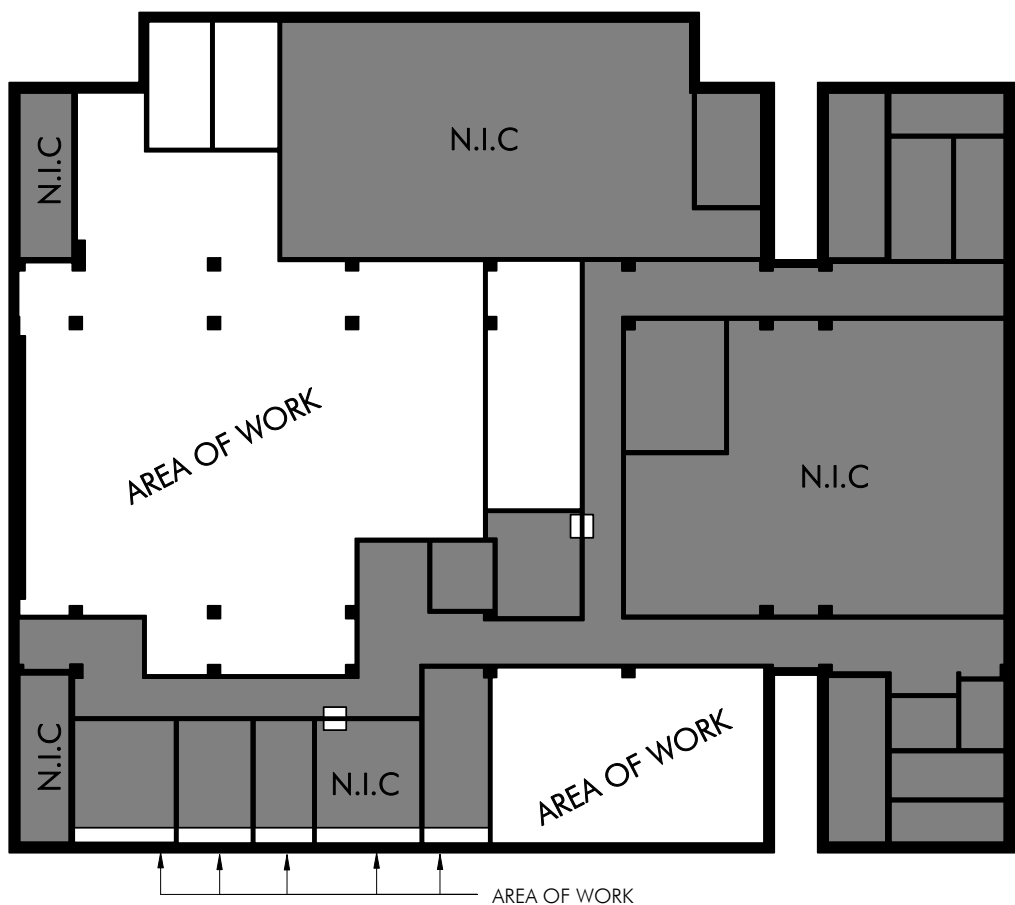


Lakehead University - Chancellor Paterson Library

5th Floor - Teachers Common Renovations

955 Oliver Rd, Thunder Bay, ON

Project #2017024



KEY PLAN - N.T.S.

PRIME CONSULTANT:

FORM ARCHITECTURE ENGINEERING

131 Court Street North
Thunder Bay, Ontario, P7A 4V1
www.formarchitecture.ca

Tel: (807) 345-5582
Fax: (807) 345-4093
Email: info@formarchitecture.ca

STRUCTURAL ENGINEER:

FORM ARCHITECTURE ENGINEERING

131 Court Street North
Thunder Bay, Ontario, P7A 4V1
www.formarchitecture.ca

Tel: (807) 345-5582
Fax: (807) 345-4093
Email: info@formarchitecture.ca

MECHANICAL ENGINEER:

MCW CONSULTANTS LTD.

Suite 615 - 207 Queen Quay W
Toronto, Ontario, M5J 1A7
www.mcw.com

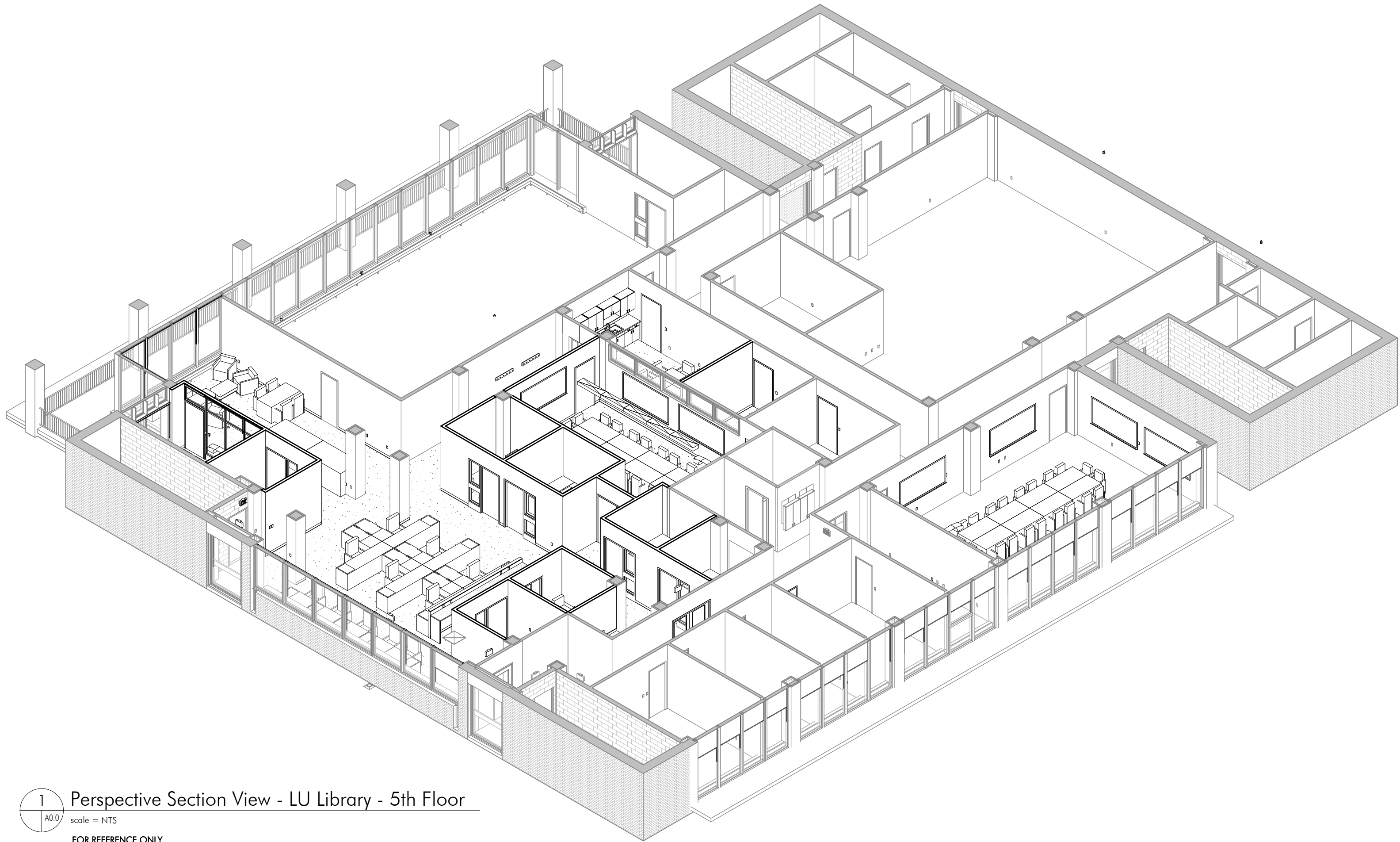
Tel: (416) 598-2920
Fax: (416) 598-5394

ELECTRICAL ENGINEER:

AG ENGINEERING

2nd Floor - 1111 Victoria Ave E
Thunder Bay, Ontario, P7C 1B7
www.agpeng.com

Tel: (807) 622-3456
Fax: (807) 622-3633



1
A0.0
Perspective Section View - LU Library - 5th Floor
scale = N.T.S.

FOR REFERENCE ONLY.
THE 3D PERSPECTIVES SHOWN IN THIS SHEET ARE ONLY VISUAL REPRESENTATIONS. THEY ARE NOT EXACTLY TRUE TO STYLE, COLOUR, MATERIAL, AND DIMENSIONAL DEPTH. PLEASE REFER TO PLANS AND SPECIFICATIONS.

| | | |
|----------|------------|---------------------------------|
| "4" | 2017.09.06 | Issued for Tender with revision |
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
| "1" | 2017.07.27 | Revision as per Owner Review |
| "0" | 2017.07.17 | Issued for 100% Review |
| REVISION | DATE | DESCRIPTION |

SEALS:



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p: 807.345.5582 f: 807.345.4093 e: info@formarchitecture.ca

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www.formarchitecture.ca

PROJECT NAME:

CBRE - LU Chancellor Paterson Library

Teachers Common Renovations

955 Oliver Rd

Thunder Bay, ON

SHEET TITLE:

Cover Sheet

DATE: August 2017

DRAWN: SLP

PROJECT: 2017024

A0.0

LIST OF DRAWINGS

ARCHITECTURAL DRAWINGS:

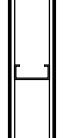
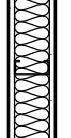
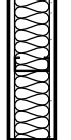
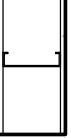

- A0.0 Cover Sheet
- A0.1 Construction Assemblies, Legends & General Notes
- A0.2 Fire Separation Diagrams
- A2.1 Existing 5th Floor Plan & Reflected Ceiling Plan
- A2.2 Demolition Floor Plan, Demolition Reflected Ceiling Plan
- A2.3 Renovation Floor Plan, Renovation Reflected Ceiling Plan
- A2.4 Renovation Building Sections
- A3.1 Wall Sections, Plan and Section Details
- A4 SERIES NOT USED
- A5.1 Interior Elevations
- A6.1 Millwork Details
- A7.1 Finishes Plan, Furniture Layout & Schedule

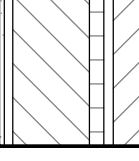
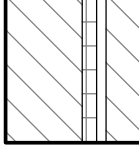
MECHANICAL DRAWINGS:

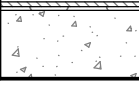
- M0 MECHANICAL LEGEND AND DRAWING LIST
- M2 HVAC DEMOLITION
- M4 HVAC RENOVATION
- M5 MECHANICAL SPECIFICATION
- M1 PLUMBING DEMOLITION
- M3 PLUMBING RENOVATION

ELECTRICAL DRAWINGS:

- E1 Identification Legends & Specifications
- E2 Power & Systems Data Demolition Layout
- E3 New Power & Systems Layout
- E4 Lighting Demolition & New Layouts

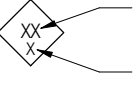

| INTERIOR PARTITION CONSTRUCTION ASSEMBLIES: | | | |
|---|---|---|--|
| MARK | ASSEMBLY | CONSTRUCTION | REFERENCES & REMARKS: |
| P2c |  | 13mm TYPE 'C' GYPSUM BOARD 92mm METAL STUDS @ 400mm O.C. 13mm TYPE 'C' GYPSUM BOARD | NOT APPLICABLE |
| P2m |  | EXISTING 16mm TYPE 'X' GYPSUM BOARD 92mm METAL STUDS @ 400mm O.C. MINERAL FIBRE INSULATION 16mm TYPE 'X' GYPSUM BOARD | ULC REFERENCE: ULC W407 1 HOUR MAXIMUM FIRE RESISTANCE RATING (F.R.R.) BASED ON ULC DESIGN. REFER TO FIRE RATING DESIGNATIONS AND FIRE SEPARATION PLANS FOR REQUIRED RATING & LOCATIONS. STC RATING: 47 - NRC-CNRC TEST # TL-93-327 |
| P2m |  | 16mm TYPE 'X' GYPSUM BOARD 152mm METAL STUDS @ 400mm O.C. SOUND ATTENUATION BATT 16mm TYPE 'X' GYPSUM BOARD | ULC REFERENCE: ULC W407 1 HOUR MAXIMUM FIRE RESISTANCE RATING (F.R.R.) BASED ON ULC DESIGN. REFER TO FIRE RATING DESIGNATIONS AND FIRE SEPARATION PLANS FOR REQUIRED RATING & LOCATIONS. STC RATING: 47 - NRC-CNRC TEST # TL-93-327 |
| P3c |  | 13mm TYPE 'C' GYPSUM BOARD 152mm METAL STUDS @ 400mm O.C. 13mm TYPE 'C' GYPSUM BOARD | NOT APPLICABLE |
| EX |  | EXISTING WALL TYPES AS INDICATED ON AVAILABLE DOCUMENTATION - FIELD VERIFY | NOT APPLICABLE |

| EXTERIOR WALL CONSTRUCTION ASSEMBLIES: | | | |
|--|---|--|--|
| MARK | ASSEMBLY | CONSTRUCTION | REFERENCES & REMARKS: |
| W1 |  | 13 GYPSUM METAL STUD CMU BLOCK INSULATION AIRSPACE BRICK | WALL NOT TO BE REMOVED. MAKE GOOD DURING DEMOLITION AND RENOVATION STAGES. |
| W2 |  | EXISTING EXTERIOR WALL CMU BLOCK INSULATION AIRSPACE BRICK | WALL NOT TO BE REMOVED. MAKE GOOD DURING DEMOLITION AND RENOVATION STAGES. |

| FLOOR CONSTRUCTION ASSEMBLIES: | | | |
|--------------------------------|---|---|---|
| MARK | ASSEMBLY | CONSTRUCTION | REFERENCES & REMARKS: |
| W1 |  | EXISTING FLOOR EXISTING CARPET FLOORING AND ITS SUBSTRATE VAPOUR BARRIER 180mm CONCRETE FLOORING | EXISTING FLOORING TO RE REPLACE WITH NEW FLOORING - REFER TO ROOM FINISH SCHEDULE |

- NOTE:**
1. ROOF AND FLOOR CONSTRUCTION ASSEMBLY NOT AFFECTED BY DEMOLITION AND RENOVATION.
 2. FLOORING ONLY TO BE CHANGED. REFER TO SPECIFICATIONS AND ROOM FINISH SCHEDULE.

CONSTRUCTION ASSEMBLY LEGEND & NOTES:

| CONSTRUCTION ASSEMBLY TYPE TAG | | FIRE RATING DESIGNATIONS: |
|---|-----------------------------------|---|
|  | PARTITION TYPE DESIGNATION | <p>W Indicates 0 HR / NON-RATED FIRE SEPARATION</p> <p>S Indicates 30 MIN F.R.R. FIRE SEPARATION</p> <p>BF Indicates 45 MIN F.R.R. FIRE SEPARATION</p> <p>D Indicates 1 HR F.R.R. FIRE SEPARATION</p> <p>E Indicates 1.5 HR F.R.R. FIRE SEPARATION</p> <p>T Indicates 2 HR F.R.R. FIRE SEPARATION</p> |
|  | FIRE RATING/ ACOUSTIC DESIGNATION | <p>ACOUSTIC DESIGNATIONS:</p> <p>T Indicates ACOUSTIC DESIGNATION</p> |

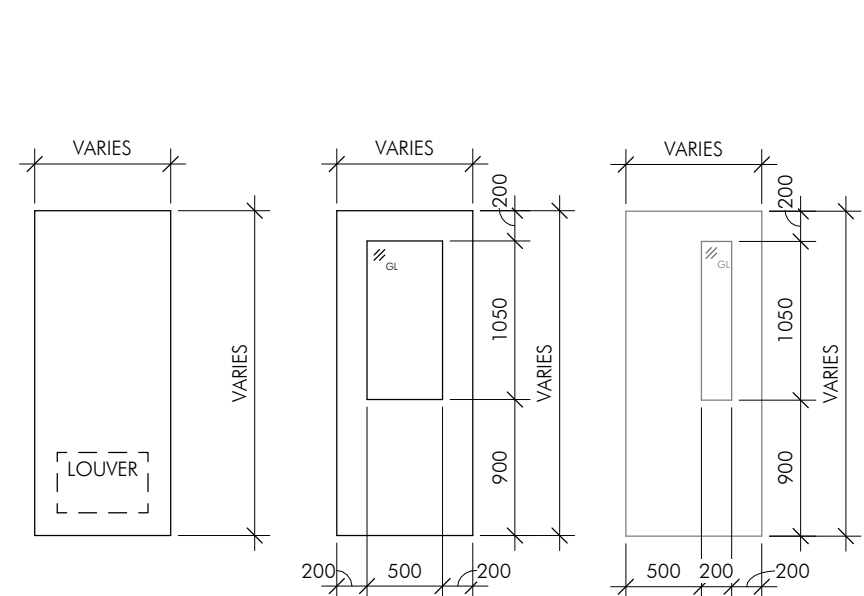
FLOOR AND ROOF CONSTRUCTION ASSEMBLIES:

1. REFER TO THE ONTARIO BUILDING CODE MATRIX, FIRE SEPARATION PLANS AND NOTES FOR LOCATIONS OF REQUIRED ROOF AND/OR FLOOR ASSEMBLIES REQUIRED TO HAVE A FIRE RESISTANCE RATING.
2. PENETRATIONS INTO AND THROUGH ASSEMBLIES REQUIRED TO HAVE A FIRE RESISTANCE RATINGS ARE TO BE SEALED WITH AN APPROVED FIRE STOPPING MATERIAL THAT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS.

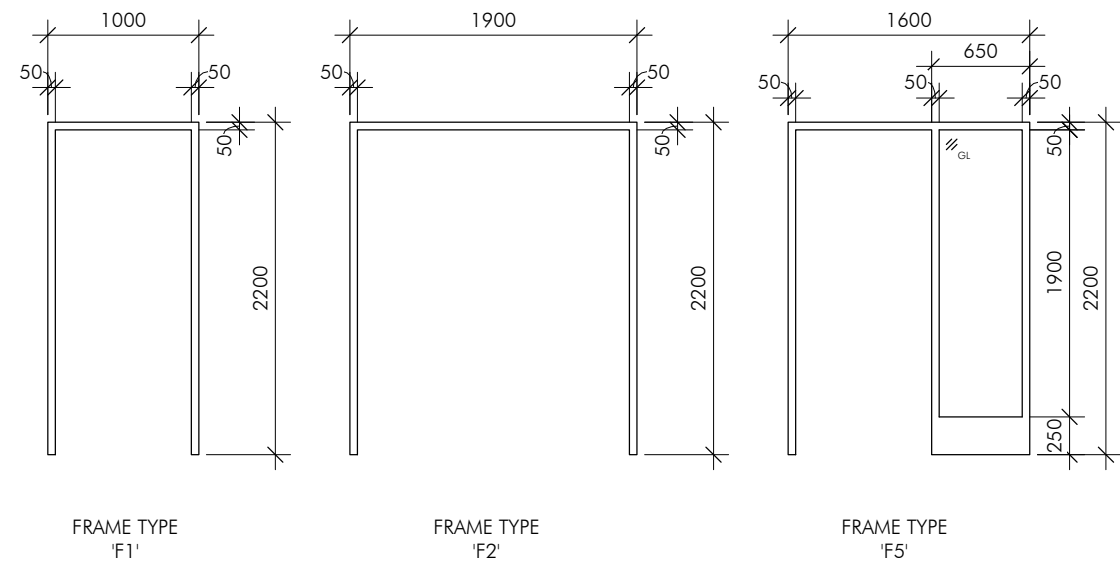
INTERIOR WALL CONSTRUCTION ASSEMBLIES:

1. ALL INTERIOR WALL PARTITIONS ARE TO EXTEND FROM FLOOR TO UNDERSIDE OF PRECAST / METAL DECK FLOOR OR ROOF STRUCTURE ABOVE UNLESS OTHERWISE NOTED.
2. REFER TO FIRE SEPARATION PLANS FOR THE LOCATION AND RATING OF ALL REQUIRED FIRE SEPARATIONS. ALL PENETRATIONS INTO AND THROUGH FIRE SEPARATIONS ARE REQUIRED TO BE SEALED WITH AN APPROVED FIRE STOPPING MATERIAL. NOTE NOT ALL PARTITIONS IDENTIFIED WITH A ULC RATINGS ARE REQUIRED TO BE CONSTRUCTED AS FIRE SEPARATIONS ONLY THOSE INDICATED ON THE FIRE SEPARATION PLANS ARE REQUIRED TO MEET THE ULC DESIGNATION.
3. ANY RECESSED MECHANICAL AND/OR ELECTRICAL PANELS, HEATERS AND/OR DEVICES (INCLUDING BUT NOT LIMITED TO ELECTRICAL PANELS, FIRE ALARM PANELS/PHONES, FIRE HOSE/EXTINGUISHER CABINETS, ETC...) SHOWN ON OR IN THE MECHANICAL & ELECTRICAL DOCUMENTS THAT ARE TO BE INSTALLED INTO A REQUIRED FIRE SEPARATION IS TO HAVE THE RECESSED LINED/WAPPED WITH GYPSUM BOARD EQUIVALENT TO THE THICKNESS OF THE REQUIRED PARTITION THAT THE OPENING IS PLACED ON. (ie. IF THE PARTITION REQUIRES 2 LAYERS OF 16mm TYPE 'X' GYPSUM BOARD THEN THE RECESS WOULD REQUIRE 2 LAYERS OF TYPE 'X' GYPSUM BOARD)
4. INTERIOR PARTITIONS THAT ARE NOT CLEARLY IDENTIFIED IN THE DRAWINGS OR DOCUMENTS ARE TO BE ASSUMED TO BE A 'P2m' WALL TYPE.
5. WHERE WALL ARE ACOUSTICALLY DESIGNATED, ACOUSTICAL SEALANT TO BE APPLIED AT TOP OF WALL AND BASE.

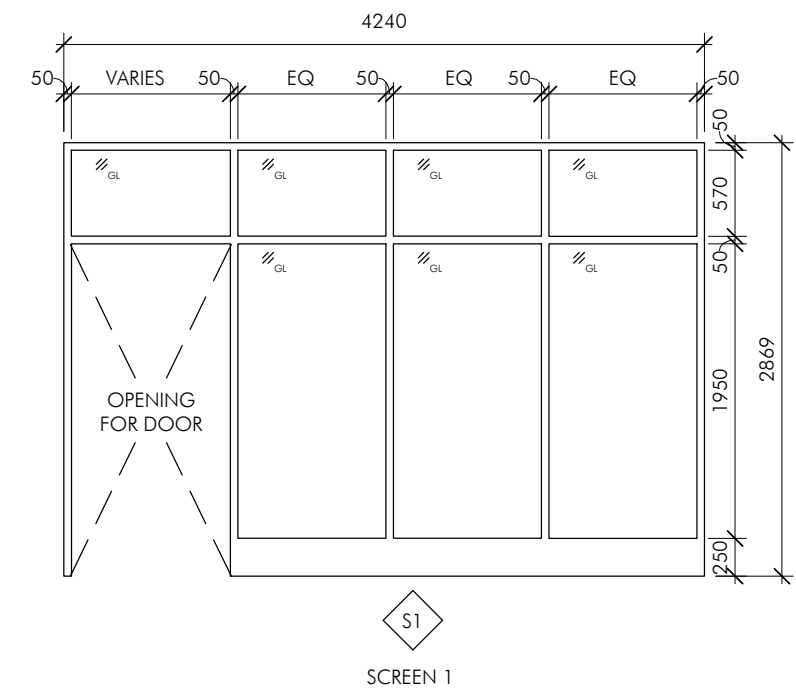
| Door And Frame Schedule - New Construction | | | | | | | | | | | | | | |
|--|---------------|-----|-------|--------|-----------|-----------|---------|---------|-----------|-----------|---------|---------|-------------|--|
| Door No. | Room Name | Set | Door | | | | | Frame | | | | | Fire Rating | Comments |
| | | | Width | Height | Type | Mat'l | Finish | Glazing | Type | Mat'l | Finish | Glazing | | |
| D5003 | WORKSPACE | 1 | 965 | 2150 | D2 | HM | PTD | LAM | P2 | HM | PTD | LAM | - | |
| D5003A | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003B | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003C | EXIST. IT RM | 3 | 965 | 2150 | D1 | HM | PTD | - | F1 | HM | PTD | LAM | - | |
| D5003D | CONFERENCE | 4 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003Da | CONFERENCE | 4 | 965 | 2150 | D1 | SCW | CLEAR | - | F1 | HM | PTD | LAM | - | |
| D5003E | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003F | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003J | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003K | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5003K | COLLABORATION | 4 | 950 | 2150 | D1 | SCW | CLEAR | - | S1 | HM | PTD | LAM | - | |
| D5003L | OFFICE | 2 | 965 | 2150 | D1 | SCW | CLEAR | - | F5 | HM | PTD | LAM | - | |
| D5005 | EXIST. LOUNGE | 5 | 965 | 2150 | D1 | HM | PTD | - | F1 | HM | PTD | LAM | - | |
| D5005a | GREEN ROOM | 3 | 965 | 2150 | D1 | HM | PTD | - | F1 | HM | PTD | LAM | - | |
| D5006 | EXIST. OFFICE | 2 | 965 | 2150 | D1 | HM | PTD | - | F1 | HM | PTD | LAM | - | |
| x5003a | WORKSPACE | 0 | 800 | 2150 | EXIST. D1 | EXIST. HM | NEW PTD | - | EXIST. F1 | EXIST. HM | NEW PTD | - | - | New point renovation tenant side only. |
| x5004 | EXIST. STAIRS | 0 | 914 | 2150 | EXIST. D3 | EXIST. HM | NEW PTD | - | EXIST. F1 | EXIST. HM | NEW PTD | - | - | New point renovation tenant side only. |
| x5012 | WORKSPACE | 0 | 914 | 2150 | EXIST. D2 | EXIST. HM | NEW PTD | - | EXIST. F1 | EXIST. HM | NEW PTD | - | - | New point renovation tenant side only. |



Door Type Legend
scale = 1 : 50



Door Frame Type Legend
scale = 1 : 50



Hollow Metal Screen Elevations
scale = 1 : 50

| Room Finish Schedule - New Construction | | | | | | | | | | | | | | | | | | | |
|---|------------------|-------|------|--------------|--------|------------|--------|------------|--------|------------|--------|---------|--------|-------------|----------|-------|---------|-----------------------------------|--|
| | | Floor | | Walls | | | | | | | | Ceiling | | | Millwork | | | Comments | |
| NO | ROOM NAME | Mat'l | Base | North | | East | | South | | West | | Mat'l | Finish | Height | Upper | Lower | Counter | | |
| | | | | Mat'l | Finish | Mat'l | Finish | Mat'l | Finish | Mat'l | Finish | | | | | | | | |
| S002 | EXIST. CLASSROOM | UN-L | RB1 | EXIST | PTD | EXIST | PTD | EXIST | PTD | EXIST | PTD | ACT | EXIST | - | - | - | - | exist suspended ceiling to remain | |
| S003 | WORKSPACE | CP11 | RB1 | EXIST/G YP/- | PTD | EXIST/G YP | PTD | EXIST/G YP | PTD | EXIST/G YP | PTD | ACT | - | 2743.2/52.8 | - | - | - | | |
| S003A | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | EXIST | PTD | GYP | PTD | ACT | - | 2743.2 | - | - | - | Sound batt above ACT | |
| S003B | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | GYP | PTD | GYP | PTD | ACT | - | 3352.8 | - | - | - | Sound batt above ACT | |
| S003C | EXIST. IT RM | - | - | EXIST | N/A | -/GYP | PTD | -/GYP | PTD | EXIST | N/A | ACT | - | 2743.2 | - | - | - | Match exist. adjacent finishes | |
| S003D | CONFERENCE | CP11 | RB1 | GYP | PTD | EXIST | PTD | EXIST/G YP | PTD | GYP | PTD | ACT | - | 3352.8 | - | - | - | Sound batt above ACT | |
| S003E | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | GYP | PTD | GYP | PTD | ACT | - | 3352.8 | - | - | - | Sound batt above ACT | |
| S003F | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | GYP | PTD | GYP | PTD | ACT | - | 3352.8 | - | - | - | Sound batt above ACT | |
| S003G | COLLABORATION | CP11 | RB1 | EXIST | PTD | EXIST | PTD | - | - | GYP | PTD | ACT | - | 2743.2 | - | - | - | Sound batt above ACT | |
| S003H | MEETING | CP11 | RB1 | EXIST | PTD | GYP | PTD | GYP | PTD | EXIST | PTD | ACT | - | 2743.2 | - | - | - | Sound batt above ACT | |
| S003J | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | GYP | PTD | EXIST | PTD | ACT | - | 2743.2 | - | - | - | Sound batt above ACT | |
| S003K | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | EXIST | PTD | GYP | PTD | ACT | - | 3352.8 | - | - | - | Sound batt above ACT | |
| S003L | OFFICE | CP11 | RB1 | GYP | PTD | GYP | PTD | GYP | PTD | GYP | PTD | ACT | - | 3352.8 | - | - | - | Sound batt above ACT | |
| S003M | COFFEE | LVT1 | RB1 | GYP | PTD | - | - | EXIST | PTD | EXIST | PTD | ACT | - | 2743.2 | WD | WD | PLAM | | |
| S005 | EXIST. LOUNGE | LVT1 | RB1 | EXIST | PTD | EXIST | PTD | GYP | PTD | EXIST/G YP | PTD | ACT | - | 2743.2 | WD | WD | PLAM | | |
| S005a | GREEN ROOM | CP11 | RB1 | GYP | PTD | EXIST/G YP | PTD | EXIST | PTD | EXIST | PTD | ACT | - | 2743.2 | - | - | - | | |
| S006 | EXIST. OFFICE | - | - | -/GYP | PTD | - | - | - | - | - | - | ACT | N/A | EXIST | - | - | - | Match exist. adjacent finishes | |
| X5010 | EXIST. CORRIDOR | - | - | - | - | - | - | - | - | - | - | PTD | ACT | N/A | EXIST | - | - | Match exist. adjacent finishes | |
| X5011 | EXIST. LOBBY | - | - | - | - | - | - | - | - | - | - | PTD | ACT | N/A | EXIST | - | - | Match exist. adjacent finishes | |
| X5012 | EXIST. CORRIDOR | - | - | -/GYP | PTD | - | - | -/GYP | PTD | - | - | ACT | N/A | EXIST | - | - | - | Match exist. adjacent finishes | |

GENERAL NOTES

1. ALL DIMENSIONS TO BE VERIFIED ON SITE
2. DOUBLE STUD AROUND OPENINGS IN EXCESS OF 400mm2
3. CONTRACTOR TO COORDINATE ALL MECHANICAL AND ELECTRICAL WORK WITH ARCHITECTURAL.

ABBREVIATIONS

| | | | |
|-------|--------------------------|---------|-------------------------------|
| ACT | ACOUSTIC CEILING TILE | OC | ON CENTER |
| AFF | ABOVE FINISHED FLOOR | O/F | OUTSIDE FACE |
| ALUM | ALUMINUM | OV | OVER HEAD |
| BF | BARRIER FREE | O/V | OVEN |
| BLKHD | BULKHEAD | OW/SJ | OPEN WEB STEEL JOIS' |
| CB | CATCH BASIN | PLM | PLASTIC LAMINATE |
| C/C | CENTER TO CENTER | PLY | PLYWOOD |
| CG | CORNER GUARD | PORC | PORCELAIN |
| CHR | CHAR RAIL | PT | PRESSURE TREATED |
| CL | CENTERLINE | PTD | PAINTED |
| CMU | CONCRETE MASONRY UNIT | PV | PLUMBING VENT |
| COLU | COLUMN | R | RANGE |
| CP | COMMUNICATION PANEL | RA | ROOF ANCHOR |
| CLEAR | CLEAR FINISH | RB | RUBBER BASE |
| CONC | CONCRETE | RCCT | REINFORCED CONCRETE CORE FILL |
| CPT | CARPET | RD | ROOF DRAIN |
| CT | CERAMIC TILE | RM | REMOVABLE MULLION |
| C/W | COMPLETE WITH | R O. | ROUGH PENNING |
| D | DRYER | R&S | ROD & SHELF |
| DF | DRINKING FOUNTAIN | RSV | RESILIENT SHEET VINYL |
| DW | DISH WASHER | RUB | RUBBER FLOORING |
| EJ | EXPANSION JOINT | R/W | REINFORCED WITH |
| ELEV | ELEVATION | RVL | RAIN WATER LEADER |
| EP | ELECTRICAL PANEL | SCJ | SAW CUT CONTROL JOINT |
| EPX | EPOXY | SDS | SOLID SURFACE |
| EW | EYE WASH STATION | SH | SHOWER |
| EXIST | EXISTING | SIM | SIMILAR |
| EXP | EXPOSED | SL | SEALER |
| F | REFRIGERATOR | SP | CONCRETE SPLASH PAD |
| FA | FIRE ALARM | SS | STAINLESS STEEL |
| FAB | FABRIC | ST | STONE TILE |
| FD | FLOOR DRAIN | STL | STEEL |
| FIN | FINISH | STR | SHORT THROW PROJECTOR |
| FF | FINISHED FACE | STR | STAR TREAD |
| GA | GAUGE | S&V | STAIN & VARNISH |
| GALV | GALVANIZED | SWC | SOLID WOOD CORE |
| GL | GLASS | TB | TACK BOARD |
| GYP | GYPSUM BOARD | TEMP | TEMPORARY |
| HS | HAND SINK | TERAZZO | TERAZZO |
| HDW | HARDWOOD FLOORING | TG | TEMPERED GLASS |
| HMA | HOLLOW METAL | T/O | TOP OF |
| H/O | HOLD OPEN | TS | TRANSITION STRIP |
| HT | HEIGHT | TYP | TYPICAL |
| LF | LAMINATE FLOORING | U/C | UNDER COUNTER |
| LG | LAMINATED GLASS | U/S | UNDERSIDE OF |
| LIN | LINOLEUM | VCT | VINYL COMPOSITE TILE |
| KCJ | KEYED CONSTRUCTION JOINT | VVC | VINYL WALL COVERING |
| MATL | MATERIAL | W | WASHING MACHINE |
| MAX | MAXIMUM | W/R | WASHROOM |
| MIN | MINIMUM | WAIN | WAINSCOT |
| M.O. | MASONRY OPENING | WB | WHITE BOARD |
| MTL | METAL | WC | WINDOW COVERING |
| MW | MICROWAVE | WD | WOOD |
| MS | MOP SINK | WG | WIRED GLASS |
| N/A | NOT APPLICABLE | | |
| NFBIB | NON-FREEZE HOSE BIBB | | |
| NIC | NOT IN CONTRACT | | |
| NTS | NOT TO SCALE | | |

| "4" | 2017.09.07 | Issued for Tender |
|----------|------------|------------------------------|
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
| "1" | 2017.07.27 | Revision as per Owner Review |
| "0" | 2017.07.17 | Issued for 100% Review |
| REVISION | DATE | DESCRIPTION |

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p: 807.345.5582 f: 807.345.4093 e: info@formarchitecture.ca

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PROJECT NAME:

CBRE - LU Chancellor Paterson Library

Teachers Common Renovations

955 Oliver Rd Thunder Bay, ON

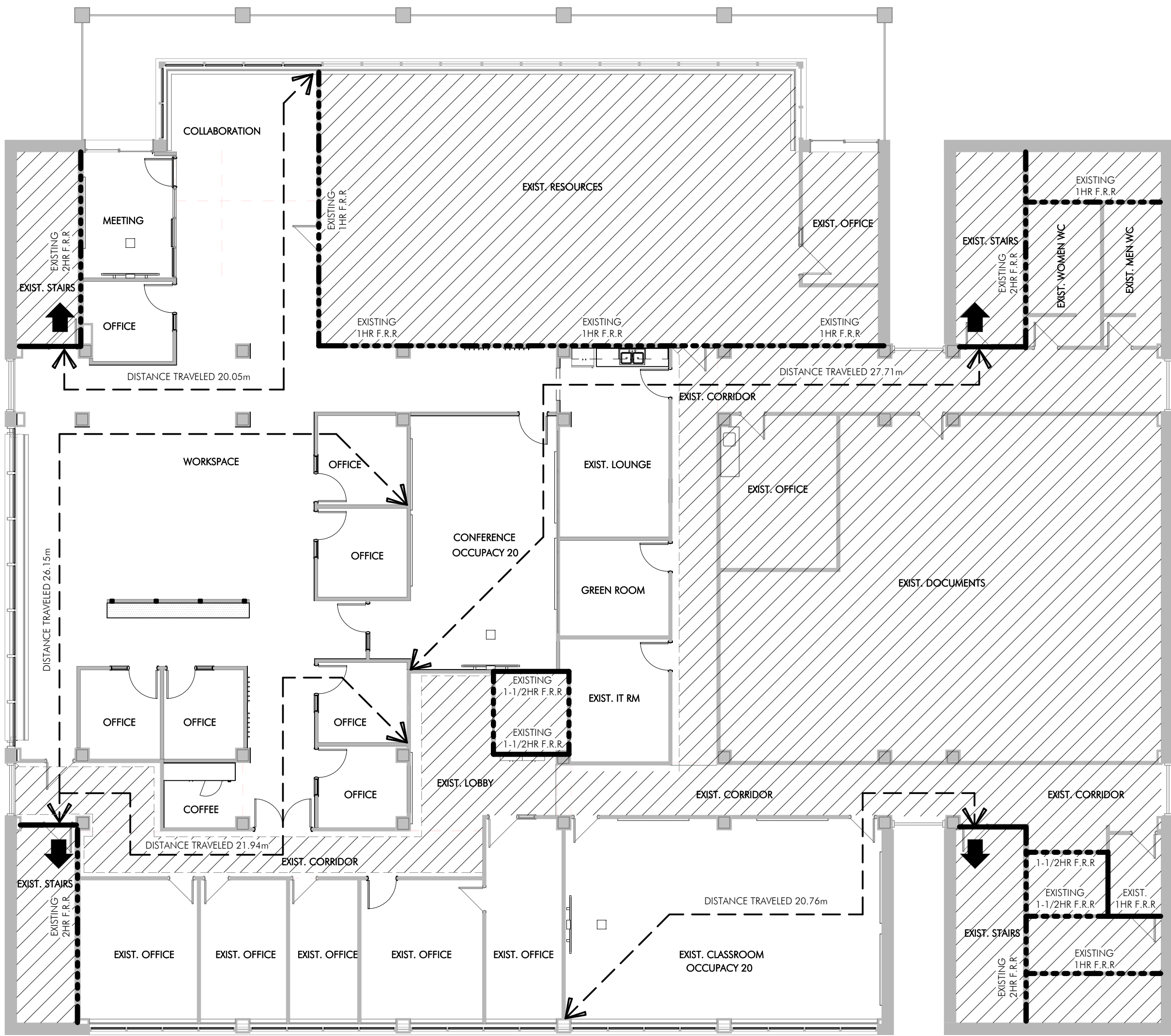
SHEET TITLE:

Construction Assemblies, Legends & General Notes

DATE: August 2017

DRAWN: SLP/SRP

PROJECT: 2017024



1 Level 1 - Existing Fire Separation Plan
A2.4 A0.2 scale = 1 : 125

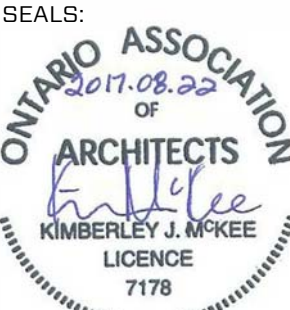
| | | | |
|---------------------------------|---|--|--|
| FIRM NAME: | | FORM ARCHITECTURE ENGINEERING 131 COURT ST., N., THUNDER BAY, ON P7A 4V1 807.345.5582 phone 807.345.4093 fax info@formarchitecture.ca | |
| CERTIFICATE OF PRACTICE NUMBER: | | 4821 | |
| NAME OF PROJECT: | | Lakehead University - Chancellor Paterson Library 5th Floor - Teachers Common Renovations | |
| PROJECT LOCATION: | | 955 Oliver Road, Thunder Bay, ON P7B 5E1 | |
| LEGAL DESCRIPTION: | | - | |
| ITEM | ONTARIO'S 2006 BUILDING CODE DATA MATRIX PARTS 3 & 9 | | OBC REFERENCE |
| | | | References are to Division B unless noted [A] for Division A or [C] for Division C. |
| 1 | PROJECT DESCRIPTION: <input type="checkbox"/> NEW <input checked="" type="checkbox"/> PART 11 <input type="checkbox"/> PART 3 <input type="checkbox"/> ADDITION <input type="checkbox"/> PART 9 <input type="checkbox"/> CHANGE OF USE <input checked="" type="checkbox"/> ALTERATION 11.1 TO 11.4 | | 1.1.2. [A] 1.1.2. [A] & 9.10.1.3 |
| 2 | MAJOR OCCUPANCY(S): GROUP A2 | | 3.1.2.1. (1) 9.10.2 |
| 3 | BUILDING AREA (meters square): EXISTING 2397.7 m2 NEW TOTAL 2397.7 m2 | | 1.4.1.2. [A] 1.4.1.2. [A] |
| 4 | GROSS AREA (meters square): EXISTING 2397.7 m2 NEW TOTAL 2397.7 m2 | | 1.4.1.2. [A] 1.4.1.2. [A] |
| 5 | NUMBER OF STOREYS: ABOVE GRADE 3X BELOW GRADE N/A | | 1.4.1.2. [A] & 3.2.1.1. 1.4.1.2. [A] & 9.10.4 |
| 6 | NUMBER OF STREETS/FIRE FIGHTER ACCESS: EXISTING | | 3.2.2.10 & 3.2.5 9.10.20 |
| 7 | BUILDING CLASSIFICATION: EXISTING - NON SPRINKLER | | 3.2.2.20-83 9.10.2 |
| 8 | SPRINKLER SYSTEM PROPOSED: EXISTING <input type="checkbox"/> ENTIRE BUILDING <input type="checkbox"/> SELECTED COMPARTMENTS <input type="checkbox"/> SELECTED FLOOR AREAS <input type="checkbox"/> BASEMENT <input type="checkbox"/> IN LIEU OF ROOF RATING <input type="checkbox"/> NOT REQUIRED | | 3.2.1.5 3.2.2.17 INDEX 9.10.8.2 |
| 9 | STANDPIPE REQUIRED: EXISTING <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 3.2.9 N/A |
| 10 | FIRE ALARM REQUIRED: EXISTING <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 3.2.4 9.10.18 |
| 11 | WATER SERVICE/SUPPLY IS ADEQUATE: EXISTING <input type="checkbox"/> YES <input type="checkbox"/> NO | | 3.2.5.7 N/A |
| 12 | HIGH BUILDING: EXISTING <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 3.2.6 N/A |
| 13 | CONSTRUCTION RESTRICTIONS: <input type="checkbox"/> COMBUSTIBLE <input checked="" type="checkbox"/> NON-COMBUSTIBLE <input type="checkbox"/> BOTH ACTUAL CONSTRUCTION: <input type="checkbox"/> COMBUSTIBLE <input checked="" type="checkbox"/> NON-COMBUSTIBLE <input type="checkbox"/> BOTH | | 3.2.2.20-83 9.10.6 |
| 14 | MEZZANINE(S) AREA (meters square): N/A | | 3.2.1.1. (3)-(8) 9.10.4.1 |
| 15 | OCCUPANT LOAD BASED ON: <input type="checkbox"/> AREA <input checked="" type="checkbox"/> DESIGN OF BUILDING | | 3.1.17 9.9.1.3 |
| 16 | 1st FLOOR: N/A 5th FLOOR: 45 OCCUPANCY LOAD persons | | |
| 17 | 2nd FLOOR: N/A OCCUPANCY LOAD persons | | |
| 18 | 3rd FLOOR: N/A OCCUPANCY LOAD persons | | |
| 19 | 4th FLOOR: N/A OCCUPANCY LOAD persons | | |
| 16 | FOR ADDITIONAL FLOORS (IF REQUIRED), REFER TO BELOW | | |
| 16 | BARRIER-FREE DESIGN: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO (EXPLAIN) | | 3.8 9.5.2 |
| 17 | HAZARDOUS SUBSTANCES: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | 3.3.1.2 & 3.3.1.19 9.10.1.3(4) |
| 18 | REQUIRED FIRE RESISTANCE RATING (FRR) | HORIZONTAL ASSEMBLIES FRR (HOURS) | LISTED DESIGN NO. OR DESCRIPTION (SG-2) |
| 18 | | FLOORS HOURS 2 HR. | REFER TO FLOOR ASSEMBLIES |
| 18 | | ROOF HOURS 1 HR. | |
| 18 | | MEZZANINE HOURS N/A | |
| 18 | FRR OF SUPPORTING MEMBERS | FLOORS HOURS 2 HR. | REFER TO ASSEMBLIES |
| 18 | | ROOF HOURS 1 HR. | |
| 18 | | MEZZANINE HOURS N/A | |
| 18 | | | |
| 19 | SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS EXISTING - NO CHANGE | | 3.2.3 9.10.14 |
| 19 | WALL | AREA OF EBF (m2) | L.D. (m) |
| 19 | | L/H OR H/L | PERMITTED MAX. % OF OPENINGS |
| 19 | | PROPOSED % OF OPENINGS | FRR (HOURS) |
| 19 | | LISTED DESIGN OR DESCRIPTION | COMB. CONSTR. |
| 19 | | | COMB. CONSTR. NON- CLADDING |
| 19 | | | NON-COMB. CONSTR. |
| 19 | NORTH | | |
| 19 | SOUTH | | |
| 19 | EAST | | |
| 19 | WEST | | |
| 19 | FOR ADDITIONAL WALLS (IF NECESSARY), REFER TO BELOW | | |
| 20 | PLUMBING FACILITIES: (OBC 3.7.4) EXISTING - NO CHANGE TO OCCUPANCY | | |
| 20 | OCCUPANCY TYPE | TABLE / CLAUSE | W/C: OCCUPANCY COUNT |
| 20 | | | REQUIRED WATER CLOSET COUNT |
| 20 | | | |
| 20 | | | |
| 20 | LAVATORY COUNTS: | | |
| 20 | | | |
| 21 | OTHER - DESCRIBE: TRAVEL DISTANCE FOR FIRE SEPARATION AND EXISTING BUILDING DESCRIPTION | | |
| 21 | 3.4.2.4 - TRAVEL DISTANCE 30m | | |
| 21 | BUILDING DESCRIPTION (A3-FEB 1993) | | |
| 21 | 6 STOREY BUILDING HEIGHT | | |
| 21 | GROUP A - DIVISION 2 | | |
| 21 | NON-COMBUSTIBLE CONSTRUCTION | | |
| 21 | FLOOR ASSEMBLIES - 2hr F.R.R. | | |
| 21 | ALL SUPPORTING COLUMNS & ARCHES - 2hr F.R.R. | | |
| 21 | ROOF ASSEMBLIES - 1hr F.R.R. | | |
| 21 | (MIN) MAJOR INTUITION ZONE | | |
| 21 | MAXIMUM OCCUPANT LOAD FIFTH FLOOR ONLY 45 PERSON TOTAL | | |

| ONTARIO BUILDING CODE DATA MATRIX - PART 11 - RENOVATION OF EXISTING BUILDING | | | OBC REFERENCE |
|---|--|---|--|
| 11.1 | EXISTING BUILDING CLASSIFICATION: | DESCRIBE EXISTING USE: GROUP A2 - ASSEMBLY CONSTRUCTION INDEX: _____ HAZARD INDEX: _____ <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> EXTENSIVE RENOVATION <input type="checkbox"/> | 11.3.3.1 11.3.3.2 |
| 11.3 | REDUCTION IN PERFORMANCE LEVEL: | STRUCTURAL: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES BY INCREASE IN OCCUPANT LOAD: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES BY CHANGE OF MAJOR OCCUPANCY: NO <input type="checkbox"/> YES PLUMBING: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES SEWAGE-SYSTEM: <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (EXPLAIN) INCREASE IN OCCUPANT LOAD: <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES (EXPLAIN) OCCUPANCY OF 5th FLOOR IS NOTED AS 45 ON EXISTING DRAWINGS. EXISTING FIXTURES: 2 MALE, 2 FEMALE PER 3.7.4.3A OBC. THIS FIXTURE COUNT IS COMPLIANT WITH THE CURRENT OCCUPANT COUNT OF 60 (30 MALE, 30 FEMALE) CHANGE IN MAJOR OCCUPANCY: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (EXPLAIN) PLUMBING: <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (EXPLAIN) SEWAGE SYSTEM: <input checked="" type="checkbox"/> NO <input type="checkbox"/> 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: | <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (GIVE NUMBER(S)) _____ | 11.5.1 |
| 11.6 | ALTERNATIVE MEASURES PROPOSED: | <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES (GIVE NUMBER(S)) _____ | 11.5.2 |

FIRE SEPARATION LEGEND



| | | |
|----------|------------|------------------------------|
| "4" | 2017.09.07 | Issued for Tender |
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
| "1" | 2017.07.27 | Revision as per Owner Review |
| "0" | 2017.07.17 | Issued for 100% Review |
| REVISION | DATE | DESCRIPTION |



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PROJECT NAME:

CBRE - LU Chancellor Paterson Library

Teachers Common Renovations

955 Oliver Rd Thunder Bay, ON

SHEET TITLE:

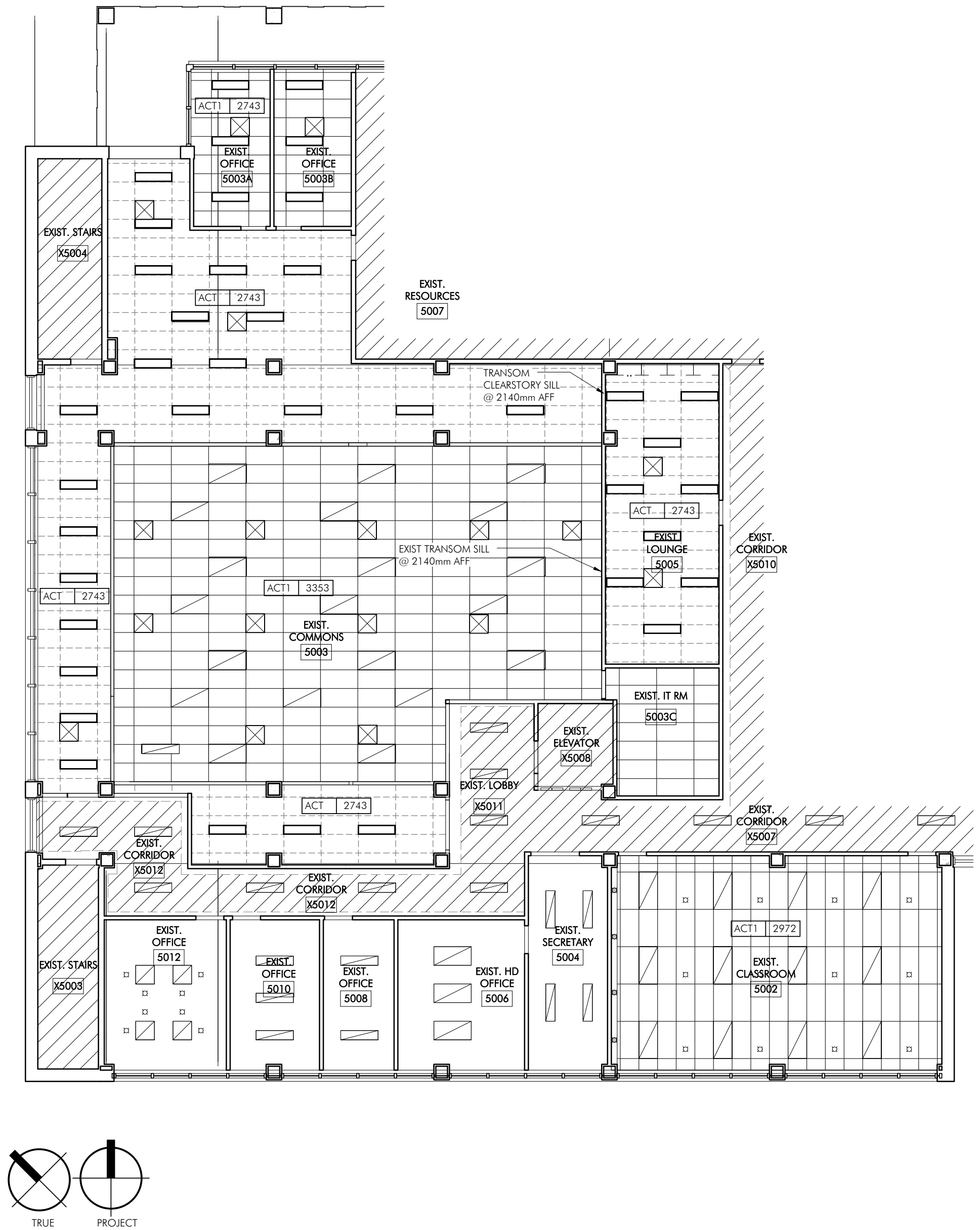
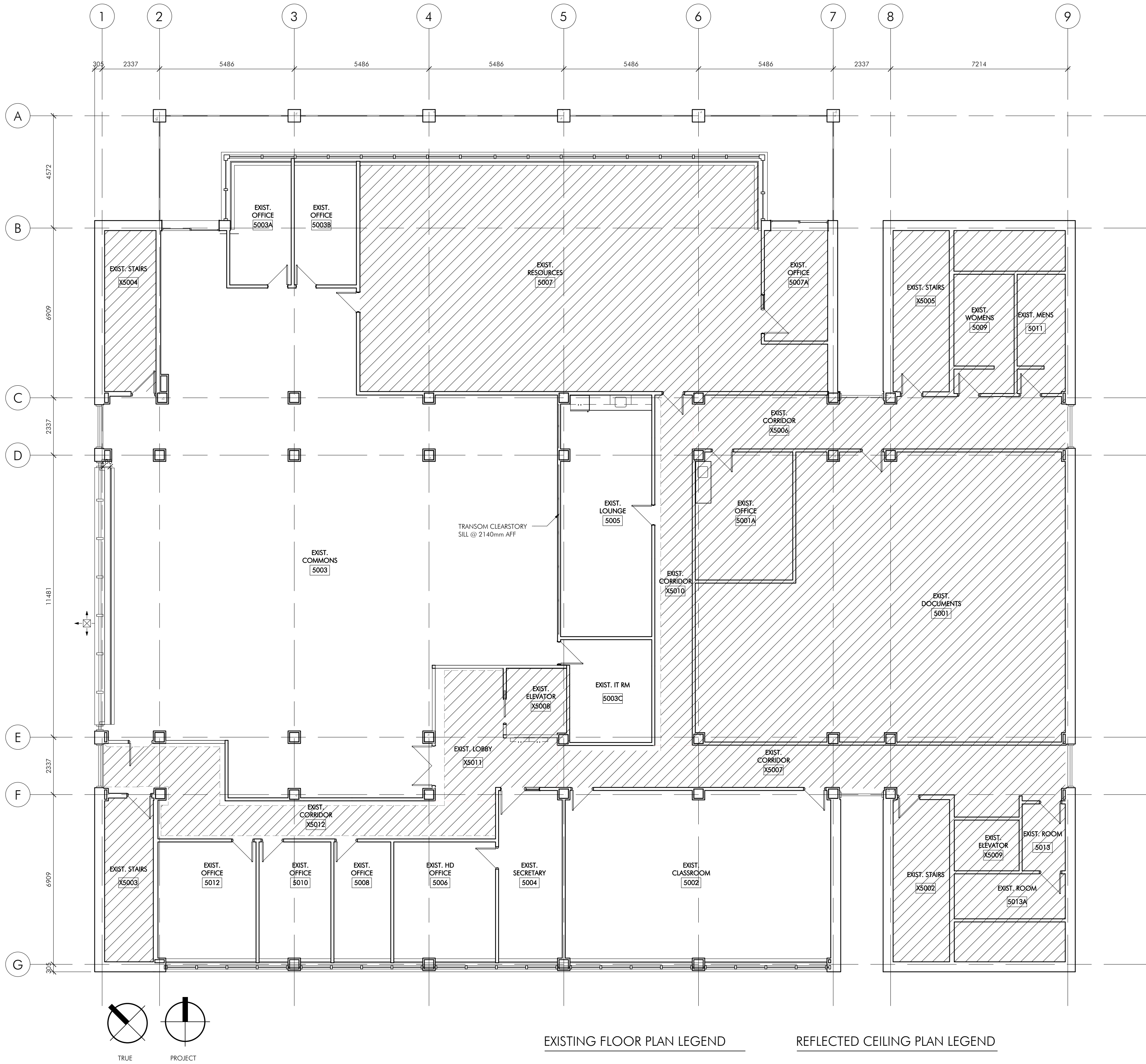
Fire Separation Diagrams

DATE: August 2017

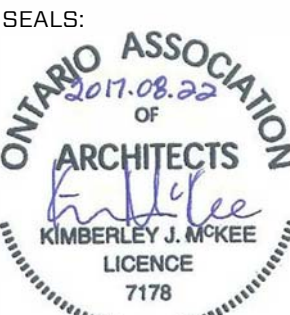
DRAWN: SLP

PROJECT: 2017024

A0.2



| | | |
|----------|------------|------------------------------|
| "4" | 2017.09.07 | Issued for Tender |
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
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PROJECT NAME:

**CBRE - LU Chancellor Paterson
Library**

Teachers Common Renovations

955 Oliver Rd Thunder Bay, ON

SHEET TITLE:

**Existing Floor Plans and Reflected
Ceiling Plans**

DATE: August 2017

DRAWN: SLP

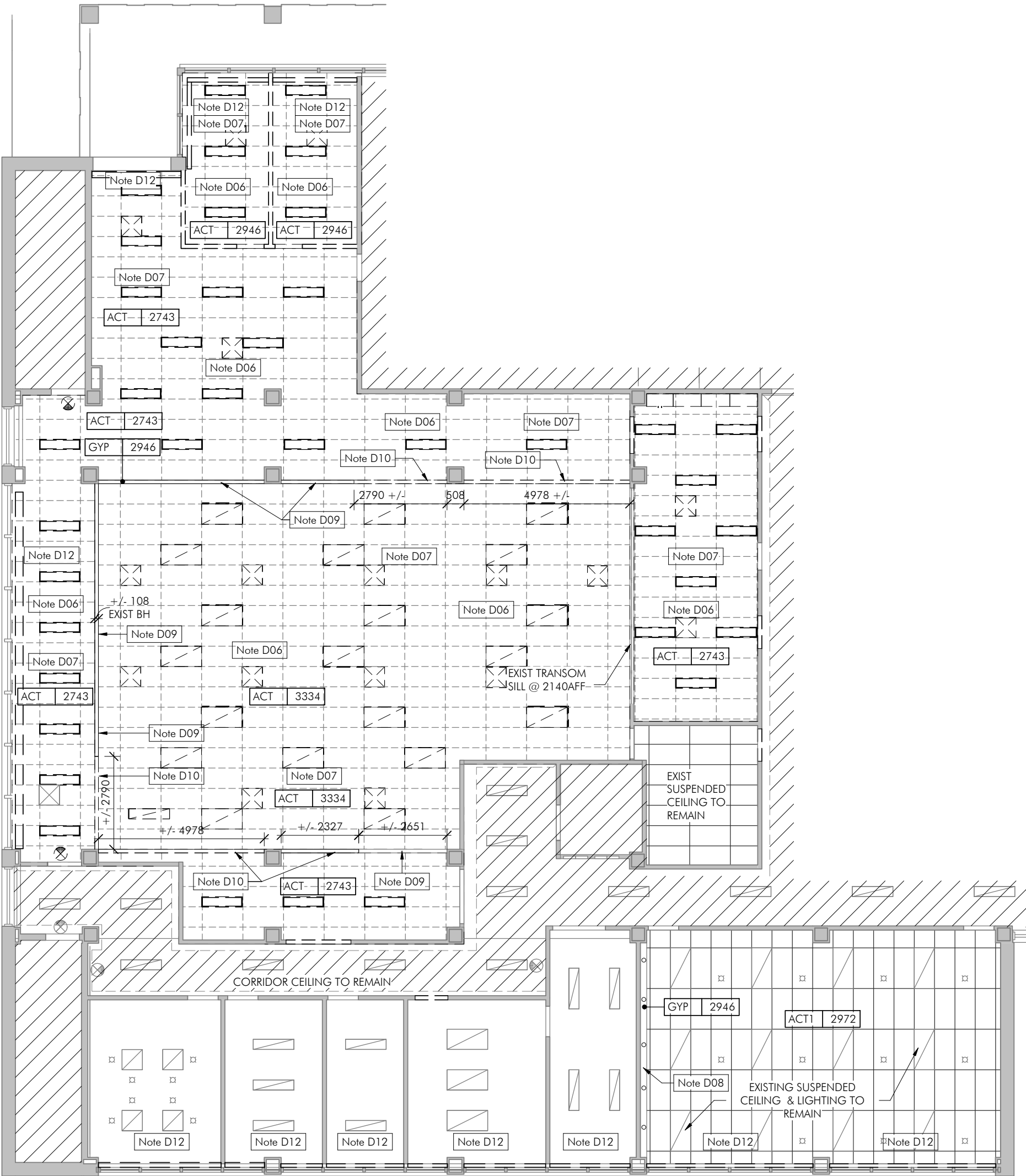
PROJECT: 2017024

A2.1

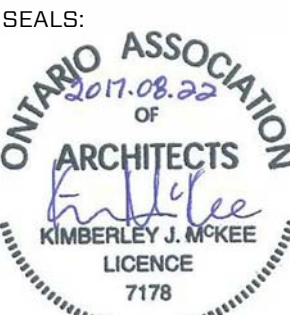
GENERAL DEMOLITION NOTES

- PATCH & MAKE GOOD FINISHED AFFECTED BY DEMOLITION
- REMOVE & SALVAGE SIGNAGE, TACK BOARDS, & WALL MOUNTED NOTICE BOARDS - TURN OVER TO OWNER
- REFER TO ELECTRICAL FOR LIGHTING DEMOLITION, SECURITY SYSTEM, SPEAKER SCOPE & IT / NETWORK SCOPE
- REFER TO MECHANICAL FOR GRILLE & DIFFUSER DEMOLITION SCOPE
- SITE VERIFY ALL DIMENSIONS
- NO NOT SCALE DRAWINGS
- REFER TO HAZARDOUS MATERIALS SURVEY & REMOVAL PROCEDURES IN SPECIFICATIONS PRIOR TO COMMENCING DEMOLITION

| Demolition Notes | |
|------------------|---|
| Mark | Description |
| Note D01 | Demolish wall to extent dimensioned on plan. Patch & make good adjacent surface affected by removal. |
| Note D02 | Demolish door and frame. Turn over to owner. |
| Note D03 | Demolish sink and millwork, no salvage. Make good and walls damaged during demolition. |
| Note D04 | Remove clerestory window above demolished wall. make good surrounding walls. |
| Note D05 | Remove existing flooring, remove any bonding agents used. Clean and prep surface for new flooring. |
| Note D06 | Demolishing existing ceiling tiles in area of work. Refer to demolition plans, no salvage. |
| Note D07 | Remove electrical for light fixture demolition. No Salvage. |
| Note D08 | Existing valance and bulkhead to remain. Refer to electrical for lighting demolition. |
| Note D09 | Existing gypsum bulkhead & framing to remain. |
| Note D10 | Demolish existing gypsum/metal frame bulkhead to extent shown, to suit new partition layout. Patch & make good surface affected by removal. |
| Note D11 | Create new opening in existing non load bearing wall to allow installation of new door & frame. Provide standard framing @ new opening. Refer to door & hardware schedules. Patch & make good adjacent finishes. |
| Note D12 | Remove existing window blinds, support & valances. No salvage. |
| Note D13 | Core drill existing concrete slab to suit installation of new electrical. Coordinate location with electrical & furniture layout. Provide 48 hrs notice prior to drilling. Minimize disruption to spaces below & protect areas from dust and water. |



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PROJECT NAME:

CBRE - LU Chancellor Paterson
Library

Teachers Common Renovations

955 Oliver Rd Thunder Bay, ON

SHEET TITLE:

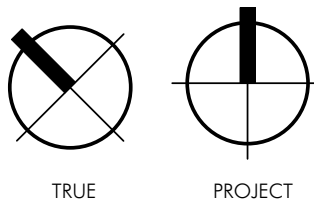
Demolition Floor Plan, Reflected
Ceiling Plan

DATE: August 2017

DRAWN: SLP

PROJECT: 2017024

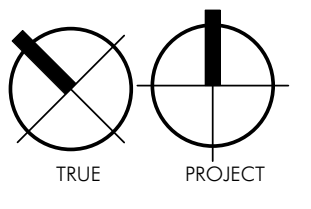
A2.2



1 5th Floor - Demolition Plan
A2.4 A2.2 scale = 1 : 100

FLOOR PLAN LEGEND

- SCOPE IN THIS AREA LIMITED TO NETWORK / IT UPGRADING - REFER TO ELEC. DRAWINGS
- PARTITION DEMOLITION
- EXISTING PARTITION
- DOOR DEMOLITION
- WINDOW TREATMENT DEMOLITION
- CORE DRILL THRU EXISTING SLAB



2 5th Floor - Reflected Ceiling Plan - Demolition
A2.4 A2.2 scale = 1 : 125

REFLECTED CEILING PLAN LEGEND

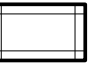
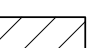
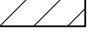

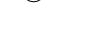


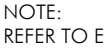
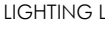

- CEILING TAG
- CEILING HEIGHT
- CEILING MATERIAL
- EXISTING LIGHT FIXTURE
- DIFFUSER - SUPPLY
- DIFFUSER - RETURN
- DEMOLISH EXISTING A.C.T. & GRID
- 610x1220mm A.C.T.
- SCOPE IN THIS AREA LIMITED TO NETWORK / IT UPGRADING - REFER TO ELEC.
- NOTE: REFER TO ELECTRICAL DRAWINGS FOR NEW LIGHTING LAYOUT

| Construction Notes | |
|--------------------|--|
| Mark | Description |
| Note C01 | Construct new wall. Tie into existing walls & make surface flush. Make good any walls that were damaged during demolition. Refer to construction assemblies & room finishes schedule. |
| Note C02 | Construct infill wall at existing, depth to match exist wall so that surfaces are flush. Tie into existing walls, make good any walls that were damaged during demolition. Refer to construction assemblies & room finishes schedule. |
| Note C03 | Install new door, frame and hardware in new opening in existing wall. Refer to door and frame schedule. |
| Note C04 | Install new cabinetry and millwork. See Sheet A6.1 |
| Note C05 | Supply and install new suspended ceiling. Refer to room finish schedule for extent of sound batt locations, hold back sound batt 150mm from recessed LED light fixtures. |
| Note C06 | Supply and install new roller blinds at exterior windows. Refer to specifications. |
| Note C07 | Supply and install new roller blinds at hollow metal screen. |
| Note C08 | Apply new paint finish to existing walls, window frames, doors and door frames. Refer to finish plan for colour & specification for paint formula. |
| Note C09 | Coordinate location of core drill for power/data with electrical and furniture supplier. Firestop to maintain 2hr FRR floor assembly. |
| Note C10 | Owner supplied projection whiteboard (WB2), support arm, and short throw projector. GC to install WB2 and solid blocking for short throw projector support arm. Owner to install support arm and short throw projector. Coordinate location and mounting height of whiteboard and blocking with owner (LU-TSE) and electrical prior to installation. |
| Note C11 | Supply and install new whiteboard (WB1) 2120mm AFF to top of board unless noted. Refer to specifications. |
| Note C12 | Supply and install 4 coatbooks mounted to solid birch backer plate @ 150mm O.C. Fasten plate to solid substrate @ min. 3 locations. Counter sink and plug fasteners, ease all edges with clear coat. Install CH1 @ 1500mm AFF and, install CH2 (barrier-free coat hooks) @ 1500mm AFF. |
| Note C13 | Supply and install new floor finish. Refer to room finish schedule. |
| Note C14 | Supply and install new system furniture. Coordinate with electrical, owner and furniture supplier. Refer to Sheet A7.1 for furniture layout. See specifications. |
| Note C15 | Supply and install new case goods, coordinate with electrical, owners and furniture supplier. Refer to Sheet A7.1 for layout. See Specifications. |
| Note C16 | Supply and install new non-fixed furniture. Refer to Sheet A7.1. See Specifications. |
| Note C17 | All existing columns in area of scope to receive new paint finish, all exposed sides |
| Note C18 | Scope in this room is limited to new IT / network. Refer to elec. Patch & make good finishes affected by this scope. |
| Note C19 | Refer to elec drawings for new IT / network scope in this room. Patch & make good finishes affected by this scope. |
| Note C20 | Supply and install new roller blinds at sliding door frame |
| Note C21 | Apply new paint finish to existing corridor wall. Colour to match existing. |

GENERAL CONSTRUCTION NOTES

1. ALL DIMENSIONS TO BE VERIFIED ON SITE
2. DO NOT SCALE DRAWINGS
3. READ ARCH. PLANS IN CONJUNCTION WITH MECH. AND ELEC.

REFLECTED CEILING PLAN LEGEND

| | | | |
|---|---------------------------------------|---|--|
| XXX.X XXXXX | CEILING TAG |  | 610x1220mm A.C.T. |
|  | CEILING HEIGHT |  | SCOPE IN THIS AREA LIMITED TO NETWORK UPGRADING. REFER TO ELEC. DRAWINGS |
|  | CEILING MATERIAL |  | LED EXIT SIGN |
|  | LIGHT FIXTURE, SEE ELECTRICAL DRAWING |  | SHORT THROW PROJECTOR AND BRACKET |
|  | LIGHT FIXTURE, SEE ELECTRICAL DRAWING | NOTE: REFER TO ELECTRICAL DRAWINGS FOR LIGHTING LAYOUT | |
|  | DIFFUSER - SUPPLY SEE MECH DRAWING | | |
|  | DIFFUSER - RETURN SEE MECH DRAWING | | |

| | | |
|----------|------------|------------------------------|
| "4" | 2017.09.07 | Issued for Tender |
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
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PROJECT NAME:

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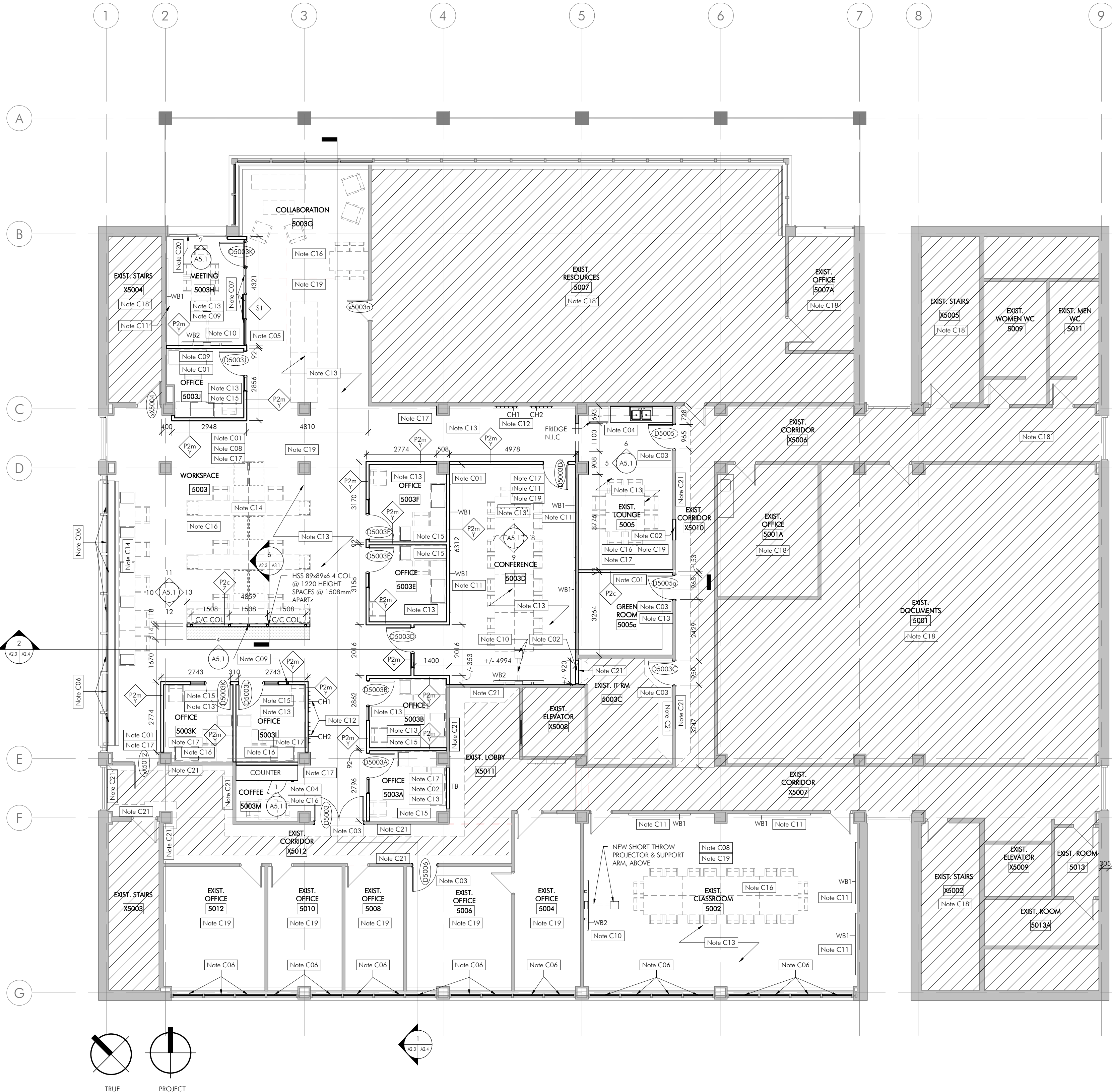
Renovation Floor Plan, Reflected
Ceiling Plan

DATE: August 2017

DRAWN: SLP/SRP

PROJECT: 2017024

A2.3

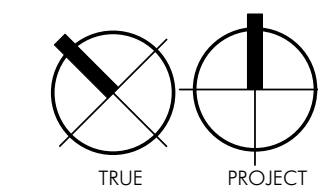


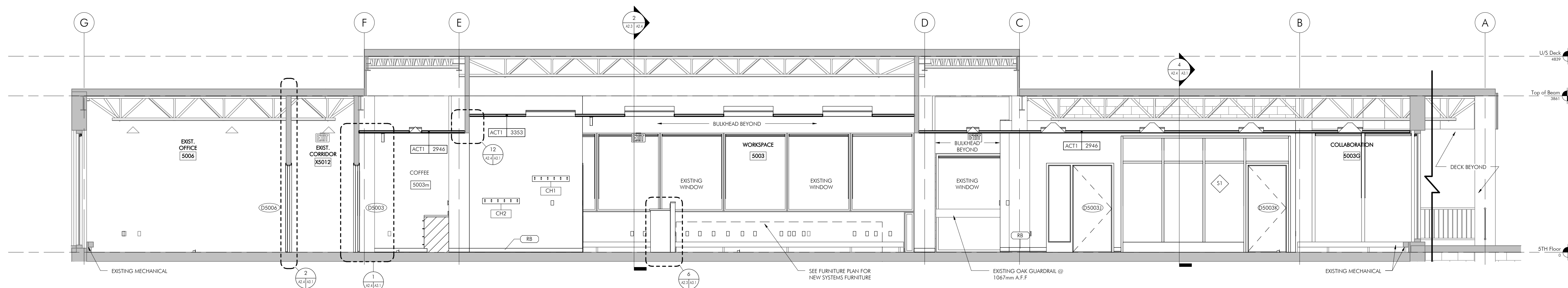
1 5th Floor - Renovation Plan

A2.4 | A2.3 scale = 1 : 100

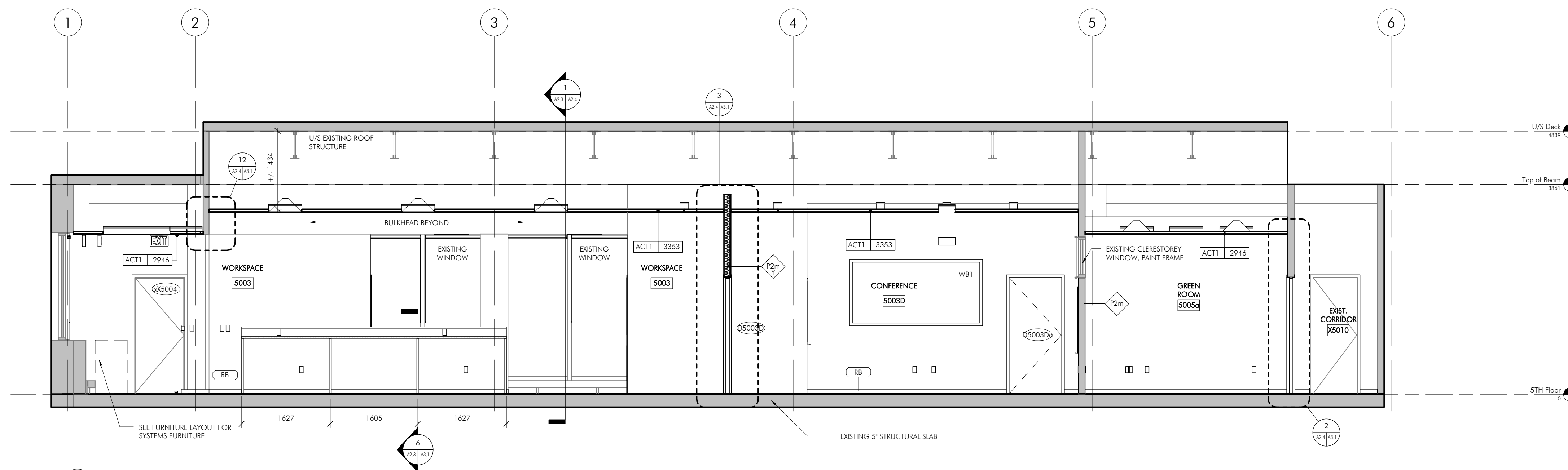
2 5th Floor - Reflected Ceiling Plan - Renovation

A2.4 | A2.3 scale = 1 : 125





1 Building Section - East to West
A2.3 A2.4 scale = 1 : 50



2 Building Section - North to South
A2.3 A2.4 scale = 1 : 50

| | | |
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ENGINEERING

131 Court Street North, Thunder Bay, ON P7A 4V1 Canada

BETTER PLACES FOR PEOPLE
www.formarchitecture.ca

PROJECT NAME:

CBRE - LU Chancellor Paterson
Library

Teachers Common Renovations

955 Oliver Rd

Thunder Bay, ON

SHEET TITLE:

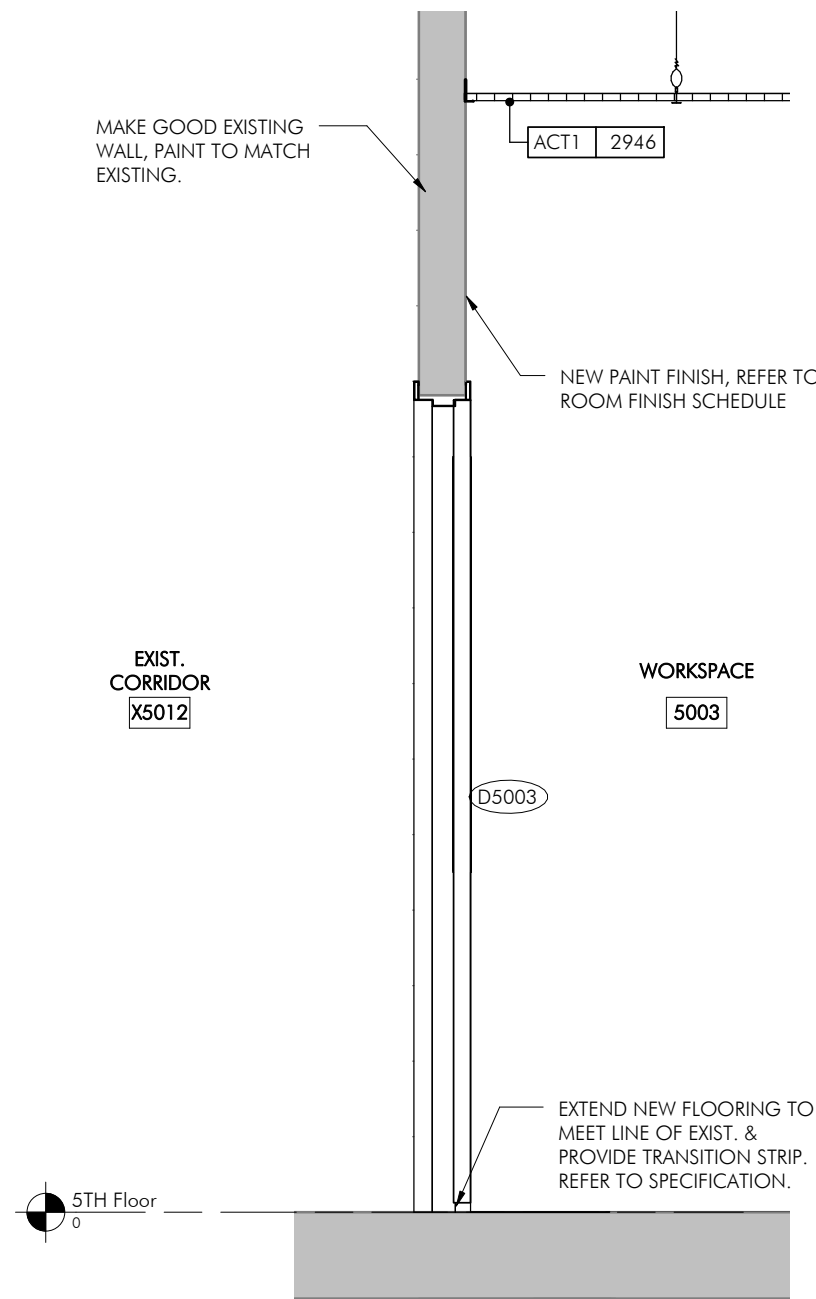
Renovation Building Sections

DATE: August 2017

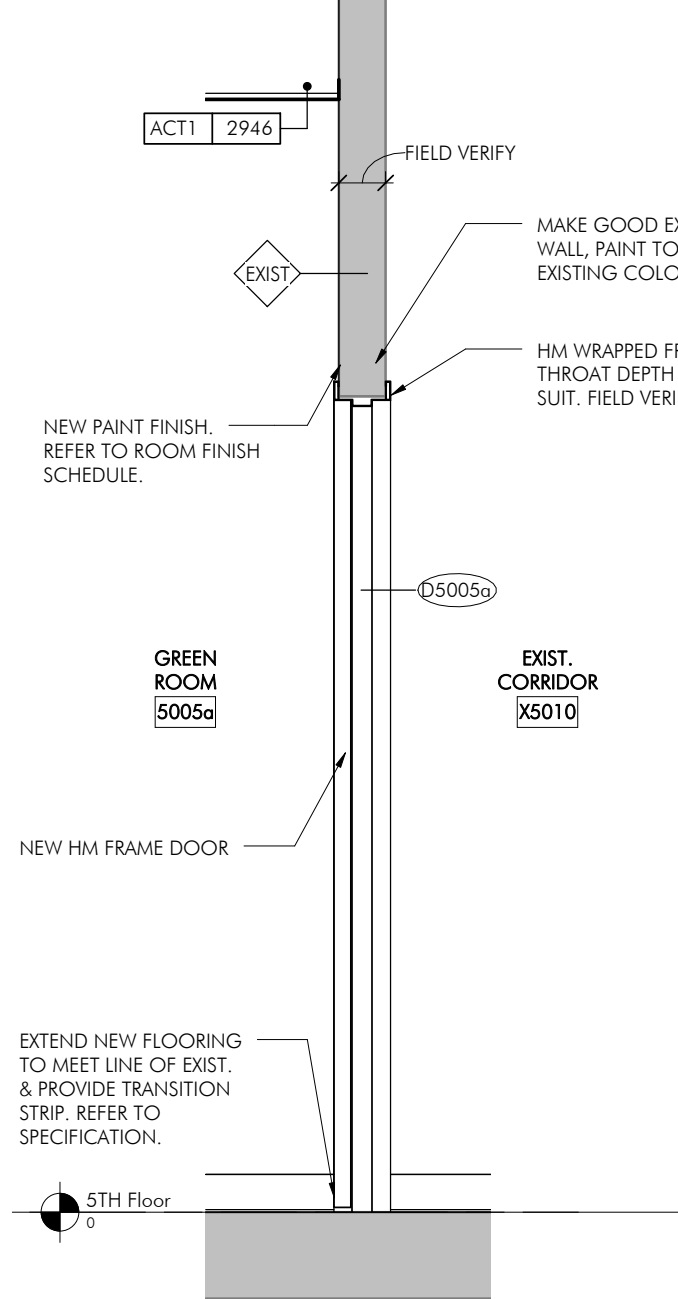
DRAWN: SLP

PROJECT: 2017024

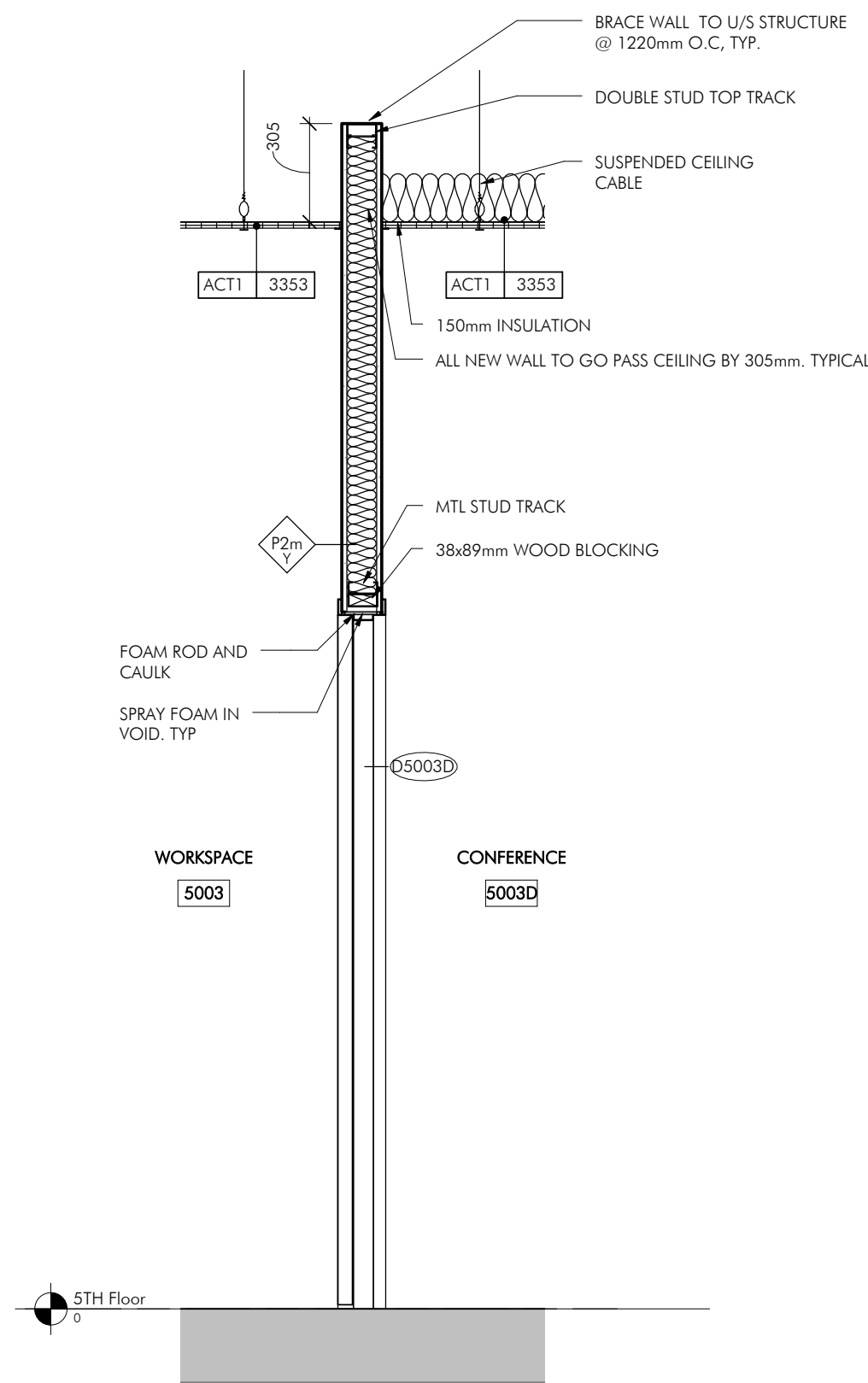
A2.4



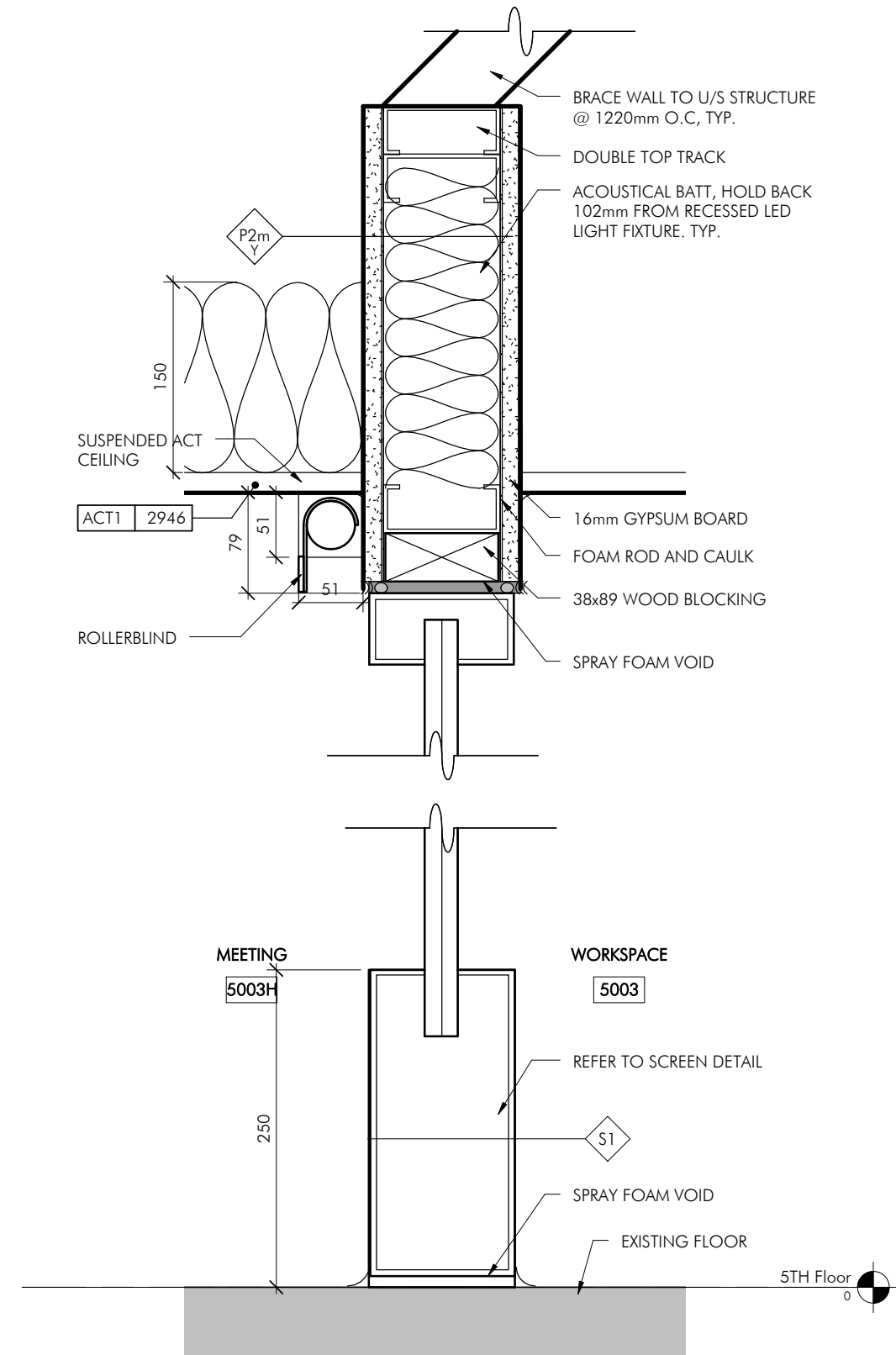
1 Wall Section - New Double Door @ Existing Wall
scale = 1 : 20



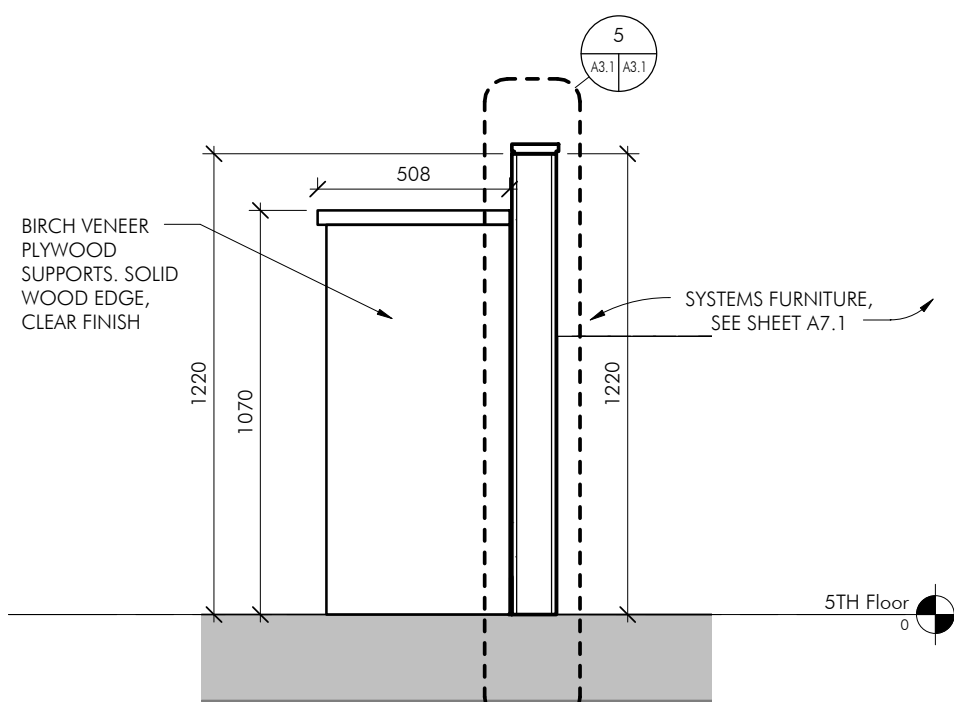
2 Wall Section - New Door @ Existing Wall
scale = 1 : 20



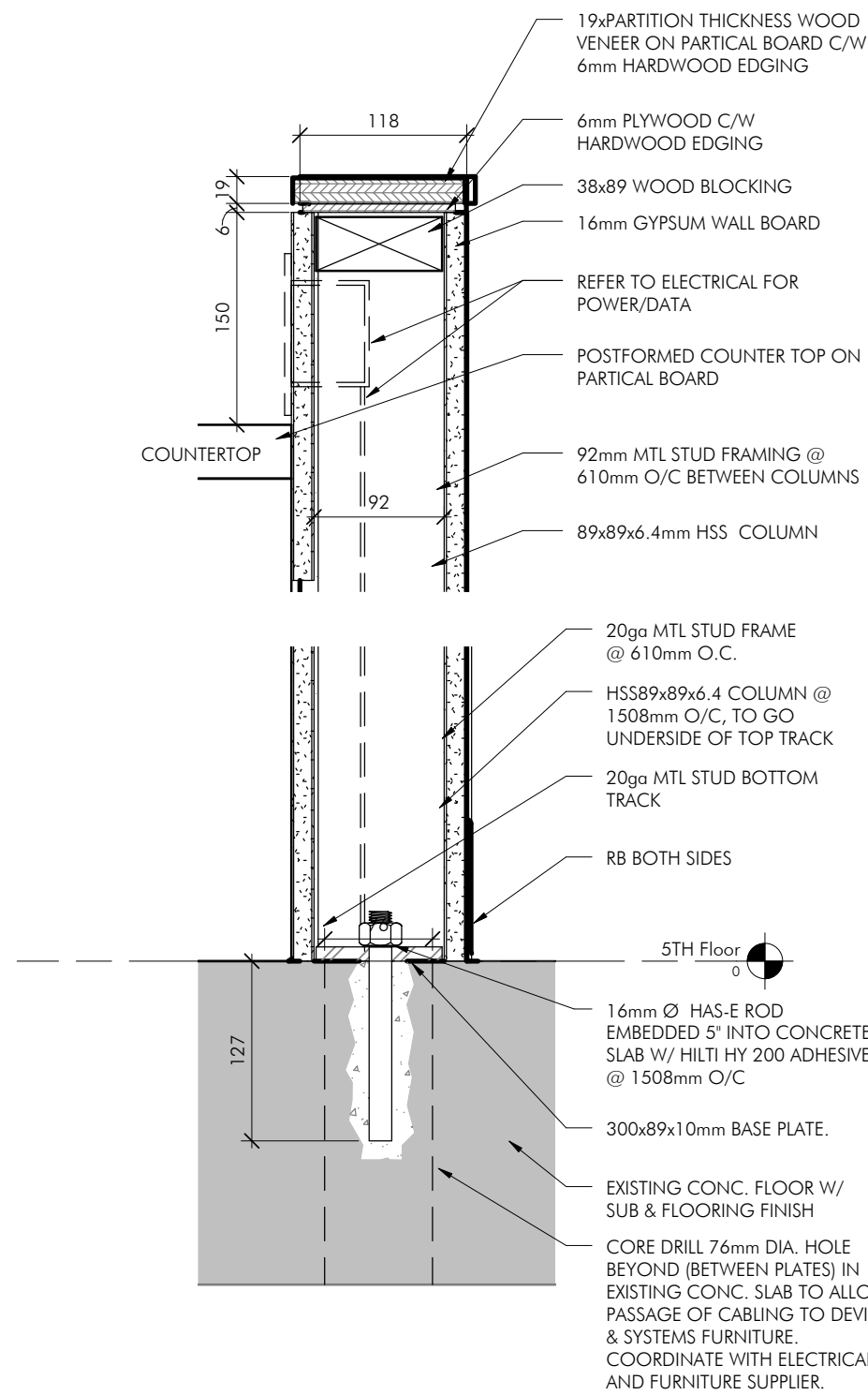
3 Wall Section - Door @ Conference
scale = 1 : 20



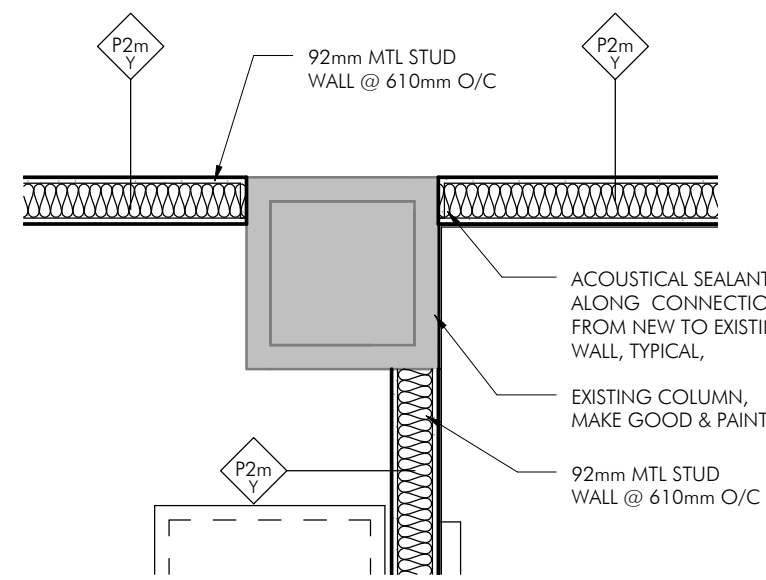
4 Section Detail - Hollow Metal Screen S1
scale = 1 : 5



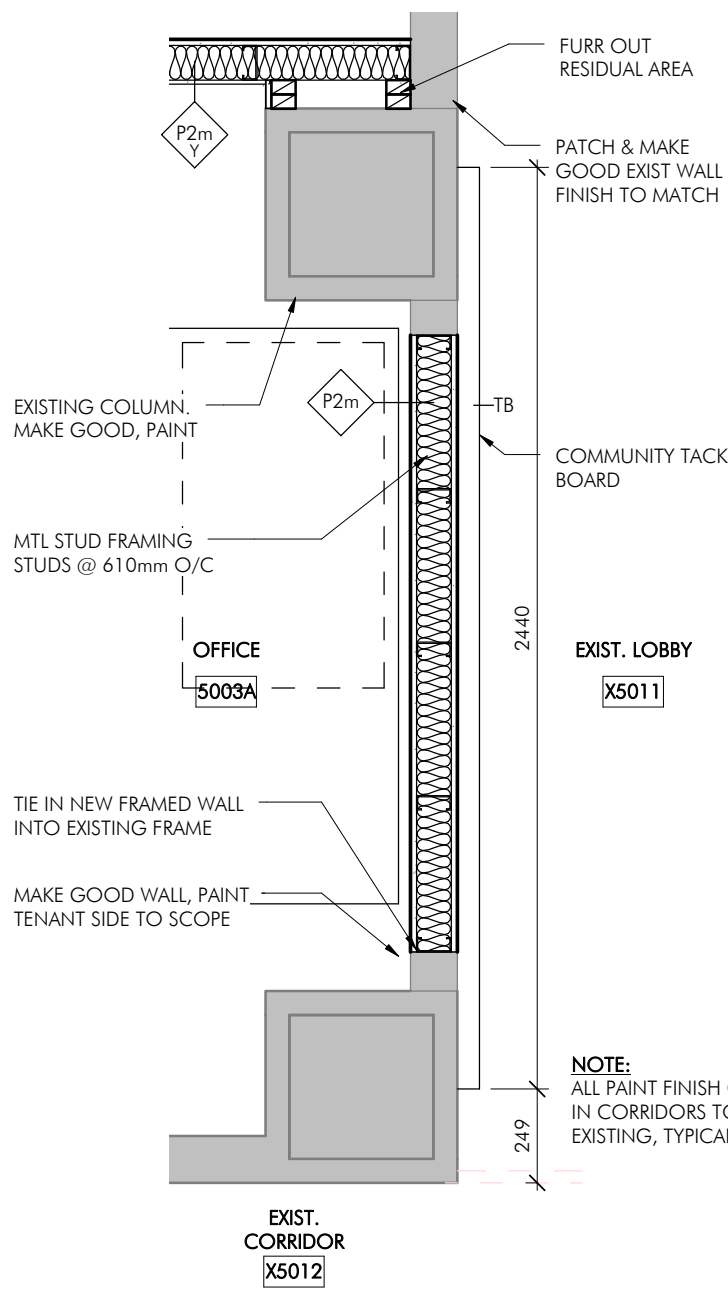
6 Section Detail - MFD & Standing Height Counter
scale = 1 : 20



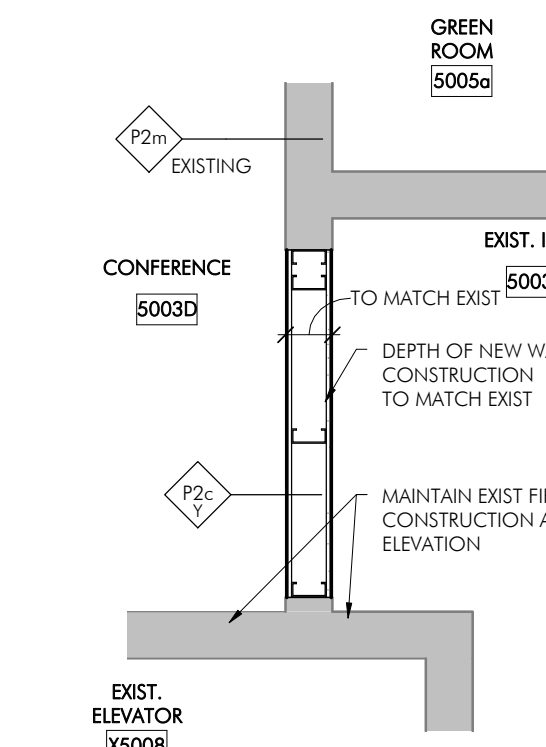
5 Section Detail - Wall Cap
scale = 1 : 5



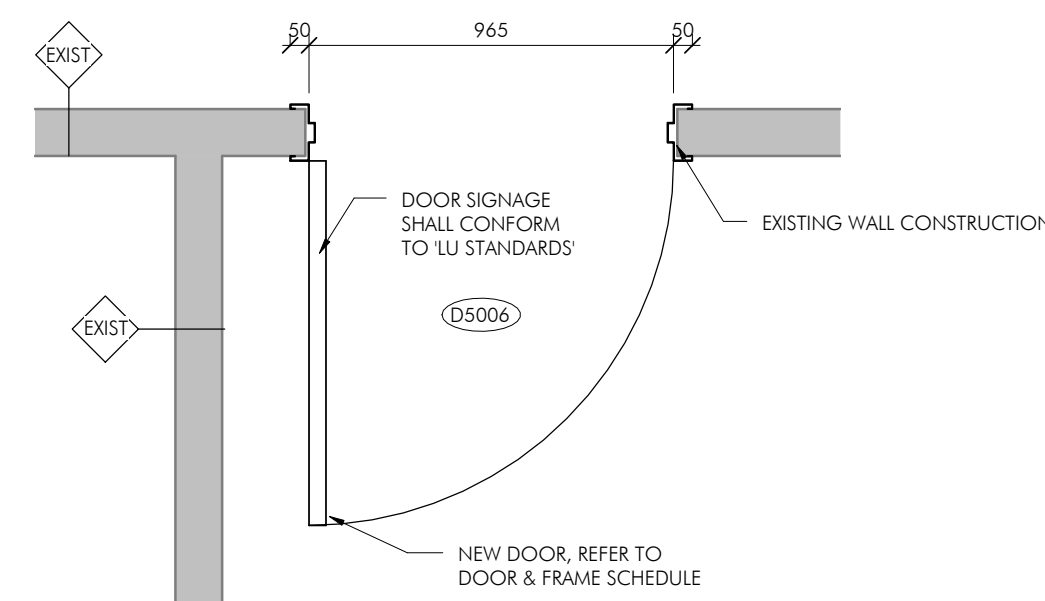
7 Plan Detail - New Walls @ Existing Column
scale = 1 : 20



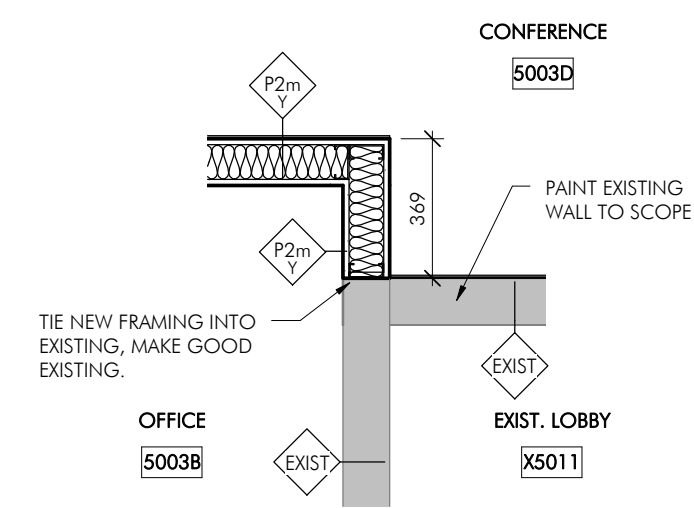
8 Plan Detail - Infilled Wall @ New Community Wall
scale = 1 : 20



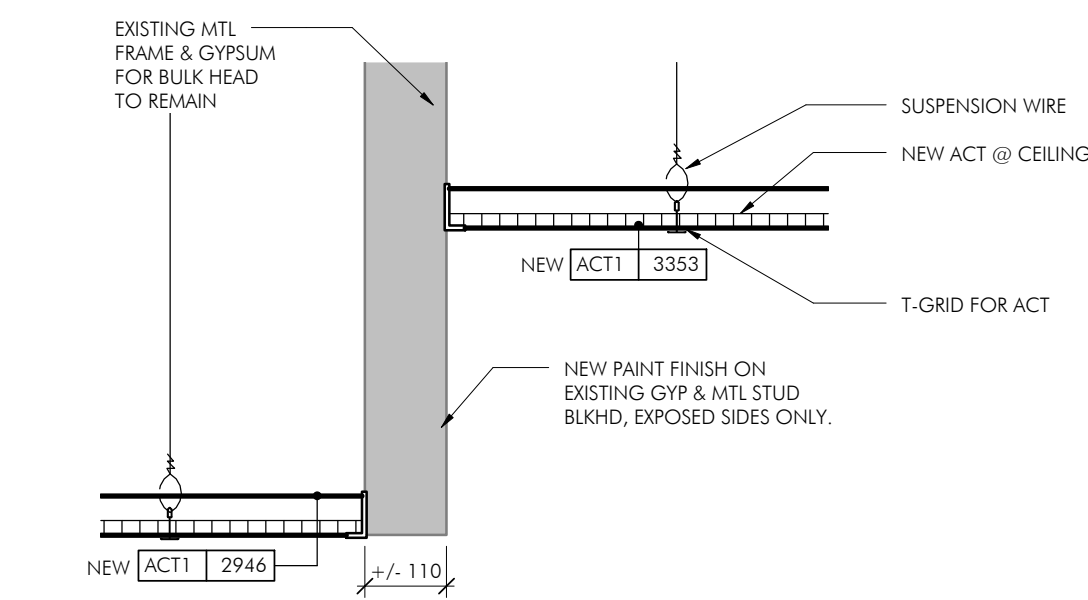
9 Plan Detail - Infilled Wall @ Demo Door
scale = 1 : 20



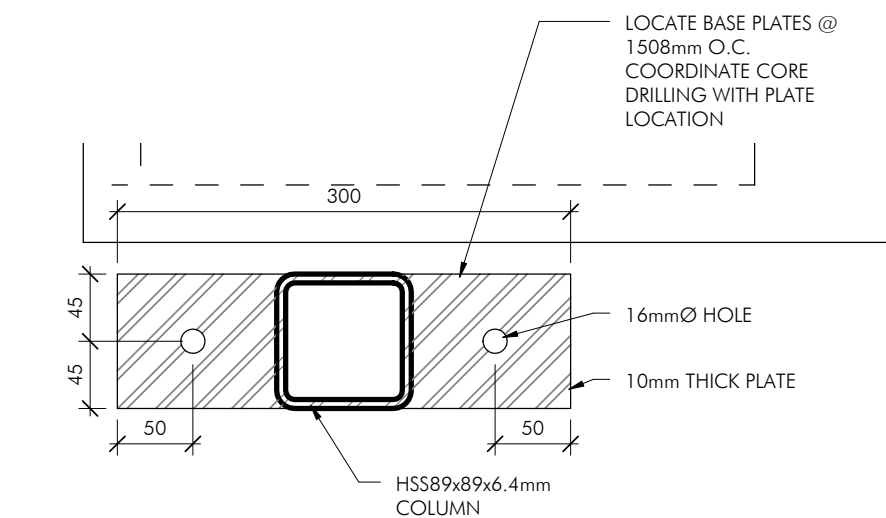
10 Plan Detail - New Door in Existing - Typical
scale = 1 : 20



11 Plan Detail - New Walls @ Existing Corner
scale = 1 : 20



12 Section Detail - Ceiling Bulkhead
scale = 1 : 10



13 HSS89x89x6.4 Base Plate
scale = 1 : 5

| REVISION | DATE | DESCRIPTION |
|----------|------------|------------------------------|
| "4" | 2017.09.07 | Issued for Tender |
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
| "1" | 2017.07.27 | Revision as per Owner Review |
| "0" | 2017.07.17 | Issued for 100% Review |



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PROJECT NAME:

**CBRE - LU Chancellor Paterson
Library**

Teachers Common Renovations

955 Oliver Rd Thunder Bay, ON

SHEET TITLE:

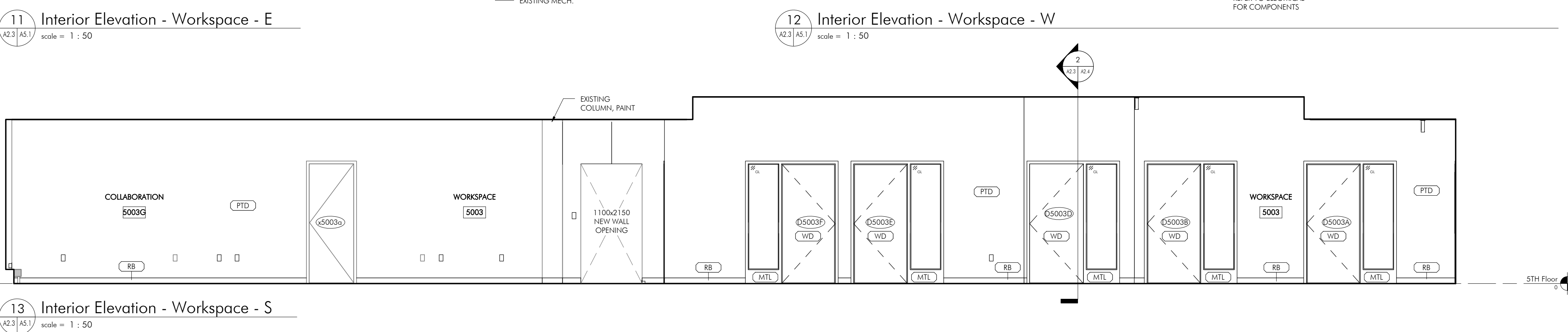
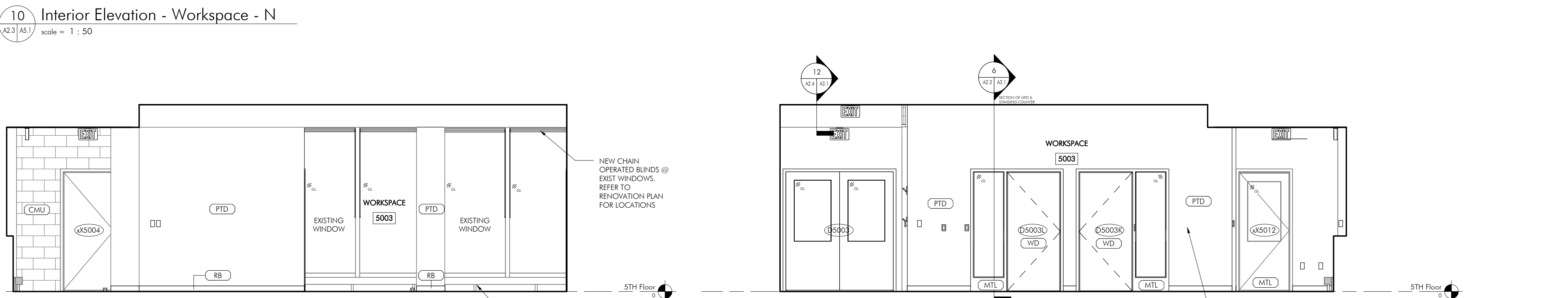
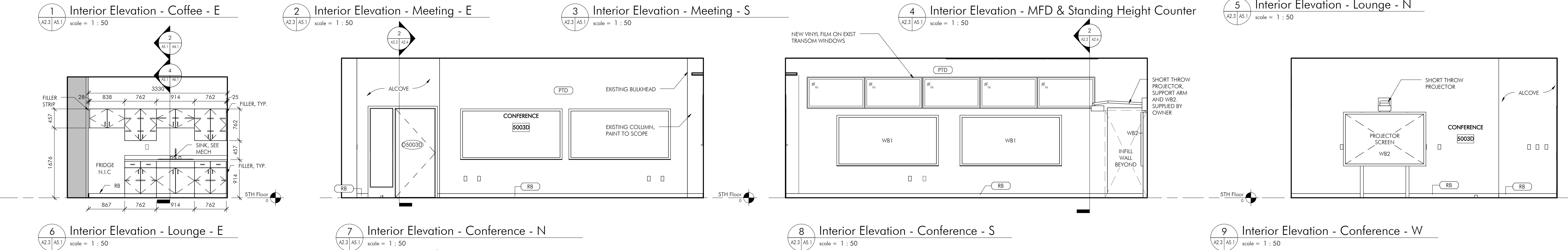
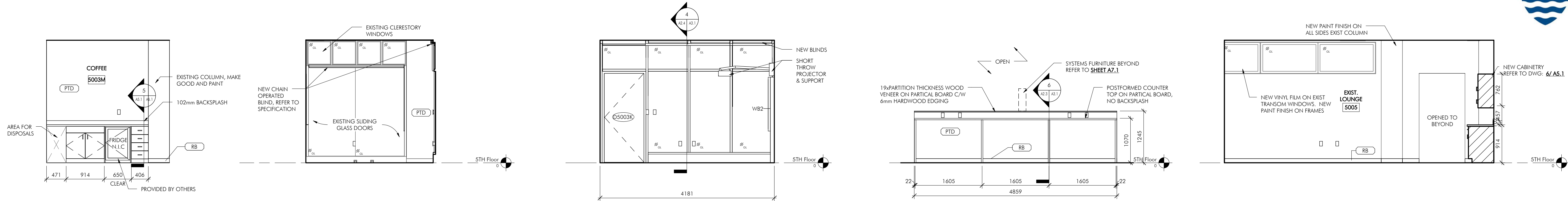
**Wall Sections, Plan & Section
Details**

DATE: August 2017

DRAWN: SLP

PROJECT: 2017024

A3.1



| | | |
|----------|------------|------------------------------|
| 1/4" | 2017.09.07 | Issued for Tender |
| 3/8" | 2017.08.22 | Issued for Tender |
| 1/2" | 2017.08.09 | Revision as per Meeting #5 |
| 3/4" | 2017.07.27 | Revision as per Owner Review |
| 1" | 2017.07.17 | Issued for 100% Review |
| REVISION | DATE | DESCRIPTION |



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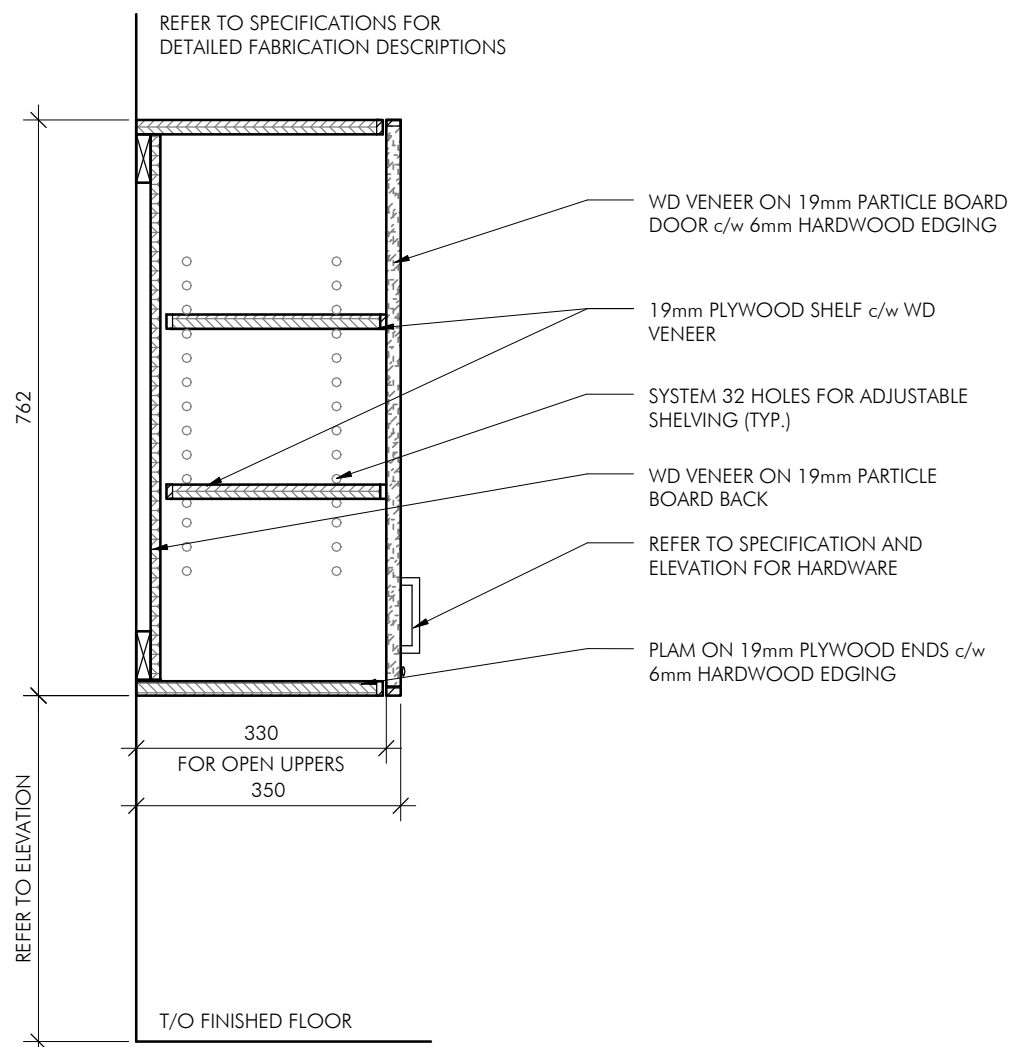
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PROJECT NAME:
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Teachers Common Renovations
955 Oliver Rd Thunder Bay, ON

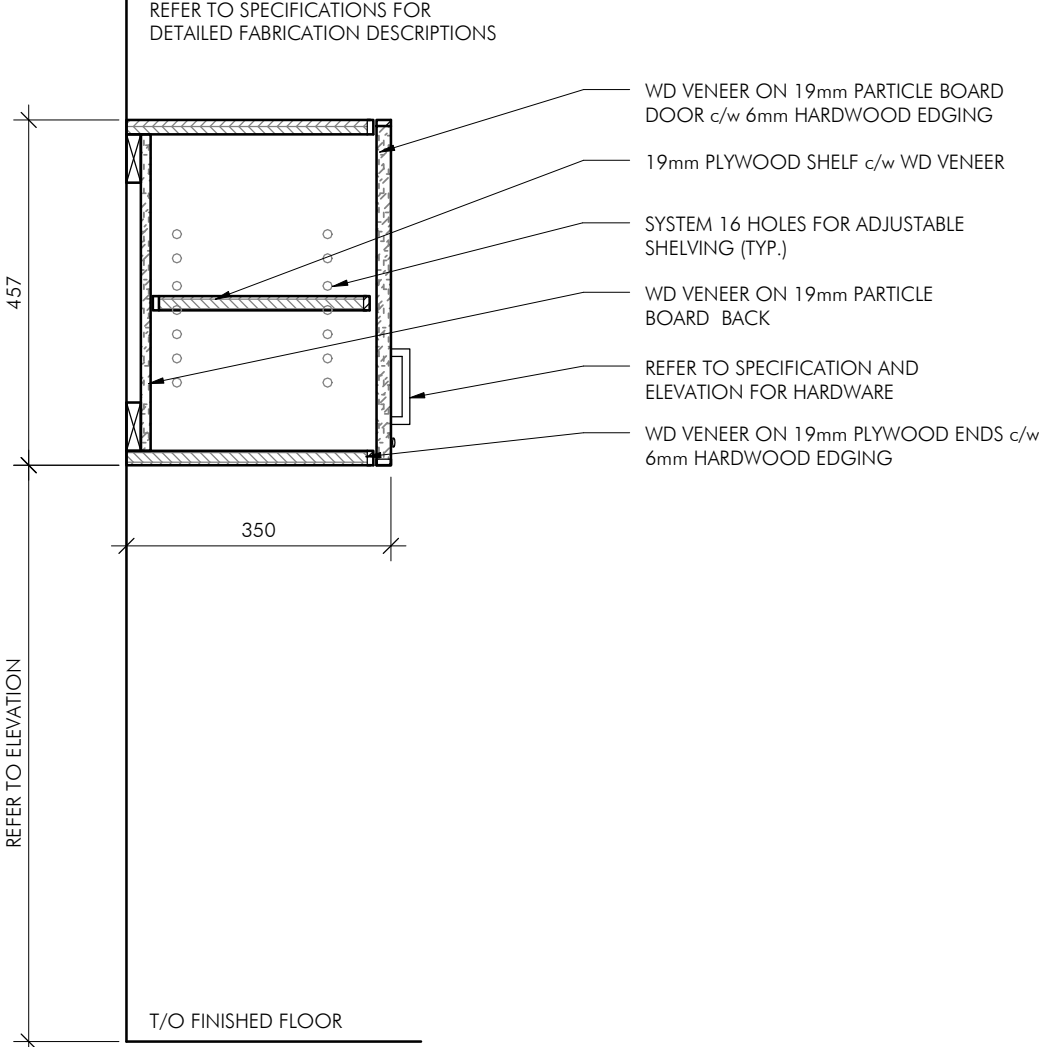
SHEET TITLE:
Interior Elevations

DATE: August 2017
DRAWN: SLP
PROJECT: 2017024

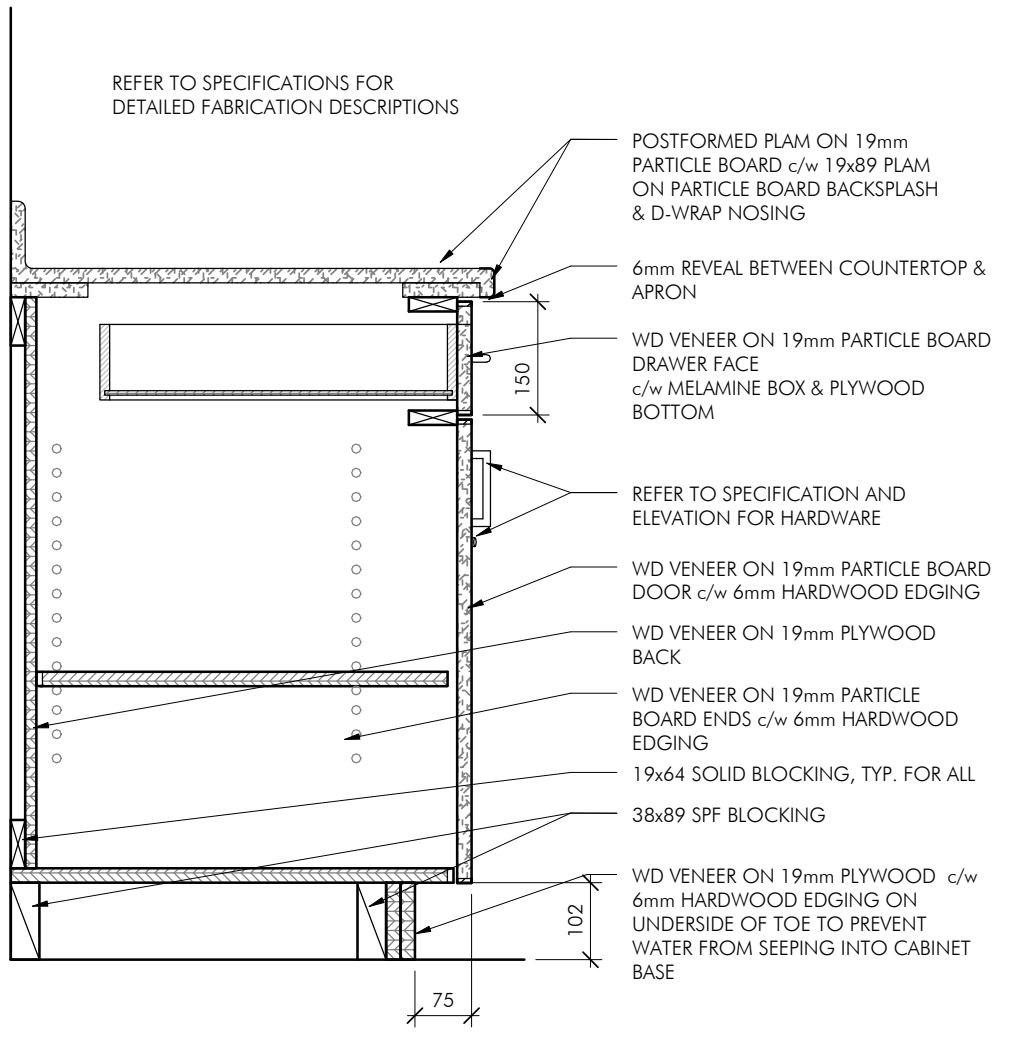
A5.1



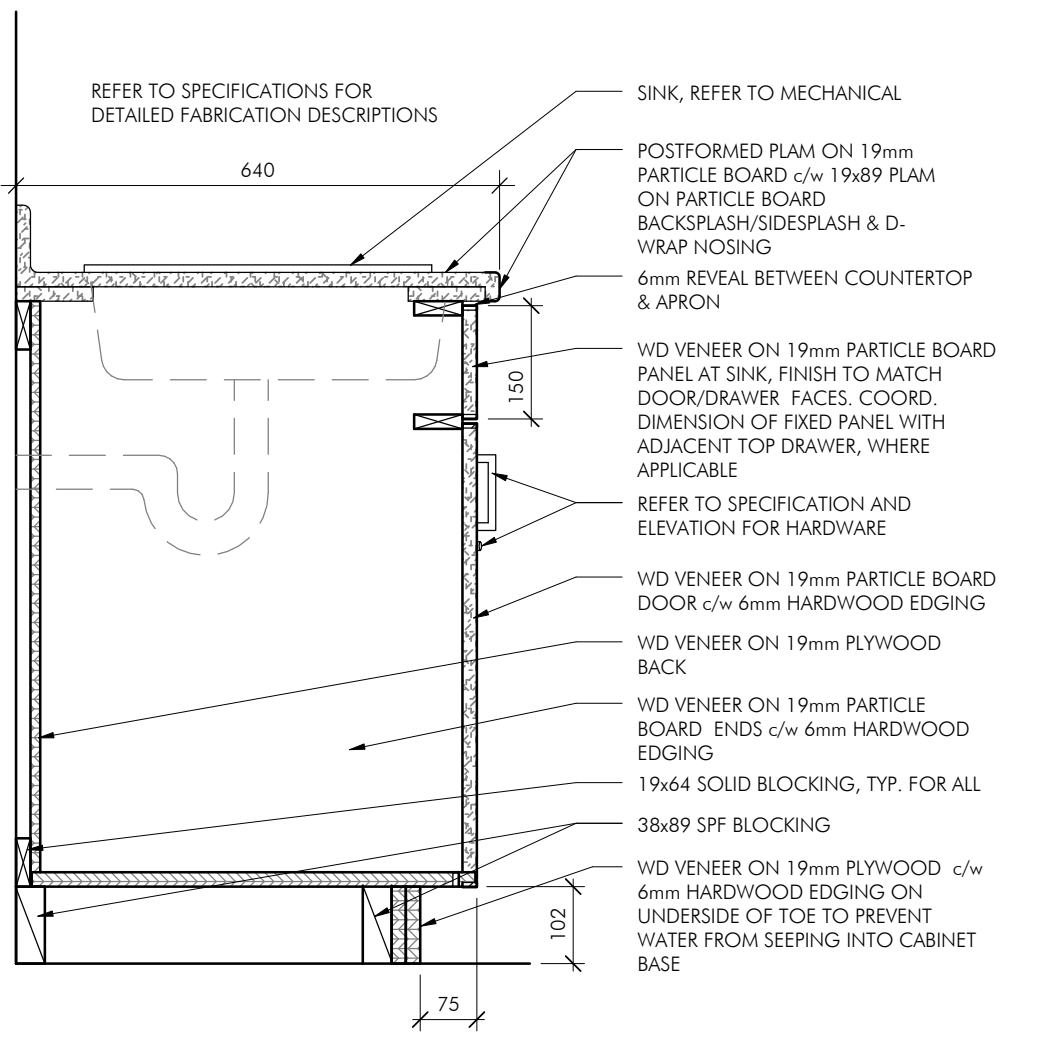
1 Section Detail - Upper Cabinets
scale = 1 : 10



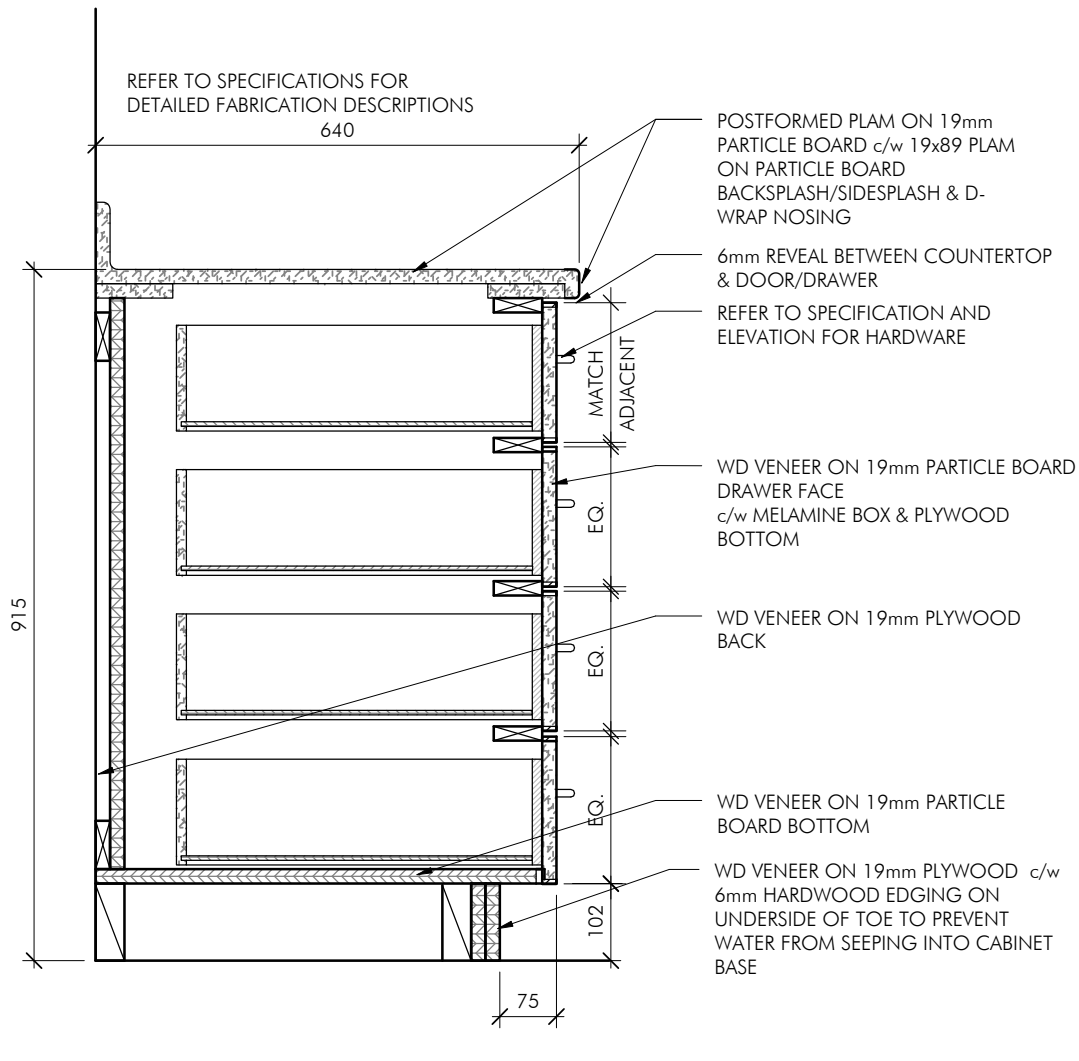
2 Section Detail - Upper Cabinets Over Sink/Fridge
scale = 1 : 10



3 Section Detail - Base w/ Top Drawer
scale = 1 : 10



4 Section Detail - Base w/ Sink
scale = 1 : 10



5 Section Detail - Base w/ Four Drawers
scale = 1 : 10

| | | |
|----------|------------|------------------------------|
| "4" | 2017.09.07 | Issued for Tender |
| "3" | 2017.08.22 | Issued for Tender |
| "2" | 2017.08.09 | Revision as per Meeting #5 |
| "1" | 2017.07.27 | Revision as per Owner Review |
| "0" | 2017.07.17 | Issued for 100% Review |
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SHEET TITLE:

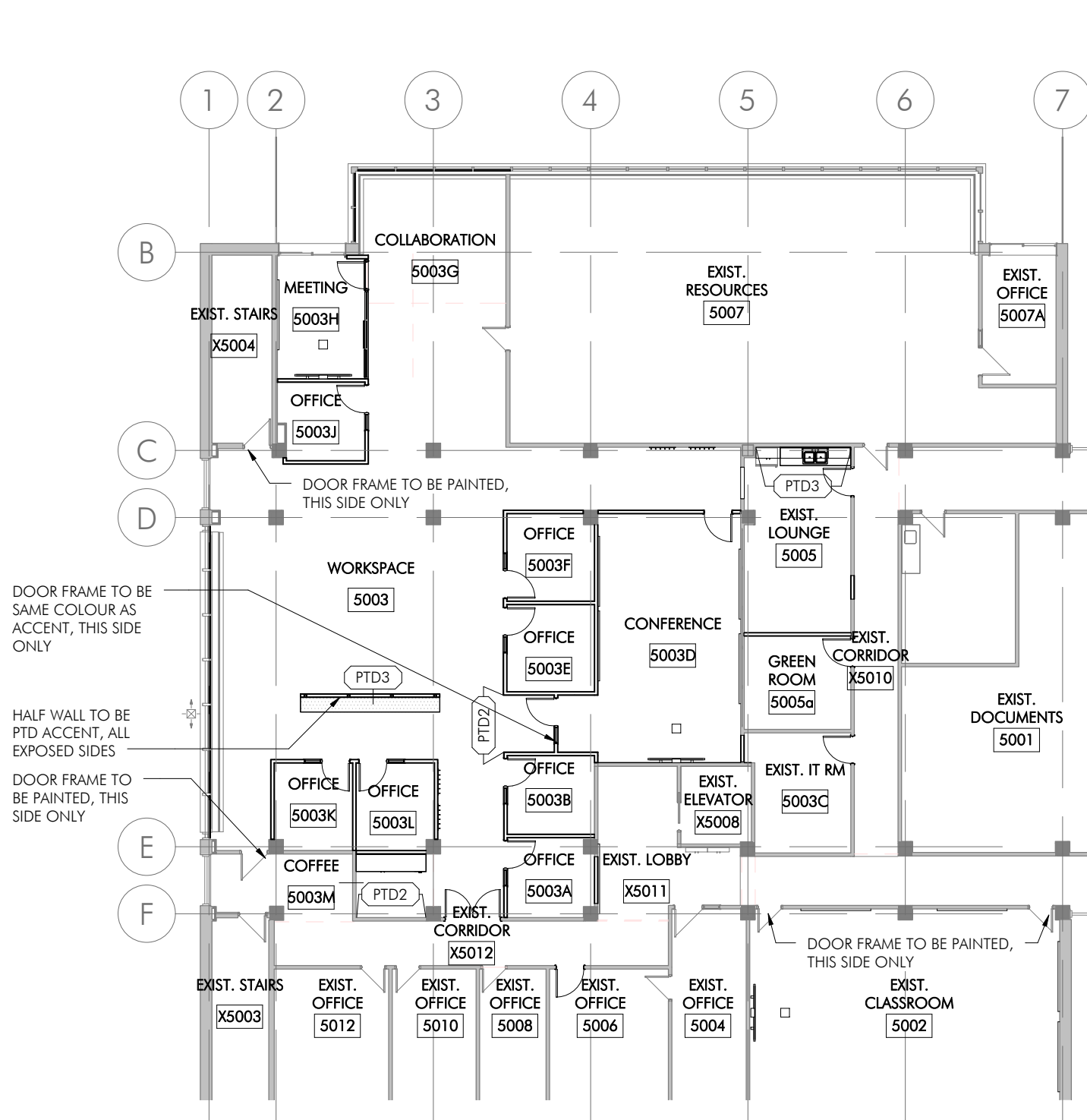
Millwork Details

DATE: August 2017

DRAWN: SLP

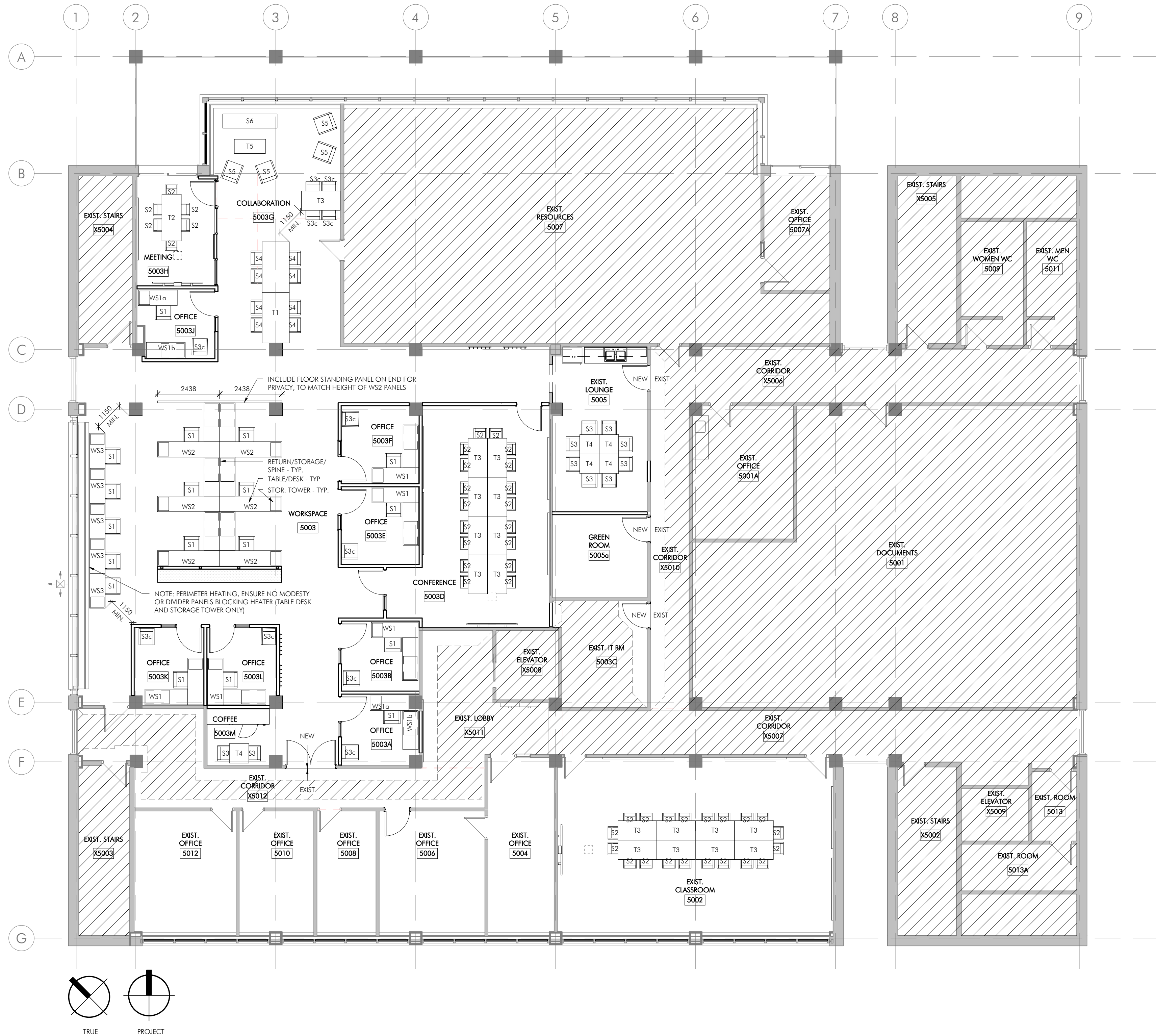
PROJECT: 2017024

A6.1






















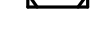
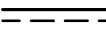
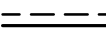




FURNITURE NOTES

1. READ FURNITURE SCHEDULE IN CONJUNCTION WITH ELECTRICAL DRAWINGS AND SPECIFICATION.
2. COORDINATE CORE DRILLING & FLOOR BOB LOCATION WITH ELECTRICAL AND FURNITURE SUPPLIER
3. FIELD VERIFY ALL DIMENSIONS PRIOR TO PLACING AN ORDER.
4. THE FURNITURE SUPPLIER IS RESPONSIBLE FOR VERIFYING THAT THE PRODUCTS SPECIFIED ARE COMPATIBLE WITH EACH OTHER.
5. REQUEST FOR EQUAL SUBMISSIONS ARE TO BE:
 - BASED ON CONSTRUCTION AND QUALITY OF GLOBAL COUNTRY GROUP SERIES NOTED IN SCHEDULE, EQUAL TO OR BETTER.
 - TAGGED WITH FURNITURE TAG PROVIDED IN DRAWINGS.
 - SHEETS/BROCHURES TO BE HUNG TO SCHEDULE TO SHOW HOW IT IS EQUAL WITH IMAGE OF EACH PRICE.
 - MUST MEET SIZE REQUIREMENTS SHOWN IN SCHEDULE.
 - CHAIRS AND LOUNGE SEATING CAN BE 50mm LARGER.
 - HEIGHTS OF SEAT BACKS CAN VARY.
 - SUBMIT IN ACCORDANCE WITH SPECIFICATION SECTION 00 12 - INSTRUCTIONS TO BIDDERS.
6. QUANTITIES ARE TO COME FROM THE PLANS, NOT SCHEDULE. SCHEDULE INTENDED FOR VERIFYING CONTACT PROJECT CONSULTANT IF THERE ARE DISCREPANCIES.
7. FABRICS TO BE TWO ABOVE LOWEST GRADE.
8. VINYL TO BE 100% VINYL, OR ENVIRO LEATHER BY LDI (65-60% VINYL, 26-33% POLYESTER, 10-14% COTTON), NO SUBSTITUTIONS.
9. UP TO TWO LAMINATE COLOURS PER WORKSTATION (WOOD LOOK TOP, SOLID BACK/STORAGE)
10. ALL HARDWARE TO BE SILVER SQUARE EDGE HANDLE/SMALL HANDLE
11. FURNITURE TO HAVE METAL TO METAL CONNECTIONS AS MINIMUM
12. COORDINATE GROMMET LOCATIONS WITH OWNER/ LU TSC



| Furniture Schedule | | | | | | | | | | |
|--------------------|--|--|-------|-------|--------|--|--|---|------|--|
| Tag | Type | Based on Global Furniture Group, Series (Similar to, Alternates Welcome) | Width | Depth | Height | Materials | Furniture Description | Accessories | Qty. | |
| | | Global Furniture Group | | | | Wind & Wind Linear - Bench & Ottoman | | | | |
| S1 | Office - Task Chair w/Arms - Fab | Vision | 660 | 635 | 1118 | fabric, urethane, metal, mesh | mid-back, mesh back, seat depth adjustability, adjustable arms, rated for 300lb capacity, adjustable lumbar, frame finish required to be white or grey (black only is not acceptable alternate). | carpet casters | 2 | |
| S2 | Office - Arm Chair Nesting w/Casters - Fab | Spartz | 508 | 559 | 889 | fabric, mesh, metal | nesting, mesh back, frame finish required to be white or grey (black only is not acceptable alternate). | carpet casters | 18 | |
| S3 | Office - Armless Chair w/ Casters - LVT | Lite | 603 | 648 | 870 | fabric, metal | hard surface casters, frame finish required to be white or grey (black only is not acceptable alternate). | carpet casters | 10 | |
| S3c | Office - Armless Chair w/ Casters - CPT | Lite | 603 | 648 | 870 | fabric, metal | carpet casters, frame finish required to be white or grey (black only is not acceptable alternate). | carpet casters | 11 | |
| S4 | Office - Arm Chair w/Casters - Biato HT | APP mid back stool | 591 | 635 | 1016 | LAM wood veneer, single shell & back | ensure compatible with special island, frame finish required to be white or grey (black only is not acceptable alternate). | carpet casters | 8 | |
| S5 | Lounge - Arm Chair Fully Upholstered | Wind Linear armless | 668 | 737 | 724 | vinyl, metal | single seater armless, chrome tubular base, fivel cushions | glides for carpet | 4 | |
| S6 | Wind linear bench 72" | Wind Linear | 660 | 659 | 981 | fully upholstered, chrome, fivel cushion | fully upholstered, chrome, fivel cushion | glides for carpet | 1 | |
| T1 | Office - Standing Island - 42x42x78 | Contract Collaboration Tables | 1981 | 1067 | 1067 | HP laminate, pvc edge, metal | carpet glides, two tables permanently ganged 38 thick top & gables, ensure compatible with bastro chairs | foot rest, wire chase, include hot channel/support for length, carpet glides, power- two table top mount outlets (fed from whip, see elect) | 2 | |
| T2 | Office - Meeting Table - 30x72 | Licensee meeting table | 1829 | 762 | 737 | HP laminate, pvc edge, metal | powered pedestal, power / daisy block at desk surface | rectangular bases, power module | 1 | |
| T3 | Office - Meeting Table - 30x60 | Bungee Spider Leg Flip Top | 1524 | 762 | 737 | HP laminate, pvc edge, metal | nesting, max 150mm thick when nested | include hot channel/support for length, gang-marking, carpet casters | 17 | |
| T4 | Office - Biato Table - 30x30 | Contract Tables | 762 | 762 | 737 | HP laminate, pvc edge, metal | hard surface glides legs similar to monolog | include hot channel/support for length, hand-working glides | 5 | |
| W51a | Lounge - Coffee Table - 56x22 | Wind Linear | 1219 | 559 | 381 | HP laminate, metal | glides for carpet | glides for carpet | 1 | |
| W51b | Desk - Shell 72x90 w/ Return, Ped & Storage Shelf | Ziro | 1829 | 2256 | | HP laminate, matching pvc edge | U/R, see plan. Apply 3/4 modesty panel where desk shell/return runs along wall. 610D worksurfaces, 735H, 38T top, 380W Box Box File Ped, 1070L Box File Open Storage Return | 2 grammets, 2 wire chases, see description for main components | 2 | |
| W51c | Desk - Shell 60" | Ziro | 1524 | 2438 | | HP laminate, matching pvc edge | U/R, see plan. Apply 3/4 modesty panel where desk shell/return runs along wall. 610D worksurfaces, 735H, 38T top, 380W Box Box File Ped | grammet, wire chase, see description for main components | 1 | |
| W51b | Desk - Shell Return 60" | Ziro | 1524 | 2134 | | HP laminate, matching pvc edge | U/R, see plan. Apply 3/4 modesty panel where desk shell/return runs along wall. 610D worksurfaces, 735H, 38T top, 1070L Box File Open Storage Return | 2 grammets, wire chase, see description for main components | 2 | |
| B52 | Benching - Table 84x96 w/ Return, Storage Shelf, Tower & Divides | Bridges II | 2438 | 2134 | | HP laminate, pvc edge, fabric panel divider, metal | U/R, see plan. 610D worksurfaces, 735H, 38T top. Rectangular leg Single Table c/w Veneers Fabric Table Hung Divider, a 61H above desk, modesty below desk, full length of table desk. 735H, 1070L Box File Open Storage Return c/w central fabric panel spine to match table divider height (include filler pieces as required). 1070H, 400W, Table D, Storage Tower c/w box file drawer with open storage of side and adjustable shelf. | 2 grammets, wire chase, power (fed from whip, see elect) outlets beneath desk, see description for main components | 6 | |
| W53 | Benching - Table 54x24 w/Storage Tower | Bridges II | 1372 | 1829 | | HP laminate, pvc edge, metal | 610D worksurfaces, 735H, 38T top. Rectangular leg Single Table 735H, 1270H, 400W, Table D, Storage Tower c/w box file drawer with open storage of side and adjustable shelf. | grammet, wire chase, linear 45mm high, surface mounted fascia / pencil stop, see description for main components | 5 | |

A7.1

| DUCTWORK | | DRAWING LIST | |
|---|---|--------------|------------------------------------|
|  | SUPPLY AIR FLOW ARROW | DWG NO. | DRAWING NAME |
|  | RETURN/EXHAUST AIR FLOW ARROW | M0 | MECHANICAL LEGEND AND DRAWING LIST |
|  | SUPPLY/OUTSIDE AIR DUCT UP | M2 | HVAC DEMOLITION |
|  | SUPPLY/OUTSIDE AIR DUCT DOWN | M4 | HVAC RENOVATION |
|  | RETURN AIR DUCT UP | M5 | MECHANICAL SPECIFICATION |
|  | RETURN AIR DUCT DOWN | M1 | PLUMBING DEMOLITION |
|  | EXHAUST AIR DUCT UP | M3 | PLUMBING RENOVATION |
|  | EXHAUST AIR DUCT DOWN | | |
|  | RECTANGULAR DUCT | | |
|  | ROUND DUCT | | |
|  | MITERED ELBOW - RECTANGULAR DUCT | | |
|  | BEVELED THROAT ELBOW - RECTANGULAR DUCT | | |
|  | 45° RADIUS ELBOW - RECTANGULAR DUCT | | |
|  | 45° RADIUS ELBOW - ROUND DUCT | | |
|  | 90° RADIUS ELBOW - RECTANGULAR DUCT | | |
|  | 90° RADIUS ELBOW - ROUND DUCT | | |
|  | FLEX DUCT | | |
|  | TAKE OFF CONNECTION | | |
|  | SPIN-ON CONNECTION | | |
|  | EXTERNALLY INSULATED DUCTWORK | | |
|  | INTERNALLY LINED DUCTWORK | | |
|  | SQUARE TO ROUND DUCT TRANSITION | | |
|  | TYP SQUARE DIFFUSER | | |
|  | BACKDRAFT DAMPER | | |
|  | THERMOSTAT | | |
|  | SPEED CONTROL | | |

NOTE:
NOT ALL SYMBOLS SHOWN ON THIS LEGEND ARE NECESSARILY USED ON THIS PROJECT.

| | | |
|----------|------------|--------------------------|
| | | |
| 2 | 2017.08.21 | Issued for Tender |
| 1 | 2017.07.14 | Issued for Client Review |
| REVISION | DATE | DESCRIPTION |

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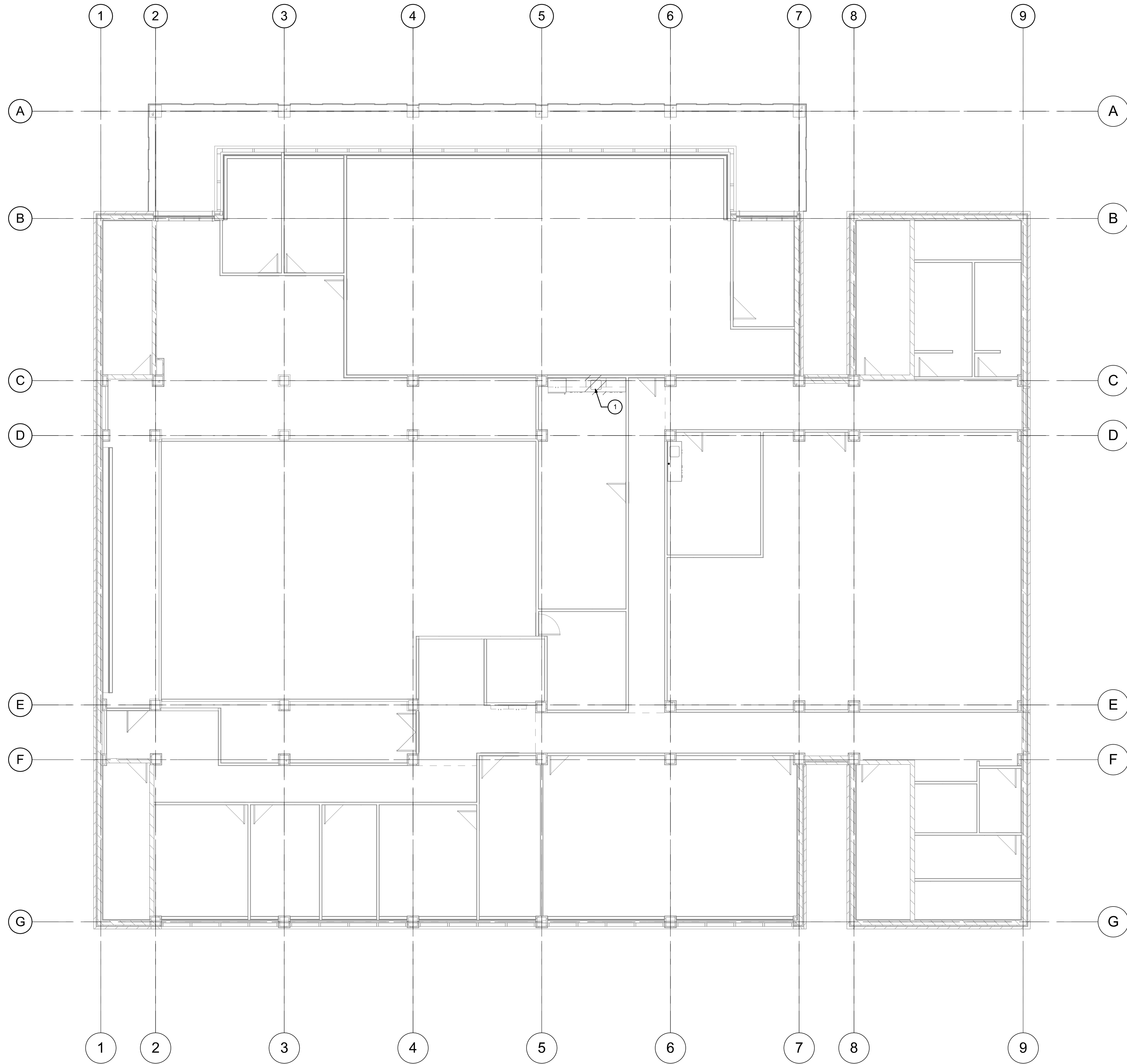
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Consulting Professional Engineers
216-1821 Wellington Ave
Winnipeg, Manitoba, R3M 1G4
Phone - (204) 778-7900 Fax - (204) 778-1119
E-Mail: mcw_age@mcw.com

PROJECT NAME: CBRE - LU Chancellor Paterson Library
Teachers Common Renovations

SHEET TITLE: MECHANICAL LEGEND AND DRAWING LIST

DATE: 07/13/17
DRAWN: Author
PROJECT: 11785

M0



GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC ONLY. DO NOT SCALE.
2. THE MECHANICAL SYSTEMS SHOWN ARE APPROXIMATE IN LOCATION ONLY. CONTRACTOR TO VERIFY EXACT LOCATION OF SYSTEMS BEING MODIFIED ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK SHALL COMPLY WITH THE MOST CURRENT VERSION OF ALL APPLICABLE CODES AND STANDARDS, WHICH SHALL BE CONSIDERED PART OF THESE CONTRACT DOCUMENTS. IN THE CASE OF CONFLICTING REQUIREMENTS, THE MOST STRINGENT REGULATION SHALL PREVAIL.
4. CONTRACTOR TO MAINTAIN CURRENT AND READILY REVIEWABLE AS-BUILT DRAWINGS ACCURATELY REFLECTING SITE INSTALLATIONS.
5. CONTRACTOR TO ENSURE ALL MATERIALS MODIFIED OR INSTALLED IN AN AIR PLENUM ARE RATED FOR SUCH USE.
6. CONTRACTOR TO MAINTAIN DIGITAL PHOTOGRAPHIC RECORDS OF ALL INSTALLATIONS PRIOR TO CONCEALMENT BY SUPPORTING TRADES.
7. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR FOR SCANNING, CUTTING AND PATCHING OF FLOOR AND SLAB TO DETERMINE EXACT LOCATION OF EXISTING DRAIN PIPES WHERE NEW DRAIN PIPES TIE IN.
8. PROVIDE CAP ON ALL PIPING TO PREVENT DEBRIS ENTERING SYSTEM.
9. PROVIDE PROWRAP (TM) OR APPROVED EQUAL ON ALL EXPOSED PIPING UNDER BARRIER FREE LAVATORIES AND SINKS.

DRAWING NOTES:

- 1 REMOVE EXISTING DOUBLE COMPARTMENT SINK, TEMPORARILY CAP THE DOMESTIC HOT AND COLD WATER PIPING AND SANITARY DRAINAGE FOR RE-ROUTE TO NEW SINK LOCATION.

| REVISION | DATE | DESCRIPTION |
|----------|------------|--------------------------|
| 2 | 2017.08.21 | Issued for Tender |
| 1 | 2017.07.14 | Issued for Client Review |

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216-1821 Wellington Ave
Winnipeg, Manitoba, R3M 1G4
Phone - (204) 778-7900 Fax - (204) 778-1119
E-Mail: mcw_age@mcw.com

PROJECT NAME:
CBRE - LU Chancellor Paterson Library
Teachers Common Renovations

SHEET TITLE:
PLUMBING DEMOLITION

DATE: 08/21/17
DRAWN: AB
PROJECT: 11785

M1

PLUMBING DEMOLITION

1 : 100



GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC ONLY. DO NOT SCALE.
2. CONTRACTOR TO COORDINATE EXACT ROUTING ON SITE WITH ALL NEW AND EXISTING SYSTEMS.
3. THE MECHANICAL SYSTEMS ARE APPROXIMATE IN LOCATION ONLY. CONTRACTOR TO VERIFY EXACT LOCATIONS OF SYSTEMS BEING MODIFIED ON SITE PRIOR TO COMMENCEMENT OF WORK.
4. ALL WORK SHALL COMPLY WITH THE MOST CURRENT VERSION OF APPLICABLE CODES AND STANDARDS. WHICH SHALL BE CONSIDERED PART OF THIS SPECIFICATION. IN THE CASE OF CONFLICTING REQUIREMENTS, THE MOST STRINGENT REGULATIONS SHALL PREVAIL.

DRAWING NOTES:

- 1 EXISTING BASEBOARD HEATER TO REMAIN.
- 2 EXISTING THERMOSTAT TO BE RELOCATED.
- 3 EXISTING DIFFUSER TO BE RELOCATED.
- 4 EXISTING RETURN AIR GRILLE TO BE RELOCATED.
- 5 EXISTING RETURN AIR GRILLE TO REMAIN.

| REVISION | DATE | DESCRIPTION |
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| 2 | 2017.08.21 | Issued for Tender |
| 1 | 2017.07.14 | Issued for Client Review |

SEALS:



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Consulting Professional Engineers
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Winnipeg, Manitoba, R3M 1G4
Phone - (204) 778-7900 Fax - (204) 778-1119
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11785

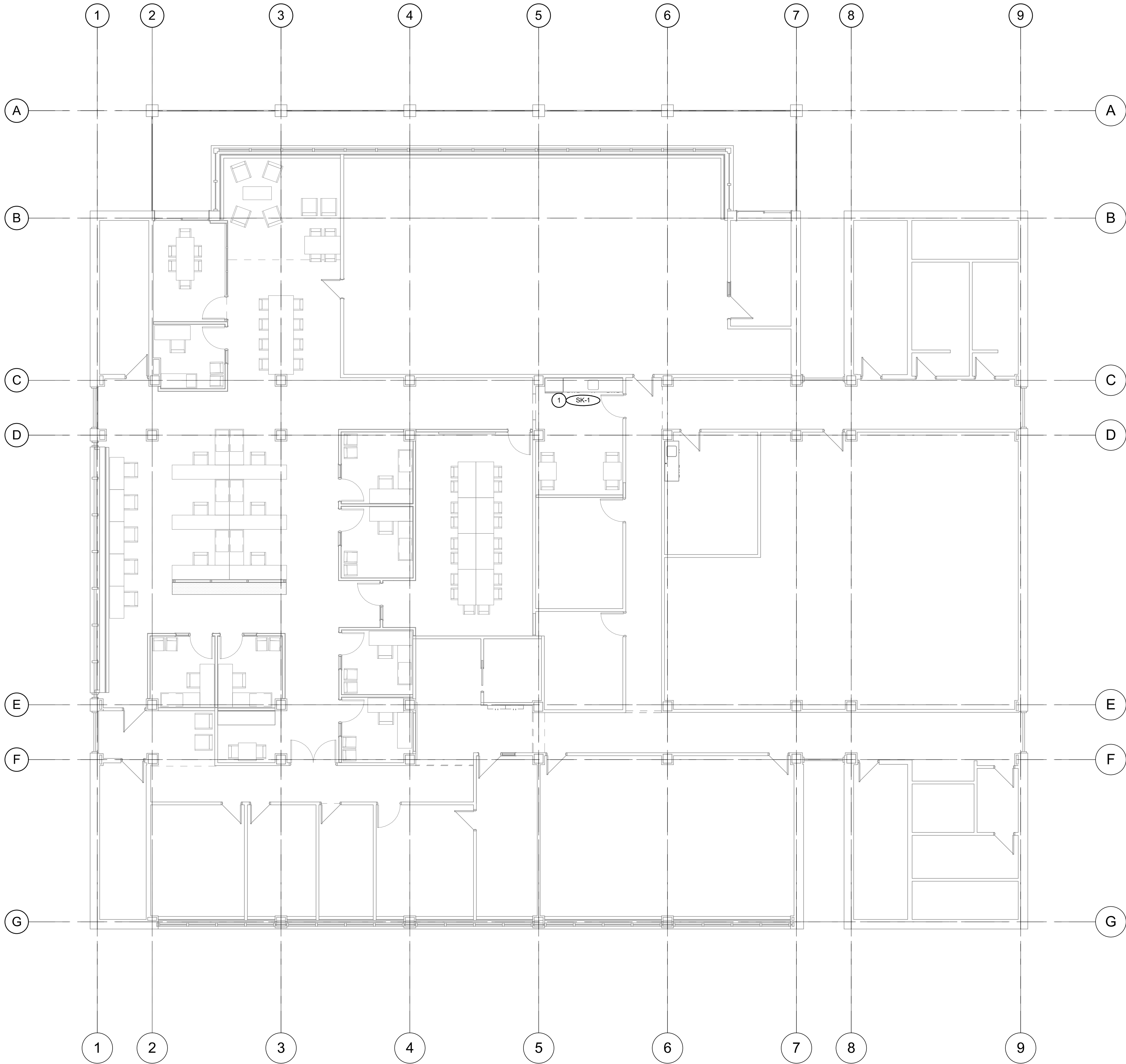
PROJECT NAME:
CBRE - LU Chancellor Paterson Library
Teachers Common Renovations

SHEET TITLE:
HVAC DEMOLITION

DATE: 08/21/17
DRAWN: AB
PROJECT: 11785

M2

HVAC DEMOLITION
1 : 100



GENERAL NOTES

1. THIS DRAWING IS DIAGRAMMATIC ONLY. DO NOT SCALE.
2. THE MECHANICAL SYSTEMS SHOWN ARE APPROXIMATE IN LOCATION ONLY. CONTRACTOR TO VERIFY EXACT LOCATION OF SYSTEMS BEING MODIFIED ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK SHALL COMPLY WITH THE MOST CURRENT VERSION OF ALL APPLICABLE CODES AND STANDARDS, WHICH SHALL BE CONSIDERED PART OF THESE CONTRACT DOCUMENTS. IN THE CASE OF CONFLICTING REQUIREMENTS, THE MOST STRINGENT REGULATION SHALL PREVAIL.
4. CONTRACTOR TO MAINTAIN CURRENT AND READILY REVIEWABLE AS-BUILT DRAWINGS ACCURATELY REFLECTING SITE INSTALLATIONS.
5. CONTRACTOR TO ENSURE ALL MATERIALS MODIFIED OR INSTALLED IN AN AIR PLENUM ARE RATED FOR SUCH USE.
6. CONTRACTOR TO MAINTAIN DIGITAL PHOTOGRAPHIC RECORDS OF ALL INSTALLATIONS PRIOR TO CONCEALMENT BY SUPPORTING TRADES.
7. MECHANICAL CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR FOR SCANNING, CUTTING AND PATCHING OF FLOOR AND SLAB TO DETERMINE EXACT LOCATION OF EXISTING DRAIN PIPES WHERE NEW DRAIN PIPES TIE IN.
8. PROVIDE CAP ON ALL PIPING TO PREVENT DEBRIS ENTERING SYSTEM.
9. PROVIDE PROWRAP (TM) OR APPROVED EQUAL ON ALL EXPOSED PIPING UNDER BARRIER FREE LAVATORIES AND SINKS.

DRAWING NOTES:

- 1 EXISTING DCW, DHW, DHW RECIRC, SANITARY AND VENT PIPING TO BE MODIFIED/EXTENDED TO SUIT NEW SINK LOCATION.

PLUMBING FIXTURE SPECIFICATIONS

SK-1 FRANKIE MODEL LBD6407-1 DOUBLE COMPARTMENT SELF-RIMMING DROP-IN SINK WITH FAUCET LEDGE, 20 GAUGE (0.9MM, TYPE 302 (CNS 18/8) STAINLESS STEEL, EXPOSED SURFACES ARE #4 SATIN FINISHED. SPILLWAYS BETWEEN BOWLS, UNDERCOATED TO REDUCE CONDENSATION AND RESONANCE. INCLUDES WASTE FITTINGS, FACTORY APPLIED RIM SEAL, CUTOUT TEMPLATE, AND FACTORY INSTALLED FASTENERS. CENTER BACK WASTE LOCATION INCLUDES 3/2" (89MM) CRUMB CUP STRAINER WITH 1/2" (DN38) BRASS TAILPIECE, WITH SPILLWAY. DIMENSIONS: 20 1/2" (52CM) X 31 1/2" (79CM) X 7" (18CM) DELTA MODEL 100LF-HDF SINGLE HANDLE KITCHEN DECK FAUCETS FOR EXPOSED MOUNTING ON THREE HOLE SINKS. ALL METAL FABRICATED BODY. 8 11/16" (221 MM) LONG SPOUT SWINGS 180 DEGREES. 1.5 GPM (5.7 L/MIN) VANDAL RESISTANT AERATOR. LEVER HANDLE SHALL RETURN TO NEUTRAL POSITION WHEN FAUCET IS TURNED OFF. RED AND BLUE ON HANDLE TO INDICATE HOT/COLD TEMPERATURE. CONTROL MECHANISM SHALL BE THE DIAMOND COATED CERAMIC CARTRIDGE. ADJUSTABLE HANDLE LIMIT STOP. 3/8" O.D. STRAIGHT, STAGGERED COPPER SUPPLY TUBES WITH 3/8" FITTINGS. MOUNTS ON STANDARD 13/8" (35 MM) DIAMETER HOLES ON 8" (203 MM) CENTERS. CHROME FINISH. PROVIDE 1/2" P-TRAP, BRAIDED BASIN SUPPLIES, ESCUTCHEON PLATES, POINT OF USE MIXING VALVE AND 1/2 TURN TAMPER PROOF ISOLATION VALVES.

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PLUMBING RENOVATION

DATE: 08/21/17
DRAWN: AB
PROJECT: 11785

M3

1
M3
PLUMBING RENOVATION
1 : 100



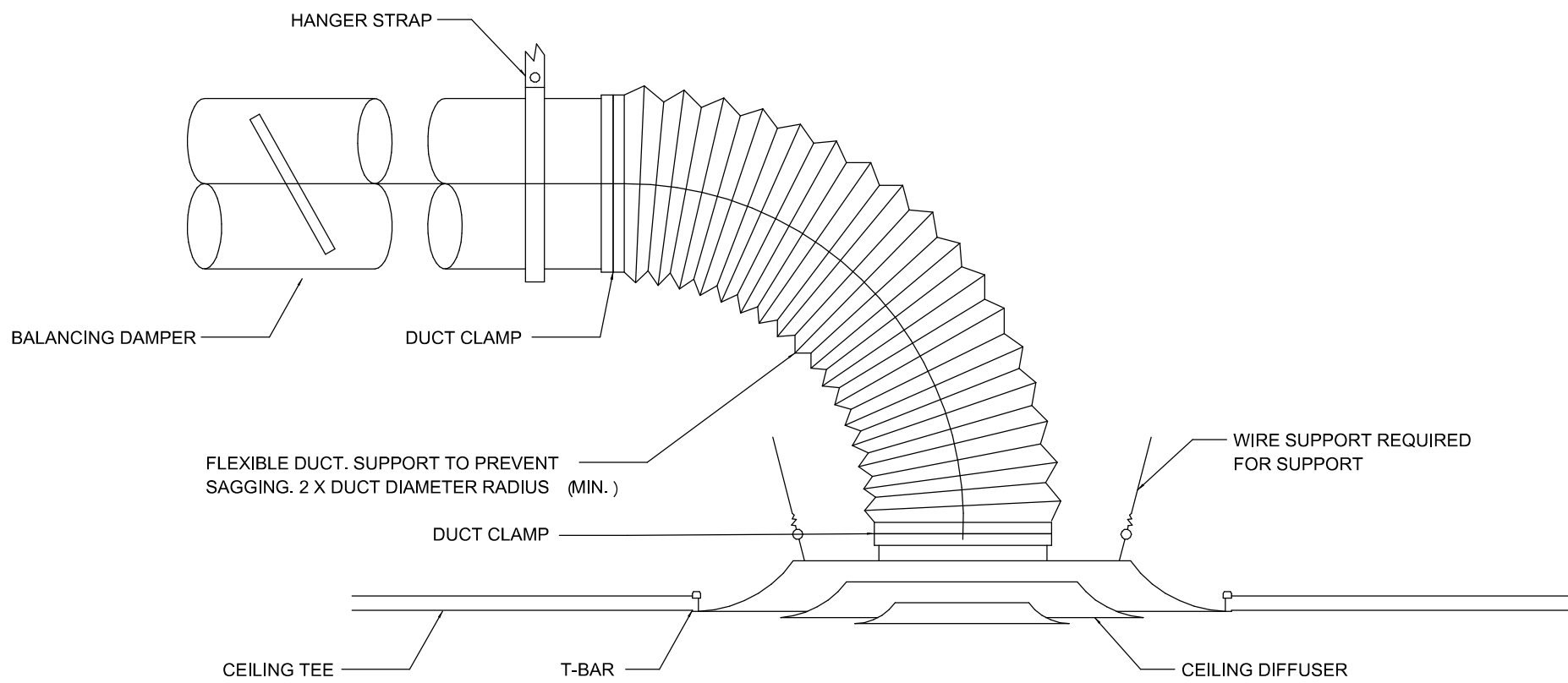
1
M4
HVAC RENOVIATION
1 : 100

GENERAL NOTES

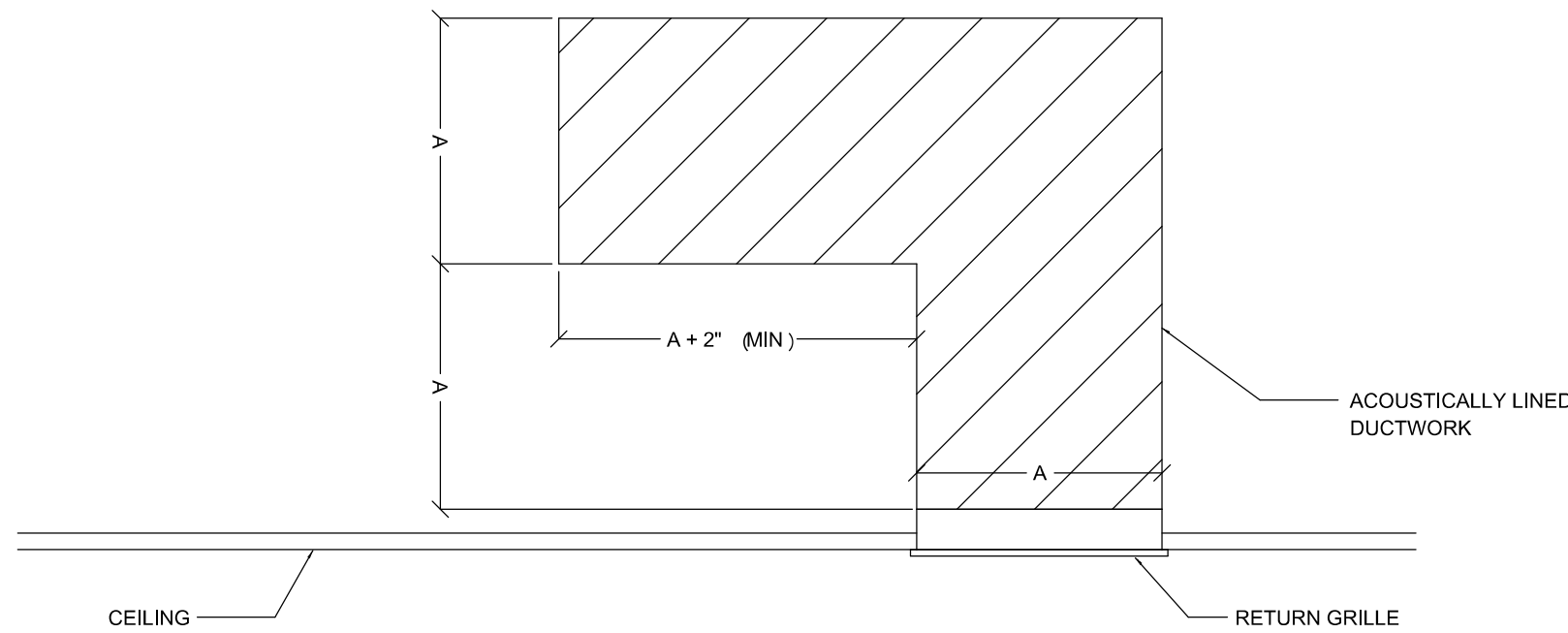
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- CONTRACTOR TO COORDINATE EXACT ROUTING ON SITE WITH ALL NEW AND EXISTING SYSTEMS.
- THE MECHANICAL SYSTEMS ARE APPROXIMATE IN LOCATION ONLY. CONTRACTOR TO VERIFY EXACT LOCATIONS OF SYSTEMS BEING MODIFIED ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK SHALL COMPLY WITH THE MOST CURRENT VERSION OF APPLICABLE CODES AND STANDARDS, WHICH SHALL BE CONSIDERED PART OF THIS SPECIFICATION. IN THE CASE OF CONFLICTING REQUIREMENTS, THE MOST STRINGENT REGULATIONS SHALL PREVAIL.
- COORDINATE FINAL LOCATION OF SUPPLY, RETURN AND EXHAUST DIFFUSERS ON SITE WITH FINAL LIGHTING LAYOUT, ARCHITECTURAL CEILING, STRUCTURAL, ELECTRICAL, FIRE PROTECTION AND MECHANICAL SYSTEMS.
- FLARE DUCTWORK AS REQUIRED TO SUIT CONNECTION SIZE OR OPENING SIZE TO MECHANICAL EQUIPMENT.
- PROVIDE BALANCING DAMPERS FOR EACH SUPPLY/EXHAUST OUTLET TO FACILITATE PROPER BALANCING OF THE SYSTEM.
- ALL DUCT DIMENSIONS DENOTED REFER TO INTERNAL OPEN AREA OF THE DUCT.
- PROVIDE FIRE DAMPERS AT EACH LOCATION WHERE A DUCT PENETRATES A FIRE SEPARATION OR FIRE WALL. REFER TO ARCHITECTURAL FOR LOCATIONS OF FIRE SEPARATIONS AND FIRE WALLS, AND THEIR RATINGS.
- ENSURE INSTALLATIONS OF MATERIALS AND EQUIPMENT ALLOWS FOR ACCESS FOR TESTING, OPERATION AND MAINTENANCE.
- PROVIDE AND INSTALL PULLEYS AND SHEAVES AS REQUIRED FOR THE MAIN LIBRARY AHU TO ADD AN ADDITIONAL 150 CFM /71 L/S TO THE FIFTH FLOOR DISTRIBUTION. IN THE INSTANCE WHERE VFD'S ARE INSTALLED, SET THE FLOW VIA THE VFD. RECORD THE FINAL SET POINTS IN THE BALANCING REPORT. ADJUST THE FIFTH FLOOR BALANCING DAMPERS LOCATED BY THE MAIN WASHROOM AND BEHIND THE ELEVATOR.

DRAWING NOTES:

- RELOCATED THERMOSTAT. EXTEND/MODIFY CONTROL WIRING AS REQUIRED TO SUIT NEW LOCATION.
- RELOCATED DIFFUSER. EXTEND/MODIFY DUCTWORK AS REQUIRED TO SUIT NEW LOCATION. CLEAN DIFFUSER BEFORE RE-INSTALLATION.
- RELOCATED RETURN AIR GRILLE. CLEAN GRILLE BEFORE RE-INSTALLATION. GRILLE TO HAVE ACOUSTICALLY LINED RETURN AIR ELBOW INSTALLED.
- NEW TEMPERATURE SENSOR INTEGRATED INTO THE UNIVERSITIES JOHNSON METASYS AUTOMATION SYSTEM.
- NEW 24X12 RETURN GRILLE - PRICE MODEL 80/CH/B12 OR EQUAL. GRILLE TO HAVE ACOUSTICALLY LINED RETURN AIR ELBOW INSTALLED.



2
M4
DIFFUSER DETAIL
1 : 50



3
M4
RETURN AIR GRILLE/ELBOW DETAIL
1 : 50

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HVAC RENOVIATION

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M4

22 00 00 GENERAL REQUIREMENTS

1. THE SPECIFICATION COVERING THE GENERAL CONDITIONS OF THE CONTRACT, SUPPLEMENTARY CONDITIONS, GENERAL AND SAFETY REQUIREMENTS, INSTRUCTIONS TO BIDDERS, AND ALL SECTIONS FORM AN INTEGRAL PART OF THIS SPECIFICATION AND SHALL BE READ IN CONJUNCTION HEREWITH.
2. DIVISION 21, 22, 23 AND 25 SHALL COMPLY WITH THE GENERAL REQUIREMENTS LISTED HEREIN.

1.1 SCOPE

1. PROVIDE ALL MATERIALS, LABOUR, PLANT AND EQUIPMENT REQUIRED FOR A COMPLETE AND WORKING INSTALLATION AS HEREIN SPECIFIED AND AS SHOWN ON THE DRAWINGS.
2. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE PROVINCIAL AND MUNICIPAL CODES AND REGULATIONS.
3. ALL EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE NEW AND C.S.A. APPROVED.
4. ARRANGE FOR, AND COORDINATE, ROUGH-IN AND FINAL INSPECTIONS WITH INSPECTION AUTHORITY AND CONSULTANT.
5. IN THE EVENT OF CONFLICT BETWEEN CONTRACT DOCUMENTS AND CODES, THE MORE STRINGENT REQUIREMENT SHALL BE ADHERED TO AT NO ADDITIONAL COST.
6. ENGINEERING SITE REVIEWS, CONTRACTORS WORK SHALL BE PERIODICALLY REVIEWED BY THE CONSULTANT FOR DETERMINING GENERAL QUALITY OF INSTALLATION. GUIDANCE WILL BE OFFERED AS TO INTERPRETATION OF CONTRACT DOCUMENTS AND TO ASSIST IN PERFORMING THE INSTALLATION, INSPECTIONS, REVIEWS AND DIRECTIVES ISSUED IN NO WAY RELIEVE THE CONTRACTOR, HIS AGENTS, EMPLOYEES OR SUBTRADEES FROM CONTRACTUAL OBLIGATIONS, CONFORMANCE TO CODES OR SAFE AND RECOGNIZED PRACTICES.
7. APPLY FOR AND PAY FOR ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND FEES.
8. INDICATE ALL PERMIT NUMBERS ON ALL PROGRESS DRAWS.
9. WHERE NO PERMIT WAS APPLIED FOR INDICATE SAME ON PROGRESS DRAW.

1.2 DEFINITIONS

- THE FOLLOWING ARE DEFINITIONS OF TERMS AND EXPRESSIONS USED IN THE ELECTRICAL AND MECHANICAL SPECIFICATION.
1. INSPECTION AUTHORITY MEANS AGENT OF ANY AUTHORITY HAVING JURISDICTION OVER CONSTRUCTION STANDARDS ASSOCIATED WITH ANY PART OF WORK ON SITE.
 2. PROVIDE MEANS TO SUPPLY, INSTALL AND LEAVE IN WORKING ORDER ALL MATERIALS AND NECESSARY DEVICES TO ENSURE A FULLY FUNCTIONAL SYSTEM, TESTED AND COMPLETE IN EVERY WAY, UNLESS OTHERWISE NOTED.
 3. THE TERM "CONSULTANT" OR "OWNERS REPRESENTATIVE" REFERS TO:
 - MCWAVE CONSULTING PROFESSIONAL ENGINEERS
 - 210 - 1821 WELLINGTON AVENUE
 - WINNIPEG, MANITOBA R3M 0G4
 - PHONE: (204) 779-7900
 - FAX: (204) 779-1119
 - E-MAIL: mcp@mcw.com
 4. THE TERM "CONTRACTOR" REFERS TO THE SUCCESSFUL BIDDER ENGAGED TO PERFORM THE INSTALLATION AND TO COORDINATE ALL SUB TRADES ENGAGED BY THE "CONTRACTOR".
 5. THE TERM "DRAWINGS" AND "SPECIFICATIONS" ARE COMPLEMENTARY TO EACH OTHER. WHAT IS CALLED FOR BY ONE SHALL BE BINDING TO BOTH.
 6. THE TERM "CONTRACT DOCUMENTS" REFERS TO BOTH DRAWINGS AND SPECIFICATIONS.
 7. STANDARDS, REGULATIONS AND BYLAWS, HEREAFTER REFERRED TO AS CODES.

1.3 REQUEST FOR INFORMATION

1. ON TEN (10) FULL WORKING DAYS FOR MCWAVE CONSULTING PROFESSIONAL ENGINEERS TO RESPOND TO ALL REQUESTS FOR INFORMATION.
2. TRADE CONTRACTOR SHALL REVIEW AND APPROVE ALL REQUESTS FOR INFORMATION (RFIs) FROM SUB-CONTRACTORS PRIOR TO SUBMISSION.
3. GENERAL CONTRACTOR SHALL REVIEW AND APPROVE ALL RFIs PRIOR TO SUBMITTAL TO ENSURE INFORMATION IS NOT ALREADY INCLUDED IN CONTRACT DOCUMENTS OR CANNOT BE REASONABLY INFERRED FROM CONTRACT DOCUMENTS.

1.4 SHOP DRAWINGS

1. SUBMIT ELECTRONIC SHOP DRAWINGS FOR REVIEW BY THE CONSULTANT PRIOR TO ORDERING EQUIPMENT AND COMMENCING WORK. SHOP DRAWINGS SHALL BE SPECIFIC TO THE EQUIPMENT AND MATERIALS FOR THIS PROJECT. CHANGES TO LOCAL AND MANUFACTURER'S DRAWINGS WILL BE RECEIVED PRIOR TO INSTALLATION. REVIEW OF SHOP DRAWINGS BY THE CONSULTANT IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE TO DESIGN INTENT. CONTRACTOR RETAINS RESPONSIBILITY FOR ALL ASPECTS OF INSTALLATION, PERFORMANCE AND COORDINATION.
2. SHOP DRAWING PROCEDURES ARE AS FOLLOWS:
 1. GENERAL CONTRACTOR AND TRADE CONTRACTOR SHALL REVIEW, APPROVE AND STAMP SUBMITTALS PRIOR TO SENDING TO MCWAVE CONSULTING PROFESSIONAL ENGINEERS FOR REVIEW. SUBMITTALS WITHOUT CONTRACTOR STAMPS WILL BE REJECTED.
 2. A TRANSMITTAL LISTING EACH ITEM OF EQUIPMENT SHALL ACCOMPANY EACH SUBMISSION.
 3. EQUIPMENT MUST BE LABELED APPROPRIATELY. EACH ITEM OF EQUIPMENT MUST BEAR THE IDENTIFIER USED ON THE DRAWINGS.
 4. DATA SHEETS MUST CLEARLY INDICATE MODEL AND OPTIONS BEING UTILIZED. ALL INFORMATION THAT DOES NOT APPLY MUST BE CROSSED OFF.
 5. ALLOW MCWAVE CONSULTING PROFESSIONAL ENGINEERS TEN (10) FULL WORKING DAYS TO REVIEW ALL SHOP DRAWINGS.
 6. SEND ELECTRONIC SHOP DRAWING SUBMITTALS (.PDF ONLY) TO WPG.SHOPDRAWINGS@MCW.COM ONLY. PLEASE DO NOT COPY STAFF MEMBERS DIRECTLY.
 7. ALL DEVIATIONS FROM SPECIFIED EQUIPMENT SHALL BE HIGHLIGHTED BY CONTRACTOR.

1.5 ACCURACY OF DATA

1. DRAWINGS ARE SCHEMATIC. EXACT LOCATIONS, DISTANCES, LEVELS AND OTHER DIMENSIONS SHALL BE GOVERNED BY THE ARCHITECTURAL/INTERIOR DESIGN DRAWINGS.
2. DEVICES OR EQUIPMENT SHALL BE MOVED TO ANY POINT WITHIN A 3M (10'-0") RADIUS FOR COORDINATION PURPOSES OR WHEN THE CONSULTANT FINDS THE LOCATION BEFORE THE WORK HAS BEEN SUBSTANTIALLY COMPLETED, WITHOUT ADDITIONAL COST.
3. PROVIDE A TYPICAL MOCKUP OF EQUIPMENT FOR REVIEW BY THE CONSULTANT.
4. DRAWINGS AND SPECIFICATIONS ESTABLISH SCOPE OF WORK ONLY AND ARE NOT DETAILED INSTALLATION INSTRUCTIONS. FOLLOW MANUFACTURER'S RECOMMENDATIONS AND ADHERE TO ALL CURRENT AND APPLICABLE CODES.
5. THE CONSULTANT SHALL HAVE THE FINAL SAY IN MATTERS OF INTERPRETATION.

1.6 EXAMINATION

1. EXAMINE ENTIRE CONTRACT DOCUMENT PACKAGE TO ENSURE THAT THE WORK UNDER THIS CONTRACT CAN BE SATISFACTORILY CARRIED OUT. REPORT ANY DISCREPANCIES TO THE CONSULTANT PRIOR TO SUBMISSION OF TENDER.
2. EXAMINE THE SITE, LOCAL CONDITIONS AND ALL EXISTING APPARATUS IF ANY TO BE RE-USED AND VERIFY THAT THE CONDITION OF THIS EQUIPMENT IS SUITABLE FOR ITS INTENDED USE IN THE NEW CONSTRUCTION.

1.7 WORKMANSHIP

1. INSTALL EQUIPMENT IN A WORKMANLIKE MANNER TO PRESENT A NEAT APPEARANCE TO THE SATISFACTION OF THE CONSULTANT. INSTALL EQUIPMENT PARALLEL AND PERPENDICULAR TO BUILDING LINES. INSTALL NEATLY AND GROUP TO PRESENT A TIDY APPEARANCE.
2. INSTALL EQUIPMENT AND APPARATUS INCLUDING BUT NOT LIMITED TO JUNCTION BOXES, VALVES AND BALANCING DAMPERS REQUIRING MAINTENANCE, ADJUSTMENT OR EVENTUAL REPLACEMENT WITH ADEQUATE CLEARANCES AND ACCESSIBILITY FOR SAME. ACCESSIBILITY IS DEEMED TO BE WITHIN 800MM (24") OF ACCESSIBLE DRYWALL CEILING OPENING AND NO MORE THAN 1M (39") ABOVE ACT.
3. INCLUDE IN THE WORK ALL REQUIREMENTS SHOWN ON THE SHOP DRAWINGS OR MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. REPLACE WORK UNSATISFACTORY TO THE CONSULTANT WITHOUT EXTRA COST.
5. EQUIPMENT EXPOSED TO EXTERIOR WEATHER AND/OR MOISTURE SHALL BE CORROSION AND UV PROTECTED.
6. ONLY SKILLED AND QUALIFIED LICENSED TRADEPERSON SHALL PERFORM THE WORK.
7. TRADEPERSON SHALL PROVIDE PROOF OF REGISTERED STATUS WHEN REQUESTED.
7. CONTRACTOR IS RESPONSIBLE TO CAREFULLY EXAMINE CONDITIONS AT THE INTENDED PLACE OF WORK, VERIFY ALL SERVICES, CONNECTION POINTS, AND ALL ACCESS OPENINGS TO PERMIT INSTALLATION OF NEW EQUIPMENT.

1.8 COORDINATION

1. CONTRACTOR SHALL CO-ORDINATE ALL ASPECTS OF THE INSTALLATION WITH ALL OTHER TRADES. THERE SHALL BE NO CHANGE NOTICES ISSUED NOR CHANGES TO THE BUILDING DESIGN (I.E. LOWERING CEILING HEIGHTS) DUE TO ROUTING CONFLICTS AMONGST TRADES OR LACK OF COORDINATION. WHEN REQUIRED, DISCUSS THE PROPOSED ROUTING WITH THE CONSULTANT PRIOR TO INSTALLATION. FINAL RESPONSIBILITY REMAINS WITH THE CONTRACTOR.
2. CONNECT TO EQUIPMENT SPECIFIED IN OTHER SECTIONS, INSTALLED BY OTHER CONTRACTORS OR THE OWNER.
3. SUPPLY ACCESS DOORS OR RATED DOORS TO MATCH FIRE RATING. AT ALL SERVICE POINTS FOR EQUIPMENT, INDICATE ON PROJECT RECORD DOCUMENTS THE LOCATION OF ALL ACCESS DOORS.
4. OPENINGS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. OPENING SIZES SHALL BE KEPT TO A MINIMUM.
5. CONTRACTOR SHALL PAY FOR PROFESSIONAL TRADE TO PATCH OPENINGS AND INSTALL ALL FINISHING MATERIALS (I.E. DRYWALL, BRICK, ETC.). OPENINGS WITH POTENTIAL TO COMPROMISE THE STRUCTURE SHALL BE APPROVED BY A LICENSED STRUCTURAL ENGINEER PRIOR TO STARTING THE OPENING. THE CONTRACTOR SHALL CONTACT THE STRUCTURAL CONSULTANT FOR INSTRUCTIONS PRIOR TO CUTTING OR CORING. CONTRACTOR IS TO SCAN STRUCTURE BEFORE MAKING OPENINGS AND ADVISE GENERAL CONTRACTOR AND CONSULTANT OF ANY OBSTRUCTIONS FOUND PRIOR TO CUTTING OR CORING.
6. ELECTRIC MOTORS EQUIPPED WITH VARIABLE SPEED CONTROLLER AS SUPPLIED BY MECHANICAL CONTRACTOR SHALL BE INSTALLED, WIRED AND CONNECTED BY ELECTRICAL CONTRACTOR.
7. VARIABLE FREQUENCY DRIVES (VFD) - ELECTRIC MOTORS AND CABLEING SHALL BE COMPATIBLE WITH VARIABLE FREQUENCY DRIVES.
8. DIRECT DRIVES - ELECTRIC MOTORS SHALL BE EQUIPPED WITH VARIABLE SPEED CONTROLLER CAPABLE OF INFINITE MODULATION BETWEEN 30% TO 100%.

1.9 SUPERVISION

1. SUPERVISE THE WORK AT ALL TIMES THROUGH A RESPONSIBLE AND COMPETENT QUALIFIED TRADEPERSON.
2. FULL CO-OPERATION SHALL BE SHOWN WITH OTHER TRADES TO FACILITATE INSTALLATIONS AND TO AVOID DELAYS IN CARRYING OUT THE WORK.

1.10 PROJECT CLOSE OUT

1. PROJECT RECORD DOCUMENTS
 - 1. MAINTAIN ACCURATE PROJECT RECORD DOCUMENTS AND CURRENT ON SITE AND SAME SHALL BE PRESENT FOR REVIEW AT EACH SITE REVIEW. SUBMIT THESE PROJECT RECORD DOCUMENTS IN ELECTRONIC FORMAT OF SAME PROGRAM AND VERSION OF ORIGINAL CONTRACT DOCUMENTS AND PDF FOR REVIEW AT THE COMPLETION OF THE PROJECT. NOTE THAT CHANGES TO ARCHITECTURAL, AND STRUCTURAL AND CIVIL FLOOR PLANS MUST BE INCLUDED.
2. A MINIMUM OF \$1,000.00 PER DRAWING SHALL BE HELD-BACK UNTIL ALL PROJECT RECORD DOCUMENTS ARE SUBMITTED AND DEEMED COMPLETE.

3. TRANSFER CHANGES TO ELECTRONIC DISC AUTOCAD FILE. SUBMIT DISC AND HARD COPY FOR FINAL REVIEW AND SUBMISSION TO OWNERS.
4. AFTER ACCEPTANCE OF PROJECT RECORD DOCUMENTS BY THE CONSULTANT, PROVIDE ONE (1) COMPLETE SET OF AUTOCAD AND PDF PROJECT RECORD DOCUMENTS ON THREE (3) CD-ROM AND ONE (1) SET OF HARD COPY DESIGN PRINTS AND ONE (1) SET OF HARD COPY RED LINE CONTRACTOR MARKUPS.
 - 1. MECHANICAL SHALL INCLUDE:
 1. ROUTING OF EQUIPMENT;
 2. LOCATIONS OF VALVES;
 3. CONCEALED EQUIPMENT AND ACCESS PANELS; AND
 4. ACCURATE LOCATIONS FOR IN OR UNDER SLAB ITEMS, (IE. DRAINS, PIPING ROUTING, DUCT WORK).
 - 5. MCWAVE CONSULTING PROFESSIONAL ENGINEERS CAN COMPLETE THE PROJECT RECORD DOCUMENTS FROM CONTRACTOR'S RED-LINED MARKUPS FOR A FEE OF \$250.00 PER DRAWING, WITH A PROJECT MINIMUM OF \$1,000.00.
 - 6. THE USE OF WHITE OUT (LIQUID OR TAPE) SHALL BE USED FOR CORRECTING CONTRACTOR RED LINE ERRORS ONLY.
 - 7. DO NOT USE WHITE OUT TO DELETE ORIGINAL CONTRACT DRAWINGS DELETED ITEMS SHALL BE CROSSED OUT IN RED INK.
 - 8. ME SCHEDULES AND SHEETS SHALL BEAR A WATERMARK, INDICATING "REFER TO O&M".

2. OPERATION AND MAINTENANCE

1. PRIOR TO REQUESTING ANY SUBSTANTIAL PERFORMANCE SITE REVIEW, ALL ASPECTS OF THE INSTALLED SYSTEM SHALL BE COMPLETE AND OPERATIONAL. TESTING AND BALANCING SHALL BE COMPLETE ALONG WITH DEVICE AND EQUIPMENT IDENTIFICATION, EQUIPMENT STARTUPS.
2. AT THE COMPLETION OF WORK SUBMIT THREE (3) ELECTRONIC MEDIA STORAGE DEVICE AND ONE (1) HARD COVERED LOOSE LEAF BINDER SHOWING ALL MAJOR COMPONENTS AND DIVIDED BY TRADE SECTIONS. MANUALS SHALL BE COMPLETE WITH ALL WARRANTY INFORMATION, INSTRUCTIONS FOR OPERATION, MAINTENANCE, AND REPLACEMENT PARTS AS REQUIRED. INCLUDE COPIES OF REVIEWED SHOP DRAWINGS, CONSULTANT CONTRACT INFORMATION, CONTRACTOR AND SUB-CONTRACTOR INFORMATION. INCLUDE COPIES OF VALVE TAG LISTS, ALL INSPECTION CERTIFICATES, AND BALANCING REPORTS. THE CONSULTANT MAY NOT PERFORM FINAL INSPECTIONS NOR CERTIFY FOR OCCUPANCY UNTIL THE O&M MANUALS ARE RECEIVED, REVIEWED AND APPROVED.
3. INCLUDE PERFORMANCE CURVES, DETAILED DRAWINGS, PART LISTS, SUPPLIER INFORMATION AND ANY OTHER PERTINENT INFORMATION.
2. PROVIDE MANUFACTURERS START-UP REPORTS AND LETTERS OF CERTIFICATION THAT THE FOLLOWING MECHANICAL EQUIPMENT AND SYSTEMS ARE STARTED, COMMISSIONED AND WORKING CORRECTLY:
 1. CONTROLS
 2. AIR MOVING EQUIPMENT;
 3. PLUMBING FIXTURES, MIXING VALVES AND BRASS;
3. EACH OF THE CONTRACTORS SHALL INSTRUCT THE OWNERS OPERATING STAFF ON THE OPERATION, MAINTENANCE, AND ADJUSTMENT OF EQUIPMENT AND/OR SYSTEM THAT THEY HAVE INSTALLED OR SET. PROVIDE SIGN OFF SHEETS FOR TRAINING INDICATING WHO WAS TRAINED AND NUMBER OF HOURS OF TRAINING.
4. SPARE PARTS:
 1. PROVIDE ONE (1) SET OF SPECIAL TOOLS REQUIRED TO SERVICE EQUIPMENT AS RECOMMENDED BY MANUFACTURER, PROVIDE A RECEIPT SIGNED BY THE OWNERS REPRESENTATIVE FOR EACH TOOL, IN EACH COPY OF THE O&M MANUAL.
 2. CERTIFICATION REQUIREMENTS:
 1. THE INSTALLATION SHALL BE COMPLETELY TESTED DEMONSTRATING THAT THE EQUIPMENT AND SYSTEMS INSTALLED PERFORM IN THE MANNER INTENDED.
 2. PRIOR TO MECHANICAL FINAL INSPECTION OR CERTIFICATION PROVIDE THE FOLLOWING:
 1. COPIES OF MANUFACTURER'S STARTUP OR CERTIFICATION REPORTS.
 2. TAB REPORTS.
 3. DISTRIBUTION SYSTEM PRESSURE TEST REPORTS.
 4. TRAINING SIGN OFF SHEETS.
 5. COPY OF THE BUILDING PLUMBING PERMIT; AND
 6. RECEIPTS OR TRANSMITTALS INDICATING OWNER HAS RECEIVED ALL SPECIAL TOOLS AND SPARE PARTS.

1.11 WARRANTY

1. THE SATISFACTORY OPERATION OF ALL WORK AND EQUIPMENT SHALL BE WARRANTED FOR A MINIMUM OF TWELVE (12) CALENDAR MONTHS AFTER SUBSTANTIAL COMPLETION, UNLESS OTHERWISE NOTED.

1.12 REQUEST FOR EQUALS

1. REQUEST FOR APPROVAL OF MATERIAL AS EQUALS TO THAT SPECIFIED SHALL BE SUBMITTED TO THE CONSULTANT WITH PERFORMANCE SPECIFICATIONS TO TWO (2) FULL WORKING DAYS BEFORE LAST ADDENDUM. SAMPLES SHALL BE PROVIDED ON REQUEST.
2. APPROVALS SHALL BE TRANSMITTED ELECTRONICALLY. INCLUDE ALL PERTINENT INFORMATION FOR A COMPLETE REVIEW BY THE CONSULTANT.

1.13 WORK IN EXISTING BUILDING

1. THE BUILDING SHALL REMAIN OPEN AND IN NORMAL OPERATION DURING THE CONSTRUCTION PERIOD OF THIS CONTRACT.
2. WHERE EXISTING SERVICES SUCH AS POWER, FIRE ALARM, HVAC, PLUMBING OR FIRE PROTECTION ARE REQUIRED TO BE DISRUPTED AND/OR SHUTDOWN COORDINATE THE SHUT-DOWNS WITH THE OWNER AND CARRY OUT THE WORK AT A TIME AND IN A MANNER ACCEPTABLE TO THEM. CAREFULLY SCHEDULE ALL DISRUPTIONS AND/OR SHUTDOWNS AND ENSURE THAT THE DURATION OF SAME IS KEPT TO A MINIMUM. SUBMIT FOR APPROVAL, A WRITTEN SCHEDULE OF EACH DISRUPTION AT LEAST 72 HOURS IN ADVANCE OF PERFORMING WORK. OBTAIN OWNERS WRITTEN CONSENT PRIOR TO IMPLEMENTING.
3. SHOULD ANY CONNECTIONS BE REQUIRED TO MAINTAIN SERVICES DURING WORK IN THE EXISTING BUILDING, SUPPLY AND INSTALL ALL NECESSARY MATERIAL AND EQUIPMENT AND PROVIDE ALL LABOUR, AT NO EXTRA COST. SHOULD ANY EXISTING SYSTEM BE DAMAGED, MAKE FULL REPAIRS WITHOUT EXTRA COST, AND TO THE SATISFACTION OF THE OWNER.
4. CONTRACTOR SHALL ENSURE THAT ANY CORING OF HOLES THROUGH THE DECK FLOORS, WALLS AND GRADE BEAMS, ETC. WILL NOT PENETRATE EXISTING CONDUITS, CABLES OR MECHANICAL EQUIPMENT IN OR UNDER THE CONCRETE. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE ANY AND ALL ACTION AS DEEMED NECESSARY BY THE BUILDING ENGINEER TO CORRECT ANY SUCH PENETRATIONS AT HIS COST. NO CORING SHALL BE UNDERTAKEN UNLESS PERMISSION IS GIVEN BY THE BUILDING ENGINEER.
5. WHEN NEW CEILINGS ARE TO BE INSTALLED, EXISTING DEVICES ARE TO BE TEMPORARILY REMOVED, RELOCATED, EXTENDED OR MODIFIED TO ACCOMMODATE NEW CEILING LEVEL UNLESS OTHERWISE NOTED.
6. WHEN PAINTING IS TO COMMENCE, EXISTING DEVICES ARE TO BE TEMPORARY REMOVED, AND REINSTALLED UPON COMPLETION OF PAINTING UNLESS OTHERWISE NOTED.

22 00 10 ACCEPTABLE MANUFACTURERS

1. STANDARD OF MATERIAL & EQUIPMENT:

1. WHERE A MANUFACTURER'S NAME IS MENTIONED, IT IS FOR THE PURPOSE OF SETTING A STANDARD OF QUALITY, PERFORMANCE, CAPACITY, APPEARANCE AND SERVICEABILITY. ACCEPTABLE MANUFACTURERS SHOWN BELOW ARE PRE-APPROVED IF THEIR PRODUCTS ARE EQUAL IN PERFORMANCE TO THE SPECIFIED ONES, AND THE PRODUCTS CAN BE USED IN THE PREPARATION OF THE TENDER, WHERE NO ALTERNATIVES HAVE BEEN APPROVED, PROVIDE THE EXACT MAKE SPECIFIED. REQUESTS FOR APPROVAL OF ALTERNATIVES MUST BE SUBMITTED TO THE CONSULTANT NOT LESS THAN THREE DAYS PRIOR TO CLOSING DATE OF THE TENDER AND APPROVALS MUST BE APPROVED IN WRITING BY THE ENGINEER. IN AN ADDENDUM, NO EXCEPTIONS. APPROVAL AS AN ALTERNATIVE DOES NOT ABSOLVE THE SUPPLIER AND CONTRACTOR OF THE OBLIGATION TO MEET ALL CLAUSES OF THIS SPECIFICATION.

2. DESCRIPTION:

| | |
|--|--|
| 1. PLUMBING AND DRAINAGE APPROVED LIST | |
| EQUIPMENT HANGERS AND SUPPORTS | ACCEPTABLE MANUFACTURERS CRANE, GRINNELL, MYATT |
| DRAINAGE SPECIALTIES | ANCON, SMITH, ZURN, MIFAB, WATTS |
| SHOCK ABSORBERS | ANCON, SMITH, ZURN, PFP, WATTS |
| PLUMBING BRASS | KOHLER, DELTA COMMERCIAL, MOEN, TOTO, SLOAN |
| STAINLESS STEEL SINKS | FRANKE, ELKAY, AMI, ARISTALINE, ACORN |
| 2. VENTILATION APPROVED LIST | |
| EQUIPMENT DAMPER HARDWARE, FAN CONNECTORS | ACCEPTABLE MANUFACTURERS DURO-DYNE, ELGIN |
| DIFFUSERS, REGISTERS AND GRILLES | TITUS, PRICE, NAILOR INDUSTRIES, TUTTLE AND BAILEY |
| FLEXIBLE DUCTWORK | TERMOFLEX, WIRE-MOULD, FLEX MASTER |

22 00 20 PIPING AND FITTINGS

1. PROVIDE ISOLATION VALVES AT ALL FIXTURES, APPLIANCES AND EQUIPMENT.
2. PROVIDE CHECK STOPS AT ALL MIXING VALVES.
3. ALLOW FOR THERMAL EXPANSION ON ALL PIPING SYSTEMS CONVEYING HOT OR COLD VAPOUR OR LIQUID.
4. PROVIDE POINT OF USE THERMOSTATIC MIXING VALVES SET TO 43°C (110°F) FOR LAVATORIES WHERE INDICATED.
5. TAG ALL MAJOR ZONE AND SHUT OFF VALVES WITH 38MM (1 1/2") DIAMETER BRASS TAGS. INDEX AND LIST VALVES, INSERT LIST IN EACH O&M MANUAL. ALSO FRAME AND MOUNT COPY OF LIST IN A CONSPICUOUS AREA OF THE MECHANICAL ROOM.

6. IDENTIFY ALL EQUIPMENT WITH BLACK LAMACOD TAGS 100MM X 25MM (4"X1") WITH WHITE LETTERING. MECHANICAL AFFIX TAGS TO EQUIPMENT. EQUIPMENT NAMES AND NUMBER TO MATCH THOSE LISTED ON CONTRACT DOCUMENTS.
7. IDENTIFY ALL PIPING WITH STENCILED LETTERING AND DIRECTIONAL ARROWS AT INTERVALS NO GREATER THAN 6M (20') AND AT EVERY CHANGE IN DIRECTION. LABELING AND IDENTIFICATION TO EITHER THE OWNER'S STANDARD OR THE CSA STANDARD. CONFIRM SYSTEM WITH OWNER PRIOR TO TENDER.
8. WHEREVER PIPES OF DIS-SIMILAR METALS ARE JOINED THE PIPING SYSTEMS SHALL BE PROTECTED AND ISOLATED BY USE OF DIELECTRIC UNIONS OR BRASS VALVES.
9. PROVIDE AND INSTALL UNION OR FLANGE CONNECTIONS AT ALL EQUIPMENT AND DEVICES TO ALLOW FOR EASE OF SERVICE OR FUTURE REPLACEMENT.
10. PIPING SYSTEMS:
 1. SANITARY & STORM DRAINAGE - CAST IRON AND COPPER OR PVC DWV.
 2. ABOVE GROUND - CAST IRON AND COPPER OR PVC DWV TO ASTM E-84 /UL 723
 3. SANITARY & STORM DRAINAGE - IN PLENUM SPACE - TYPE L COPPER WITH WROUGHT COPPER FITTINGS AND LEAD FREE SOLDER.
 3. DOMESTIC HOT & COLD WATER - PVC DWV.
4. SANITARY & STORM DRAINAGE - BURIED - SCHEDULE 40 STEEL TYPE L COPPER
5. HEATING SYSTEMS:

1. VALVES:
 1. ISOLATE ALL SERVICEABLE EQUIPMENT, USING BALL AND BUTTERFLY VALVES WHERE POSSIBLE.
 2. ALL VALVES SHALL HAVE A MINIMUM CERTIFIED RATING OF 150 PSI.
 3. ALL DRAIN VALVES SHALL BE COMPLETE WITH CAP AND CHAIN.
 4. INSTALL 1/2" TURN BALL VALVES PRIOR TO ALL PRESSURE GAUGE DEVICES.
 5. ALL GAS SYSTEM VALVES SHALL BE GAS APPROVED FOR APPLICATION.
6. PVC BALL VALVES, DOUBLE BACKING WITH UNION ENDS, SOLVENT WELD, PRESSURE RATED AT 230 PSI (1580KPA) AT 79°F (23°C).

12. HANGERS AND SUPPORTS:

1. ALL HANGERS SHALL BE OF SAME MATERIAL AS PIPING SYSTEM, OR SHALL BE ISOLATED FROM THE PIPE.
2. PROVIDE ADJUSTABLE LEVISED HANGERS EQUAL TO PIPE SIZE AND OF SAME MATERIAL AS PIPING SYSTEM.
3. PROVIDE OVERSIZED HANGERS ON ALL COLD WATER PIPING CONVEYING LIQUID LESS THAN 21°C (70°F).
4. USE ONLY FACTORY MADE INSERTS, COACH SCREW RODS, C-CLAMPS, BEAM CLAMPS AND EXPANSION SHIELDS RATED FOR THE INTENDED LOAD.
5. "CADDY" CLIP OR TENSION CLIP ROD SUPPORTS ARE NOT ALLOWED ON THIS PROJECT.
6. DUCT HANGERS SHALL BE ROD OR STRAP 2 GAUGES HEAVIER THAN DUCT.

13. PROVIDE AND INSTALL SLEEVES OF SUITABLE MATERIAL WHERE PIPING AND DUCT SYSTEMS PASS THROUGH ANY AND ALL SEPARATIONS.
14. SUPPLY AND INSTALL THERMOSTATS AND GAUGES AT ALL MAJOR PIECES OF EQUIPMENT AND WHERE INDICATED ON THE DRAWINGS. (NOTE PSN-B SNIJBERS REQUIRED AT ALL GAUGES), MOUNT ALL GAUGES AND THERMOSTATS VERTICALLY AND PLACE SO THAT EASE OF READING IS ENSURED. PRESSURE AND TEMPERATURE RANGES SHALL BE SUITABLE FOR THE APPLICATION.
15. PRIMER PAINT ALL MISCELLANEOUS METAL SUPPORTS CHANNELS AND ANGLE IRON PRIOR TO INSTALLATION.
16. PIPE ALL WATER DISCHARGE FROM RELIEF VALVES AND EQUIPMENT DRAINS TO NEAREST FLOOR DRAIN OR SUITABLE RECEPTACLE. CONFIRM LOCATIONS WITH CONSULTANT PRIOR TO INSTALLATION. PIPE ALL METHANOL AND GLYCOL DISCHARGE FROM RELIEF VALVES BACK TO FILL TANK.
17. INSTALL ALL VALVES, STRAINERS, EQUIPMENT, SPECIALTIES, FILTERS AND THE LIKE TO PERMIT EASE OF OPERATION AND FULL ACCESS.
18. ACCEPTABLE JOINING SYSTEMS INCLUDE MECHANICAL JOINTS (SANITARY) SOLDERING, SILVER SOLDERING, THREADED JOINTS, WELDING, GROOVED VICTALIC (BLACK) AND GROOVED COPPER VICTALIC. NOTE: TIE DRILLING AND PRESS-FIT SYSTEMS ARE NOT ACCEPTABLE ON THIS PROJECT.
19. WHERE PASSING THROUGH ROOF STRUCTURES, ALL PIPING MUST EXTEND THROUGH THE SIDE OF PITCH BOXES. (EXCEPTION - PLUMBING VENTS) REFER TO ARCHITECTURAL DETAILS FOR CO-ORDINATION.
20. TEST ALL SYSTEMS TO 1 1/2 TIMES WORKING PRESSURE FOR A MINIMUM OF TWO HOURS. ALL TESTS SHALL BE RECORDED AND INDEPENDENTLY WITNESSED. SUBMIT RECORDED DATA FOR CONSULTANTS REVIEW PRIOR TO SUBSTANTIAL COMPLETION AND INCLUDE IN O&M MANUALS.
21. PROVIDE AUTOMATIC AIR VENTS AT PIPING HIGH POINTS IN MECHANICAL SPACES, AND MANUAL AIR VENTS AT ALL OTHER PIPING HIGH POINTS.

22 07 10 INSULATION

1. THE WORD "EXPOSED" WHEN USED IN THIS SECTION MEANS ANY WORK, WHICH IS NOT CONCEALED IN WALL, SHAFT, OR CEILING CAVITIES OR SPACES, WORK IN MECHANICAL ROOMS, UTILITY SPACES, BEHIND DOORS IN CLOSETS OR CLOUBOARDS OR UNDER COUNTERS IS CONSIDERED EXPOSED.
2. FLEXIBLE DUCT INSULATION (FDI):
 1. R-24 FLEXIBLE BLANKET WITH FUR JACKET, PIN AT 400MM ON CENTRE AND TAPE ALL JOINTS WITH ALUMINUM TAPE.
3. PRE-MOLDED PIPE INSULATION (FPI):
 1. PROVIDE ULC LISTED SECTIONAL FIBERGLASS PIPE INSULATION IN COMPLIANCE WITH ASTM C338-04 IN PRE-MOLDED SECTIONS 90MM (36") LONG, SPLIT AND READY FOR APPLICATION WITH A MINIMUM THERMAL CONDUCTIVITY OF 0.033 W/M DEG C AT 24°C (75°F) MEAN TEMPERATURE AND BE CAPABLE OF USE ON SERVICE FROM -40°C TO 260°C (-40°F TO 500°F) AND WITH FACTORY APPLIED VAPOUR SEAL BARBER COATING F20 MIL PVC. HIGH IMPACT, UV RESISTANT, SOLVENT WELDED, RATED FOR 0-150°C (-17 TO 65°C).
 4. FINISHES & PROTECTIVE COVERINGS:
 - A CANVAS, 170 G/MZ WITH LAGGING ADHESIVE, ULC LABELED.
 - C TYVEK UNDER PROTECTIVE COVERING (ALUMINUM) 120 CHLIDERS CORRUGATED ALUMINUM PRE-FORMED COVERING COMPLETE WITH STRAPPING AND SEALS.
 - M TROVEILED-ON WEATHER PROTECTIVE COATING, BARBER 110-14 ASPHALT MASTIC VAPOUR BARBER COATING F20 MIL PVC. HIGH IMPACT, UV RESISTANT, SOLVENT WELDED, RATED FOR 0-150°C (-17 TO 65°C).

| APPLICATION SCHEDULE | THICKNESS | TYPE | FINISH |
|--|---------------------------------|---------|--------|
| DUCTWORK | 38MM (1 1/2") FOR LAST 3M (10') | ALL FDI | NONE |
| 1. EXHAUST DUCTS | | | |
| ** ALL EXPOSED INSULATED DUCTS IN MECHANICAL ROOM SERVICE ROOMS OR IN OCCUPIED SPACES ARE TO BE TYPE "C" FINISH. | | | |

| PIPING (PROVIDE CANVAS FINISH WHERE EXPOSED): | THICKNESS | TYPE |
|---|---------------|---------|
| 4. DOMESTIC COLD WATER | 38MM (1 1/2") | ALL PPI |
| 5. DOMESTIC HOT, RECIRCULATION | 25MM (1") | ALL PPI |

6. PLUMBING VENTS 12MM (1/2") LAST 3M (10')
- ** ALL EXPOSED INSULATED PIPING IN MECHANICAL ROOMS, SERVICE ROOMS OR VISIBLE IN OCCUPIED SPACES ARE TO BE TYPE "C" OR "P" FINISH.

22 31 20 CHEMICAL TREATMENT

1. SANITIZING - DOMESTIC WATER:
 1. POTABLE WATER SUPPLY SYSTEMS:
 1. THOROUGHLY FLUSH AND DISINFECT (CHLORINATE) WATER SUPPLY SYSTEMS IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS AND AWWA C601-68. THE RATES OF CHLORINE APPLICATION TO BE PROPORTIONAL TO THE RATE OF WATER ENTERING THE PIPE.
 2. FLUSH DOMESTIC WATER PIPING PRIOR TO INTRODUCING CHLORINE WITH A SUFFICIENT FLOW TO PRODUCE A VELOCITY OF 1 METRE PER SECOND FOR TEN MINUTES, OR UNTIL ALL FOREIGN MATERIALS HAVE BEEN REMOVED AND THE FLUSHED WATER IS CLEAR. PROVIDE CONNECTIONS AND PUMPS AS REQUIRED.
 3. ARRANGE AND PAY FOR WATER QUALITY TESTS TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY ACCEPTABLE TO THE CONSULTANT.
 2. CLEANUP:
 1. LEAVE SYSTEMS OPERATING WITH WORK AREAS CLEAN TO ACCEPTANCE OF OWNER AND CONSULTANT.

22 08 10 TESTING AND BALANCING (TAB)

1. CONTRACTOR SHALL BE MEMBERS OF AABC.
2. BALANCE ALL SUPPLY AIR OUTLETS AND MAIN DUCTS CONVEYING 25% OR MORE OF SYSTEM VOLUME TO 45% OF DESIGN. ALLOW TO REPLACE BELTS AND SHEAVES ON NEW EXISTING EQUIPMENT TO MEET AIR BALANCE VOLUMES.
3. BALANCE ALL AIR MOVING EQUIPMENT TO 45%.
4. BALANCE ALL BRANCH DUCTWORK TO 10%.
5. TEST ALL FIRE DAMPERS, STOPS AND FLAPS TO INDUSTRY STANDARDS. TAG EACH DEVICE LISTING COMPANY INFORMATION AND TESTING INFORMATION.
6. THE REPORTS TO CONTAIN RECORDED DATA AND SCHEMATICS AND BE FORMATTED AS PER AABC.
7. BALANCE ALL HEATING/COOLING SYSTEMS TO 45%.
8. BALANCE ALL TERMINAL HEATING AND COOLING UNITS TO 110%.
9. ADJUST CIRCUIT BALANCING VALVE SET SCREW TO FINAL POSITION.
10. ADVISE VENTILATION CONTRACTOR WHERE BALANCING DAMPERS ARE REQUIRED TO FACILITATE BALANCING OF VENTILATION SYSTEM.
11. ADVISE HVAC CONTRACTOR WHERE CIRCUIT BALANCING VALVES ARE REQUIRED TO FACILITATE BALANCING OF HEATING AND COOLING SYSTEMS.
12. ARRANGE WITH MECHANICAL CONTRACTOR TO HAVE ANY NECESSARY MODIFICATIONS TO ACHIEVE THE DESIGN AND FLOW RATES AT NO EXTRA COST TO OWNER.
13. THREE (3) COPIES OF THE TAB REPORT, INCLUDING CERTIFICATION OF FIRE DAMPERS, STOPS AND FLAPS SHALL BE PROVIDED DIRECTLY TO THE CONSULTANT PRIOR TO CERTIFICATION FOR OCCUPANCY. INCLUDE DRAWINGS, ROOM NUMBERS AND IDENTIFICATION NUMBERS OF FIRE DAMPERS, TYPES, AND FLAPS ON THE SCHEMATICS.
14. TAB REPORT SHALL INCLUDE FINAL VALVE POSITION FOR ALL CIRCUIT BALANCING VALVES.
15. TAB REPORT SHALL INCLUDE SCHEMATIC DRAWINGS IDENTIFYING ALL FIRE DAMPERS AND CIRCUIT BALANCING VALVE LOCATIONS.
16. TAB REPORT SHALL INCLUDE PUMP CURVES ON ALL BALANCED PUMPS.
17. ALLOW FOR AN ADDITIONAL SITE REVIEW AND ADJUSTMENTS AT THE REQUEST OF THE CONSULTANT AFTER SUBMISSION OF FINAL REPORT.

22 10 05 PLUMBING

1. SUPPLY AND INSTALL FIXTURES INDICATED UNDER CONTRACT DOCUMENTS TO PROVIDE A COMPLETE AND FUNCTIONAL PLUMBING SYSTEM.
2. USE ONLY LEAD FREE SOLDER WHEN JOINING PIPING COMPONENTS.
3. PROVIDE ACCESS DOORS AT ALL CONCEALED CLEANOUTS, VALVES AND WATER HAMMER ARRESTORS.
4. INSTALL WATER HAMMER ARRESTORS AT EACH GROUP OF FIXTURES.
5. INSTALL TRAP PRIMERS AS INDICATED ON THE CONTRACT DOCUMENTS AND AS REQUIRED BY LOCAL CODE AUTHORITIES.
6. INSTALL DEEP SEAL TRAPPED CONDENSATE DRAINS FROM ALL COOLING EQUIPMENT.
7. FIXTURES SHALL BE WHITE AND COMPLETE WITH CHROME TRIM. FIXTURE STOPS SHALL BE SCREWDRIVER TYPE WHERE EXPOSED. WHEEL HANDLE WHERE CONCEALED.
8. WATER CLOSET MAP TEST MINIMUM 800 GRAMS.
9. WATER CLOSETS BALL PASS TEST: 2 1/4 (54MM) GLAZED, MINIMUM.

21 00 10 FIRE PROTECTION

1. PROVIDE PORTABLE FIRE EXTINGUISHERS; AS INDICATED ON DRAWINGS, WHERE NONE ARE INDICATED REFER TO NFPA 10 FOR TYPE AND LOCATION.

23 30 10 VENTILATION

1. SUPPLY AND INSTALL A COMPLETE VENTILATION SYSTEM AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY LOCAL CODES AND AUTHORITIES. DO ALL WORK TO LATEST SMACNA STANDARDS FOR APPLICABLE DUCT VELOCITY.
2. SYSTEM SHALL INCLUDE ALL DUCTS, FIRE DAMPERS, TRANSFER AIR OPENINGS, FANS, BALANCE DAMPERS, GRILLES, DIFFUSERS AND HOODS INDICATED ON DRAWINGS AND AS REQUIRED BY CODE.
3. PROVIDE ACCESS DOORS TO COMPLY WITH CODE ON BOTH SIDES OF FIRE DAMPERS, CONTROL DAMPERS AND ALL COILS. ACCESS DOORS SHALL BE CONSTRUCTED OF 22-GAUGE MATERIAL WITH FLAT IRON FRAMING COMPLETE WITH SASH LOCK LATCHING AND SEAL.
4. PROVIDE 1" THICK ACOUSTIC INSULATION WHERE INDICATED ON DRAWINGS. MINIMUM 3.5-LBS PER CUBIC FOOT DENSITY WITH NEOPRENE COATING. SEAL ALL JOINTS AND SEAMS.
5. PROVIDE ULC LABELED FIRE DAMPERS AND FLAPS WHERE INDICATED ON DRAWINGS AND AT ALL RATED SEPARATIONS. PROTECT CEILING DIFFUSERS WITH CK 2000 THERMAL BLANKET.
6. PROVIDE LOCKING SPITTER AND QUADRANT DAMPERS AS INDICATED ON DRAWINGS OR AS NECESSARY TO BALANCE SYSTEM AND REDUCE OBJECTIONABLE NOISE.
7. PROTECT AND KEEP CLOSED OPEN ENDS OF DUCT SYSTEMS WHILE UNDER CONSTRUCTION TO PREVENT DUST AND DEBRIS PENETRATION.
8. PROVIDE Baffles TO REDUCE OBJECTIONABLE NOISE AS DIRECTED BY THE CONSULTANT AT NO ADDITIONAL COST.
9. SEAL ALL JOINTS IN SUPPLY, OUTSIDE AND EXHAUST DUCT SYSTEMS WITH APPROVED WATER BASED SEALANT, INCLUDING ALL LONGITUDINAL AND VERTICAL SEAMS. ON EXPOSED DUCTS, TAPE BOTH SIDES OF EACH SEAM PRIOR TO SEALING AND REMOVE TAPE AFTER SEALANT DRIES FOR AN EVEN, UNIFORM SEALANT LINE.
10. CEILING MOUNTED COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLAN. COORDINATE WITH THE CEILING MOUNTED EQUIPMENT.

25 09 10 CONTROLS

1. ALL CONTROLS SHALL BE SUPPLIED BY THIS SECTION. PROVIDE ALL WIRING DIAGRAMS FOR LINE VOLTAGE WIRING BY DIVISION 26 ELECTRICAL CONTRACTOR. COORDINATE ALL REQUIREMENTS OF DIVISION 26 WITH ELECTRICAL CONTRACTOR PRIOR TO SUBMITTING BID.
2. PROVIDE ALL CONTROL VALVES FOR INSTALLATION BY HEATING CONTRACTOR 23 00 10.
3. SYSTEM SHALL BE COMPLETE WITH ALL NECESSARY WIRING, INTERLOCKS, DEVICES AND SOFTWARE NECESSARY TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM.
4. SET, OPERATE AND CO-ORDINATE ALL DEVICES FOR FULLY FUNCTIONAL SYSTEM.
5. ALL WIRING TO MEET DIVISION 27 SPECIFICATION REQUIREMENTS.
6. PROVIDE A DDC CONTROL WITH ALL THERMOSTATS, CONTROLLERS, DAMPERS, VALVES, OPERATORS, SWITCHES AND OTHER ACCESSORY EQUIPMENT IN ACCORDANCE WITH THE DRAWINGS WHICH SHALL INCLUDE BUT NOT BE LIMITED TO:
 1. FAN POWERED TERMINAL UNITS:
 - 1. CURRENT CONTROL SYSTEM IS JOHNSON CONTROLS - METASY'S EXTENDED ARCHITECTURE. THIS IS THE ONLY ACCEPTABLE PRODUCT.
 - 2. USER OPERATOR WORKSTATION SOFTWARE, CONTROLLER SOFTWARE, CUSTOM APPLICATION PROGRAMMING LANGUAGE AND CONTROLLERS ONLY FROM THIS MANUFACTURER.

7. MODIFY EXISTING GRAPHICS AND CONTROL POINTS TO MATCH NEW.

7. SEQUENCE OF OPERATIONS.

1. EXISTING FAN POWERED TERMINAL BOXES:
 - GENERAL: THESE UNITS PROVIDE VENTILATION, HEATING AND COOLING.
 - RUN CONDITIONS: THE SYSTEM SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS (AS PROGRAMMED BY THE BUILDING OPERATOR) AND SHALL MAINTAIN A SUPPLY AIR SETPOINT OF 18C (ADU). THE SYSTEM SHALL BE OFF DURING UNOCCUPIED PERIODS AS PROGRAMMED BY THE BUILDING OPERATOR UNLESS STARTED BY THE UNOCCUPIED CYCLE PROGRAM. THE SYSTEM MAY ALSO BE RETURNED TO THE OCCUPIED STATUS BY SELECTING THE TEMPORARY OVERRIDE FUNCTION ON THE OPERATOR WORKSTATION (OWS).
- STATUS: FAN OPERATION.

END OF SECTION

| REVISION | DATE | DESCRIPTION |
|----------|------------|--------------------------|
| 2 | 2017.08.21 | Issued for Tender |
| 1 | 2017.07.14 | Issued for Client Review |

| NEW POWER CIRCUITS | | | | | | | | | |
|--|--|---------|-------|-------|---------|---------|---------|-----------------------|--|
| CCT. No. | CIRCUIT USE | BREAKER | | VOLTS | VIA | | | WIRE AND CONDUIT SIZE | |
| | | SIZE | POLES | | PHASE A | PHASE B | PHASE C | | |
| P-1 | SYSTEM FURNITURE RECEPTACLES - ROOM 5003 | 15A | 1 | 120V | 1080 | | | 2x#12 AWG IN EMT | |
| P-2 | SYSTEM FURNITURE RECEPTACLES - ROOM 5003 | 15A | 1 | 120V | | 1080 | | 2x#12 AWG IN EMT | |
| P-3 | SYSTEM FURNITURE RECEPTACLES - ROOM 5003 | 15A | 1 | 120V | | | 480 | 2x#12 AWG IN EMT | |
| P-4 | DATA RECEPTACLES - ROOM 5003H, 5003J | 15A | 1 | 120V | 900 | | | 2x#12 AWG IN EMT | |
| P-5 | DATA RECEPTACLES - ROOM 5003 | 15A | 1 | 120V | | 900 | | 2x#12 AWG IN EMT | |
| P-6 | RECEPTACLES W/ USB - ROOM 5003 | 15A | 1 | 120V | | | 600 | 2x#12 AWG IN EMT | |
| P-7 | DATA RECEPTACLES - ROOMS 5003E, 5003F | 15A | 1 | 120V | 720 | | | 2x#12 AWG IN EMT | |
| P-8 | DATA RECEPTACLES - ROOMS 5003A, 5003B | 15A | 1 | 120V | | 720 | | 2x#12 AWG IN EMT | |
| P-9 | DATA RECEPTACLES - ROOMS 5003K, 5003L | 15A | 1 | 120V | | | 720 | 2x#12 AWG IN EMT | |
| P-10 | DATA RECEPTACLES - ROOM 5003D | 15A | 1 | 120V | 720 | | | 2x#12 AWG IN EMT | |
| P-11 | DATA RECEPTACLES - ROOM 5005, 5005a | 15A | 1 | 120V | | 720 | | 2x#12 AWG IN EMT | |
| P-12 | GENERAL RECEPTACLES | 15A | 1 | 120V | | | 960 | 2x#12 AWG IN EMT | |
| P-13 | 20A GFI RECEPTACLE | 20A | 1 | 120V | 750 | | | 2x#12 AWG IN EMT | |
| P-14 | DATA RECEPTACLES - ROOM 5003 | 15A | 1 | 120V | | 360 | | 2x#12 AWG IN EMT | |
| P-15 | DATA RECEPTACLES - ROOMS 5003C, 5003D | 15A | 1 | 120V | | | 720 | 2x#12 AWG IN EMT | |
| P-16 | DATA / MEDIA RECEPTACLES - ROOM 5003H | 15A | 1 | 120V | 720 | | | 2x#12 AWG IN EMT | |
| P-17 | DATA / MEDIA RECEPTACLES - ROOM 5002 | 15A | 1 | 120V | | 720 | | 2x#12 AWG IN EMT | |
| P-18 | DATA / MEDIA RECEPTACLES - ROOM 5002 | 15A | 1 | 120V | | | 540 | 2x#12 AWG IN EMT | |
| - RE-USE EXISTING CIRCUITS, GROUP THE FIXTURES/DEVICES AS SHOWN IN THIS SCHEDULE, ADD NEW BREAKERS AS REQUIRED. - FEED FROM PANEL '00', PANEL 'LL', PANEL 'JJ', PANEL 'KK'. - UTILIZE SPACE IN PANEL '00' PRIOR TO ADDING NEW CIRCUITS INTO 'PANEL 'LL', PANEL 'JJ', PANEL 'KK'. | | | | | | | | | |

| NEW LIGHTING CIRCUITS | | | | | | | | | |
|---|--------------|---------|-------|-------|---------|---------|---------|-----------------------|--|
| CCT. No. | CIRCUIT USE | BREAKER | | VOLTS | VIA | | | WIRE AND CONDUIT SIZE | |
| | | SIZE | POLES | | PHASE A | PHASE B | PHASE C | | |
| L-1 | NEW LIGHTING | 15A | 1 | 120V | 820 | | | 2x#12 AWG IN EMT | |
| L-2 | NEW LIGHTING | 15A | 1 | 120V | | 630 | | 2x#12 AWG IN EMT | |
| L-3 | NEW LIGHTING | 15A | 1 | 120V | | | 880 | 2x#12 AWG IN EMT | |
| - RE-USE EXISTING CIRCUITS, GROUP THE FIXTURES/DEVICES AS SHOWN IN THIS SCHEDULE, ADD NEW BREAKERS AS REQUIRED. - FEED FROM PANEL 'LL', PANEL 'JJ', PANEL 'KK' | | | | | | | | | |

GENERAL SPECIFICATIONS

1. INSTALLATION SHALL BE IN ACCORDANCE WITH THE ONTARIO HYDRO ELECTRICAL SAFETY CODE LATEST EDITION & ALL OTHER APPLICABLE CODES & REGULATIONS.
2. ALL EQUIPMENT SHALL BE NEW AND CSA CERTIFIED.
3. ELECTRICAL CONTRACTOR SHALL SUPPLY EQUIPMENT AS SPECIFIED AS WELL AS ANY MISCELLANEOUS TO COMPLETE THE WORK.
4. IDENTIFY ELECTRICAL EQUIPMENT WITH PROPER NAMEPLATES. IDENTIFY ALL WIRING, MAINTAIN PHASE SEQUENCE & COLOUR CODING.
5. CONTRACTOR TO FURNISH CERTIFICATES OF ACCEPTANCE FROM THE ELECTRICAL INSPECTION DEPARTMENT UPON COMPLETION OF WORK TO THE ENGINEER. REVERIFY F/A SYSTEM BY QUALIFIED PERSONNEL.
6. ALL WIRING SHALL BE MIN. #12 AWG Cu. IN EMT (UNLESS OTHERWISE NOTED).
7. INSTALL INSULATED GREEN BONDING CONDUCTOR IN ALL EMT CONDUIT.
8. ALL WIRING SHALL BE CONCEALED FROM VIEW UNLESS OTHERWISE NOTED.
9. ELECTRICAL CONTRACTOR SHALL MAKE A PERSONAL SITE VISIT AND CONFIRM ALL QUANTITIES/LOCATION/MOUNTING PRIOR TO SUBMITTING QUOTE.
10. CONTRACTOR SHALL REPAIR ALL SURFACES DAMAGED DUE TO WORK PERFORMED.
11. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DO NOT SCALE DRAWING.
12. ALL MATERIALS REMOVED AND MADE REDUNDANT BY THIS WORK (UNLESS INDICATED OTHERWISE) SHALL BECOME PROPERTY OF OWNER.
13. MOUNTING HEIGHTS FOR DEVICES AS PER CODE REQUIREMENTS, UNLESS OTHERWISE NOTED
14. COORDINATE COLOUR FOR ALL WALL PLATES, RECEPTACLES, SWITCHES AND DEVICES WITH OWNER. NEW WIRING DEVICES SHALL BE COMMERCIAL GRADE. COVER PLATES TO BE PREMIUM GRADE STAINLESS STEEL. LABEL RECEPTACLE WITH THEIR RESPECTIVE CIRCUIT AND PANEL USING CLEAR P-TOUCH LABELS WITH BLACK LETTERING.
15. COORDINATE ALL LIGHT FIXTURE AND RECEPTACLE INSTALLATION IN MILLWORK WITH CABINET BUILDER.
16. TIE EXIT SIGNS INTO EXISTING EXIT SIGN CIRCUIT.
17. THE INTENT OF THIS PROJECT IS INSTALL A COMPLETE LIGHTING DESIGN. IF SWITCHING FOR AN AREA IS NOT SHOWN, THE ELECTRICAL CONTRACTOR SHALL PROVIDE SWITCHING.
18. COMPLETE TYPEWRITTEN PANEL SCHEDULES ARE TO BE PROVIDED FOR ALL PANELS AFFECTED BY WORK. ALL LOADS FED FROM RELOCATED EXISTING CIRCUITS ARE TO BE DETERMINED AND INCLUDED IN PANEL SCHEDULES.
19. ALL CEILING SPACES IN RENOVATION AREAS ACT AS RETURN AIR PLENUMS. ALL CABLING IN CEILING SPACE MUST HAVE AN FT6 FIRE RATING OR BE COMPLETELY ENCLOSED IN CONDUIT.

GENERAL DEMOLITION NOTES

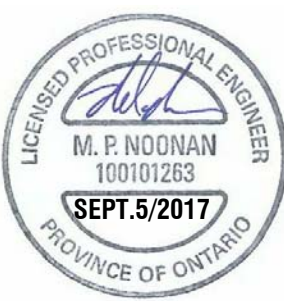
1. REMOVE ALL UNNECESSARY EXISTING ELECTRICAL EQUIPMENT, WIRING, & FIXTURES IN THOSE PORTIONS OF THE EXISTING BUILDING WHICH ARE BEING REMODELED OR DEMOLISHED. THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL REDUNDANT EQUIPMENT FROM SITE. ANY ELECTRICAL EQUIPMENT IN REMODELED SECTIONS OR IN STRUCTURES REMOVED OR ALTERED, ADJACENT TO NEW WORK, NECESSARY FOR THE OPERATION OF EXISTING BUILDING, SHALL BE RELOCATED AS NECESSARY. ALL EXISTING EQUIPMENT REUSED SHALL BE MADE GOOD AND GUARANTEED. REVISE PANEL SCHEDULES TO SUIT.
2. ALL REDUNDANT EQUIPMENT MAY NOT APPEAR IN DRAWING SET. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REMOVE ALL REDUNDANT EQUIPMENT AND ADHERE TO DEMOLITION NOTE #1 IN ALL CASES.
3. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS AND NOTES AND COORDINATE AS REQUIRED.

POWER/SYSTEMS IDENTIFICATION LEGEND

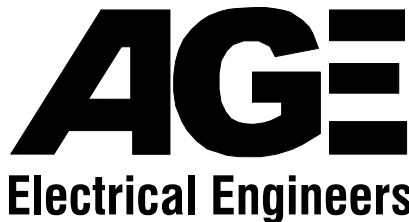
| | |
|----|---|
| | DUPLEX RECEPTACLE |
| | DUPLEX RECEPTACLE W/ USB CHARGING OUTLETS |
| | QUAD RECEPTACLE |
| | GFI RECEPTACLE |
| | 20A GFI RECEPTACLE |
| | NEW COMMUNICATIONS OUTLET C/W DOUBLE GANG BOX & SINGLE GANG REDUCING PLATE AND 3/4" EMT CONDUIT TO ACCESSIBLE CEILING SPACE. PROVIDE INDICATED NUMBER OF CAT6 DATA CABLES FROM EACH OUTLET BACK TO 5th FLOOR I.T. ROOM. LEAVE 3m OF SLACK NEATLY COILED IN CEILING SPACE AT EACH END. FINAL TERMINATION BY OWNER. #D' DENOTES NUMBER OF DATA CABLES RUN TO LOCATION. DATA CABLE SPECIFICATION (no substitutes) - Belden 2413 series Cat 6-Plenum (white in colour) |
| | EXISTING VOICE/DATA OUTLET |
| | EXISTING TELEPHONE OUTLET |
| | FIRE ALARM PULLSTATION |
| | FIRE ALARM BELL |
| | FIRE ALARM HEAT DETECTOR |
| | FIRE ALARM SMOKE DETECTOR |
| | 'FB' DENOTES DEVICES IN FLOOR BOX. MULTI-DEVICE, FLUSH-MOUNT FLOOR BOX C/W HINGED TOP AND DEVICES AS NOTED ON DRAWINGS. FLOOR BOX TOP TO BE COMPLETE WITH OPENINGS TO ALLOW CABLES (POWER CORDS & DATA PATCH CORDS) TO EXIT WITHOUT OPENING COVER. PROVIDE TOP AND FLANGE APPROPRIATE FOR FLOORING TYPE. BLACK FINISH. SUBMIT SHOP DRAWINGS. |
| ME | 'ME' DENOTES DEVICES FOR MULTIMEDIA EQUIPMENT AT A HIGH LEVEL. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS. |
| SF | 'SF' DENOTES DEVICES LOCATED IN SYSTEM FURNITURE. REFER TO MANUFACTURER'S LITERATURE. COORDINATE WITH FURNITURE INSTALLER. |
| AV | 'AV' DENOTES DEVICES FOR AUDIO/VISUAL EQUIPMENT TO BE MOUNTED AT HIGH LEVEL, NEAR CEILING. |
| WA | 'WA' DENOTES DEVICES FOR WIRELESS ACCESS POINT TO BE MOUNTED IN CEILING SPACE. |
| CH | 'CH' DENOTES DEVICE WALL-MOUNTED AT COUNTER HEIGHT. |
| EX | 'EX' DENOTES EXISTING DEVICE TO BE REMOVED AND REPLACED WITH NEW. |
| RP | 'RP' DENOTES EXISTING DEVICE TO BE REPLACED WITH NEW. |
| RM | 'RM' DENOTES EXISTING DEVICE TO BE REMOVED C/W ALL WIRING TO SOURCE. MAINTAIN CIRCUIT INTEGRITY. |
| RL | 'RL' DENOTES DEVICE TO BE REMOVED AND REUSED IN NEW LOCATION. EXTEND WIRING AND CONDUIT AS REQUIRED. REFER TO DEMOLITION PLANS, RENOVATION PLANS, GENERAL ELECTRICAL CONSTRUCTION NOTES AND SPECIFICATIONS. |

LIGHTING IDENTIFICATION LEGEND

| | |
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| | TYPE 'T1' - LED TROFFER FIXTURE - 1220 x 305 35W, 120V, 3500°K, 4100 LUMEN C/W DIFFUSE LENS, 0-10V DIMMING DRIVER, PHILIPS DAY-BRITE DUAL-LED SERIES CAT# 1-DL-G-41L-835-4-D-UNV-DIM |
| | TYPE 'T2' - LED TROFFER FIXTURE - 1220 x 610 35W, 120V, 3500°K, 4300 LUMEN C/W DIFFUSE LENS, 0-10V DIMMING DRIVER, PHILIPS DAY-BRITE DUAL-LED SERIES CAT# 2-DL-G-41L-835-4-D-UNV-DIM |
| | TYPE 'P1' - LED UP/DOWN PENDANT FIXTURE - 1220 x 82 47W, 120V, 3500°K, 4600 LUMEN C/W 0-10V DIMMING DRIVER PHILIPS LEDALITE TruGroove SUSPENDED SERIES CAT# 2905-L-B-C-Q-Q-04-1-1-E-W |
| | TYPE 'D1' - LED 4\"/> |
| \$ | TOGGLE SWITCH. |
| \$3W | THREE-WAY TOGGLE SWITCH |
| | LED "RUNNING MAN" EXIT SIGN W/ PICTOGRAM SYMBOLS CONFORMING TO ISO 7010. EXTRUDED ALUMINUM FRAME W/ CLEAR POLYCARBONATE PANELS AND PICTOGRAM FILMS. SELF-POWERED WITH NICKLE-CADMIUM BATTERY SIZED FOR 2 HOURS BACKUP. UNIVERSAL VOLTAGE (120V-347V). SINGLE OR DOUBLE FACED TO SUIT AND PICTOGRAM FILMS TO DENOTE EXIT DIRECTIONS AS NOTED ON DRAWINGS. EMERGH-LITE# EA SERIES |
| NL | 'NL' DENOTES AN UNSWITCHED NIGHT LIGHT FIXTURE |
| EM | 'EM' DENOTES A LIGHT FIXTURE FED FROM EXISTING EMERGENCY LIGHTING CIRCUIT. |
| | TYPE 'X1' - EXISTING FLUORESCENT TROFFER FIXTURE 1 LAMP, 1x4' |
| | TYPE 'X2' - EXISTING FLUORESCENT TROFFER FIXTURE 2 LAMP, 2x4' |
| | TYPE 'X3' - EXISTING FLUORESCENT TROFFER FIXTURE 2x2' |
| | TYPE 'X4' - EXISTING RECESSED ROUND DOWNLIGHT FIXTURE |
| | EXISTING EXIT SIGN TO BE REMOVED |
| | EXISTING FIXTURE TO BE REMOVED |
| | EXISTING FIXTURE TO BE REMAINED |

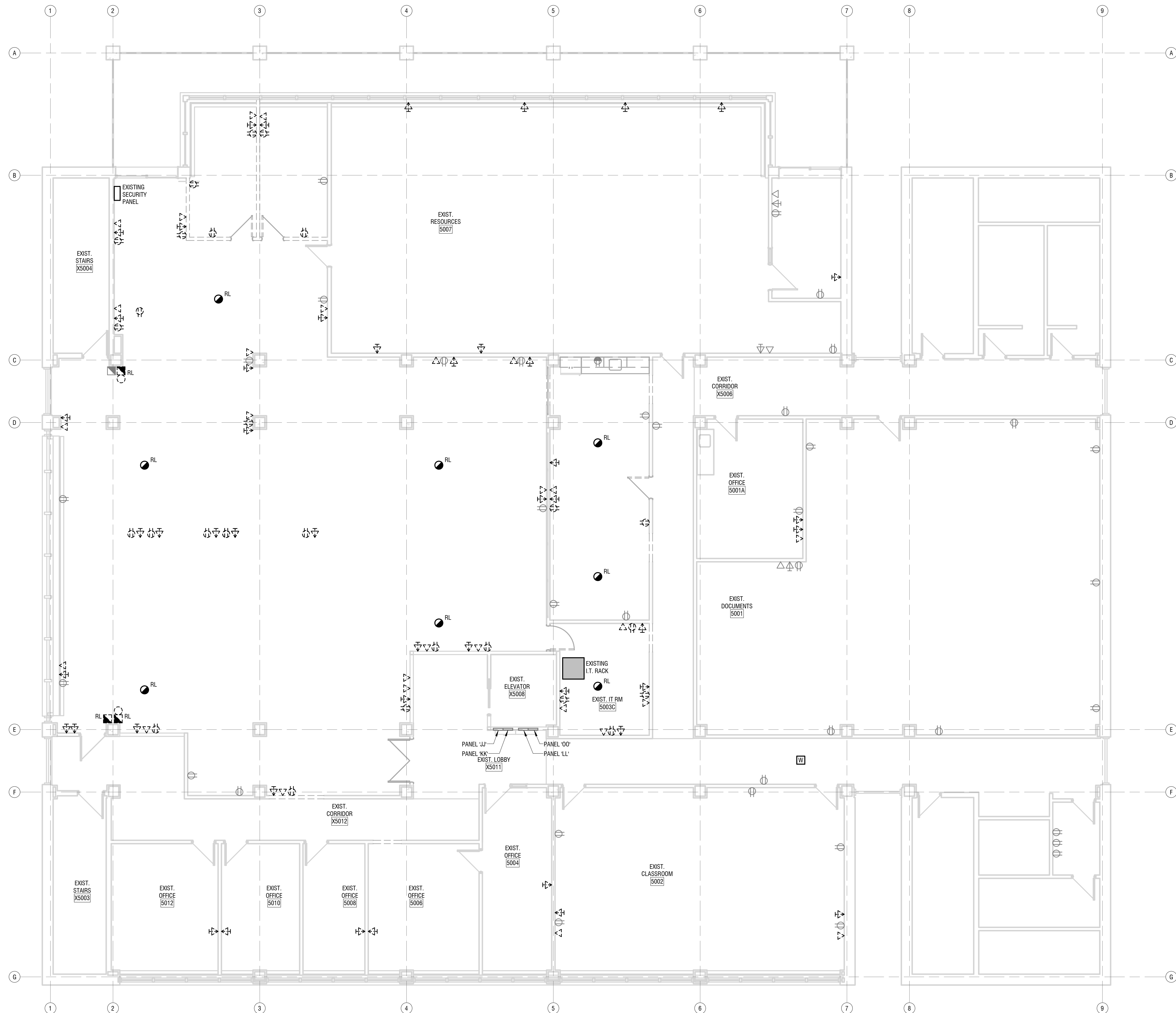


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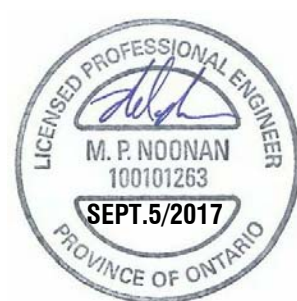


A.G. Engineering
Thunder Bay Inc.
1111 E. Victoria Ave., 2nd Flr
Thunder Bay, ON, P7C 1B7
Phone : (807) 622-3654
Fax: (807) 622-3633

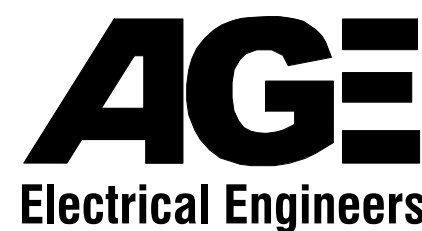
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| DRAWING TITLE Identification Legends & Specifications | DATE ISSUED: Sept 2017 | DRAWN BY: GAP |
| | PROJECT No. A101-17-006 | APPROVED BY: MPN |
| | DWG No. E1 | REV. 1 |



POWER & SYSTEMS DEMOLITION LAYOUT
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A.G. Engineering
Thunder Bay Inc.
1111 E. Victoria Ave., 2nd Flr
Thunder Bay, ON, P7C 1B7
Phone : (807) 622-3654
Fax: (807) 622-3633

PROJECT TITLE
Lakehead University - Chancellor Peterson Library
Fifth Floor - Teacher's Commons Renovations
955 Oliver Road, Thunder Bay, ON
DRAWING TITLE
Power & Systems Data Demolition Layout

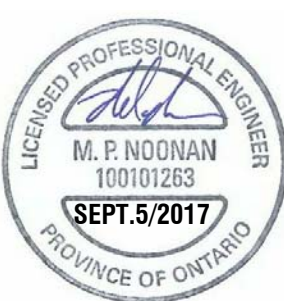
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| DATE ISSUED: Sept 2017 | DRAWN BY: GAP |
| PROJECT No. A101-17-006 | APPROVED BY: MPN |
| DWG No. E2 | REV. 1 |



CABLE ROUTING NOTES

1. POWER AND DATA CABLEING FOR MEETING ROOM 5003H FLOOR BOX TO BE ROUTED FROM PANELS AND LAN ROOM VIA FOURTH FLOOR CEILING SPACE. PROVIDE CONDUIT AND JUNCTION BOXES AS REQUIRED. ALL WORK ON FOURTH FLOOR TO BE DONE IN OFF HOURS, REFER TO ARCHITECTURAL SPECIFICATIONS. PROVIDE PROPER FIRE STOPPING FOR ALL FLOOR PENETRATIONS.
2. COORDINATE EXACT LOCATION OF MEETING ROOM 5003H FLOOR BOX WITH FURNITURE INSTALLER AND ARCHITECTURAL TRADES TO ENSURE FLOOR BOX IS PROPERLY LOCATED TO ACCESS THE MEETING TABLE RACEWAY.
3. POWER AND DATA CABLEING TO HALF-HEIGHT WALL FOR CONNECTION TO DEVICES AND SYSTEMS FURNITURE TO BE ROUTED FROM PANELS AND LAN ROOM VIA FOURTH FLOOR CEILING SPACE. PROVIDE CONDUIT AND JUNCTION BOXES AS REQUIRED. ALL WORK ON FOURTH FLOOR TO BE DONE IN OFF HOURS, REFER TO ARCHITECTURAL SPECIFICATIONS. HALF-HEIGHT WALL IS NARROW, AND CAN ONLY ALLOW FOR A MAXIMUM 3" DIAMETER HOLE FROM FOURTH FLOOR. COORDINATE EXACT LOCATION OF FLOOR PENETRATIONS WITH ARCHITECTURAL. PROVIDE PROPER FIRE STOPPING FOR ALL FLOOR PENETRATIONS.
4. WHIP CONNECTION TO SYSTEM FURNITURE FROM HALF-HEIGHT WALL. FIELD LOCATE JUNCTION BOX. REFER TO MANUFACTURER'S LITERATURE. COORDINATE WITH SYSTEM FURNITURE INSTALLER.
5. WHIP CONNECTION TO SYSTEM FURNITURE FROM COLUMN. FIELD LOCATE JUNCTION BOX. REFER TO MANUFACTURER'S LITERATURE. COORDINATE WITH SYSTEM FURNITURE INSTALLER.

NEW POWER & SYSTEMS LAYOUT
SCALE: 1:75



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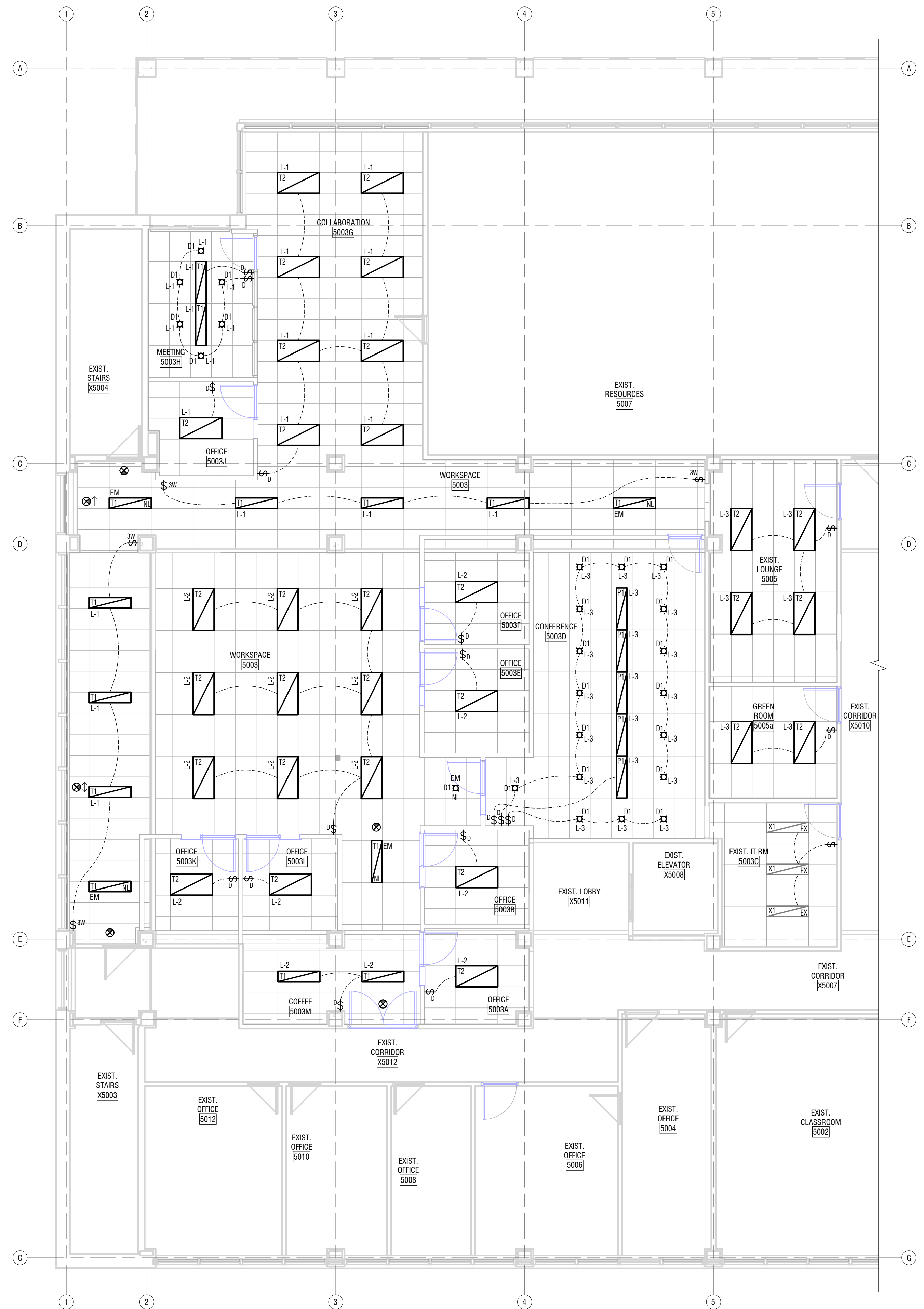
A.G. Engineering
Thunder Bay Inc.
1111 E. Victoria Ave., 2nd Flr
Thunder Bay, ON, P7C 1B7
Phone : (807) 622-3654
Fax: (807) 622-3633

PROJECT TITLE
Lakehead University - Chancellor Peterson Library
Fifth Floor - Teacher's Commons Renovations
955 Oliver Road, Thunder Bay, ON
DRAWING TITLE
New Power & Systems Layout

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LIGHTING DEMOLITION LAYOUT
SCALE: 1:75



NEW LIGHTING LAYOUT
SCALE: 1:75



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AGE
Electrical Engineers

A.G. Engineering
Thunder Bay Inc.
1111 E. Victoria Ave., 2nd Flr
Thunder Bay, ON, P7C 1B7
Phone : (807) 622-3654
Fax: (807) 622-3633

PROJECT TITLE
Lakehead University - Chancellor Peterson Library
Fifth Floor - Teacher's Commons Renovations
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DRAWING TITLE
Lighting Demolition & New Layouts

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