SYMBOL LEGEND

	DUPLEX POWER RECEPTACLE ('x' INDICATES SWITCHING REQUIRED BY ASHRAE 90.1 2010)
	QUAD RECEPTACLE ('x' INDICATES SWITCHING REQUIRED BY ASHRAE 90.1 2010)
	POWER RECEPTACLE (CEILING)
$	SINGLE POLE SWITCH
	LOW VOLTAGE DIMMING SWITCH
	WALL STRUCTURED WIRING OUTLET
	DIRECT CONNECTION
	SURVEILANCE CAMERA
	PANEL
	DAYLIGHT HARVESTING SENSOR
	WALL MOUNTED FIXTURE
	CEILING MOUNTED FIXTURE
	EXISTING FIRE ALARM PANEL
	LUMINAIRE ON EMERGENCY POWER CIRCUIT OR WITH BATTERY BACKUP AS INDICATED.
	2x4 LUMINAIRE
	600x600 LUMINAIRE
	4FT STRIP (SURFACE OR SUSPENDED – AS INDICATED)
	MOTOR AND DISCONNECT
S	AV SPEAKER
	FIRE ALARM BELL
	PULL STATION
CR	CARD READER
REX	REQUEST TO EXIT SENSOR
EH	ELECTRIFIED DOOR HARDWARE
DP	DOOR POSITION SWITCH
	WALL EXIT, TYPE AS INDICATED
D	OCCUPANCY SENSOR – WALL AND CEILING D: INDICATES WITH DAYLIGHT SENSOR
•	INDICATES DEVICE IS ABOVE COUNTER
X	LUMINAIRE TYPE TAG

DRAWING INDEX

NOTES LEGEND:

1 VS 1.

- INDICATES THAT THE NOTE APPLIES TO THE ENTIRE DRAWING.
- INDICATES THAT THE NOTE IS REFERENCED TO A SPECIFIC LOCATION ON THE DRAWING.

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PROFESSIONAL ENGINEER – PROVINCE OF BRITISH COLUMBIA – D. C. G. CARTER # 42899 – JUN 11 2018

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR TENDER	18JUN11
1	ISSUED FOR TENDER	18APR27

Client/client

FISHERIES & OCEANS CANADA

200-401 BURRARD STREET VANCOUVER, BC V6C 3R2

Project title/Titre du projet

4160 MARINE DRIVE WEST VANCOUVER, BC V7V 1H2

PSEC CLASSROOM ADDITION & RENOVATION

Consultant Signature Only

Designed by/Concept par
DAVID CARTER

Drawn by/Dessine par
PBX/2018/03/16

PWGSC Project Manager/Administrateur de Projets TPSGC
PWGSC-PROJECT_MANAGER

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PWGSC-REGIONAL_MANAGER

Drawing title/Titre du dessin

ELECTRICAL DRAWING LIST & SYMBOL LEGEND

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
O4A: 1802-002	E01 OF XX	2

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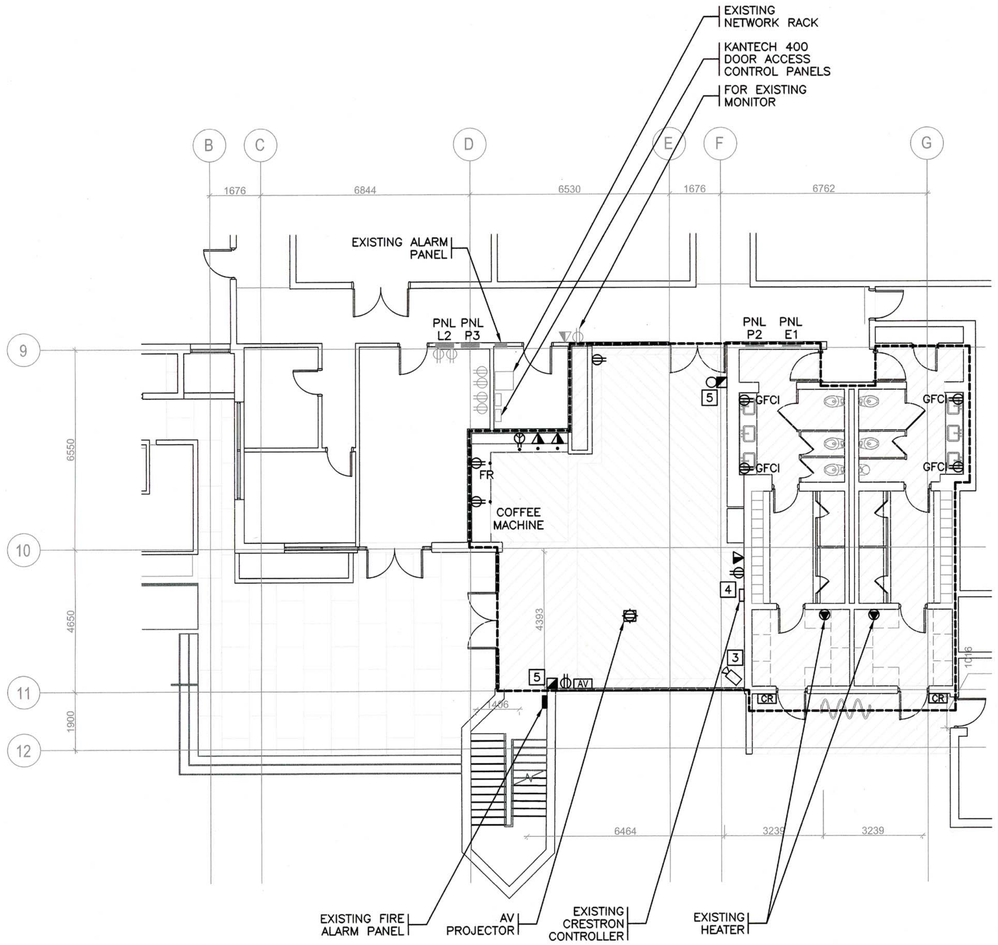
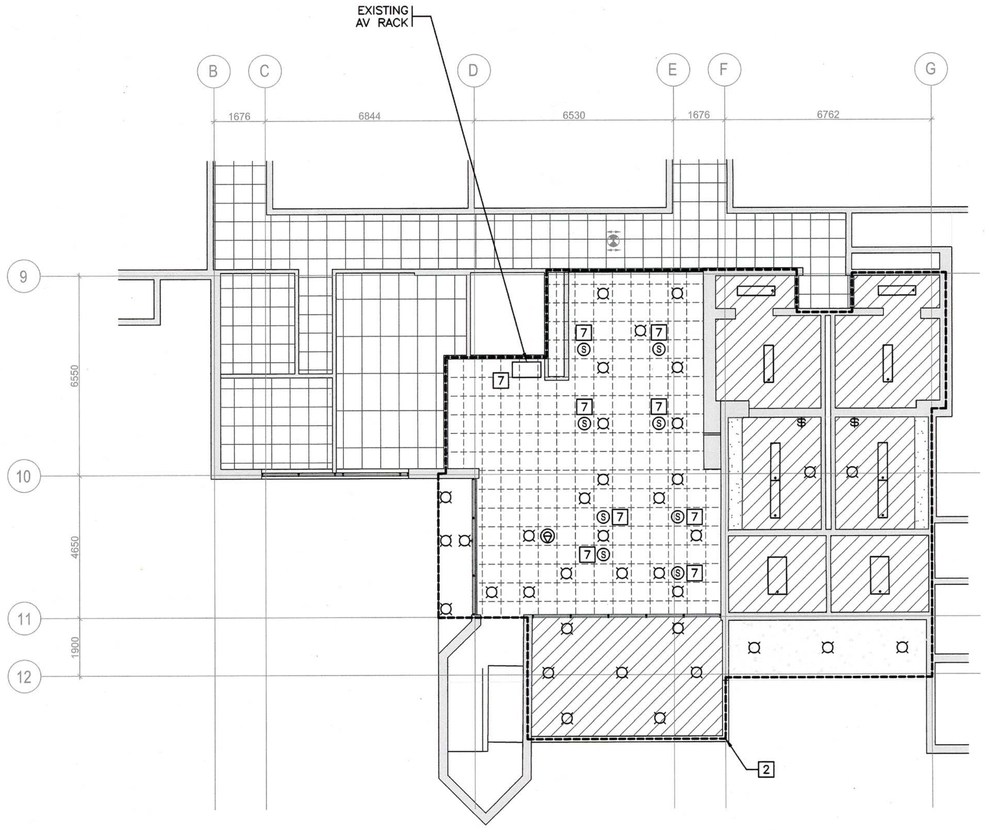


DETAIL 1 DEMO FLOOR PLAN
1:100



DETAIL 2 DEMO REFLECTED CEILING PLAN
1:100

NOTES:

1. DEVICES AS SHOWN ARE COMPILED FROM A NON-INTRUSIVE VISUAL FIELD REVIEW AND EXISTING RECORD DRAWINGS. AS SUCH THERE MAY BE SOME DISCREPANCIES IN THE QUANTITY OF DEVICES ON SITE. CONTRACTOR MUST CONFIRM EXACT QUANTITIES ON SITE PRIOR TO SUBMITTING TENDER BID.

[2] CONTRACTOR TO ALLOW FOR DEMOLITION AND REMOVAL OF EXISTING DEVICES WITHIN THE AREA OF WORK:
- 2.1. REMOVE ELECTRICAL WIRING AND CONDUIT BACK TO THE NEAREST ACTIVE JUNCTION BOX OR LOCAL ELECTRICAL PANEL AND MAKE SAFE.
- 2.2. REMOVE TELECOM WIRING BACK TO THE LOCAL COMMUNICATIONS ROOM.
- 2.3. DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICES AND PROVIDE WIRING, CONDUIT, AND ANY PARTIAL VERIFICATION TO REQUIREMENTS OF CAN/ULC S537 REQUIRED DURING THE DEMOLITION WORK TO ENSURE THAT THE FIRE ALARM SYSTEM OUTSIDE OF THE AREA OF RENOVATION CONTINUES TO BE FULLY FUNCTIONAL.
- 2.4. REMOVE SECURITY DEVICES AND PROVIDE RECONFIGURATION TO TEMPORARILY SUSPEND TROUBLE AND/OR ALARM SIGNALS FROM THE AREA OF WORK.

[3] REMOVE CAMERA AND RELOCATE AS PER NEW DRAWINGS.

[4] REMOVE CRESTRON STATION AND RELOCATE AS PER NEW DRAWINGS.

[5] REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE.

6. DEVICES SHOWN LIGHT ARE EXISTING TO REMAIN. DEVICES SHOWN DARK ARE NEW, MODIFIED, OR REMOVED.

[7] RETAIN AND PROTECT THE EXISTING AV SPEAKERS AND AV RACK. REFER TO NEW FLOORPLAN FOR REVISED LOCATIONS OF DEVICES.

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PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA D. C. G. CARTER # 42689
JUN 11 2018

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2	ISSUED FOR TENDER	18JUN11
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FISHERIES & OCEANS CANADA

200-401 BURRARD STREET VANCOUVER, BC V6C 3R2

Project title/Titre du projet

4160 MARINE DRIVE WEST VANCOUVER, BC V7V 1H2

PSEC CLASSROOM ADDITION & RENOVATION

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ELECTRICAL DEMOLITION DRAWING

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
O4A: 1802-002	E02 OF XX	2

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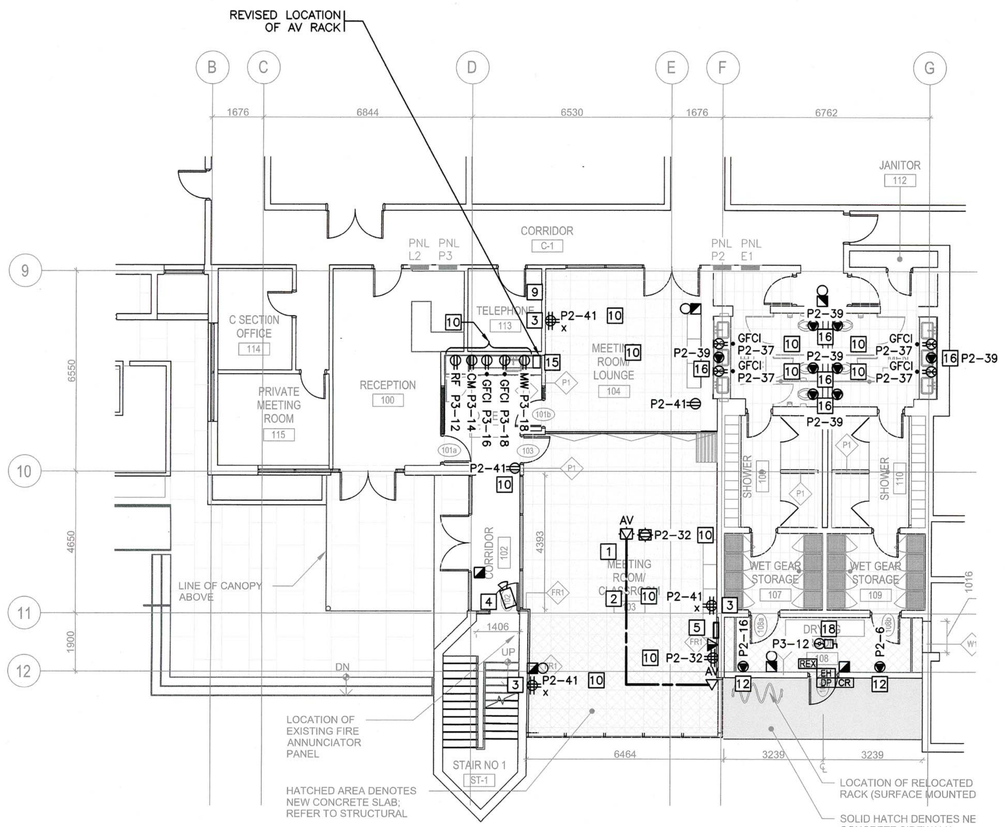
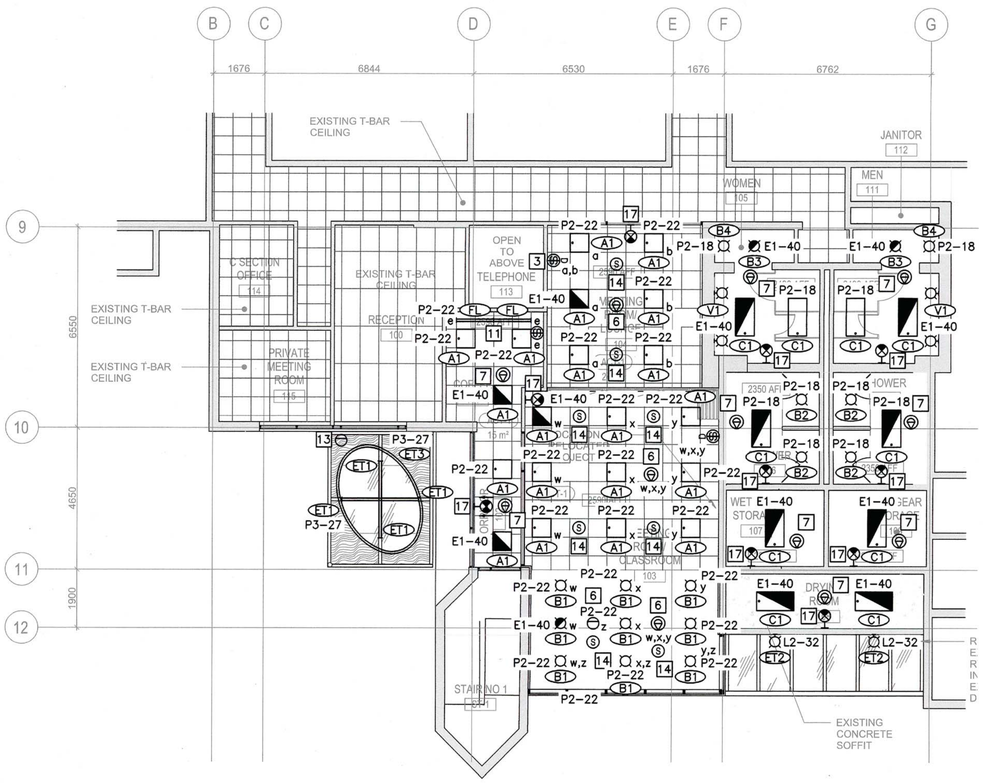


DETAIL 1 FLOOR PLAN
1:100



DETAIL 2 REFLECTED CEILING PLAN
1:100

LUMINAIRE SCHEDULE

TYPE	LUMINAIRE DETAILS					
	DESCRIPTION	MAKE AND MODEL	SOURCE	DRIVER/BALLAST	VOLTAGE	MOUNTING
A1	600x600 (2x2) FLUXPANEL LED RECESSED LUMINAIRE	PHILIPS LIGHTING 2FXP-38L-835-2-DS-120-DIM	LED 3500K 80+CRI	0-10V DIMMING	120	CEILING RECESSED
B1	150mm DIA RECESSED LED DOWNLIGHT	PHILIPS LIGHTOLIER C6-R-N C6L-15-8-35-M-Z10-120 C6-R-DL-CL-P	LED 3500K 80+CRI	0-10V DIMMING	120	CEILING RECESSED
B2	150mm DIA RECESSED LED SHOWER DOWNLIGHT WITH DEAD FRONT AND WET LOCATION IP65	PHILIPS LIGHTOLIER C6-R-N C6L-15-8-35-M-Z10-120 C6-R-SL-CL-P -C6RVPWH	LED 3500K 80+CRI	0-10V OFF/ON	120	CEILING RECESSED
B3	150mm DIA RECESSED LED DOWNLIGHT	PHILIPS LIGHTOLIER C6-R-N C6L-15-8-35-M-120 C6-R-DL-CL-P	LED 3500K 80+CRI	0-10V OFF/ON	120	CEILING RECESSED
B4	100mm DIA RECESSED ADJUSTABLE LED ACENT LUMINAIRE	PHILIPS LIGHTOLIER C4L-A-15-N-U C4L-15-A-35-8-SP C4L-A-CL-P	LED 3500K 80+CRI	0-10V OFF/ON	120	CEILING RECESSED
C1	600X1200 (2x4) RECESSED FLUXPANEL LED LUMINAIRE	PHILIPS LIGHTING 2FXP-43L-835-4-DS-120-DIM	LED 3500K 80+CRI	0-10V DIMMING/OFF/ON AS	120	CEILING RECESS MOUNTED IN TBAR
ET1	1200mm LINEAR LED LUMINAIRE	SQ| LED SQ1-L-4-135-0-02-C-X	LED 3500K	0-10V OFF/ON	120	SURFACE MOUNTED
ET2	LED WALL MOUNTED LUMINAIRE	LUMARK LIGHTING XTOR2B-W-BZ-PC2-347	LED 4000K	0-10V OFF/ON	347	WALL MOUNTED
ET3	FLEXIBLE EXTERIOR LED LUMINAIRE WITH FLAT TOP COMPLETE WITH MOUNTING ACCESSORY CHANNELS AND FITTINGS FOR INSTALLATION. PROVIDE COMPATIBLE TRANSFORMER DRIVER AND CONNECTIONS AS REQUIRED FOR A FULLY FUNCTIONAL INSTALLATION	SGI lighting NEON-P-FLT-WHT-3500K	LED 3500K	0-10V OFF/ON	120	SURFACE MOUNTED
EX	PICTOGRAM 'RUNNING MAN' EXIT SIGNAGE	LUMACELL LS SERIES	LED		120 / INTERNAL BATTERY	UNIVERSAL SURFACE MOUNTED
FL	RECESSED LED TAPE LIGHT	SGI lighting Flex-P-ULTRA-24VDC-W-3500K-85	LED	0-10V OFF/ON	DC	INSTALL UNDER-CABINET TRACK-LP1407-SIL-FF MOUNTING TRACK
V1	LINEAR 600mm VANITY LED LUMINAIRE	PRUDENTIAL LIGHTING HALF SNAP HSS-LED35-LO-3-SAL-YGW-SC-UNV-SUR-ND	LED 3500K	0-10V OFF/ON	120	SURFACE WALL MOUNTED

NOTES:

1. OUTLETS FOR NEW PROJECTOR LOCATION.
2. PROVIDE NEW 53mm CONDUIT COMPLETE WITH BUSHING AND PULLSTRING FOR AV CABLING.
3. PROVIDE LOCAL LOW VOLTAGE LIGHTING CONTROL SYSTEM RELAY MODULES FOR THE CONTROL OF THE RECEPTACLES WHERE INDICATED IN THE SPACE.
4. PROVIDE NEW SECURITY PTZ CAMERA TO MATCH THE EXISTING FACILITY STANDARD. INTEGRATE THE NEW PTZ CAMERA INTO THE EXISTING FACILITY CONTROL AND PROVIDE CABLING, POWER SUPPLY, NVR, ENCODER AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.
5. RELOCATED CRESTRON CONTROLLER.
6. LOW VOLTAGE DIMMING/OFF/ON CONTROL. LOCAL CONTROL SWITCH ZONES AS INDICATED BY LOWERCASE LETTERS. PROVIDE DUAL TECHNOLOGY OCCUPANCY AND DAYLIGHT HARVESTING SENSORS WITH CONTROL ZONES AS INDICATED
7. LOW VOLTAGE OFF/ON CONTROL. PROVIDE DUAL TECHNOLOGY OCCUPANCY SENSORS WITH CONTROL ZONES AS INDICATED.
8. DEVICES SHOWN LIGHT ARE EXISTING TO REMAIN. DEVICES SHOWN DARK ARE NEW, MODIFIED, OR REMOVED.
9. PROVIDE NEW KANTECH 400 SECURITY ACCESS PANEL FOR NEW SECURITY DOOR.
10. CONTRACTOR TO USE THE EXISTING SPACES/SPARE CIRCUITS IN PANELS E1, P2, OR P3. CONTRACTOR MAY RE-USE EXISTING CIRCUITS IN THE AREA MADE SPARE BY THE REMOVAL OF DEVICES DURING DEMOLITION. CONTRACTOR MUST CONFIRM ON SITE PRIOR TO RE-USE.
11. CONTRACTOR TO COORDINATE EXACT ELEVATION AND INSTALLATION WITH ARCHITECT'S DRAWINGS. PROVIDE LENGTHS MEASURED ON SITE AS REQUIRED.
12. CONNECTION FOR DIRECT DRY RACK. CONTRACTOR TO COORDINATE EXACT LOCATION WITH ARCHITECTURAL ELEVATIONS AND MANUFACTURER REQUIREMENTS.
13. CONTRACTOR TO PROVIDE PHOTOCELL TO CONTROL 'ET1' LUMINAIRES.
14. CONTRACTOR TO PROVIDE NEW CABLES AS REQUIRED FOR THE REVISED LOCATION OF THE EXISTING SPEAKERS AND THE AV RACK.
15. CONTRACTOR TO UTILIZE THE EXISTING POWER CIRCUIT POWERING THE AV RACK AT IT'S OLD LOCATION AND RE-FEED FOR THE RELOCATED AV RACK.
16. PROVIDE DIRECT 120V AC CONNECTION TO MECHANICAL TRANSFORMER FOR FLUSH VALVES/SINKS.
17. CONNECT NEW EXIT SIGNS TO EXISTING EXIT SIGN CIRCUIT IN THE AREA. CONFIRM SUPPLY VOLTAGE PRIOR TO ORDERING.
18. PROVIDE NEW MANUAL MOTOR STARTER SWITCH FOR FAN UNIT. COORDINATE EXACT LOCATION WITH ARCHITECT AND MECHANICAL CONTRACTOR.

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NEW ELECTRICAL PLAN

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
O4A: 1802-002	**E03** OF **XX**	**2**

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PWGSC – A1 – 841X594

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PANEL 'E1' SCHEDULE

DESCRIPTION	kW	BKR.	CIRCUIT NO.	BKR.	kW	DESCRIPTION
EXISTING CIRCUIT	–	15A	1 — 2	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	3 — 4	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	5 — 6	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	7 — 8			
EXISTING CIRCUIT	–	15A	9 — 10			
EXISTING CIRCUIT	–	15A	11 — 12			
EXISTING CIRCUIT	–	20A	13 — 14	20A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	15 — 16	20A / 2P	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	17 — 18			
EXISTING CIRCUIT	–	15A	19 — 20	40A / 3P	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	21 — 22			
EXISTING CIRCUIT	–	15A	23 — 24			
EXISTING CIRCUIT	–	15A	25 — 26	20A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	27 — 28	20A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	29 — 30	20A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	31 — 32	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	33 — 34	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	35 — 36	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	37 — 38	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	39 — 40	**15A**	**–**	**EMERGENCY LIGHTING**
EXISTING CIRCUIT	–	15A	41 — 42		–	SPACE
TOTAL						TOTAL

MAINS: ITE NLAB PANEL 100A
MOUNTING: RECESSED
MAIN BKR.: NONE
VOLTS: 120/208V

PANEL 'L2' SCHEDULE

DESCRIPTION	kW	BKR.	CIRCUIT NO.	BKR.	kW	DESCRIPTION
EXISTING CIRCUIT	–	15A	1 — 2	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	3 — 4	15A	–	EXIST. CIRCUIT GFCI BREAKER
EXISTING CIRCUIT	–	15A	5 — 6	15A	–	EXIST. CIRCUIT GFCI BREAKER
EXISTING CIRCUIT	–	15A	7 — 8	15A	–	EXIST. CIRCUIT GFCI BREAKER
EXISTING CIRCUIT	–	15A	9 — 10	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	11 — 12	30A / 2P	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	20A	13 — 14			
EXISTING CIRCUIT	–	15A	15 — 16	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	17 — 18	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	19 — 20	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	21 — 22	15A	–	EXISTING CIRCUIT
EXISTING CIRCUIT	–	15A	23 — 24	15A	–	EXISTING CIRCUIT
SPACE			25 — 26	40A / 3P	–	EXIST. CIRCUIT BREAKER
SPACE			27 — 28			
SPACE			29 — 30			
SPACE			31 — 32	15A		EXTERIOR LIGHTING
SPACE			33 — 34			SPACE
SPACE			35 — 36			SPACE
SPACE			37 — 38			SPACE
SPACE			39 — 40			SPACE
SPACE			41 — 42			SPACE
TOTAL						TOTAL

MAINS: SIEMENS ELECTRIC CDP 100A
MOUNTING: RECESSED
MAIN BKR.: NONE
VOLTS: 347/600V

PANEL 'P2' SCHEDULE

DESCRIPTION	kW	BKR.	CIRCUIT NO.	BKR.	kW	DESCRIPTION	
EXISTING CIRCUIT	–	15A	1 — 2	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	3 — 4	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	5 — 6	**15A**	**–**	**DRYING ROOM**	1
EXISTING CIRCUIT	–	15A	7 — 8	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	9 — 10	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXIST. CIRCUIT GFCI BREAKER	–	30A / 2P	11 — 12	15A	–	EXIST. CIRCUIT GFCI BREAKER	
			13 — 14	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXIST. CIRCUIT GFCI BREAKER	–	15A	15 — 16	**15A**	**–**	**DRYING ROOM**	1
EXISTING CIRCUIT	–	15A	17 — 18	**15A**	**–**	**WASHROOM LIGHTING**	1
EXISTING CIRCUIT	–	15A	19 — 20	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	21 — 22	**15A**	**–**	**CLASSROOM LIGHTING**	1
EXISTING CIRCUIT	–	15A	23 — 24	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	25 — 26	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	27 — 28	20A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	29 — 30	20A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	31 — 32	**15A**	**–**	**AV RECEPTACLE**	1
EXISTING CIRCUIT	–	15A	33 — 34	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	35 — 36	15A	–	EXISTING CIRCUIT	
WASHROOM RECEPTACLE	**–**	**20A**	37 — 38	15A	–	EXISTING CIRCUIT	
WASHROOM RECEPTACLE	**–**	**20A**	39 — 40	15A	–	EXISTING CIRCUIT	
GENERAL RECEPTACLE	**–**	**15A**	41 — 42	15A	–	EXISTING CIRCUIT	
TOTAL						TOTAL	

MAINS: ITE NLAB PANEL 225A
MOUNTING: RECESSED
MAIN BKR.: NONE
VOLTS: 120/208V

PANEL 'P3' SCHEDULE

DESCRIPTION	kW	BKR.	CIRCUIT NO.	BKR.	kW	DESCRIPTION	
EXISTING CIRCUIT	–	15A	1 — 2	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	3 — 4	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	5 — 6	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	7 — 8	15A	–	EXIST. CIRCUIT GFCI BREAKER	
EXISTING CIRCUIT	–	15A	9 — 10	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	11 — 12	**15A**	**–**	**EXHAUST FAN**	
EXISTING CIRCUIT	–	15A	13 — 14	**15A**	**–**	**CAFE RECEPTACLE**	1
EXISTING CIRCUIT	–	15A	15 — 16	**15A**	**–**	**CAFE RECEPTACLE**	
EXISTING CIRCUIT	–	15A	17 — 18	**15A**	**–**	**CAFE RECEPTACLE**	
EXISTING CIRCUIT	–	15A	19 — 20	**15A**	**–**	**CAFE RECEPTACLE**	
EXISTING CIRCUIT	–	15A	21 — 22	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	23 — 24	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	25 — 26	20A	–	EXISTING CIRCUIT	
EXTERIOR LIGHTING	**–**	15A	27 — 28	15A	–	EXISTING CIRCUIT	1
EXISTING CIRCUIT	–	15A	29 — 30	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	15A	31 — 32	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	20A / 2P	33 — 34	15A	–	EXISTING CIRCUIT	
			35 — 36	15A	–	EXISTING CIRCUIT	
EXISTING CIRCUIT	–	30A / 3P	37 — 38	20A	–	EXISTING CIRCUIT	
			39 — 40	15A	–	EXISTING CIRCUIT	
			41 — 42	15A	–	EXISTING CIRCUIT	
TOTAL						TOTAL	

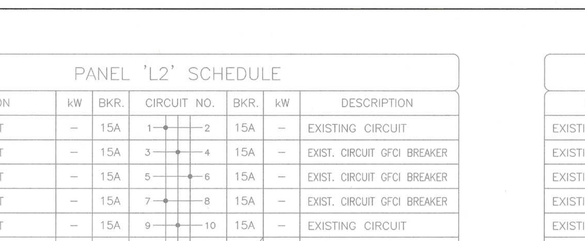
MAINS: ITE NLAB PANEL 225A
MOUNTING: RECESSED
MAIN BKR.: NONE
VOLTS: 120/208V

NOTES:

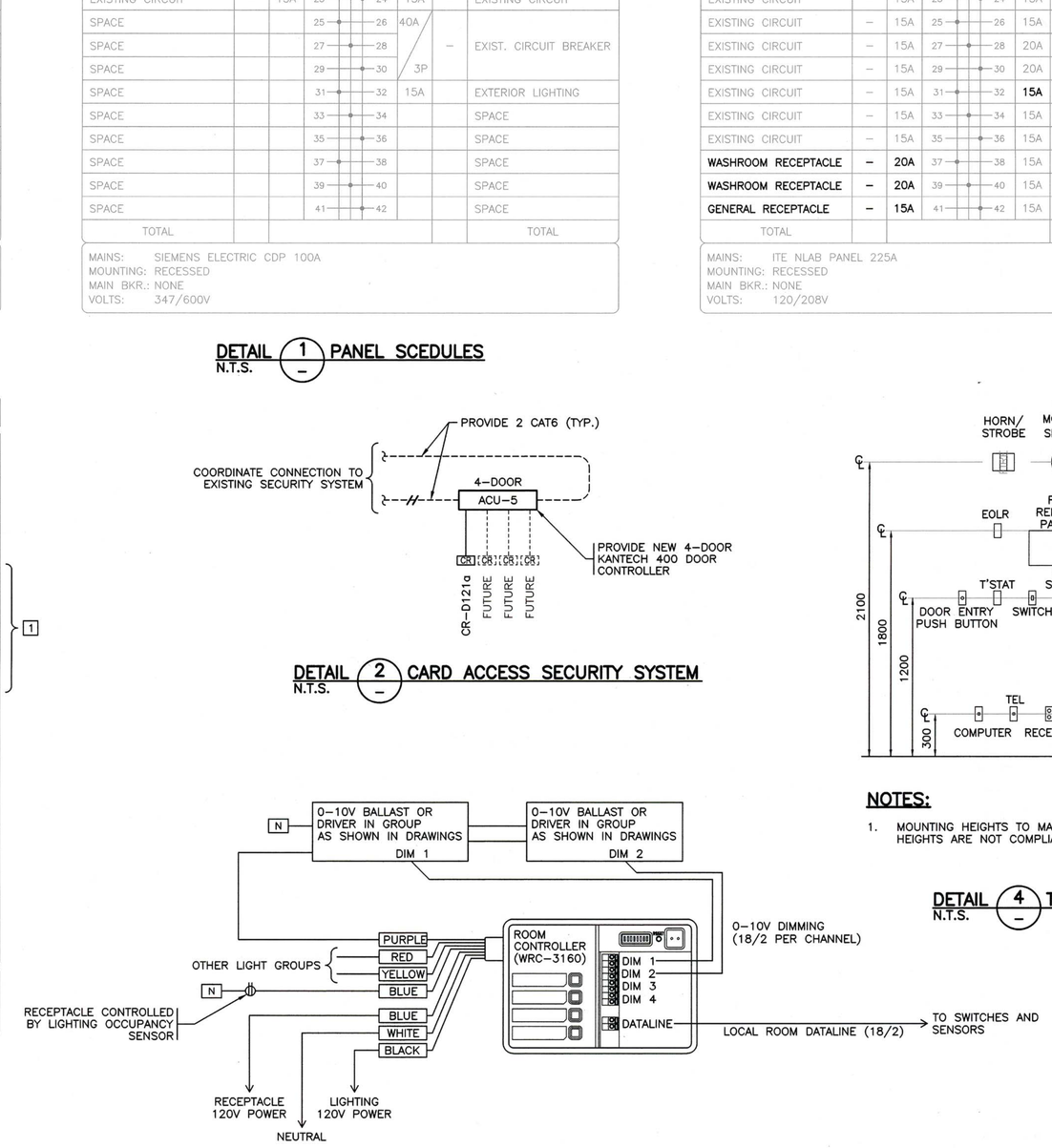
1 THE INDICATED EXISTING PANEL SPACE CONTAINS AN EXISTING BREAKER THAT APPEARS TO BE SWITCHED OFF AND MAY BE SPARE. CONTRACTOR TO CONFIRM ON BEFORE ROUGH–IN WORK COMMENCES AND MUST INFORM THE PROJECT TEAM IF THE ANTICIPATED SPARE CIRCUITS CAN NOT BE USED IN THE GROUPING SHOWN.

2. CONTRACTOR MUST PERFORM POWER AND CURRENT METERING INCLUDING KW, kVA AND AMPS BOTH 3 PHASE AND 1 PHASE. THE LOAD ON THE EXISTING PANELS FOR ONE WEEK AND PROVIDE THE PEAK DEMAND LOAD ON EACH PANEL MEASURED DURING THAT TIMEFRAME FOR REFERENCE BEFORE CONNECTING NEW LOADS. PROVIDE ENGINEER WITH SUMMARY REPORT OF RESULTS INCLUDING GRAPHS.

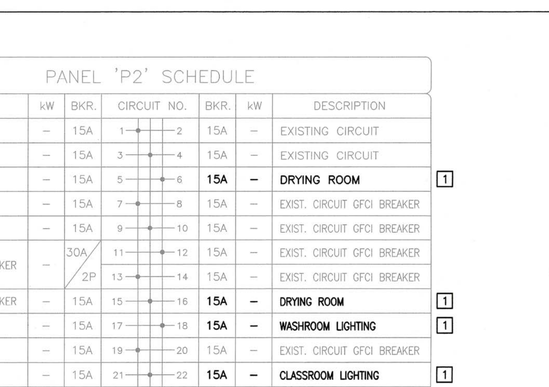
DETAIL 1 PANEL SCEDULES
N.T.S.



DETAIL 2 CARD ACCESS SECURITY SYSTEM
N.T.S.



DETAIL 3 TYPICAL ROOM LIGHTING CONTROL MODULE (EXACT INTERCONNECTIONS WILL CHANGE BASED ON LOADS. REFER TO DRAWING)
N.T.S.



NOTES:

1. MOUNTING HEIGHTS TO MATCH EXISTING, UNLESS EXISTING MOUNTING HEIGHTS ARE NOT COMPLIANT WITH CEC.

DETAIL 4 TYP. MOUNTING HEIGHTS
N.T.S.

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REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

Consultant

PBX ENGINEERING Ltd.

Seal

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA D. C. G. CARTER # 42889 — JUN 11 2018

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR TENDER	18JUN11
1	ISSUED FOR TENDER	18APR27

Client/client

FISHERIES & OCEANS CANADA

200-401 BURRARD STREET VANCOUVER, BC V6C 3R2

Project title/Titre du projet

4160 MARINE DRIVE WEST VANCOUVER, BC V7V 1H2

PSEC CLASSROOM ADDITION & RENOVATION

Consultant Signature Only

Designed by/Concept par
DAVID CARTER

Drawn by/Dessiné par
PBX/2018/03/16

PWGSC Project Manager/Administrateur de Projets TPSGC
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Drawing title/Titre du dessin

ELECTRICAL DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
O4A: 1802-002	**E10** of **XX**	**2**

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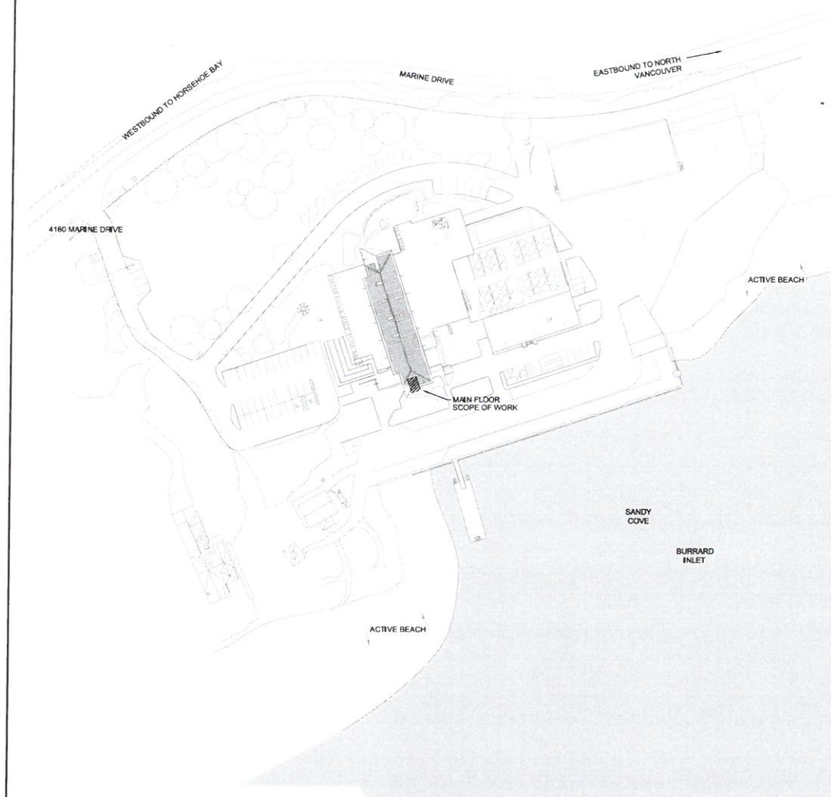

1 / M0.01 SITE PLAN

SCALE: 1:200

SYMBOL SCHEDULE

PIPING				SYSTEM MONITORING			
DEMOLITION	EXISTING	NEW		DEMOLITION	EXISTING	NEW	
			DOMESTIC COLD WATER (DCW)			T	ROOM TEMPERATURE SENSOR
			DOMESTIC HOT WATER (DHW)	DUCTWORK			
			DOMESTIC HOT WATER RECIRC. (DHWR)				
		V	SANITARY VENT				SUPPLY OR OUTDOOR AIR DUCT UP
SAN	SAN	SAN	SANITARY SEWER ABOVE GRADE				SUPPLY OR OUTDOOR AIR DUCT DOWN
SAN	SAN	SAN	SANITARY SEWER BELOW GRADE				RETURN AIR DUCT UP
ST	ST	ST	STORM SEWER ABOVE GRADE				RETURN AIR DUCT DOWN
ST	ST	ST	STORM SEWER BELOW GRADE				EXHAUST AIR DUCT UP
			PIPE CLEAN-OUT				EXHAUST AIR DUCT DOWN
			PIPE CLEAN-OUT TO GRADE				TURNING VANES
HWS	HWS	HWS	HYDRONIC HEATING WATER SUPPLY	300Ø	300Ø	300Ø	ACOUSTICINSULATION
HWR	HWR	HWR	HYDRONIC HEATING WATER RETURN				BALANCING DAMPER (BD)
CHWS	CHWS	CHWS	CHILLED WATER SUPPLY	500	500	BDD	BACKDRAFT DAMPER (BDD)
CHWR	CHWR	CHWR	CHILLED WATER RETURN				MOTORIZED DAMPER (MD)
C	C	C	CONDENSATE DRAIN			D	DUCT OR PIPE CAP-OFF
							RETURN OR EXHAUST AIR GRILLE
FITTINGS AND VALVES				FIRE PROTECTION			
			DIRECTION OF FLOW				PENDANT SPRINKLER HEAD
			PIPE DROP				SIDEWALL SPRINKLER HEAD
			PIPE RISE	EQUIPMENT TAGS			
			PIPE TEE UP				GRILLE TYPE NECK / GRILLE SIZE AIR VOLUME (L/s)
			PIPE TEE DOWN				EQUIPMENT / FIXTURE TYPE
			PIPE UNION				GENERAL NOTE
NO	NO	NO	ISOLATION VALVE (NORMALLY OPEN)				DRAWING REVISION
NC	NC	NC	ISOLATION VALVE (NORMALLY CLOSED)	M	M	M	DETAIL NUMBER DRAWING NUMBER
			CHECK VALVE	M	M	M	SECTION NUMBER DRAWING NUMBER
			BALANCING VALVE				
			AUTOMATIC AIR VENT (AAV)				
			TEMPERATURE GAUGE				
			PRESSURE GAUGE				
			THERMOMETER				
			PUMP				
OUTLETS AND DRAINS							
			HOSE-BIBB (HB)				
			FLOOR DRAIN (FD)				
			FUNNEL FLOOR DRAIN				

MECHANICAL ABBREVIATIONS

AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
BDD	BACKDRAFT DAMPER
BTUH	BRITISH THERMAL UNIT / HOUR
CD	CONTROL DAMPER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONN	CONNECTION
C/W	COMPLETE WITH
CONT	CONTINUATION
DB	DRY BULB
CTE	CONNECT TO EXISTING
DCW	DOMESTIC COLD WATER
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DHW	DOMESTIC HOT WATER
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEC	ELECTRICAL
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FIRE MAIN
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FLA	FULL LOAD AMPS
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET/FOOT
GAL	GALLONS
GPM	GALLONS PER MINUTE
GWB	GYPSUM WALL BOARD
HB	HOSE BIBB
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
IN	INCH
INV	INVERT
JS	JANITOR SINK
KW	KILOWATT
KS	KITCHEN SINK
LAV	LAVATORY
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MIN	MINIMUM
NIC	NOT IN CONTRACT
NC	NOISE CRITER/ANORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
O/A	OUTDOOR AIR
PSI	POUNDS PER SQUARE INCH
R/A	RETURN AIR
RF	RETURN FAN
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RWL	RAIN WATER LEADER
S/A	SUPPLY AIR
SF	SUPPLY FAN
SH	SHOWER
SS	STAINLESS STEEL
SP	STATIC PRESSURE
SPEC	SPECIFICATION
T/A	TRANSFER AIR
TD	TRANSFER AIR DUCT
THRU	THROUGH
TYP	TYPICAL
UR	URINAL
V	VENT
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB
WC	WATER CLOSET

MECHANICAL GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND VERIFYING ACTUAL ONSITE CONDITIONS PRIOR TO ANY WORK DONE.
2. 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. PATCHING SHALL MEET THE AESTHETIC CONDITIONS WHICH WAS THE CONDITION PRIOR TO ANY CUTTING BEING PREFORMED.
3. CONTRACTOR TO PROPERLY SEAL AND REPAIR ANY AND ALL DAMAGE THAT IS A RESULT OF REMOVAL OR DEMOLITION OF MECHANICAL EQUIPMENT. THIS INCLUDES BUT IS NOT LIMITED TO WALL, DOOR, CEILINGS, ETC.
4. THE EXISTING FACILITIES MECHANICAL SYSTEMS SHALL REMAIN OPERATIONAL DURING THE CONSTRUCTION AND RENOVATION PERIOD. CONTRACTOR TO COORDINATE CONSTRUCTION ACTIVITIES AND PHASING WITH OWNER TO MINIMIZE DISRUPTIONS TO OWNERS OPERATIONS AND ACCESS, AND TO ENSURE SAFETY OF THE USERS. PROVIDE ALL MEASURES REQUIRED TO PREVENT HAZARDS TO PEOPLE AND DAMAGE TO ITEMS REMAINING INCLUDING BUT NOT LIMITED TO DAMAGE FROM DUST AND HEAT.
5. THE MECHANICAL SYSTEM SHALL CONSIST OF ALL WORK SHOWN ON THE DRAWINGS, DIAGRAMS, SCHEMATICS AND AS DESCRIBED IN THE SPECIFICATIONS.
6. THE MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE AND DO NOT ATTEMPT TO SHOW ALL REQUIRED OFFSETS. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL CONSTRUCTION DETAILS.
7. COORDINATE THE DRAWINGS WITH THE SPECIFICATIONS AND IN CASES WHERE CONFLICTS OCCUR THE MOST STRINGENT REQUIREMENT SHALL APPLY.
8. CONTRACTOR TO COORDINATE ALL MECHANICAL WORK WITH THAT OF OTHER TRADES TO ENSURE PROPER AND ADEQUATE INTERFACE WITH THE WORK OUTLINED FOR THIS PROJECT.
9. CONTRACTOR TO PROVIDE NEC (NATIONAL ELECTRICAL CODE) CLEARANCE HORIZONTAL AND VERTICAL REQUIREMENTS FOR ALL INSTALLED EQUIPMENT. OFFSET MECHANICAL WORK AS REQUIRED TO MEET THIS REQUIREMENT.
10. INSTALLING CONTRACTOR TO PROVIDE SEISMIC CALCULATIONS WITH A STRUCTURAL ENGINEERING STAMP AS REQUIRED BY THE BRITISH COLUMBIA PROVINCIAL BUILDING CODE.
11. PROVIDE CONCEALED DAMPER REGULATORS FOR ALL VOLUME DAMPERS OVER INACCESSIBLE CEILINGS AND SOFFITS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
12. CONTRACTOR TO ALLOW AND PROVIDE FOR METAL DUCTWORK TRANSITIONS BETWEEN ALL EQUIPMENT AND DUCT CONNECTIONS.
13. ALL EQUIPMENT CONNECTIONS TO DUCTWORK SHALL HAVE A MIN. OF 4 INCH OF REINFORCED CANVAS FLEXIBLE DUCTWORK FOR VIBRATION ISOLATION.

MECHANICAL DRAWING LIST

DRAWINGS NO.	DESCRIPTION	SCALE
M0.01	SITE PLAN, GENERAL NOTES AND SYMBOL SCHEDULES	1:200
M0.02	MECHANICAL SCHEDULE	NOT TO SCALE
M1.01	FOUNDATION PLAN	1:100
M1.02	PLUMBING PLAN	1:100
M2.01	FIRE PROTECTION PLAN	1:100
M3.01	HVAC PLAN	1:100

NORTH

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REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

Consultant

AME Group
consulting mechanical engineers

Seal

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. SHEA
39[illegible]
JUN 12 2018

Revision/ Revision	Description/Description	Date/Date
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200-401 BURRARD STREET
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4160 MARINE DRIVE
WEST VANCOUVER, BC V7V 1H2

PSEC - CLASSROOM ADDITION & RENOVATION

Consultant Signature Box Only

Designed by/Concept par: KS

Drawn by/Dessiné par: AT

PWGSC Project Manager/Administrateur de Projets TPSGC: -

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architecture et de génie, TPSGC: -

Drawing title/Titre du dessin

SITE PLAN, GENERAL NOTES & SYMBOL SCHEDULES

Project No./No. du projet	Sheet/Feuille	Revision no./ La révision no.
	M0.01 OF 6	

DM5XXXXXX

PLUMBING FIXTURE SCHEDULE

WC-1 FLOOR MOUNTED WATER CLOSET

1) BOWL: AMERICAN STANDARD MADERA FLOWISE RIGHT HEIGHT ELONGATED MODEL 3461.001.020, WHITE FINISH, VITREOUS CHINA, SIPHON JET FLUSH ACTION, NOMINAL DIMENSIONS : 356X718X419, 26 KG, OPERATES IN RANGE 4.2L TO 6 L, C/W FLOOR FLANGE WITH ALL BRASS BOLTS AND WITH RUBBER GASKET

2) FLUSHOMETER: SLOAN ROYAL OPTIMA 111 ES-1.28-SCP EXPOSED FLUSHOMETER, 4.8 LPF FACTORY SET FLOW, INFRARED SENSOR, SENSOR LOCATED ABOVE TOILET, C/W 102MM SQUARE ELECTRICAL BOX FOR MOUNTING SENSOR PLATE. C/W EL-154 BOX MOUNTED HARDWIRE TRANSFORMER

3) TOILET SEAT: CENTOCO 500STSCC.001, HEAVY DUTY FOR ELONGATED BOWL, OPEN FRONT, SOLID PLASTIC,

WC-2 FLOOR MOUNTED WATER CLOSET (BARRIER FREE)

1) BOWL: AMERICAN STANDARD MADERA FLOWISE RIGHT HEIGHT ELONGATED MODEL 3461.001.020, WHITE FINISH, VITREOUS CHINA, SIPHON JET FLUSH ACTION, NOMINAL DIMENSIONS : 356X718X419, 26 KG, OPERATES IN RANGE 4.2L TO 6 L, C/W FLOOR FLANGE WITH ALL BRASS BOLTS AND WITH RUBBER GASKET

2) FLUSHOMETER: SLOAN ROYAL OPTIMA 115 ESS-1.28-TMO-HW-4.8 LPF FLUSHOMETER, POLISHED CHROME FINISH, SINGLE FLUSH, TRUE MECHANICAL OVERRIDE, HARDWIRED, SENSOR OPERATED, ROYAL EXPOSED FLUSHOMETER, C/W EL-154 BOX MOUNTED HARDWIRE TRANSFORMER

3) TOILET SEAT: CENTOCO 820STSTS.001, EXTRA HEAVY DUTY FOR ELONGATED BOWL, OPEN FRONT SOLID PLASTIC WITH COVER

UR-1 WALL MOUNTED URINAL

1) BOWL: TOTO UT105U URINAL WITH 3/4" TOP SPUD INLET, INTEGRAL TRAP, C/W LOW PROFILE DOME STRAINER, WASHOUT FLUSH ACTION, VITREOUS CHINA, THU3017 STAINLESS STEEL URINAL DRAIN COVER

2) FLUSHOMETER: TEU1UA12#CP 0.125 GPF SLUSH VALVE, WASHOUT FLUSH ACTION

LAV-1 WALL MOUNTED LAVATORY

1) FAUCET: SLOAN BASYS EFX 100, SENSOR HANDWASHING FAUCET WITH BACKUP BATTERY, DOUBLE INFRARED SENSOR, 1.9 LPM, VANDAL RESISTANT, C/W EAF 37 TRANSFORMER
PROVIDE OPEN GRID DRAIN, CAST BRASS ONE PIECE TOP 17 GA TUBULAR 32 MM TAILPIECE, PROVIDE CHROME-PLATED FINISH P-TRAP, HEAVY CAST BRASS ADJUSTABLE BODY, WITH SLIP NUT, 32 MM SIZE, WITH CLEANOUT, SHALLOW WALL FLANGE AND SEAMLESS TUBULAR WALL BLEND

SH-1 SHOWER

1) SHOWER TRIM: AMERICAN STANDARD T431.730.002 BOULEVARD THERMOSTATIC SHOWER TRIM, METAL WALL PLATE POLISHED CHROME FINISH, 201 MM DIA TRIM FACE PLATE, TEMPERATURE CONTROL SINGLE LEVER HANDLE, C/W R510 CERATHERM THERMOSTATIC IN WALL SHOWER ROUGH VALVE

2) SHOWERHEAD: AMERICAN STANDARD 1660.650.002 3 FUNCTION SHOWER HEAD, POLISHED CHROME FINISH, 9.5 LPM MAX FLOW RATE C/W 1660.240.002 WALL MOUNT SHOWER ARM , BRASS CONSTRUCTION, 140 MM LONG WITH 45 ANGLE, POLISHED CHROME FINISH

3) DRAIN: SHLUTER- KERDI- LINE DRAIN, BRUSHED STAINLESS STEEL, LINEAR FLOOR DRAIN CONSISTING OF A FORMED STAINLESS STEEL CHANNEL BODY AND GRATE ASSEMBLY THAT CAN BE SEAMLESSLY ADJUSTED OR STONE COVERING THICKNESS FROM 3 MM TO 25 MM,THE CHANNEL BODY FEATURES 57 WIDE, 50 MM NO HUB CEENTRE DRAIN OUTLET AND 22 MM WIDE BONDING FLANGE LAMINATED WITH A COLLAR MADE OF SCHLUTER WATERPROOFING MEMBRANE, CHANNEL BODY MATERIAL IS SS AND LENGTH AT 1700MM, BRUSHED SS 304 GRATE WITH SQUARE PERFORATIONS AND LOCKING MECHANISM

FD-1 FLOOR DRAIN

1) WATTS #FD-100-C-FC EPOXY COATED CAST IRON 7"Ø FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE MEMBRANE CLAMP WITH PRIMARY AND SECONDARY WEEP HOLES, 1/4" THICK ADJUSTABLE NICKEL BRONZE STRAINER WITH SURFACE MEMBRANE CLAMP.

KS-1 KITCHEN SINK

1) BASIN: FRANKE SINGLE COMPARTMENT UNDER MOUNT BASIN UCS8080P-1, 18 GAUGE, TYPE 304 STAINLESS STEEL, UNDERCOATED TO REDUCE CONDENSATION AND RESONANCE, INCLUDES WASTE FITTING, CUTOUT TEMPLATE AND INSTALLATION HARDWARE

2) FAUCET: MOEN MODEL 7565E SERIES SINGLE HANDLE HIGH ARC PULLDOWN KITCHEN FAUCET, 5.7 LPM.

DIFFUSERS AND GRILLES

EQUIPMENT TAG	DESCRIPTION/TYPE	MANUFACTURER	SERVICE	MODEL NUMBER	NOTES
SD-1	LINEAR SLOT DIFFUSER	EH PRICE	S/A	1500/SDS100/1/2/ZZ/B12	1,2,3,4,5
SD-2	SQUARE PLAQUE DIFFUSER	EH PRICE	S/A	150/600X600/SPD/31/B12	1,2,3,4
L-1	EXHAUST FAN LOUVER	EH PRICE	E/A	DE439	6,7
DG-1	TRANSFER AIR DOOR GRILLE	EH PRICE	T/A	ATG1/C	8
R-1	RETURN AIR GRILLE	EH PRICE	R/A	530/F/L/A/B12	1,4

NOTES:

1 PROVIDE DIFFUSERS AND GRILLES WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT WALLS AND CEILING SYSTEMS. REFER TO ARCHITECTURAL DRAWINGS.
2 NC LEVELS BASED ON OCTAVE BANDS 2-7 SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 DB, MEASURED PER ASHRAE 70-91.
3 CONTRACTOR TO REFER TO MECHANICAL AND ARCHITECTURAL DETAILS FOR SUPPLY AND INSTALLATION OF LINEAR GRILLE.
4 CONTRACTOR TO REFER TO ARCHITECTURAL, ELECTRICAL AND FIRE PROTECTION CEILING LAYOUTS WHEN INSTALLING DIFFUSERS AND GRILLES TO PREVENT CONFLICTION
5 C/W 1500/SDB100/1/2/150
6 CUSTOM COLOUR OF PRODUCT TO BE SELECTED BY THE ARCHITECT DURING THE SHOP DRAWINGS SUBMITTAL PROCESS
7 C/W BIRD & INLET SCREEN

FANS SCHEDULE

EQUIPMENT TAG	QTY	SERVICE	LOCATION	TYPE	MANUFACTURER	MODEL	AIR FLOW (LPS)	E. S. P. (PA)	FAN (RPM)	ELECTRICAL (V/PH/C)	DRIVE TYPE	SOUND LEVEL (SONES)	WEIGHT (KG)	NOTES
EF-1	1	ELECTRICAL ROOM	ELECTRICAL ROOM	IN-LINE	GREENHECK	SQ-90-VG	150	65	1210	115/60/1	DIRECT	4.9	25.0	ALL

NOTES:

1.C/W VARI-GREEN MOTOR SPEED CONTROL ON EXHAUST FAN
2. PROVIDE LOW VOLTAGE HUMIDISTAT
3. C/W FACTORY MOUNTED DISCONNECT

MECHANICAL MOTORLIST

NEW EQUIP. TAG	EQUIPMENT DESCRIPTION	LOCATION	EQUIPMENT SUPPLIED	H.P.	KW	MCA	FLA	VOLTAGE	PHASE	DISCONNECT SUPPLIED	DISCONNECT INSTALLED	DISCONNECT WIRED	DISCONNECT LOCATION	STARTER TYPE	STARTER SUPPLIED	STARTER INSTALLED	STARTER WIRED	STARTER LOCATION	CONTROL TYPE	CONTROL SUPPLIED	CONTROL INSTALLED	CONTROL WIRED	NOTES
	PLUMBING FIXTURES																						
WC-1	FLUSH VALVE	WASHROOM	M					24	1														1
WC-2	FLUSH VALVE	WASHROOM	M					24	1														1
LAV-1	FAUCET	WASHROOM	M					24	1														1
	FANS																						
EF-1	DRYER ROOM EXHAUST FAN	DRYER ROOM	M	FRAC				115	1	M	M	M	1	MAN	E	E	E	1	H	M	M	M	

SUPPLIER /INSTALL / WIRE CODES:
M = MECHANICAL
E = ELECTRICAL
G = GENERAL CONTRACTOR

STARTER CODES:
MAN = MANUAL STARTER
MAG = MAGNETIC STARTER W/ HOA SWITCH W/ AUX. CONTACTS
MRR = MOTOR RATED RELAY, 24 VAC COIL & MOTOR PROTECTION SWITCH
PCS = PACKAGED CONTROL SYSTEM
VSD = VARIABLE SPEED DRIVE
RVS = REDUCED VOLTAGE STARTER
WS = WALL SWITCH
CP = CONTROL PANEL

CONTROL DEVICE CODES:
BMS = BLDG MANAGEMENT SYSTEM
ES = END SWITCH
ET = LINE VOLTAGE T'STAT
FA = FIRE ALARM
FS = FLOW SWITCH
GS = GAS SENSOR
H = HUMIDITY SENSOR
I = INTERLOCK, SEE NOTES
LS = LEVEL SWITCH
PS = PRESSURE SWITCH
TC = TIME CLOCK
T = LOW VOLTAGE T'STAT OR SENSOR
TS = TAMPER SWITCH
VS = VARIABLE SPEED SWITCH
WS = WALL SWITCH
FAP = FIRE ALARM PANEL
INT = INTEGRAL CONTROL
PCS = PACKAGED CONTROL SYSTEM

LOCATION CODES:
1 = AT OR NEAR MOTOR
2 = MOTOR CONTROL CENTRE
3 = EQUIPMENT ROOM
4 = ELECTRICAL ROOM
5 = AS SHOWN ON DRAWINGS

MISCELLANEOUS CODES:
FFCP = FIRE FIGHTERS CONTROL PANEL

NOTES:

1 ELECTRICAL TO PROVIDE 120 V TO TRANSFORMER

NORTH

PWGSC - A1 - 841x594

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REAL PROPERTY SERVICES
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JUN 12 2018

Revision/ Revision	Description/Description	Date/Date
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Client/client

FISHERIES & OCEANS CANADA
200-401 BURRARD STREET
VANCOUVER, BC V6C 3R2

Project title/Titre du projet

4160 MARINE DRIVE
WEST VANCOUVER, BC V7V 1H2

PSEC - CLASSROOM ADDITION & RENOVATION

Consultant Signature Box Only

Designed by/Concept par
KS

Drawn by/Dessiné par
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PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC Regional Manager, Architectural and Engineering Services/ Gestionnaire régional, Services d'architecture et de génie, TPSGC
-

Drawing title/Titre du dessin

MECHANICAL SCHEDULE

Project No./No. du projet

Sheet/Feuille
M0.02
OF 6

Revision no./ Le Révision no.

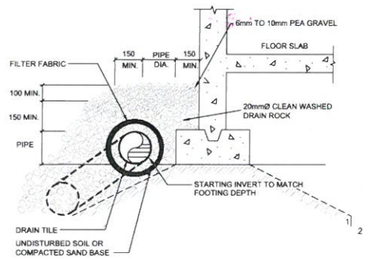
DM5XXXXXX

PLUMBING RENOVATION NOTES:

1. CONNECT NEW PLUMBING FIXTURES SANITARY TO EXISTING SANITARY BRANCHES REFER TO RENOVATION DRAWING.
2. CONTRACTOR TO REUSE EXISTING CORES THROUGH SLAB WHERE POSSIBLE. IF NEW CORES ARE REQUIRED, CONTRACTOR TO SCAN EXISTING SLAB AND RECEIVE APPROVAL OF LOCATIONS FROM DESIGN TEAM PRIOR STARTING WORK.
3. REMOVAL OF EX. FLOOR DRAINS WILL NEED CONCRETE TO BE REMOVED AND PATCHED. CONTRACTOR TO ACCOUNT FOR ALL WORK DONE ON THE CONCRETE FOR REPLACING EX. PLUMBING FIXTURES WITH NEW. CONTRACTOR TO PATCH FLOOR AND MAKE GOOD.

KEY NOTES:

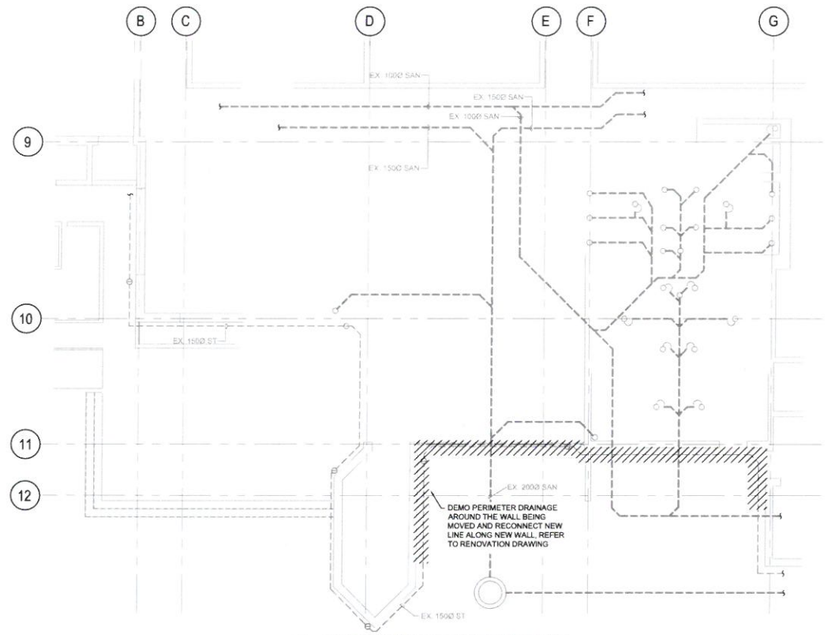
(1) CONTRACTOR TO MATCH SLOPE TO EXISTING, REFER DETAIL 3/M1.01



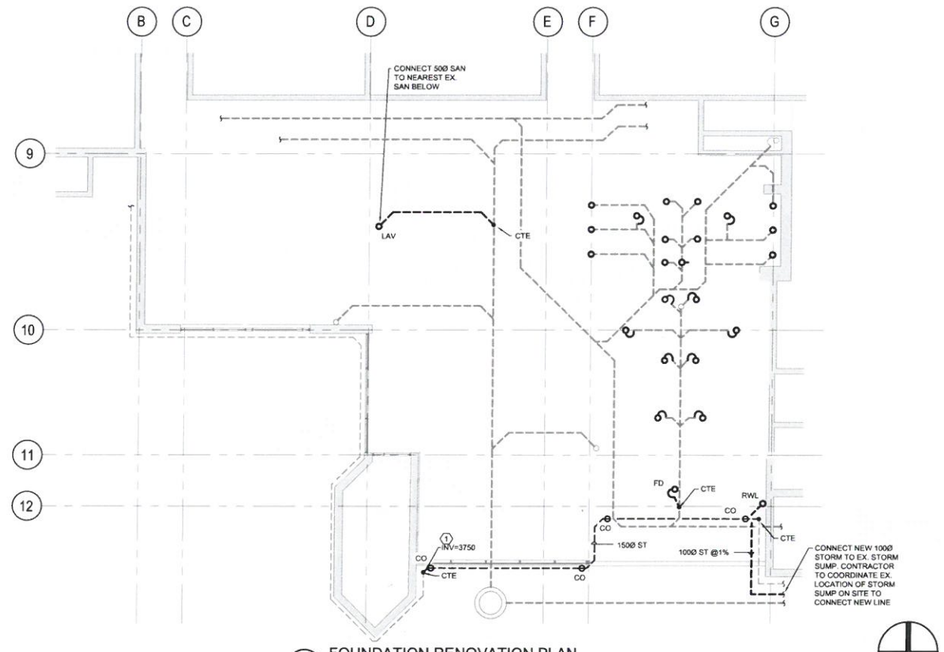
NOTE

PEA GRAVEL AND DRAIN ROCK SHALL BE CARRIED OVER TO FOUNDATION WALL AND FOOTINGS WHERE DRAIN TILES ARE SHOWN.

3/M1.01 PERIMETER DRAIN TILE DETAIL
SCALE: NOT TO SCALE



1/M1.01 FOUNDATION DEMOLITION PLAN
SCALE: 1:100



2/M1.01 FOUNDATION RENOVATION PLAN
SCALE: 1:100

NORTH

PWGSC – A1 – 841X594

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-

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FOUNDATION PLAN

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	M1.01 OF 6	

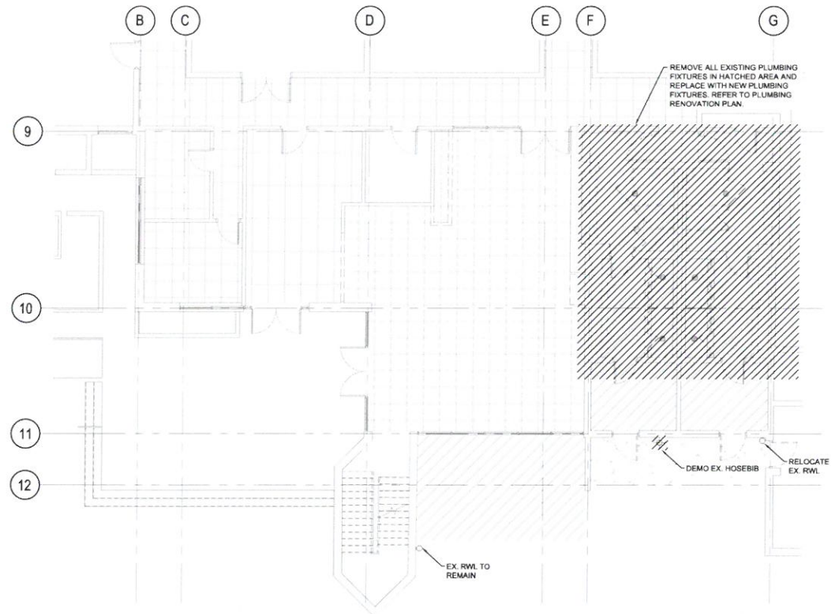
PLUMBING DEMOLITION NOTES:

1. ALL PLUMBING FIXTURES IN SCOPE OF WORK TO BE REMOVED AND REPLACED WITH NEW. REFER TO PLUMBING FIXTURE SCHEDULE AND PLUMBING RENOVATION PLAN. CONTRACTOR TO CAP EX. DCW & DHW LINES TO EACH FIXTURE FOR CONNECTING FUTURE PLUMBING FIXTURES DURING RENOVATION PHASE.

KEY NOTES:

(1) LAVATORY BASIN PROVIDED BY ARCHITECT. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR MAKING ALL CONNECTIONS TO LAVATORY INCLUDING BUT NOT LIMITED TO FAUCET AND WASTE PIPING

(2) RELOCATED RWL TO RUN THROUGH CORNER OF DRYING ROOM AND TO BE CONNECTED TO NEW STORM LINE IN FOUNDATION. PIPE MATERIAL TO BE PVC.



1 / M1.02 PLUMBING DEMOLITION PLAN
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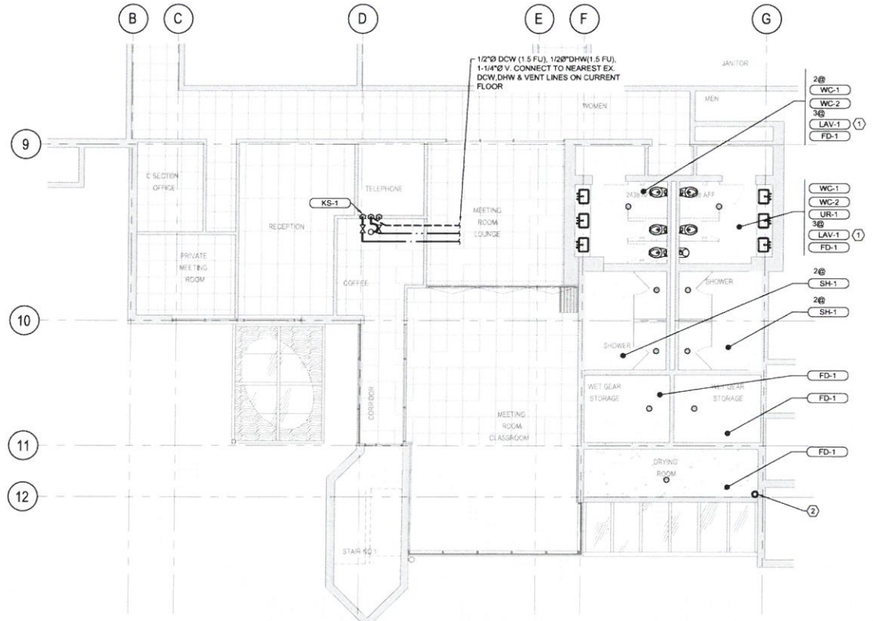

2 / M1.02 PLUMBING RENOVATION PLAN
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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. SHEA
JUN 12 2018

Revision/ Revision	Description/Description	Date/Date
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Client/client

FISHERIES & OCEANS CANADA
200-401 BURRARD STREET
VANCOUVER, BC V6C 3R2

Project title/Titre du projet

4160 MARINE DRIVE
WEST VANCOUVER, BC V7V 1H2

PSEC - CLASSROOM ADDITION & RENOVATION

Consultant Signature Box Only

Designed by/Concept par
KS

Drawn by/Dessine par
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PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

PLUMBING PLAN

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	M1.02 OF 6	

PWGSC – A1 – 841x594

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FIRE PROTECTION GENERAL NOTES:

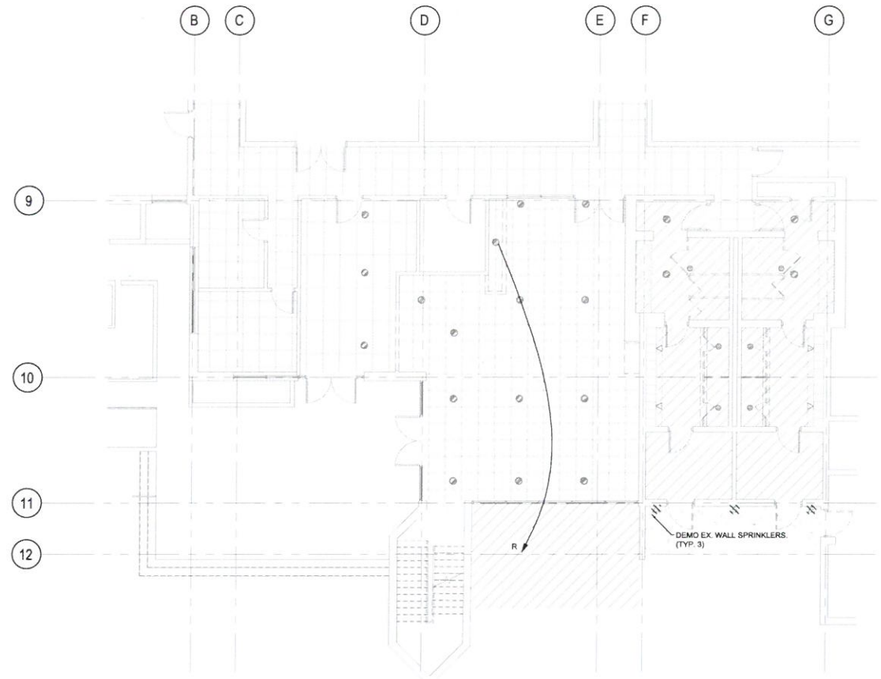
1. CONTRACTOR TO ENSURE PROVISIONS ARE MADE FOR OPERATING FIRE PROTECTION SYSTEM WHILE WORK IS BEING COMPLETED.
2. ALL NEW SPRINKLER HEADS AND RELOCATED SPRINKLER HEADS ARE TO SHOW NEW AND RELOCATED LOCATIONS ONLY. SPRINKLER CONTRACTOR TO PROVIDE ALL NEW SPRINKLER HEADS AND LAYOUT TO BE IN ACCORDANCE W/ NFPA 13. NEW SPRINKLER HEADS TO MATCH EXISTING UNLESS OTHERWISE INDICATED.
3. MODIFY SPRINKLER SYSTEM TO SUIT NEW LAYOUT AND TO ENSURE COMPLIANCE WITH CODE.
4. SPRINKLER ENGINEER TO COORDINATE NEW AND RELOCATED SPRINKLER HEAD LOCATIONS WITH HVAC, LIGHTING AND ARCHITECTURAL LAYOUT.
5. PROVIDE AND INSTALL FIRE EXTINGUISHERS TO MEET THE REQUIREMENTS OF NFPA 10 AND LOCAL FIRE COMMISSIONER.
6. ANY ADDITIONAL SPRINKLER HEADS THAT MAY BE REQUIRED TO COMPLETE FINAL DESIGN (NFPA 13 REQUIREMENTS) ARE CONSIDERED TO BE IN THE SCOPE OF WORK. ADDING OR REMOVING SPRINKLER HEADS ARE NOT CONSIDERED TO BE A CHANGE OF CONTRACT AMOUNT.
7. SYSTEM DESIGN TO LIGHT HAZARD OCCUPANCY, MAXIMUM SPRINKLER SPACING OF 225 SQ FT. PER SPRINKLER.
8. ALL SPRINKLER HEADS TO BE CENTRED ON THE CEILING TILES.

KEY NOTES:

(1) NEW SPRINKLER TO BE CORROSION RESISTANT

SPRINKLER HEAD LEGEND

- EXISTING PENDENT HEAD
- $_{R}$ RELOCATED PENDENT HEAD
- $_{N}$ NEW PENDENT HEAD TO MATCH EXISTING



1 / M2.01 FIRE PROTECTION DEMOLITION PLAN
SCALE: 1:100

2 / M2.01 FIRE PROTECTION RENOVATION PLAN
SCALE: 1:100

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200-401 BURRARD STREET
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4160 MARINE DRIVE
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PSEC - CLASSROOM ADDITION & RENOVATION

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FIRE PROTECTION PLAN

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	M2.01 OF 6	

PWGSC – A1 – 841X594

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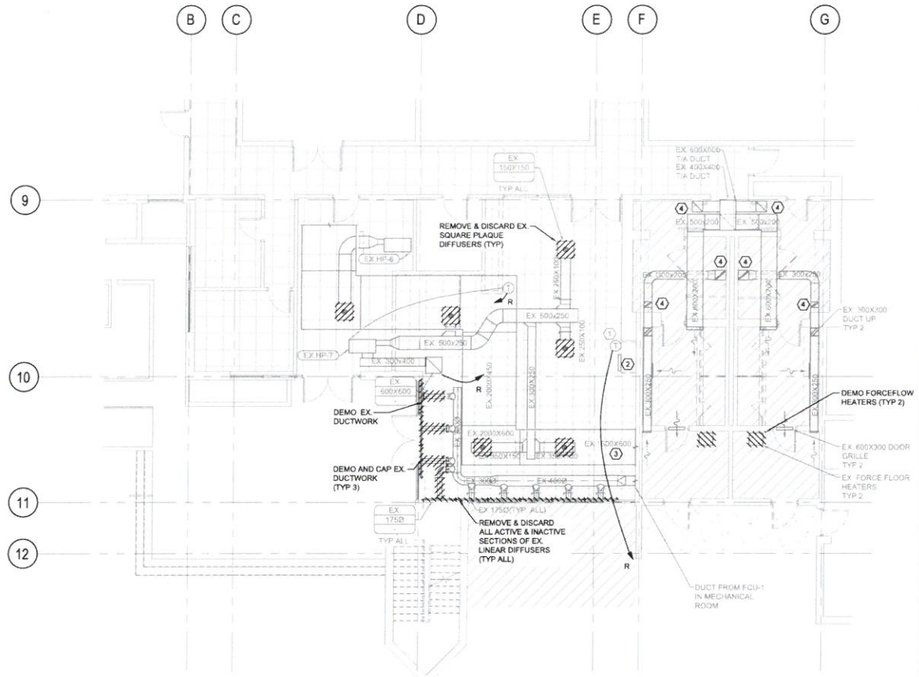
GENERAL NOTES

1. CONTRACTOR TO REMOVE EXISTING GRILLES BEFORE CEILING IS REMOVED IN SCOPE OF WORK AREA. CONTRACTOR TO THEN RE-USE AND PLACE THE EXISTING GRILLES IN NEW CEILING IN THE SCOPE OF WORK AREA AND RE-BALANCE.
2. CONTRACTOR TO ALLOW FOR ANY NEW OR ADJUSTING OF EX. DUCTWORK TO EX. DIFFUSERS AND GRILLES.

KEY NOTES

1. EX. THERMOSTAT CONNECTED TO EX. FCU-1 TO BE RELOCATED, REFER TO RENOVATION PLAN FOR THE NEW LOCATION.
2. EX. 800X250 RETURN AIR GRILLE TO EX. FCU-1. CONTRACTOR TO REMOVE GRILLE PRIOR TO WHEN WORK IS DONE ON THE WALL AND PLACE THE EXISTING GRILLE ON CEILING DURING RENOVATION PHASE. PORTION OF DUCT TO BE DEMOLISHED UP TO CEILING SPACE.
3. DUCT FROM SF-2 IN MECHANICAL ROOM LOCATED AT THE U/S OF SLAB ABOVE ALL OTHER DUCTWORK SHOWN AS HIDDEN FOR CLARITY
4. CONTRACTOR TO REMOVE ALL EXISTING GRILLES IN WASHROOM SPACE BEFORE CEILING IS REMOVED WITHIN THE WASHROOM. TO BE RE-USED IN THE NEW CEILING.
5. CONTRACTOR TO ALLOW OFFSET OF EX. 300X250 DUCT TO ACCOMMODATE STRUCTURAL BRACE, REF. TO STRUCTURAL DRAWINGS. CONTRACTOR TO CONFIRM ONSITE IF OFFSET IS REQUIRED BASED ON SITE CONDITIONS.
6. DURING RENOVATION PHASE CONTRACTOR TO CONNECT DUCT FROM CEILING TO THE EX. RELOCATED GRILLE.
7. CONTRACTOR TO RE-USE AND PLACE THE EXISTING GRILLES IN NEW CEILING WITHIN THE WASHROOM SPACE.



1 / M3.01 HVAC DEMOLITION PLAN
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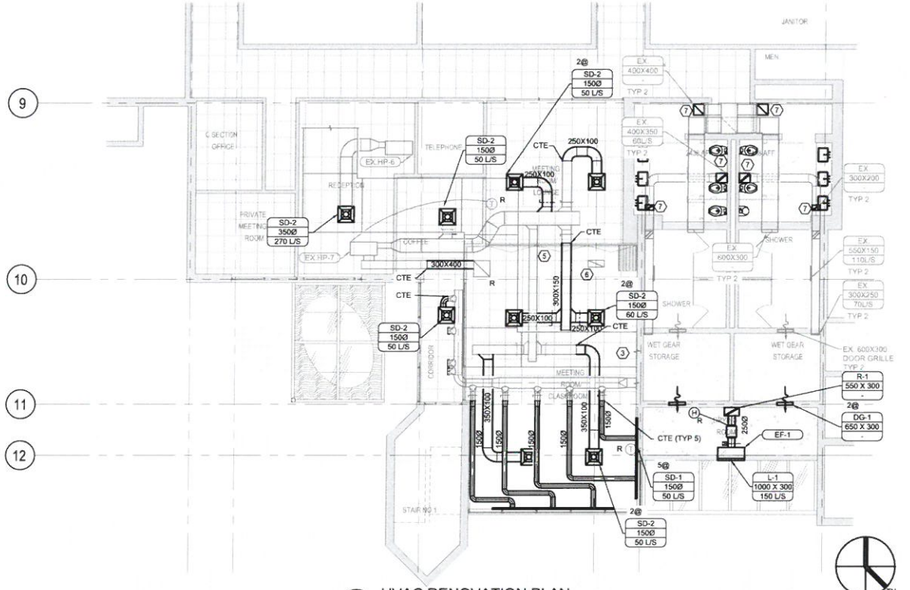

2 / M3.01 HVAC RENOVATION PLAN
SCALE: 1:100

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HVAC PLAN

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
	M3.01 OF 6	

PWGSC – A1 – 841X594

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GENERAL

1. THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL SPECIFICATIONS AND WITH THE DRAWINGS AND SPECIFICATIONS FROM ALL OTHER CONSULTANTS. ANY DISCREPANCIES NOTED SHALL BE REPORTED IMMEDIATELY FOR CLARIFICATION.

2. THIS SET OF DRAWINGS SHOWS THE COMPLETED STRUCTURE AND DOES NOT SHOW WORK WHICH MAY BE REQUIRED FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR GENERAL SAFETY ON AND ABOUT THE JOB SITE DURING THE CONSTRUCTION PERIOD AND FOR DESIGN AND ERECTION OF ALL FALSEWORK, SHORING, BRACING ETC. TO ENSURE THE SAFETY OF ALL CONSTRUCTION TEMPORARY LOADS AND TO COMPLETE THE WORK. ADHERE STRICTLY TO ALL REQUIREMENTS OF THE WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA. ALL TEMPORARY WORKS AND SHORING ETC. SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.

3. ALL CODE REFERENCES ARE TO LATEST EDITIONS AS REFERENCED IN THE NATIONAL BUILDING CODE OF CANADA 2015.

FIELD REVIEW:

1. DEPARTMENTAL REPRESENTATIVE THROUGH CWMM CONSULTING ENGINEERS PROVIDES FIELD REVIEW FOR THE WORK SHOWN ON THE STRUCTURAL DRAWINGS PREPARED BY CWMM CONSULTING ENGINEERS LTD. THIS REVIEW IS A PERIODIC REVIEW AT THE PROFESSIONAL JUDGMENT OF CWMM CONSULTING ENGINEERS LTD.
THE PURPOSE IS TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY CWMM CONSULTING ENGINEERS LTD. AND TO FULFILL THE REQUIREMENTS FOR THE COMPLETION OF LETTERS OF ASSURANCE REQUIRED BY THE APPLICABLE BUILDING CODE.

2. ALL NON-CONFORMING WORKS THAT REQUIRE REMEDIAL ACTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY EXTRA TIME OR COST INCURRED TO PWGSC IN RECTIFYING THE WORK SHALL BE BORNE BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT.

3. ENSURE THAT WORK TO BE INSPECTED IS COMPLETE AT THE TIME OF INSPECTION AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADDITIONAL INSPECTIONS REQUIRED DUE TO THE INCOMPLETE WORK OR POORLY EXECUTED WORK, AS JUDGED BY DEPARTMENTAL REPRESENTATIVE, AS WELL AS ADDITIONAL DESIGN OR REMEDIAL WORK CAUSED BY DEVIATIONS FROM THESE DRAWINGS MAY BE CHARGED TO THE CONTRACTOR.

4. A MINIMUM 24 HOURS NOTICE SHALL BE GIVEN BY THE CONTRACTOR FOR ANY INSPECTION TO BE CARRIED OUT BY THE DEPARTMENTAL REPRESENTATIVE.

NON-STRUCTURAL COMPONENTS:

1. NON-STRUCTURAL COMPONENTS ARE NOT THE RESPONSIBILITY OF DEPARTMENTAL REPRESENTATIVE. SUCH COMPONENTS OF THE PROJECT ARE DESIGNED, DETAILED, SPECIFIED AND REVIEWED IN THE FIELD BY OTHERS. LETTERS OF CERTIFICATION OF ADEQUACY, INSTALLATION ETC. OF SUCH COMPONENTS ARE BY OTHERS.

2. MANUFACTURERS OF NON-STRUCTURAL COMPONENTS WHICH AFFECT THE STRUCTURAL FRAMING SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND DEPARTMENTAL REPRESENTATIVE. FOR REVIEW. THE SHOP DRAWINGS SHALL CLEARLY INDICATE LOADS IMPOSED ON THE STRUCTURE. REVIEW WILL BE LIMITED TO THE EFFECT OF THE COMPONENTS ON THE STRUCTURAL FRAMING.

3. EXAMPLES OF NON-STRUCTURAL COMPONENTS INCLUDE, BUT ARE NOT LIMITED TO:

- ARCHITECTURAL COMPONENTS SUCH AS HANDRAILS, GUARDRAILS, RAILINGS, FLAG POST, REMOVABLE CANOPIES, CEILINGS, VEHICLE PROTECTION SYSTEMS, ORNAMENTAL COMPONENTS, ETC.
- ARCHITECTURAL PRECAST CONCRETE AND ITS ATTACHMENTS.
- ARCHITECTURAL GLASS BLOCKS AND THEIR ATTACHMENTS.
- LANDSCAPING COMPONENTS SUCH AS BENCHES, LIGHT POSTS, PLANTERS, ETC.
- CURTAIN WALL SYSTEMS, CLADDING, SKYLIGHT, WINDOW MULLIONS, ETC.
- INTERIOR AND EXTERIOR NON-LOAD BEARING STEEL STUD WALLS.
- SUPPORT AND BRACING OF MECHANICAL AND ELECTRICAL SYSTEMS AND EQUIPMENTS FOR NON-GRAVITY AND SEISMIC LOADS.
- WINDOW WASHING EQUIPMENTS AND ITS ATTACHMENT.
- NON-STRUCTURAL MASONRY.

EXISTING STRUCTURES:

1. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL RELEVANT DIMENSIONS TO AND OF EXISTING STRUCTURES. NOTIFY THE DEPARTMENTAL REPRESENTATIVE IMMEDIATELY IF DISCREPANCIES ARE NOTED.

2. THE CONTRACTOR SHALL AT HIS OWN EXPENSE REPAIR AND MAKE GOOD ANY DAMAGE TO THE EXISTING STRUCTURE, EQUIPMENT AND FINISHES CAUSED BY THE CONSTRUCTION ACTIVITIES. REPAIRS SHALL BE TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY SUPPORT OF ANY ADJACENT EXISTING STRUCTURES DURING CONSTRUCTION. UNDERPINNING OR BRACING SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA. SUBMIT 4 COPIES OF SIGNED AND SEALED DESIGN DRAWINGS TO ARCHITECT AND THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW OF CONFORMANCE WITH GENERAL DESIGN CRITERIA.

DESIGN LOADS:

1. THIS STRUCTURE HAS BEEN DESIGNED FOR SNOW, WIND AND SEISMIC FORCES IN SUBSTANTIAL COMPLIANCE WITH THE PROVISIONS SET FORTH IN THE NATIONAL BUILDING CODE OF CANADA 2015.

GROUND SNOW: Ss = 2.4 kPa
RAIN LOAD: Sr = 0.2 kPa

IMPORTANCE FACTORS FOR SNOW Is = 1.0 FOR STRENGTH
Is = 0.9 FOR SERVICEABILITY

WIND LOAD: PROBABILITY 1/10 = 0.37 kPa
PROBABILITY 1/50 = 0.48 kPa

IMPORTANCE FACTORS FOR WIND Iw = 1.0 FOR STRENGTH
Iw = 0.75 FOR SERVICEABILITY

EARTHQUAKE FACTORS:

Sa(0.2)	Sa(0.5)	Sa(1.0)	Sa(2.0)	Sa(5.0)	Sa(10.0)	PGA	PGV
0.863	0.765	0.432	0.261	0.081	0.029	0.375	0.563

I_E = 1.0 FOR STRENGTH
I_E = 1.0 FOR SERVICEABILITY
(CLAUSE 4.1.8.13 FOR SERVICEABILITY)

ASSUMED SITE CLASS D

2. SPECIFIED UNIFORM SUPERIMPOSED DEAD LOADS ON ROOF:
ROOF 1.0 kPa

3. DESIGN SPECIFIED CONCENTRATED LIVE LOADS ON ROOF AND FLOORS:
ROOF 1.3 kN

4. WORST CASE OF UNIFORM OR CONCENTRATED LIVE LOADS WILL BE USED FOR DESIGN OF STRUCTURAL MEMBERS.

FOUNDATION AND SITE WORK

1. GEOTECHNICAL CONSULTANT TO CONFIRM THE EXCAVATION, BACKFILLING, FILL MATERIALS, COMPACTION, FROST PROTECTION AND OTHER SITE PREPARATION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.

2. ASSUMED DESIGN SOIL BEARING CAPACITIES (TO BE CONFIRMED BY GEOTECHNICAL CONSULTANT) :

PAD / STRIP FOOTINGS SLS = 50 kPa (psf)
ULS = 70 kPa (psf)

3. ANY FOOTING ELEVATIONS INDICATED ON THE DRAWINGS ARE GENERAL AND SHALL BE USED FOR ESTIMATING AND BIDDING PURPOSES. FOOTINGS MAY HAVE TO BE PLACED AT DIFFERENT ELEVATIONS AS A RESULT OF LOCAL SOILS CONDITIONS, UNDERGROUND SERVICES AND TO ACCOMMODATE OTHER MECHANICAL AND ELECTRICAL SERVICES. FOLLOW TYPICAL DETAILS SHOWN ON THESE DRAWINGS FOR FOOTING PLACEMENT RELATIVE TO ADJACENT FOOTINGS, SUMP AND OTHER EXCAVATED STRUCTURES AND LOCATE AS DIRECTED BY GEOTECHNICAL ENGINEER.

4. THE BASES OF FOUNDATIONS SHALL BE PROTECTED FROM RAIN, SNOW AND ANY WATER INFILTRATION.

5. NO FOUNDATIONS MAY BE POURED BEFORE THE BEARING MATERIAL HAS BEEN INSPECTED BY THE GEOTECHNICAL ENGINEER. NOTIFY THE GEOTECHNICAL ENGINEER MINIMUM 24 HOURS BEFORE INSTALLATION OF FOOTING REINFORCEMENT.

6. COORDINATE CONSTRUCTION WITH UNDERSLAB SERVICES AS SHOWN ON MECHANICAL, ELECTRICAL, ARCHITECTURAL AND LANDSCAPING DRAWINGS.

7. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SITE DRAINAGE, GROUND ELEVATIONS AND DRAINAGE SLOPES.

8. CENTRE ALL FOOTINGS UNDER COLUMNS OR WALLS UNLESS NOTED OTHERWISE.

REINFORCED CONCRETE

CONCRETE:

1. CONCRETE STRENGTH:

MEMBER	MINIMUM 28-DAYS STRENGTH	MAXIMUM AGGREGATE SIZE	EXPOSURE CLASS	AIR CONTENT CATEGORY
FOOTINGS	25 MPa	25 mm	N	-
SLABS - INTERIOR	25 MPa	20 mm	N	-
SLABS - EXTERIOR	35MPa	20 mm	C-1	1

2. REFER TO SPECIFICATIONS FOR CONCRETE PROPERTIES & OTHER REQUIREMENTS.

3. PROVIDE MINIMUM CONCRETE COVER TO REINFORCING AS FOLLOWS:

CAST AGAINST EARTH	75 mm
EXPOSED TO EARTH OR WEATHER	50 mm
ELSEWHERE	40 mm

4. UNLESS NOTED OTHERWISE, PROVIDE MINIMUM SPLICE LENGTH TO REINFORCEMENT:

10M	450 mm
15M	600 mm

- INCREASE LENGTH BY 30% FOR BARS WITH DEPTH OF CONCRETE CAST BELOW GREATER THAN 300 mm (TOP BARS)

FORMING:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ALL FORMWORK AND SHORING AND FOR COMPLYING WITH ALL WORKERS' COMPENSATION BOARD REGULATIONS PERTAINING TO FORMWORK CONSTRUCTION, DESIGN AND INSPECTION. FORMWORK AND SHORING SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA.

2. LOCATIONS OF CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW IN ADVANCE AND PRIOR TO COMMENCEMENT OF CONSTRUCTION.

3. REFER TO ARCHITECTURAL DRAWINGS FOR REVEALS, RECESSES, CHAMFERS, FINISHES AND OTHER ARCHITECTURAL REQUIREMENTS NOT INDICATED ON THESE DRAWINGS.

4. SUPPLY AND SET ANCHOR BOLTS, SLEEVES, PIPE HANGERS, EXPANSION JOINTS AND OTHER INSERTS AND OPENINGS AS INDICATED IN THESE DRAWINGS AND THEIR ACCOMPANYING SPECIFICATIONS OR IN DOCUMENTS BY OTHER CONSULTANTS.

5. ALL DOWELS, ANCHOR BOLTS, EMBEDDED PLATES AND OTHER INSERTS SHALL BE PLACED BEFORE THE CONCRETE IS POURED.

6. SLAB ON GRADE JOINTS SHALL HAVE 35mm (1 1/2") DEEP SAWCUTS SPACED MAXIMUM 4500mm APART, LAYOUT OF JOINTS SHALL BE APPROVED BY THE ARCHITECT, SEAL WITH FLEXIBLE JOINT SEALER TO PREVENT INGRESS OF WATER.

7. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF CURBS AND EQUIPMENT PADS.

8. CONDUITS, PIPES AND SLEEVES:

- NO SLEEVES, DUCTS, PIPES OR OTHER OPENINGS SHALL PASS THROUGH WALLS, EXCEPT WHERE EXPRESSLY DETAILED ON STRUCTURAL DRAWINGS OR WHERE APPROVED IN ADVANCE BY THE DEPARTMENTAL REPRESENTATIVE.
- FOR CONDUITS, PIPES AND SLEEVES THROUGH THE THICKNESS OF THE WALL, SLEEVES AND OPENINGS GREATER THAN 100mm IN ANY DIRECTION NOT INDICATED ON DRAWINGS MUST BE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.

CONCRETE REINFORCING:

1. TYPICAL DESIGNATION OF REINFORCING BARS:

3-20M2400 OR 3-20M8'-0"	MEANS THREE 20M BARS 2400mm (8'-0") LONG EACH
2-C15M1500 OR 2-C15M5'-0"	MEANS TWO 15M BARS EACH WITH A 90 DEGREE STANDARD HOOK AT ONE END AND A TOTAL LENGTH OF 1500mm (5'-0") INCLUDING HOOK.
A15M2000 @300 OR A15M6'-6" @12"	MEANS 15M BARS WITH A 180 DEGREE STANDARD HOOK AT ONE END AND A TOTAL LENGTH OF 2000mm (6'-6") INCLUDING HOOK, AT 300mm (12") ON CENTRES.

* ALL STANDARD HOOK LENGTHS TO FOLLOW CSA-A23.1.

2. USE ONLY NON-CORRODING BAR SUPPORTS WHERE CONCRETE SURFACES ARE TO BE EXPOSED TO WEATHER, EARTH, SEA WATER, DE-ICING SALTS, OR CORROSIVE CHEMICALS AND FOR ALL CONCRETE SLABS AND BEAMS IN THE PARKING AREA.

3. USE ONLY NON-CORRODING CHAIRS FOR REINFORCING IN ALL EXPOSED CONCRETE WORK AND FOR ALL CONCRETE SLABS.

MASONRY

1. UNLESS NOTED OTHERWISE, MATERIALS AND WORK SHALL CONFORM AS FOLLOWS:

CONCRETE GROUT:	20MPa (2900psi) @ 28 DAYS, EXPOSURE CLASS F-2, 10mm (0.4") AGGREGATE, 200 TO 250mm (8" TO 10") SLUMP, 5-8% AIR.
BOND BEAMS:	KNOCK-OUT TYPE
MASONRY MORTAR:	TYPE "S" TO CSA A179. MINIMUM 12.5 MPa (1800psi) @ 28 DAYS.

2. REINFORCE 200mm NON- LOADBEARING WALLS AS FOLLOWS:

VERTICAL: 1-15M @800mm CENTERED IN GROUTED CORE

HORIZONTAL: 3.8mm DIA. LADDER JOINT REINF. @400mm (16")
2-15M IN CONTINUOUS BOND BEAMS AS SHOWN BELOW
1 BOND BEAM AT TOP OF WALL
PLUS 1 BOND BEAM MIDHEIGHT
(OVER WALL OPENINGS)

ADDITIONAL: 1-15M VERT. AT UNSUPPORTED ENDS OF WALLS
1-15M VERT. AT ALL CORNERS AND INTERSECTIONS
1-15M VERT. AT EACH SIDE OF OPENINGS
1-15M VERT. IN EACH CELL OF PIERS AND PILASTERS
2-15M ABOVE AND BELOW ALL OPENINGS, 800mm (32") PAST EDGE.
(MAY BE PART OF CONTINUOUS BOND BEAMS)

3. UNLESS NOTED OTHERWISE SPLICE REINFORCING AND EMBED DOWELS AS FOLLOWS:

DOWEL EMBEDMENT: 15M BARS: 400 (INCL. LENGTH OF HOOK)
SPLICES: 15M BARS: 650
WIRE REINF. 300

4. ALL VERTICAL REINFORCING SHALL RUN CONTINUOUS THROUGH BOND BEAMS AND LINTELS OR BE SPLICED AS SPECIFIED.

5. PROVIDE CORNER BARS FOR ALL HORIZONTAL REINFORCING. SPLICE LENGTH AS SPECIFIED.

6. STRAIGHT OR HOOKED DOWELS SHALL BE PROVIDED IN FOUNDATIONS OR GRADE BEAMS TO MATCH ALL VERTICAL REINFORCING BARS. SPLICE LENGTH AS SPECIFIED.

7. NOTIFY THE DEPARTMENTAL REPRESENTATIVE 24 HOURS PRIOR TO ANY GROUT POUR.

8. CELLS TO BE REINFORCED SHALL BE KEPT CLEAR OF MORTAR.

9. FILL CELLS CONTAINING REINFORCING STEEL OR ANCHOR BOLTS WITH 20MPa (2900psi) GROUT, 10mm (0.4") AGGREGATE, 200-250mm (8"-10") SLUMP. PUDDLE OR VIBRATE TO COMPLETELY FILL CELLS. REVIBRATE AFTER 10 TO 40 MINUTES, WHEN EXCESS WATER HAS BEEN ABSORBED BY MASONRY UNITS. TOP OFF FILLED CORES WITH FRESH GROUT REVIBRATION.

10. PROVIDE CLEAN-OUTS AT BOTTOM OF ALL GROUTED CORES FOR LIFTS OVER 1500mm (5'-0").

11. UNLESS NOTED OTHERWISE PROVIDE LINTELS OVER OPENINGS AS FOLLOWS:

CLEAR SPAN	DEPTH OF LINTEL	REINFORCING
LESS THAN 1500 (60")	400 (16")	2-15M 800 (32") PAST EDGES
1500 - 2400 (60" - 96")	600 (24")	2-20M 800 (32") PAST EDGES
2500 - 3000 (100" - 120")	800 (32")	2-25M 800 (32") PAST EDGES

12. CHECK STRUCTURAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, LANDSCAPE AND ALL OTHER RELEVANT DRAWINGS FOR LOCATIONS AND SIZES OF BOLTS, SLEEVES AND OPENINGS. SUPPLY AND SET ANCHOR BOLTS, SLEEVES, PIPE HANGERS, JOINTS AND OTHER INSERTS AND OPENINGS AS INDICATED OR SPECIFIED ELSEWHERE.

13. VERTICAL CONTROL JOINTS SHALL BE PROVIDED AT A MAXIMUM SPACING OF 8000mm (26'-0") FOR STRAIGHT WALLS AND 4000mm (13'-0") FROM WALL CORNERS. TERMINATE BOND BEAM REINFORCING AT CONTROL JOINTS, LADDER REINFORCING TO RUN THROUGH JOINTS.

STRUCTURAL STEEL

1. REFER TO SPECIFICATIONS FOR STEEL WORK, STEEL CONFORMANCE, DESIGN CORE REQUIREMENTS AND OTHER REQUIREMENTS.

2. GRADES OF MATERIALS:

ANGLES	300W
HOLLOW STRUCTURAL STEEL (HSS)	350W, CLASS C (ASTM A500)
OTHER STRUCTURAL STEEL AND MISC. METAL	300W
BOLTS, NUTS AND WASHERS	ASTM F3125/3125M
ANCHOR BOLTS	ASTM A307

3. DRAWINGS FROM ALL CONSULTANTS SHALL BE EXAMINED FOR EXACT LOCATIONS, DIMENSIONS AND ELEVATIONS.

4. CONFIRM ALL LOCATIONS, DIMENSIONS AND ELEVATIONS WITH ACTUAL SITE MEASUREMENTS BEFORE FABRICATION.

WOOD PRODUCTS

1. PROPRIETARY CLT PRODUCTS SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH CSA-086.1-14.

DRAWING LIST (STRUCTURAL)

S101	GENERAL NOTES
S201	PARTIAL MAIN FLOOR PLAN & FOUNDATION PLAN AND SECTIONS
S202	PARTIAL SECOND FLOOR PLAN AND SECTIONS

ABBREVIATIONS

A.BOLT	ANCHOR BOLT
ALT.	ALTERNATE
ARCH.	ARCHITECTURAL
BLDG.	BUILDING
BOT.	BOTTOM
BTW.	BETWEEN
C/C	CENTER TO CENTER
C/W	COMPLETE WITH
C.I.P.	CAST IN PLACE
CANT.	CANTILEVER
CL.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
DL	DEAD LOAD
DN	DOWN
DO.	DITTO
DP.	DEEP
DWG.	DRAWING
E.W.	EACH WAY
E.F.	EACH FACE
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EXIST.	EXISTING
EXT.	EXTERIOR
FL	FLOOR
F.S.	FAR SIDE
FDN.	FOUNDATION
FTG.	FOOTING
G.L.	GRID LINE
GALV.	GALVANIZED
H1E	HOOK ONE END
H2E	HOOK TWO ENDS
HL	HIGH LEVEL
HORIZ.	HORIZONTAL
INT.	INTERIOR
L.V.	LENGTH VARIES
LG.	LONG
LL	LOW LEVEL
LLV	LONG LEG VERTICAL
LLH	LONG LEG HORIZONTAL
LONG.	LONGITUDINAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
N/A	NOT AVAILABLE
N.S.	NEAR SIDE
N.STUD	NELSON STUD
N.T.S.	NOT TO SCALE
O/C	ON CENTRES
OPP.	OPPOSITE HAND
OWSJ	OPEN WEB STEEL JOIST
P.C.	PRECAST CONCRETE
PL	PLATE
PLY.	PLYWOOD
PROJ.	PROJECTION
R/W	REINFORCED WITH
R/C	REINFORCED CONCRETE
S.O.G.	SLAB ON GRADE
SIM.	SIMILAR
STAGG.	STAGGERED
T&B	TOP AND BOTTOM
T&G	TONGUED & GROOVED
T.O.C/S	TOP OF CONCRETE/STEEL
THK.	THICK
TJ	TIE JOIST
TRAN.	TRANSIVERSE
TYP.	TYPICAL
U/S	UNDERSIDE
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL

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4		
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1		
0	ISSUED FOR TENDER	2018/06/12

Client/client

FISHERIES & OCEANS CANADA

200-401 BURRARD STREET VANCOUVER, BC V6C 3R2

Project title/Titre du projet

4160 MARINE DRIVE WEST VANCOUVER, BC V7V 1H2

PSEC CLASSROOM ADDITION & RENOVATION

Consultant Signature Only
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Designed by/Concept par
DM

Drawn by/Dessine par
CAD / APRIL 2018

PWGSC Project Manager/Administrateur de Projets TPSGC
-

Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

GENERAL NOTES

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
PK90237	S101 OF XX	0

12797

PWGSC – A1 – 841X594

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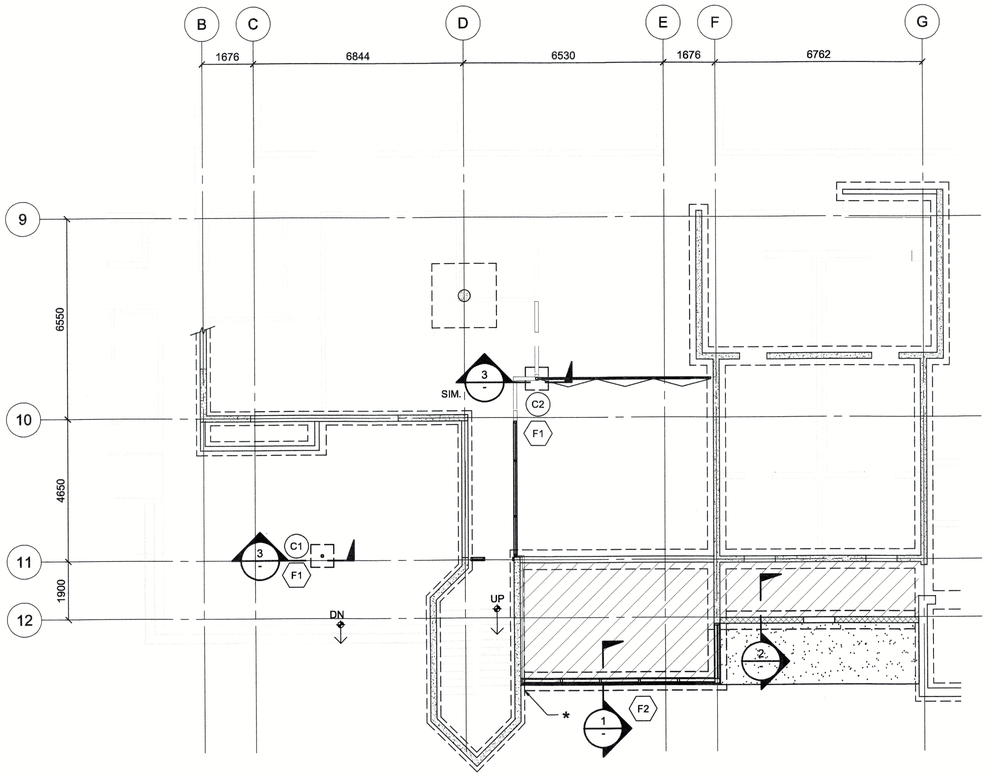


PARTIAL MAIN FLOOR & FOUNDATION PLAN

1:100

LEGEND:

DENOTES NEW 125 THK. S.O.G. R/W 10M@300 E.W. ON 6 MIL POLY VAPOUR BARRIER ON 300 THK. COMPACTED CRUSHED GRAVEL FILL AS PER GEOTECH REPORT

DENOTES NEW CMU WALL

DENOTES NEW CONC. SIDEWALK AS PER ARCH. DWG.

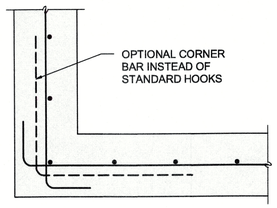
* WHERE NEW FOOTING OR S.O.G. ABUT EXIST. FOOTING OR S.O.G. , CLEAN EXIST. CONC. SURFACE FREE OF LAITANCE. SATURATE CONC. 24 HOURS PRIOR TO POUR. ENSURE CONC. IS SATURATED SURFACE DRY (SSD) BEFORE POURING. DRILL AND DOWEL REBAR USING HILTI RE500 V3 OR APPROVED ALTERNATIVE. EMBED 150mm. SPLICE BARS AS PER GENERAL NOTES.

COLUMN SCHEDULE

COLM. TYPE	COLUMN SIZE	BASE PLATE (THICKNESS x WIDTH x LENGTH)
C1	HSS102Øx6.4 W/ HSS 89Øx6.4 REVEAL AT ENDS	19x250x250 C/W HOLES FOR 4-16Ø x200 EMBED A307 ANCHOR BOLTS WITH STANDARD NUT & WASHERS PROVIDE 38 THK. NON-SHRINK GROUT. 38 TYP.
C2	HSS 89x89x6.4	19x250x250 C/W HOLES FOR 4-16Ø x200 EMBED A307 ANCHOR BOLTS WITH STANDARD NUT & WASHERS PROVIDE 38 THK. NON-SHRINK GROUT. 38 TYP.

FOOTING SCHEDULE

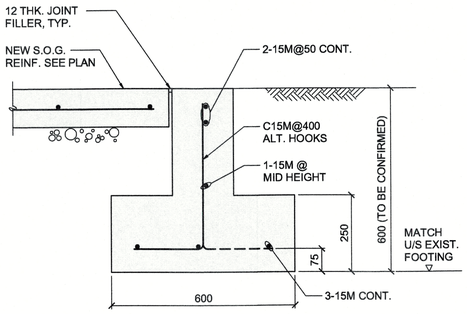
FTG. TYPE	FOOTING SIZE (LENGTH x WIDTH x DEPTH)	BOTTOM REINFORCING EACH WAY (U.N.O.)	REMARKS
F1	750 x 750 x 425 (ASSUMED)	4-15M U-BARS BOTT. 10M@300 TOP	SEE TYP. SECTION
F2	600 WIDE x 250 DEEP	3-15M LONG. BOTT.	SEE TYP. SECTION



SINGLE CURTAIN

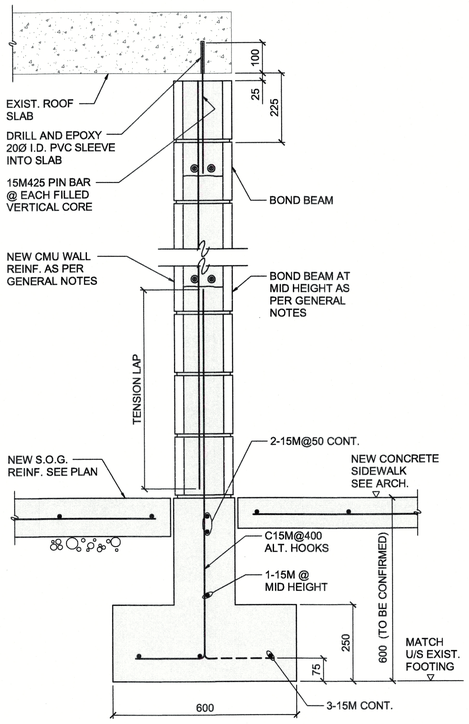
TYPICAL WALL INTERSECTION PLAN DETAILS

1:10



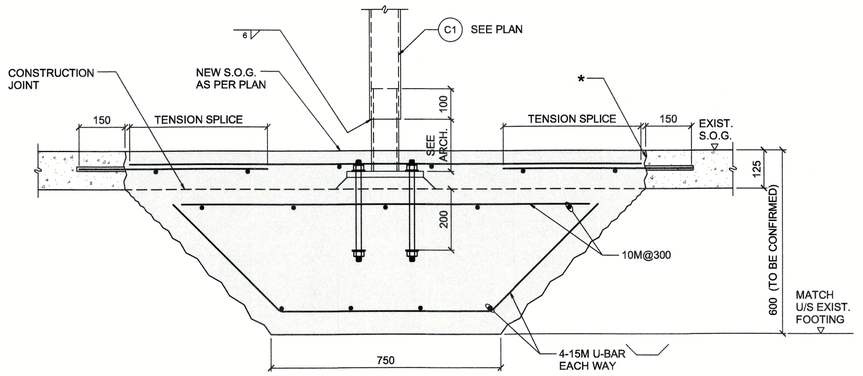
SECTION 1 / 1:10

GEOTECH TO CONFIRM BEARING CONDITIONS AND BACKFILL



SECTION 2 / 1:10

GEOTECH TO CONFIRM BEARING CONDITIONS AND BACKFILL



SECTION 3 / 1:10

GEOTECH TO CONFIRM BEARING CONDITIONS AND BACKFILL

12797

PWGSC – A1 – 841X594

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4160 MARINE DRIVE WEST VANCOUVER, BC V7V 1H2

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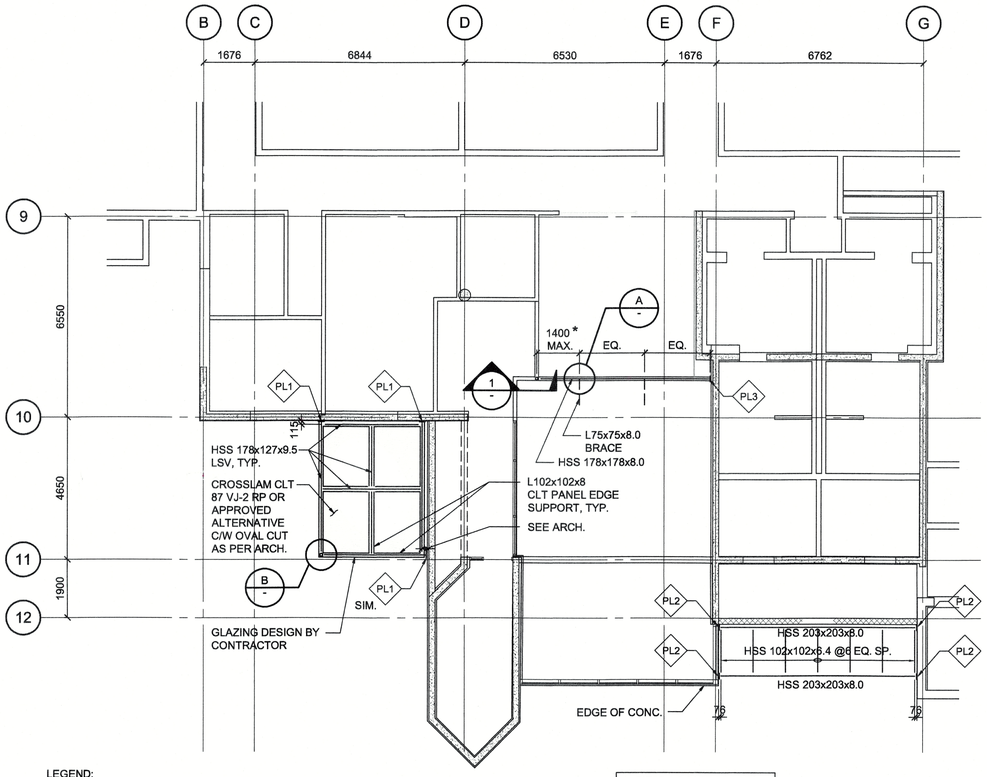
PARTIAL MAIN FLOOR & FOUNDATION PLAN AND SECTIONS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
PK90237	S201 OF XX	0

DM5XXXXXX



LEGEND:

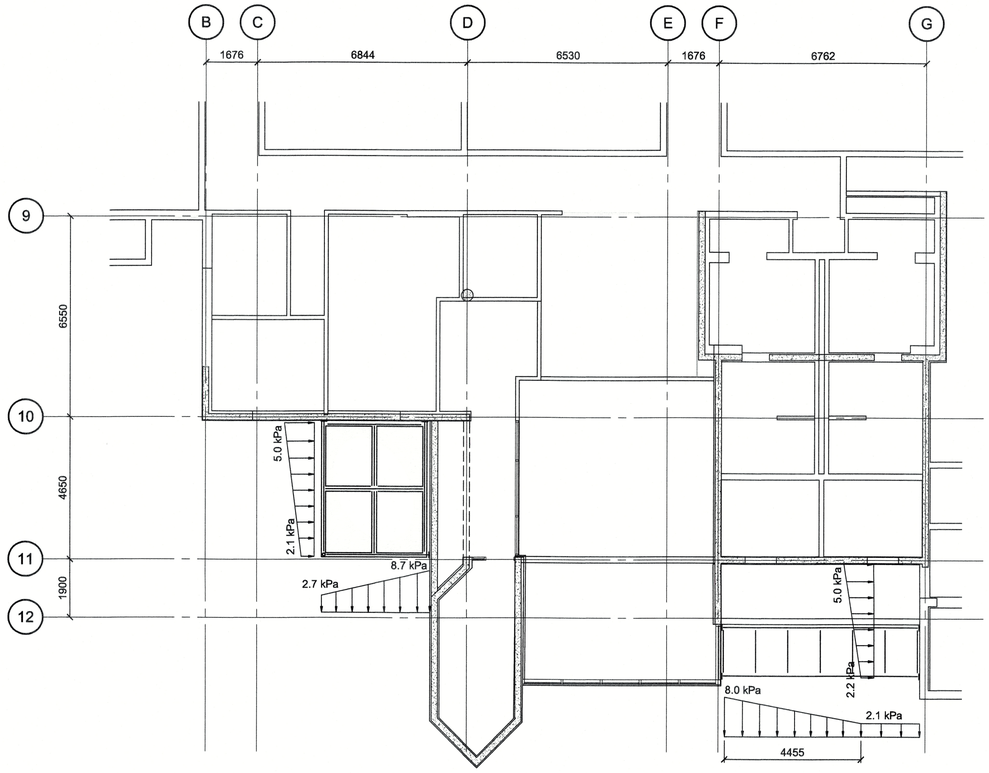
PL1 — DENOTES NEW CONNECTION PLATE SEE DETAILS ON THIS DWG.

DENOTES NEW CMU WALL BELOW

PARTIAL ROOF PLAN

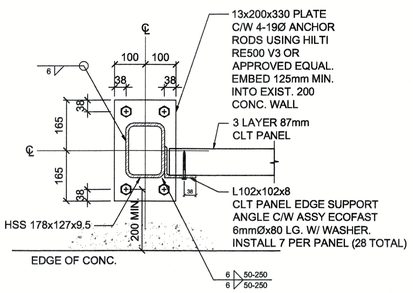
1:100

* FIELD LOCATE BRACE BETWEEN EXIST. DUCTS. NOTIFY DEPARTEMETAL REPRESENTATIVE IF DIMENSION GREATER THAN 1400



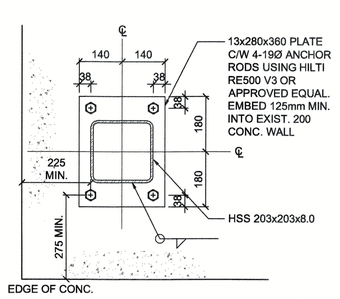
ROOF SNOW LOAD DIAGRAM

1:100



CONNECTION PLATE DETAIL FOR PL1

1:10



CONNECTION PLATE DETAIL FOR PL2

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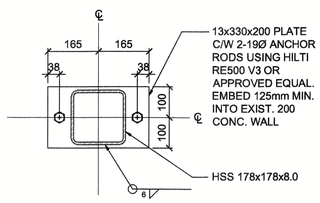

CONNECTION PLATE DETAIL FOR PL3

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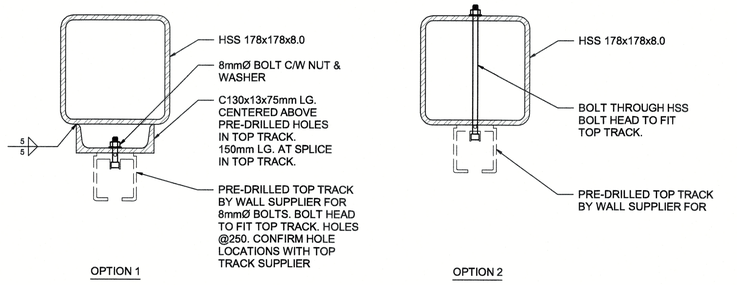
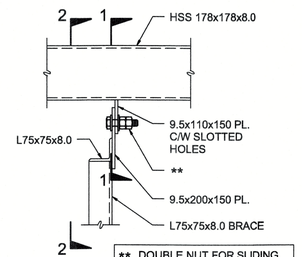


TYPICAL TOP TRACK CONNECTION TO HSS BEAM

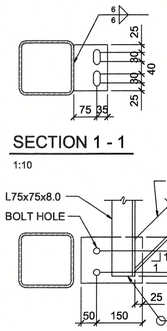
1:5



** DOUBLE NUT FOR SLIDING CONNECTION. INSTALL 1ST NUT FINGER TIGHT, INSTALL 2ND NUT (LOCK NUT) TIGHT WITH 1ST NUT.

DETAIL A

1:10



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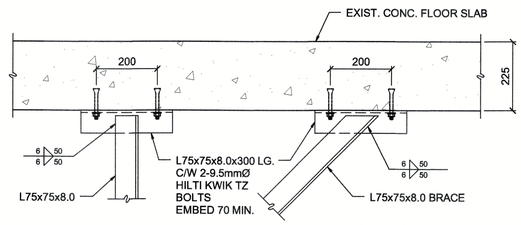
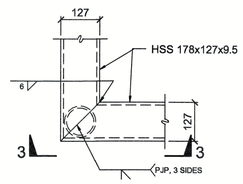


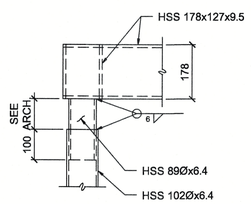
TYPICAL TOP CONNECTION DETAIL FOR BRACES

1:10



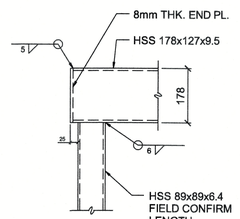
DETAIL B

1:10



SECTION 3 - 3

1:10



SECTION 1

1:10

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PARTIAL SECOND FLOOR PLAN AND SECTIONS

Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
PK90237	S202 OF XX	0

DM5XXXXXX