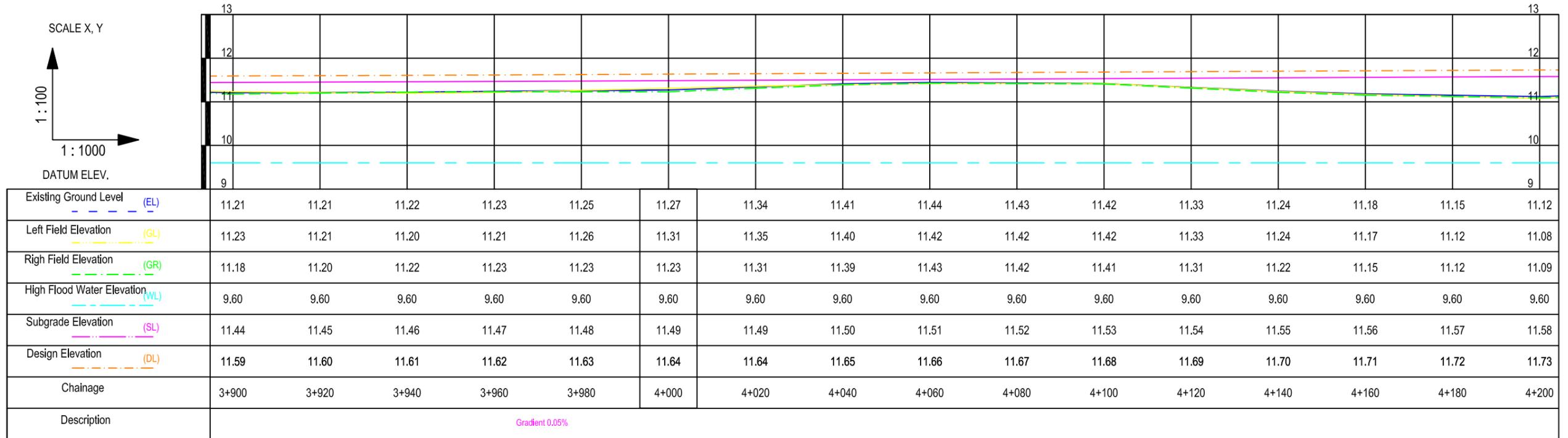
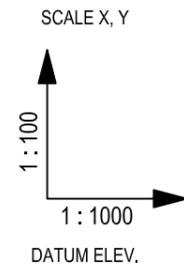
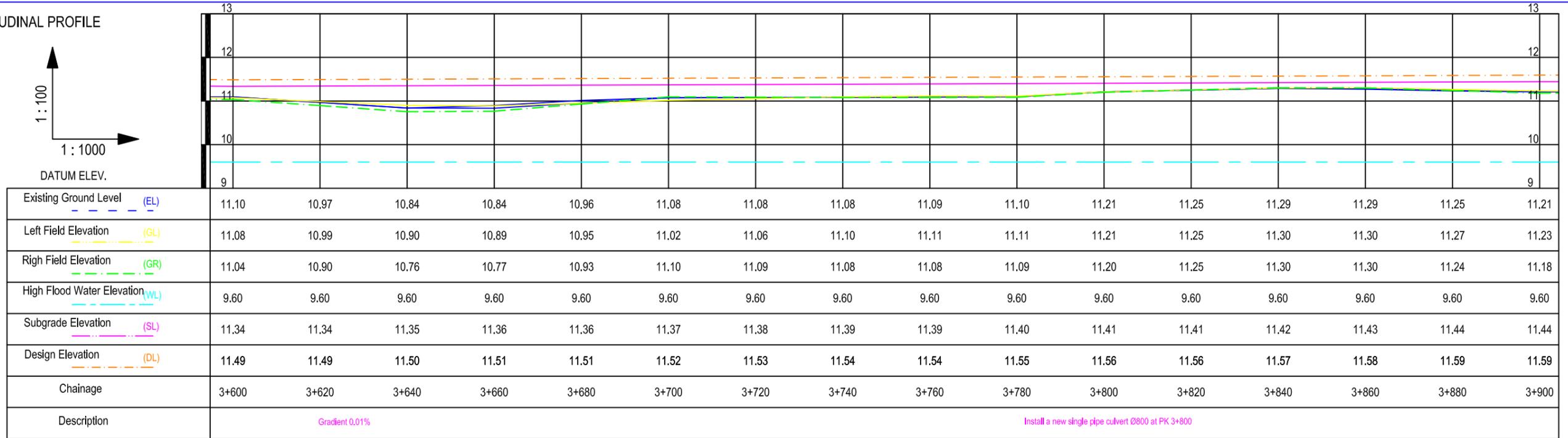
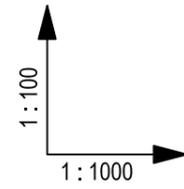
Longitudinal profile and cross section

DRAW BY: Nhep Sophara POSITION: FIELD ENGINEER

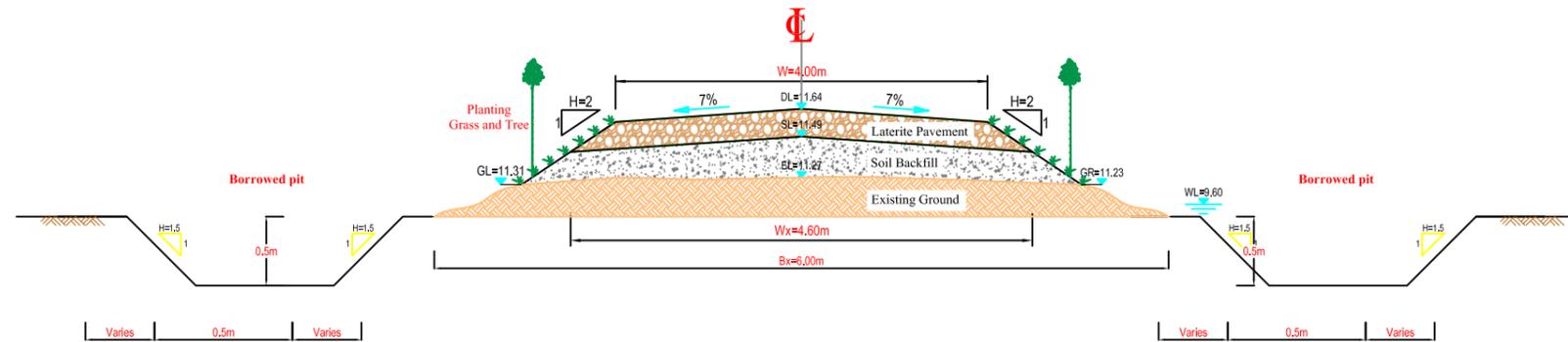
ORIGINAL SIZE: A3 SCALE: 1:100, 1:1000

SHEET: 6 OF 9 DATE: 19/09/2023

LONGITUDINAL PROFILE



TYPICAL CROSS SECTION 4+000



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

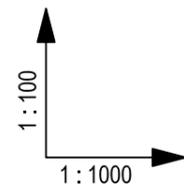
OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

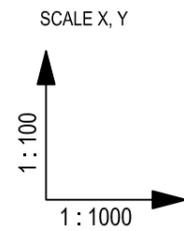
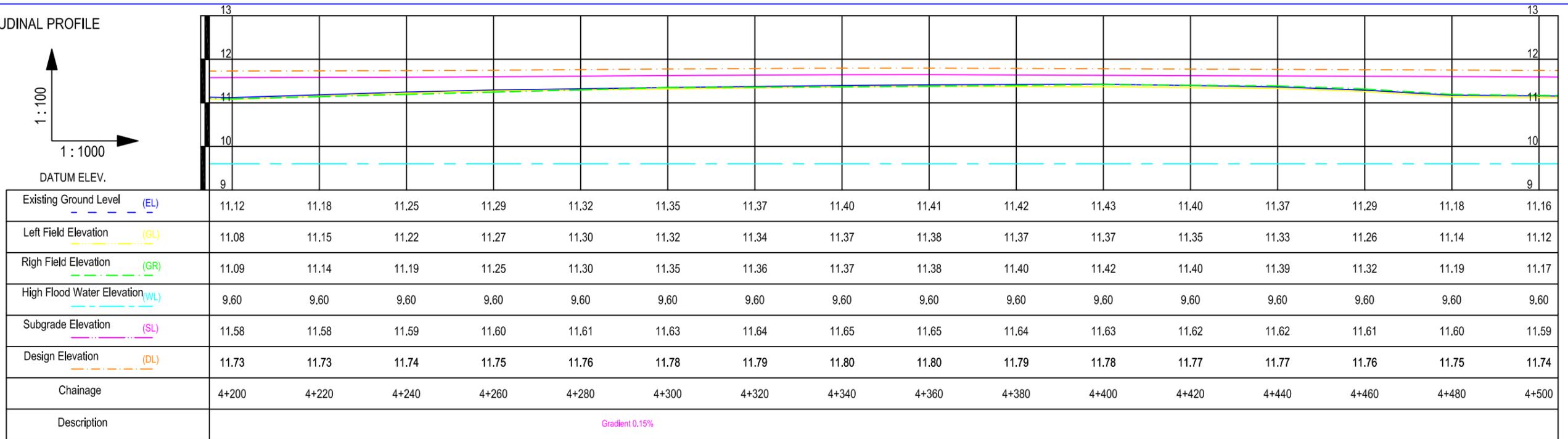
Longitudinal profile and cross section

DRAW BY: Nhep Sophara	POSITION: FIELD ENGINEER
ORIGINAL SIZE: A3	SCALE: 1:100, 1:1000
SHEET: 7 OF 9	DATE: 19/09/2023

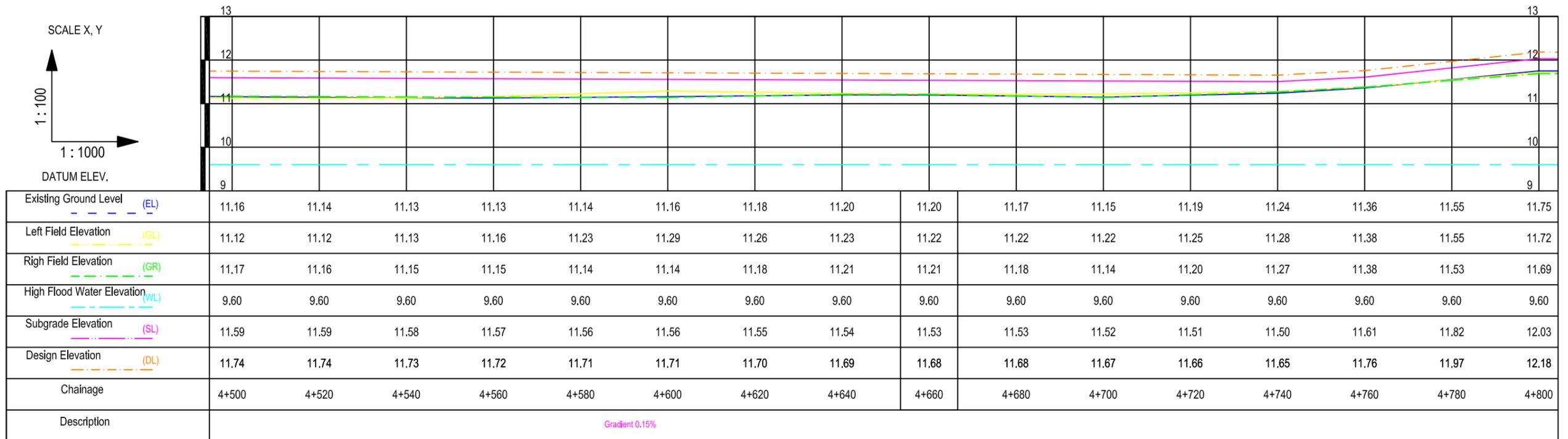
LONGITUDINAL PROFILE



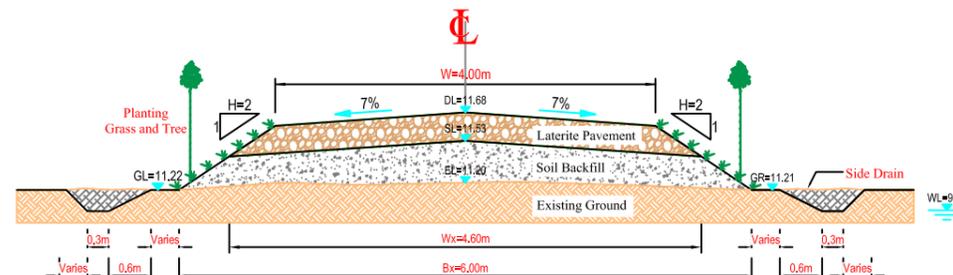
DATUM ELEV. 9



DATUM ELEV. 9



TYPICAL CROSS SECTION 4+660



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

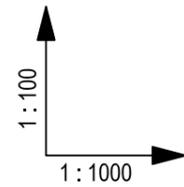
OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

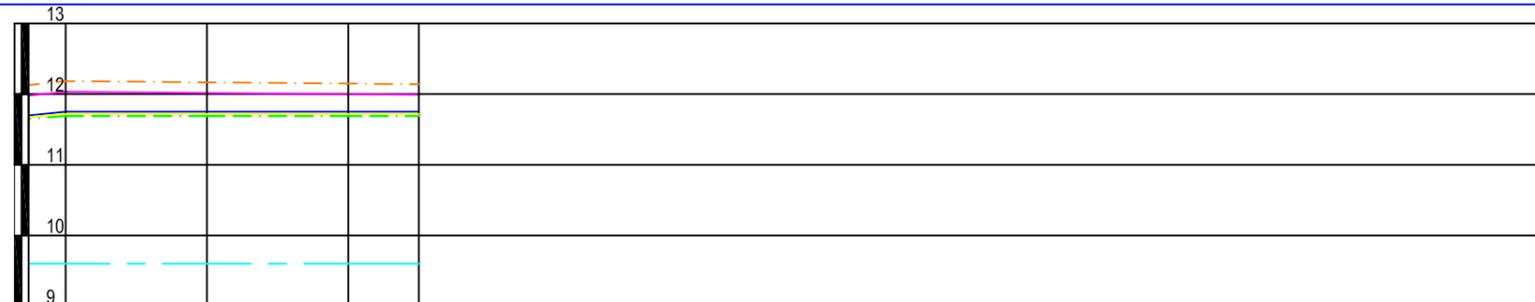
Longitudinal profile and cross section

DRAW BY: Nhep Sophara	POSITION: FIELD ENGINEER
ORIGINAL SIZE: A3	SCALE: 1:100, 1:1000
SHEET: 8 OF 9	DATE: 19/09/2023

LONGITUDINAL PROFILE

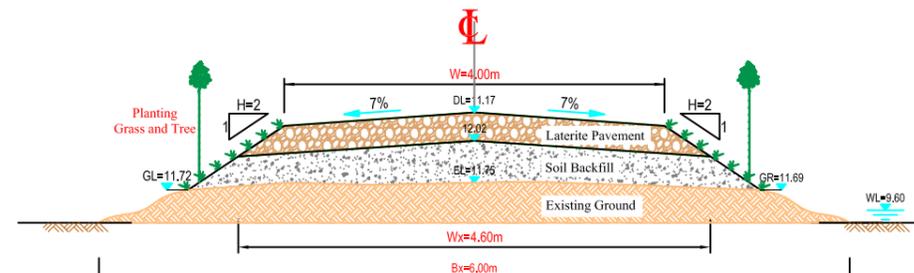


DATUM ELEV.



Existing Ground Level (EL)	11.75	11.75	11.75	11.75
Left Field Elevation (GL)	11.72	11.72	11.72	11.72
Right Field Elevation (GR)	11.69	11.69	11.69	11.69
High Flood Water Elevation (WL)	9.60	9.60	9.60	9.60
Subgrade Elevation (SL)	12.03	12.02	12.00	11.99
Design Elevation (DL)	12.18	12.17	12.15	12.14
Chainage	4+800	4+820	4+840	4+850
Description				

TYPICAL CROSS SECTION 4+820



NOTES:

- 1- All dimensions are in millimetres unless otherwise indicated.
- 2- All levels are in metres unless otherwise indicated.

DESCRIPTION	SYMBOLS
Laterite	
Filling embankment	
Existing embankment	
Excavation	
Existing ground	
Grass	



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

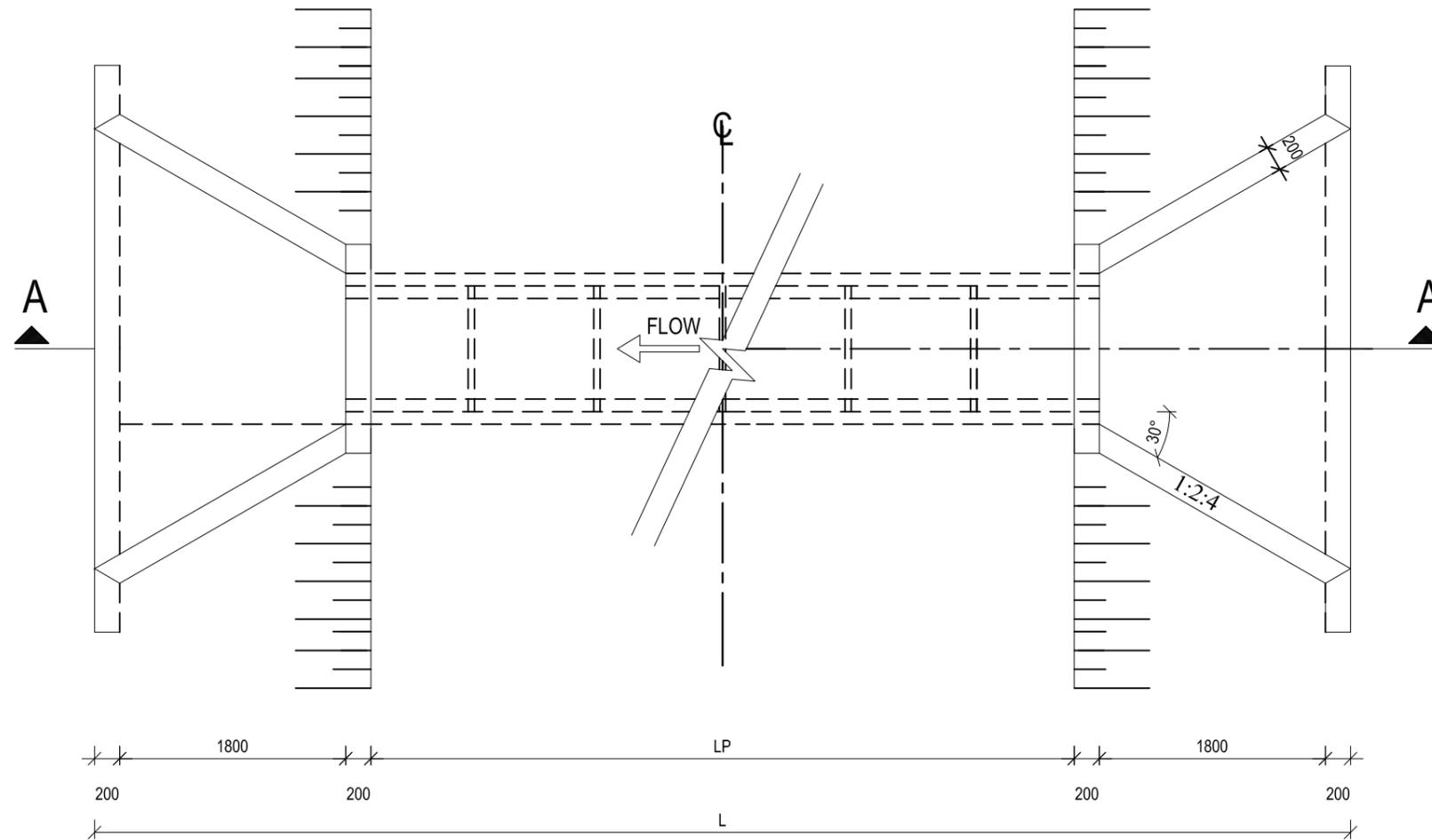
OUTPUT LOCATION: Srae Khvav Commune, Angkor Chum District

Rural Road Rehabilitation

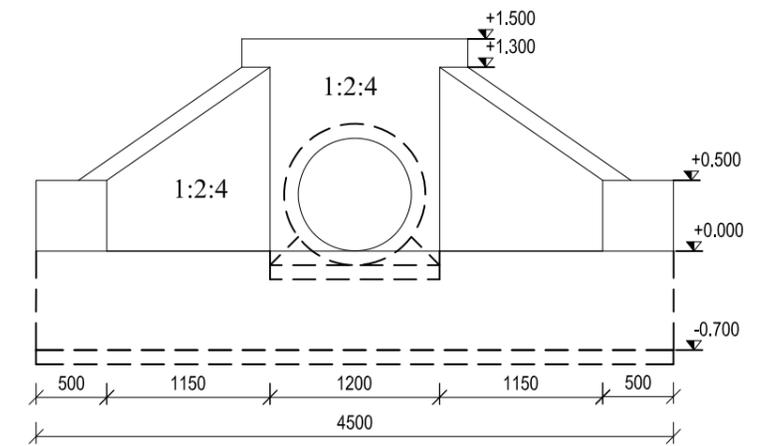
Longitudinal profile and cross section

DRAW BY: Nhep Sophara	POSITION: FIELD ENGINEER
ORIGINAL SIZE: A3	SCALE: 1:100, 1:1000
SHEET: 9 OF 9	DATE: 19/09/2023

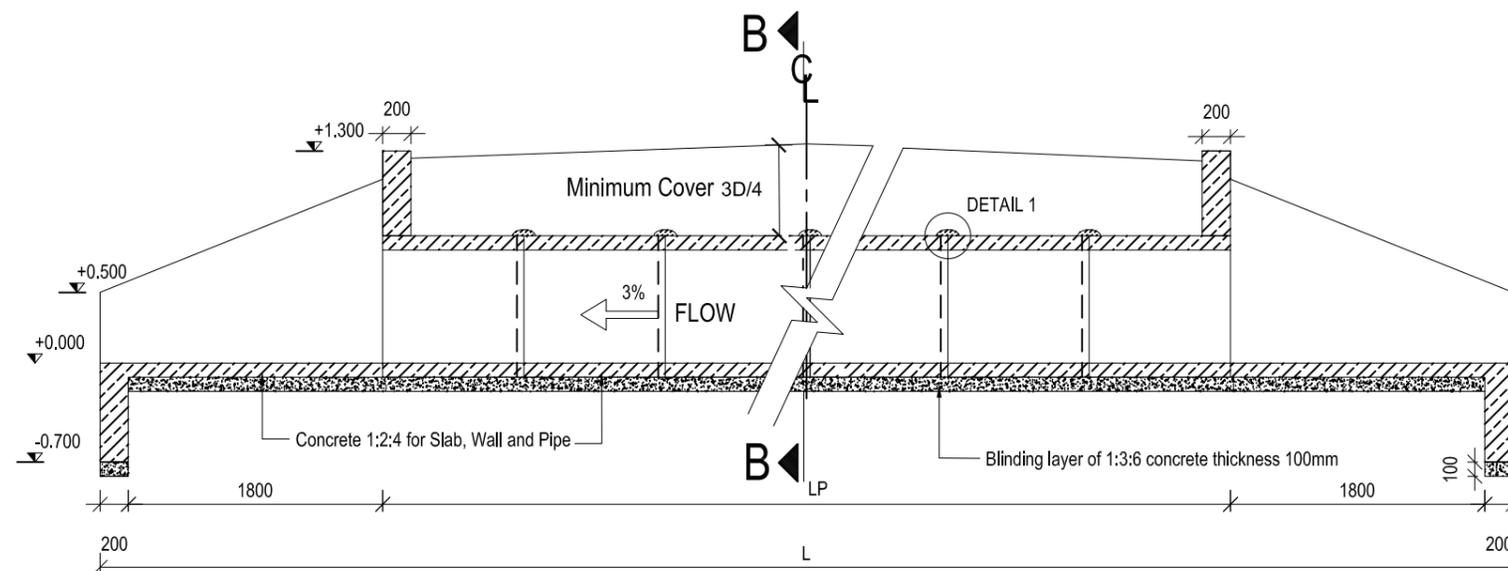
# PLAN VIEW



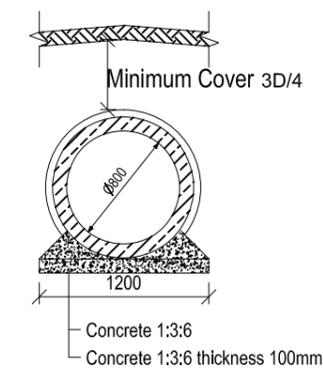
# ELEVATION



# SECTION A-A



# SECTION B-B



## Notes:

1. All dimensions are in millimeters unless otherwise indicated.
2. All levels are in meters.
3. The drawing shows the embankment for minimum pipe cover 3D/4. For higher embankments the number of pipes and length of culvert shall be increased.
4. SETTING OUT: The culvert invert level 0.000 shall be set at the existing downstream bed level
5. LP is the length of total reinforcement concrete pipes.
6. L is the length of pipe culvert.



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION:

**SINGLE PIPE CULVERT, Ø 0.8m**

Plan View, Elevation View and Section View

DRAW BY: NHEP SOPHARA

POSITION: FIELD ENGINEER

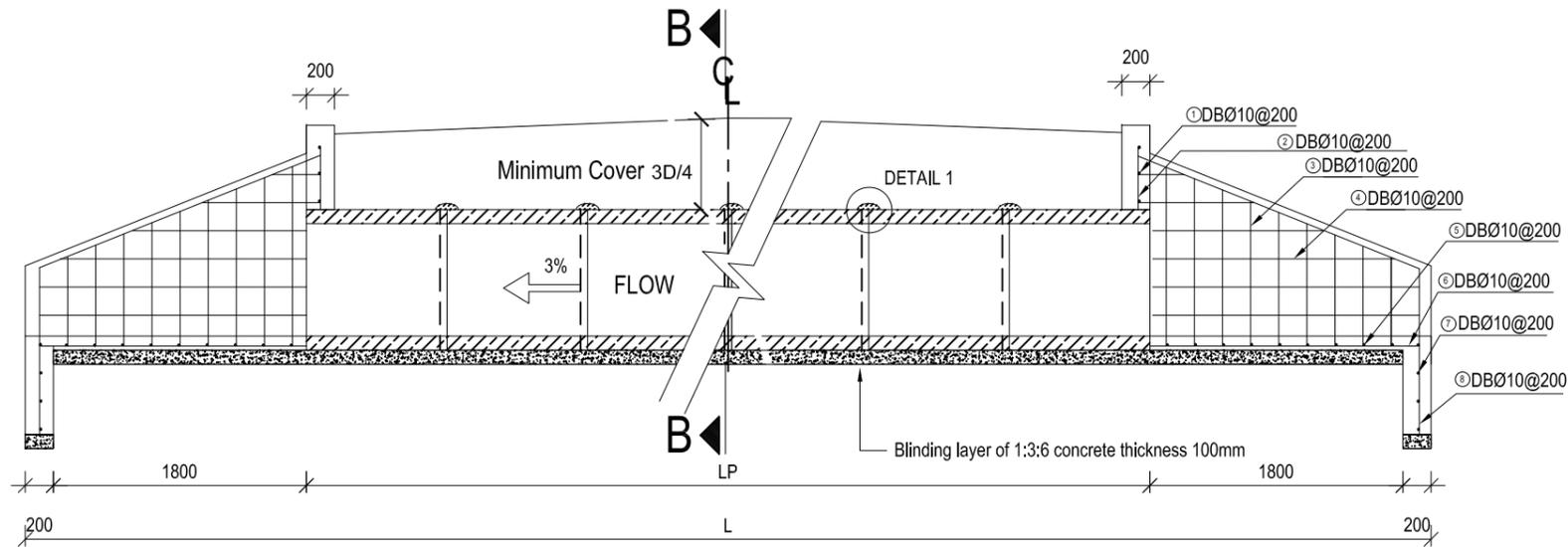
ORIGINAL SIZE: A3

SCALE: 1:50

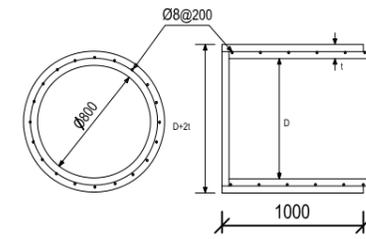
SHEET: 1 OF 2

DATE: 14 MAR 2022

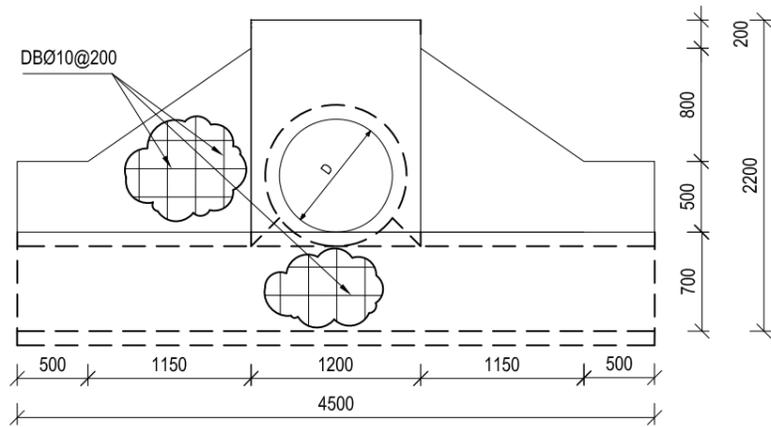
# SIDE VIEW



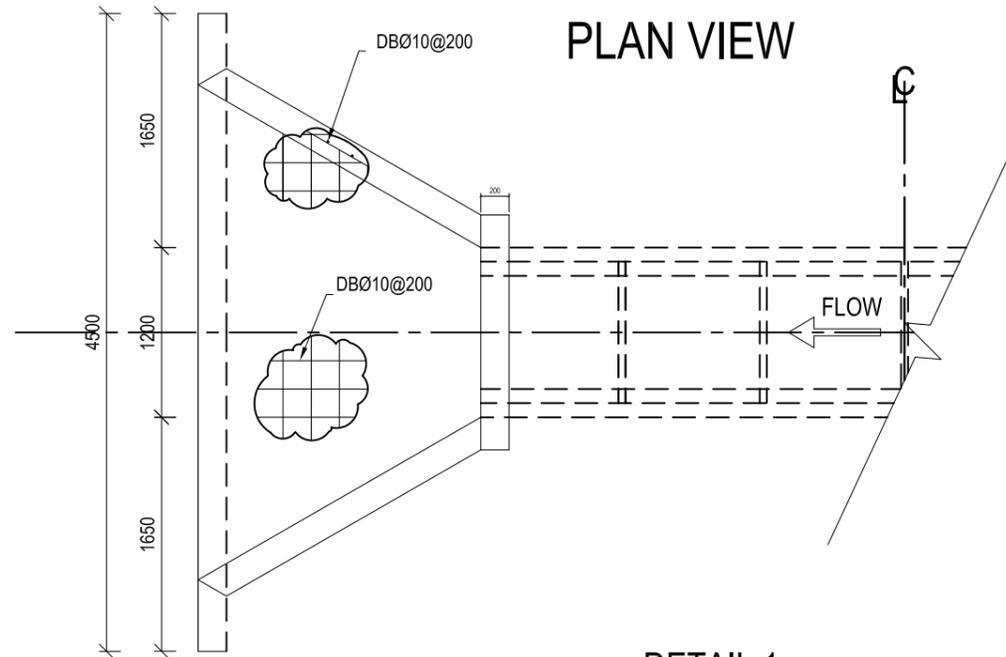
# PIPE REINFORCEMENT



# ELEVATION

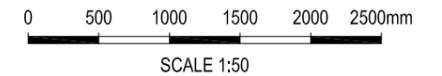


# PLAN VIEW



# Notes:

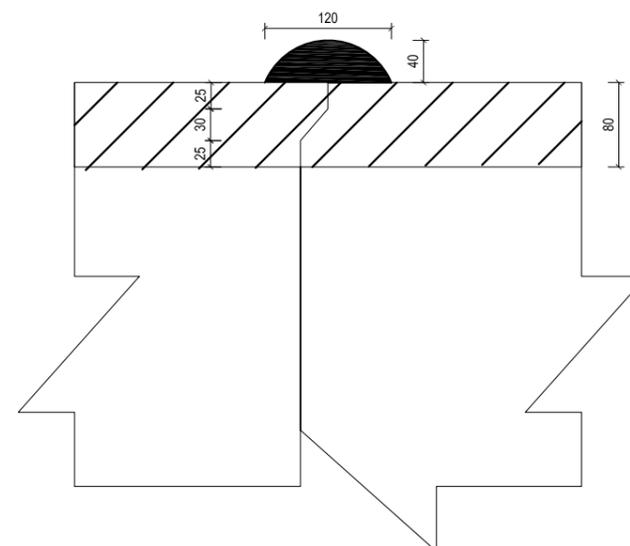
1. All dimensions are in millimeters unless otherwise indicated.
2. All levels are in meters.
3. The drawing shows the embankment for minimum pipe cover 3D/4. For higher embankments the number of pipes and length of culvert shall be increased.
4. SETTING OUT: The culvert invert level 0.000 shall be set at the existing downstream bed level
5. LP is the length of total reinforcement concrete pipes.
6. L is the length of pipe culvert.



# REINFORCEMENT TABLE

ID	TYPE	SHAPE	LENGTH (m)	QUANTITY	TOTAL LENGTH	WEIGHT (kg)
1	DBØ10@200	1200	1.2	8	9.6	5.95
2	DBØ10@200	600	0.6	14	8.4	5.21
3	DBØ10@200	200 550...1270	1.11	40	44.4	27.53
4	DBØ10@200	324...1897	1.314	24	31.53	19.55
5	DBØ10@200	1200...3269	2.246	20	44.92	27.85
6	DBØ10@200	408...1800	1.336	30	40.08	24.85
7	DBØ10@200	4300	4.30	6	25.8	16
8	DBØ10@200	200 800	0.83	46	38.18	23.67
TOTAL WEIGHT (kg)						150.61

# DETAIL 1



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION:

SINGLE PIPE CULVERT, Ø 0.8m

Reinforcement Plan, Section View and Reinforcement Table

DRAW BY: NHEP SOPHARA

POSITION: FIELD ENGINEER

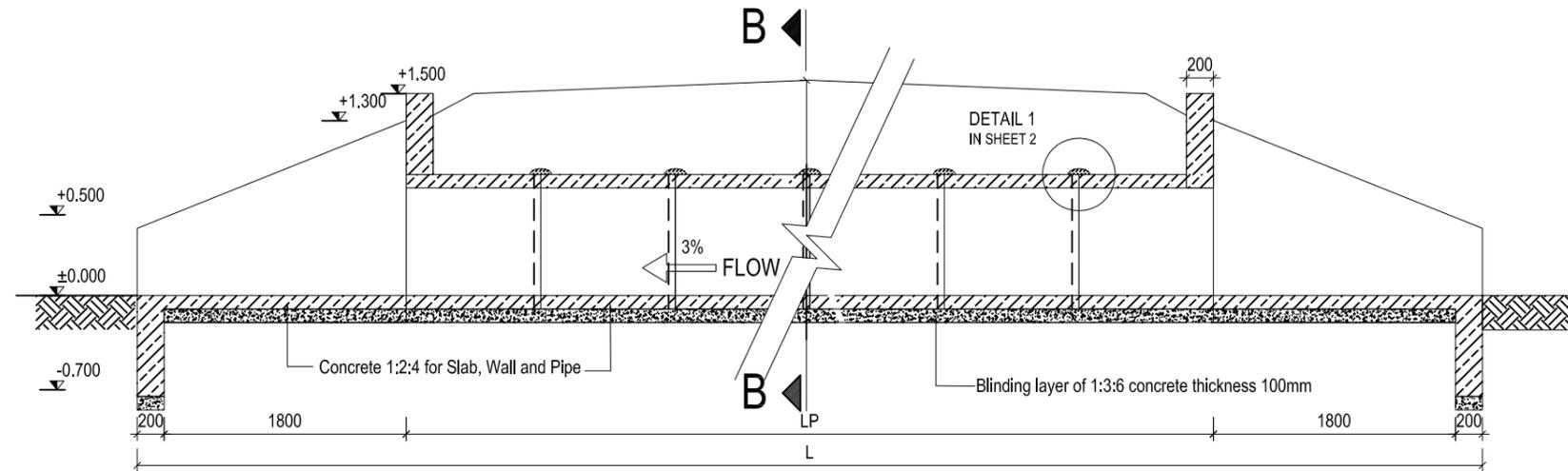
ORIGINAL SIZE: A3

SCALE: 1:50

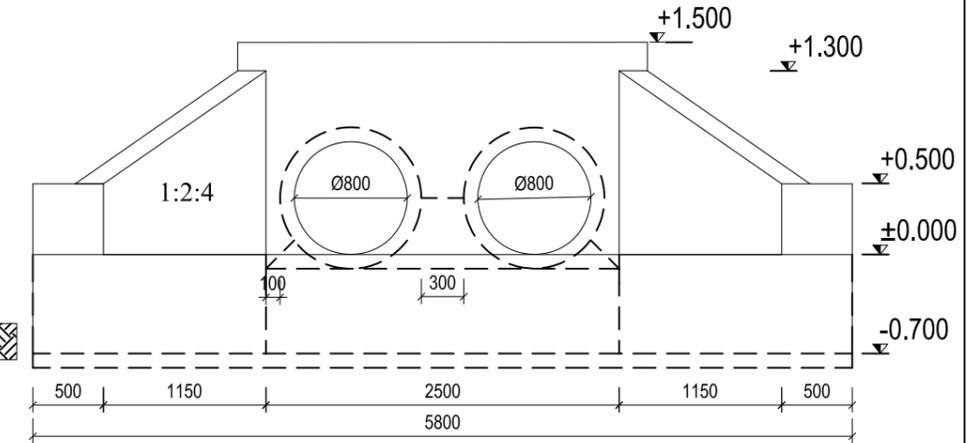
SHEET: 2 OF 2

DATE: 14 MAR 2022

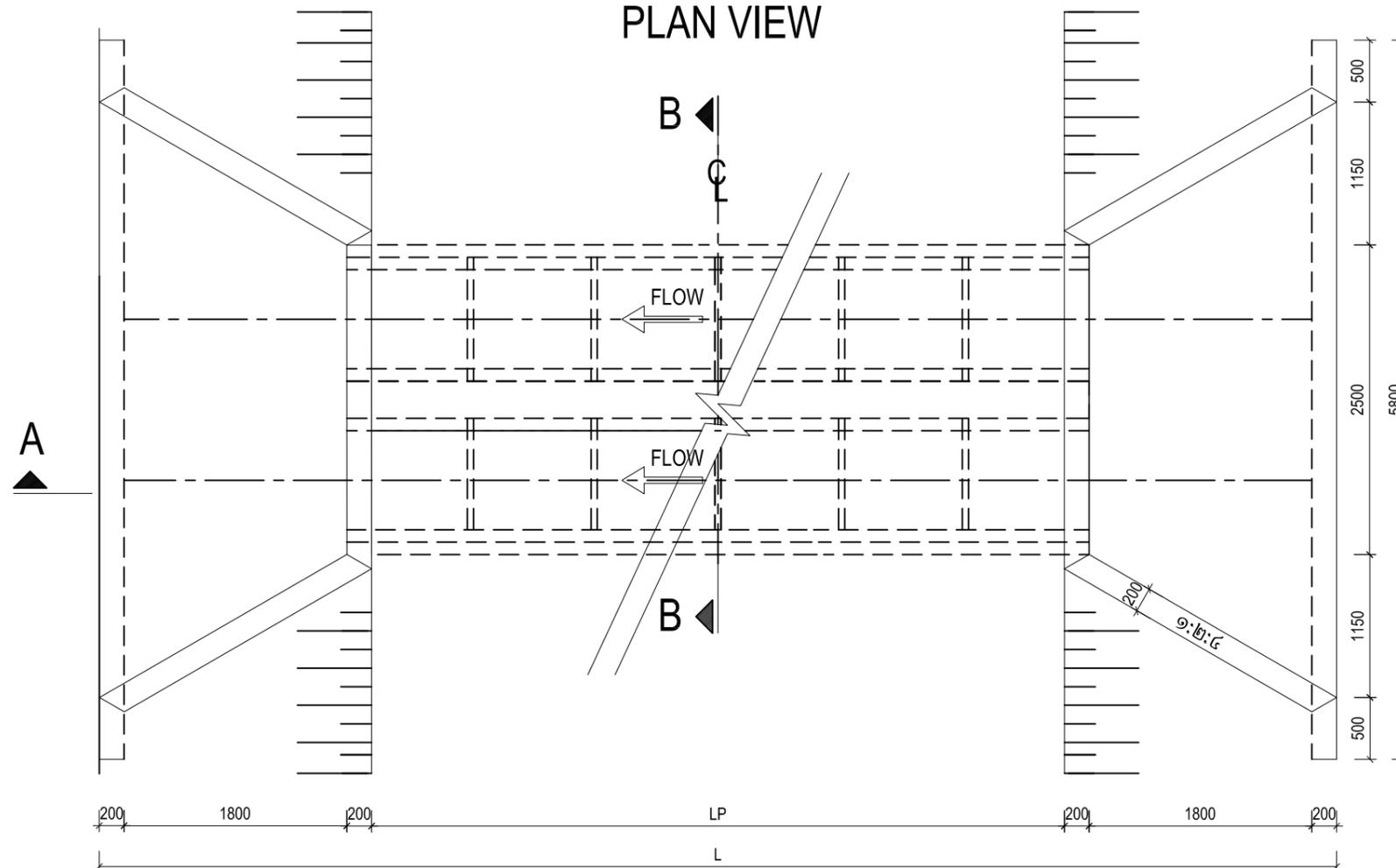
# SECTION A-A



# ELEVATION

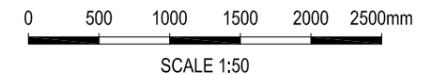


# PLAN VIEW



## Notes:

1. All dimensions are in millimeters unless otherwise indicated.
2. All levels are in meters.
3. The drawing shows the embankment for minimum pipe cover 3D/4. For higher embankments the number of pipes and length of culvert shall be increased.
4. SETTING OUT: The culvert invert level 0.000 shall be set at the existing downstream bed level
5. LP is the length of total reinforcement concrete pipes.
6. L is the length of pipe culvert.



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION:

DOUBLE PIPE CULVERT, Ø 0.8m

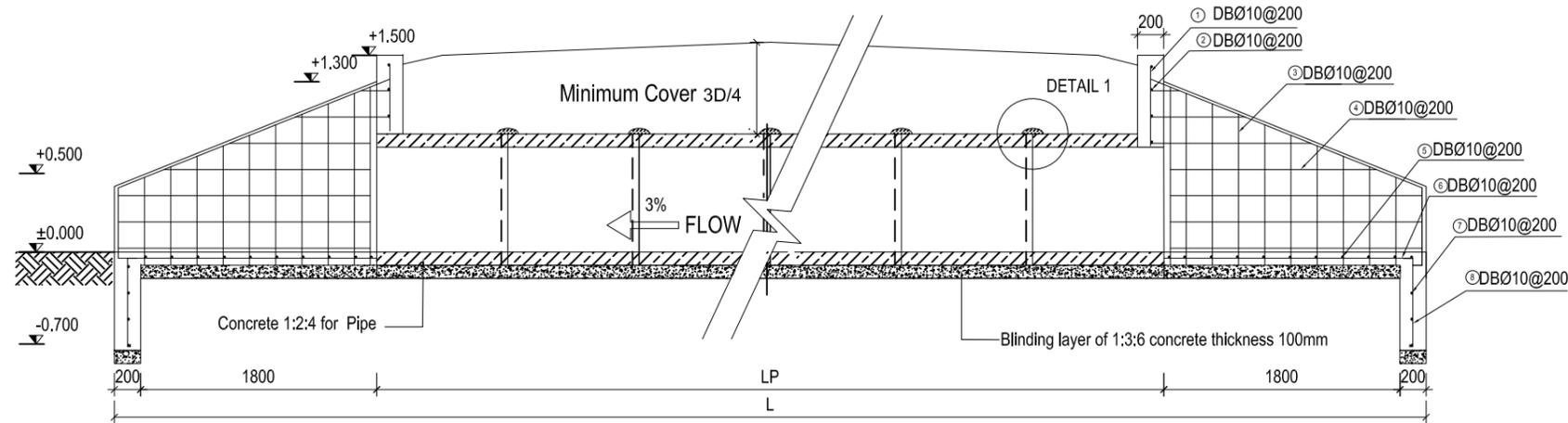
Plan View, Elevation View and Section View

DRAW BY: NHEP SOPHARA POSITION: FIELD ENGINEER

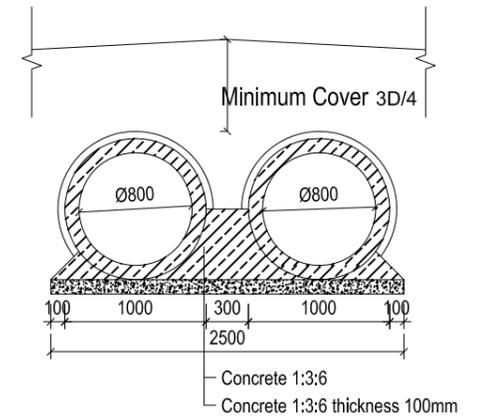
ORIGINAL SIZE: A3 SCALE: 1:50

SHEET: 1 OF 2 DATE: 14 MAR 2022

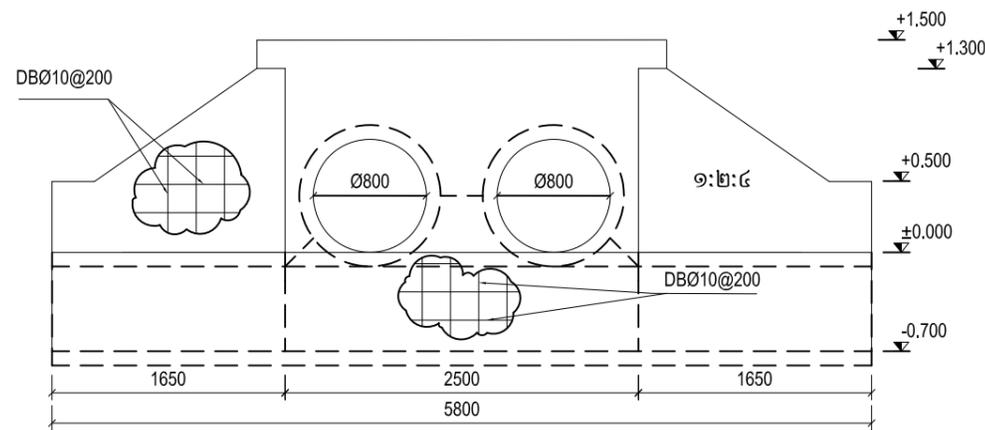
### SIDE VIEW



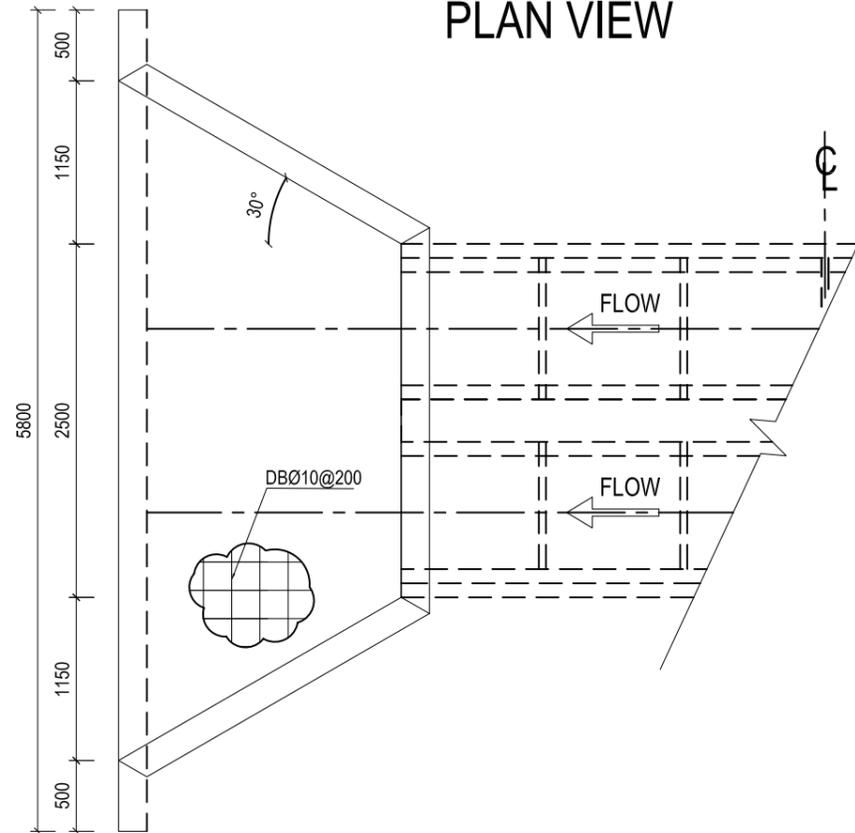
### SECTION B-B



### ELEVATION

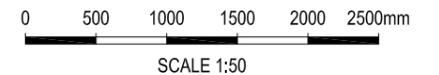


### PLAN VIEW



### Notes:

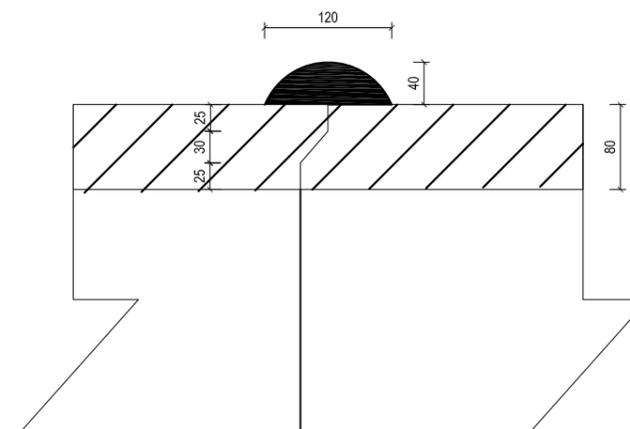
1. All dimensions are in millimeters unless otherwise indicated.
2. All levels are in meters.
3. The drawing shows the embankment for minimum pipe cover 3D/4. For higher embankments the number of pipes and length of culvert shall be increased.
4. SETTING OUT: The culvert invert level 0.000 shall be set at the existing downstream bed level
5. LP is the length of total reinforcement concrete pipes.
6. L is the length of pipe culvert.



### REINFORCEMENT TABLE

ID	TYPE	SHAPE	LENGTH (m)	QUANTITY	TOTAL LENGTH	WEIGHT (kg)
1	DBØ10@200	620	0.62	26	16.12	10
2	DBØ10@200	2500	2.5	6	15	9.3
3	DBØ10@200	200 550...1270	1.11	40	44.4	27.53
4	DBØ10@200	324...1897	1.314	24	31.53	19.55
5	DBØ10@200	2500...4577	3.538	20	70.76	43.87
6	DBØ10@200	353...2000	1.586	46	72.956	45.23
7	DBØ10@200	5800	5.80	6	34.8	21.58
8	DBØ10@200	200 630	0.83	46	38.18	23.67
TOTAL WEIGHT (kg)						200.73

### DETAIL 1



International Labour Organization (ILO)

COVID-19 Socio-Economic Recovery For Returning Migrants and Host Communities in North West Cambodia

OUTPUT LOCATION:

DOUBLE PIPE CULVERT, Ø 0.8m

Reinforcement Plan, Section View and Reinforcement Table

DRAW BY: NHEP SOPHARA POSITION: FIELD ENGINEER

ORIGINAL SIZE: A3 SCALE: 1:50

SHEET: 2 OF 2 DATE: 14 MAR 2022

In Khmer  
Covid-19 socio-economic recovery for returning migrants and host communities in North West Cambodia



International  
Labour  
Organization



ក្រសួង  
ទេសាភិបាល  
Ministry of Interior



NEW ZEALAND  
FOREIGN AFFAIRS & TRADE  
Manatū Aotearoa

In Khmer

Project: Construction of concrete culverts in .....Commune, Pouk District

Khmer

Funded by: Ministry of Foreign Affairs and Trades (MFAT), Government of New Zealand

Khmer

Government Partners: Ministry of interior & Ministry of Labour and Vocational Training Labour,

Khmer

Implemented by: International Labour Organization

Contractor:  
Year: 2022

Logo of Contractor

