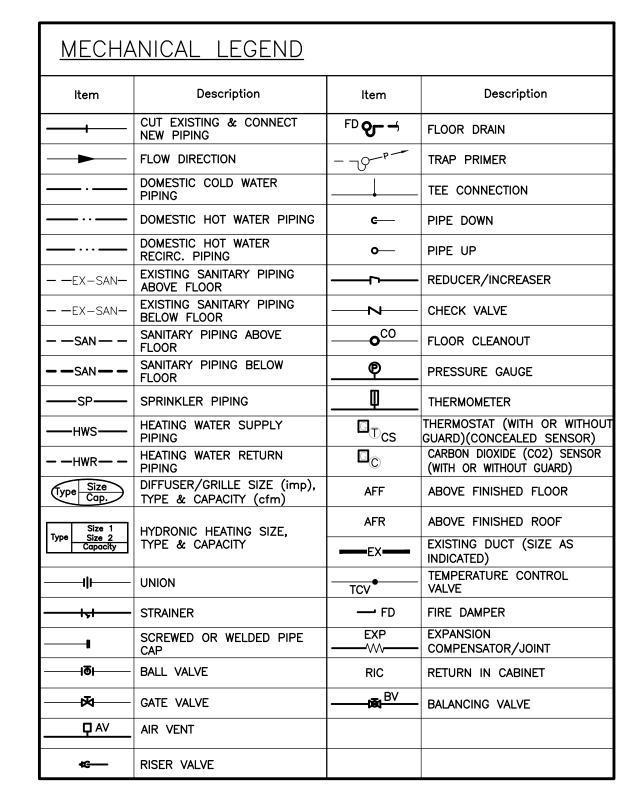


GROUND FLOOR PLAN

KEY PLAN SCALE: N.T.S.

| GRILLE SCHEDULE | | | | | | | |
|-----------------|------------------------|----------------------|---------------|---|--|--|--|
| ltem | Туре | Manufacturer & Model | Finish | Remarks | | | |
| R1 | CEILING RETURN/EXHAUST | KRUEGER S580 | BRITISH WHITE | ALUMINUM, C/W SCREWED FASTENING, 1/2" BLADE SPACING, FIXED DEFLECTION | | | |
| | | | | | | | |
| | | | | | | | |

| FAN SCHEDULE | | | | | | | | | |
|--------------|--------------------------------|--------------------|-------------------------|------------------------|----------------------|----------|---------------|---------|--|
| Item | Туре | Service | Exho Capacity cfm | oust Air Size hp | Data SP in. wc | Voltage | Manufacturer | Model | Remarks |
| EF-6 | INLINE DUCT MOUNTED EXHAUST | GENERAL EXHAUST | 2000 | 1/2 | 0.50 | 120/1/60 | PENN BARRY | SX115Q1 | C/W VIBRATION ISOLATION HANGERS, FACTORY MOUNTED SPEED CONTROLLER, MOTOR GUARD. DVR BY BAS CONTRACTOR. |
| | | | | | | | | | |
| | | | | | | | | | |



GENERAL NOTES

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PREPARED SPECIFICATION.
- UPON COMPLETION OF THE PROJECT OR UPON COMPLETION OF EACH INDIVIDUAL PHASE OF THE PROJECT THE CONTRACTORS SHALL PROVIDE THE FOLLOWING CERTIFICATES BEFORE CONFORMANCE LETTERS ARE ISSUED BY THE CONSULTANT: - POTABLE WATER TEST (SEE SPEC 22 11 16 PART 3)
- FIRE PROTECTION ENGINEER'S INSPECTION/CONFORMANCE LETTER - NFPA-13 SPRINKLER CONTRACTOR'S MATERIAL & TEST CERTIFICATE.

ALL CERTIFICATES ARE TO BE SUBMITTED TOGETHER IN A SINGLE PACKAGE.



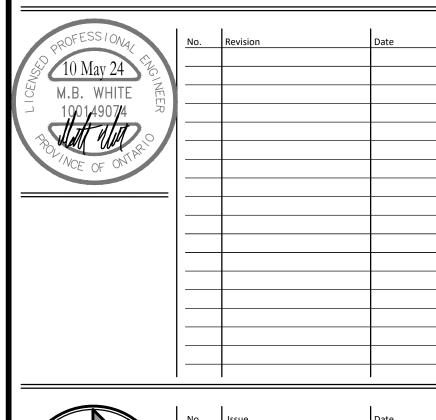
55 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Website: deiassociates.ca Project Number: 23305

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| | No. | Issue | Date |
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| Cotoot X | 1 | Issued for Permit/Tender | April 2, 2024 |
| | 2 | Issued for Construction | May 10, 202 |
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WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3 drawing KEY PLAN, LEGEND & SCHEDULES

AS NOTED

23013 - WRDSB TAIT ST CEILINGS

architects

416 613 5880 www.ward99architects.com

ward99 architects inc. Vaughan ON L4H 0J2 info@ward99architects.com

| PLL | <u>imbing fixtui</u> | RE SCHEDULE | | | | | | |
|----------|---|---------------------|--|---|---|--|--|---|
| <u> </u> | T | Connection Sizes | | Fixture | | Trim | | Accessories |
| Item | Туре | HW CW TW Drain Vent | Acceptable Manufacturer | Fixture Description | Acceptable Manufacture | Trim Description | Acceptable Manufacturer | Accessory Description |
| WC-1 | WATER CLOSET FLUSH VALVE (HANDS-FREE) | | AMERICAN STANDARD MADERA 3461.001 KOHLER HIGHCREST ZURN | VITREOUS CHINA, SIPHON JET, ELONGATED RIM, TOP SPUD FOR FLUSH VALVE, BOLT CAP, BOTTOM OUTLET, FLOOR-MOUNTED, 10" OR 12" ROUGH-IN, MIN 2" TRAP WAY, MAXIMUM 6 litres (1.6 gal) PER FLUSH. | , DELTA 81T201—HWA MOEN COMMERCIAL SLOAN | EXPOSED, POLISHED CHROME PLATTED, DIAPHRAGM TYPE FLUSH VALVE WITH 25MM (1") SCREWDRIVER ANGLE STOP, MOTORIZED ACTUATOR, AUTOMATIC SENSOR WITH MANUAL PUSH BUTTON OVERRIDE, VACUUM BREAKER ADJUSTABLE TAIL PIECE, RECESSED WALL MOUNTED JUNCTION BOX, FLUSH CONNECTION & COUPLING FOR 40MM (1 1/2") TOP SPUD, WALL AND SPUD ESCUTCHEINS. HARDWIRED OPERATED POWER CONVERTOR, SENSOR BOX C/W COVER, VANDAL RESISTANT SCREWS, FLUSH CYCLE SET FOR 6.0 LITRES (1.6 GAL) PER FLUSH. | SEAT: CENTOCO AM500STSCCSS BEMIS | SEAT: BLACK, ELONGATED, OPEN FRONT, LESS COVER, MOLDED SOLID ANTIMICROBIAL PLASTIC, STAINLESS STEEL CHECK HINGES, STAINLESS STEEL OR SOLID BRASS INSERT POST. MIN. 1000 MAP PERFORMANCE. |
| WC-2 | BARRIER FREE WATER CLOSET FLUSH VALVE, 16" HIGH (HANDS-FREE) | | AMERICAN STANDARD MADERA 3043.001 KOHLER HIGHCREST K-4302 ZURN | BARRIER FREE, 16" TALL TO RIM, VITREOUS CHINA, SIPHON JET, ELONGATED RIM, TOP SPUD FOR FLUSH VALVE, BOLT CAP, BOTTOM OUTLET, FLOOR-MOUNTED, 10" OR 12" ROUGH-IN, MIN 2" TRAP WAY, MAXIMUM 6 litres (1.6 gal) PER FLUSH. | DELTA 81T201-WMSHWA MOEN COMMERCIAL SLOAN | EXPOSED, POLISHED CHROME PLATTED, DIAPHRAGM TYPE FLUSH VALVE WITH 25MM (1") SCREWDRIVER ANGLE STOP, MOTORIZED ACTUATOR, AUTOMATIC SENSOR WITH MANUAL PUSH BUTTON OVERRIDE, VACUUM BREAKER ADJUSTABLE TAIL PIECE, AUTOMATIC 8 HR COURTESY FLUSH, RECESSED WALL MOUNTED SENSOR BOX, FLUSH CONNECTION & COUPLING FOR 40MM (1 1/2") TOP SPUD, WALL AND SPUD ESCUTCHEINS. HARDWIRED OPERATED POWER CONVERTOR, SENSOR BOX C/W COVER, VANDAL RESISTANT SCREWS, FLUSH CYCLE SET FOR 6.0 LITRES (1.6 GAL) PER FLUSH (NON-ADJUSTABLE). | SEAT: CENTOCO AM500STS BEMIS | SEAT: BLACK, ELONGATED, OPEN FRONT LESS COVER, MOLDED SOLID ANTIMICROBIAL PLASTIC, STAINLESS STEEL CHECK HINGES, STAINLESS STEEL OR SOLID BRASS INSERT POST. REFER TO ARCHITECTURAL DOCUMENTS FOR VERTICAL BACKREST. MIN. 1000 MAP PERFORMANCE. |
| U-1 | URINAL FLUSH VALVE, HANDS FREE | | AMERICAN STANDARD WASHBROOK 6590.005 KOHLER BARDON K-4904-ET ZURN Z5750 | VITREOUS CHINA, WASHOUT TYPE, INTEGRAL FLUSHING RIM, EXTENDED SHIELDS, INTEGRAL TRAP, BACK OUTLET, WALL-MOUNTED, TOP SUPPLY SPUD, MIN 2" TRAP WAY, MAXIMUM 1.9 litres (0.5 gal) PER FLUSH. C/W FLOOR MOUNTED CARRIER | DELTA 81T231-WMSHW SLOAN 186 ES-S-0.5 MOEN COMMERCIAL | POLISHED CHROME PLATED VANDAL RESISTANT METAL COVER WITH HARDWIRED WALLMOUNTED SENSOR, RIGHT OR LEFT—HAND SUPPLY INSTALLATION, AUTOMATIC OPERATION HARDWIRE POWERED SENSOR. INFRARED SENSOR TO HAVE A RANGE ADJUSTMENT OF 305MM — 711MM (12"— 28") AND ELECTRONIC MANUAL OVERRIDE BUTTON. FLUSH CYCLE SET .9 LITRE (0.50 GAL.) | | |
| WF-1 | B.F. WASH FOUNTAIN | 1/2 1/2 1 1/2 1 1/4 | BRADLEY SENTRY SN2004-A-IR-STD-TMA-NSD -BS | BARRIER FREE SEMI-CIRCULAR STAINLESS STEEL BOWL. ALL EXPOSED COMPONENTS TO BE STAINLESS STEEL. SUITABLE FOR FOUR (4) USERS. STANDARD PEDESTAL HEIGHT. C/W BACKSPLASH. TRIM: INFRARED CONTROLLED, AT EACH INDIVIDUAL USER, MOLDED SPRAYHEAD, STOP VALVES, HORIZONTAL SWING CHECK VALVES, THERMOSTATIC MIXING VALVE PRESET AT 40°C. NO SOAP DISPENSER. SUITABLE FOR 120 V/1/60 COMPLETE WITH CLASS II 120/24V PLUG IN TRANSFORMER. COLOUR BY ARCHITECT. | | | | |
| FD-1 | FLOOR DRAIN | | ZURN ZN415B MIFAB F1100-C CONTOUR C2000-R6 WATTS FD-100-C-A | GENERAL DUTY CAST IRON BODY, ADJUSTABLE HEAD, NICKEL BRONZE STRAINER, INTEGRAL SEEPAGE PAN, AND CLAMPING COLLAR. USE SQUARE STRAINER IN TILED AREAS AND ROUND STRAINER ELSEWHERE. C/W TRAP PRIMER | | | | |
| | | | | | | | | |



55 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Website: deiassociates.ca Project Number: 23305

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| -ROFESS/ONA | No. | Revision | Date |
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| 10 May 24 M.B. WHITE 10014907/4 | | | |
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| | 1 | Issued for Permit/Tender | April 2, 2024 |
| | 2 | Issued for Construction | May 10, 2024 |
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WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3 drawing SCHEDULES

drawing scale
AS NOTED

23013 - WRDSB TAIT ST CEILINGS

architects

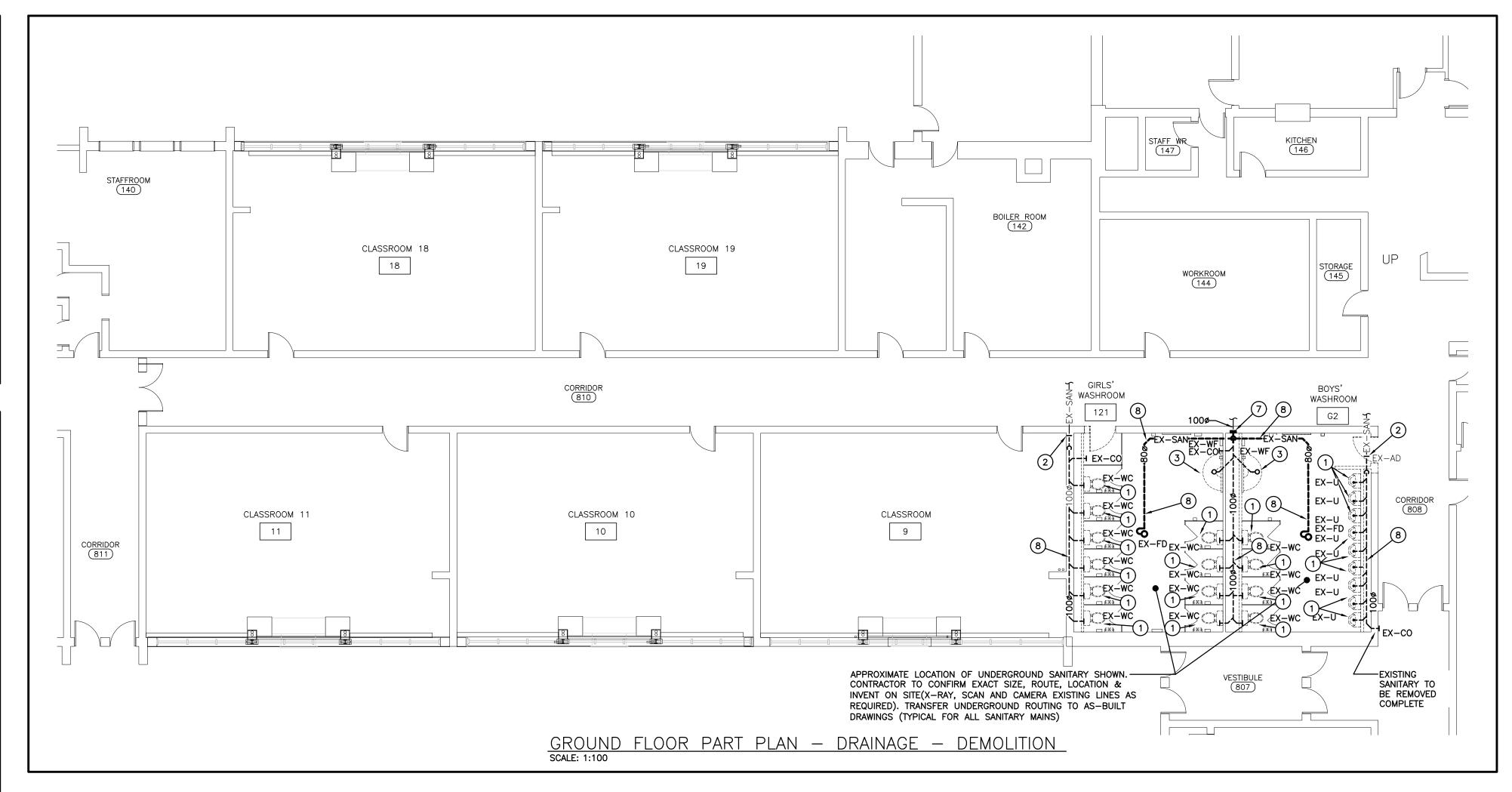
ward99 architects inc.
7500 Highway 27, Unit 27B
Vaughan ON L4H 0J2
info@ward99architects.com
416 613 5880 www.ward99architects.com

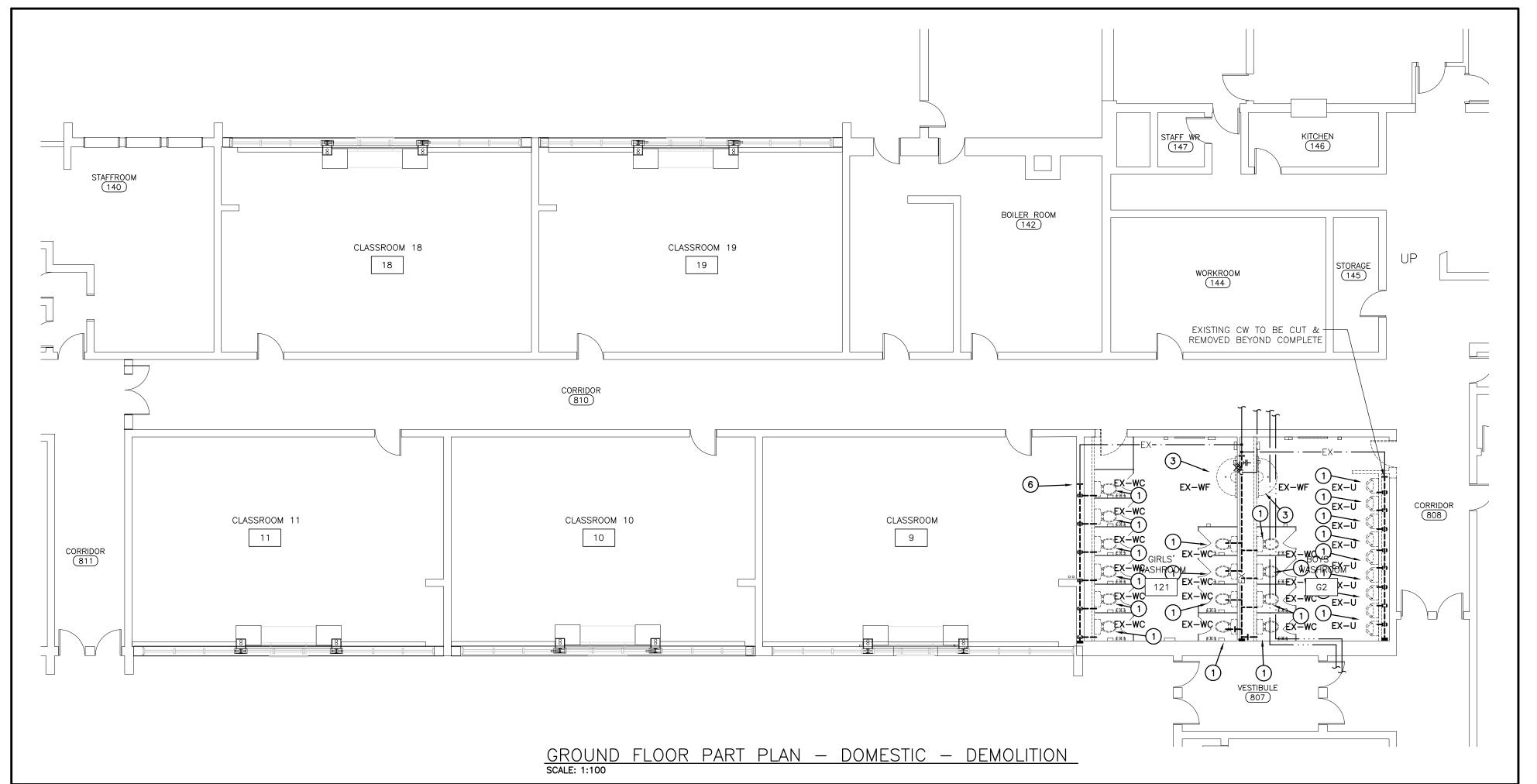
GENERAL DEMOLITION NOTES

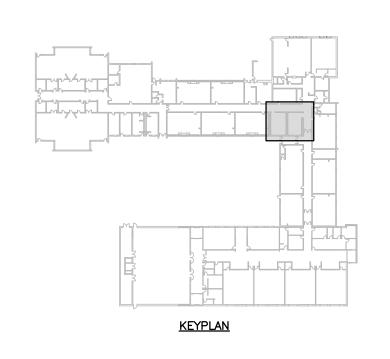
- EXISTING MECHANICAL ITEMS NOT SHOWN SHALL REMAIN UNLESS NOTED
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- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ON SITE ALL LOCATIONS AND SIZES OF ALL SERVICES & EQUIPMENT PRIOR TO THE COMMENCEMENT OF WORK.
- ALL OPENINGS THAT RESULT FROM THE REMOVAL OF EQUIPMENT OR SERVICES SHALL BE NEATLY PATCHED WITH SUITABLE NEW MATERIALS TO SUIT EXISTING CONSTRUCTION.
- PLUMBING VENTS ARE NOT INDICATED OR IDENTIFIED. REMOVE ALL REDUNDANT VENTS WHILE MAINTAINING INTEGRITY OF EXISTING SYSTEMS TO REMAIN.
- REMOVAL OF EXISTING PIPING, OR DUCT SYSTEMS INCLUDES REMOVAL OF ALL HANGERS, INSULATION, FITTINGS, ETC.
- MAINTAIN INTEGRITY OF EXISTING SYSTEMS THAT ARE TO REMAIN OR BE MODIFIED.
- INSTALL NEW SYSTEM OR SERVICES WHERE REQUIRED TO MAINTAIN SYSTEM OPERATION PRIOR TO DEMOLITION OF EXISTING SERVICES.
- THIS CONTRACTOR IS TO REMOVE & REPLACE CEILINGS AS REQUIRED FOR REMOVAL/REPLACEMENT OF SERVICES.
- CONTRACTOR TO CARRY IN THEIR PRICING TO DRAIN SYSTEM OR FREEZE PIPING TO COMPLETE WORK

SPECIFIC DEMOLITION NOTES

- 1. EXISTING PLUMBING FIXTURE TO BE REMOVED COMPLETE. EXISTING SANITARY, VENTING & DOMESTIC PIPING TO BE REMOVED COMPLETE.
- 2. EXISTING SANITARY PIPING TO BE CUT & REMOVED BEYOND COMPLETE.
- EXISTING PLUMBING FIXTURE TO BE REMOVED COMPLETE. EXISTING SANITARY & VENTING TO BE CUT & CAPPED IN CONCEALED LOCATION AND DOMESTIC PIPING TO BE REMOVED COMPLETE.
- 4. EXISTING THERMOSTAT & CONTROL WIRING/TUBING TO REMOVED COMPLETE/ BACK TO SOURCE. SOLDER/CRIMP IN CONCEALED LOCATIONS.
- 5. EXISTING GRILLE TO BE REMOVED COMPLETE.
- 6. EXISTING DOMESTIC PIPING TO BE CUT & REMOVED BEYOND COMPLETE.
- 7. EXISTING SANITARY PIPING TO BE CUT & CAPPED AND REMOVED BEYOND COMPLETE.
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- EXISTING ISOLATION & BALANCING VALVES TO BE REMOVED COMPLETE AND REPLACED WITH NEW. EXISTING THERMOSTAT/CONTROL WIRING TO BE REPLACED WITH NEW.
- 10. EXISTING DUCTWORK TO BE REMOVED COMPLETE.
- 11. EXISTING DUCTWORK TO BE CUT AND CAPPED & REMOVED BEYOND COMPLETE.
- 12. EXISTING EXHAUST FAN TO BE REVISED/REPLACED TO SUIT REMAINING/EXISTING EXHAUST AIRFLOW CAPACITY. RE—BALANCE EXISTING GRILLES TO SUIT FAN CAPACITY.
- 13. EXISTING HEATER AND ASSOCIATED CONTROLS & WIRING TO BE REMOVED COMPLETE. CUT AND CAP EXISTING HWS & HWR PIPING AT MAIN.









Consulting Engineers

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Phone: 519-725-3555
Website: deiassociates.ca
Project Number: 23305

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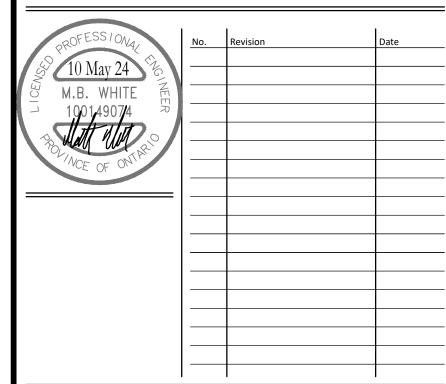
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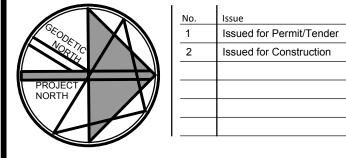
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WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3 drawing GROUND FLOOR PART PLANS - DEMOLITION - DR.

drawing scale
AS NOTED

23013 - WRDSB TAIT ST CEILINGS

ward99 architects

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7500 Highway 27, Unit 27B
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April 2, 2024

May 10, 202

GENERAL DEMOLITION NOTES

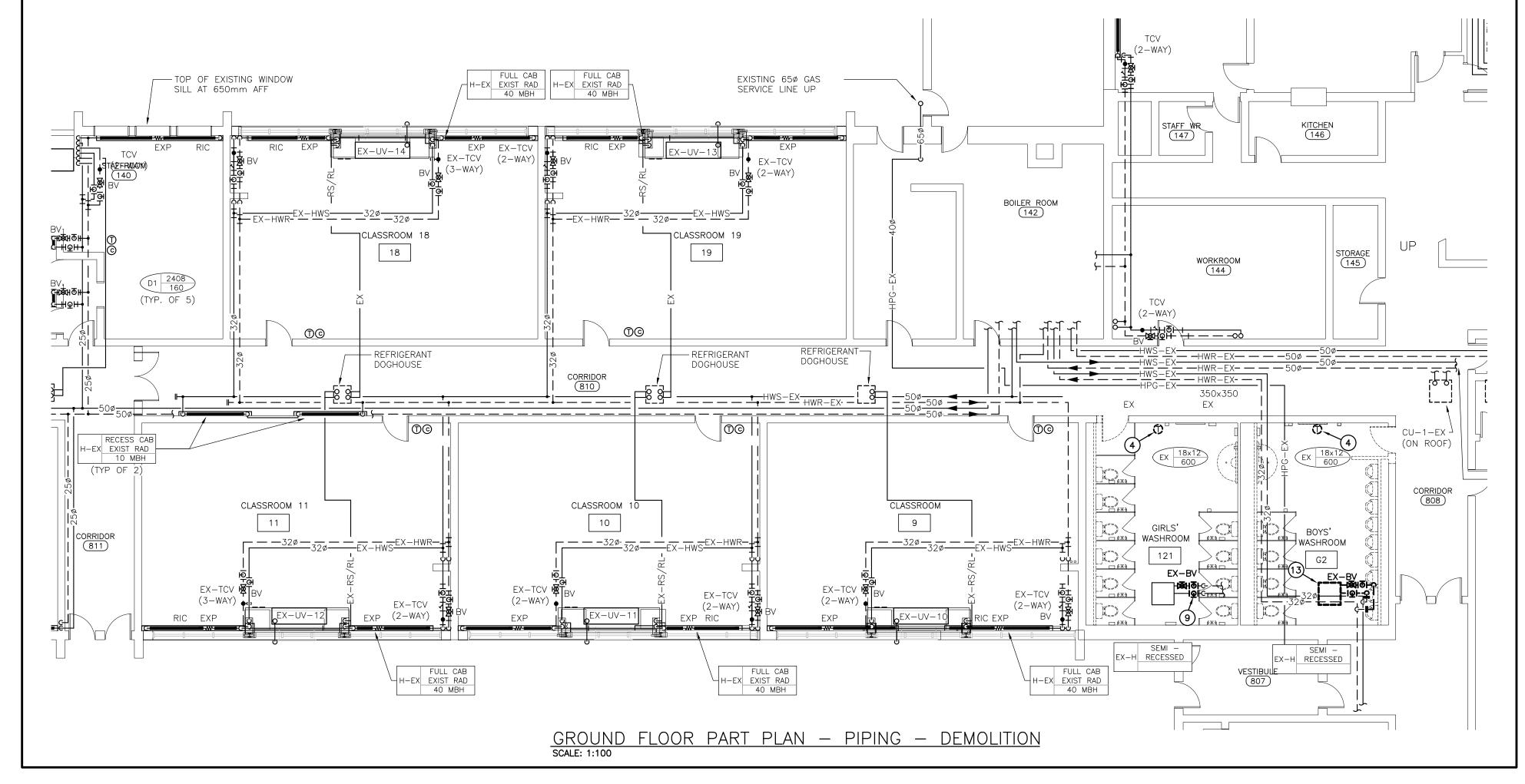
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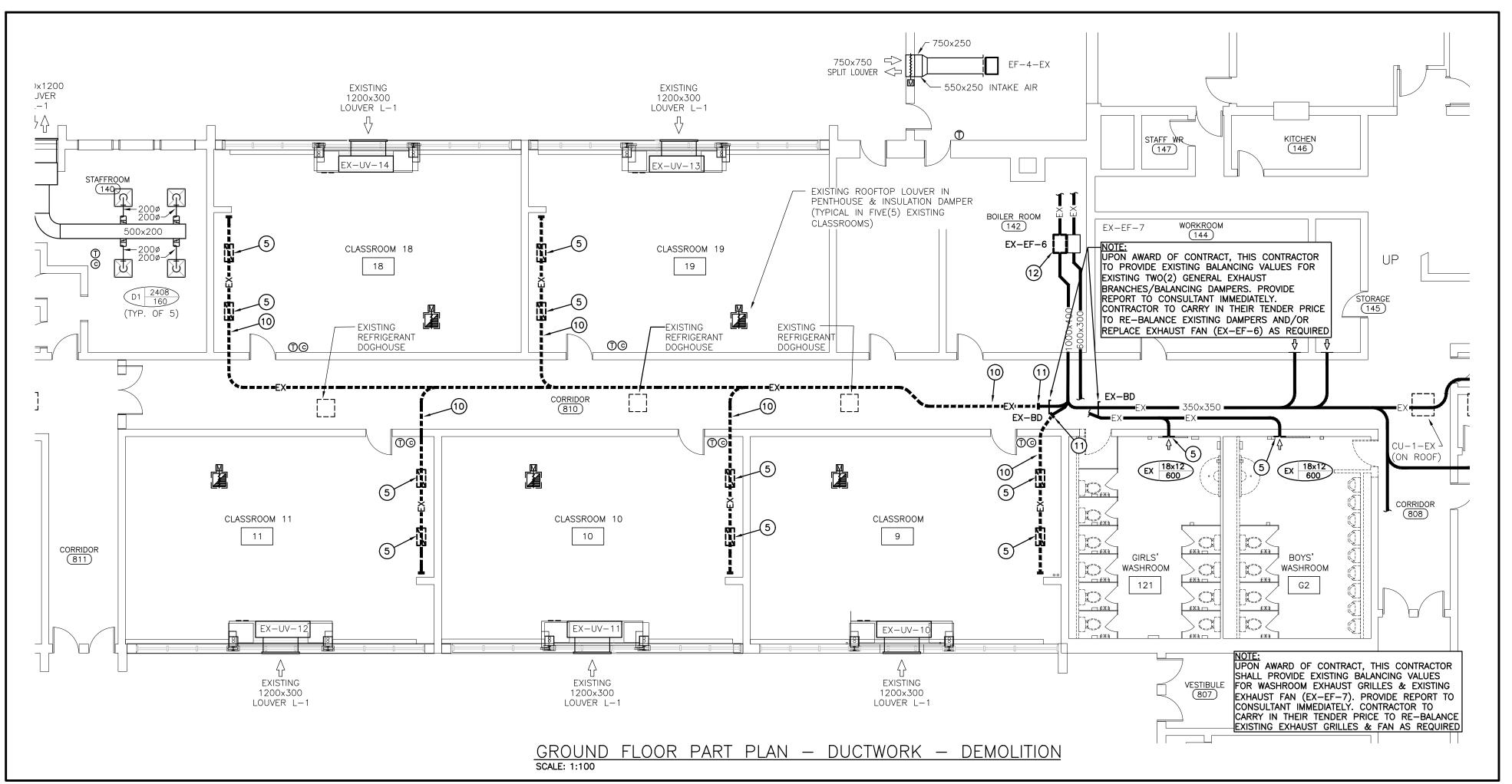
SPECIFIC DEMOLITION NOTES

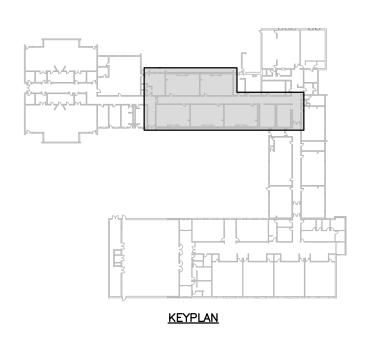
MODIFIED.

- 1. EXISTING PLUMBING FIXTURE TO BE REMOVED COMPLETE. EXISTING SANITARY, VENTING & DOMESTIC PIPING TO BE REMOVED COMPLETE.
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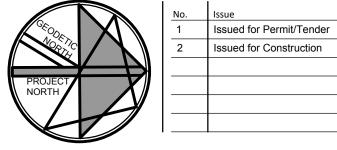
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WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD

184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

drawing
GROUND FLOOR PART PLANS - DEMOLITION - HEATING &

drawing scale
AS NOTED
ward99 project number

23013 - WRDSB TAIT ST CEILINGS

ward99 architects

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ward99 architects inc.
7500 Highway 27, Unit 27B
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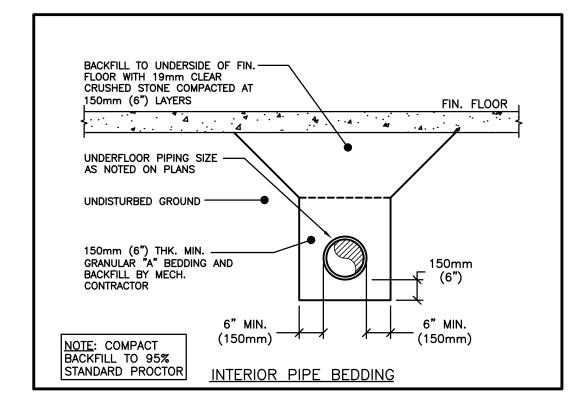
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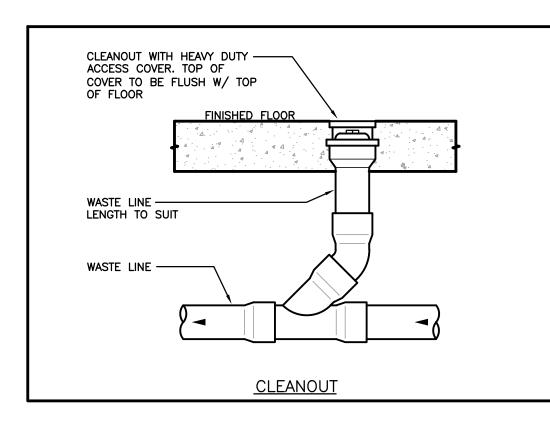
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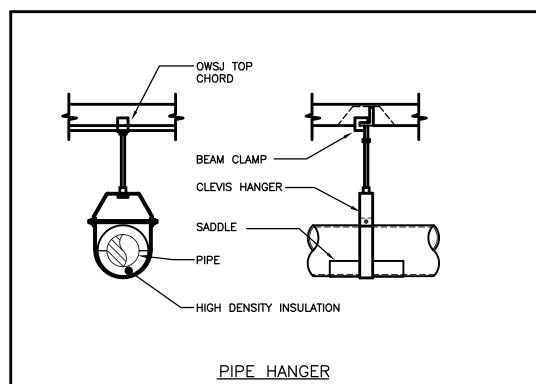
May 10, 202

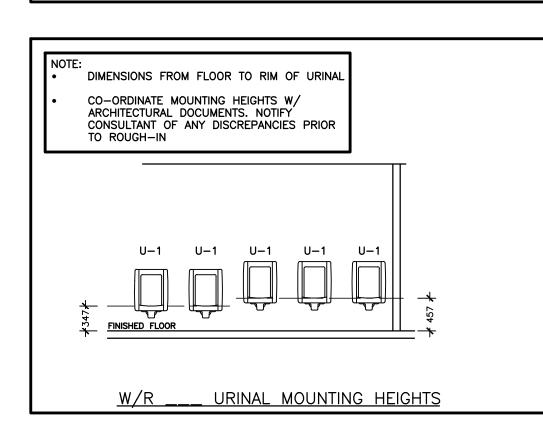


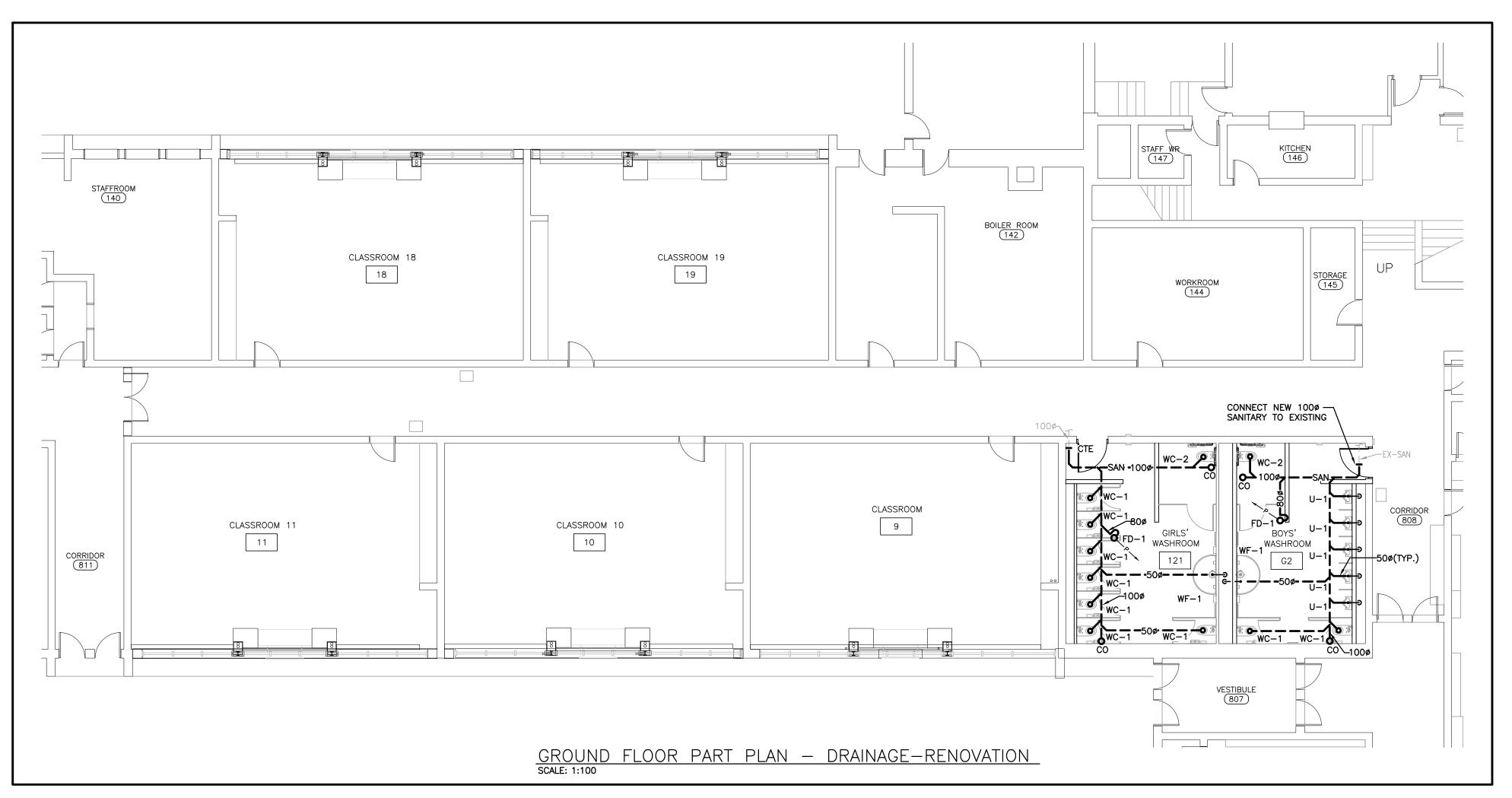
- SANITARY VENT PIPING IS NOT SHOWN. PROVIDE ALL NECESSARY VENT PIPING FROM ALL FIXTURES FOR A COMPLETE SYSTEM TO ALL LOCAL PLUMBING CODE & LOCAL AUTHORITY REQUIREMENTS, CONNECTED TO EXISTING VENTS OR NEW VENTS AS REQUIRED. CO-ORDINATE VENT LOCATION(S) WITH GENERAL CONTRACTOR. MAINTAIN MINIMUM 3700mm (12'-0") FROM ANY AIR INLET. INSTALL VENT PIPING HIGH IN JOIST SPACE.
- REFER TO ARCHITECTURAL CEILING PLANS FOR GRILLES/DIFFUSERS LOCATIONS. CO-ORDINATE FINAL LOCATION ON SITE.
- CO-ORDINATE ROUGH-IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CONTRACTOR TO CARRY IN THEIR PRICING TO DRAIN SYSTEM OR FREEZE PIPING TO COMPLETE WORK

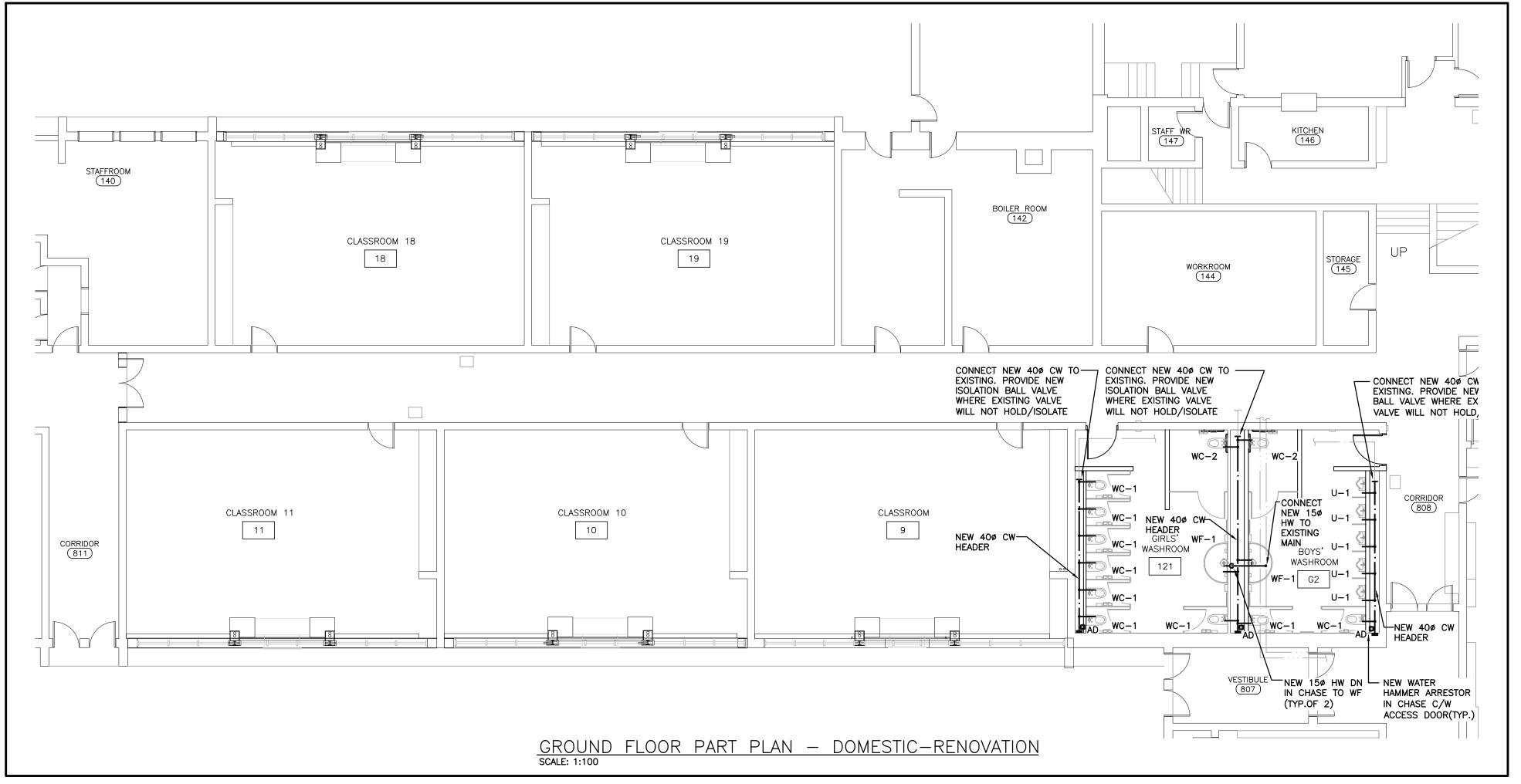


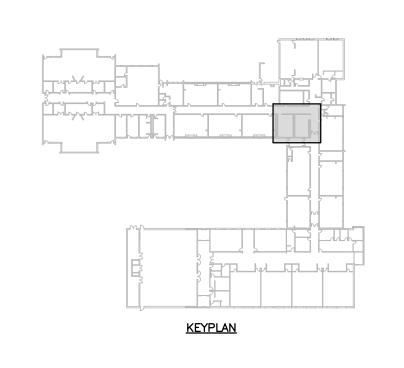














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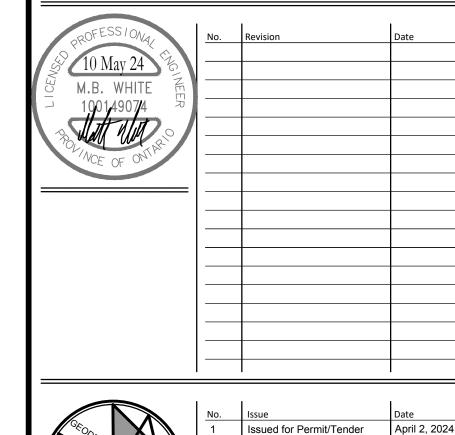
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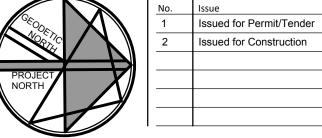
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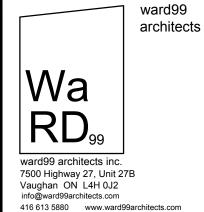


WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3 GROUND FLOOR PART PLANS - RENOVATION - DRAINAGE &

AS NOTED ward99 project number

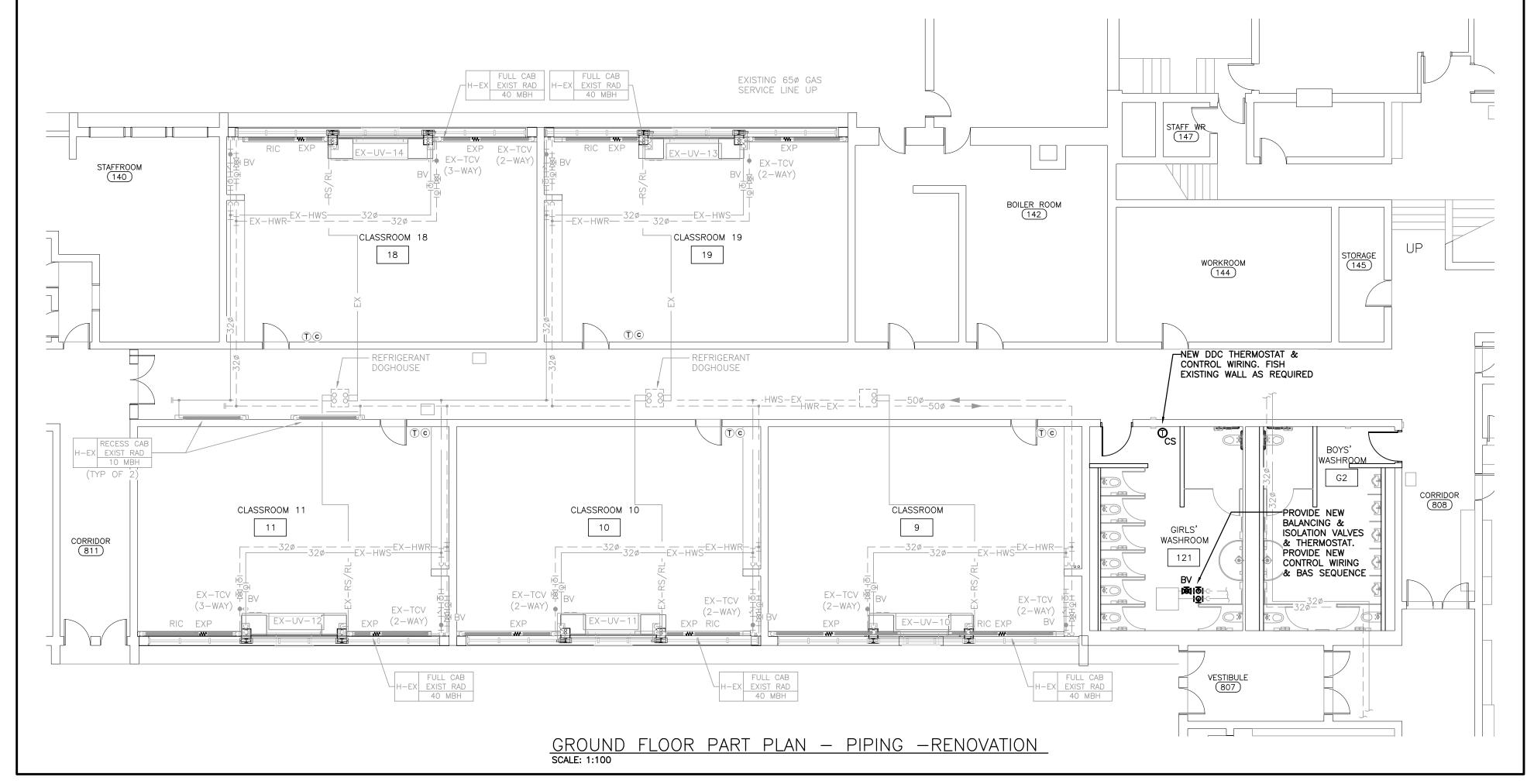
23013 - WRDSB TAIT ST CEILINGS

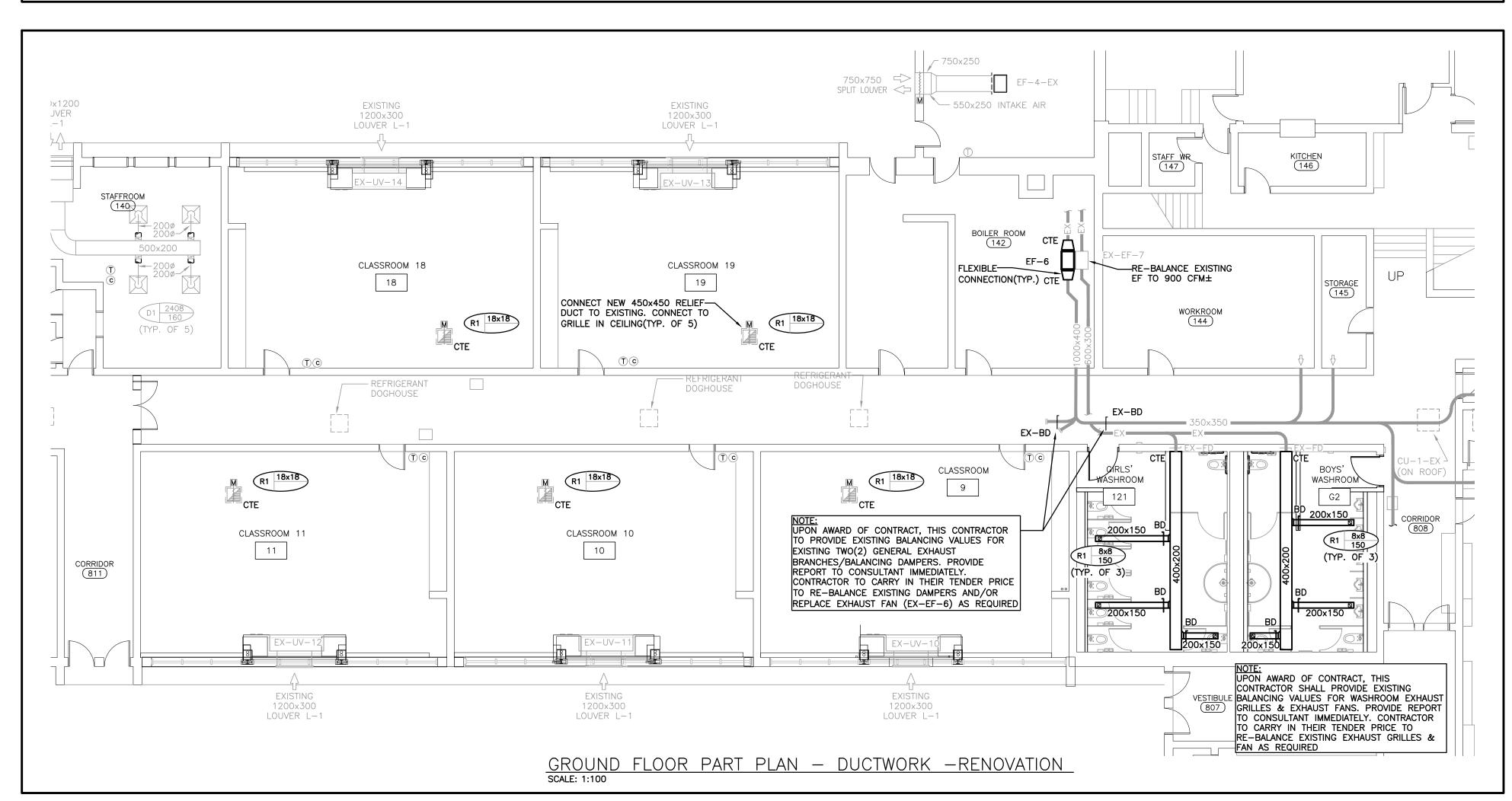


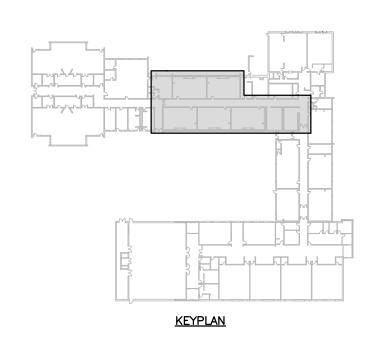
May 10, 2024



- REFER TO ARCHITECTURAL CEILING PLANS FOR GRILLES/DIFFUSERS LOCATIONS. CO—ORDINATE FINAL LOCATION ON SITE.
- CO-ORDINATE ROUGH-IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CONTRACTOR TO CARRY IN THEIR PRICING TO DRAIN SYSTEM OR FREEZE PIPING TO COMPLETE WORK









MECHANICAL | ELECTRICAL | AQUATIC

55 Northland Road, Waterloo, ON N2V 1Y8 Phone: 519-725-3555 Website: deiassociates.ca Project Number: 23305

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

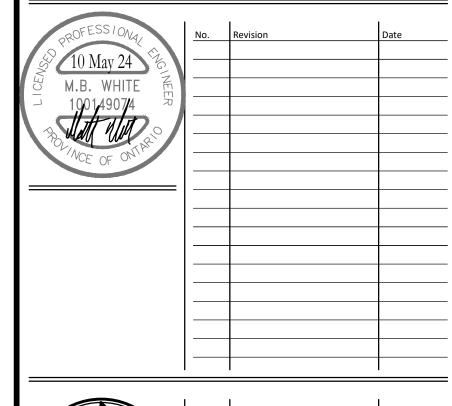
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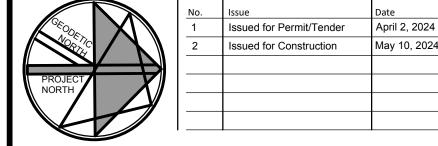
Do not scale this drawing.

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NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR
IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE

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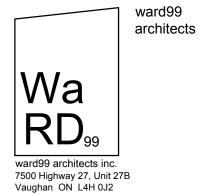
WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

drawing GROUND FLOOR PART PLANS - RENOVATION - HEATING &

drawing scale
AS NOTED
ward99 project number

23013 - WRDSB TAIT ST CEILINGS



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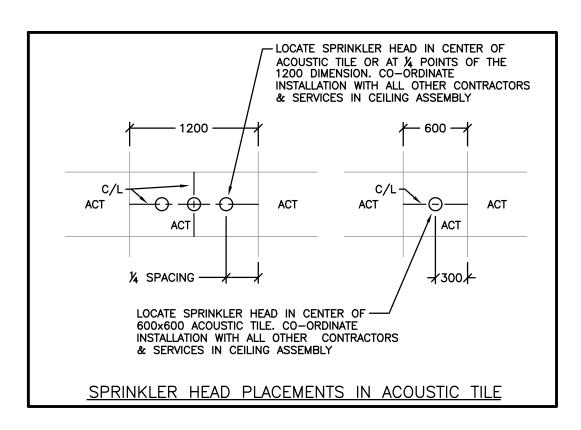
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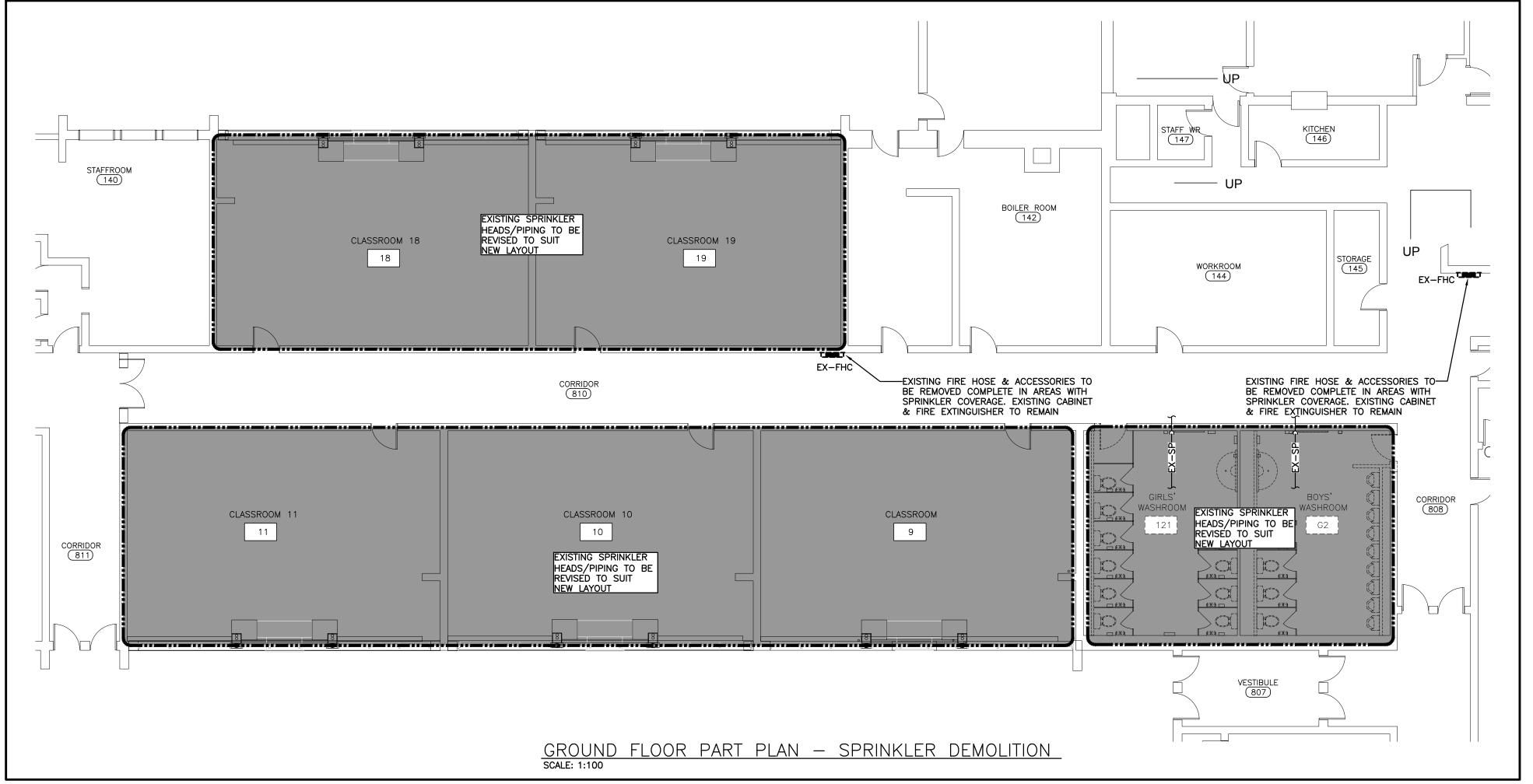
GENERAL SPRINKLER NOTES

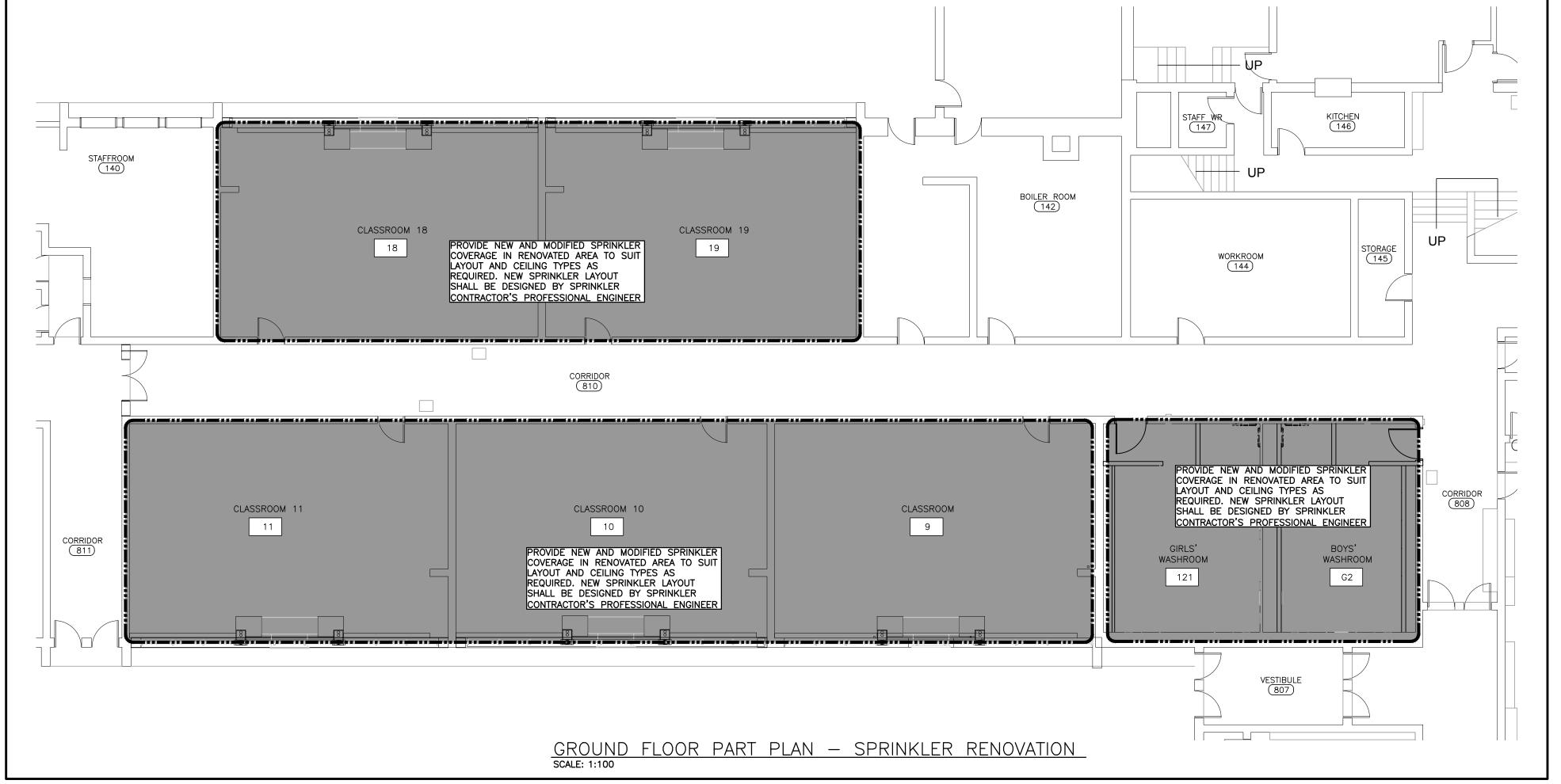
- SUBMIT PRELIMINARY DESIGN & HYDRAULIC CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER, AND MANUFACTURERS' PRODUCT SHEETS FOR SHOP DRAWING SUBMISSION AS SPECIFIED PRIOR TO COMMENCING WORK.
- ENSURE DESIGN MEETS OR EXCEEDS PRESENT NFPA 13 STANDARDS. ENSURE SPRINKLER SYSTEMS ARE INSTALLED TO NFPA 13 STANDARDS. UPON COMPLETION, SPRINKLER CONTRACTOR TO PROVIDE REPRODUCIBLE DRAWING (AT 1/8"-1'-0" SCALE) AND HYDRAULIC CALCULATIONS OF AS-BUILT CONDITION.
- SPRINKLER CONTRACTOR'S 'PROFESSIONAL ENGINEER' TO PROVIDE O.B.C. AND NFPA REQUIRED INSPECTION AND CERTIFICATION.
- REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLAN.
- PROVIDE SPRINKLER HEAD TYPES AS FOLLOWS:
- •• PROVIDE UPRIGHT HEADS WITHIN 12" OF EXPOSED DECK THROUGHOUT EXPOSED STRUCTURE AREAS. PROVIDE HEAD GUARDS IN AREAS WHERE HEADS ARE BELOW 8'-0" & STORAGE ROOMS. •• PROVIDE CONCEALED PENDENT HEADS IN CEILINGS OF UNSUPERVISED
- CONSULTANT. •• PROVIDE SEMI-RECESSED HEADS IN ALL OTHER CEILING AREAS (CLASSROOMS, OFFICES, SEMINAR RMs, etc.). HEAD & ESCUTCHEON FINISH SELECTED BY CONSULTANT.

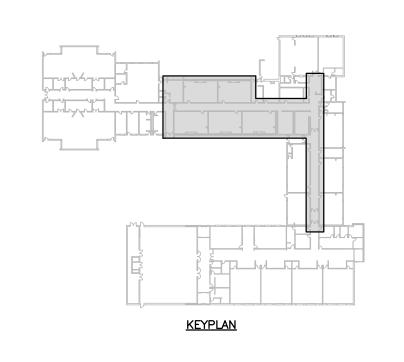
AREAS (CORRIDORS, WASHROOMS). COVER PLATE FINISH SELECTED BY

- SPRINKLER HEADS TO BE IN CENTRELINE OF CEILING TILE. MINIMUM 150mm (6") FROM EDGE.
- FINAL NUMBER AND LOCATION OF SPRINKLER HEADS TO BE DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS AND APPROVED DRAWINGS.
- SPRINKLER PIPING TO BE COORDINATED WITH OTHER SERVICES PRIOR TO INSTALLATION
- SPRINKLER CONTRACTOR TO VISIT SITE AND EVALUATE EXISTING CONDITIONS PRIOR TO TENDER CLOSING. INCLUDE ALL MODIFICATIONS IN TENDER
- EXISTING SPRINKLER SYSTEM TO BE RENOVATED/MODIFIED TO SUIT NEW LAYOUT. CONTRACTOR IS RESPONSIBLE TO SURVEY EXISTING SYSTEMS FOR CREATION OF SHOP DWGS.
- COMMISSIONING OF INTEGRATED TESTING OF FIRE PROTECTION AND LIFE
 - SPRINKLER CONTRACTOR TO PROVIDE SERVICES WITH THE FIRE COMMISSIONING AGENT (FCA) TO MEET THEIR REQUIREMENTS OF ADMINISTRATION, VERIFICATION, AND FINAL SIGNOFF TO THE LOCAL AUTHORITIES AND CONSULTANT. THE FCA IS BEING RETAINED BY THE ELECTRICAL CONTRACTOR, HOWEVER, THIS CONTRACTOR'S WORK TO SATISFY THE FCA REQUIREMENTS SHALL BE INCLUDED IN THE TENDER
 - •• CHECK/TEST: MOVEMENT OF ALL VALVES, CREATE WATER FLOW AT ALL DÉVICES TO VERIFY DETECTION AT FIRE ALARM PANEL.
- •• PERFORM ALL WORK IN ACCORDANCE WITH NFPA 13. •• RETURN SPRINKLER SYSTEM TO NORMAL OPERATION ON COMPLETION OF TESTING











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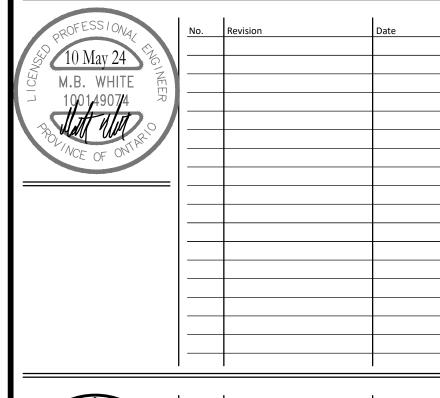
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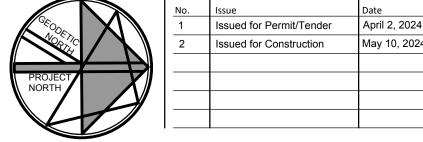
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may be required. Provide the same to meet the required

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WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

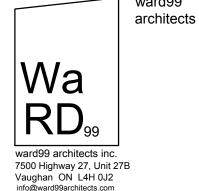
WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3 GROUND FLOOR PART PLANS - SPRINKLER DEMOLITION

AND RENOVATION AS NOTED

ward99 project number

23013 - WRDSB TAIT ST CEILINGS

416 613 5880 www.ward99architects.com



MECHANICAL SPECIFICATION

PART A GENERAL NOTES

- . PROVIDE LABOUR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE INSTALLATION WITH QUALITY WORKMANSHIP ACCEPTABLE TO OWNER AND CONSULTANT.
- 2. OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES, AND OTHER COSTS INCURRED WITH THIS WORK. FILE ALL PLANS. OBTAIN ALL NECESSARY APPROVALS, CERTIFICATES. SUBMIT ALL FINAL CERTIFICATES TO THE CONSULTANT. COMPLY WITH RULES AND RECOMMENDATIONS OF THE BOARD OF FIRE UNDERWRITERS, THE CANADIAN GAS ASSOCIATION, THE LOCAL BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL UTILITY COMPANY AND BY-LAWS. POST BUILDING PERMIT AT SITE IN ACCORDANCE WITH O.B.C.
- 5. VISIT THE SITE BEFORE SUBMITTING TENDERS TO EVALUATE ANY SITE CONDITIONS THAT MIGHT ARISE. INCLUDE ALL SITE CONDITIONS IN TENDER. EXTRAS WILL NOT BE ACCEPTED UNLESS BELIEVED TO BE REASONABLE BY THE OWNER AND CONSULTANT.
- 4. COORDINATE WITH OTHER CONTRACTORS INSTALLING EQUIPMENT OR MATERIAL AND ARRANGE EQUIPMENT IN PROPER RELATION WITH ALL OTHER TRADES. ENSURE SYSTEMS ARE SERVICEABLE.
- 5. CUTTING AND PATCHING SHALL BE BY THE CONTRACTOR REQUIRED TO INSTALL THE SERVICE.
- 6. THE DRAWINGS ARE DIAGRAMMATIC. THE SERVICES SHALL BE INSTALLED TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF THE SPACES THROUGH WHICH THEY PASS.
- 7. PROVIDE TWO MARKED COPIES OF "AS-BUILT DRAWINGS" SHOWING THE SYSTEM AS INSTALLED.
- 8. THE MECHANICAL SYSTEMS OF THIS BUILDING MUST ACHIEVE THE ENERGY EFFICIENCY LEVELS BY CONFORMING TO ANSI/ASHRAE/IESNA 90.1 "ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS" AND CHAPTER 2 OF DIVISION 3 OF SB-10 PRESCRIPTIVE METHOD FROM THE ONTARIO BUILDING CODE.
- 9. ALL EQUIPMENT AND MATERIAL SHALL BE NEW. REPLACE ALL DAMAGED EQUIPMENT.
- 10. MATERIAL AND EQUIPMENT ARE NAMED IN THE SPECIFICATION TO ESTABLISH AN ACCEPTABLE STANDARD OF MATERIALS AND THE QUALITY OF WORKMANSHIP BY WHICH TO ADHERE.
- 11. SUBMIT SHOP DRAWINGS ELECTRONICALLY FOR ALL EQUIPMENT. THESE WILL BE REVIEWED BY THE CONSULTANT. RESUBMIT AS OFTEN AS MAY BE FOUND NECESSARY. SUBMIT ONE COMPLETE SUBMISSION INDEXED AND LABELED FOR THIS PROJECT.
- 12. PROVIDE ALL NECESSARY PROTECTION FOR FINISHED OR UNFINISHED WORK. ALL OPENINGS IN PIPES, DUCTS AND EQUIPMENT SHALL BE CAPPED TO ENSURE SERVICES ARE KEPT CLEAN WHEN NOT IN USE.
- 13. MAINTAIN INSURANCE TO FULLY PROTECT THE CONTRACTOR, OWNER AND CONSULTANT FROM ANY AND ALL CLAIMS SUCH AS UNDER THE WORKERS COMPENSATION ACT, ETC. POST PROJECT NOTIFICATION AT THE SITE IN ACCORDANCE WITH THE MINISTRY OF LABOUR
- 14. EXCAVATION AND BACK FILLING SHALL BE BY THE TRADE INSTALLING THE SERVICE. PROVIDE COMPACTED 'A' GRAVEL FOR BEDDING AND BACKFILLING AS INDICATED. REMOVE SURPLUS MATERIAL FROM SITE.
- 15. PROVIDE STRUCTURAL SUPPORTS, PLATFORMS, SUPPORTING RODS, HANGERS, INSERTS AND BRACKETS FOR EQUIPMENT AND SERVICES. DO NOT SUPPORT SERVICES FROM STEEL DECK.
- 16. INSTRUCT THE OWNER'S STAFF IN THE CARE, MAINTENANCE AND OPERATION OF THE SYSTEMS.
- 17. SUBMIT THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS IN A 3 RING BINDER LABELED FOR THE PROJECT.
- 18. REMOVE ALL PROTECTIVE COVERINGS, CLEAN AND POLISH ALL EQUIPMENT, FREE ALL OBSTRUCTIONS, CLEAN AND REPLACE ALL FILTERS WITH NEW, AND LEAVE ALL KEYS AND WRENCHES WITH THE OWNER.
- 19. ALL SURPLUS AND WASTE MATERIALS SHALL BE PROMPTLY REMOVED FROM THE PREMISES.
- 20. ALL AREAS NOT AFFECTED BY RENOVATION OR DEMOLITION SHALL REMAIN AS PRESENTLY INSTALLED UNLESS NOTED OTHERWISE.
- 21. THE OWNER WILL DECIDE WHICH ITEMS OR EQUIPMENT SLATED FOR REMOVAL THAT THEY WISH TO RETAIN AS THEIR PROPERTY AND THIS CONTRACTOR SHALL REMOVE ALL OTHER MATERIALS FROM THE PREMISES.
- 22. PROVIDE LAMICOID TAGS FOR IDENTIFICATION OF NEW EQUIPMENT ADDED.
- 23. ALL ELECTRICAL LINE AND LOW VOLTAGE WIRING WHICH IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AS SPECIFIED ELSEWHERE HEREIN SHALL BE RUN IN EMT CONDUIT TO STANDARDS OF THE ELECTRICAL DIVISION.
- 24. WARRANTY ALL MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF SYSTEM.
- 25. VIDEO RECORDING OF NEW & EXISTING UNDERGROUND SERVICES
- PRIOR TO FINAL ACCEPTANCE OF THE NEW UNDERGROUND PLUMBING SYSTEM AND PRIOR TO POURING THE FLOOR THIS CONTRACTOR SHALL RETAIN A QUALIFIED CONTRACTOR TO VIDEO TAPE THE NEW, EXISTING AND REVISED SANITARY AND STORM DRAINAGE PIPING AND BRANCH PIPING. TRANSFER ALL VIDEOTAPE INFORMATION TO DVD. THIS CONTRACTOR SHALL FLUSH THE NEW AND EXISTING STORM AND SANITARY SYSTEM TO REMOVE ALL DEBRIS PRIOR TO FINAL VIDEO TAPING OF SYSTEMS. PROVIDE 3 COPIES OF DIGITAL RECORDING ON MEMORY STICK. IDENTIFY VIDEO ROUTING ON RECORD DRAWINGS.
- 26. LOCATION OF EXISTING UNDERGROUND SERVICES THIS CONTRACTOR SHALL LOCATE EXISTING SERVICES PRIOR TO STARTING ANY WORK IN THE AFFECTED AREA. THIS CONTRACTOR SHALL USE A VIDEO CAMERA FOR THE EXISTING STORM AND/OR SANITARY DRAINAGE AT THE INDICATED CONNECTION POINT TO CONFIRM LOCATION, SIZE AND INVERT OF THE EXISTING PIPING.
- 27. EXISTING CONCRETE SLAB X-RAY/SCANNING THIS CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED COMPANY TO PROVIDE AND X-RAY AND/OR SCAN OF THE EXISTING BURIED SERVICES IN WALL AND/OR FLOORS PRIOR TO STARTING ANY WORK IN THE AFFECTED AREA. FAILURE TO LOCATE EXISTING PIPING, CONDUIT REBAR ETC., SHALL NOT RELIEVE THIS CONTRACTOR OF REPAIR OF SAME PRIOR TO INSTALLING HIS SERVICE. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF EXISTING SERVICES CAUSED BY CUTTING THE EXISTING CONCRETE SLABS AND/OR WALLS.
- PROVIDE ALL EXCAVATING AND BACKFILLING INSIDE AND OUTSIDE THE BUILDING FOR PLUMBING PIPES, DRAINS AND EQUIPMENT. ALL BACKFILLING SHALL BE NEW CLEAN GRANULAR 'A' FILL BROUGHT IN SPECIFICALLY FOR THE PURPOSE OF BACKFILLING TO THE UNDERSIDE OF FLOOR SLAB. ALL BACKFILLING SHALL BE COMPACTED AT INTERVALS NOT MORE THAN 150 MM (6") LAYER TO THE SATISFACTION OF THE CONSULTANT. PROVIDE EXCAVATING AND BACKFILLING OUTSIDE THE BUILDING WITH GRANULAR A BROUGHT IN SPECIFICALLY FOR BACKFILLING TO A MINIMUM OF 450 MM (18") OVER THE PIPE. BACKFILLING OUTSIDE BUILDING OVER AND ABOVE THE 450 MM (18") BACKFILL AS PREVIOUSLY SPECIFIED HEREIN SHALL BE BY THE MECHANICAL CONTRACTOR AS SPECIFIED UNDER DIVISION 2. WHERE BACKFILLING OUTSIDE THE BUILDING IS NOT SPECIFIED UNDER DIVISION 2 THE MECHANICAL CONTRACTOR SHALL PROVIDE NEW CLEAN GRANULAR 'A' FILL TO GRADE LEVEL. BOTTOMS OF TRENCHES SHALL BE EXCAVATED SO THAT THE PIPE WILL BE SUPPORTED ON A 150 MM (6") COMPACTED BED OF CLEAN GRANULAR 'A' FILL. PROVIDE ALL NECESSARY PUMPING TO MAINTAIN EXCAVATION FREE OF WATER. SHOÙLD WATER BE ENCOUNTERED DURING EXCAVATION, THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL LABOUR AND MATERIAL, INCLUDING ALL EQUIPMENT REQUIRED FOR DEWATERING THE EXCAVATION. AFTER THE WATER HAS BEEN REMOVED, THIS CONTRACTOR SHALL INSTALL A 300 MM (12") BASE OF COMPACTED 50 MM (2") CLEAR STONE COVERED WITH FILTER CLOTH BEFORE INSTALLING BACKFILL AS DETAILED AND/OR AS SPECIFIED. BE RESPONSIBLE FOR ALL WEATHER PROTECTION REQUIRED TO INSTALL PIPING AND/OR EQUIPMENT TO THE SATISFACTION OF THE CONSULTANT. BE RESPONSIBLE FOR PROVIDING ALL CLEAR STONE OR GRANULAR 'A' MATERIAL
- PROVIDE SCHEDULE 40 STEEL PIPE SLEEVES AT POINTS WHERE PIPES PASS THROUGH MASONRY, CONCRETE OR FIRE RATED ASSEMBLIES AND AS INDICATED. GROUT SLEEVES IN PLACE. MINIMUM 6 MM (1/4") CLEARANCE ALL AROUND, BETWEEN SLEEVE AND UNINSULATED PIPE OR BETWEEN SLEEVE AND INSULATION. CAULK BETWEEN SLEEVE AND PIPE IN FOUNDATION WALLS AND BELOW GRADE FLOORS WITH WATERPROOF FIRE RETARDANT NON-HARDENING MASTIC. WHERE SLEEVES PASS THROUGH WALLS OR FLOORS, PROVIDE SPACE FOR FIRESTOPPING. WHERE PIPES PASS THROUGH FIRE RATED WALLS, FLOORS AND PARTITIONS, MAINTAIN FIRE RATING INTEGRITY. ENSURE NO CONTACT BETWEEN COPPER TUBE OR PIPE AND FERROUS SLEEVE. FILL FUTURE-USE SLEEVES WITH LIME PLASTER OR OTHER EASILY REMOVABLE FILLER. COAT EXPOSED EXTERIOR SURFACES OF FERROUS SLEEVES WITH HEAVY APPLICATION OF ZINC RICH PAINT TO CGSB 1-GP-181M+AMDT-MAR-78.

SUITABLE FOR APPLICATION TO REPLACE EXISTING SOIL NOT SUITABLE FOR BACKFILLING ABOVE THE 450 MM (18") BEDDING MATERIAL.

PROVIDE MINIMUM 20 GAUGE DUCT SLEEVES WHERE DUCTS PASS THROUGH MASONRY, CONCRETE OR FIRE RATED ASSEMBLIES. MAINTAIN MINIMUM 25 MM CLEARANCE ALL AROUND OR TO THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. SEAL AT WALL AS INDICATED. WHERE DUCTS PASS THROUGH FIRE RATED WALLS, FLOORS AND PARTITIONS, MAINTAIN FIRE RATING INTEGRITY.

PART B DEMOLITION NOTES

- I. THIS PROJECT IS ONE OF A RETROFIT NATURE IN PART, AND WHICH WILL REQUIRE SOME DEMOLITION. ALLOW FOR ALL REMEDIAL WORK IN AREAS INDICATED ON THE DRAWINGS AND AS GENERALLY DEFINED IN THE RELEVANT SECTIONS OF THE SPECIFICATIONS.
- 2. THE SCOPE OF WORK IS ESSENTIALLY THE SELECTED DISCONNECTION AND/OR REMOVAL OF SERVICES AND/OR EQUIPMENT, PIPING, DUCTWORK ETC. AS INDICATED OR REQUIRED TO COMPLETE THE WORK.
- 3. THIS DIVISION IS TO LIAISE WITH THE OWNERS OR CONSULTANT FOR EQUIPMENT BEING REMOVED THAT MAY BE SUITABLE FOR REUSE TO THAT SPECIFIED OR HANDED OVER TO THE OWNER.
- 4. THIS DIVISION TO TAKE FULL RESPONSIBILITY FOR ANY SPECIAL TOOLS OR EQUIPMENT REQUIRED TO DISASSEMBLE OR REMOVE MATERIAL FROM BUILDING.
- 5. THE GENERAL EXECUTION OF THE DEMOLITION IS TO BE CARRIED OUT IN A CLEAN AND EFFICIENT MANNER.
- 6. DEMOLITION OF EXISTING CEILING, WALLS ETC., TO FACILITATE REMOVAL OF EXISTING SERVICES OR EQUIPMENT OR INSTALLATION OF NEW TO BE KEPT TO A MINIMUM AND THEN RESTORED TO MATCH EXISTING.
- 7. ALL OPENINGS OR HOLES CREATED BY REMOVAL OF EXISTING MECHANICAL SYSTEMS WHICH ARE NOT BEING REUSED ARE TO BE PATCHED WITH THE SAME MATERIAL SURROUNDING SURFACES.
- 8. PROTECT ALL EXISTING FURNISHINGS MATERIALS AND EQUIPMENT, ANY DAMAGE OCCURRING AS A RESULT OF THE WORK OF THIS DIVISION SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THIS DIVISION.
- 9. WHERE WORK INVOLVES BREAKING INTO OR CONNECTING TO EXISTING SERVICES, CARRY OUT WORK AT TIMES DIRECTED BY THE OWNERS IN AN EXPEDIENT MANNER WITH MINIMUM DISRUPTION TO THE FACILITY AND SYSTEMS DOWNTIME.
- 10. WHERE UNKNOWN SERVICES ARE ENCOUNTERED, IMMEDIATELY ADVISE CONSULTANT AND CONFIRM FINDINGS IN WRITING.

- 11. WHERE THE LOCATION OF ANY SERVICES HAS BEEN SHOWN ON THE PLANS, SUCH INFORMATION IS NOT GUARANTEED. IT IS THIS DIVISION'S RESPONSIBILITY TO VERIFY LOCATIONS, INVERT ELEVATIONS, ETC., IMMEDIATELY AFTER MOVING ON SITE, SHOULD FOR ANY REASON THE INFORMATION OBTAINED NECESSITATES CHANGES IN PROCEDURE OR DESIGN, ADVISE THE CONSULTANT AT ONCE. IF VERIFICATION OF EXISTING CONDITIONS IS NOT DONE AT THE OUTSET AND ANY PROBLEMS ARISE, THE RESPONSIBILITY FOR SAME IS ENTIRELY THIS DIVISION'S.
- 12. DISCONNECT AND/OR REMOVE EQUIPMENT PIPING, DUCTWORK, ETC. AS INDICATED.
- 13. CAP AND CONCEAL ALL REDUNDANT AND OBSOLETE CONNECTIONS.
- 14. PROVIDE A LIST OF EQUIPMENT TO BE REMOVED TO THE OWNER, FOR HIS ACCEPTANCE OF SAME. REMOVE ALL EQUIPMENT FROM SITE WHICH THE OWNER DOES NOT RETAIN.
- 15. MAINTAIN EQUIPMENT TO BE RETAINED BY OWNER ON SITE WHERE DIRECTED BY CONSULTANT. 16. DEMOLITION OF ALL PARTS OF THE WORK MUST BE COMPLETED WITHIN THE CONFINES OF THE WORK AREA AND IN SUCH A WAY AS THE

DUST PRODUCED AND RISK TO INJURY OF WILL NOT ADVERSELY AFFECT THE BUILDING USERS.

- 17. DEMOLISHED AREAS OF THE EXISTING BUILDING WILL REMAIN IN THEIR CURRENT USE IN SOME CASES. DEMOLITION IN THESE AREAS MUST BE KEPT TO THE MINIMUM REQUIRED TO COMPLETE THE WORK.
- 18. DEMOLITION SHALL TAKE PLACE WITHIN AREAS ISOLATED FROM ALL OTHER AREAS WITH APPROPRIATE HOARDING, SCAFFOLDING, NETTING,
- FENCING OR OTHER MEANS OF SECURITY BETWEEN BUILDING USERS AND THE WORK. 19. CO-ORDINATE MAKING SAFE ELECTRICAL DEVICES, CAPPING PLUMBING AND REMOVAL OF FIXTURES PRIOR TO COMMENCEMENT OF
- 20. ALL PIPING AND EQUIPMENT TO BE REMOVED AND/OR ABANDONED SHALL BE DRAINED PRIOR TO CAPPING AND/OR ABANDONING.
- DISPOSAL OF ALL LIQUIDS SHALL BE TO THE APPROVAL OF AUTHORITY OF HAVING JURISDICTION AND/OR PROVINCIAL REGULATIONS. 21. DRAIN ALL EXISTING PIPING AND DRAINAGE SYSTEMS INCLUDING ALL RELATED EQUIPMENT AS REQUIRED TO FACILITATE SYSTEM
- 22. DISPOSAL OF EXISTING SYSTEM SHALL BE TO THE REQUIREMENTS OF THE LOCAL AND/OR PROVINCIAL REGULATIONS.

PART C PLUMBING NOTES

RENOVATIONS.

- 1. CONTRACTOR TO PROVIDE POTABLE WATER CERTIFICATE FOR E. COLI AND COLIFORM FROM A RECOGNIZED TESTING LABORATORY UPON COMPLETION OF THE PROJECT, WATER IS TO BE TAKEN FROM A NEW FIXTURE TO TEST THE NEW PIPING INSTALLED.
- CONNECT TO EXISTING SERVICES WHERE SHOWN ON DRAWINGS.
- 3. CODES AND REGULATIONS SANITARY, SOIL WASTE, VENT, AND ALL WATER PIPING SHALL CONFORM AND BE INSTALLED TO THE ONTARIO PLUMBING CODE AND THE CANADIAN PLUMBING CODE, LATEST EDITION.
- SANITARY PIPING: ALL SANITARY PIPING SHALL BE TESTED WITH WATER UNDER THE GUIDANCE OF THE LOCAL PLUMBING INSPECTOR. SMOKE TESTS OR ANY OTHER TEST REQUIRED BY THE PLUMBING INSPECTOR SHALL ALSO BE MADE. WATER PIPING: ALL WATER PIPING SHALL BE TESTED TO 150 PSI. PRESSURE FOR NOT LESS THAN FOUR HOURS WITHOUT A LOSS IN PRESSURE.
- FLUSHING AND DISINFECTING MAINTAIN TESTABLE RP BACKFLOW PREVENTOR BETWEEN MUNICIPAL WATER AND NEW PLUMBING SYSTEM. ENSURE A MINIMUM OF 90% OF PLUMBING FIXTURES ARE INSTALLED. FLUSH WATER MAINS THROUGH AVAILABLE OUTLETS WITH A SUFFICIENT FLOW OF POTABLE WATER TO PRODUCE A VELOCITY OF 1.5 M/S, WITHIN PIPE FOR 10 MIN, OR UNTIL FOREIGN MATERIALS HAVE BEEN REMOVED AND FLUSHED WATER IS CLEAR WITH BACKFLOW PROTECTION. PROVIDE CONNECTIONS AND PUMPS FOR FLUSHING AS REQUIRED. OPEN AND CLOSE VALVES, AND OPERATE FIXTURES TO ENSURE THOROUGH FLUSHING. TAKE WATER SAMPLES AT REMOTE FIXTURES AND SERVICE CONNECTIONS.
- 5. PIPE AND FITTINGS SANITARY AND VENT DRAINS: (ABOVE GRADE), MEDIUM WEIGHT CAST IRON WITH MECHANICAL RUBBER JOINTS OR TYPE DWV COPPER PIPE. SANITARY AND VENT PIPING: (BELOW GRADE) PVC DRAINAGE PIPE TO SDR 35 WITH SOLVENT WELDED JOINTS. ABS DRAINAGE PIPE WITH SOLVENT WELDED JOINTS. WATER PIPING: TYPE L COPPER WITH LEAD FREE SOLDER JOINTS.
- ISOLATION VALVES: HOT AND COLD WATER BRONZE BODY, CLASS 150, STAINLESS STEEL BALL, FULL PORT, PTFE SEAT AND PACKING, STEEL LEVER HANDLE. MILWAUKEE BA-455, CRANE, TOYO CHECK VALVES: HOT AND COLD WATER SIZES 1/2" DIAMETER TO 2" DIAMETER CRANE FIG. 1342, OR EQUAL JENKINS, BRONZE SWING CHECK, SOLDER ENDS. CRANE FIG. 29 OR EQUAL JENKINS VERTICAL LIFT CHECK VALVE, SCREWED ENDS ON VERTICAL PIPING.
- CLEAN OUTS: PROVIDE AND SET CLEAN OUT PLUGS IN ALL DRAINS AND SOIL PIPE LINES WHERE OBSTRUCTIONS MAY BE FOUND, AT CHANGES OF DIRECTION, AT THE BASE OF ALL SANITARY STACKS AND AT INTERVALS. LENGTHS TO THE ONTARIO PLUMBING CODE. CLEAN OUTS SHALL BE FULL SIZES OF PIPES UP TO 4" DIAMETER AND NOT LESS THAN 4" DIAMETER FOR LARGER PIPES. ANCON CO-100-R OR EQUAL.
- 8. TRAP PRIMERS TRAP PRIMERS: ALL TRAPS WHERE REQUIRED BY THE CODE TO BE PRIMED OR WHERE SHOWN ON THE DRAWINGS SHALL HAVE MIFAB-MR-ENC-AG OR EQUAL PRESSURE DROP ACTIVATED TRAP SEAL PRIMER INSTALLED IN THE NEAREST COLD WATER LINE TO THE TRAP. TRAP PRIMER SHALL BE CONCEALED, PROVIDED WITH ENCLOSURE FOR INSTALLTION IN WALL AND HAVE INTEGRAL AIR GAP FOR BACKFLOW PREVENTION, PROVIDE ACCESS DOOR.
- DRIP COCKS: SUPPLY AND INSTALL 1/2" DIAMETER MUELLER OR EQUAL DRAIN VALVES AT ALL LOW POINTS IN THE WATER SYSTEMS TO COMPLETELY DRAIN THE SYSTEMS. ALL DRIP COCKS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- FIXTURES AS LISTED ON THE DRAWINGS. ALL FIXTURES MUST BE NEW AND CLEAN WHEN THE WORK IS TAKEN OVER BY THE OWNER. ALL PLUMBING FIXTURES SHALL BE EQUIPPED WITH SUPPLY VALVES, FAUCETS, TRAPS, SUPPORTS, WATER CONNECTIONS, ESCUTCHEONS, HANGERS, BOLTS, ETC, FIXTURES SHALL BE CRANE OR EQUAL AMERICAN STANDARD, KOHLER, TRAPS: 2" DIAMETER AND SMALLER, SHALL BE CAST BRASS AND CHROME PLATED IN EXPOSED AREAS. ALL SINK TRAPS SHALL BE TWO PIECE CONSTRUCTION. ALL TRIM MUST BE CAMBRIDGE BRASS OR EQUAL. ON COMPLETION ALL FIXTURES, ACCESSORIES AND EXPOSED PIPING SHALL BE THOROUGHLY CLEANED AND LEFT READY FOR USE. AFTER FINAL INSPECTION BY THE PLUMBING INSPECTOR CAULK AROUND BASE OF ALL FIXTURES TO THE WALL OR FLOOR WITH SILICONE CAULKING.
- 11. EXPANSION COMPENSATION
- PIPING SUBJECTED TO THERMAL EXPANSION SHALL BE INSTALLED USING PIPE LOOPS AND/OR EXPANSION COMPENSATORS TO PERMIT FREE EXPANSION AND CONTRACTION WITHOUT CAUSING DAMAGE TO OR STRESSES AT JOINTS AND HANGER AND TO REDUCE STRAIN ON CONNECTED EQUIPMENT TO A MINIMUM.
- INSULATE ALL DOMESTIC HOT AND COLD WATER PIPING AND STORM PIPING ABOVE GRADE. WITH 1" (FOR PIPING UNDER 1 1/2" DIAMETER) OR 1 1/2" (FOR PIPING 1 1/2" DIAMETER AND HIGHER) FIBERGLASS INSULATION WITH VAPOUR BARRIER. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS. RECOVER EXPOSED PIPING WITH 6 OZ. CANVAS JACKET AND TWO COATS LAGGING ADHESIVE.

- CONNECT TO EXISTING SERVICES WHERE SHOWN ON DRAWINGS.
- CODES AND REGULATIONS ALL SPRINKLER PIPING, SPACING AND EQUIPMENT SHALL CONFORM TO THE ONTARIO BUILDING CODE, NFPA-13 AND THE AUTHORITIES HAVING JURISDICTION.
- PIPING SHALL BE TESTED TO NFPA-13 REQUIREMENTS.
- PIPE AND FITTINGS:
 - 50 MM (2") AND SMALLER: SCHEDULE 40 STEEL PIPE WITH SCREWED FITTINGS. 65 MM (2 1/2") AND LARGER: SCHEDULE 10 STEEL PIPE WITH VICTAULIC FITTINGS.
 - PIPE HANGERS:
- ULC LISTED FOR FIRE PROTECTION SERVICES.
- GENERAL: TO NFPA-13 AND ULC LISTED FOR FIRE SERVICES. SPRINKLER HEADS SHALL BE FULLY CONCEALED WITH WHITE COVER. VIKING MODEL B-1 OR EQUAL. COORDINATE LOCATION WITH REFLECTED CEILING PLANS. RELOCATE EXISTING SPRINKLER HEADS AS INDICATED. INSTALL IN EXISTING CEILING.
- DESIGN SYSTEM IN ACCORDANCE WITH ONTARIO FIRE MARSHALL, LOCAL AUTHORITY HAVING JURISDICTION, OWNERS, UNDERWRITERS AS
- REQUIRED, AND NFPA 13, USING FOLLOWING PARAMETERS: HAZARD TO SUIT OCCUPANCY. PIPE SIZE AND LAYOUT:
- HYDRAULIC DESIGN OR PIPE SCHEDULE SIZING DESIGN. SPRINKLER HEAD LAYOUT: TO NFPA 13 OR AS DIRECTED BY AUTHORITIES HAVING JURISDICTION, AND/OR AS INDICATED.
- SYSTEM ZONING AS INDICATED IN ACCORDANCE WITH NFPA 13.
- 8. PROVIDE COMPLETE DRAWINGS AND CALCULATIONS STAMPED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF
- 9. PROFESSIONAL ENGINEER SHALL PROVIDE ON SITE REVIEW AND CERTIFICATION FOR LOCAL BUILDING CODE REVIEW.
- 10. INSTALLATION: INSTALL, INSPECT AND TEST TO ACCEPTANCE IN ACCORDANCE WITH ANSI/NFPA-13. TESTING TO BE WITNESSED BY AUTHORITY HAVING JURISDICTION. SPACE HANGERS AND SUPPORT OF SPRINKLER PIPING IN ACCORDANCE WITH NFPA REGULATIONS. PROTECT EXPOSED WORK. DO NOT COVER OR CONCEAL PIPING ACCESSORIES OR WORK PRIOR TO INSPECTION AND APPROVAL BY AUTHORITIES HAVING JURISDICTION. ADJUST EQUIPMENT TO SATISFACTION OF AUTHORITY HAVING JURISDICTION AND CONSULTANT. PROTECT

EQUIPMENT DURING PAINTING. REPLACE DAMAGED AND PAINTED COMPONENTS. COORDINATE THE SPRINKLER PIPING AND EQUIPMENT WITH THAT OF OTHER TRADES ON THE JOB. MAINS AND BRANCHES SHALL BE RUN SO AS NOT TO INTERFERE WITH BUILDING'S STRUCTURE, MECHANICAL OR ELECTRICAL INSTALLATIONS. GUARANTEE THAT THE SYSTEMS AND EQUIPMENT BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND PROVINCIAL BY-LAWS AND THE RULES AND REGULATIONS OF THE INSURANCE UNDERWRITERS AND THE BUILDING CODE OF

PART F HYDRONIC HEATING

- 1. HEATING WATER PIPING:
 - SCHEDULE 40 STEEL PIPE TO ASTM 53, GRADE B PIPING NPS 2 AND UNDER SHALL BE MALLEABLE IRON 150 LB SCREWED FITTINGS WITH PULVERIZED LEAD PASTE. PIPING NPS 21/2 AND OVER SHALL BE WELDED FITTINGS AND STEEL FLANGES TO ANSI/ASME B16.5.
- INSULATE ALL HEATING WATER PIPING WITH 11/2" FIBERGLASS INSULATION WITH VAPOUR BARRIER. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS. RECOVER EXPOSED PIPING WITH PVC JACKET.
- FILLING OF SYSTEM
- REFILL SYSTEM WITH CLEAN WATER ADDING WATER TREATMENT AS SPECIFIED. THIS CONTRACTOR SHALL CONTACT WATER TREATMENT SUPPLIER AND CO-ORDINATE WATER TREATMENT OF NEW SYSTEM.
- 4. EXISTING SYSTEM DRAINAGE DRAIN EXISTING HOT HYDRONIC SYSTEM AS REQUIRED TO FACILITATE SYSTEM RENOVATIONS. DISPOSAL OF EXISTING SYSTEM SHALL BE TO THE REQUIREMENTS OF THE LOCAL AND/OR PROVINCIAL REGULATIONS.
- PROCEDURE: FLUSHING AND CLEANING SHOULD ONLY TAKE PLACE AFTER SUCCESSFUL PIPING PRESSURE TESTING. TERMINAL DEVICE (REHEAT COILS, HEAT PUMPS, PERIMETER RADIATION, ETC.), AIR HANDLING UNIT COILS AND THEIR ASSOCIATED CONTROL AND BALANCING VALVES SHOULD BE BYPASSED DURING THE PRELIMINARY FLUSHING AND CLEANING PROCESS. INSTRUMENTS SUCH AS FLOW METERS, FLOW METERING VALVES AND ORIFICE PLATES SHOULD ONLY BE INSTALLED AFTER FLUSHING AND CLEANING.
- 6. TIMING:
- THE OVERALL CONSTRUCTION SCHEDULE IDENTIFIES PIPING FLUSHING AND CLEANING WITH REALISTIC TIME ALLOTMENTS. THE MECHANICAL CONTRACTOR IS REQUIRED TO PROVIDE A DETAILED REPORT OUTLINING THE PROCESSES AND PROCEDURES FOR FLUSHING AND CLEANING PER PIPING SYSTEM AT LEAST 4 TO 6 WEEKS IN ADVANCE OF WORK. AS A MINIMUM, AT LEAST ONE PIPING FLUSHING AND CLEANING PROCEDURE SHALL BE WITNESSED, BY THE CONSULTANT AND/OR COMMISSIONING AGENT. THE MECHANICAL CONTRACTOR SHALL TO UTILIZE A QUALIFIED WATER TREATMENT SPECIALIST TO SUPERVISE THE FLUSHING AND CLEANING PROCESS AND PROVIDE THE CERTIFIED WATER ANALYSIS REPORT CERTIFYING THAT THE PIPING SYSTEMS ARE CLEAN. COORDINATE FLUSHING AND CLEANING OF MECHANICAL SYSTEMS WITH HVAC WATER TREATMENT CONTRACTOR AND HVAC SYSTEMS COMMISSIONING CONTRACTOR. FLUSH AND CLEAN NEW PIPING SYSTEM IN PRESENCE OF CONSULTANT. FLUSH AFTER PRESSURE TEST FOR A MINIMUM OF 4 HRS. FILL SYSTEM WITH SOLUTION OF WATER AND NON-FOAMING, PHOSPHATE-FREE DETERGENT 3% SOLUTION BY WEIGHT. CIRCULATE FOR MINIMUM OF 8 HRS. THOROUGHLY FLUSH ALL NEW MECHANICAL SYSTEMS AND EQUIPMENT WITH APPROVED CLEANING CHEMICALS DESIGNED TO REMOVE DEPOSITION FROM CONSTRUCTION SUCH AS PIPE DOPE, OILS, LOOSE MILL SCALE AND OTHER EXTRANEOUS MATERIALS. CHEMICALS TO INHIBIT CORROSION OF VARIOUS SYSTEM MATERIALS AND BE SAFE TO HANDLE AND USE. DURING CIRCULATION OF CLEANING SOLUTION, PERIODICALLY EXAMINE AND CLEAN FILTERS AND SCREENS AND MONITOR CHANGES IN PRESSURE DROP ACROSS EQUIPMENT. REFILL SYSTEM WITH CLEAN WATER. CIRCULATE FOR AT LEAST 2 HOURS. CLEAN OUT STRAINER SCREENS/BASKETS REGULARLY. THEN DRAIN. DRAINAGE TO INCLUDE DRAIN VALVES, DIRT POCKETS, STRAINERS, EVERY LOW POINT IN SYSTEM. DRAIN AND FLUSH SYSTEMS UNTIL ALKALINITY OF RINSE WATER IS EQUAL TO MAKE-UP WATER. REFILL WITH CLEAN WATER TREATED TO PREVENT SCALE AND CORROSION DURING SYSTEM OPERATION. RE-INSTALL STRAINER SCREENS/BASKETS ONLY AFTER OBTAINING CONSULTANT'S APPROVAL AND APPROVAL FROM HVAC WATER TREATMENT CONTRACTOR. REPEAT SYSTEM DRAIN AND FLUSH AS OFTEN AS NECESSARY TO HAVE A CLEAN SYSTEM. DISPOSAL OF CLEANING SOLUTIONS TO BE APPROVED BY AUTHORITY HAVING JURISDICTION. ISOLATE NEW PIPING SYSTEM FROM EXISTING SYSTEM AS REQUIRED FOR SYSTEM CLEANING. AFTER HYDRONIC SYSTEM IS CLEANED, REFILL WITH CLEAN WATER AND CHEMICAL AS PER CHEMICAL SUPPLIER TREATMENT.

PART G HEATING, AIR CONDITIONING, AND VENTILATION NOTES

- 1. DUCTWORK TO BE CONSTRUCTED TO SMACNA STANDARDS, MEDIUM STATIC PRESSURE WITH LEAKAGE RATE OF 5% MAXIMUM. FABRICATED IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA AND ASHRAE. SEAL ALL TRANSVERSE AND LONGITUDINAL JOINTS WITH DUCT SEALER.
- 2. ROUND AND OVAL DUCTS: FACTORY FABRICATED, SPIRAL WOUND, WITH MATCHING FITTINGS AND SPECIALS TO SMACNA. TRANSVERSE JOINTS UP TO 900 MM (36"): SLIP TYPE WITH TAPE AND SEALANTS.
- 3. SQUARE AND RECTANGULAR DUCTS:TO SMACNA. TRANSVERSE JOINTS, LONGEST SIDE UP TO AND INCLUDING 750 MM (30"): SMACNA PROPRIETARY DUCT JOINTS.
- - ALL DAMPERS TO TO SMACNA RECOMMENDATIONS AS MINIMUM ACCEPTABLE STANDARD. SPLITTER DAMPERS OF SAME MATERIAL AS DUCT BUT ONE SHEET METAL THICKNESS HEAVIER WITH APPROPRIATE STIFFENING, CUT AIRFOIL SHAPE, PIANO HINGE PIVOT, WITH CONTROL ROD WITH LOCKING DEVICE AND POSITION INDICATOR ON EXTERIOR OF DUCT. SINGLE BLADE BALANCING ROUND AND RECTANGULAR, MAXIMUM 100MM (4") HIGH, OR SAME MATERIAL AS DUCT BUT ONE SHEET METAL THICKNESS HEAVIER (MINIMUM 16 GAUGE), V-GROOVE STIFFENED WITH LOCKING QUADRANT, MULTI-LEAF OPPOSED BLADE DAMPERS DESIGNED TO SMACNA DETAILS, SELF-LUBRICATING NYLON BEARINGS. SHAFT EXTENSION TO ACCOMMODATE INSULATION THICKNESS, WITH LOCKING QUADRANT. MANUFACTURED ADJUSTABLE EXTRACTORS TO BE WITH ADJUSTMENT ROD. ACCEPTABLE PRODUCTS: TITUS, NAILOR OR EQUAL
- UL OR ULC AND SHALL MEET REQUIREMENTS OF NFPA 90A-1978. FACTORY FABRICATED FOR FIRE RATING REQUIREMENTS TO MAINTAIN INTEGRITY OF MEMBRANE BEING INSTALLED. MILD STEEL, FIRE LINK ACTUATED TOP. ROUND OR SQUARE GUILLOTINE TYPE, WEIGHTED TO CLOSE AND LOCK IN CLOSED POSITION WHEN RELEASED. ROLL DOOR TYPE IN HORIZONTAL POSITION WITH VERTICAL AIRFLOW. SIZED TO MAINTAIN FULL FLOW CROSS SECTION OF DUCT
- 6. GRILLES, REGISTERS AND DIFFUSERS
- GRILLES, REGISTERS AND DIFFUSERS SHALL BE THE SAME MANUFACTURER. TYPE AS SHOWN ON THE DRAWING. ACCEPTABLE MATERIALS: E.H. PRICE, TITUS, NAILOR, KRUEGER, TUTTLE & BAILEY, METALAIR.
- ON THE LAST 5'-0" OF ALL EXHAUST DUCTS. INCLUDING PLENUM AND ALL AIR INTAKE DUCTWORK, FIBERGLASS FOIL FACED RIGID DUCT INSULATION 1" THICK TYPE PF-335-3/4 LB. DENSITY WITH RFFRK FACING. GLUE AND PIN AS PER MANUFACTURERS RECOMMENDATIONS. ON ALL OUTDOOR AIR DUCTWORK, FIBREGLASS FOIL FORCED RIGID DUCT INSULATION 3" THICK TYPE PF-335-3/4 LB DENSITY WITH RECOVER ALL EXTERIOR DUCTWORK WITH TWO COATS OF MASTIC SEALER AND 28 GAUGE PREFINISHED METAL FLASHING WITH CROSSBREAKS AND STANDING SEAMS AND BUTTONHOOK JOINTS. COLOUR TO MATCH BUILDING FLASHINGS.
- PROVIDE A DDC CONTROL SYSTEM AS AN EXPANSION OF THE EXISTING BUILDING AUTOMATION CONTROLS. THE EXISTING CONTROLS ARE DISTECH BEING PROVIDED BY ENERGY CONTROLS. CABINET UNIT HEATER CONTROL:

FANS TO RUN ON TIME OF DAY SCHEDULE. REFER TO GRAPHICAL SEQUENCES ON M502.

MODULATE THE HEATING VALVE TO MAINTAIN ROOM TEMPERATURE.

9. SYSTEM BALANCING

EXHAUST FAN CONTROL:

BALANCE AIR AND WATER SYSTEMS USING NEBB OR AABC CERTIFIED FIRM AND AS PER NEBB REQUIREMENTS TO WITHIN 5% OF TOTAL SYSTEM CAPACITY. PROVIDE 3 COPIES OF BALANCING REPORTS C/W SYSTEM SCHEMATICS.

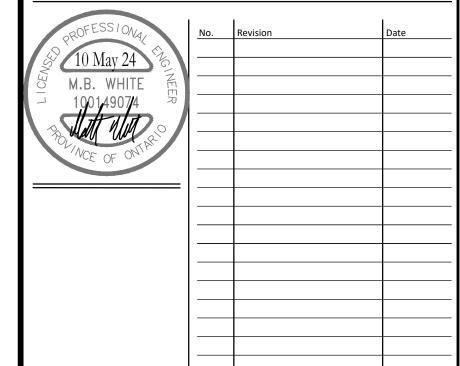


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WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

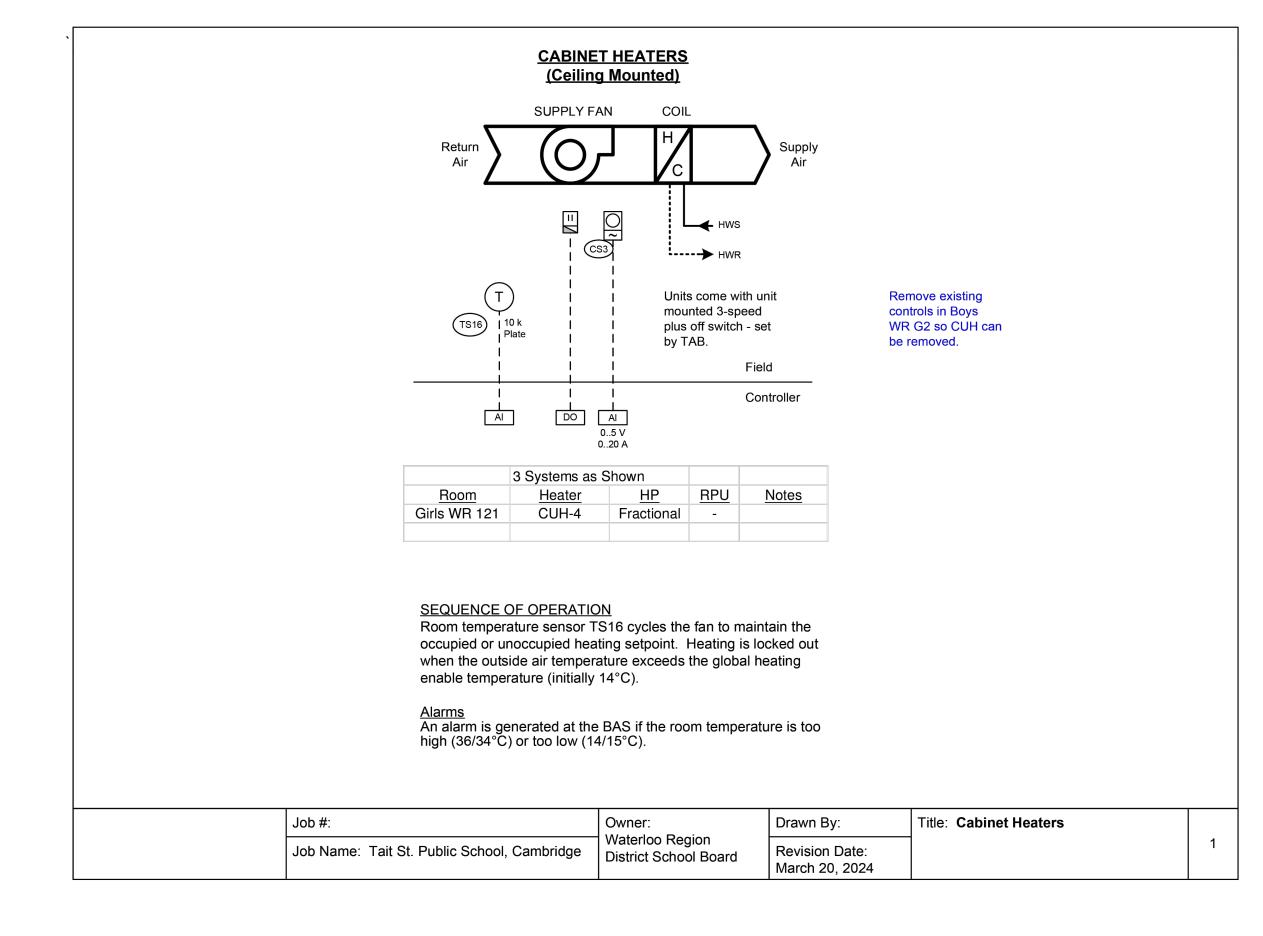
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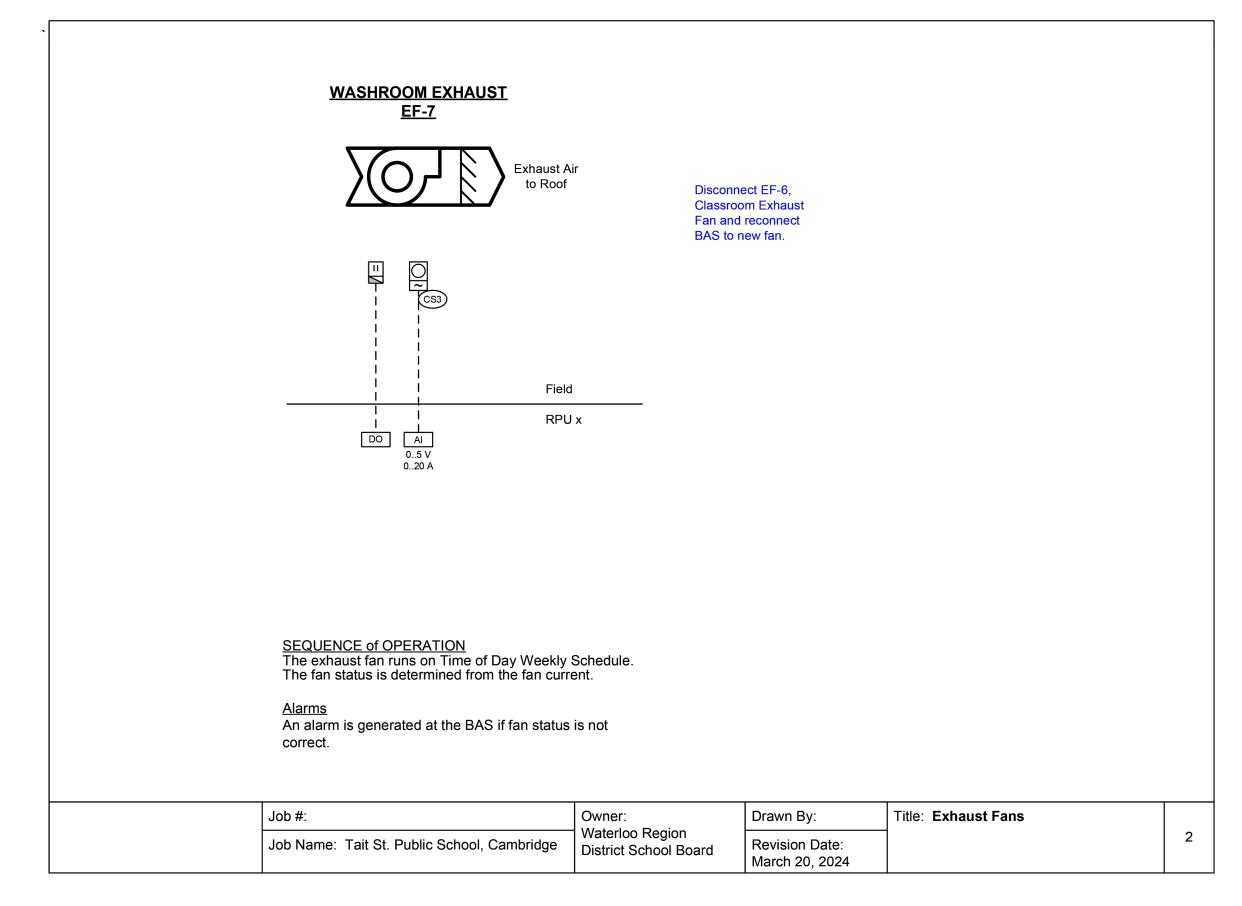
MECHANICAL SPECIFICATION

ward99 architects inc 7500 Highway 27, Unit 27B

> Vaughan ON L4H 0J2 info@ward99architects.com

416 613 5880 www.ward99architects.com







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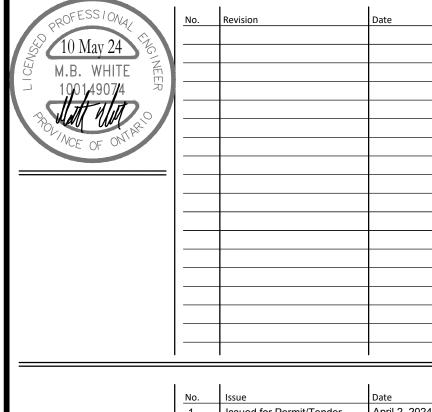
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| 1 | Issued for Permit/Tender | April 2, 202 |
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| 2 | Issued for Construction | May 10, 20 |
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WRDSB TAIT STREET PUBLIC SCHOOL CEILINGS RENOVATIONS

WATERLOO REGION DISTRICT SCHOOL BOARD 184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

BAS CONTROL SCHEMATICS

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