

IDCHAIB YOUSSEF

MY PORTFOLIO

A piece of my previous work




INTRODUCTION

Welcome to my civil engineering portfolio presentation.

In this presentation, I will show you some of the projects I have worked on as a civil engineer in various sectors and contexts, including project internships, some of freelance and university projects,

My goal is to demonstrate my skills and abilities as a civil engineer and how I can add value to your organization or project.





-01-

EDUCATION



-02-

MY EXPERIENCE

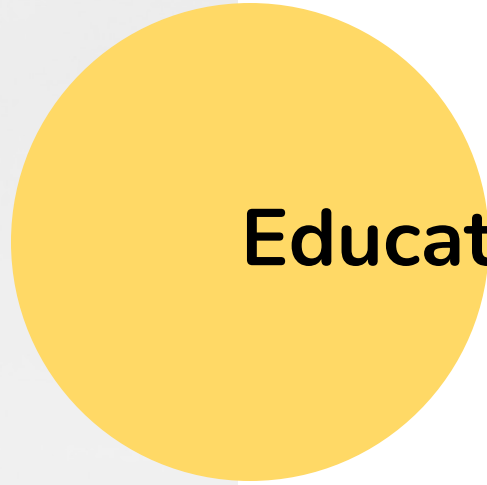
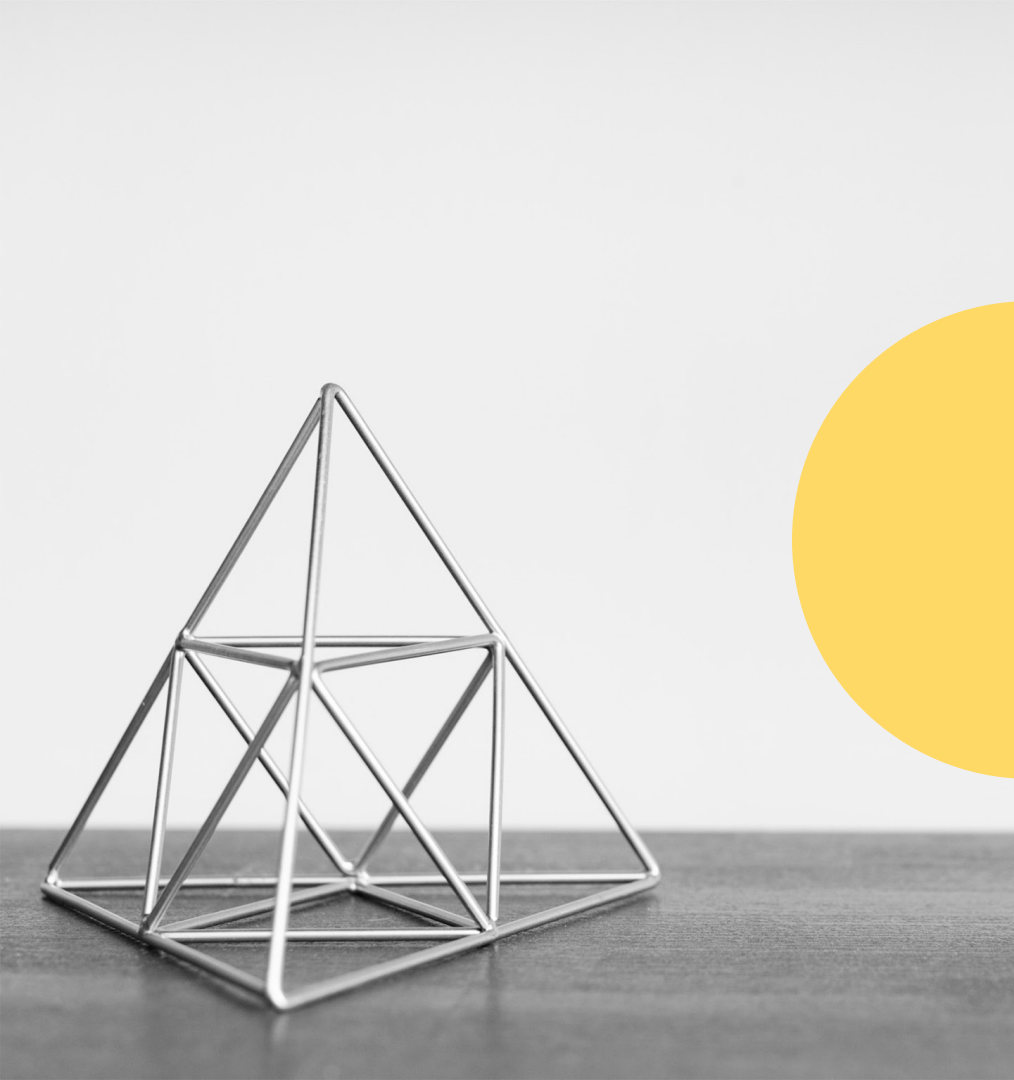


-03-

MY WORK







Education

EDUCATION

I graduated from two different schools to get my bachelor's degree in civil engineering.



ISTP Institute of civil engineering

- During 2 years, from 2018-2020.
- The field of specialization -Roads-.
- During my studies, I've completed two internships, professional internship and graduation project.
- I obtained an associate's degree.

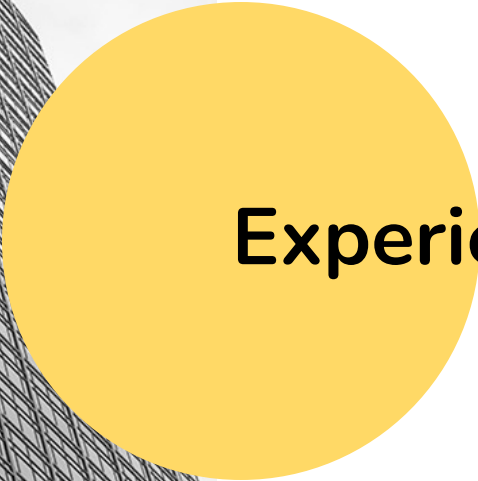


Cadi Ayyad University, Faculty of Sciences Semlalia

- During 2 years, from 2020-2022.
- The field of specialization -technology and coordination in building and civil engineering works-.
- During my studies, I've completed a free internship and bachelor's graduation project.
- I obtained a bachelor's degree.



Actually | Self-learning: Autodesk Certified Professional: Revit for Architectural Design.



Experience

EXPERIENCE

During my educational career, I was employed by various organizations in internship programs, graduate projects, or both. This experience has enabled me to perform different tasks, which are explained below:

GENERAL OR MAJOR TASKS:

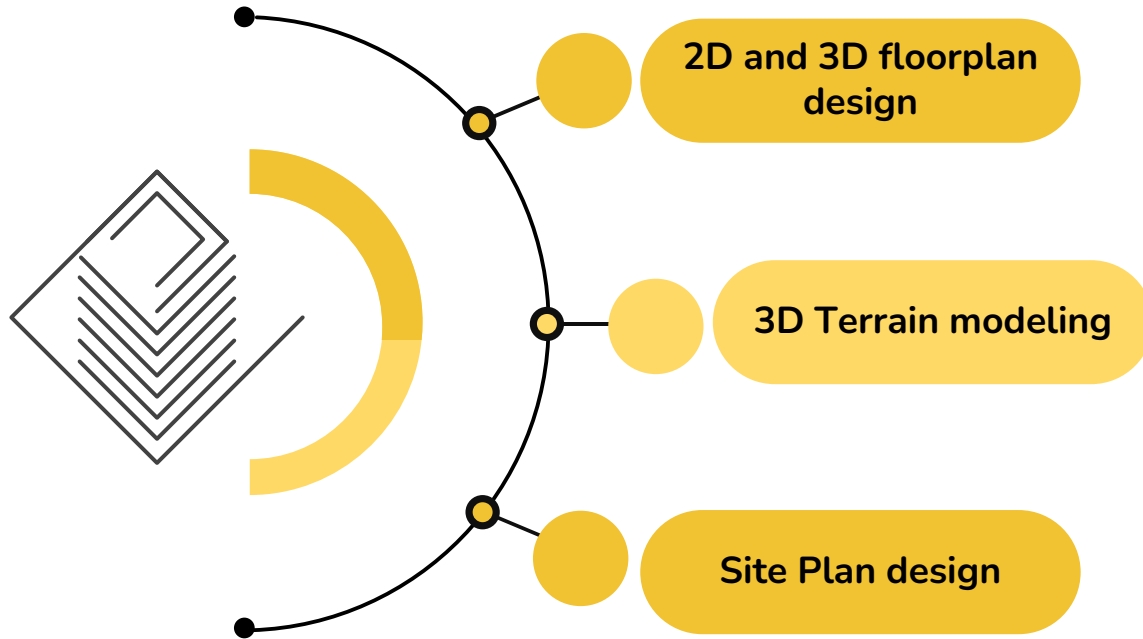
- » Structural Analysis.
- » Road design.
- » Project Estimation.
- » CAD drafting.
- » Drainage system design.
- » Surveying and building control.
- » 3D building modeling.

DETAILED TASKS:

- » Concrete structure design and calculations, steel construction calculations.
- » Road design includes cross section, horizontal alignment, vertical alignment, drainage system calculations, takeoffs and project estimation.
- » Construction drafting using Autocad software.
- » Hydraulic and hydrologic calculations.
- » Monitoring and control of buildings and quantity takeoff.
- » 3d architectural and structural modeling

Personal development

After completing my education, I focused on the BIM - Building Information Modeling-, and continued to learn more about civil engineering, while working on my first freelance project. This experience helped me master the following tasks:





Work Projects



1st Freelance project

March, 2023

HOUSE DESIGN -Freelance project-



Thank you for your attention to my presentation for a single-family house design project of 100x55 square feet. This project will involve the following tasks:

- ☐ Sketching the house plan.
- ☐ Site plan design using Revit.
- ☐ 2d and 3d floor plans design using Revit.

Now, let me show you the specifics of this project:

CLIENT's requirements:

CLEINT's full name : Anderson White:

We have a **55×100 feet** of land to be developed.

We need a **Building Plan** of a **3 bedroom** apartment with **2 bathrooms** and a parking space.

BUILDING PLAN 3 BEDROOM APARTMENT

Note: The building will carry a **master Bedroom(13x13feets)** and 2 other rooms **measuring 12x12 feet**

*Land Space: 55x100 feet

*Draw The Site Plan 19x15 feet

*Show The Floor Plan

*Show The External Elevation

*Draw The Roofing Plan and Give The Scale Measurement.

Floor plan:

- The apartment floor plan will be drawn to a scale of 1:50.
- The main entrance is located on the side of the building.
- The master bedroom is located at the back of the apartment and has a private bathroom.
- The other two bedrooms share a bathroom.
- The kitchen is located in the center of the apartment and has an island.
- The living room and dining area are located at the front of the apartment and have large windows to allow natural light to enter.

External elevation:

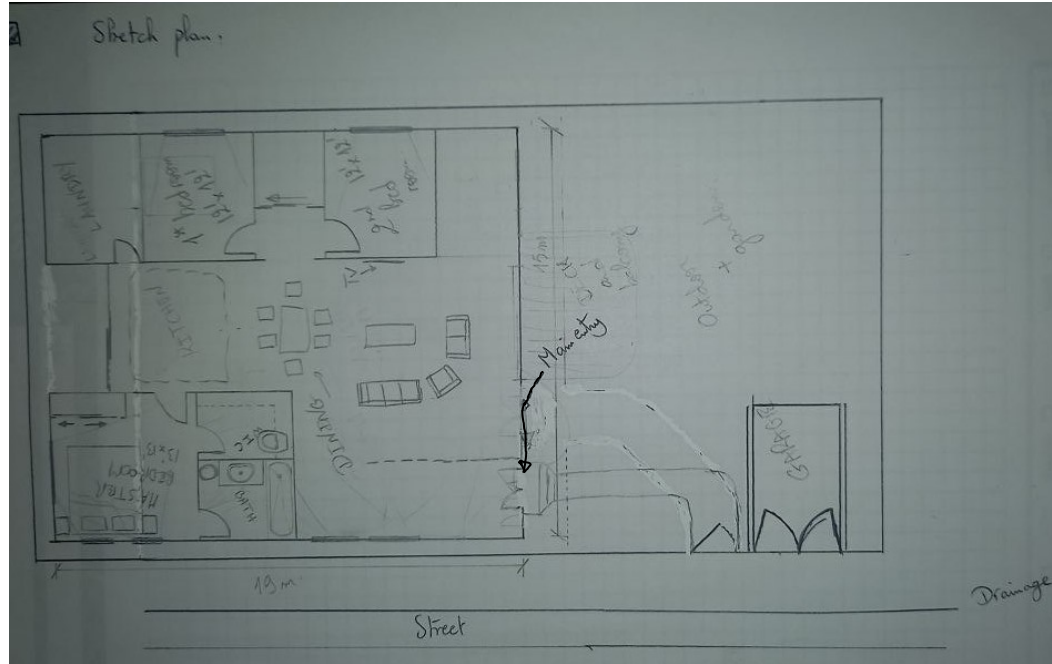
- The external elevation of the building has been drawn to a scale of 1:100.
- The building has a modern style with straight lines and large windows to maximize natural light entry.
- A balcony has been included at the front of the apartment to provide additional outdoor space.

Roof plan:

- The roof plan has been drawn to a scale of 1:100.
- The building has a flat roof with a slight slope to allow for drainage of rainwater.
- The height of the roof is 3.5 meters at the front of the building and rises to 4 meters at the back to provide greater height in the master bedroom.

Execution:

First, I began by generating some ideas and then I drew a sketch of the floor plan based on the client's needs:

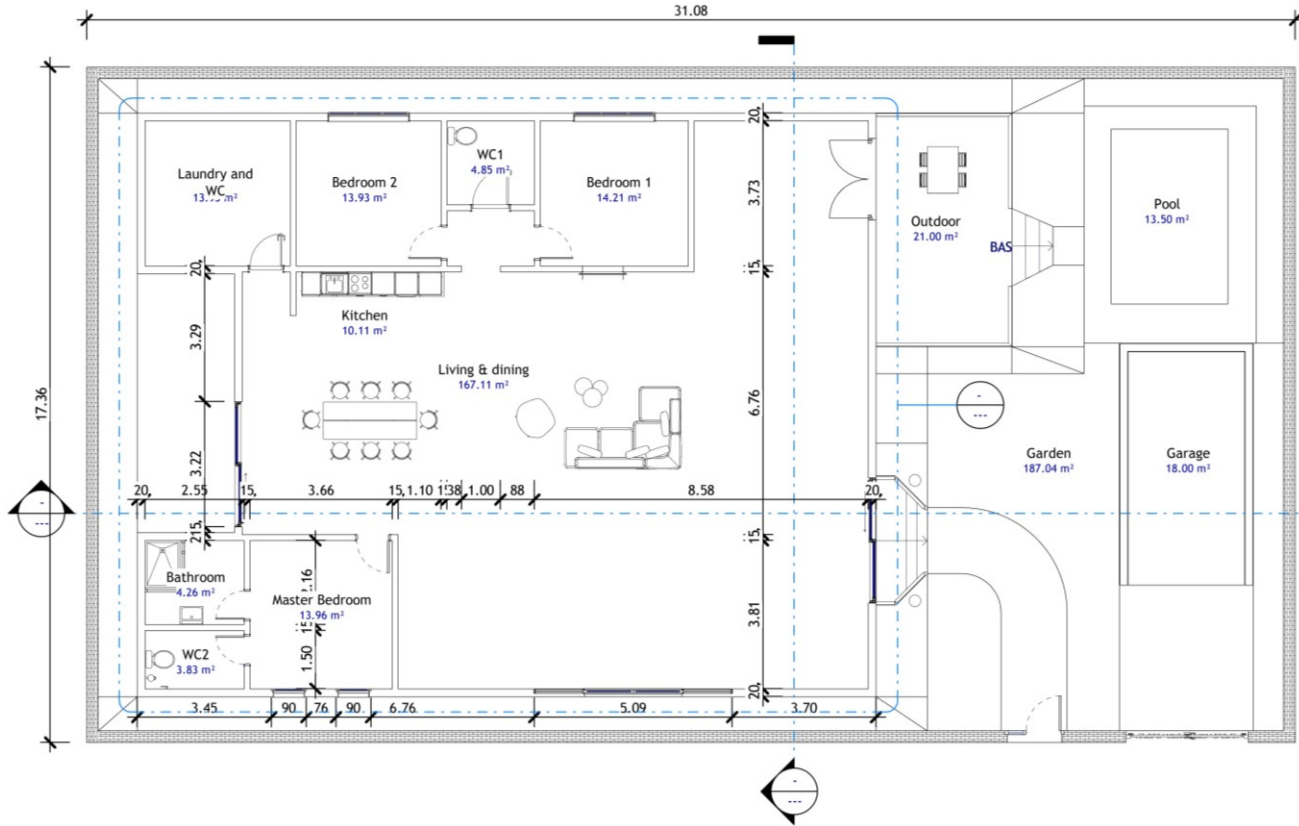


2D floor plan sketch

Execution:

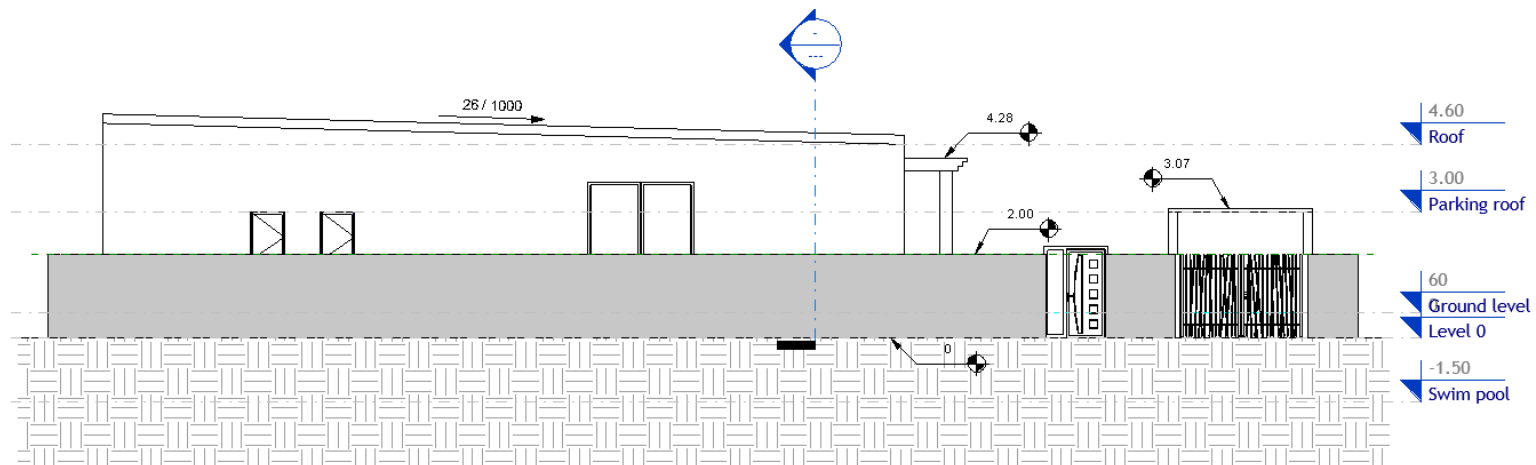
After the client approved the sketch plan, I proceeded to design the necessary floor plans, elevations, building sections, and 3d models using Autodesk Revit Software. Then I delivered the final sheet to the client after several revisions.

Here are the final results:



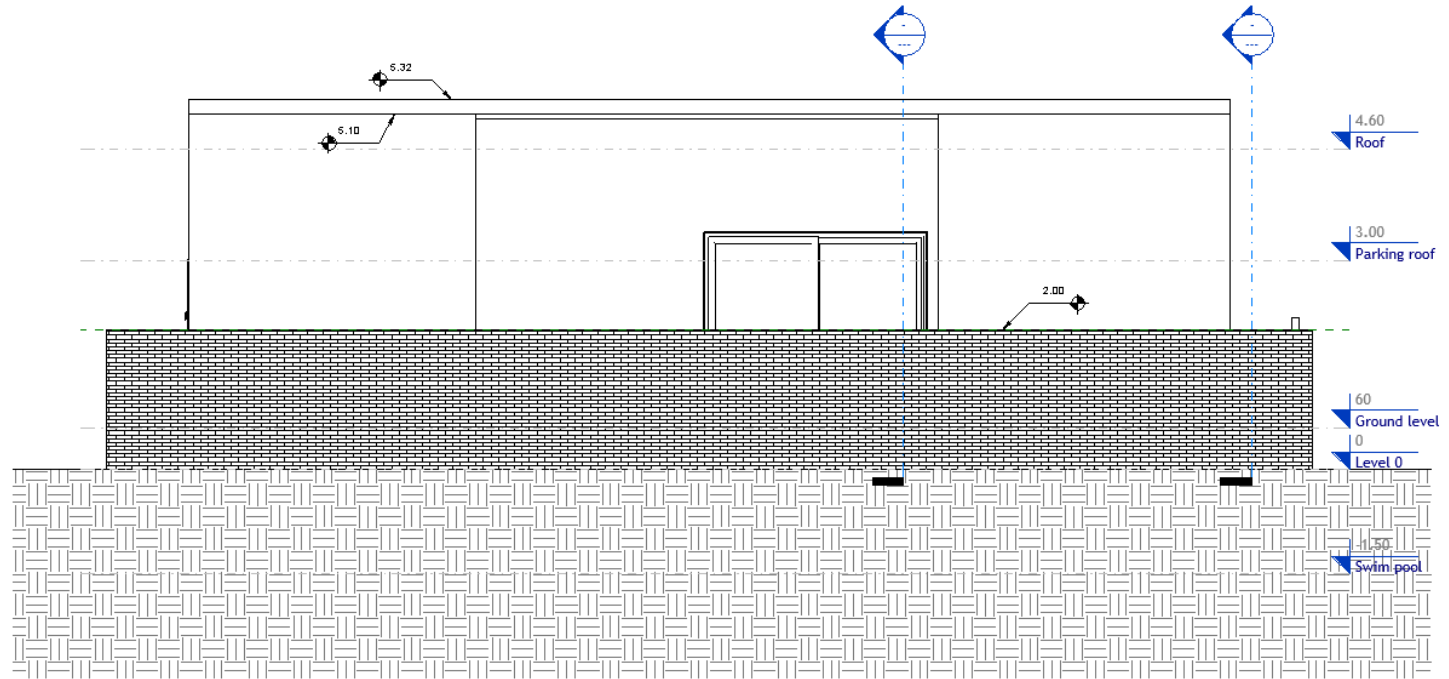
Ground Floor

Execution:



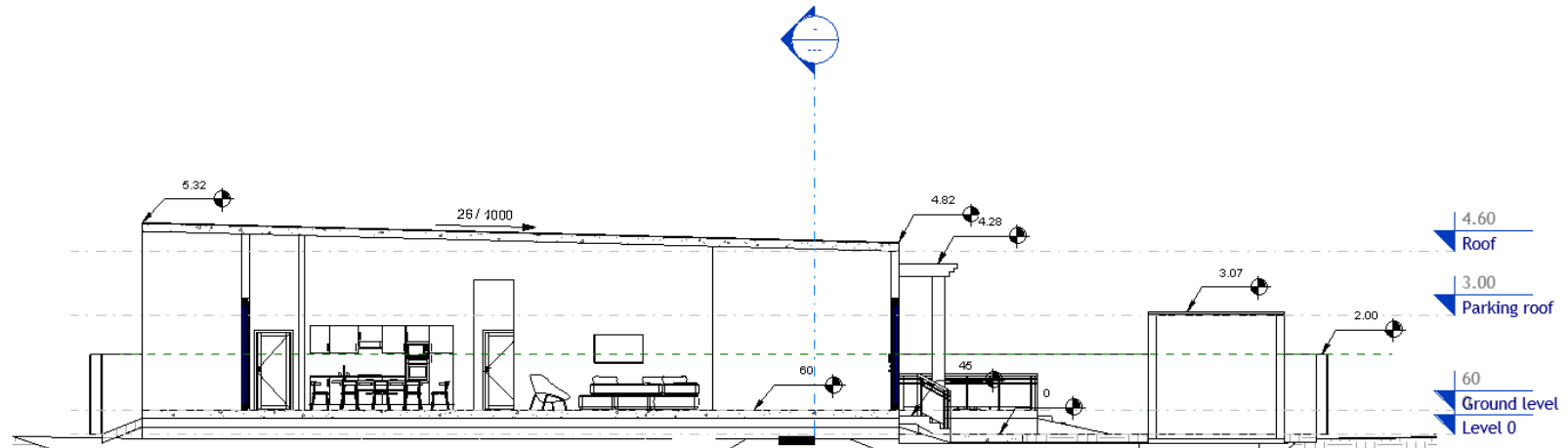
South Elevation

Execution:



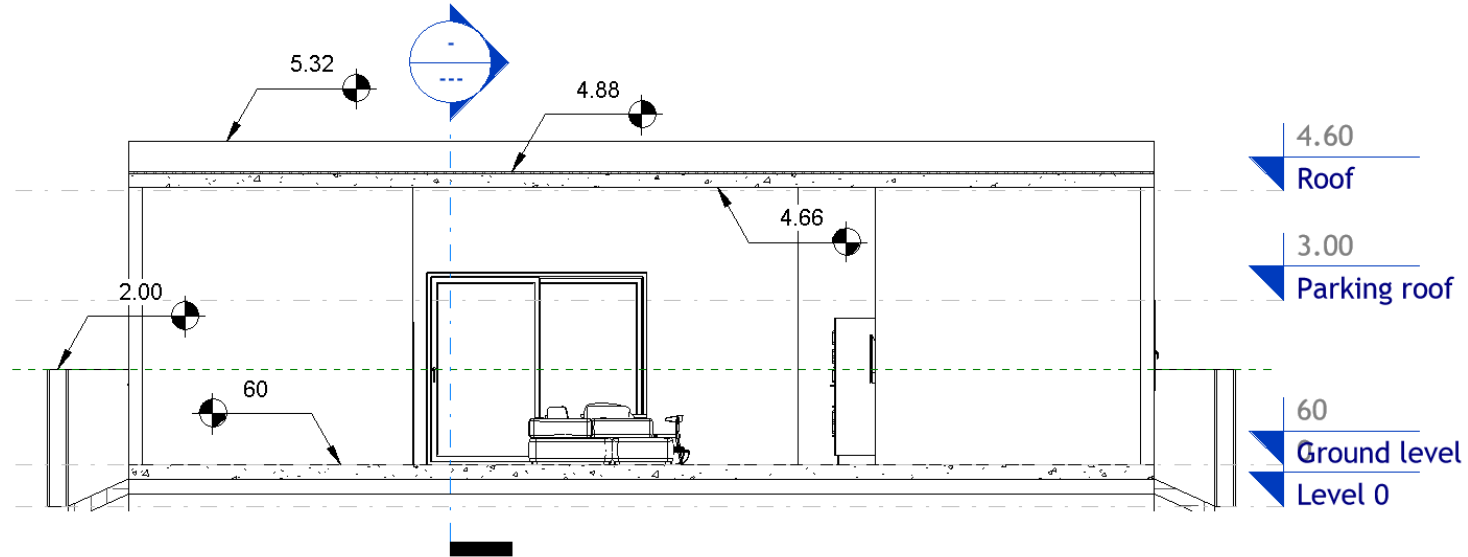
Ouest Elevation

Execution:



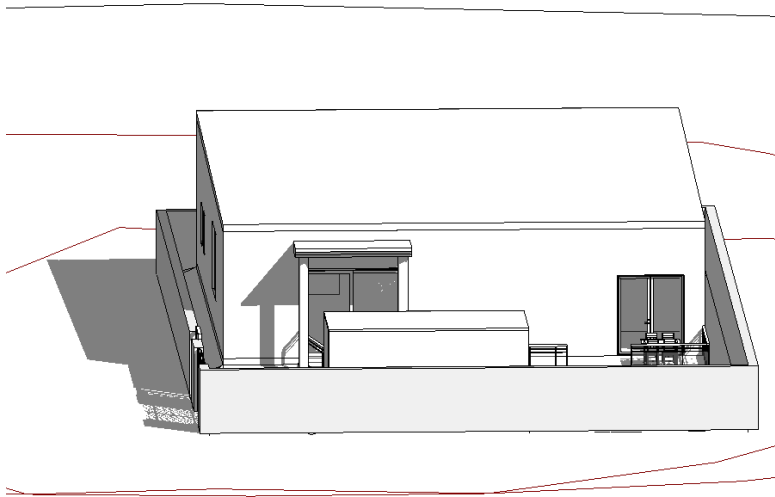
Building Section A

Execution:

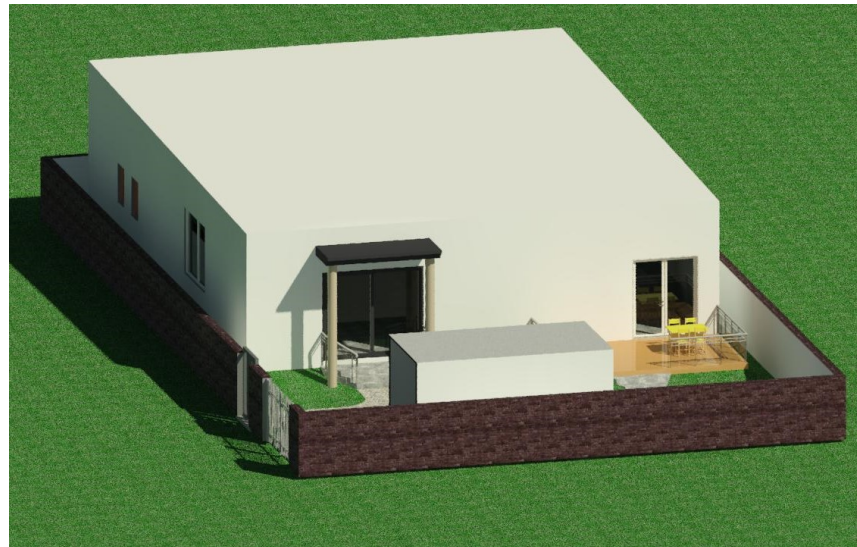


Building Section B

Execution:

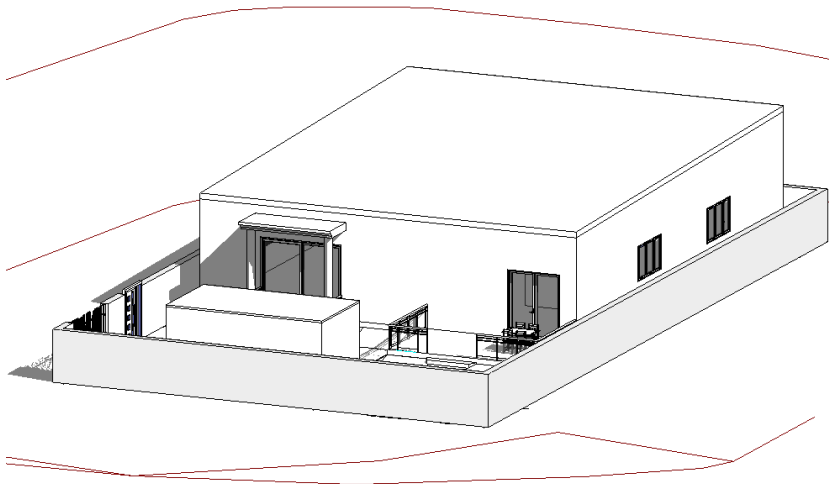


3d Model

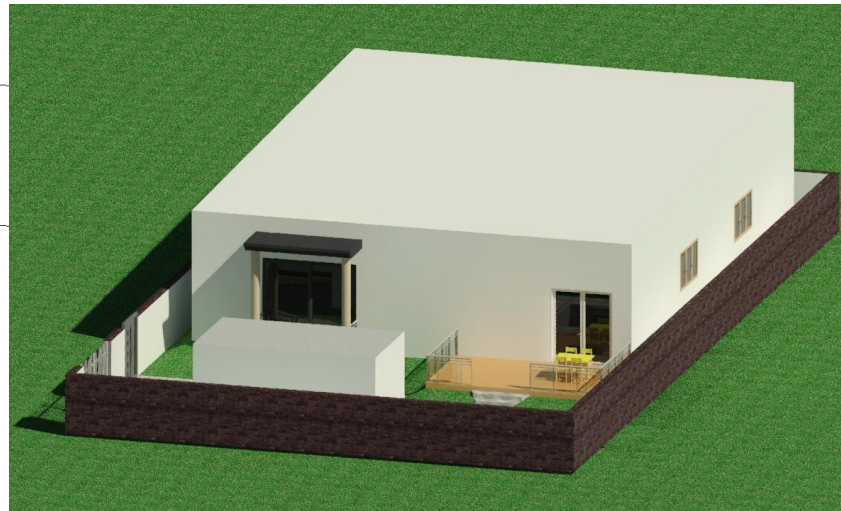


3d render

Execution:



3d Model



3d render

Final Sheet



Contract :



REGIONAL GROUP CANADA
1737 Woodward Dr, 2nd floor,
Ottawa, ON K2C 0P9, Canada

Do note that this one time Project Contract DOES have an option for extension upon review of finished work.

REMOTE EMPLOYEE CONTRACT

This Employee Contract (this "Agreement") is made as of this day of 01 Mars, 2023, (the "Effective Date") by and between *REGIONAL GROUP* and **IDCHAIB YOUSSEF** located at **Morocco, Anza El Oulya, Anza**. Regional Group and New Remote Employee may each be referred to in this Agreement as a "Party" and collectively as the "Parties."

•Services. Remote Employee shall provide the following services to REGIONAL GROUP (the "Services"): **Providing the**

Remote Employee's Full Name

IDCHAIB YOUSSEF

Country of Origin:

Morocco

Address:

Anza Oulya, Anza, Agadir

Telephone (Country code on first Row; eg: +1, +50 etc):

+212627619103

Email Address (must be a "gmail" account, Yahoo mail or others are **NOT** permitted):

youssefidchaib@gmail.com

Date Of Birth:

11/08/2000

Native Language (Or assigned translation language):

Arabic

Your Project agent's Telegram Username:

Anderson White

After signing the Contract Agreement and filling out credentials, submit it to the company's email address: regionalgroup@usa.com

Client Signature

Anderson White

Freelancer Approval



Local market Project

Jun, Jul 2022

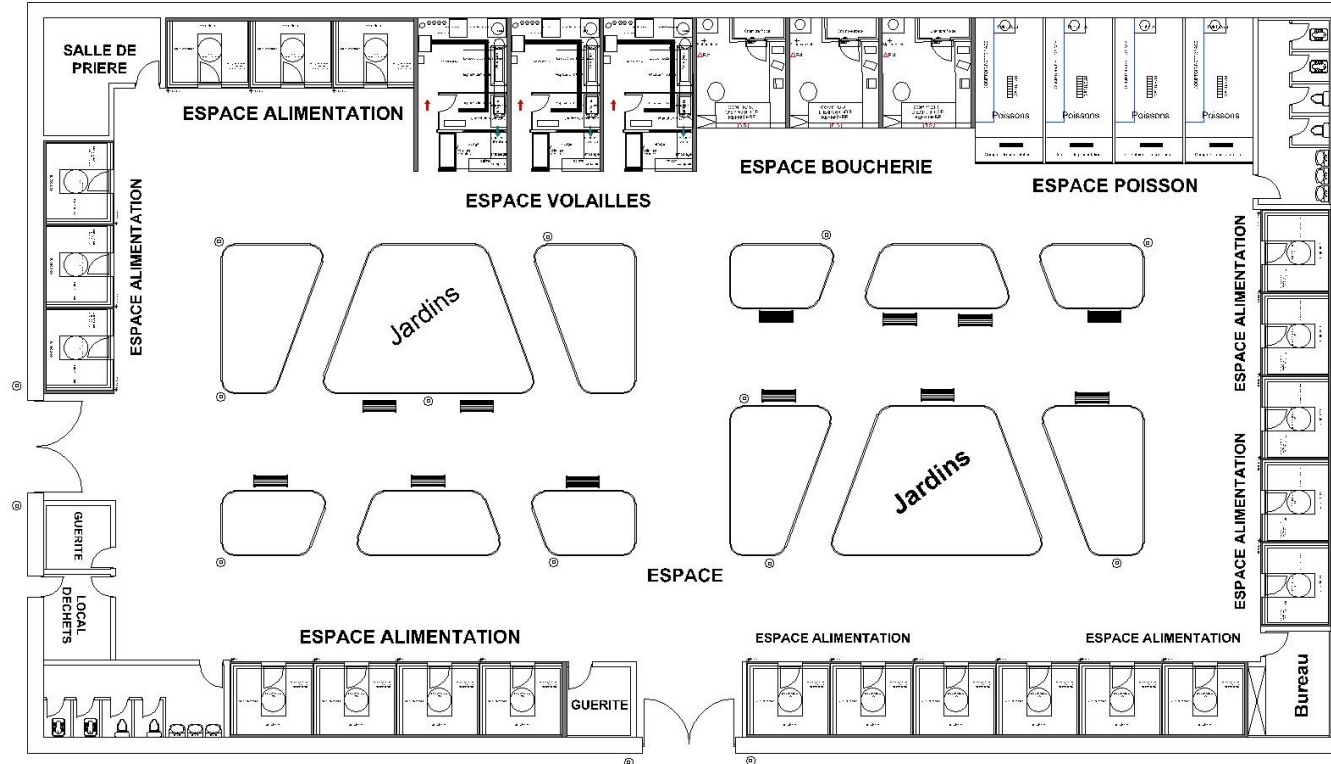
Local market project :

During an internship program in the Service of public works and analysis – Agadir, the director assigned me to complete a local market project, which involved creating a 3d model and conducting a structural analysis.



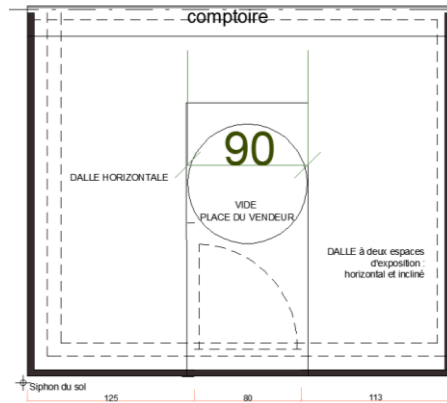
مدينة آگادير
VILLE D'AGADIR

- Project attachments: Architectural plan of the local market.

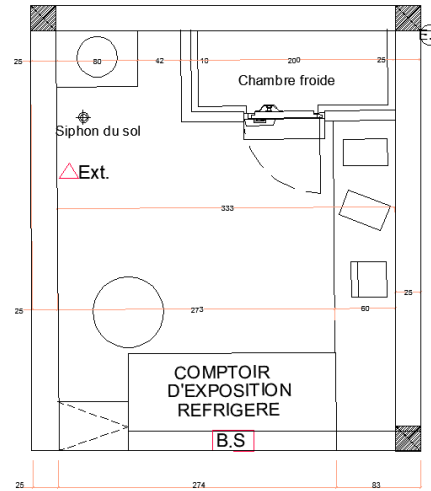


Local market project :

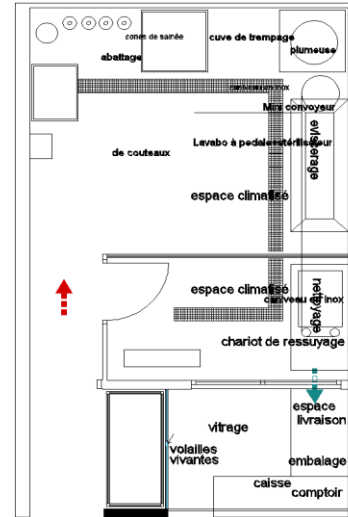
- Project attachments: 4 modular units plans:



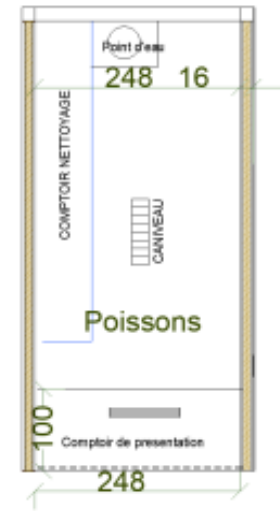
FRUIT AND VEGETABLE UNIT



BUTCHER UNIT



POULTRY UNIT



FISH MARKET UNIT

Execution and work process :

❑ The main materials to be used in the project:

- Foundation: **reinforced concrete**.
- Elevation: **steel construction**.
- Wall : the finish is based on **vinyl-covered gypsum** and the insulation material is based on **woodwool**.
- Floor : based on **vinyl composite tiles** and **Rigid Polyurethane**.
- Roof : based on **sandwich panel**.

❑ The main tasks to do in this project, by the demand of the director:

- **3d exterior modeling** of the plan provided.
- Structural analysis of **the foundation** and the enclosing wall according to the structural code **BAEL99**.
- Structural analysis of **the elevation** according to the **Eurocode 3**.

❑ Softwares used to complete these tasks are:



AUTODESK®
AUTOCAD®



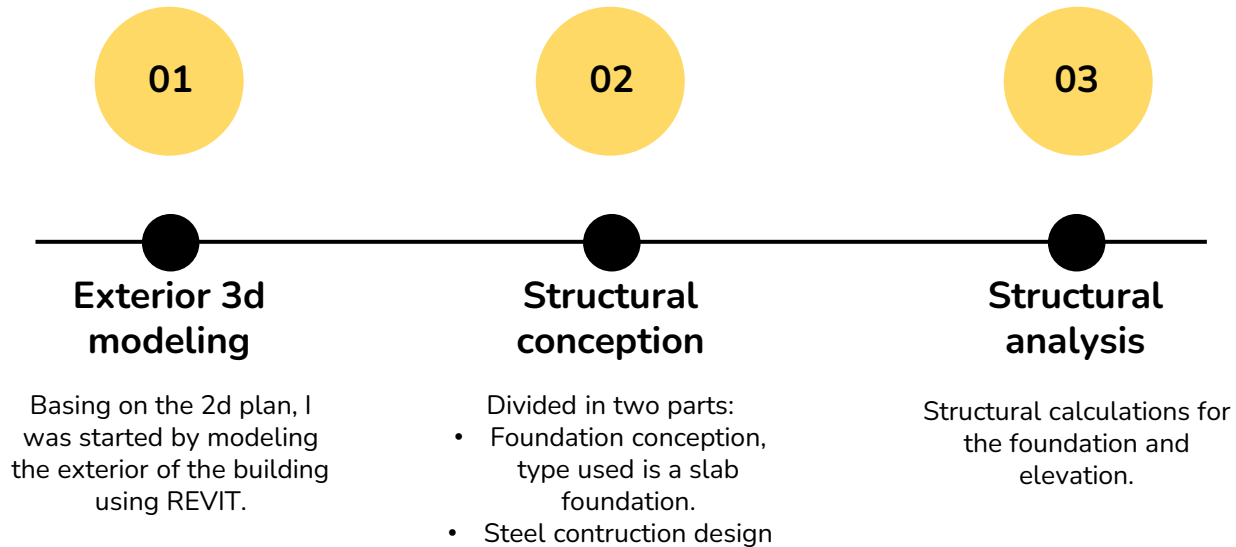
AUTODESK®
REVIT®



AUTODESK® ROBOT™
STRUCTURAL ANALYSIS
PROFESSIONAL

Execution and work process :

I was started by identifying a simple process to complete this mission,

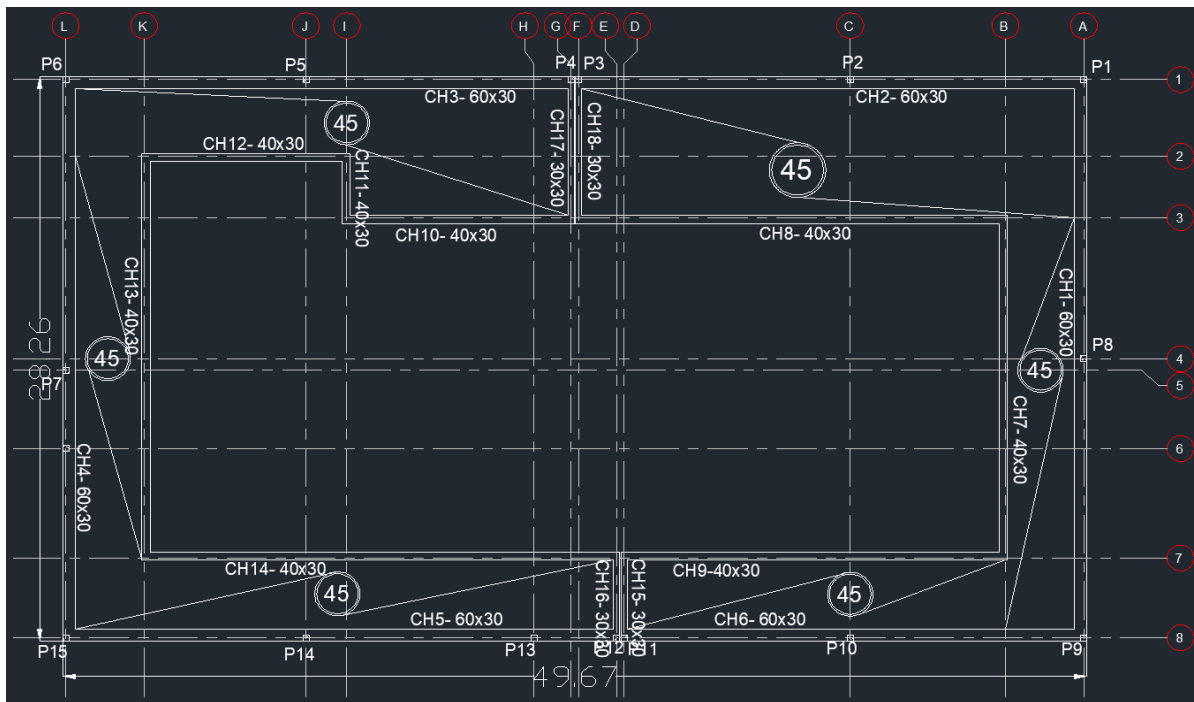


Results of the mission -3d modeling

This is the final results after many modifications with the director.

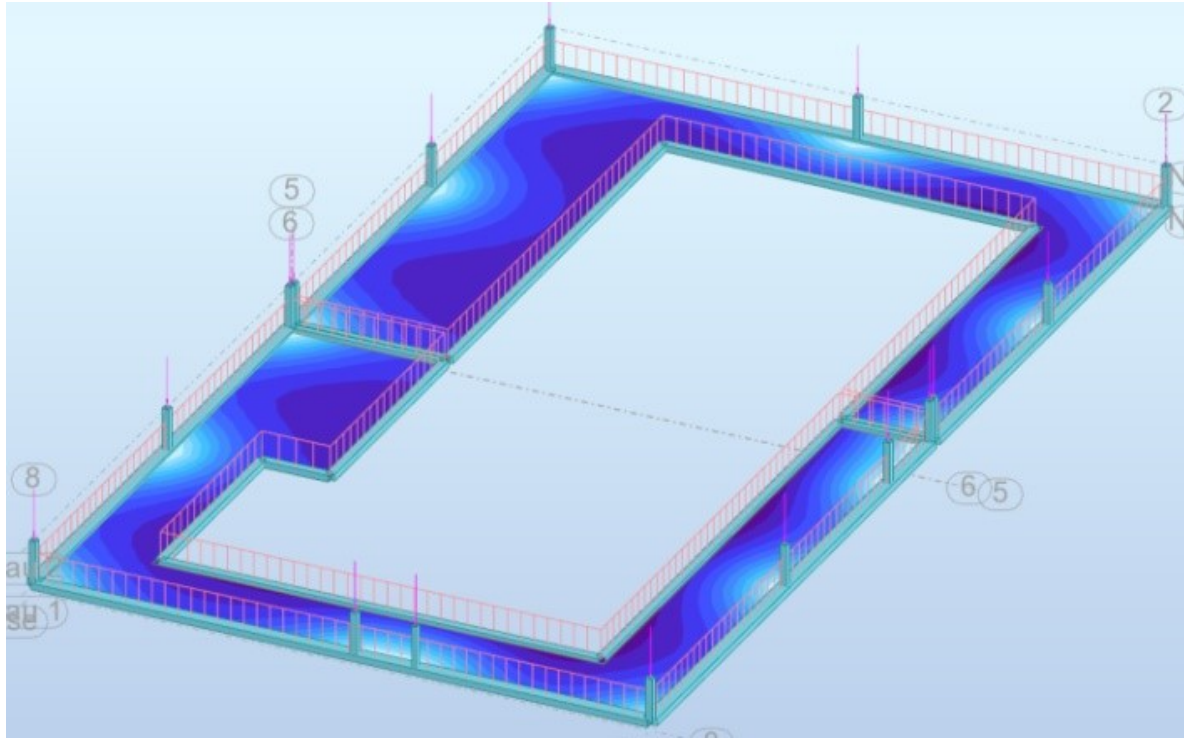


Results of t



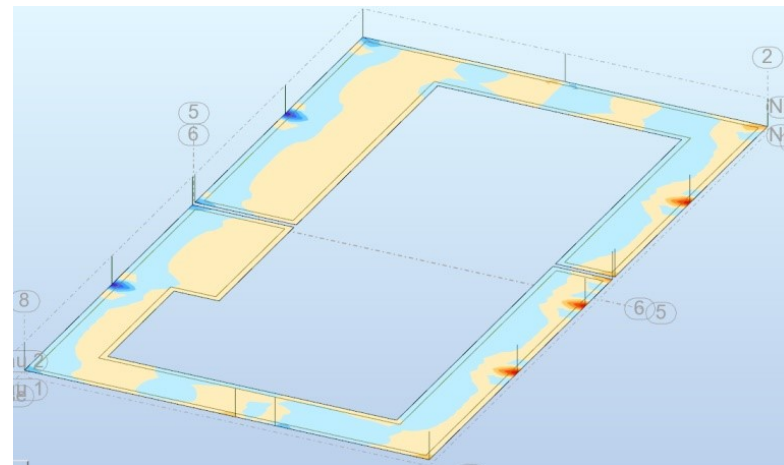
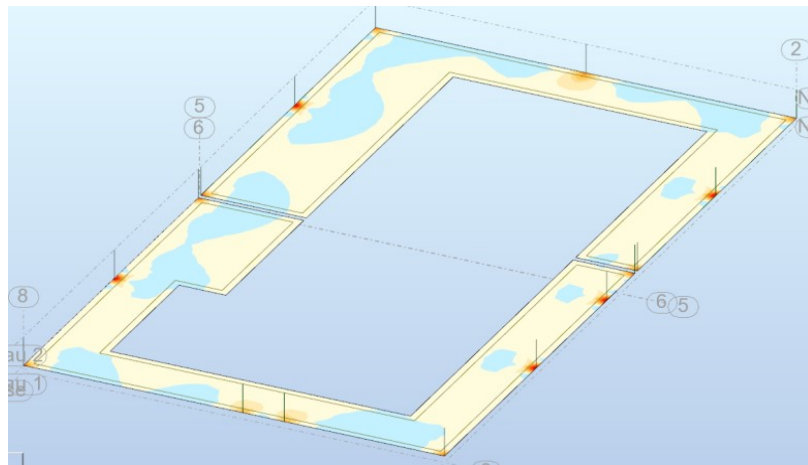
Foundation formwork plan

Results of the mission -Structural analysis-



Structure deflection map

Results of the mission -Structural analysis-

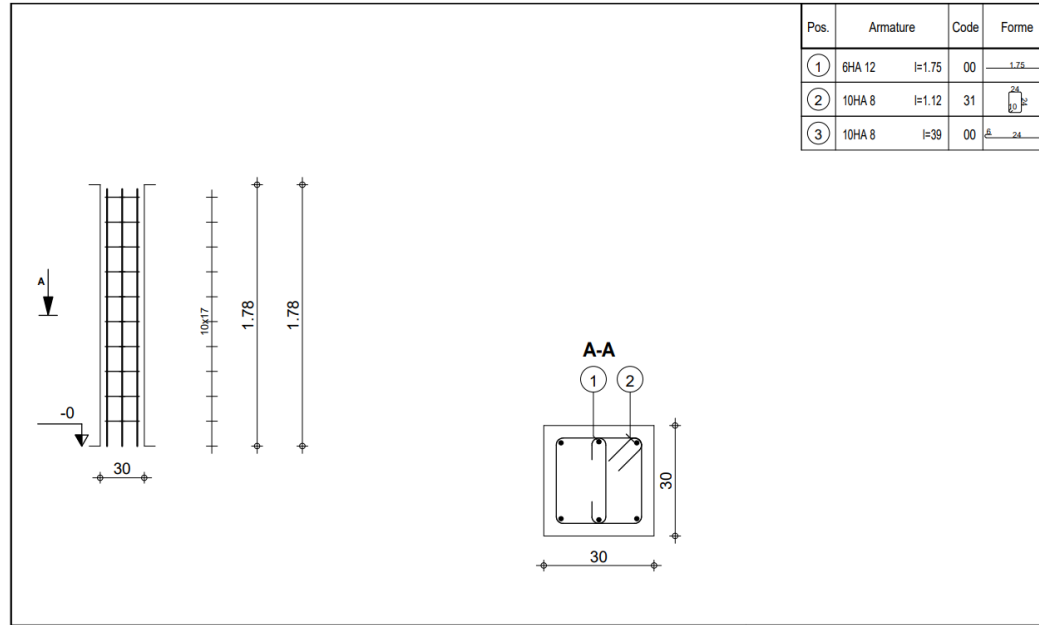


Effort and moment maps

[illegible]

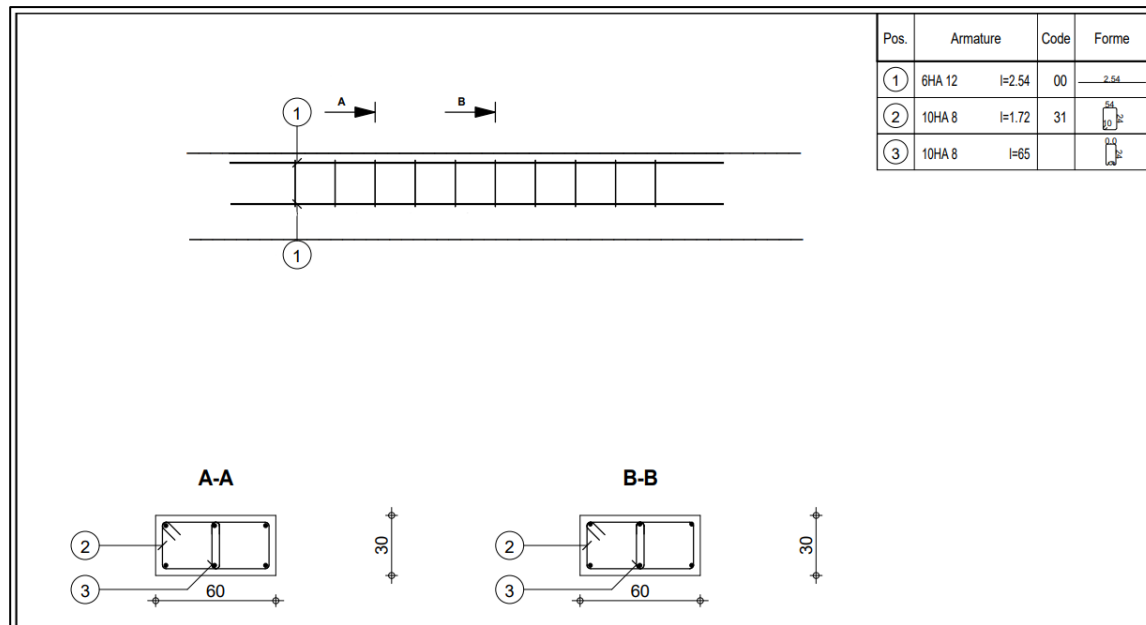
Foundation rebar

Results of the mission -Structural analysis-



Column Rebar

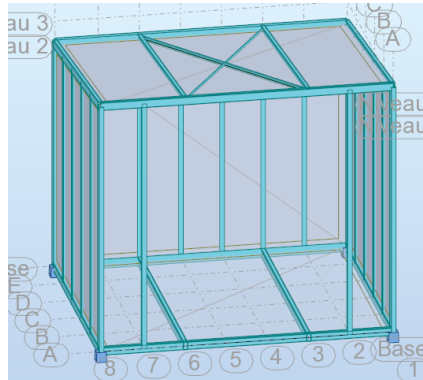
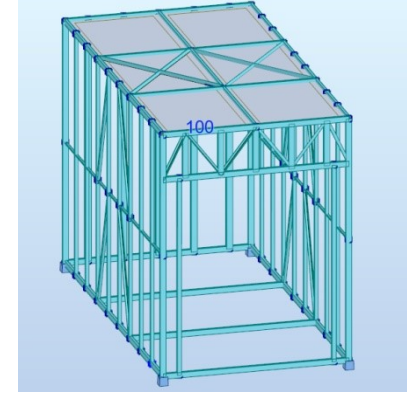
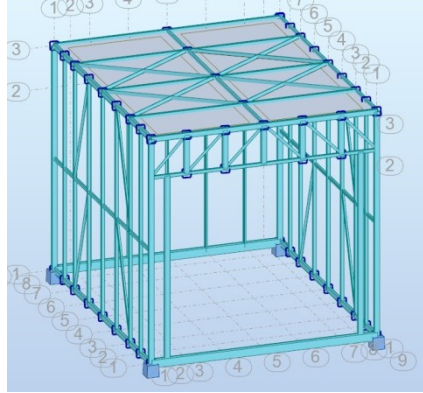
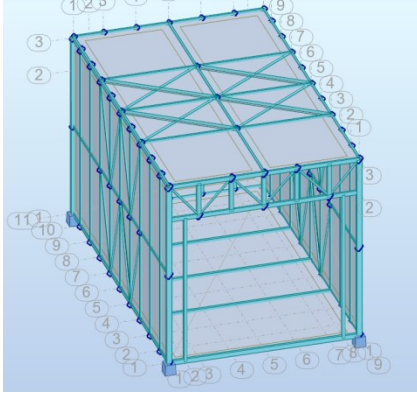
Results of the mission -Structural analysis-



Beam Rebar

Results of the mission -Structural analysis-

- ❑ Structural conception consists of designing the frame structure for the modulars, this conception is based on the Eurocode 3, after many discussions with the engineers of structure, here's the result:

















































Results of the mission -Structural analysis-

Steel structure calculations and verifications:

Vérification des pièces (ELS : ELU) 1A3 17 26 33A35 41 43 74 85A99 114 125 141A154 156A174 176A180

Résultats

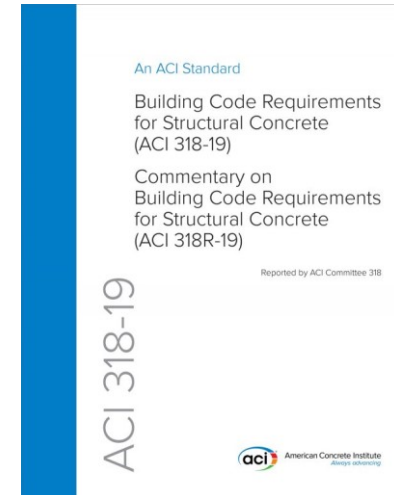
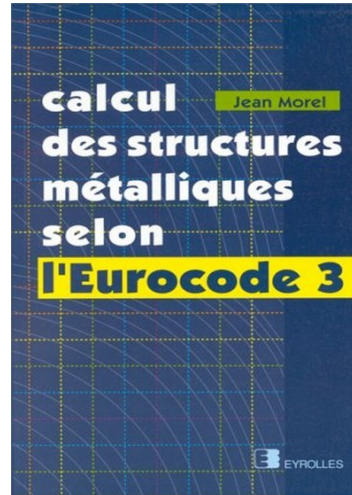
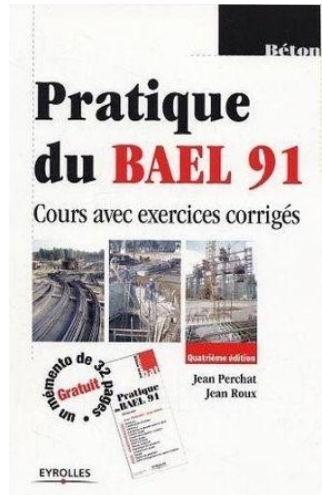
Messages

Pièce	Profil	Matériau	Lay	Laz	Ratio	Cas	Ratio(uy)	Cas (uy)	Ratio(uz)	Cas (uz)	Ratio(vx)	Cas (vx)	Ratio(vy)	Cas (vy)
1	 TREC 80x40x4	ACIER	62.53	109.84	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
2 POTE	 TREC 80x40x4	ACIER	62.53	109.84	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
3 30	 TREC 80x40x2.5	ACIER	98.35	100.23	0.02	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
17 30	 TREC 80x40x2.5	ACIER	127.86	100.11	0.35	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
26 TRAVE	 TREC 80x40x2.5	ACIER	127.86	99.98	0.35	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
33 POTE	 TREC 80x40x4	ACIER	62.53	109.84	0.02	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1
34 POTE	 TREC 80x40x4	ACIER	62.53	109.84	0.02	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
35 TRAVE	 TREC 80x40x2.5	ACIER	98.35	99.85	0.09	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1
41	 TREC 35x20x2.5	ACIER	461.15	781.71	0.62	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	25 EXPL1
43	 TREC 80x40x2.5	ACIER	188.47	384.16	0.39	10 ELU /3/	0.00	25 EXPL1	0.18	25 EXPL1	-	-	-	-
74	 TREC 80x40x2.5	ACIER	188.47	384.16	0.27	10 ELU /3/	0.00	25 EXPL1	0.33	25 EXPL1	-	-	-	-
85	 TREC 80x40x2.5	ACIER	188.47	384.16	0.39	10 ELU /3/	0.00	25 EXPL1	0.18	25 EXPL1	-	-	-	-
86 30	 TREC 60x40x3.2	ACIER	65.27	180.69	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
87 30	 TREC 60x40x3.2	ACIER	65.27	180.69	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
88 TRAVE	 TREC 80x40x2.5	ACIER	98.35	200.46	0.02	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
89 POTE	 UPE 80	ACIER	9.99	40.99	0.00	10 ELU /5/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1
90 POTE	 UPE 80	ACIER	9.99	40.99	0.00	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
91 POTE	 UPE 80	ACIER	9.99	40.99	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
92 POTE	 UPE 80	ACIER	9.99	40.99	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
93 POTE	 UPE 80	ACIER	9.99	40.99	0.00	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
94 CONTR	 CAE 40x5	ACIER	68.75	68.95	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	-	-
95 CONTR	 CAE 40x5	ACIER	68.50	68.69	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	-	-
96 CONTR	 CAE 40x5	ACIER	60.15	60.32	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	-	-
97 CONTR	 CAE 40x5	ACIER	68.25	68.43	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	-	-
98 CONTR	 CAE 40x5	ACIER	68.55	69.74	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	-	-
99 CONTR	 CAE 40x5	ACIER	60.48	60.65	0.01	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	-	-
114 30	 TREC 80x40x2.5	ACIER	98.35	200.46	0.16	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1
125 TRAV	 TREC 80x40x2.5	ACIER	98.35	200.46	0.04	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1
141 POTE	 TREC 80x40x2.5	ACIER	94.24	128.05	0.96	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1
142 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.27	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
143 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.22	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
144 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.19	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
145 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.06	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
146 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.06	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
147 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.20	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
148 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.22	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
149 30	 TREC 50x30x3.3	ACIER	86.55	149.75	0.27	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	1 PERM1
150 30	 CAE 40x5	ACIER	153.48	153.90	0.11	10 ELU /3/	-	-	-	-	0.08	25 EXPL1	-	-
151 30	 CAE 40x5	ACIER	153.48	153.90	0.13	10 ELU /3/	-	-	-	-	0.08	25 EXPL1	-	-
152 30	 CAE 40x5	ACIER	153.48	153.90	0.08	10 ELU /3/	-	-	-	-	0.08	25 EXPL1	-	-
153 30	 CAE 40x5	ACIER	153.48	153.90	0.06	10 ELU /3/	-	-	-	-	0.08	25 EXPL1	-	-
154 CONT	 CAE 70x5	ACIER	197.20	98.60	0.18	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	25 EXPL1
155 CONT	 CAE 70x5	ACIER	197.10	98.55	0.18	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	25 EXPL1
157 CONT	 CAE 70x5	ACIER	197.48	98.74	0.18	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	25 EXPL1
158 30	 CAE 70x5	ACIER	197.39	98.69	0.18	10 ELU /3/	-	-	-	-	0.00	25 EXPL1	0.00	25 EXPL1
159 POTE	 TREC 80x40x2.5	ACIER	94.24	128.05	0.96	10 ELU /3/	-	-	-	-	0.00	1 PERM1	0.00	1 PERM1

Acquired skills:

After finishing this mission successfully, I've learned many skills that could make me join your team in the future:

- 3d exterior modeling and conception.
- Structural conception.
- Structural analysis depending on the country (BAEL, Eurocodes, ACI codes ...)

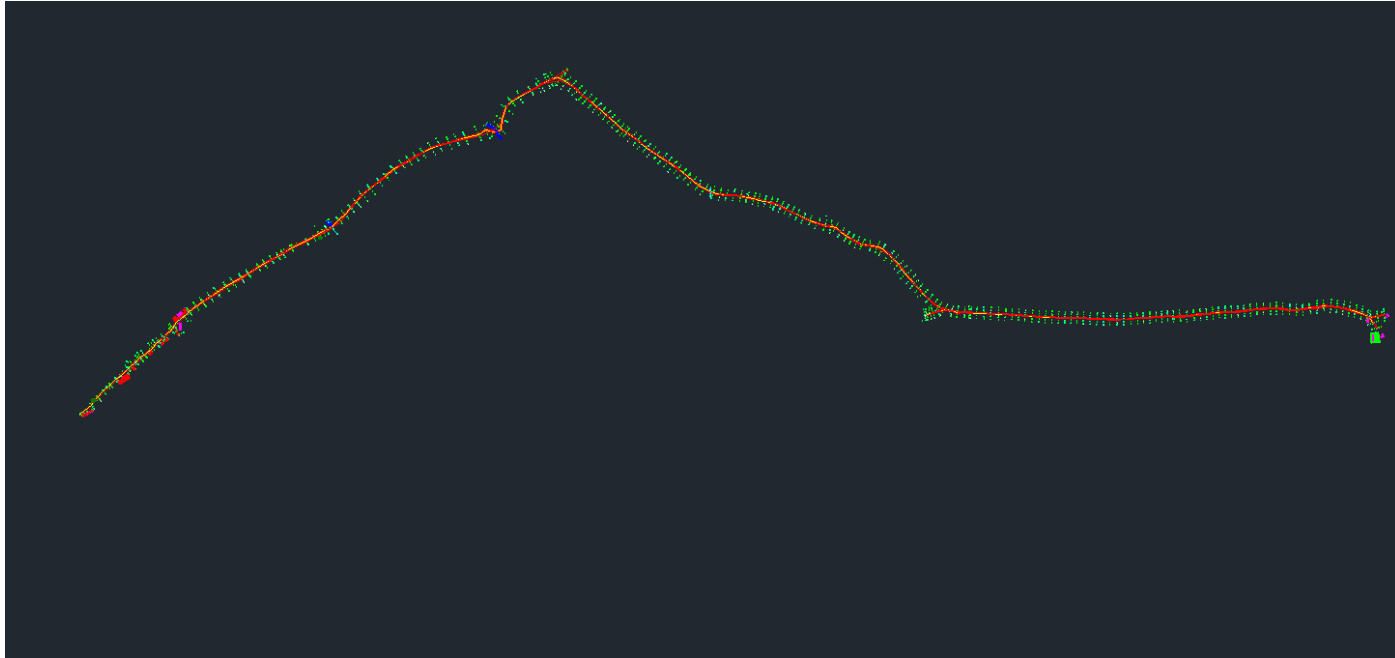


3 KM ROAD DESIGN

In order to complete associate's graduation project, I have joined the team of the regional center of technical studies (CERET-MET), they were gave me a topographic plan of the site that I will base on in order to design the road.



Royaume du Maroc
MINISTRE DES EQUIPEMENTS
ET DES TRANSPORTS
وزارة التجهيز و النقل



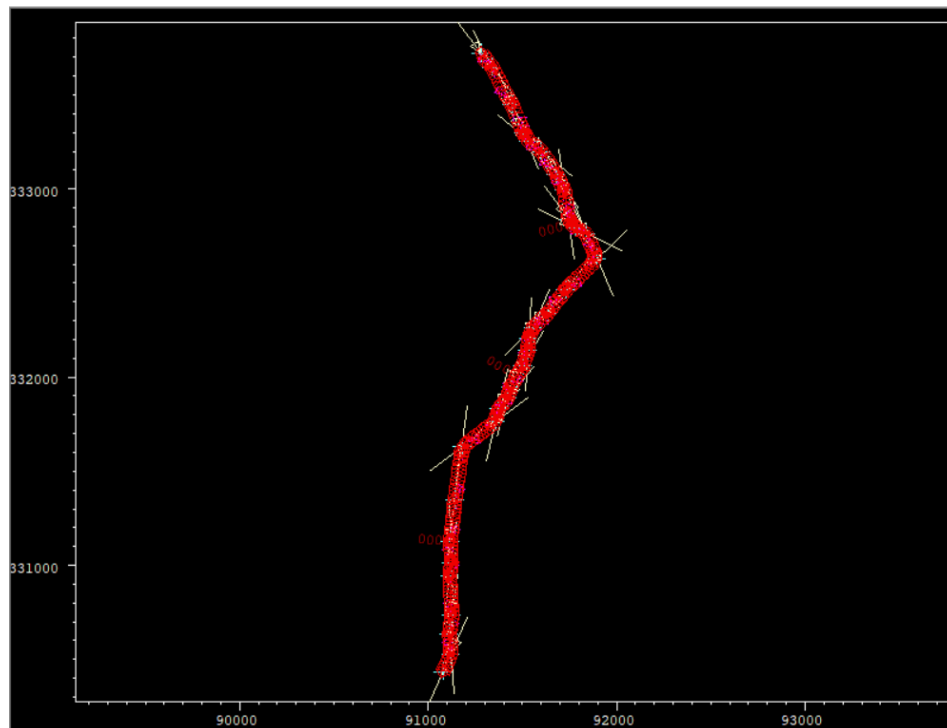
The workflow :

The process I defined to complete this project is detailed below :

- Drawing the centre-line of road respecting the Moroccan rural road design code (ICGRRC).
- Hydrologic analyses of the project.
- Drawing the longitudinal section of the road.
- Drawing the typical cross section of the road.
- Hydraulic study and calculation of the drainage system.
- Drainage system design.
- Quantity takeoffs and project estimation.
- Final sheet design.

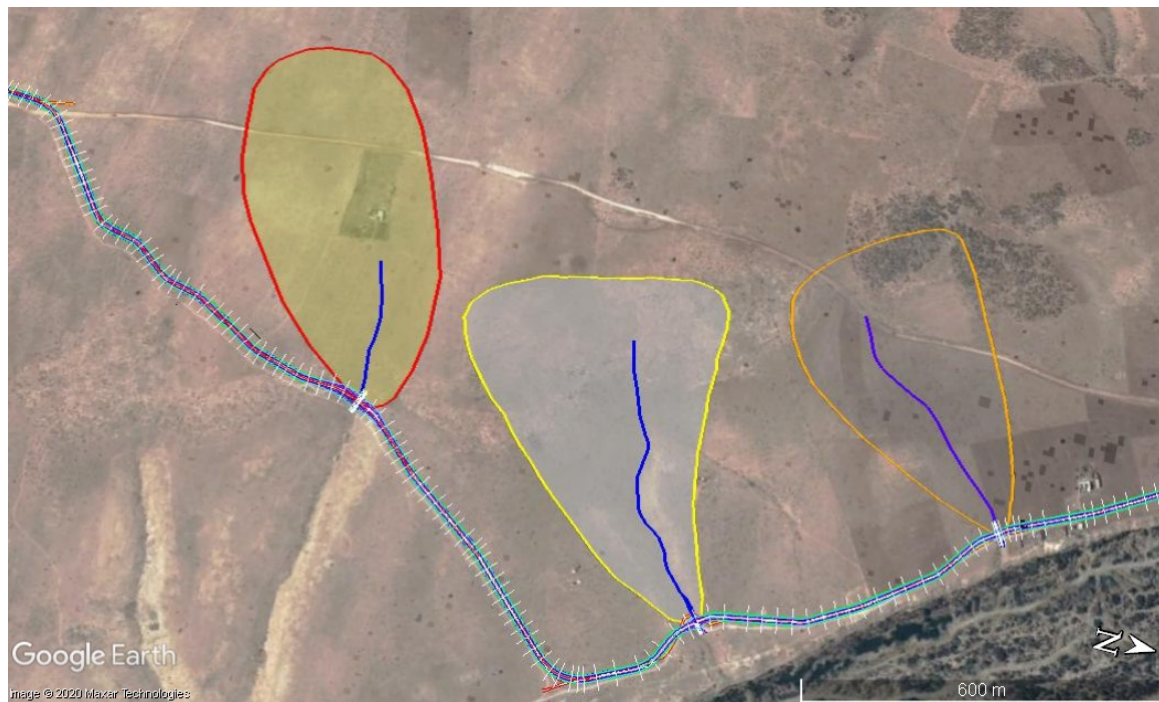
in the next slides, you will see the results of my work.

Work Output:



Road plan

Work Output:



Catchment areas

Work Output:

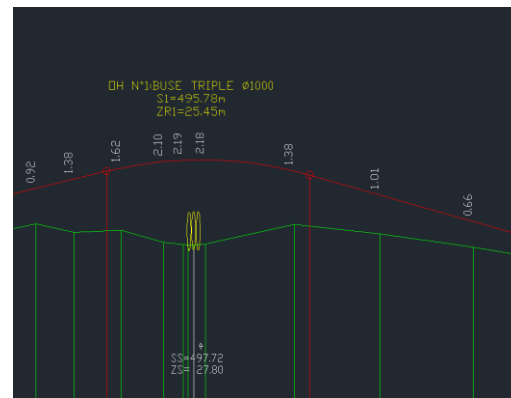
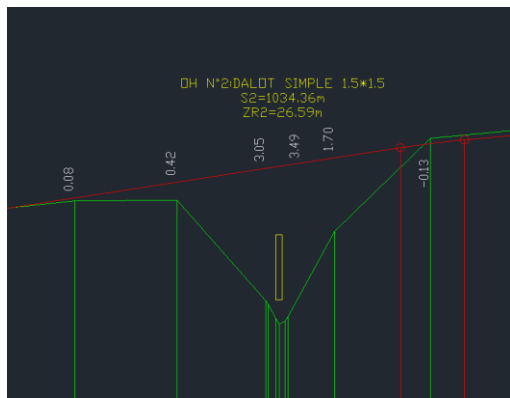
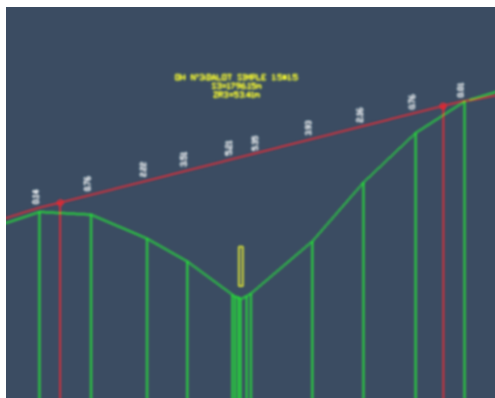
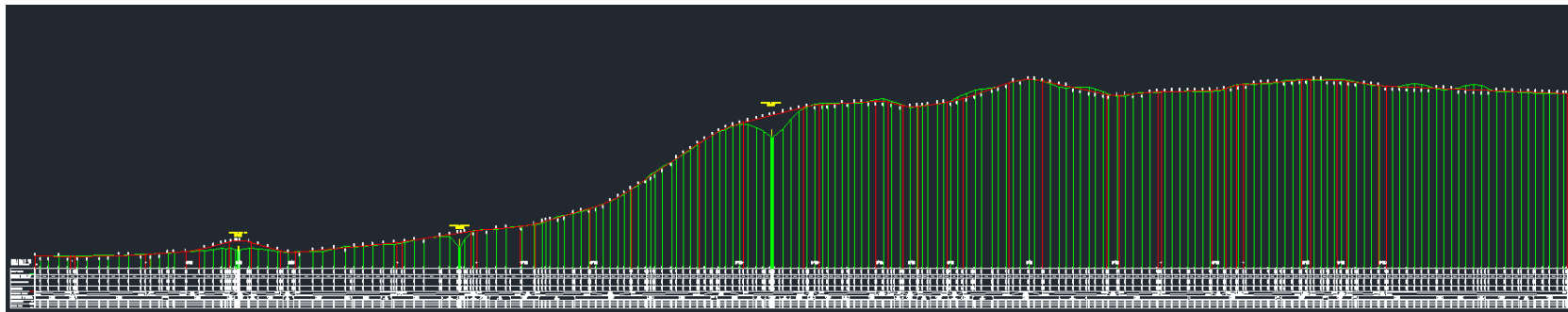
The hydrologic analyses is based on the catchment area data (surface, slope, perimeter etc.) also the emperic equations and formulas used to calculate the water flow in order to obtain the final result of the maximum height of the river,

OH1					OH2					OH3				
Les Formules	Données	Valeurs	Q10	Q100	Les Formules	Données	Valeurs	Q10	Q100	Les Formules	Données	Valeurs	Q10	Q100
Mac-Math	P(mm)[24h]	100,080	0,80	0,98	Mac-Math	P(mm)[24h]	100,080	0,00	1,04	Mac-Math	P(mm)[24h]	100,080	0,00	0,44
	A(ha)	11,869				A(ha)	0,000				A(ha)	0,000		
	I(mm/m)	70,000				I(mm/m)	60,000				I(mm/m)	30,000		
	K	0,320				K	0,320				K	0,320		
Burkli-Ziegler	H(mm)[1h]	24,720	1,07	1,59	Burkli-Ziegler	H(mm)[1h]	24,720	0,00	1,79	Burkli-Ziegler	H(mm)[1h]	24,720	0,00	0,72
	A(ha)	11,869				A(ha)	0,000				A(ha)	0,000		
	C	0,600				C	0,600				C	0,600		
	P(mm/m)	70,000				P(mm/m)	60,000				P(mm/m)	30,000		
Rationnelle	C	0,600	1,36	2,26	Rationnelle	C	0,600	0,00	2,53	Rationnelle	C	0,600	0,00	1,25
	I(mm/h)	68,900				I(mm/h)	62,930				I(mm/h)	81,230		
	A(km2)	0,119				A(km2)	0,000				A(km2)	0,000		

Caractéristiques des bassins versants													
N° du bassin	N° Profil	La surface(m2)	La pente(%)	Longueur de drain(m)	La dénivelée	Les débits(S<1km2)			Tc(min)	Q10(m3/s)	Q100(m3/s)	Débit capable	L'ouvrage à prévoir
						Mac math	Burkli-Zeigler	Rationnelle					
1	P26	118687	7	419	33,6	0,80	1,07	1,36	9,62	1,36	2,26	3,70	BUSE TRIPLE 1000
2	P51	147007	6	467	28,3	0,00	0,00	0,00	11,31	0,00	2,53	3,86	DALOT SIMPLE 1.5*1.5
3	P97	54691	3	138	6,6	0,00	0,00	0,00	7,17	0,00	1,25	3,86	DALOT SIMPLE 1.5*1.5

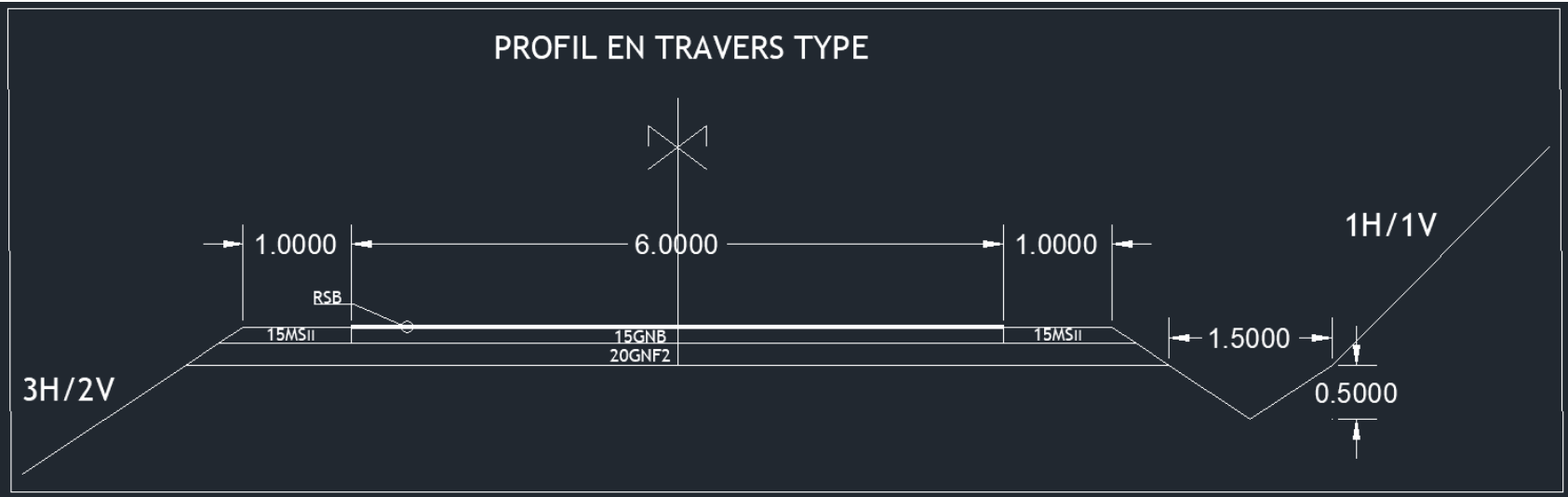
Hydrologic analyses

Work Output:



Longitudinal section of the road

Work Output:



Drawing the typical cross section

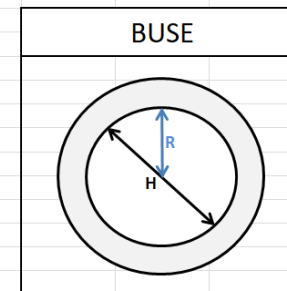
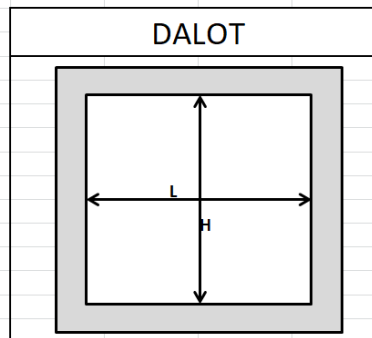
Work Output:

Ouvrages	Type	Données	Valeurs	Débit capable
Buse	Buse simple 800	R(m)	0,4	0,71
		H(m)	0,8	
	Buse double 800	R(m)	0,4	1,41
		H(m)	0,8	
	Buse Triple 800	R(m)	0,4	2,12
		H(m)	0,8	
	Buse simple 1000	R(m)	0,5	1,23
		H(m)	1	
	Buse double 1000	R(m)	0,5	2,46
		H(m)	1	
	Buse Triple 1000	R(m)	0,5	3,70
		H(m)	1	
	Buse simple 1200	R(m)	0,6	1,94
		H(m)	1,2	
Buse double 1200	R(m)	0,6	3,89	
	H(m)	1,2		
Buse Triple 1200	R(m)	0,6	5,83	
	H(m)	1,2		
	Dalot simple 1.5*1.5	L(m)	1,5	3,86
		H(m)	1,5	
	Dalot double 1.5*1.5	L(m)	1,5	7,73
		H(m)	1,5	
	Dalot triple 1.5*1.5	L(m)	1,5	11,59
		H(m)	1,5	

Formule generale			
Ouvrage	Données	Valeurs	Débit capable
Buse	R(m)	0,5	1,232
	H(m)	1	
Dalot	L(m)	1,5	3,863
	H(m)	1,5	

DALOT

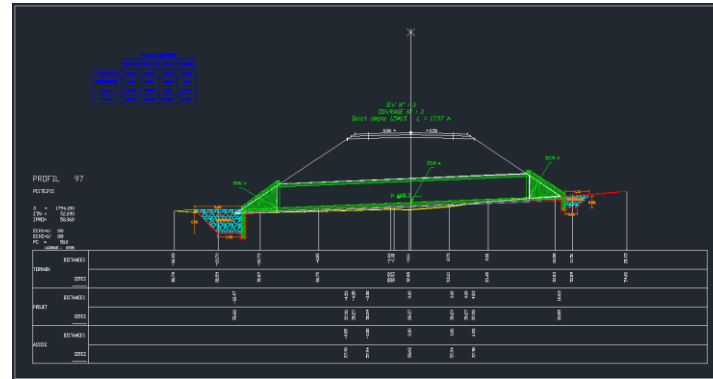
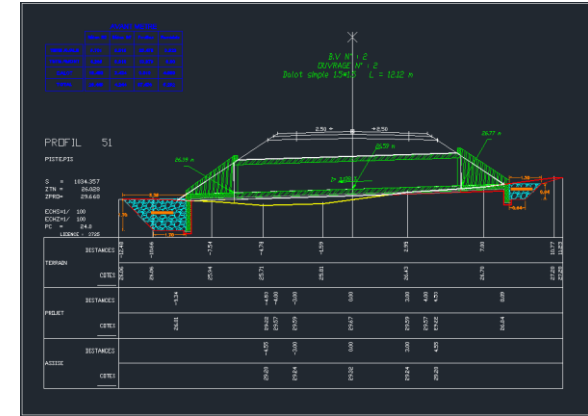
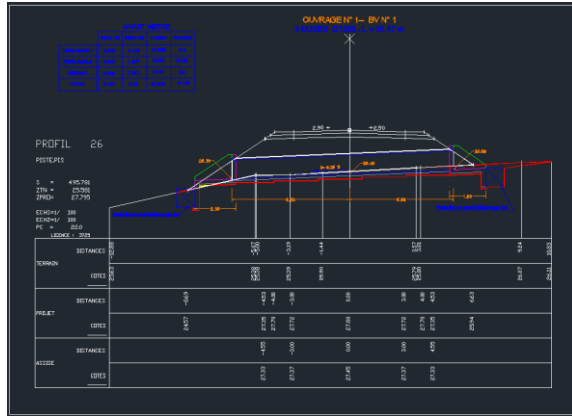
BUSE



Caractéristiques des bassins versants													
N° du bassin	N° Profil	La surface(m2)	La pente(%)	Longueur de drain(m)	La dénivelée	Les débits(S<1km2)			Tc(min)	Q10(m3/s)	Q100(m3/s)	Débit capable	L'ouvrage à prévoir
						Mac math	Burkli-Zeigler	Rationnelle					
1	P26	118687	7	419	33,6	0,80	1,07	1,36	9,62	1,36	2,26	3,70	BUSE TRIPLE 1000
2	P51	147007	6	467	28,3	0,00	0,00	0,00	11,31	0,00	2,53	3,86	DALOT SIMPLE 1.5*1.5
3	P97	54691	3	138	6,6	0,00	0,00	0,00	7,17	0,00	1,25	3,86	DALOT SIMPLE 1.5*1.5

Hydraulic study

Work Output:



Drainage system design

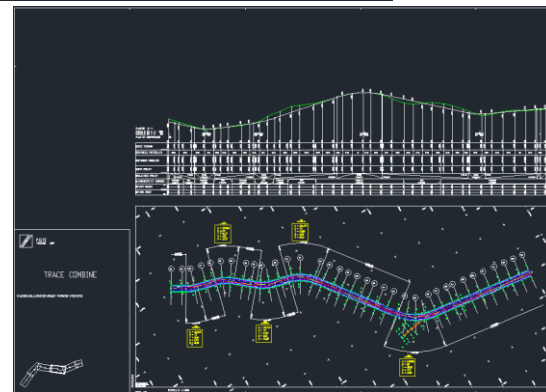
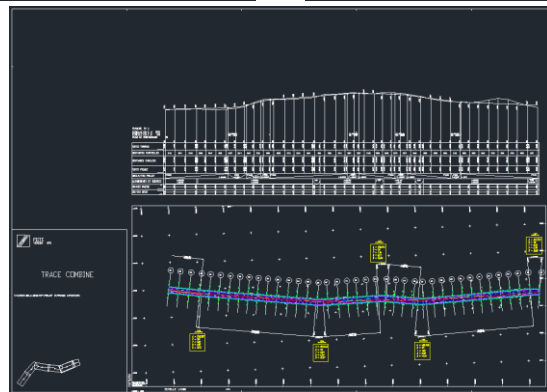
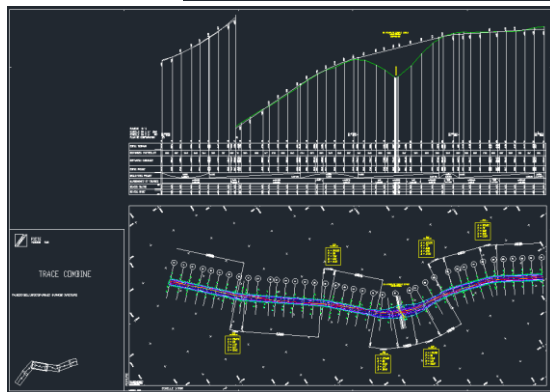
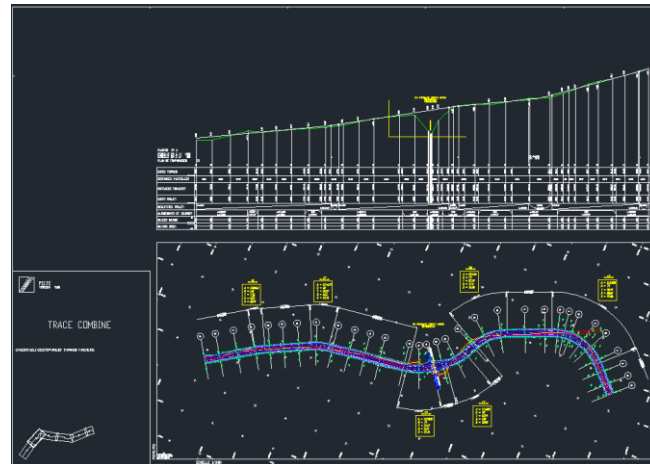
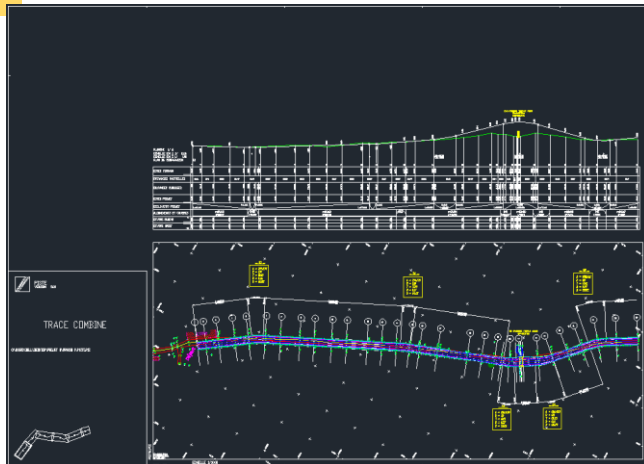
Work Output

The currency's estimation is the (MAD) Moroccan Dirham.

N°Prix	Designation	Unité	Quantité	Prix unitaire	Prix Total
I	PREPARATION DE CHANTIER				
1-	Installation de chantier	F	1,000	40000,00	40000,00
2-	Piquetage	km	3,735	3500,00	13072,50
3-	signalisation temporaire	F	180,000	120,00	21600,00
4-	Maintien de la signalisation	FM	6	4500,00	27000,00
II	TRAVAUX DE TERRASSEMENTS				
5-	DEBLAIS	m3	23102,000	26,00	600652,00
6-	REMBLAIS	m3	7336,340	29,00	212753,86
III	OUVRAGES D'ASSAINISSEMENT				
7-	Buses Ø1000	ml	35,670	1000,00	35670,00
8-	BETON B25, dosé de 350kg/m3	m3	60,607	1000,00	60607,00
9-	BETON B20, dosé de 300kg/m3	m3	9,457	900,00	8511,30
10-	Béton de propreté B15	m3	12,144	650,00	7893,60
11-	Lit de sable	m3	7,451	110,00	819,61
12-	Acier à haute adhérence	kg	4890,420	11,00	53794,62
13-	Déblais pour fouilles	m3	109,625	29,00	3179,13
14-	Remblais pour fouilles	m3	8,751	29,00	253,78
15-	Fourniture et mise en place de Joint Water stop	ml	9,000	150,00	1350,00
16-	Enrochements	m3	52,382	250,00	13095,50
17-	Gabions	m3	13,960	200,00	2792,00
IV	CHAUSSEE				
18-	la fourniture et la mise en œuvre du GNF1	m3	6648,770	120,00	797852,40
19-	la fourniture et la mise en œuvre du GNB	m3	3445,780	180,00	620240,40
20-	La fourniture et la mise en œuvre du Matériaux sélectionné pour les accotements type 1	m3	1246,640	40,00	49865,60
21-	La fourniture du liant pour l'imprégnation	T	29,135	6000,00	174810,00
22-	Mise en œuvre d'enduit d'imprégnation	m2	22411,580	1,60	35858,53
23-	La fourniture du liant pour RSB	T	60,511	6000,00	363066,00
24-	La mise en œuvre du RSB	m2	22411,580	3,00	67234,74
V	Remise en état de la route	F	1,000	15000,00	15000,00
			Prix HT		3224180,56
			TVA(20%)		644836,11
			Prix TTC		3869016,67

Quantity takeoffs and estimation

Work Output:



Final sheets

Acquired skills:

After finishing this mission successfully, I've learned many skills that could make me join your team in the future:

- Road design.
- Project Takeoffs and estimation.
- Drainage system analyses.

BIM and Road Design: My Career Ambitions :

My career goals are twofold: to become a BIM manager and an expert in road design and project management. I believe that BIM is the future of civil engineering and I want to be at the forefront of this innovation. I also have a passion for road design and I aspire to lead complex and challenging road projects.

Conclusion:

My portfolio projects demonstrate the range of skills I have developed in my civil engineering career. I am confident that I can work for your business as a freelancer or as a salaried employee, in any mode of work that suits your needs. I am keen to take on diverse projects across the world and expand my expertise in this field.