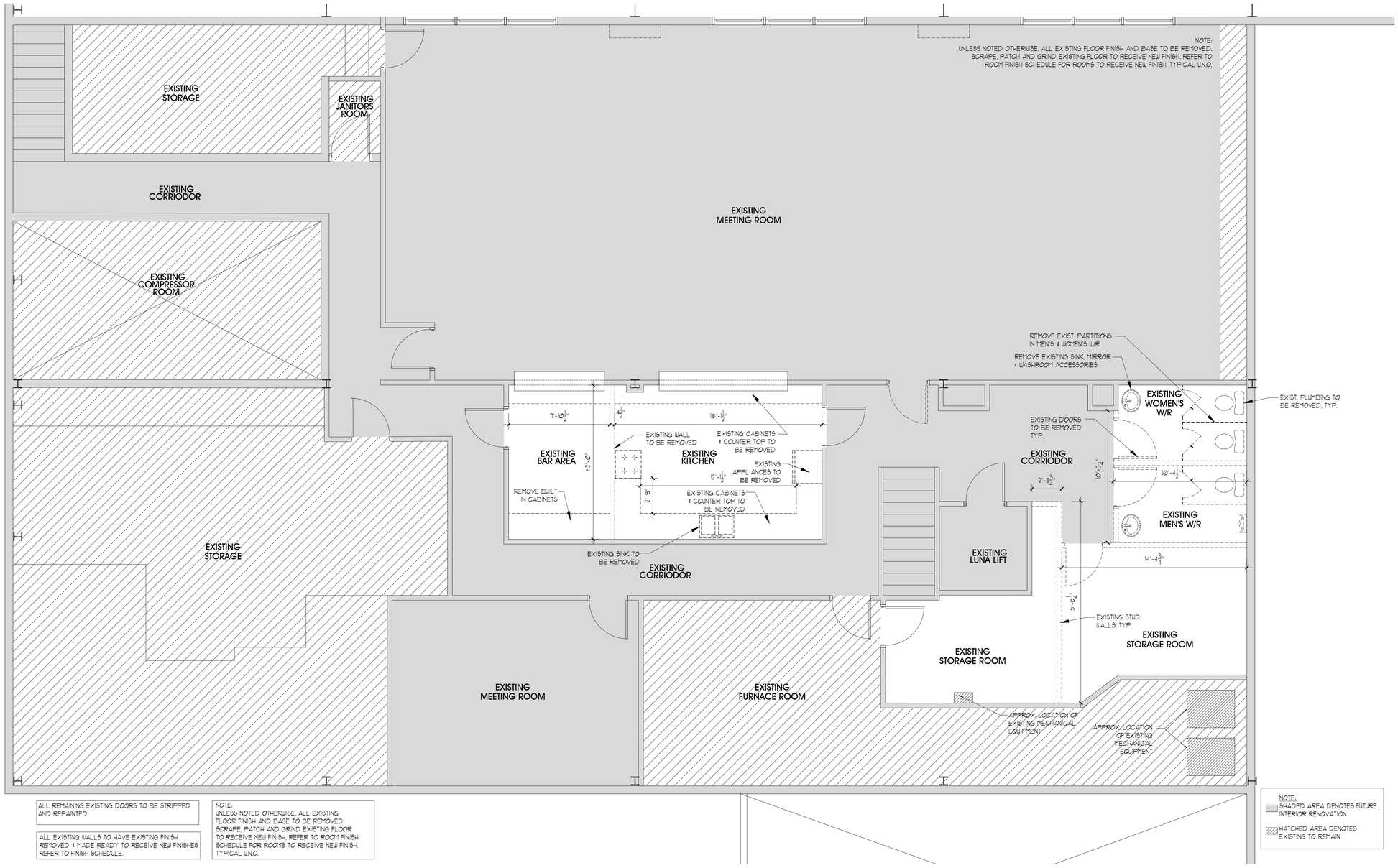

ALL REMAINING EXISTING DOORS TO BE STRIPPED AND REPAINTED

ALL EXISTING WALLS TO HAVE EXISTING FINISH REMOVED & MADE READY TO RECEIVE NEW FINISHES REFER TO FINISH SCHEDULE.

NOTE:
UNLESS NOTED OTHERWISE, ALL EXISTING FLOOR FINISH AND BASE TO BE REMOVED. SCRAPE, PATCH AND GRIND EXISTING FLOOR TO RECEIVE NEW FINISH. REFER TO ROOM FINISH SCHEDULE FOR ROOMS TO RECEIVE NEW FINISH. TYPICAL U.N.O.

NOTE:
SHADED AREA DENOTES FUTURE INTERIOR RENOVATION

HATCHED AREA DENOTES EXISTING TO REMAIN

2ND FLOOR DEMO PLAN

SCALE: 1/4" = 1'-0"

revisions	date	no.
ISSUED FOR PERMIT/TENDER	07/05/2018	-

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCY TO THIS FIRM BEFORE PROCEEDING WITH THE WORK

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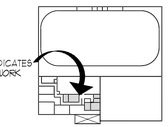


2ND FLOOR KEY PLAN

ONTARIO ASSOCIATION OF ARCHITECTS
06/05/18
SHANNA MCILMURRAY
LICENCE 8311

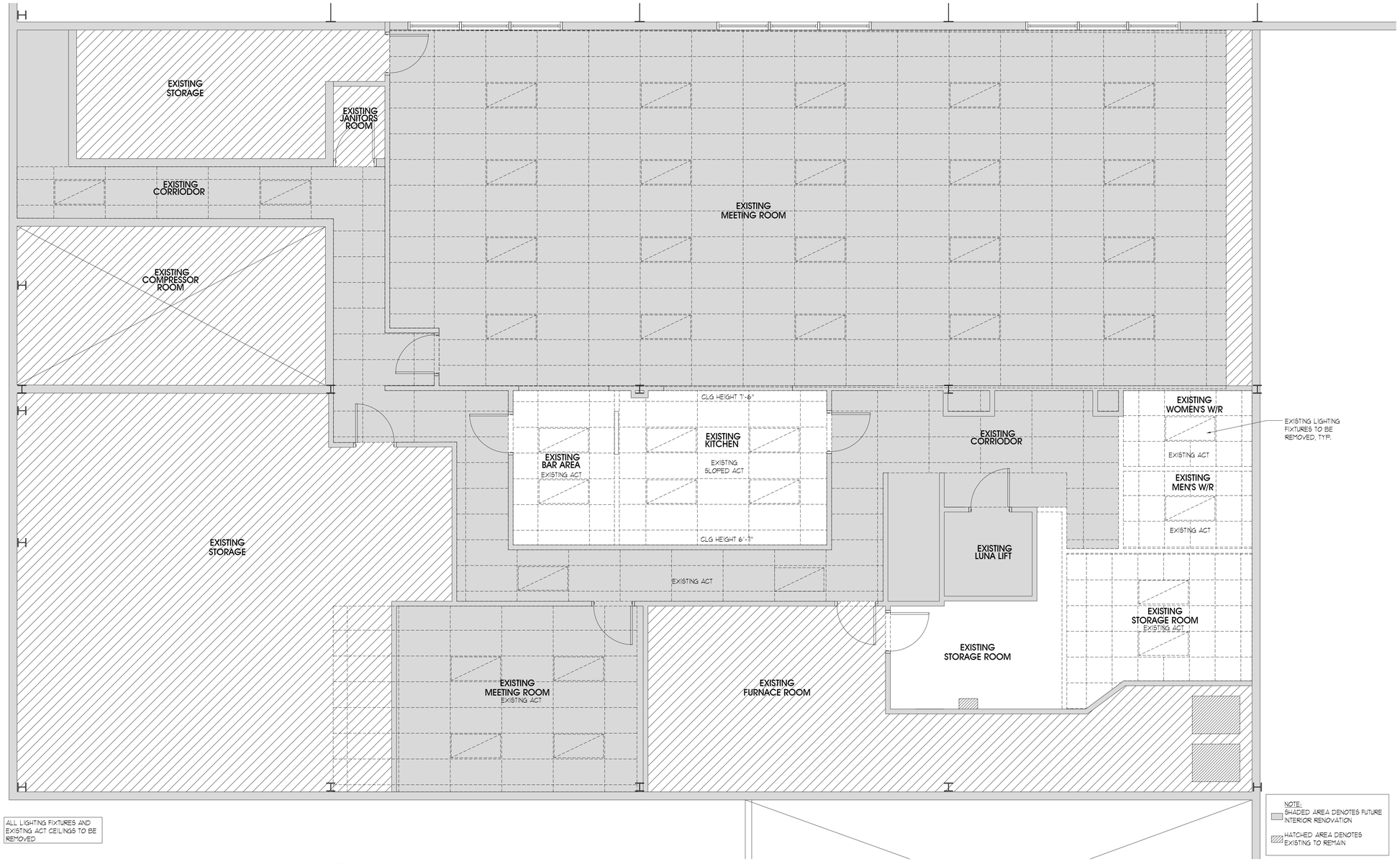
SPRIET ASSOCIATES
LIMITED
architects
LONDON LTD.
engineers
155 york street - london - N6A 1A8
phone : (519) 672-4100 fax : (519) 433-9351
e-mail : mail@spriet.on.ca

BROOKE-ALVINSTON ARENA RENOVATIONS
MUNICIPALITY OF BROOKE-ALVINSTON
3310 WALNUT ST.
ALVINSTON, ON

drawing title :
2ND FLOOR DEMO PLAN

date : JULY 5, 2018
scale : AS NOTED
drawn by : MDO
project no. : 217154

drawing no. : D1



ALL LIGHTING FIXTURES AND EXISTING ACT CEILINGS TO BE REMOVED

2ND FLOOR DEMO RCP

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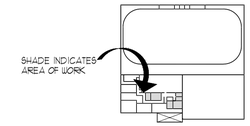

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drawing no. : D2

TYPICAL DEMOLITION NOTES:

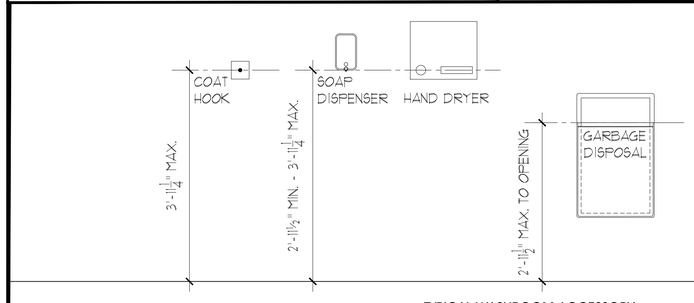
1. THE INTENT OF THESE DOCUMENTS IS TO INCLUDE ALL WORK AND ITEMS NECESSARY FOR THE COMPLETION OF WORK. THE WORK SHALL BE REQUIRED WHETHER OR NOT SHOWN ON THE PLANS AND/OR CONSTRUCTION DOCUMENTS, BUT ARE REASONABLE INFERABLE AS BEING.
2. ALL DIMENSIONS ARE TO BE SITE CONFIRMED AND ANY DISCREPANCIES REPORTED TO THE ARCHITECT PRIOR TO DEMOLITION. ALL EXISTING ITEMS LOCATED AND SHOWN ARE PROVIDED SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR.
3. EXTENT OF BUILDING DEMOLITION IS INDICATED ON THE DRAWINGS, IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE AND COORDINATE WITH THE OWNER DEMOLITION PROCEDURES AND SEQUENCE AND TO ENSURE THE STABILITY AND SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS.
4. BEFORE STARTING WORK, MAKE A THOROUGH EXAMINATION OF THOSE PORTIONS OF THE STRUCTURE IN WHICH THE WORK IS TO BE PERFORMED. CHECK ALL THE WORK ADJOINING OR AT UNDERLYING LOCATIONS. REPORT TO THE ARCHITECT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE EFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK. DO NOT START THE WORK UNTIL SUCH CONDITIONS HAVE BEEN EXAMINED AND A COURSE OF ACTION HAS BEEN MUTUALLY AGREED UPON.
5. PRIOR TO THE START OF DEMOLITION, THE CONTRACTOR SHALL CALL TO THE ATTENTION OF THE ARCHITECT ANY DAMAGE, CRACKS OR OTHER IMPERFECTIONS IN THE WORK ADJACENT TO THE DEMOLITION AREAS.
6. COORDINATE WITH MECHANICAL, ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
7. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND ELEVATION OF EXISTING UTILITY LINES IN DEMOLITION AREAS BEFORE PROCEEDING WITH THE WORK ANY INTERFERENCES WITH DEMOLITION WORK SHALL BE REPORTED TO THE ARCHITECT.
8. LOCATE, DISCONNECT, REMOVE AND/OR CAP ALL EXISTING UTILITY LINES BY MEANS APPROVED BY THE RESPECTIVE UTILITY COMPANY AND GOVERNING AUTHORITIES, RECORD UTILITY AND CAP LOCATIONS ON CONTRACTORS "AS-BUILT" DOCUMENTS.
9. PRIOR TO THE DEMOLITION OF ITEMS WHICH HAVE UTILITY CONNECTIONS (WATER, GAS, ELECTRICITY, STEAM, ETC.) THE CONTRACTOR SHALL ARRANGE WITH THE OWNER TO LOCATE SHUTOFF VALVES, PANEL BOXES AND OTHER CONTROL ELEMENTS SO THAT DAMAGE AND OTHER POTENTIALLY DANGEROUS SITUATIONS ARE AVOIDED.
10. MAINTAIN AT ALL TIMES THE EMERGENCY LIGHTING THROUGHOUT THE BUILDING DURING DEMOLITION WORK, AS WELL AS, RECONSTRUCTION WORK. PROVIDE ALL NECESSARY TEMPORARY LIGHTING, PARTITIONS, DUST COVERS, DROP CLOTHES, ETC.
11. IF REQUIRED CLOSE OFF EXISTING SUPPLY/ RETURN PIPES FEEDING EXISTING ROOMS TO PREVENT DUST/DEBRIS ENTRY.
12. CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT STRUCTURES MAINTAIN TEMPORARY PROTECTED EGRESS AND ACCESS AT ALL TIMES. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES.
13. PATCH, FILL AND REPAIR ALL SURFACES DISTURBED, CUT, DAMAGED, IN NEED OF REPAIR OR MADE IMPERFECT BY ALTERATIONS OR REMOVAL WORK (INCLUDING DAMAGE CAUSED BY OTHER TRADES) AND AS REQUIRED TO PREPARE FOR NEW MATERIALS AND ARRANGEMENTS.
14. REMOVE EXISTING HOLLOW METAL DOOR AND FRAME, BLOCKING, SHIMS, BACKER ROD AND CAULKING AS INDICATED.
15. ALL WALLS NOTED TO RECEIVE PAINT FINISH ARE TO BE PATCHED AND MADE READY FOR PAINTING REGARDLESS OF THE FINISH, SHEEN OR TEXTURE OF THE EXISTING PAINT.
16. ALL FLOORS NOTED TO RECEIVE NEW FLOOR FINISH SHALL BE, PATCHED, GRINDED SMOOTH AND MADE READY TO RECEIVE NEW FLOOR FINISH.
17. PROVIDE TEMPORARY PROTECTION TO PREVENT DAMAGE FROM THE WEATHER OR VANDALISM, AS WELL AS PROTECTION FOR THE GENERAL PUBLIC SO THAT THE OWNERS BUSINESS OPERATIONS ARE MINIMALLY DISTURBED. IN ADDITION, PROVIDE TEMPORARY PROTECTION OF EXISTING EQUIPMENT DURING EXECUTION OF WORK.
18. PROVIDE FIRE WATCH DURING FIELD CUTTING AND WELDING OPERATIONS, MEETING THE OWNERS REQUIREMENTS. EMPLOY ONLY SKILLED TRADESMEN TO PERFORM DEMOLITION WORK DO NOT USE CUTTING TORCHES FOR REMOVAL OF WORK UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. CUTTING TORCHES MAY BE USED ONLY WITH THE OWNERS PERMISSION.
19. PROTECT ALL EXISTING PORTIONS OF THE EXISTING BUILDING TO REMAIN DURING DEMOLITION/CONSTRUCTION. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY/ALL DAMAGES CAUSED BY HIMSELF OR HIS/HERS SUB-CONTRACTORS.
20. PROTECT ALL NEW DEMOLISHED OPENINGS PRIOR TO CONSTRUCTION OF NEW DOORS, MASONRY INFILL, FIRE RATED PARTITIONS, ETC. SEE FLOOR PLANS.
21. AT NO TIME SHOULD THE CONTRACTOR ALLOW THE DEMOLITION WORK OR STORAGE OF DEBRIS TO CAUSE INTERFERENCE WITH ANY REQUIRED MEANS OF EGRESS OR CAUSE A HAZARDOUS CONDITION.
22. EXECUTE THE DEMOLITION IN AN ORDERLY AND CAREFUL MANNER WITH THE LEAST POSSIBLE DISTURBANCE TO THE PUBLIC OR THE FUNCTIONING OF THE EXISTING BUILDING.
23. CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE THOROUGHFARES.
24. KEEP CLEAN ALL EXISTING SPACES AND PROPERTIES ADJACENT TO DEMOLITION/CONSTRUCTION AREAS. ANY DEBRIS SHALL BE REMOVED FROM WORK AREAS DAILY.
25. KEEP ALL ADJOINING PUBLIC AREAS CLEAN DURING WORKING HOURS AND MAKE EVERY EFFORT TO PROVIDE SAFE CONDITIONS FOR THE GENERAL PUBLIC AND THE WORKERS.
26. DEMOLISHED MATERIALS, UNLESS OTHERWISE NOTED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ACCUMULATION OF RUBBISH SHALL NOT BE PERMITTED.
27. ALL DEMOLITION MATERIAL SHALL BE REMOVED BY THE CONTRACTOR FROM THE SITE AND DISPOSED OF IN A PROPER AND LEGAL MANNER. THE SELECTION OF THE DUMP SITE AND DISPOSAL OF MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL NOTES:

1. ALL ARCHITECTURAL, STUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND ANY OTHER MATERIALS, PROCEDURES & EQUIPMENT NOT LISTED ABOVE SHALL ADHERE TO THE LATEST EDITION OF THE O.B.C. AND MUNICIPAL SPECIFIC BY-LAWS WHERE THE WORK IS BEING CONDUCTED.
2. READ ARCHITECTURAL DRAWING NOTES AND DIMENSIONS IN CONJUCTION WITH STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, SITE SERVICES, SITE PLANS, SHOP DRAWINGS, STANDARD ABBREVIATIONS, MOUNTING HEIGHTS AND CONTRACT DOCUMENTS. DRAWINGS ARE TO BE READ, NOT SCALED.
3. REFER TO PLANS, ELEVATIONS, SECTIONS, WALL TYPES & DETAILS FOR ALL TYPICAL CONSTRUCTION DETAILS AND NOTES UNLESS NOTED OTHERWISE.
4. CONTRACTOR TO REVIEW AND VERIFY ALL CONTRUCTION DOCUMENTS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.
5. THE ARCHITECT ASSUMES THE GENERAL CONTRACTOR HAS INCLUDED THE HIGHEST QUALITY AND GREATEST QUANTITY FOR THE PURPOSE OF RESOLVING ANY CONFLICTS IN THE CONSTRUCTION DOCUMENTS WHICH ARE IMPLIED OR UNDEFINED.
6. ALL FINISHES AND FINISH MATERIALS, COLORS OR TEXTURES SHALL BE VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION, FABRICATION OR ORDERING.
7. REFER TO SHEET A5 FOR MILLWORK ELEVATIONS
8. ELEVATIONS ARE ONLY SCHEMATIC FOR LAYOUT PURPOSES, REFER TO MILLWORK SHOP DRAWINGS FOR MATERIALS AND SPECIFICATIONS.
9. ALL WALLS BEHIND MILLWORK SHALL HAVE FINAL FINISH PRIOR TO INSTALLATION. ALL FLOORING FINISH MATERIAL SHALL BE INSTALLED PRIOR TO MILLWORK INSTALLATION.
10. REFER TO ROOM FINISH SCHEDULE FOR ALL ROOM FINISHES.
11. GENERAL CONTRACTOR TO COORDINATE ROUGH-IN OF ELECTRICAL WITH MILLWORK SUPPLIER AND COORDINATE ALL ELECTRICAL AND PHONE OUTLETS WITH ELECTRICAL DRAWINGS.
12. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE, LOCATE AND CONFIRM ALL SINK, UNDERGROUND / OVERHEAD PLUMBING AND ELECTRICAL STUB-UPS.
13. REFER TO MECHANICAL/PLUMBING DRAWINGS FOR ADDITIONAL NOTES, DETAILS AND INFORMATION.
14. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH STRUCTURAL, PLUMBING, MECHANICAL, AND ARCHITECTURAL DRAWINGS
15. GENERAL CONTRACTOR TO CAULK AND SEAL ALL EXPANSION AND SAWCUT JOINTS AT ALL EXTERIOR/INTERIOR CONCRETE.
16. CONTROL JOINTS ARE TO BE PROVIDED AT 25' O.C. MAX FOR GYPSUM BOARD. TYPICAL UNLESS NOTED OTHERWISE.
17. ALL INTERIOR PARTITION DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
18. OFFSET WALLS WHERE GYPSUM BOARD THICKNESS VARY TO ENSURE THAT FINISH WALL SURFACES ARE FLUSH WITH EACH OTHER.
19. BARRIER-FREE WASHROOM STALLS AND ACCESSORIES TO BE IN INSTALLED IN ACCORDANCE WITH THE CURRENT O.B.C. SUPPLY AND INSTALL MIRRORS, TOILET TISSUE DISPENSERS, GRAB BARS AND OTHER ITEMS AS INDICATED ON THE WASHROOM ACCESSORIES LEGEND, OR SHOWN ON PLAN. REFER ALSO TO BARRIER FREE WASHROOM NOTES ON SHEET A5, STANDARD MOUNTING HEIGHTS ON SHEET A1 AND WASHROOM ELEVATIONS ON SHEET A6 FOR MORE INFORMATION.
20. SEE SPECIFICATIONS FOR EXACT MODEL OF ALL WASHROOM FIXTURES AND ACCESSORIES.
21. PROVIDE ALL REQUIRED SUPPORT BEHIND FIXTURES, PARTITIONS AND ACCESSORIES.
22. CEILING HUNG TOILET PARTITIONS TO BE USED WHERE NOTED.
23. ALL VENT LOCATIONS SHOULD BE VERIFIED WITH PLUMBING AND MECHANICAL DRAWINGS. EXHAUST FANS AND VENTS TO BE LOCATED A MINIMUM OF 10'-0" FROM A.C. INTAKE. VERIFY ALL LOCATIONS WITH PLUMBING AND MECHANICAL DRAWINGS.

ACCESSIBILITY NOTES:

1. ONE OF THE REQUIRED BARRIER- FREE ENTRANCES TO THESE FACILITIES SHALL BE THE PRINCIPAL ENTRANCE TO THE BUILDING. THE B.F. PATH OF TRAVEL SHALL BE PROVIDED THROUGHOUT THE ENTRANCE STOREY, AND THROUGHOUT ALL NORMALLY OCCUPIED FLOOR AREAS (REFER TO 3.8.2.1 FOR EXCEPTIONS). IF THE ENTRANCE INCLUDES MORE THAN ONE DOORWAY, ONLY ONE OF THE DOORWAYS IS REQUIRED TO BE B.F.
2. IN ADDITION TO THE B.F. ENTRANCES REQ'D BY SENTENCE (1), A SUITE OF ASSEMBLY, BUSINESS AND PERSONAL SERVICES OR MERCANTILE OCCUPANCIES THAT IS LOCATED IN THE 1ST STOREY OF A BUILDING OR IN A STOREY TO WHICH A B.F. P.O.T. IS PROVIDED, AND THAT IS SEPARATED FROM THE REMAINDER OF THE BUILDING SO THAT THERE IS NO ACCESS TO THE REMAINDER OF THE BUILDING, SHALL HAVE AT LEAST ONE B.F. ENTRANCE.
3. B.F. ENTRANCES SHALL LEAD FROM THE OUTDOORS AT SIDEWALK LEVEL OR A B.F. RAMP THAT LEADS FROM A SIDEWALK.
4. EVERY BARRIER-FREE PATH OF TRAVEL SHALL PROVIDE AN UNOBSTRUCTED WIDTH OF AT LEAST 43⅜" (1100 mm) FOR THE PASSAGE OF WHEELCHAIRS AND,
   (a) HAVE NO OPENING THAT WILL PERMIT THE PASSAGE OF A ½"ø (13mm) SPHERE
   (b) HAVE ANY ELONGATED OPENINGS ORIENTED APPROX. PERP. TO THE DIRECTION OF TRAVEL.
   (c) BE STABLE, FIRM & SLIP-RESISTANT
   (d) BE BEVELLED AT A MAX. SLOPE OF 1 IN 2 AT CHANGES IN LEVEL NOT MORE THAN ½" (13 mm) AND
   (e) BE PROVIDED W/ SLOPED FLOORS OR RAMPS AT CHANGES IN LEVEL MORE THAN ½" (13 mm)
5. EVERY B.F. P.O.T. LESS THAN 63" (1600 mm) IN WIDTH SHALL BE PROVIDED W/ AN UNOBSTRUCTED SPACE NOT LESS THAN 10'⅛"x10'⅛" (1800x1800 mm) LOCATED NOT MORE THAN 98'-5⅛" (30 m) APART.
6. WHERE HEADROOM IN B.F. P.O.T. IS LESS THAN 77⅝" (1980 mm) A GUARDRAIL OR OTHER BARRIER W/ ITS LEADING EDGE AT OR BELOW 26⅛" (680 mm) AFF. SHALL BE PROVIDED.
7. WHERE A BUILDING IS REQUIRED TO HAVE A B.F. ENTRANCE, SIGNS INCORPORATING THE INTERNATIONAL SYMBOL OF ACCESS SHALL BE INSTALLED TO INDICATE THE LOCATION OF, THAT ENTRANCE. RAMPS LOCATED IN A REQUIRED BARRIER FREE PATH OF TRAVEL SERVING THAT ENTRANCE AND AN EXTERIOR PASSENGER LOADING ZONE, IF ONE IS PROVIDED.
8. WHERE A WASHROOM, ELEVATOR, TELEPHONE OR PARKING AREA IS REQUIRED TO ACCOMODATE PERSONS WITH DISABILITIES, IT SHALL BE IDENTIFIED BY A SIGN CONSISTING OF THE INTERNATIONAL SYMBOL OF ACCESS AND SUCH OTHER GRAPHIC, TACTILE OR WRITTEN DIRECTIONS AS ARE NEEDED TO INDICATE CLEARLY THE TYPE OF FACILITY AVAILABLE.
9. WHERE A WASHROOM IS NOT DESIGNED TO ACCOMMODATE PERSONS WITH DISABILITIES IN A STOREY THAT IS REQUIRED BY ARTICLE 3.8.2.1. TO HAVE A B.F. P.O.T. SIGNS SHALL BE PROVIDED TO INDICATE THE LOCATION OF THE WASHROOM REQUIRED TO BE BARRIER-FREE.
10. SIGNS INCORPORATING THE INTERNATIONAL SYSMBOL OF ACCESS SHALL BE INSTALLED WHERE NECESSARY TO INDICATE THE LOCATION OF A B.F. MEANS OF EGRESS.
11. EXTERIOR WALKS SHALL HAVE A PERMANENT, FIRM AND SLIP-RESISTANT SURFACE, WITH A AN UNINTERRUPTED WIDTH OF NOT LESS THAN 43 ⅜" (1100 mm) AND A GRADIENT NOT EXCEEDING 1 IN 20
12. WHERE A WALKWAY EXCEEDS 1 IN 20 IT IS TO BE DESIGNED AS A RAMP IN ACCORDANCE WITH SECTION 3.8.3.4
13. BARRIER-FREE RAMP IS TO HAVE A MAXIMUM GRADIENT OF 1 IN 12.
14. RAMPS LOCATED IN A BARRIER FREE PATH OF TRAVEL SHALL
   (a) HAVE A MIN. WIDTH OF 35 ⅜" (900 mm) B/W RAILS.
   (b) MAX. 1 IN 12 GRADIENT
   (c) HAVE A MIN. LEVEL AREA OF 65⅜"x65⅜" (1670x1670 mm) AT THE TOP AND BOTTOM OF THE RAMP AND WHERE A DOOR IS LOCATED IN THE RAMP SO THAT THE LEVEL AREA EXTENDS 23⅝" (600 mm) BEYOND THE LATCH SIDE OF THE DOOR OPENING. THIS AREA MAY BE REDUCED TO 11 ⅞" (300 mm) WHEN THE DOOR SWINGS AWAY FROM THE APPROACH.
15. CLOSERS FOR INTERIOR DOORS IN A B.F. P.O.T. SHALL HAVE A CLOSING PERIOD OF NOT LESS THAN 3 SECONDS MEASURED FROM WHEN THE DOOR IS IN AN OPEN POSITION OF 70° TO THE DOORWAY, TO WHEN THE DOOR REACHES A POINT 2 ⅜" (75 mm) FROM THE CLOSED POSITION, MEASURED FROM THE LEADING EDGE OF THE LATCH SIDE OF THE DOOR.
16. UNLESS EQUIPPED WITH A POWER DOOR OPERATOR, A DOOR IN A BARRIER-FREE PATH OF TRAVEL SHALL HAVE A CLEAR SPACE ON THE LATCH SIDE EXTENDING THE HEIGHT OF THE DOORWAY AND NOT LESS THAN 23⅝" (600 mm) BEYOND THE EDGE OF THE DOOR OPENING IF THE DOOR SWINGS TOWARD THE APPROACH SIDE, 11 ⅞" (300 mm) BEYOND THE EDGE OF THE DOOR OPENING IF THE DOOR SWINGS AWAY FROM THE APPROACH SIDE, AND 11 ⅞" (300 mm) BEYOND BOTH SIDES OF A SLIDING DOOR.
17. CLOSERS (NOT EQUIPPED WITH DOOR OPERATORS) FOR DOORS IN A B.F. P.O.T. SHALL BE DESIGNED TO PERMIT DOORS TO OPEN WHEN A FORCE OF NOT MORE THAN 38 N (8.5 LBS.) IS APPLIED TO THE HANDLES, PUSH PLATES OR LATCH-RELEASING DEVICES IN THE CASE OF EXTERIOR DOORS AND 22 N (4.9 LBS.) IN THE CASE OF INTERIOR DOORS.
18. DOOR OPENING DEVICES THAT ARE THE ONLY MEANS OF OPERATION SHALL BE DESIGNED TO BE OPERABLE USING A CLOSED FIST, AND BE MOUNTED AS PER THE STANDARD MOUNTING HEIGHTS ON SHEET A5. PUSH PLATE OR PULL, AND LEVER HANDLES ARE ACCEPTABLE.
19. WHERE A TACTILE ATTENTION INDICATOR IS REQUIRED, THE DEPTH SHALL NOT BE LESS THAN 11 ⅞" (300 mm) AND NOT MORE THAN 24 (610 mm) AND CONFORM TO CLAUSES 4.11. AND 4.12. OF ISO 23599, "ASSISTIVE PRODUCTS FOR BLIND AND VISION-IMPAIRED PERSONS – TACTILE WALKING SURFACE INDICATORS".
   (a) SURFACE FINISH OF RAMPS AND STAIRS - AT THE TOP OF THE STAIRS, STARTING ONE TREAD DEPTH BACK FROM THE EDGE OF THE TOP STAIR, AND AT THE LEADING EDGE OF LANDINGS WHERE A DOORWAY OPENS ONTO STAIRS, STARTING ONE TREAD DEPTH BACK FROM THE EDGE OF THE LANDING.
   (b) EXTERIOR WALKS - LOCATED TO IDENTIFY AN ENTRY INTO A VEHICULAR ROUTE OR AREA WHERE NO CURBS OR ANY OTHER ELEMENT SEPARATE THE VEHICULAR ROUTE OR AREA FROM A PEDESTRIAN ROUTE.
   (c) FLATFORMS - NOT PROTECTED BY A GUARD, AND HIGHER THAN 9 ⅜" (250 mm) AFF, OR GROUND OR SLOPED STEEPER THAN 1 IN 3.
   (d) POOL AND POOL DECK DESIGN - EXCEPT FOR A MODIFIED POOL AND WAVE ACTION POOL, THE PERIMETER OF THE POOL DECK SHALL BE CLEARLY DELINEATED AND LOCATED WHERE ANY AREA CONTIGUOUS TO THE POOL DECK MAY BE CONFUSED WITH THE DECK.



TYPICAL WASHROOM ACCESSORY MOUNTING HEIGHTS

ONTARIO BUILDING CODE CHECKLIST

FIRM NAME:
SPRIET ASSOCIATES LIMITED ARCHITECTS
155 YORK STREET
LONDON, ONTARIO
N6A 1A8
CERTIFICATE OF PRACTICE NUMBER: 1307
The Certificate of Practice Number of the holder is the holder's BCIN

Name of Project:
Brooke-Alvinston Arena Renovation
Location:
3236 River Street, Alvinston Arena

The architect noted above has exercised responsible control with respect to design activities. The architect's seal number is the architect's BCIN

ONTARIO BUILDING CODE DATA MATRIX
PARTS 11 - RENOVATIONS OF EXISTING BUILDING

					O.B.C. REFERENCE
11.1	EXISTING BUILDING CLASSIFICATION:	DESCRIBE EXISTING USE: - CONSTRUCTION INDEX: - HAZARD INDEX: - [X] NOT APPLICABLE (no change of major occupancy)			11.2.1 T 11.2.1.1A T 11.2.1.1B TO N
11.2	ALTERATION TO EXISTING BUILDING IS:	BASIC RENOVATION EXTENSIVE RENOVATION	[X] [-]		11.3.3.1 11.3.3.2
11.3	REDUCTION IN PERFORMANCE LEVEL:	STRUCTURAL: BY INCREASE IN OCCUPANT LOAD: BY CHANGE OF MAJOR OCCUPANCY: PLUMBING: SEWAGE-SYSTEM:	[X] NO [X] NO [X] NO [X] NO [X] NO	[-] YES [-] YES [-] YES [-] YES [-] YES	11.4.2 11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5
11.4	COMPENSATING CONSTRUCTION:	STRUCTURAL: BY INCREASE IN OCCUPANT LOAD: BY CHANGE OF MAJOR OCCUPANCY: PLUMBING: SEWAGE-SYSTEM:	[X] NO [X] NO [X] NO [X] NO [X] NO	[-] YES (explain) [-] YES (explain) [-] YES (explain) [-] YES (explain) [-] YES (explain)	11.4.3 11.4.3.2 11.4.3.3 11.4.3.4 11.4.3.5 11.4.3.6
11.5	COMPLIANCE ALTERNATIVES PROPOSED:	[X] NO [-] YES (give number[s])			11.5.1

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drawing title :
O.B.C. MATRIX & NOTES

date : JULY 5, 2018	drawing no. : A1
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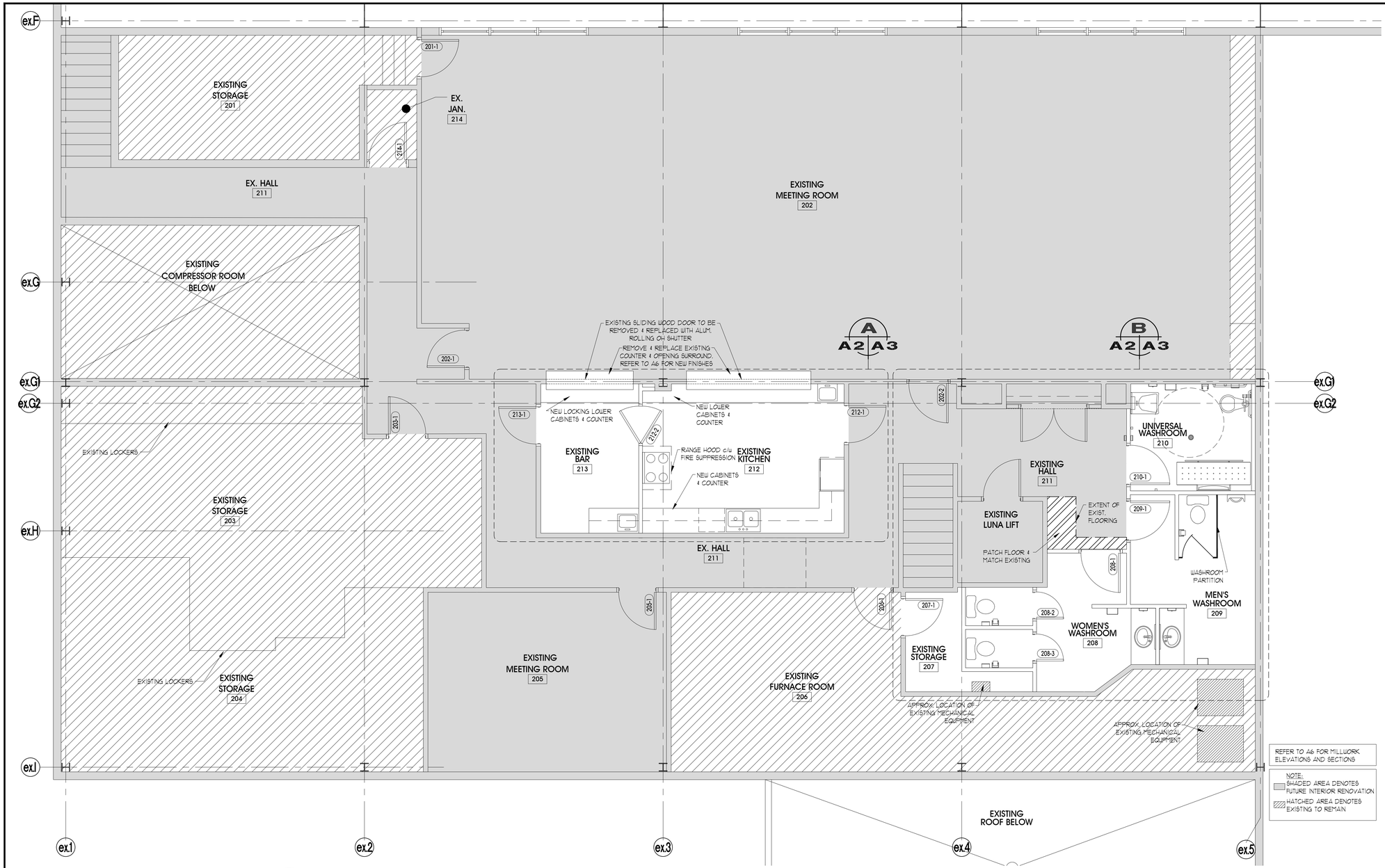

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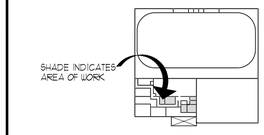

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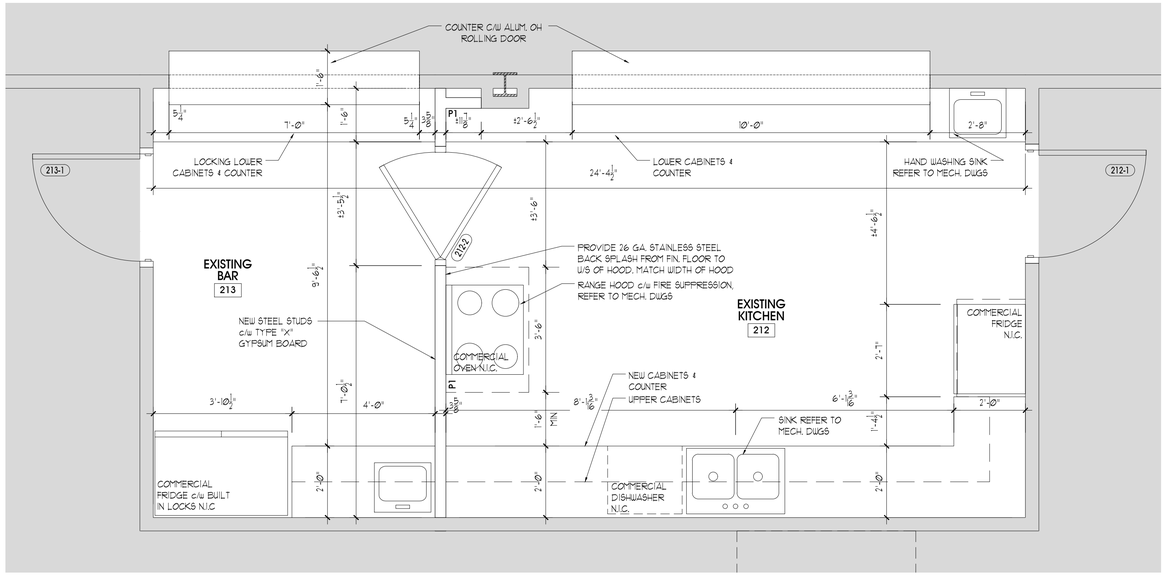
06/05/18
SHANNA McILMURRAY
LICENCE 8311

SPRIET ASSOCIATES
LIMITED
architects
LONDON LTD.
engineers
155 york street - london - N6A 1A8
phone : (519) 672-4100 fax : (519) 433-9351
e-mail : mail@spriet.on.ca

BROOKE-ALVINSTON ARENA RENOVATIONS
MUNICIPALITY OF BROOKE-ALVINSTON
3310 WALNUT ST.
ALVINSTON, ON

drawing title : 2ND FLOOR PLAN
date : JULY 5, 2018
scale : AS NOTED
drawn by : MDO
project no. : 21754
drawing no. : A2



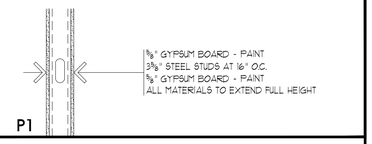
ENLARGED 2ND FLOOR PLAN A

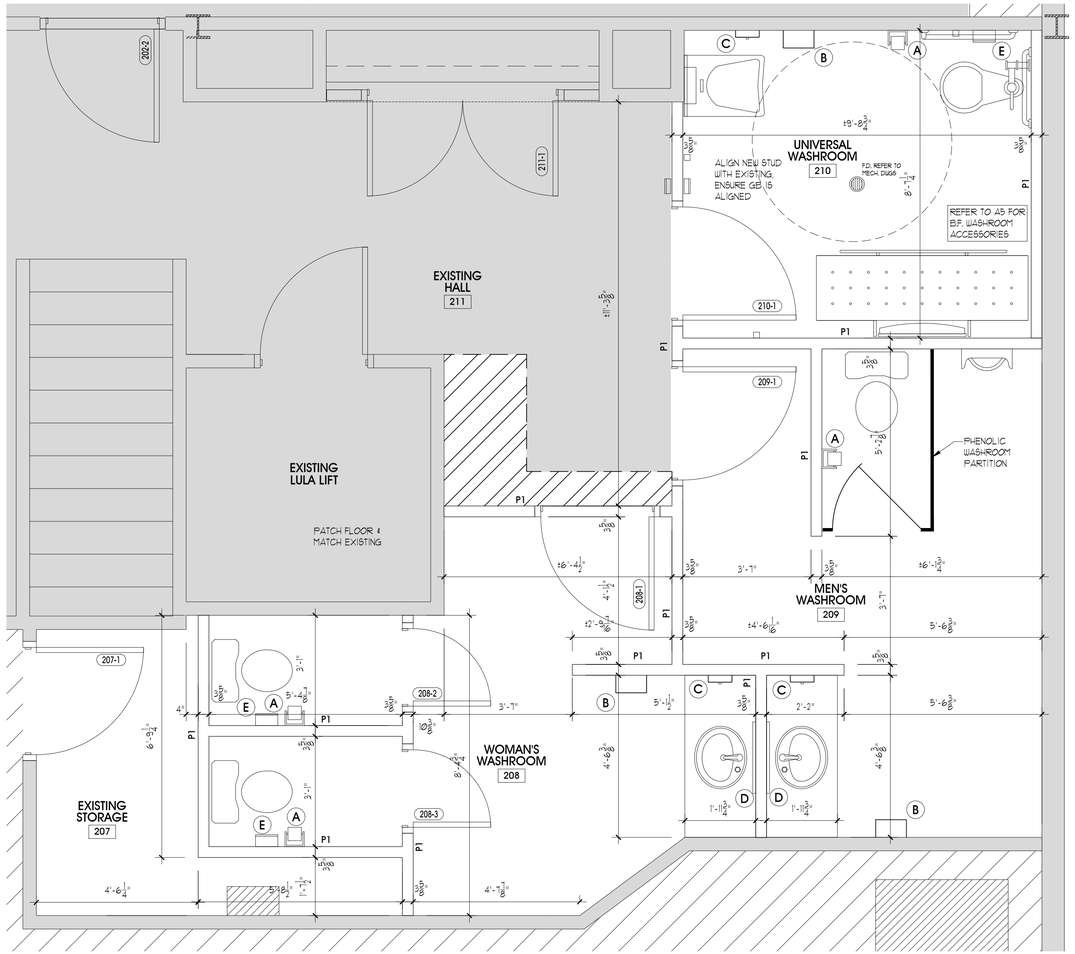
SCALE: 1/2" = 1'-0" A2|A3

NOTE: REFER TO A6 FOR MILLWORK DETAILS

NOTE:
SHADED AREA DENOTES FUTURE INTERIOR RENOVATION
HATCHED AREA DENOTES EXISTING TO REMAIN

WALL TYPES:





WASHROOM ACCESSORIES LEGEND:

(A) TOILET TISSUE DISPENSER
WALL MOUNTED, BELOW THE GRAB BAR, IN LINE WITH THE SEAT. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 1668 OR EQUIVALENT. STAINLESS STEEL FINISH.

(B) PAPER TOWEL DISPENSER
REFER TO WASHROOM ELEVATIONS AND STANDARD MOUNTING HEIGHTS FOR MORE INFORMATION. FROST CODE 103 OR EQUIVALENT. STAINLESS STEEL TYPE 304 No. 4 BRUSHED FINISH

(C) SOAP DISPENSER
LOCATED TO BE ACCESSIBLE TO PERSONS IN WHEELCHAIRS & OPERABLE WITH ONE HAND. REFER TO WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 111 OR EQUIVALENT. STAINLESS STEEL FINISH.

(D) MIRROR
24" x 36" TAMPER RESISTANT MIRROR. INSTALLED ABOVE LAVATORY. REFER TO WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 941-2436.

(E) SANITARY NAPKIN DISPOSAL
WALL MOUNTED, BELOW THE GRAB BAR. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 622. OR EQUIVALENT. STAINLESS STEEL TYPE 304 No. 4 BRUSHED FINISH

NOTE:
SHADED AREA DENOTES FUTURE INTERIOR RENOVATION
HATCHED AREA DENOTES EXISTING TO REMAIN

NOTE: REFER TO A6 FOR MILLWORK DETAILS

ENLARGED 2ND FLOOR PLAN B

SCALE: 1/2" = 1'-0" A2|A3

revisions	date	no.
ISSUED FOR PERMIT/TENDER	07/05/2018	-

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCY TO THIS FIRM BEFORE PROCEEDING WITH THE WORK

A - detail no.
B - location sheet
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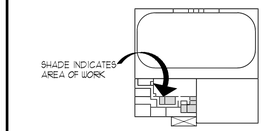

2ND FLOOR KEY PLAN

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06/05/18
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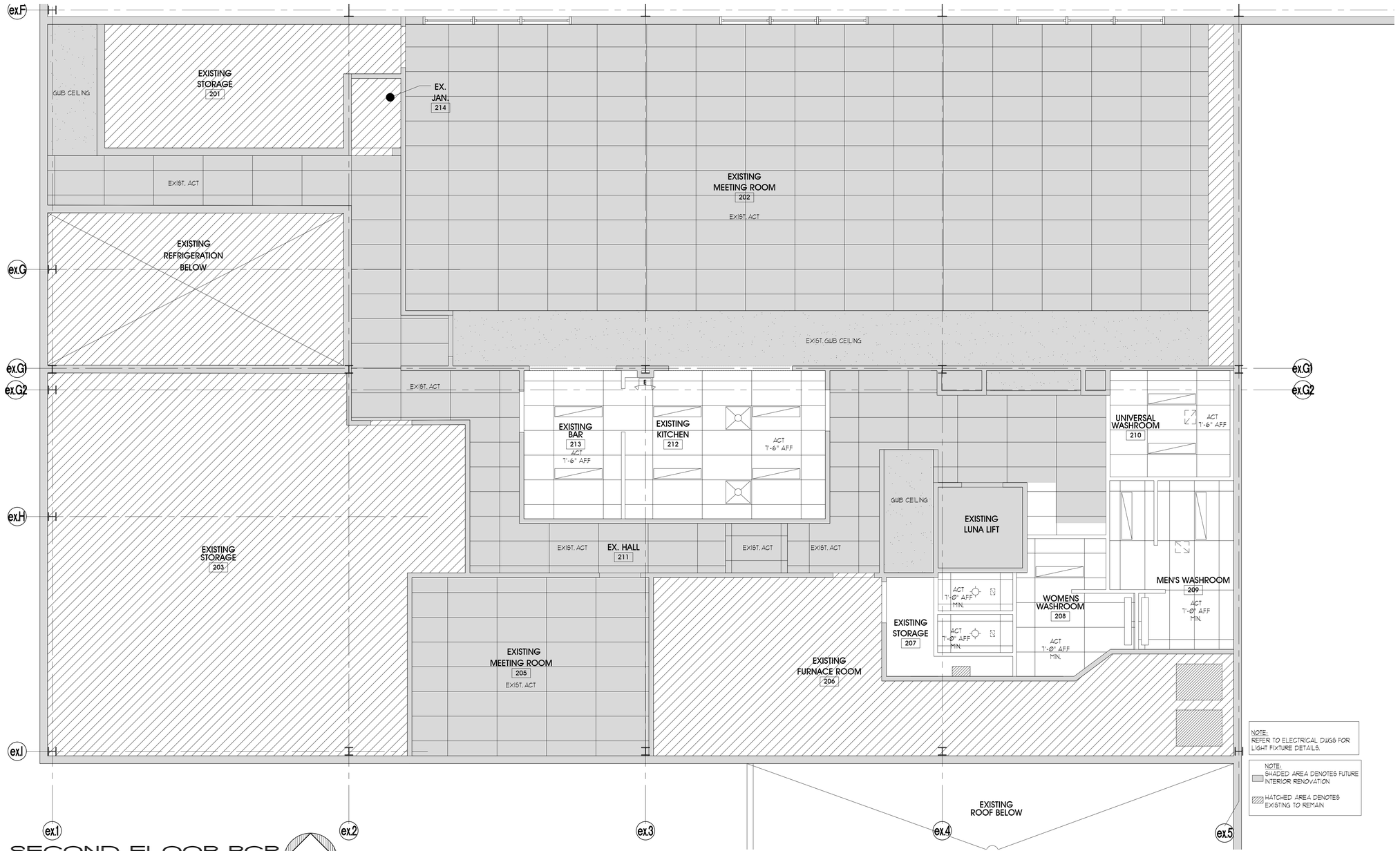
drawing title :
ENLARGED 2ND FLOOR PLAN

date : JULY 5, 2018	drawing no. : A3
scale : AS NOTED	
drawn by : MDO	
project no. : 217154	



SECOND FLOOR RCP

SCALE: 1/4" = 1'-0"

REFLECTED CEILING PLAN LEGEND:

ROOM NAME / 100 — TAG DENOTES ROOM NAME AND ROOM NUMBER	12"x48" RECESSED FLUORESCENT LIGHT FIXTURE. REFER TO ELECT. DWGS FOR SPECS.
WALL	EMERGENCY LIGHTING OR EXIT SIGNAGE AS PER FIRE MARSHALL GUIDELINES. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION
LOCATION OF DOOR OR OPENING IN WALL.	RECESSED POT LIGHT. REFER TO ELECTRICAL DRAWINGS FOR MORE INFO
24"x48" LAY-IN ACOUSTIC CEILING TILE REFER TO WALL SECTIONS AND ROOM FINISH SCHEDULE	VANITY FIXTURE. REFER TO ELECTRICAL DRAWINGS FOR MORE INFO
24"x24" LAY-IN ACOUSTIC CEILING TILE REFER TO WALL SECTIONS AND ROOM FINISH SCHEDULE	
GYPSUM BOARD CEILING. PAINT FINISH. REFER TO WALL SECTIONS AND ROOM FINISH SCHEDULE	
DENOTES METAL STUD AND GYPSUM BOARD BULKHEAD. REFER TO PLAN FOR FIN. CEILING HEIGHT	
MECHANICAL SUPPLY, RETURNS AND VENTS REFER TO MECH. DWGS FOR MORE INFORMATION	

REFLECTED CEILING PLAN NOTES:

1. SEE WALL SECTIONS, WALL TYPE LEGEND, ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION
2. LOCATE/COORDINATE STRUCTURAL BRIDGING AS REQUIRED TO CLEAR LIGHT FIXTURES, O.H. DOOR TRACKS, RADIANT HEATER, ETC. COORDINATE WITH STRUCTURAL DRAWINGS.
3. U.N.O. UNDERSIDE OF ALL LIGHT FIXTURES IN ALL OPEN AREAS SHALL BE MOUNTED IN LINE WITH THE UNDERSIDE OF THE O.W.S.J. BOTTOM CHORD. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
4. ALL CONDUIT AND PIPING SHALL BE INSTALLED AGAINST UNDERSIDE OF ROOF DECK IN ALL OPEN AREAS. DUCTWORK, ETC. SHALL BE INSTALLED ABOVE BOTTOM CHORD OF JOIST, NO EXCEPTIONS.
5. ALL CONDUIT AND PIPE RUNS SHALL BE RUN IN A STRAIGHT AND CONSISTENT CLEAN MANNER FROM DEVICES BACK TO WALL AND STUB-INS.
6. EMERGENCY EXIT SIGNAGE TO BE LOCATED AND INSTALLED AS PER FIRE MARSHAL REQUIREMENTS. COORDINATE WITH ELECTRICAL DRAWINGS PRIOR TO INSTALLATION. WALL MOUNT AT EXIT DOORS.
7. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR COORDINATION OF INSTALLATION OF DIFFUSERS, LIGHT FIXTURES, EXHAUST FANS, RECEPTACLES ETC. IN CEILING.
8. PROVIDE 24" WIDE ACOUSTIC INSULATION AROUND PERIMETER ABOVE CEILING.

revisions	date	no.
ISSUED FOR PERMIT/TENDER	07/05/2018	-

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCY TO THIS FIRM BEFORE PROCEEDING WITH THE WORK

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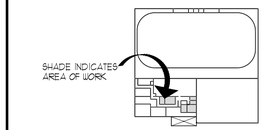

2ND FLOOR KEY PLAN

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3310 WALNUT ST.
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drawing title :
2ND FLOOR RCP

date : JULY 5, 2018	drawing no. : A4
scale : AS NOTED	
drawn by : MDO	
project no. : 21754	

ROOM FINISH SCHEDULE

No.	ROOM NAME	FLR.	BASE	WALL		CEILING			REMARKS
				MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
201	EXISTING STORAGE	EXIST	EXIST	GB	EXIST	EXIST	EXIST	EXIST	-
202	EXISTING MEETING ROOM	VCT	RB	GB	PT	AT-1	-	-	-
203	EXISTING STORAGE	EXIST	EXIST	GB	EXIST	EXIST	EXIST	EXIST	-
204	EXISTING STORAGE	EXIST	EXIST	GB	EXIST	EXIST	EXIST	EXIST	-
205	EXISTING MEETING ROOM	VCT	RB	GB	PT	AT-1	-	-	-
206	EXISTING FURNACE ROOM	EXIST	EXIST	GB	EXIST	EXIST	EXIST	EXIST	-
207	EXISTING STORAGE	EXIST	EXIST	GB	EXIST	EXIST	EXIST	EXIST	-
208	WOMEN'S WASHROOM	LVP	RB	GB	PT	AT-1	-	7'-0" MIN.	* REMOVE EXISTING FLOOR FINISH
209	MEN'S W/R	LVP	RB	GB	PT	AT-1	-	7'-0" MIN.	* REMOVE EXISTING FLOOR FINISH
210	BARRIER FREE W/R	LVP	RB	GB	PT	AT-1	-	7'-6"	* REMOVE EXISTING FLOOR FINISH
211	EXISTING HALL	VCT	RB	GB	PT	AT-1	-	-	-
212	KITCHEN	LVP	RB	GB	PT	AT-1	-	7'-6"	* REMOVE EXISTING FLOOR FINISH
213	BAR	LVP	RB	GB	PT	AT-1	-	7'-6"	* REMOVE EXISTING FLOOR FINISH
214	EXISTING JANITORS ROOM	VCT	RB	EXIST	PT	AT-1	-	-	-

NOTE: HATCH DENOTES NOT IN SCOPE OF CURRENT RENOVATION

ABBREVIATIONS

A.T - 1. . . . 2'-0" x 4'-0" ACOUSTIC TILES
EXP. . . . . EXPOSED
PT . . . . . PAINT
RB. . . . . RUBBER BASE
GB. . . . . CONCRETE
L.V.P. . . . . LUXURY VINYL PLANK

GENERAL NOTES:

1. PROVIDE 24" WIDE ACOUSTIC INSULATION AROUND PERIMETER ABOVE CEILING.
2. ALL EXPOSED CONCRETE FLOORS TO BE SEALED, REFER TO SPECIFICATIONS FOR PRODUCT TO BE USED.
3. PROVIDE HOLD DOWN CLIPS ON ACOUSTIC CEILING TILES.
4. INSTALL CERAMIC TILES or COLOURED CONCRETE TOPPING TO SECOND FLOOR AT TOP OF STAIRS - SEE DRAWINGS FOR MATERIALS.
5. PAINTING OF EXPOSED CEILING SHALL INCLUDE ALL STRUCTURAL STEEL, EXPOSED DUCT WORK, CONDUIT, O.W.S.J., STEEL DECK ETC.
6. ALL FINISHES TO BE INSTALLED PRIOR TO INSTALLATION OF MILLWORK.
7. PAINTING TO EXTEND TO FINISH FLOOR LEVEL.
8. INSTALL 6" HIGH CERAMIC TILE BASE c/w SCHLUTER INSIDE AND OUTSIDE VERTICAL CORNERS, CAPS AND TRIMS AND COVE BASE WITH ALL INSIDE AND OUTSIDE CORNERS, CONNECTORS AND END CAPS. REFER TO SPECIFICATIONS FOR DETAILS.
9. ALL CONCRETE BLOCK / CONCRETE FLOOR SLAB INTERSECTIONS TO BE FILLED WITH GROUT TO ELIMINATE GAPS
10. BETWEEN WALL AND FLOOR. SEAL AS REQUIRED.

ACCESSIBILITY NOTES:

3.8.3.9. REQUIREMENTS FOR BARRIER FREE WATER CLOSETS:

1. BE EQUIPPED WITH HAND-OPERATED FLUSHING CONTROLS THAT ARE EASILY ACCESSIBLE TO A WHEELCHAIR USER OR BE AUTOMATICALLY OPERABLE. IF CONTROLS ARE NOT AUTOMATIC THEY SHALL BE OPERABLE USING A CLOSED FIST AND WITH A FORCE OF NOT MORE THAN 22.2 N.
2. SHALL NOT HAVE A SPRING ACTIVATED SEAT AND BE EQUIPPED WITH BACK SUPPORT WHERE THERE IS NO SEAT LID OR TANK.

3.8.3.11. REQUIREMENTS FOR BARRIER FREE LAVATORIES:

1. HAVE INSULATED PIPES OR WATER SUPPLY TEMPERATURE LIMITED TO A MAX. OF 43°C TO PREVENT BURNS.
2. EQUIPPED WITH FAUCETS WITH LEVER TYPE HANDLES WITHOUT SPRING LOADING OR OPERATE AUTOMATICALLY.
3. HAVE A MINIMUM 53 3/8" (1370 mm) DEEP FLOOR SPACE TO ALLOW FOR A FORWARD APPROACH, OF WHICH A MAXIMUM OF 19 3/8" (500 mm) CAN BE LOCATED UNDER THE LAVATORY

REQUIREMENTS FOR GRAB BARS:

1. PROVIDE SOLID BLOCKING (OR BAILEY'S BACKER BAR) IN WALLS FOR GRAB BAR ANCHORAGE.
2. GRAB BARS SHALL BE NOT LESS THAN 1 3/8" (35 mm) AND NOT MORE THAN 1 5/8" (40 mm) IN DIAMETER WITH A SLIP RESISTANT FINISH AND WHEN INSTALLED BE ABLE TO RESIST A LOAD OF AT LEAST 1.3 kN APPLIED VERTICALLY OR HORIZONTALLY.

DOOR SCHEDULE

No.	DOOR MATERIAL	DOOR ELEV.	DOOR FINISH	DOOR SIZE	INSUL.	FRAME MATERIAL	FRAME ELEV.	FRAME FINISH	FIRE RATING (HRS.)	REMARKS
201-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
202-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
202-2	HM	DA	PT	3'-2" x 6'-8"	-	HM	FA	PT	-	-
203-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
204-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
205-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
206-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
207-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
208-1	HM	DA	PT	3'-2" x 6'-8"	-	HM	FA	PT	-	SEE NOTES: 1
208-2	HM	DA	PT	2'-6" x 6'-8"	-	HM	FA	PT	-	SEE NOTES: 1
208-3	HM	DA	PT	2'-6" x 6'-8"	-	HM	FA	PT	-	SEE NOTES: 1
209-1	HM	DA	PT	3'-2" x 6'-8"	-	HM	FA	PT	-	SEE NOTES: 1
210-1	HM	DA	PT	3'-2" x 6'-8"	-	HM	FA	PT	-	SEE NOTES: 1, 2 & 3
211-1	HM	DA	PT	2 - 2'-10" x 6'-8"	-	HM	FB	PT	-	SEE NOTES: 1
212-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
212-2	HM	DB	PT	3'-0" x 6'-8"	-	HM	FA	PT.	-	CASED OPEN FRAME DOUBLE-ACTION SWING HINGE
213-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-
214-1	EX.	EX.	PT	EXISTING	-	EX.	EX.	PT.	-	-

NOTE: HATCH DENOTES NOT IN SCOPE OF CURRENT RENOVATION

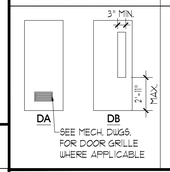
ABBREVIATIONS

HM. . . . . .HOLLOW METAL
PT. . . . . .PAINT

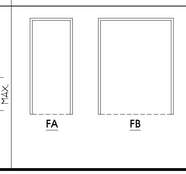
DOOR SCHEDULE NOTES

1. CLOSER & LATCH
2. PROVIDE H/C DOOR OPERATOR.
3. PROVIDE ELECTRONIC SECURITY DEVICE - 12/24V Electric Strike' TO BE INSTALLED IN DOOR FRAME, REFER TO ELECTRICAL DRAWINGS FOR DETAILS.

DOOR TYPES



FRAME TYPES



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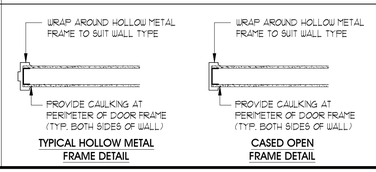
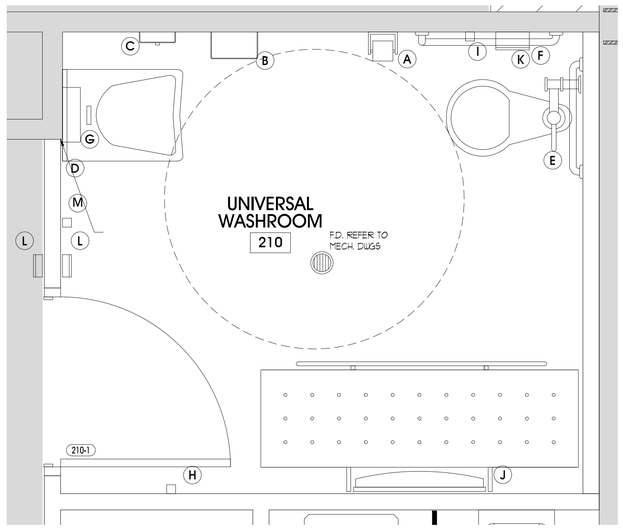




ENLARGED UNIVERSAL WASHROOM (210) PLAN

SCALE: 3/4" = 1'-0" A2|A4

BARRIER FREE WASHROOM ACCESSORIES LEGEND:

(A) TOILET TISSUE DISPENSER
WALL MOUNTED, BELOW THE GRAB BAR, IN LINE WITH THE SEAT. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 1665 OR EQUIVALENT. STAINLESS STEEL FINISH.

(B) PAPER TOWEL DISPENSER
REFER TO WASHROOM ELEVATIONS AND STANDARD MOUNTING HEIGHTS FOR MORE INFORMATION. FROST CODE 103 OR EQUIVALENT. STAINLESS STEEL TYPE 304 No. 4 BRUSHED FINISH

(C) SOAP DISPENSER
LOCATED TO BE ACCESSIBLE TO PERSONS IN WHEELCHAIRS & OPERABLE WITH ONE HAND. REFER TO WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 111 OR EQUIVALENT. STAINLESS STEEL FINISH.

(D) MIRROR
18" x 24" FIXED TILT, TAMPER RESISTANT MIRROR, INSTALLED ABOVE LAVATORY. REFER TO WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 94FT.

(E) 24" HORIZONTAL GRAB BAR
WALL MOUNTED, HORIZONTALLY, REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 1001 24": 1¼"ø OR EQUIVALENT. STAINLESS STEEL, PEENED FINISH.

(F) CONTINUOUS 'L-SHAPED' GRAB BAR
WALL MOUNTED 4 CONTINUOUS L-SHAPED BAR. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 1003 30"x30": 1¼"ø OR EQUIVALENT. STAINLESS STEEL, PEENED FINISH. .

(G) SHELF
WALL MOUNTED. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. GAMCO MS-18 4"x18". STAINLESS STEEL FINISH.

(H) COAT HOOK
CAN NOT PROJECT MORE THAN 2" FROM FINISHED FACE OF WALL. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 1386 SINGLE OR EQUIVALENT. STAINLESS STEEL FINISH. OR AS PROVIDED BY HADRIAN TOILET PARTITIONS FOR THE MENS AND WOMENS WASHROOMS.

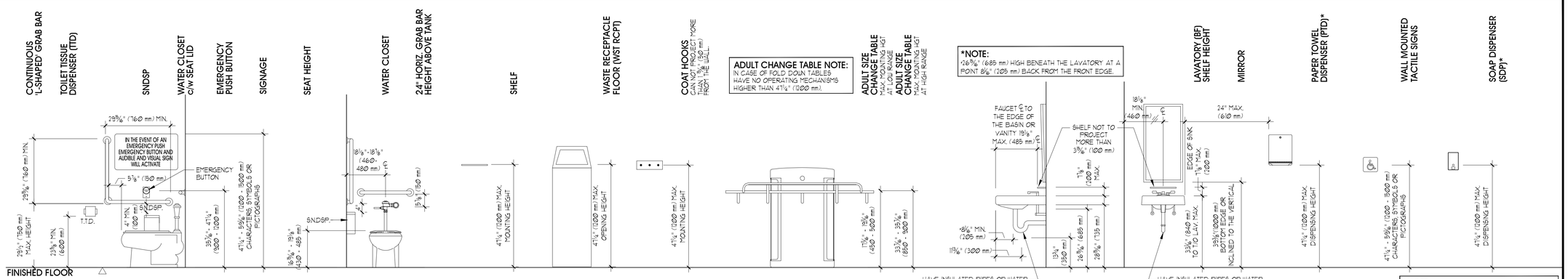
(I) EMERGENCY CALL BUTTON
SYSTEM COMPLETE WITH AUDIBLE AND VISUAL SIGNAL DEVICES INSIDE & OUTSIDE OF THE WASHROOM ACTIVATED BY A CONTROL DEVICE INSIDE THE WASHROOM. EMERGENCY SIGN THAT CONTAINS THE WORDS "IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGN WILL ACTIVATE" IN LETTERS AT LEAST 25mm (1") HIGH W/ A 5mm (3/16") STROKE AND THAT IS POSTED ABOVE THE EMERGENCY BUTTON. REFER ALSO TO ELECT. DWGS DRAWINGS, UNIVERSAL WASHROOM ELEVATIONS AND STANDARD MOUNTING HEIGHTS FOR MORE INFORMATION.

(J) FUTURE ADULT SIZED CHANGE TABLE (NOT REQUIRED AT THIS TIME)
DESIGNED TO CARRY A LOAD OF MIN. 1.33 kN & HAVE A CLEAR FLOOR SPACE PARALLEL TO THE LONG SIDE OF THE TABLE NOT LESS THAN 29 5/8" (760mm) WIDE x 59 1/16" (1500mm) LONG. FOLD DOWN TABLES CANNOT ENCROACH CLEAR FLOOR SPACE. PROVIDE BLOCKING IN WALL AS REQ'D.

(K) SANITARY NAPKIN DISPOSAL
WALL MOUNTED, BELOW THE GRAB BAR. REFER TO UNIVERSAL WASHROOM ELEVATIONS FOR MORE INFORMATION. FROST CODE 622. OR EQUIVALENT. STAINLESS STEEL TYPE 304 No. 4 BRUSHED FINISH

(L) POWER DOOR OPERATOR (D.O.D.)
REQUIRED IF THE DOOR IS EQUIPPED WITH A SELF-CLOSING DEVICE. REFER TO STANDARD MOUNTING HEIGHTS, SPECIFICATIONS & ELECTRICAL DRAWINGS FOR MORE INFORMATION.

(M) MOTION SENSOR
LIGHTING TO BE CONTROLLED BY A MOTION SENSOR CONFORMING TO SENTENCE 12.2.4.1. (2) MOTION SENSORS SHALL BE INSTALLED W/ SWITCH CONTROLLERS EQUIPPED FOR FAIL-SAFE OPERATION & ILLUMINATION TIMERS SET FOR A MINIMUM 15 MINUTE DURATION. REFER TO ELECTRICAL DRAWINGS FOR LOCATION TO BE INSTALLED (MAY BE WALL OR CEILING MOUNTED)



UNIVERSAL WASHROOM MOUNTING HIEGHTS

ISSUED FOR PERMIT/TENDER	07/05/2018	1
revisions	date	no.

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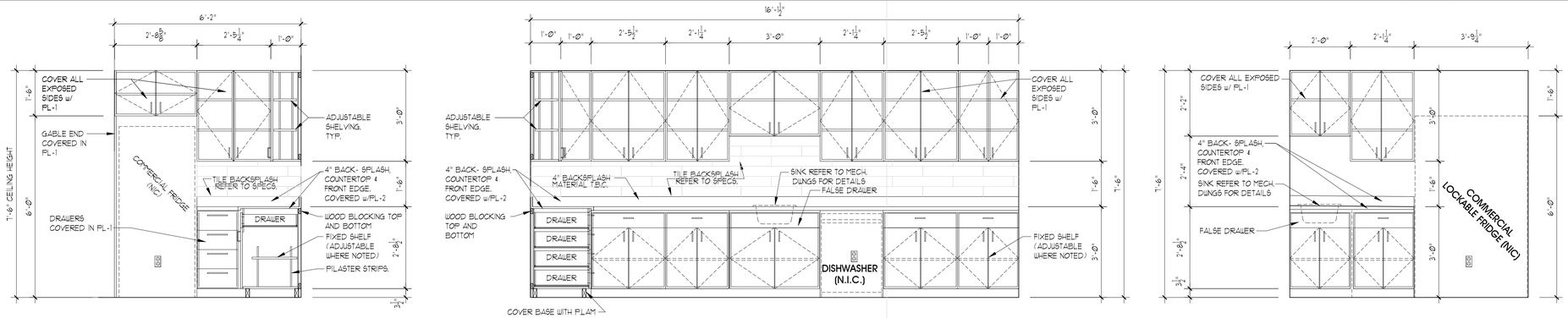
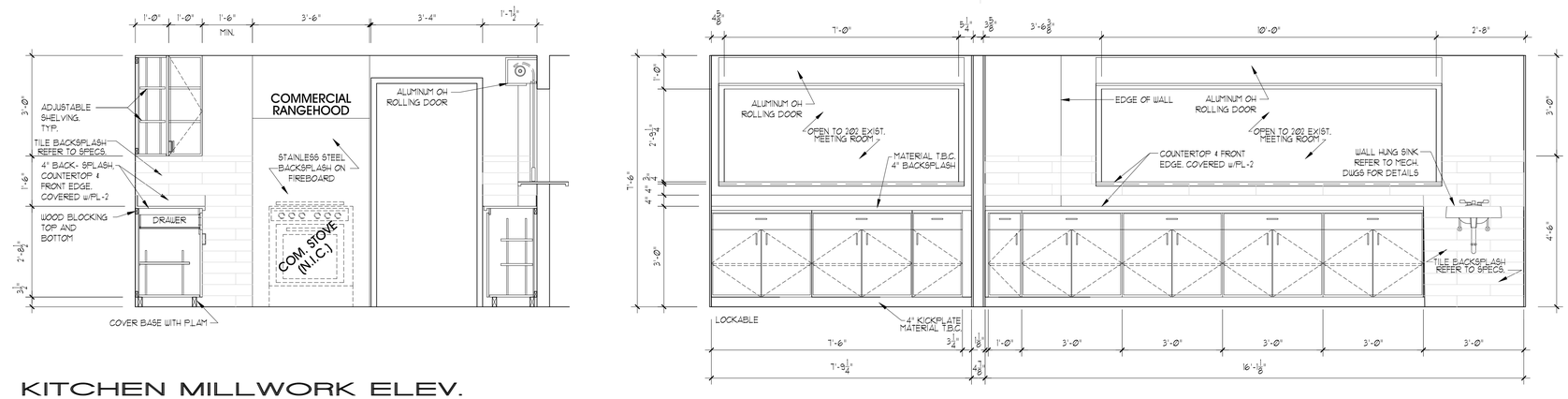
3310 WALNUT ST.
ALVINSTON, ON

drawing title :	SCHEDULES, B.F. HEIGHTS & PLAN
date : JULY 5, 2018	drawing no. : A5
scale : AS NOTED	
drawn by : MDO	
project no. :	217154



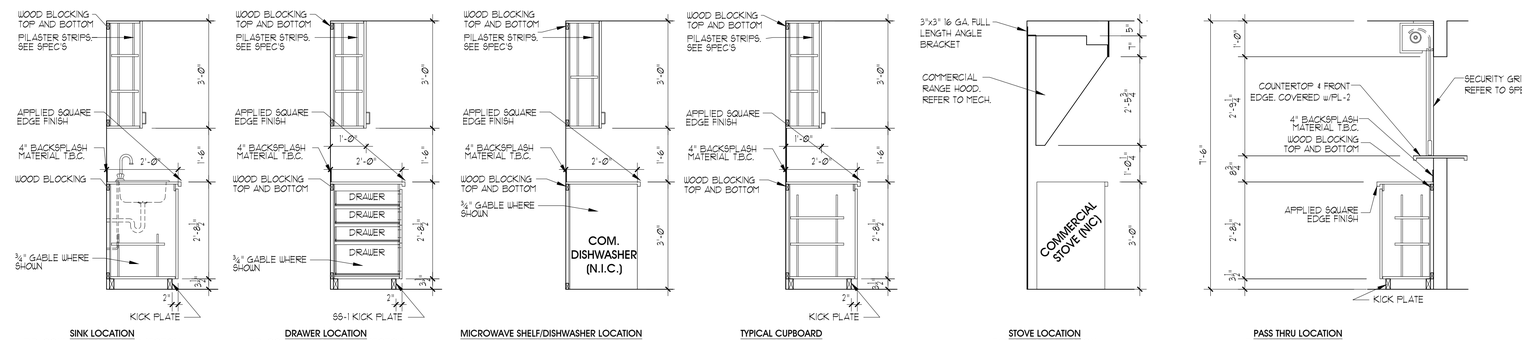
KITCHEN MILLWORK ELEV.

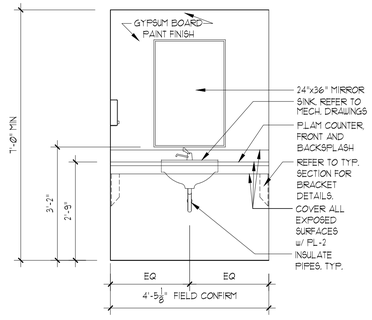
SCALE: 1/2" = 1'-0"



KITCHEN MILLWORK SECTIONS

SCALE: 1/2" = 1'-0"

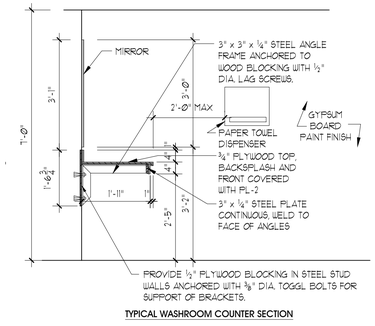




WASHROOMS 208 & 209

TYP. WASHROOM MILLWORK ELEV.

SCALE: 1/2" = 1'-0"



TYPICAL WASHROOM COUNTER SECTION

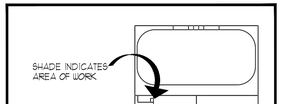
TYP. WASHROOM MILLWORK ELEV.

SCALE: 1/2" = 1'-0"

revisions	date	no.
ISSUED FOR PERMIT/TENDER	07/05/2018	-

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCY TO THIS FIRM BEFORE PROCEEDING WITH THE WORK

A - detail no.
B - location sheet
C - detail sheet



2ND FLOOR KEY PLAN

ONTARIO ASSOCIATION OF ARCHITECTS
SHANNA MCMURRAY
LICENCE 8311
06/09/18

SPRIET ASSOCIATES
LIMITED
architects
LONDON LTD.
engineers
155 york street - london - N6A 1A8
phone : (519) 672-4100 fax : (519) 433-9351
e-mail : mail@spriet.on.ca

BROOKE-ALVINSTON ARENA RENOVATIONS
MUNICIPALITY OF BROOKE-ALVINSTON
3310 WALNUT ST.
ALVINSTON, ON

drawing title :
MILLWORK ELEV. & DETAILS

date : JULY 5, 2018
scale : AS NOTED
drawn by : MDO
project no. : 217154

drawing no. : A6

GENERAL

1. The General Contractor shall make inquiries concerning those parts of the work which are regulated by federal, provincial, or municipal government departments,and public or private utilities companies.
2. Refer to applicable sections for shop drawing requirements.
3. The work covered by all Divisions of these specifications shall be performed by skilled workmen in accordance with the current edition of the Ontario Building Code and other reference standards specified herein and to the best current standard practice of workmanship using the materials specified.
4. The following terms apply to these Specifications:
   .1 General Contractor: noted herein shall refer as The General Contractor
   .2 Contractor: noted herein shall refer to a person or entity having a direct contract with the General Contractor to perform a part or parts of or to supply labour and/or materials of the work.
   .3 Consultant: noted herein shall refer to Spriet Associates.
   .4 Owner: noted herein shall refer to Municipality Of Brooke-Alvinston

DIVISION 5 - METALS

1. Miscellaneous Metals
   .1 Steel sections and plates: to CAN3-G40.21-M81, Grade 300W.
   .2 Hollow structural steel sections: to CAN G40.21-M81 300W.
   .3 Welding materials: to CSA W59.
   .4 All fasteners: as shown on drawings, or if not shown on drawings, shall be of a suitable size, quality, strength, finish and durability to provide adequate performance and or appearance as required by their location in the work.
   .5 Shop coat primer: to CGSB 1-GP-40M.

DIVISION 6 -WOOD AND PLASTICS

1. All lumber shall be graded in accordance with NLGA standard grading rules for Canadian lumber 1987 Edition. Framing lumber, blocking, nailers, etc. shall be No. 2 Grade Spruce Pine Fir Group D. moisture content 19% or less.
2. Provide and install all fastenings and hardware as shown on the drawings (except finishing hardware specified in Division 8) specified herein, or required for proper installation of carpentry and millwork. Fastenings not shown or specified shall be of a suitable quality, size, strength, finish, and durability to provide adequate performance and/or appearance as required by their location in the work.
3. Millwork: Do finish carpentry to Millwork Standards of the Architectural Woodwork Manufacturers Association of Canada (AWMAC) 1984, except where specified otherwise.
4. Submit four (4) sets of shop drawings for all millwork items detailed on the drawings.
5. Plastic laminate: shall conform to CAN3-A172-M79, Type 1, general purpose, 1/16" nominal thickness. All panels shall be balanced with .020" backing sheet. Use urea resin adhesive conforming to CSA 0112.5-M1977. Colour by Consultant.
   1. Acceptable high pressure laminate manufacturers: Formica, Nevamar, Pioniote & Wilsonart.
6. Edging shall be plastic laminate, colour to match face panels, field applied to manufacturer's specifications.
7. Particle board, unless noted otherwise, shall be particle core melamine board (MCP), 120g thickness as noted on the drawings. Apply plastic laminate to all exposed edges.
8. Plywood shall be Douglas Fir plywood, thickness as noted on the drawings. Apply plastic laminate to exposed faces and edges.
9. Fitment framing: pine, to NLGA (Standard Grading Rules for Canadian Lumber, 1987) 115a, No.1 common.
10. Hardware shall be as listed below or equal:
   .1 Hinges: steel, straight hing arm, Blum #91M2550 with spring and full overlay. 2 per door.
   .2 Pull, doors and drawers: brushed chrome, 3 1/2" CBH #255.
   .3 Drawer slides: epoxy coated steel, Knape & Vogt #1284.
   .4 Adjustable shelf clips: shall be Knape and Vogt 346, nickel plated steel. All shelves to be adjusted at 3/4" (19mm) intervals.
11. Counters, etc. shall be as detailed on the drawings using materials listed below:
   .1 Doors and shelves (particle board): Doors to be 5/8" (15.5mm) thick, shelves to be 3/4" (19mm). Fixed shelves to be blind housed into gables. Adjustable shelves shall sit on clips sitting in plaster strips.
   .2 Gables (particle board): 3/4" (19mm) thick and located where shown on the drawings.
   .3 Tops and bottoms (particle board): 3/4" (19mm) thick.
   .4 Backs for exposed shelving where indicated on the drawings (particle board): 1/4" (6mm) thick.Rabbet backs into sides, tops and bottom.
   .5 Counter tops pre-formed with no drip edge, plastic laminated covered. All exposed ends to be covered with plastic laminate.
   .6 Drawers (particle board): 1/4" bottoms and 3/8" sides, back and subface panels. Face panels shall be 5/8" (15.5mm) thick.

.7 Fasteners shall be as listed below:
   .1 Nails and stables to CSA B111-1974± galvanized for exterior work, interior humid areas and for treated lumber plain finish elsewhere.
   .2 Wood screws: to CSA B35.4-1972, electroplated.

DIVISION 7 - MOISTURE PROTECTION

1. Interior Caulking: shall be one-part elastomeric gun grade sealant, NP1 as manufactured by Sonneborn, or approved equal. Colour by consultant.
2. Caulk around all door and window frames both sides, all control joints, all joints between metal surfaces, masonry surfaces and other locations shown on the drawings.
2. Sound attenuation blankets: shall be Roxul AFB acoustical fire batt as manufactured by Roxul. Batt to be thickness to match stud wall.

DIVISION 8 - DOORS, WINDOWS

1. Hollow metal door frames: shall be formed from minimum 16 gauge steel reinforced at mitred corners, hinge, strike, and closer locations. Frame depths shall suit wall thickness but shall be 5 3/4" minimum. Frames shall be primed.
2. Hollow steel doors: formed from wipe coat galvanized sheet steel with a minimum zinc coating of .45 oz/sq/ft/ (137.3 g/sq.m/). Steel sheet shall be 16 ga. minimum thickness for exterior doors and 18 ga. minimum thickness for interior doors.
4. All doors and frames: scheduled to be fire-rated shall be manufactured in accordance with specifications issued by an organization accredited by Standards Council of Canada and shall have the appropriate labels permanently affixed to the frames.
5. All hardware for this project unless specified under other Divisions of this specification, shall be purchased and supplied under the Hardware Allowance as indicated on the Form of Tender. The General Contractor shall include in his tender sum the cost of installation. No additional sum will be allowed for labour, use of tools, overhead, profit, etc., for installing any hardware purchased with the cash allowance these costs must be included in the tender sum.
6. The Consultant will arrange for a hardware list to be prepared for the project. The Consultant will arrange for the supply of the finish hardware.
7. Automatic Swinging Door Operators and all related controls shall be manufactured by Besam Inc. and supplied by Enex Door Automation Inc. (519) 824-5331 or approved equal.
8. Automatic Swinging Door System shall be "Power Swing System". All units to be surface mounted (all wiring from the junction box to the operator and from the operator to the activating devices shall be concealed). Battery operated devices as noted on drawings, if applicable.
9. The motor of each door operator shall operate from a minimum 5 amp, 115V AC 1-phase circuit.
10. Aluminum - Rolling Counter Door
   .1 The door curtain shall be constructed of interconnected strip steel slats conforming to ASTM-526. The curtain shall be constructed of 22 gauge No. 10 (4 1/8" high by 3/8" deep) slats as designated by the cookson company
   .2 The finish on the door curtain shall be cooks on FinalCote consiting of the following:
      1. Hot dipped galvanized G-90 coating consistent with ASTM A-525.
      2. Bonderized coating for prime coat adhesion.
      3. Corrosion inhibiting primer - .2 mils per side.
      4. Thermo-setting grey polyester top coat with a minimum this thickness of .6 mils each side.
   .3 The bottom bar shall be constructed of tubular extruded aluminum measuring 1 5/16" deep by 2 1/4" high with a double vinyl astragal on the bottom edge. The bottom bar shall recieve a 204-R1 clear anodized finish.
   .4 The guides shall be constructed of tubular extruded aluminum and measures 1 3/4" square. Each side of the channel portion capturing the curtain shall contain wool pile weatherstripping. The guides shall recieve a 204-R1 clear anodized finish.
   .5 The brackets shall be constructed of 3/16" thick die cast aluminum
   .6 The barrel shall be steel tubing of not less than 4" in diameter. Oil tmepered torsion springs shall be capale of correctly counter balancing the weight of the curtain. The barrel shall be designed to limit the maximum deflection of .03" per foot of opening width. The finish on the barrel shall be one (1) coat of bronze rust-inhibiting prime paint.
   .7 The hood shall be fabricated from 24 gauge galvanized steel and shall be formed to fit the square brackets. The finish on the hood shall be the Cookson FinalCote finish as indicated in the curtain section.
   .8 Operation: Push up operated doors shall ipen and close with a mazimum of 30 pounds of effort utilizing finger lifts in the bottom bar. This type of operation should not be used for doors over 10 feet wide.
   .9 Locking Mechanisms: The push-up doors shall be secured by means of concealed sliding bolt deadlock in the bottom bar operated by a thumb-turn.

DIVISION 9 - FINISHES

1. Gypsum drywall: of thickness noted on the drawings, Type X for fire rated assemblies, tapered edges, ivory faced, conforming to CSA 82.31-M1980 as manufactured by Canadian Gypsum Company Limited, Domtar Construction Materials Limited, or Western Canadian Gypsum Company
2. Casing beads: minimum 28 U.S. gauge galvanized sheet steel, with perforated steel flanges suitable for taping and filling. Section 200-A metal trim by CGC or equal.
3. Steel studs as noted below shall be as manufactured by CGC:
   .1 3 5/8" (92mm) deep metal studding and runners: .021" (0.53mm) thick
   .2 6" (152mm) deep metal studding and runners: .021" (0.53mm) thick
4. Proceed with painting only when surfaces and conditions are satisfactory for production of a first class job. Commencement of work shall imply acceptance of conditions.
5. Finishes and number of painting coats specified below are intended to cover the surface completely. If they do not, apply additional coats until complete coverage is achieved. All surfaces shall receive a semi-gloss finish.
6. Owner will prepare a Colour Finish Schedule prior to field painting.
7. All exposed metal (ferrous), steel doors and frames shall receive one coat zinc chromate primer and two coats exterior alkyd enamel.
8. Gypsum board shall receive one coat of latex sealer and two coats of interior alkyd enamel.
9. All woodwork, plywood, etc. required to be painted shall receive one coat interior enamel undercoater and two coats of interior alkyd enamel.
10. All wood (doors) and millwork required to be stained shall receive one coat nonbleeding alkyd stain, one coat sanding sealer and one coat alkyd interior flat, satin or gloss varnish as directed by the Consultant. All six sides of doors to be finished. Contractor to submit stain samples to the Consultant for selection prior to finishing.
11. The painting contractor shall include in his cost, to supply to the Owner, after completion of his contract, 4 litres (unopened) of each paint colour of hue specified in the Colour Schedule. The paint shall be supplied in properly marked containers, keyed to the approved Colour Schedule The Contractor shall include for costing purposes a maximum requirement of 5-4 litre containers.
12. The painting contractor shall, when complete, provide a Colour Schedule "As Built", if colours used were different from those specified on the Consultant's Colour Schedule. Manufacturer, colour code number and colour name are to be listed.
13. Ceramic Tile: For backsplash Yura 4"x24" by Olympia colour by consultant
   .1 Thin set mortar, walls and floors: in strict accordance with manufacturer's recommendations.
   .2 Additive: latex additive, formulated for use in Portland Cement mortar and thin set bond coat.
   .3 Grout: dry grout as recommended by tile supplier. Colour by Consultant.
   .4 Cleaning compound: to TTMAC Standard 1001
   .5 Sealing compound: Aquamix penetrating sealer as manufactured by Aquamix Inc.
14. The ceramic tile installation, cleaning and sealing shall conform to the following:
   .1 Install tile in accordance with Installation Manual 200-1979, "Ceramic Tile" produced by Terrazzo Tile and Marble Association of Canada (TTMAC).
   .2 Joints in tile shall be uniform in width, subject to normal variance in tolerance allowed in tile size. Joints shall be watertight without voids, cracks, excess mortar, or grout. Joints between sheets shall be of same width as joints between individual tiles.
   3. Carry out all work in strict accordance with lines and dimensions shown on drawings. Check all dimensions on site. Neatly cut tiles around fitments, fixtures, and drains. Form intersections, corners, and returns accurately.
   .4 Clean and seal ceramic tile surface to TTMAC recommendations and to and to satisfactiom of owner
15. Luxury Vinyl Tile: shall be as listed on drawings and room finish schedule.
   .1 Reducer strip: (where flooring abuts concrete of existing floor surfaces). Duratrim FV190. Colour by Consultant.
   .2 Primers and adhesives: as recommended by tile and base manufacturers. Adhesives for tile and base shall produce good and permanent bond between wall and floor surfaces.
   .3 Sub-floor filler and leveller: as recommended by flooring manufacturer for use with their product.
   .4 Cleaner, Sealer and Finish: Cleaner "Amtico Blue Label". Sealer: "Amtico Platinum Label". Finish: "Amtico Silver Label".
16. The luxury vinyl tile installation, cleaning and sealing shall conform to the following:
   .1 Install in strict accordance with manufacturer's printed directions, by approved installers only.
   .2 Apply adhesive uniformly with an approved notch-tooth spreader at the recommended rate. Do not spread more adhesive than can be covered by flooring before initial set takes place. Use waterproof adhesive on concrete slabs on grade.
   3. Carry out all work in strict accordance with lines and dimensions shown on drawings. Check all dimensions on site. Neatly cut tiles around fitments, fixtures, and drains. Form intersections, corners, and returns accurately.
   .4 Clean and seal luxury vinyl floor tile surface as per manufacturer's recommendations and to satisfactiom of owner
17. Deliver 4% of each colour of tile required for this project for maintenance use. Tiles to be from same production run as installed materials.
18. Provide ceramic and luxury vinyl tile manufacturer's maintenance data for inserting into the maintenance manual. Refer to Section 1000 General Requirements for details.
19. Rubber Base: rubber, to CSA 136.5-M85, PV-4090, as noted on drawings manufactured by Roppe. Provide preformed external corners. Colour by Consultant.
20. Lay-in suspension system: as manufactured by Donn Canada Ltd., Bailey Suspension Systems, or Flangeklamp of Canada Limited comprising of:
   .1 Hangers: 12 ga., mild steel, galvanized wire
   .2 Standard main tees: 12' (3.65m) long, sinc-coated steel double web design, rectangular bulb at top of web, 1 1/2" (38mm) height, 15/16" (24mm) width, exposed surfaces finished satin white enamel
   .3 Standard cross tees: 4' (1.2m) long, zinc-coated steel with same cross-section design and finish as main tees, both ends of exposed face factory formed to interlock securely and to overlap main tees so as to provide flush joints
   .4 Edge mouldings: 15/16" (24mm) x 9/16" (14.3mm) wall mould finished satin white enamel.
   .5 Hold down clips: Armstrong Retention Clip System. Provide 2 clips per ceiling tile. Refer to the Room Finish Schedule and sections for the locations. (If applicable)
21. Acoustic Ceiling Tile: shall be 24"x48"x5/8" (600mmx1200mmx16mm) Armstrong Designer 734 angled square edge, colour to be white.
22. Provide one (1) unopened carton of acoustical tile type specified for maintenance materials and turn over to the Owner at completion of the contract. Maintenance materials to be from same production run as installed materials.

DIVISION 10 - SPECIALTIES

1. Washroom Accessories shall be as noted on drawings.
2. Toilet partitions: Series 40 plastic laminate high pressure toilet partitions as supplied by General Partition, with all required hardware and fasteners to produce a complete job. Colour selection by Consultant, from manufacturer's colour range. Products as manufactured by Columbia Partitions and Decolam Inc. are an approved alternate. Equip each door with hinges, latch set, and each stall with coat hook mounted on door, mounting height 4'-0" (1200mm) above finish floor. Adjust and align hardware for proper function. Set door open position at 30 degrees to front.

revisions	date	no.
ISSUED FOR PERMIT/TENDER	07/05/2018	-

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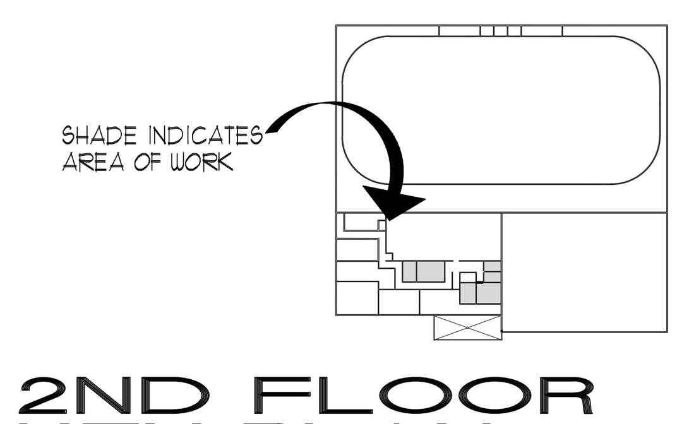


2ND FLOOR KEY PLAN

ONTARIO ASSOCIATION OF ARCHITECTS
06/05/18
[illegible]
SHANNA McILMURRAY
LICENCE
8311

SPRIET ASSOCIATES
LIMITED architects
LONDON LTD. engineers
155 york street - london - N6A 1A8
phone : (519) 672-4100 fax : (519) 433-9351
e-mail : mail@spriet.on.ca

BROOKE-ALVINSTON ARENA RENOVATIONS
MUNICIPALITY OF BROOKE-ALVINSTON
3310 WALNUT ST.
ALVINSTON,ON

drawing title : SPECIFICATIONS

date : JULY 5, 2018
scale : AS NOTED
drawn by : MDO
project no. : 217154
drawing no. : A7

MAKEUP AIR UNIT SCHEDULE

DWG REF	MANUF.	MODEL	AIR FLOW [CFM] (L/S)	EXTERNAL STATIC PRESSURE [in.wg] (PA)	HEATING INPUT (kW)	ELEC VOLTAGE	REMARKS
MUA-101	THERMOLEC	FER-8-6-208/3	300 (142)	0.25 (62)	2.5	208/1/60	-C/W AIR PROVING SWITCH, AND DISCHARGE AIR SENSOR.

APPROVED MANUFACTURERS:
THERMOLEC, ENGINEERED AIR, MODINE, BOUSQUET

KITCHEN EXHAUST HOOD SCHEDULE

DWG REF	MANUF.	MODEL	EXHAUST LENGTH [IN] (m)	EXHAUST AIRFLOW [CFM] (L/S)	EXHAUST S.P. [IN W.C.] (Pa)	REMARKS
EH-101	SPRING AIR	FD-S-3.5/2	42 (1.07)	440 (208)	0.41 (102)	-

APPROVED MANUFACTURERS:
CAPTIVE AIRE, SPRING AIR

DIFFUSER SCHEDULE

DWG REF	MANUF.	MODEL	FINISH	REMARKS
S1	E.H.PRICE	SCD	B12	SQUARE CONE DIFFUSER, STEEL CONSTRUCTION, 3 CONES REMOVABLE FROM THE DIFFUSER FACE, C/W EQUALIZING GRID.
E1	E.H.PRICE	80	B12	EGG CRATE GRILLLE, EXTRUDED ALUMINUM CONSTRUCTION, C/W VOLUME DAMPER.

GENERAL NOTE: MOUNTING FRAME TO SUIT CEILING TYPES. SEE ARCHITECTURAL REFLECTED CEILING PLAN DRAWINGS FOR CEILING TYPES. PROVIDE INTEGRAL FIRE STOP FLAPS WHERE FIRE DAMPERS ARE INDICATED ON DRAWINGS.

APPROVED MANUFACTURERS:
E.H.PRICE, NAILOR, TITUS, KRUEGER

PIPING LEGEND

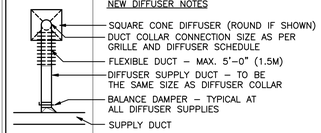
ITEM	DESCRIPTION
	NEW ITEM
	EXISTING ITEM TO REMAIN
	EXISTING ITEM TO BE REMOVED
	BELOW FLOOR PIPING
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
SAN	SANITARY DRAIN
	NATURAL GAS
	BALL VALVE
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	PIPE CAP
	PIPE SINGLE LINE CUTOFF
CO	FLOOR CLEAN OUT
CO	WALL CLEAN OUT
FD FC	FLOOR DRAIN; FFD: FUNNEL FLOOR DRAIN; HD: HUB DRAIN
FEX	FIRE EXTINGUISHER

THIS IS A STANDARD LEGEND. ALL SYMBOLS MAY NOT NECESSARILY BE USED ON DRAWINGS.

DUCTWORK LEGEND

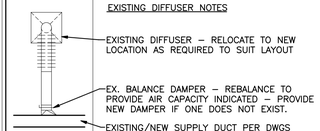
SYMBOL	DESCRIPTION
	NEW ITEM
	EXISTING ITEM TO REMAIN
	EXISTING ITEM TO BE REMOVED
EX	EXISTING ITEM TO REMAIN
	DUCTWORK SHOWN DOUBLE LINE
	BALANCING DAMPER
	NEW CONNECTION TO EXISTING
	SUPPLY AIR GRILLE
	SIDEWALL GRILLE C/W BALANCE DAMPER TYPICAL AT ALL SIDEWALL GRILLES
	INTERNALLY INSULATED DUCT
	EXTERNALLY INSULATED DUCT
?	DRAWING NOTE TAG
?x?, ?Ø ??? ?	DIFFUSER TAG DIFFUSER/GRILLE SIZE (AND NECK SIZE WHERE APPLICABLE) AIR VOLUME (CFM OR l/s AS INDICATED) DIFFUSER/GRILLE DESIGNATION (REFER TO SCHEDULE FOR TYPE)
??? ??	EQUIPMENT TAG EQUIPMENT TYPE EQUIPMENT NUMBER (REFER TO SCHEDULES FOR INFO)

NEW DIFFUSER NOTES



- SQUARE CONE DIFFUSER (ROUND IF SHOWN)
- DUCT COLLAR CONNECTION SIZE AS PER GRILLE AND DIFFUSER SCHEDULE
- FLEXIBLE DUCT - MAX. 5'-0" (1.5M)
- DIFFUSER SUPPLY DUCT - TO BE THE SAME SIZE AS DIFFUSER COLLAR
- BALANCE DAMPER - TYPICAL AT ALL DIFFUSER SUPPLIES
- SUPPLY DUCT

EXISTING DIFFUSER NOTES



- EXISTING DIFFUSER - RELOCATE TO NEW LOCATION AS REQUIRED TO SUIT LAYOUT
- EX. BALANCE DAMPER - REBALANCE TO PROVIDE AIR CAPACITY INDICATED - PROVIDE NEW DAMPER IF ONE DOES NOT EXIST.
- EXISTING/NEW SUPPLY DUCT PER DWGS

THIS IS A STANDARD LEGEND. ALL SYMBOLS MAY NOT NECESSARILY BE USED ON DRAWINGS.

EXHAUST FAN SCHEDULE

ACCESSORIES:

1) HANGER RODS
2) HANGING VIBRATION ISOLATORS
3) BASE ISOLATOR KIT
4) FLEXIBLE CONNECTIONS - INLET AND/OR OUTLET
5) MOTORIZED BACKDRAFT DAMPER
6) INDICATE ROOF CURB TO BE PROVIDED BY GENERAL CONTRACTOR AS DETAILED ON ARCHITECTURAL DWGS.
7) ROOF CURB BY FAN MANUFACTURER
8) DISCONNECT SWITCH
9) BELTS, DRIVES AND PULLEYS
10) BIRDSCREEN
11) HINGED SUBASE
12) WEATHER HOOD
13) SPEED CONTROLLER
14) WALL MOUNT COLLAR
15) BELT DRIVE MOTOR COVERS
16) INSULATED HOUSING
17) DRAIN CONNECTION
18) LOUVERED WALL BOX C/W B.D.D.
19) REVERSE ACTING THERMOSTAT
20) ECM MOTOR C/W SPEED ADJUSTMENT

DWG REF	MANUF.	MODEL	AIRFLOW [CFM] (L/S)	ESP [in.wg] (PA)	MOTOR [HP]	RPM	NOISE [SONES]	ELECTRICAL	ACCESSORIES	REMARKS
EF-101	GREENHECK	CSP-A190	150 (71)	0.25 (62)	FHP	1400	2.0	115/1/60	1,2,4,	CONTROL WITH LOCAL LIGHTING
EF-102	GREENHECK	SP-A190	150 (71)	0.25 (62)	FHP	1400	1.5	115/1/60	1,2,4,	CONTROL WITH LOCAL LIGHTING
EF-103	GREENHECK	SP-A90	75 (35)	0.25 (62)	FHP	900	0.4	115/1/60	1,2,4,	CONTROL WITH LOCAL LIGHTING
EF-104	PENNBARRY	FX08B	440 (208)	0.5 (124)	0.25	1103	7.8	115/1/60	7,8,11,12	GREASE EXHAUST FAN NFPA 96 COMPLIANT

APPROVED MANUFACTURERS:
GREENHECK, COOK, PENN BARRY

PLUMBING FIXTURE SCHEDULE

DWG REF	DESCRIPTION	HOT	COLD	DRAIN
WC	BOWL: AMERICAN STANDARD 6L FLUSH 2462.016 'CADET ELONGATED PA', VITREOUS CHINA WATER CLOSET WITH 3481.016 PRESSURE ASSISTED ELONGATED SIPHON JET FLUSH ACTION BOWL AND 4142.016 TANK. SUPPLY: CAMBRIDGE BRASS 477316 FLEXIBLE CLOSET SUPPLY WITH ANGLE LOCKSHIELD STOP. SEAT: BENEKE 523 SOLID WHITE PLASTIC, OPEN FRONT WITH REMOVABLE BUMPERS, CONCEALED CHECK HINGE AND TYPE 316 STAINLESS STEEL HINGE POSTS AND TRIM.	---	1/2"	3"
HWC	BOWL: AMERICAN STANDARD 6L FLUSH 3461.001 MADERA FLOOR MOUNTED, VITREOUS CHINA WATER CLOSET WITH ELONGATED SYPHON JET BOWL AND 40 MM (1½") TOP SPUD INLET. BARRIER FREE COMPLIANT. VALVE: DELTA TECK 81T221-1 EXPOSED CHROME PLATED FLUSH VALVE, VACUUM BREAKER, 40MM (1½") CONNECTION, WALL AND SPUD FLANGES. ADJUST FOR 6L FLUSH, 25MM (1") COPPER SWEAT ANGLE CHECK STOP WITH PROTECTING CAP, AND CENTER COVER BUMPER. BARRIER FREE COMPLIANT. SEAT: BENEKE 521 SOLID WHITE PLASTIC, OPEN FRONT WITH REMOVABLE BUMPERS, CONCEALED CHECK HINGE AND COVER.	---	1-1/4"	3"
LV	LAVATORY: AMERICAN STANDARD 0476.028 'AQUALYN' VITREOUS CHINA COUNTERTOP BASIN, SELF-RIMMING WITH FRONT OVERFLOW, 100 MM (4") CENTRES. FAUCET: DELTA TECK 21T153 HEAVY DUTY CHROME PLATED CAST BRASS FAUCET WITH VANDAL-RESISTANT NON-AERATING SPRAY SPOUT, 0.5 USGPM, AND 70 MM (3") LEVER HANDLES, 4" CENTRES. SUPPLIES: DELTA 47T312 FLEXIBLE LAVATORY SUPPLIES WITH ANGLE LOCKSHIELD STOPS AND WALL FLANGES. DRAIN: DELTA 33T260, 32 MM (1¼") CHROME PLATED CAST BRASS DRAIN WITH INLINE WASTE STRAINER AND DELTA 33T311, 32 MM (1¼") TUBULAR 'P' TRAP, CLEANOUT, CHROME FINISH, CAST BRASS BODY AND WALL FLANGE.	1/2"	1/2"	1-1/4"
HLV	LAVATORY: AMERICAN STANDARD "MURRO" MODEL 0954.000 VITREOUS CHINA WALL-HUNG BASIN, REAR OVERFLOW, FORMED FOR 100 MM (4") CENTRE FAUCET SET, AND MODEL 0059.020 VITREOUS CHINA KNEE CONTACT GUARD. BARRIER FREE COMPLIANT. FAUCET: DELTA TECK 21T153 HEAVY DUTY CHROME PLATED CAST BRASS FAUCET WITH VANDAL-RESISTANT NON-AERATING SPRAY SPOUT, 0.5 USGPM, AND 70 MM (3") LEVER HANDLES, 4" CENTRES. BARRIER FREE COMPLIANT. SUPPLIES: DELTA 47T512 CHROME PLATED FLEXIBLE SUPPLIES WITH LOCKSHIELD STOPS AND WALL FLANGES. BARRIER FREE COMPLIANT. WASTE: DELTA 33T290, 32 MM (1¼") CHROME PLATED CAST BRASS DRAIN WITH OFFSET INLINE WASTE STRAINER AND DELTA 33T311, 32 MM (1¼") TUBULAR 'P' TRAP, CLEANOUT, CHROME FINISH, CAST BRASS BODY AND WALL FLANGE. BARRIER FREE COMPLIANT. CARRIER: WATTS CA SERIES HEAVY DUTY CARRIERS FOR WALL-HUNG LAVATORIES WITH CONCEALED ARM SUPPORT AND PIPE UPRIGHTS WELDED TO STEEL BASE PLATES.	1/2"	1/2"	1-1/4"
UR	URINAL: AMERICAN STANDARD "WASHBROOK" NO. 6501.610 VITREOUS CHINA, WASHDOWN FLUSH ACTION, 20 MM (3/4") TOP SPUD, INTEGRAL FLUSH SPREADER, OPEN TRAP, STAINLESS STEEL REMOVABLE STRAINER AND 50 MM (2") OUTLET CONNECTION. VALVE: DELTA TECK 81T231 EXPOSED FLUSH VALVE WITH VACUUM BREAKER, NON HOLD OPEN HANDLE. VANDAL RESISTANT COVER, WITH COVER TUBE, WALL FLANGE, AND SPUD NUT. 19MM (3/4") TOP SPUD , SCREWDRIVER ANGLE STOP. BARRIER FREE COMPLIANT. CARRIER: WATTS CA-311 HEAVY DUTY URINAL CARRIER WITH PIPE UPRIGHTS WELDED TO STEEL BASE PLATES.	---	3/4"	2"
HS	SINK: FRANKE MODEL LBS1306 SINGLE BOWL SINK, 20 GAUGE TYPE 302 STAINLESS STEEL, WITH BACKLEDGE AND UNDERCOATING, FACTORY APPLIED RIM SEAL, COMPLETE WITH CRUMB CUP STRAINER IN BOWL CENTRE, AND TAILPIECE, OVERALL DIMENSIONS 380MM X 380MM X 150MM (15"L X 15"W X 6" D). BACKLEDGE CENTRES DRILLED FOR 100 MM (4") DECK-MOUNTED FAUCET. FAUCET: DELTA 2171-WBHHDF DECK MOUNT FAUCET WITH 270MM (10-5/8") HEAVY DUTY RIGID/SWIVEL GOOSENECK, 100 MM (4") CENTRES, VANDAL-RESISTANT FLOW CONTROL AERATOR, AND LEVER HANDLES. FOR TWO HOLE APPLICATIONS. WASTE: DELTA 33T360, 40 MM (1½") CP CAST BRASS "P" TRAP WITH CLEANOUT AND WALL FLANGE.	1/2"	1/2"	1-1/4"
KS	SINK: FRANKE MODEL LBD6408 DOUBLE SINK, 20 GAUGE TYPE 302 STAINLESS STEEL, WITH BACKLEDGE AND UNDERCOATING, FACTORY APPLIED RIM SEAL, TWO CRUMB CUP STRAINERS IN BACK OF BOWLS, AND TAILPIECES. OVERALL DIMENSIONS 530MM X 790MM X 200MM (21"L 31"W X 8"D). BACKLEDGE CENTRES DRILLED FOR 200 MM (8") DECK-MOUNTED FAUCET. FAUCET: DELTA TECK 26T3143 DECKMOUNT FAUCET, C.P. CAST BRASS WITH 200 MM (8") SWING SPOUT, VANDAL-RESISTANT CONTROL FLOW AERATOR, 75 MM (3") LEVER HANDLES, BRASS CONNECTIONS AND TAILPIECE LOCKNUTS. WASTE: DELTA 33T360, 40 MM (1½") CP CAST BRASS "P" TRAP WITH CLEANOUT AND WALL FLANGE.	1/2"	1/2"	1-1/2"
FD	FLOOR DRAIN- EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY AND SECONDARY WEEPHOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, AND NO HUB (STANDARD) OUTLET. WATTS DRAINAGE - MODEL: FD-100-A	---	---	3"
DW	BY OWNER. CONNECT DISHWASHER SUPPLY TO ADJACENT KITCHEN SINK SUPPLY WITH STAINLESS STEEL BRAIDED FLEX-HOSE, AND CONNECT DRAIN UPSTREAM OF ADJACENT KITCHEN SINK P-TRAP WITH FLEXIBLE DRAIN HOSE.	1/2"	---	5/8"

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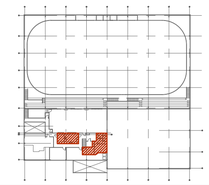
KEYPLAN



REVISIONS

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NORTH

LICENSED PROFESSIONAL ENGINEER
M.J. VAN GILST
100074075
18, 06, 05
PROVINCE OF ONTARIO

DESIGN	BCD	DRAWN	BCD
CHECKED	MVG	REVIEWED	MVG

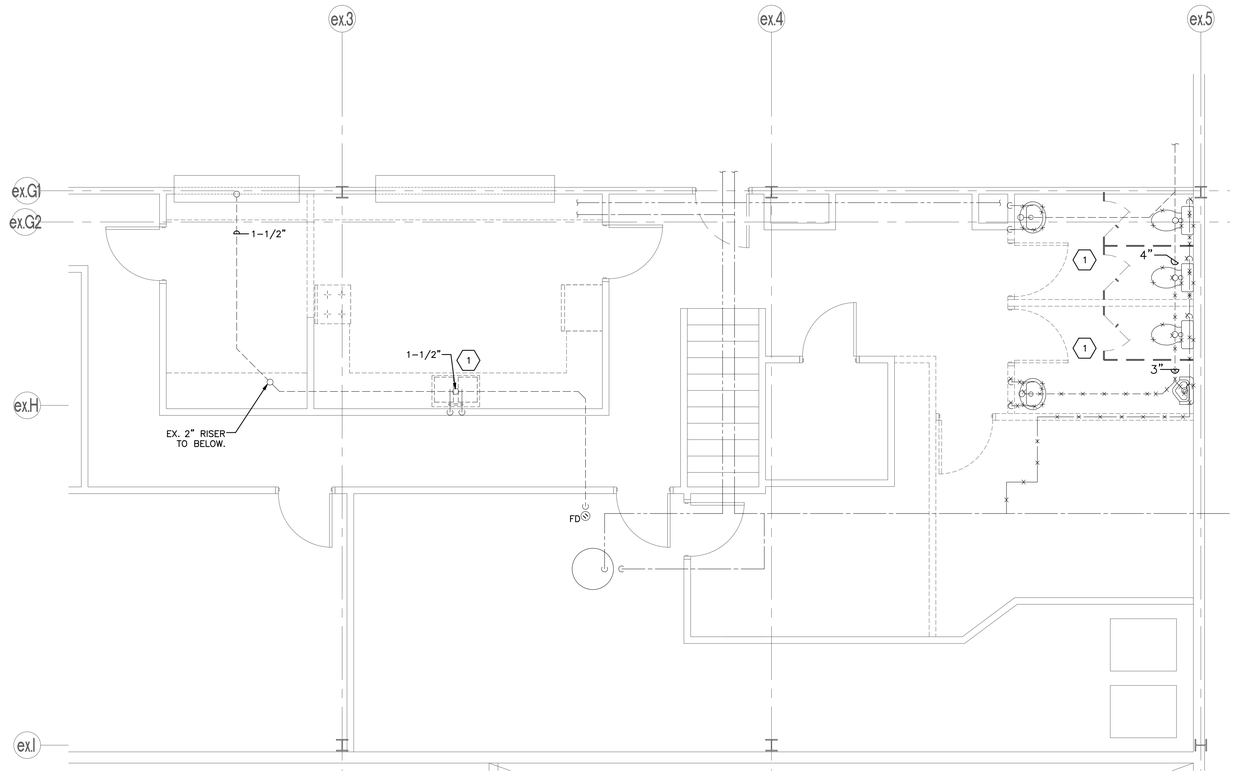
PROJECT
BROOKE-ALVINSTON ARENA RENOVATIONS

ADDRESS
3310 WALNUT ST., ALVINSTON, ON

PROJECT NO.
CE-4016

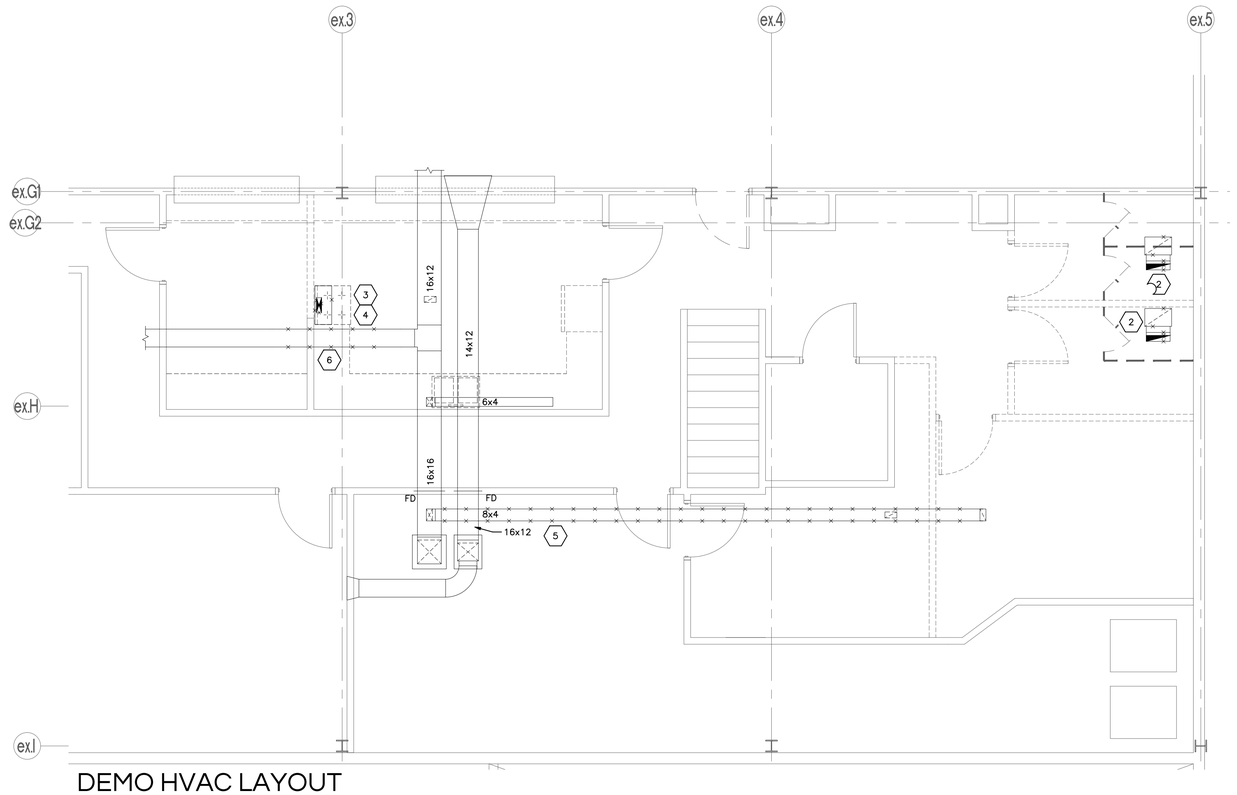
DRAWING TITLE
SCHEDULES & LEGENDS

DRAWING NUMBER
M1 OF 5



DEMO PLUMBING LAYOUT

SCALE: 1/4" = 1'-0"



DEMO HVAC LAYOUT

SCALE: 1/4" = 1'-0"

DEMO NOTES (INDICATED WITH HEXAGONS):

1. REMOVE EXISTING PLUMBING FIXTURES AND ASSOCIATED DOMESTIC WATER BACK TO MAINS. MODIFY EXISTING SANITARY AS REQUIRED TO SERVE NEW FIXTURES. CAP SANITARY LINES OF UNUSED CONNECTIONS FLUSH WITH FLOOR LEVEL.
2. REMOVE EXISTING WASHROOM EXHAUST FANS AND ALL ASSOCIATED DUCTWORK AND PATCH ROOF..
3. REMOVE EXISTING RANGE HOOD AND ALL ASSOCIATED DUCT WORK AND ACCESSORIES.
4. REMOVE EXISTING GAS CONNECTION TO EXISTING OVEN. CAP AT MAIN.
5. REMOVE EXISTING SUPPLY DUCT SERVING STORAGE SPACES. PATCH AND MAKE MAIN DUCT GOOD.
6. REMOVE EXISTING SUPPLY DUCT IN THIS LOCATION.

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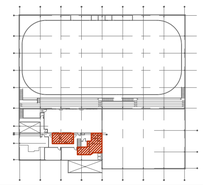

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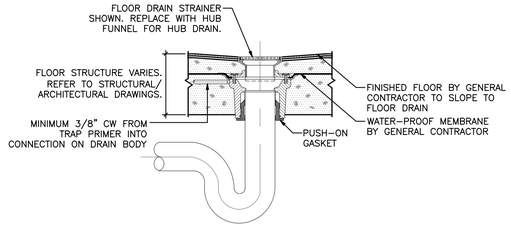
DRAWING TITLE

DEMO LAYOUTS

DRAWING NUMBER

M2 OF 5

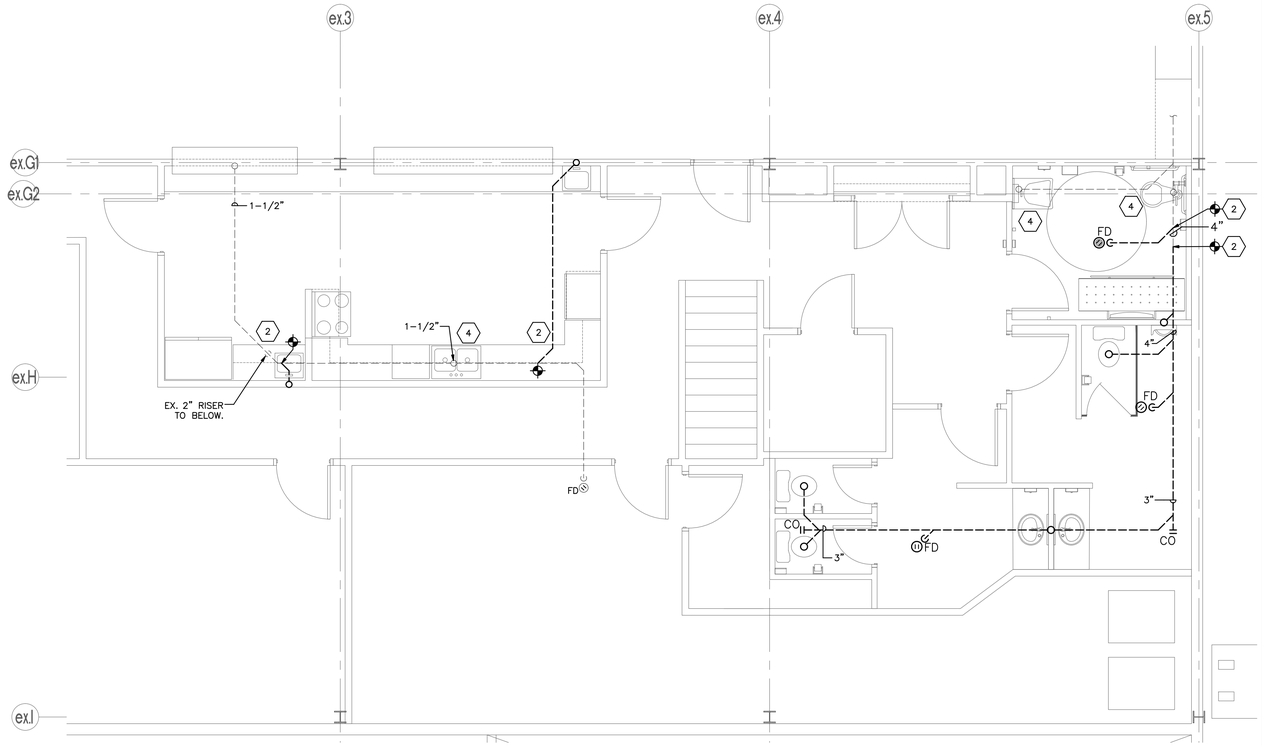


FLOOR/HUB DRAIN INSTALLATION DETAIL

SCALE: N.T.S.

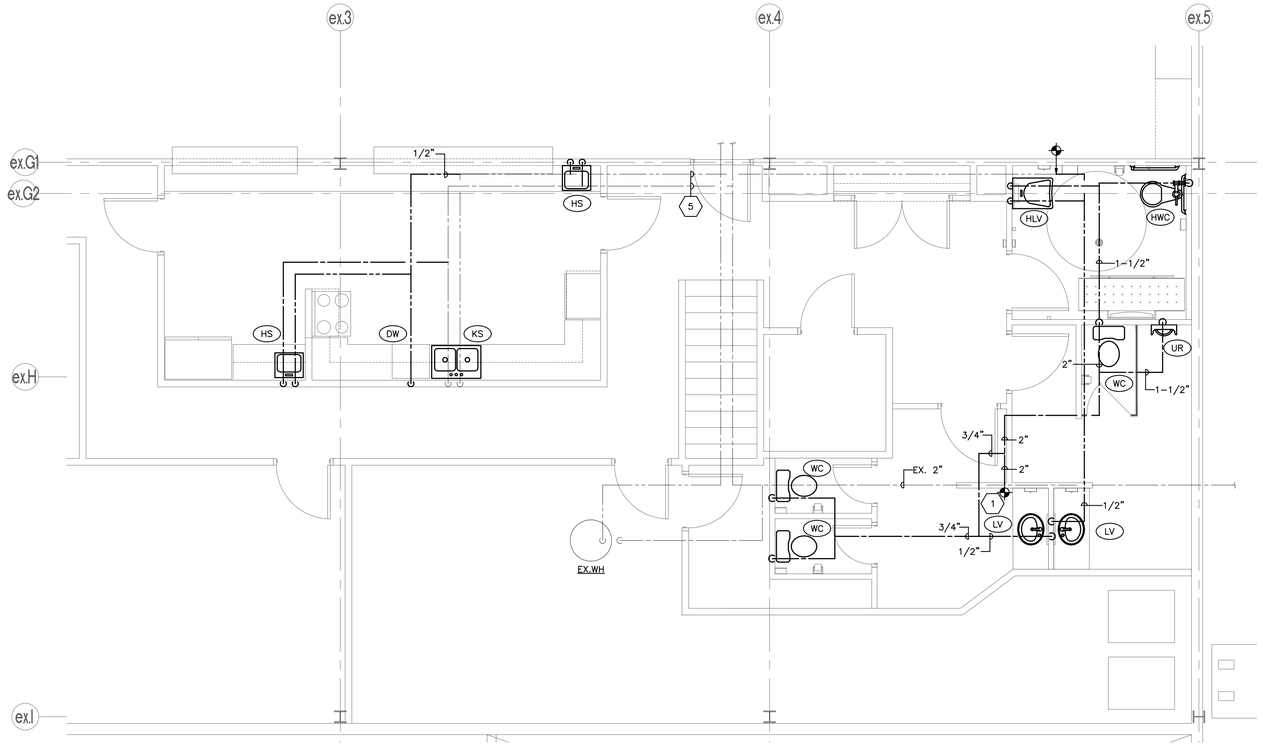
TYPICAL PLUMBING NOTES (INDICATED WITH HEXAGONS):

1. CONNECT TO EXISTING 2" DCW MAIN IN THIS APPROXIMATE LOCATION.
2. CONNECT NEW SANITARY PIPING TO EXISTING AS SHOWN IN THIS APPROXIMATE LOCATION.
3. CONNECT NEW DHW PIPING TO EXISTING MAIN IN THIS APPROXIMATE LOCATION. CONFIRM LOCATION AND SIZE ON SITE.
4. MODIFY EXISTING DOMESTIC AND SANITARY PIPING AS REQUIRED FOR NEW PLUMBING FIXTURES.
5. CONFIRM SIZE AND LOCATION OF EXISTING WATER MAINS SERVING KITCHEN AREA. MINIMUM 1/2" DCW AND 3/4" DHW MAINS TO SERVE SPACE.



SANITARY LAYOUT

SCALE: 1/4" = 1'-0"



DOMESTIC WATER LAYOUT

SCALE: 1/4" = 1'-0"

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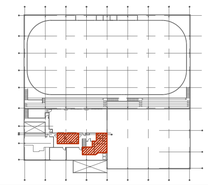
KEYPLAN



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PLUMBING LAYOUTS

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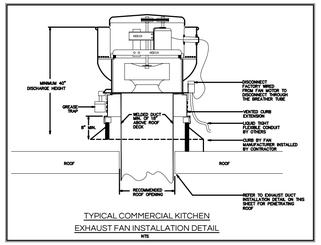
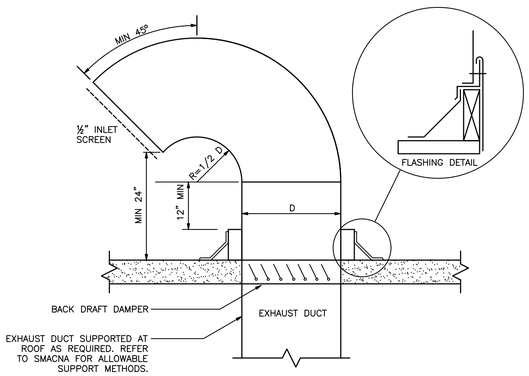
M3 OF 5



TYPICAL COMMERCIAL KITCHEN
EXHAUST FAN INSTALLATION DETAIL
NTS

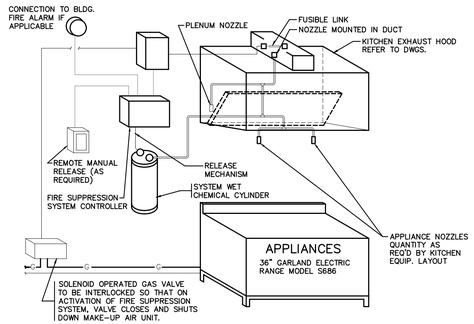


NOTES:

1. FABRICATE IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS OF MINIMUM 18 GAUGE GALVANIZED STEEL.
2. MOUNT ON MINIMUM 12 INCH HIGH CURB BASE WHERE SIZE EXCEED 9" X 9".
3. ANGLE OF OPENING SHALL BE NO GREATER THAN 45° FROM THE HORIZONTAL.
4. GOOSENECK DUCT SHALL BE PAINTED BLACK.

GOOSENECK DUCT TERMINATION DETAIL

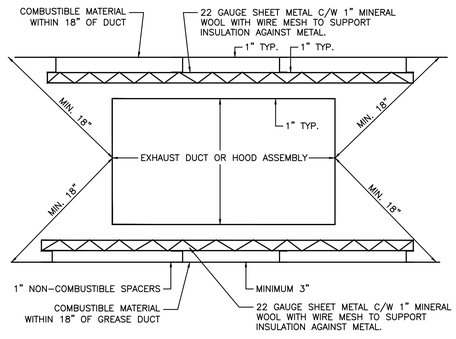
SCALE: N.T.S.



FIRE SUPPRESSION SYSTEM SCHEMATIC

N.T.S. (AS PER NFPA-17/NFPA-96)

NOTE: FIRE PROTECTION SYSTEM FOR KITCHEN CANOPIES, TO BE A RANGE GUARD (OR APPROVED EQUAL) WET CHEMICAL EXTINGUISHING SYSTEM DESIGNED AND INSTALLED BY A FIRM OF RECOGNIZED STANDING IN THE FIELD. SYSTEM TO INCLUDE WET CHEMICAL PACKAGE, ALL NOZZLES, ALL DISTRIBUTION PIPING FUSIBLE LINKS, REMOTE MANUAL PULL STATION, AUTOMATIC SHUT-OFF DEVICES FOR FUEL AND ELECTRICAL SERVICES TO ALL COOKING EQUIPMENT BEING EXTINGUISHED AND ALL DISTRIBUTION CONDUITS AND CABLES. ALL PIPING AND CONDUIT TO BE INSTALLED CONCEALED WHERE POSSIBLE.

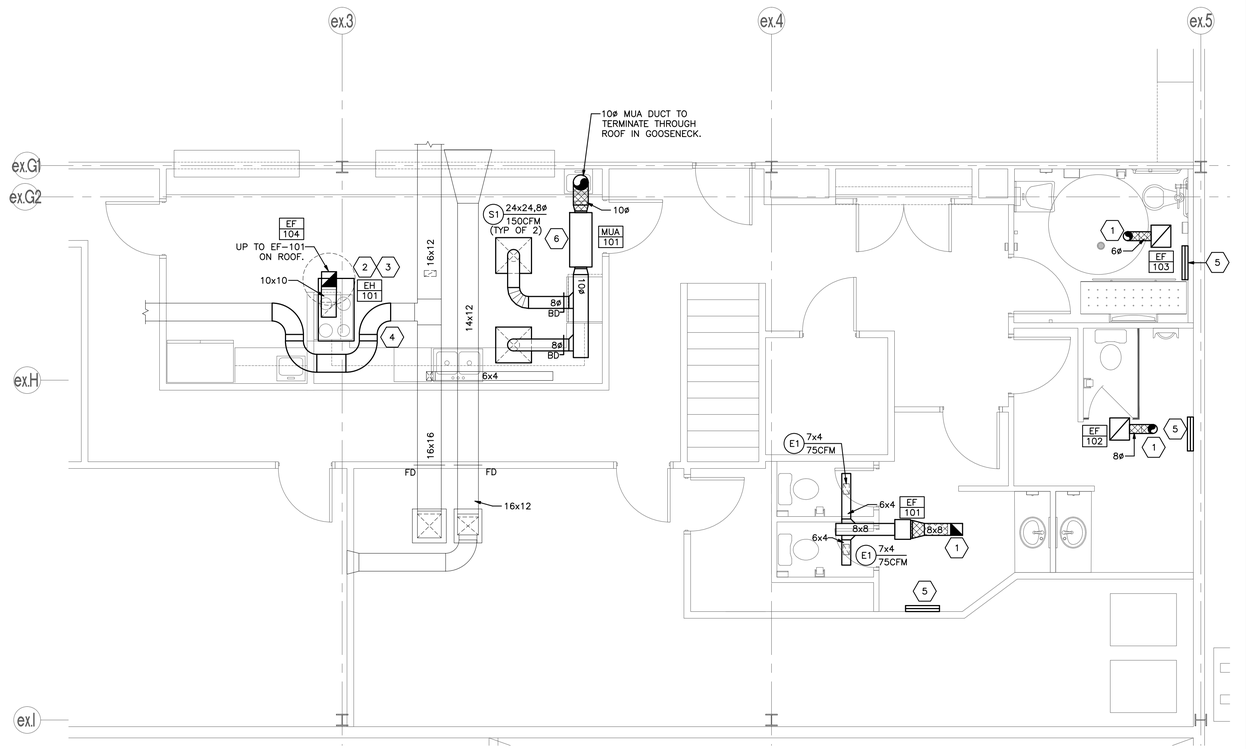


NOTE: IF COMBUSTIBLE MATERIAL IS >OR = 9" FROM DUCT OR HOOD, MINERAL WOOL NOT REQUIRED TO BE USED. IF > 18" PANEL WILL NOT BE USED.

NOTE: FOR EXTERIOR APPLICATIONS WHERE FIRE PROTECTION PANEL IS EXPOSED TO THE ELEMENTS, PROVIDE APPROPRIATE FLASHING OR WEATHERPROOFING BACKING TO PROTECT MINERAL WOOL INSULATION FROM MOISTURE.

FIRE PROTECTION PANEL DETAIL

N.T.S.



HVAC LAYOUT

SCALE: 1/4" = 1'-0"

TYPICAL HVAC NOTES (INDICATED WITH HEXAGONS):

1. TERMINATE IN GOOSENECK DUCT THROUGH ROOF C/W B.D.D. AND BIRDSCREEN. REFER TO DETAIL ON DRAWING ON THIS SHEET.
2. PROVIDE SPRING AIR EXHAUST SYSTEM INCLUDING EXHAUST HOOD, CONTROLS, FIRE SUPPRESSION SYSTEM AND ALL NECESSARY INTERLOCKS. REFER TO CONTROL NOTES FOR FURTHER INFORMATION.
3. PROVIDE FIRE PROTECTION PANELS WHERE KITCHEN HOOD OR EXHAUST DUCT ARE WITHIN 18" OF COMBUSTIBLE MATERIALS. REFER TO DETAILS FOR FURTHER INFORMATION.
4. MATCH EXISTING DUCT SIZE. ROUTE AROUND NEW KITCHEN HOOD EXHAUST DUCT.
5. 0.3KW EBB HEATER BY ELEC DIV.
6. LOCATE MUA-101 IN CEILING SPACE OF KITCHEN.

CONTROL NOTES:

KITCHEN EXHAUST EF-104
PROVIDE WALL MOUNT EXHAUST HOOD SYSTEM CONTROLLER COMPLETE WITH ALL NECESSARY RELAYS AND SWITCHES TO PROVIDE EQUIPMENT INTERLOCKS AS NOTED BELOW AND INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

MUA-101
INTERLOCK WITH HOOD EXHAUST FAN EF-104. STAGE ELECTRIC HEATING AS REQUIRED TO MAINTAIN A MINIMUM DISCHARGE AIR TEMPERATURE OF 17°C [65°F]

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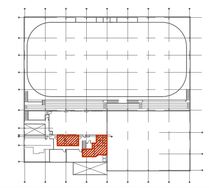
KEYPLAN



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PROJECT
BROOKE-ALVINSTON ARENA RENOVATIONS

ADDRESS
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PROJECT NO.
CE-4016

DRAWING TITLE
HVAC LAYOUT & DETAILS

DRAWING NUMBER
M4 OF 5

MECHANICAL GENERAL REQUIREMENTS

1. GENERAL

MAKE SITE VISIT(S) AS NECESSARY BEFORE TENDER TO ESTABLISH AND VERIFY ALL EXISTING CONDITIONS. MAKE ALLOWANCE FOR ANY NEW OR EXISTING SERVICE AND EQUIPMENT RELOCATIONS NECESSARY TO COMPLETE THE WORK AND INCLUDE IN THE TENDER PRICE. EXTRAS WILL NOT BE ALLOWED FOR FAILURE TO PROPERLY EVALUATE EXISTING CONDITIONS.

THE DRAWINGS SHOW THE GENERAL INTENT OF THE WORK, NOT THE DETAILS OF INSTALLATION. CO-ORDINATE THE ROUTING AND INSTALLATION OF ALL MECHANICAL SERVICES WITH ALL EXISTING CONDITIONS, STRUCTURE AND THE WORK OF ALL OTHER TRADES. PROVIDE INSTALLATION DRAWINGS AS REQUIRED.

DO NOT SCALE MECHANICAL DRAWINGS. TAKE FIELD DIMENSIONS PRIOR TO ANY INSTALLATION

DESCRIPTION
PROVIDE WORK IN ACCORDANCE WITH FULL INTENT AND MEANING OF DRAWINGS AND SPECIFICATIONS. THE WORD "PROVIDE" WHERE USED IN THE CONTRACT DOCUMENTS, IS TO BE INTERPRETED AS "SUPPLY AND INSTALL".

REGULATORY REQUIREMENTS
CONFORM TO GOVERNING MUNICIPAL AND PROVINCIAL CODES, RULES AND REGULATIONS AND/OR AUTHORITIES HAVING JURISDICTION.

PERMITS AND FEES
OBTAIN ALL PERMITS REQUIRED FOR INSTALLATION OF MECHANICAL TRADES WORK, ARRANGE FOR INSPECTIONS TESTS THEREWITH AND PAY ALL COSTS FOR PERMITS, INSPECTIONS, AND ASSOCIATED FEES. OBTAIN PERMITS IMMEDIATELY AFTER NOTIFICATION OF AWARD OF CONTRACT.

TAXES
ENSURE THAT PROVINCIAL TAXES ARE INCLUDED WHERE REQUIRED,

WARRANTY
PROVIDE A WRITTEN WARRANTY FOR ALL MATERIALS, EQUIPMENT AND LABOUR FOR A ONE-YEAR PERIOD TO BEGIN AT THE TIME WHEN THE WORK IS DESIGNATED ACCEPTABLE BY THE CONSULTANT.

CERTIFICATION
PROVIDE MANUFACTURER'S WRITTEN CERTIFICATION OF THE INSTALLATION AND OPERATION OF ALL SYSTEMS AND MAJOR EQUIPMENT.

EXISTING SERVICE
DO NOT SHUT DOWN OR MAKE CONNECTIONS TO ANY EXISTING SERVICE WITHOUT WRITTEN PERMISSION OF THE CONSULTANT.
BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF MECHANICAL EQUIPMENT AND SERVICES DESIGNATED FOR REMOVAL ON DRAWINGS.

PROTECTION
PROTECT ALL WORK AND MATERIALS, BEFORE AND AFTER ERECTION, FROM WEATHER AND OTHER HAZARDS, AND KEEP IN A CLEAN AND ORDERLY MANNER.

ADJUSTMENT AND OPERATION OF SYSTEMS
WHEN WORK IS COMPLETE, ADJUST ALL EQUIPMENT ITEMS, OF VARIOUS SYSTEMS, FOR PROPER OPERATION WITHIN FRAMEWORK OF DESIGN INTENT, AND OPERATING CHARACTERISTICS AS PUBLISHED BY EQUIPMENT MANUFACTUR

MISCELLANEOUS STEEL
SUPPLY AND INSTALL MISCELLANEOUS STRUCTURAL SUPPORTS, PLATFORMS, AND BRACES, AS REQUIRED TO HANG OR SUPPORT ALL EQUIPMENT, PIPING, DUCTWORK AND SIMILAR ITEMS.

EQUIPMENT INSTALLATION
INSTALL AND START UP ALL ITEMS OF EQUIPMENT, DEVICES AND SYSTEMS IN ACCORDANCE WITH MOST RECENT MANUFACTURER'S PUBLISHED GUIDELINES AND RECOMMENDATIONS. CONTRACTOR IS RESPONSIBLE FOR ASCERTAINING MANUFACTURERS INSTALLATION GUIDELINES AND RECOMMENDATIONS.

CUTTING AND PATCHING
WHERE PIPES AND DUCTS ARE SHOWN PASSING THROUGH EXISTING WALLS, FLOORS, AND ROOF, CUT AND PATCH THE NECESSARY OPENINGS. SHOULD CUTTING, REPAIRING, AND PATCHING OF PREVIOUSLY FINISHED WORK, OF OTHER TRADES, BE REQUIRED TO ALLOW INSTALLATION OF MECHANICAL WORK, PAY ALL COSTS FOR TRADE SECTION CONCERNED TO PERFORM WORK.

CHANGES IN THE WORK
CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS:
MATERIALS, QUANTITIES AND UNIT PRICES FOR ALL EQUIPMENT REQUIRED OR DELETED.
UNIT MAN HOURS
TOTAL MATERIAL COST.
TOTAL MAN HOURS.
HOURLY RATE. (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT).
TOTAL OVERHEAD AND PROFIT. (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT).

2. SUBMITTALS

SHOP DRAWINGS
SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT SUPPLIED BY MECHANICAL DIVISION. SUBMIT ELECTRONIC COPIES OF SUCH DRAWINGS TO CONSULTANT FOR REVIEW.
EACH SHOP DRAWING AND/OR BROCHURE MUST BEAR STAMP AND SIGNATURE OF RESPONSIBLE OFFICIAL IN CONTRACTOR'S AND SUBCONTRACTOR'S ORGANIZATION, FOR EACH SUBMISSION, AS EVIDENCE THAT DRAWING HAS BEEN CHECKED AGAINST REQUIREMENTS AS CALLED FOR IN SPECIFICATIONS AND DRAWINGS.

OPERATION AND MAINTENANCE INSTRUCTION MANUALS
PROVIDE PDF COPIES OF COMPLETE OPERATION AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT.
MANUALS SHALL INCLUDE THE FOLLOWING INFORMATION:
CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE, INCLUDING WIRING OF COMPONENTS.
WIRING DIAGRAM OF CONTROL PANELS.
OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE.
MAINTENANCE INSTRUCTIONS, INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR COMPONENTS OF EQUIPMENT.
COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE.
LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED.
MANUFACTURERS' WARRANTIES AND GUARANTEES.

RECORD DRAWINGS
MAINTAIN AN ACCURATE DIMENSIONAL RECORD OF DEVIATIONS AND CHANGES FROM CONTRACT DRAWINGS. TRANSFER AS-BUILT MARK-UPS TO AUTOCAD/REVIT AND SUBMIT AUTOCAD AND PDF FILES TO THE CONSULTANT WITH THE O&M MANUALS AT COMPLETION OF PROJECT.

FIRESTOPPING AND SMOKE SEAL
PROVIDE A ULC LISTED FIRESTOP SYSTEM TO SEAL AROUND ALL MECHANICAL SERVICES WHICH PENETRATE PART OF A BUILDING ASSEMBLY REQUIRED TO HAVE A FIRE RESISTANCE RATING.
DETAILED SHOP DRAWINGS TO THE CONSULTANT FOR REVIEW. INCLUDE THE FOLLOWING:
MANUFACTURER'S TECHNICAL PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH SPECIFIC TYPE AND LOCATION OF PENETRATION.
CERTIFICATION THAT PROPOSED FIRESTOPPING MATERIALS AND ASSEMBLIES COMPLY WITH CAN4-S115-M.
ULC LISTINGS WITH COPIES OF ULC DATA SHEETS FOR EACH SPECIFIC TYPE AND LOCATION OF PENETRATION.

3. MATERIALS AND EQUIPMENT

EQUALS AND ALTERNATES
USE MATERIALS AND EQUIPMENT AS SPECIFIED HEREIN, OR SPECIFIED EQUIVALENT. DESIGN OF MECHANICAL SYSTEMS HAS BEEN BASED ON FIRST LISTED SUPPLIER AND MODEL NUMBER/SIZE STATED IN EQUIPMENT SCHEDULES.
SOME ITEMS OF EQUIPMENT, ONE OR MORE ADDITIONAL NAMES OF ACCEPTABLE EQUAL MANUFACTURERS MAY BE LISTED. THE DESIGN, LAYOUT, SPACE ALLOCATION, CONNECTION DETAILS, ETC., ARE BASED ON THE PRODUCTS NAMED FIRST IN THE DESCRIPTION AND/OR SCHEDULES. THE GENERAL APPROVAL INDICATED BY LISTING THE NAMES OF OTHER EQUAL MANUFACTURERS IS TO ESTABLISH THE QUALITY OF MANUFACTURE ONLY AND IS SUBJECT TO FINAL REVIEW OF SHOP DRAWINGS, PERFORMANCE DATA, TEST REPORTS, PRODUCTION SAMPLES (IF REQUIRED) BY CONSULTANT
SUPPLIERS WISHING TO SUBMIT OTHER ITEMS OF EQUIPMENT FOR APPROVAL AS AN EQUAL TO THOSE SPECIFIED MUST APPLY TO THE CONSULTANT AT LEAST 14 DAYS BEFORE TENDER CLOSING DATE. REQUESTS MUST BE ACCOMPANIED BY COMPLETE DESCRIPTION AND TECHNICAL DATA ON THE ITEMS PROPOSED. DEVIATIONS FROM THE SPECIFICATIONS MUST BE STATED IN WRITING AT TIME OF APPLICATION FOR APPROVAL.
ITEMS OF EQUIPMENT BY MANUFACTURERS, NOT NAMED IN THE SPECIFICATIONS, MAY BE OFFERED AS ALTERNATIVES. PROPOSALS MUST BE ACCOMPANIED BY FULL DESCRIPTIVE AND TECHNICAL DATA, TOGETHER WITH THE STATEMENT OF AMOUNT OF ADDITION OR DEDUCTION FROM THE BASE BID. AFTER EXECUTION OF THE CONTRACT, SUBSTITUTION OF EQUIPMENT WILL NOT BE CONSIDERED. WHERE EQUIPMENT OTHER THAN THE EQUIPMENT USED AS A BASIS FOR DESIGN, LAYOUT AND SPACE ALLOCATION IS USED, PRODUCE AND SUBMIT REVISED LAYOUTS OF EQUIPMENT, PIPES, DUCTS, ETC., IN THE AREAS AFFECTED. SUBMIT THESE DRAWINGS WITH THE SHOP DRAWINGS. FAILURE TO PRODUCE THESE DRAWINGS IS AN INDICATION BY THE CONTRACTOR THAT THEY ARE NOT REQUIRED AND THE ORIGINAL SPACE ALLOCATIONS ARE ADEQUATE FOR THE SUBSTITUTED EQUIPMENT.

ACCESS DOORS
PROVIDE ACCESSES DOOR OF AT LEAST 200MMx200MM (8"x8") IN SIZE AS REQUIRED IN WALLS AND CEILINGS TO ENSURE THAT ACCESS IS PROVIDED FOR ALL EQUIPMENT, VALVES OR APPURTENANCES, BOTH NEW AND EXISTING. PROVIDE ACCESS DOORS COMPATIBLE WITH ADJACENT FINISHES AND WHERE APPLICABLE, WITH A FIRE RATING EQUAL TO THE SURFACES IN WHICH INSTALLED.

4. PIPING CONSTRUCTION METHODS

EXPANSION AND CONTRACTION
INSTALL ALL PIPING SO AS TO BE FREE FROM STRAIN AND DISTORTION DUE TO EXPANSION AND CONTRACTION AS GOVERNED BY REQUIREMENTS OF ANSI B31.1, EXCEPT AS HEREINAFTER MODIFIED. ALLOW FOR EXPANSION AND CONTRACTION BY OFFSETS, EXPANSION U-BENDS OR LOOPS. DO NOT USE EXPANSION JOINTS OF ANY TYPE UNLESS SPECIFICALLY INDICATED ON DRAWINGS.

LINES, GRADES AND SLOPES:
INSTALL LIQUID AND AIR LINES FREE OF POCKETS AND PITCH TO DRAIN, AT LOW POINTS IN LINE, WITH VALVES OR TRAPS INSTALLED AS REQUIRED FOR DRAINAGE OF THE LINES.
INSTALL PIPING TO FOLLOWING SLOPES:
DRAINAGE PIPING: 1:50 ON DRAINS OF NPS 3 SIZE AND LESS AND 1:100 ON DRAINS OF NPS 4 AND LARGER.
DOMESTIC WATER LINES: PITCH TO LOW POINTS SO THAT ALL LINES MAY BE COMPLETELY DRAINED.
HOT WATER HEATING, CHILLED WATER AND CONDENSER WATER LINES: SLOPE UP 1:500 IN DIRECTION OF FLOW.

UNIONS AND FLANGES:
PROVIDE UNIONS OR FLANGES IN FOLLOWING LOCATIONS:
FOR BY-PASSES AROUND EQUIPMENT, CONTROL VALVES, DEVICES IN PIPING SYSTEMS, AND ELSEWHERE INDICATED ON DRAWINGS.
AT CONNECTION TO STEAM TRAPS AND IN BY-PASSES AROUND TRAPS.
AT CONNECTIONS TO EQUIPMENT (LOCATE BETWEEN SHUT-OFF VALVE AND EQUIPMENT).
IN SCREWED, OR SOLDER JOINT, DRAINAGE TUBING AT INLET SIDE OF TRAP.
PROVIDE DIELECTRIC UNIONS, OR ISOLATING TYPE COMPANION FLANGES, AT ALL CONNECTIONS BETWEEN COPPER TUBING AND FERROUS PIPING.

PIPING CONNECTIONS TO MAINS:
MAKE BRANCH CONNECTIONS OF STEAM, GAS, AND COMPRESSED AIR LINES, TO RESPECTIVE HORIZONTAL PIPING OF LARGER DIAMETER, TO UPPER QUADRANT OF LARGER PIPE.
MAKE DOWN FEED PIPING CONNECTIONS, TO HORIZONTAL SUPPLY AND RETURN WATER MAINS, ON BOTTOM QUADRANT OF MAINS.

SLEEVES
INSTALL SLEEVES WHERE PIPING PASSES THROUGH FOUNDATIONS, ABOVE GRADE FLOORS, AND WALLS. FABRICATE SLEEVES OF SCHEDULE 40 BLACK STEEL PIPE OR TYPE "K" COPPER TUBING. SLEEVES FOR PIPING PASSING THROUGH ROOFS WILL BE SUPPLIED AND INSTALLED UNDER THIS DIVISION.
MAKE SLEEVES LARGE ENOUGH TO PASS FULL THICKNESS OF PIPE COVERING WHERE SAME IS USED, AND WITH SUFFICIENT CLEARANCE BETWEEN PIPE AND SLEEVE TO ALLOW FOR ANY LATERAL MOVEMENT OF PIPING DUE TO EXPANSION AND CONTRACTION.
FILL SLEEVES FOR FUTURE USE WITH LIME MORTAR.

ESCUTCHEON PLATES
PROVIDE ESCUTCHEON PLATES ON BARE PIPING PASSING THROUGH FINISHED WALLS OR FLOORS.

VALVES
PROVIDE DRAIN VALVES WITH HOSE THREAD OUTLET CONNECTION, OR VALVE WITH LONG NIPPLE ON OUTLET, AT ALL LOW POINTS OF EACH WATER SYSTEM, AND ABOVE ALL RISER OR BRANCH STOP VALVES, FOR PROPER DRAINAGE OF LINES.

STERILIZATION OF POTABLE WATER SYSTEMS
FLUSH EACH SYSTEM, AFTER COMPLETION, BY ALLOWING FULL FLOW OF WATER THROUGH SYSTEM FOR A PERIOD OF FIFTEEN MINUTES, OR LONGER WHEN DIRECTED BY CONSULTANT.
AFTER FLUSHING OF THE SYSTEM IS COMPLETED, PROVIDE A 24 HOUR CONTACT STERILIZATION TREATMENT BY TREATING THE WATER WITH 50 PPM OF CHLORINE AS RECOMMENDED IN AWWA SPECIFICATION C-651. AFTER STERILIZATION PERIOD HAS ELAPSED, FLUSH SYSTEM TO REDUCE CHLORINE CONTENT TO AN ACCEPTABLE LEVEL.

PIPE IDENTIFICATION
LABEL PIPING INSTALLED UNDER THIS DIVISION TO INDICATE CONTENT AND DIRECTION OF FLOW.
INCLUDE OPERATING PRESSURE OR VACUUM, AS APPLICABLE.
LOCATE LABELS AS FOLLOWS: AT EVERY END OF EVERY PIPE RUN, ADJACENT TO VALVE OR ITEM OF EQUIPMENT SERVICES. ON EACH EXPOSED PIPE PASSING THROUGH WALL, PARTITION OR FLOOR AT INTERVALS OF 15M (50'-0") ALONG EVERY EXPOSED PIPE RUN EXCEEDING 15M (50'-0") IN LENGTH. AT EVERY ACCESS POINT ON CONCEALED PIPING.
PROVIDE LABELS OF PLASTIC COATED TAPE, WITH SELF-ADHESIVE BACKING SURFACE. FOR INSTALLATION ON INSULATED PIPE, PROVIDE ADHESIVE SUITABLE FOR THIS APPLICATION. CONFORM WITH CAN/CGSB-24.3-92 FOR PRIMARY LABEL COLOUR, AND WITH LEGEND AND DIRECTION ARROWS IN BLACK. PRINT LEGEND IN FULL WHEREVER FEASIBLE, OR A RECOGNIZED ABBREVIATION OF SERVICE INVOLVED.

5. PIPE HANGERS AND SUPPORTS

GENERAL
SUPPORT OR SUSPEND ALL PIPING WITH NECESSARY HANGERS, STRUCTURAL SUPPORTS AND/OR BRACKETS AS REQUIRED, TO PREVENT SAGGING, WARPING AND VIBRATION.
DO NOT ALLOW LOADS, OF ANY NATURE, TO BE TRANSMITTED THROUGH PIPING CONNECTIONS TO EQUIPMENT.
PROVIDE SUITABLY DAMPENED SPRING HANGERS FOR FIRST THREE SUPPORTS FROM EQUIPMENT CONNECTION ON PIPING SUBJECT TO EXCESSIVE MOVEMENT.
DO NOT HANG ANY PIPE, FROM ANOTHER PIPE, UNLESS SPECIFICALLY INDICATED ON DRAWINGS.

HANGERS
FOR ALL INSULATED PIPING UP TO NPS 4, CARRYING LIQUIDS AT TEMPERATURES 10.5°C (51°F) AND HIGHER, USE STANDARD WEIGHT CLEVIS HANGERS.
FOR INSULATED LINES OF NPS 4 DIA. AND LARGER, CARRYING LIQUIDS AT TEMPERATURES 10.5°C (51°F) OR HIGHER, USE ADJUSTABLE ROLLER TYPE HANGERS WITH LOCKNUTS. SUPPORT ROLLERS AT BOTH ENDS WITH 2 ADJUSTABLE RODS WITH LOCKNUTS.
FOR INSULATED PIPING CARRYING LIQUIDS AT A TEMPERATURE OF 10°C (50°F) OR LESS, USE ELONGATED CLEVIS TYPE HANGERS
PROVIDE INSULATION PROTECTION BEARING PLATES AT ALL HANGERS AND SUPPORTS FOR ALL INSULATED.
FOR NON-INSULATED PIPING USE CLEVIS TYPE OF WROUGHT STEEL CONSTRUCTION.
FOR COPPER TUBING PROVIDE COPPER COATED HANGERS.
ATTACH HANGER RODS, TO BUILDING STRUCTURE, BY MEANS OF MALLEABLE IRON BEAM CLAMPS OR CONCRETE INSERTS

HANGER SPACING:
FOR HORIZONTAL RUNS OF PLUMBING AND DRAINAGE PIPING COMPLY WITH HANGER SPACING REQUIREMENTS OF OBC PART 7 (PLUMBING).
FOR HORIZONTAL RUNS OF BLACK OR GALVANIZED STEEL PIPE, OTHER THAN FOR PLUMBING SERVICE, DO NOT EXCEED MAXIMUM DISTANCES BETWEEN SUPPORTS AND WITH MINIMUM DIAMETER RODS AS FOLLOWS:
9mm (1/2") THROUGH 75mm (3") : 3.66m (12') SPACING, 12mm (1/2") ROD DIA.
100mm (4") THROUGH 200mm (8") : 5.8m (19') SPACING, 22mm (7/8") ROD DIA.
FOR HORIZONTAL RUNS OF COPPER TUBING FOR SERVICES OTHER THAN PLUMBING, DO NOT EXCEED 1.8 M (6 FT.) BETWEEN HANGERS.
FOR HORIZONTAL RUNS OF PIPING FABRICATED OF PVC FOR SERVICES OTHER THAN PLUMBING, DO NOT EXCEED 1.22 M (48 IN)
IN A HORIZONTAL RUN, PEX TUBING SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING 800 MM (32 IN), UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER.

6. TESTING AND BALANCING

AIR BALANCING
ASSUME RESPONSIBILITY FOR TESTING, BALANCING, AND PLACING ALL AIR HANDLING SYSTEMS IN OPERATION.
RETAIN INDEPENDENT BALANCING FIRM TO BALANCE AIR HANDLING SYSTEMS.
PROVIDE SHEAVES AND PULLEYS AND BELTS AS REQUIRED TO ACHIEVE AIR FLOWS INDICATED.
CO-ORDINATE SUPPLY WITH NEW EQUIPMENT MANUFACTURER.
ON COMPLETION OF TESTING AND BALANCING OF ALL SYSTEMS, SUBMIT TO CONSULTANT A PDF REPORT OF FINDINGS, INCLUDING COMPLETE DATA OF FAN PERFORMANCE, STATIC PRESSURES, AIR FLOW RATES, FINAL READINGS AT ALL OUTLETS, AND AMPERE READINGS OF ALL MOTORS, TAKEN AT MOTOR TERMINALS WHEN EQUIPMENT IS OPERATING UNDER FULL LOAD CONDITIONS.
SUBMIT WITH EACH COPY OF REPORT, COMPLETE SETS OF DUCT LAYOUT PRINTS NEATLY MARKED IN RED INK, SHOWING ALL LOCATIONS AT WHICH TEST READINGS WERE TAKEN, AIR VOLUME, VELOCITY AND STATIC PRESSURE IN EACH SUPPLY AND RETURN DUCT, AND FINAL READING AT ALL OUTLETS. OBTAIN DUCT LAYOUT PRINTS FOR MARK-UP PURPOSES FROM CONSULTANT.

INSULATION

1. PIPING

DOMESTIC COLD WATER AND CITY WATER PIPING
FIBROUS GLASS SPLIT SECTIONAL PIPE INSULATION CONFORMING TO CAN/CGSB-51.9-92 25 MM (1") THICKNESS WITH FACTORY APPLIED VAPOUR BARRIER JACKET AND SELF-SEAL LAP JOINT.
FIRE RETARDANT ELASTOMERIC CLOSED CELL FOAM OR NEOPRENE TUBING OF 10 MM (3/8") NOMINAL THICKNESS MAY BE USED INSTEAD OF FIBROUS GLASS INSULATION ON COLD WATER RUNOUTS TO PLUMBING FIXTURES, NOT EXCEEDING 1.5 M (5') IN LENGTH,

DOMESTIC HOT WATER PIPING
FIBROUS GLASS SPLIT SECTIONAL PIPE INSULATION OF THE THICKNESS HEREINAFTER SPECIFIED WITH FACTORY APPLIED VAPOUR BARRIER JACKET AND SELF-SEAL LAP JOINT.
13mm (1/2") THROUGH 32mm (1-1/4") PIPE SIZE = 25mm (1") THICKNESS.
38mm (1-1/2") AND LARGER PIPE SIZE = 38mm (1-1/2") THICKNESS.

SANITARY DRAIN PIPING
INSULATE EXPOSED HORIZONTAL ABOVE FLOOR SANITARY DRAIN PIPING WITHIN BUILDING.
INSULATE EXPOSED WASTE PIPE OF HANDICAPPED LAVATORIES.
INSULATION SHALL BE FIBROUS GLASS SPLIT SECTIONAL PIPE INSULATION CONFORMING TO CAN/CGSB-51.9-92 OF 25 MM (1") THICKNESS WITH FACTORY APPLIED VAPOUR BARRIER JACKET AND SELF-SEAL LAP JOINT.

2. SHEET METAL

SHEET METAL
INSULATION FOR EXPOSED RECTANGULAR DUCTWORK SHALL BE RIGID BOARD CONFORMING TO CAN/CGSB-51.10-92 OF 48 KG/M3 (3 LB/CU.FT.) DENSITY, MINIMUM 38 MM (1-1/2") THICKNESS, MINIMUM R-VALUE OF R-8, AND REINFORCED FOIL FLAME RESISTANT KRAFT FACING.
INSULATION INSTALLATION TO PREVENT WATER PONDING.
INSULATION FOR CONCEALED RECTANGULAR DUCTWORK AND CONCEALED AND EXPOSED ROUND DUCTWORK, WHERE SHOWN ON DRAWINGS, SHALL BE FLEXIBLE DUCT INSULATION OF 12 KG/M3 (3/4 LB/CU.FT.) DENSITY, MINIMUM 38 MM (1-1/2") THICKNESS, MINIMUM R-VALVE OF R-3.5 WITH REINFORCED FOIL FLAME RESISTANT KRAFT FACING.

3. SURFACE FINISHED

EXPOSED INTERIOR PIPING
FINISH EXPOSED INSULATED PIPING, VALVES AND FITTINGS WHERE SUBJECT TO POTENTIAL DAMAGE. WITH PVC JACKETING. PVC MUST HAVE ATTAINED 25/50 FIRE RATING, BASED ON CAN/ULC-S102-M88 TESTING. PIPING AT HIGH LEVEL AND NOT SUBJECT TO DAMAGE DOES NOT REQUIRE PVC JACKETING.

SANITARY PIPING
FINISHED INSULATED SANITARY PIPING BELOW BARRIER FREE LAVATORY TRAPS WITH PVC JACKETING. PVC MUST HAVE ATTAINED 25/50 FIRE RATING, BASED ON CAN/ULC-S102-M88 TESTING.
FIRE PROTECTION.

1. FIRE PROTECTION EQUIPMENT

FIRE EXTINGUISHERS
LOCATE FIRE EXTINGUISHERS WHERE INDICATED ON DRAWINGS.
USE MULTI-PURPOSE DRY CHEMICAL EXTINGUISHERS WITH A RATING OF 2A10BC. PROVIDE COMPLETE WITH WALL BRACKETS.
PROVIDE TYPE K FIRE EXTINGUISHER IN SERVERY AREA.

PLUMBING

1. PLUMBING EQUIPMENT, FIXTURES, AND VALVES

FLOOR DRAINS (FD)
PROVIDE FLOOR DRAINS SIZES AS INDICATED ON DRAWINGS, WITH TAPPED PRIMER CONNECTION IN DRAIN BODY. PROVIDE EACH FLOOR DRAIN INSTALLATION WITH DEEP SEAL "P" TRAP UNLESS OTHERWISE INDICATED. FURNISH TRAP PRIMER CONNECTION TAPPING TO CONFORM WITH CODE REQUIREMENTS.

CLEANOUTS (CO)
PROVIDE DRAINAGE CLEANOUT FITTINGS IN DRAINAGE PIPING AT LOCATIONS INDICATED ON DRAWINGS, AT BASE OF EACH VERTICAL STACK OR RAINWATER LEADER, AND AS CLOSE AS POSSIBLE TO WHERE STORM AND SANITARY LINES EXIT THE BUILDING, AS REQUIRED TO COMPLY WITH APPLICABLE PLUMBING CODE.
WHERE CLEANOUTS ARE CONCEALED IN WALLS, PROVIDE AN ACCESS COVER ON WALL. THE TYPE OF COVER TO SUIT WALL SURFACE AND CONSTRUCTION

PLUMBING FIXTURES
PROVIDE PLUMBING FIXTURES AS INDICATED ON DRAWINGS.
CAULK ALL AROUND BASES OF MOP SERVICE SINKS, BUILT-IN BATHTUBS, AND OTHER BUILT-IN EQUIPMENT.

2. PLUMBING VENTING

PLUMBING VENTING MAY NOT BE SHOWN ON DRAWINGS. PROVIDE A COMPLETE PLUMBING VENTING SYSTEM FOR ALL PLUMBING FIXTURES SHOWN, IN ACCORDANCE WITH OBC SECTION 7.5.

AIR DISTRIBUTION

1. SHEET METAL WORK

GENERAL
PROVIDE DUCTWORK CONSTRUCTED TO SMACNA 255 PA (1" W.G.) PRESSURE CLASSIFICATION.
PROVIDE DUCTWORK OF GALVANIZED STEEL SHEET UNLESS INDICATED OTHERWISE.
PROVIDE DUCTS OF SIZES INDICATED ON DRAWINGS. WHERE DUCTS ARE TO BE FURNISHED WITH INTERNAL ACOUSTICAL LINER, ADJUST DUCT SIZE TO ACCOMMODATE ACOUSTIC LINER THICKNESS, WITH CLEAR INSIDE DIMENSIONS AS INDICATED ON DRAWINGS.
CONTINUOUSLY SOLDER OR SEAL JOINTS IN EXTERIOR AIR INTAKE DUCTS AND PLENUMS TO PREVENT DRIPPING OF MOISTURE.

RECTANGULAR DUCTWORK
FOR LONGITUDINAL JOINTS ON RECTANGULAR DUCTWORK, FURNISH PITTSBURGH LOCK JOINTS TIGHTLY CLOSED ALONG FULL LENGTH OF SEAM.
WHERE ELBOWS ARE INDICATED AS SQUARE TYPE, PROVIDE AIR TURNING VANES OF DOUBLE BLADE CONSTRUCTION.
CROSS-BREAK FLAT SURFACES BETWEEN JOINTS, OR BETWEEN JOINTS AND INTERMEDIATE REINFORCEMENTS, TO PREVENT VIBRATION OR BUCKLING.
SEAL JOINTS ON RECTANGULAR DUCTWORK WITH HIGH VELOCITY DUCT SEALER.

FLEXIBLE TYPE ROUND DUCTS
FURNISH FLEXIBLE TYPE ROUND DUCTWORK BETWEEN TRUNK SUPPLY DUCT AND DROPS CEILING DIFFUSERS AND WHERE INDICATED ON DRAWINGS (MAXIMUM 5' LENGTH).
PROVIDE FLEXIBLE DUCT OF POLYMERIC LINER BONDED TO WIRE SPIRAL. WHERE INSTALLED IN CEILING SPACE USED AS A RETURN PLENUM DUCTS SHALL BE MEET BUILDING CODE FAME SPREAD AND SMOKE DEVELOPMENT RATINGS.
PROVIDE SEALED JOINTS BETWEEN FLEXIBLE DUCT AND RIGID DUCTWORK OR EQUIPMENT, MADE WITH NON-FLAMMABLE HIGH VELOCITY DUCT SEALER.

KITCHEN EXHAUST DUCTWORK:
FABRICATE DUCTWORK FROM 1.6 MM (16 GA) BLACK STEEL WITH EXTERNALLY WELDED SEAMS, AND FLANGED AND GASKETTED JOINTS AT HOOD AND FAN. FABRICATE DUCTWORK, INCLUDING ACCESS DOORS AND CLEANOUTS, IN ACCORDANCE WITH ANSI/NFPA 96-2011.

ROUND DUCTWORK
SEAL JOINTS IN ROUND DUCTWORK WITH HIGH VELOCITY DUCT SEALER.
FURNISH NINETY DEGREE ELBOWS WITH SMOOTH CENTRE LINE RADIUS OF 1.5 TIMES DUCT DIAMETER. ALTERNATIVELY FURNISH ELBOWS OF 5 PIECE CONSTRUCTION, SUBJECT TO APPROVAL BY CONSULTANT.
DUCTWORK SHALL USE SPIRAL LOCK SEAM TYPE DUCT. SLIP JOINTS IN DIRECTION OF FLOW, IN ACCORDANCE WITH SMACNA STANDARDS.

ACOUSTIC DUCT INSULATION
FURNISH RIGID COATED DUCT LINER CONFORMING TO ANSI/NFPA 90A-1996 AND 90B, OF 25 MM (1") THICKNESS AND 72 KG/M3 (4.5 LB/CU.FT) DENSITY.IN HIGH VELOCITY DUCTWORK FURNISH PERFORATED OR EXPANDED METAL INNER LINER OVER ACOUSTIC INSULATION.
FASTEN DUCT LINER WITH PLATE TYPE IMPALING PINS AND SELF-LOCKING WASHERS.

2. SUPPORTS AND HANGERS

RECTANGULAR DUCTWORK
FURNISH STRAP HANGERS OF GALVANIZED SHEET STOCK WITH EDGES FOLDED OVER FOR DUCTS UP THROUGH 760 MM (30") WIDTH. BEND STRAP HANGER AROUND BOTTOM OF DUCT FOR MINIMUM OF 38 MM (1-1/2") AND ATTACH TO SIDES AND BOTTOM OF DUCT. FURNISH MILD STEEL ROD HANGERS OF 10 MM (3/8") DIA MINIMUM SIZE FOR DUCTS OVER 760 MM (30") IN WIDTH AND FURNISH 38 MM X 38 MM X 3 MM (1-1/2" X 1-1/2" X 1/8") STEEL ANGLE ACROSS BOTTOM OF DUCT AND ATTACH HANGER TO ANGLE (NOT DUCT).

ROUND DUCTWORK
FURNISH STRAP BAND AND HANGER OF 1"x20 GA. GALVANIZED SHEET STOCK WITH EDGES FOLDED OVER FOR DUCTS UP THROUGH 900 MM (36") DIAMETER. BAND IS TO FIT TIGHT TO DUCT ALL AROUND, AND CONNECT TO HANGER STRAP WITH LOAD RATED FASTENER.

3. DIFFUSERS, REGISTERS AND GRILLES

GENERAL
REFER TO DRAWINGS FOR ACCESSORIES, NECK SIZE, DIMENSIONS, CAPACITY, OF GRILLES, REGISTERS AND DIFFUSERS.
COORDINATE PLACING OF DIFFUSERS, REGISTERS AND GRILLES IN CEILINGS WITH ELECTRICAL AND CEILING INSTALLATION TRADES AND EXACT LOCATION TO FINAL APPROVAL OF CONSULTANT.

4. EQUIPMENT

EXHAUST FANS

CEILING CABINET
RECESSED CEILING CABINET CENTRIFUGAL FANS COMPLETE WITH BACKDRAFT DAMPER, ACOUSTICALLY INSULATED HOUSING AND INLET GRILLE. PROVIDE FANS WITH CAPACITIES AND ACCESSORIES AS INDICATED ON DRAWINGS. FAN SOUND LEVEL SHALL NOT EXCEED SONES NOTED IN SCHEDULES.
FAN MOTOR AND WHEEL SHALL BE REMOVABLE FOR SERVICING WITHOUT DISTURBING THE CABINET HOUSING.

SQUARE IN-LINE
BELT DRIVEN IN-LINE EXHAUST FAN WITH HEAVY GAUGE FORMED STEEL HOUSINGS WITH DUCT MOUNTING COLLARS AND ON HINGED SIDE FOR ACCESS. PROVIDE FANS WITH CAPACITIES AND ACCESSORIES AS INDICATED ON DRAWINGS. FAN SOUND LEVEL SHALL NOT EXCEED SONES NOTED IN SCHEDULES

PIPE STANDARDS

1. SANITARY DRAIN & VENT

ABOVE GROUND SECTIONS
PIPING 75mm (3") AND SMALLER: TYPE DWV HARD DRAWN COPPER DRAINAGE TUBE CONFORMING TO ASTM B 306-99 WITH WROUGHT COPPER OR CAST BRASS SOLDER JOINT DRAINAGE FITTINGS TO ASME B16.29-1994 AND CSA B158.1-1976 (R1992).

PIPING 100mm (4") AND LARGER: CAST IRON SOIL PIPE AND FITTINGS CONFORMING TO CSA B70-97. USE PLAIN END PIPE AND FITTINGS JOINED WITH NEOPRENE SLEEVES WITH STAINLESS STEEL GEAR TYPE CLAMPS EXCEPT WHERE LOCAL AUTHORITIES DO NOT APPROVE THEIR USE, IN WHICH CASE USE BELL AND SPIGOT PIPE AND FITTINGS WITH LEAD AND OAKUM JOINTS

FOR NON-COMBUSTIBLE BUILDINGS (LOW-RISE BUILDINGS, NON-PLENUM SPACES ONLY):
SYSTEM 15 PVC DRAIN, AS MANUFACTURED BY IPEX IS PERMITTED IN LOW-RISE BUILDINGS OF NON-COMBUSTIBLE CONSTRUCTION AND IN NON-RETURN AIR PLENUM SPACES. WASTE AND VENT PIPE AND FITTINGS SHALL BE CERTIFIED TO CSA B181.2. WHEN COMBUSTIBLE PIPE AND FITTINGS ARE USED IN BUILDINGS REQUIRED TO BE OF NON-COMBUSTIBLE CONSTRUCTION, THEY SHALL BE LISTED BY ULC TO THE STANDARD CAN/ULC S102.2 AND CLEARLY MARKED WITH THE CERTIFICATION LOGO INDICATING A FLAME SPREAD RATING NOT EXCEEDING 25. IPEX SYSTEM 15 PIPE AND FITTINGS HAVE BEEN TESTED AND CERTIFIED BY CSA TO THE CSA B181.2 STANDARD.

2. POTABLE HOT AND COLD WATER PIPING

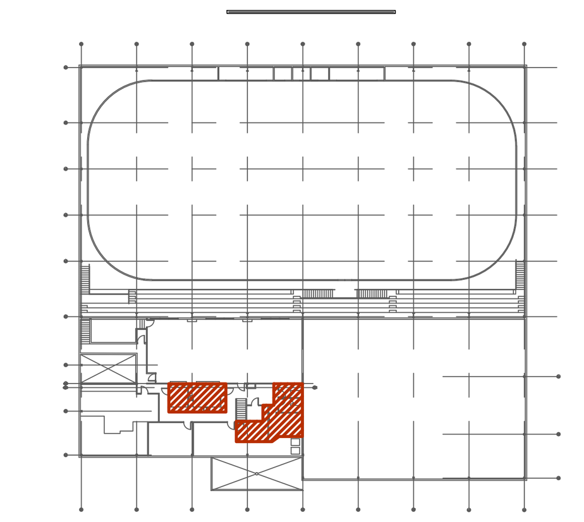
ABOVE GROUND PIPING 75mm (3") AND SMALLER
TYPE "L" HARD DRAWN COPPER TUBING CONFORMING TO ASTM B 88-99. FITTINGS: WROUGHT COPPER, SOLDER JOINT, PRESSURE TYPE. PROVIDE SOLDER TO THREADED ADAPTERS AT SCREWED VALVES OR EQUIPMENT

PEX
ABOVE GROUND PIPING 1-1/2" AND BELOW
PROVIDE A COMPLETE PEX POTABLE WATER DISTRIBUTION SYSTEM AS DESCRIBED BELOW AND INDICATED ON THE DRAWINGS. SYSTEM SHALL CONSIST OF CROSS-LINKED POLYETHYLENE TUBING TO CSA-B137-M89. SYSTEM SHALL INCLUDE TUBES, TUBE BENDS, TUBE BEND SUPPORTS, TUBE FITTINGS, MANIFOLDS, MANIFOLD SUPPORTS AND BRACKETS. ON COMPLETION OF INSTALLATION THE SYSTEM SHALL BE CHARGED WITH POTABLE WATER TO A PRESSURE WHICH MEETS LOCAL PLUMBING CODES. THE SYSTEM SHALL REMAIN AT THIS PRESSURE FOR A MINIMUM OF 24 HOURS TO ENSURE SYSTEM INTEGRITY. TUBING, MANIFOLDS AND FITTINGS SHALL CARRY A TWENTY-FIVE YEAR NON-PRORATED WARRANTY AGAINST FAILURE DUE TO MANUFACTURING DEFECT OR EXPOSURE TO STRESS CRACKING AGENTS.

CPVC
AQUARISE CPVC, AS MANUFACTURED BY IPEX, IS PERMITTED IN BUILDINGS OF NON-COMBUSTIBLE CONSTRUCTION, HIGH-RISE BUILDINGS, AND IN RETURN AIR PLENUMS. PIPE AND FITTINGS SHALL BE CERTIFIED TO CSA B137.6. WHEN USED IN NON-COMBUSTIBLE CONSTRUCTION, HIGH-RISE BUILDINGS AND AIR PLENUMS, AQUARISE PIPE SHALL BE TESTED AND LISTED IN ACCORDANCE WITH CAN/ULC S102.2 AND CLEARLY MARKED WITH THE CERTIFICATION LOGO INDICATING A FLAME SPREAD RATING NOT MORE THAN 25 AND A SMOKE DEVELOPED CLASSIFICATION NOT EXCEEDING 50. PIPE SHALL BE SDR 11 THICKNESS AND IPS OUTSIDE DIAMETER. FIRESTOPPING SYSTEMS SHALL BE LISTED UNDER CAN/ULC S115 AND TESTED WITH A PRESSURE DIFFERENTIAL OF 50 PA. SOLVENTS SHALL BE CERTIFIED TO CSA B137.6, LISTED TO NSF 61.

Callidus Engineering
We Make Buildings Work
London: 1385 North Routledge Park, Unit 9
London, ON N6H 5N5
P 519.472.7640
Kingston: 221 Queen Street, Suite 114
Kingston, ON K7K 1N8
P 613.900.0845
W www.callidus.ca E info@callidus.ca

KEYPLAN



REVISIONS

NO.	REVISIONS	DATE
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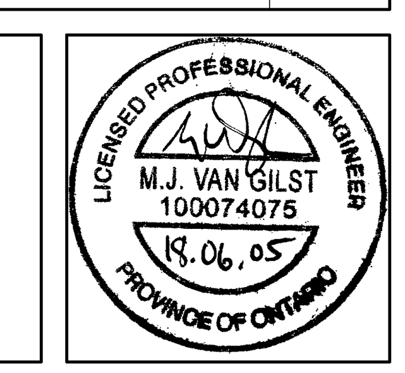
NORTH



DESIGN	BCD	DRAWN	BCD
CHECKED	MVG	REVIEWED	MVG

PROJECT
BROOKE-ALVINSTON ARENA RENOVATIONS

ADDRESS
3310 WALNUT ST., ALVINSTON, ON

PROJECT NO.
CE-4016

DRAWING TITLE
MECHANICAL SPECIFICATIONS

DRAWING NUMBER
M5 OF 5

WIRING FOR MECHANICAL EQUIPMENT SCHEDULE

LABEL	DESCRIPTION	LOCATION	VOLT	PH	HP	WATTS	MCA	ISO SWITCH	P	POWER WIRING	CONTROL BY DIV. 16	SOURCE PANEL	DISC AMP	FUSE	BRK	P	REMARKS
EF–101	EXHAUST FAN	WOMEN'S	120	1	FHP	–	–	–	–	2#12+GND	LTG OS	EXISTING	–	–	15	1	–
EF–102	EXHAUST FAN	MEN'S	120	1	FHP	–	–	–	–	2#12+GND	LTG OS	EXISTING	–	–	15	1	–
EF–103	EXHAUST FAN	UNIVERSAL	120	1	FHP	–	–	–	–	2#12+GND	LTG OS	EXISTING	–	–	15	1	–
EF–104	EXHAUST FAN	KITCHEN	120	1	1/4	–	–	15	1	2#12+GND	–	EXISTING	–	–	15	1	–
EH–101	KITCHEN EXHAUST HOOD	KITCHEN	120	1	FHP	–	–	15	1	2#12+GND	–	EXISTING	–	–	15	1	–
MUA–101	MAKE–UP AIR UNIT	KITCHEN	208	1	–	2500	–	20	2	3#12+GND	–	EXISTING	–	–	20	2	–

ABBREVIATIONS:

CONT	–	CONTACTOR, SIZE AS INDICATED
COMB	–	COMBINATION DISCONNECT & STARTER
FVNR	–	FULL VOLTAGE NON REVERSING STARTER
HOA	–	HAND OFF AUTO SWITCH C/W ON PILOT LIGHT
MAN	–	MANUAL MOTOR SWITCH C/W PILOT LIGHT
OS	–	OCCUPANCY SENSOR
RAT	–	REVERSE ACTING THERMOSTAT
R	–	RELAY
RPB	–	REMOTE PUSH BUTTON OFF
SW	–	LIGHT SWITCH
TC	–	7 DAY PROGRAMMABLE TIMECLOCK
TS	–	TIMER SWITCH
WP	–	WEATHER PROOF

NOTES:

1. INSTALL ALL WIRING IN CONDUIT WITH SHORT LENGTH LIQUID TIGHT FLEX TO MOTOR OR VIBRATING EQUIPMENT.
2. WIRE THROUGH TC OR RAT SUPPLIED BY DIVISION 15.

ELECTRIC HEATER SCHEDULE

TYPE	DESCRIPTION	MOUNTING	CONTROL	MANUFACTURER/MODEL NUMBER	WATTAGE	VOLTAGE	REMARKS
EBB–0.3	ELECTRIC BASEBOARD HEATER	SURFACE	REMOTE T–STAT	STELPRO B308	300	208	–

EMERGENCY LIGHTING SCHEDULE

UNIT	MANUFACTURER	DESCRIPTION	MODEL No.	WATTAGE	VOLTAGE	# OF HEADS	TIME
EB.1	LUMACELL	EMERGENCY LIGHTING BATTERY PACK	RG12S 72	72	120/12	0	30
HEADS	LUMACELL	EMERGENCY LIGHTING REMOTE HEADS	M QM 1/2 LD9	5	12	1/2	30

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	VOLTAGE	LAMPS	MOUNTING
AA	1x4 RECESSED LED FIXTURE WITH RIBBED ACRYLIC LENS. PHILIPS: 1 AVE G 38L 840 4 ACR UNV DIM	120	LED 40.4W 4000K 3,908L	RECESSED T–BAR
AB	1x4 RECESSED LED FIXTURE WITH RIBBED ACRYLIC LENS. PHILIPS: 1 AVE G 32L 835 4 ACR UNV DIM	120	LED 30.7W 3500K 3,168L	RECESSED T–BAR
BA	4" RECESSED LED POT LIGHT WITH CLEAR REFLECTOR AND 0–10V DIMMING PHILIPS: P4RD10NZ10UVB; P4RD827VB; P4RDCL	120	LED 11.3W 2700K 1,000L	RECESSED T–BAR
CA	4' LED CUBELIGHT VANITY FIXTURE PHILIPS: CSW 48 28 35 120 DZT ZO	120	LED 31.0W 3500K 2,751L	WALL MOUNT @7'–0" A.F.F. CONFIRM WITH ARCH.
DA	4' SUSPENDED LED STRIPLIGHT c/w FACTORY INSTALLED MOTION SENSOR ON ENDCAP PHILIPS: FSS 4 55L 840 120 DIMLSXR10	120	LED 45W 4000K 5,759L	SUSPENDED @8'–0" A.F.F.

SYSTEM COMPONENT LIST

⬡	MODEL	DESCRIPTION	EQUIPMENT PACKAGE	DRAWING SYMBOL
1	CX–EMF–2	MULTI–FUNCTION RELAY	CX–WC14FM	TR
2	CM–45/8GRFSE1	4 1/2" ILLUMINATED PUSH PLATE W/ ENCLOSURE AND SIGN	CX–WC14FM	
3	CM–45/4GRFSE1	4 1/2" ILLUMINATED PUSH PLATE W/ ENCLOSURE AND SIGN	CX–WC14FM	
4	CM–450/12R	"PRESS FOR EMERGENCY ASSISTANCE" PUSH BUTTON	CM–WC14FM	CALL
5	CX–MDC	MAGNETIC DOOR CONTACT	CX–WC14FM	
6	CM–AF501SO	'ASSISTANCE REQUIRED' LED ANNUNCIATOR W/ ADJUSTABLE SOUNDER	CX–WEC10	
7	CM–AF140SO	'ASSISTANCE REQUIRED' SINGLE GANG DOME LIGHT W/ SOUNDER	CX–WEC10	
8	CM–SE21A	EMERGENCY ASSISTANCE SIGN	CX–WEC10	
9	–	DOOR OPERATOR	BY OTHERS	
10	CX–ED2079	GRADE 2 UNIVERSAL ELECTRIC STRIKE	BY CAMDEN	ES
11	CM–45/A	4 1/2" SQUARE ACTIVATION SWITCH	BY CAMDEN	
12	CM–55CBL	FLUSH MOUNT BOX FOR CM–45/4	BY CAMDEN	
13	CX–PS3OUL	3A,12/24VDC LINEAR POWER SUPPLY	BY CAMDEN	
–	–	–	–	

NOTE: SYSTEM BASED ON COMPONENTS PROVIDED BY CAMDEN DOOR CONTROLS FOR A COMPLETE OPERATING SYSTEM. OTHER SYSTEMS MUST BE SUBMITTED AND APPROVED AT TIME OF TENDER TO BE CONSIDERED.

SYSTEM OPERATION SEQUENCE:

CX–WC14FM OPERATION:

1. THE DOOR IS NORMALLY CLOSED AND UNLOCKED.
2. THE EXTERIOR ' PUSH TO OPEN' AURA ILLUMINATED PUSH PLATES SWITCH OUTER RING, ON ALL DOORS, IS GREEN INDICATING THE RESTROOM IS VACANT.
3. PRESSING THE ' PUSH TO OPEN' SWITCH WILL OPEN THE DOOR.
4. ONCE THE DOOR IS CLOSED, PRESSING THE ' PUSH TO LOCK' AURA ILLUMINATED PUSH PLATE SWITCH WILL LOCK BOTH DOORS IN THAT RESTROOM.
5. THE ' PUSH TO LOCK' OUTER RING WILL GLOW RED INDICATING THE DOOR IS LOCKED. ALSO, THE EXTERIOR AURA™ ILLUMINATED PUSH PLATE RINGS WILL GLOW RED INDICATING THE RESTROOM IS OCCUPIED.
6. WHILE THE RESTROOM IS OCCUPIED, PRESSING THE "PRESS FOR EMERGENCY ASSISTANCE" PUSH BUTTON WILL SEND A SIGNAL TO THE ASSISTANCE REQUIRED APPLIANCE AND UNLOCK THE DOOR. THE ACTIVATION OF THE "PRESS FOR EMERGENCY ASSISTANCE" PUSH BUTTON WILL ACTIVATE THE CX–WEC10 SYSTEM TO:

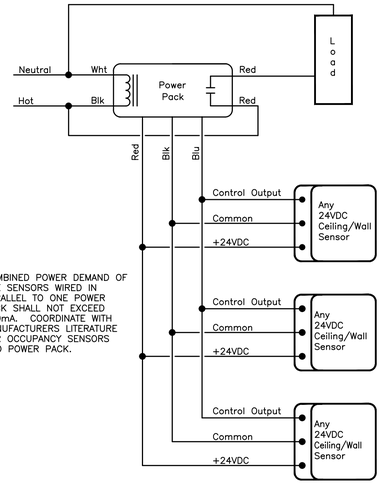
6.1. ENERGIZE THE LED ANNUNCIATOR AND SOUNDER WITHIN THE WASHROOM, AND THE DOME LIGHT WITH SOUNDER OUTSIDE THE WASHROOM.

6.2. BOTH ANNUNCIATORS WILL BE ENERGIZED UNTIL THE CALL IS DISCONNECTED BY THE ERC.

7. PRESSING THE INTERIOR ALL–ACTIVE PUSH PLATE SWITCH WILL OPEN THE DOOR AND RESET THE SYSTEM.
8. THE EXTERIOR AURA™ ILLUMINATED PUSH PLATE SWITCHES WILL GLOW GREEN INDICATING THE RESTROOM IS NOW VACANT.
9. IF THE DOOR IS OPENED MANUALLY TO EXIT THE RESTROOM, THE OVERHEAD MAGNETIC CONTACT SWITCH RESETS THE SYSTEM.
10. IF THE TIME–OUT FUNCTION OF THE CX–EMF–2 IS CONFIGURED, THE RESTROOM DOOR WILL AUTOMATICALLY UNLOCK AFTER A PERIOD OF TIME AND THE ' ASSISTANCE REQUIRED' SIGNAL APPLIANCE WILL ACTIVATE, ALLOWING ATTENDANT STAFF (PRIMARILY IN HEALTH CARE FACILITIES) TO INTERCEDE.

ELECTRICAL LEGEND

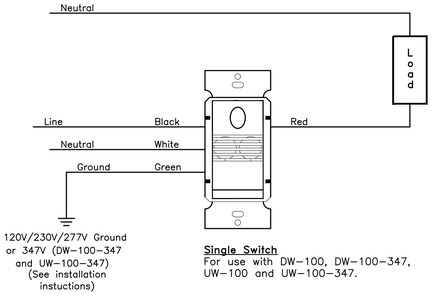
SYMBOL	DESCRIPTION
	1'X4' LIGHT FIXTURE
	4' STRIP LIGHT
	LIGHT FIXTURE REFER TO DRAWINGS FOR TYPE
	WALL SCONCE
$	SWITCH
OS	OCCUPANCY SENSOR
$	OCCUPANCY SENSOR SWITCH
S	SPEED CONTROLLER
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	GFI RECEPTACLE
	DIRECT CONNECTION
	SPLIT RECEPTACLE
O/C	OVER COUNTER
EX	EXISTING FIXTURE
REM	REMOVE EXISTING FIXTURE
REL	RELOCATE EXISTING FIXTURE
ER	RELOCATED EXISTING FIXTURE
	ELECTRIC BASEBOARD HEATER
	ELECTRICAL PANEL
	MOTOR OR MOTORIZED PIECE OF EQUIPMENT
	DISCONNECT SWITCH
	CIRCUIT WIRE
	TELEPHONE OUTLET
	TELEPHONE/DATA OUTLET
	DATA OUTLET
	CABLE OUTLET
	ELECTRICAL THERMOSTAT
	PUSH BUTTON (PL–PUSH TO LOCK)
	EMERGENCY LIGHTING BATTERY
	EMERGENCY LIGHT HEADS – SINGLE AND DOUBLE
	EXIT SIGNS (CURRENT OBC)
	COMBINATION EMERGENCY LIGHT, BATTERY PACK AND EXIT SIGN
FAA	FIRE ALARM ANUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
	MANUAL PULL STATION
	HEAT DETECTOR
	AUDIBLE SIGNAL DEVICE WALL
	VISUAL SIGNAL DEVICE WALL
	AUDIBLE VISUAL SIGNAL DEVICE WALL



NOTES:

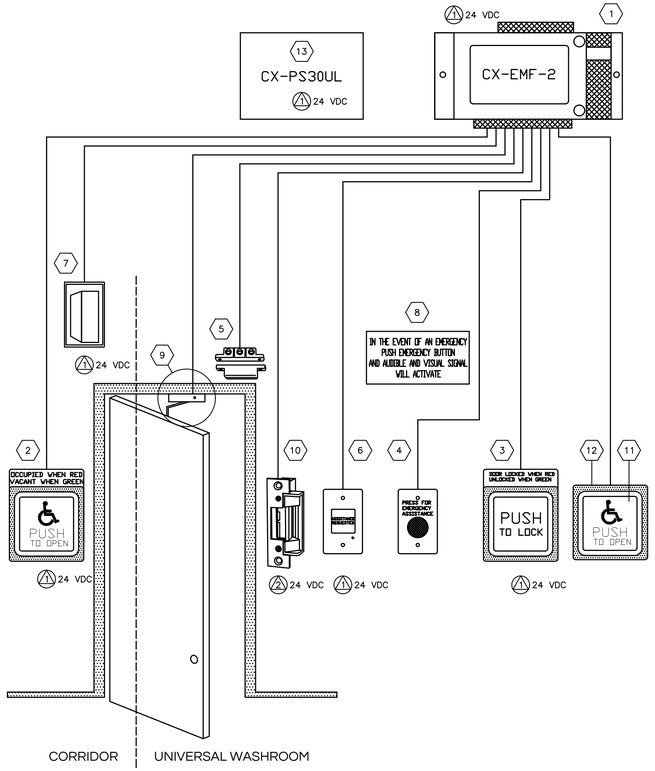
1. COMBINED POWER DEMAND OF THE SENSORS WIRED IN PARALLEL TO ONE POWER PACK SHALL NOT EXCEED 800mA. COORDINATE WITH MANUFACTURERS LITERATURE FOR OCCUPANCY SENSORS AND POWER PACK.

OCCUPANCY SENSOR WIRING DIAGRAM
SCALE: NTS



Single Switch
For use with DW–100, DW–100–347, UW–100 and UW–100–347.

WALL OCCUPANCY SENSOR SWITCH
SCALE: NTS



DETAIL #1 - EMERGENCY CALL WIRING DIAGRAM - UNIVERSAL WASHROOM
SCALE: NTS

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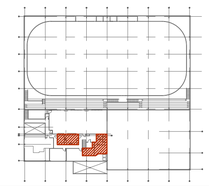
We Make Buildings Work
London: 1385 North Routledge Park, Unit 9
London, ON N6H 5N5
P 519.472.7640
Kingston: 221 Queen Street, Suite 114
Kingston, ON K7K 1N8
P 613.900.0845
W www.callidus.ca E info@callidus.ca

KEYPLAN



REVISIONS

NO.	REVISIONS	DATE
00	PERMIT & TENDER	18.06.05

NORTH

LICENSED PROFESSIONAL ENGINEER
LCELA
100138396
PROVINCE OF ONTARIO

DESIGN	PIK	DRAWN	PIK
CHECKED	IC	REVIEWED	IC

PROJECT
BROOKE-ALVINSTON ARENA RENOVATIONS

ADDRESS
3310 WALNUT ST., ALVINSTON, ON

PROJECT NO.
CE-4016

DRAWING TITLE
ELECTRICAL SCHEDULES AND DETAILS

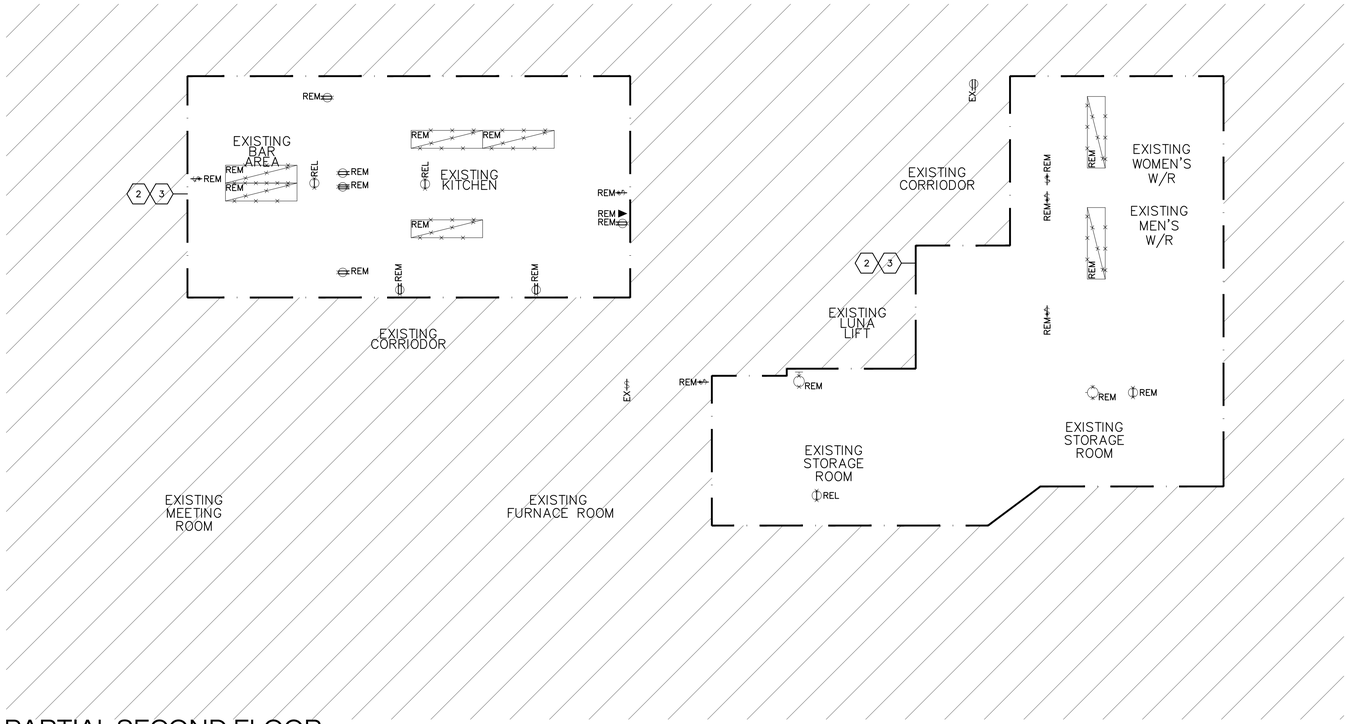
DRAWING NUMBER
E1 OF 3

DRAWING NOTES (INDICATED WITH HEXAGONS):

1. EXISTING ELECTRICAL DISTRIBUTION AND METERING TO REMAIN AS IS FOR THIS SCOPE OF WORK.
2. NOT ALL ELECTRICAL DEVICES ARE SHOWN HERE–IN. CONTRACTOR TO REVIEW BY CONFIRMING ON SITE. PROVIDE ANY DISCREPANCIES TO CONSULTANT FOR FINAL REVIEW AND APPROVAL PRIOR TO ANY WORK ACTIVITY.
3. REMOVE EXISTING WIRING AND CONDUIT FOR REMOVED EQUIPMENT THAT WILL NOT BE RE–USED FOR NEW WORK BACK TO SOURCE PANEL AND LABEL CIRCUIT BREAKER AS "SPARE".

GENERAL DEMOLITION NOTES:

- NOT ALL EXISTING DEVICES AND FIXTURES ARE SHOWN HEREIN. CONTRACTOR TO VERIFY ON SITE AND NOTIFY CONSULTANT OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
- RE–USE OF EXISTING CABLES SUBJECT TO CURRENT CODE REQUIREMENTS.

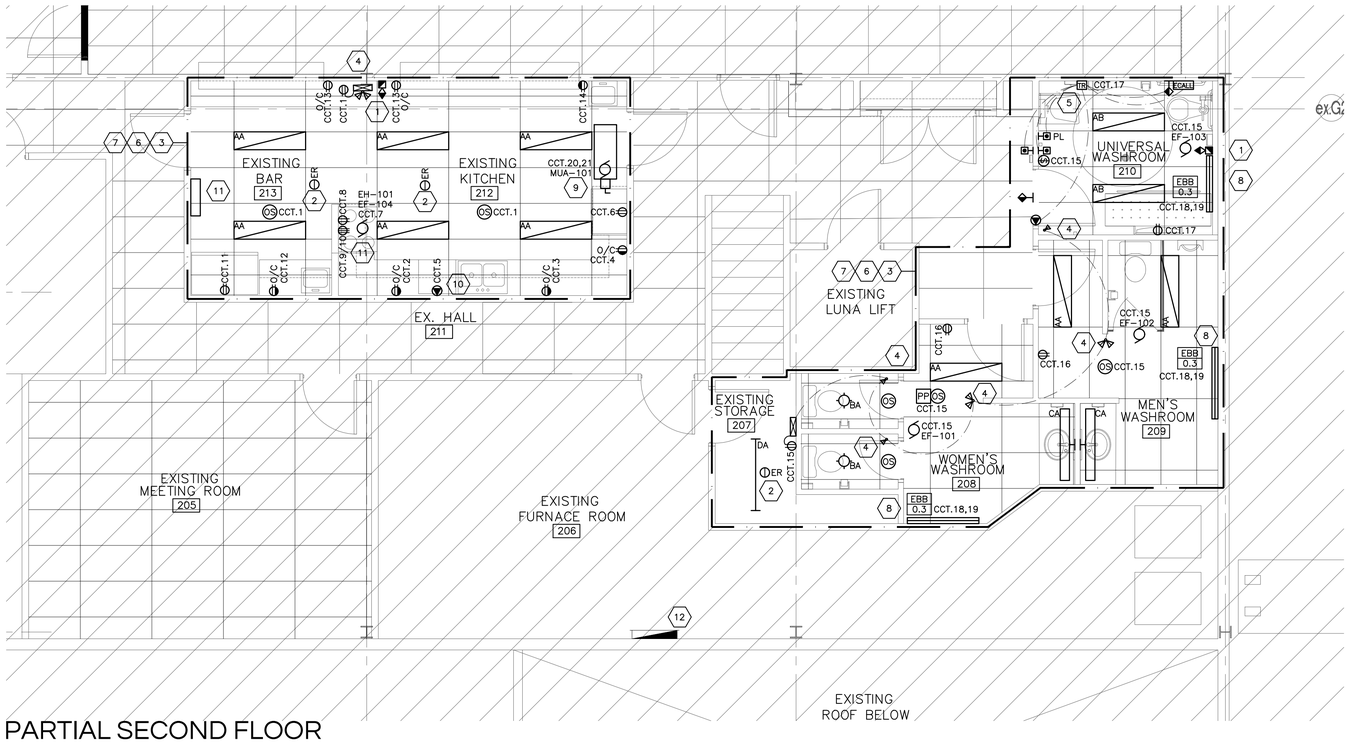


PARTIAL SECOND FLOOR
EXISTING/DEMO LIGHTING LAYOUT

SCALE: 1/4" = 1'–0"

DRAWING NOTES (INDICATED WITH HEXAGONS):

1. PROVIDE NEW INITIATION/SIGNAL DEVICE. NEW FIRE ALARM DEVICE TO MATCH EXISTING AND/OR TO BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. WIRE TO LOCAL FIRE ALARM SIGNAL ZONE. INSTALL AS PER CAN/ULC S524 AND VERIFY AS PER CAN/ULC S537.
2. REINSTALL REMOVED INITIATION/SIGNAL DEVICE. WIRE TO LOCAL FIRE ALARM SIGNAL ZONE. INSTALL AS PER CAN/ULC S524 AND VERIFY AS PER CAN/ULC S537.
3. CIRCUITING FOR LIGHTING, EMERGENCY LIGHTING, OWNER'S SUPPLIED EQUIPMENT, MOTORS/ MECHANICAL EQUIPMENT AND GENERAL RECEPTACLES IS PROVIDED BY ELECTRICAL CONTRACTOR AND SHALL COMPLY WITH THE LATEST O.E.S.C AND TO MEET OWNER'S NEEDS. ALL NEW AND RELOCATED LIGHTING AND POWER IN ADDITION TO BE FED FROM LOCAL PANELS. TYPICAL. PROVIDE UPDATED TYPE–WRITTEN PANEL DIRECTORY AT PANEL DOOR.
4. PROVIDE EMERGENCY LIGHTING AND CORRESPONDING WIRING/ CONNECTION SUCH THAT THEY WILL BE AUTOMATICALLY ACTIVATED AND REMAIN OPERATIONAL FOR AT LEAST 30 MINUTES UPON LOSS OF POWER TO THE NORMAL LIGHTING IN THE AREA COVERED BY THEM. TYPICAL.
5. PROVIDE NEW BARRIER FREE DOOR OPERATORS AND EMERGENCY CALL SYSTEM AS SHOWN. COORDINATE EXACT LOCATION OF DEVICES ON SITE. REFER TO WIRING SCHEMATIC ON E1. COORDINATE EMERGENCY CALL MONITORING REQUIREMENTS WITH CLIENT.
6. CONNECT NEW LIGHTING TO EXISTING CIRCUITING WITH AVAILABLE CAPACITY AND CONTROLS.
7. EXPOSED CABLE RUNS SHALL BE PLENUM RATED FT6 INSTALLED ONLY WHEN APPROVED BY THE CONSULTANT.
8. CCTs 18,19 TO BE 208/1, 2P, 15A FOR ELECTRIC BASEBOARD HEATERS.
9. CCTs 20,21 TO BE 208/1, 3P, 20A FOR MUA–101.
10. DIRECT CONNECTION FOR DISHWASHER. CONFIRM POWER REQUIREMENTS WITH MANUFACTURER.
11. PROVIDE POWER CONNECTION AND FIRE ALARM TIE IN FOR NEW FIRE SUPPRESSION PANEL. COORDINATE LOCATION ON SITE. PROVIDE RELAYS OR CONTACTOR TO SHUT DOWN ALL COOKING EQUIPMENT UNDER THE HOOD UPON ACTIVATION.
12. EXISTING FIRE ALARM PANEL. ADD NEW ZONE AND RE–VERIFY AS REQUIRED. FIRE ALARM ANNUNCIATOR LOCATED IN MAIN VESTIBULE. UPDATE LABELS TO SUIT CHANGES.



PARTIAL SECOND FLOOR
NEW LIGHTING LAYOUT

SCALE: 1/4" = 1'–0"

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London: 1385 North Routledge Park, Unit 9
London, ON N6H 5N5
P 519.472.7640
Kingston: 221 Queen Street, Suite 114
Kingston, ON K7K 1N8
P 613.900.0845
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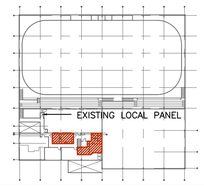
KEYPLAN



REVISIONS

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NORTH

LICENSED PROFESSIONAL ENGINEER
LCELA
100138396
PROVINCE OF ONTARIO

DESIGN	PIK	DRAWN	PIK
CHECKED	IC	REVIEWED	IC

PROJECT
BROOKE-ALVINSTON ARENA RENOVATIONS

ADDRESS
3310 WALNUT ST., ALVINSTON, ON

PROJECT NO.
CE-4016

DRAWING TITLE
ELECTRICAL FLOOR PLANS

DRAWING NUMBER
E2 OF 3

ELECTRICAL GENERAL REQUIREMENTS

GENERAL CONDITIONS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO ELECTRICAL SAFETY CODE, THE LOCAL ELECTRICAL SAFETY AUTHORITY INSPECTION OFFICE, THE ONTARIO BUILDING CODE, THE ONTARIO FIRE CODE AND ANY OTHER LOCAL REGULATIONS HAVING JURISDICTION OVER THE WORK OF THIS TRADE.

2. BEFORE TENDERING, EXAMINE THE SITE AND ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES AND BE FAMILIAR WITH THE WORK OF THIS TRADE. NO EXTRAS WILL BE ALLOWED FOR THE FAILURE TO DO SO.

3. ALL ELECTRICAL WORK SHALL COMPLY WITH CSA ELECTRICAL BULLETIN APPLICABLE AT TENDER CLOSE. WHERE SPECIFIC BULLETINS ARE NOT NAMED THEY ARE STILL CONSIDERED AN INTEGRAL PART OF THIS SPECIFICATION.

4. PROVIDE ALL GROUNDING AND BONDING TO GROUND REQUIRED, REGARDLESS IF NOT SHOWN ON THE DRAWINGS. GROUNDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO ELECTRICAL SAFETY CODE.

5. PROVIDE ALL NEW MATERIALS HAVING CSA, CUL, WARNOCK HERSEY OR OTHER APPROVAL AGENCY LABEL AND LISTING. ALL WORKMANSHIP BY THIS TRADE SHALL BE FIRST CLASS, CONFORMING TO INDUSTRY STANDARD PRACTICES FOR SAFETY, ACCESSIBILITY, DURABILITY AND NEATNESS FOR ACCEPTANCE BY THE OWNERS' REPRESENTATIVES.

6. ARRANGE AND PAY FOR ALL PERMITS AND INSPECTION FEES REQUIRED FOR THE WORK OF THIS TRADE. SUBMIT TO THE LOCAL ELECTRICAL INSPECTION DEPARTMENT AND/OR ELECTRICAL SUPPLY AUTHORITY ANY AND ALL DRAWINGS REQUIRED FOR PERMITS, FEES, APPROVALS, EXAMINATIONS AND SERVICES.

7. PROVIDE ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS TRADE. ALL CUTTING AND PATCHING SHALL BE PERFORMED BY QUALIFIED TRADES PERSONS. INCLUDE ALL COSTS FOR CUTTING AND PATCHING RELATED TO THE WORK OF THIS TRADE IN THE TENDER PRICE.

8. TOUCH-UP ALL SHOP PAINTED EQUIPMENT DAMAGED IN TRANSIT OR DURING INSTALLATION TO MATCH ORIGINAL SHOP FINISH.

9. AVOID ACCUMULATION OF DEBRIS AS THE WORK PROGRESSES. ON COMPLETION OF THE CONSTRUCTION AND PRIOR TO THE FINAL INSPECTION AND ACCEPTANCE BY THE OWNER, CLEAN UP AND REMOVE FROM THE SITE ALL SCRAP MATERIALS RESULTING FROM THE WORK OF THIS TRADE.

10. CO-ORDINATE THE WORK OF THIS TRADE WITH ALL OTHER TRADES ON THE JOB SO THAT THE WORK MAY PROGRESS WITHOUT ANY DELAY.

11. PRIOR TO THE FINAL INSPECTION, CLEAN ALL ELECTRICAL EQUIPMENT. CLEAN ALL CONSTRUCTION DUST AND DIRT FROM INSTALLED EQUIPMENT AT THE END OF THE JOB.

12. UPON COMPLETION OF THE WORK, PROVIDE THE FINAL UNCONDITIONAL CERTIFICATE OF ACCEPTANCE FROM THE LOCAL ELECTRICAL SAFETY AUTHORITY INSPECTION OFFICE.

13. PROVIDE A ONE YEAR GUARANTEE ON ALL MATERIALS, AND LABOUR FROM THE DATE OF ACCEPTANCE BY THE OWNER. COMPLETE ALL WARRANTY REGISTRATION DOCUMENTATION ON BEHALF OF THE BUILDING OWNER. SUBMIT COPIES OF COMPLETED DOCUMENTATION IN OPERATIONS AND MAINTENANCE MANUALS.

14. ON MULTI-PHASE FEEDERS AND PANELS, ADJUST THE PHASE LOADING SO AS NOT TO EXCEED A PHASE IMBALANCE OF 10%, LINE TO LINE, UNDER NORMAL OPERATING CONDITIONS OF THE FEEDER OR PANEL.

15. SUBMIT SHOP DRAWINGS IN ELECTRONIC PDF FORMAT FOR THE FOLLOWING EQUIPMENT: BREAKERS, FIRE ALARM DEVICES, EXIT AND EMERGENCY LIGHTING UNITS, ETC. THE SHOP DRAWINGS SHALL BEAR THE NAME OF THE MANUFACTURER, THE MANUFACTURER'S CATALOGUE NUMBER, AND THE CONSULTANT'S DESIGNATION, ALONG WITH ALL PERTINENT INFORMATION PERTAINING TO THAT SPECIFIC PIECE OF EQUIPMENT.

16. ALL ELECTRICAL EQUIPMENT SHALL BE MOUNTED PLUMBED TRUE.

17. OBTAIN ONE SET OF PRINTS FOR AS-BUILT PURPOSES AND RECORD ON THESE PRINTS ALL CHANGES TO THE DESIGN DRAWINGS TO REFLECT THE ACTUAL CONSTRUCTION CONDITIONS, EQUIPMENT LOCATIONS AND EQUIPMENT SPECIFICATIONS. AT THE END OF CONSTRUCTION, AND PRIOR TO THE FINAL INSPECTION BY THE CONSULTANT, TRANSFER AS-BUILT MARK-UPS TO AUTOCAD/REVIT AND SUBMIT AUTOCAD AND PDF FILES TO THE CONSULTANT SUBMIT FOR REVIEW. SUBMIT FINAL CAD FILES OF THE AS-BUILT DRAWINGS ON CD/USB KEY. NO FINAL INSPECTION WILL BE PERFORMED UNTIL THESE DRAWINGS ARE SUBMITTED.

18. PREPARE [THREE SETS] OF OPERATIONS AND MAINTENANCE MANUALS FOR PRESENTATION TO THE OWNER. PROVIDE COPIES OF ALL REVIEWED SHOP DRAWINGS FOR THE PROJECT, MANUFACTURER'S INSTALLATION INSTRUCTIONS, MANUFACTURER'S MAINTENANCE INSTRUCTIONS, AND COPIES OF ALL TEST DATA, VERIFICATION CERTIFICATES, MANUFACTURER'S WARRANTIES AND GUARANTEES, THE GUARANTEE OF THIS TRADE INDICATING START DATE AND END DATE AS WELL AS CONTRACT NUMBERS.

19. WHERE THE WORD PROVIDE IS USED IN THESE SPECIFICATIONS OR ON THE DRAWINGS, IT HAS THE MEANING "PROVIDE AND INSTALL COMPLETE WITH ALL ASSOCIATED MOUNTING HARDWARE AND CONNECTIONS".

20. CHANGES IN THE WORK

    20.1. CHANGES TO THE CONTRACT REQUIRING ADDITIONS TO OR DELETIONS FROM THE WORK OF THIS DIVISION SHALL BE CARRIED OUT UPON WRITTEN REQUEST OF THE CONSULTANT. EXTRAS TO THE CONTRACT OR CREDITS SHALL BE SUBMITTED WITH A COMPLETE COST BREAKDOWN AS FOLLOWS: MATERIALS, QUANTITIES AND UNIT PRICES FOR ALL EQUIPMENT REQUIRED OR DELETED. UNIT MAN HOURS TOTAL MATERIAL COST. TOTAL MAN HOURS. HOURLY RATE. (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT). TOTAL OVERHEAD AND PROFIT. (REFER TO SUPPLEMENTARY CONDITIONS AND GENERAL CONTRACT).

CONDUCTORS & RACEWAYS

1. USE TW75 OR RW90 COPPER CONDUCTORS CSA APPROVED FOR THE APPLICATION. SIZE THE CONDUCTORS SO THAT THE MAXIMUM BRANCH CIRCUIT VOLTAGE DROP DOES NOT EXCEED 3%. MINIMUM CONDUCTOR SIZE IS #12 AWG UNLESS OTHERWISE INDICATED.

2. DESIGN IS BASED ON COPPER CONDUCTORS EXCEPT WHERE SHOWN ON THE DRAWINGS. ALUMINUM CONDUCTORS MAY BE USED ONLY FOR FEEDERS 1/0 AWG OR LARGER. SIZE THE ALUMINUM CONDUCTORS TO THE EQUIVALENT AMPACITY OF COPPER CONDUCTORS. CONDUCTORS IN UNDERGROUND RACEWAYS MAY BE RW190 IN POLYETHYLENE PIPE.

3. TERMINATE ALUMINUM FEEDER CONDUCTORS WITH PRESSURE CONNECTORS, AND UTILIZE AN OXIDE PREVENTATIVE SOLUTION "PENETROX" ON ALL BARE SURFACES. LUGS TO BE ALUMINUM OR ALUMINUM/COPPER ALLOY ONLY.

4. ALL CONDUCTORS ARE TO BE INSTALLED IN RACEWAYS AS DESCRIBED BELOW:

    4.1. IN CONCRETE SLAB, UNDERGROUND BURIED, BELOW SLAB ON GRADE OR EXTERIOR EXPOSED SURFACE RACEWAYS: PVC CONDUIT

    4.2. INTERIOR SURFACE RACEWAYS, BRANCH CIRCUIT WIRING FROM PANELS, CONCEALED IN ACCESSIBLE CEILINGS AND INTERIOR WALLS OR IN INTERIOR CONCRETE BLOCK CONSTRUCTION: EMT RACEWAYS

    4.3. IN METAL STUD PARTITION WALLS, BRANCH CIRCUIT WIRING FROM PANELS IN SUITE OR TENANT OCCUPANCIES, IN INTERIOR CONCRETE BLOCK WALLS, FOR FINAL DROPS TO FIXTURES IN CEILING SPACES. (LENGTH NOT TO EXCEED 3M IN THIS APPLICATION): ARMOURED CABLE (BX).

    4.4. IN WOOD STUD CONSTRUCTION: NMD-7 COPPER CONDUCTORS ARE PERMITTED FOR BRANCH CIRCUIT WIRING AS DIRECTED BY THE ENGINEER.

    4.5. FOR EXISTING CONSTRUCTION WHERE EXISTING WALLS AND FINISHES ARE TO REMAIN: SURFACE METAL RACEWAYS (SMR)

    4.6. OBTAIN PERMISSION FROM THE CONSULTANT PRIOR TO INSTALLATION. COLOUR AND SIZE OF RACEWAYS TO BE CONFIRMED WITH CONSULTANT FOR THE SPECIFIC APPLICATION.

5. MINIMUM RACEWAY SIZE FOR EXTERIOR U/G BURIED APPLICATION IS 3/4" (19MM). MINIMUM BURIES DEPTH IS 36" (900MM) BELOW FINISHED GRADE.

6. ALL CONDUIT AND WIRING IS TO BE CONCEALED IN ALL FINISHED AREAS.

7. ALL FEEDERS FROM AN EMERGENCY POWER SOURCE TO EMERGENCY DEVICES SUCH AS ELEVATORS, FIRE ALARM CONTROL PANELS, PRESSURIZATION FANS AND SPRINKLER OR STANDPIPE EQUIPMENT SHALL CONFORM TO ULC-S139 FIRE TEST FOR EVALUATION OF INTEGRITY OF ELECTRICAL CABLES TO PROVIDE A CIRCUIT INTEGRITY OF NOT LESS THAN 1 HOUR. THIS IS NOT REQUIRED WHERE THE CABLES ARE LOCATED IN A SERVICE SPACE THAT CONTAINS NO COMBUSTIBLE MATERIALS AND IS SEPARATED FROM THE REST OF THE BUILDING BY 1 HOUR FIRE RATING.

DEVICES

1. RECEPTACLES:

    1.1. SPEC GRADE, DUPLEX, RATED 15 AMP, 125 VAC, EEMAC 5-15R CONFIGURATION, U-GROUND.

    1.2. GROUND FAULT INTERRUPTING, CLASS A DUPLEX, RATED 20 AMP, 125 VAC, T-SLOT EEMAC 5-20R FIG.,TRIP RATED FOR 4-6 MA LEAKAGE CURRENT. C/W PUSH TO TEST AND RESET BUTTONS.

2. COVER PLATES:

    2.1. SMOOTHLINE BAKELITE, COLOUR TO MATCH SWITCHES AND RECEPTACLES.

    2.2. BRUSHED STAINLESS STEEL, NUMBER 430, IN OFFICES AND KITCHENS.

    2.3. GALVANIZED STEEL COVERPLATES, FOR SURFACE MOUNTED DEVICES IN UNFINISHED AREAS.

    2.4. COVERPLATES TO BE OF THE SAME MANUFACTURER AS THE DEVICES. PROVIDE A TYPED LABEL ON EACH DEVICE PLATE INDICATING THE PANEL BOARD NAME AND CIRCUIT NUMBER THE DEVICE IS FED FROM.

3. COLOUR OF DEVICES: WHITE

4. ALL DEVICES OF THE SAME TYPE, SIZE AND RATING ARE TO BE OF THE SAME MANUFACTURER THROUGHOUT THE PROJECT.

5. MOUNTING HEIGHTS - BARRIER FREE DESIGN (OBC LATEST)

    5.1. PULL STATIONS AND THERMOSTATS SHALL BE MOUNTED AT 1200MM ABOVE THE FINISHED FLOOR

    5.2. ALL OTHER CONTROLS (INCLUDING ELECTRICAL SWITCHES, INTERCOM SWITCHES, ETC.) SHALL BE MOUNTED NOT LESS THAN 900MM AND NOT MORE THAN 1100MM ABOVE THE FINISHED FLOOR.

LIGHTING

1. PROVIDE FIXTURES COMPLETE WITH ALL ACCESSORIES MOUNTING HARDWARE, AND LAMPS AS SPECIFIED IN THE FIXTURE SCHEDULE OR AS APPROVED BY OWNERS AS AN EQUAL FIXTURE.

2. PRODUCTS OF EQUAL QUALITY BY ALTERNATE MANUFACTURERS SUCH AS LITHONIA, COOPER, LIGHTOLIER, HUBBELL, ETC. ARE ALSO ACCEPTABLE.

3. EXTERIOR LIGHTING TO BE CONTROLLED:

    3.1. AS SHOWN ON DRAWINGS.

    3.2. BY PHOTOCELL WIRED IN SERIES WITH TIME CLOCK FOR PHOTOCELL "ON" TIME CLOCK "OFF".

4. FIXTURES WHICH ARE MARKED N.I.C. OR FIXTURES WITHOUT MARKINGS ARE TO BE PRICED FOR WIRING AND INSTALLATION OF THE OWNER SUPPLIED FIXTURE AS PART OF THIS CONTRACT.

EMERGENCY LIGHTING

1. PROVIDE A COMPLETE EMERGENCY LIGHTING SYSTEM CAPABLE OF 30 MINUTES OF CONTINUOUS OPERATION IN A POWER FAILURE.

2. EMERGENCY BATTERY UNITS:

    2.1. ALL EMERGENCY BATTERY UNITS TO BE CSA C22.2-141 APPROVED.

    2.2. ALL UNITS TO BE COMPLETE WITH LONG LIFE, SEALED LEAD ACID BATTERIES, BATTERY CHARGER, HIGH CHARGE INDICATOR, TEST BUTTON, A.C. "ON" INDICATOR, 120 VAC CORD SET, MOUNTING BRACKETS AND AUTOMATIC TRANSFER TO EMERGENCY POWER SUPPLY ON NORMAL POWER FAILURE. D.C. VOLTAGE TO BE AS INDICATED ON THE DRAWINGS. MINIMUM BATTERY CAPACITY TO BE 125% OF THE TOTAL CONNECTED D.C. LOAD.

    2.3. MANUFACTURERS: EMERGI-LITE, LUMACELL, DUALLITE, BEGHELLI.

3. COMBINATION EMERGENCY BATTERY UNIT/EXIT FIXTURE: EMERGI-LITE OF EQUAL 6 VDC SEALED LEAD ACID MEDIUM LIFE BATTERIES, BATTERY CHARGER, TRANSFER SWITCH, EXTRUDED ALUMINUM HOUSING. SINGLE OR DOUBLE FACE AS REQUIRED AND 2 MICRO TYPE, 4 WATT, MR16 LED HEADS. BATTERY RATED 18 WATT HOURS MINIMUM.

4. EMERGENCY LIGHTING HEADS: UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, PROVIDE MICRO TYPE, 4 WATT, MR16 LED HEADS, OF THE SAME MANUFACTURER AS THE EMERGENCY BATTERY UNITS.

5. MOUNT BATTERY UNITS AND LIGHTING HEADS AS HIGH AS POSSIBLE TO THE FINISHED CEILING, UNLESS SPECIFIED OTHERWISE, SO AS NOT TO OBSTRUCT THE HEAD MOVEMENT.

6. SIZE CONDUCTORS FOR A MAXIMUM VOLTAGE DROP OF 5% AT THE LAST CONNECTION POINTS FROM THE UNIT.

EXISTING FIRE ALARM SYSTEM

1. FIRE ALARM SYSTEM IS EXISTING.

2. PROVIDE CERTIFICATE OF VERIFICATION OF FIRE ALARM SYSTEM TO ENGINEER ON COMPLETION OF WORK. PROVIDE CERTIFICATION OF INSTALLATION TO CAN/ULC - S524.

3. MANUAL ALARM DEVICES: TO ULC STANDARD S528B

    3.1. NON-CODED, METAL CONSTRUCTION, RED, WITH BREAK GLASS OR SPECIAL RESET ACTION AFTER ALARM.

4. SMOKE DETECTORS: TO ULC S529 STANDARD FOR SMOKE DETECTORS FOR FIRE ALARM SYSTEMS.

    4.1. PHOTOELECTRIC OPERATION. DELAY SIGNAL CAPABILITY. AUTOMATIC SENSITIVITY ADJUSTMENT.

5. SIGNAL APPLIANCES: TO ULC STANDARD S525

    5.1. HORNS: RATED 90 DB AT 3 M (10 FT), 24 VDC OPERATION, VIBRATING TONE GENERATION. WEATHERPROOF WHERE REQUIRED, RED.

6. ACCEPTABLE MANUFACTURERS INCLUDE: EST, CERBERUS - SIEMENS, NOTIFIER, SIMPLEX.

7. FIRE ALARM INSTALLATION TO ULC STANDARD S524.

8. FIRE ALARM VERIFICATION TO ULC STANDARD S537.

    8.1. PROVIDE CERTIFICATE OF VERIFICATION OF FIRE ALARM SYSTEM TO ENGINEER ON COMPLETION OF WORK. PROVIDE CERTIFICATION OF INSTALLATION TO CAN/ULC - S524.

TELEPHONE CONDUIT SYSTEM

1. PROVIDE RACEWAYS TO THE TELEPHONE OUTLETS SHOWN FROM THE TELEPHONE SUPPLY BACKBOARD. MINIMUM RACEWAY SIZE IS 1/2" C. RACEWAY TO BE CONTINUOUS FROM SUPPLY POINT TO OUTLET.

2. PROVIDE NYLON PULL WIRES IN ALL RACEWAYS.

WIRING FOR OTHER TRADES

1. PROVIDE POWER WIRING FOR ELECTRICALLY OPERATED EQUIPMENT OF OTHER TRADES AS NOTED ON THE DRAWINGS OR DEFINED IN THIS SPECIFICATION. PROVIDE ALL STARTERS AND DISCONNECT SWITCHES FOR A COMPLETE AND OPERATING SYSTEM.

2. PROVIDE POWER AND WIRING TO THE ELECTRICALLY OPERATED EQUIPMENT AS DETAILED BELOW. THIS LIST DOES NOT DETAIL THE SCOPE OF WORK FOR EACH PIECE OF EQUIPMENT. CO-ORDINATE WITH mechanical contractor FOR THE EXACT POWER REQUIREMENTS OF THE EQUIPMENT TO BE SUPPLIED TO THE PROJECT. DO NOT PROCEED WITH THE INSTALLATION OF ANY OF THE ELECTRICAL ROUGH-IN UNTIL THE POWER SUPPLY REQUIREMENTS AND THE POINTS OF CONNECTION HAVE BEEN ESTABLISHED FROM THE SHOP DRAWINGS FOR THE EQUIPMENT OF mechanical contractor.

    EXHAUST FANS
    RANGE HOODS

3. PROVIDE POWER WIRING TO ALL CONTROL DEVICES SUPPLIED BY MECHANICAL CONTRACTOR AND OPERATING AT 100 VAC OR GREATER.

4. PROVIDE CONTROL WIRING FOR ALL CONTROL DEVICES WITH OPERATING VOLTAGES OF THE CONTROLS GREATER THAN 100VAC.

5. PROVIDE RACEWAYS/CONDUITS FOR ALL CONTROL WIRING AS IDENTIFIED ON THE DRAWINGS FOR USE BY MECHANICAL CONTRACTOR. PROVIDE OUTLET BOXES AS DIRECTED BY MECHANICAL CONTRACTOR FOR ALL TERMINAL POINTS IN THE CONTROL SYSTEM. CO-ORDINATE WITH MECHANICAL CONTRACTOR.

RENOVATIONS ON EXISTING BUILDING

1. RENOVATIONS SHALL BE MADE ON THE EXISTING BUILDING AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. REMOVE ALL EXISTING LUMINARIES, OUTLET BOXES, SWITCHES, RECEPTACLES, ETC. IN RENOVATED AREAS AS INDICATED ON THE PLANS. ALL EQUIPMENT REMOVED AND NOT REUSED SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS SPECIFICALLY NOTED OTHERWISE. ALL EQUIPMENT INSTALLED IN RENOVATED AREAS SHALL BE NEW. ELECTRICAL TRADE WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL INSTALLATION. ALL CONDUIT SHALL BE INSTALLED CONCEALED IN FINISHED AREAS UNLESS SPECIFICALLY NOTED OTHERWISE.

2. NEW CONDUCTORS SHALL BE INSTALLED TO THE NEAREST OUTLET AS REQUIRED FOR EQUIPMENT THAT IS RELOCATED. INSTALLATION OF JUNCTION BOXES FOR SPLICING PURPOSES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY CALLED FOR.

3. PROVIDE ALL CONDUCTORS REQUIRED TO RECONNECT EXISTING CIRCUITS WHERE REQUIRED THAT MAY BE DISRUPTED DUE TO RENOVATIONS ON THE EXISTING FLOOR.

4. PROVIDE NEW BREAKERS WHERE REQUIRED IN EXISTING PANELS TO PICK-UP ADDITIONAL CIRCUITS INDICATED ON THE DRAWINGS.

5. COORDINATE WITH MECHANICAL DRAWINGS AND SAFELY DISCONNECT AND REMOVE ALL MOTOR/MECHANICAL EQUIPMENT BEING DEMOLISHED. REMOVE UNUSED WIRING/CONNECTION BACK TO SOURCE PANEL. EXTEND WIRING/CONNECTION OF ALL MOTOR/MECHANICAL EQUIPMENT BEING RELOCATED. PROVIDE PROPER JUNCTION BOX AT EACH POINT OF EXTENSION.

EMERGENCY CALL SYSTEM

1. PROVIDE EMERGENCY CALL SYSTEM KIT IN UNIVERSAL WASHROOM TO MEET OBC 3.8.3.12. SYSTEM SHALL INCLUDE HORN/STROBE DEVICE(S), TRANSFORMER AND PUSH BUTTON STATION. INTERCONNECT WITH LOW VOLTAGE WIRING PER MANUFACTURER'S REQUIREMENTS AND TO MEET REQUIREMENTS OF AREAS INSTALLED (PLENUM RATED ETC....) AND BE MECHANICALLY PROTECTED IN STEEL STUD WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING METHODS IN AREA.

2. REFER TO "EMERGENCY CALL WIRING DIAGRAM - UNIVERSAL WASHROOM" ON DRAWING FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

3. SIGNAGE TO BE PROVIDED BY ARCHITECT OR GENERAL CONTRACTOR.

4. INSTALL TRANSFORMER IN ACCESSIBLE CEILING SPACE, OR PROVIDE ACCESS HATCH IN RIGID CEILING. COORDINATE INSTALLATION OF HATCH WITH GENERAL CONTRACTOR.

LIGHTING CONTROL

1. CEILING OCCUPANCY SENSOR (LINE VOLTAGE) - OS

    1.1. SENSOR SHALL OPERATE AT 120V FOR A RATED LOAD OF 800W.

    1.2. SHALL USE A DUAL TECHNOLOGY PIR AND ULTRASONIC SENSOR TO DETECT OCCUPANCY AND TURN LIGHTS ON. SHALL HAVE A DIP SWITCH SETTINGS TO ADJUST A TIME DELAY BETWEEN 5 AND 30 MINUTES.

    1.3. THE OCCUPANCY SENSOR SHALL PROVIDE COVERAGE UP TO 1000 SQUARE FEET.

    1.4. MODEL SHALL BE A WATT STOPPER PT-355-1 WITH A 5 YEAR WARRANTY.

2. OCCUPANCY SENSOR SWITCHES (LINE VOLTAGE)

    2.1. SWITCH SHALL OPERATE AT 120V FOR A RATED FLUORESCENT LOAD OF 20A.

    2.2. SHALL USE DUAL TECHNOLOGY (PIR & US) TO DETECT OCCUPANCY AND TURN LIGHTS ON. SHALL HAVE A DIP SWITCH SETTINGS TO ADJUST A TIME DELAY BETWEEN 5 AND 30 MINUTES.

    2.3. THE OCCUPANCY SENSOR SHALL HAVE A VANDAL RESISTANT HARD LENS AND PROVIDE COVERAGE UP TO 300 SQUARE FEET.

    2.4. MODEL SHALL BE A WATT STOPPER DT-355 WITH A 5 YEAR WARRANTY.

3. CEILING OCCUPANCY SENSOR (LOW VOLTAGE ULTRASONIC)

    3.1. SHALL HAVE A DUAL TECHNOLOGY (PIR & US) SENSOR WITH A RANGE OF 1000 SQ. FT.

    3.2. OPERATES AT 24VDC AND A CURRENT OF 40MA. SHALL HAVE AN ADJUSTABLE TIME DELAY OF 15 S. TO 20 MIN.

    3.3. MODEL SHALL BE WATT STOPPER DT-300 WITH A 5 YEAR WARRANTY.

4. POWER PACK & AUXILIARY SLAVE PACK

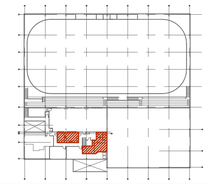
    4.1. POWER PACK CONSISTS OF A HIGH-CURRENT RELAY AND A TRANSFORMER TO PROVIDE 24VDC OPERATING VOLTAGE TO ALL OCCUPANCY SENSORS WITH OPERATING VOLTAGE OF 24VDC. POWER PACK SHALL BE RATED FOR 20A OF ELECTRICAL LOAD.

    4.2. POWER PACK SHALL HAVE AN OUTPUT OF 150MA @ 24VDC AND AN INPUT VOLTAGE OF 120V.

    4.3. POWER PACK MODEL SHALL BE WATT STOPPER BZ-50, AND AUXILIARY PACK SHALL BE WATT STOPPER S120.

Callidus Engineering
We Make Buildings Work
London: 1385 North Routledge Park, Unit 9
London, ON N6H 5N5
P 519.472.7640
Kingston: 221 Queen Street, Suite 114
Kingston, ON K7K 1N8
P 613.900.0845
W www.callidus.ca E info@callidus.ca

KEYPLAN



REVISIONS

NO.	REVISIONS	DATE
00	PERMIT & TENDER	18.06.05

NORTH

LICENSED PROFESSIONAL ENGINEER
LCELA
100138396
PROVINCE OF ONTARIO

DESIGN	PIK	DRAWN	PIK
CHECKED	IC	REVIEWED	IC

PROJECT
BROOKE-ALVINSTON ARENA RENOVATIONS

ADDRESS
3310 WALNUT ST., ALVINSTON, ON

PROJECT NO.
CE-4016

DRAWING TITLE
ELECTRICAL SPECIFICATIONS

DRAWING NUMBER
E3 OF 3