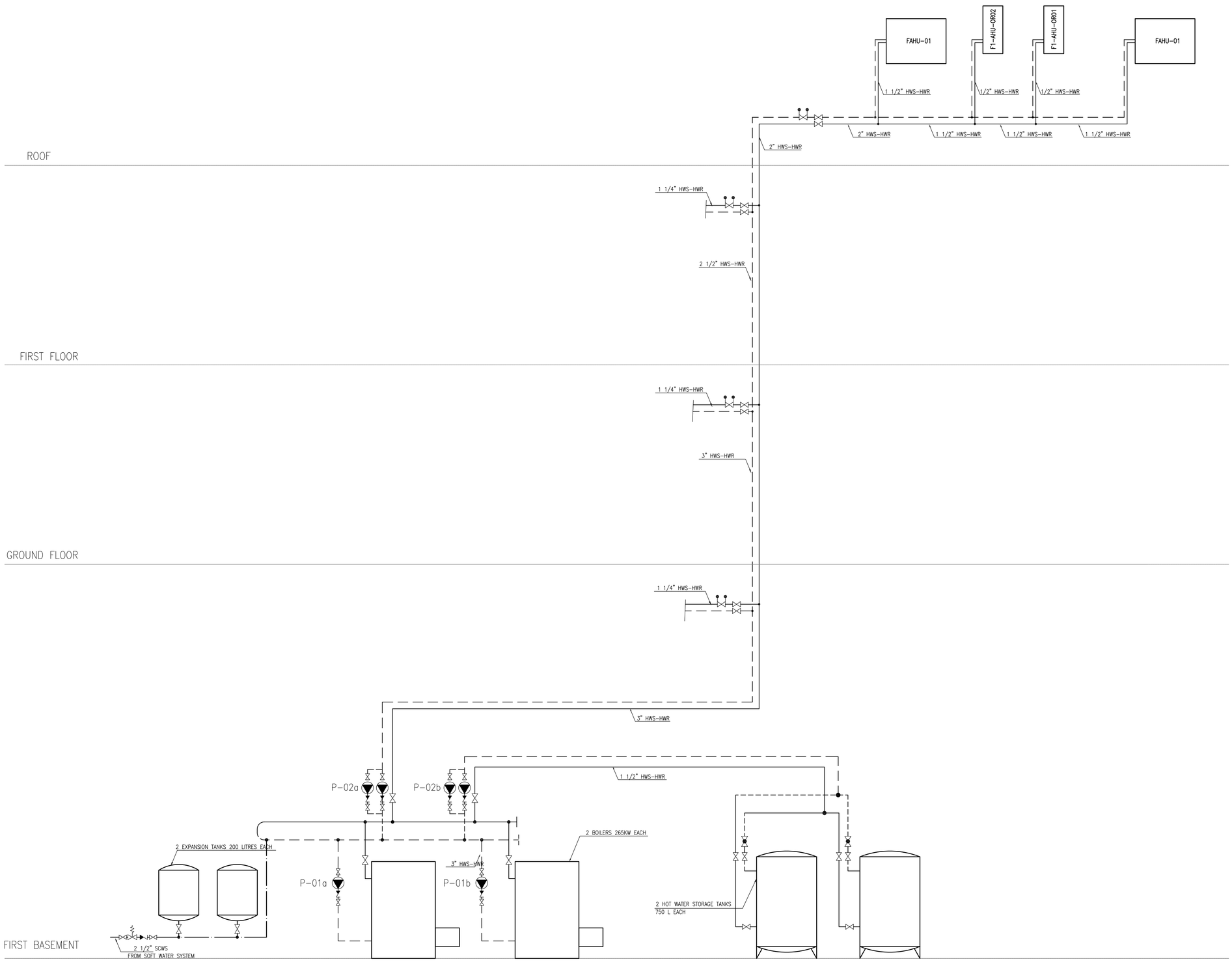

KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

REPUBLIC OF LEBANON

COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

CONSULTANT:

ETEC
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P.O.BOX 11-6079 BEIRUT-LEBANON
Tel: 961/1/364304/5 Fax: 1/367747
E-mail : stecsal@cyberia.net.lb
WEB SITE: WWW. stecsal.com

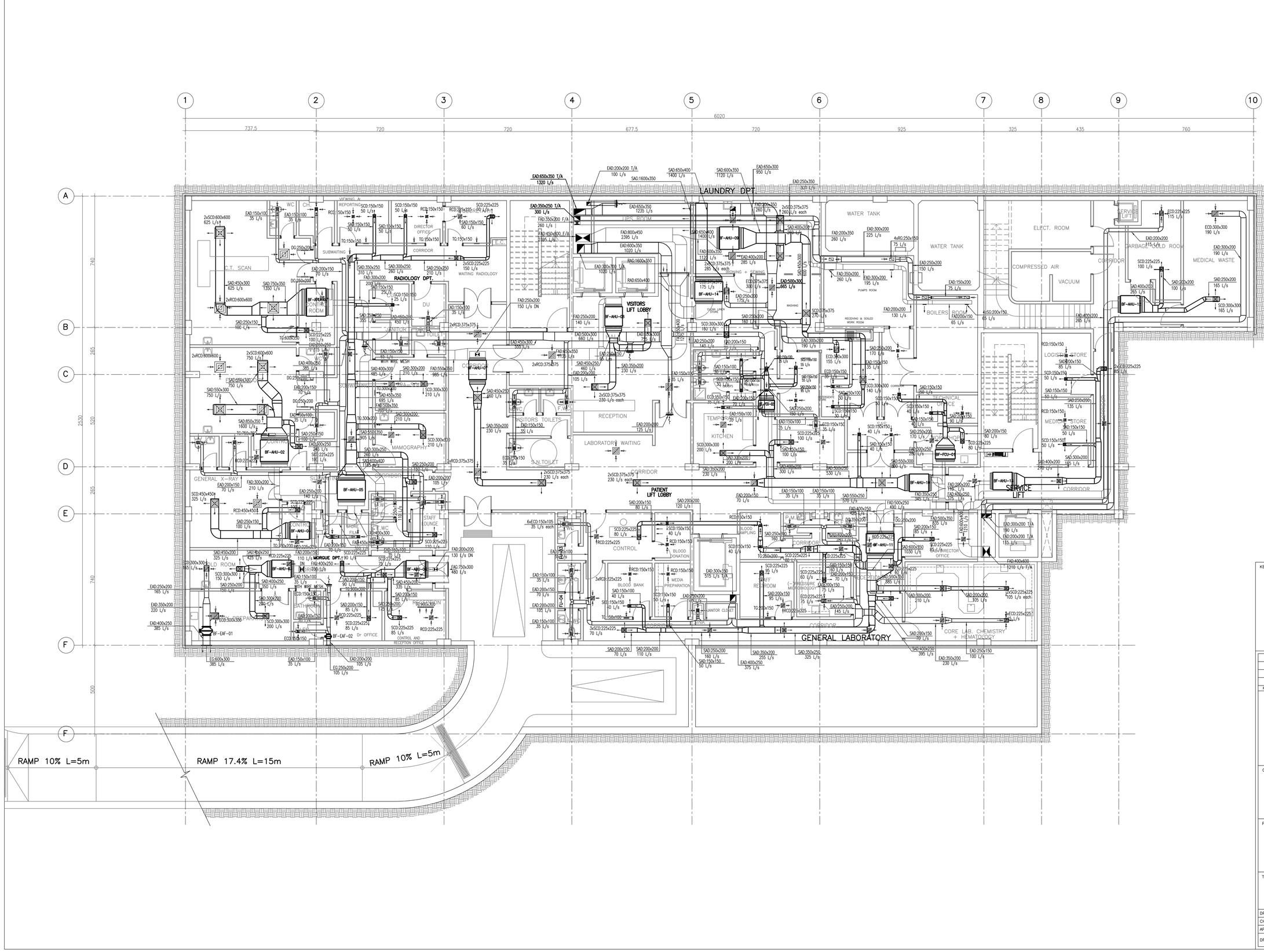
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEMATIC RISER
HEATING

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASCH-M27
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S
DRAWING NO.:	M-27			REVISION	00



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

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WEB SITE: WWW. etecsal.com

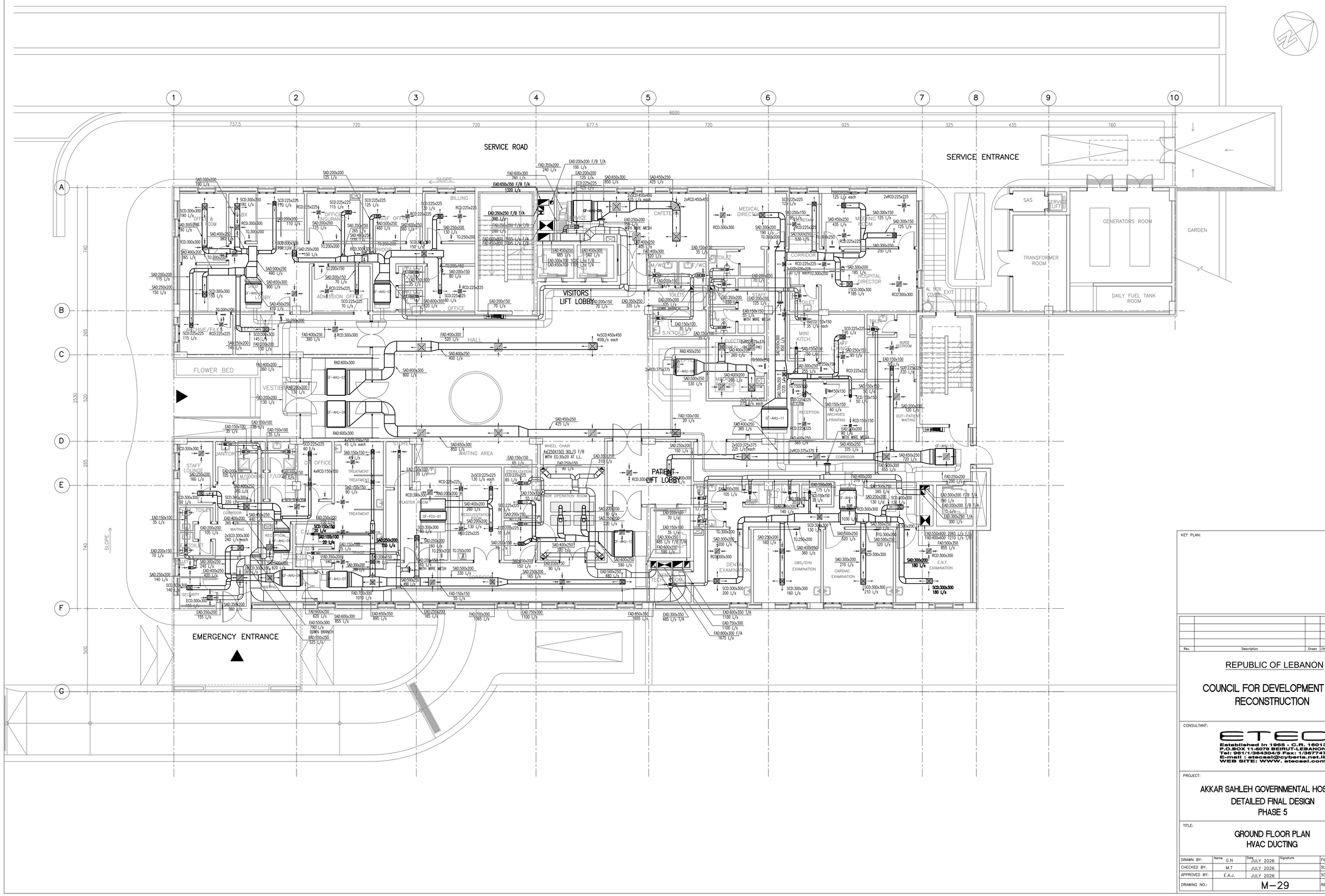
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST BASEMENT PLAN
HVAC DUCTING

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASGH-M28
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-28			REVISION	00



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WEB SITE: WWW. etecsal.com

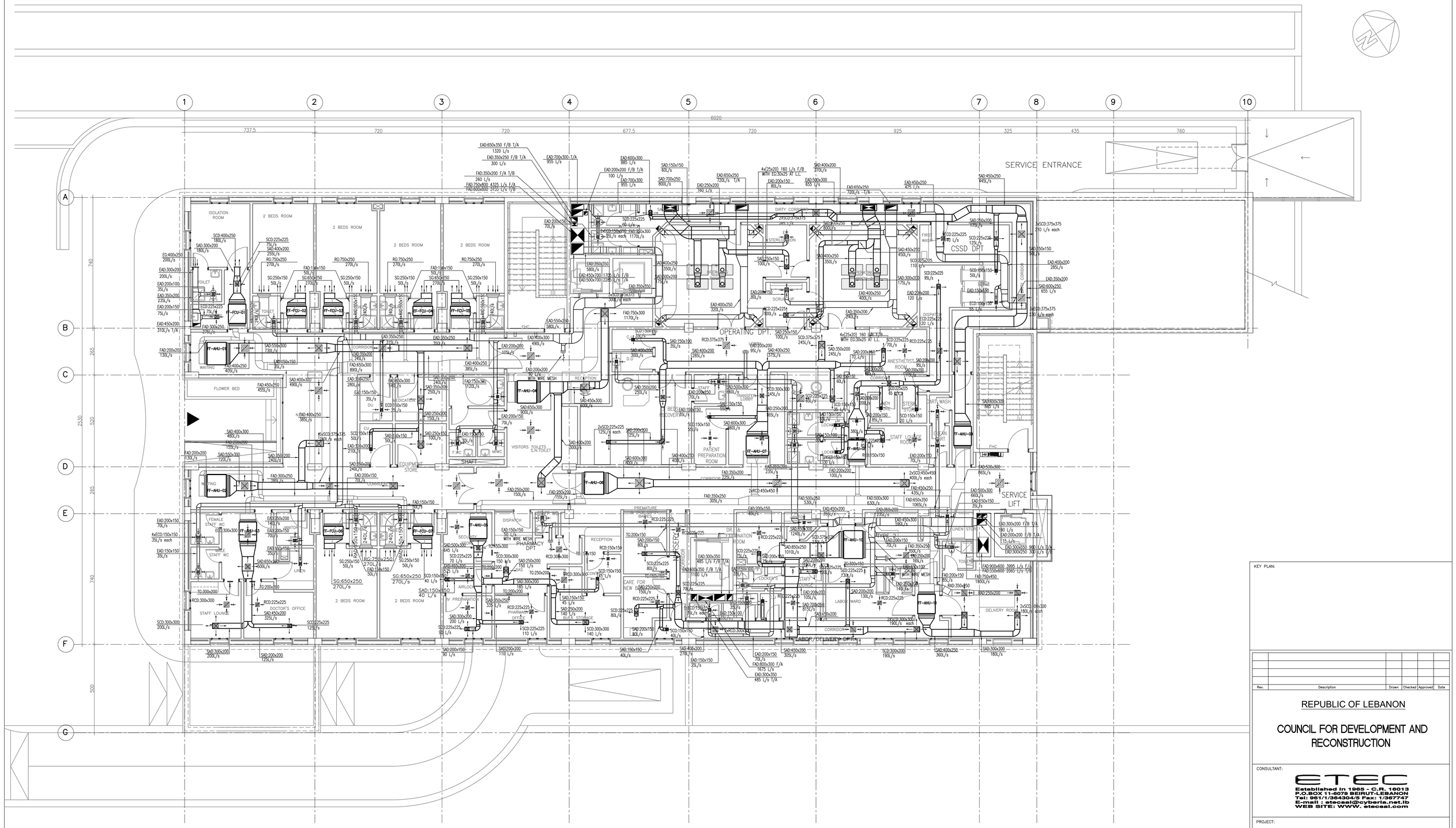
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

GROUND FLOOR PLAN
HVAC DUCTING

DRAWN BY:	Name G.N	Date JULY 2026	Signature	FILE:	ASGH-M29
CHECKED BY:	M.T	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-29			REVISION	00



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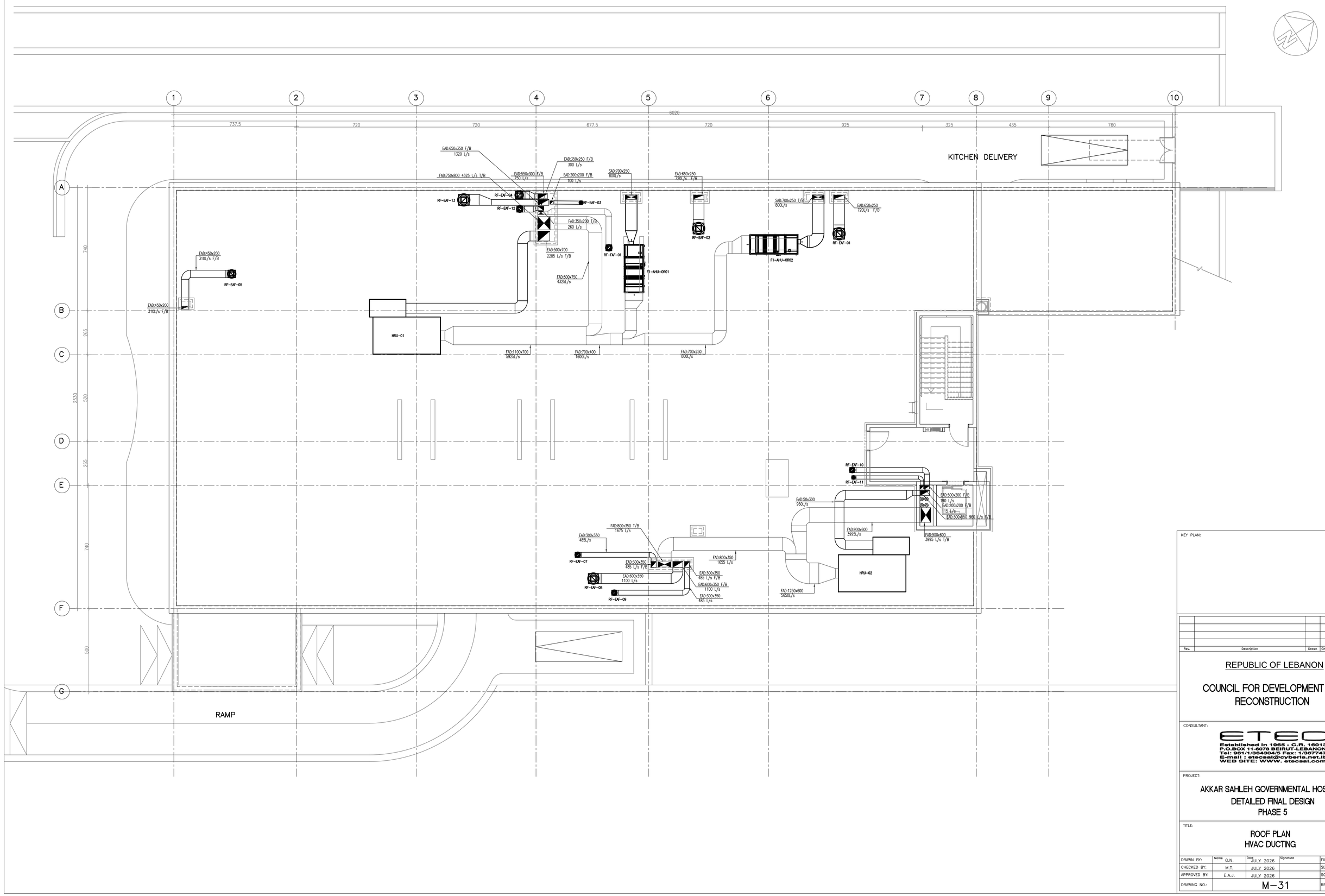
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST FLOOR PLAN
HVAC DUCTING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASCH-M30
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-30			REVISION	00



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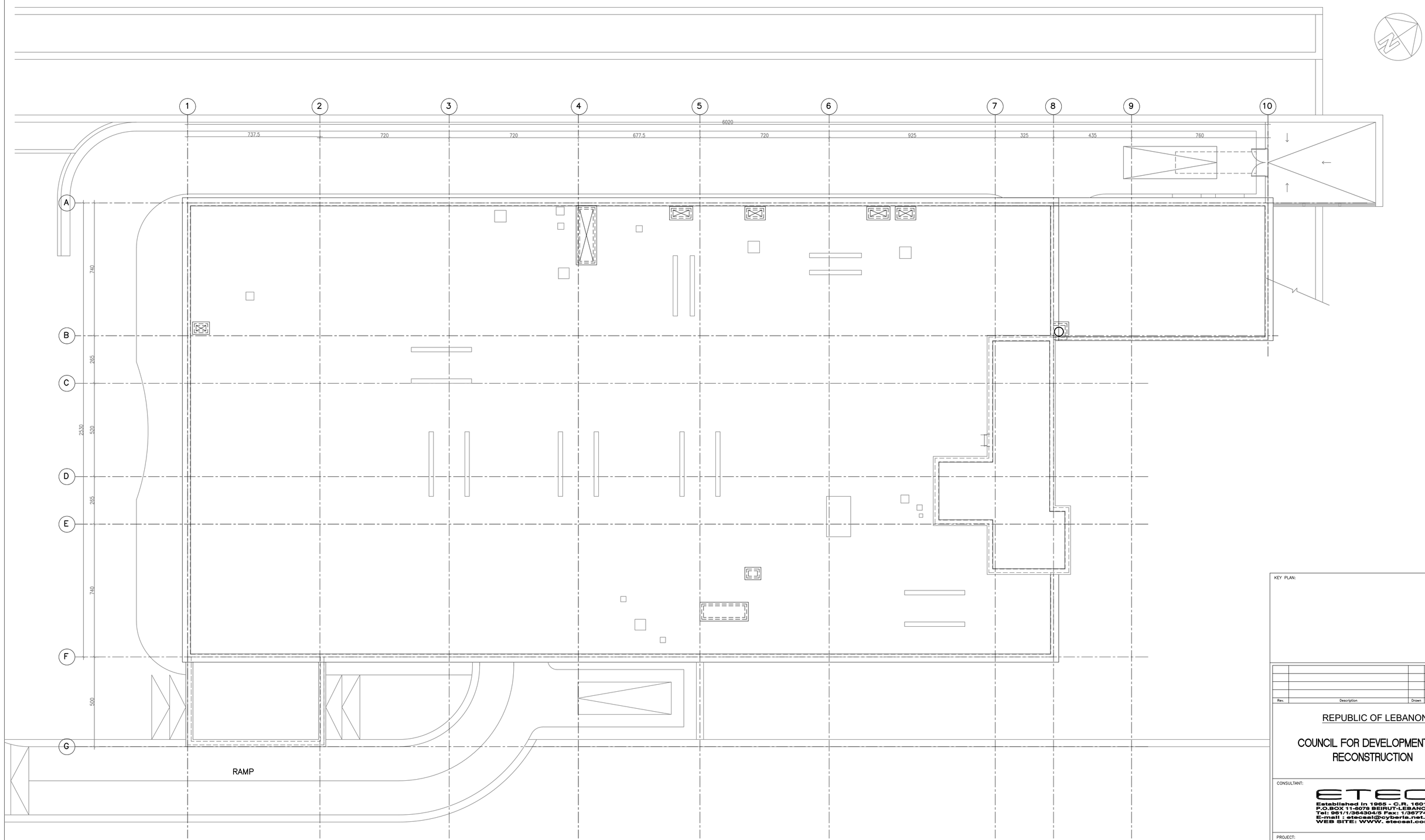
AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

ROOF PLAN
HVAC DUCTING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M31
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-31			REVISION	00



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PROJECT:

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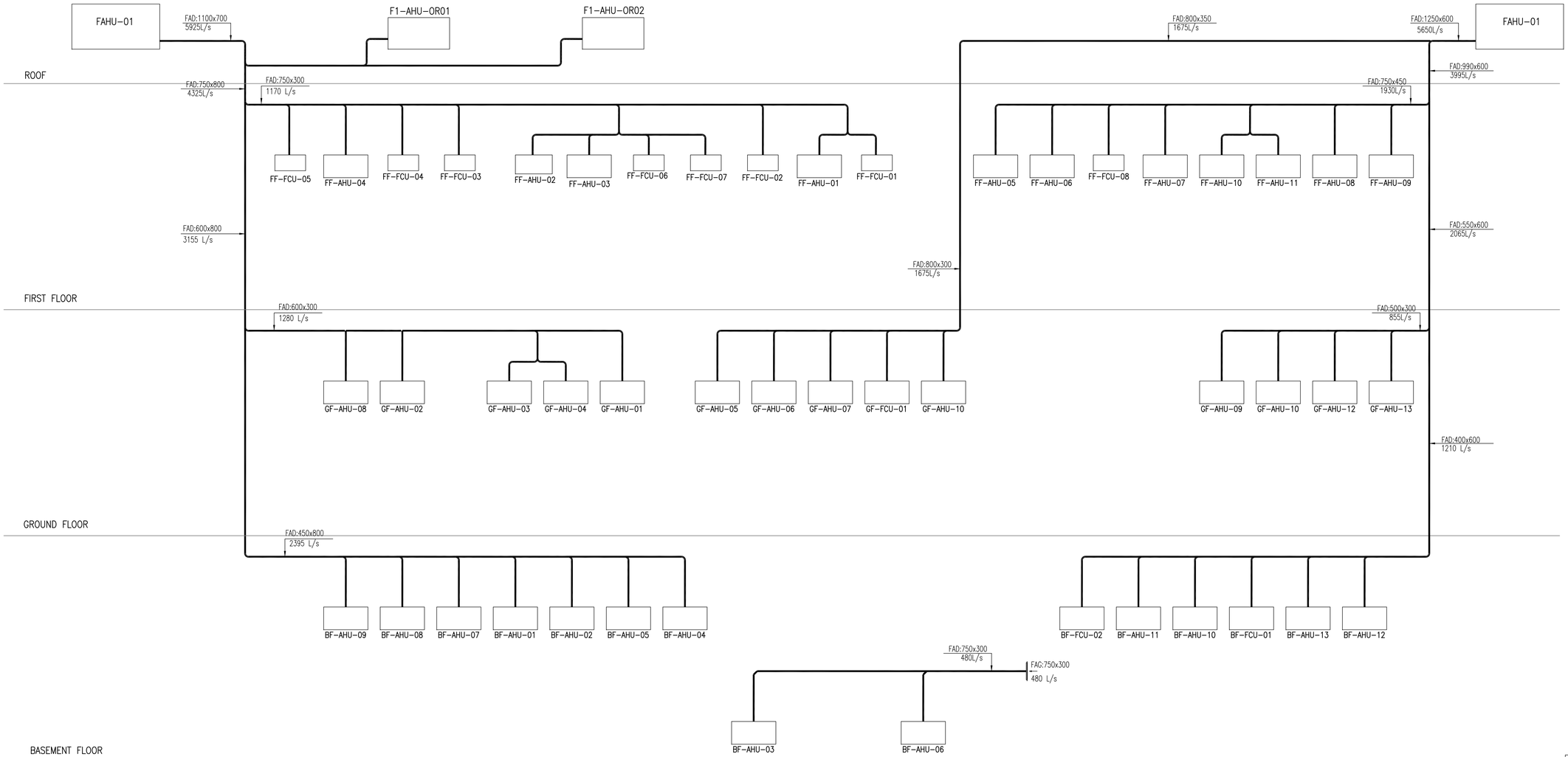
DETAILED FINAL DESIGN
PHASE 5

TITLE:

UPPER ROOF PLAN
HVAC DUCTING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M32
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-32			REVISION	00



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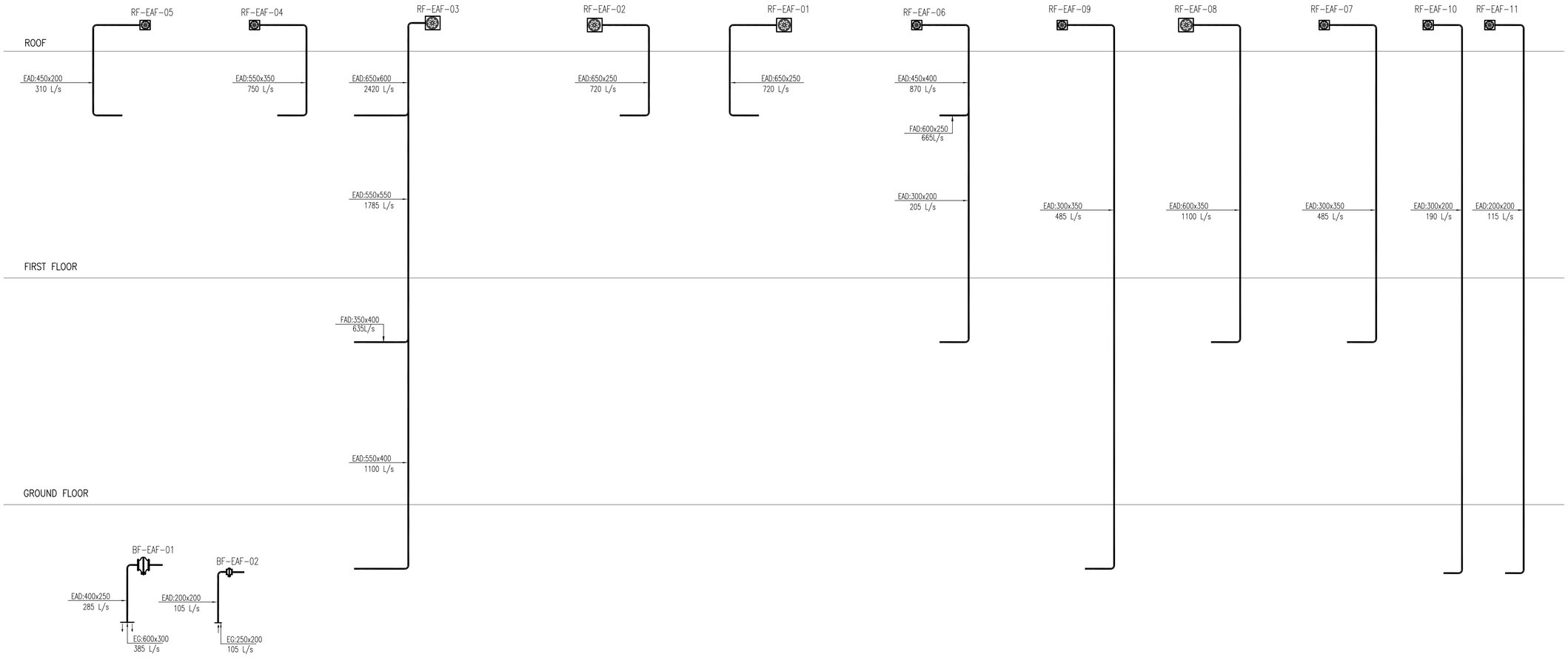
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEMATIC RISER 1/2
HVAC DUCTING

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASCH-M33
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S.
DRAWING NO.:	M-33			REVISION	00



KEY PLAN:

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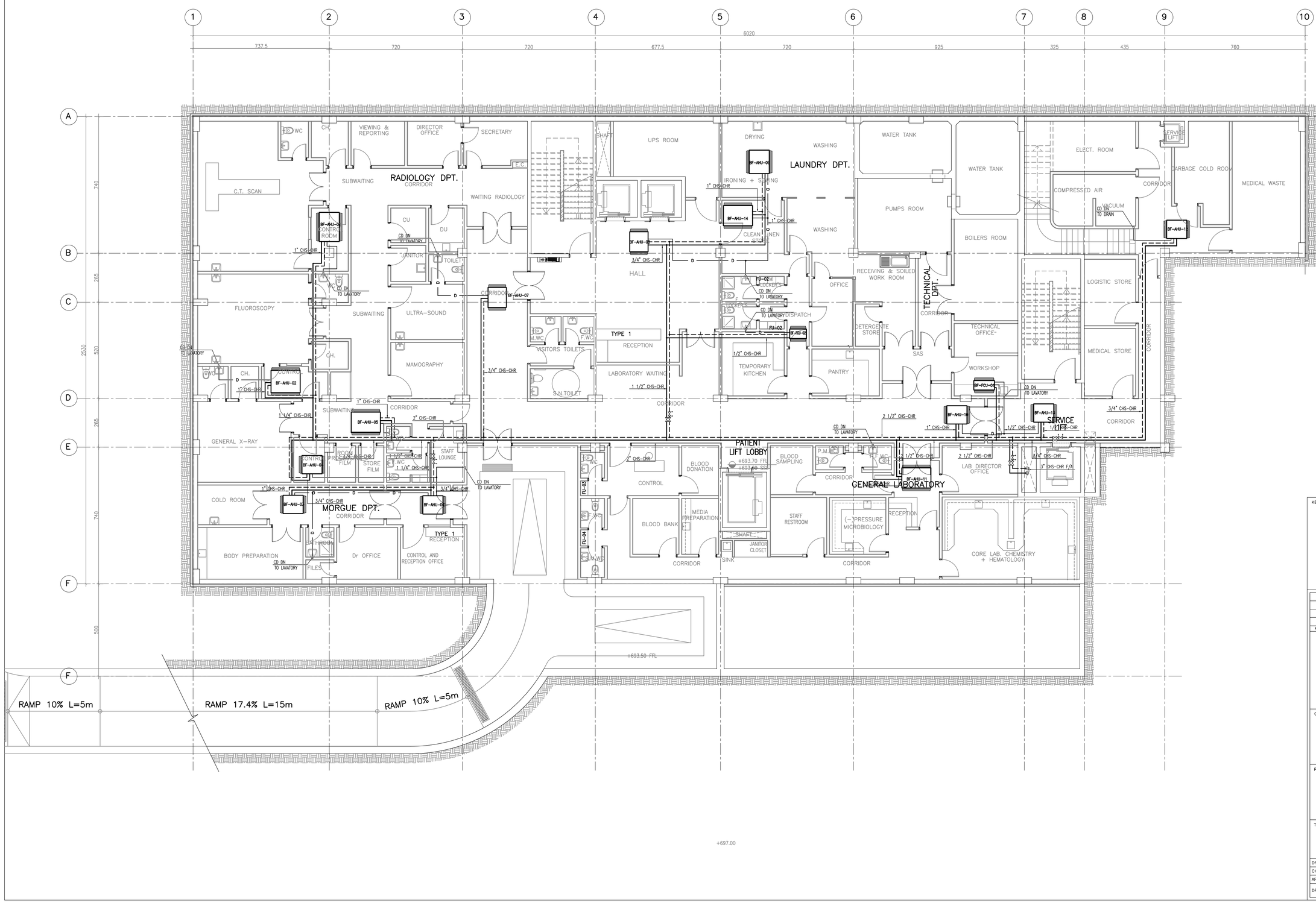
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEMATIC RISER 2/2
HVAC DUCTING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M34
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S
DRAWING NO.:	M-34			REVISION	00



KEY PLAN:

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WEB SITE: WWW. etecsal.com

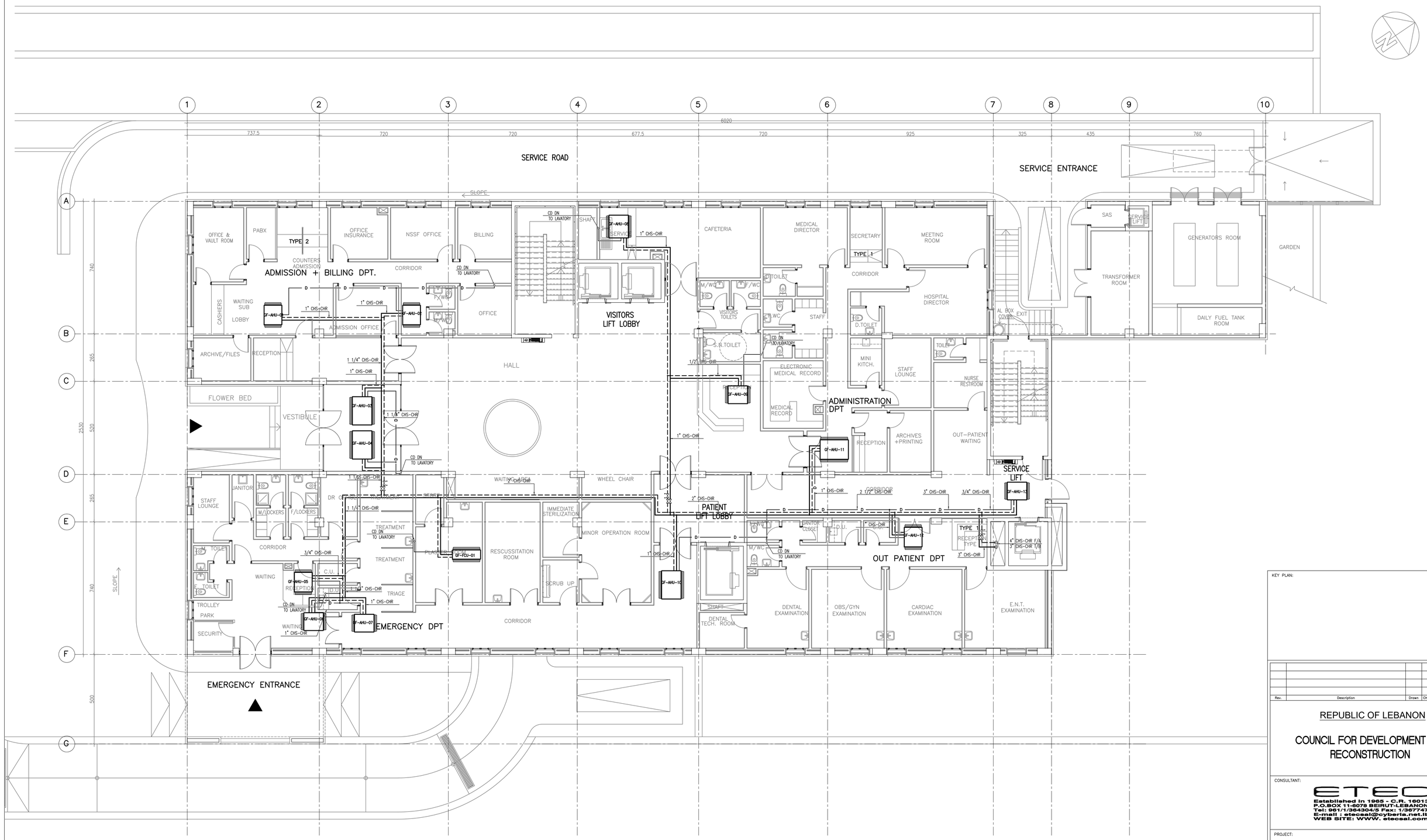
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST BASEMENT PLAN
HVAC PIPING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M35
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-35			REVISION	00



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

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WEB SITE: WWW. etecsal.com

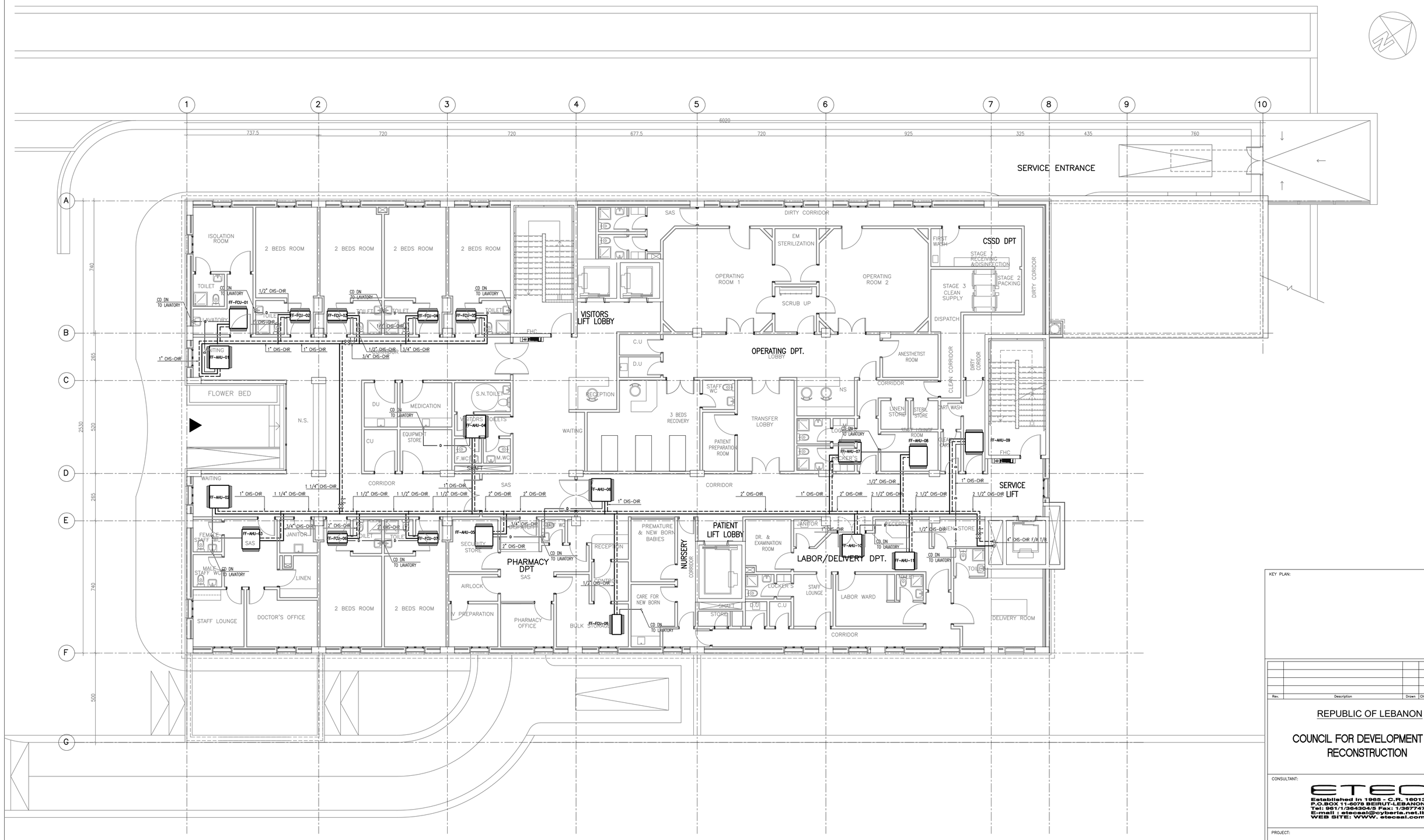
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

GROUND FLOOR PLAN
HVAC PIPING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASCH-M.36
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-36			REVISION	00



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

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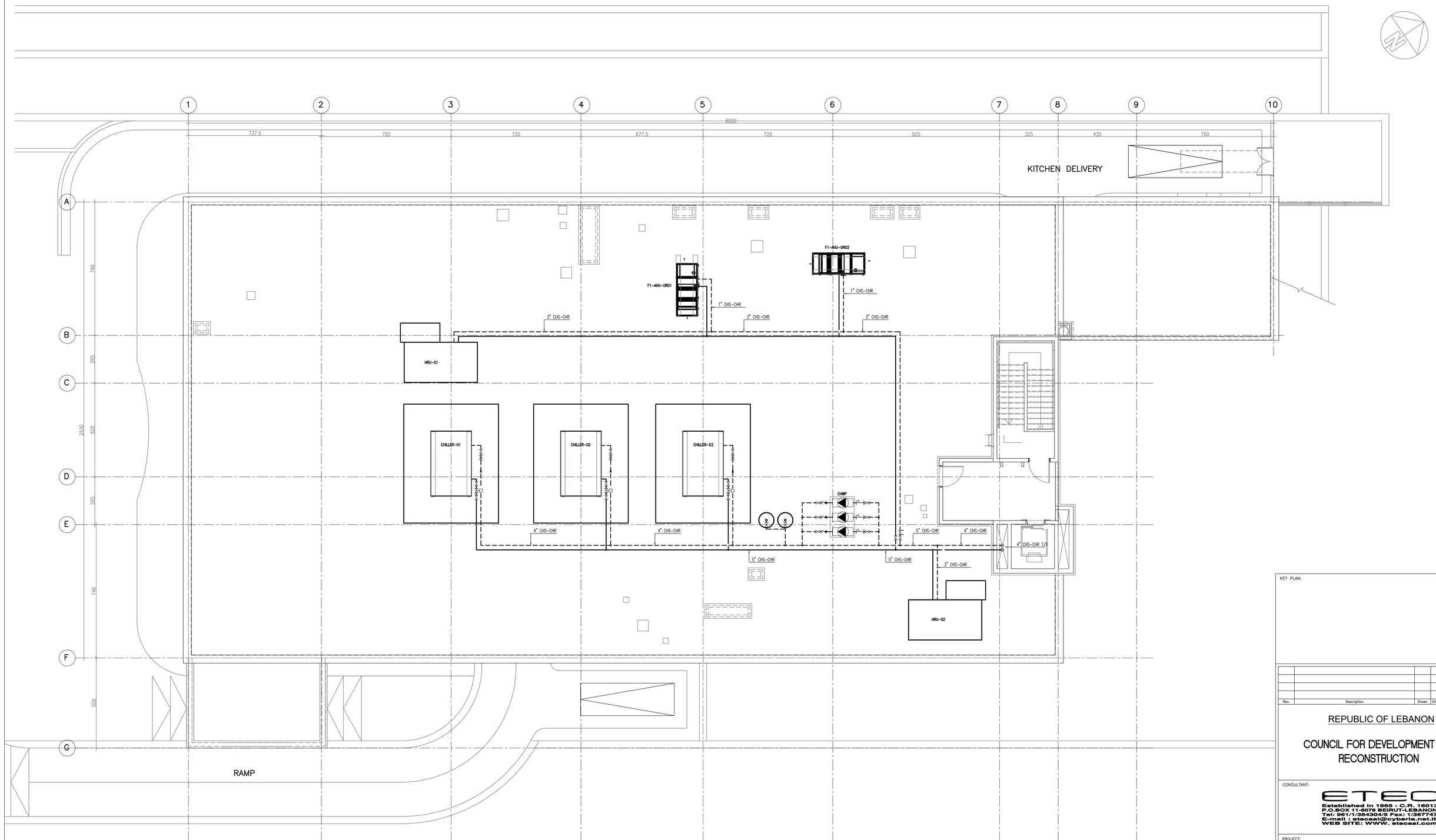
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST FLOOR PLAN
HVAC PIPING

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M37
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-37			REVISION	00



KEY PLAN:

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WEB SITE: WWW. etecsal.com

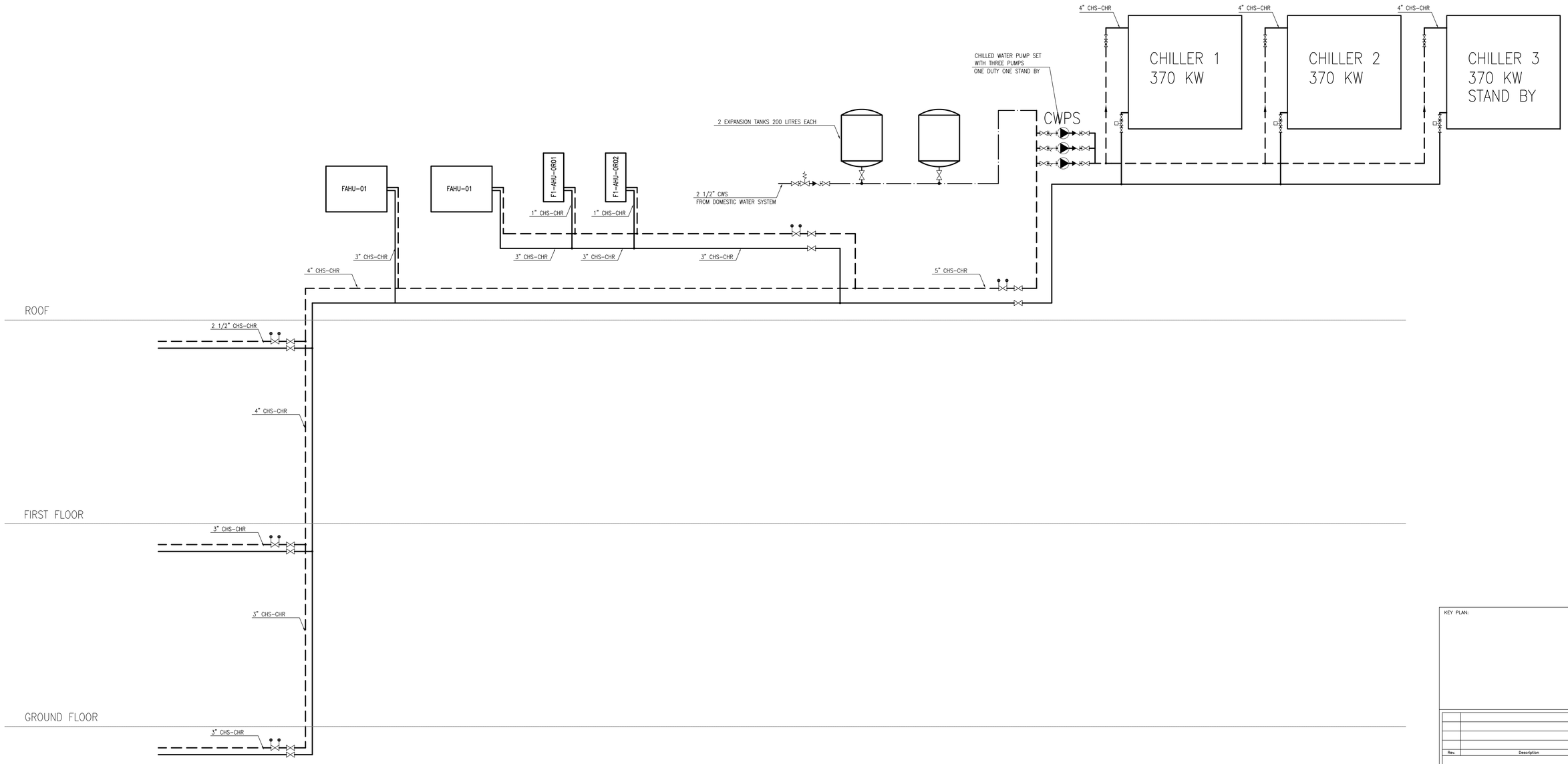
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

ROOF PLAN
HVAC PIPING

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASGH-M38
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-38			REVISION	00



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WEB SITE: WWW. etecsal.com

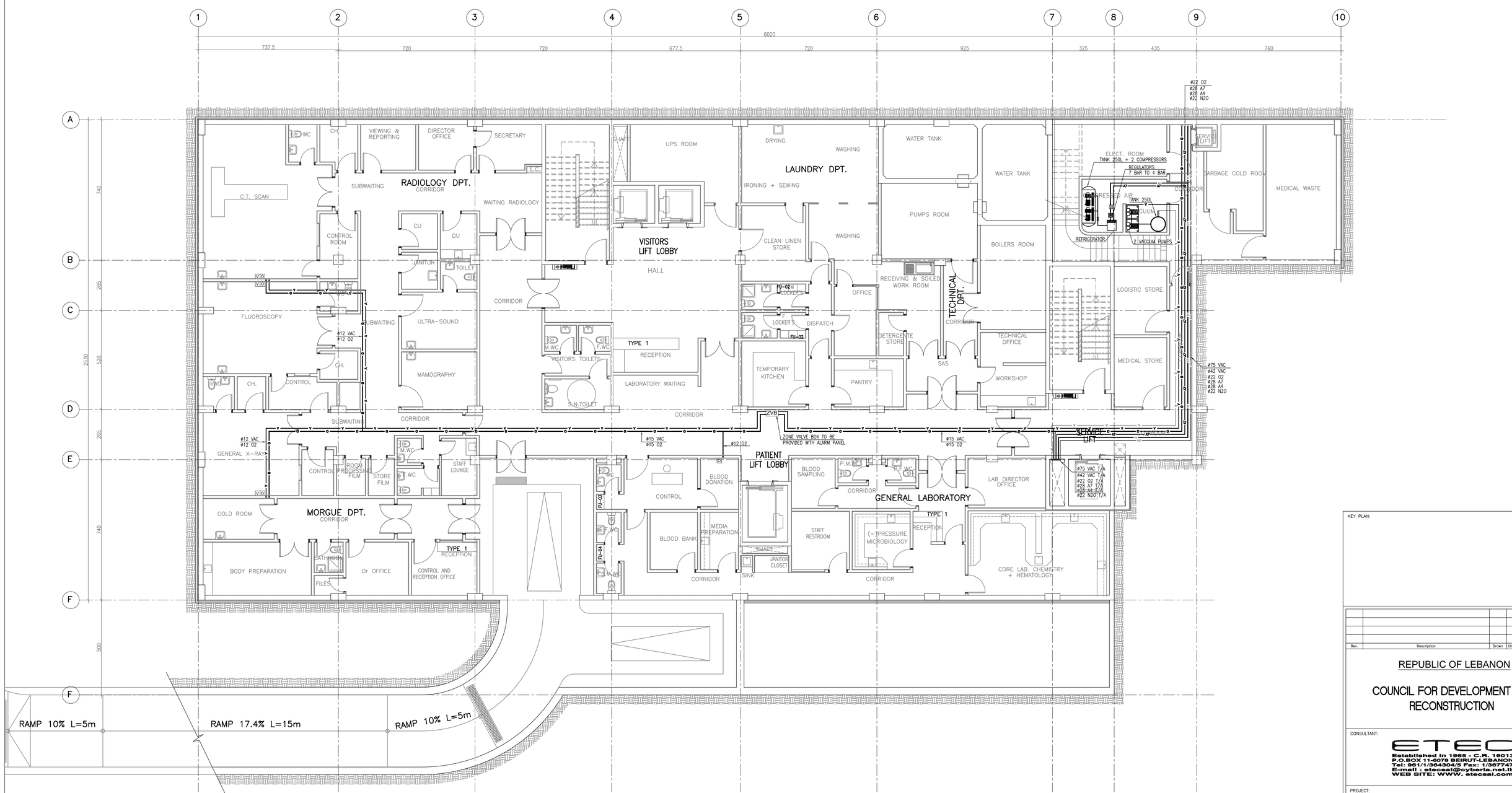
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEMATIC RISER
HVAC PIPING

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASGH-M39
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S.
DRAWING NO.:	M-39			REVISION	00



KEY PLAN:

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WEB SITE: WWW. etecsal.com

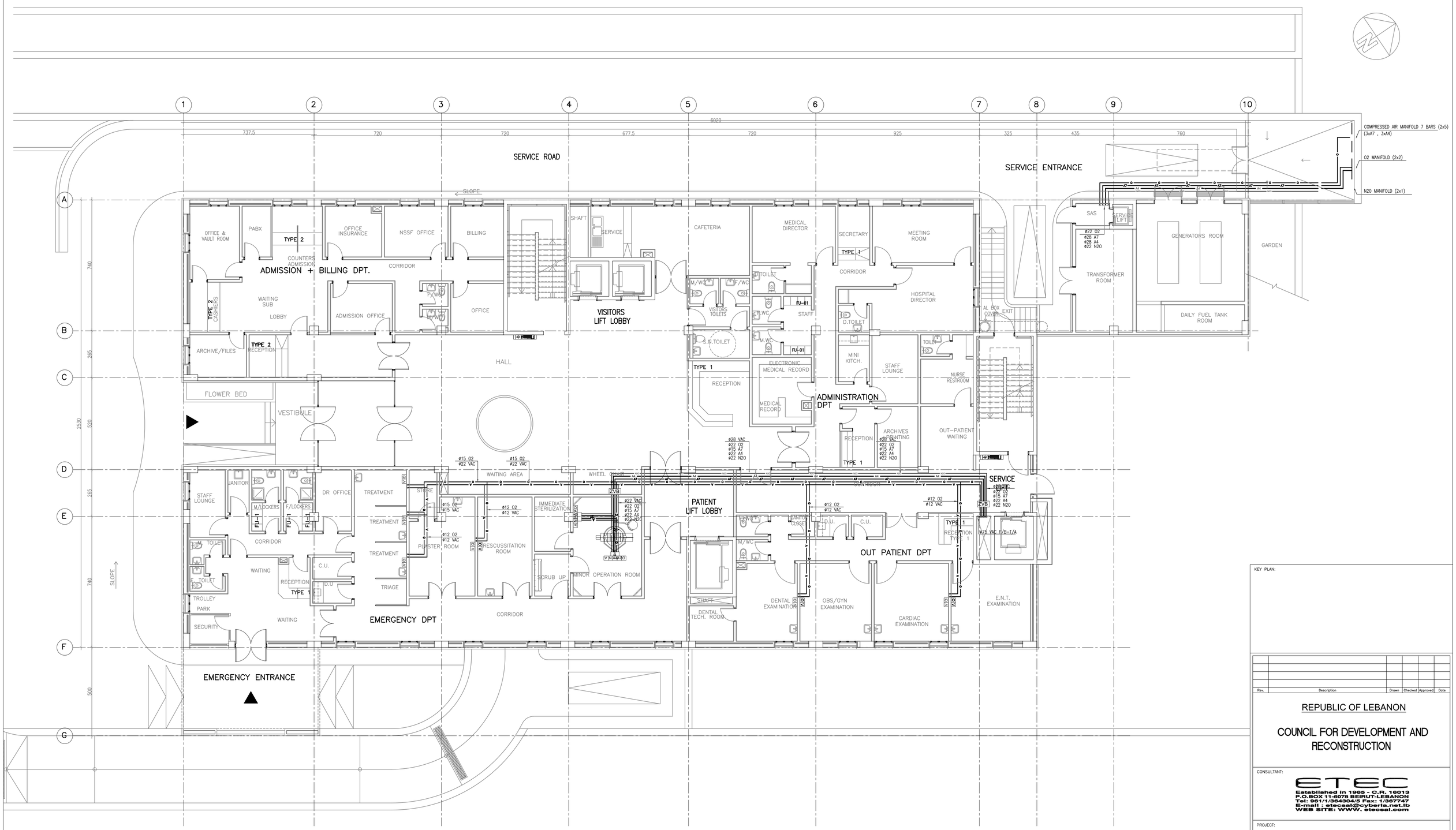
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST BASEMENT PLAN
MEDICAL GASES

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASGH-M40
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-40			REVISION	00



KEY PLAN:

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WEB SITE: WWW. etecsal.com

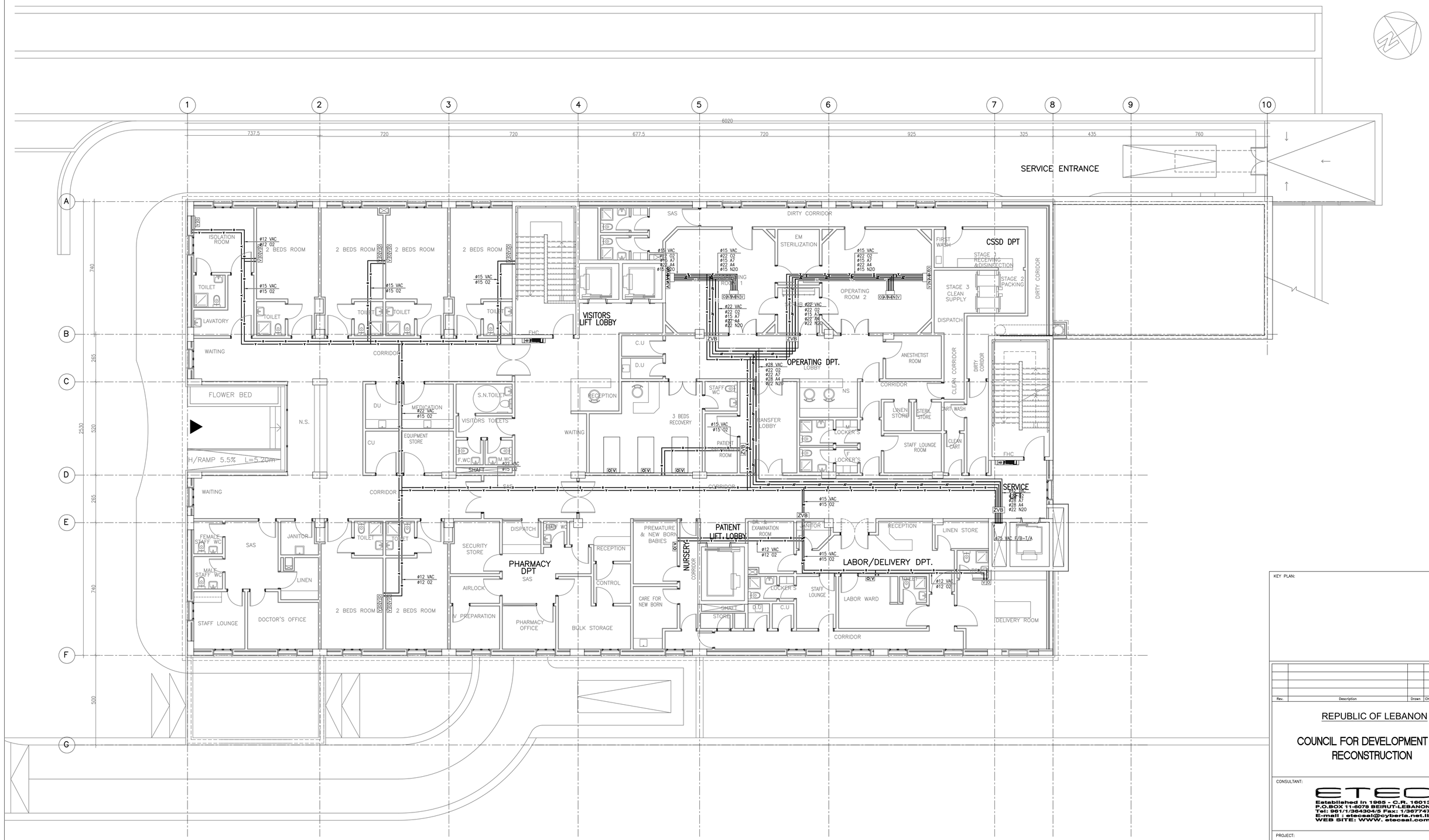
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

GROUND FLOOR PLAN
MEDICAL GASES

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M41
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-41			REVISION	00



KEY PLAN:

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PROJECT:

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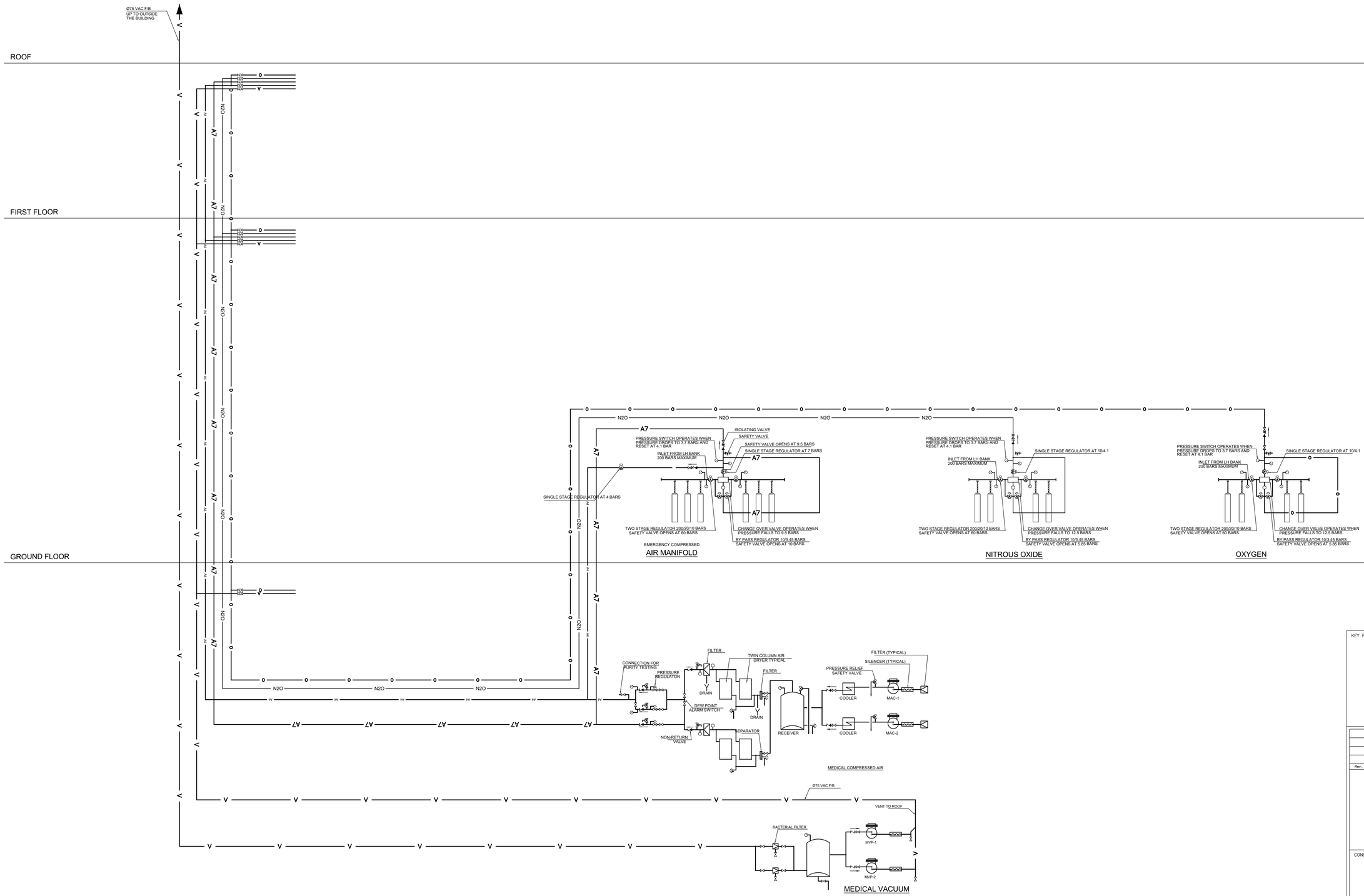
PHASE 5

TITLE:

FIRST FLOOR PLAN
MEDICAL GASES

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M42
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1/100
DRAWING NO.:	M-42			REVISION	00



KEY PLAN:

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WEB SITE: WWW. etecsal.com

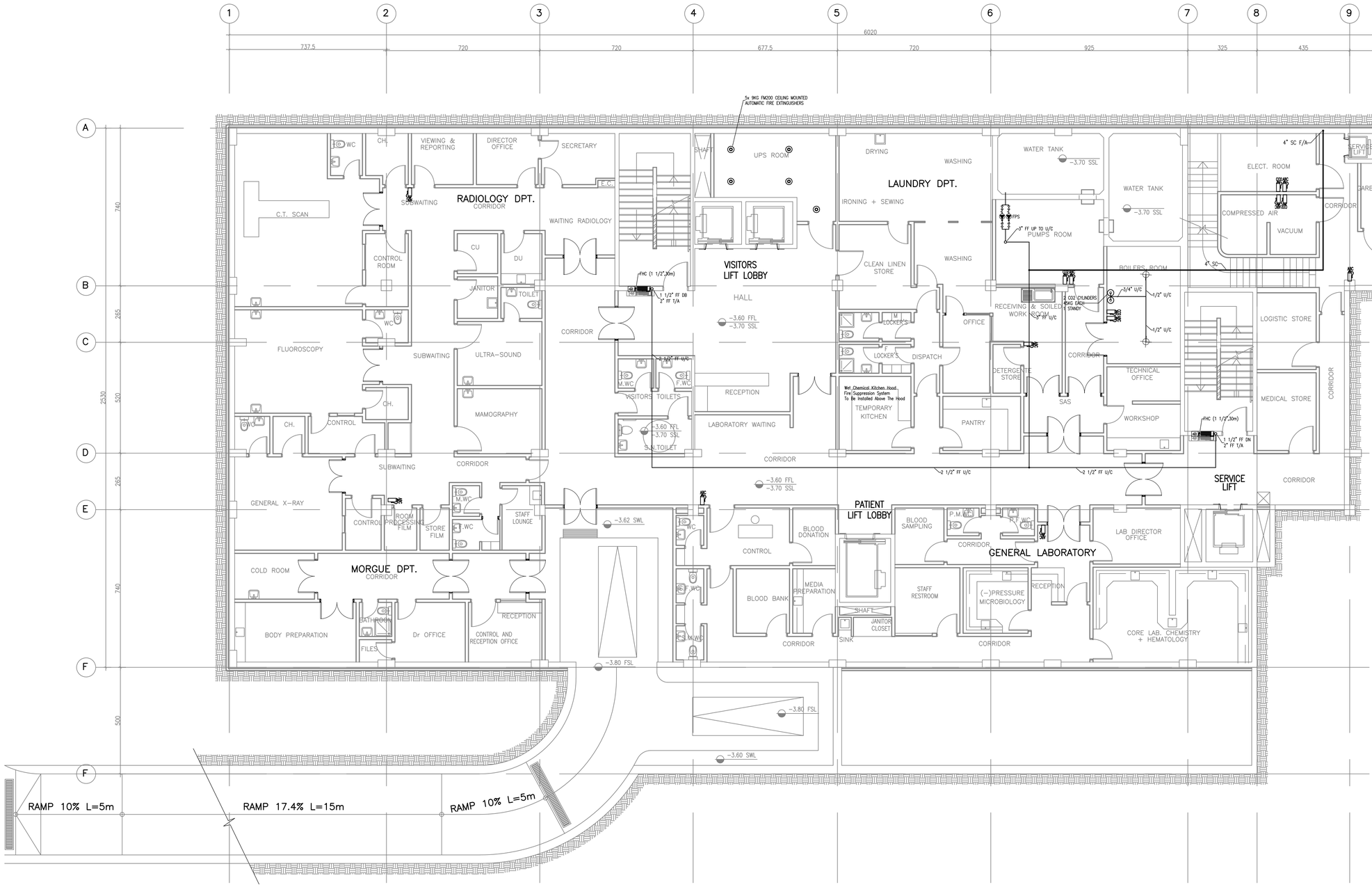
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEMATIC RISER
MEDICAL GASES

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASGH-M43
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S
DRAWING NO.:	M-43			REVISION	00



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

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WEB SITE: WWW. etecsal.com

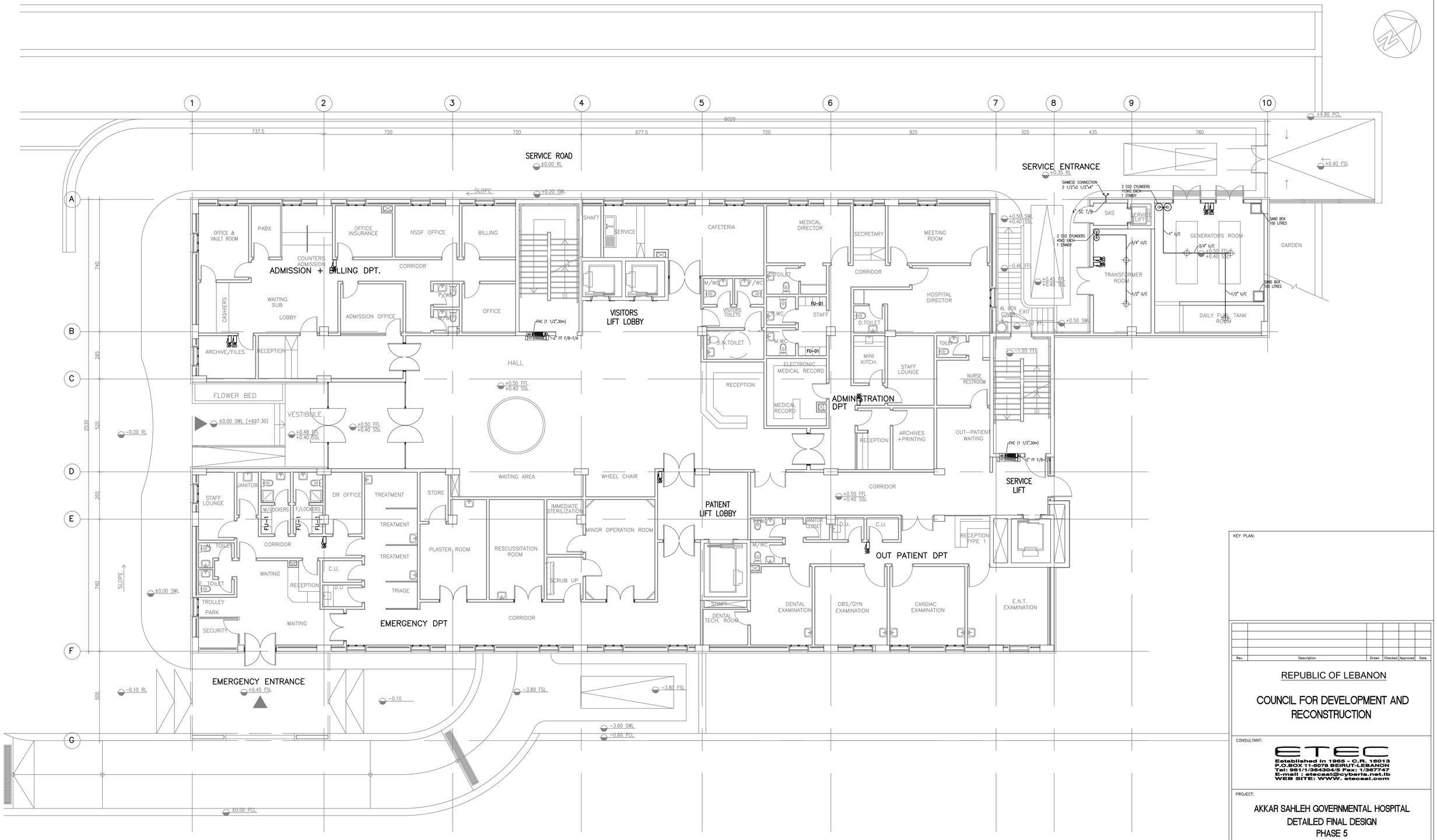
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST BASEMENT - FIRE FIGHTING PLAN

DRAWN BY:	Name E.H.	Date JULY 2026	Signature	FILE:	ASGH-M-39
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1:100
DRAWING NO.:	M-44			REVISION	1.0



KEY PLAN:

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REPUBLIC OF LEBANON

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E-mail : etecsal@cyberia.net.lb
WEB SITE: WWW. etecsal.com

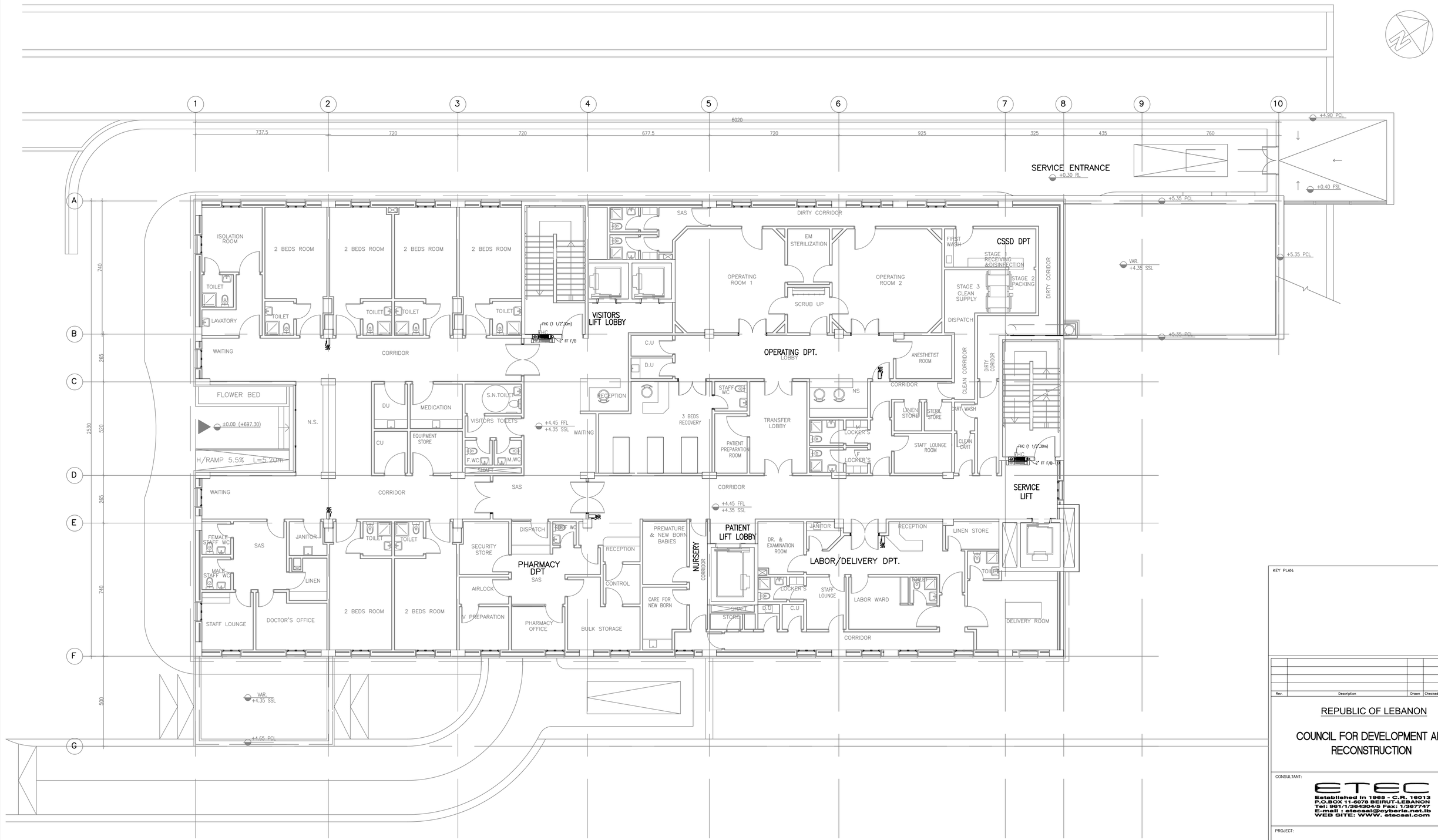
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

GROUND FLOOR - FIRE FIGHTING PLAN

DRAWN BY:	Nome E.H.	Date JULY 2026	Signature	FILE:	ASGH-M-40
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1:100
DRAWING NO.:	M — 45			REVISION	1.0



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

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COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

CONSULTANT:

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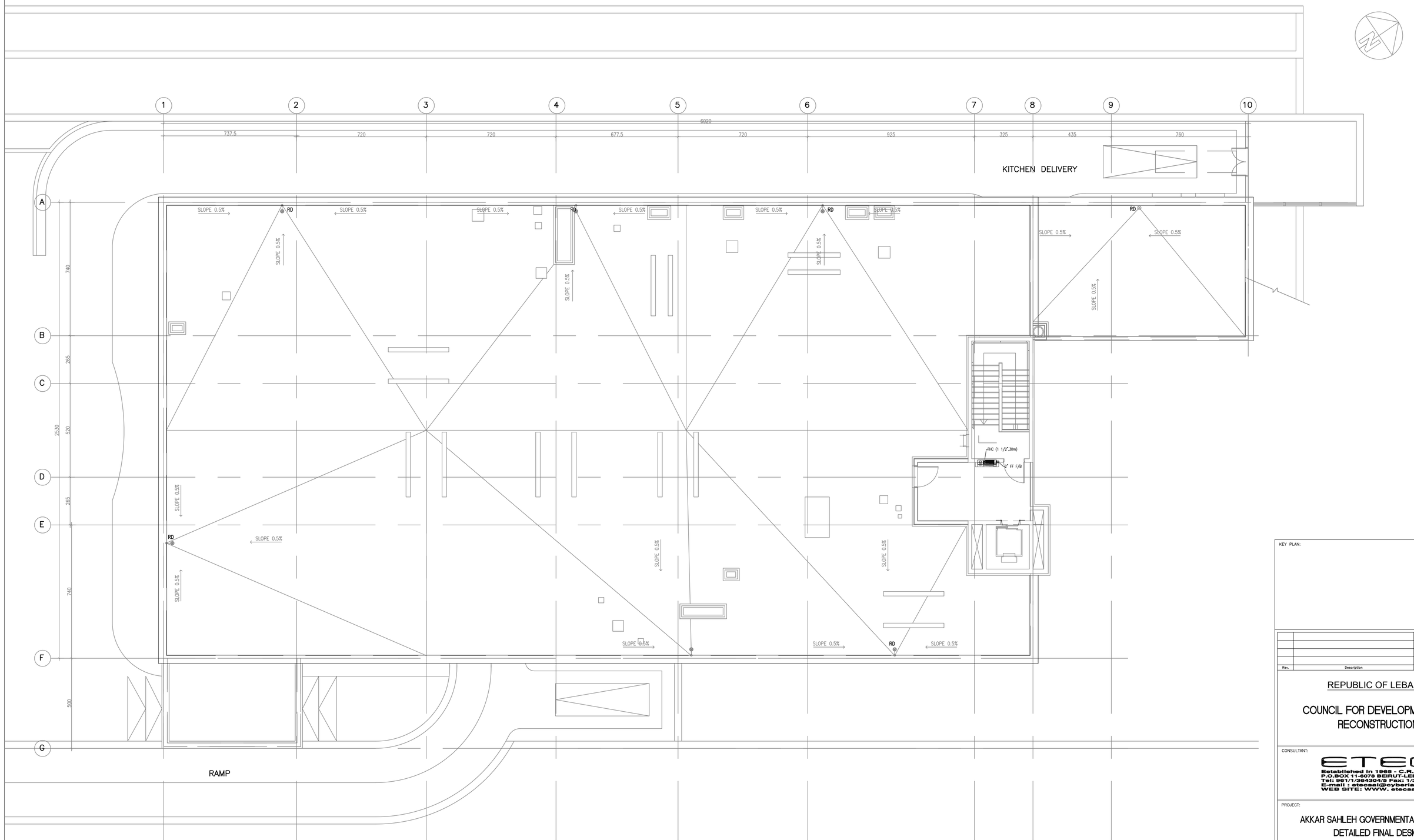
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

FIRST FLOOR - FIRE FIGHTING PLAN

	Name	Date	Signature		
DRAWN BY:	E.H.	JULY 2026		FILE:	ASGH-M-41
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1:100
DRAWING NO.:	M — 46			REVISION	00



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PROJECT:

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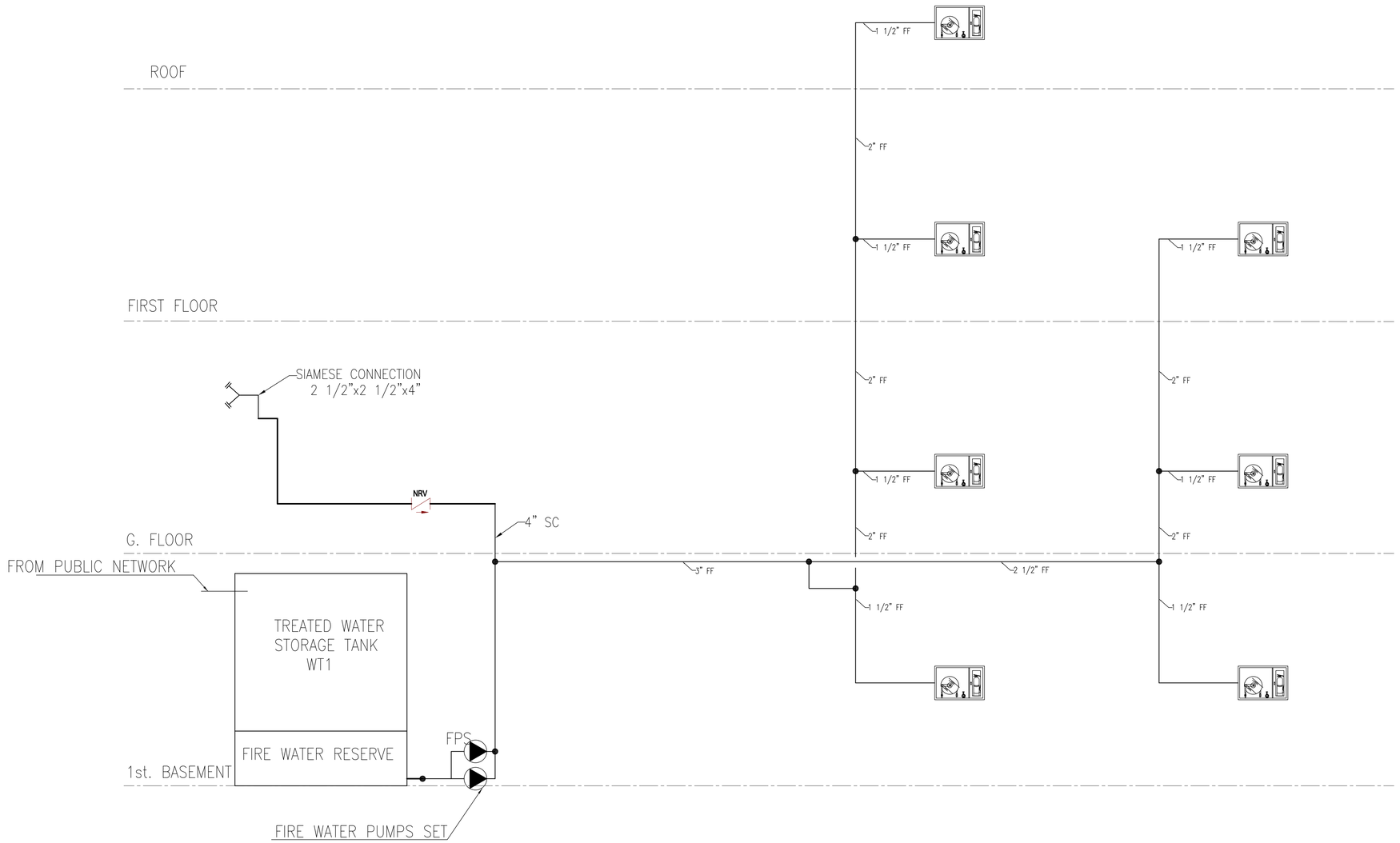
TITLE:

ROOF - FIRE FIGHTING PLAN

DRAWN BY:	Nome E.H.	Date JULY 2026	Signature	FILE:	ASGH-M-42
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1:100
DRAWING NO.:	M-47			REVISION	00



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PROJECT:

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PHASE 5

TITLE:

SCHEMATIC RISER - FIRE FIGHTING PLAN

DRAWN BY:	Name E.H.	Date JULY 2026	Signature	FILE:	ASGH-M-48
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S
DRAWING NO.:	M-48			REVISION	1.0

SCHEDULE N°1 – WATER PUMPS					
COLUMN No.	1	2	2	4	5
UNIT No.	CP-01	TPS-01	IPS-01	HCP-01	FUP-01
SYSTEM SERVED	DOMESTIC WATER	RAW WATER TRANSER/FILTRATION	RAW WATER IRRIGATION	HOT WATER CIRCULATION	FUEL GENERATOR+BOILERS
LOCATION	BASEMENT-1 PUMP ROOM			BASEMENT-1 BOILERS ROOM	
SPECIFICATION TYPE	DUPLEX BOOSTER SET VERTICAL MULTISTAGE PUMPS			DUPLEX CIRCULATOR	CENTRIFUGAL PUMP
FLUID	TREATED WATER	RAW WATER	RAW WATER	TREATED WATER	FUEL
FLOW RATE (M3/HR)	8	5	1.1	1.5	0.5
TOTAL HEAD (m W.G.) *	25	25	15	10	10
RPM	2900	2900	2900	2200	–
POWER INPUT (KW) (VXPHXHZ)	3X2.3 (380X3X50)	2X1.5 (380X3X50)	2X0.2 (380X3X50)	2X0.2 (220X1X50)	2x0.1 (220X1X50)
BASE TYPE	CONCRETE	CONCRETE	CONCRETE	–	–
QUANTITY	1 SET***	1 SET**	1 SET**	1 SET**	1 SET**
REMARKS	CASCADE OPERATION WITH VFD	CONSTANT SPEED	CONSTANT SPEED	DUPLEX	–

* PUMP HEAD SHALL BE VERIFIED BY THE CONTRACTOR, VALUES ARE ONLY INDICATIVE FOR TENDERING PURPOSES.
** THE SET CONSISTS OF 2 PUMPS EACH DELIVERING 100% OF THE INDICATED FLOW RATE (ONE IS STAND-BY)
*** THE SET CONSISTS OF 3 PUMPS EACH DELIVERING 100% OF THE INDICATED FLOW RATE
*** TRANSFER SET TO BE CONTROLLED THROUGH LEVEL SWITCHES IN WATER TANKS.

SCHEDULE N°2 –FIRE PUMPS	
COLUMN No.	01
UNIT No.	FPS-01
SYSTEM SERVED	FIRE FIGHTING SYTEM
LOCATION	BASEMENT-1/PUMP ROOM
FLUID	RAW WATER
SPECIFICATION TYPE	HORIZONTAL SPLIT CASE (UL/FM)
DRIVE	TFC ELECTRIC MOTOR WITH SOFT START
FLOW RATE (GPM/M3H)	100/22.7
TOTAL HEAD (PSI/M.W.G.) *	87/60
RPM	2945
POWER INPUT (HP/KW)	20/15
POWER SUPPLY (V/PH/HZ)	380/3/50
BASE TYPE	CONCRETE
REMARKS	1 DUTY / 1 STAND-BY

* TOTAL HEAD IS TO BE VERIFIED UPON SELECTION OF ACTUAL EQUIPMENT.

SCHEDULE N°4 – HOT WATER STORAGE TANKS		
COLUMN No.		1
UNIT No.		HWST-01/02
LOCATION		BASEMENT-1 BOILERS ROOM
SYSTEM SERVED		DOMESTIC HOT WATER
STORAGE CAPACITY (LITERS)		750
HEATING COIL	CAPACITY (KW)	20
	COIL ENTERING TEMP. (°C)	80
	COIL LEAVING TEMP. (°C)	70
	MAX. PRESSURE DROP ON COIL (m W.G.)	3
HWST ENTERING WATER TEMP. (°C)		10
HWST LEAVING WATER TEMP. (°C)		60
ELECTRICAL RESISTANCE (KW)/(VXPHXHz)		15/380X3X50
MAX. WORKING PRESSURE (bar)		10
MATERIAL		EPOXY COATED STEEL ENAMEL COATED INTERIOR (OR GLASS LINING) W/50MM INSULATION AND STEEL CLADDING
QUANTITY		2
NOTE: CYLINDERS TO BE SUPPLIED WITH MAGNESIUM ANODE.		

SCHEDULE N°5 – AUTOMATIC DUPLEX WATER SOFTENER	
COLUMN No.	01
UNIT No.	SF-01
SYSTEM SERVED	TREATED WATER
LOCATION	BASEMENT-1/PUMP ROOM
CAPACITY (M3/HR)	15
INLET HARDNESS (PPM) *	1200
OUTLET HARDNESS (PPM)	300
MAX. WORKING PRESSURE (bar)	10
POWER INPUT (KW) (VXPHXHZ)	0.2 220X1X50
MATERIAL	STEEL W/ EPOXY COATED INTERIOR
QUANTITY	1
REMARKS	MOUNTED ON SKID

* INLET HARDNESS TO BE VERIFIED BY WATER ANALYSIS CARRIED OUT BY THE CONTRACTOR
– NOTE A: THE SOFTENER SHOULD BE PROVIDED WITH FULLY AUTOMATIC DIAPHRAGM CONTROL VALVE ASSEMBLY OR A MULTI-PORT HYDRAULIC VALVE TO ACCOMPLISH THE REGENERATION STEPS (BACKWASH, BRINE DRAW, SLOW RINSE, RAPID RINSE AND SERVICE).
– NOTE B: REGENERATION CYCLE TO BE INITIATED VIA TIME CLOCK (TIMER).

SCHEDULE N°6 – REVERSE OSMOSIS WATER TREATMENT SYSTEM	
COLUMN No.	1
UNIT No.	RO-01
TYPE	REVERSE OSMOSIS
SYSTEM SERVED	TREATED WATER
LOCATION	BASEMENT-1/PUMP ROOM
CAPACITY (L/DAY)	500
DISTRIBUTION PUMP FLOW (M3/HR)	2
MAX. WORKING PRESSURE (bar)	2
POWER INPUT (KW) (VXPHXHZ)	5.0 380X3X50
QUANTITY	1

– NOTE A: FILTERS SHALL BE PROVIDED WITH AUTOMATIC CONTROL DIAPHRAGM VALVES OR A MULTI-PORT HYDRAULIC VALVE, CONTROLLED VIA AN ELECTRONIC CONTROLLER.
– NOTE B: BACKWASH TO BE INITIATED VIA TIME CLOCK (TIMER).

KEY PLAN:

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PROJECT:

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DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEDULE OF EQUIPMENT 1/2
MECHANICAL

DRAWN BY:	Nome G.N.	Date JULY 2026	Signature	FILE:	ASGH-M49
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S.
DRAWING NO.:	M-49			REVISION	00

AIR HANDLING UNITS

UNIT MARK	n° of Units	Supply Air Flow	Fresh Air Flow	Cooling Coil							Heating Coil			
				Sensible Cooling Capacity	Total Cooling Capacity	Chilled Water Flow	Entering Dry Bulb	Entering Wet Bulb	Leaving Dry Bulb	Leaving Wet Bulb	Total Heating Capacity	Heating Water Flow	Entering Dry Bulb	Leaving Dry Bulb
		L/S	L/S	KW	KW	L/S	°C	°C	°C	°C	KW	L/S	°C	°C
BF-AHU-01	1	1380	200	11.7	13.3	0.36	20.4	14.1	13.0	10.8	2.9	0.03	23.4	25.3
BF-AHU-02	1	1600	210	13.5	15.2	0.41	20.4	14.1	13.0	10.8	2.4	0.03	23.5	24.8
BF-AHU-03	1	360	360	8.6	13.8	0.37	34.0	23.0	13.0	12.3	9.7	0.12	2.0	26.1
BF-AHU-04	1	425	110	3.8	4.7	0.13	20.8	14.5	13.0	10.8	1.6	0.02	23.0	26.4
BF-AHU-05	1	1165	465	12.6	17.4	0.47	22.5	16.0	13.0	11.1	7.1	0.08	22.4	27.8
BF-AHU-06	1	335	130	5.4	7.9	0.21	27.3	19.0	13.0	11.7	5.5	0.07	15.5	30.1
BF-AHU-07	1	460	140	5.2	7.0	0.19	23.0	16.4	13.0	11.4	3.1	0.04	22.8	28.8
BF-AHU-08	1	460	140	5.2	7.0	0.19	23.0	16.4	13.0	11.4	2.8	0.03	22.8	28.2
BF-AHU-09	1	1120	1120	12.7	18.3	0.49	23.0	17.0	13.0	11.8	7.6	0.09	20.0	26.0
BF-AHU-10	1	800	280	9.1	13.4	0.36	23.0	16.4	13.0	10.9	4.7	0.06	22.6	27.9
BF-AHU-11	1	1030	420	11.7	15.2	0.41	23.0	16.5	13.0	11.7	9.4	0.11	22.4	30.5
BF-AHU-12	1	265	265	3.0	5.0	0.14	23.0	17.0	13.0	10.9	1.5	0.02	20.0	24.9
BF-AHU-13	1	270	110	3.1	3.7	0.1	23.0	16.5	13.0	12.1	2.3	0.03	22.4	30.0
BF-AHU-14	1	1400	0	15.8	15.8	0.42	22.0	15.3	12.0	11.5				
GF-AHU-01	2	900	130	10.0	11.8	0.32	22.8	16.0	13.0	11.8	5.6	0.07	23.4	28.9
GF-AHU-02	1	820	130	9.1	10.8	0.29	22.8	16.0	13.0	11.8	5.1	0.06	23.4	28.9
GF-AHU-03	2	800	130	9.1	11.9	0.32	23.0	16.2	13.0	11.4	6.3	0.07	23.4	30.4
GF-AHU-04	1	850	130	9.7	12.6	0.34	23.0	16.2	13.0	11.4	6.7	0.08	23.4	30.4
GF-AHU-05	1	440	150	5.0	6.8	0.18	23.0	16.4	13.0	11.4	3.1	0.04	22.6	29.0
GF-AHU-06	1	620	620	7.0	10.4	0.28	23.0	17.0	13.0	11.6	5.5	0.07	20.0	27.9
GF-AHU-07	1	855	240	9.7	12.9	0.35	23.0	16.3	13.0	11.4	7.1	0.08	22.9	30.3
GF-AHU-08	1	850	240	9.7	12.6	0.34	23.0	16.3	13.0	11.5	4.2	0.05	22.9	27.3
GF-AHU-09	1	530	20	4.3	4.5	0.12	20.1	13.7	13.0	10.8	0.6	0.01	23.9	24.9
GF-AHU-10	1	590	590	6.7	11.9	0.32	23.0	17.0	13.0	10.4	4.9	0.06	20.0	24.0
GF-AHU-11	1	1235	365	14.0	17.9	0.48	23.0	16.4	13.0	11.7	8.6	0.10	22.8	29.0
GF-AHU-12	1	1030	270	11.7	14.1	0.38	23.0	16.3	13.0	11.9	8.0	0.1	23.0	29.9
GF-AHU-13	1	720	200	8.2	11.2	0.3	23.0	16.3	13.0	11.3	6.5	0.08	22.9	31.0
F1-AHU-OR01	1	800	800	9.1	15.7	0.42	23.0	17.0	13.0	10.6	2.3	0.03	20.0	22.6
F1-AHU-OR02	1	800	800	9.1	15.7	0.42	23.0	17.0	13.0	10.6	2.3	0.03	20.0	22.6
FF-AHU-01	1	825	130	9.4	11.2	0.3	23.0	16.2	13.0	11.8	5.0	0.06	23.4	28.8
FF-AHU-02	1	875	130	10.0	11.9	0.32	23.0	16.2	13.0	11.8	5.3	0.06	23.4	28.8
FF-AHU-03	1	500	155	5.7	6.9	0.19	23.0	16.4	13.0	11.9	3.8	0.05	22.8	29.5
FF-AHU-04	1	900	180	10.2	13.1	0.35	23.0	16.3	13.0	11.5	7.4	0.09	23.2	30.5
FF-AHU-05	1	645	150	7.3	8.6	0.23	23.0	16.3	13.0	12.0	5.0	0.06	23.7	29.9
FF-AHU-06	1	800	155	9.1	11.6	0.31	23.0	16.3	13.0	11.6	6.6	0.08	23.3	30.6
FF-AHU-07	1	860	225	9.8	11.8	0.32	23.0	16.3	13.0	12.0	6.3	0.08	23.0	29.5
FF-AHU-08	1	380	100	4.3	5.3	0.14	23.0	16.3	13.0	11.5	2.9	0.03	23.2	30.5
FF-AHU-09	1	865	865	9.8	13.3	0.36	23.0	17.0	13.0	12.1	10.0	0.12	20.0	30.3
FF-AHU-10	1	1240	350	14.1	17.7	0.48	23.0	16.3	13.0	11.7	9.2	0.11	22.9	29.5
FF-AHU-11	1	360	85	3.2	4.2	0.11	20.7	14.4	13.0	10.5	2.6	0.03	23.1	29.4

1. CONTRACTOR TO PREPARE EXTERNAL STATIC PRESSURE CALCULATIONS AND SUBMIT FOR APPROVAL.

FAN COIL UNITS

UNIT MARK	n° of Units	Supply Air Flow	Fresh Air Flow	Cooling Coil							Heating Coil			
				Sensible Cooling Capacity	Total Cooling Capacity	Chilled Water Flow	Entering Dry Bulb	Entering Wet Bulb	Leaving Dry Bulb	Leaving Wet Bulb	Total Heating Capacity	Heating Water Flow	Entering Dry Bulb	Leaving Dry Bulb
		L/S	L/S	KW	KW	L/S	°C	°C	°C	°C	KW	L/S	°C	°C
BF-FCU-01	1	170	65	1.9	3.2	0.09	23.0	16.4	13	10.9	1.1	0.01	22.5	28.11
BF-FCU-02	1	150	70	1.7	2.2	0.06	23.0	16.2	13	12.3	0.74	0.01	22.1	26.6
GF-FCU-01	1	260	55	3.0	3.5	0.09	23.0	16.3	13	12.0	1.0	0.01	23.2	26.6
FF-FCU-01	1	275	275	3.1	4.1	0.11	23.0	17.0	13	12.3	3.1	0.04	20.0	30.0
FF-FCU-02	1	270	50	3.1	3.3	0.09	23.0	16.2	13	12.3	2.8	0.03	23.3	32.5
FF-FCU-03	1	270	50	3.1	3.3	0.09	23.0	16.2	13	12.3	2.8	0.03	23.3	32.5
FF-FCU-04	1	270	50	3.1	3.3	0.09	23.0	16.2	13	12.3	2.8	0.03	23.3	32.5
FF-FCU-05	1	270	50	3.1	3.3	0.09	23.0	16.2	13	12.3	2.8	0.03	23.3	32.5
FF-FCU-06	1	270	50	3.1	3.3	0.09	23.0	16.2	13	12.3	2.8	0.03	23.3	32.5
FF-FCU-07	1	270	50	3.1	3.3	0.09	23.0	16.2	13	12.3	2.8	0.03	23.3	32.5

1. CONTRACTOR TO PREPARE EXTERNAL STATIC PRESSURE CALCULATIONS AND SUBMIT FOR APPROVAL.

PRECCOLING / PREHEATING AIR HANDLING UNITS

UNIT MARK	n° of Units	Fresh Air Flow	Exhaust Air Flow	Cooling Coil							Heating Coil				Heat Recovery Wheel
				Sensible Cooling Capacity	Total Cooling Capacity	Chilled Water Flow	Entering Dry Bulb	Entering Wet Bulb	Leaving Dry Bulb	Leaving Wet Bulb	Total Heating Capacity	Heating Water Flow	Entering Dry Bulb	Leaving Dry Bulb	Recovery Rate
		L/S	L/S	KW	KW	L/S	°C	°C	°C	°C	KW	L/S	°C	°C	%
RF-HRU-01	1	5925	2285	74.2	141.3	3.8	35.0	23.0	23.0	17.0	119.4	1.43	2.0	20.0	70
RF-HRU-02	1	5650	960	70.7	134.8	3.62	35.0	23.0	23.0	17.0	113.9	1.60	2.0	20.0	70

1. CONTRACTOR TO PREPARE EXTERNAL STATIC PRESSURE CALCULATIONS AND SUBMIT FOR APPROVAL.

CHILLERS

UNIT MARK	n° of Units	TYPE	Cooling Capacity	Chilled Water Temperature	
				Entering Water Temperature	Leaving Water Temperature
			KW	°C	°C
CH-01/02/03	2+1	AIR COOLED SCREW CHILLERS	370.0	14.4	5.5

1. AMBIENT TEMPERATURE : DB:35°C, WB:23°C

CHILLED WATER PUMPS

UNIT MARK	n° of Units	TYPE	Chilled Water Flow
			L/S
CHWP-01/02/03	2+1	END SUCTION	9.85

1. CONTRACTOR TO PREPARE EXTERNAL STATIC PRESSURE CALCULATIONS AND SUBMIT FOR APPROVAL.

FANS

UNIT MARK	n° of Units	TYPE	Air Flow
			L/S
RF-EAF-01	1	ROOFTOP	720
RF-EAF-02	1	ROOFTOP	720
RF-EAF-03	1	ROOFTOP	100
RF-EAF-04	1	ROOFTOP	750
RF-EAF-05	1	ROOFTOP	310
RF-EAF-07	1	ROOFTOP	485
RF-EAF-08	1	ROOFTOP	1100
RF-EAF-09	1	ROOFTOP	485
RF-EAF-10	1	ROOFTOP	190
RF-EAF-11	1	ROOFTOP	115
RF-EAF-12	1	ROOFTOP	300
RF-EAF-13	1	ROOFTOP	1320
BF-EAF-01	1	AXIAL INLINE	385
BF-EAF-01	1	AXIAL INLINE	105
RF-FAF-01	1	ROOFTOP	260

1. CONTRACTOR TO PREPARE EXTERNAL STATIC PRESSURE CALCULATIONS AND SUBMIT FOR APPROVAL.

BOILERS

UNIT MARK	n° of Units	Cooling Capacity	Heating Water Temperature	
			Entering Water Temperature	Leaving Water Temperature
		KW	°C	°C
B-01/02	2	265	60.0	80.0

1. AMBIENT TEMPERATURE : DB:2°C

BOILER WATER PUMPS

UNIT MARK	n° of Units	Heating Water Flow
		L/S
P-01	2	3.2
P-02a	1+1	5.23
P-02b	1+1	1.04

1. CONTRACTOR TO PREPARE EXTERNAL STATIC PRESSURE CALCULATIONS AND SUBMIT FOR APPROVAL.

KEY PLAN:

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CONSULTANT:

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WEB SITE: WWW. etecsal.com

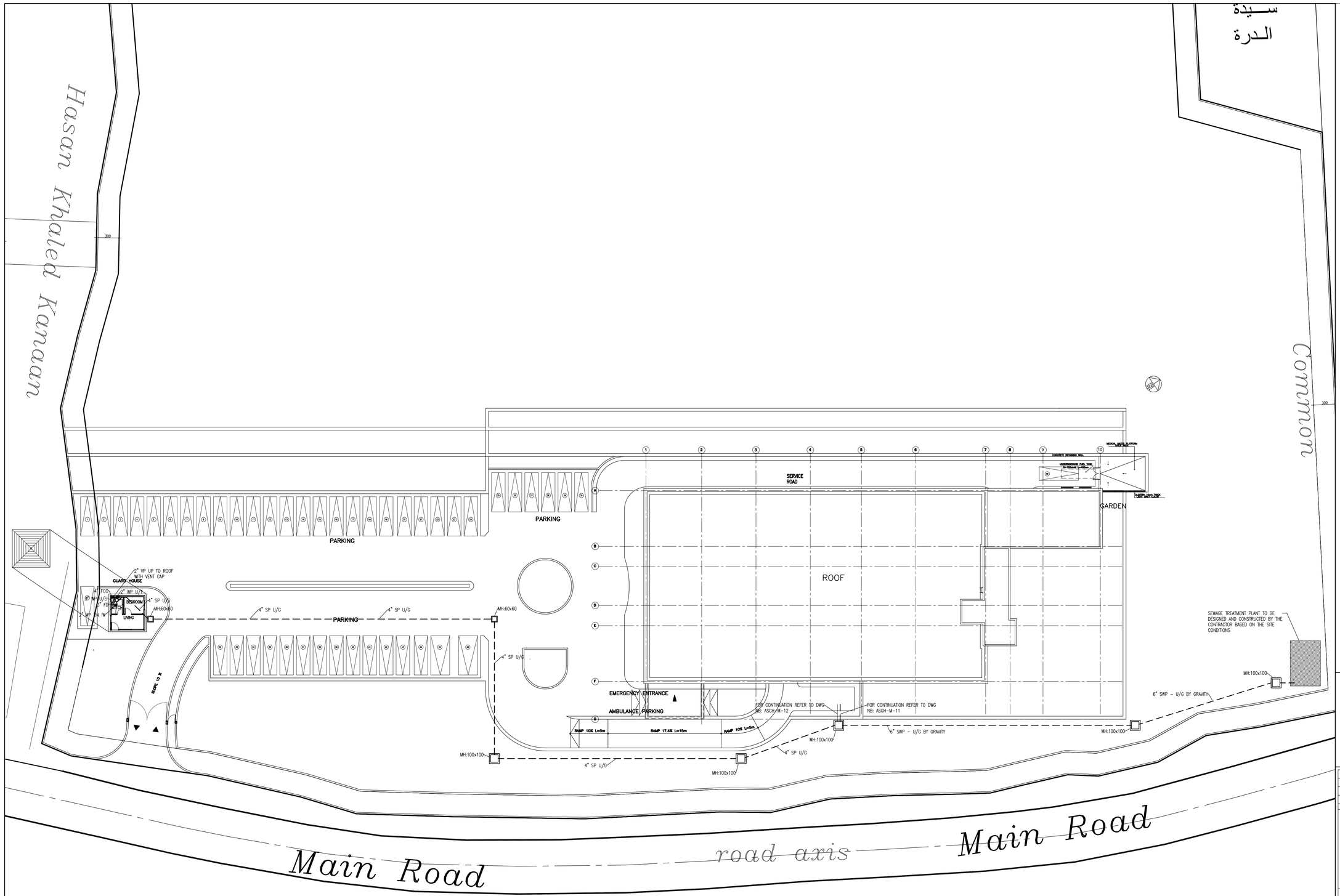
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SCHEDULE OF EQUIPMENT 2/2
MECHANICAL

DRAWN BY:	Name G.N.	Date JULY 2026	Signature	FILE:	ASGH-M50
CHECKED BY:	M.T.	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	N.T.S.
DRAWING NO.:	M-50			REVISION	00



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

REPUBLIC OF LEBANON

COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

CONSULTANT:

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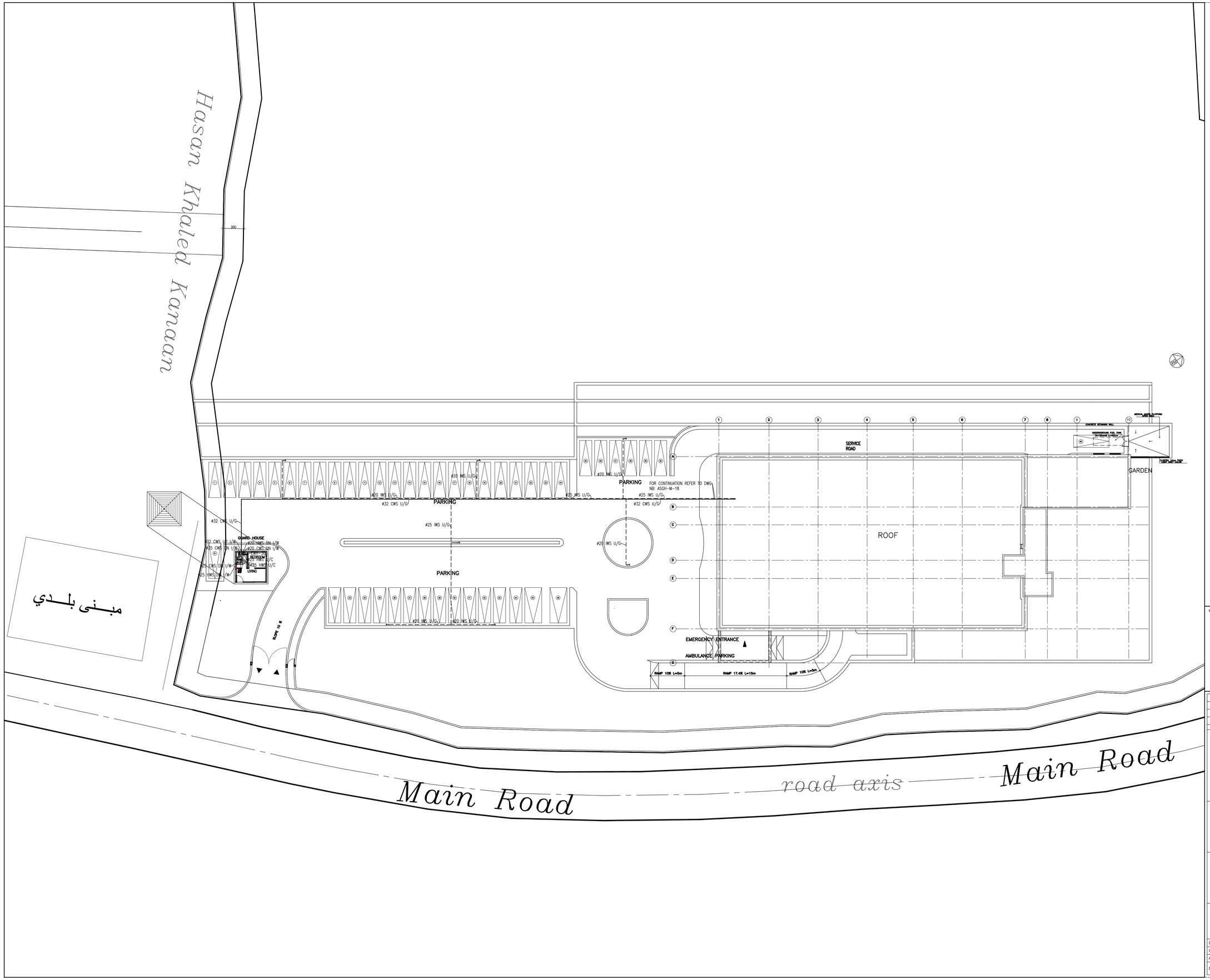
PROJECT:

AKKAR SAHLEH GOVERNMENTAL HOSPITAL
DETAILED FINAL DESIGN
PHASE 5

TITLE:

SITE PLAN - DRAINAGE PLAN

DRAWN BY:	Name E.H.	Date JULY 2026	Signature	FILE:	ASGH-M-51
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1:250
DRAWING NO.:	M-51			REVISION	00



KEY PLAN:

Rev.	Description	Drawn	Checked	Approved	Date

REPUBLIC OF LEBANON

COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

CONSULTANT:

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DETAILED FINAL DESIGN
PHASE 5

TITLE:

SITE PLAN - WATER SUPPLY PLAN

DRAWN BY:	Name E.H.	Date JULY 2026	Signature	FILE:	ASGH-M-52
CHECKED BY:	J.A.J	JULY 2026		SIZE:	A1
APPROVED BY:	E.A.J.	JULY 2026		SCALE	1:250
DRAWING NO.:	M-52			REVISION	00