

البناء مقترح مكون من ارضي  
مراد ترخيصه

منسوب منتصف الشارع

±0.00

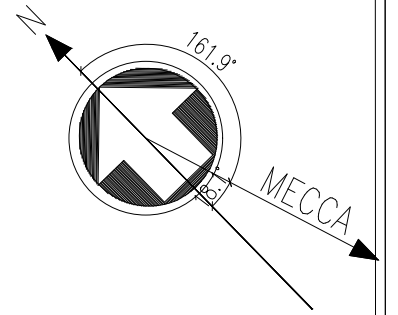
بالنسبة للطبوغرافية 555.17

منسوب ارضية الطابق الارضي  
F.F.L+0.50  
S.S.L+0.35

منسوب عقدة الارضي  
F.F.L+3.70  
S.S.L+3.60

منسوب عقدة الارضي  
F.F.L+6.45  
S.S.L+6.35

NOTES:



سجوح الوحدات السكنية  
٢٣

حسب الكودة الموحدة من جدول ك-٢ من حساب خزان التحليل

مدة التخزين = ٧ ايام

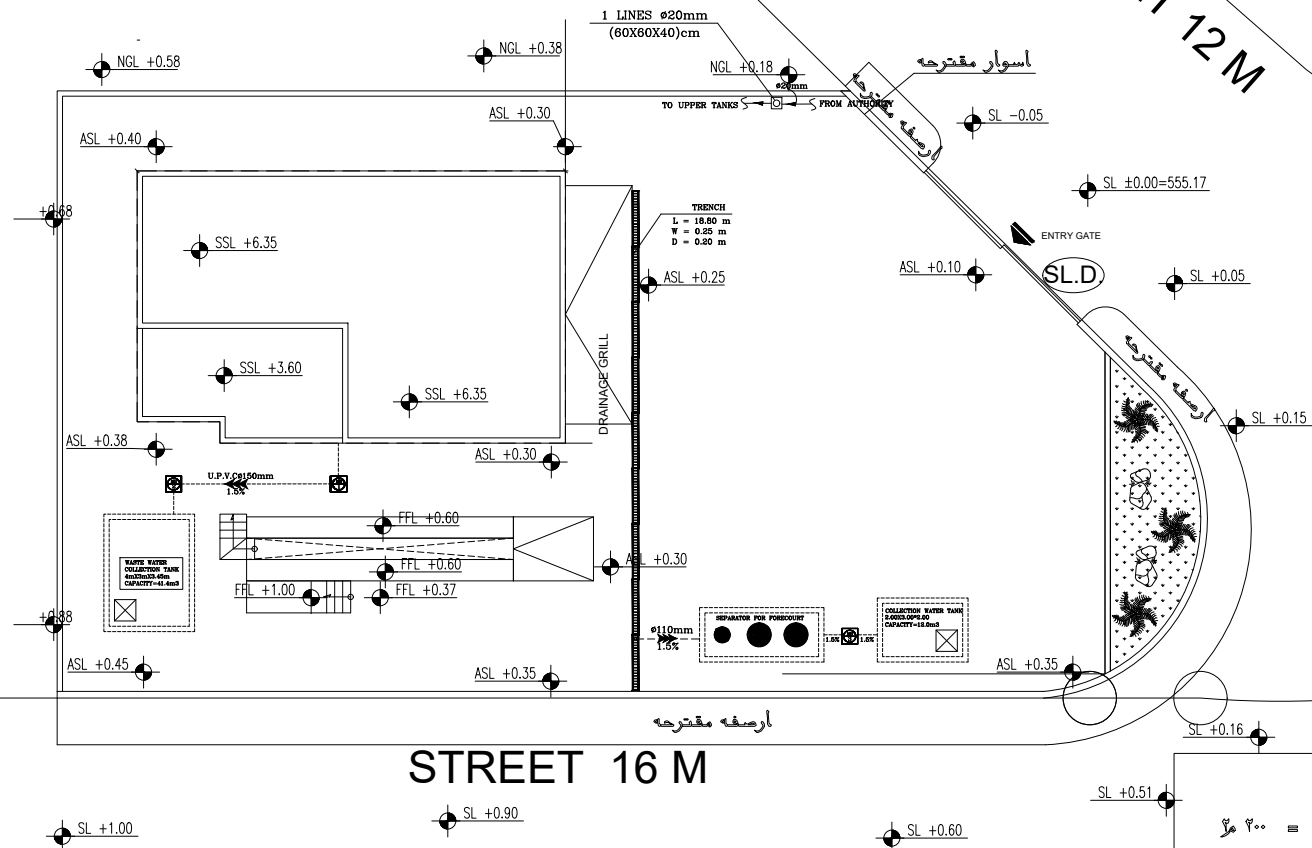
31.5 m<sup>3</sup> = 7 X 4.50 m<sup>2</sup>  
ابعاد الحفرة = 4.0mL X 3.00mW X 3.45mD

$\frac{31.5}{4 \times 3.00} = 2.625 + 0.82 = 3.45m$

NEW JORDANIAN CODE ( DRAINAGE SYSTEM)			
FIXTURE DEVICE	FIXTURE NUMBER	FIXTURE EQ. UNITS	
		PUBLIC	PRIVET
k.SINK	1	2.0	2.0
W.BASIN	1	1.0	1.0
W.C	1	4.0	4.0
FLOOR DRAIN	2	8.0	16
			23

SEWERAGE MANHOLE SCHEDULE

MH No.	COVER LEVEL	INLET LEVEL	OUTLET LEVEL	DEPTH (cm)	SIZE (cm)	REMARKS
MH1	+0.34	-0.21	-0.26	60	60X60	MD CAST IRON COVER
MH2	+0.40	-0.37	-0.42	82	60X60	MD CAST IRON COVER
MH-3	+0.33	-0.40	-0.45	78	60X60	MD CAST IRON COVER



103332.91

حسابات حفرة المياه التجميعية

- المساحة المعرضة لسقوط ماء المطر والمراد تجميع المياه منها = ٢٠٠ م<sup>2</sup>
- كمية الأمطار = ٠,٧٥ × ٢٠٠ م<sup>2</sup> = ١٥٠ م<sup>3</sup>
- عند تشغيل المضخة ٣ مرات  $\frac{١٥٠}{٣} = ٥٠$  م<sup>3</sup>
- عمق الخزان المطلوب =  $\frac{٥٠}{٢,٥ \times ٢} = ١٠,٧٨$  م
- ابعاد الخزان المختار = ٢ × ٢ × ٢ = ١٢ م<sup>3</sup>
- اختيار مضخة التفريغ =  $\frac{١٠٠ \times ٥}{٣٦٠٠} = ١,٣٨$  لتر / ثانية
- يتم اختيار مضخة ١,٥ لتر ثانية وماسورة قطر ٥٠ ملم للسحب

REV. No.	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:

AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:

STATION TO WASH & MAINTENANCE CARS & TRUCKS

CONSULTANT:

AMTAR ENGINEERING CO.

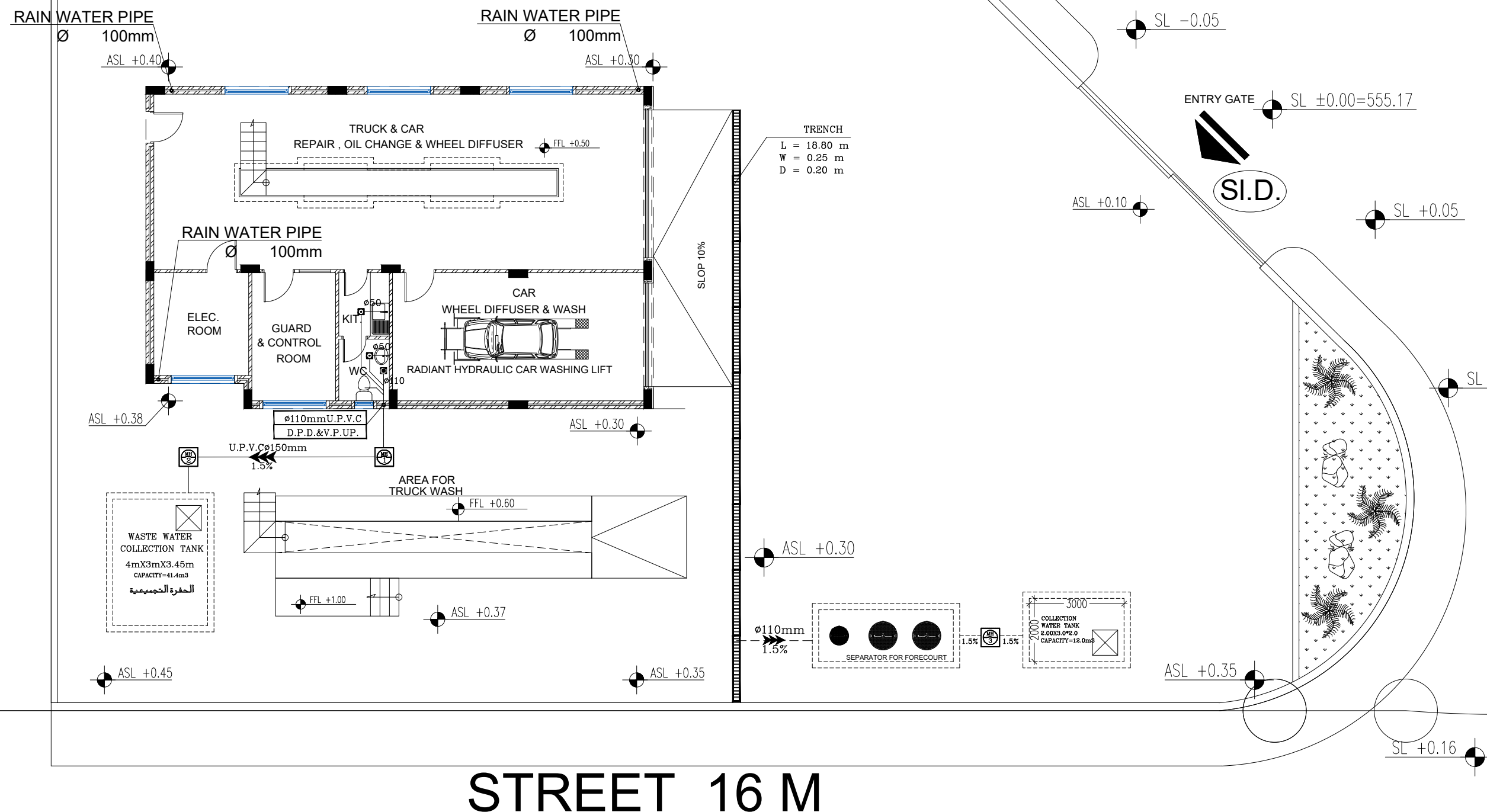
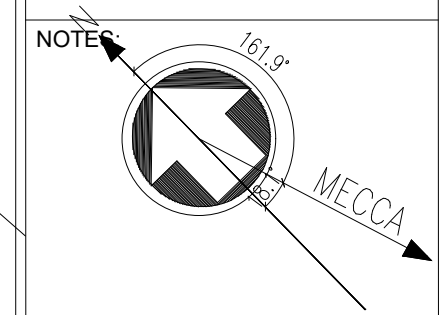


DRAWING TITLE :

SITE PLAN

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG ABDALLH ODAT	SCALE	1:200
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M01	PROJECT NO.	

STREET 12 M



TRENCH  
L = 18.80 m  
W = 0.25 m  
D = 0.20 m

SL.D.

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:  
STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:  
AMTAR ENGINEERING CO.



DRAWING TITLE :  
GROUND DRAINAGE

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG ABDALLH ODAT	SCALE	1:100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M02	PROJECT NO.	

STREET 16 M

01 GROUND FLOOR PLAN  
SCALE 1:200

SL +0.60

SL +0.51

SL +0.16

ASL +0.35

ASL +0.30

ASL +0.37

ASL +0.45

ASL +0.38

ASL +0.30

ASL +0.10

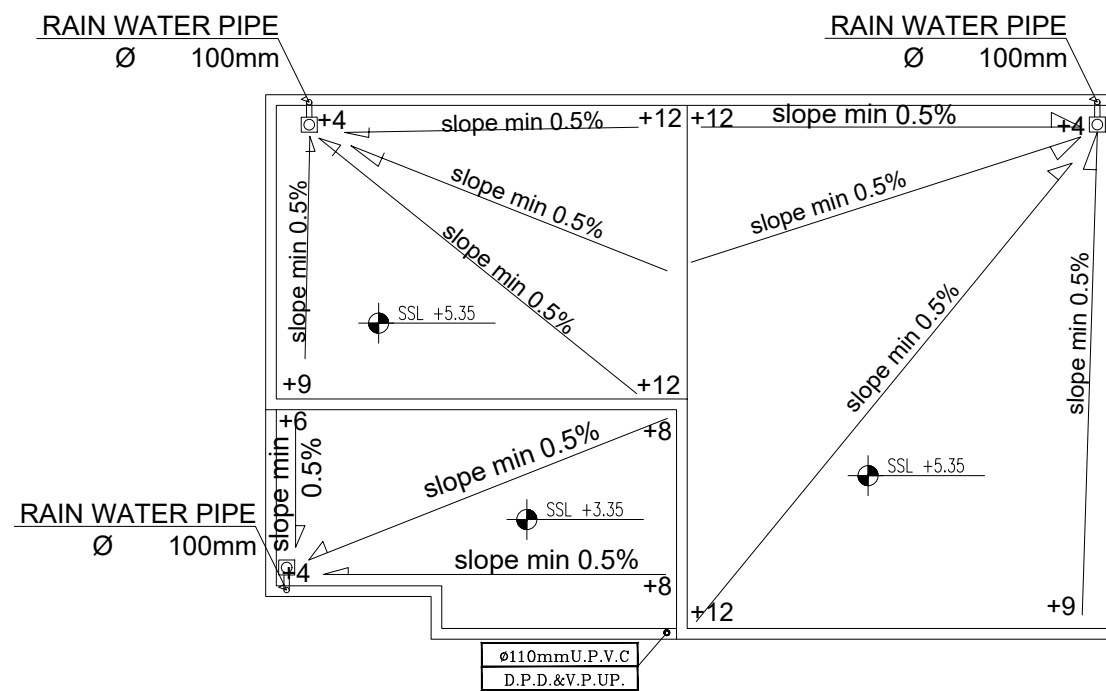
SL +0.05

SL -0.05

ENTRY GATE SL ±0.00=555.17

SL +0.90

SL +1.00



NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:

AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:

STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:

AMTAR ENGINEERING CO.



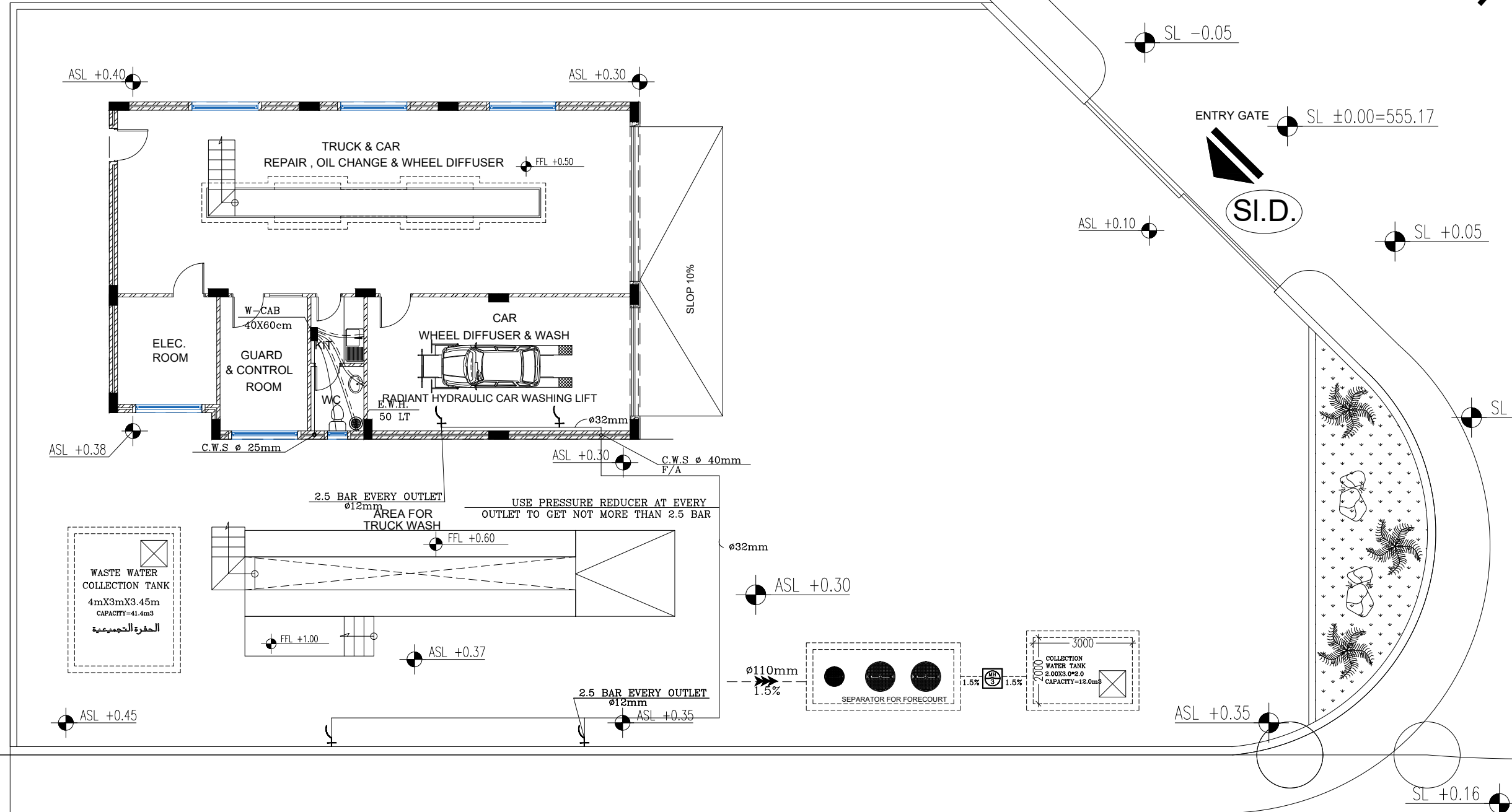
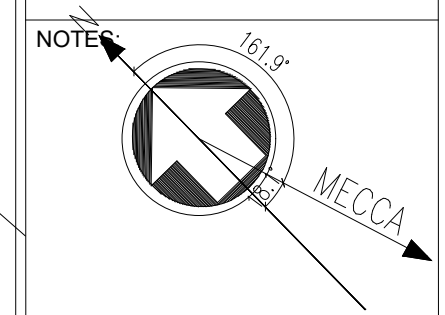
DRAWING TITLE :

ROOF DRAINAGE

DESIGNED BY	ENG.ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M03	PROJECT NO.	

01 ROOF FLOOR PLAN  
SCALE 1:200

STREET 12 M



STREET 16 M

NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:  
STATION TO WASH & MAINTENANCE CARS & TRUCKS

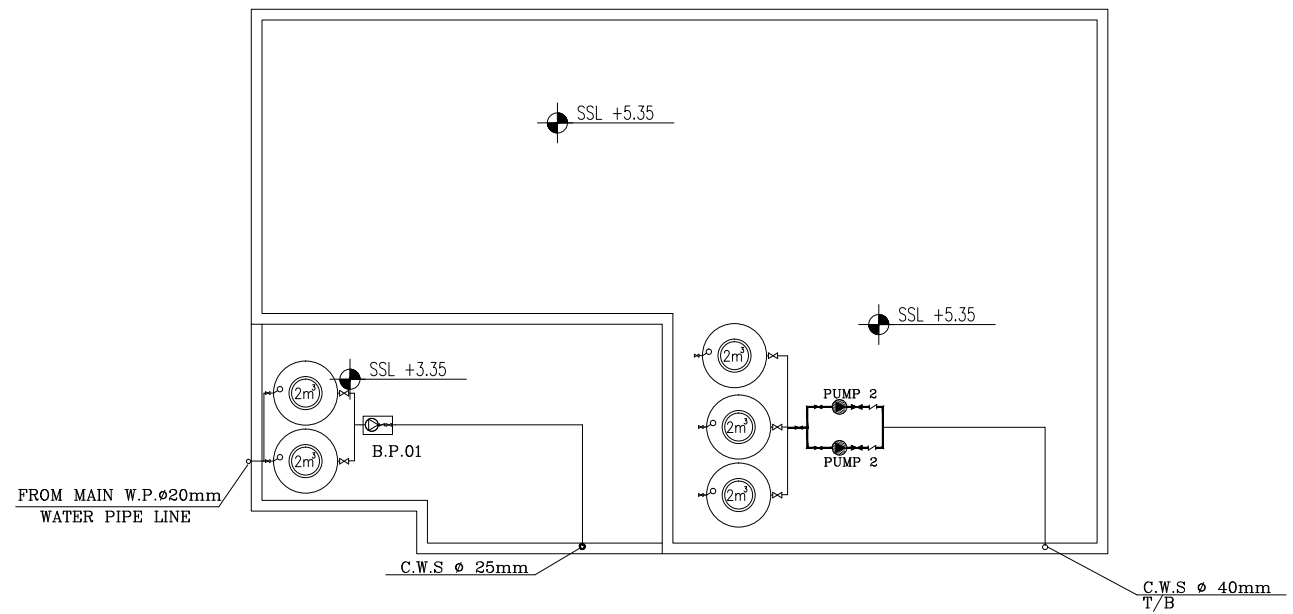
CONSULTANT:  
AMTAR ENGINEERING CO.



DRAWING TITLE :  
GROUND WATER

01 GROUND FLOOR PLAN  
SCALE 1:200

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG ABDALLH ODAT	SCALE	1:100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M04	PROJECT NO.	



PUMPS SCHEDULE

PUMP TYPE	FLOW (lps)	HEAD (m)	QUANTITY			SYSTEM	DESIGNATION	ELECTRICAL (indoor) POWER	ELEC .POWER w
			DUTY	STAND BY	TOTAL				
BOOSTER PUMP (B.P.1)	0.5	6.0	1	-	1	DOMESTIC WATER	AT ROOF	220-240v/50Hz /1Ph	200

WASH PUMPS SCHEDULE

PUMP DESIGNATION	SERVED AREA OR EQUIPMENT	FLOW L/S (EACH)	HEAD (BAR)	QUANTITY			TYPE	SYSTEM
				DUTY	STAND BY	TOTAL		
PUMP 2	BOOSTER WATER PUMP	10	10	1	1	2	BOOSTING PUMP SET WITH 200 L. PRESSURE WATER VESSEL	DOMESTIC WATER

NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:  
STATION TO WASH & MAINTENANCE CARS & TRUCKS

CONSULTANT:  
AMTAR ENGINEERING CO.

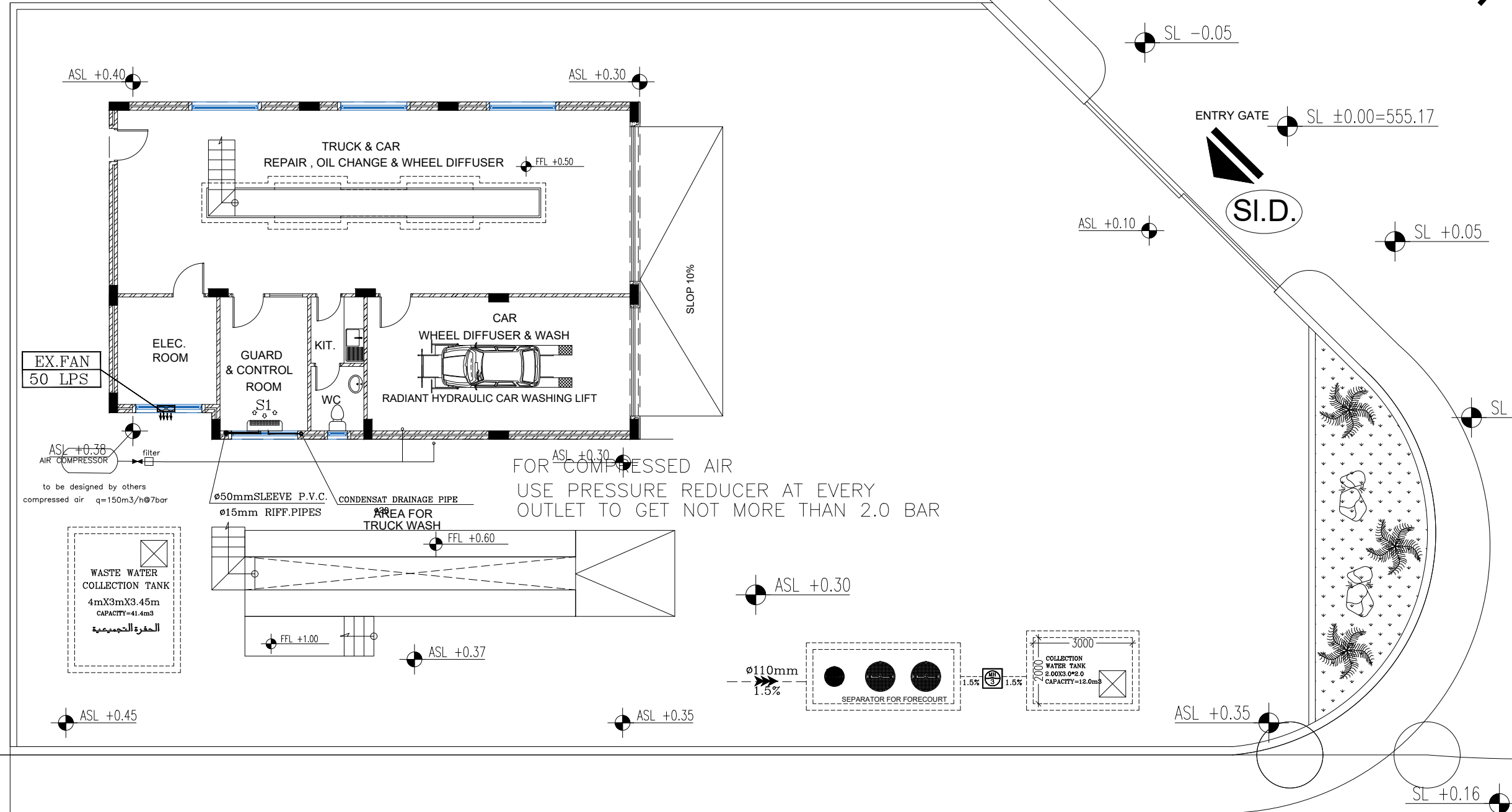
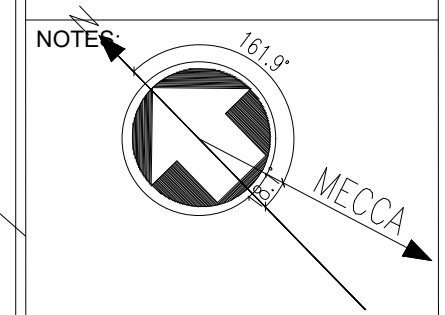


DRAWING TITLE :  
WATER TANKS

DESIGNED BY	ENG.ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M05	PROJECT NO.	

01 ROOF FLOOR PLAN  
SCALE 1:200

STREET 12 M



FOR COMPRESSED AIR  
USE PRESSURE REDUCER AT EVERY  
OUTLET TO GET NOT MORE THAN 2.0 BAR

STREET 16 M

**IN DOOR UNIT SCHEDULE  
FOR GR FLOOR**

No	LPS	COOLING LOAD		HEATING LOAD	VOLT	PHASE	E.L POWER	QTY.
		TOTAL CAP.	SENSIBLE CAP.					
		K.WATT	K.WATT					
S01	201	3.5	3.0	2.5	230.0	1.0	1.22	1

01 GROUND FLOOR PLAN  
SCALE 1:200

REV. No	DATE	DESCRIPTION	CHECKED
1			
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3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

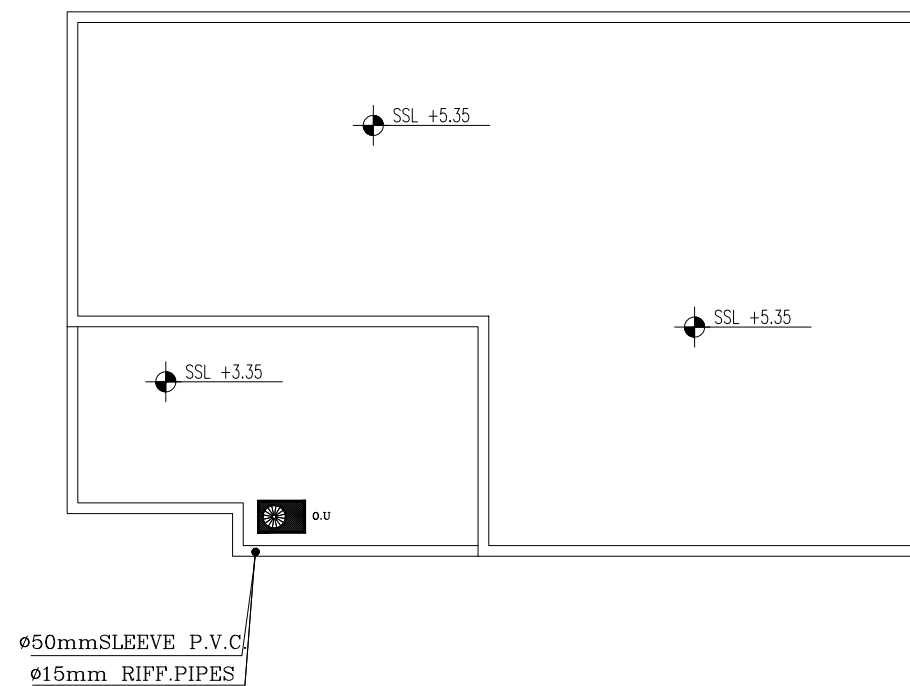
PROJECT NAME:  
STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:  
AMTAR ENGINEERING CO.



DRAWING TITLE :  
GROUND AC

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG ABDALLH ODAT	SCALE	1:100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M06	PROJECT NO.	



NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:

AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:

STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:

AMTAR ENGINEERING CO.



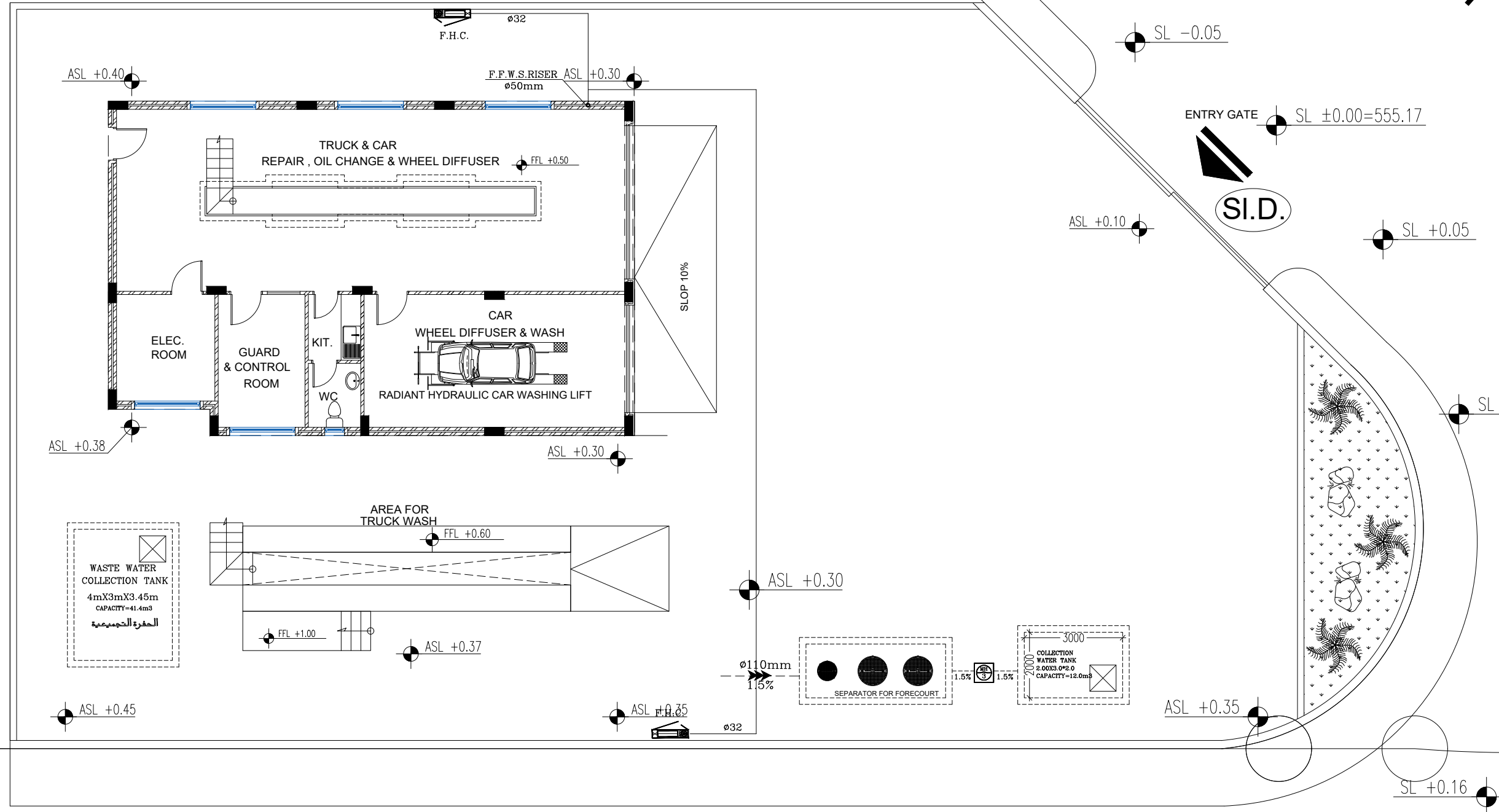
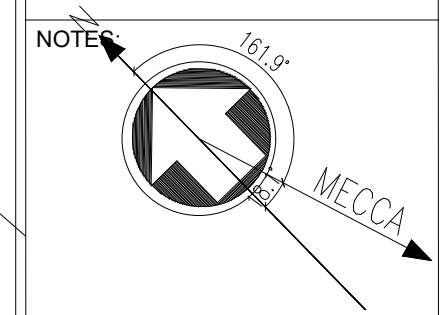
DRAWING TITLE :

ROOF AC

DESIGNED BY	ENG.ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M07	PROJECT NO.	

01 ROOF FLOOR PLAN  
SCALE 1:200

STREET 12 M



STREET 16 M

NOTES

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:  
STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:  
AMTAR ENGINEERING CO.



DRAWING TITLE :  
GROUND FIRE

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1:100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M08	PROJECT NO.	

01 GROUND FLOOR PLAN  
SCALE 1:200

SL +0.60

SL +0.90

SL +0.51

SL +0.16

ASL +0.35

ASL +0.30

ASL +0.37

ASL +0.45

ASL +0.38

SL +0.05

ASL +0.10

ENTRY GATE SL ±0.00=555.17

SL -0.05

F.F.W.S.RISER ASL +0.30  
ø50mm

ASL +0.40

F.H.C. ø32

S.I.D.

SLOP 10%

TRUCK & CAR  
REPAIR , OIL CHANGE & WHEEL DIFFUSER

CAR  
WHEEL DIFFUSER & WASH

ELEC.  
ROOM

GUARD  
& CONTROL  
ROOM

KIT.

WC

RADIANT HYDRAULIC CAR WASHING LIFT

AREA FOR  
TRUCK WASH

WASTE WATER  
COLLECTION TANK  
4mX3mX3.45m  
CAPACITY=41.4m<sup>3</sup>  
الحفرة التجميعية

SEPARATOR FOR FORECOURT

COLLECTION  
WATER TANK  
ø 2025 Ø 2.0  
CAPACITY=12.0m<sup>3</sup>

ø110mm  
1.5%

ASL ±0.35

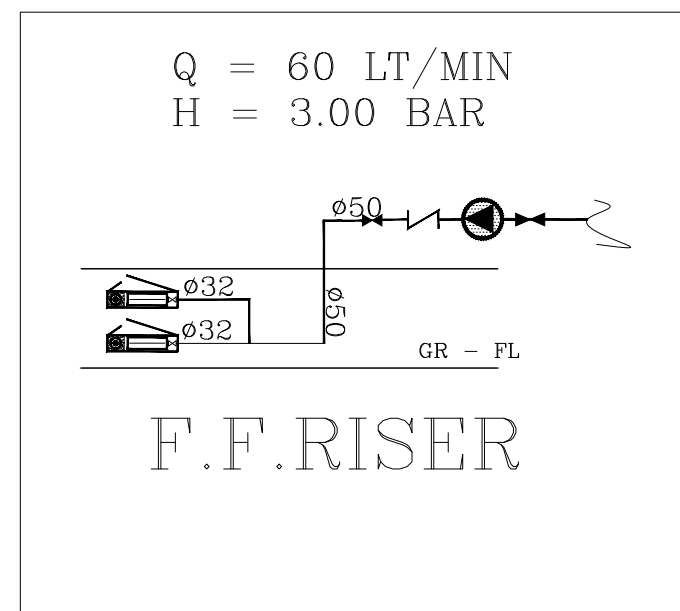
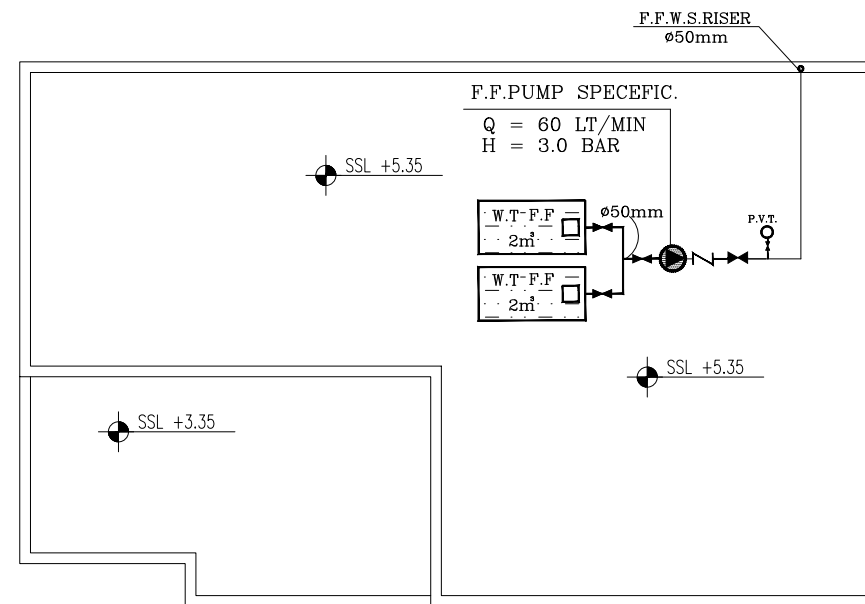
F.F.L +1.00

F.F.L +0.50

ASL +0.30

SL ±





01 ROOF FLOOR PLAN  
SCALE 1:200

NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:

AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:

STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:

AMTAR ENGINEERING CO.

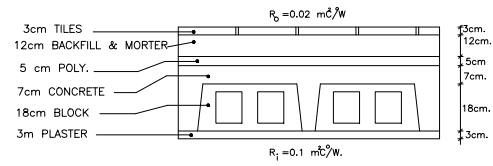


DRAWING TITLE :

FIRE TANKS

DESIGNED BY	ENG.ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M09	PROJECT NO.	

## INSULATION CALC. FOR CEILING



$$U = 0.55 \text{ W/m}^2\text{C} \quad U = 1/R \Rightarrow R = 1.8 \text{ m}^2\text{C/W}$$

إذا كان التبريد شديد وجميع السقف عمدة مساحة ٢٥ سم

$$R_1 = R_o + R_{pl} + R_{conc} + (L/K)_{ins} + R_{mortar} + R_{tiles} + R$$

$$R_1 = 0.02 + 0.03 / 1.2 + 0.25 / 1.75 + (L/K)_{ins} + 0.12 / 1.4 + 0.03 / 1.6 + 0.1$$

$$R_1 = 0.392 + L/K$$

إذا كان التبريد شديد وجميع السقف طوب مغرغ سماكة ١٨ سم

$$R_2 = R_o + R_{pl} + R_{block} + (L/K)_{ins} + R_{mortar} + R_{tiles} + R$$

$$R_2 = 0.02 + 0.03 / 1.2 + 0.18 / 0.95 + (L/K)_{ins} + 0.12 / 1.4 + 0.03 / 1.6 + 0.1$$

$$R_2 = 0.479 + L/K$$

$$\text{FOR POLYST.} = 5.00\text{cm} \quad K = 0.03 \quad L/K = 1.67$$

$$R_1 = 0.392 + 1.67 = 2.1 \quad U_1 = 1/R_1 = 0.48$$

$$R_2 = 0.479 + 1.67 = 2.14 \quad U_2 = 1/R_2 = 0.47$$

BY ASSUMING : 60% and 40% CONST

$$U_T = 0.4 \times 0.48 + 0.6 \times 0.47$$

$U_T = 0.47 \text{ W/m}^2\text{C}$  and THIS IS LESS THAN REQUIRED BY THE CODE

$$U_T = 0.47 \text{ W/m}^2\text{C} = 0.40 \text{ Kcal. /m}^2\text{C} \quad (\text{AFTER INSULATION})$$

$$U_T = 0.4(1/0.392) + 0.6(1/0.479) = 1.02 + 1.25$$

$$U_T = 2.27 \text{ W/m}^2\text{C} \quad (\text{BEFORE INSULATION})$$

## INSULATION IN THE FLOOR

$$R = R_o + R_{pl} + R_1 + R_2 + R_3 + R_4 + R_5$$

$$R = 5.3 + L/K$$

$$L/K = 1 - 5.3 = 4.7$$

$$L = 5\text{cm POLYST.}$$

BEFORE INSULATION

$$R = 5.3$$

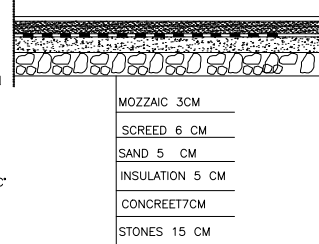
$$U = 1/5.3 = 1.88 \text{ W/m}^2\text{C}$$

after insulation

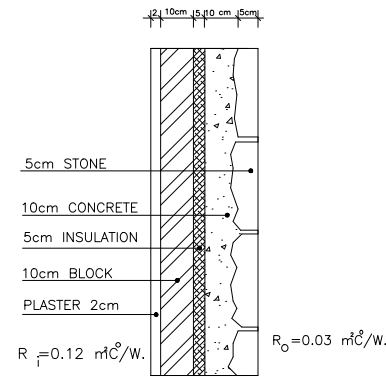
$$L/K = 0.05 / 0.03 = 1.67$$

$$U = 1/R$$

$$U = 1/1.67 = 0.55 \text{ W/m}^2\text{C}$$



## INSULATION CALC. FOR WALLS



STONE WALL 30cm

$$\text{TOTAL WALLS AREA: } (A_T) \quad 85 \quad \text{m}^2$$

$$\text{AREA OF OUTSIDE WALLS: } (A_W) \quad 50 \quad \text{m}^2$$

$$\text{AREA OF WINDOWS: } (A_{WIN}) \quad 0 \quad \text{m}^2$$

$$\text{AREA OF DOORS: } (A_{DOOR}) \quad 35 \quad \text{m}^2$$

$$R_W = R_o + R_i + R_{stone} + R_{conc} + L/K + R_{block} + R_{pls}$$

$$R_W = 0.03 + 0.12 + 0.05 / 1.7 + 0.10 / 1.75 + 0.05 / 0.03 + 0.1 / 1 + 0.02 / 1.2$$

$$R_W = 0.03 + 0.12 + 0.03 + 0.057 + 1.667 + 0.1 + 0.017$$

$$R_W = 2.02 \text{ m}^2\text{C/W}$$

$$U_W = (0.49) \text{ W/m}^2\text{C} < 0.57 \text{ W/m}^2\text{C} \quad K = 0.03 \quad (\text{FOR PLO.})$$

(AFTER INSULATION)

$$U_T A_T = U_W X A_W + U_{WIN} X A_{WIN} + U_{DOOR} X A_{DOOR}$$

$$U_T = \frac{(U_W X A_W + U_{WIN} X A_{WIN} + U_{DOOR} X A_{DOOR})}{A_T}$$

$$U_T = \frac{(0.49 (50) + 5.7 (0) + 3.0 (35))}{85}$$

$$U_T = 1.52 \text{ W/m}^2\text{C}$$

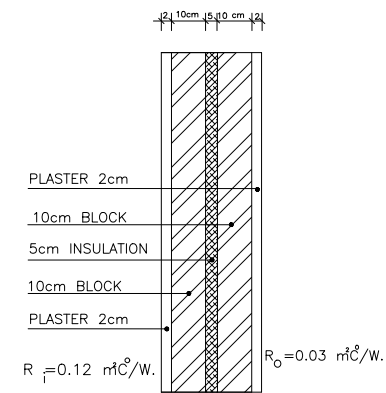
$$U_T = (1.52) \text{ W/m}^2\text{C} < 1.6 \text{ W/m}^2\text{C} \quad (\text{AFTER INSULATION})$$

$$R_W = R_o + R_i + R_{stone} + R_{conc} + R_{block} + R_{pls}$$

$$R_W = (0.353) \text{ m}^2\text{C/W}$$

$$U_W = (2.83) \text{ W/m}^2\text{C} \quad (\text{BEFORE INSULATION})$$

## INSULATION CALC. FOR WALLS



SEC-C  
STONE WALL 25cm

$$\text{TOTAL WALLS AREA: } (A_T) \quad 310 \quad \text{m}^2$$

$$\text{AREA OF OUTSIDE WALLS: } (A_W) \quad 280 \quad \text{m}^2$$

$$\text{AREA OF WINDOWS: } (A_{WIN}) \quad 25 \quad \text{m}^2$$

$$\text{AREA OF DOORS: } (A_{DOOR}) \quad 5 \quad \text{m}^2$$

$$R_W = R_o + R_i + R_{pls} + R_{block} + L/K + R_{block} + R_{pls}$$

$$R_W = 0.03 + 0.12 + 0.02 / 1.2 + 0.10 / 1 + 0.05 / 0.03 + 0.10 / 1 + 0.02 / 1.2$$

$$R_W = 0.03 + 0.12 + 0.017 + 0.10 + 1.667 + 0.10 + 0.017$$

$$R_W = 2.04 \text{ m}^2\text{C/W}$$

$$U_W = (0.49) \text{ W/m}^2\text{C} < 0.57 \text{ W/m}^2\text{C} \quad K = 0.03 \quad (\text{FOR PLO.})$$

(AFTER INSULATION)

$$U_T A_T = U_W X A_W + U_{WIN} X A_{WIN} + U_{DOOR} X A_{DOOR}$$

$$U_T = \frac{(U_W X A_W + U_{WIN} X A_{WIN} + U_{DOOR} X A_{DOOR})}{A_T}$$

$$U_T = \frac{(0.49 (280) + 5.7 (25) + 3.0 (5))}{310}$$

$$U_T = 0.95 \text{ W/m}^2\text{C}$$

$$U_T = (0.95) \text{ W/m}^2\text{C} < 1.6 \text{ W/m}^2\text{C} \quad (\text{AFTER INSULATION})$$

$$R_W = R_o + R_i + R_{pls} + R_{block} + R_{block} + R_{pls}$$

$$R_W = (0.373) \text{ m}^2\text{C/W}$$

$$U_W = (2.68) \text{ W/m}^2\text{C} \quad (\text{BEFORE INSULATION})$$

NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:

AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:

STATION TO WASH & MAINTENANCE CARS & TRUCKS

CONSULTANT:

AMTAR ENGINEERING CO.



DRAWING TITLE :

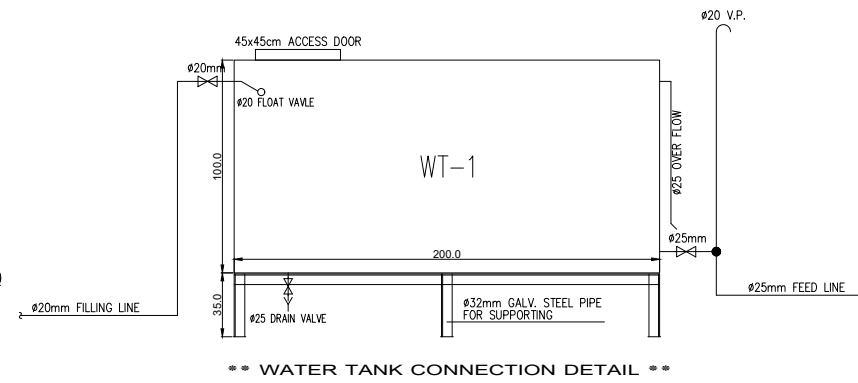
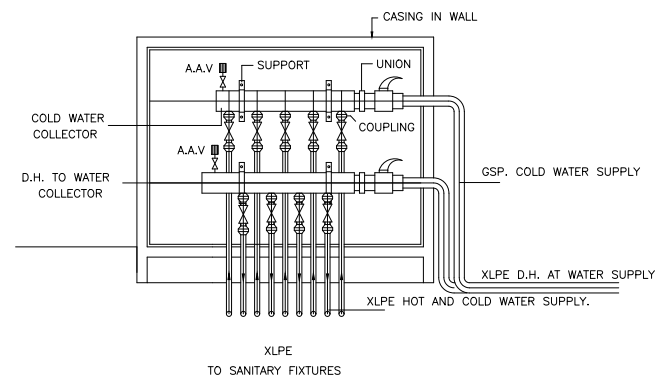
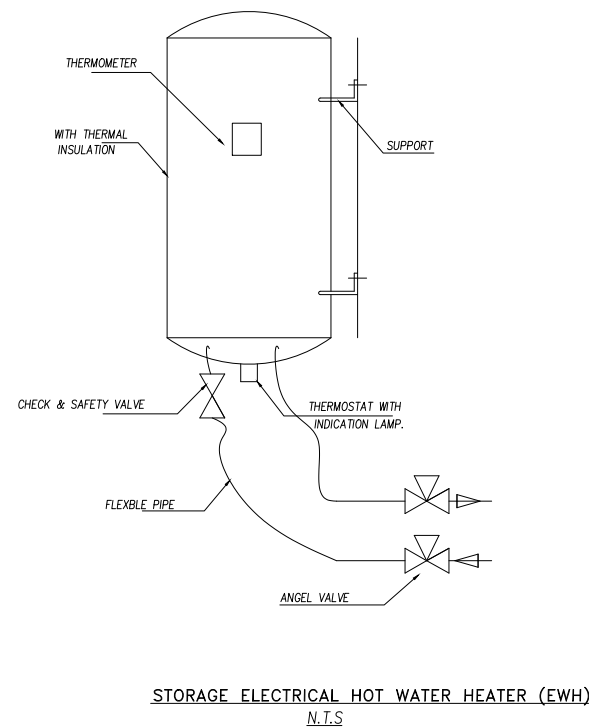
ISOLATION

DESIGNED BY	ENG.ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M10	PROJECT NO.	

WATER SYSTEM SERVICES		
ABBR.	SYMBOL	DESIGNATION
PEX		CROSS LINKED POLYETHYLENE
F.M.W.P.		FROM MAIN WATER PIPE.
C.W.S		COLD WATER SUPPLY
H.W.S		HOT WATER SUPPLY
H.W.R		HOT WATER RETURN
W.C.B		WATER COLLECTOR BOX.
P		PUMP
IG		ISOLATING GATE VALVE
E.W.H.		ELEC WATER HEATER
P.V.T.		Pressure VESSEL TANK
G.V		GATE VALVE
P.C		POWER CONSUMPTION

DRAINAGE SERVICES		
ABBR.	SYMBOL	DESIGNATION
C.O		CLEAN OUT OPENING
C.C.O		CEILING CLEAN OUT OPENING
F.D		FLOOR DRAIN
F.D		FLOOR DRAIN FOR RAIN WATER
MH		SEWAGE MANHOLE
G.T		GREASE TRAP
R.M		RAIN MANHOLE
V.P.U		VENT PIPE UP
T.L		TOP LEVEL
D.P		DRAINAGE PIPE
I.L		INLET LEVEL
O.L		OUTLET LEVE
D.P.D		DRAINAGE PIPE DOWN
U/G		UNDER GROUND
U/T		UNDER TILES

FIRE SYSTIM		
ABBR.	SYMBOL	DESIGNATION
F.H.C.		FIRE HOZREEL CABINET
P.V.T		PRESSURE VESSEL TANK
P		FIRE FIGHTING PUMP.
H/L		HIGH LEVEL
F.F.W.R.		FIRE FIGHTING WATER RISER
F.F.M.W.P.S.		FIRE FIGHTING MAIN WATER PIPE SUPPLY
Q		PUMP OF FLOW
H		PUMP OF HEAD



NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

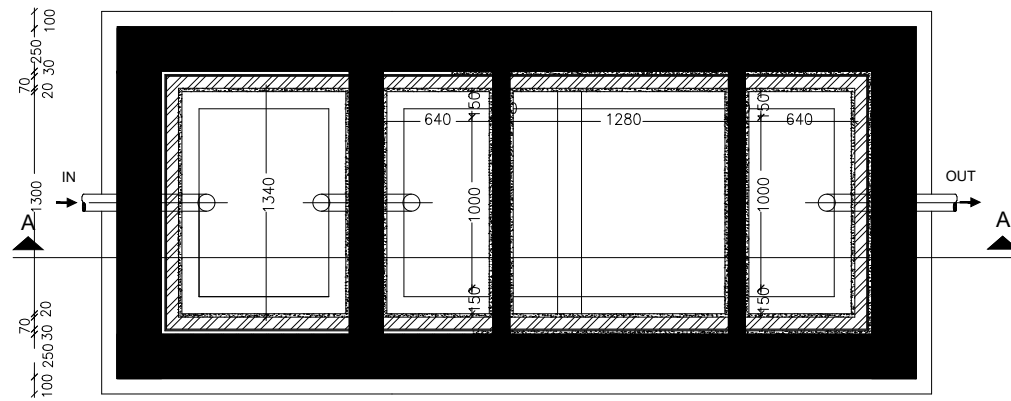
PROJECT NAME:  
STATION TO WASH & MAINTENANCE CARS & TRUCKS

CONSULTANT:  
AMTAR ENGINEERING CO.



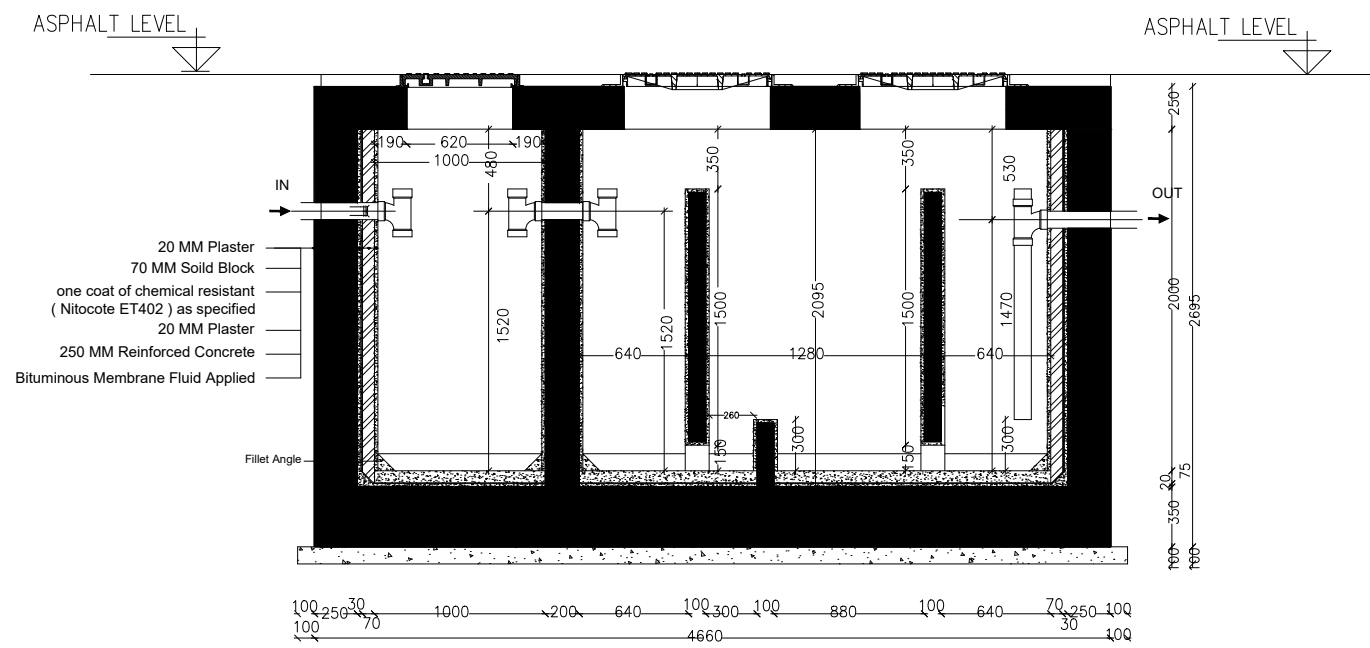
DRAWING TITLE :  
DETAILS

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG.ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M11	PROJECT NO.	

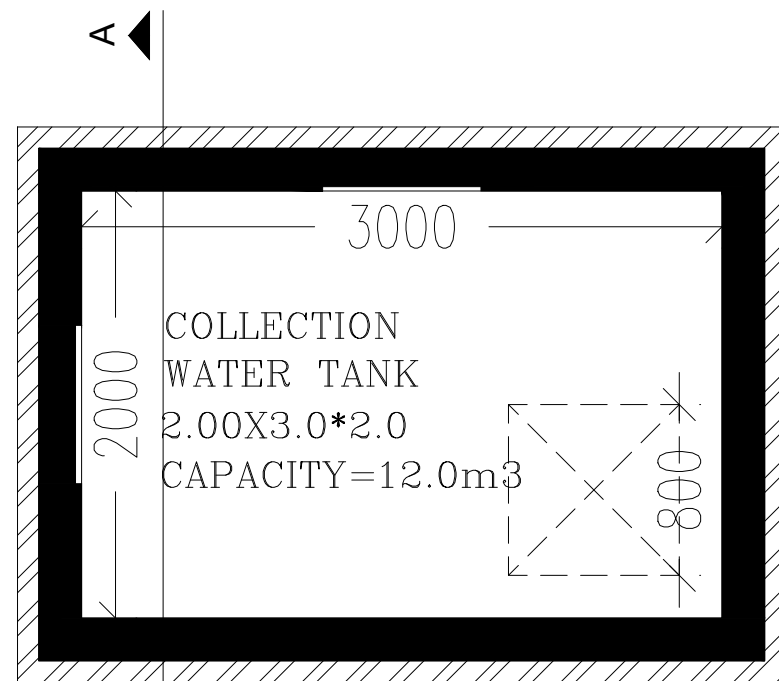


**Plan**  
Scale 1:20

**Detail 1 - Separator Room**

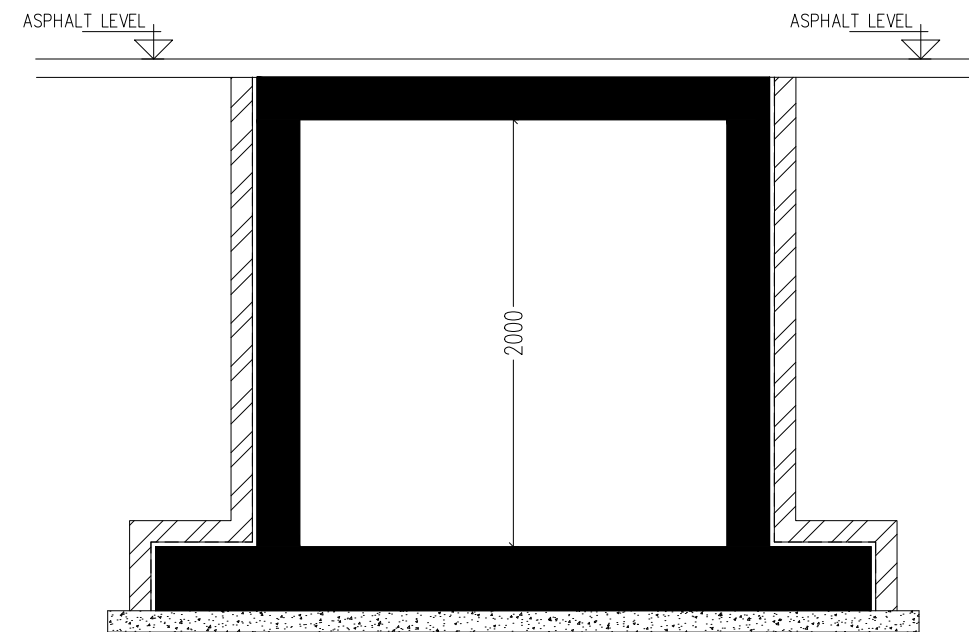


**Section A-A**  
Scale 1:20



**Plan**  
Scale 1:25

**Detail 2 - COLLECTION WATER TANK**



**Section A-A**  
Scale 1:25

NOTES:

REV. No	DATE	DESCRIPTION	CHECKED
1			
2			
3			

CLIENT:  
AL-HASHEMIAH MUNICIPALITY

PROJECT NAME:  
STATION TO WASH & MAINTENANCE  
CARS & TRUCKS

CONSULTANT:  
AMTAR ENGINEERING CO.



DRAWING TITLE :  
DETAILS

DESIGNED BY	ENG ABDALLH ODAT	DATE	2023
PRODUCED BY	ENG ABDALLH ODAT	SCALE	1.100
CHECKED BY	ENG.MAYSOON QASEM	REV.	
DRAWING NO.	M12	PROJECT NO.	