



**PROCUREMENT SERVICES**

**CITY OF SURREY, SURREY CITY HALL**  
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**ADDENDUM No. 1**

**REQUEST FOR QUOTATION No.:** 1220-040-2022-077

**TITLE:** GUILDFORD LIBRARY: AIR HANDLING UNITS  
REPLACEMENTS

**ADDENDUM ISSUE DATE:** SEPTEMBER 29, 2022

**REVISED DATE:** PREFER TO RECEIVE SUBMISSION ON OR  
BEFORE OCTOBER 12, 2022

**INFORMATION FOR CONTRACTORS**

Contractors are advised that Addendum No. 1 to 1220-040-2022-077 is hereby issued by the City. This addendum shall form part of the contract documents and is to be read, interpreted and coordinated with all other parts. The following information is provided to answer questions raised by Contractors for the above-named project, to the extent referenced and shall become a part thereof. No consideration will be allowed for extras due to the Contractors or any sub-contractor not being familiar with this addendum. This Addendum No. 1 contains 12 (twelve) pages.

**CLARIFICATIONS:**

1. Add the following optional pricing in Item # 9 of Schedule C – Form of Quotation:

Description of Optional Prices	Addition	Deduction
OP-1. Cost of rigid steel conduit as per Electrical Addendum #1 by O'M Eng. dated September 28, 2022.	\$ [            ]	\$ [            ]
OP-2. Provide a separate alternate price (cost savings) to replace the rigid steel conduit with EMT as per Electrical Addendum #1 by O'M Eng. dated September 28, 2022.	\$ [            ]	\$ [            ]

Refer to Attachment No. 1.

2. Refer to changes in Mechanical Addendum #1 by AME dated Sept. 27 on Attachment No. 2.

**QUESTIONS AND ANSWERS:**

**Q1. We would like to know if there are any working hour restrictions as it is a library.**

**A1. Since the library is open 7 days a week, it would be challenging to work around opening hours. If any of the work is particularly loud or involves strong fumes, this would have to be coordinated with the City ahead of time (a few library staff are particularly sensitive to strong smells). If so, work would have to be scheduled for earlier in the morning before the library opens (i.e. 6-9:30am) and before library programs start. There are programs most mornings 10:30-11:30am and many afternoons between 2-4pm.**

**Q2. What requirements, if any, do you have for large crane lifts on city property?**

**A2. Contractor to review/confirm site access, dimensions, turning radius, etc. Loading capacity (coordinate with the City)**

**Q3. Can you clarify what you expect for a project schedule? Do you have any targeted start dates and end dates?**

**A3. Contractor to provide pricing to have fully operating AHUs before June 2023, if supply lines do not allow construction to finish before June 2023, construction to begin in September 2023. Contractor to order AHUs immediately after review of shop drawings and include all storage costs. No replacement during June, July August or November, December, January, February and March.**

**Q4. Can you provide weight information for the existing AHUs.**

**A4. It's shown on M2.01.**

**Q5. Are the bigger AHUs (old and new) assembled in modules or just one piece?**

**A5. AHUs in specification are fully assembled.**

**Q6. Please confirm whether there is warranty on the roof. If so, who is the base roofing contractor.**

**A6. Not under warranty, roof installation date estimated at 2007.**

**Q7. Confirm how long each system can be shut down for new installation. Confirm three separate crane lifts are required for project completion.**

**A7. Contractor to allow for only one unit in construction at a time. Contractor allotted a Monday to Friday period to decommission existing unit, install new unit and provide at least ventilation air to the space so that disturbance to the space will be isolated to a single Monday to Friday period. Contractor to provide temporary systems if work extends past the five working days.**

**Q8. Please confirm any afterhours requirement for Shutdown, mobilization, or demobilization.**

**A8. Any afterhours work or shutdowns will have to be coordinated with City's staff at least 2 weeks ahead of time. Lib. Hours: Monday 9:30a.m.-8p.m. Tuesday 9:30a.m.-8p.m. Wednesday 9:30a.m.-8p.m. Thursday 9:30a.m.-8p.m. Friday Closed. Saturday 10a.m.-5p.m. Sunday 10a.m.-5p.m.**

**Q9. Please confirm the access from below to the new curbs.**

**A9. Access will have to be coordinated with the City at least 2 weeks in advance.**

**Q10.** Please refer "SCHEDULE C – FORM OF QUOTATION" of the above mentioned RFQ. Could you please clarify the following scope:

**Equipment Cost**

AHU-L1

AHU-L3

AHU-L6

CU-L1 A

CU-L1 B

CU-L3

CU-L6

**Installation:** AHU-L1

CU-L1 A

CU-L1 B

What is going to do with rest of four items, not listed for installation.

**A10.** See Attachment No. 3, Updated Schedule of Quantities and Prices. Craning line added in 2.2 and 2.4

**Q11.** The drawings show that they have spec'd Rigid Steel Conduit (RGS). Are we able to use EMT instead? It will still provide more than adequate protection and there will be a major cost savings.

**A11.** See Clarifications. Refer to attached electrical addendum #1 by O'M Engineering issued on Sept. 28, 2022.

**Q12.** Who is the controls Contractor for the building?

**A12.** ESC Automation Inc.

-End of Page-

**ATTACHMENT NO. 1 – O'M Engineering Tender Addendum #1**



# TENDER ADDENDUM #1

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**PROJECT NO:** 21-105  
**PROJECT NAME:** Guildford Library Mechanical Upgrades  
**DATE:** September 28, 2022  
**ISSUED BY:** Mo Khan

**TO:** Attn: Scott Stewart P.Eng  
The AME Group  
200-638 Smithe Street  
Vancouver, BC, V6B 1E3

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The following Addendum shall form part of the referenced tender document for the stated project above, and is to be read, interpreted, and coordinated with all other items. As such, all costs for work performed herein, shall be included within the tender. Thus, the following revisions supersede any information contained within the project's original drawings and specifications. Except for items outlined below, all other terms and conditions shall remain the same as in the original tender documents and if applicable, any previously issued addenda.

**1. REFERENCED DRAWING E101 AND E102**

1. Include in the base bid the cost of rigid steel conduit as per tender drawings.
2. Provide a separate alternate price (cost saving) to replace the rigid steel conduit with EMT.

**END OF ELECTRICAL ADDENDUM NO. 1**

**ATTACHMENT NO. 2 – AME Mechanical Addendum Number One**

**Guildford Library – Equipment Upgrades**  
085b-067-21

**Addendum Number One (1)**  
**September 27, 2022**

Page 1 of 2

*The following addendum supersedes information contained in drawings and specifications issued for the project to the extent referenced. This Addendum forms part of the Tender Documents and is subject to all of the conditions set out in the contract conditions.*

**1. DRAWINGS – MECHANICAL**

**1.1 Drawing No.: M0.01**

- .1 Revise:
  - .1 Mechanical drawing list, new drawing M2.03
  - .2 General notes

**1.2 Drawing No.: M1.01**

- .1 Add:
  - .1 AHU schedule, notes 18,19, 20, 21,22
- .2 Revise:
  - .1 Remarks, all to include notes 18 thru 22

**1.3 Drawing No.: M2.02**

- .1 Add:
  - .1 Note regarding condensing unit final location
- .2 Revise:
  - .1 Condensing units CU-L1-A and CU-L1-B location. Units shifted over east to allow for coil pull clearance of AHU-L1.
  - .2 Equipment tag EEV-L1-B to EEV-L1-A

**1.4 Drawing No.: M2.03**

- .1 Add:
  - .1 New drawing, with details for condensate drain line for units with high efficiency gas burners

**2. SPECIFICATIONS – MECHANICAL**

**2.1 Section: 27 73 10**

- .1 Delete:
  - .1 2.3.3 – required for base to act as a drain pan
  - .2 2.4.2 – 12” round window not required
- .2 Revise:
  - .1 2.3.2 – Floor plate construction
  - .2 2.9.4 – Drain pans to be designed as per ASHRAE 62.1-2001 IAQ standards
  - .3 2.9.9 – Cooling coil casings to be galvanized steel
  - .4 2.13 – Louvres made of galvanized steel with waterproof painting
  - .5 1.3.7 – Unit to have single disconnect

*The following addendum supersedes information contained in drawings and specifications issued for the project to the extent referenced. This Addendum forms part of the Tender Documents and is subject to all of the conditions set out in the contract conditions.*

**END OF MECHANICAL ADDENDUM NO. 1**

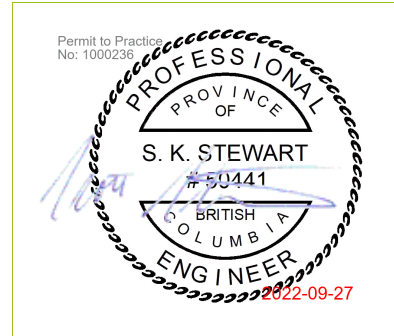
Yours very truly,

**The AME Consulting Group Ltd.**



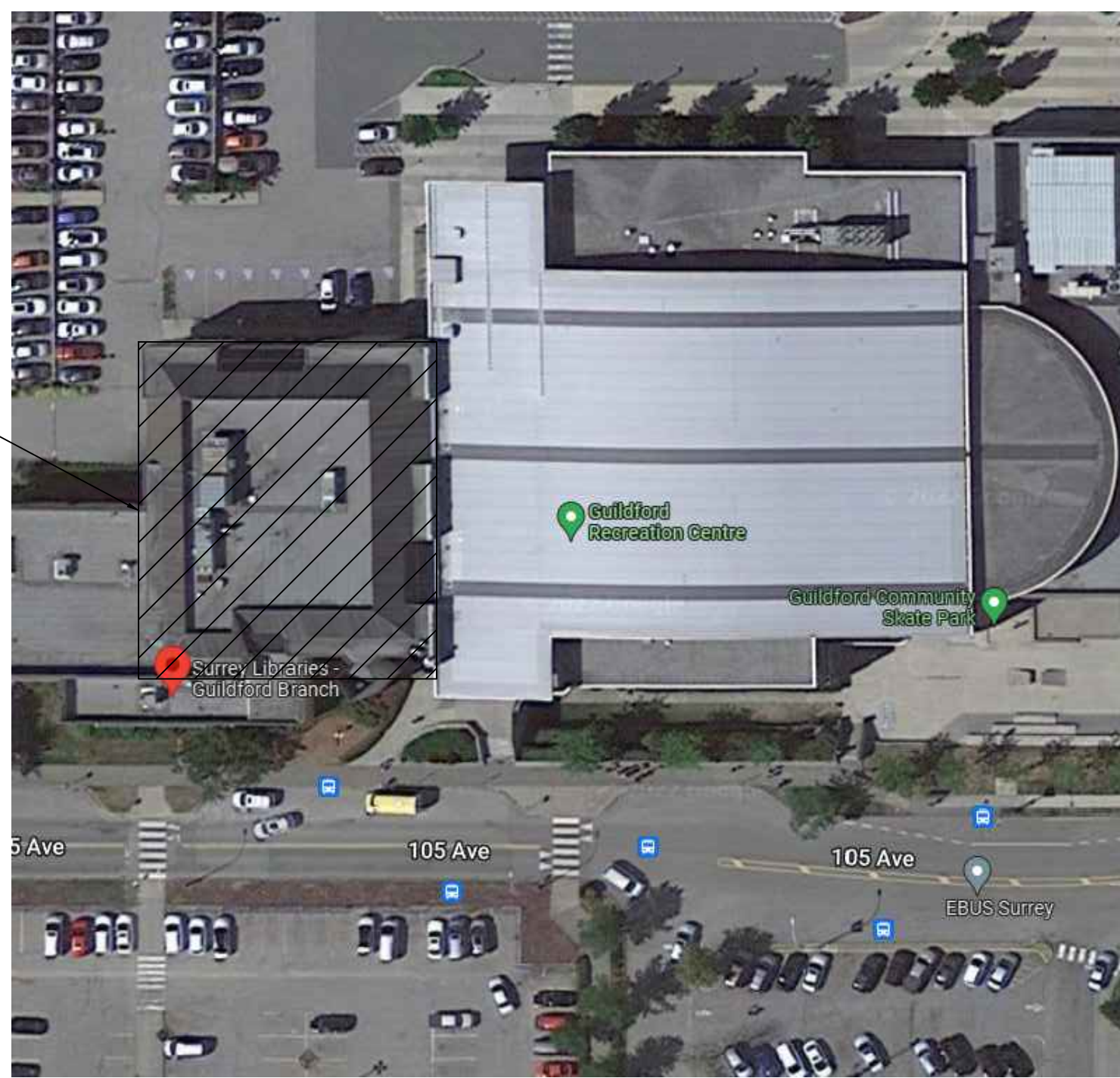
**Umer Mian, EIT**

Building Performance Specialist - Vancouver, BC



**PROFESSIONAL'S SEAL &  
SIGNATURE**

**Attachment(s):** M0.01, M1.01, M2.02, M2.03



SITE PLAN  
SCALE: NTS



MECHANICAL ABBREVIATIONS

Table of mechanical abbreviations with columns for symbol, description, and unit. Includes items like AD AREA DRAIN, AFF ABOVE FINISHED FLOOR, AHU AIR HANDLING UNIT, etc.

SYMBOL SCHEDULE

Symbol schedule table with columns for Demolition, Existing, New, and Description. It lists symbols for PIPING, SYSTEM MONITORING, DUCTWORK, FIRE PROTECTION, EQUIPMENT TAGS, and OUTLETS AND DRAINS.

MECHANICAL DRAWING LIST

Table listing drawing numbers, descriptions, and scales. Includes drawings for roof plan, mezzanine plan, and HVAC plans.

MECHANICAL RENOVATION NOTES

- 1. THE CONTRACTOR SHALL BE REQUIRED TO ATTEND A PRE-BID WALK THROUGH TO ENSURE A PROPER UNDERSTANDING OF THE MECHANICAL SCOPE OF WORK.
2. CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND VERIFYING ACTUAL ON-SITE CONDITIONS AND EQUIPMENT LOCATIONS PRIOR TO ANY AND ALL DEMOLITION WORK AND/OR EQUIPMENT REMOVAL.
3. CONTRACTOR TO INCLUDE AS A PART OF THE BID ALL COSTS ASSOCIATED WITH CUTTING AND PATCHING THAT IS REQUIRED TO INSTALL ALL NEW MECHANICAL SYSTEMS AS REQUIRED TO MEET THE SITE CONDITIONS AS SHOWN ON THE DRAWINGS.

MECHANICAL GENERAL NOTES

- GENERAL
1. READ THE DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS INCLUDING THE PROJECT SPECIFICATIONS AND OTHER DRAWINGS SETS. IN CASES OF DIFFERENCE BETWEEN THE DOCUMENTS WITH RESPECT TO THE QUANTITY, SIZES, OR SCOPE OF WORK, THE GREATER SHALL APPLY.
2. THE MECHANICAL SPECIFICATION IS INCLUDED IN A SEPARATE DOCUMENT.
3. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOUR REQUIRED TO INSTALL COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE.

- SUMMARY SCOPE OF WORK
1. THE PROJECT INTENT IS TO DEMOLISH THE EXISTING THREE (3) ROOF TOP UNITS (RTU) AHU-L1, AHU-L3, AHU-L6 AND INSTALL NEW AHUS, CONDENSING UNITS, DUCTING AND ASSOCIATED CONTROLS.
2. WORK INCLUDED: FURNISH AND INSTALL ALL EQUIPMENT AND SYSTEMS SPECIFIED IN THE CONTRACT DOCUMENTS AS REQUIRED FOR COMPLETE AND FULLY FUNCTIONAL SYSTEMS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
2.1. DEMOLITION AND DISPOSAL OF REDUNDANT EQUIPMENT
2.2. RIGGING
2.3. PERMITS, FEES, ETC. REQUIRED FOR COMPLETION OF THE SCOPE OF WORK.

- PRIME CONTRACTOR
1. THE MECHANICAL CONTRACTOR SHALL BE THE PRIME CONTRACTOR FOR THIS PROJECT AND COORDINATE ALL WORK ASSOCIATED WITH THIS PROJECT INCLUDING ANY STRUCTURAL, ROOFING, ELECTRICAL, AND CONTROL SYSTEMS WORK, AND ANY OTHER TRADES REQUIRED FOR SUCCESSFUL COMPLETION OF THE PROJECT.
2. NO EXTRA COSTS WILL BE CONSIDERED FOR ANY COORDINATION OR TRADE THAT WAS NOT CONSIDERED BY THE PRIME CONTRACTOR TO BE NECESSARY TO COMPLETE THE SCOPE OF WORK.
3. ALL TRADES SHALL BE SPECIALIZED IN THE FIELD OF WORK THAT THEY ARE BEING RETAINED TO COMPLETE. IN NO CASE SHALL OWN FORCES BE USED FOR WORK THAT THEY ARE UNFAMILIAR OR UNQUALIFIED TO CAREER OR NEGLECT TO MAKE SUCH EXAMINATION, INCLUDING EXAMINATION OF RESTRICTED WORKING CONDITIONS OR SUCH OTHER DIFFICULTIES THAT CAN BE VISUALLY OBSERVED DURING THE SITE VISIT.

- RESPONSIBLE FOR BUILDING THE WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
2. CONTRACTOR IS RESPONSIBLE TO GIVE REASONABLE ADVANCE NOTICE OF WHEN WORK IS READY FOR REVIEW BY THE CONSULTANT. MINIMUM 5 BUSINESS DAYS PRIOR TO CONCEALMENT. CONTRACTOR IS RESPONSIBLE FOR REVIEWING THEIR OWN WORK AND THE WORK OF THE SUBTRADE PRIOR TO REVIEW BY THE CONSULTANT.
3. SHEET METAL
1. SEE SPECIFICATION FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER REQUIREMENTS.
2. ALL DUCTWORK SIZES ARE CLEAR INSIDE DIMENSIONS. INCREASE DUCTWORK SIZE FOR ACoustICAL LINER TO MAINTAIN SPECIFIED INSIDE CLEAR DIMENSIONS.

- 5. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
CONTROLS
1. ALL CONTROLS WORK TO BE PERFORMED BY:
1.1. MODIFY THE EXISTING BMS TO ACCOMMODATE THE NEW EQUIPMENT AND OPERATING SEQUENCES DESCRIBED IN THE CONTRACT DOCUMENTS. PROVIDE NEW GRAPHICS TO ACCOMMODATE PROJECT CHANGES. PROVIDE ALL REQUIRED HARDWARE, SOFTWARE, PROGRAMMING, AND TROUBLESHOOTING REQUIRED TO ACHIEVE THE DESIGN INTENT.
1.2. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPING OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
1.3. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

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Revision table with columns: REV., DATE, DESCRIPTION. Lists revisions from 1 to 7, including dates like 2022.08.05 and 2022.08.16.

Table with columns: CONSULTANT, PROJECT TITLE, PROJECT ADDRESS, PROJECT ADDRESS, DRAWN BY, CHECKED BY, SCALE, DATE, DRAWING TITLE, PROJECT NO., DRAWING NO.

Professional Engineer seal for S.K. Stewart, License # 50441, Mechanical Engineering, British Columbia. Includes project title: CITY OF SURREY - GUILDFORD LIBRARY - EQUIPMENT UPGRADES.

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 THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE CONSULTANT PRIOR TO COMMENCING THE WORK.  
 THESE DRAWINGS ARE NOT TO BE SCALED.

REV.	DATE	DESCRIPTION
1.	2022.08.05	ISSUED FOR REVIEW
2.	2022.08.16	ISSUED FOR REVIEW
3.	2022.08.17	ISSUED FOR REVIEW
4.	2022.08.29	ISSUED FOR REVIEW
5.	2022.08.31	ISSUED FOR REVIEW
6.	2022.08.31	ISSUED FOR TENDER
7.	2022.09.27	ISSUED FOR ADD-001

AIR HANDLING UNIT			
TAG	AHU-L1	AHU-L3	AHU-L6
QUANTITY	1	1	1.0
LOCATION	ROOF	ROOF	ROOF
WEIGHT (LBS)	13800	3300	7600
DIMENSIONS (LxWxH)	352x113x120	133x62x44	256x92x84
MANUFACTURER	ENGINEERED AIR	ENGINEERED AIR	ENGINEERED AIR
SYSTEM TYPE	DUAL DUCT RTU	CUSTOM RTU	DUAL DUCT RTU
MODEL	FWE403/DJE100C/MIO/MVR	LM3/DJE20C/MIMVIO	FWE143/DJE40M/O/MVR
POWER SUPPLY (V/PH/Hz)	575/3/60	575/3/60	575/3/60
MIN CIRCUIT AMPACITY (A)	104.4	10.8	37.8
MAX FUSE (A)	125.0	15.0	45.0
SUPPLY FAN			
TAG	AHU-L1	AHU-L3	AHU-L6
NORMAL VOLUME (CFM)	18,012	3200	5721
EXTERNAL STATIC (IN. WG)	1.1	0.75	1.1
TOTAL STATIC (IN. WG)	3.4	2.8	3.1
FAN TYPE	TWIN CITY 245/BAE-OW	TWIN CITY 122/BAE-DW	TWIN CITY 150/BAE-DW
MAX FAN SPEED (RPM)	1668	3957	3232
ACTUAL FAN SPEED (RPM)	1605	2969	2726
MOTOR (HP)	20.0	3.0	7.5
BRAKE HORSE POWER (HP)	14.3	2.3	4.8
VSD (VARIABLE SPD DRIVE)	YES	YES	YES
OUTLET VEL (FPM)	2900	2065	2455
RETURN FAN			
TAG	AHU-L1	AHU-L3	AHU-L6
VOLUME (CFM)	16,300	3,000	5,421
EXTERNAL STATIC (IN. WG)	0.4	0.44	0.64
TOTAL STATIC (IN. WG)	1.2	1.15	1.25
FAN TYPE	TWIN CITY 245/BAE-DW	TWIN CITY 122/BAE-DW	TWIN CITY 165/BAE-DW
MAX FAN SPEED (RPM)	1668	3957	2761
ACTUAL FAN SPEED (RPM)	1262	2384	1744
MOTOR (HP)	7.5	2.0	3.0
BRAKE HORSE POWER (HP)	6.4	1.1	2.2
VSD (VARIABLE SPD DRIVE)	YES	YES	YES
OUTLET VEL (FPM)	2625	1935	2029
HEATING COIL	VRF W/ GAS BACKUP	VRF W/ GAS BACKUP	VRF W/ GAS BACKUP
OUTPUT CAPACITY (MBH)	716.8	163.4	229.4
EAT DB (DEG. F)			
EAT WB (DEG. F)			
LAT DB (DEG. F)			
LAT WB (DEG. F)			
COIL P. DROP (IN. WG)	0.82	0.75	0.81
LEAVING COIL VEL (AFPM)	559	499	551
COOLING COIL	DX, INTERNAL	HEAT PUMP	DX, INTERNAL
SENSIBLE CAPACITY (MBH)	363	74.0	119.0
TOTAL CAPACITY (MBH)	513	114.0	175.0
EAT DB (DEG. F)	78.0	78.0	78.0
EAT WB (DEG. F)	67.0	67.0	67.0
LAT DB (DEG. F)	-	56.7	-
LAT WB (DEG. F)	-	55.5	-
COIL P. DROP (IN. WG)	0.76	0.76	0.83
LEAVING COIL VEL (AFPM)	503	503	550
REFRIGERANT	R-410A	R-410A	R-410A
REMARKS	1 THRU 15, 17 THRU 22	1 THRU 16, 18 THRU 22	1 THRU 15, 18 THRU 22

NOTES:  
 1 ALL HOA AND VSD STARTER ARE TO BE FACTORY INSTALLED AND BE INSTALLED IN NEMA 4 RATED ENCLOSURES.  
 2 TAMCO DAMPERS  
 3 TO SUITE EXISTING UNIT CURB AND OPENINGS  
 4 MERV-13 FILTER  
 5 VARIABLE SPEED MOTOR  
 6 RAINHOOD, BIRDSCREEN ON INTAKE  
 7 SEE MECHANICAL SPECIFICATIONS FOR FURTHER DETAILS  
 8 AHU-L1,L6 CW CONDENSING UNITS, CAPABLE OF PROVIDING COOLING AT 96F AMBIENT  
 9 AHU-L1,L3,L6 ALL CONNECTED TO SEPARATE CONDENSING UNITS FOR HEATING  
 10 AHU-L3 CONNECTED TO SEPARATE CONDENSING UNIT FOR COOLING  
 11 ALL UNITS TO HAVE GAS FRED BACKUP AT OUTPUT CAPACITIES NOTES  
 12 ON HEATING COIL SCHEDULE, WITH CONDENSING (~90% EFFICIENT) BURNER  
 13 SINGLE POINT POWER CONNECTION TO UNIT  
 14 CONDENSING UNITS TO HAVE AN IEER OF 12.4  
 15 GAS HEATING CAPACITY AT MIN 15:1 TURN DOWN RATIO  
 16 CONTRACTOR TO PROVIDE ALL CURBS AND STRUCTURAL PIECES TO ACCOMMODATE INSTALLATION  
 17 UNITS TO COME PROVIDED WITH DDC CONTROLS. SEE SEQUENCE OF OPERATIONS 25.90.00 AND CONTROLS SCHEMATICS M3.01  
 18 UNIT TO COME WITH REFRIGERANT SPLIT COIL, 358.4 MBH OUTPUT EACH  
 19 GAS PRV TO BE RATED FOR 7 IN WC OF PRESSURE  
 20 STANDARD EFFICIENCY SHOWN (80%) FOR HEATING COIL, HIGH EFFICIENCY BURNERS TO BE 91% EFFICIENT  
 21 INCLUDE SEPARATE PRICING FOR HIGH EFFICIENCY BURNERS. INCLUDE BUILT IN CONDENSATE NEUTRALIZER WITH PRICING.  
 22 UNITS TO COME WITH A SEISMIC CURB AS A SEPARATE PRICE.

VRF AIR COOLED CONDENSING UNIT													
EQUIPMENT TAG	LOCATION	TYPE	MANUFACTURER	MODEL	TOTAL CLG CAP (MBH)	HTG CAP. (MBH)	EFFY (EER)	WEIGHT (LBS)	REFRIGERANT TYPE	ELECTRICAL INFO (MCA) IV(PH/Hz)	AMBIENT DESIGN (°F) COOLING HEATING	NOTES	
CU-L1-A	ROOF	VRF OUTDOOR	LG	ARUM360CTE5	-	405	14.32	1336	R-410A	26.4-38.3 575/3/60	- 47	1,2,4,5,6,10	
CU-L1-B	ROOF	VRF OUTDOOR	LG	ARUM360CTE5	-	405	14.32	1336	R-410A	26.4-38.3 575/3/60	- 47	1,3,4,5,6,10	
CU-L3	ROOF	VRF OUTDOOR	LG	ARUM167CTE5	144	189	13.52	655	R-410A	28.5 575/3/60	- 47	1,3,9,10	
CU-L6	ROOF	VRF OUTDOOR	LG	ARUM241CTE5	-	243	13.69	681	R-410A	41.4 575/3/60	- 47	1,3,9,10	

NOTES:  
 1 SEE MOTOR LIST FOR ELECTRICAL CONNECTION DETAILS  
 2 CU-L1-AB IS COMPRISED OF SEPERATE TWO UNITS (ARUM144CTE5 AND ARUM216CTE5)  
 3 HEATING CAPACITY PROVIDED AT 47F  
 4 EER IS COMBINED FOR THE TWO UNITS  
 5 CONNECT TO AHU-L1  
 6 CONNECT TO AHU-L3  
 7 CONNECT TO AHU-L6  
 8 blank  
 9 UNIT TO PROVIDE HEATING BETWEEN -22 TO 61 F WB AMBIENT  
 10 EACH CONDENSING UNIT TO COME COMPLETE WITH ELECTRONIC EXPANSION VALVE AND AHU CONTROLLER CAPABLE OF RECEIVING A SIGNAL FROM THE BMS

MECHANICAL MOTORLIST																													
UNIT NUMBER	UNIT DESCRIPTION	UNIT LOCATION	ELECTRICAL LOAD					VOLT	PHASE	EQUIPMENT			STARTER			DISCONNECT			CONTROL			NOTES							
			MCA	MOP	FLA	KW	HP			S	I	C	S	I	C	TYPE	S	I	C	S	I		C	TYPE					
AHU-L1	AIR HANDLING UNIT - AHU-L1																												
	DUAL DUCT, MULTI-ZONE AHU (W/ GAS BACK-UP)	ROOF	104.4	125				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	1,2				
CU-L1-A	CONDENSING UNIT - HEATING	ROOF	26.4	36.7				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	2				
	CONDENSING UNIT - HEATING	ROOF	38.3	53.8				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	2				
CU-L1-B	CONDENSING UNIT - HEATING	ROOF	26.4	36.7				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	2				
	CONDENSING UNIT - HEATING	ROOF	38.3	53.8				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	2				
	2x VRF EXPANSION VALVE	ROOF						12	1	M	M	E	-	-	-	-	-	-	-	M	M	M	M	INT	3				
	2x VRF CONTROLLER	ROOF				0.1		208	1	M	M	E	-	-	-	-	E	E	E	M	M	M	M	BMS	1,3				
	2x I/O MODULE	ROOF						12	1	M	M	M	-	-	-	-	-	-	-	M	M	M	M	BMS	1,2,3				
AHU-L3	AIR HANDLING UNIT - AHU-L3																												
	SINGLE-ZONE AHU (W/ GAS BACK-UP)	ROOF	10.8	15				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	1,2				
CU-L3	CONDENSING UNIT - HEATING	ROOF	28.5	39.9				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	1,2				
	VRF EXPANSION VALVE	AHU-L3						12	1	M	M	M	-	-	-	-	-	-	-	M	M	M	M	INT	3				
	VRF CONTROLLER	ROOF				0.1		208	1	M	M	E	-	-	-	-	E	E	E	M	M	M	M	BMS	1,3				
	I/O MODULE	ROOF						12	1	M	M	M	-	-	-	-	-	-	-	M	M	M	M	BMS	1,2,3				
AHU-L6	AIR HANDLING UNIT - AHU-L6																												
	DUAL DUCT, MULTI-ZONE AHU (W/ GAS BACK-UP)	ROOF	37.6	45				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	1,2				
CU-L6	CONDENSING UNIT - HEATING	ROOF	41.4	58.3				575	3	M	M	E	M	M	M	PCS	E	E	E	M	M	M	M	BMS	1,2				
	VRF EXPANSION VALVE	ROOF						12	1	M	M	M	-	-	-	-	-	-	-	M	M	M	M	INT	3				
	VRF CONTROLLER	ROOF				0.1		208	1	M	M	E	-	-	-	-	E	E	E	M	M	M	M	BMS	1,3				
	I/O MODULE	ROOF						12	1	M	M	M	-	-	-	-	-	-	-	M	M	M	M	BMS	1,2,3				

**SUPPLIER / INSTALL / WIRE CODES:**  
 MECH = MECHANICAL  
 ELEC = ELECTRICAL  
 BMS = GENERAL CONTRACTOR  
 S = SUPPLIED BY  
 I = INSTALLED BY  
 C = CONNECTED BY

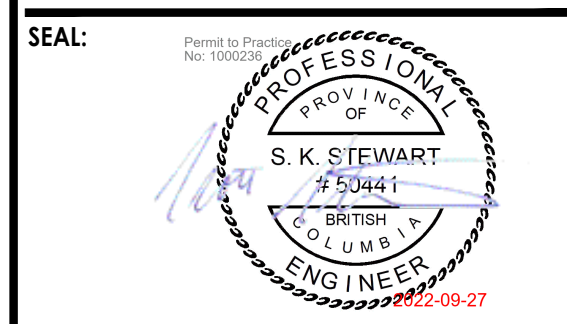
**CONTROL DEVICE CODES:**  
 AQUA = PUMP CONTROLLED BY AQUASTAT  
 BMS = BLDG MANAGEMENT SYSTEM  
 ES = END SWITCH  
 ET = LINE VOLTAGE T'STAT  
 FA = FIRE ALARM  
 FAP = FIRE ALARM PANEL  
 FS = FLOW SWITCH  
 GS = GAS SENSOR  
 H = HUMIDITY SENSOR  
 I = INTERLOCK, SEE NOTES  
 LIGHT = WIRED TO LIGHT SWITCH  
 LS = LEVEL SWITCH  
 OS = OCCUPANT SENSOR  
 PS = PRESSURE SWITCH  
 R-STAT = REVERSE ACTING THERMOSTAT  
 TC = TIME CLOCK  
 T = LOW VOLTAGE T'STAT OR SENSOR  
 TS = TAMPER SWITCH  
 VS = VARIABLE SPEED SWITCH  
 WS = WALL SWITCH

**ELECTRICAL LOAD CODES:**  
 BHP = BREAK HORSEPOWER  
 BMS = BLDG MANAGEMENT SYSTEM  
 HP = UNIT OR MOTOR HORSE POWER  
 PH = POWER PHASE  
 MCA = MINIMUM CIRCUIT AMPS  
 VOLT = REQUIRED SUPPLY VOLTAGE

**GENERAL NOTES:**  
 A. ALL FIRE ALARM DEVICES WIRED BY ELECTRICAL  
 B. CONTROL PANELS ARE SHIPPED LOSS & REQUIRE FIELD WIRING  
 C. PCS EQUIPMENT REQUIRES SINGLE SOURCE POWER CONNECTION, UNLESS NOTED OTHERWISE  
 D. CP, VFD EQUIPMENT REQUIRES POWER WIRING TO AND FROM CONTROL PANEL TO CONTROLLED EQUIPMENT

**NOTES:**  
 1 SINGLE POINT POWER CONNECTION TO UNIT  
 2 SEE SEQUENCE OF OPERATIONS FOR CONTROL SCOPE  
 3 SEE VRF SCHEMATIC FOR MORE DETAILS

CONSULTANT:



PROJECT TITLE:  
**CITY OF SURREY - GUILDFORD LIBRARY - EQUIPMENT UPGRADES**

PROJECT ADDRESS:  
 15105 105 AVE,  
 SURREY, BC  
 V3R 7G8

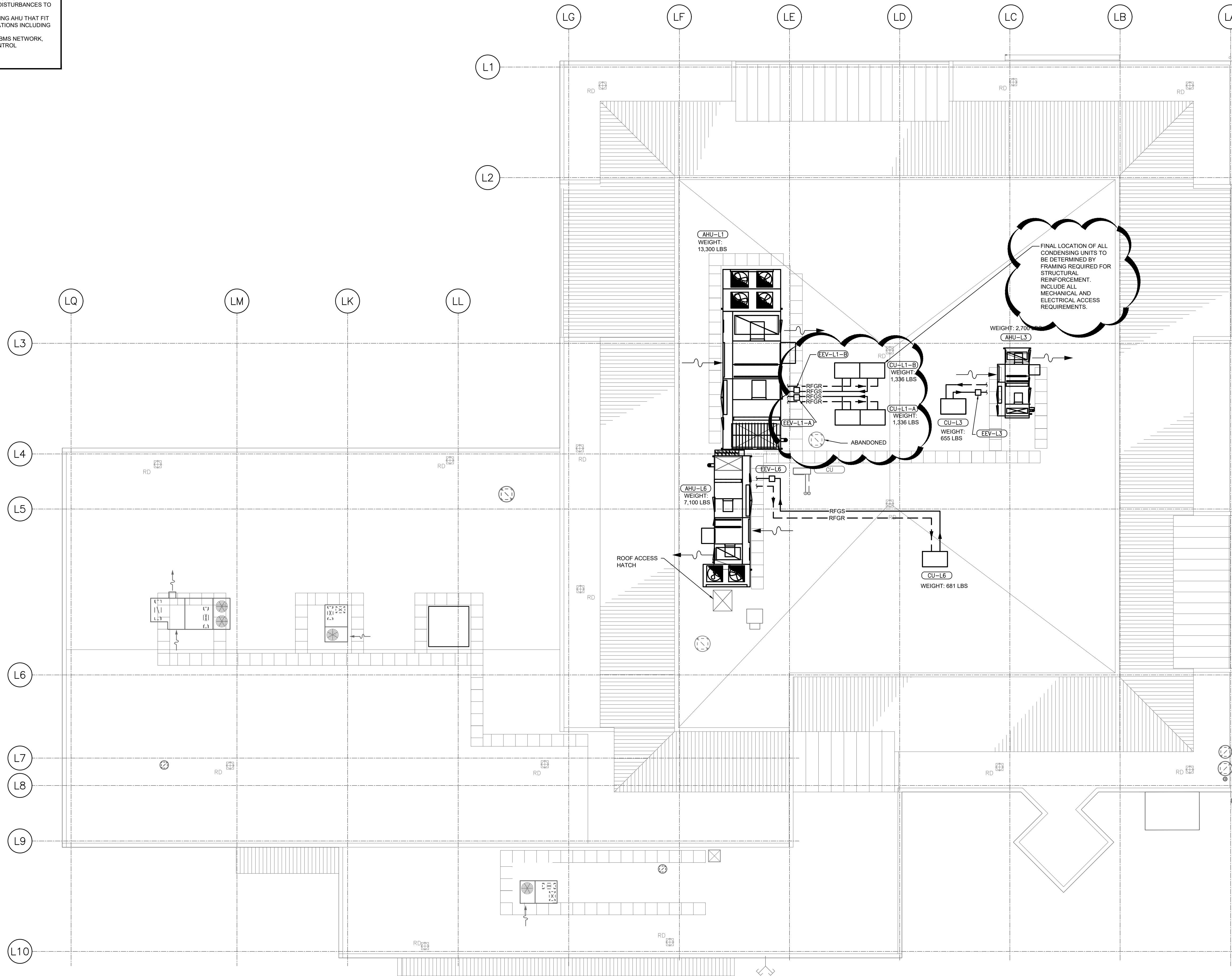
DRAWN BY: UM  
 CHECKED BY: MK/SS  
 SCALE: NTS  
 DATE: SEPTEMBER 27, 2022

DRAWING TITLE:  
**EQUIPMENT SCHEDULES**

PROJECT NO. 085b-067-21  
 DRAWING NO. **M1.01**



- DRAWING NOTES**
- CONTRACTOR TO INSTALL EEV AS CLOSE TO AHU AS POSSIBLE
  - CONTRACTOR TO PROVIDE RACKING SYSTEM FOR EEVS AND VRF CONTROL BOX. PROVIDE SHOP DRAWING REVIEW TO CONSULTANT.
  - FINAL LOCATIONS OF CONDENSING UNITS TO BE DETERMINED IN CONSULTATION WITH STRUCTURAL DETAILS AND OWNER REQUESTS FOR MINIMIZING DISTURBANCES TO OCCUPANT IN FLOOR BELOW.
  - CONTRACTOR RESPONSIBLE FOR PROVIDING AHU THAT FIT WITH EXISTING DUCT AND ROOF PENETRATIONS INCLUDING EACH DUAL DUCT CONNECTION.
  - CONTRACTOR TO CONNECT TO EXISTING BMS NETWORK, SEE SEQUENCE OF OPERATIONS AND CONTROL SCHEMATICS FOR DETAILS.

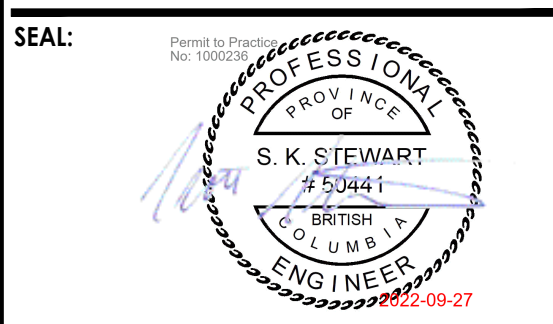


**1 ROOF PLAN - NEW WORK**  
 SCALE: 1:100

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 THESE DRAWINGS ARE NOT TO BE SCALED.

REV.	DATE	DESCRIPTION
1.	2022.08.05	ISSUED FOR REVIEW
2.	2022.08.16	ISSUED FOR REVIEW
3.	2022.08.17	ISSUED FOR REVIEW
4.	2022.08.29	ISSUED FOR REVIEW
5.	2022.08.31	ISSUED FOR REVIEW
6.	2022.08.31	ISSUED FOR TENDER
7.	2022.09.27	ISSUED FOR ADD-001

CONSULTANT:



**PROJECT TITLE:**  
 CITY OF SURREY - GUILDFORD LIBRARY - EQUIPMENT UPGRADES

**PROJECT ADDRESS:**  
 15105 105 AVE,  
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**SCALE:** 1:100  
**DATE:** SEPTEMBER 27, 2022

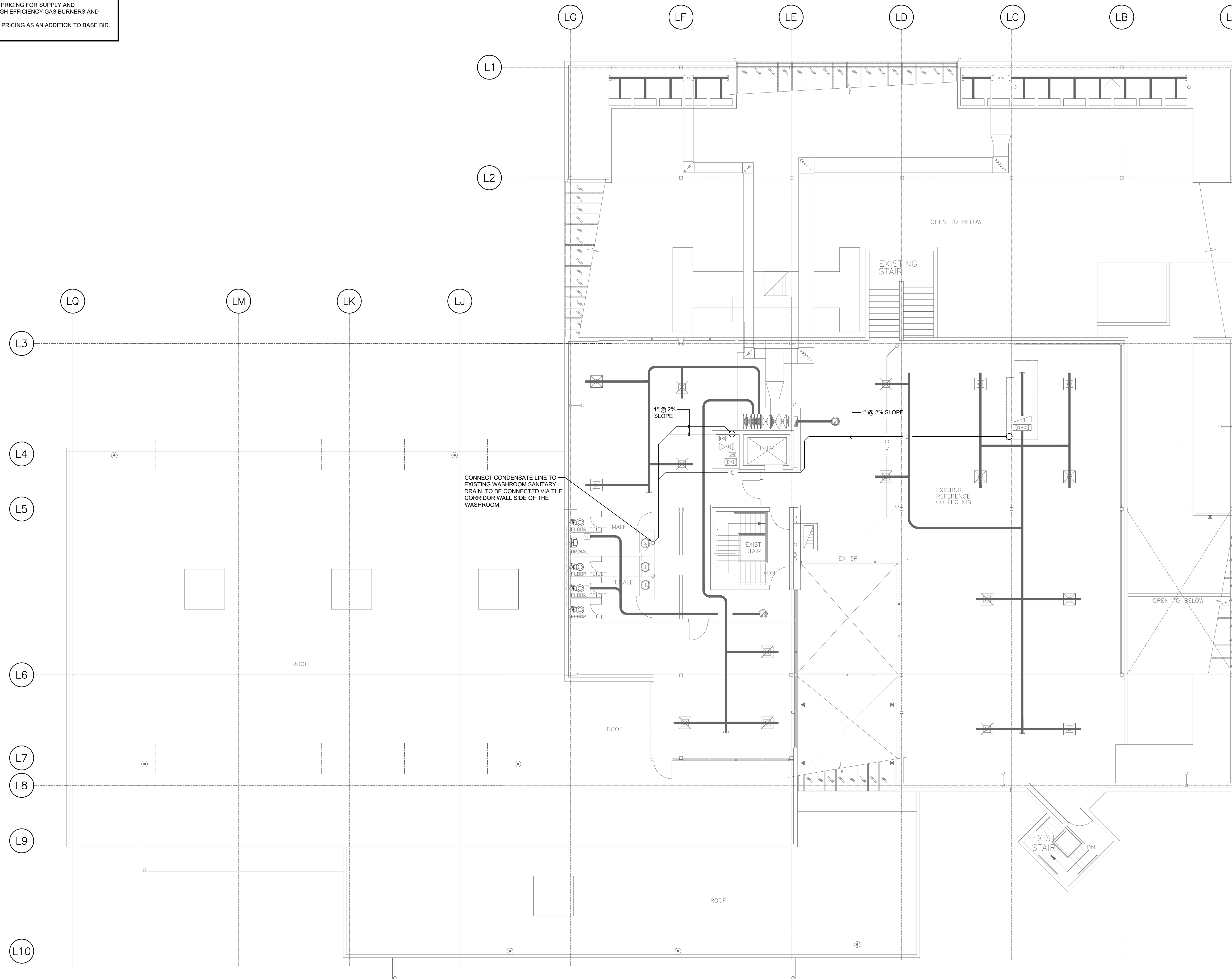
**DRAWING TITLE:**  
 ROOF PLAN - NEW WORK

**PROJECT NO.:** 085b-067-21  
**DRAWING NO.:** M2.02

**DRAWING NOTES**

SEPARATE PRICING NOTES:

1. INCLUDE SEPARATE PRICING FOR SUPPLY AND INSTALLATION OF HIGH EFFICIENCY GAS BURNERS AND CONDENSATE LINES.
2. PROVIDE SEPARATE PRICING AS AN ADDITION TO BASE BID.



CONNECT CONDENSATE LINE TO EXISTING WASHROOM SANITARY DRAIN. TO BE CONNECTED VIA THE CORRIDOR WALL SIDE OF THE WASHROOM.

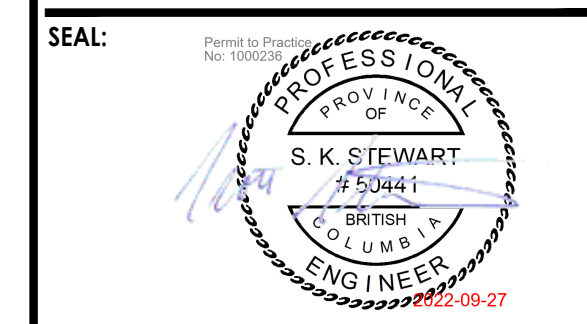


MEZZANINE FLOOR PLAN W/ CONDENSATE LINES  
SCALE: NTS

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5.	2022.08.31	ISSUED FOR REVIEW
6.	2022.08.31	ISSUED FOR TENDER
7.	2022.09.27	ISSUED FOR ADD-001

CONSULTANT:



**PROJECT TITLE:**  
CITY OF SURREY - GUILDFORD LIBRARY - EQUIPMENT UPGRADES

**PROJECT ADDRESS:**  
15105 105 AVE,  
SURREY, BC  
V3R 7G8

**DRAWN BY:** UM  
**CHECKED BY:** MK/SS  
**SCALE:** NTS  
**DATE:** SEPTEMBER 27, 2022

**DRAWING TITLE:**  
MEZZANINE PLAN WITH CONDENSATE LINES

**PROJECT NO.:** 085b-067-21  
**DRAWING NO.:** M2.03

**Attachment No. 3 – Schedule of Quantities and Prices**

F.O.B. Destination		Payment Terms: A cash discount of ____% will be allowed if invoices are paid within ____ days, or the ____ day of the month following, or net 30 days, on a best effort basis.			Ship Via:	
DESCRIPTION		UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE (\$)	AMOUNT (\$)	
<b>1.0 Mobilization and Demolition</b>						
1.1	Mobilization					
1.2	Demolition of existing Air handling units					
	Demolition of piping					
	Demolition of electrical					
<b>1.0 Sub-Total:</b>					\$	
<b>2.0 New Installation</b>						
2.1	Equipment Cost AHU-L1 AHU-L3 AHU-L6 CU-L1 A CU-L1 B CU-L3 CU-L6					
2.2	Installation: AHU-L1 CU-L1 A CU-L1 B					
	Piping					
	Insulation					
	Electrical					
	Controls					
	Roofing					
	<b>Craning</b>					
	Structural					
	Hazardous Material Abatement					
2.3	Installation: AHU-L3 CU-L3					
	Piping					
	Insulation					
	Electrical					

	Controls				
	Roofing				
	<b>Craning</b>				
	Structural				
	Hazardous Material Abatement				
2.4	Installation: AHU-L6 CU-L6				
	Piping				
	Insulation				
	Electrical				
	Controls				
	Roofing				
	<b>Craning</b>				
	Structural				
	Hazardous Material Abatement				
<b>2.0 Sub-Total:</b>					\$
<b>3.0 Others</b>					
3.1	Balancing				
3.2	Startup and commissioning including manufacturer's representative and technicians				
3.3	Final documentations and close out				
3.4	Include all works described in the Plans and Specifications that are not included in any other regular unit price payment items listed herein, please state:				
	a.) _____				
	b.) _____				
	c.) [add rows as necessary]				
<b>3.0 Sub-Total:</b>					\$
<b>Subtotal (add 1.0, 2.0, 3.0):</b>					\$
<b>GST (5%):</b>					\$
<b>TOTAL QUOTATION PRICE:</b>					\$
CURRENCY: Canadian					

All Addenda will become part of the Contract Documents.