



**REPUBLIC OF LEBANON**

# **COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION**

## **Existing Old Landfill Final Closure In Tripoli City**



**DRAWINGS**

**JUNE 2022**



**DAR AL HANDASAH NAZIH TALEB & PARTNERS**  
**دار الهندسة نزيه طالب وشركاه**  
Founded 1956



**GENERAL**

# LIST OF DRAWINGS & GENERAL NOTES

## LIST OF DRAWINGS

### GENERAL :

DWG Nb. :	DRAWING TITLE :
L1815D-GEN-001	LIST OF DRAWINGS & GENERAL NOTES
L1815D-GEN-002	AERIAL PLAN VIEW
L1815D-GEN-003	CADASTRAL PLAN VIEW
L1815D-GEN-004	GENERAL SURVEYING PLAN
L1815D-GEN-005	EXISTING WASTE SECTIONS FROM PR 0 TO PR 3
L1815D-GEN-006	EXISTING WASTE SECTIONS FROM PR 4 TO PR 5a
L1815D-GEN-007	EXISTING WASTE SECTIONS FROM PR 6 TO PR 8
L1815D-GEN-008	EXISTING WASTE SECTIONS FROM PR 9 TO PR 11
L1815D-GEN-009	EXISTING WASTE SECTIONS FROM PR 11a TO PR 13
L1815D-GEN-010	EXISTING WASTE SECTIONS FROM PR 14 TO PR 16
L1815D-GEN-011	EXISTING WASTE SECTIONS FROM PR 17 TO PR 18
L1815D-GEN-012	EXISTING WALL SECTION 1/4
L1815D-GEN-013	EXISTING WALL SECTION 2/4
L1815D-GEN-014	EXISTING WALL SECTION 3/4
L1815D-GEN-015	EXISTING WALL SECTION 4/4

### GEOMETRY :

DWG Nb. :	DRAWING TITLE :
L1815D-GEO-001	PROPOSED LAYOUT
L1815D-GEO-002	GABION WALL LIMITS
L1815D-GEO-003	ACCESS ROAD PLAN
L1815D-GEO-004	ACCESS ROAD PROFILE
L1815D-GEO-005	PROPOSED WASTE SECTIONS FROM PR 0 TO PR 3
L1815D-GEO-006	PROPOSED WASTE SECTIONS FROM PR 4 TO PR 5a
L1815D-GEO-007	PROPOSED WASTE SECTIONS FROM PR 6 TO PR 8
L1815D-GEO-008	PROPOSED WASTE SECTIONS FROM PR 9 TO PR 11
L1815D-GEO-009	PROPOSED WASTE SECTIONS FROM PR 11a TO PR 13
L1815D-GEO-010	PROPOSED WASTE SECTIONS FROM PR 14 TO PR 16
L1815D-GEO-011	PROPOSED WASTE SECTIONS FROM PR 17 TO PR 18

### STRUCTURAL :

DWG Nb. :	DRAWING TITLE :
L1815D-STR-001	TYPICAL DETAILS
L1815D-STR-002	LOCATION OF TYPICAL CROSS SECTIONS
L1815D-STR-003	LOCATION OF PARTICULAR CROSS SECTIONS
L1815D-STR-004	TYPICAL CROSS SECTION 1/3
L1815D-STR-005	TYPICAL CROSS SECTION 2/3
L1815D-STR-006	TYPICAL CROSS SECTION 3/3
L1815D-STR-007	PARTICULAR WALL CROSS SECTION (STA: 0+391)
L1815D-STR-008	PARTICULAR WALL CROSS SECTION (STA: 0+466)
L1815D-STR-009	PARTICULAR WALL CROSS SECTION (STA: 0+484)
L1815D-STR-010	PARTICULAR WALL CROSS SECTION (STA: 0+506)
L1815D-STR-011	PARTICULAR WALL CROSS SECTION (STA: 0+529)
L1815D-STR-012	PARTICULAR WALL CROSS SECTION (STA: 0+552)
L1815D-STR-013	PARTICULAR WALL CROSS SECTION (STA: 0+563)
L1815D-STR-014	PARTICULAR WALL CROSS SECTION (STA: 0+574)
L1815D-STR-015	PARTICULAR WALL CROSS SECTION (STA: 0+597)
L1815D-STR-016	PARTICULAR WALL CROSS SECTION (STA: 0+619)
L1815D-STR-017	PARTICULAR WALL CROSS SECTION (STA: 0+640)
L1815D-STR-018	PARTICULAR WALL CROSS SECTION (STA: 0+664)
L1815D-STR-019	PARTICULAR WALL CROSS SECTION (STA: 0+685)
L1815D-STR-020	PARTICULAR WALL CROSS SECTION (STA: 0+696)
L1815D-STR-021	PARTICULAR WALL CROSS SECTION (STA: 0+706)
L1815D-STR-022	PARTICULAR WALL CROSS SECTION (STA: 0+726)
L1815D-STR-023	PARTICULAR WALL CROSS SECTION (STA: 0+740)
L1815D-STR-024	PARTICULAR WALL CROSS SECTION (STA: 0+763)
L1815D-STR-025	PARTICULAR WALL CROSS SECTION (STA: 0+786)
L1815D-STR-026	PARTICULAR WALL CROSS SECTION (STA: 0+864)
L1815D-STR-027	PARTICULAR WALL CROSS SECTION (STA: 0+888)
L1815D-STR-028	PARTICULAR WALL CROSS SECTION (STA: 0+965)
L1815D-STR-029	PARTICULAR WALL CROSS SECTION (STA: 1+005)
L1815D-STR-030	PARTICULAR WALL CROSS SECTION (STA: 1+043)
L1815D-STR-031	PARTICULAR WALL CROSS SECTION (STA: 1+080)
L1815D-STR-032	PARTICULAR WALL CROSS SECTION (STA: 1+100)
L1815D-STR-033	PARTICULAR WALL CROSS SECTION (STA: 1+114)

### SEALING:

DWG Nb. :	DRAWING TITLE :
L1815D-SEA-001	TYPICAL DETAILS 1/1

### LEACHATE :

DWG Nb. :	DRAWING TITLE :
L1815D-LEA-001	LEACHATE LAYOUT PLAN
L1815D-LEA-002	TYPICAL DETAILS 1/2
L1815D-LEA-003	TYPICAL DETAILS 2/2

### BIOGAS :

DWG Nb. :	DRAWING TITLE :
L1815D-GAS-001	BIOGAS LAYOUT PLAN
L1815D-GAS-002	TYPICAL DETAILS 1/2
L1815D-GAS-003	TYPICAL DETAILS 2/2

### INFRASTRUCTURE :

DWG Nb. :	DRAWING TITLE :
L1815D-INF-001	TYPICAL DETAILS 1/1

### EXISTING LEACHATE TREATMENT PLANT:

DWG Nb. :	DRAWING TITLE :
L1815D-EXLEA-001	EXISTING LEACHATE TREATMENT PLANT

## GENERAL NOTES

1- EACH OF THE PROJECT DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE RELEVANT LAYOUT AND DETAILS.

2- DO NOT SCALE DIMENSIONS FROM DRAWINGS, AS DRAWINGS MAY NOT BE TO SCALE.



3- DRAWINGS ARE INDICATIVE, THE CONTRACTOR HAS TO SUBMIT EXECUTION DETAILS & SHOP DRAWINGS FOR ENGINEER APPROVAL.

4- ALL CONSTRUCTION MATERIALS TO WHICH REFERENCE IS MADE ON THE DRAWINGS AND IN THE TYPICAL DETAILS SHALL CONFORM TO THE APPLICABLE CODES AND STANDARDS FOR CONSTRUCTION AND TO THE SPECIFICATIONS.

5- THE CONTRACTOR SHALL CARRY OUT NEW TOPOGRAPHIC SURVEY FOR THE PREPARATION OF WORK SHOP DRAWINGS.

Notes:

Legend:

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			GENERAL	
LIST OF DRAWINGS & GENERAL NOTES				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.	Date: JUNE 2022	
Cheked By:		O.A.	Date: JUNE 2022	
Drawn By:		J.H.	Date: JUNE 2022	
Discipline:				
Drawing No. L1815D- GEN-001			Rev.	
Approvals				




Notes:

Legend:


Rev.	Date	Description	Checked	Approved

Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



DAR AL HANDASAH NAZIH TALEB & PARTNERS  
فارس نزيه طالب وشركاه

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GENERAL

Scale:

Sheet Size: A1

Approved By:

R.O.

Date: JUNE 2022

Checked By:

O.A.

Date: JUNE 2022

Drawn By:

J.H.

Date: JUNE 2022

Discipline:

Drawing No.

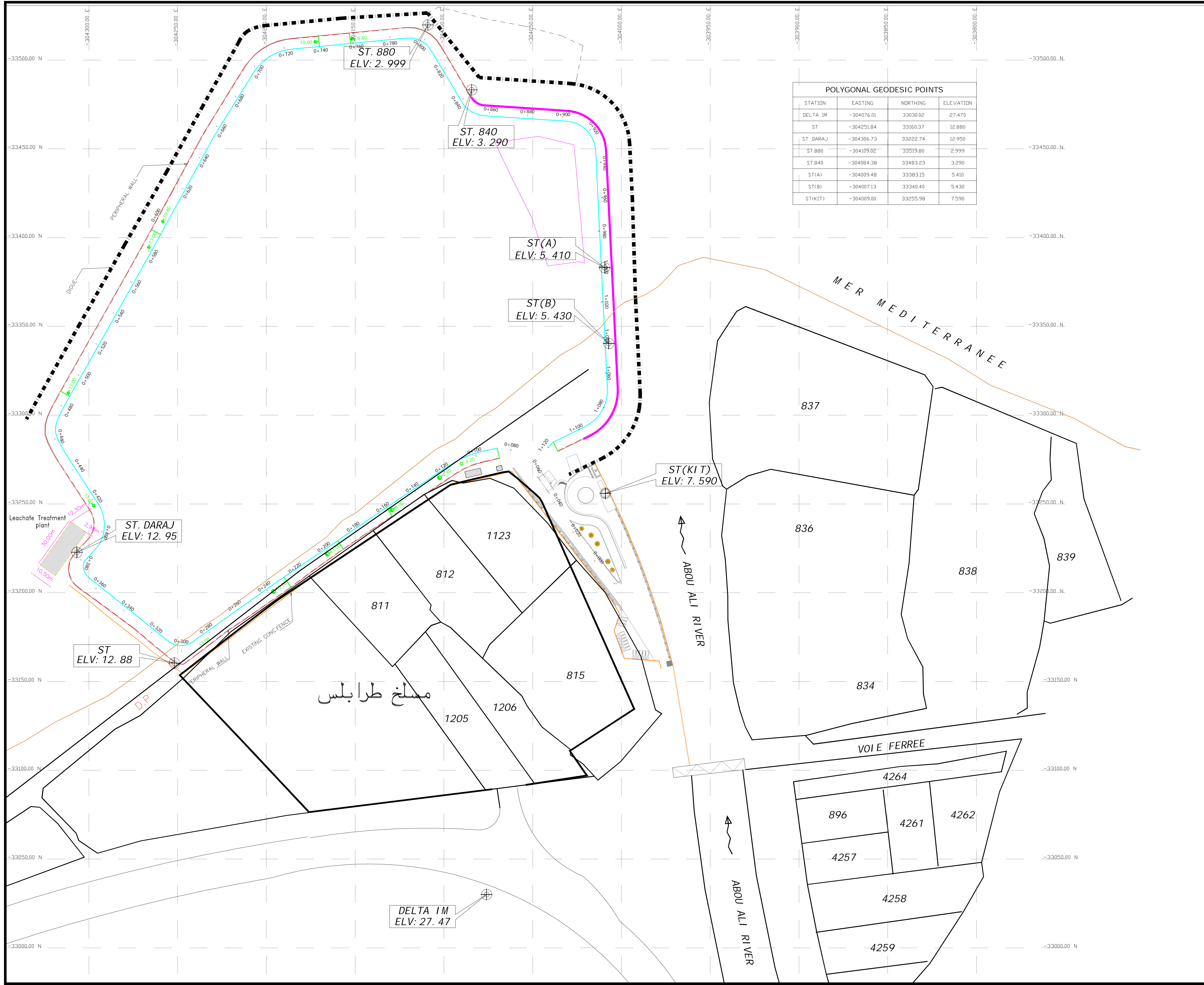
L1815D-GEN-002

Rev.

Approvals







POLYGONAL GEODESIC POINTS			
STATION	EASTING	NORTHING	ELEVATION
DELTA IM	-304076.01	33030.02	27.470
ST	-304291.84	33160.37	12.880
ST DARAJ	-304306.73	33222.74	12.950
ST.880	-304109.02	33519.80	2.999
ST.840	-304084.38	33483.23	3.290
ST(A)	-304009.48	33383.15	5.410
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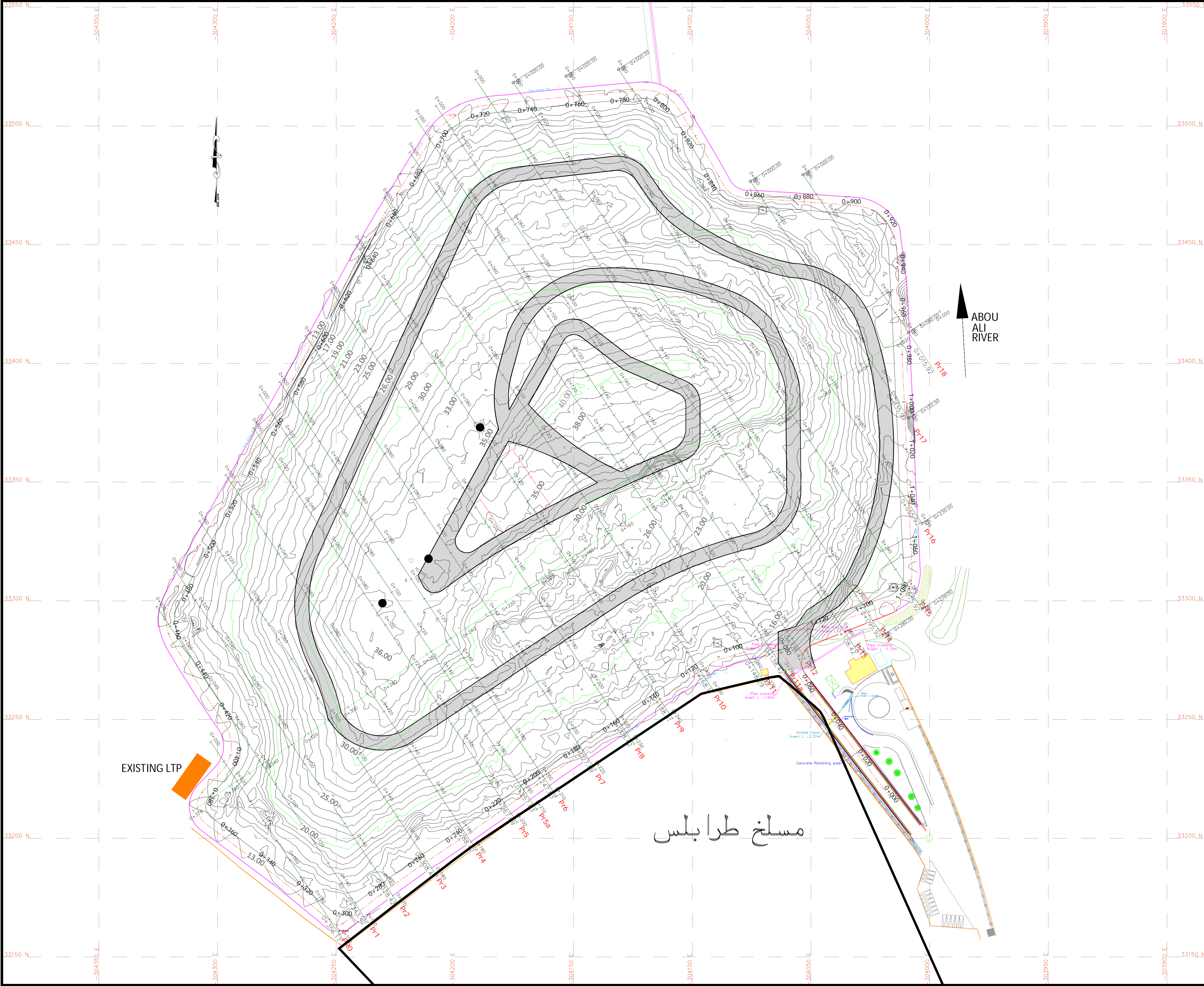
Notes:

Legend:

- EXISTING CONCRETE FENCE
- PERIPHERAL WALL
- LOT LIMIT
- DIGUE
- POLYGONAL STATION

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1996		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				GENERAL
CADASTRAL PLAN VIEW				
Scale: 1/1000		Sheet Size: A1		
Approved By:		R.O.	Date: JUNE 2022	
Choked By:		O.A.	Date: JUNE 2022	
Drawn By:		J.H.	Date: JUNE 2022	
Discipline:				
Drawing No.		L1815D- GEN-003	Rev.	
Approvals				





Notes:

Legend:

LTP: LEACHATE TREATMENT PLANT

ACCESS ROAD

Rev.	Date	Description	Checked	Approved

Client

REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

DAR AL HANDASAH NAZH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1990

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

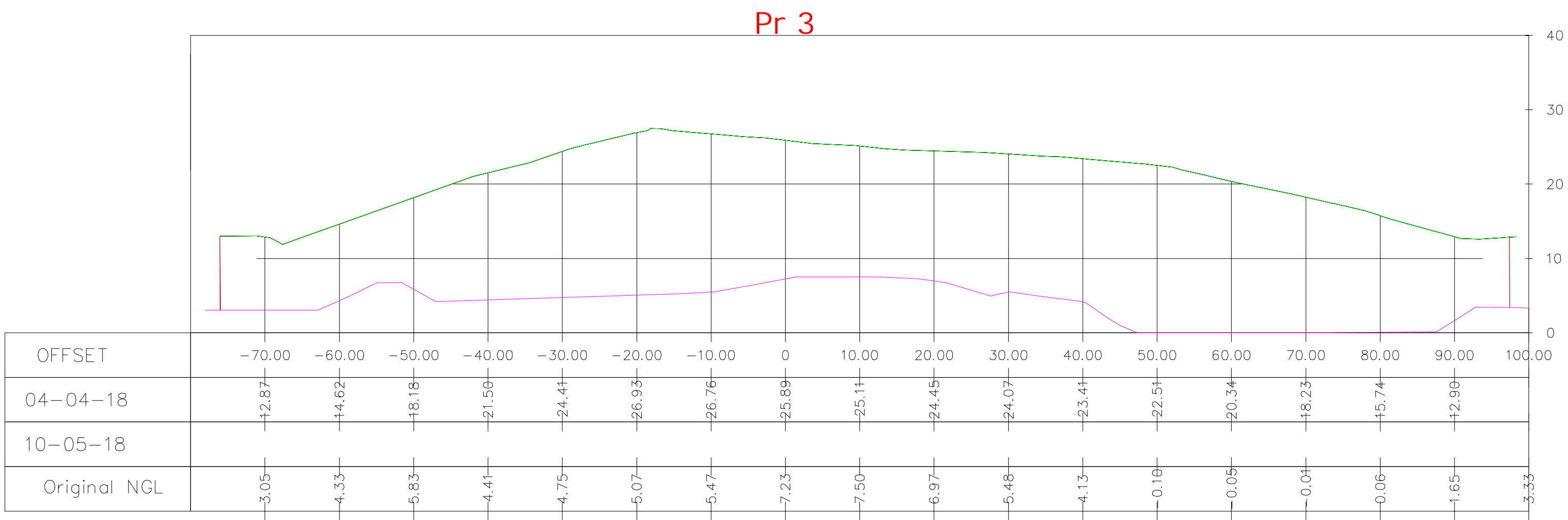
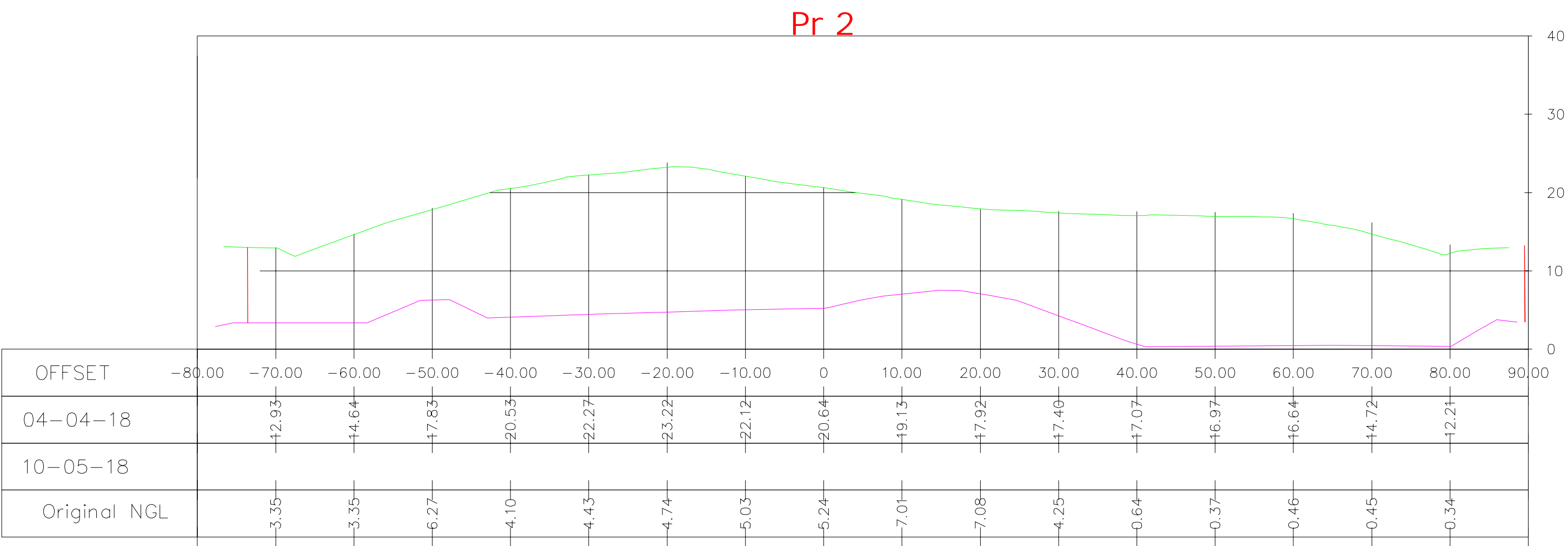
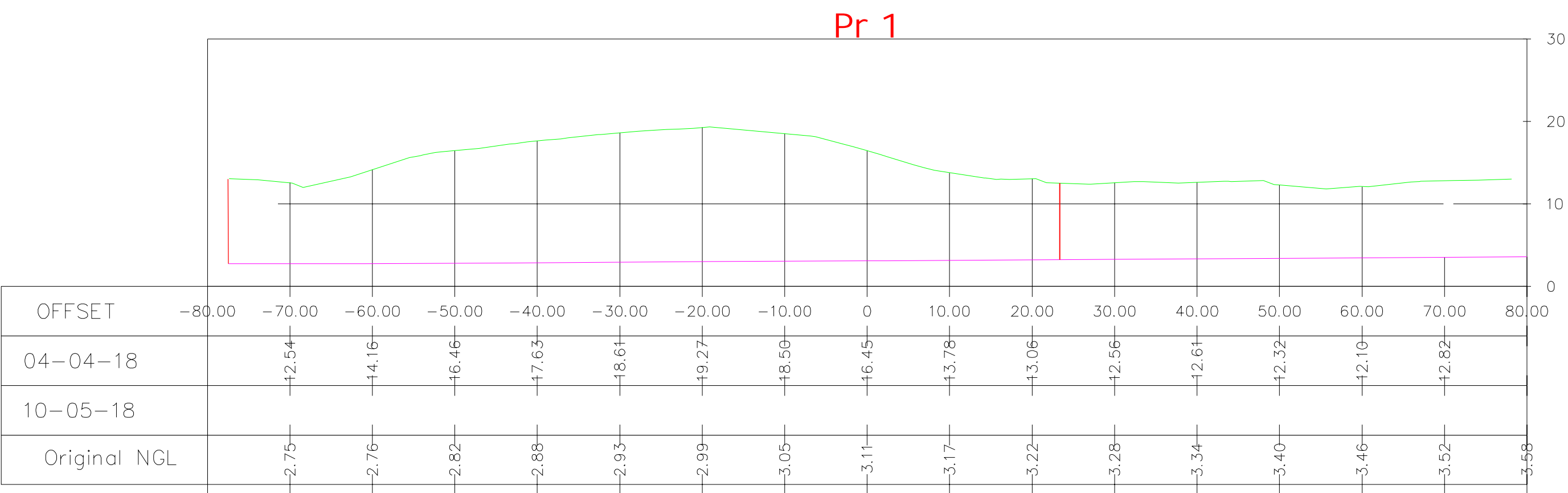
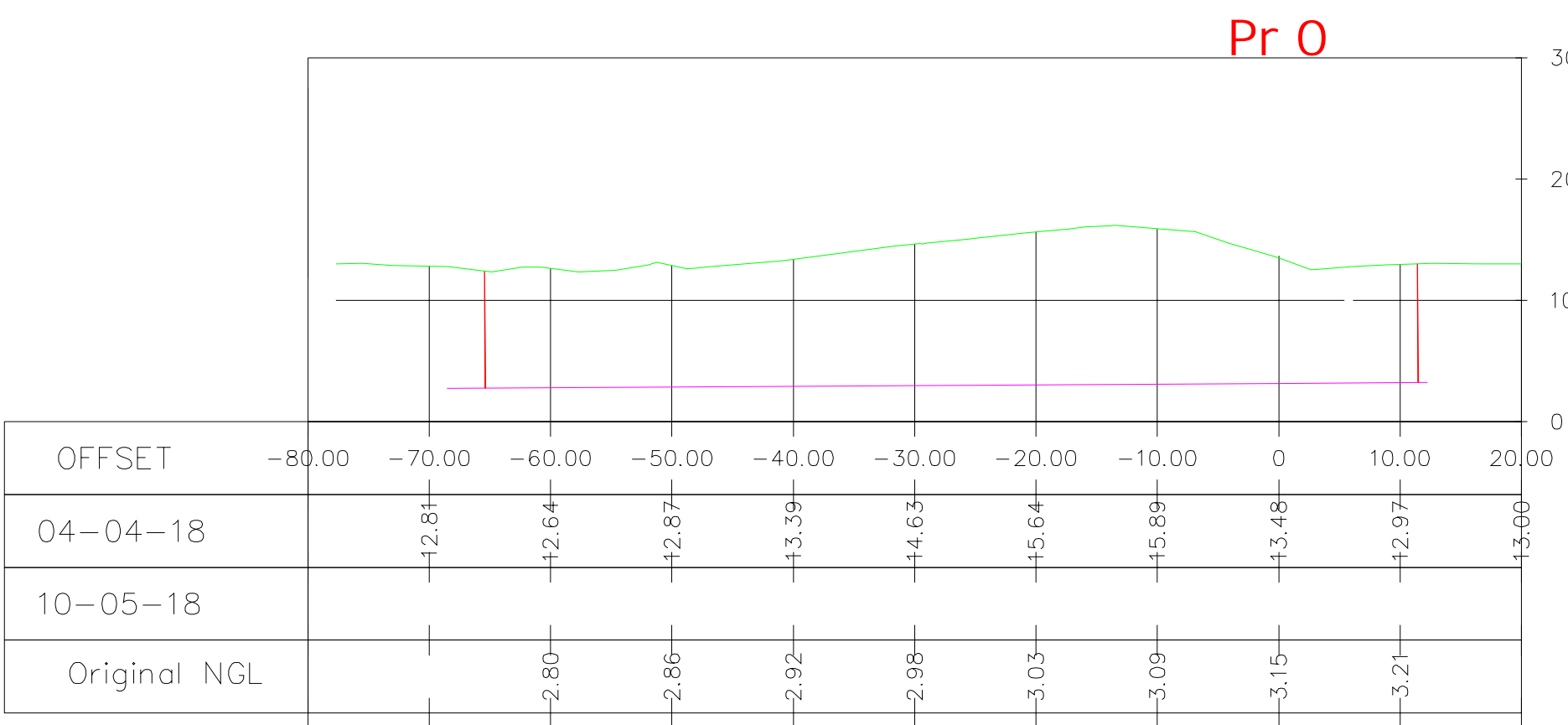
Drawing Title

GENERAL

GENERAL SURVEYING PLAN

Scale: 1/750	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Checked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-GEN-004	Rev.
Approvals		





Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
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Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1989

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GENERAL

EXISTING WASTE SECTIONS  
(FROM PR 0 TO PR 3)

Scale: 1/500    Sheet Size: A1

Approved By: R.O.    Date: JUNE 2022

Cheked By: O.A.    Date: JUNE 2022

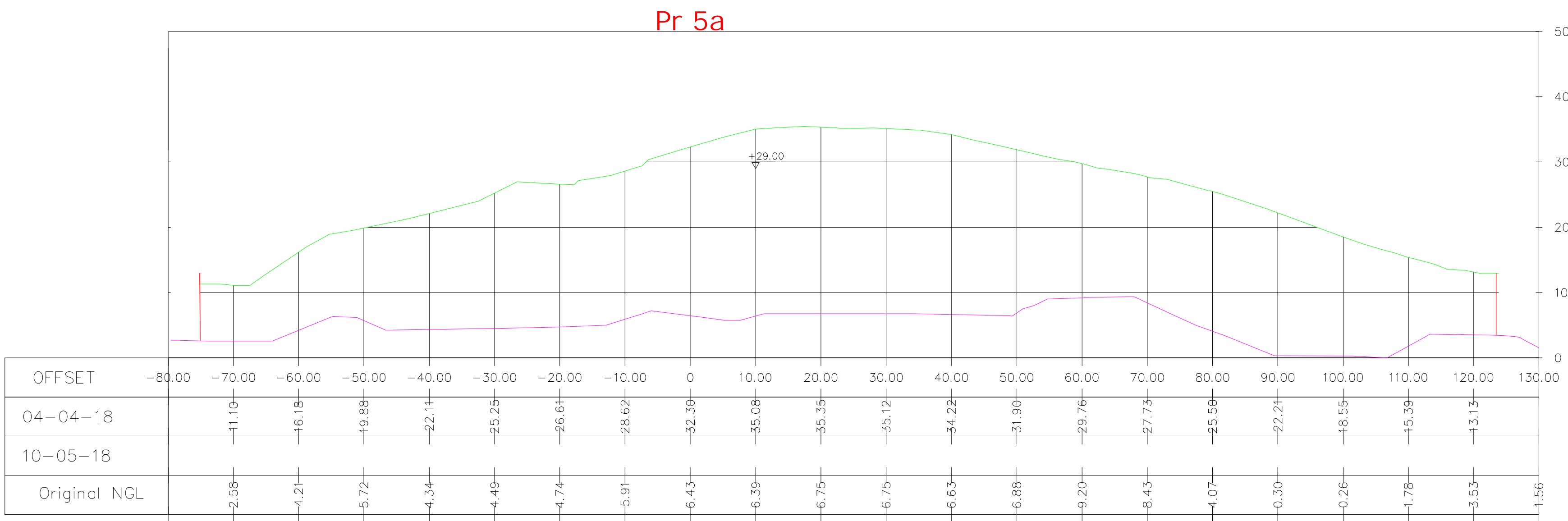
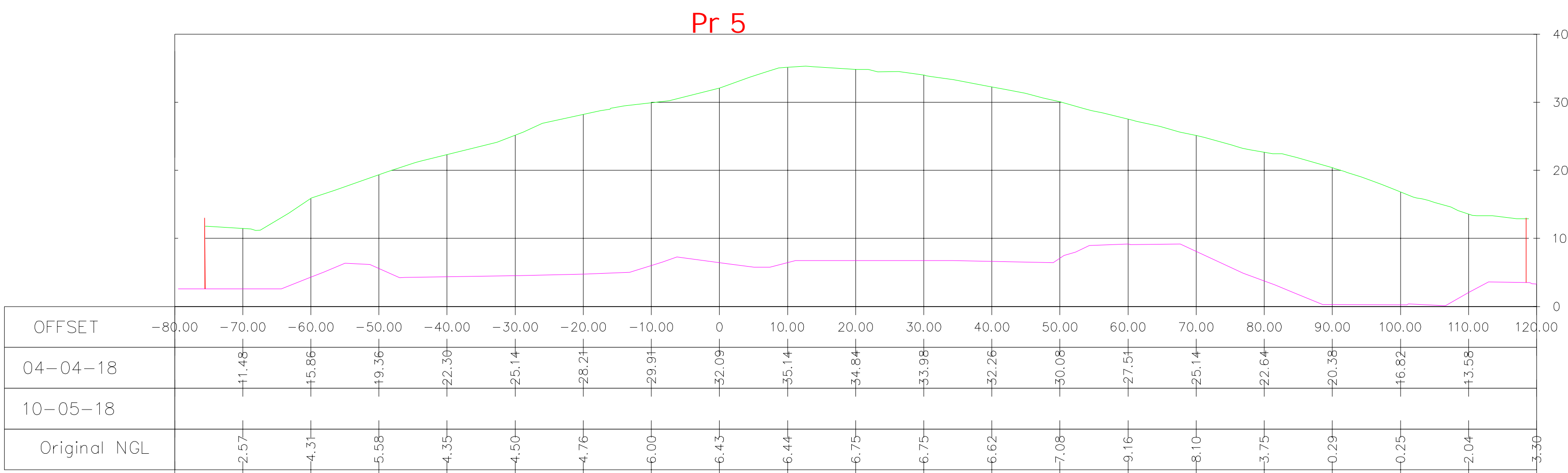
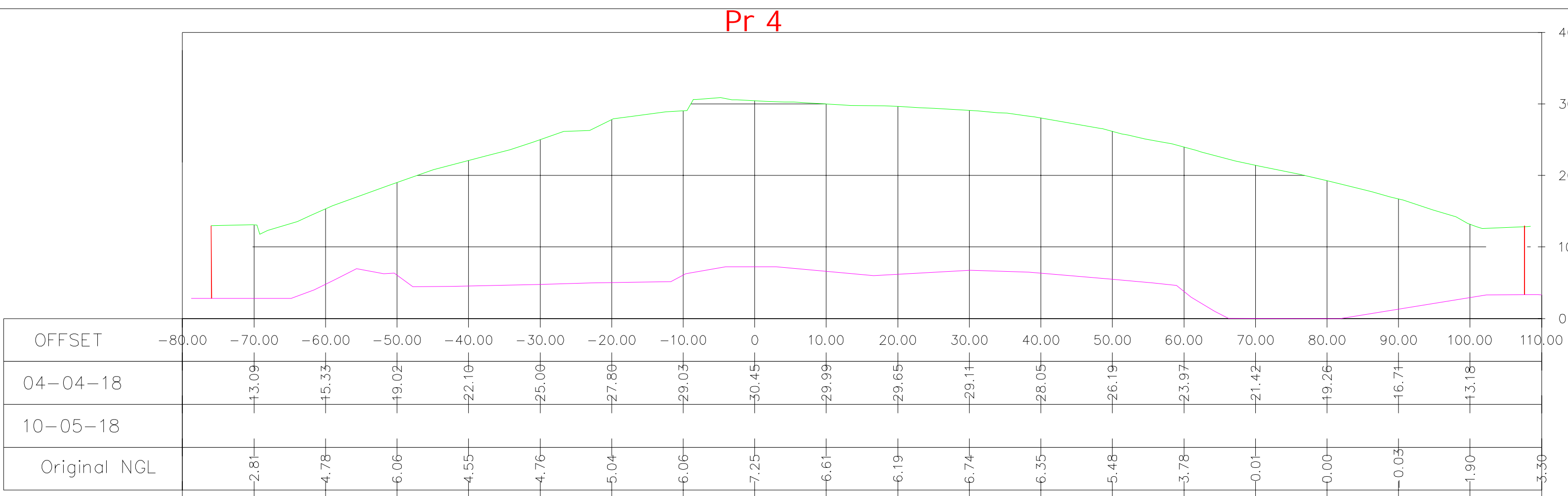
Drawn By: J.H.    Date: JUNE 2022

Discipline:

Drawing No. L1815D-GEN-005    Rev.

Approvals







Notes:

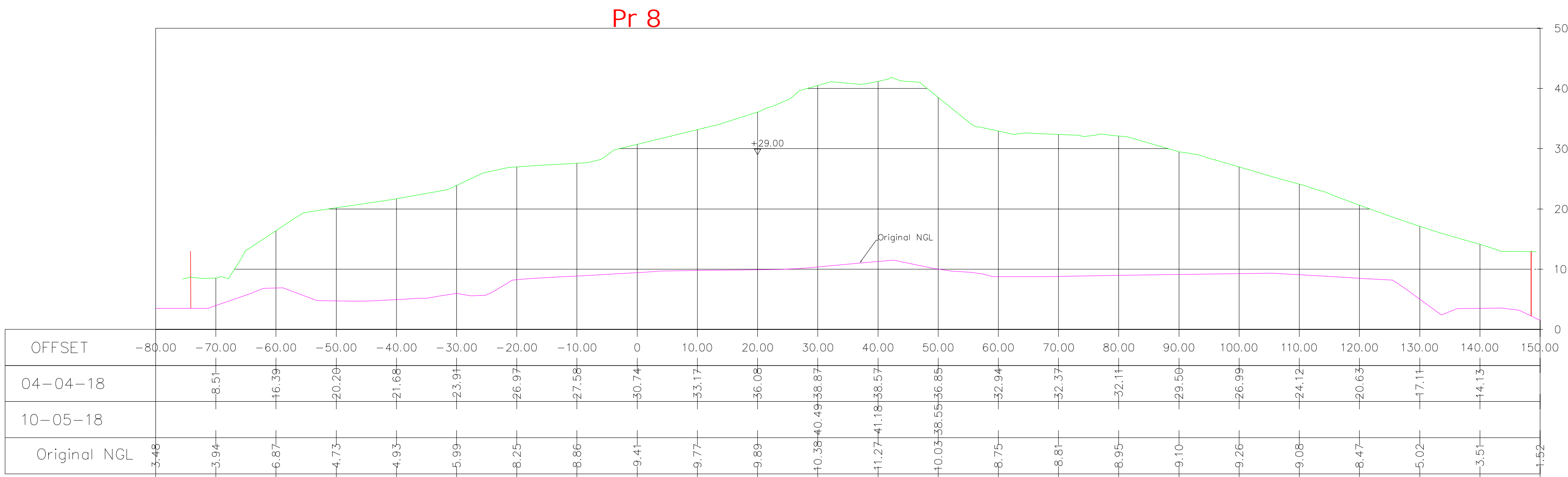
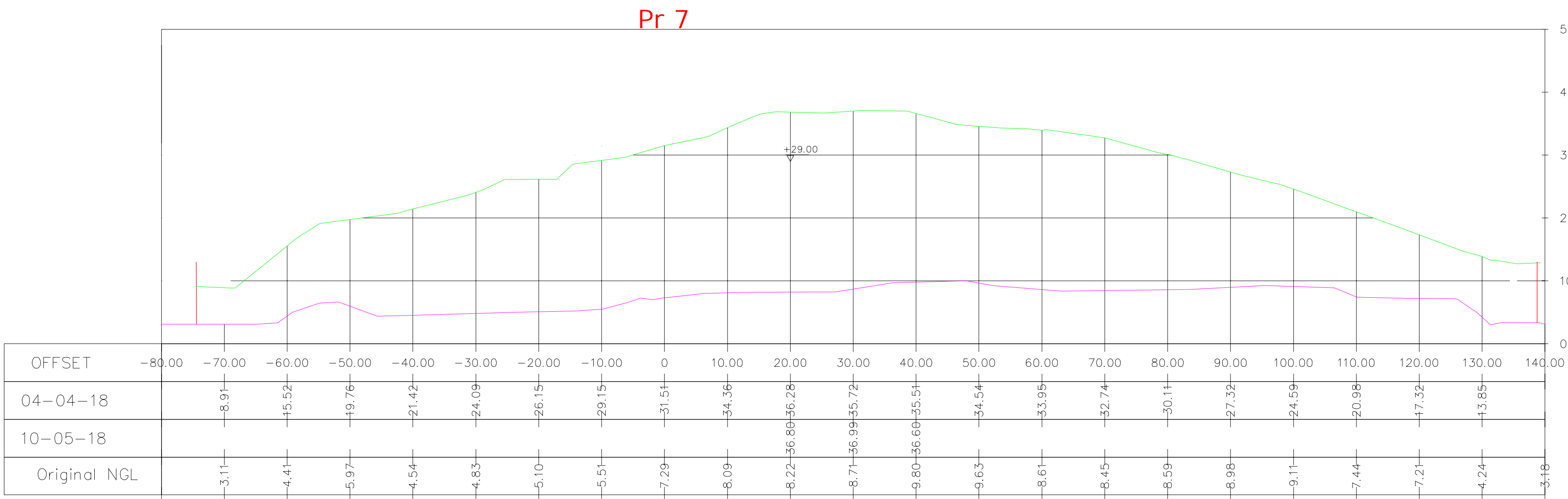
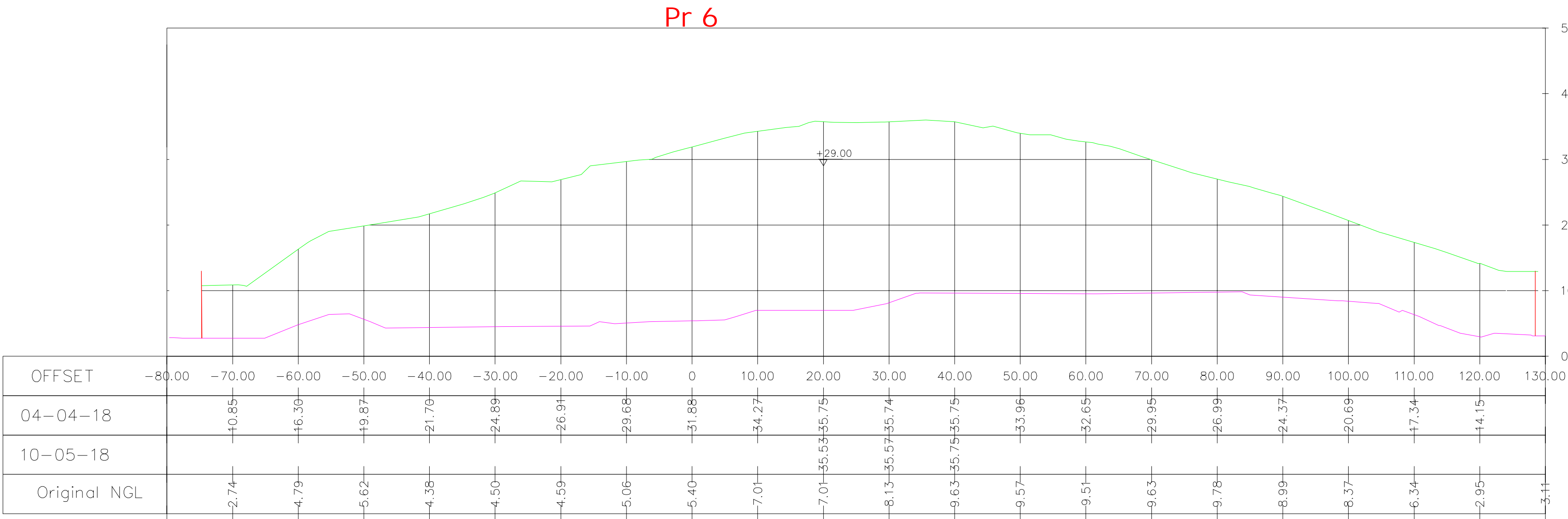
- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
Client				
<div><div>REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION</div></div>				
Consultant				
<div><div><div>Founded 1999</div></div><div>DAF AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه</div></div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			GENERAL	
EXISTING WASTE SECTIONS (FROM PR 4 TO PR 5a)				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Cheked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D- GEN-006			Rev.	
Approvals				





Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
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 REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
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Consultant

 DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GENERAL

EXISTING WASTE SECTIONS  
(FROM PR 6 TO PR 8)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

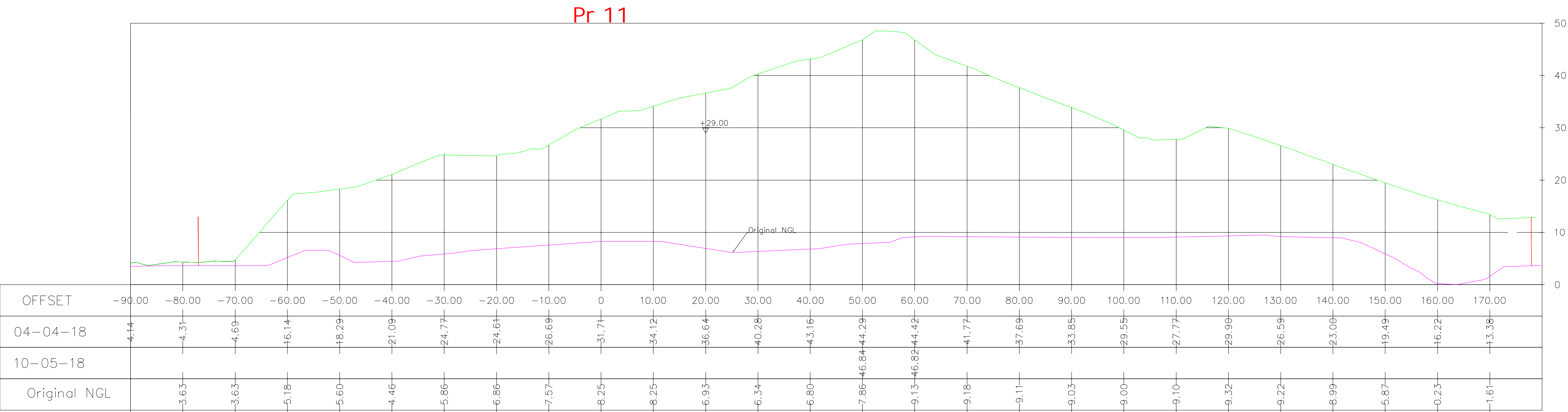
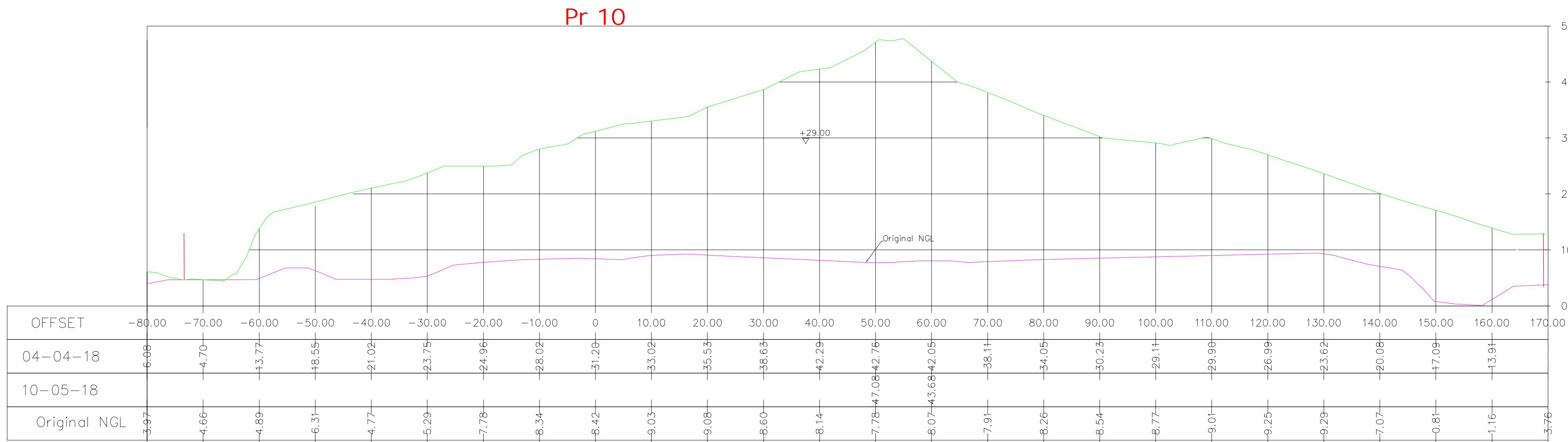
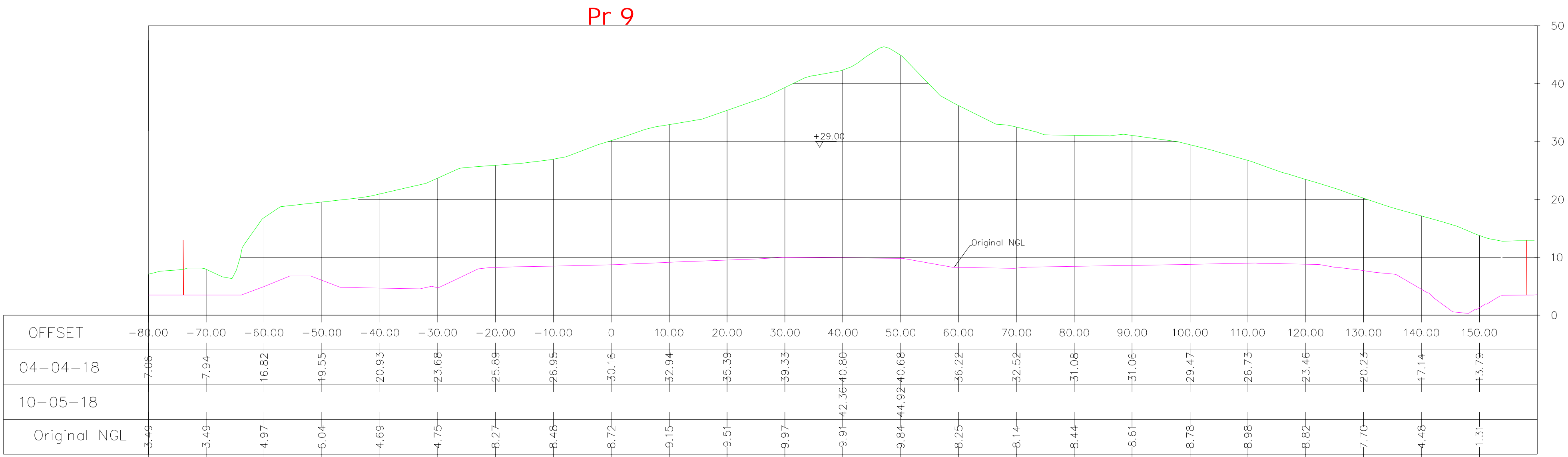
Drawn By: J.H. Date: JUNE 2022

Discipline:

Drawing No. L1815D- GEN-007 Rev.

Approvals





Notes:  
  
- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:  
  
NATURAL GROUND LEVEL  
SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved

Client  
  
REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
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Consultant  
  
DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1969

Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
GENERAL  
EXISTING WASTE SECTIONS  
(FROM PR 9 TO PR 11)

Scale: N.T.S.	Sheet Size: A1	
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Approved By:	R.O.	Date: JUNE 2022
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Choked By:	O.A.	Date: JUNE 2022
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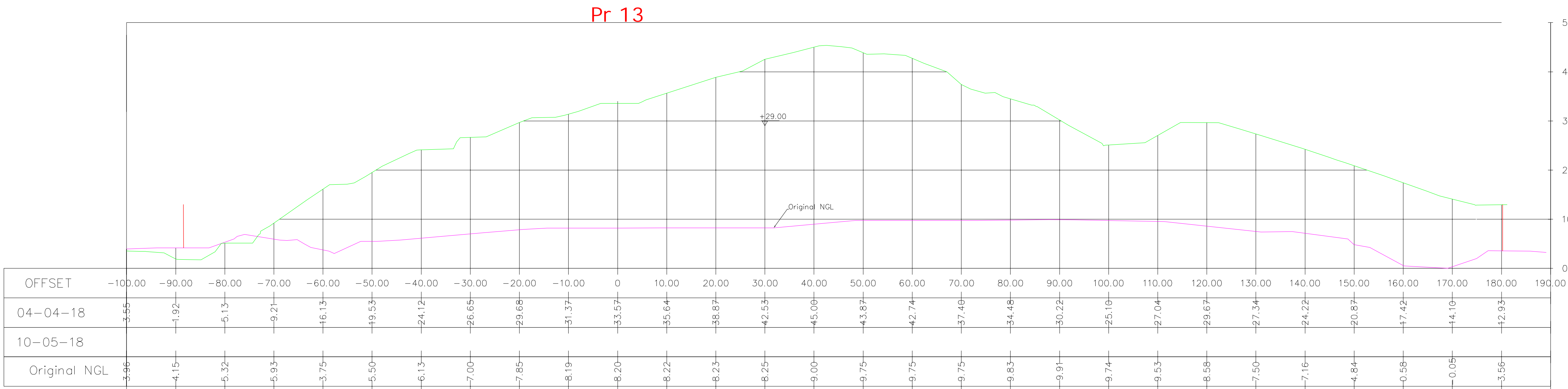
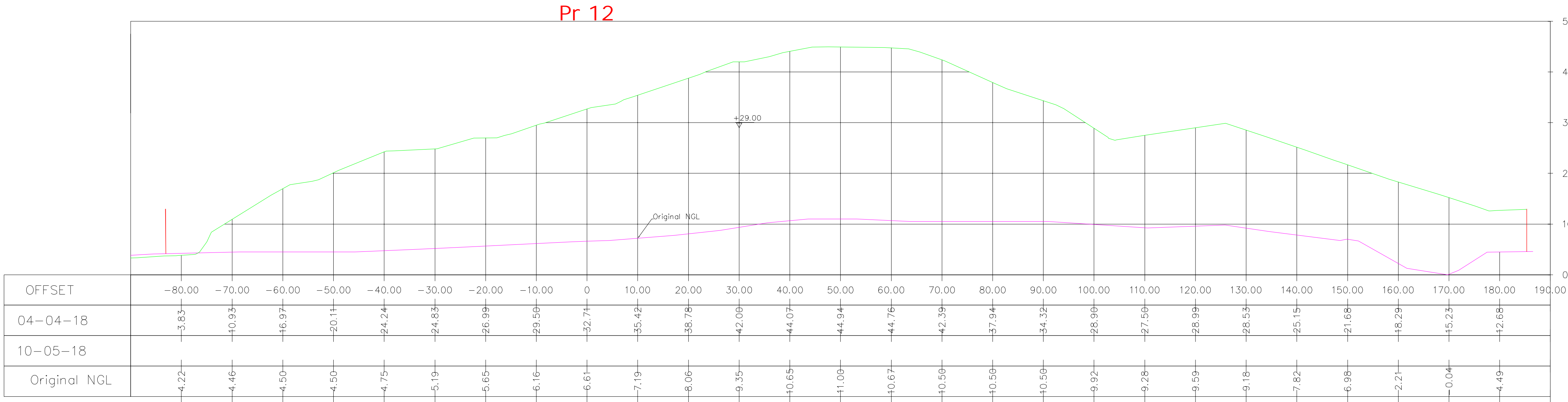
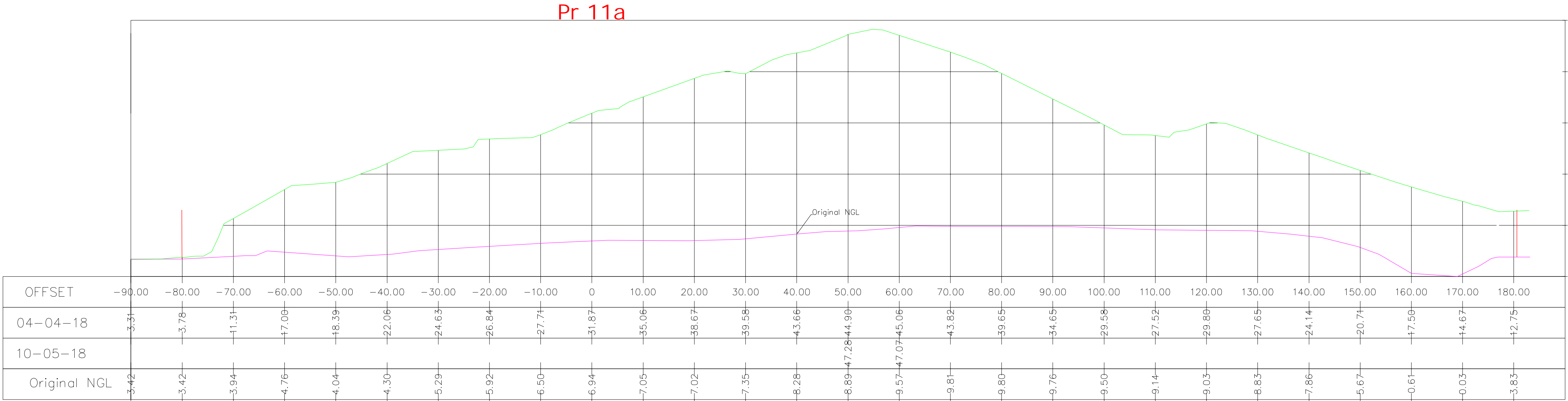
Drawn By:	J.H.	Date: JUNE 2022
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Discipline:

Drawing No. L1815D- GEN-008	Rev.
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Approvals







Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه <small>Founded 1999</small>		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			GENERAL	
EXISTING WASTE SECTIONS (FROM PR 11a TO PR 13)				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Choked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D- GEN-009			Rev.	
Approvals				







Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
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Client



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COUNCIL FOR DEVELOPMENT  
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Consultant



DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1966

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

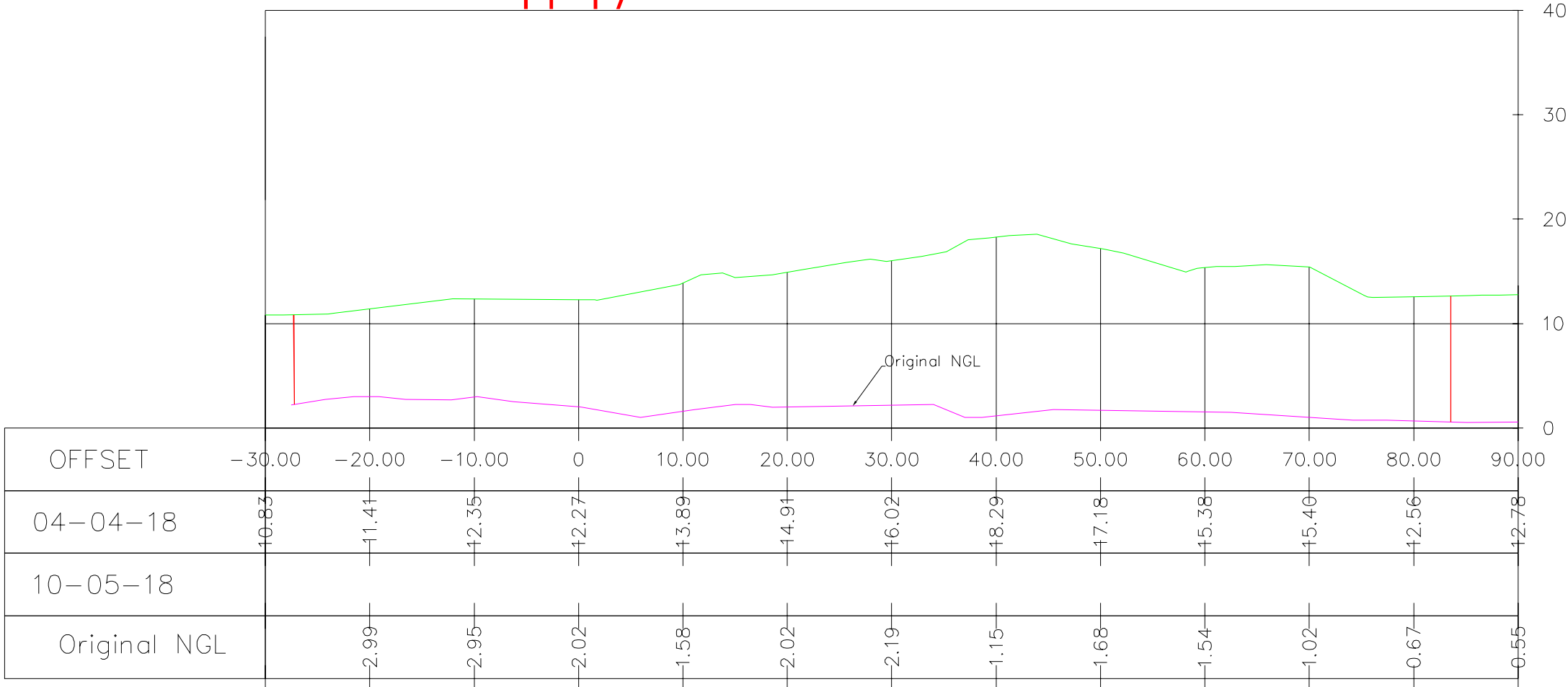
GENERAL

EXISTING WASTE SECTIONS  
(FROM PR 17 TO PR 18)

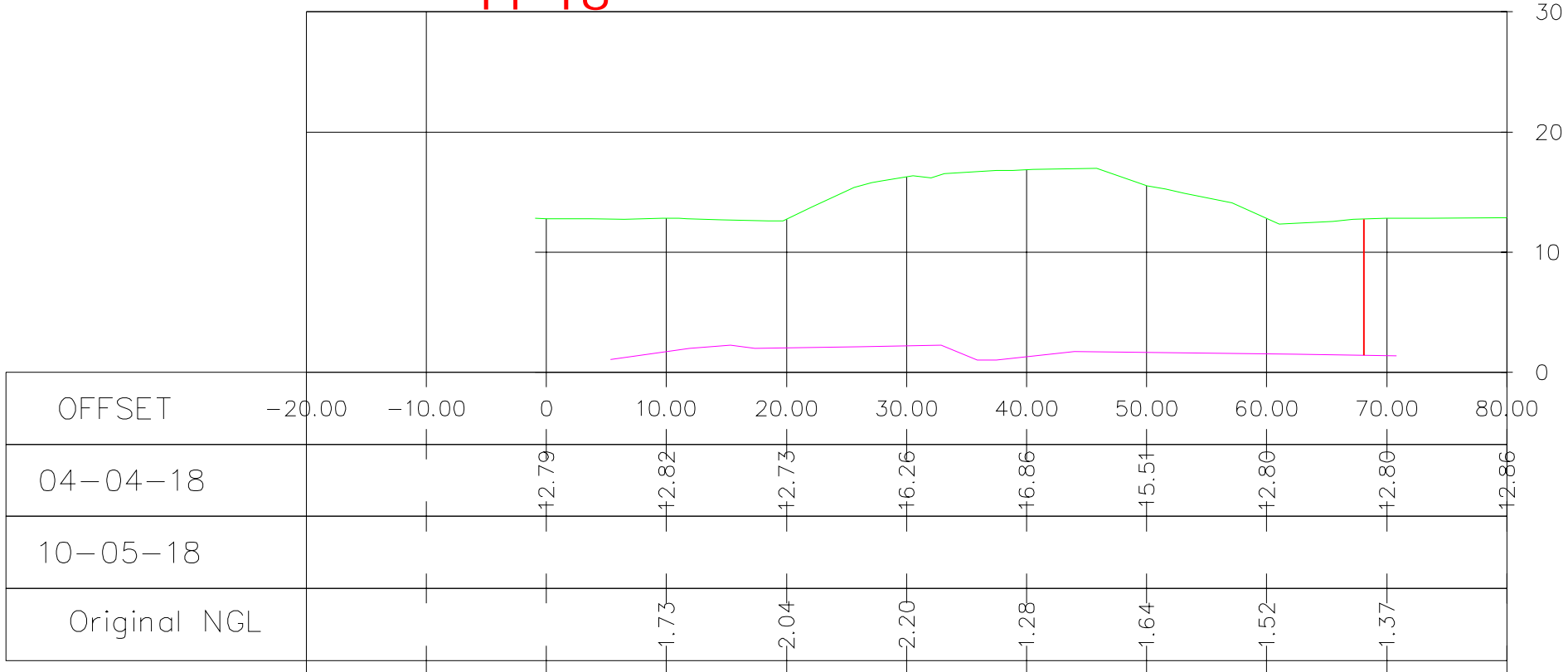
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Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-GEN-011	Rev.

Approvals	
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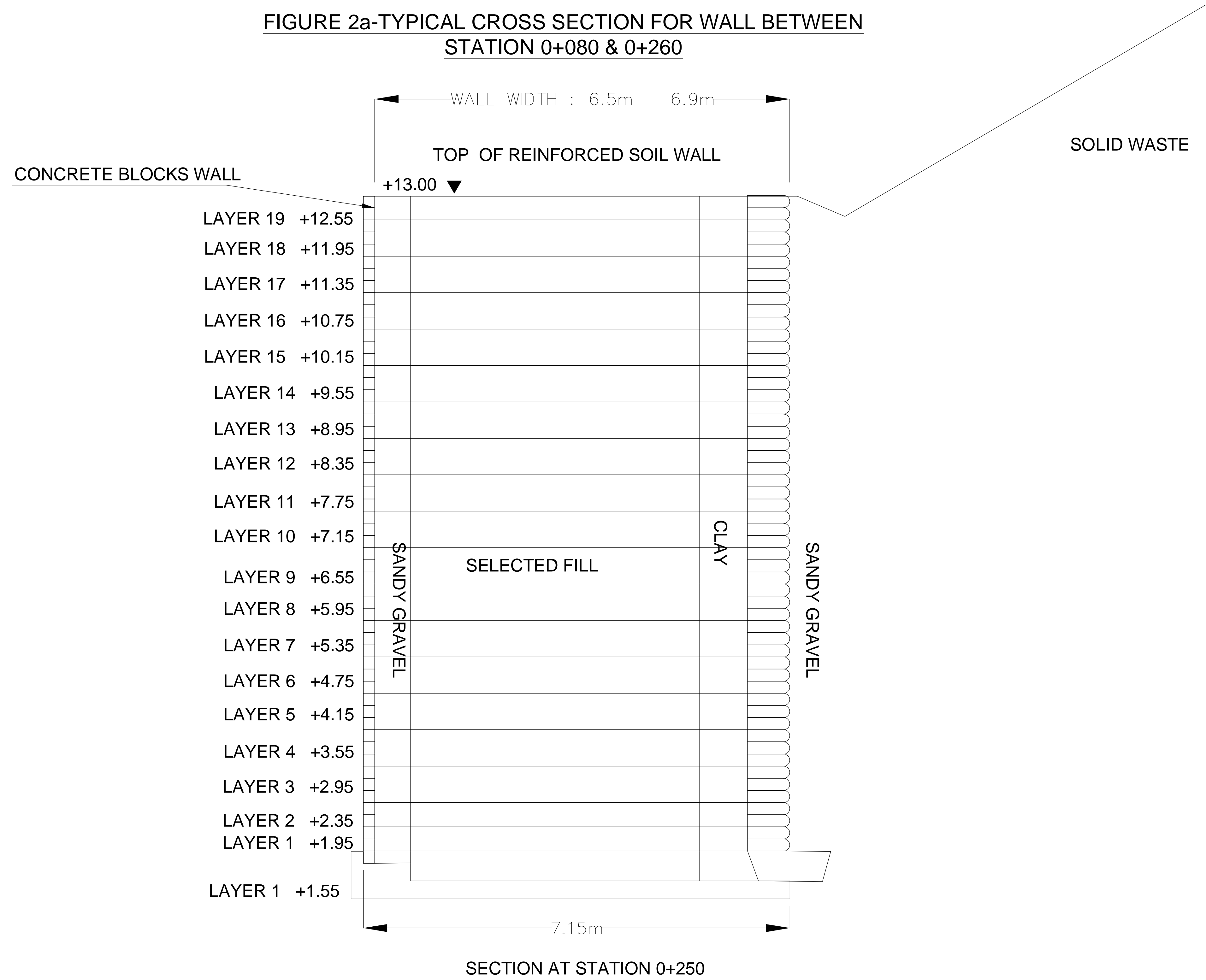
Pr 17



Pr 18







Notes:  
- TO BE READ IN CONJUNCTION WITH TOPOGRAPHIC SURVEY.

Legend:

Rev.	Date	Description	Checked	Approved
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Client  
 REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant  
 DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1968

Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
GENERAL

EXISTING WALL SECTION 1/4

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Checked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

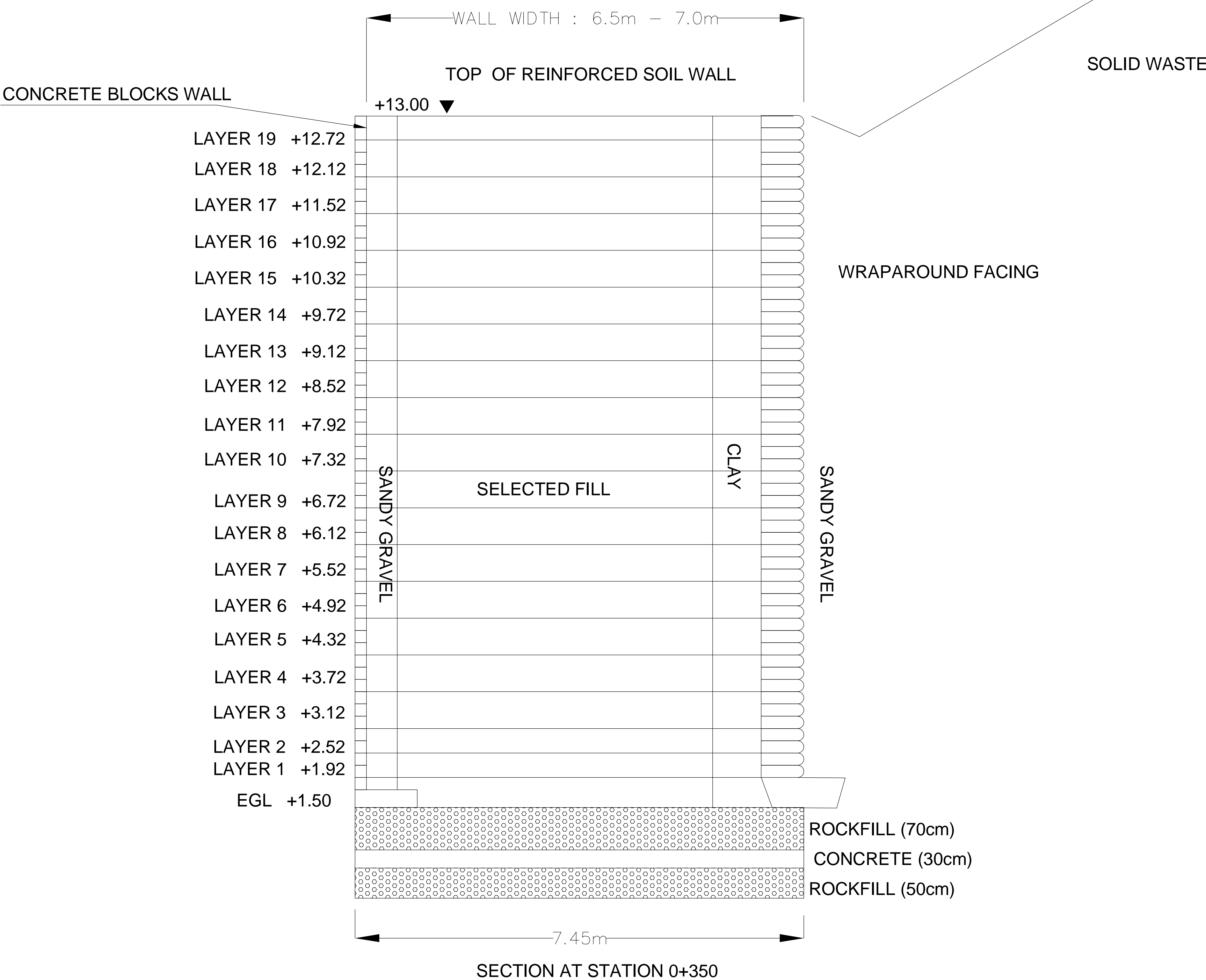
Discipline:

Drawing No. L1815D-GEN-012 Rev.

Approvals



FIGURE 2b-TYPICAL CROSS SECTION FOR WALL BETWEEN  
STATION 0+260 & 0+414.5



Notes:

- TO BE READ IN CONJUNCTION WITH TOPOGRAPHIC SURVEY.

Legend:



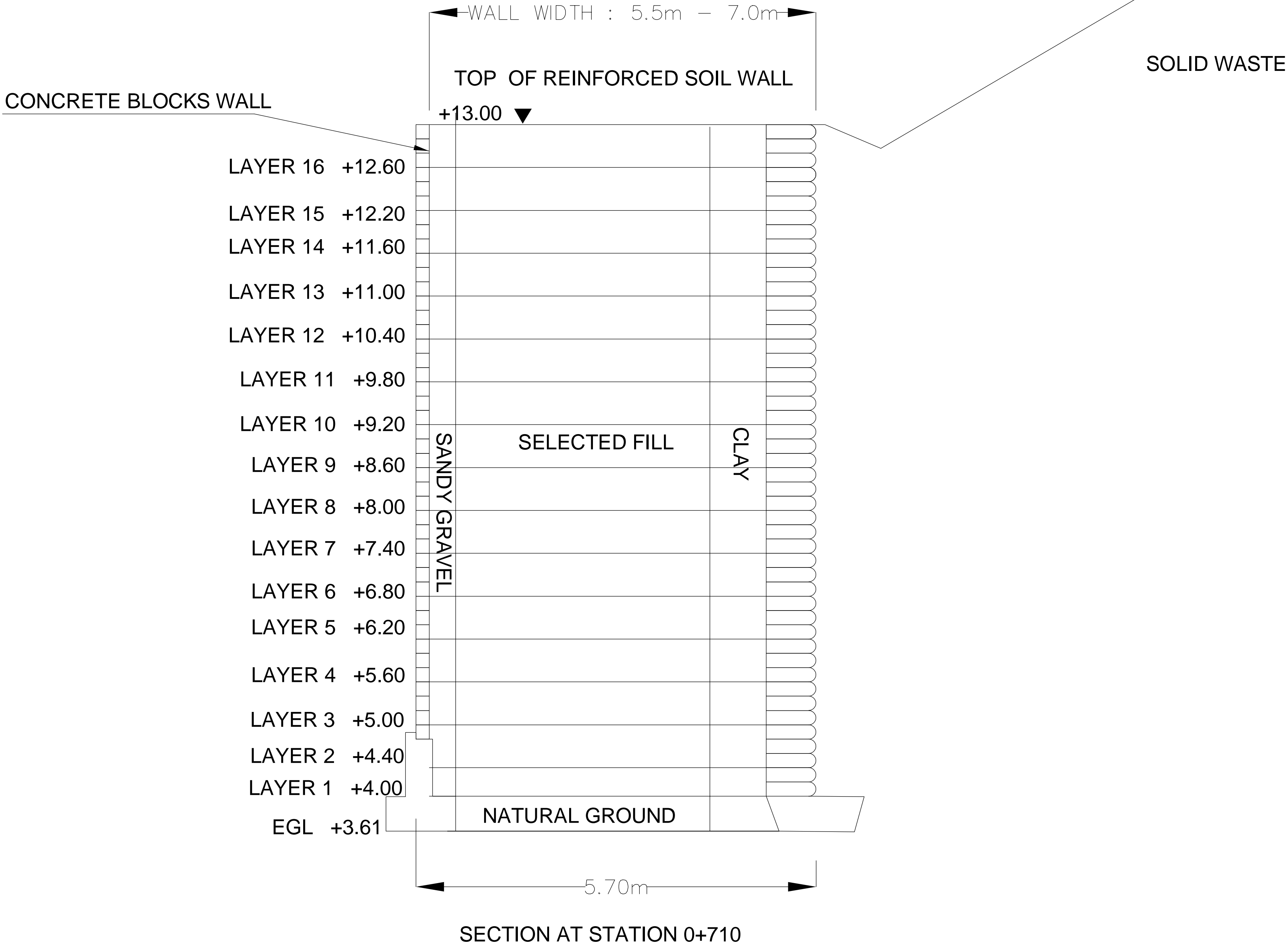
Rev.	Date	Description	Checked	Approved
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Consultant				
<div></div> <div>DAR AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1969</div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
GENERAL				
EXISTING WALL SECTION 2/4				
Scale: N.T.S.	Sheet Size: A1			
Approved By:	R.O.		Date: JUNE 2022	
Cheked By:	O.A.		Date: JUNE 2022	
Drawn By:	J.H.		Date: JUNE 2022	
Discipline:				
Drawing No.	L1815D-GEN-013		Rev.	
Approvals				



FIGURE 2c-TYPICAL CROSS SECTION FOR WALL BETWEEN  
STATION 0+414.5 & 0+840



Notes:  
- TO BE READ IN CONJUNCTION WITH TOPOGRAPHIC SURVEY.

Legend:



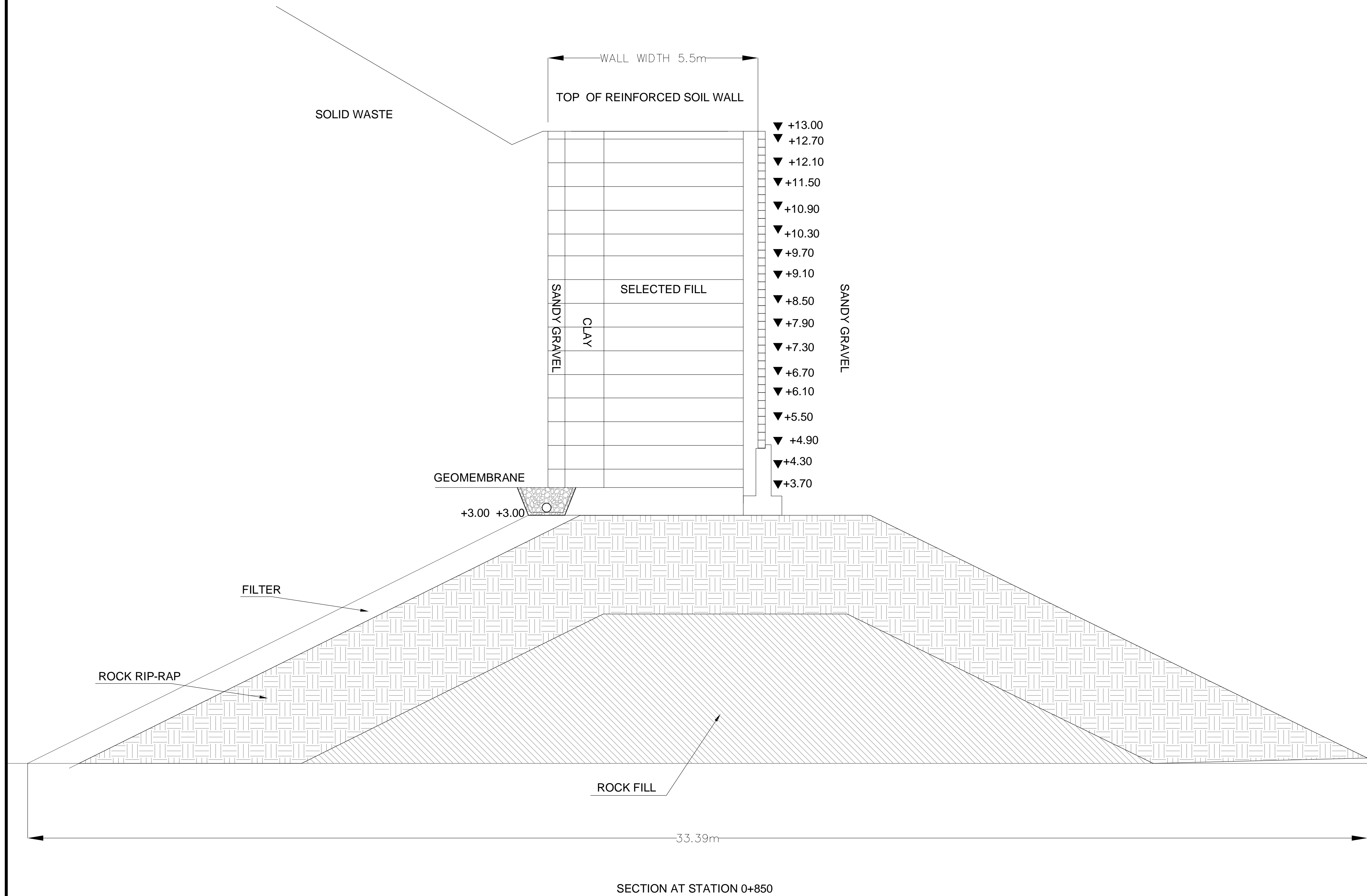
Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1968		
project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
GENERAL				
EXISTING WALL SECTION 3/4				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Checked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No.		L1815D-GEN-014		Rev.
Approvals				



FIGURE 2d-TYPICAL CROSS SECTION FOR WALL BETWEEN STATION 0+840 & 1+120



Notes:

- TO BE READ IN CONJUNCTION WITH TOPOGRAPHIC SURVEY.

Legend:

Rev.	Date	Description	Checked	Approved
------	------	-------------	---------	----------

Client

 REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

 DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1969

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GENERAL

EXISTING WALL SECTION 4/4

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Cheked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

Discipline:

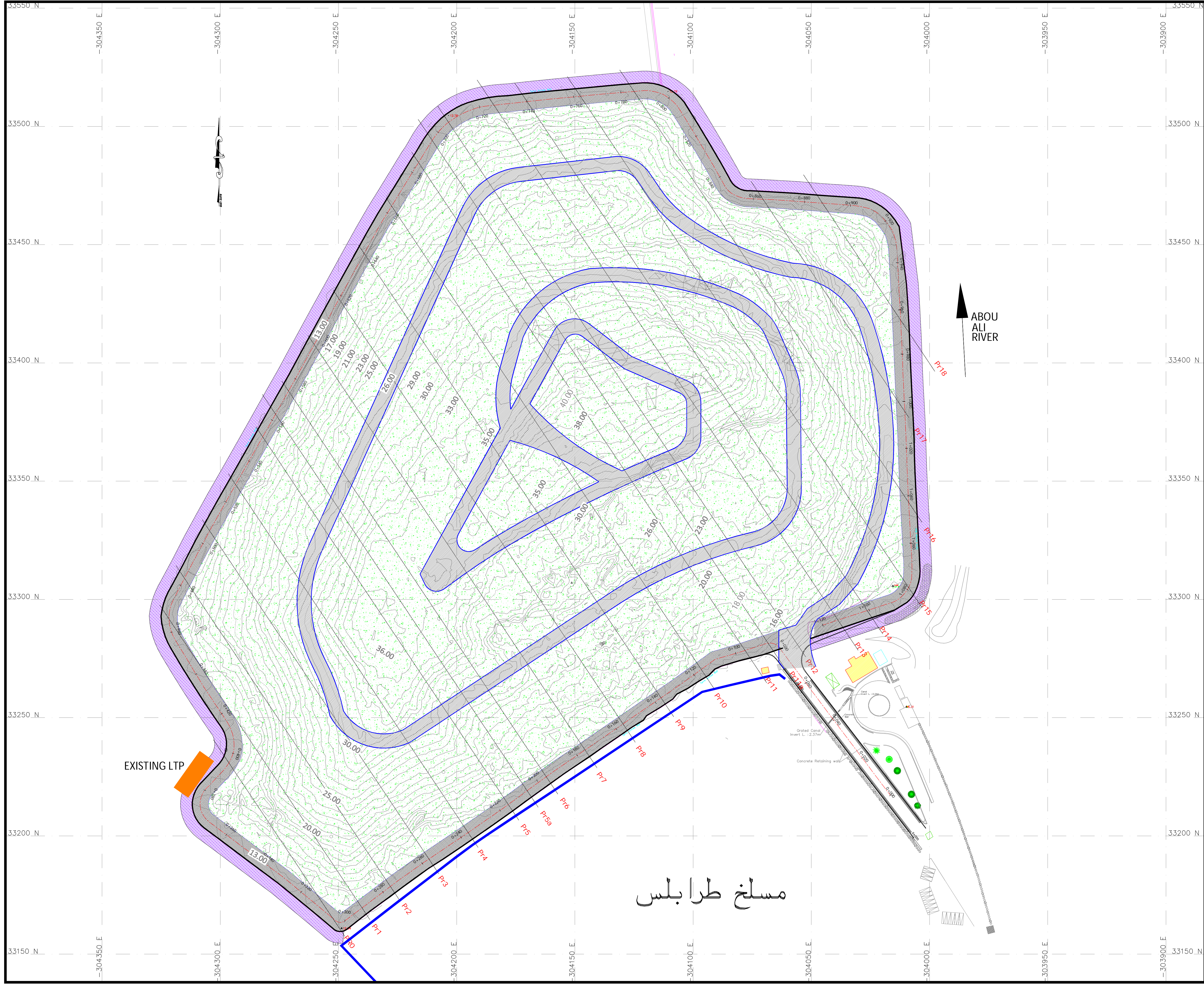
Drawing No. L1815D-GEN-015 Rev.

Approvals



# GEOMETRY





Notes:

Legend:

- ACCESS ROAD
- PERIPHERAL ROAD
- EXISTING WALL
- WALL EXTENSION
- TOP SOIL

Rev.	Date	Description	Checked	Approved

Client

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AND RECONSTRUCTION

Consultant

DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

PROPOSED LAYOUT

Scale: 1/750

Sheet Size: A1

Approved By: R.O.

Date: JUNE 2022

Choked By: O.A.

Date: JUNE 2022

Drawn By: J.H.

Date: JUNE 2022

Discipline:

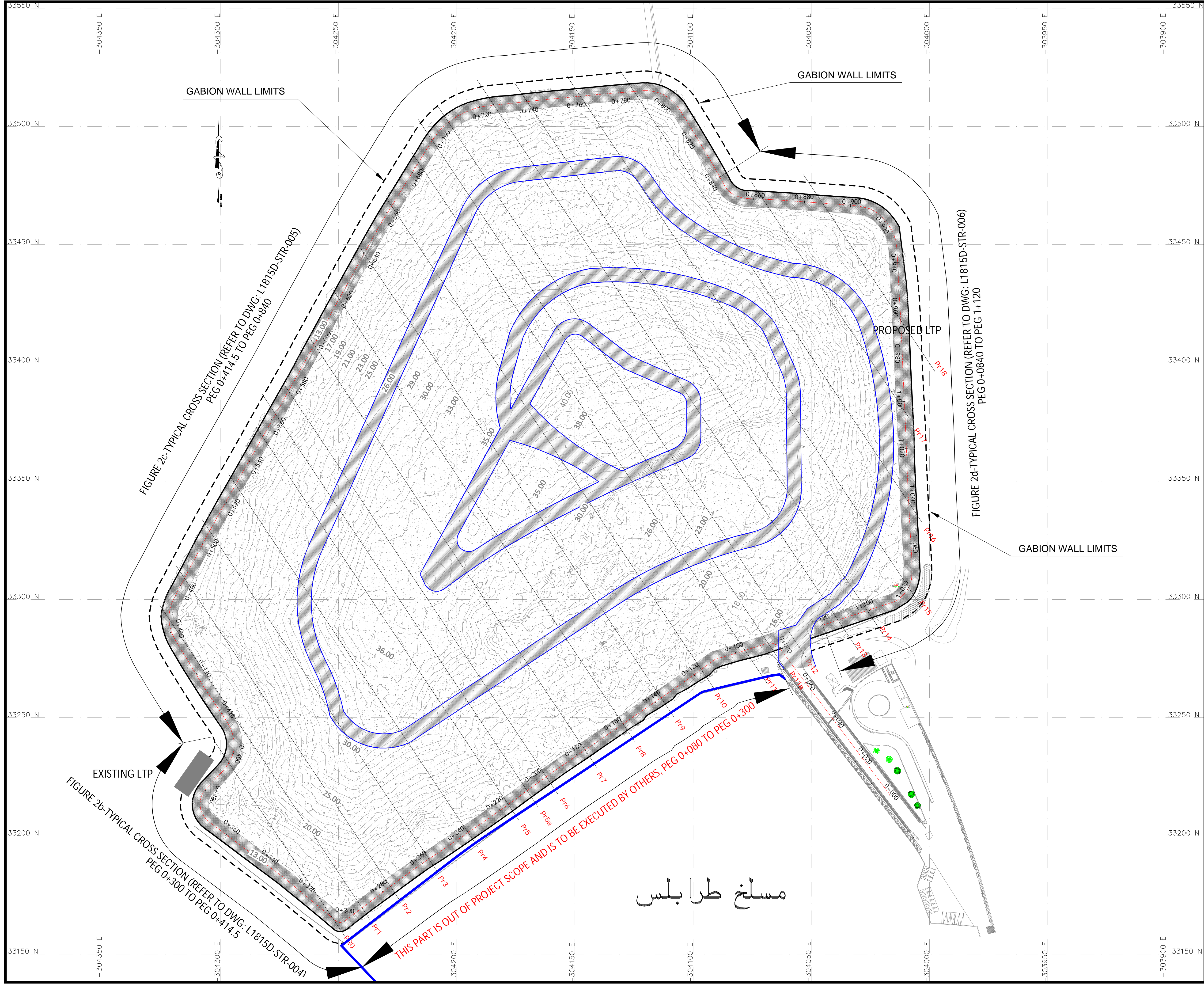
Drawing No. L1815D-GEO-001

Rev.

Approvals

مسئخ طرا بلس





Notes:

Legend:

--- GABION WALL PROPOSED LIMITS

Rev.	Date	Description	Checked	Approved

Client

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COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

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Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GABION WALL LIMITS

Scale: 1/750

Sheet Size: A1

Approved By: R.O.

Date: JUNE 2022

Choked By: O.A.

Date: JUNE 2022

Drawn By: J.H.

Date: JUNE 2022

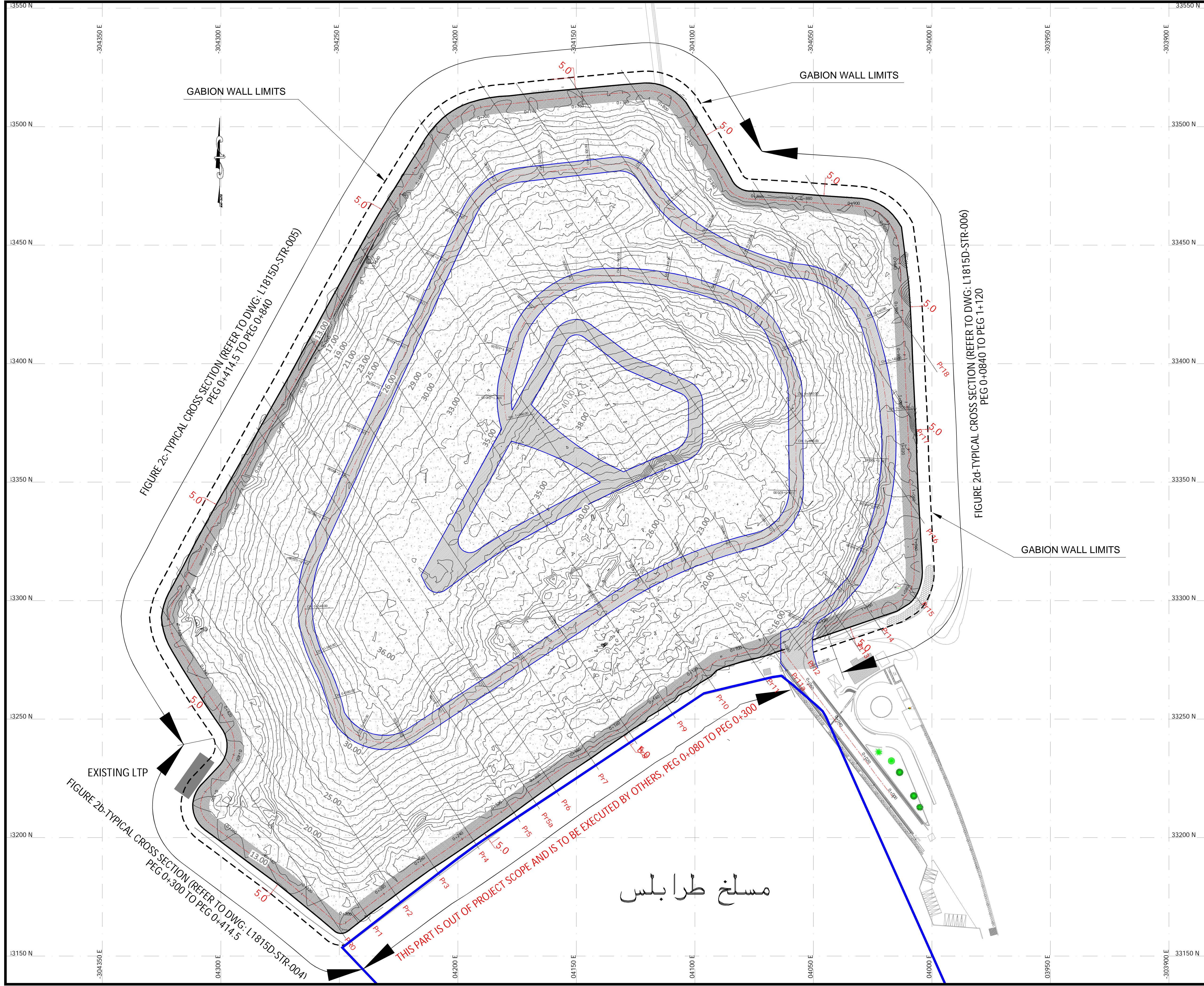
Discipline:

Drawing No. L1815D-GEO-002

Rev.

Approvals






Notes:

Legend:  
--- GABION WALL PROPOSED LIMITS


Rev.	Date	Description	Checked	Approved

Client



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AND RECONSTRUCTION

Consultant



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دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

ACCESS ROAD PLAN

Scale: 1/750

Sheet Size: A1

Approved By: R.O.

Date: JUNE 2022

Choked By: O.A.

Date: JUNE 2022

Drawn By: J.H.

Date: JUNE 2022

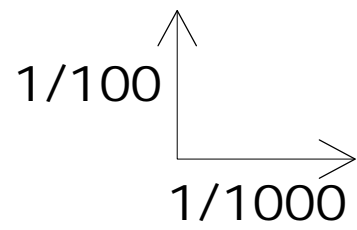
Discipline:

Drawing No. L1815D-GEO-003

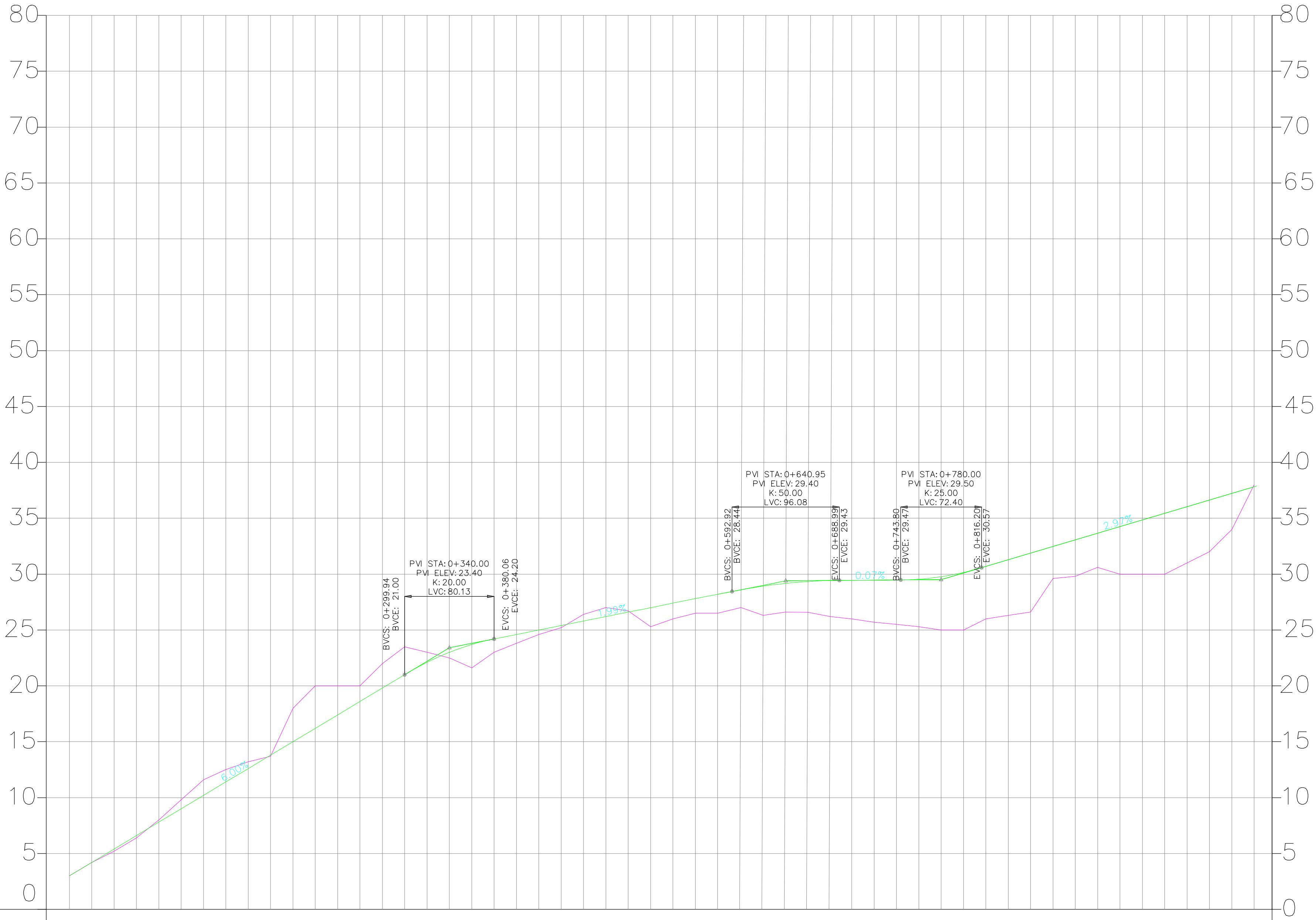
Rev.

Approvals







STATION	
	-0+000
	-0+020
	-0+040
	-0+060
	-0+080
	-0+100
	-0+120
	-0+140
	-0+160
	-0+180
	-0+200
	-0+220
	-0+240
	-0+260
	-0+280
	-0+300
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	-0+340
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	-0+940
	-0+960
	-0+980
	-1+000
	-1+020
	-1+040
	-1+060
EXISTING WASTE LEVEL	3.00 4.20 5.40 6.60 7.80 9.00 10.20 11.40 12.60 13.80 15.00 16.20 17.40 18.60 19.80 21.00 22.10 23.00 22.50 23.70 24.20 24.60 24.99 25.39 25.79 26.19 26.59 26.99 27.39 27.79 28.18 28.58 28.91 29.16 29.33 29.42 29.44 29.46 29.47 29.54 29.76 30.15 30.69 31.28 31.87 32.47 33.06 33.66 34.25 34.84 35.44 36.03 36.62 37.22 37.81
PROPOSED ACCESS ROAD LEVEL	3.00 4.20 5.40 6.60 7.80 9.00 10.20 11.40 12.60 13.80 15.00 16.20 17.40 18.60 19.80 21.00 22.10 23.00 22.50 23.70 24.20 24.60 24.99 25.39 25.79 26.19 26.59 26.99 27.39 27.79 28.18 28.58 28.91 29.16 29.33 29.42 29.44 29.46 29.47 29.54 29.76 30.15 30.69 31.28 31.87 32.47 33.06 33.66 34.25 34.84 35.44 36.03 36.62 37.22 37.81



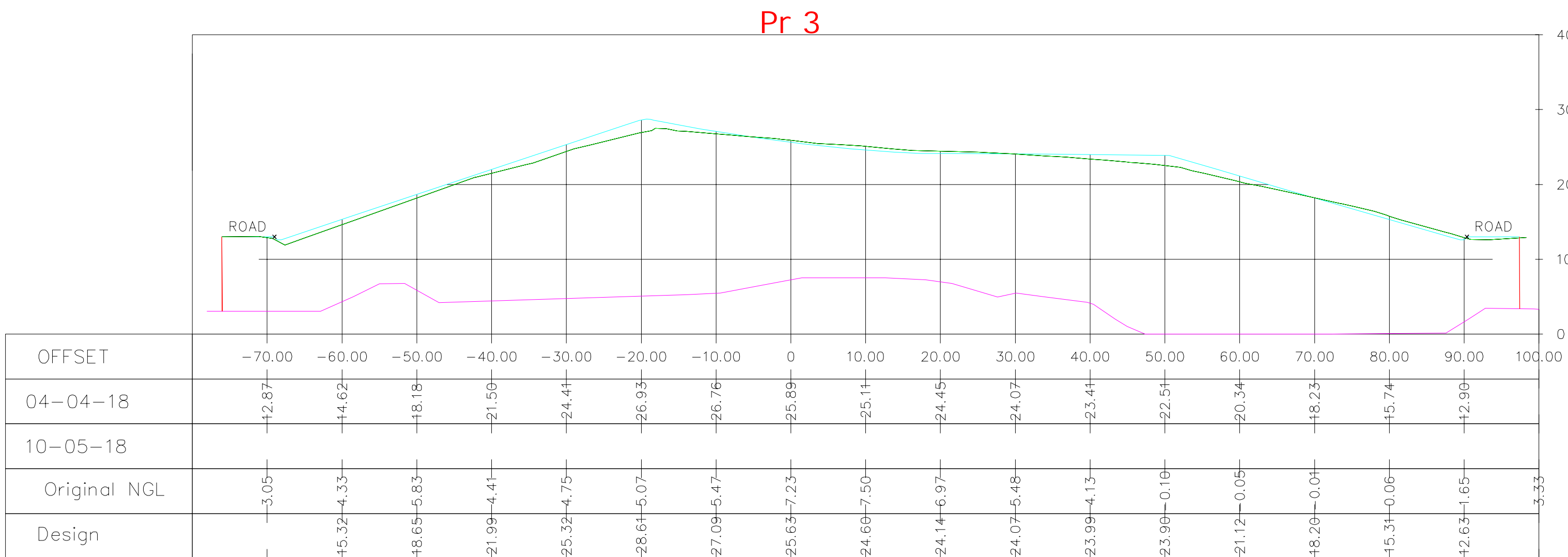
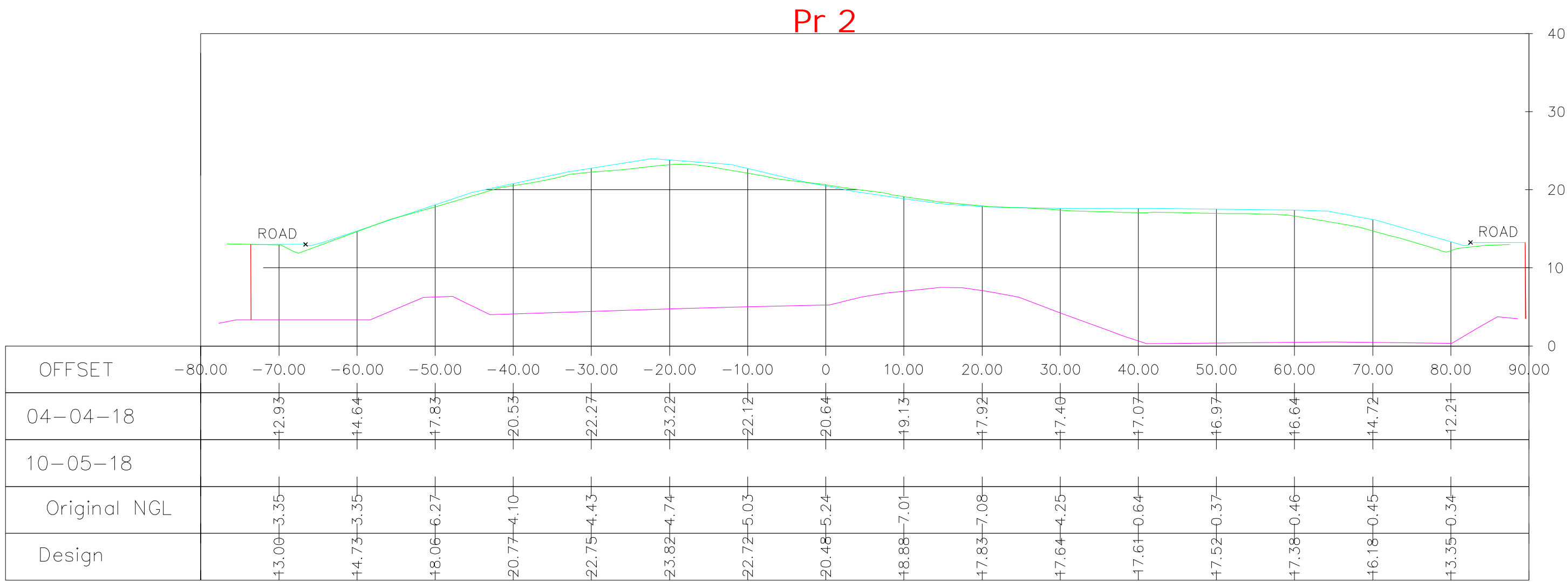
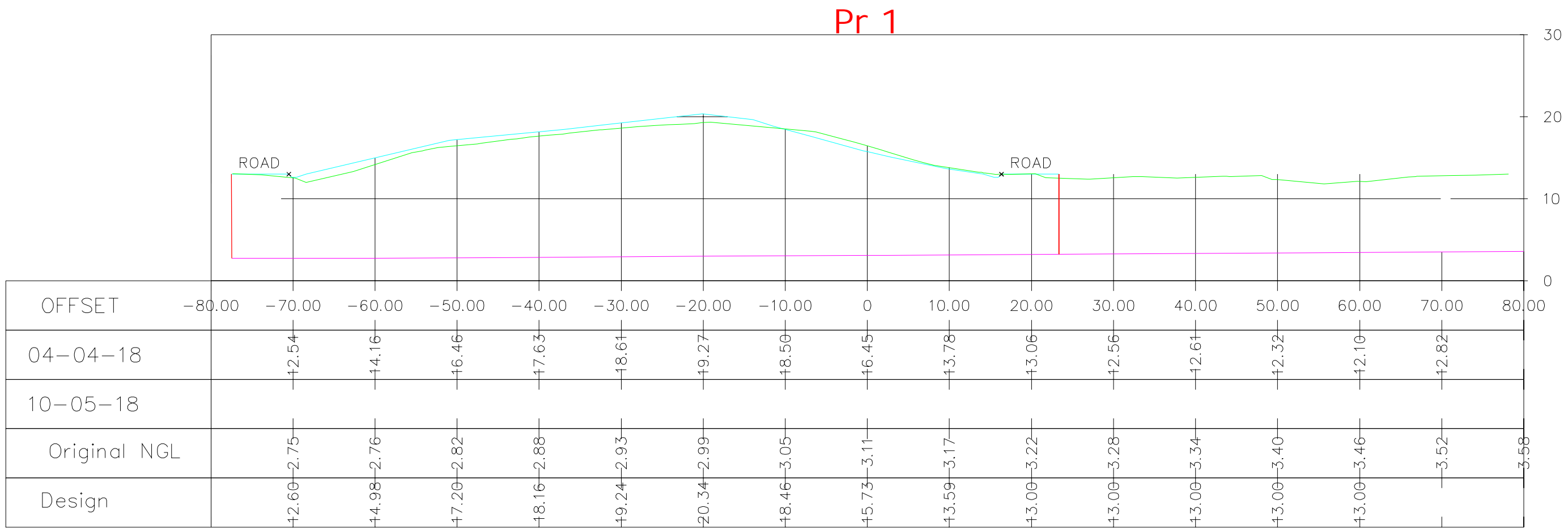
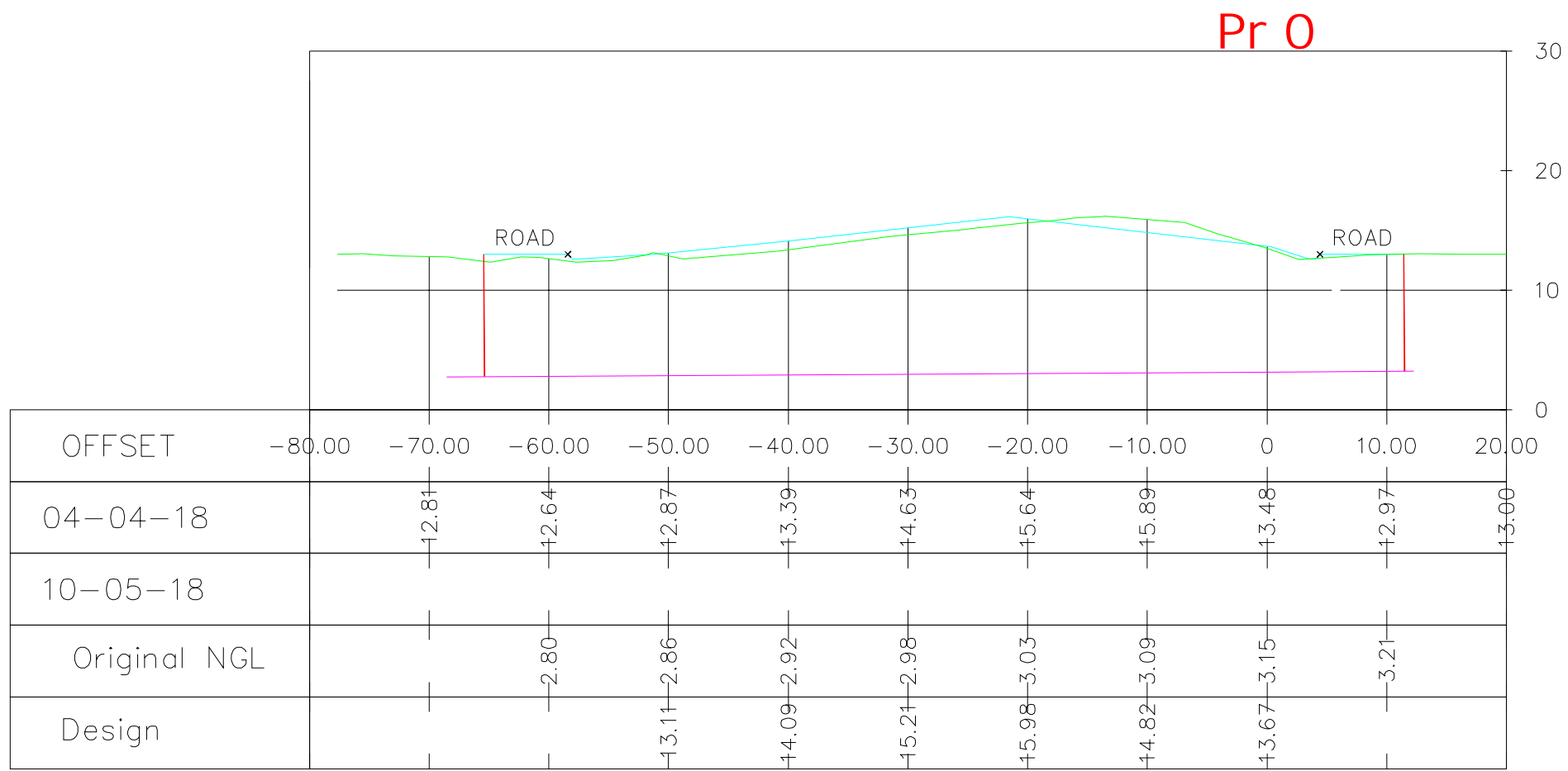
Notes:

Legend:

- PROPOSED ACCESS ROAD LEVEL
- EXISTING WASTE LEVEL

Rev.	Date	Description	Checked	Approved
Client				
<div><div>REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION</div></div>				
Consultant				
<div><div><div>Founded 1969</div></div><div>DAR AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه</div></div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
ACCESS ROAD PROFILE				
GEOMERTY				
Scale: 1/2500		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Cheked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D-GEO-004				Rev.
Approvals				







Notes:

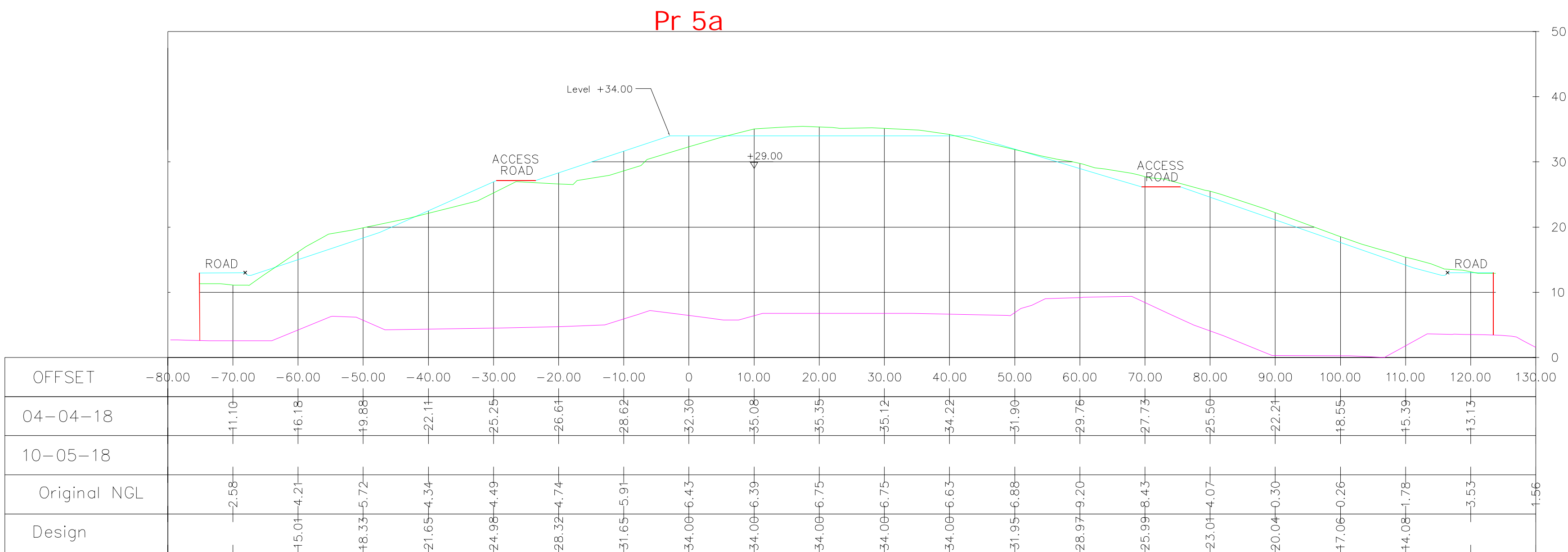
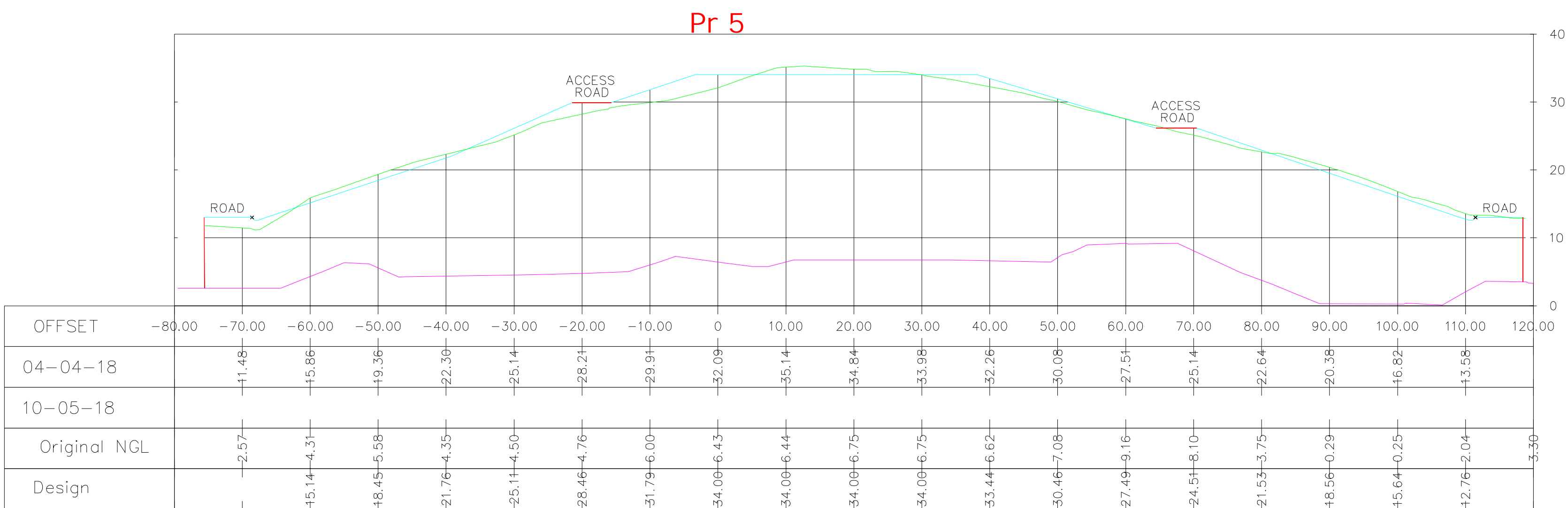
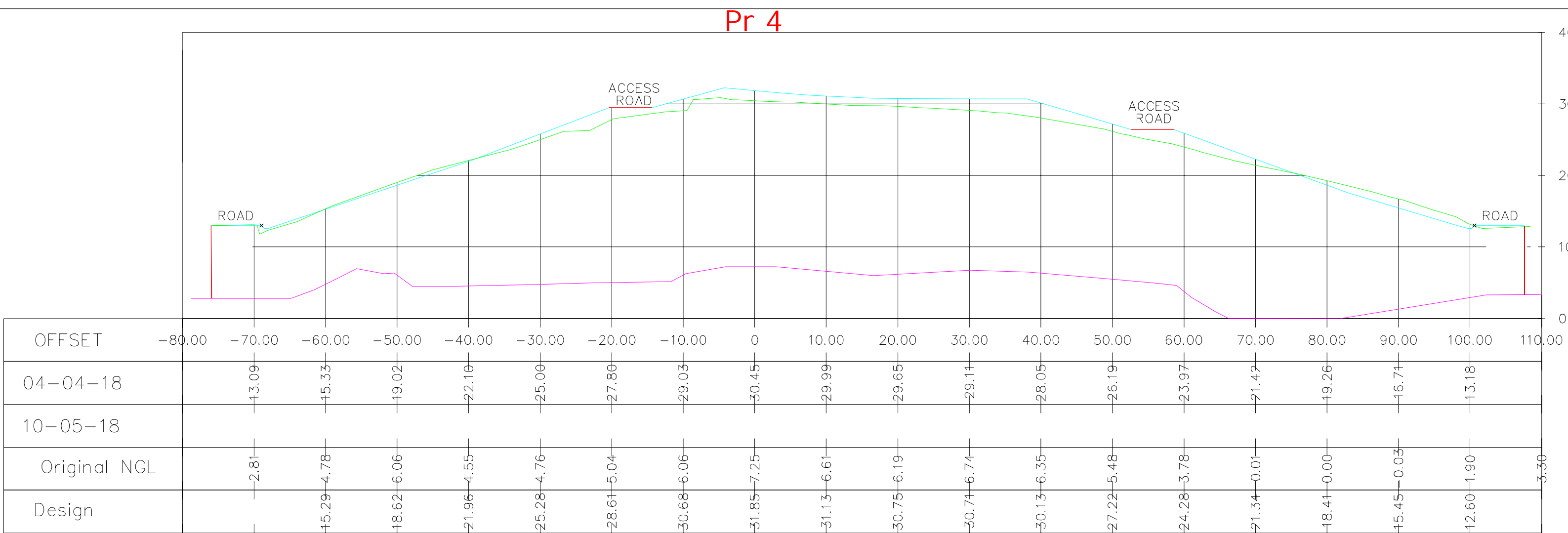
- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه <small>Founded 1998</small>		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			GEOMETRY	
PROPOSED WASTE SECTIONS (FROM PR 0 TO PR 3)				
Scale: 1/500	Sheet Size: A1			
Approved By:	R.O.		Date:	JUNE 2022
Choked By:	O.A.		Date:	JUNE 2022
Drawn By:	J.H.		Date:	JUNE 2022
Discipline:				
Drawing No.	L1815D-GE0-005		Rev.	
Approvals				







Notes:

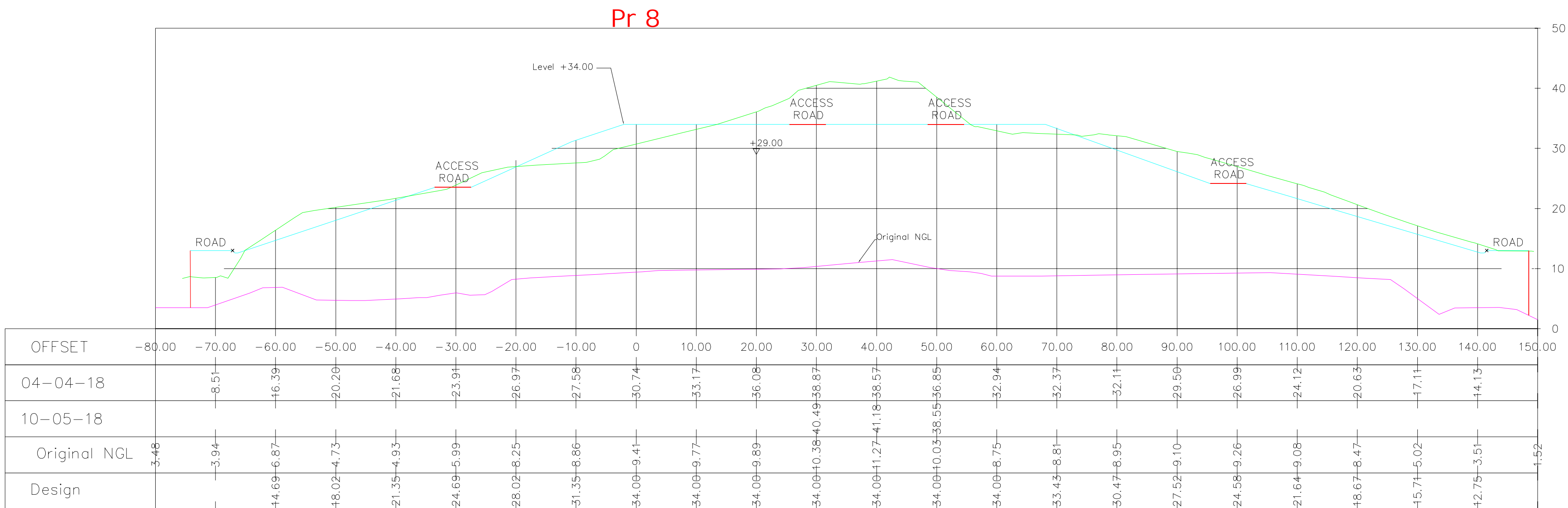
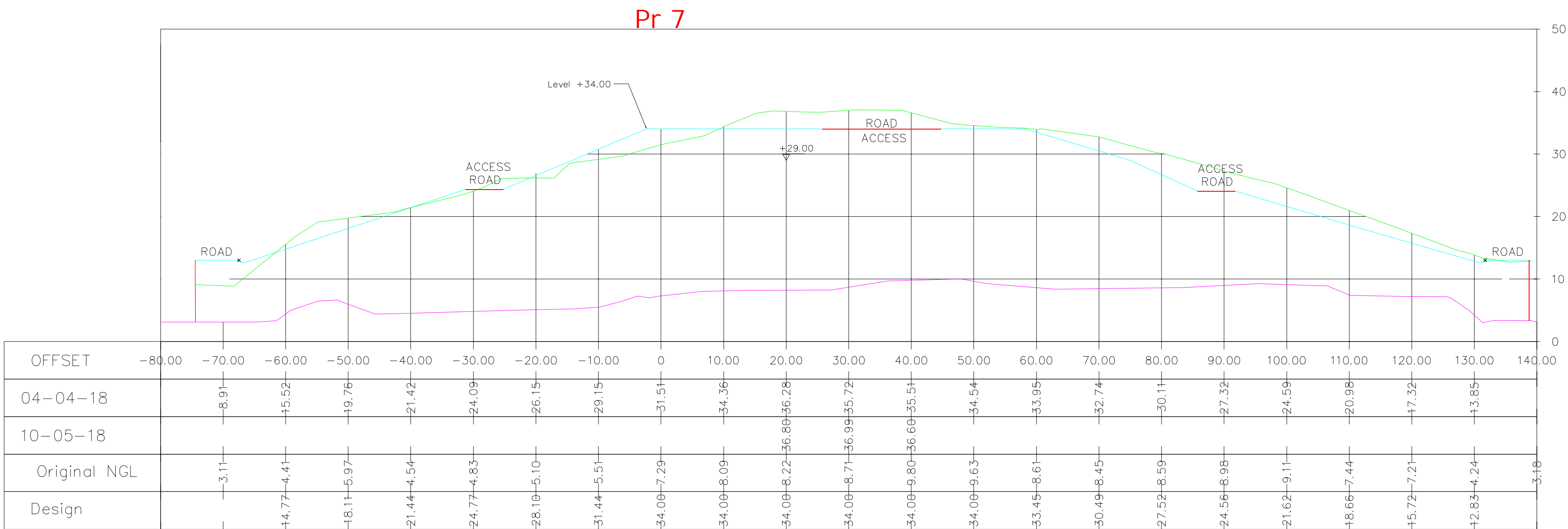
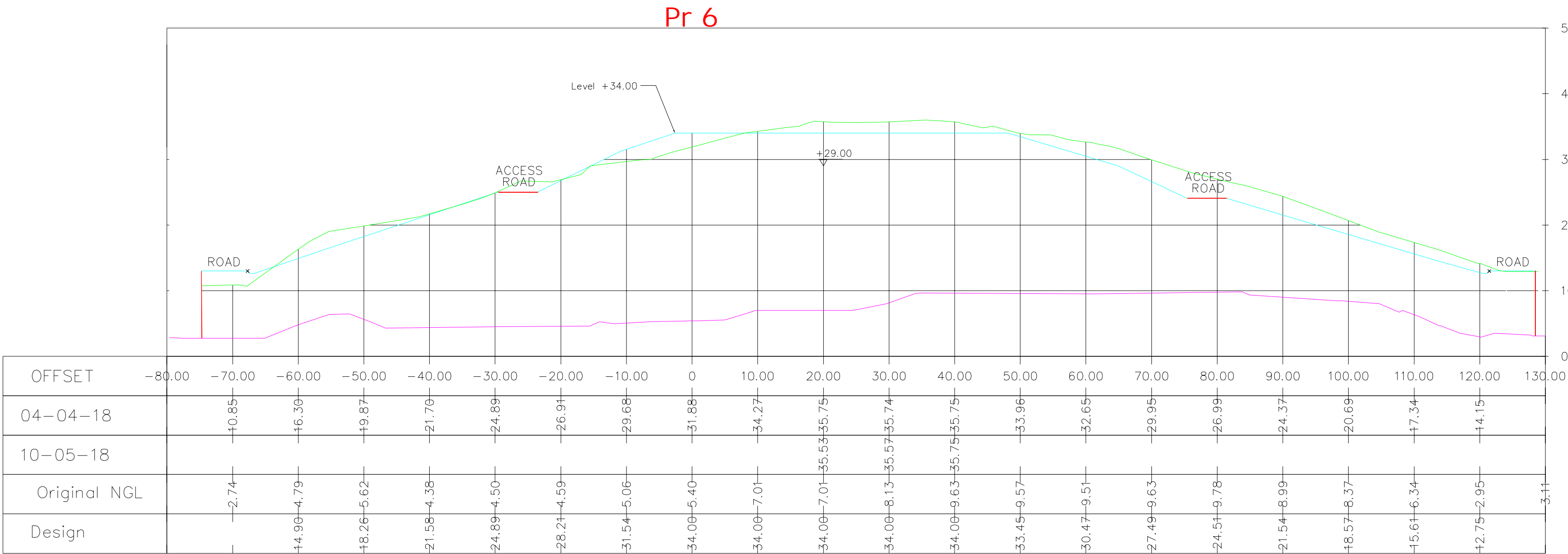
- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			GEOMETRY	
PROPOSED WASTE SECTIONS (FROM PR 4 TO PR 5a)				
Scale: N.T.S.	Sheet Size: A1			
Approved By:	R.O.		Date: JUNE 2022	
Choked By:	O.A.		Date: JUNE 2022	
Drawn By:	J.H.		Date: JUNE 2022	
Discipline:				
Drawing No.	L1815D-GEO-006		Rev.	
Approvals				





Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Client



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COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



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دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GEOMETRY

PROPOSED WASTE SECTIONS  
(FROM PR 6 TO PR 8)

Scale: N.T.S.

Sheet Size: A1

Approved By:

R.O.

Date: JUNE 2022

Choked By:

O.A.

Date: JUNE 2022

Drawn By:

J.H.

Date: JUNE 2022

Discipline:

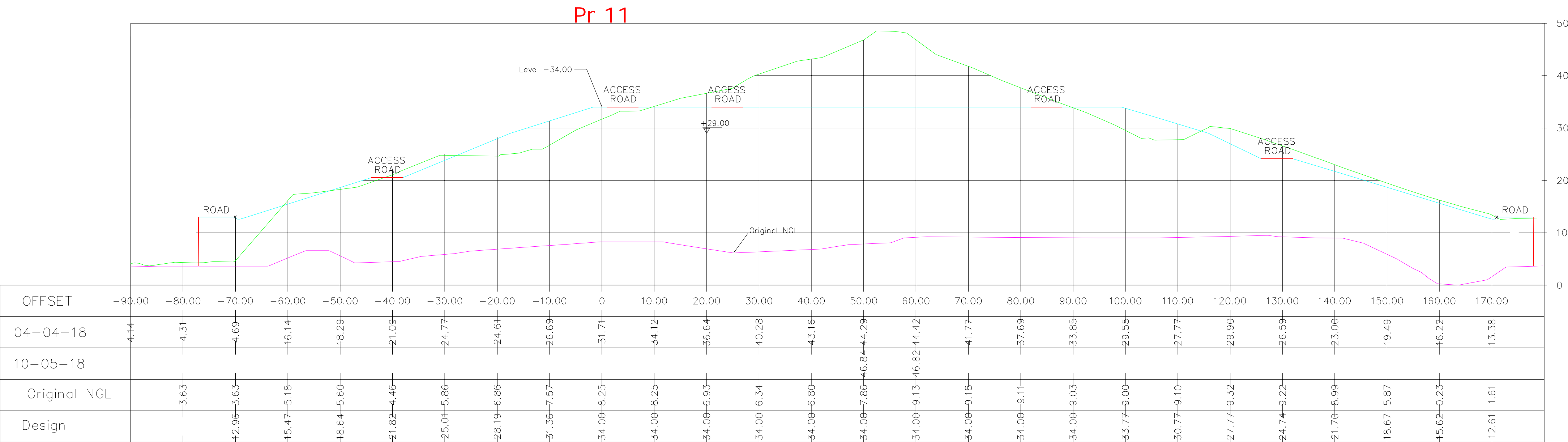
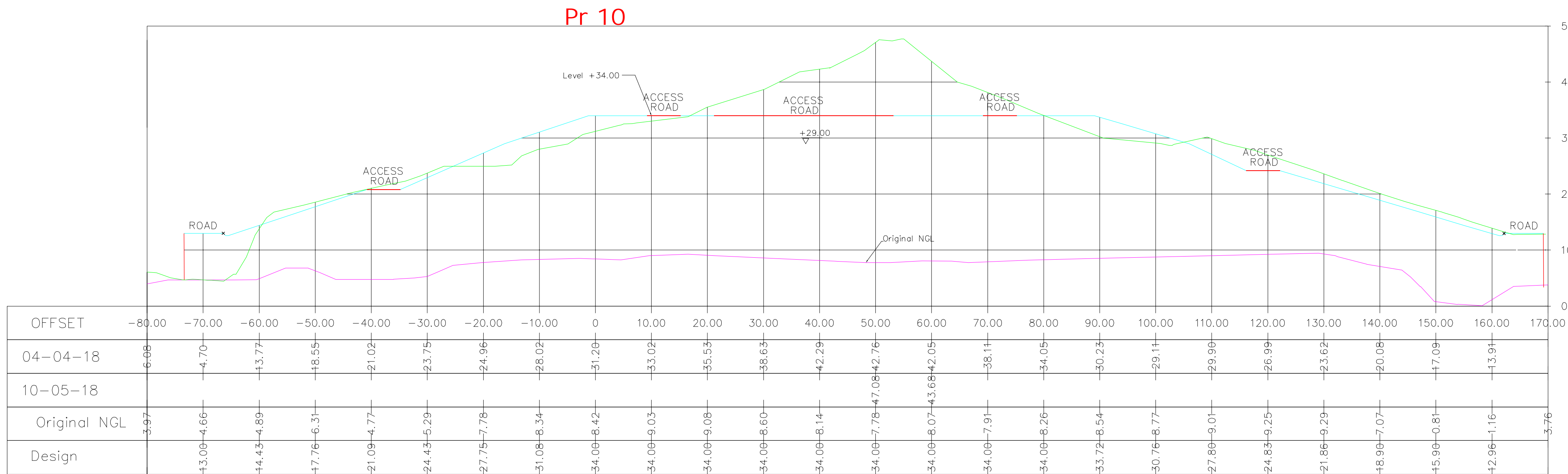
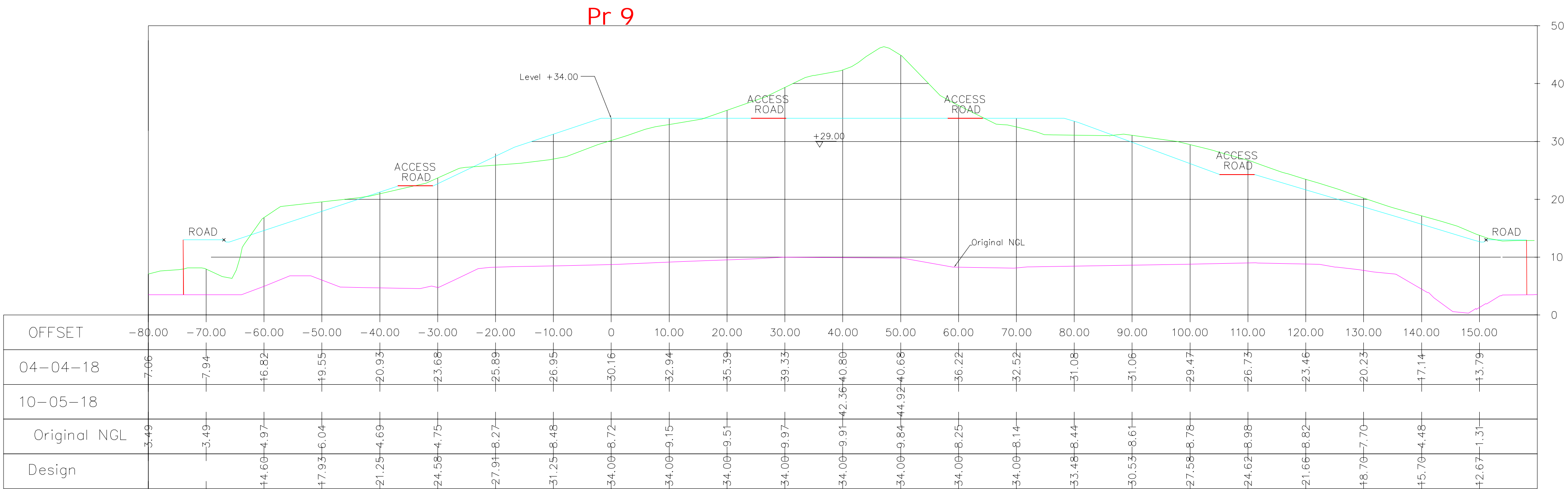
Drawing No.

L1815D-GEO-007

Rev.

Approvals





Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved

Client

REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GEOMETRY

PROPOSED WASTE SECTIONS  
(FROM PR 9 TO PR 11)

Scale: N.T.S.	Sheet Size: A1	
Approved By: R.O.	Date: JUNE 2022	
Choked By: O.A.	Date: JUNE 2022	
Drawn By: J.H.	Date: JUNE 2022	
Discipline:		
Drawing No. L1815D-GEO-008	Rev.	

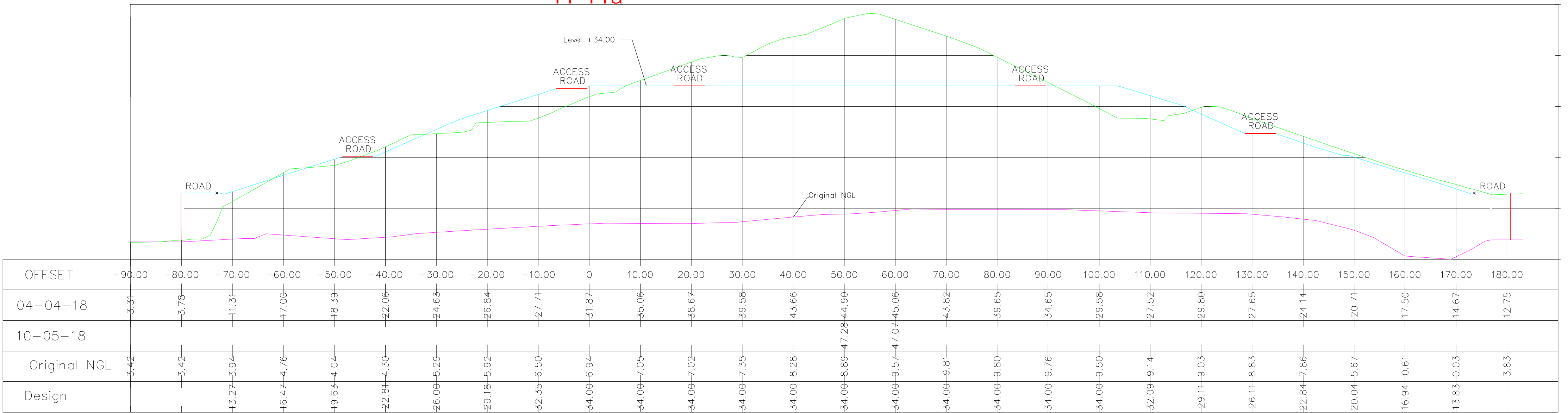
Approvals



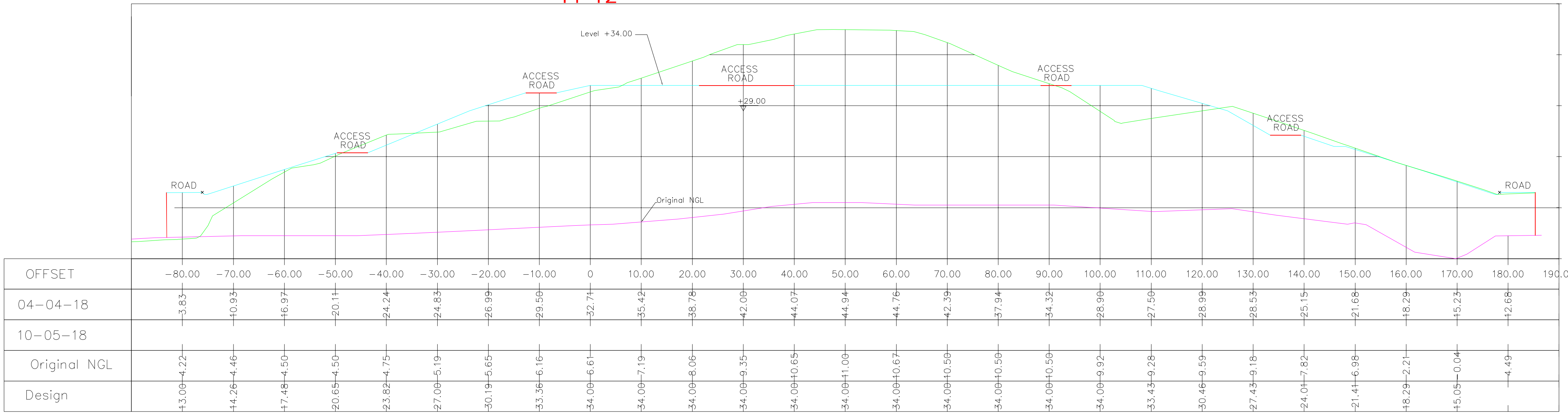
Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

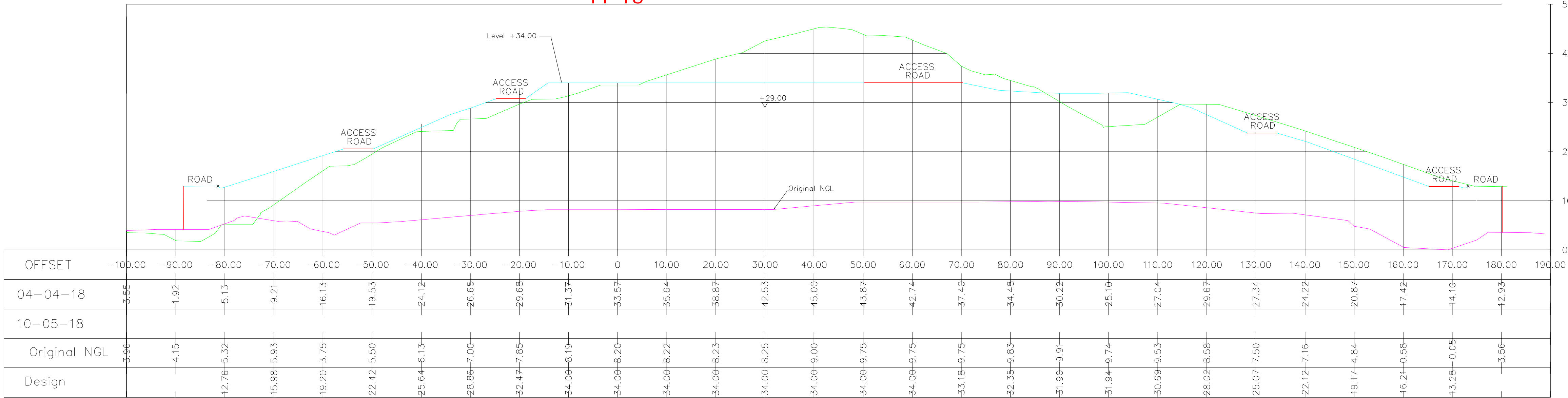
Pr 11a



Pr 12



Pr 13



Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Rev. Date Description Checked Approved

Client

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COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GEOMETRY

PROPOSED WASTE SECTIONS  
(FROM PR 11a TO PR 13)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

Discipline:

Drawing No. L1815D-GEO-009

Rev.

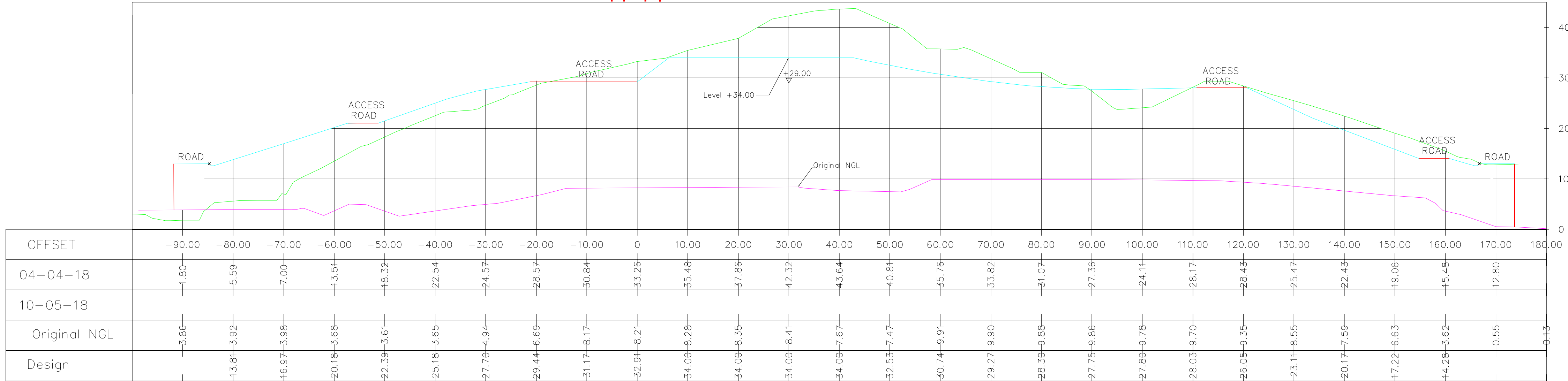
Approvals



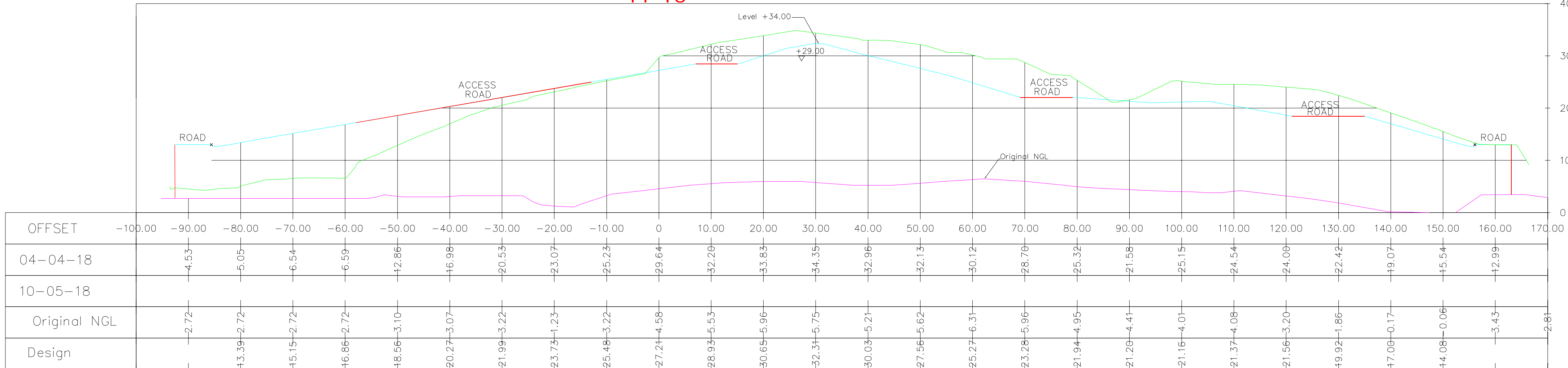
Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

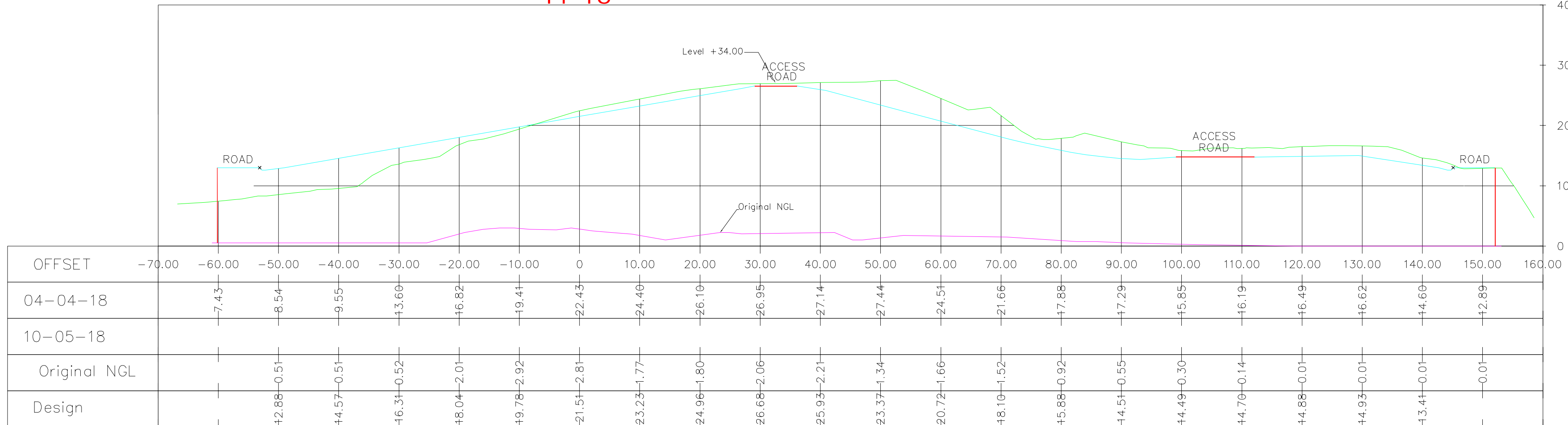
Pr 14



Pr 15



Pr 16



Legend:

- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Client

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Consultant

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دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

GEOMETRY

PROPOSED WASTE SECTIONS  
(FROM PR 14 TO PR 16)

Scale: N.T.S.

Sheet Size: A1

Approved By:

R.O.

Date: JUNE 2022

Choked By:

O.A.

Date: JUNE 2022

Drawn By:

J.H.

Date: JUNE 2022

Discipline:

Drawing No.

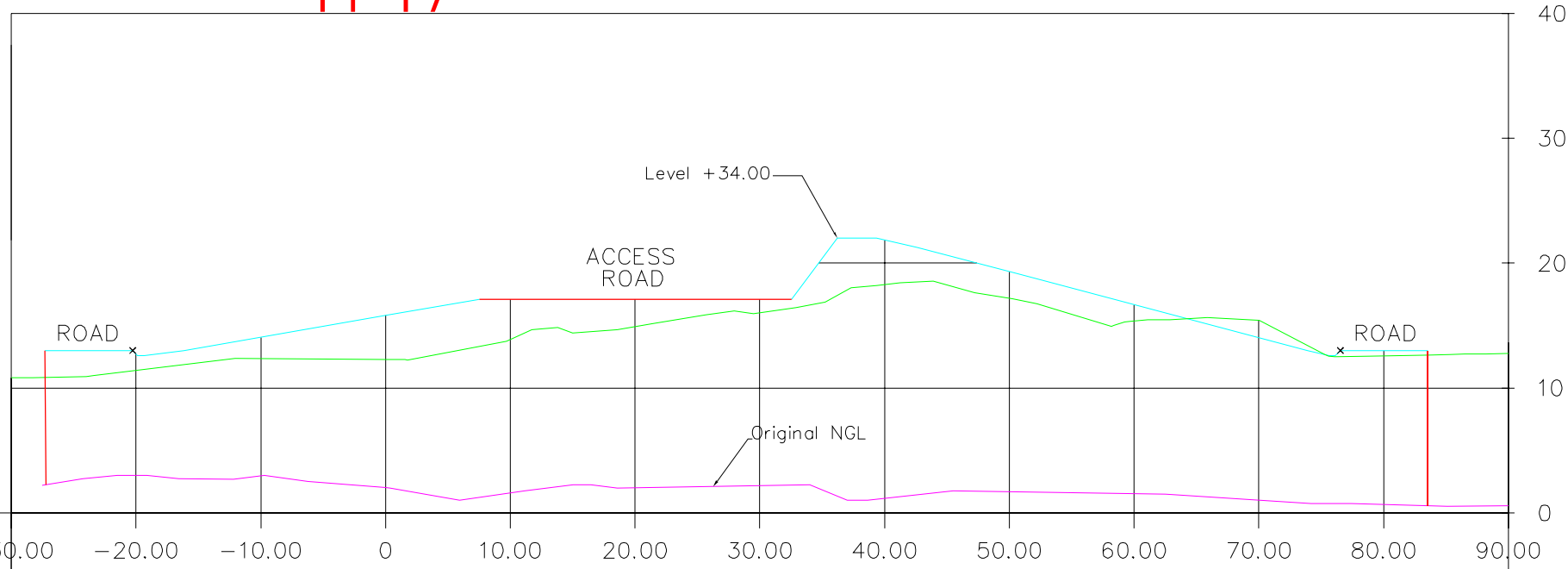
L1815D-GEO-010

Rev.

Approvals

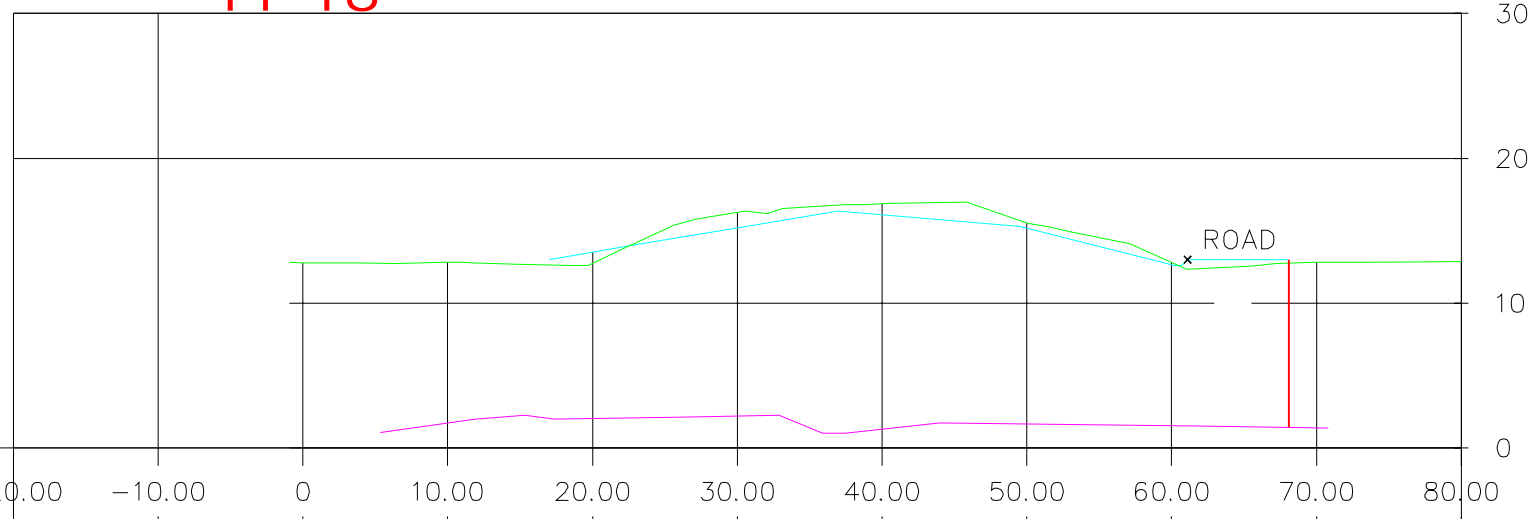


Pr 17



OFFSET	-30.00	-20.00	-10.00	0	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00
04-04-18	10.63	11.41	12.35	12.27	13.89	14.91	16.02	18.29	17.18	15.38	15.49	12.56	12.78
10-05-18													
Original NGL		12.73	12.99		14.07	12.95		15.81	12.02		17.53	1.58	
Design		12.73	12.99		14.07	12.95		15.81	12.02		17.53	1.58	

Pr 18





OFFSET	-20.00	-10.00	0	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
04-04-18			12.79	12.82	12.73	16.26	16.86	15.51	12.80	12.80	12.86
10-05-18											
Original NGL				1.73	1.73	2.04	2.20	1.28	1.64	1.52	1.37
Design				1.73	1.73	2.04	2.20	1.28	1.64	1.52	1.37

Notes:

- SECTIONS PROFILES ARE AS OF APRIL 2018

Legend:

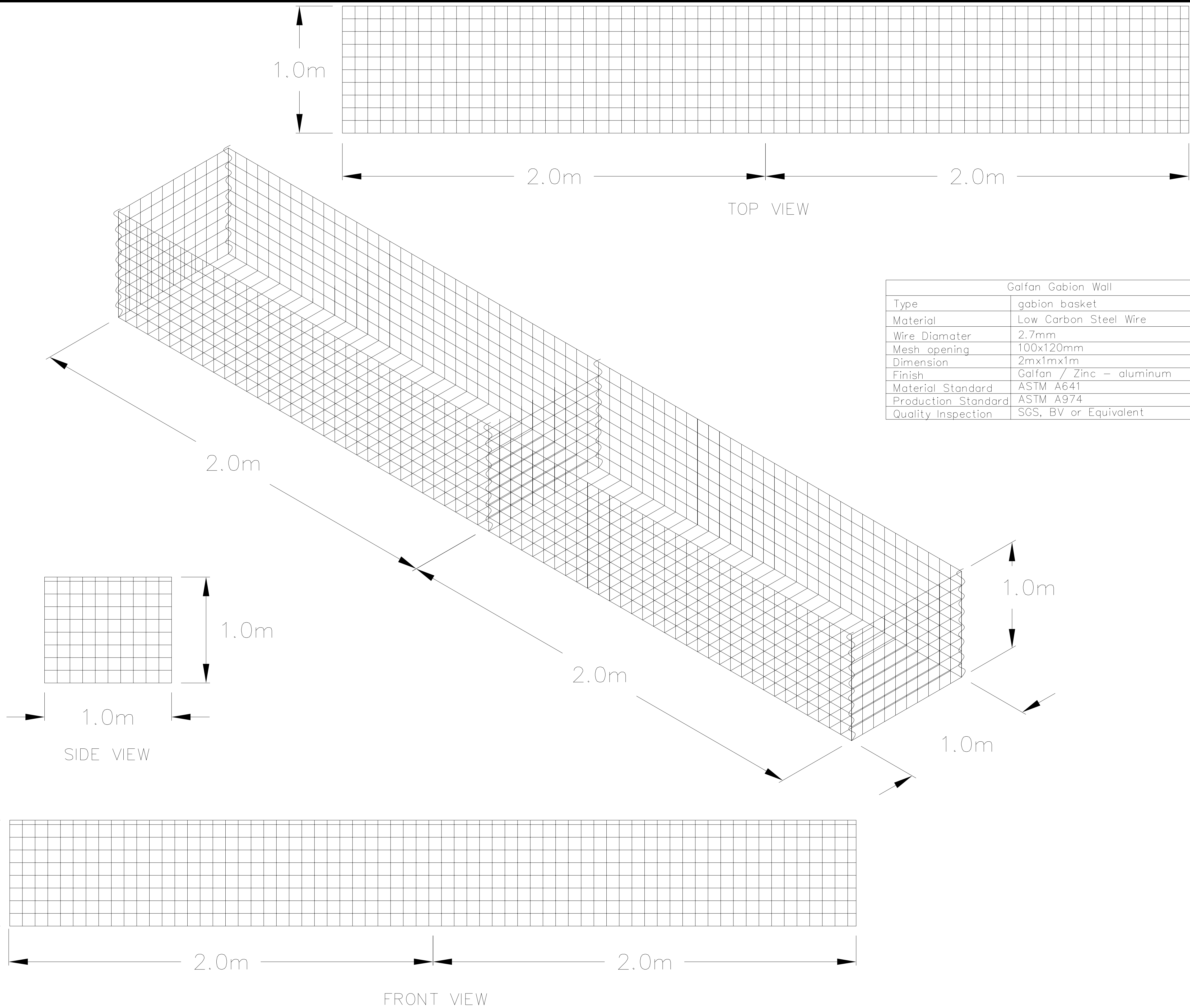
- NATURAL GROUND LEVEL
- SOLID WASTE LEVEL
- PROPOSED SOLID WASTE LEVEL

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه <small>Founded 1969</small>		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
GEOMETRY				
PROPOSED WASTE SECTIONS (FROM PR 17 TO PR 18)				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Choked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D-GEO-011				Rev.
Approvals				



STRUCTURAL





TOP VIEW



SIDE VIEW

FRONT VIEW

Galfan Gabion Wall	
Type	gabion basket
Material	Low Carbon Steel Wire
Wire Diamater	2.7mm
Mesh opening	100x120mm
Dimension	2mx1mx1m
Finish	Galfan / Zinc – aluminum
Material Standard	ASTM A641
Production Standard	ASTM A974
Quality Inspection	SGS, BV or Equivalent

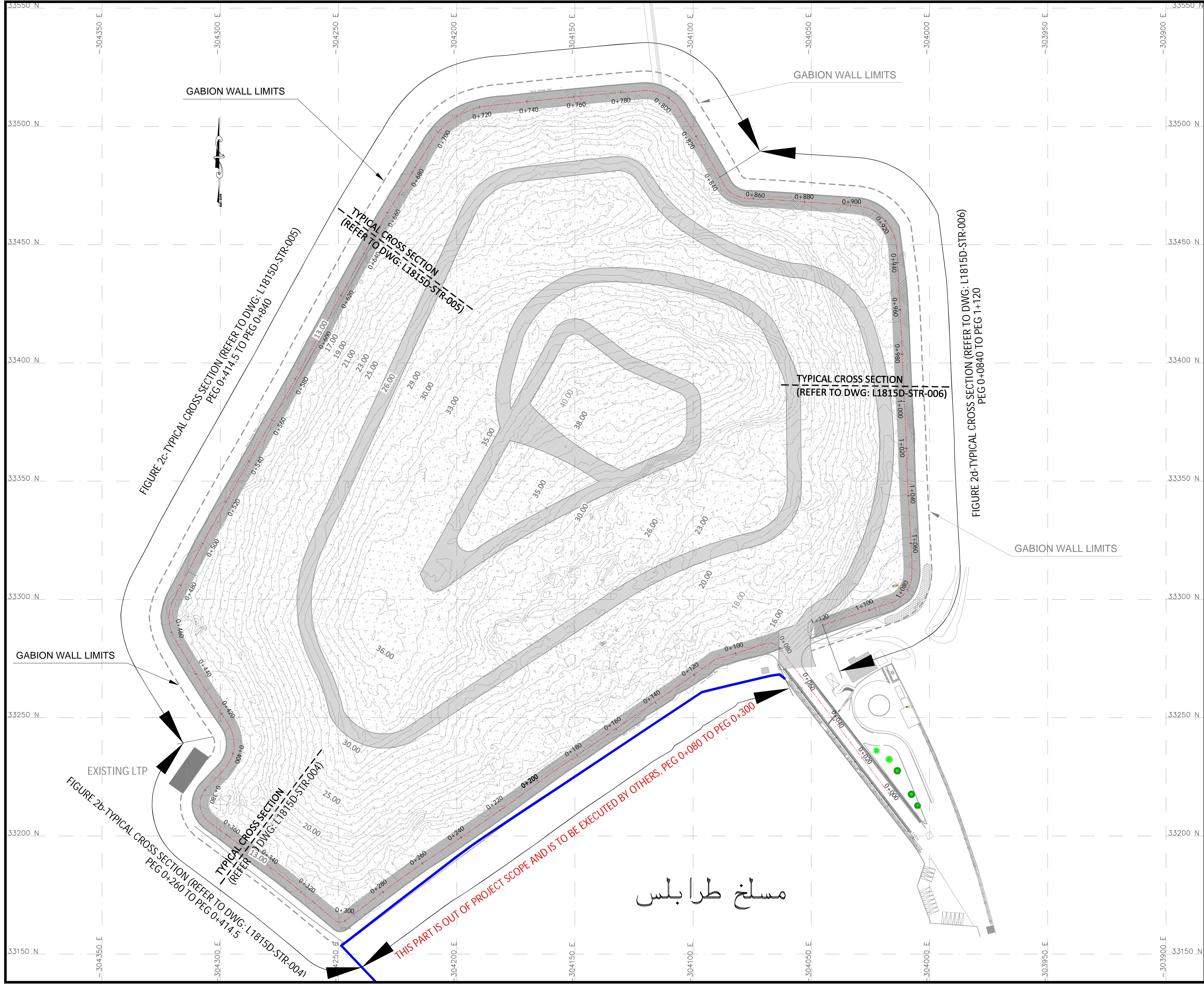
- Notes:
- REFER TO TECHNICAL SPECIFICATIONS FOR GABIONS MATERIAL AND EXECUTION.
  - THE CONTRACTOR TO CARRY OUT DETAILED DESIGN FOR GABION WALLS.
  - OTHER EQUIVALENT GABION DIMENSIONS CAN BE PROPOSED BY THE CONTRACTOR AFTER DUE CALCULATION.

Legend:

Rev.	Date	Description	Checked	Approved
Client				
<div></div> <div>REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION</div>				
Consultant				
<div><div><div>Founded 1969</div></div><div>DAR AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه</div></div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
STRUCTURAL				
TYPICAL DETAILS				
Scale: N.T.S.	Sheet Size: A1			
Approved By:	R.O.		Date:	JUNE 2022
Cheked By:	O.A.		Date:	JUNE 2022
Drawn By:	J.H.		Date:	JUNE 2022
Discipline:				
Drawing No.	L1815D-STR-001		Rev.	1
Approvals				

GABION WALL DETAILS





Notes:

Legend:

Rev.	Date	Description	Checked	Approved

Client

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دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

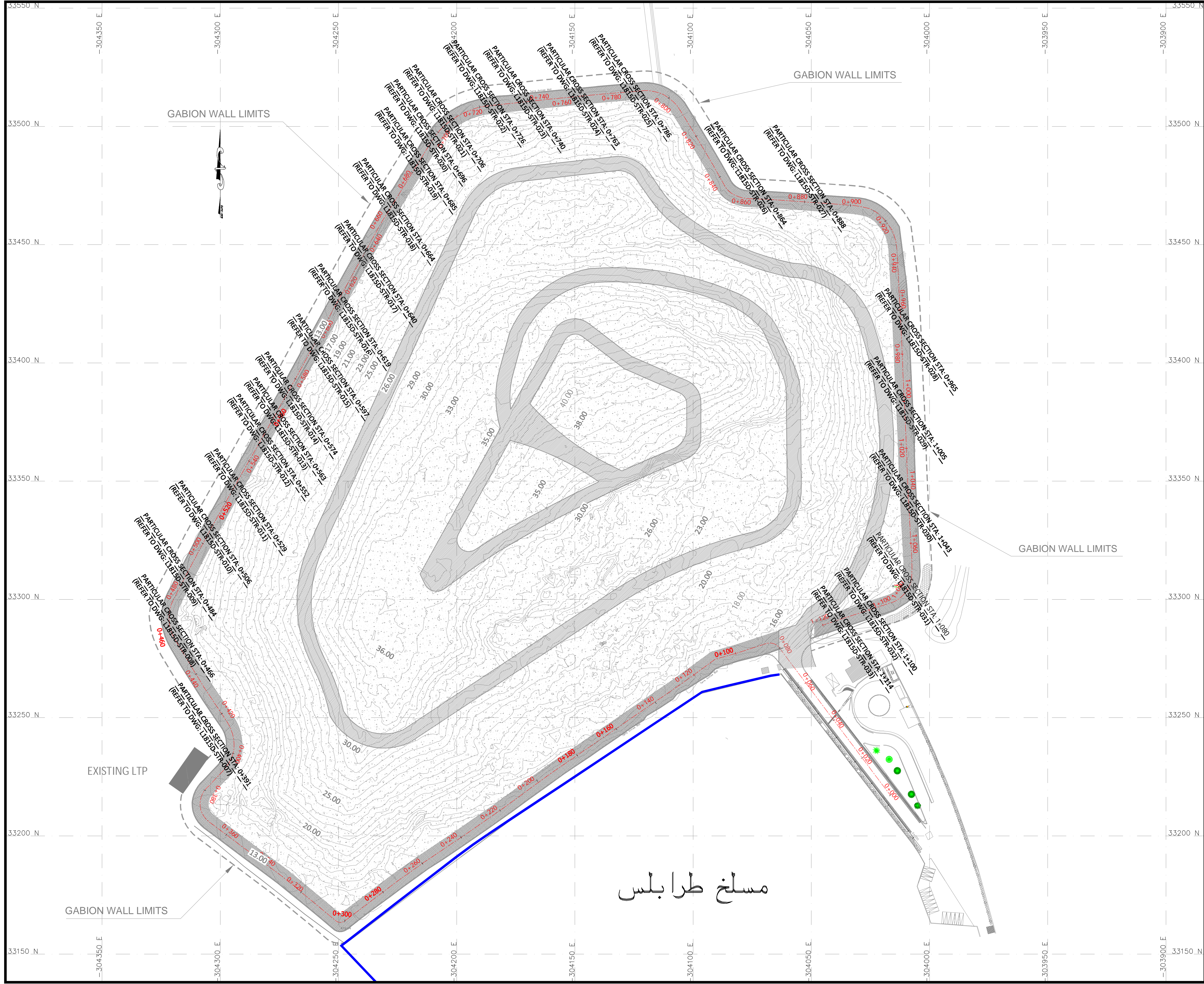
Drawing Title

STRUCTURAL

LOCATION OF TYPICAL CROSS SECTIONS

Scale: 1/750	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Checked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D- STR-002	Rev.
Approvals		






Notes:

Legend:


Rev.	Date	Description	Checked	Approved

Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1969

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

STRUCTURAL

LOCATION OF PARTICULAR CROSS SECTIONS

Scale: 1/750	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D- STR-003	Rev.
Approvals		



**FIGURE 2b-TYPICAL CROSS SECTION FOR WALL BETWEEN STATION 0+300 & 0+414.5**

WIRE MESH

GABION WALL

1.0m 1.0m

1.0m 2.0m

2.0m 2.0m

2.0m 3.0m

3.0m 2.0m

1.7m

CYCLOPEAN CONCRETE

ROCKS (0.5 TO 1T)

WALL WIDTH : 6.5m - 7.0m

TOP OF EXISTING REINFORCED SOIL WALL +13.00 ▼

SOLID WASTE

2 3

WRAPAROUND FACING

CLAY

SANDY GRAVEL

SELECTED FILL

SANDY GRAVEL

ROCKFILL (70cm)

CONCRETE (30cm)

ROCKFILL (50cm)

5.0m 7.45m

LIMITS FOR NEW WALL

SECTION AT STATION 0+350

Approvals	
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## Approvals



WIRE MESH

GABION WALL

1.0m

2.0m

2.0m

2.0m

2.0m

3.0m

3.0m

2.0m

1.7m

CYCLOPEAN CONCRETE

ROCKS (0.5 TO 1T)

5.0m

5.70m

LIMITS FOR NEW WALL

WALL WIDTH : 5.5m - 7.0m

TOP OF EXISTING REINFORCED SOIL WALL

+13.00

SANDY GRAVEL

SELECTED FILL

CLAY

2

3

SOLID WASTE

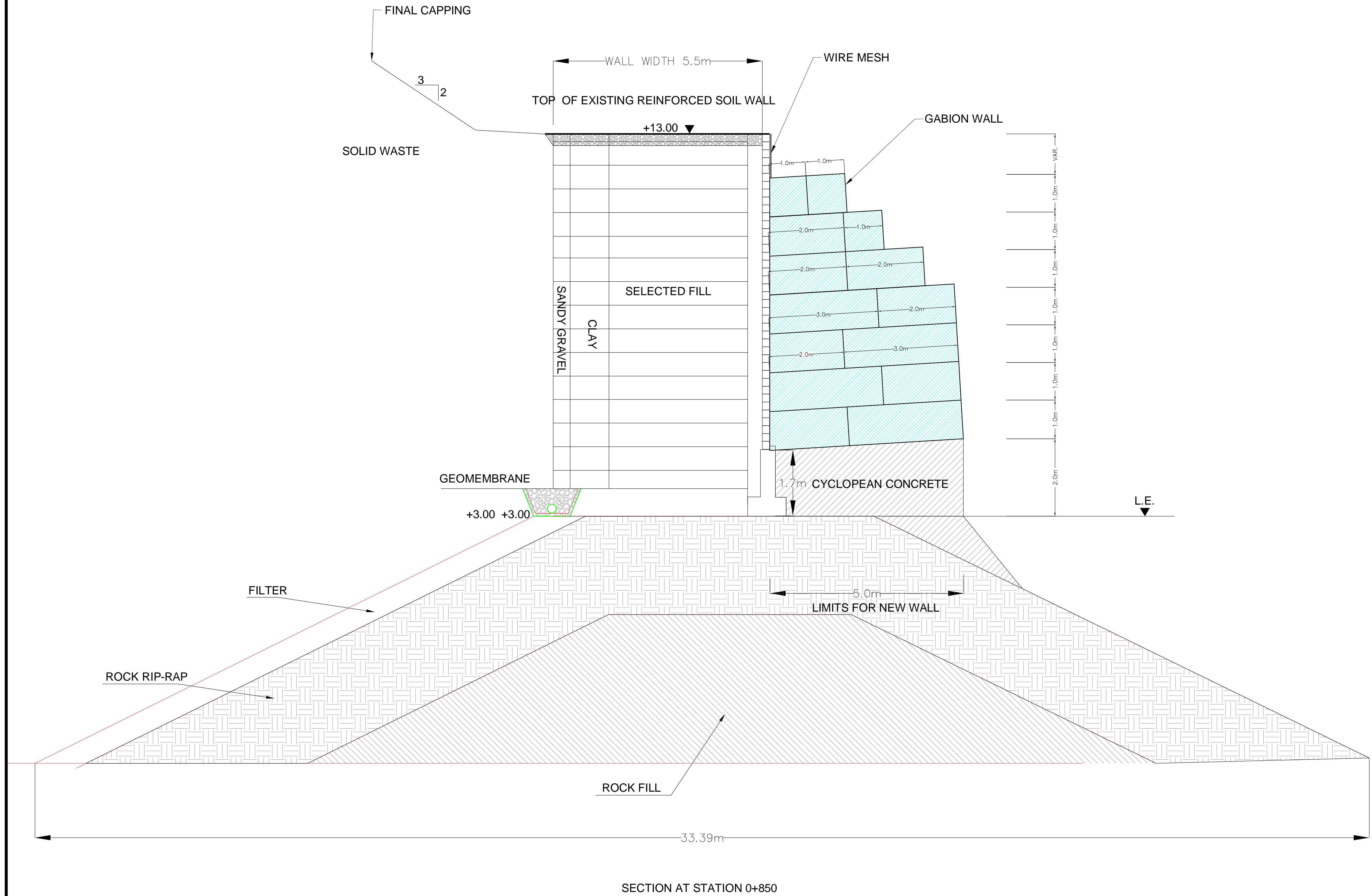
NATURAL GROUND

Approvals	
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Approvals	
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FIGURE 2d-TYPICAL CROSS SECTION FOR WALL BETWEEN  
STATION 0+840 & 1+120



Notes:

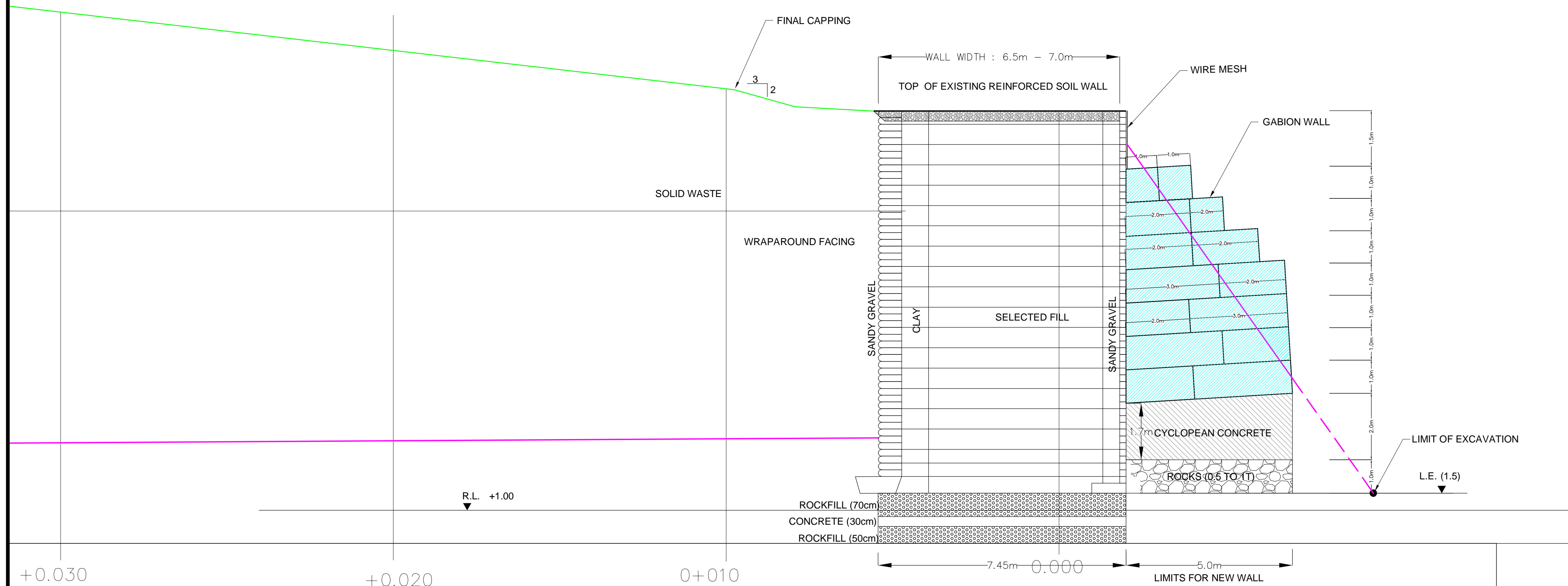
Legend:

L.E. : LEVEL OF EXCAVATION

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			STRUCTURAL	
TYPICAL CROSS SECTION 3/3				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Cheked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D-STR-006			Rev. 1	
Approvals				



STATION 0+391



Notes:  
- REFER TO Pr 0 IN DRAWINGS

Legend:  


ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)


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Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

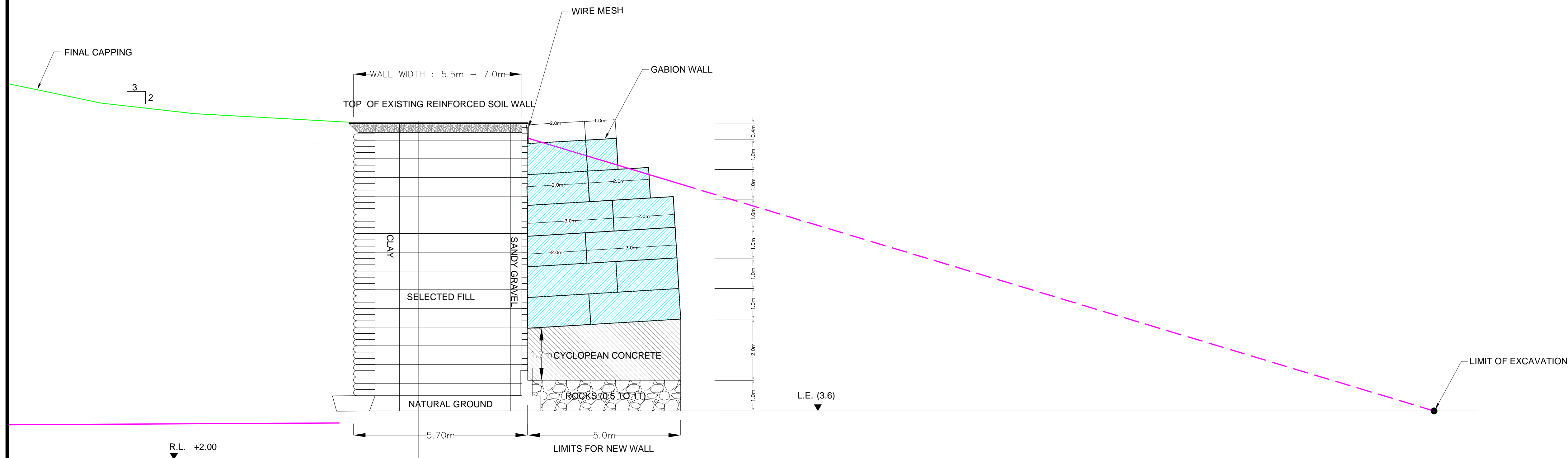
STRUCTURAL

PARTICULAR CROSS SECTION (STA: 0+391)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-007	Rev. 0
Approvals		



STATION 0+466



0+010	0+000	Station
3.17	13.00 13.00 11.00	Original Ground Level
13.59	12.60	Design Level

Notes:  
- REFER TO Pr 1 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Founded 1968

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

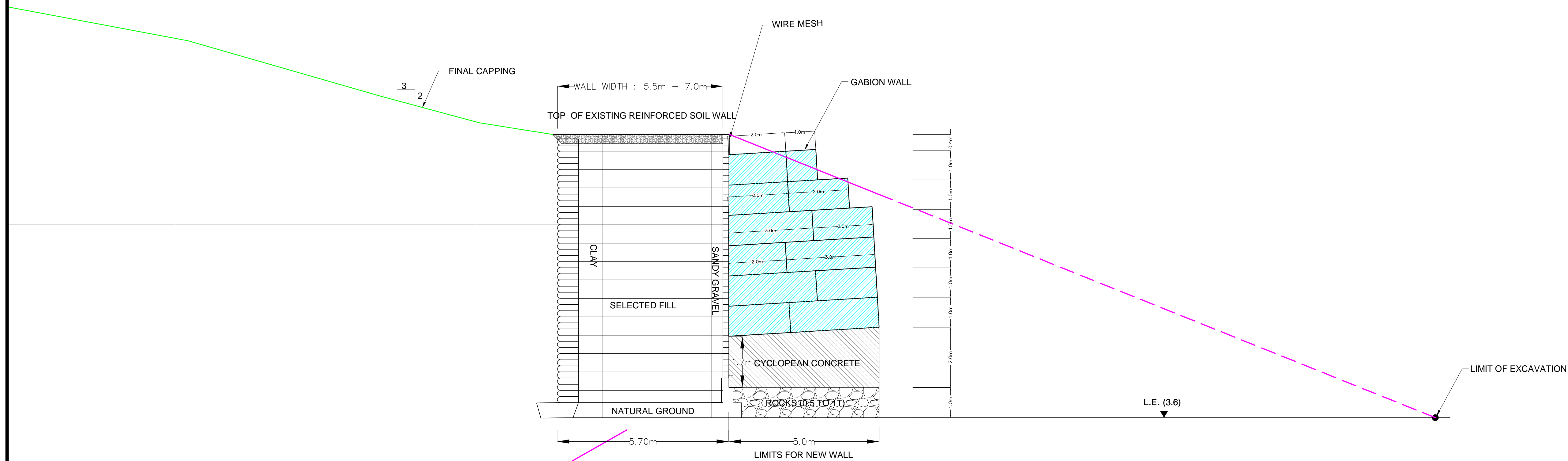
STRUCTURAL

PARTICULAR CROSS SECTION (STA: 0+466)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-008	Rev. 0
Approvals		



STATION 0+484



Station					Station
0+010	0+000				
0.45	0.34	13.00	13.00	11.00	Original Ground Level
16.18	13.35		12.60		Design Level

Notes:  
- REFER TO Pr 2 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Founded 1999

Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+484)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Cheked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

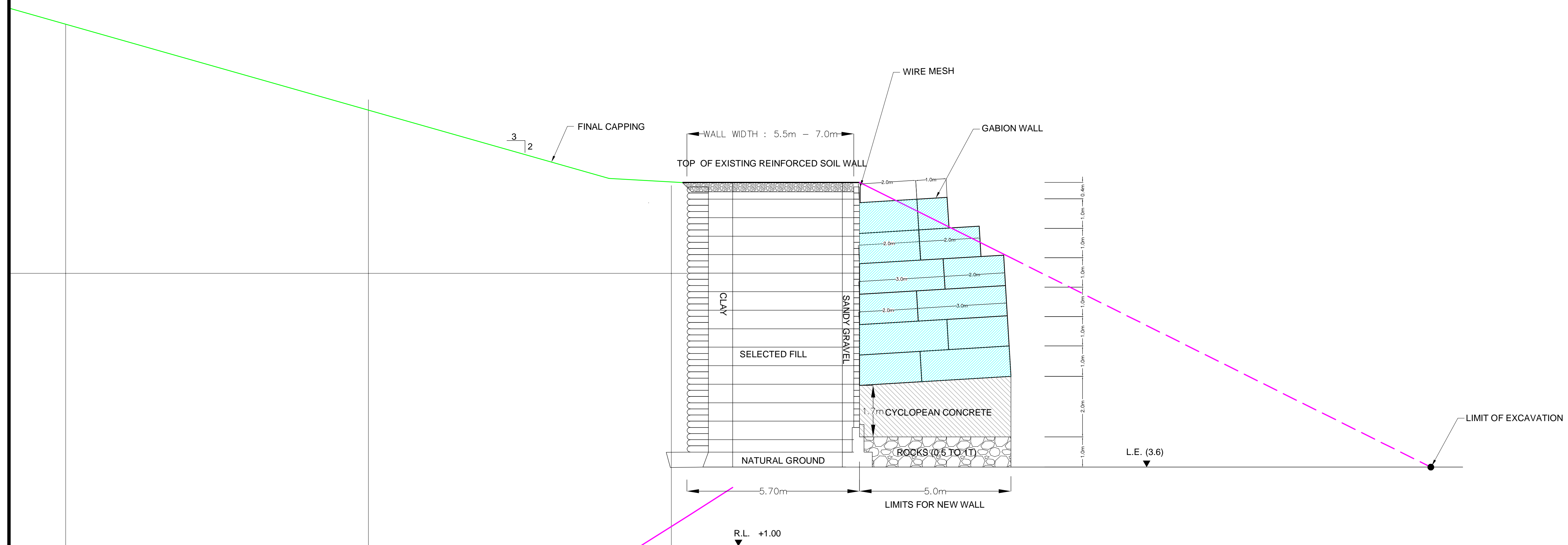
Discipline:

Drawing No. L1815D-STR-009 Rev. 0

Approvals



## STATION 0+506



						Station
+0.020	0+010	0+000				
-0.01	0.06	1.65	13.00	13.00	10.50	Original Ground Level
18.20	15.31	12.63		12.60		Design Level

Notes:

- REFER TO Pr 3 IN DRAWINGS

Legend:

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Project

### EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title

STRUCTURAL

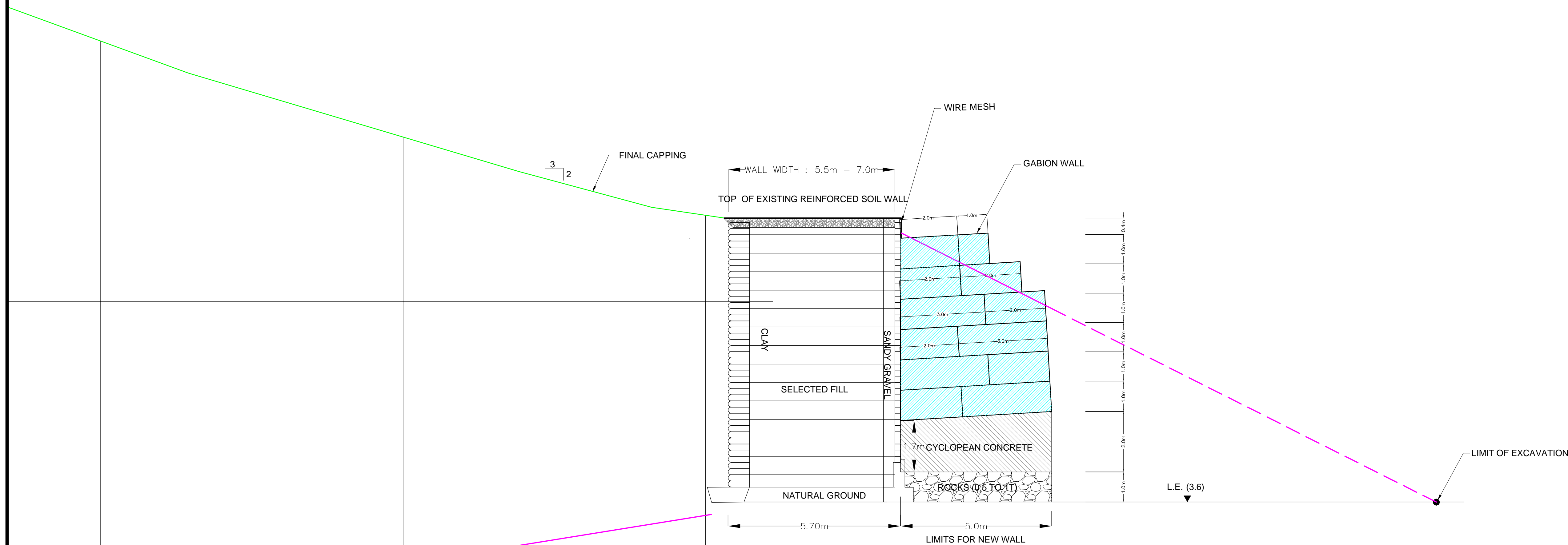
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Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-010	Rev. 0

## Approvals



STATION 0+529



+0.020			0+010			0+000			Station		
0.00			-0.03			1.90			Original Ground Level		
18.41			15.45			12.60			Design Level		

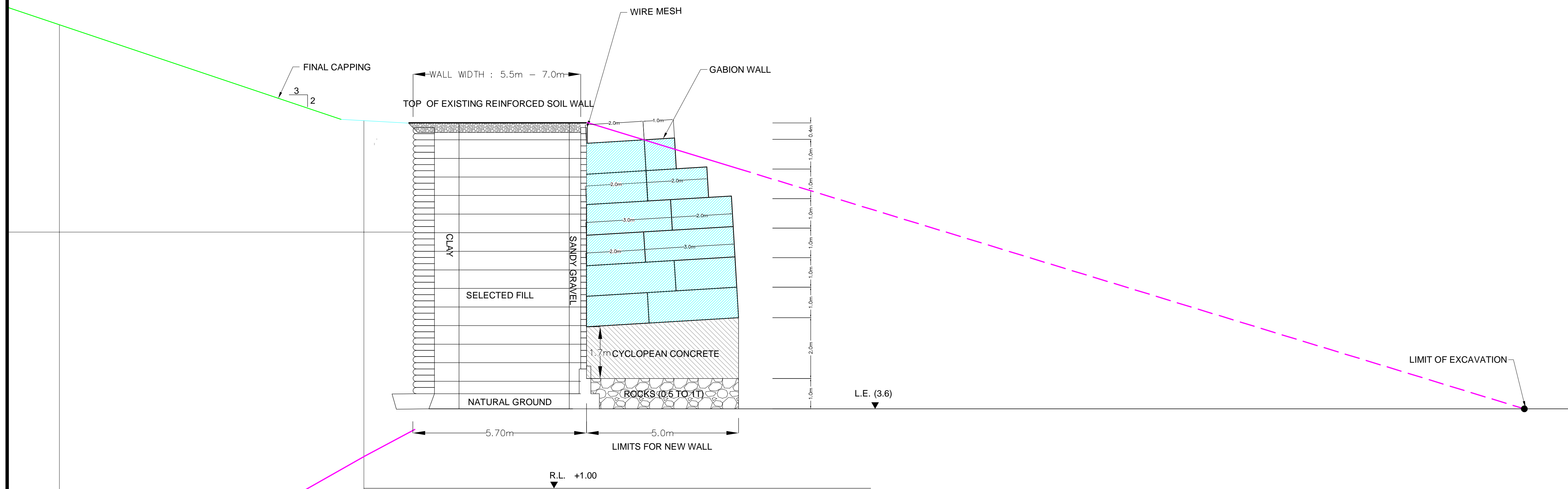
Notes:  
- REFER TO Pr 4 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
Client REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION				
Consultant DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1969				
Project EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title STRUCTURAL PARTICULAR CROSS SECTION (STA: 0+529)				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Cheked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D-STR-011			Rev.	0
Approvals				



STATION 0+552



0+010	0+000	Station
0.25	2.04	Original Ground Level
15.64	12.76	Design Level

Notes:

- REFER TO Pr 5 IN DRAWINGS

Legend:

ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

STRUCTURAL

PARTICULAR CROSS SECTION (STA: 0+552)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

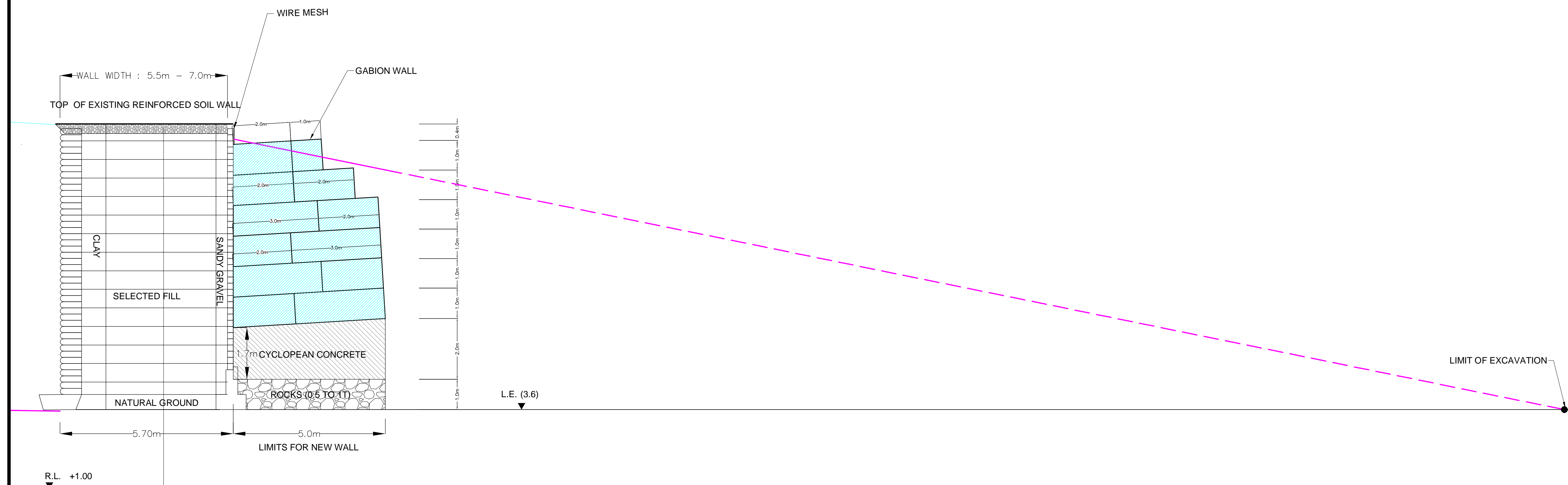
Discipline:

Drawing No. L1815D-STR-012 Rev. 0

Approvals



# STATION 0+563



			Station
13.00	12.50	11.50	Original Ground Level
	12.60		Design Level

Notes:

- REFER TO Pr 5a IN DRAWINGS

Legend:

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Project

## EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title

STRUCTURAL

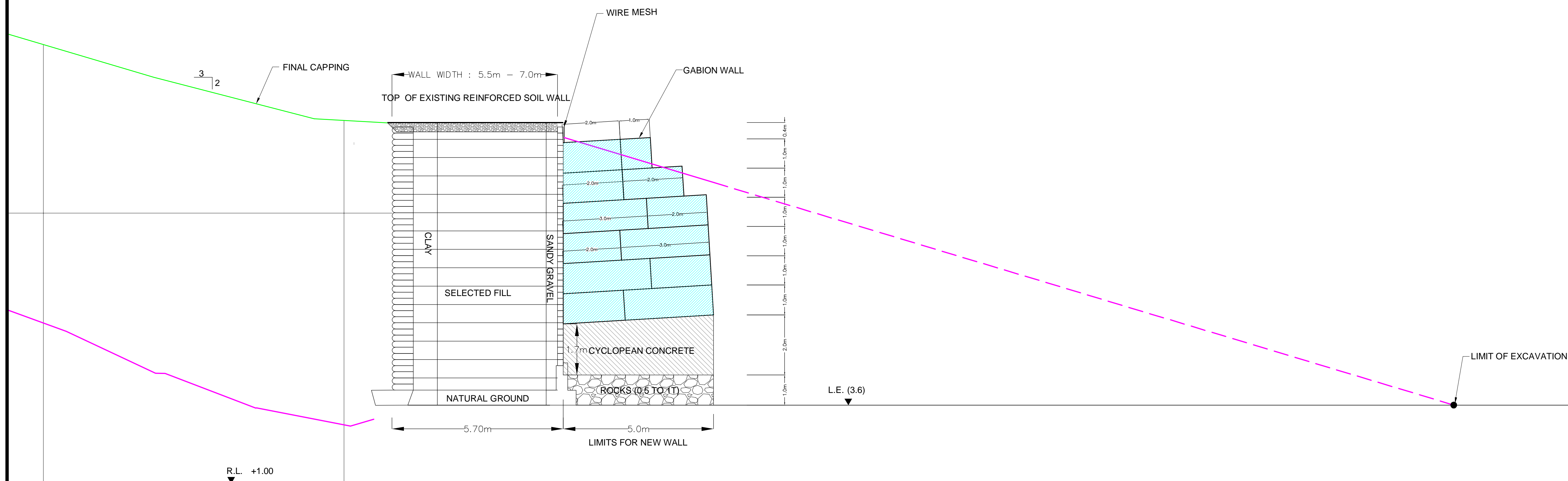
PARTICULAR CROSS SECTION (STA: 0+563)

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Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-013	Rev. 0

## Approvals



STATION 0+574



Station					
0+010	0+000				Original Ground Level
6.34	2.95	13.00	12.50	11.00	
15.61	12.75		12.60		Design Level

Notes:  
- REFER TO Pr 6 IN DRAWINGS

Legend:  


ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)


Rev.	Date	Description	Checked	Approved

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EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

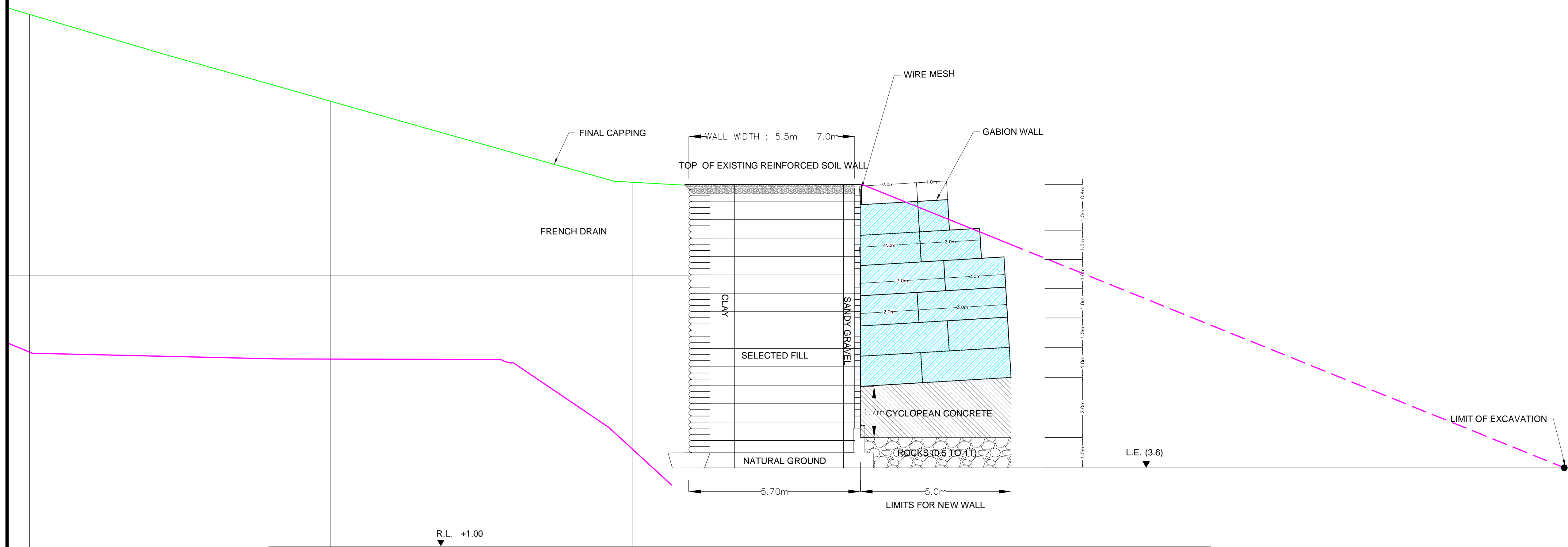
STRUCTURAL

PARTICULAR CROSS SECTION (STA: 0+574)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-014	Rev. 0
Approvals		



STATION 0+597



Station						Station
+0.020	0+010	0+000				
7.44	7.21	4.24	13.00	13.00	11.00	Original Ground Level
18.66	15.72	12.83		12.60		Design Level

Notes:  
- REFER TO Pr 7 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Founded 1969

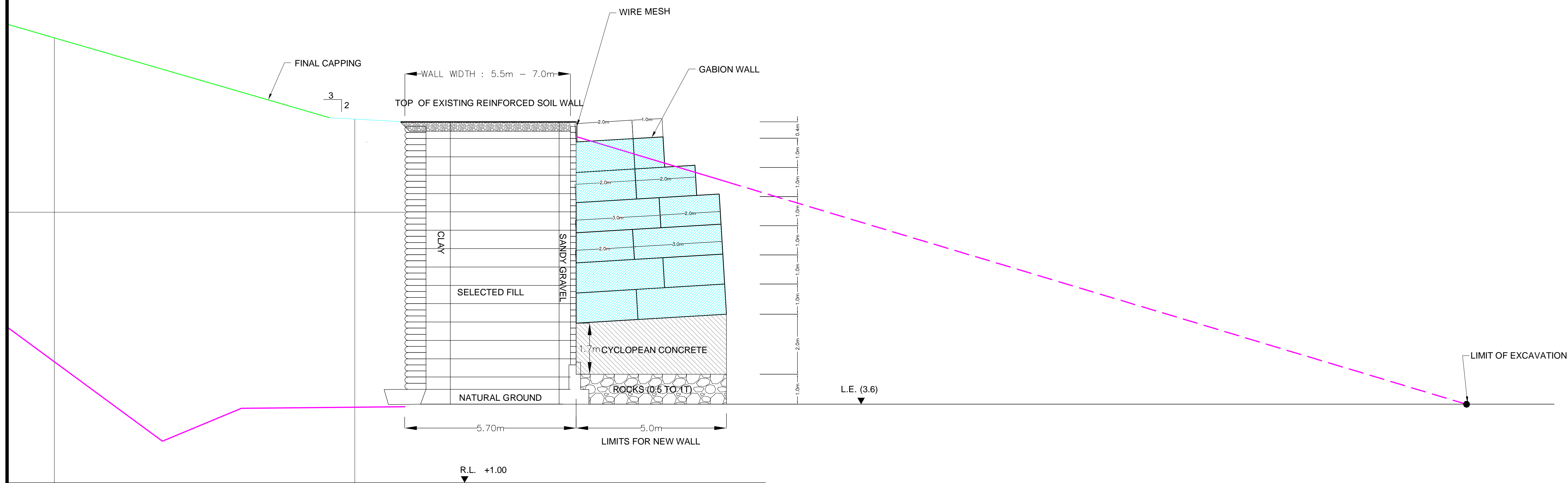
Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+597)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-015	Rev. 0
Approvals		



STATION 0+619



0+010	0+000	Station		
5.02	3.51	13.00	13.00	11.00
15.71	12.75	12.60	Design Level	

Notes:  
- REFER TO Pr 8 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Founded 1968

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

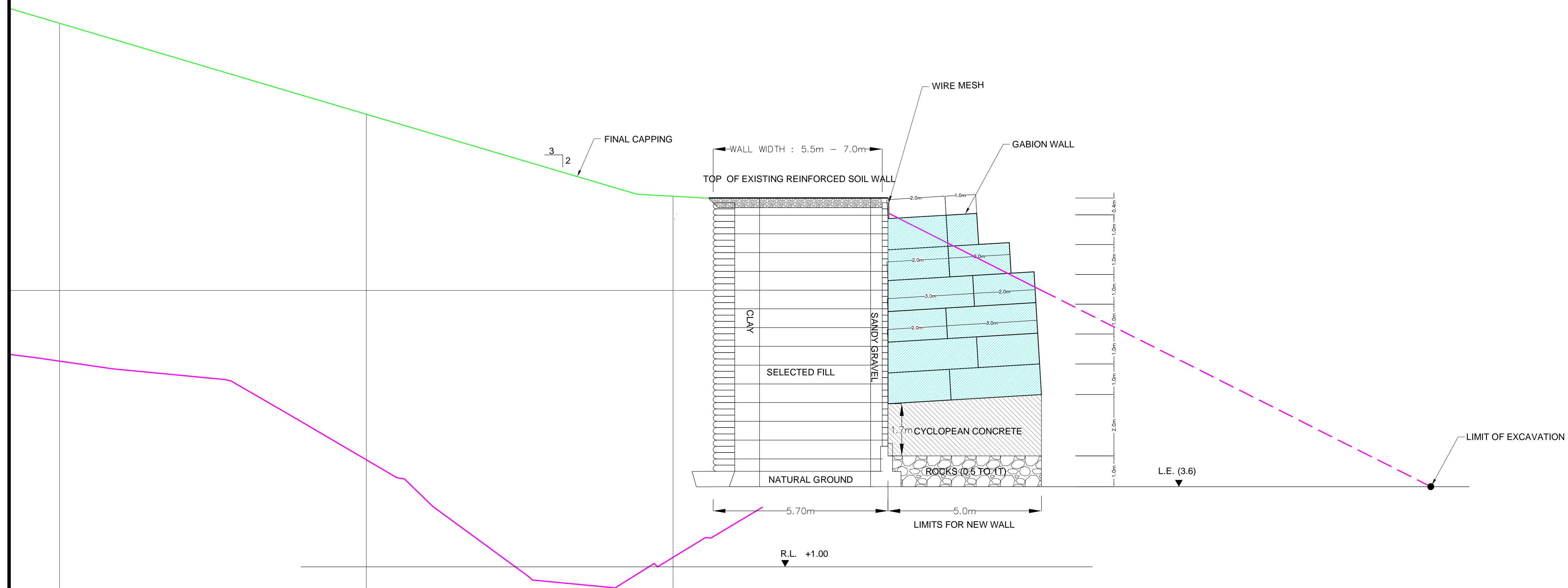
Drawing Title

STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+619)

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Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-016	Rev. 0
Approvals		



# STATION 0+640



+0.020	0+010	0+000				Station
7.70	4.48	1.31	13.00	13.00	10.00	Original Ground Level
18.70	15.70	12.67		12.60		Design Level

Notes:

- REFER TO Pr 9 IN DRAWINGS

Legend:

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

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دار الهندسة نزيه طالب وشركاه

Project

### EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title
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STRUCTURAL

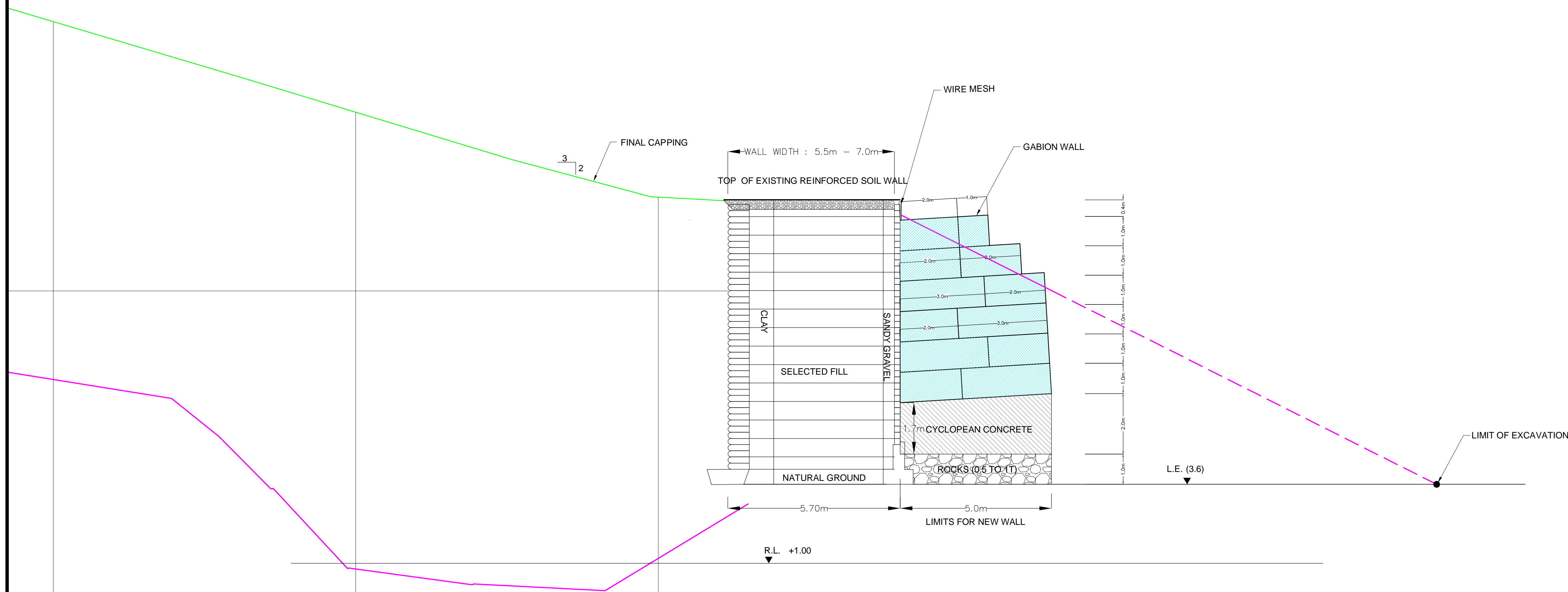
PARTICULAR CROSS SECTION (STA: 0+640)

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Approved By:	R.O.	Date: JUNE 2022
Checked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-017	Rev. 0

## Approvals



STATION 0+664



+0.020	0+010	0+000				Station
7.07	0.81	1.16	13.00	12.50	10.00	Original Ground Level
18.90	15.90	12.96		12.60		Design Level

Notes:  
- REFER TO Pr 10 IN DRAWINGS

Legend:  

ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved

Client  

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Founded 1999

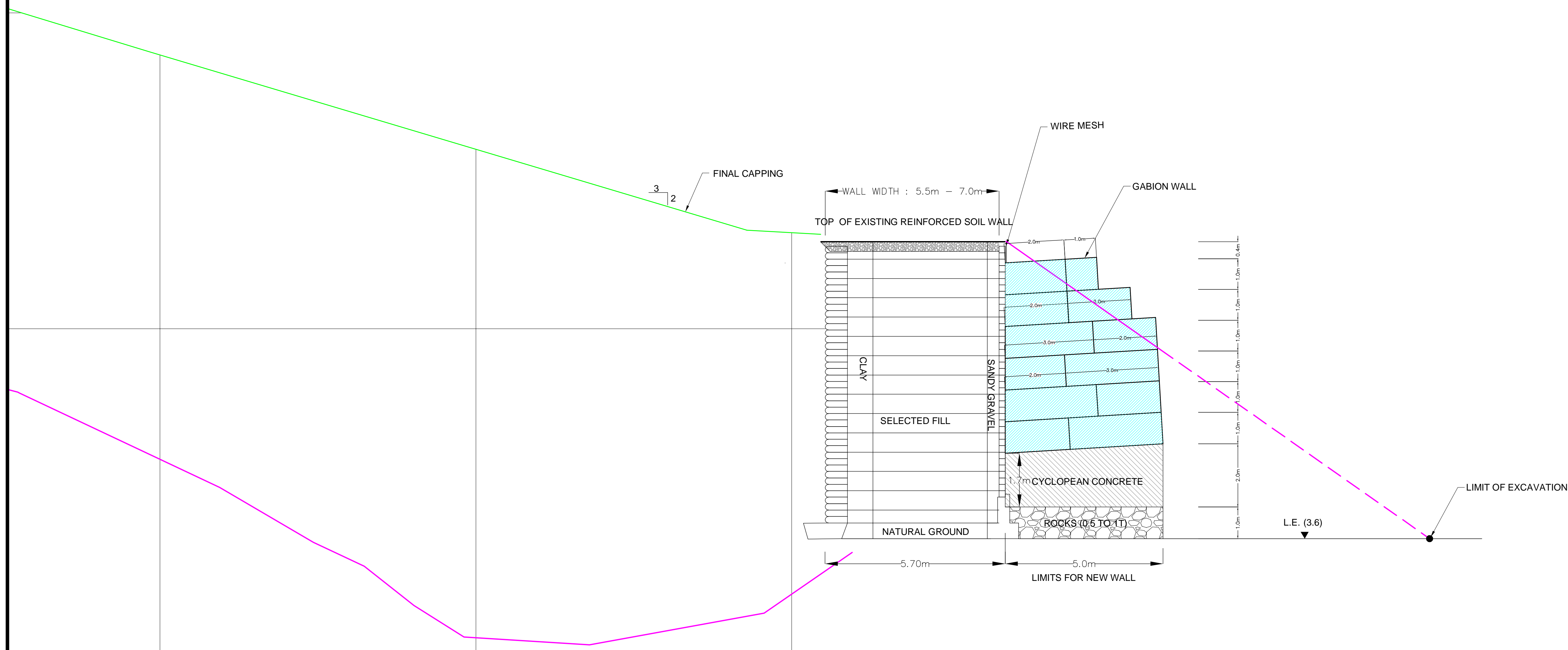
Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+664)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-018	Rev. 0
Approvals		



STATION 0+685



Station						Station
+0.020	0+010	0+000				
5.87	0.23	1.61	13.00	13.00	9.50	Original Ground Level
18.67	15.62	12.61		12.60		Design Level

Notes:  
- REFER TO Pr 11 IN DRAWINGS

Legend:  

ORIGINAL GROUND LEVEL

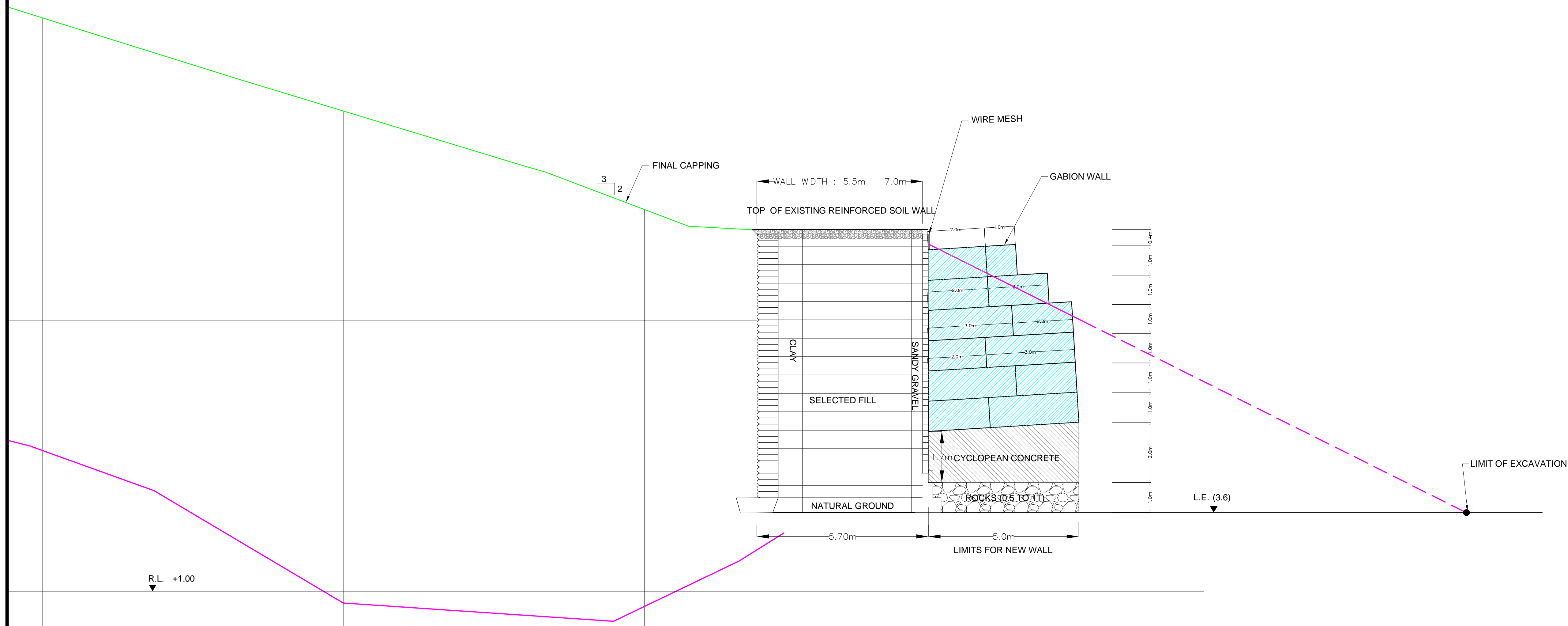
SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
Client				
<div><div></div><div>REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION</div></div>				
Consultant				
<div><div></div><div>DAR AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1999</div></div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
STRUCTURAL				
PARTICULAR CROSS SECTION (STA: 0+685)				
Scale: N.T.S.	Sheet Size: A1			
Approved By:	R.O.	Date:	JUNE 2022	
Cheked By:	O.A.	Date:	JUNE 2022	
Drawn By:	J.H.	Date:	JUNE 2022	
Discipline:				
Drawing No.	L1815D-STR-019	Rev.	0	
Approvals				



STATION 0+696



+0.030	+0.020	0+010				Station
5.67	0.61	0.03	13.00	12.50	10.00	Original Ground Level
20.04	16.94	13.83		12.60		Design Level

Notes:  
- REFER TO Pr 11a IN DRAWINGS

Legend:  

ORIGINAL GROUND LEVEL

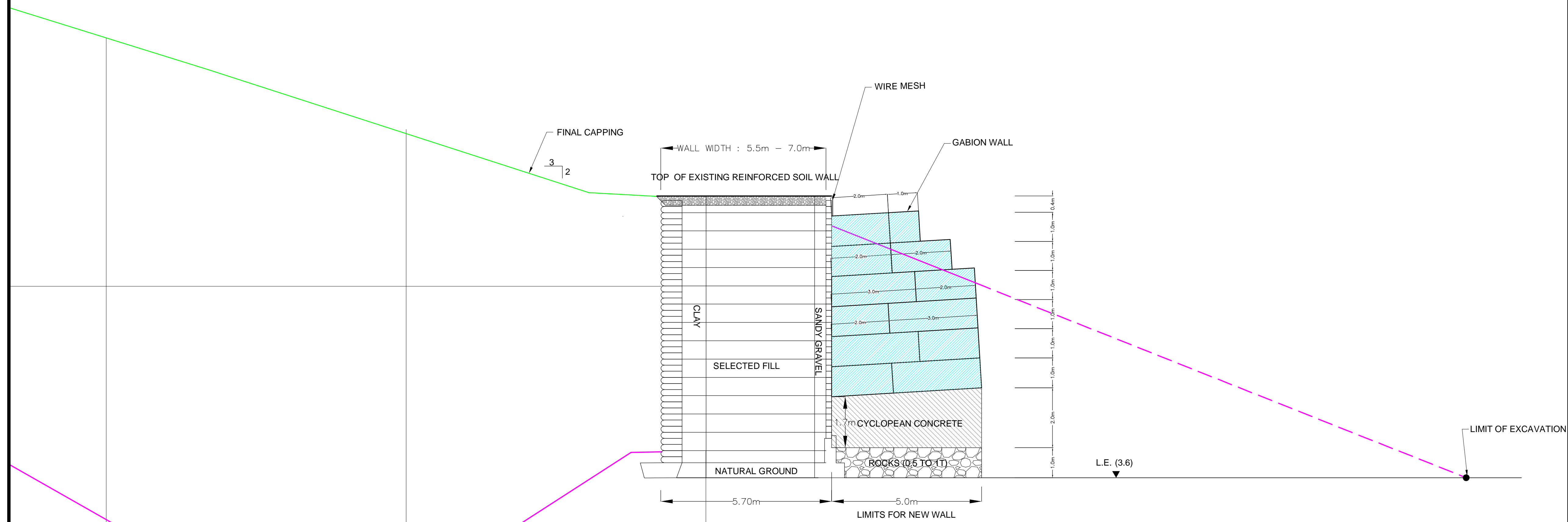
SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
Client				
<div><div></div><div>REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION</div></div>				
Consultant				
<div><div></div><div>DAR AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1999</div></div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
STRUCTURAL				
PARTICULAR CROSS SECTION (STA: 0+696)				
Scale: N.T.S.	Sheet Size: A1			
Approved By:	R.O.	Date:	JUNE 2022	
Choked By:	O.A.	Date:	JUNE 2022	
Drawn By:	J.H.	Date:	JUNE 2022	
Discipline:				
Drawing No.	L1815D-STR-020	Rev.	0	
Approvals				



# STATION 0+706



+0.020	0+010							Station
2.21	-0.04		13.00	12.00	10.00			Original Ground Level
18.29	15.05			12.60				Design Level

Notes:

- REFER TO Pr 12 IN DRAWINGS

Legend:

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

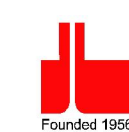
Rev.	Date	Description	Checked	Approved
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AND RECONSTRUCTION

Consultant



**DAR AL HANDASAH NAZIH TALEB & PARTNERS**  
دار الهندسة نزيه طالب وشركاه

Project

## EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title

---

STRUCTURAL

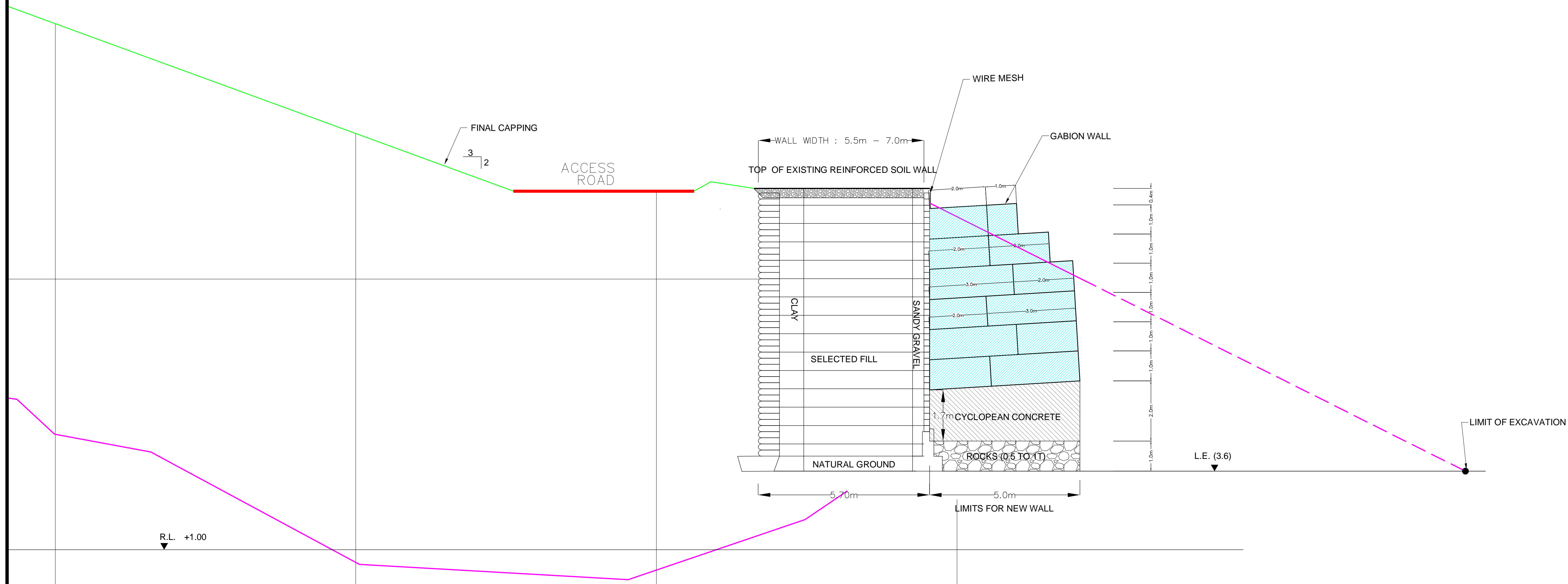
PARTICULAR CROSS SECTION (STA: 0+706)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Checked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-021	Rev. 0

## Approvals



STATION 0+726



+0.030	+0.020	0+010					Station
4.84	0.58	-0.05	13.00	12.50	10.00		Original Ground Level
19.17	16.21	13.28		12.60			Design Level

Notes:  
- REFER TO Pr 13 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Client  
REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant  
DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+726)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

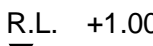
Discipline:

Drawing No. L1815D-STR-022 Rev. 0

Approvals



# STATION 0+740

 $+0.030$ 

20.17	17.22	14.28	12.60	Design Level
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- REFER TO Pr 14 IN DRAWINGS

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION



**DAR AL HANDASAH NAZIH TALEB & PARTNERS**  
دار الهندسة نزيه طالب وشركاه

### EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title	STRUCTURAL
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PARTICULAR CROSS SECTION (STA: 0+740)

Scale: N.T.S.	Sheet Size: A1	
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Approved By:	R.O.	Date: JUNE 2022
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Checked By:	O.A.	Date: JUNE 2022
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Drawn By:	J.H.	Date: JUNE 2022
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Discipline:		
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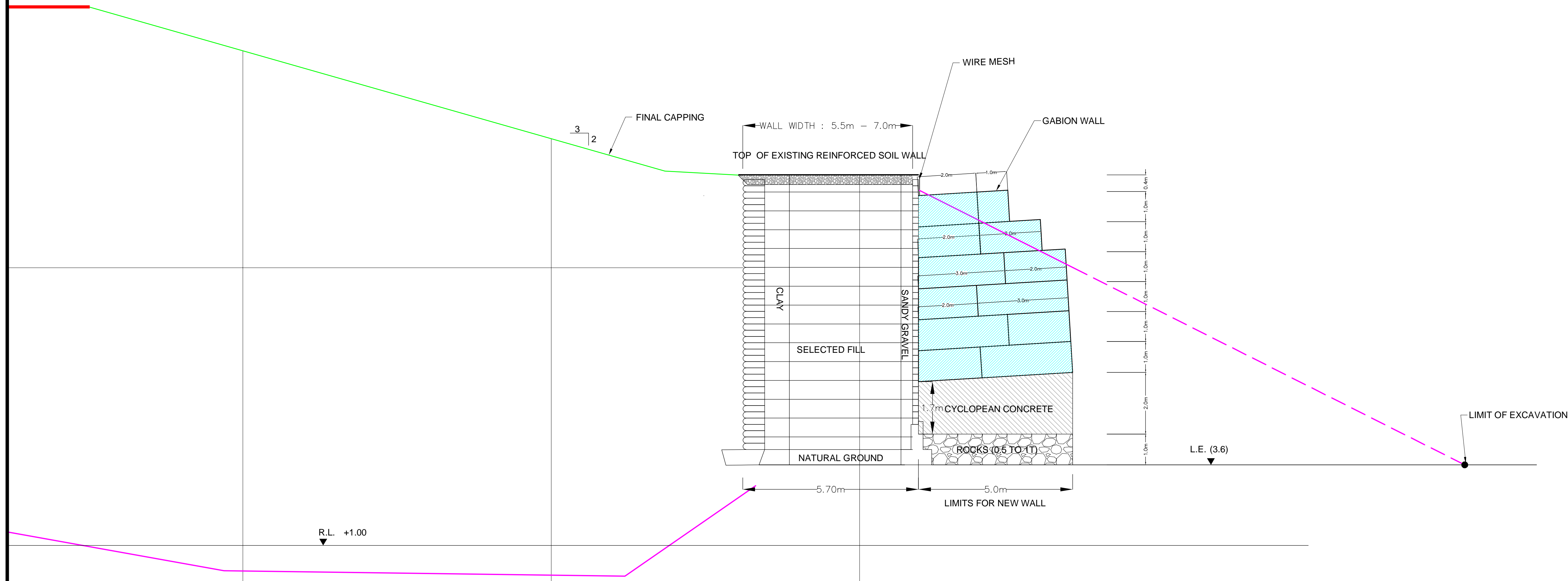
Drawing No.	L1815D-STR-023	Rev.	0
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## Approvals

[illegible]



STATION 0+763



Station					
0+020	0+010				Original Ground Level
0.17	-0.06	13.00	12.50	10.00	
17.00	14.08		12.60		Design Level

Notes:  
- REFER TO Pr 15 IN DRAWINGS

Legend:  

ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved

Client  

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Consultant  

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Founded 1999

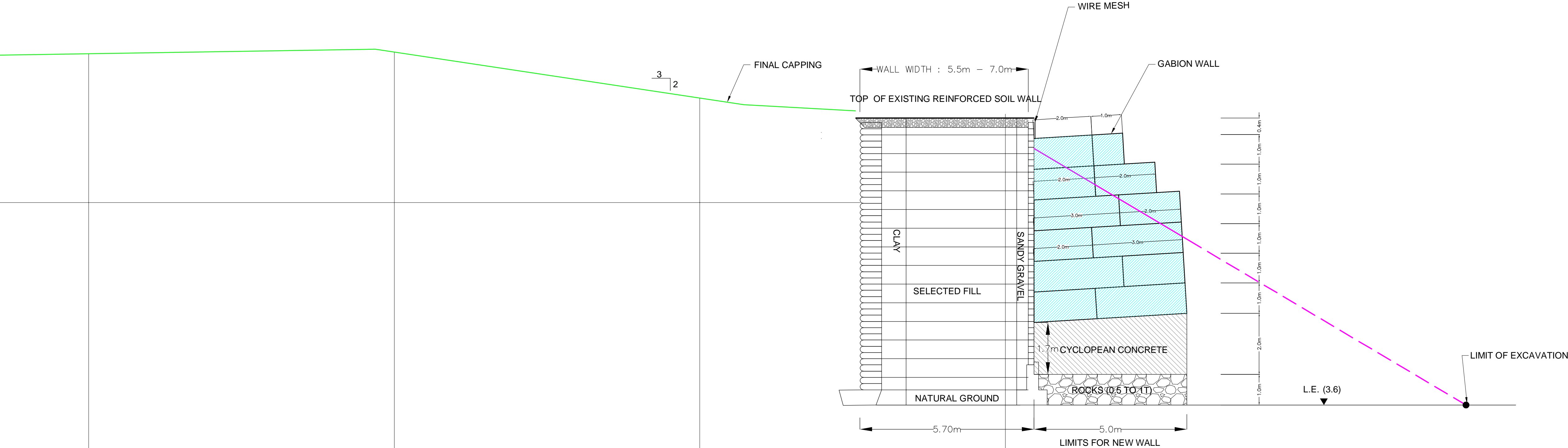
Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+763)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-024	Rev. 0
Approvals		



STATION 0+786



+0.030	+0.020	0+010					Station
0.01	0.01	0.01	13.00	12.00	9.00		Original Ground Level
14.88	14.93	13.41		12.60			Design Level

Notes:  
- REFER TO Pr 16 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Client



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AND RECONSTRUCTION

Consultant



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دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

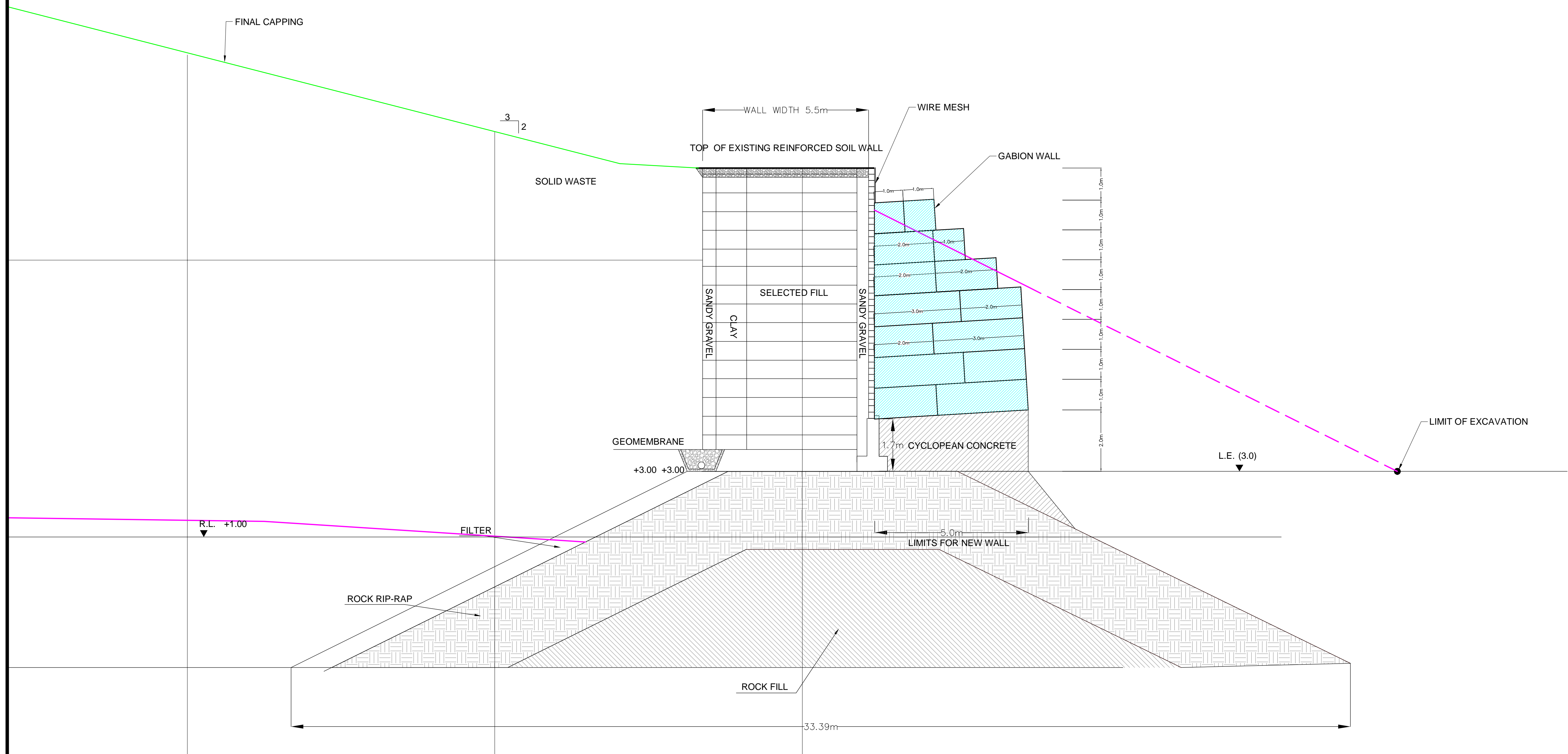
STRUCTURAL

PARTICULAR CROSS SECTION (STA: 0+786)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-025	Rev. 0
Approvals		



STATION 0+864



+0.020					Station
0+010					
1.54	1.02	13.00	11.50	9.00	Original Ground Level
16.67	14.04		12.00		Design Level

Notes:  
- REFER TO Pr 17 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
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Client  
REPUBLIC OF LEBANON  
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AND RECONSTRUCTION

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Founded 1999

Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 0+864)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

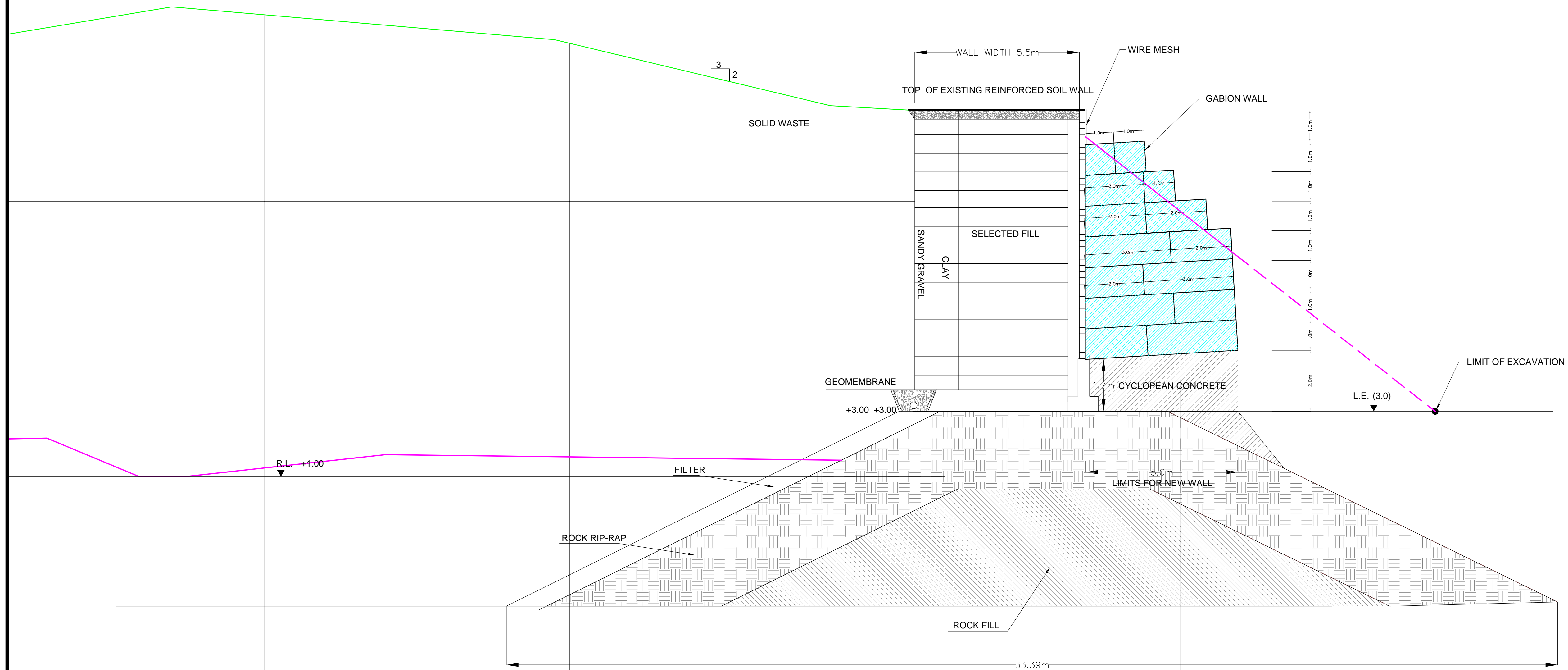
Drawn By: J.H. Date: JUNE 2022

Discipline:

Drawing No. L1815D-STR-026 Rev. 0

Approvals

STATION 0+888



+0.030						Station
+0.020						
0+010						
1.28						Original Ground Level
16.11						Design Level

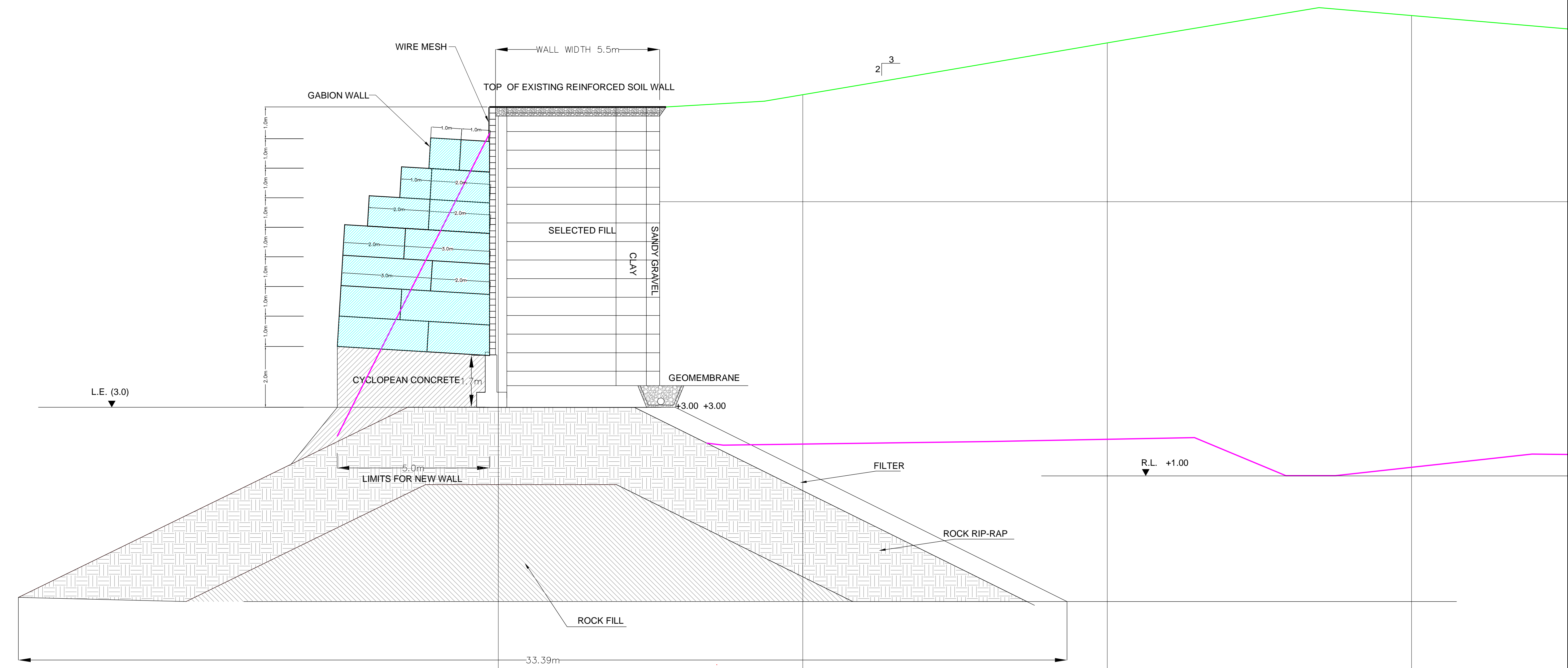
Notes:  
- REFER TO Pr 18 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
Client				
REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION				
Consultant				
DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه Founded 1999				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				
STRUCTURAL				
PARTICULAR CROSS SECTION (STA: 0+888)				
Scale: N.T.S.	Sheet Size: A1			
Approved By:	R.O.	Date:	JUNE 2022	
Cheked By:	O.A.	Date:	JUNE 2022	
Drawn By:	J.H.	Date:	JUNE 2022	
Discipline:				
Drawing No.	L1815D-STR-027	Rev.	0	
Approvals				



STATION 0+965



Station	0+0100+0200+030					
Original Ground Level	2.00	12.00	13.00	2.04	2.20	1.28
Design Level		12.00	13.51	13.51	15.22	16.11

Notes:  
- REFER TO Pr 18 IN DRAWINGS

Legend:  


ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)


Rev.	Date	Description	Checked	Approved

Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



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دار الهندسة نزيه طالب وشركاه  
Founded 1968

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

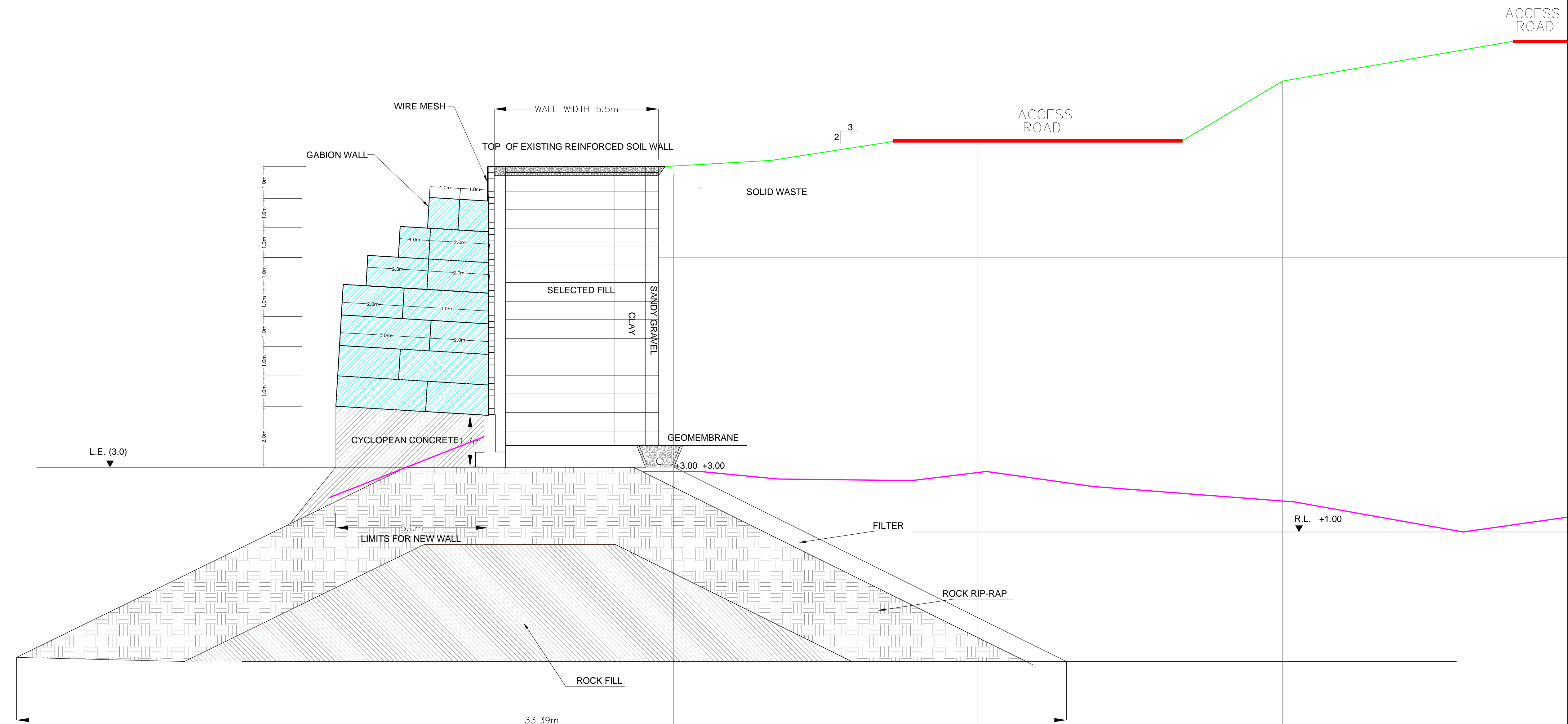
Drawing Title

STRUCTURAL

PARTICULAR CROSS SECTION (STA: 0+965)

Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D-STR-028	Rev. 0
Approvals		

STATION 1+005



Station				0.000	0+010	+0.020
Original Ground Level	2.00	4.00	13.00	2.99	2.95	2.02
Design Level		12.00		12.73	14.07	15.81

Notes:  
- REFER TO Pr 17 IN DRAWINGS

Legend:  
ORIGINAL GROUND LEVEL  
SOLID WASTE LEVEL  
L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved

Client

REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

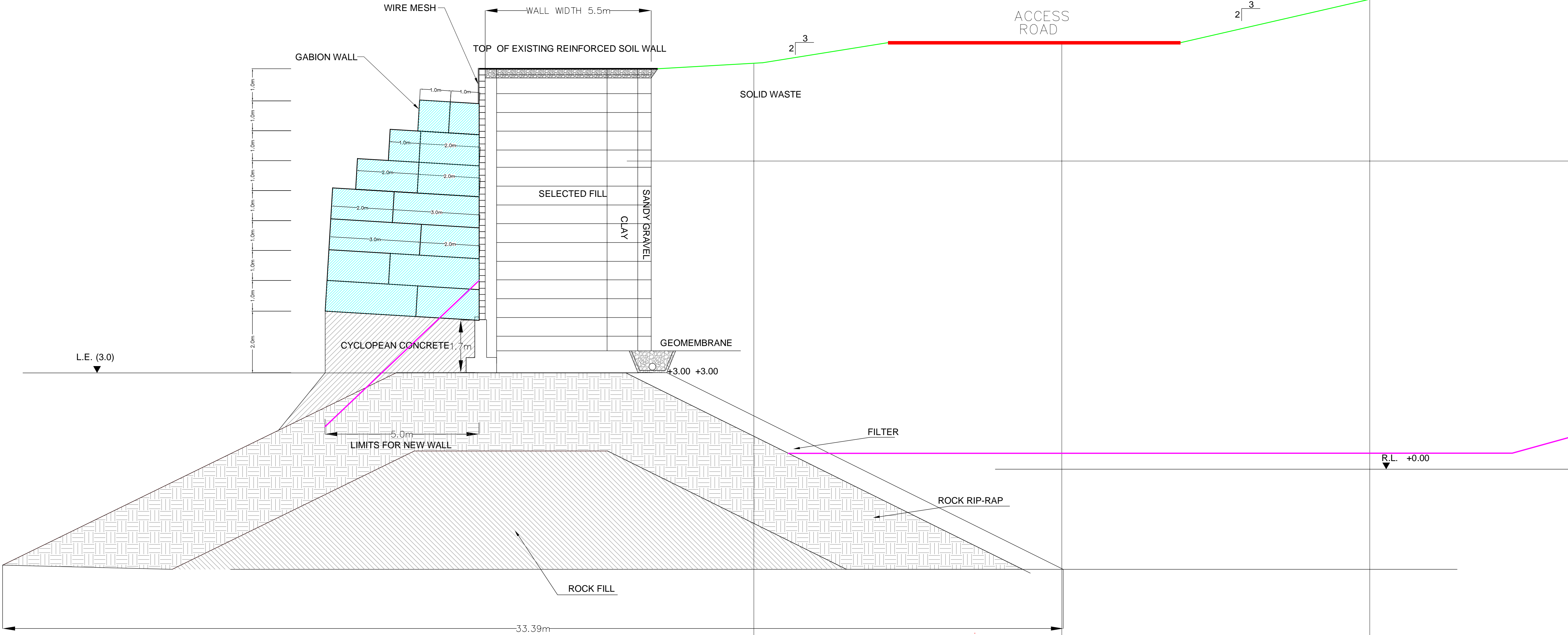
Drawing Title

STRUCTURAL  
PARTICULAR CROSS SECTION (STA: 1+005)

Scale: N.T.S.	Sheet Size: A1	
Approved By: R.O.	Date: JUNE 2022	
Choked By: O.A.	Date: JUNE 2022	
Drawn By: J.H.	Date: JUNE 2022	
Discipline:		
Drawing No. L1815D-STR-029	Rev. 0	
Approvals		



# STATION 1+043



Notes:

- REFER TO Pr 16 IN DRAWINGS

Legend:

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

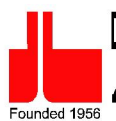
Rev.	Date	Description	Checked	Approved
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Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



دار الهندسة نزيه طالب وشركاه

Project

## EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title

STRUCTURAL

PARTICULAR CROSS SECTION (STA: 1+043)

Scale: N.T.S.	Sheet Size: A1
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Approved By:	R.O.	Date: JUNE 2022
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Checked By:	O.A.	Date: JUNE 2022
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Drawn By:	J.H.	Date: JUNE 2022
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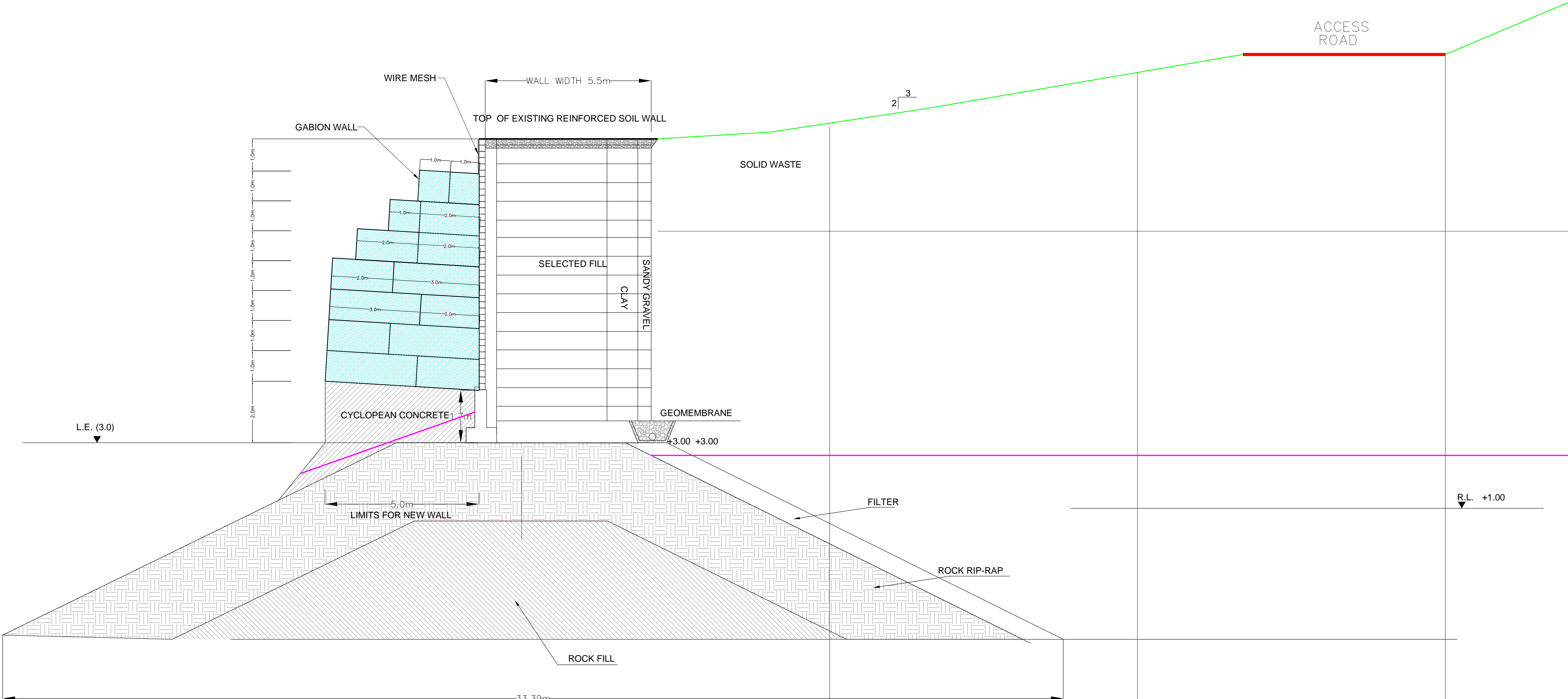
Discipline:

Drawing No. L1815D-STR-030

ev. 0

## Approvals

# STATION 1+080



Station	0.000				0+010				+0.020			
Original Ground Level	2.00		4.00		13.00		2.72		2.72		2.72	
Design Level	12.00		13.39		15.15		16.86					

Notes:

- REFER TO Pr 15 IN DRAWINGS

Legend:

— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

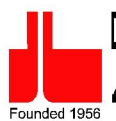
Rev.	Date	Description	Checked	Approved
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Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه

Project

## EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title

STRUCTURAL

PARTICULAR CROSS SECTION (STA: 1+080)

Scale: N.T.S.	Sheet Size: A1
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Approved By:	R.O.	Date: JUNE 2022
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Checked By:	O.A.	Date: JUNE 2022
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Drawn By:	J.H.	Date: JUNE 2022
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Discipline:

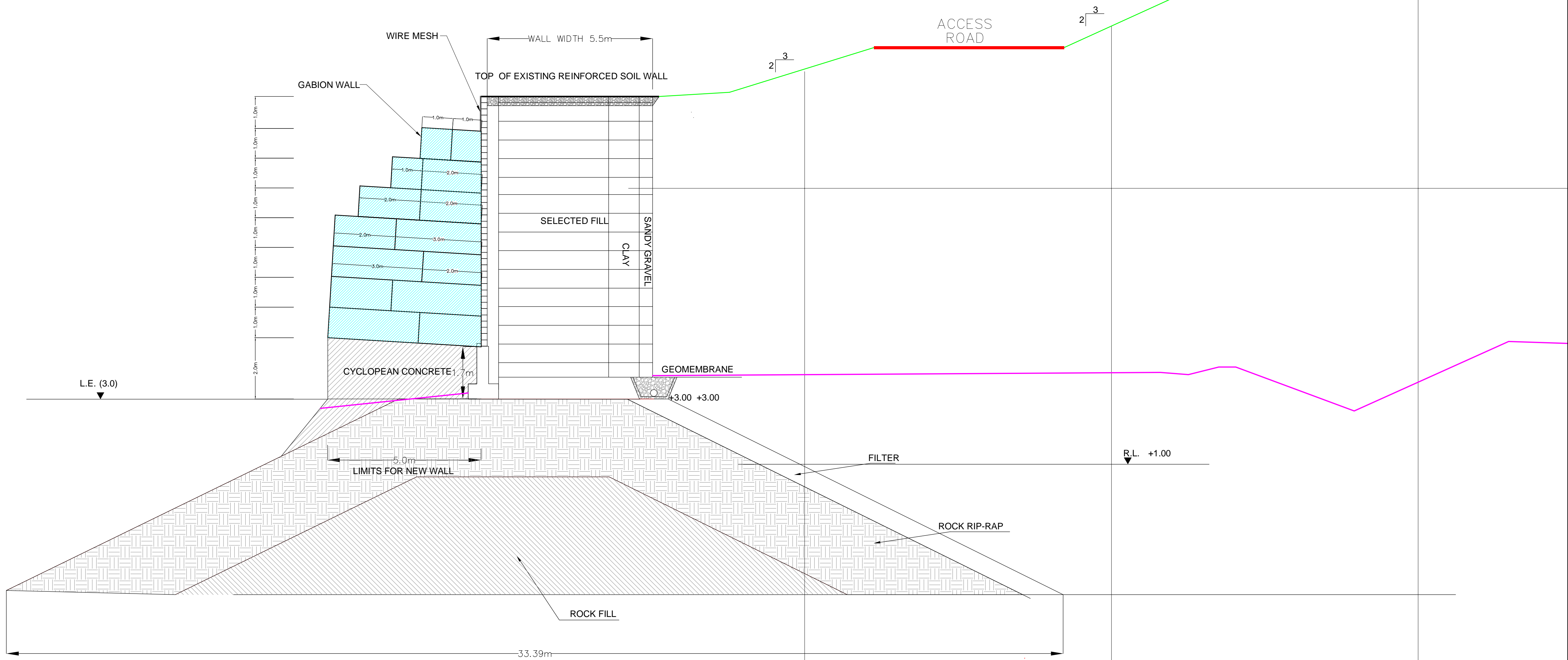
Drawing No.	L1815D-STR-031	Rev.	0
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Approvals	
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# STATION 1+100

ACCESS  
ROAD



Station				0.000		0+010		+0.020
Original Ground Level	2.70	3.20	13.00	3.92		3.98		3.68
Design Level		12.00		13.81		16.97		20.18

Notes:

- REFER TO Pr 14 IN DRAWINGS

Legend:

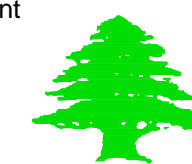
— ORIGINAL GROUND LEVEL

— SOLID WASTE LEVEL

L.E. : LEVEL OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved

## Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه

Project

## EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY

Drawing Title

STRUCTURAL

PARTICULAR CROSS SECTION (STA: 1+100)

Scale: N.T.S.	Sheet Size: A1
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Approved By: R.O.

Date: JUNE 2022

Checked By: O.A.

O.A.

Date: JUNE 2022

Drawn By: J.H.

J.H.

Date: JUNE 2022

Discipline:

Drawing No. L1815D-STR-032

Rev. 0

## Approvals

STATION 1+114

ACCESS  
ROAD

ACCESS  
ROAD

SOLID WASTE

SELECTED FILL

SANDY GRAVEL  
CLAY

WIRE MESH

WALL WIDTH 5.5m

TOP OF EXISTING REINFORCED SOIL WALL

GABION WALL

CYCLOPEAN CONCRETE 1.7m

GEOMEMBRANE

+3.00 +3.00

FILTER

ROCK RIP-RAP

ROCK FILL

LIMITS FOR NEW WALL

5.0m

R.L. +1.00

L.E. (3.0)

Notes:

- REFER TO Pr 13 IN DRAWINGS

Legend:

ORIGINAL GROUND LEVEL

SOLID WASTE LEVEL

L.E.L. ELEVATION OF EXCAVATION  
(GROUND LEVEL AS PER LIMIT OF EXCAVATION)

Rev.	Date	Description	Checked	Approved
------	------	-------------	---------	----------

Client



REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant



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دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

STRUCTURAL

PARTICULAR CROSS SECTION (STA: 1+114)

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

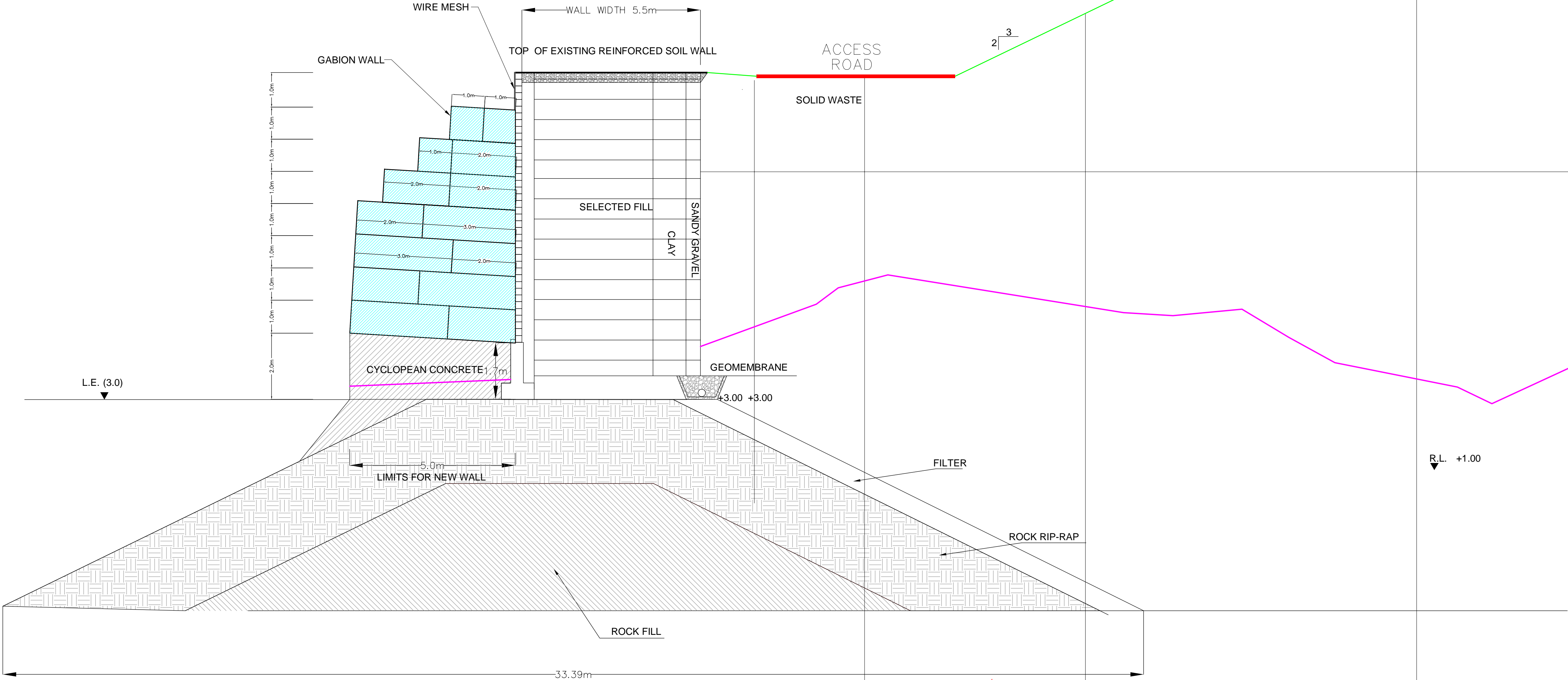
Drawn By: J.H. Date: JUNE 2022

Discipline:

Drawing No. L1815D-STR-033

Rev. 0

Approvals



Station	0.000					0+010	+0.020
Original Ground Level	3.40	3.60	13.00	5.32	5.93	3.75	
Design Level		12.00		12.76	15.98	19.20	

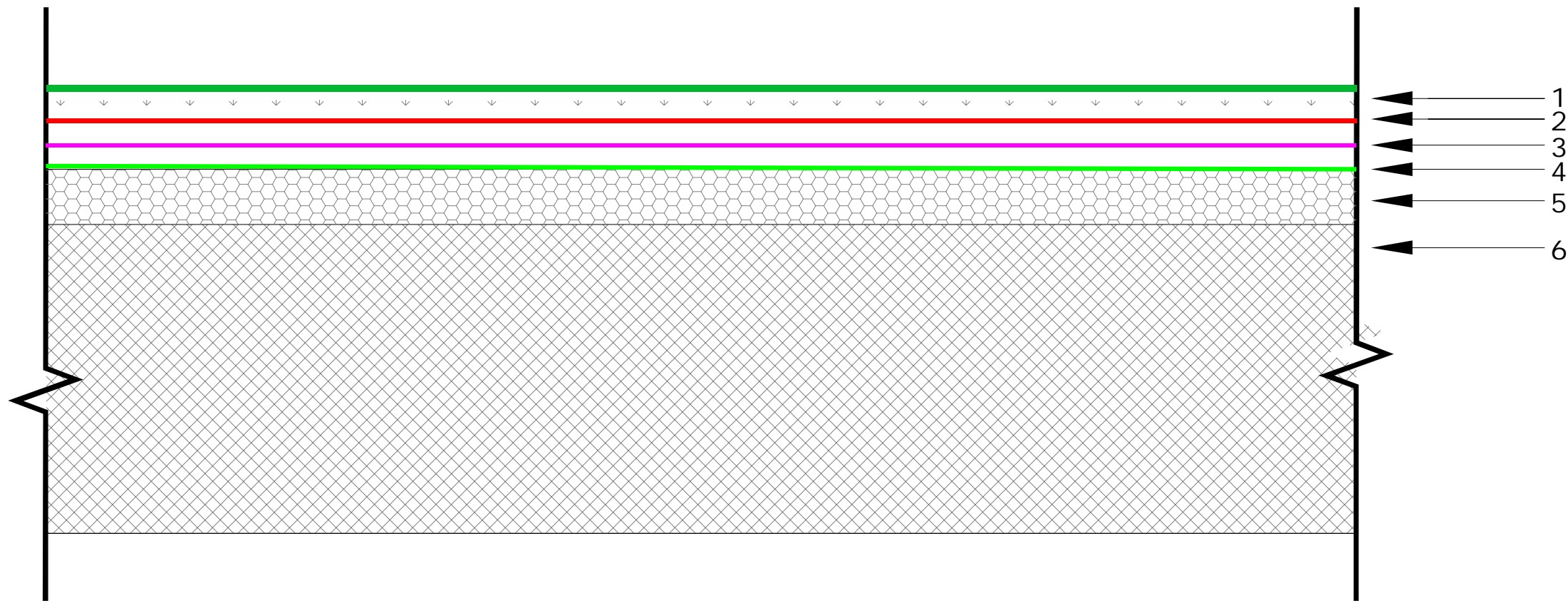


SEALING

CAPPING LAYERS



LAYERS (FROM TOP)

- 1-Top soil Cultivation (thickness=30cm)
- 2-Geocomposite Water Drainage Layer
- 3-Textured Geomembrane VFPE (thickness=1mm)
- 4-Geocomposite Gas Drainage Layer
- 5-Final Leveling Soil Layer (thickness=20cm)
- 6-Solid Waste



Notes:

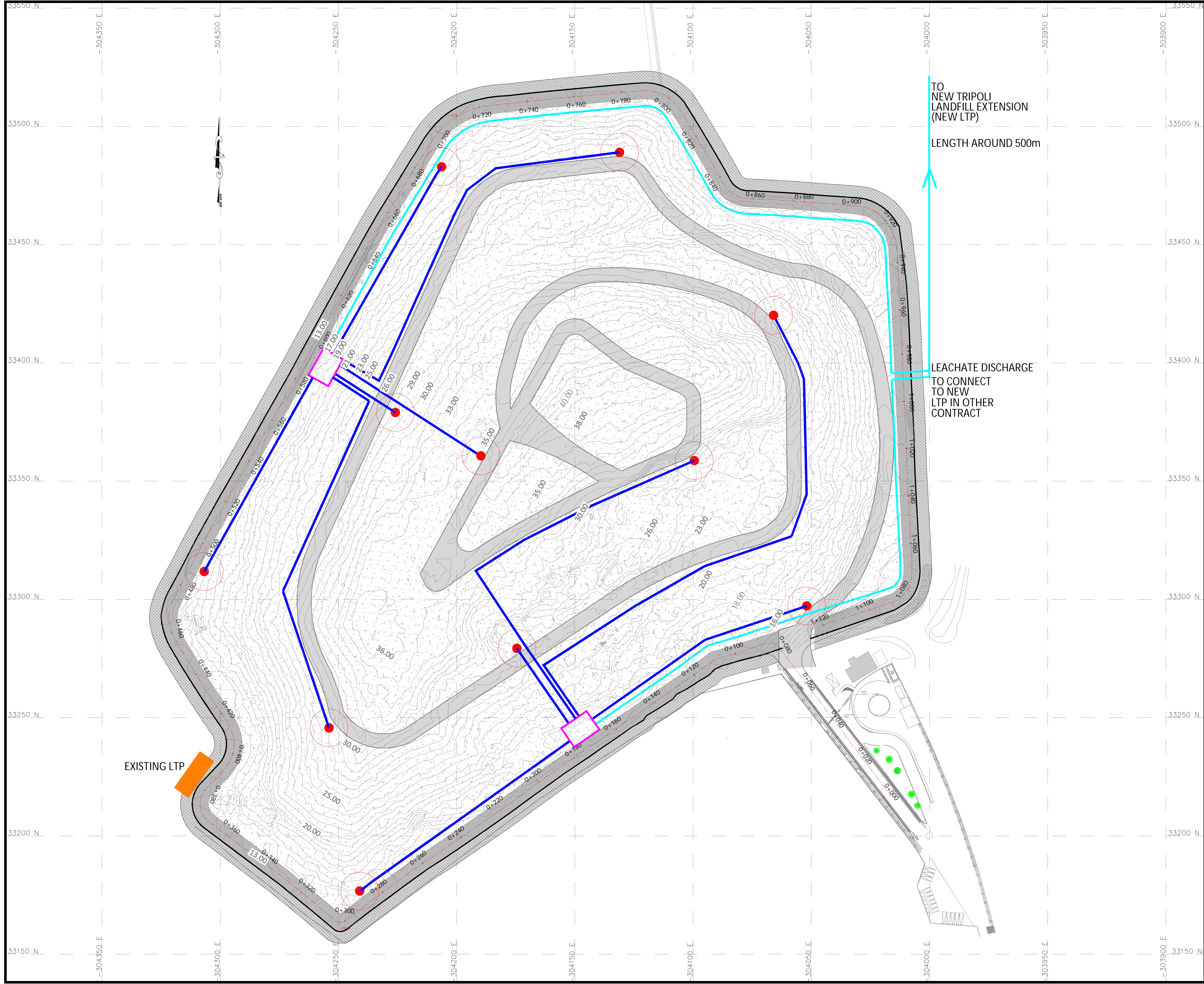
Legend:

Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
 Founded 1999		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title				SEALING
TYPICAL DETAILS 1/1				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.	Date: JUNE 2022	
Cheked By:		O.A.	Date: JUNE 2022	
Drawn By:		J.H.	Date: JUNE 2022	
Discipline:				
Drawing No. L1815D-SEA-001			Rev.	
Approvals				



LEACHATE





TO  
NEW TRIPOLI  
LANDFILL EXTENSION  
(NEW LTP)

LENGTH AROUND 500m

LEACHATE DISCHARGE  
TO CONNECT  
TO NEW  
LTP IN OTHER  
CONTRACT

EXISTING LTP

Notes:

Legend:

LTP: LEACHATE TREATMENT PLANT

LEACHATE EXTRACTION WELL

COLLECTION TANK

PRESSURE LINE SECONDARY

MAIN GRAVITY LINE TO LTP

Rev.	Date	Description	Checked	Approved

Client

REPUBLIC OF LEBANON  
COUNCIL FOR DEVELOPMENT  
AND RECONSTRUCTION

Consultant

DAR AL HANDASAH NAZIH TALEB & PARTNERS  
دار الهندسة نزيه طالب وشركاه  
Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

LEACHATE  
  
LEACHATE LAYOUT PLAN

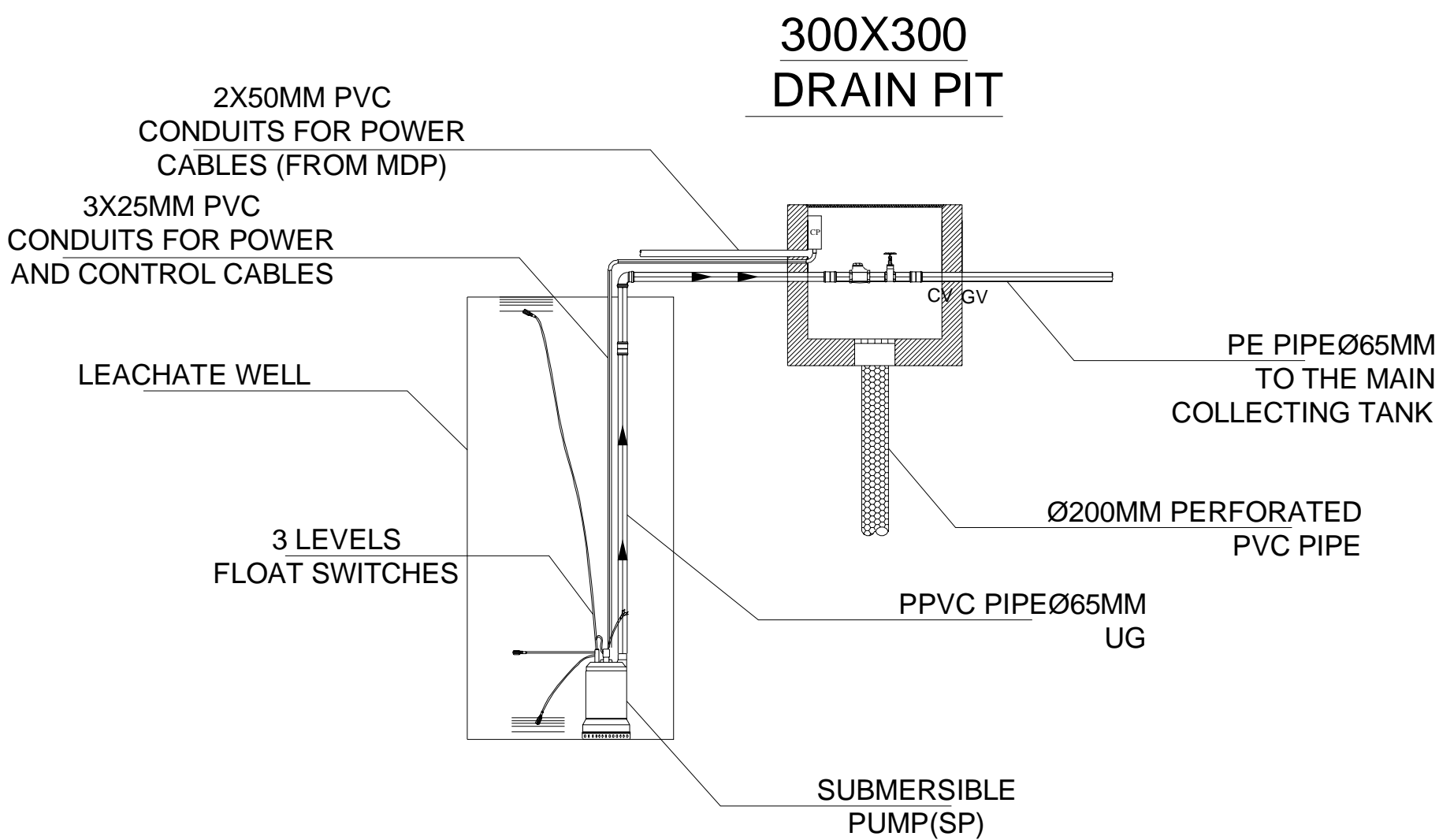
Scale: 1/750	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D- LEA-001	Rev.
Approvals		



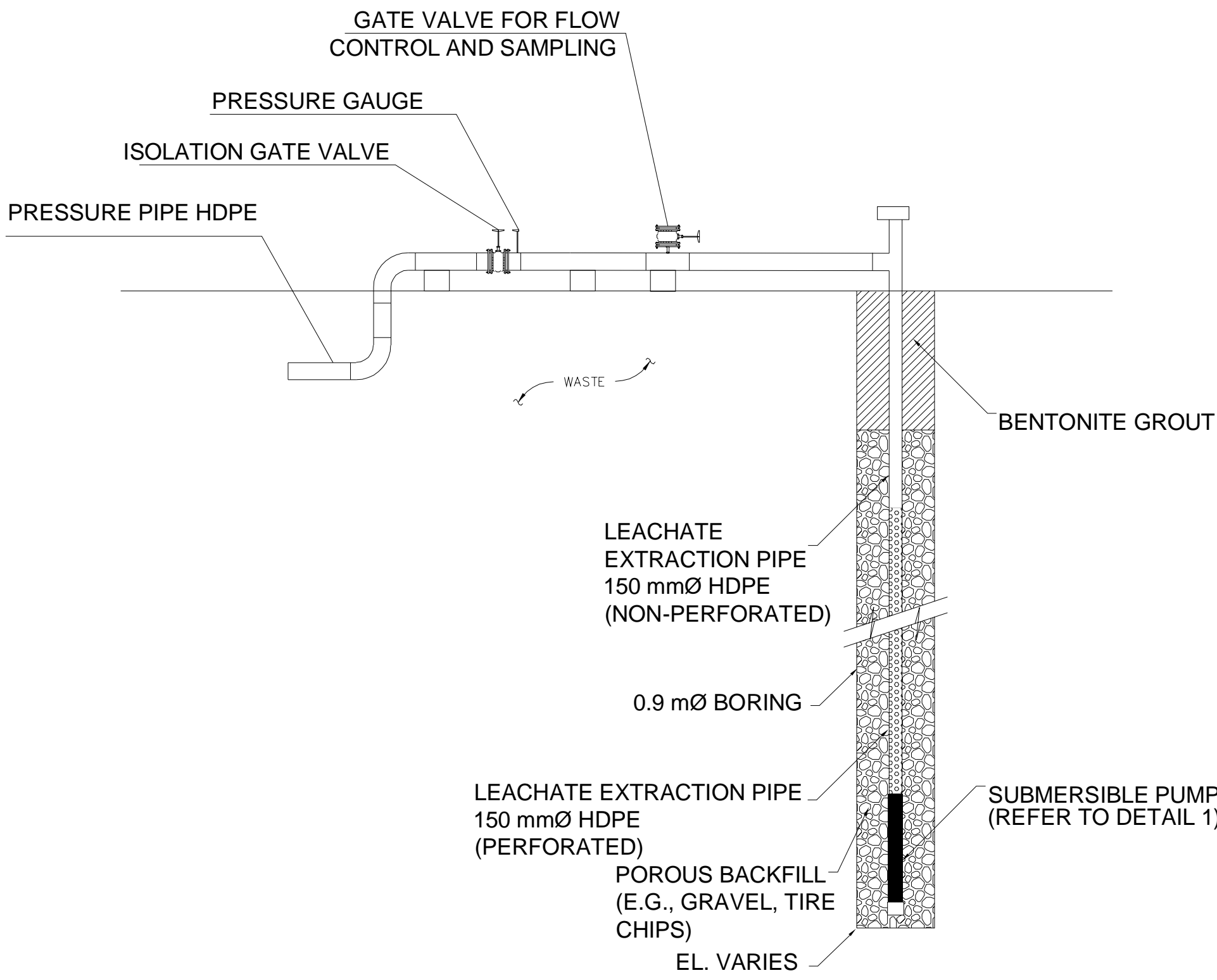
# LEACHATE WELLS

Notes:

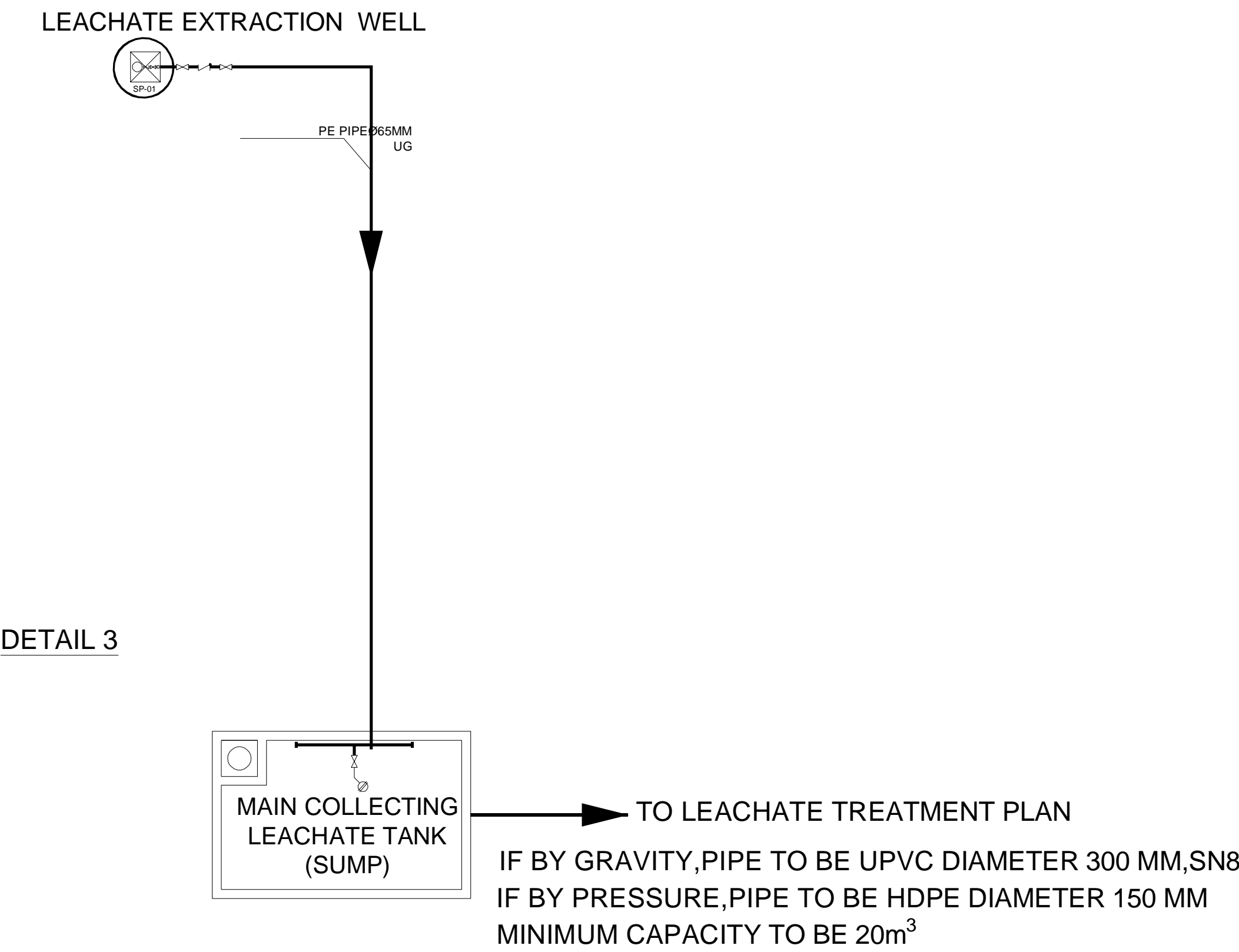
LEACHATE WELLS LOWEST LEVEL TO  
REMAIN 2m ABOVE 0+00 OF SEA LEVEL.



DETAIL 1  
INDICATIVE DETAIL OF LEACHATE TANK AND SERVICE MANHOLE (IF REQUIRED)





DETAIL 2  
LEACHATE EXTRACTION WELL

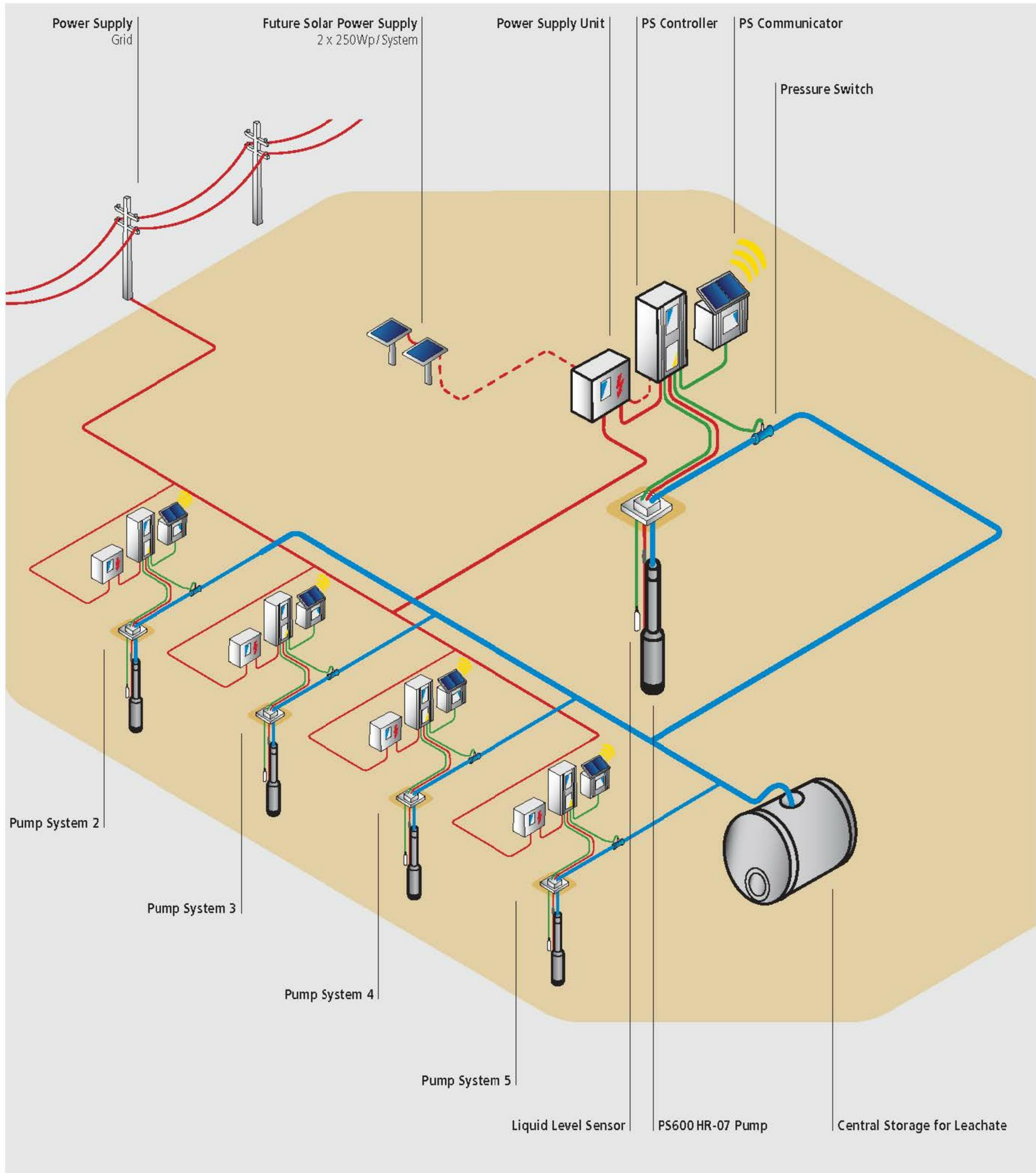


DETAIL 3

Legend:

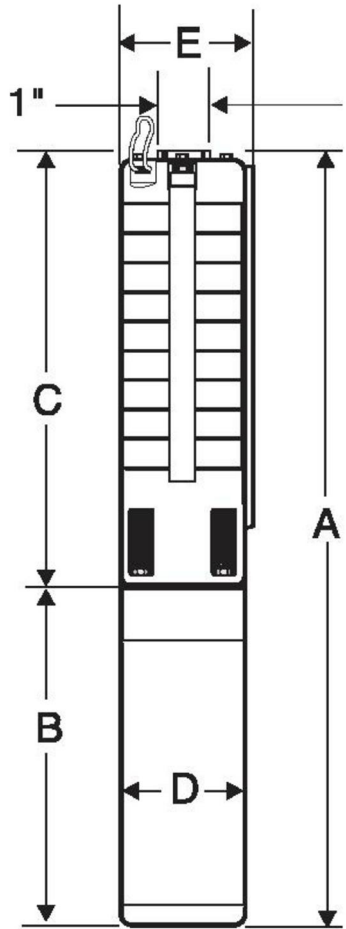
Rev.	Date	Description	Checked	Approved
Client				
		REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION		
Consultant				
		DAR AL HANDASAH NAZIH TALEB & PARTNERS دار الهندسة نزيه طالب وشركاه <small>Founded 1968</small>		
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			LEACHATE	
TYPICAL DETAILS 1/2				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.	Date: JUNE 2022	
Choked By:		O.A.	Date: JUNE 2022	
Drawn By:		J.H.	Date: JUNE 2022	
Discipline:				
Drawing No. L1815D- LEA-002			Rev.	
Approvals				

LEACHATE WELLS



LEACHATE SUBMERSIBLE PUMP TYPICAL DETAILS

DIMENSIONS:  
A:54.6 CM  
B:22.4 CM  
C:32.3 CM  
D:9.7 CM  
E:9.9 CM



LEACHATE SUBMERSIBLE PUMP SP-01



SCHEDULE OF LEACHATE SUBMERSIBLE PUMP

UNIT NO.	SP-01	SP-02
FLUID TYPE	LEACHATE	LEACHATE
FLUID TEMPERATURE C	22	22
FLOW RATE (m3/h)	2	6
* HEAD (mWG)	60	80
SPECIFICATIONS	CONSTRUCTION TYPE	SUBMERSIBLE
	IMPELLER MATERIAL	304 STAINLESS STEEL
	PUMP SHAFT MATERIAL	304 STAINLESS STEEL
	MINIMUM SOLID FREE PASSAGE	32
	ACCESSORIES	CONTROL FLOATERS
	CHECK VALVE	BUILT-IN
	ELECTRICAL POWER	1 HP
	ELECTRICAL POWER	3 HP
QUANTITY	11	2
REMARKS	-	-

\* HEAD TO BE VERIFIED UPON FINAL SELECTION OF EQUIPMENT

Notes:

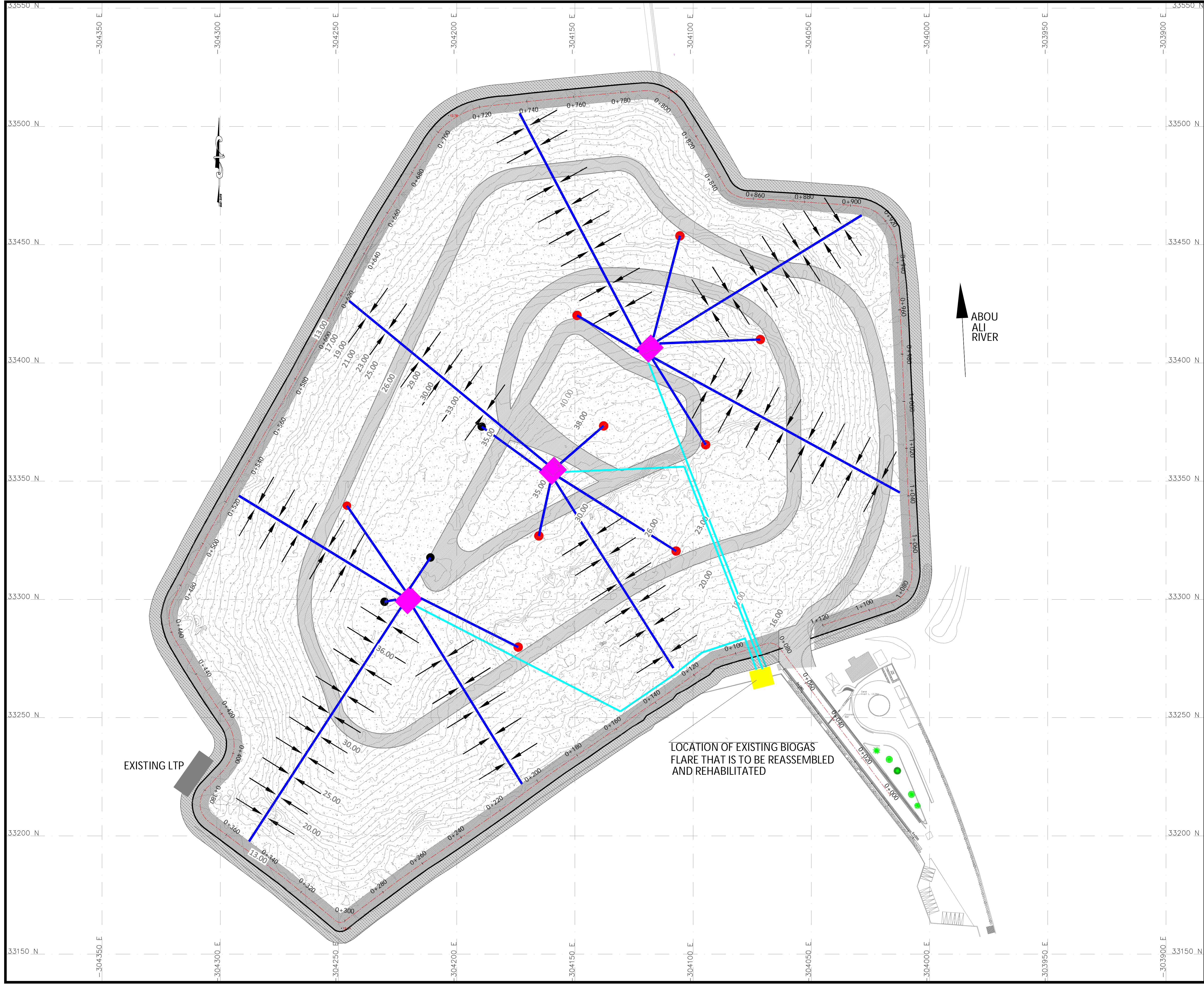
Legend:

Rev.	Date	Description	Checked	Approved
Client				
<div></div> <div>REPUBLIC OF LEBANON COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION</div>				
Consultant				
<div></div> <div>DAR AL HANDASAH NAZIH TALEB &amp; PARTNERS دار الهندسة نزيه طالب وشركاه</div> <div>Founded 1969</div>				
Project				
EXISTING OLD LANDFILL FINAL CLOSURE IN TRIPOLI CITY				
Drawing Title			LEACHATE	
TYPICAL DETAILS 2/2				
Scale: N.T.S.		Sheet Size: A1		
Approved By:		R.O.		Date: JUNE 2022
Cheked By:		O.A.		Date: JUNE 2022
Drawn By:		J.H.		Date: JUNE 2022
Discipline:				
Drawing No. L1815D-LEA-003			Rev.	
Approvals				



# BIOGAS





Notes:

- RECOVERY RATIO SHALL BE AT LEAST 70%.
- GAS WELLS SPACING WILL BE 30m, Min. ON A TRIANGULAR GRID PATTERN.
- MAXIMUM DESIGN GAS VELOCITY SHALL BE 10m/s. GAS VELOCITY IS LIMITED IN ORDER TO REDUCE PRESSURE DROP ALONG THE LENGTH OF PIPE, AND THEREBY THE POWER CONSUMED BY THE BLOWER STATION.
- MAXIMUM DESIGN VACUUM AT WELL HEAD (THE TOP OF THE WELL) SHALL BE UP TO 20mbar. VACUUM IS KEPT LOW IN ORDER TO ACHIEVE EFFICIENT GAS EXTRACTION AND MINIMIZE THE INGRESS OF AIR (OXYGEN).
- MAXIMUM DESIGN VACUUM AT FLARE UNIT SHALL BE 150 mbar.
- STANDARD PIPE SIZING WILL BE ADOPTED FOR ALL VERTICAL GAS WELLS, FLOW LINES, LATERAL HEADERS AND MAIN HEADERS AS PER THE FOLLOWINGS PROPRIETARY HDPE PIPE SIZES.

Legend:

- EXISTING EXTRACTION BIOGAS FLARE
- EXISTING GAS WELL
- PROPOSED GAS WELL
- MANIFOLD (WELL HEAD STATION)
- SECONDARY BIOGAS LINE (DIAM. 90mm) CONNECTED TO GEOCOMPOSITE
- SECONDARY BIOGAS LINE (DIAM. 90mm) FROM WELL
- MAIN BIOGAS LINE TO FLARE (DIAM. 150mm)

Rev.	Date	Description	Checked	Approved

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Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

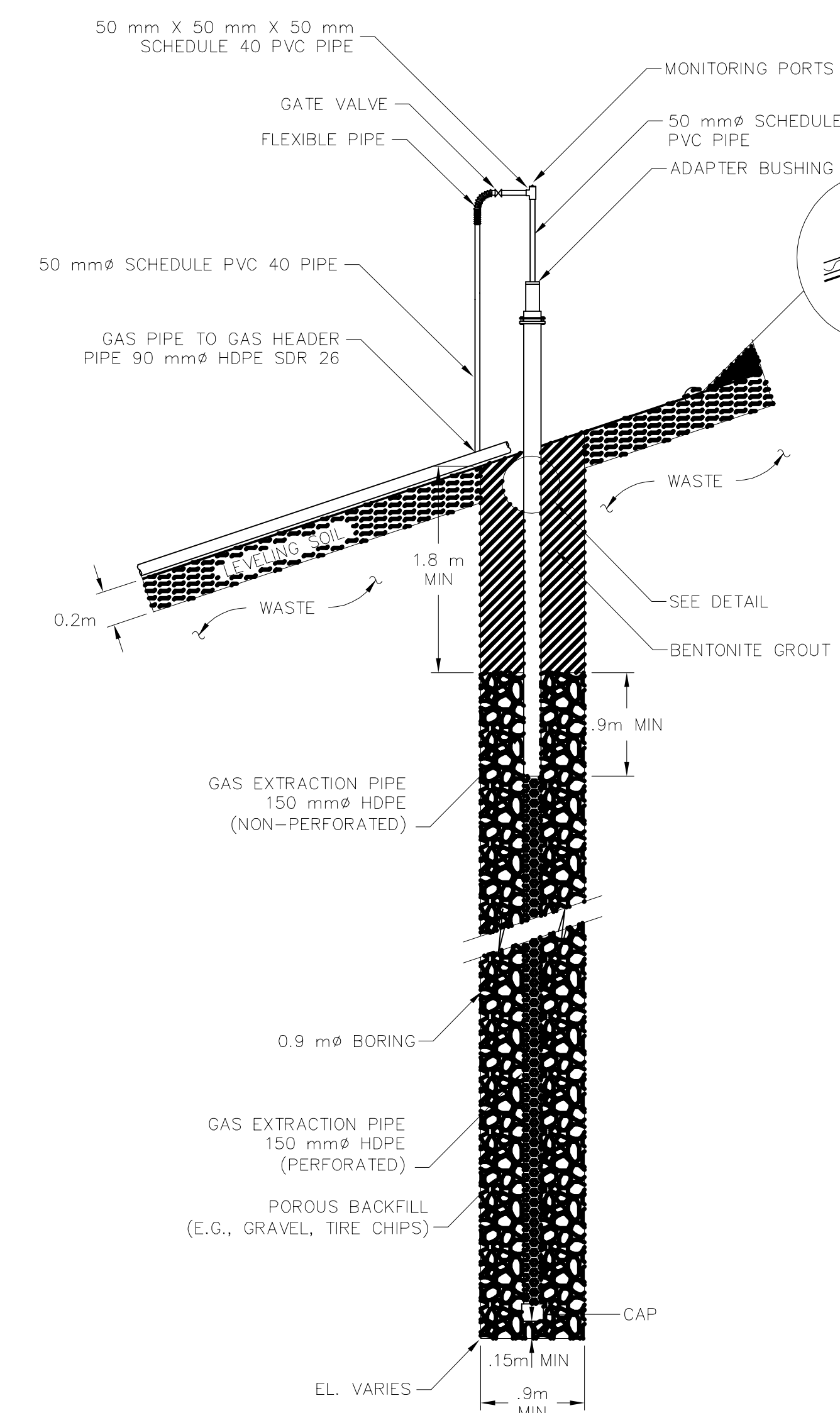
Drawing Title

BIOGAS

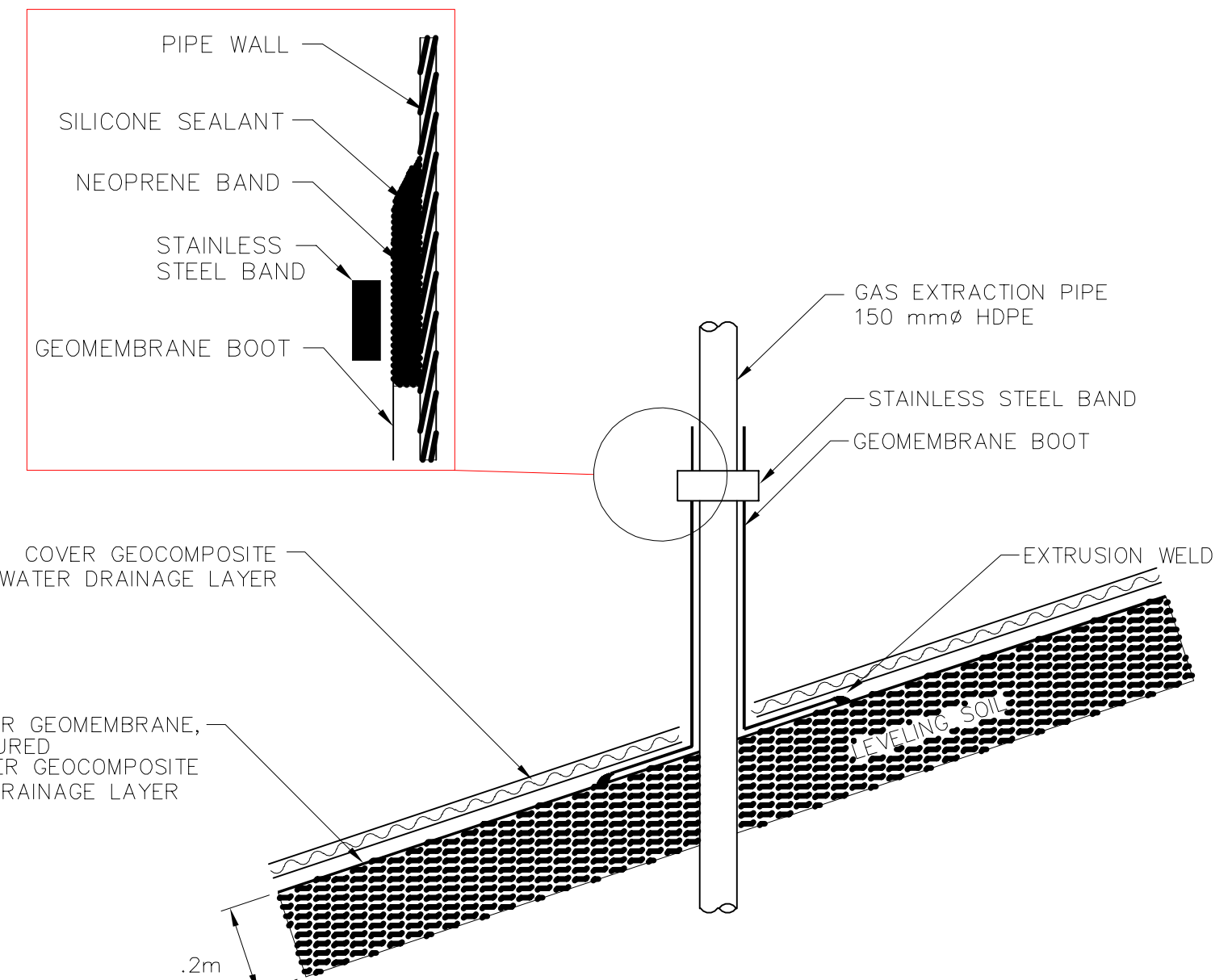
BIOGAS LAYOUT PLAN

Scale: 1/750	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Choked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D- GAS-001	Rev.
Approvals		

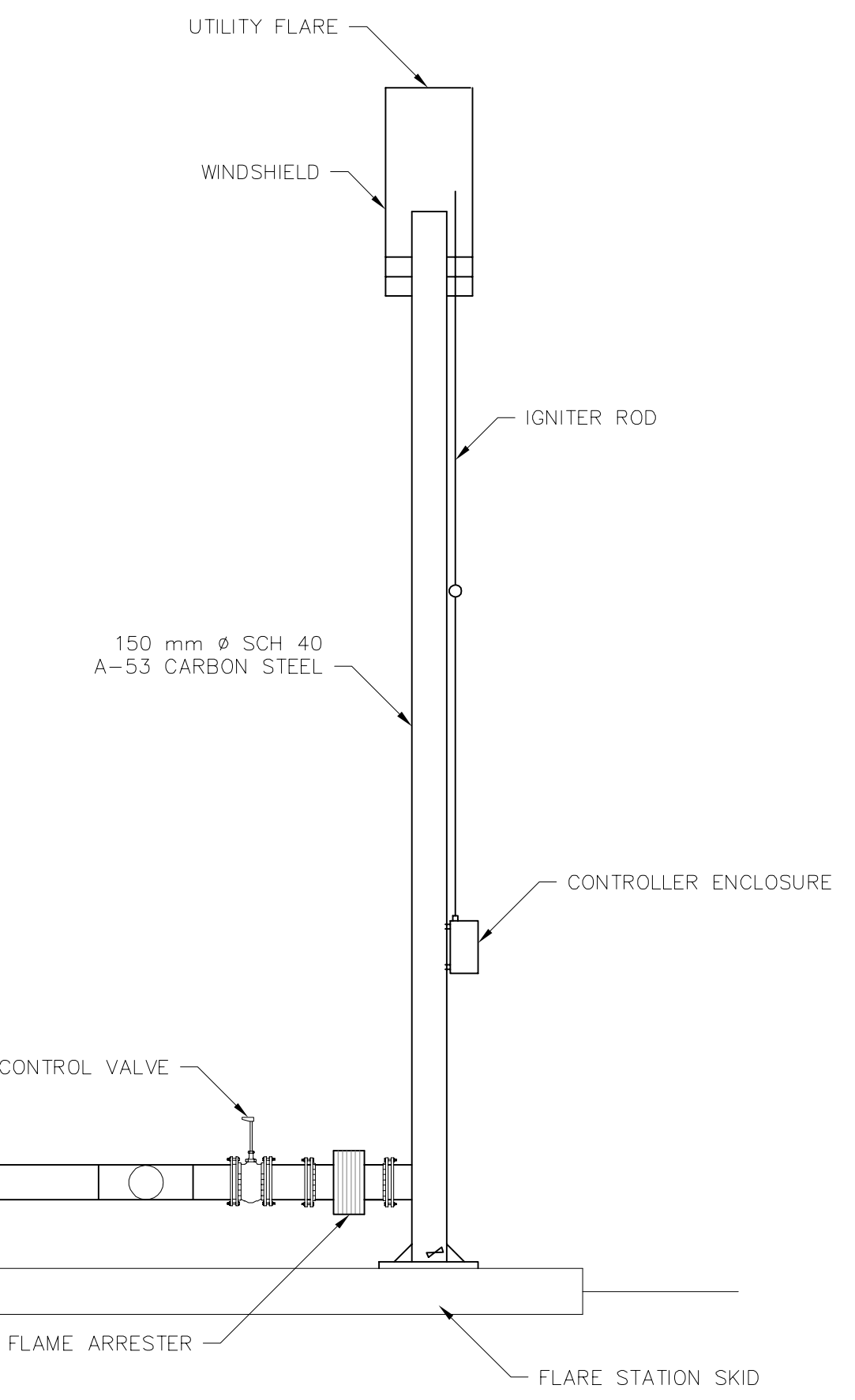




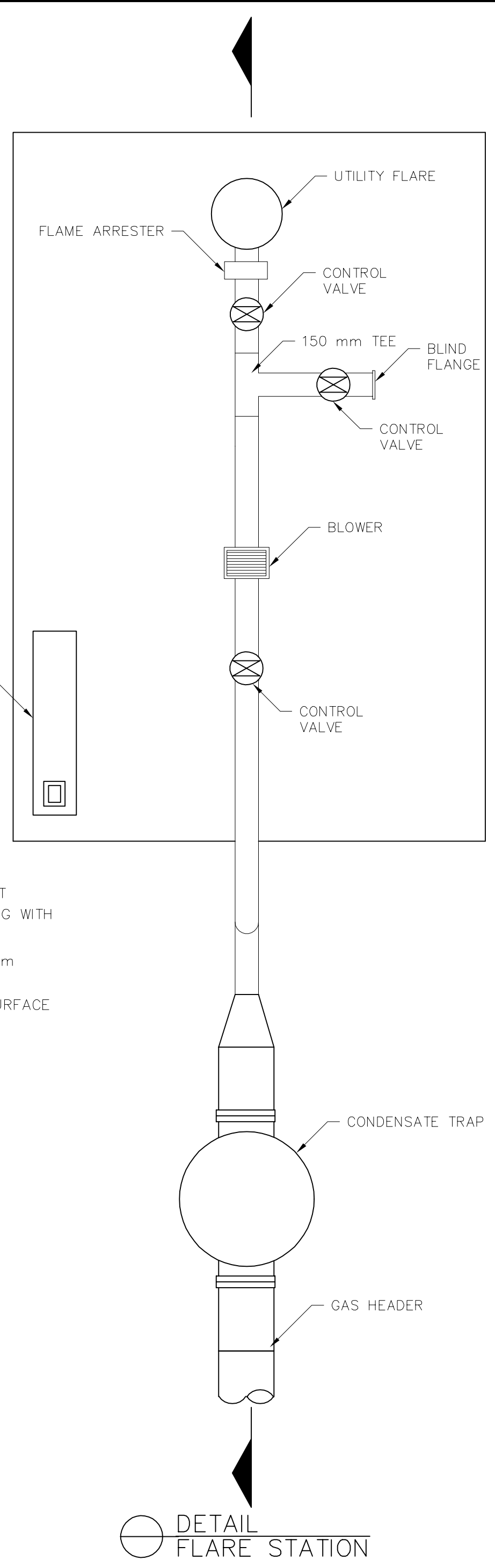
DETAIL  
GAS EXTRACTION WELL



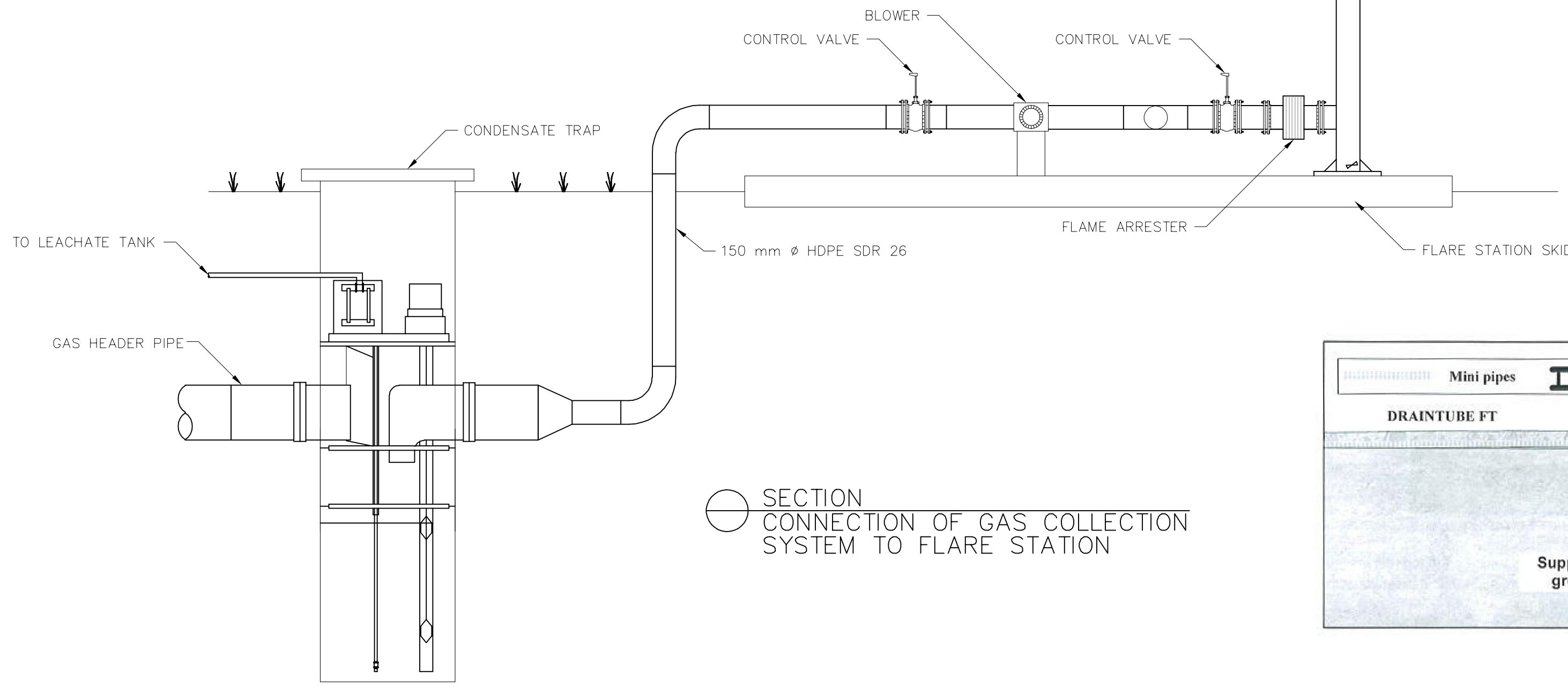
DETAIL  
GEOMEMBRANE



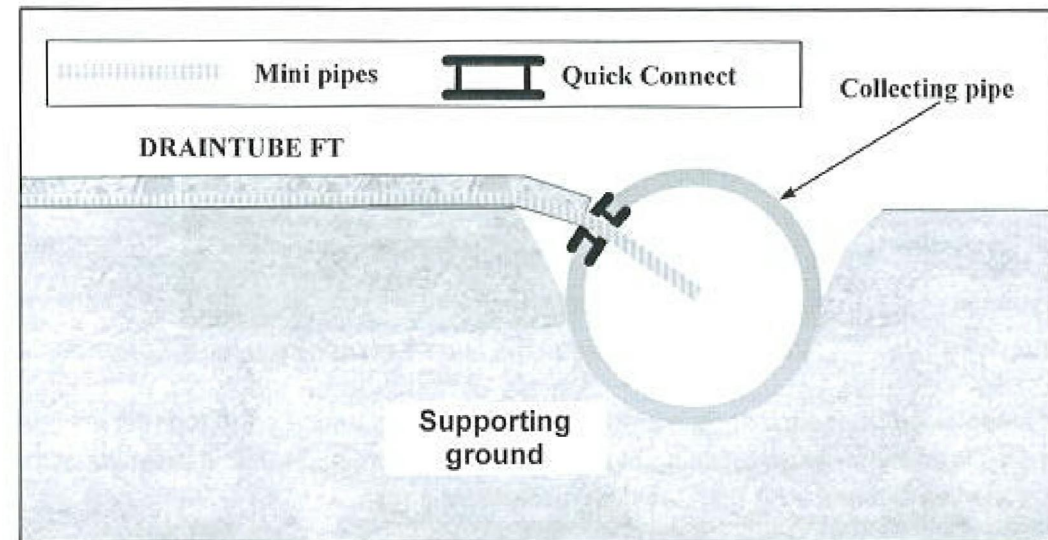
DETAIL  
GAS MONITORING WELL



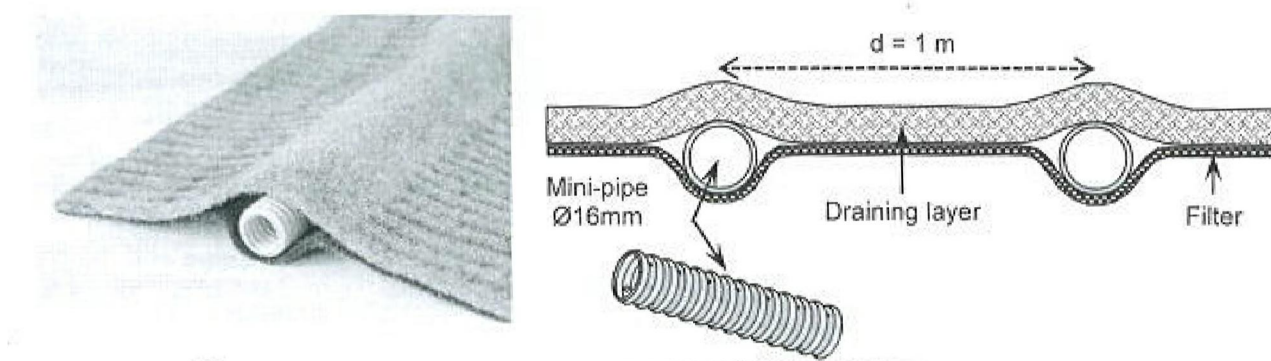
DETAIL  
FLARE STATION



SECTION  
CONNECTION OF GAS COLLECTION  
SYSTEM TO FLARE STATION



GEOCOMPOSITE GAS DRAINAGE



Notes:

Legend:

Rev.	Date	Description	Checked	Approved
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Founded 1999

Project  
**EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY**

Drawing Title  
**BIOGAS**

**TYPICAL DETAILS 1/2**

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

Choked By: O.A. Date: JUNE 2022

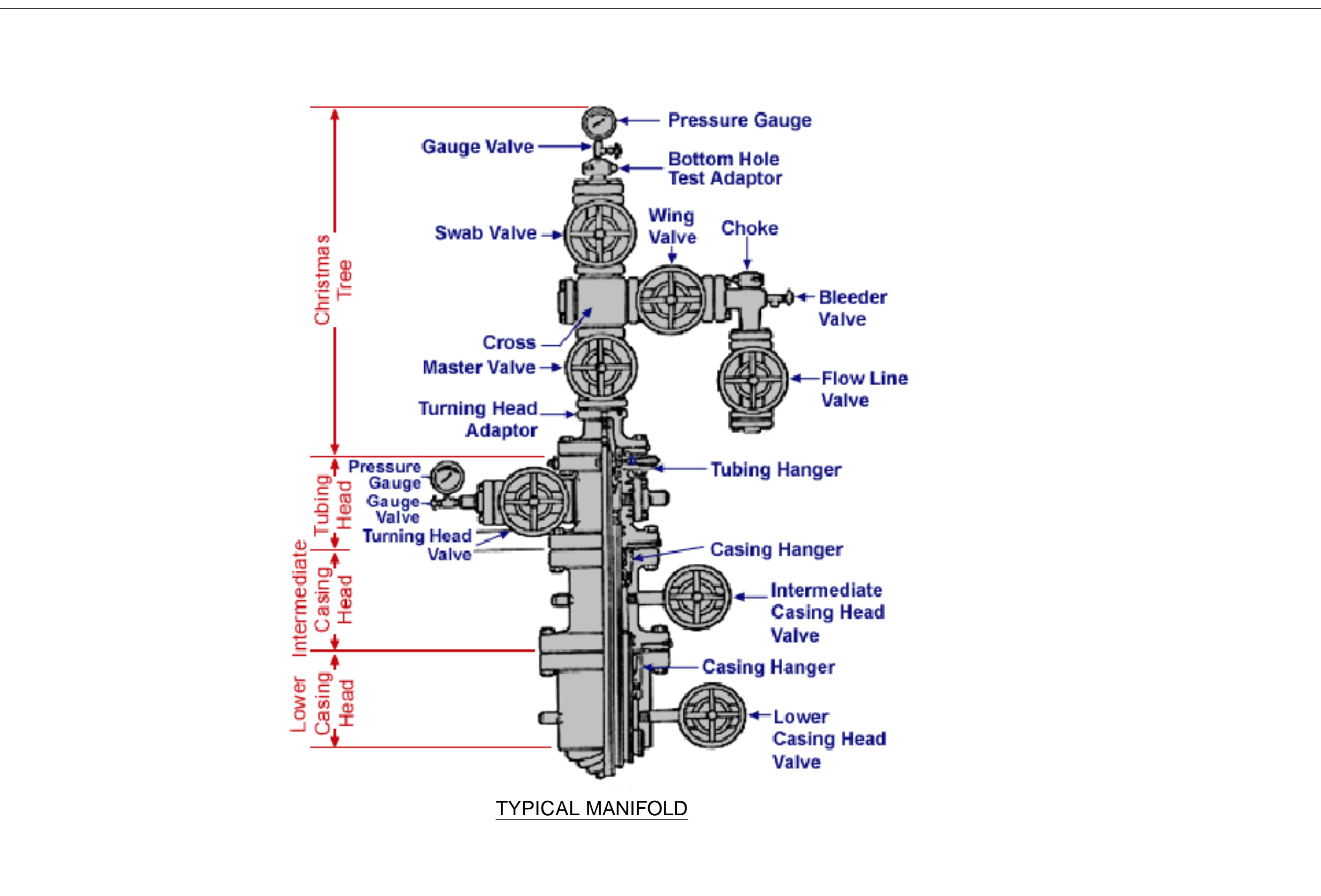
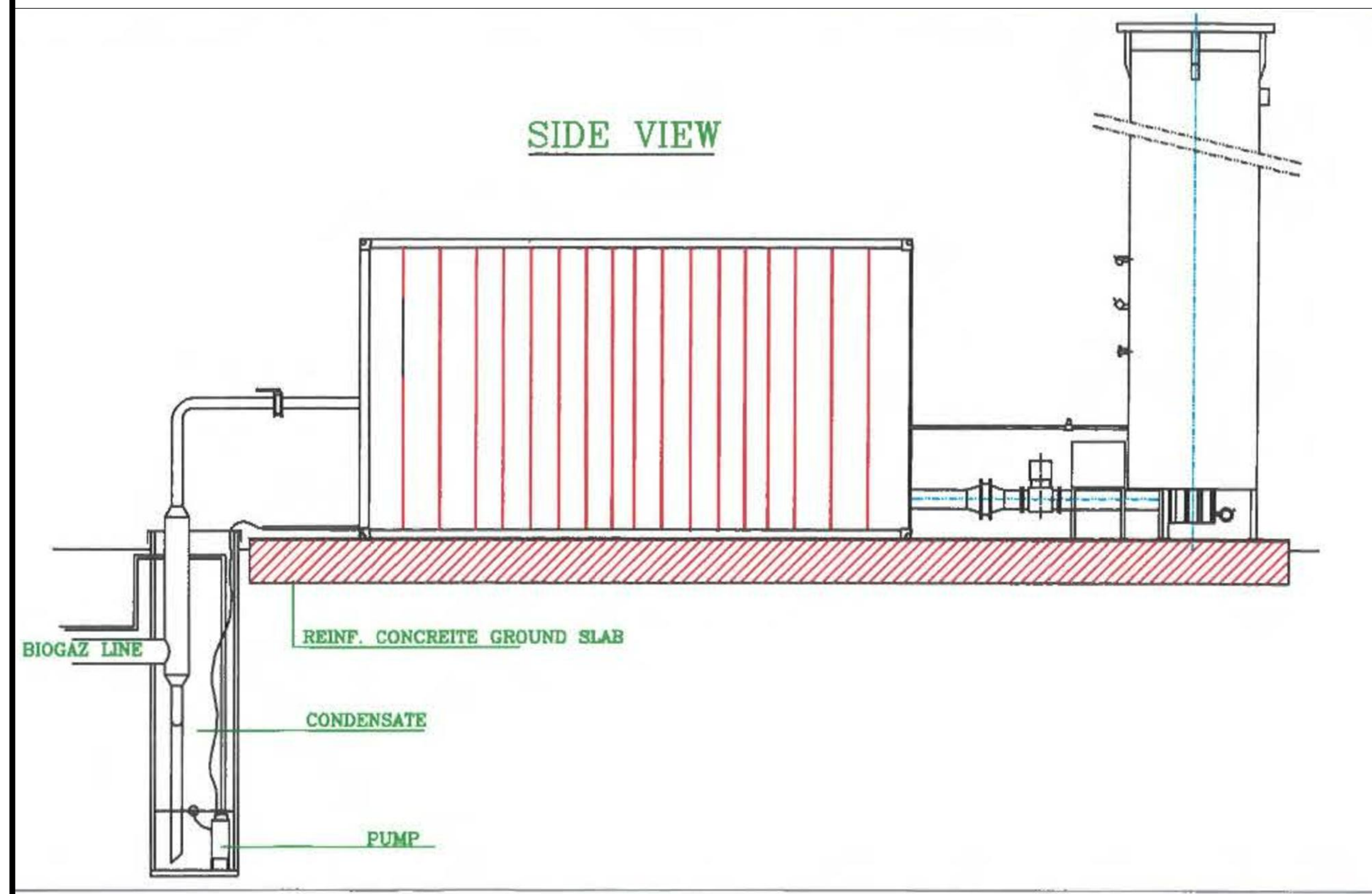
Drawn By: J.H. Date: JUNE 2022

Discipline:

Drawing No. L1815D-GAS-002 Rev.

Approvals





Notes:

- Legend:
- 1 BIOGAZ TRANSPORT LINE
  - 2 CONDENSATE
  - 3 MEASURING
  - 4 AUTOMATIC GAZ ANALYSER
  - 5 SECURITY SHUT VALVE
  - 6 MANUAL VALVE
  - 7 AUTOMATIC VALVE
  - 8 ANTIVIBRATION JOINT
  - 9 BLOWER
  - 10 MANOMETER & THERMOMETER
  - 11 FLARE UNIT
  - 12 AUTOMATIC COMBUSTION
  - 13 MANUAL COMBUSTION
  - 14 IGNITION SPARK
  - 15 TEMPERATURE MEASURING DEVICE
  - 16 AUTOMATIC SHUT OFF
  - 17 FLARE SUPPORT

Rev.	Date	Description	Checked	Approved
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Project  
EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title  
TYPICAL DETAILS 2/2

Scale: N.T.S. Sheet Size: A1

Approved By: R.O. Date: JUNE 2022

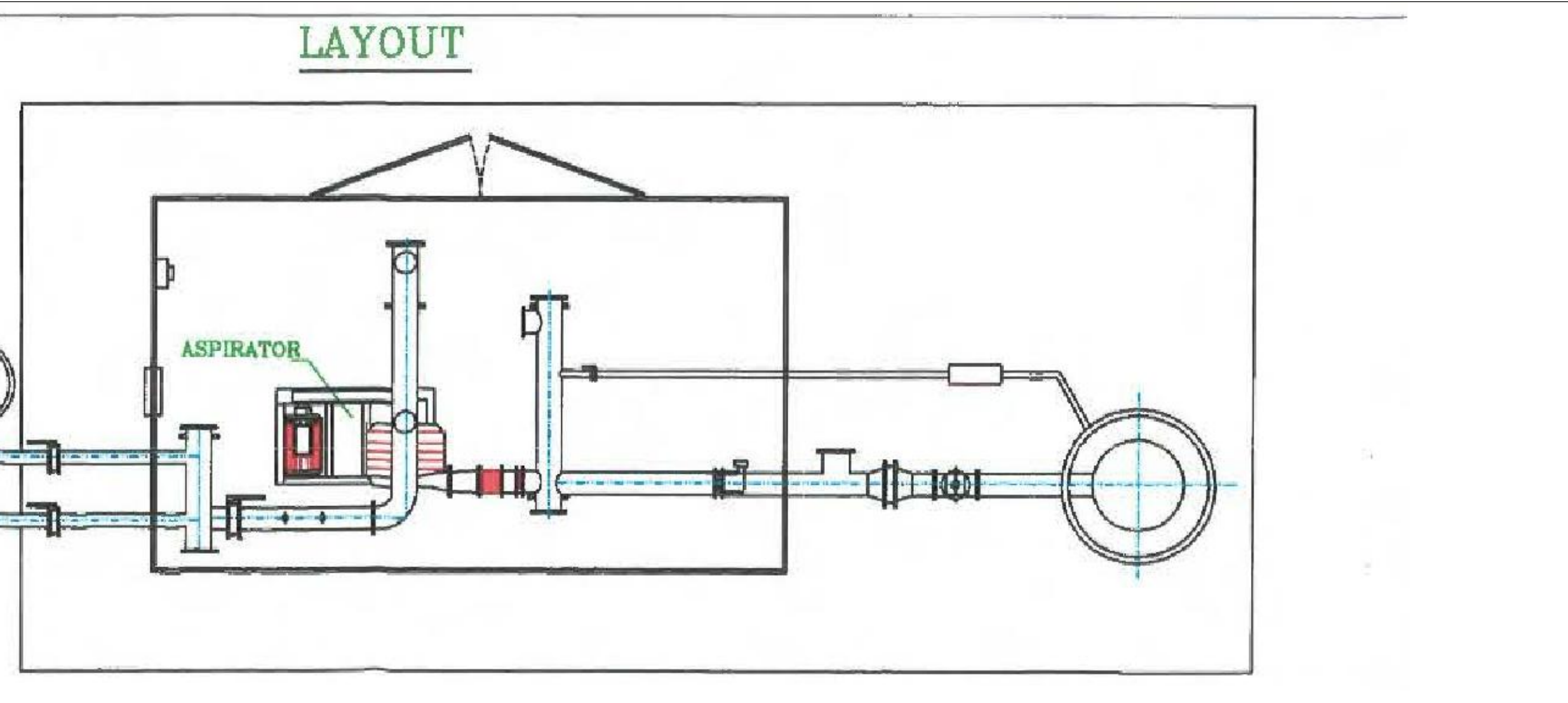
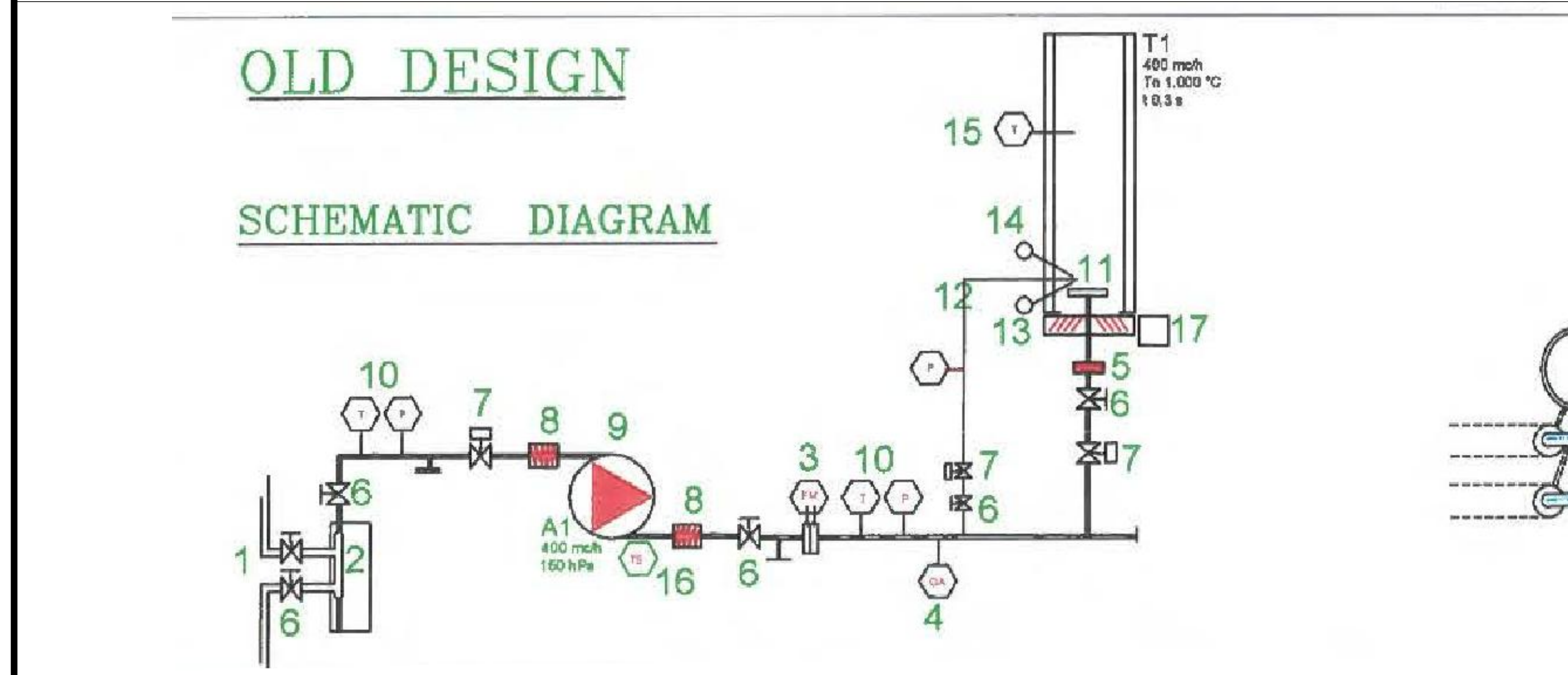
Choked By: O.A. Date: JUNE 2022

Drawn By: J.H. Date: JUNE 2022

Discipline:

Drawing No. L1815D-GAS-003 Rev.

Approvals





# INFRASTRUCTURE

NOTES

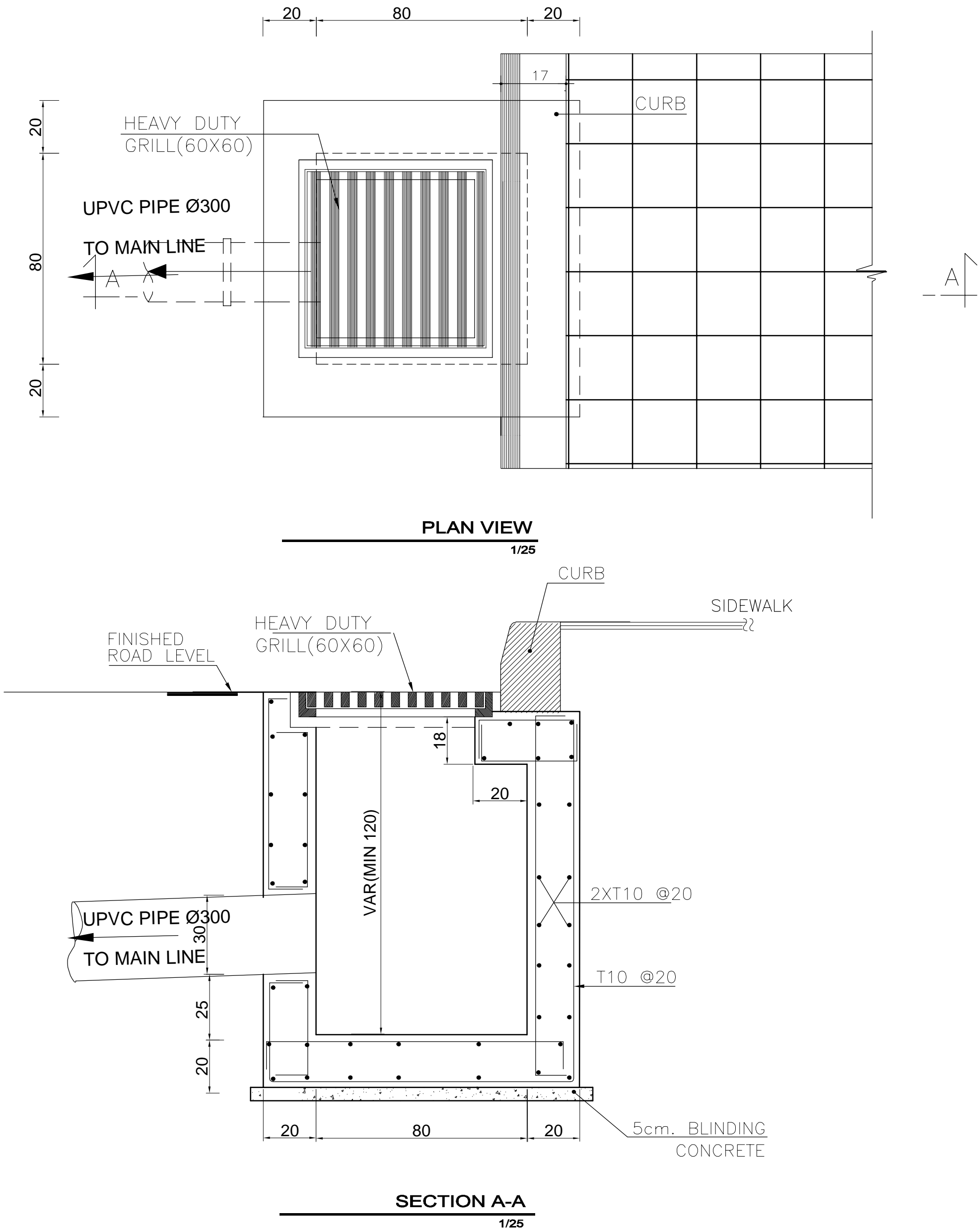
- 1- DO NOT SCALE FROM DWGS. ALL DIMENSIONS SHOULD BE READ OR COMPUTED.
- 2- THE CONTRACTOR SHOULD PREPARE AND SUBMIT DRAWINGS INDICATING THE LOCATION OF THE PROPOSED CONSTRUCTION JOINTS IN THE REINFORCED CONCRETE STRUCTURES SUBJECT TO THE ENGINEER'S APPROVAL.
- 3- THE CULVERT IS DESIGNED FOR EARTH PRESSURE FROM BOTH SIDES. IF CONSTRUCTED ADJACENT TO ANY OTHER UTILITY OR BUILDING ; DESIGN SHOULD BE REVISED.
- 4- IN CASE OF FUTURE EXCAVATION ALONG ONE SIDE OF A CULVERT SECTION FOR THE PURPOSE OF CONSTRUCTION OF OTHER UTILITIES OR BUILDINGS OR FOR OTHER REASONS, THE FOLLOWING PRECAUTIONARY MEASURES SHOULD BE TAKEN :

- EXCAVATION SHOULD NOT EXPOSE MORE THAN 7m OF THE LENGTH OF THE CULVERT AT ANY TIME.

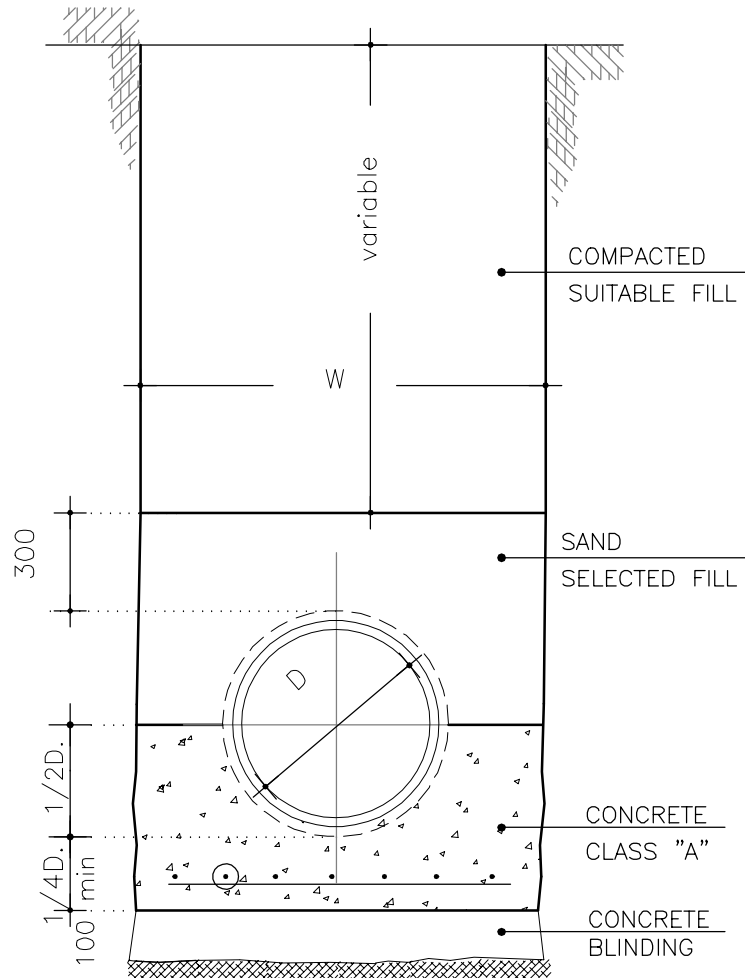
- THE EXPOSED PART OF THE CULVERT SHOULD BE PROTECTED AGAINST SLIDING & OVERTURNING AT THE LEVELS OF THE SLABS OR SUPPORTED BY ANY OTHER APPROVED METHOD

- ALTERNATIVELY, IF THE SITE CONDITIONS PERMIT, EXCAVATION SHOULD PROCEED ON BOTH SIDES OF THE CULVERT.
- 5- THE CONTRACTOR SHALL SUPPORT SIDES OF EXCAVATIONS AS NECESSARY TO UPHOLD EXCAVATIONS AGAINST SIDES OF ADJOINING BUILDINGS, FOOTPATHS, ROADS AND THE LIKES AND REMOVE ON COMPLETION UNLESS OTHERWISE INSTRUCTED.
- 6- EXPANSION JOINTS SPACING SHOULD NOT EXCEED 20m UNLESS OTHERWISE SHOWN ON DRAWINGS
- 7- CONSTRUCTIONS JOINTS TO BE PROVIDED AT MAX. SPACING OF 10m.
- 8- AT TRANSITIONS FROM SMALLER TO LARGER SIZES, APPLY REINFORCEMENT OF LARGER CULVERT SIZE AFTER THE TRANSITION ZONE UNLESS OTHERWISE NOTED

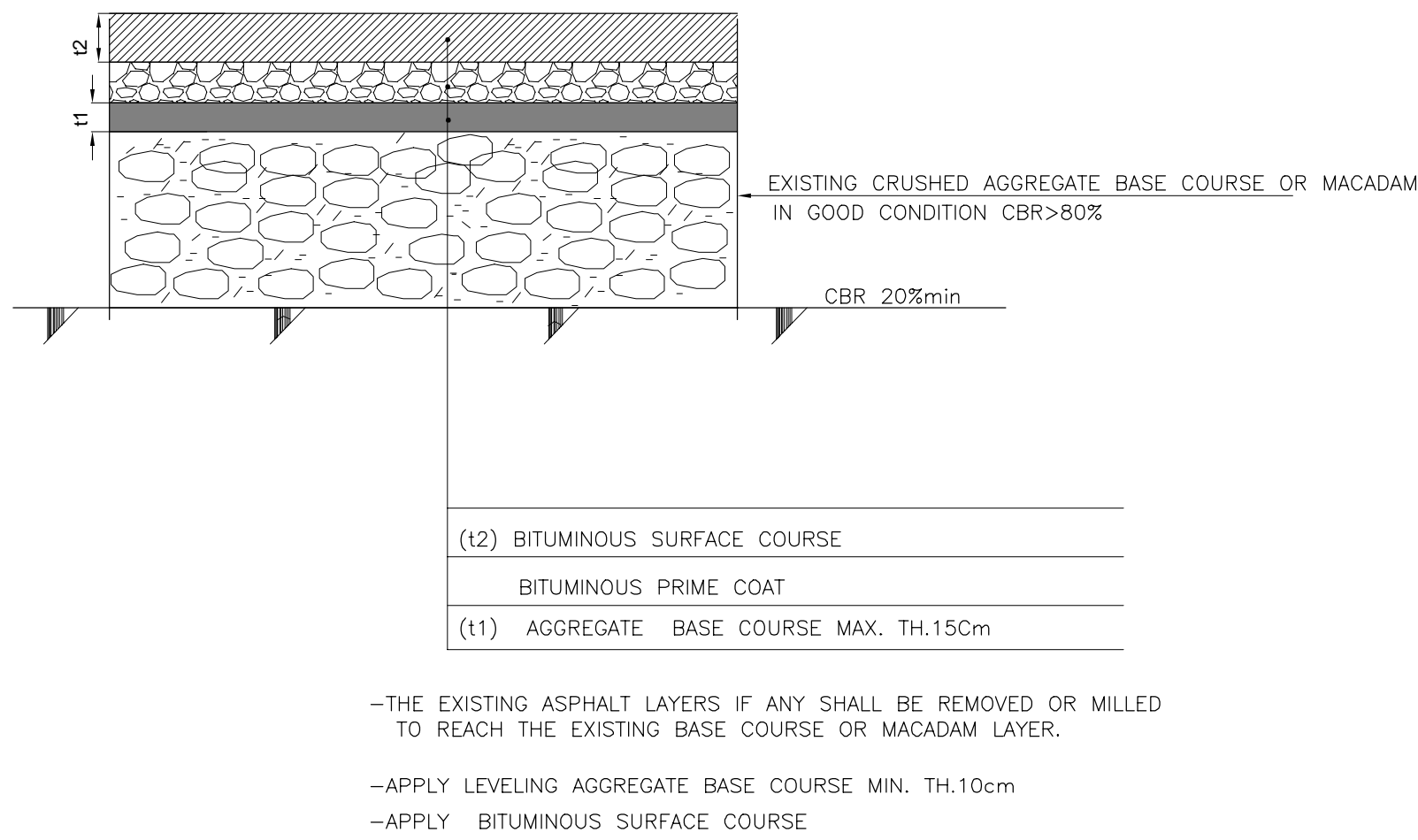
ROAD GULLY



PIPE BEDDING DETAILS



PERIPHERAL ROAD SECTION



Notes:

Legend:

Rev.	Date	Description	Checked	Approved
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Founded 1969

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

INFRASTRUCTURE

TYPICAL DETAILS 1/1

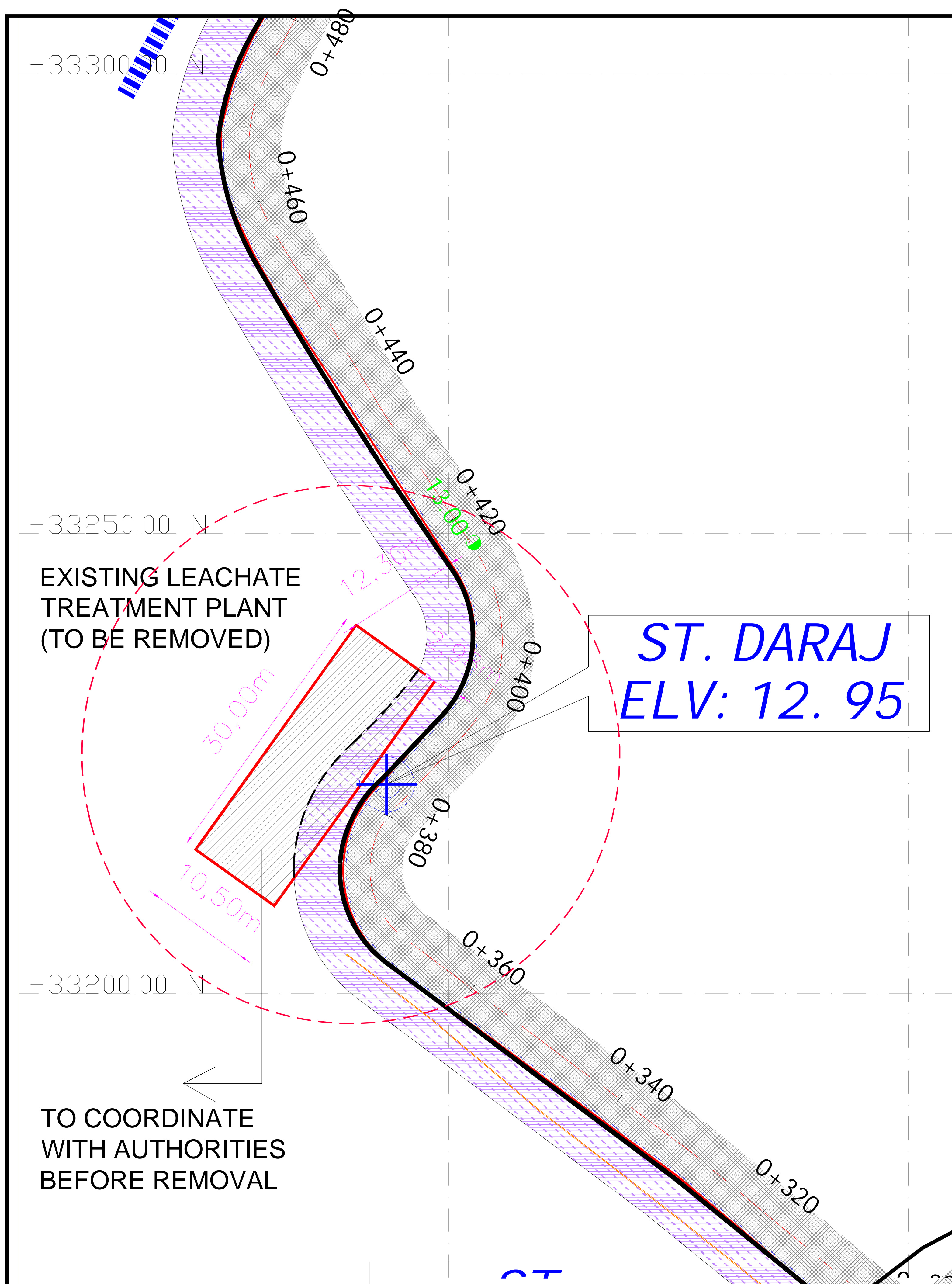
Scale: N.T.S.	Sheet Size: A1	
Approved By:	R.O.	Date: JUNE 2022
Cheked By:	O.A.	Date: JUNE 2022
Drawn By:	J.H.	Date: JUNE 2022
Discipline:		
Drawing No.	L1815D- INF-001	Rev.

Approvals	
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# EXISTING LEACHATE TREATMENT PLANT





Notes:

- THE CONTRACTOR TO COORDINATE WITH RELATED AUTHORITIES (MAINLY ITTIHAD) BEFORE DEMOLISHING THE EXISTING PART OF THE PLANT BEYOND THE WALL EXTENSION.

Legend:

- POLYGONAL STATION
- EXISTING WALL
- WALL EXTENSION
- PERIPHERAL ROAD
- EXISTING LEACHATE TREATMENT PLANT

Rev.	Date	Description	Checked	Approved

Client

REPUBLIC OF LEBANON  
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Founded 1999

Project

EXISTING OLD LANDFILL FINAL CLOSURE  
IN TRIPOLI CITY

Drawing Title

EXISTING LEACHATE  
EXISTING LEACHATE TREATMENT PLANT  
(TO BE REMOVED)

Scale:	Sheet Size:	
1/250	A1	

Approved By:	R.O.	Date:
		JUNE 2022

Checked By:	O.A.	Date:
		JUNE 2022

Drawn By:	J.H.	Date:
		JUNE 2022

Discipline:

Drawing No. L1815D- EXLEA-001

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Approvals