GROSSE POINTE PUBLIC SCHOOL SYSTEM

Mason Elementary School

Restroom Remodeling - Phase Two

Mason Elementary School 1640 Vernier Grosse Pointe Woods, MI 48236 313.432.4405

Contact: Mr. Robert Fradeneck, Building Engineer

Grosse Pointe Public School System 389 St. Clair Avenue Grosse Pointe, MI 48230 313.432.3082

Contact: Mr. Richard VanGorder Manager of Buildings and Grounds

ARCHITECT:

Ehresman Associates, Inc.

architects • engineers

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email: architects@ehresmanassociates.com

MECHANICAL AND ELECTRICAL ENGINEER:





LOCATION PLAN

APPLICABLE CODES:

MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS LIFE SAFETY CODE 101
MICHIGAN SCHOOL FIRE SAFETY RULES
MICHIGAN UNIFORM ENERGY CODE
NATIONAL ELECTRIC CODE (WITH MICHIGAN PART 8 RULES)
MICHIGAN PLUMBING CODE
MICHIGAN MECHANICAL CODE
FEDERAL ADA STANDARDS FOR ACCESSIBLE DESIGN
MICHIGAN BARRIER FREE DESIGN ACT

2009 EDITION

1999 EDITION
2009 EDITION
2011 EDITION
2009 EDITION
2009 EDITION
CURRENT EDITION

OCCUPANCY GROUP:

ZONING DISTRICT:

CONSTRUCTION TYPE:

TYPE II (000) WITHOUT SPRINKLER COVERAGE

C.F.: COMMUNITY FACILITIES

TOTAL FLOOR AREA:

(E) BUILDING FLOOR AREA: (GROSS FLOOR AREA) 39,781 SE

REMODELED FLOOR AREA:
FIRST FLOOR GIRLS RESTROOM:
FIRST FLOOR BOYS RESTROOM:
TOTAL: (GROSS FLOOR AREA) 502 SE

OCCUPANT LOAD:

CLASSROOM NET AREABOTH FLOORS:

OCCUPANT LOAD = 20 NET SQ FT CLASSROOM
PER OCCUPANT = 15000/ 20:

15000 SF 750

FIXTURE COUNT

NUMBER	OF STUDENTS (MAXIMUM): 75	io (BOTH	FLOORS))
1/2 (375)	= BOYS 1/2 (375) = GIRLS			
EDLICAT	ONAL DUIL DING DEOLUDEMENT	TO (DED (CODE)	
	ONAL BUILDING REQUIREMENT	<u> </u>		
WATER C		1/50	375/50	8
LAVATOR	(IES	1/50	375/50	8
FIXTURE	S PROVIDED			
FIRST FL	OOR - BOYS			
WATER C	CLOSETS			3
URINALS				4
WASHFC	UNTAIN (EQUALS 4 LAVS)			1
SECOND	FLOOR - BOYS (EXISTING)			
WATER C				3
URINALS				4
WASHFC	UNTAIN (EQUALS 4 LAVS)			1
BOYS:	TOTAL WATER CLOSETS PROV	IDED	Т	14
	TOTAL LAVATORIES PROVIDED	ı		8
FIXTURE	S PROVIDED			
FIRST FL	OOR - GIRLS			
WATER C	CLOSETS			6
WASHFC	UNTAIN (EQUALS 4 LAVS)			1
SECOND	FLOOR - GIRLS - (EXISTING)			
WATER C	CLOSETS			6
WASHFC	UNTAIN (EQUALS 4 LAVS)			1
GIRLS:	TOTAL WATER CLOSETS PROV	/IDED		12
	TOTAL LAVATORIES PROVIDED			8

PROJECT NO.: 9013

LIST OF DRAWINGS:

ARCHITECTURA

TTI TITI

A00 GENERAL INFORMATIO

A10 REMOVALS PLANS A11 REMOVALS ELEVATION

A20 FLOOR & DIMENSION

A50 INTERIOR ELEVATIONS

A60 REFLECTED CEILING P

A90 INTERIOR WALL SECTION

MECHANICAL

M01 MECHANICAL STANDARDS AND DRAWING INDEX

M11 PARTIAL FIRST FLOOR MECHANICAL PLAN
 M61 MECHANICAL DETAILS AND SCHEDULES
 M81 TEMPERATURE CONTROLS STANDARDS AND GENERAL NOTES

ELECTRICA

E01 ELECTRICAL STANDARDS AND DRAWING INDEX ELECTRICAL STANDARD SCHEDULES

E02 ELECTRICAL STANDARD SCHEDULES
E03 ELECTRICAL COMPOSITE PLAN
E11 PARTIAL FIRST FLOOR ELECTRICAL PLANS

Bidding: 12 January 2016

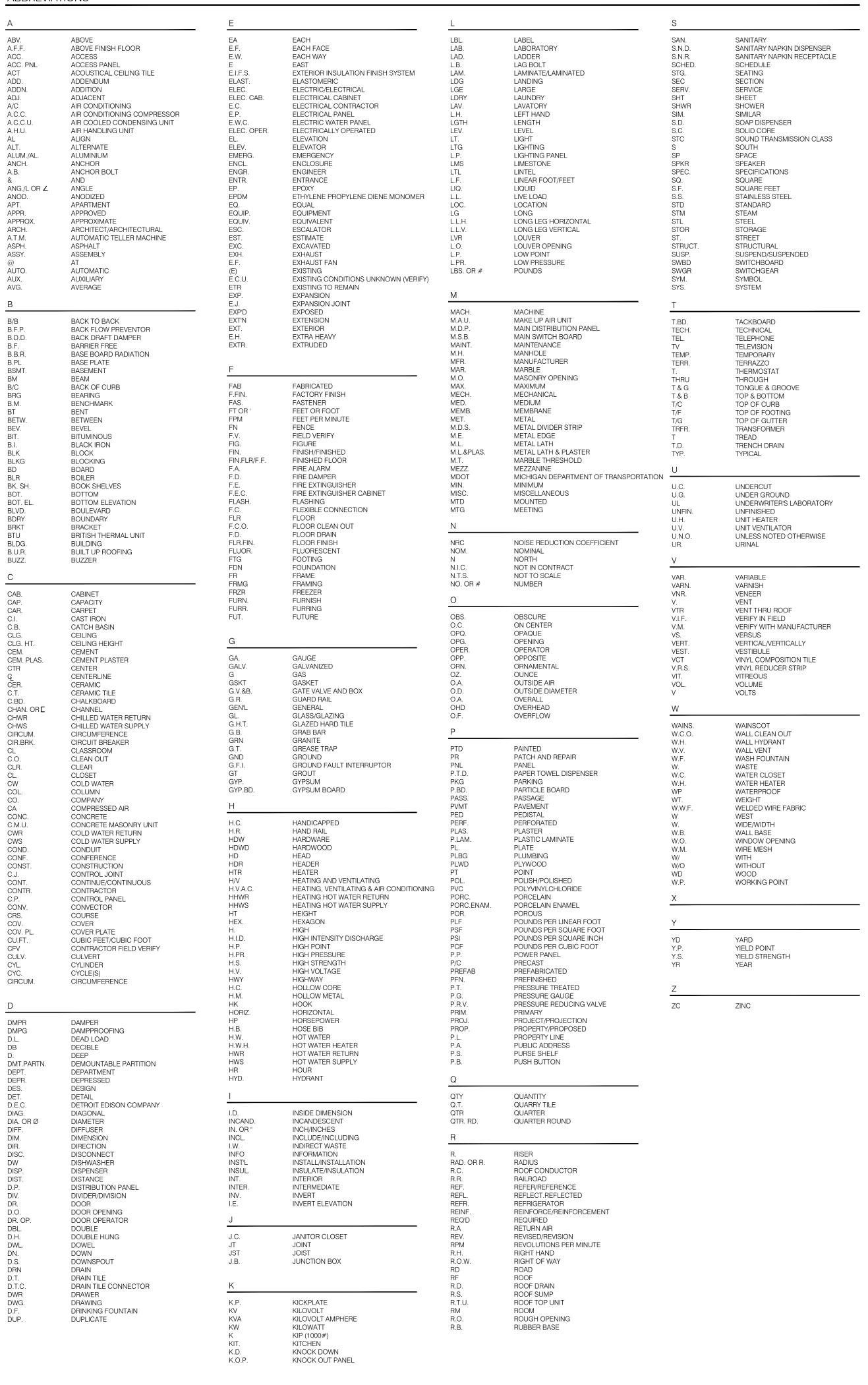
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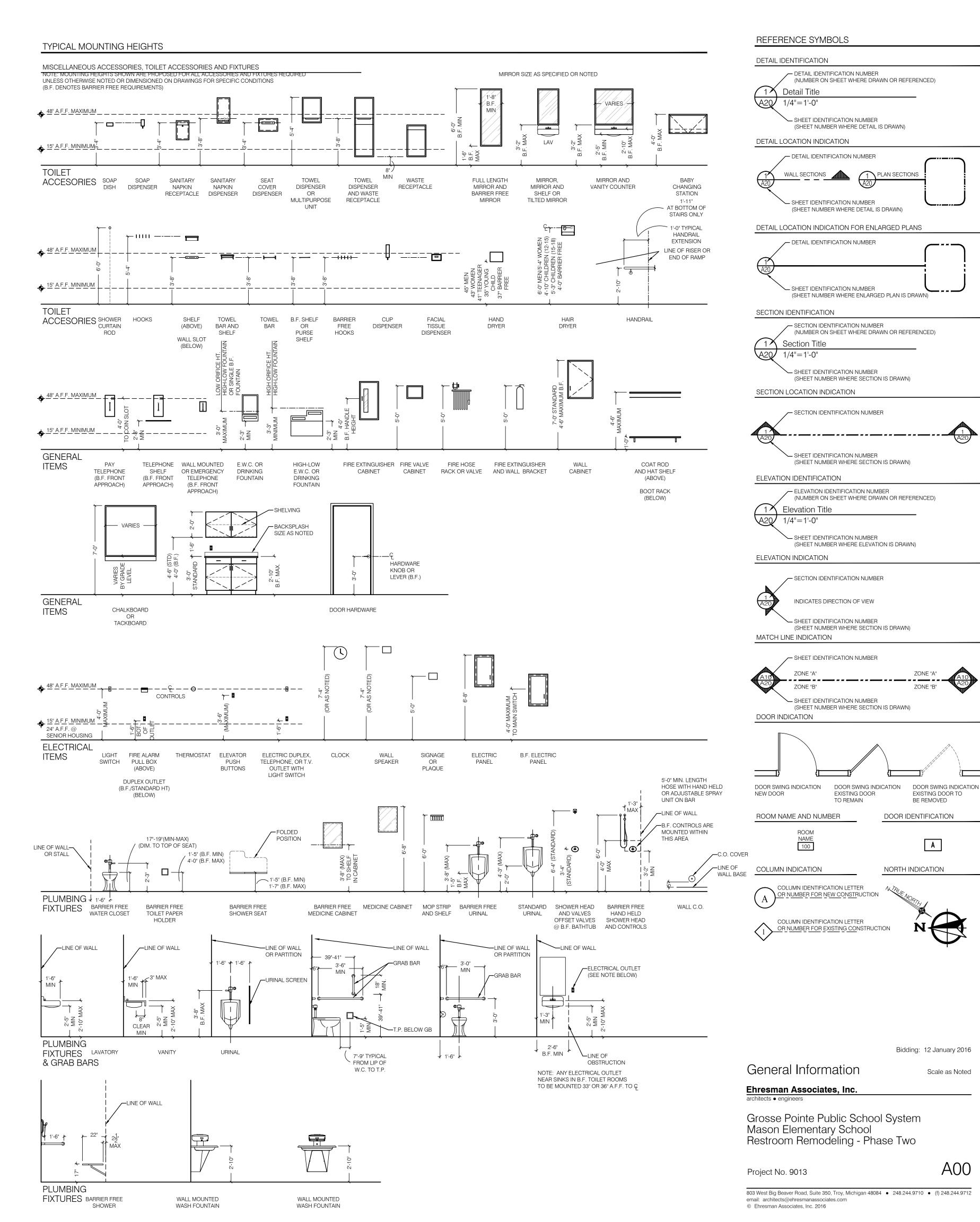
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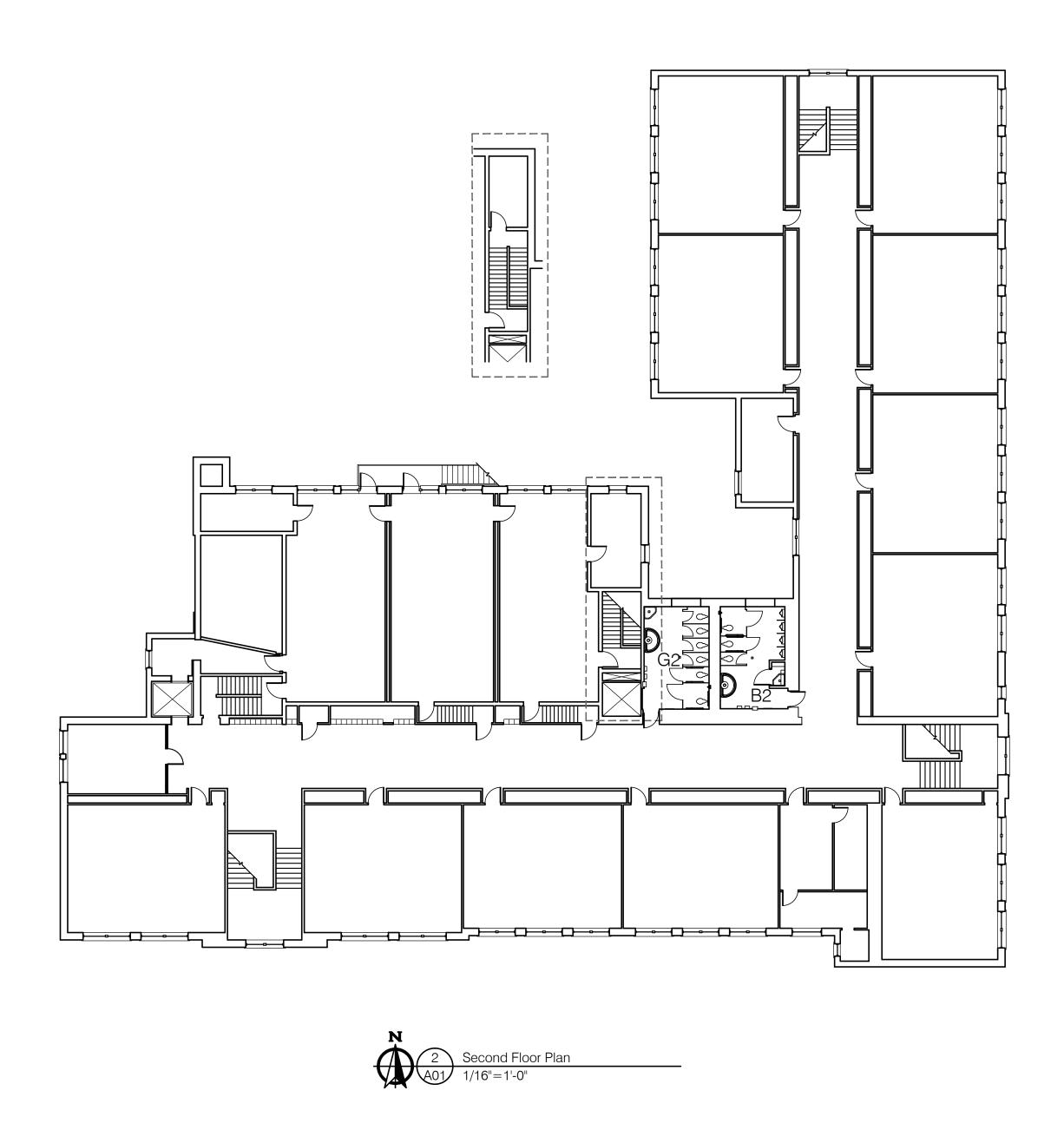
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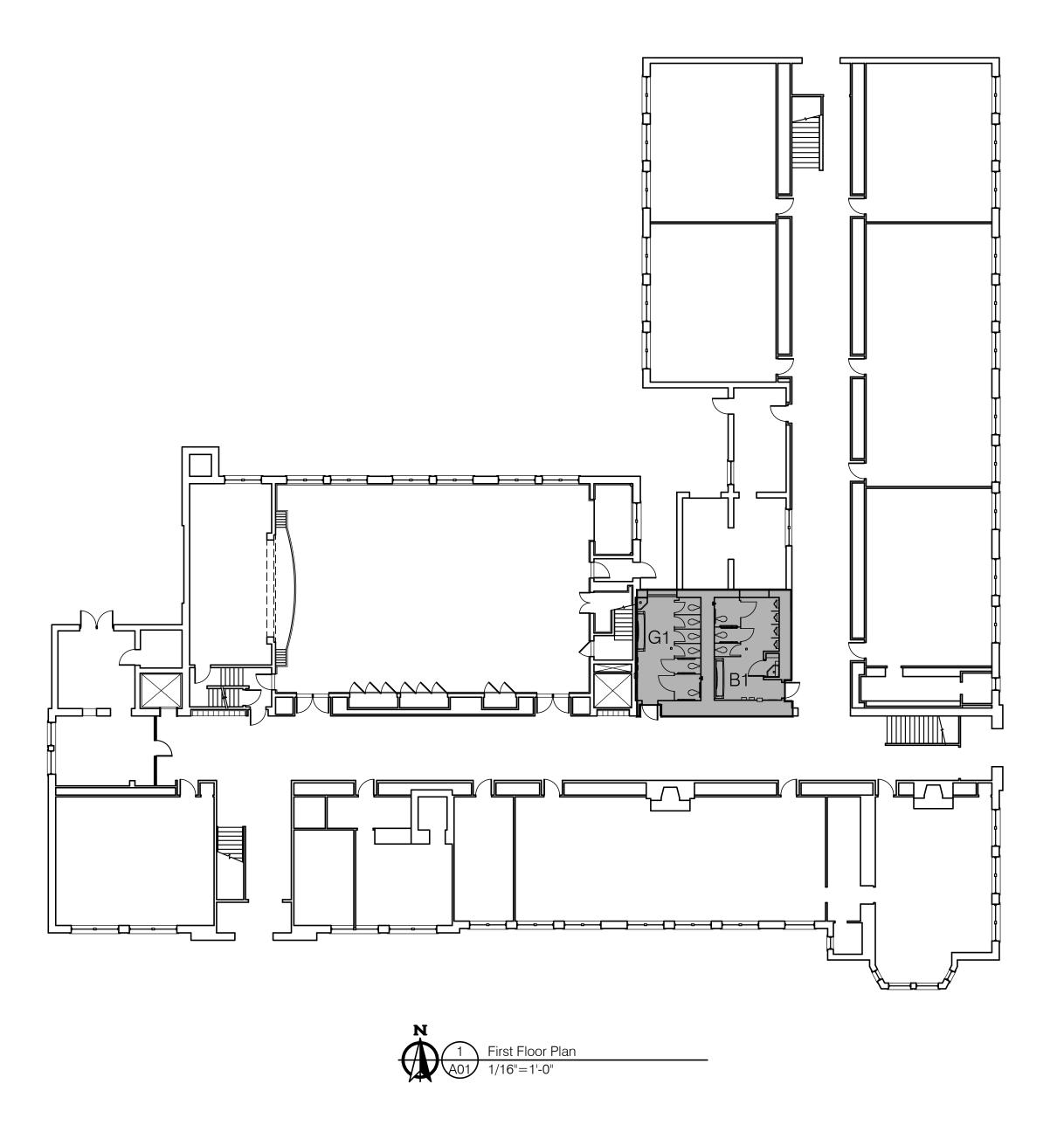
Project No.: 9013

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EXISTING FIXTURE COUNT

BY BUIL	DING (FIRST AND SEC	OND FLOOR)			
DES.	LOCATION	WATER CLOSETS	URINALS	LAVATORIES	WASH FOUNTAINS
FIRST F	LOOR				-
B1	BOYS	3	7	3	0
G1	GIRLS	7		3	0
SECON	D FLOOR				
B2	BOYS	3	4	0	1
G2	GIRLS	6		0	1

LEGEND:



Bidding: 12 Janaury 2016

Location Plan

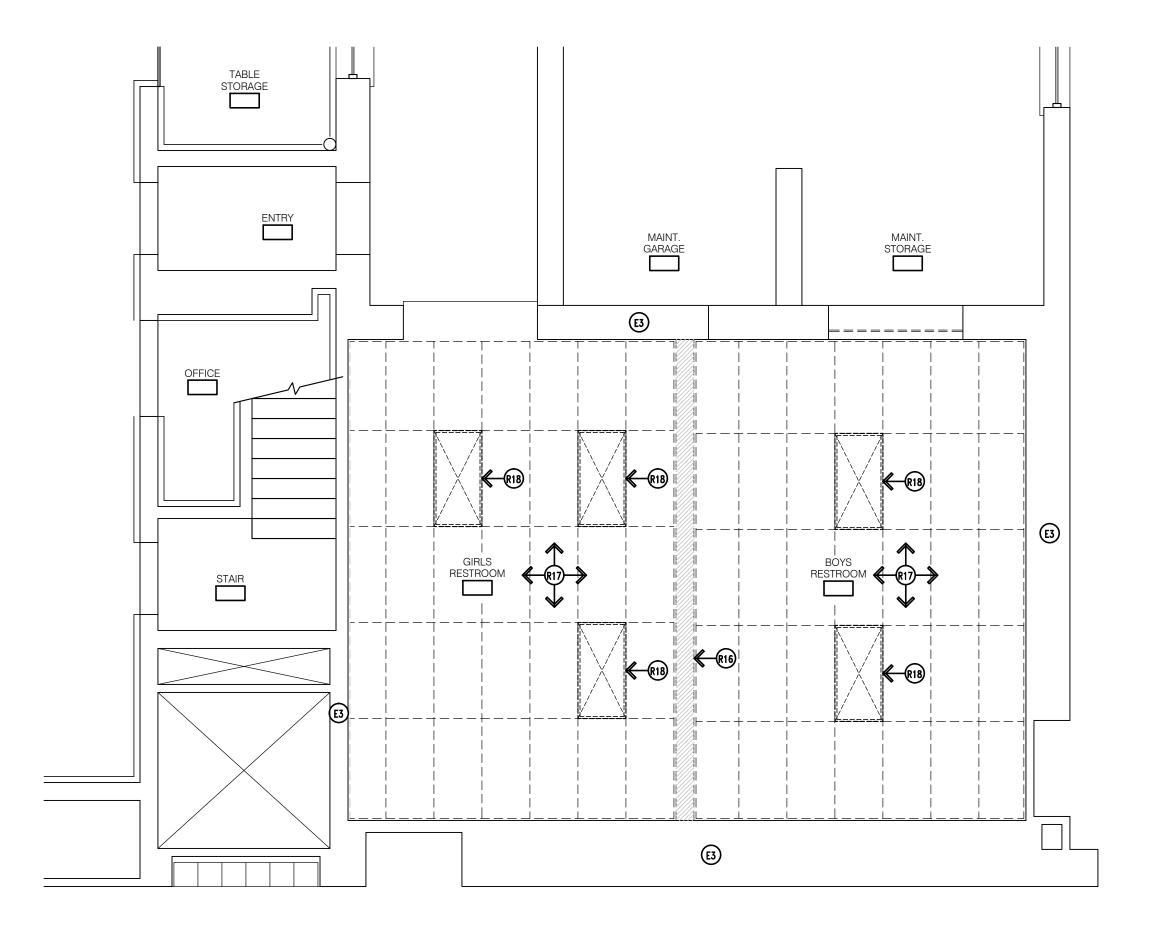
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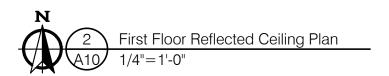
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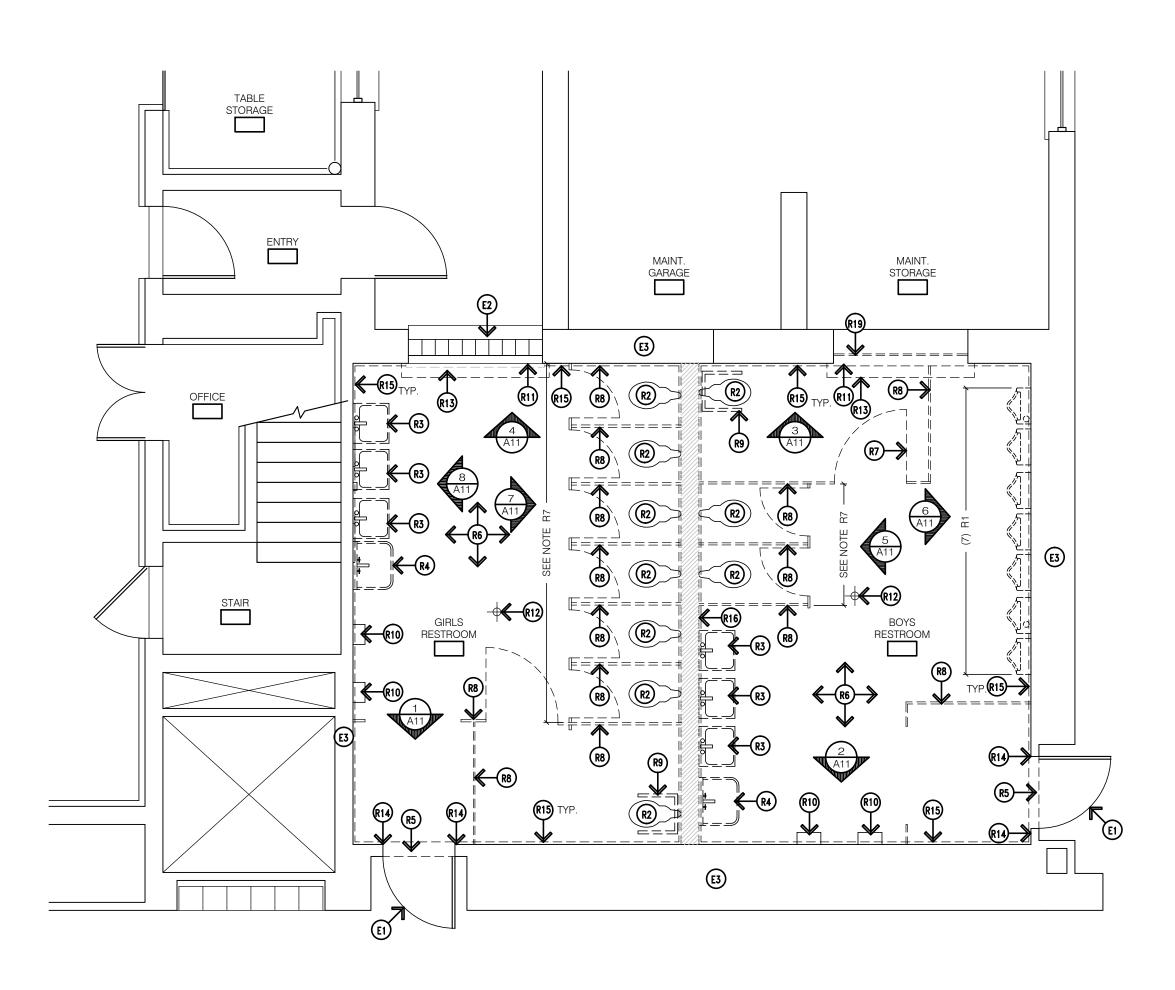
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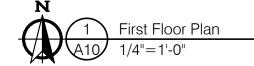
Project No. 9013

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GENERAL REMOVAL NOTES:

- G1. DISPOSE OF ALL ITEMS REMOVED OFF SITE PER LOCAL BUILDING AND SAFETY ORDINANCES. ANY ITEM REQUESTED BY GPPSS TO BE SALVAGED SHALL BE
- G2. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED AND FINISHED BACK TO EXISTING CONDITION.
- G3. DO NOT DISTURB EXISTING UTILITIES TO REMAIN. USE EVERY PRECAUTION TO ENSURE SAFE REMOVAL WORK. INSPECT EXISTING WORK FOR POSSIBLE UNUSUAL CONDITIONS.
- G4. COORDINATE ALL REMOVAL WORK (ARCHITECTURAL REMOVAL WORK, ELECTRICAL REMOVAL WORK, MECHANICAL REMOVAL WORK, ETC.)
- G5. FIRE ALARMS, STROBES, CALL BELLS, PA SYSTEM, ELECTRICAL CIRCUIT BOX, SWITCHES, OUTLETS, WIREMOLD (NOT ASSOCIATED WITH WORK TO BE REMOVED), EMERGENCY LIGHTS WITH BATTERY BACKUP, EXIT LIGHTS, ETC. TO REMAIN IN WORKING ORDER AT ALL TIMES.
- G6. CONTRACTOR TO COORDINATE TIMING OF REMOVAL WORK THAT AFFECTS SCHOOL OPERATIONS SO AS TO NOT CAUSE DISRUPTION TO NORMAL OPERATIONS
- G7. CONTRACTOR TO FIELD VERIFY EXISTING FLOOR SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- G8. CONTRACTOR TO FIELD VERIFY EXISTING WALL SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- G9. PROJECT INTENT IS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, ETC. TO BE CONCEALED IN WALLS.
- G10. THE RESTROOM WALLS AND CEILING MUST BE PATCHED/REPAIRED BACK TO A SUITABLE 1-HOUR RATING WHEN CONSTRUCTION IS COMPLETE.
- G11. CEILING REMOVALS SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS TO BE DETERMINED BY CONTRACTOR'S MEANS AND METHODS FOR ALL WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.)
- G12. ALL WALLS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE

EXISTING ITEMS TO REMAIN:

- E1. WOOD DOOR, WOOD FRAME AND HARDWARE.
- E2. GLASS BLOCK WINDOW
- E3. WALL

REMOVAL NOTES: (REMOVE THE FOLLOWING ITEMS)

- R1. FLOOR MOUNTED URINAL. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R2. FLOOR MOUNTED WATER CLOSET. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- R3. WALL MOUNTED LAVATORY. REFER TO MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
- R4. WALL MOUNTED SERVICE SINK. REFER TO MECHANICAL FOR FURTHER
- R5. MARBLE THRESHOLD
- R6. TERRAZZO FLOORING AND COVED BASE. REMOVE AS REQUIRED TO PROVIDE NEW EPOXY TERRAZZO FINISH AND REPAIR OVERLAY. REFER TO DETAILS AND SPECIFICATIONS. **INTENT IS <u>NOT</u> TO REMOVE THE FLOOR IN ITS ENTIRETY, ONLY AS NEEDED AT HIGH SPOTS, FLOOR DRAIN, PENETRATIONS EPOXY FINISH, ETC. EXISTING COVE BASE IS INTENDED TO BE REMOVED COMPLETELY.
- R7. PLASTIC TOILET PARTITION DOOR AND ACCESSORIES.
- R8. MARBLE PARTITION AND TERRAZZO BASE
- R9. GRAB BAR
- R10. ELECTRIC HAND DRYER
- D11 MADDLE WINDOWS
- R11. MARBLE WINDOW SILLR12. FLOOR DRAIN REFER TO MECHANICAL FOR FURTHER INFORMATION
- R13. RADIATOR AND PIPING REFER TO MECHANICAL FOR FURTHER INFORMATION
- R14. WOOD DOOR TRIM TO BE TO BE REWORKED AFTER NEW WALL TILE IS INSTALLED.
- R15. MARBLE WALL PANEL AND TOP TRIM PIECE. TO BE REMOVED BY ENVIRONMENTAL CONTRACTOR. DISPOSAL BY G.C.
- R16. WALL, COMPLETELY (CLAY TILE, MARBLE WALL PANEL, PLASTER, ETC.)
- R17. SUSPENDED CEILING TILES AND METAL GRID SALVAGE AND RETURN TILES BACK TO OWNER.
- R18. RECESSED LIGHT FIXTURE SALVAGE AND RETURN TO OWNER REFER TO ELECTRICAL FOR FURTHER INFORMATION
- R19. WALL SHEATHING AS NEEDED TO INSTALL NEW WALL AS SHOWN ON DRAWING A20

CONTRACTOR COORDINATION:

**IMPORTANT CONTRACTOR COORDINATION WILL BE REQUIRED BETWEEN GENERAL CONTRACTOR AND ENVIRONMENTAL CONTRACTOR. REFER TO PROJECT MANUAL FOR FURTHER INFORMATION AND MATERIALS SURVEYS.

- C1. GENERAL CONTRACTOR TO REMOVE ALL FIRST FLOOR TOILET PARTITIONS, FIXTURES, ACCESSORIES, ETC. PRIOR TO ENVIRONMENTAL CONTRACTOR COMMENCEMENT.
- C2. ENVIRONMENTAL CONTRACTOR TO PROTECT FLOOR WITH PLYWOOD
- C3. ENVIRONMENTAL CONTRACTOR TO REMOVE WALL PLASTER (+/- 4' OF WALL ABOVE
- C4. ENVIRONMENTAL CONTRACTOR TO REMOVE MARBLE WALL PANELS AND SET ASIDE FOR DISPOSAL BY GENERAL CONTRACTOR.
- C5. ENVIRONMENTAL CONTRACTOR TO REMOVE ITEMS NOTED IN SURVEY AS HAVING LEAD CONTAINING PAINT (I.E. VENTS, RADIATOR, ETC.)

Bidding: 12 January 2016

Removals Plans

architects • engineers

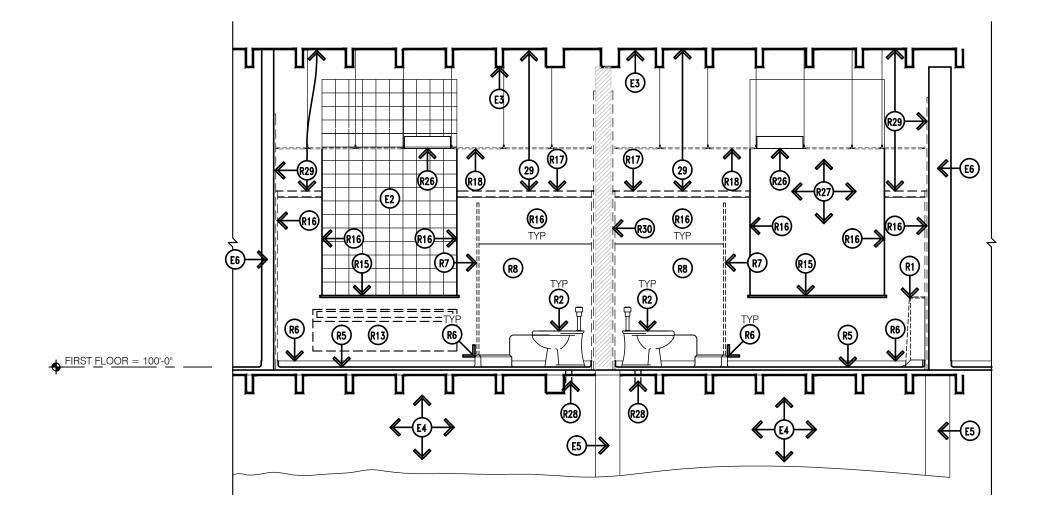
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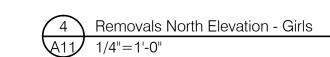
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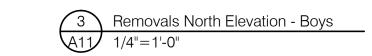
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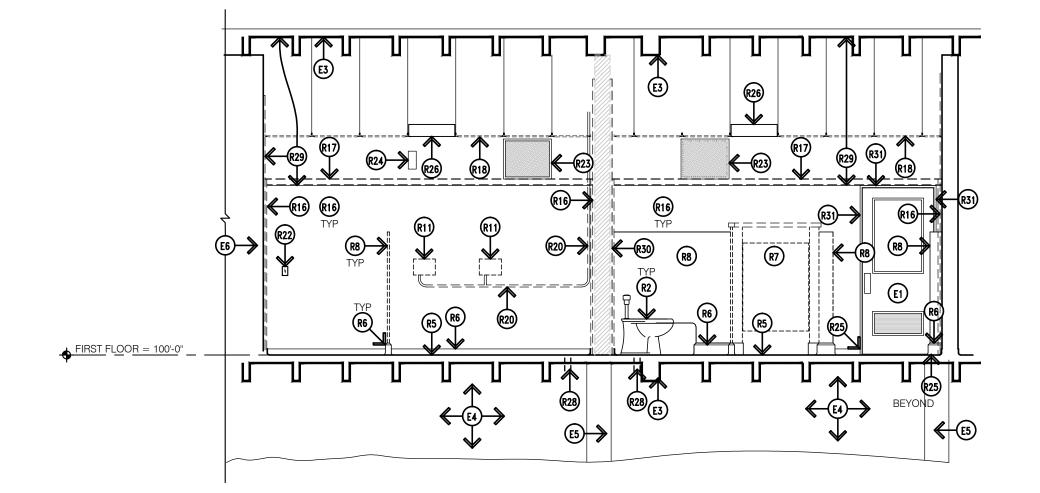
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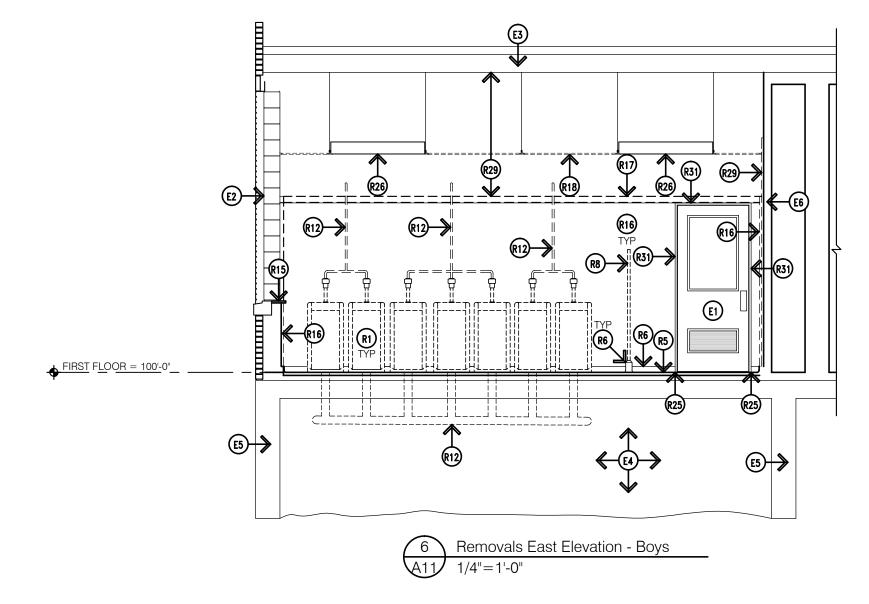


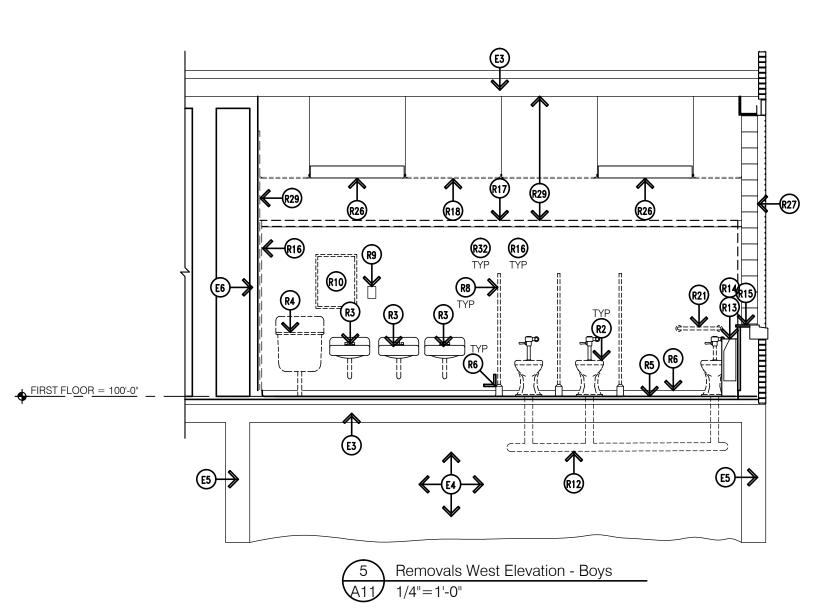


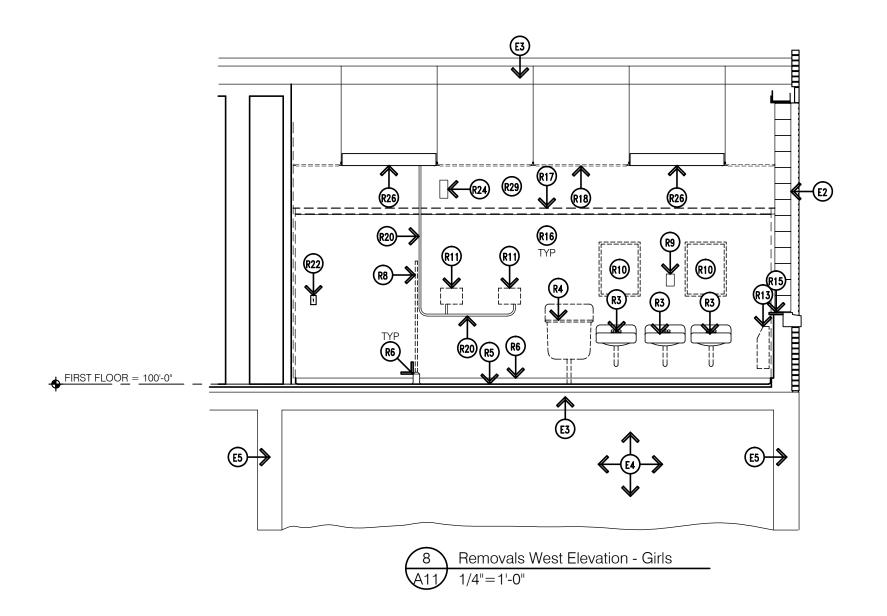


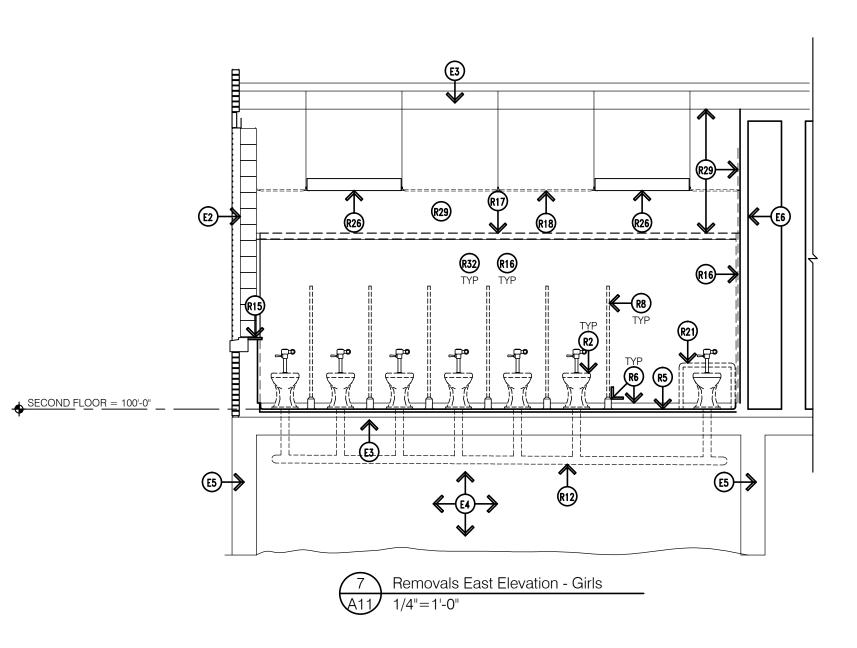












GENERAL REMOVAL NOTES:

- G1. DISPOSE OF ALL ITEMS REMOVED OFF SITE PER LOCAL BUILDING AND SAFETY ORDINANCES. ANY ITEM REQUESTED BY GPPSS TO BE SALVAGED SHALL BE RETURNED TO OWNER.
- G2. ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE PATCHED, REPAIRED AND FINISHED BACK TO EXISTING CONDITION.
- G3. DO NOT DISTURB EXISTING UTILITIES TO REMAIN. USE EVERY PRECAUTION TO ENSURE SAFE REMOVAL WORK. INSPECT EXISTING WORK FOR POSSIBLE UNUSUAL CONDITIONS.
- G4. COORDINATE ALL REMOVAL WORK (ARCHITECTURAL REMOVAL WORK, ELECTRICAL REMOVAL WORK, MECHANICAL REMOVAL WORK, ETC.)
- G5. FIRE ALARMS, STROBES, CALL BELLS, PA SYSTEM, ELECTRICAL CIRCUIT BOX, SWITCHES, OUTLETS, WIREMOLD (NOT ASSOCIATED WITH WORK TO BE REMOVED), EMERGENCY LIGHTS WITH BATTERY BACKUP, EXIT LIGHTS, ETC. TO REMAIN IN WORKING ORDER AT ALL TIMES.
- G6. CONTRACTOR TO COORDINATE TIMING OF REMOVAL WORK THAT AFFECTS SCHOOL OPERATIONS SO AS TO NOT CAUSE DISRUPTION TO NORMAL
- G7. CONTRACTOR TO FIELD VERIFY EXISTING FLOOR SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- G8. CONTRACTOR TO FIELD VERIFY EXISTING WALL SUBSTRATE PRIOR TO STARTING THE WORK TO ASSURE THAT IT IS AN ACCEPTABLE SURFACE FOR FINISH
- G9. PROJECT INTENT IS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL ETC. TO BE CONCEALED IN WALLS.
- G10. THE RESTROOM WALLS AND CEILING MUST BE PATCHED/REPAIRED BACK TO A SUITABLE 1-HOUR RATING WHEN CONSTRUCTION IS COMPLETE.
- G11. CEILING REMOVALS SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS TO BE DETERMINED BY CONTRACTOR'S MEANS AND METHODS FOR ALL WORK (ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.)
- G12. ALL WALLS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

EXISTING ITEMS TO REMAIN:

- E1. WOOD DOOR, WOOD FRAME, WOOD TRIM AND HARDWARE
- E2. GLASS BLOCK WINDOW
- E3. CONCRETE BEAM EXACT CONDITIONS UNKNOWN
- E4. CRAWL SPACE ECU CFV
- E5. CONCRETE WALL FOUNDATION/ FOOTING ECU CFV
- E6. MASONRY WALL ECU CFV

REMOVAL NOTES: (REMOVE THE FOLLOWING ITEMS)

- R1. FLOOR MOUNTED URINAL. REFER TO MECHANICAL FOR FURTHER INFORMATION
- R2. FLOOR MOUNTED WATER CLOSET. REFER TO MECHANICAL FOR FURTHER INFORMATION
- R3. LAVATORY. REFER TO MECHANICAL FOR FURTHER INFORMATION
- R4. WALL MOUNTED SERVICE SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION
- R5. TERRAZZO FLOORING. REMOVE AS REQUIRED TO PROVIDE NEW EPOXY TERRAZZO FINISH AND REPAIR OVERLAY. REFER TO DETAILS AND SPECIFICATIONS. **INTENT IS NOT TO REMOVE THE FLOOR IN ITS ENTIRETY, ONLY AS NEEDED AT HIGH SPOTS, PENETRATIONS, FLOOR DRAIN, EPOXY FINISH, ETC.
- R6. TERRAZZO COVED BASE
- R7. PLASTIC PARTITION
- R8. MARBLE PARTITION
- R9. SOAP DISPENSER. RETURN TO OWNER.
- R10. MIRROR
- R11. HAND DRYER
- R12. PIPING REFER TO MECHANICAL FOR FURTHER INFORMATION
- R13. RADIATOR AND PIPING- REFER TO MECHANICAL FOR FURTHER INFORMATION
- R14. RADIATOR COVER
- R15. MARBLE WINDOW SILL BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R16. MARBLE WALL PANEL BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
 R17. MARBLE WALL TRIM BAND BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R17. MARBLE WALL TRIM BAND BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR

 R18. ACOUSTICAL CEILING TILES AND METAL GRID SALVAGE AND RETURN TO OWNER
- R19. NOT USED
- R20. ELECTRICAL CONDUIT
- R21. GRAB BAR
- R22. LIGHT SWITCH AND PLATE
 R23. METAL GRATE. RETURN TO OWNER
- R24. AIR FRESHENER
- R25. PLINTH BLOCK BOTH SIDES OF DOOR
- R26. RECESSED LIGHT FIXTURE, SALVAGE AND RETURN TO OWNER. REFER TO ELECTRICAL FOR FURTHER INFORMATION
- R27. WALL SHEATHING AS NEEDED TO INSTALL NEW WALL AS SHOWN ON DRAWING A20
- R28. CORE THROUGH EXISTING CONCRETE SLAB FOR NEW WASTE PIPE DO NOT CORE THROUGH BEAM ECU CFV.
- R29. WALL PLASTER COMPLETE. DO NOT DISTURB EXISTING WALL TO REMAIN -BY OWNER'S SEPARATE ENVIRONMENTAL CONTRACTOR
- R30. WALL COMPLETELY (CLAY TILE, MARBLE WALL PANELS, PLASTER, ETC.)
- R31. WOOD DOOR TRIM TO BE REWORKED AFTER NEW WALL TILE IS INSTALLED
- R32. WALL COMPLETELY

Bidding: 12 January 2016

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

Removals Elevations

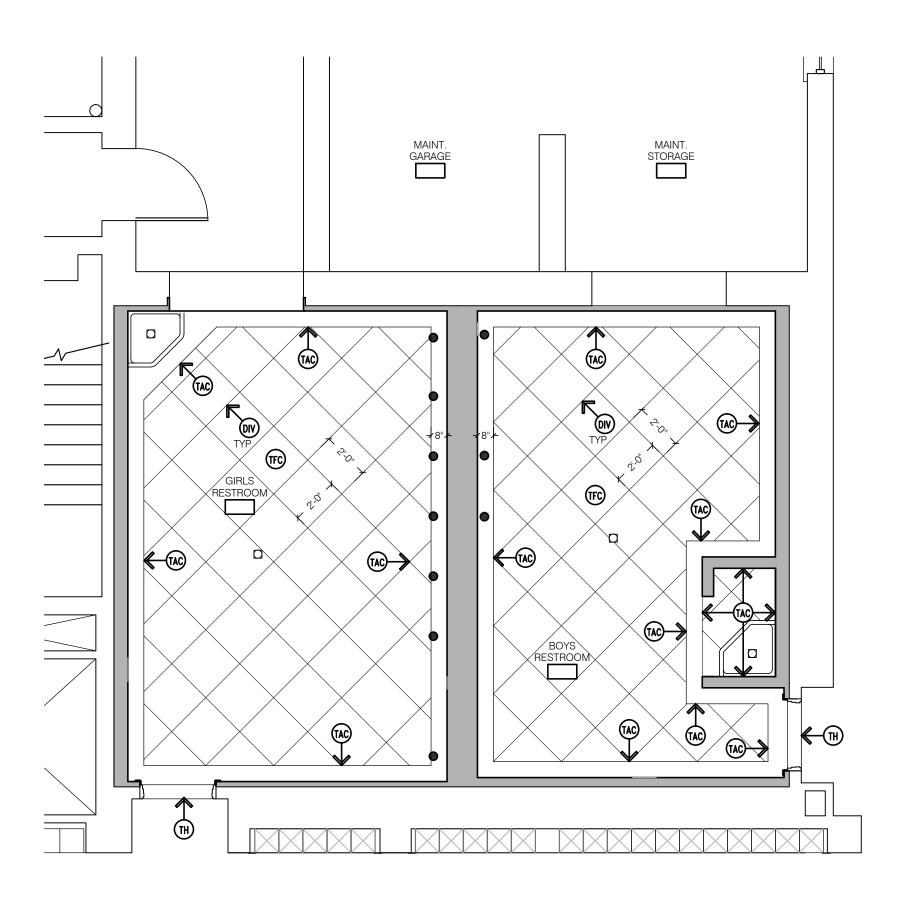
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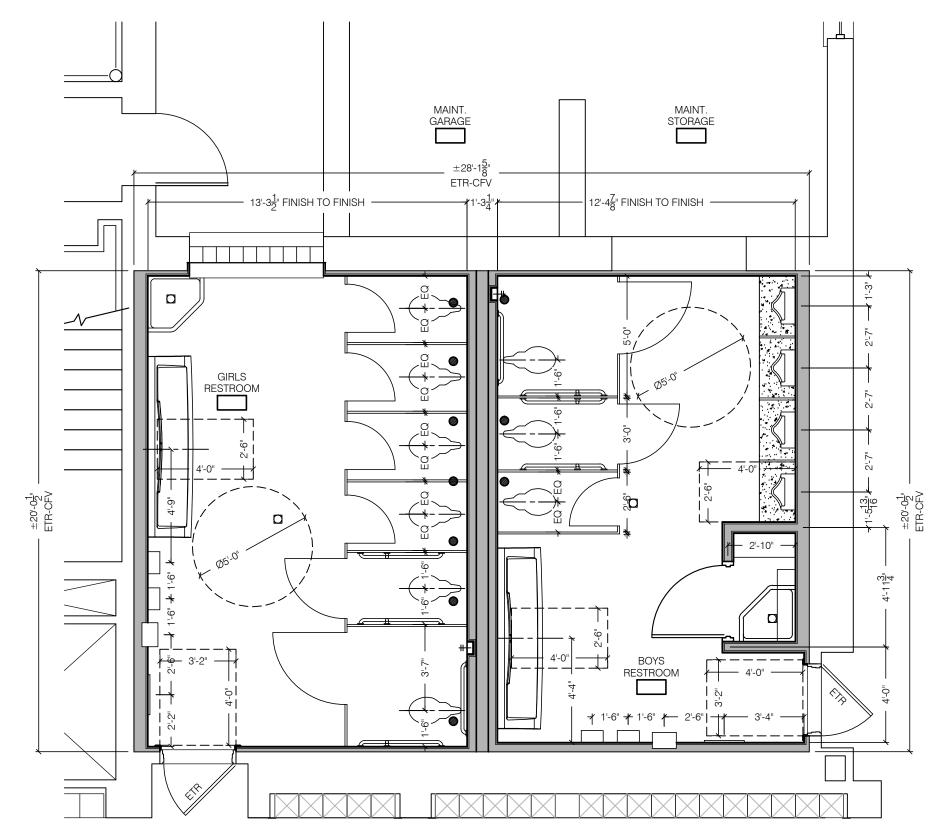
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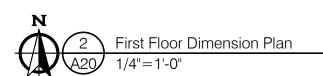
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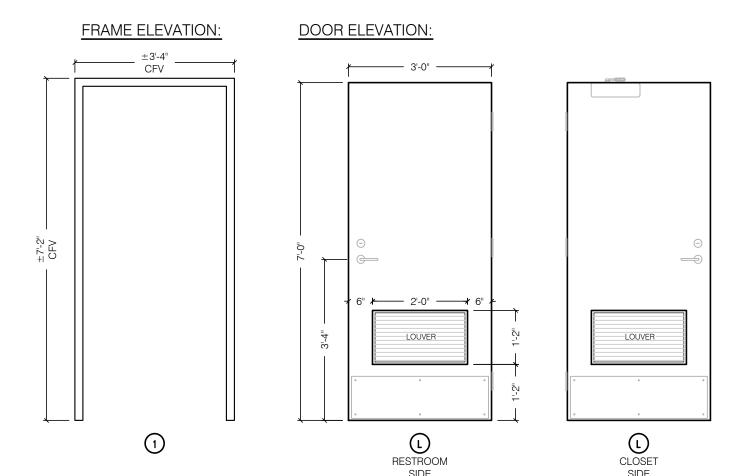
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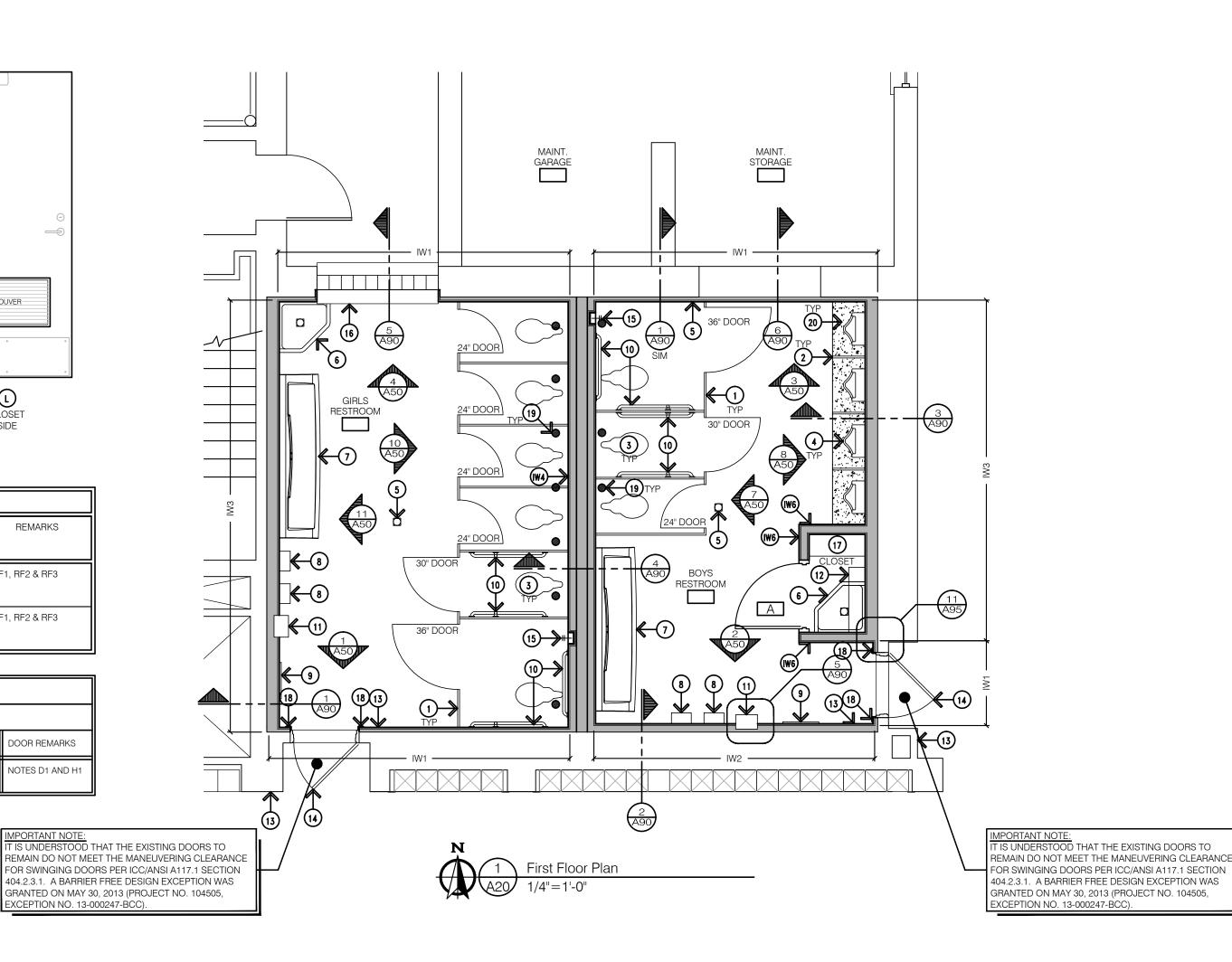






ROOM NAME	FLOOR	BASE		WA	LLS		CEII	LING	REMARKS
			WEST	EAST	NORTH	SOUTH	FINISH	HEIGHT	
BOYS RESTROOM GIRLS RESTROOM	EPOXY TERRAZZO TFC	EPOXY TERRAZZO TAC	GB (PTD) CT1, CT2 AT1	GB (PTD) CT1, CT2 AT1	GB (PTD) CT1, CT2 AT1	GB (PTD) CT1, CT2 AT1	ACT	9'-0"	RF1, RF2 & RF3
CLOSET	EPOXY TERRAZZO TFC	EPOXY TERRAZZO TAC	GB (PTD)	GB (PTD)	GB (PTD)	GB (PTD)	ACT	8'-0"	RF1, RF2 & RF3

	DOOR SCHEDULE																
DOOR	OPENING LOCATION	FIRE	HARDW.	LOCK	FRAME	INFORMA	ATION					DOOR INF	ORMATIC	NC			
NO.			HEADING	II		OPENING HEIGHT	FRAME ELEV.	JAMB DEPTH		FRAME FINISH	FRAME REMARKS	DOOR SIZE	DOOR THICK.	DOOR ELEV.	DOOR MATER.	DOOR FINISH	DOOR REMARKS
A	TO BOYS RESTROOM FROM CLOSET	N/A	SET #1	CLASSROOM L9070	3'-4"	7'-2"	1	5-3/4"	WOOD	STN	NOTE F1	3'-0"x7'-0"	1-3/4"	L	WOOD	STN	NOTES D1 AND H1



INTERIOR WALL DESIGNATIONS:

SOUND INSULATION

EXISTING WALL STRUCTURE

SECTION

 SECTION

S
 CEMENTITOUS BACKER BOARD

• § CEMENTITOUS BACKER BOARD

SOUND INSULATION

6" PIPE SPACE

IW5. • NOT USED

EXISTING WALL STRUCTURE

DEFLECTION WITH SLIP TRACK)

DEFLECTION WITH SLIP TRACK) EXISTING WALL STRUCTURE

IW1. • CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL

DEFLECTION WITH SLIP TRACK)

INSTALL FIRE SAFING AT TOP OF WALL.

IW2. • CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL

IW3. • CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL

IW4. • CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL

FLOOR DEFLECTION WITH SLIP TRACK)

IW6. • CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL

CERAMIC TILE TO 5'-11" A.F.F., PER PROJECT MANUAL

S
 CEMENTITOUS BACKER BOARD

DEFLECTION WITH SLIP TRACK)

Sementitous Backer Board

• ABOVE CERAMIC TILE PROVIDE 5 TYPE "X" MOLD AND MOISTURE RESISTANT

• 3-5/8" METAL STUD FRAMING @ 16" O.C. TO UNDERSIDE OF FLOOR STRUCTURE

GYPSUM BOARD, TAPED AND FINISHED THREE COATS TO UNDERSIDE OF EXISTING STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO ALLOW FOR

• 6" METAL STUD FRAMING @ 16" O.C. TO UNDERSIDE OF FLOOR STRUCTURE ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR FLOOR

ABOVE CERAMIC TILE PROVIDE \$\frac{5}{8}\$" TYPE "X" MOLD & MOISTURE RESISTANT

ALLOW FOR DEFLECTION). INSTALL FIRE SAFING AT TOP OF WALL.

GYPSUM BOARD, TAPED AND FINISHED (PRIMER PLUS TWO COATS) TO UNDERSIDE OF EXISTING STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO

• 3-5/8" METAL STUD FRAMING @ 16" O.C. (12 GAUGE) TO UNDERSIDE OF FLOOR STRUCTURE ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR

• 3-5/8" METAL STUD FRAMING @ 16" O.C. (12 GAUGE) TO UNDERSIDE OF FLOOR STRUCTURE ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR

GYPSUM BOARD, TAPED AND FINISHED (PRIMER PLUS TWO COATS) TO

• 3-5/8" METAL STUD FRAMING @ 16" O.C. TO UNDERSIDE OF FLOOR STRUCTURE ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR FLOOR

GYPSUM BOARD, TAPED AND FINISHED (PRIMER PLUS TWO COATS) TO

ALLOW FOR DEFLECTION). INSTALL FIRE SAFING AT TOP OF WALL.

UNDERSIDE OF EXISTING STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO

ALLOW FOR DEFLECTION). INSTALL FIRE SAFING AT TOP OF WALL.

UNDERSIDE OF EXISTING STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO

ABOVE CERAMIC TILE PROVIDE \$" TYPE "X" MOLD & MOISTURE RESISTANT

DEFLECTION). INSTALL FIRE SAFING AT TOP OF WALL.

ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR FLOOR

GYPSUM BOARD (TAPED AND FINISHED 3 COATS) TO UNDERSIDE OF EXISTING

STRUCTURE ABOVE (STOP MINIMUM 1-1/2" BELOW TO ALLOW FOR DEFLECTION).

- MECHANICAL WORK, PLUMBING WORK, ETC.) • 5" CEMENTITOUS BACKER BOARD • 1-5/8" METAL STUD FRAMING @ 16" O.C. TO UNDERSIDE OF FLOOR STRUCTURE ABOVE (STOP MINIMUM 1" BELOW FLOOR STRUCTURE ABOVE FOR FLOOR
 - G2. ALL WALLS ARE EXISTING UNLESS OTHERWISE INDICATED.
 - G3. CONTRACTOR TO COORDINATE TIMING OF WORK THAT AFFECTS SCHOOL OPERATIONS SO AS TO NOT CAUSE DISRUPTION TO NORMAL OPERATIONS.

G1. COORDINATE ALL WORK (ARCHITECTURAL WORK, ELECTRICAL WORK,

- G4. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING
- ON THE WORK. G5. INTENTION IS THAT ALL STALLS ARE THE SAME SIZE EXCEPT FOR BARRIER FREE
- G6. TOILET TISSUE DISPENSERS WILL BE FURNISHED BY THE OWNER AND INSTALLED
- BY THIS CONTRACTOR (ONE PER STALL). G7. INTENT IS THAT ALL EXISTING AND NEW PIPING IS TO BE CONCEALED

G8. PROVIDE NON-COM WOOD BLOCKING AS REQUIRED BY MANUFACTURER. BLOCKING IS NOT ALWAYS CALLED OUT FOR ON PLANS.

DRAWING NOTES:

GENERAL NOTES:

- 1. FLOOR MOUNTED, OVERHEAD BRACED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- WALL MOUNTED, PLASTIC URINAL SCREEN WITH CONTINUOUS WALL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

CARRIER WITH FLOOR SUPPORTED STANCHIONS.

- 3. FLOOR MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17"
- A.F.F. REFER TO MECHANICAL FOR FURTHER INFORMATION. WALL MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE, MOUNTED WITH RIM AT 17" A.F.F. REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED
- 5. FLOOR DRAIN. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 6. FLOOR MOUNTED MOP SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 7. WALL MOUNTED WASH FOUNTAIN. PROVIDE ALL NECESSARY CONCEALED
- 8. ELECTRIC HAND DRYER. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- FLOOR DEFLECTION WITH SLIP TRACK) 9. MIRROR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. SE CEMENTITOUS BACKER BOARD ABOVE CERAMIC TILE PROVIDE 5" TYPE "X" MOLD & MOISTURE RESISTANT
 - 10. GRAB BAR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. MOUNT PER ALL BARRIER FREE REQUIREMENTS.
 - 11. SEMI-RECESSED TRASH RECEPTACLE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
 - 12. UTILITY SHELF WITH MOP/BROOM HOLDERS AND RAG HOOKS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

15. RECESSED HOSE BIBB WITH LOCKABLE COVER. REFER TO MECHANICAL FOR

- 13. LOCATION OF WIRELESS AUTOMATIC DOOR ACTUATOR, PER SECTION 08711.
- 14. REPLACE DOOR CLOSER WITH AUTOMATIC DOOR OPERATOR, PER SECTION 08711. OPERATOR TO BE PUSH SIDE MODEL.

17. COATED WIRE SHELVING WITH METAL SHELF STANDARDS. CONFIRM SHELF SPACING

- FURTHER INFORMATION. ABOVE CERAMIC TILE PROVIDE \$\frac{5}{8}\$" TYPE "X" MOLD & MOISTURE RESISTANT
 - 16. MARBLE WINDOW SILL
 - WITH OWNER PRIOR TO ORDER AND INSTALLATION, OR PLYWOOD, EDGED AND
 - 18. NEW WOOD TRIM AT EXISTING DOOR (TOP AND SIDES). REFER TO DETAILS FOR FURTHER INFORMATION. MATCH EXISTING PROFILE, SPECIES, STAIN, ETC.
 - 19. APPROXIMATE LOCATION OF REMOVED TOILET WASTE PIPING. INFILL CONCRETE SUB FLOOR AT DRAIN PENETRATION. REFER TO DETAILS FOR FURTHER INFORMATION.
 - 20. CONTRACTOR SHOULD ANTICIPATE HAVING TO REPAIR EXISTING FLOOR STRUCTURE AT REMOVED FLOOR MOUNTED URINALS. REFER TO DETAIL AND SPECIFICATIONS

GENERAL ROOM FINISH NOTES:

- RF1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- RF2. REFER TO SPECIFICATIONS AND INTERIOR ELEVATIONS FOR CERAMIC TILE
- RF3. CERAMIC TILE GROUT JOINTS TO BE 1/8"

INTERIOR FINISH ABBREVIATIONS:

DIV TERRAZZO DIVIDER STRIP

- TH TERRAZZO THRESHOLD, TO MATCH BASE/BORDER. PROVIDE SLOPES PER ALL
- BARRIER FREE REQUIREMENTS. TAC TERRAZZO ACCENT/BASE COLOR - REFER TO SPECIFICATIONS FOR FURTHER
- INFORMATION. THIS COLOR TO BE USED FOR INTEGRAL BASE ALSO. TFC TERRAZZO FIELD COLOR - REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

DOOR NOTES:

D1 MATCH EXISTING STAIN COLOR

HARDWARE NOTES:

H1 REFER TO SPECIFICATIONS FOR HARDWARE SET INFORMATION

FRAME NOTES:

F1 MATCH EXISTING STAIN COLOR

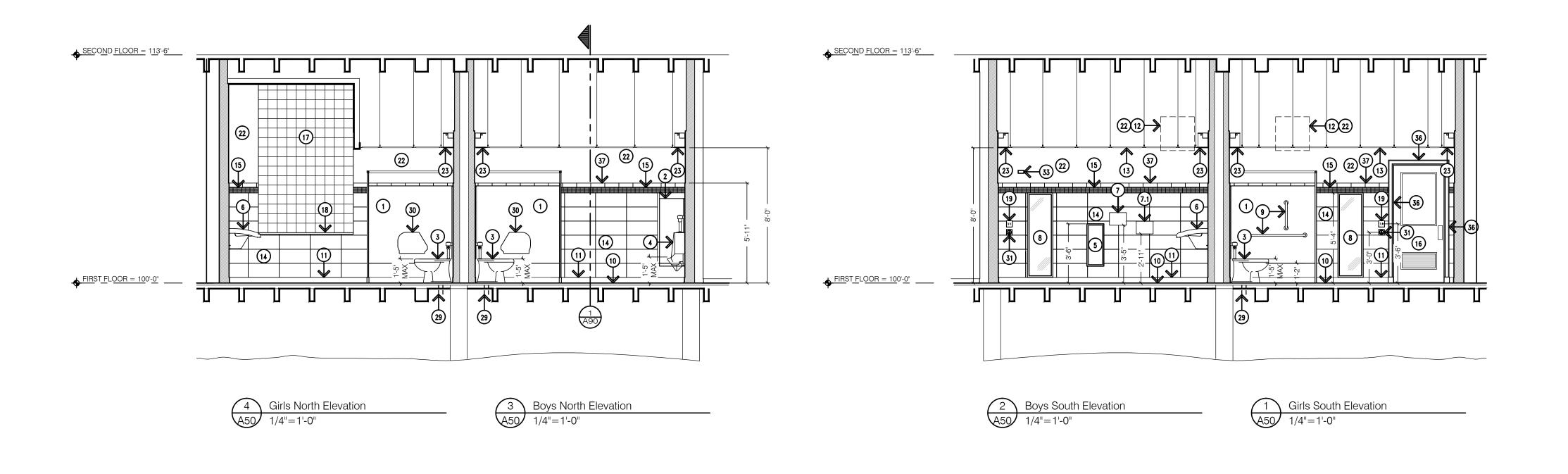
Bidding: 12 January 2016

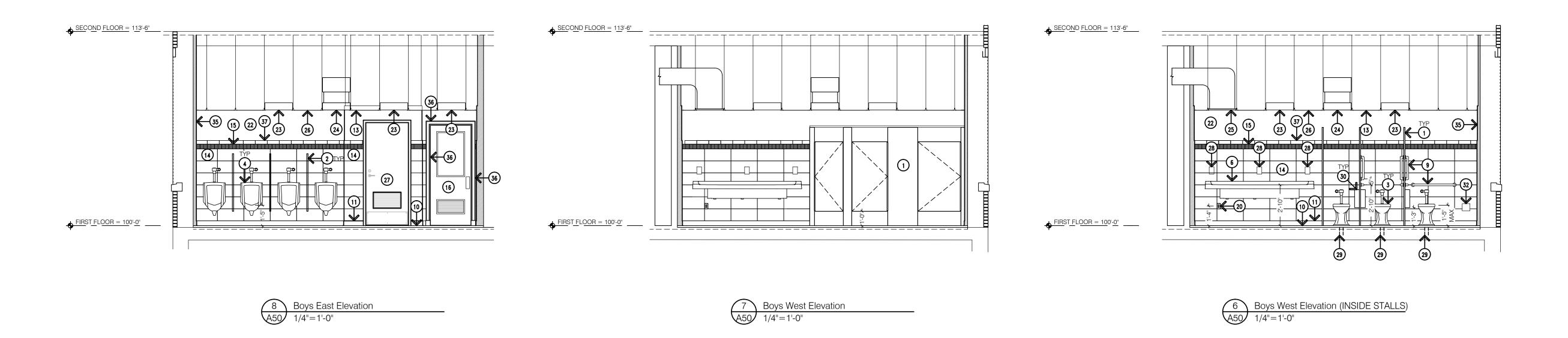
Floor & Dimensioned Plans

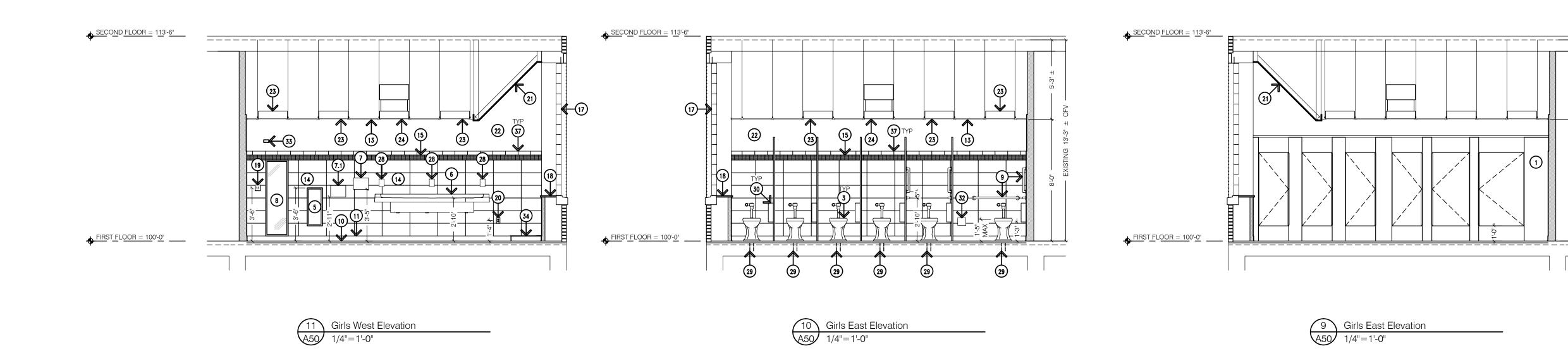
Ehresman Associates, Inc.

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase Two

Project No. 9013







GENERAL NOTES:

- G1. ALL WALLS ARE EXISTING UNLESS OTHERWISE INDICATED.
- G2. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK. CONFIRM ALL DIMENSIONS PRIOR TO WALL
- G3. REFER TO ROOM FINISH SCHEDULE FOR FURTHER INFORMATION DRAWING NOTES
- FLOOR MOUNTED, OVERHEAD BRACED PLASTIC TOILET COMPARTMENT WITH DOOR, HINGES, SLIDE LATCH, DOOR PULL, COAT HOOK, ETC. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 2. WALL MOUNTED PLASTIC URINAL SCREEN WITH CONTINUOUS BRACKET
- WALL MOUNTED TOILET WITH AUTOMATIC FLUSH VALVE. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 4. FLOOR MOUNTED URINAL WITH AUTOMATIC FLUSH VALVE. REFER TO MECHANICAL FOR FURTHER INFORMATION. PROVIDE CONCEALED WALL CARRIER WITH FLOOR SUPPORTED STANCHIONS.
- 5. SEMI RECESSED TRASH RECEPTACLE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 6. WALL MOUNTED WASH FOUNTAIN.
- 7. ELECTRIC HAND DRYER. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 7.1 ELECTRIC HAND DRYER, MOUNTED AT BARRIER FREE HEIGHT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 8. MIRROR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 9. GRAB BAR. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 10. EPOXY TERRAZZO FLOOR (FIELD COLOR). REFER TO INTERIOR DETAILS AND SPECIFICATIONS FOR FURTHER INFORMATION. INTENT IS TO BE INSTALLED OVER EXISTING TERRAZZO FLOORING.
- 11. COVED EPOXY TERRAZZO BASE (ACCENT COLOR). REFER TO INTERIOR DETAILS AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 12. ORIGINAL LOCATION OF WALL DIFFUSER. INFILL OPENING, COORDINATE WITH
- NEW DUCTWORK ON MECHANICAL. 13. ACOUSTICAL CEILING TILE AND GRID. REFER TO REFLECTED CEILING PLAN FOR
- 14. CERAMIC WALL FIELD TILE. REFER TO SPECIFICATIONS FOR FURTHER
- INFORMATION.

15. CERAMIC WALL ACCENT TILE . REFER TO SPECIFICATIONS FOR FURTHER

- 16. EXISTING DOOR, FRAME AND HARDWARE TO REMAIN REPLACE CLOSER AND TRIM
- 17. EXISTING GLASS BLOCK WINDOW TO REMAIN.
- 18. MARBLE WINDOW SILL

FURTHER INFORMATION.

- 19. KEYED LIGHT SWITCH AND SWITCH PLATE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 20. GFI CONVENIENCE DUPLEX OUTLET WITH COVER PLATE. REFER TO ELECTRICAL AND SPECIFICATIONS FOR FURTHER INFORMATION.
- 21. PAINTED GYPSUM BOARD WINDOW SOFFIT. REFER TO REFLECTED CEILING PLAN FOR FURTHER INFORMATION.
- 22. PAINTED GYPSUM BOARD. REFER TO INTERIOR WALL DESIGNATIONS AND SPECIFICATIONS FOR FURTHER INFORMATION. 23. RECESSED LIGHT FIXTURE. REFER TO REFLECTED CEILING PLAN AND ELECTRICAL
- FOR FURTHER INFORMATION.
- 24. UNIT HEATER WITH BLOWER & DUCT WORK. REFER TO REFLECTED CEILING PLAN AND MECHANICAL FOR FURTHER INFORMATION.
- 25. RETURN GRILLE & DUCT WORK. REFER TO REFLECTED CEILING PLAN AND MECHANICAL FOR FURTHER INFORMATION.
- 26. CEILING MOUNTED FIRE ALARM STROBE. CONNECT TO NEW CONCEALED WIRING.
- COORDINATE WITH FIRE ALARM CONTRACTOR, REFLECTED CEILING PLAN AND ELECTRICAL PLAN.
- SPECIFICATIONS FOR FURTHER INFORMATION.
- 28. SOAP DISPENSER. PROVIDED BY OWNER FOR INSTALLATION BY CONTRACTOR.
- 29. PIPING. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 30. TOILET PAPER DISPENSER. PROVIDED BY OWNER FOR INSTALLATION BY CONTRACTOR.
- 31. LOCATION OF WIRELESS ACTUATOR
- 32. RECESSED WALL HYDRANT & COVER REFER TO MECHANICAL FOR FURTHER
- 33. APPROXIMATE LOCATION OF THERMOSTAT/SENSOR. DEVICE COVER TO BE WHITE. PROVIDE LOCKABLE COVER - REFER TO MECHANICAL FOR FURTHER
- 34. FLOOR MOUNTED SERVICE SINK. REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 35. FILL IN AREA (OLD GLASS BLOCK WINDOW LOCATION) FLUSH TO FACE OF WALL. REFER TO "IW5" DESCRIPTION ON FLOOR PLAN
- 36. NEW WOOD TRIM, STAINED TO MATCH EXISTING. REFER TO A95 FOR FURTHER INFORMATION
- 37. TILE TRIM PIECE.

Bidding: 12 January 2016

Interior Elevations

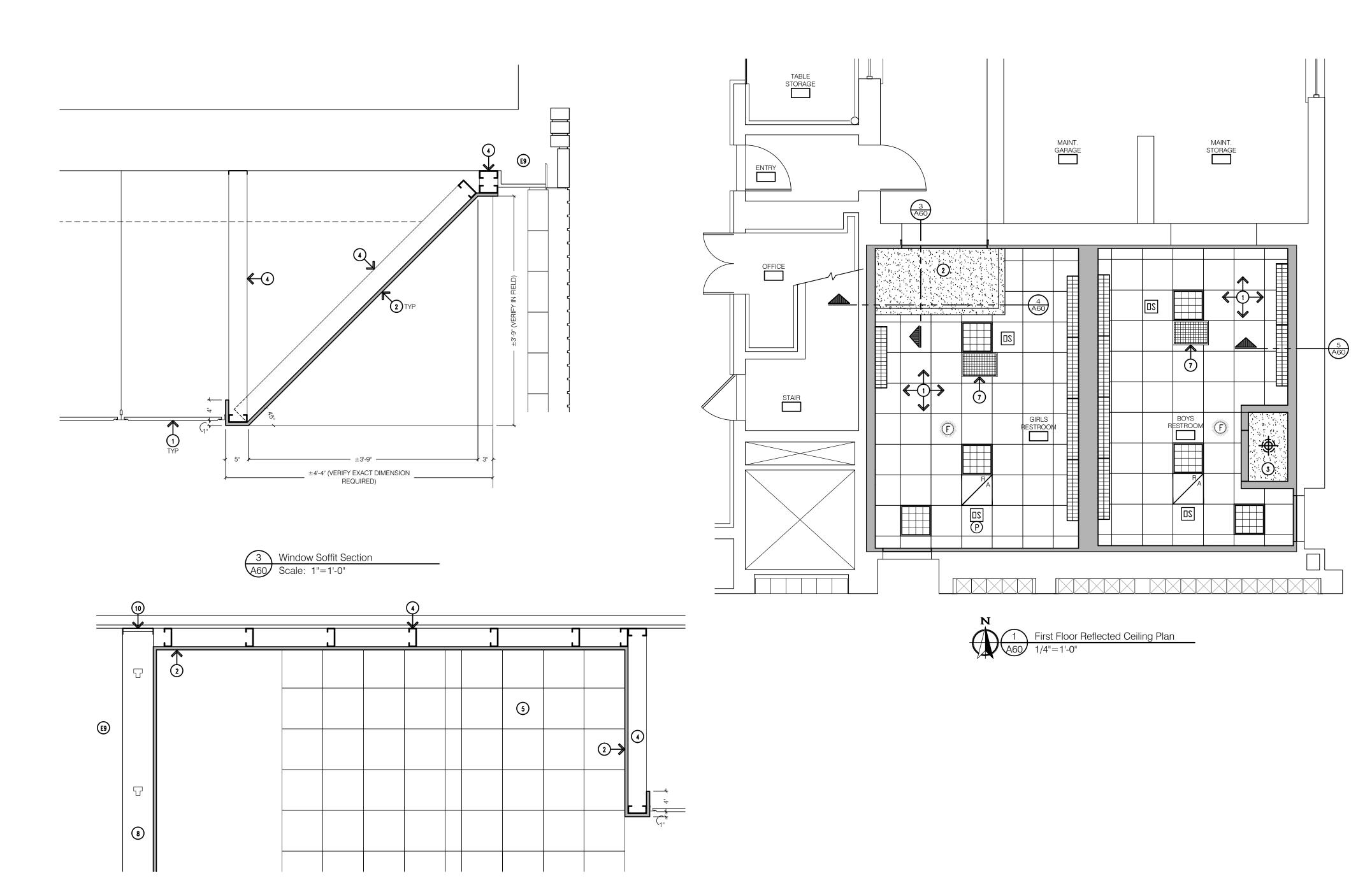
architects • engineers

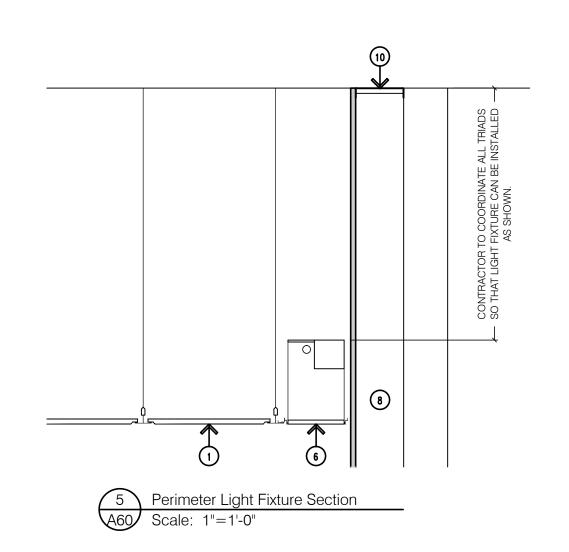
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Scale: 1/4"=1'-0"

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase Two

Project No. 9013





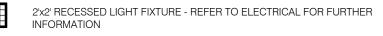
Window Soffit Section
A60 Scale: 1"=1'-0"

GENERAL NOTES:

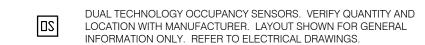
- G1. COORDINATE ALL WORK (ARCHITECTURAL WORK, ELECTRICAL WORK, MECHANICAL WORK, PLUMBING WORK, ETC.)
- G2. EXISTING WIRING HOMERUN LOCATIONS ARE UNKNOWN AND ARE TO BE FIELD
- G3. THE INTENT IS USE FULL TILES WITHOUT ANY CUTS. ADJUST THE SPACING OF TILE ACCORDINGLY $\pm 1/2$ To Fit.
- G4. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO
- G5. CONTRACTOR RESPONSIBLE TO FIELD VERIFY EXISTING CONDITIONS FOR ACCESS TO CONDUIT INSTALLATION ETC.
- G6. THE RESTROOM WALLS AND CEILINGS MUST BE PATCHED/REPAIRED BACK TO A SUITABLE 1-HOUR RATING WHEN CONSTRUCTION IS COMPLETE.

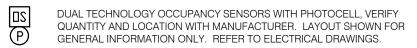
DRAWING NOTES:

- 1. 2'x2' ACOUSTIC CEILING TILE, GRID AND SUPPORTS/TIES REFER TO SPECIFICATION FOR MORE INFORMATION.
- 2. 5/8" GYPSUM BOARD WINDOW SOFFIT REFER TO DETAILS FOR FURTHER
- 3. 5/8" GYPSUM BOARD CEILING ON 6" METAL STUD FRAMING @ 12" O.C.
- 4. 3-5/8" METAL STUD FRAMING @ 12" O.C. SECURE TO EXISTING STRUCTURE
- 5. EXISTING GLASS BLOCK WINDOW TO REMAIN
- 6. LIGHT FIXTURE REFER TO ELECTRICAL FOR FURTHER INFORMATION.
- 7. UNIT HEATER, DUCTWORK & GRILLLE REFER TO MECHANICAL FOR FURTHER INFORMATION.
- 8. METAL STUD FRAMING SECURE TO EXISTING WALL STRUCTURE.
- 9. EXISTING WALL STRUCTURE TO REMAIN
- 10. METAL SLIP-TRACK (SLP-TRK) SYSTEM--PROVIDE MINIMUM 1" GAP FOR EXISTING ROOF DEFLECTION.













© CEILING MOUNTED FIRE ALARM DEVICE

Bidding: 12 January 2016

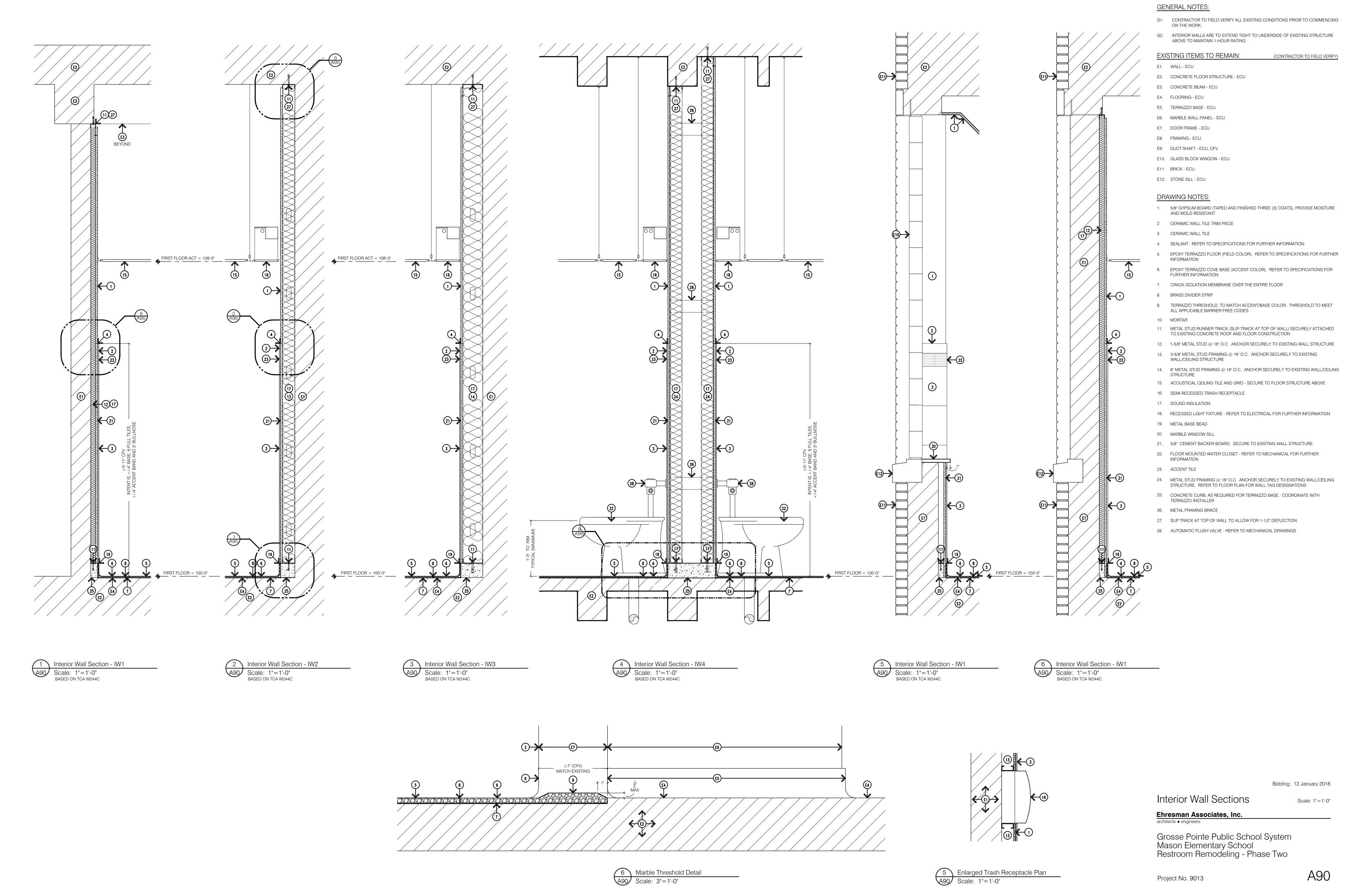
Reflected Ceiling Plan Ehresman Associates, Inc. architects • engineers

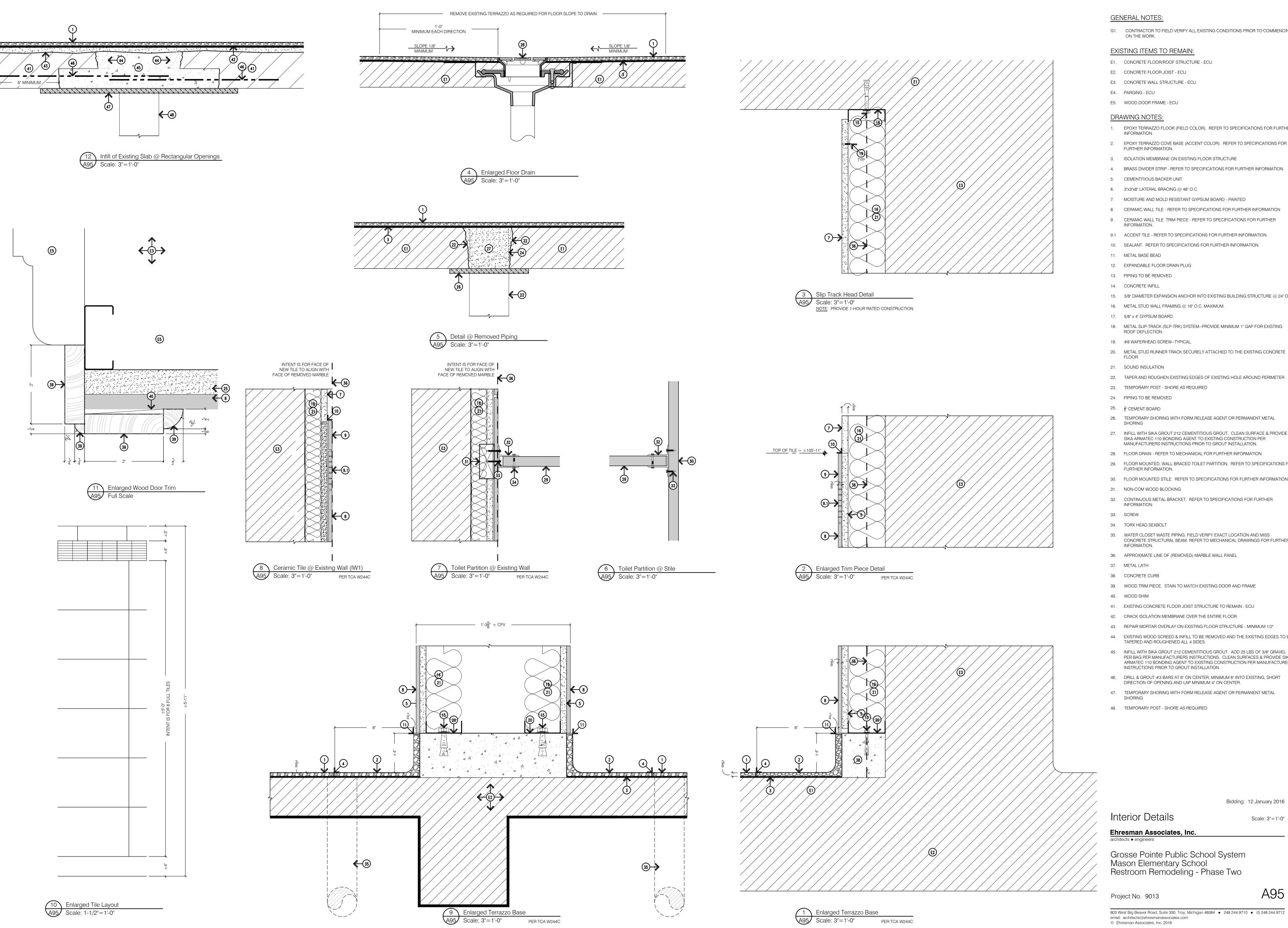
Scale as Noted

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase Two

Project No. 9013

A60





GENERAL NOTES:

G1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ON THE WORK.

EXISTING ITEMS TO REMAIN:

- E1. CONCRETE FLOOR/ROOF STRUCTURE ECU
- E2. CONCRETE FLOOR JOIST ECU
- E3. CONCRETE WALL STRUCTURE ECU
- E4. PARGING ECU
- E5. WOOD DOOR FRAME ECU

DRAWING NOTES:

1. EPOXY TERRAZZO FLOOR (FIELD COLOR). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

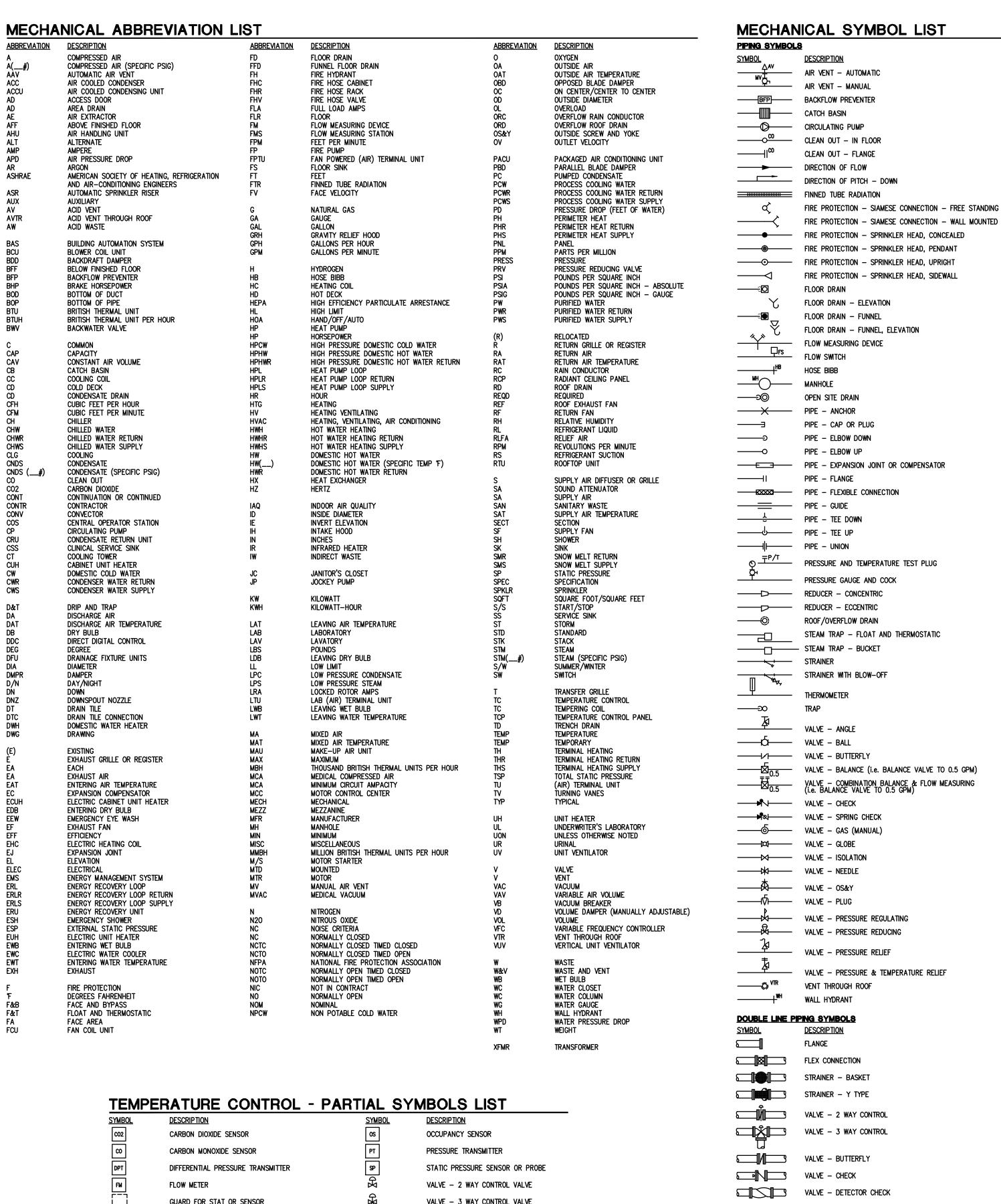
- 2. EPOXY TERRAZZO COVE BASE (ACCENT COLOR). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 3. ISOLATION MEMBRANE ON EXISTING FLOOR STRUCTURE
- 4. BRASS DIVIDER STRIP REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- CEMENTITIOUS BACKER UNIT
- 6. 3"x3"x8" LATERAL BRACING @ 48" O.C.
- 7. MOISTURE AND MOLD RESISTANT GYPSUM BOARD PAINTED 8. CERAMIC WALL TILE - REFER TO SPECIFICATIONS FOR FURTHER INFORMATION
- 9. CERAMIC WALL TILE TRIM PIECE REFER TO SPECIFICATIONS FOR FURTHER
- 9.1 ACCENT TILE REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
- 10. SEALANT. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. METAL BASE BEAD
- 12. EXPANDABLE FLOOR DRAIN PLUG
- 13. PIPING TO BE REMOVED
- 14. CONCRETE INFILL
- 15. 3/8" DIAMETER EXPANSION ANCHOR INTO EXISTING BUILDING STRUCTURE @ 24" O.C.
- 16. METAL STUD WALL FRAMING @ 16" O.C. MAXIMUM.
- 17. 5/8" x 4" GYPSUM BOARD.
- ROOF DEFLECTION.
- 19. #8 WAFERHEAD SCREW--TYPICAL.
- 21. SOUND INSULATION
- 22. TAPER AND ROUGHEN EXISTING EDGES OF EXISTING HOLE AROUND PERIMETER
- 23. TEMPORARY POST SHORE AS REQUIRED
- 24. PIPING TO BE REMOVED
- 25. 5 CEMENT BOARD
- 26. TEMPORARY SHORING WITH FORM RELEASE AGENT OR PERMANENT METAL SHORING
- 27. INFILL WITH SIKA GROUT 212 CEMENTITIOUS GROUT. CLEAN SURFACE & PROVIDE SIKA ARMATEC 110 BONDING AGENT TO EXISTING CONSTRUCTION PER
- MANUFACTURERS INSTRUCTIONS PRIOR TO GROUT INSTALLATION.
- 28. FLOOR DRAIN REFER TO MECHANICAL FOR FURTHER INFORMATION. 29. FLOOR MOUNTED, WALL BRACED TOILET PARTITION. REFER TO SPECIFICATIONS FOR
- FURTHER INFORMATION.
- 30. FLOOR MOUNTED STILE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. 31. NON-COM WOOD BLOCKING
- 32. CONTINUOUS METAL BRACKET. REFER TO SPECIFICATIONS FOR FURTHER
- 33. SCREW
- 34. TORX HEAD SEXBOLT
- 35. WATER CLOSET WASTE PIPING. FIELD VERIFY EXACT LOCATION AND MISS CONCRETE STRUCTURAL BEAM. REFER TO MECHANICAL DRAWINGS FOR FURTHER
- 36. APPROXIMATE LINE OF (REMOVED) MARBLE WALL PANEL
- 37. METAL LATH
- 38. CONCRETE CURB
- 39. WOOD TRIM PIECE. STAIN TO MATCH EXISTING DOOR AND FRAME
- 40. WOOD SHIM
- 41. EXISTING CONCRETE FLOOR JOIST STRUCTURE TO REMAIN ECU
- 42. CRACK ISOLATION MEMBRANE OVER THE ENTIRE FLOOR.
- 43. REPAIR MORTAR OVERLAY ON EXISTING FLOOR STRUCTURE MINIMUM 1/2"
- 44. EXISTING WOOD SCREED & INFILL TO BE REMOVED AND THE EXISTING EDGES TO BE TAPERED AND ROUGHENED ALL 4 SIDES.
- 45. INFILL WITH SIKA GROUT 212 CEMENTITIOUS GROUT. ADD 25 LBS OF 3/8" GRAVEL PER BAG PER MANUFACTURERS INSTRUCTIONS. CLEAN SURFACES & PROVIDE SIKA ARMATEC 110 BONDING AGENT TO EXISTING CONSTRUCTION PER MANUFACTURERS INSTRUCTIONS PRIOR TO GROUT INSTALLATION.
- 46. DRILL & GROUT #3 BARS AT 6" ON CENTER, MINIMUM 6" INTO EXISTING, SHORT DIRECTION OF OPENING AND LAP MINIMUM 4" ON CENTER.
- 47. TEMPORARY SHORING WITH FORM RELEASE AGENT OR PERMANENT METAL
- 48. TEMPORARY POST SHORE AS REQUIRED

Bidding: 12 January 2016

Scale: 3"=1'-0"

Interior Details

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase Two



GUARD FOR STAT OR SENSOR VALVE - 3 WAY CONTROL VALVE HUMIDISTAT OR HUMIDITY SENSOR THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS) (AS DEFINED ON TC DRAWINGS) NOTE: LIST OF ADDITIONAL SYMBOLS & ABBREVIATIONS ASSOCIATED WITH TEMPERATURE CONTROLS ARE IDENTIFIED ON TC DRAWINGS.

MECHANICAL DESIGN CONDITIONS

SUMMER: 95 DEG F DB/75 F WB*

WATER COOLED EVAPORATIVE EQUIPMENT: 78 DEG WB AIR COOLED CONDENSING UNITS AMBIENT AIR TEMPERATURE: 95 DEG F.

MECHANICAL SYMBOL LIST **DUCTWORK SYMBOLS** <u>SYMBOL</u> **DESCRIPTION** <u>DESCRIPTION</u> AIR VENT – AUTOMATIC AIR VENT – MANUAL AIR TERMINAL UNIT AIR TERMINAL UNIT WITH HEATING COIL BFP BACKFLOW PREVENTER

____\ LABORATORY AIR TERMINAL UNIT **├** LABORATORY AIR TERMINAL UNIT WITH HEATING COIL DAMPER - HORIZONTAL FIRE (EXISTING, NEW) DAMPER - HORIZONTAL FIRE / SMOKE (EXISTING, NEW) DAMPER - SMOKE (EXISTING, NEW) DAMPER - VERTICAL FIRE (EXISTING, NEW) DAMPER - VERTICAL FIRE / SMOKE (EXISTING, NEW) DAMPER - BACK DRAFT DAMPER - MOTORIZED DAMPER - VOLUME (MANUALLY ADJUSTABLE) DIFFUSER - BLANK OFF ۔ DIFFUSER - LINEAR SLOT DIFFUSER - SQUARE OR RECTANGULAR DUCT CROSS SECTION - SUPPLY

DUCT CROSS SECTION - RETURN OR EXHAUST DUCT CROSS SECTION - EXHAUST DUCT - FLEXIBLE CONNECTION DUCT - FLEXIBLE DUCT

PIPE - ELBOW UP PIPE - EXPANSION JOINT OR COMPENSATOR DUCT TAKE-OFF - ROUND CONICAL DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP ELBOW - RECTANGULAR WITH TURNING VANES ELBOW - RECTANGULAR/ ROUND SMOOTH RADIUS ELBOW DOWN - RECTANGULAR

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<u>SYMBOL</u>

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ELBOW DOWN — ROUND

ELBOW UP - ROUND

FAN – AXIAL

HEATING COIL

ELBOW UP - RECTANGULAR

FAN - CENTRIFUGAL (ELEVATION)

INCLINED DROP IN DIRECTION OF AIRFLOW

INCLINED RISE IN DIRECTION OF AIRFLOW

INTAKE OR RELIEF HOOD

REGISTER - RETURN OR EXHAUST

REGISTER - RETURN WITH BOOT

REGISTER - TRANSFER GRILLE

TRANSITION - CONCENTRIC

TRANSITION - ECCENTRIC

UNIT HEATER - HORIZONTAL THROW

UNIT HEATER - VERTICAL THROW

DUCT TAKE-OFF - ROUND CONICAL

DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP

ELBOW - RECTANGULAR WITH TURNING VANES

ELBOW - RECTANGULAR SMOOTH RADIUS

INCLINED DROP IN DIRECTION OF AIRFLOW

INCLINED RISE IN DIRECTION OF AIRFLOW

ELBOW DOWN - RECTANGULAR

ELBOW DOWN — ROUND

ELBOW UP - ROUND

HEATING COIL

ELBOW UP - RECTANGULAR

TRANSITION - CONCENTRIC

TRANSITION - ECCENTRIC

ELBOW - RECTANGULAR SHORT RADIUS WITH SPLITTER VANES

ROOF EXHAUST FAN

DOUBLE LINE DUCTWORK SYMBOLS

<u>DESCRIPTION</u>

ELBOW - ROUND

PRESSURE GAUGE AND COCK REDUCER - CONCENTRIC REDUCER - ECCENTRIC ROOF/OVERFLOW DRAIN STEAM TRAP - FLOAT AND THERMOSTATIC

_____ STEAM TRAP - BUCKET STRAINER STRAINER WITH BLOW-OFF THERMOMETER

--- VALVE - ANGLE ──Ö── VALVE – BALL ─────/─── VALVE – BUTTERFLY VALVE - BALANCE (i.e. BALANCE VALVE TO 0.5 GPM)

→ VALVE - CHECK → VALVE - SPRING CHECK ──────── VALVE - ISOLATION

———

✓ VALVE – OS&Y ——IÖ⊢—— VALVE – PLUG → VALVE - PRESSURE REDUCING

--- VALVE - PRESSURE RELIEF VALVE - PRESSURE & TEMPERATURE RELIEF VENT THROUGH ROOF

DOUBLE LINE PIPING SYMBOLS DESCRIPTION FLANGE FLEX CONNECTION STRAINER - BASKET STRAINER - Y TYPE

VALVE – 2 WAY CONTROL VALVE - 3 WAY CONTROL VALVE – BUTTERFLY VALVE – CHECK

VALVE – DETECTOR CHECK VALVE - OS&Y HORIZONTAL STEM

VALVE − OS&Y VERTICAL STEM

MECHANICAL DRAWING INDEX

SHEET NO. SHEET TITLE

MECHANICAL STANDARDS AND DRAWING INDEX PARTIAL FIRST FLOOR MECHANICAL PLANS

MECHANICAL DETAILS AND SCHEDULES TEMPERATURE CONTROLS STANDARDS AND GENERAL NOTES

STANDARD METHODS OF NOTATION SUPPLY DIFFUSER WITH SCHEDULE TAG "1". 10" DIAMETER NECK SIZE

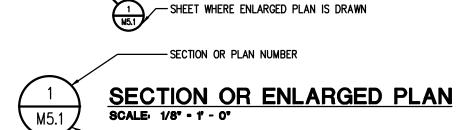
350 CFM TYPICAL FOR 4 RETURN REGISTER WITH SCHEDULE TAG "1", R-1 22"x 22" NECK SIZE 22x22 640 CFM TYPICAL FOR 2 EXHAUST REGISTER E DESIGNATION SIMILAR. AIR TERMINAL UNIT WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN LABORATORY AIR TERMINAL WITH HEATING COIL NO. 101

WITH SERVICE CLEARANCE SHOWN PIPE DIAMETER NOTATION ALL SIZES IN INCHES

22x10 18x14ø -RECTANGULAR DUCT CONSTRUCTION NOTE NUMBER

EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1) HW-1 PIPING RISER DESIGNATION (i.e. HOT WATER RISER NUMBER 1)

--- NEW SYSTEM COMPONENT EXISTING SYSTEM COMPONENT TO REMAIN -POINT OF NEW CONNECTION SYMBOL -SECTION OR PLAN NUMBER SHEET WHERE SECTION IS DRAWN — AREA OF ENLARGEMENT — PLAN NUMBER



- SHEET WHERE SECTION IS CUT OR

ENLARGED PLAN IS REFERENCED

HEAVY LINE WEIGHT INDICATES NEW WORK LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION GRAY LINE INDICATES BACKGROUND INFORMATION DASHED LINES INDICATE PIPING ROUTED BELOW SLAB OR GRADE HATCH MARKS INDICATE EQUIPMENT OR MATERIALS

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT

TO BE DISCONNECTED AND REMOVED.



5145 Livernois, Suite 100 Troy, Michigan 48098-3276 Tel: 248-879-5666 Fax: 248-879-0007 www.peterbassoassociates.com PBA Project No. 2013-0359

Bidding: 12 January 2016

MECHANICAL STANDARDS AND DRAWING INDEX

Ehresman Associates, Inc. Scale: As Noted

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase 2

Project No. 9013



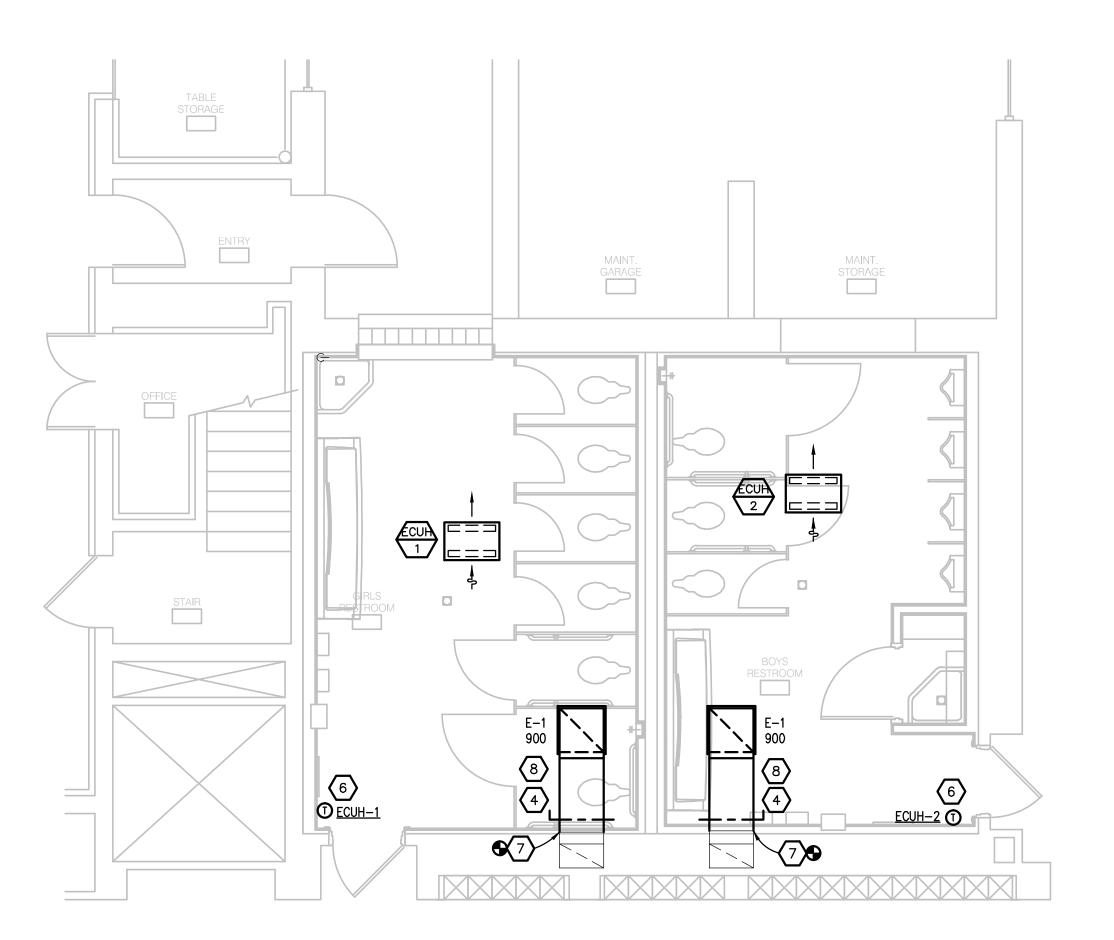
PARTIAL FIRST FLOOR DEMOLITION PLAN SCALE: 1/4" - 1' - 0"

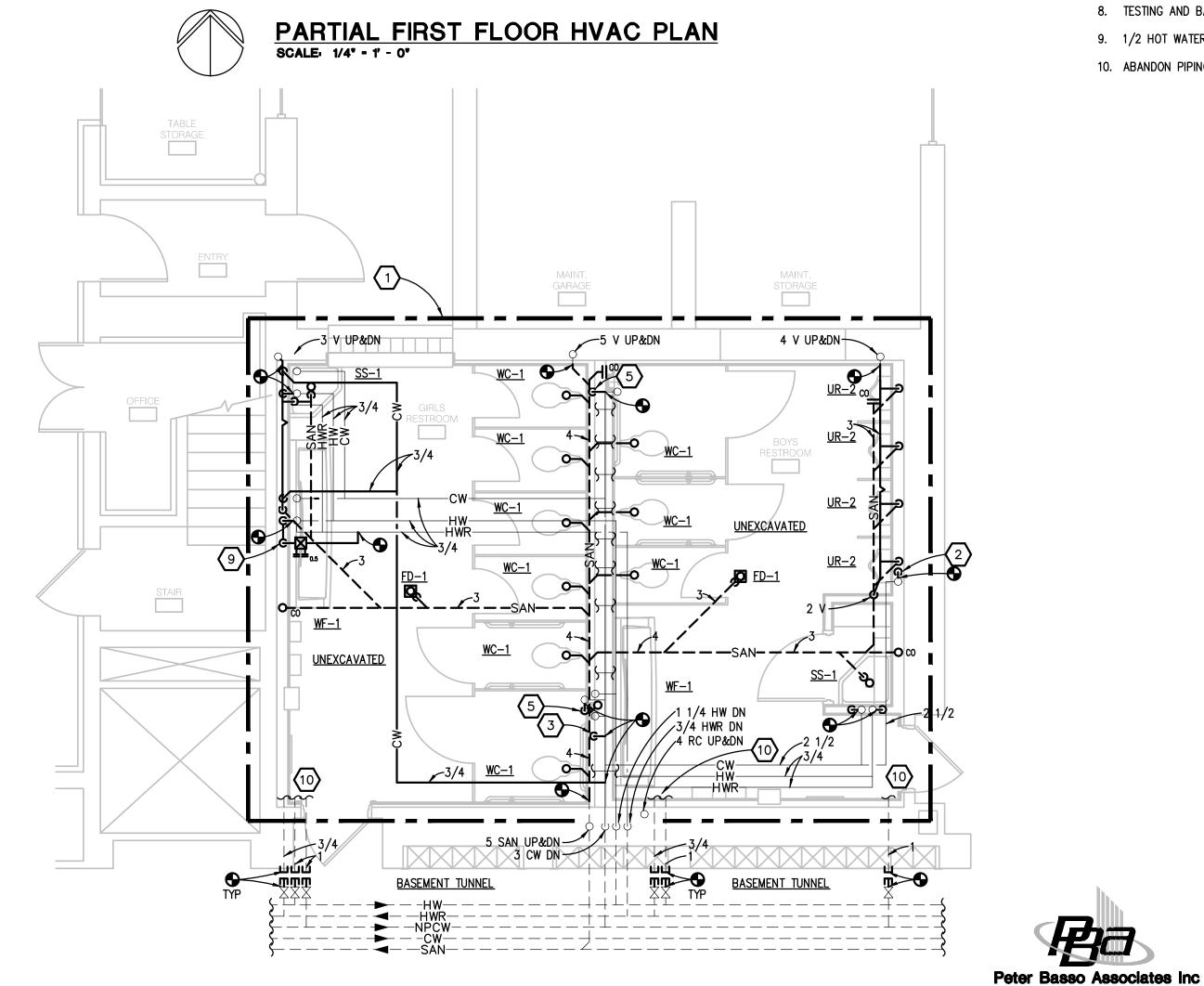
MECHANICAL GENERAL DEMOLITION NOTES:

- 1. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
- 2. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED
- 3. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
- 4. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.

DEMOLITION KEY NOTES:

- A. ALL PLUMBING PIPING FOR FIRST FLOOR TOILET ROOM, EXCEPT VENT PIPING IS ROUTED UNDERGROUND, IN THE UNEXCAVATED AREA BELOW THE TOILET ROOM. DOMESTIC PIPING FOR FIXTURES IS EXPOSED. REMOVE EXPOSED COLD, HOT, AND HOT WATER RETURN PIPING AND CAP IN A CONCEALED MANNER. DISCONNECT AND CAP PIIPNG INSIDE THE BASEMENT TUNNEL. ABANDON ALL UNDERGROUND PIPING IN THE UNEXCAVATED AREA BELOW THE TOILET ROOM. PREPARE FOR NEW WORK.
- B. REMOVE EXHAUST REGISTER AND PREPARE REMAINING EXHAUST DUCT FOR NEW WORK. PATCH UNUSED PORTION OF WALL OPENING TO MATCH EXISTING. REFER TO ARCHITECTURAL DRAWINGS. PROVIDE PRE CONSTRUCTION AIRFLOW READING PRIOR TO DEMOLITION WORK. RECORD VALUE FOR POST CONSTRUCTION AIR BALANCING.
- C. DISCONNECT AND REMOVE ALL PLUMBING FIXTURES, ALL RELATED WATER SUPPLIES, WASTE AND VENT (TO POINT INDICATED) AND PREPARE FOR NEW CONNECTION. FIELD VERIFY EXACT LOCATION.
- D. DISCONNECT AND REMOVE RADIATOR, RELATED STEAM AND CONDENSATE PIPING BACK TO RISER AND CAP PIPING IN A CONCEALED MANNER.
- E. REMOVE FLOOR DRAIN AND PREPARE FLOOR FOR NEW FLOOR DRAIN.









- 1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 5. SUBMIT PROPOSED METHODS OF ANCHORING AND GUIDING PIPING SYSTEMS TO STRUCTURAL ENGINEER FOR APPROVAL.
- 6. COORDINATE LOCATION OF DUCT-MOUNTED HYDRONIC DEVICES WITH SHEET METAL TRADES.
- 7. BRANCH PIPING SERVING TERMINAL UNIT HEATING COILS OR RADIANT CEILING PANELS SHALL BE 3/4" UNLESS OTHERWISE NOTED. BRANCH PIPING SERVING MORE THAN ONE TERMINAL UNIT HEATING COIL SHALL BE 1" UNLESS OTHERWISE NOTED. BRANCH PIPING SERVING HOT WATER UNIT HEATERS AND CABINET UNIT HEATERS SHALL BE 1" UNLESS OTHERWISE NOTED.
- 8. MOUNT THERMOSTATS 72" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.

CONSTRUCTION NOTES:

- 1. FIRST FLOOR PLUMBING FIXTURES SHALL BE CONNECTED TO THE DOMESTIC WATER PIPING SERVING THE SECOND FLOOR TOILET ROOMS. INSULATE EXISTING TO REMAIN PIPES DISTURBED AS A PART OF THIS PROJECT AS REQUIRED. REFER TO INSULATION SCHEDULES ON SHEET M61.
- 2. ROUTE CW PIPE UNDIMINISHED TO FURTHEST URINAL. REFER TO PLUMBING FIXTURE SCHEDULE FOR CONNECTION SIZE TO EACH FIXTURE.
- 3. ROUTE 2 1/2 COLD WATER PIPE UNDIMINISHED TO FURTHEST WATER CLOSET. REFER TO PLUMBING FIXTURE SCHEDULE FOR CONNECTION SIZE TO EACH FIXTURE.
- 4. MANUAL VOLUME DAMPER.
- 5. 3/4 COLD WATER DN TO WALL HYDRANT WITH LOCKABLE COVER.
- 6. MOUNT THERMOSTAT ON WALL ABOVE TILE AT 72" AFF.
- 7. CONNECT 18x10 EXHAUST DUCT TO EXISTING RISER IN WALL. FIELD VERIFY EXACT SIZE AND LOCATION.
- 8. TESTING AND BALANCING AGENCY SHALL BALANCE INDIVIDUAL EXHAUST REGISTER.
- 9. 1/2 HOT WATER RETURN PIPE DOWN TO WASH FOUNTAIN HOT WATER SUPPLY.
- 10. ABANDON PIPING BELOW FLOOR IN UNEXCAVATED AREA.

Bidding: 12 January 2016

Ehresman Associates, Inc. architects • engineers

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Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase 2

PARTIAL FIRST FLOOR MECHANICAL PLANS

Project No. 9013

- 1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
- 2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.

KEYED NOTES

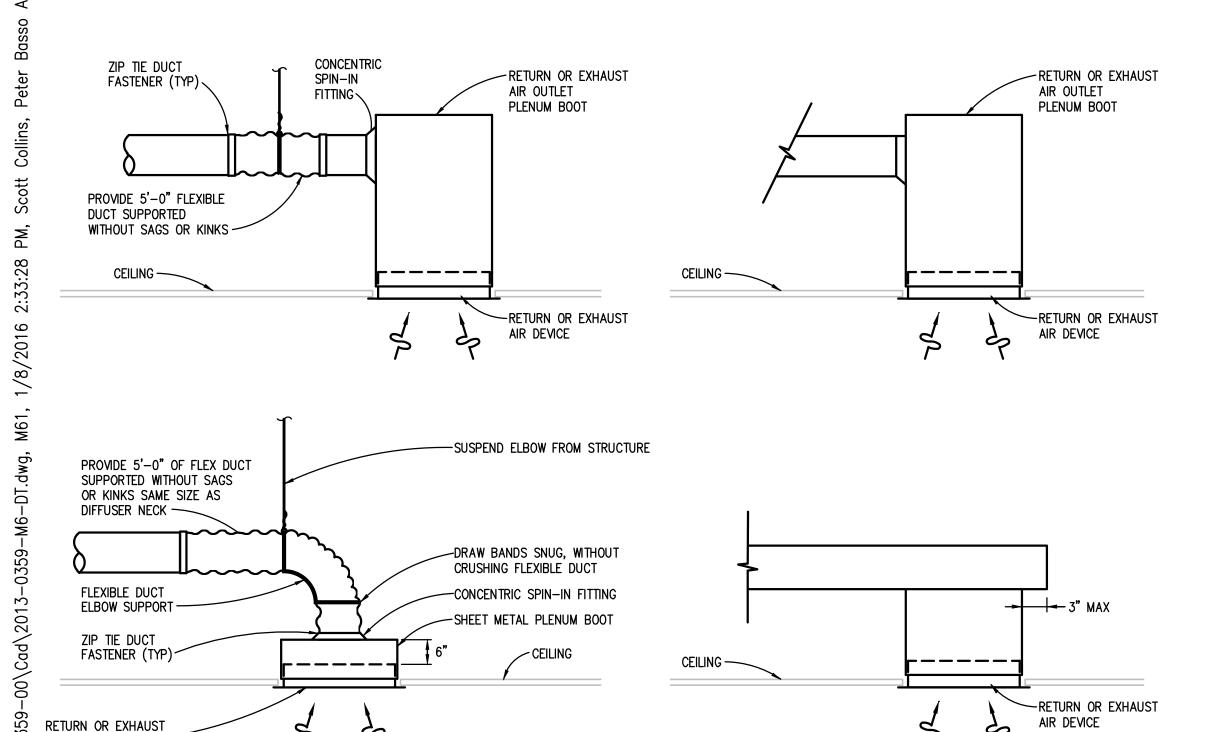
GENERAL NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE, WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR.

DUC	T	SY	STI	ΕM	A	PPI	LIC	ΑT	101	1 8	SCH	ΙEC	UL	Ε				
		DUCT MATERIAL																
AIR SYSTEMS	G90 GALV. SHEET METAL	DOUBLE—WALL LINED G90 GALV. SHEET METAL (SOLID INNER WALL)	DOUBLE-WALL LINED G90 GALV. SHEET METAL (PERF. INNER WALL)	G90 GALV. SHEET METAL WITH 1-INCH LINING	GALVANNEALED SHEET METAL	ALUMINUM	TYPE 304 STAINLESS STEEL	TYPE 316 STAINLESS STEEL	PVC COATED GALV. SHEET METAL (4X1)	PVC COATED GALV. SHEET METAL (1X4)	PVC COATED GALV. SHEET METAL (4X4)	16 GA. CARBON STEEL	ZERO-CLEARANCE PREFABRICATED RANGE HOOD EXHAUST DUCT	FABRIC	DESIGN PRESSURE CLASS (INCHES WG)	SEAL CLASS	MAX. ALLOWABLE LEAKAGE RATE (PERCENT)	KEYED NOTES
EXHAUST AIR WITHOUT TERMINAL UNITS	Х														-2	Α	5	

AIR DEVICE -

- 1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED
- 2. 4 X 1 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON EXTERIOR SHEET METAL SURFACES OF
- DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON INTERIOR SURFACES. 3. 1 X 4 (4 X 1 REVERSE COATED) PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON INTERIOR
- SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON EXTERIOR SURFACES. 4. 4 X 4 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON SHEET METAL SURFACES OF DUCTS
- AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND 4 MILS (0.10 MM) THICK ON OPPOSITE SURFACES.



RETURN OR EXHAUST AIR DEVICE INSTALLATION DETAIL NO SCALE (PAINT INTERIOR SURFACES OF PLENUM BOX FLAT BLACK)

NOTE: PAINT INTERIOR SURFACE OF PLENUM BOX FLAT BLACK.

PLUMBING PIPING & VALVE APPLICATION SCHEDULE GRAVITY DWV MATERIAL PRESSURE CONNECTIONS ISOLATION VALVES CONNECTIONS PIPE SIZE (INCHES) ABOVEGROUND DOMESTIC WATER (POTABLE AND NON-POTABLE) ON DISTRIBUTION SIDE OF METER - MIN. WORKING PRESS. & TEMP., 125 PSIG AT 200 DEG F ABOVEGROUND SANITARY WASTE & VENT - MIN. WORKING PRESS. 10-FOOT HEAD OF WATER

GENERAL NOTES

- 1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY
- SELECT FROM THOSE INDICATED SELECTIONS. 2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS.
 - a. NPS 2 AND SMALLER: USE DIELECTRIC NIPPLE/WATERWAY. b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.
- 3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.
- 4. PLUMBING EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED
- 5. GROOVED END VALVES MAY BE USED WITH GROOVED PIPING.

KEYED NOTES

- A. GROOVED AND PRESSURE SEALED FITTINGS, JOINTS, AND COUPLINGS, IF INDICATED AS AN ACCEPTABLE SELECTION, MAY BE USED IN ACCESSIBLE LOCATIONS
- ONLY FOR THIS PIPING SYSTEM.

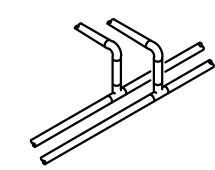
	ELECTRIC CENTRIFUGAL FAN CABINET UNIT HEATER SCHEDULE																			
UNIT IDENTIFICATION	CAPACITY MBH		AIR		HEATING	ELEMENT		DIMENSIONS		RECESS DEPTH	FIL	TER .	MODULATION/ CONTROL TYPE			ELECTRICAL	L		MODEL NUMBER	REMARKS
		AIRFLOW CFM	E.D.B. F	L.D.B. F	1ST STAGE KW	TOTAL KW	LENGTH INCHES	HEIGHT INCHES	DEPTH INCHES	INCHES	TYPE	AREA SQ. FT.		VOLTS	PHASE	FLA	MOP	OPTIONS/ ACCESSORIES		
ECUH-1	17	250	65	129	5.0	3.3	29	27	12	12	THROW- AWAY		AUTO	208	3	15.3	20	В	CUI	
ECUH-2	17	250	65	129	5.0	3.3	29	27	12	12	THROW- AWAY	_	AUTO	208	3	15.3	20	В	CUI	

FIRE STOPPING SYSTEM

1. REFER TO SCHEDULES GENERAL NOTES. 2. MODEL NUMBERS ARE INDEECO UNLESS OTHERWISE NOTED.

	GRILLE, REGISTER, AND DIFFUSER SCHEDULE														
UNIT IDENTIFICATION	FACE SIZE	NECK SIZE	FRAME TYPE	ACCESSORY	CONSTRUCTION	FINISH	MODEL NUMBER	REMARKS							
E-1	24x24	22x22	NOTE 2	DAMPER	ALUMINUM	WHITE	PAR								

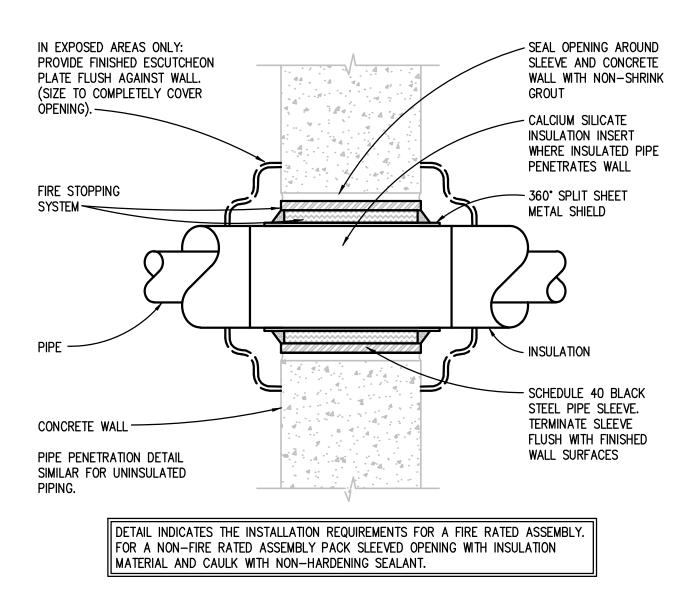
MODEL NUMBERS ARE TITUS UNLESS OTHERWISE NOTED. 2. COORDINATE FRAME TYPE WITH ARCHITECTURAL TRADES.



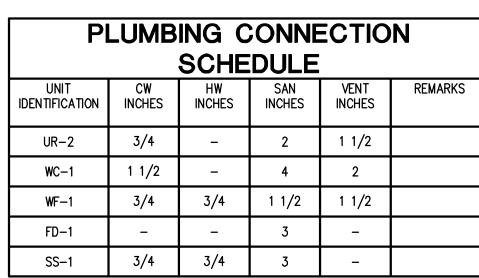
BRANCH CONNECTION OFF TOP

APPLIES TO THE FOLLOWING SYSTEMS: DOMESTIC WATER

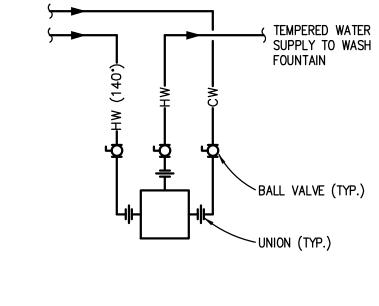
TYPICAL BRANCH TAKE-OFF **CONNECTION PIPING DETAIL**



FIRE RATED AND NON-FIRE RATED POURED CONCRETE OR BLOCK WALL PIPE PENETRATION DETAIL NO SCALE



NOTE: INDIVIDUAL WATER LINE BRANCHES, WASTE LINES, VENTS, AND TRAPS FOR CONNECTION TO INDIVIDUAL FIXTURES, FIXTURE FITTINGS, AND SPECIALTIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE OR AS INDICATED ON DRAWINGS, WHICHEVER IS GREATER.



SCHEDULES GENERAL NOTES:

SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION

SHALL BE FOR THE REMAINDER OF THE UNIT.

THE ELECTRICAL STANDARD SCHEDULES SHEET.

REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL

PROVIDE THE FOLLOWING FACTORY-WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE

F - UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION

WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY

OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE

BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR

ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR

ARCHITECTURAL APPURTENANCES AND SHALL INCLUDE THE COST OF SUCH

4. SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON

B - UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND

TYPICAL FOR ALL SCHEDULE SHEETS:

INDICATED IN SCHEDULE:

C - SERVICE RECEPTACLE

REVISIONS IN HIS BID.

D - FUSED DISCONNECT SWITCH E - COMBINATION STARTER

A - NON-FUSED DISCONNECT SWITCH

THERMOSTATIC WATER MIXING VALVE DETAIL

Bidding: 12 January 2016

MECHANICAL DETAILS AND SCHEDULES

Ehresman Associates, Inc.

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase 2

Project No. 9013

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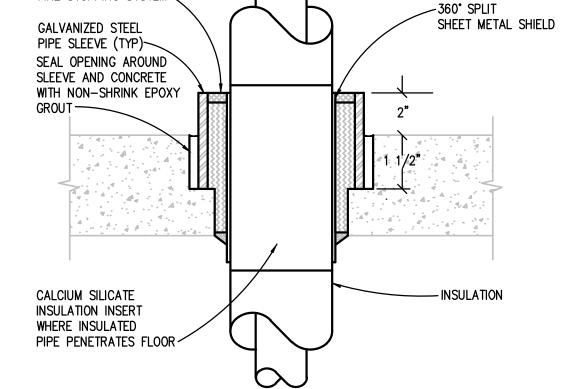
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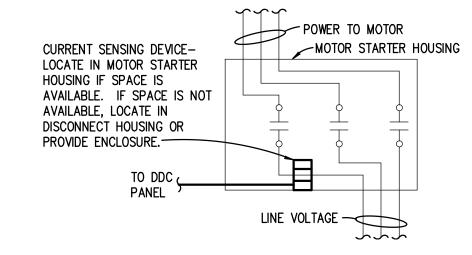
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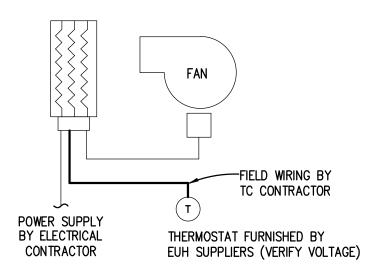


EXISTING FLOOR PIPE PENETRATION DETAIL NO SCALE

HEMATIC SYI		SCHEMATIC SY		WIRING SYMBOL	
YMBOL	<u>DESCRIPTION</u>	<u>SYMBOL</u>	<u>DESCRIPTION</u>	SYMBOL 1	<u>DESCRIPTION</u>
FC	AIR FLOW CONTROLLER	DD	SMOKE DETECTOR — DUCT MOUNTED	1 2	
	AQUASTAT, STRAP ON BULB	SD	SMOKE DETECTOR - SPACE MOUNTED		SWITCH - 2 POSITION SELECTOR
02	CARBON DIOXIDE SENSOR - WALL MOUNTED	S/S	START/STOP RELAY	0	
02	CARBON DIOXIDE SENSOR — DUCT MOUNTED	SPT	STATIC PRESSURE TRANSMITTER	H A	SWITCH - 3 POSITION SELECTOR
:0	CARBON MONOXIDE SENSOR — WALL MOUNTED	SP	STATIC PRESSURE SENSOR OR PROBE		HAND/OFF/AUTO
		sw	SWTCH	~ ∘	
:o ==	CARBON MONOXIDE SENSOR — DUCT MOUNTED				SWITCH - FLOW (AIR, WATER, ETC.), N
es	CURRENT SWITCH		TEMPERATURE SENSOR — RIGID ELEMENT IN WELL		SWITCH - FLOW (AIR, WATER, ETC.), N
ET .	CURRENT TRANSMITTER		TEMPERATURE SENSOR - STRAP ON BULB	\sim	SWITCH - LIMIT, NO
\bigcirc	DAMPER - INLET VANES	T-~~	TEMPERATURE SENSOR - DUCT MOUNTED AVG ELEMENT	0 0	SWITCH - LIMIT, NO, HELD CLOSED
///	DAMPER — OPPOSED BLADE	T	TEMPERATURE SENSOR - DUCT MOUNTED RIGID ELEMENT	0_0	SWITCH - LIMIT, NC
		T	THERMOSTAT OR TEMPERATURE SENSOR	0—0	SWITCH - LIMIT, NC, HELD OPEN
////	DAMPER — PARALLEL BLADE		(AS DEFINED ON TC DRAWINGS)	0_0	
M	DAMPER MOTOR	T _N	THERMOSTAT FOR NIGHT SETBACK	0	SWITCH — LIQUID LEVEL, NO
Ţ [™]		XF	TRANSFORMER		SWITCH - LIQUID LEVEL, NC
м	DAMPER MOTOR W/ POSITIVE POSITIONER			°	SWITCH - MANUAL SPST, NO
PT	DIFFERENTIAL PRESSURE TRANSMITTER		VALVE - 2 WAY CONTROL VALVE	~	
PS	DIFFERENTIAL PRESSURE SWITCH	\$	VALVE - 3 WAY CONTROL VALVE	0	SWITCH - MANUAL DPDT, NO
:P	ELECTRIC-PNEUMATIC RELAY	M		0-0	SWITCH - MANITAL SDST NO
 >τ	ELECTRIC TO PNEUMATIC TRANSDUCER	X	VALVE - 2 WAY CONTROL W/ POSITIONER		SWITCH - MANUAL SPST, NC
:M	FIRE ALARM SYSTEM, ADDRESSABLE CONTROL MODULE	M		o <u>T</u> o	SWITCH - MANUAL DPDT, NC
<u> </u>		*	VALVE - 3 WAY CONTROL W/ POSITIONER		
м	FIRE ALARM SYSTEM, ADDRESSABLE INTERFACE MODULE		·	0	SWITCH - MANUAL SPDT
MS	FLOW MEASURING STATION	VFC	VARIABLE FREQUENCY CONTROLLER	o _p	
·M	FLOW METER	vs	VELOCITY SENSOR	0/1	CHITCH MANUAL DODT
rs	FLOW SWITCH	MB	VIBRATION SWITCH		SWITCH — MANUAL DPDT
_ z-~~	FREEZESTAT	V	VOLTAGE SENSOR	0	
7)	GAUGE - FLOW			0	
-					SWITCH - PRESSURE & VACUUM, NO
	GAUGE - PRESSURE	WIRING SYMBOI	<u>_\$</u>	~_~	SWITCH - PRESSURE & VACUUM, NC
	GAUGE — TEMPERATURE	<u>SYMBOL</u>	<u>DESCRIPTION</u>	~~	SWITCH - TEMPERATURE ACTUATED, N
Г	GUARD FOR STAT OR SENSOR	\succeq	AUDIBLE DEVICE (AS DEFINED ON TC DRAWINGS)		
	HUMIDIFIER	—(M/S)—	COIL - MOTOR STARTER CONTACTOR	۲	SWITCH - TEMPERATURE ACTUATED, N
4)	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)	-(R)-	COIL - RELAY	- X-	THERMAL OVERLOAD, SINGLE PHASE
	HUMIDITY SENSOR, DUCT MOUNTED	—(TDR)—	COIL — TIME DELAY RELAY	01,2	THERMAL OWEDLOAD CONTACTS 7 D
VL			COIL - VARIABLE FREQUENCY CONTROLLER CONTACTOR		THERMAL OVERLOAD CONTACTS — 3 P
	LEVEL SWITCH OR TRANSMITTER	(vfc)		\mathbb{M}	TRANSFORMER
s	LIMIT SWITCH		COIL — EP OR SOLENOID VALVE	-	WIRE TERMINATION AT DEVICE
	LINE - ELECTRIC	4	CONTACT - INSTANT OPERATING, NO	+	WIRE TO WIRE TERMINATION
· — –	LINE - PNEUMATIC	•	CONTACT - INSTANT OPERATING, NC		WIRING NOT CONNECTED
	MAIN CONTROL AIR SUPPLY	~~	CONTACT - TIMED AFTER COIL IS ENERGIZED, NOTC	'	
s	MOTOR STARTER	<u>^</u>	CONTACT — TIMED AFTER COIL IS ENERGIZED, NCTO	WIRING TERMS	
		$\overset{\textstyle \star}{\leadsto}$		ABBREVIATION	<u>DESCRIPTION</u>
os	OCCUPANCY SENSOR	·	CONTACT — TIMED AFTER COIL IS DE—ENERGIZED, NOTO	SPST	SINGLE POLE SINGLE THROW
R	PILOT LIGHT OR BEACON R — RED LENS	9	CONTACT - TIMED AFTER COIL IS DE-ENERGIZED, NCTC	SPDT	SINGLE POLE DOUBLE THROW
~	A — AMBER LENS	<u> </u>	GROUND	DPST DPDT	DOUBLE POLE SINGLE THROW DOUBLE POLE DOUBLE THROW
	B — BLUE LENS G — GREEN LENS	- -	NOTOR CINCLE RUACE	NO	NORMALLY OPEN
Ē	PNEUMATIC-ELECTRIC SWTCH	9	MOTOR, SINGLE PHASE	NC	NORMALLY CLOSED
		R	PILOT LIGHT OR BEACON R — RED LENS	NOTO	NORMALLY OPEN TIMED OPEN
s	PRESSURE SWITCH	700	A — AMBER LENS B — BLUE LENS	NOTC NCTO	NORMALLY OPEN TIMED CLOSED NORMALLY CLOSED TIMED OPEN
т	PRESSURE TRANSMITTER		G - GREEN LENS	NCTC	NORMALLY CLOSED TIMED CLOSED
२	RELAY, ELECTRIC		,		
7 N	SELECTOR SWITCH, (N=NUMBER OF POSITIONS)	R	PILOT LIGHT, WITH PUSH-TO-TEST	PNEUMATIC COI	NTROL SYMBOLS (ADDITIONAL)
AI)	SIGNAL - DDC/BAS, ANALOG INPUT	o o/		<u>SYMBOL</u>	DESCRIPTION
9	SIGNAL - DDC/BAS, ANALOG OUTPUT		PUSH BUTTON - MOMENTARY CONTACT, NO	LA	LOAD ANALYZER
_				LR	LOW PRESSURE SELECTOR RELAY
))	SIGNAL - DDC/BAS, DIGITAL INPUT	مـلـه	PUSH BUTTON - MOMENTARY CONTACT, NC		MANUAL GRADUAL POSITION SWITCH
9	SIGNAL - DDC/BAS, DIGITAL OUTPUT	ه ل ه		PS	
AI	SIGNAL - PACKAGED EQUIPMENT, ANALOG INPUT	0 0	PUSH BUTTON - MOMENTARY CONTACT, NO & NC		PNEUMATIC SWITCH
<u> </u>	SIGNAL - PACKAGED EQUIPMENT, ANALOG OUTPUT			RR	RATIO RELAY
))	SIGNAL — PACKAGED EQUIPMENT, DIGITAL INPUT	0 0	PUSH BUTTON - MOMENTARY, NO (MUSHROOM HEAD)	RC	RECEIVER CONTROLLER
	·	<u>، ٦</u>	PUSH BUTTON - MOMENTARY, NC (MUSHROOM HEAD)	\otimes	SWITCHED CONTROL AIR SUPPLY
<u>~ ~ </u>	SIGNAL — PACKAGED EQUIPMENT, DIGITAL OUTPUT	<u>U 1 0</u>	. SOL DOTTON MOMENTANT, NO (MOSHINOUM HEAD)	igotimes	SILLONED CONTINUE AIN SUFFEI



CURRENT SWITCH INSTALLATION DETAIL NO SCALE



TYPICAL ECUH CONTROL

NOTE: SOME SYMBOLS & ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

SEQUENCE OF OPERATION:

SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.

Bidding: 12 January 2016

TEMPERATURE CONTROLS STANDARDS AND **GENERAL NOTES**

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Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase 2



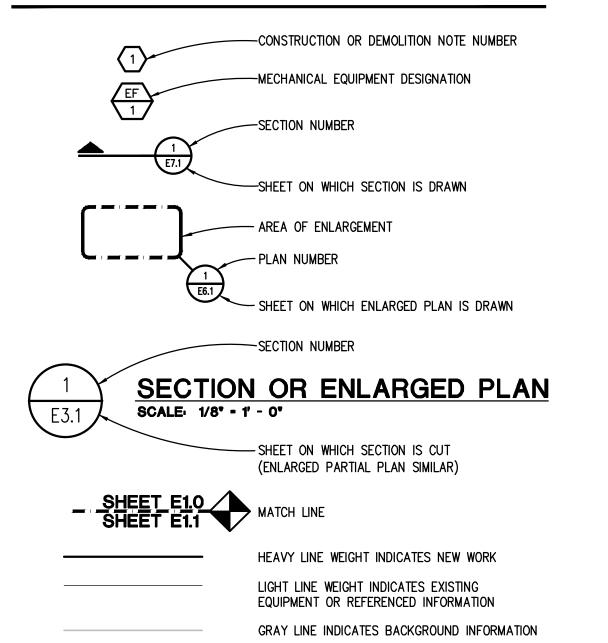




6" A.F.F. HORIZONTALLY

TO TOP OF BOX, U.O.N.

STANDARD METHODS OF NOTATION



THIN GRAY LINE INDICATES CEILING GRID

DASHED LINES INDICATE CONDUIT ROUTED

HATCH MARKS INDICATE EQUIPMENT TO

IN OR BELOW SLAB OR GRADE

CIRCUIT HOMERUN

BE DISCONNECTED AND REMOVED.

ELECTRICAL DRAWING INDEX

SHEET NO. <u>Sheet title</u> ELECTRICAL STANDARDS AND DRAWING INDEX E02 ELECTRICAL STANDARD SCHEDULES E03 ELECTRICAL COMPOSITE PLAN PARTIAL FIRST FLOOR ELECTRICAL PLAN

ELECTRICAL ABBREVIATION LIST

Bidding: 12 January 2016

ELECTRICAL STANDARDS AND DRAWING INDEX

Ehresman Associates, Inc.

Scale: As Noted

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase 2

Project No. 9013

E01

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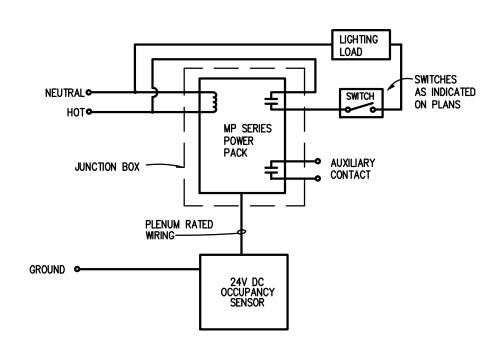
PBA Project No. 2013-0359

N.O. PUSH BUTTON SINGLE CIRCUIT N.C. PUSH BUTTON SINGLE CIRCUIT

HIGH VOLTAGE HERTZ ISOLATED GROUND

JUNCTION BOX

	LIGHTING FIXTURE SCHE	DULE	
TYPE	DESCRIPTION	MANUFACTURERS	LAMPS
F1	2'X2' (2) LAMP RECESSED LAY-IN 9 CELL PARABOLIC FLUORESCENT LIGHT FIXTURE: LOW IRIDESCENT ANODIZED SILVER ALUMINUM DIFFUSER 3" DEEP WITH BLACK REVEAL. BALLAST SHALL BE ELECTRONIC PROGRAM RAPID START MULTI VOLT HIGH POWER FACTOR, CLASS A SOUND RATED. GMF FUSED, CLASS P THERMAL RATED WITH TOTAL HARMONIC DISTORTION (THD)≤10%. FIXTURE SHALL HAVE HIGH REFLECTANCE POST PAINT.	1. LITHONIA 2PM3N SERIES 2PM3N-G-B-2-17W-9LD- MVOLT- 1/3-GEB1ORS-GMF OR ENGINEER/OWNER APPROVED EQUAL. PROVIDED A MINIMUM OF 5 DAYS PRIOR TO BIDS FOR APPROVAL.	17WT8/4100K/RS
F1E	SAME AS FIXTURE TYPE F1 EXCEPT WITH EMERGENCY BATTERY BACKUP WITH MINIMUM 1200 LUMEN OUTPUT WITH 2 LAMPS ON EMERGENCY BATTERY WITH SELF DIAGNOSTICS. PROVIDE BODINE B50ST.		
F2	9" WDE (1) LAMP WALL SLOT RECESSED PERIMETER LAY-IN FLUORESCENT FIXTURE: CONTINUOUS AND SEAMLESS, LAMP LENGTH AS INDICATED ON DRAWINGS. SEMI-SPECULAR PARABOLIC BAFFLE. STEAL HOUSING WITH MAT WHITE FINISH FLUSH WHITE ACRYLIC 0.10 THICK. BALLAST SHALL BE ELECTRONIC PROGRAM RAPID START MULTI VOLT HIGH POWER FACTOR, CLASS A SOUND RATED. GMF FUSED, CLASS P THERMAL RATED WITH TOTAL HARMONIC DISTORTION (THD)≤10%. FIXTURE SHALL HAVE HIGH REFLECTANCE POST PAINT. NOTE: STAGGER LAMPS SO THAT FIXTURE HAS NOT DARK AREAS AT THE END OF EACH LAMP.	1. PAL MLR5 SERIES OR ENGINEER/OWNER APPROVED EQUAL. PROVIDED A MINIMUM OF 5 DAYS PRIOR TO BIDS FOR APPROVAL.	T8/25W/4100K/RS
L1	RECESSED LED DOWNLIGHT. 6 INCH APERTURE. WARM WHITE LED SOURCE WITH MAXIMUM COLOR TEMPERATURE DIFFERENTIATION OF ± 100K. VENTILATED DIE CAST ALUMINUM HEAT SINK, SELF FLANGED REFLECTOR MATTE FINISH, WITH TRIM RING. 30W MAXIMUM INPUT WATTS, MULTI VOLT AC INPUT. CLASS P, SOLID STATE DRIVER, RATED FOR MIN. 50,000 HOURS OF OPERATION. FIXTURE SHALL BE DIFFUSED SO THAT LED HAS LOW GLARE. 1000 LUMENS. 5 YEAR WARRANTY.	1. GOTHAM 6" EVO SERIES 2. PROTFOLIO LD6 SERIES 3. PRESCOLITE LF6 LED SERIES 4. LIGHTOLIER CALCULITE	18 WATTS LED 4100K WHITE

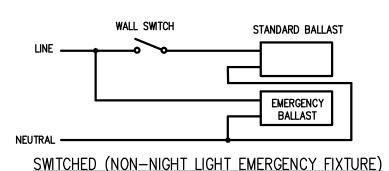


CEILING MOUNTED OCCUPANCY SENSOR

WIRING DIAGRAM

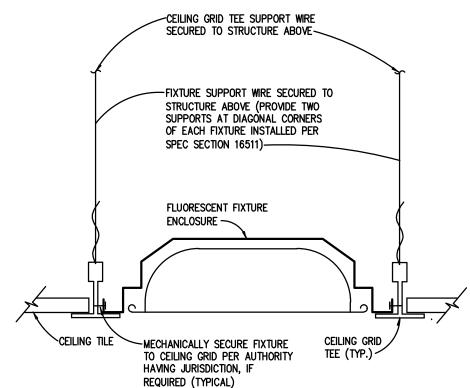
NO SCALE

- 1. OCCUPANCY SENSOR SHALL BE SENSORSWITCH
- PROVIDE POWER PACKS AND SLAVE PACKS AS REQUIRED FOR SWITCHING AS INDICATED ON PLAN. REVISE DETAIL AS REQUIRED BY MANUFACTURER.
- 3. MOUNTING LOCATION PER MANUFACTURER'S RECOMMENDATION.
- 4. ADJUST SENSITIVITY LEVELS PER THE OWNER.
- 5. PROVIDE FACTORY SUPPORT FOR AIMING/ADJUSTING OF SENSORS.



NOTE: PRIMARY CIRCUIT ONLY. LAMP LEADS NOT SHOWN.

EMERGENCY BALLAST WIRING DIAGRAM NO SCALE



RECESSED FLUORESCENT FIXTURE INSTALLATION DETAIL

FEED	ER AND BRA	ANCH CIRCU	IT SIZING SC	HEDULE - GE	NERAL PURP	OSE
			COPPER CON	IDUCTORS		
OVERCURRENT		SIZE R KCMIL)		CC	NDUIT SIZE	
DEVICE RATING (AMPERES)	PHASE & NEUTRAL	GROUND	SINGLE PHASE 2 WIRE+G (1PH, 1N, 1G)	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)
15-20	12	12	3/4"	3/4"	3/4"	3/4"
25-30	10	10	3/4"	3/4"	3/4"	3/4"
35-40	8	10	3/4"	3/4"	3/4"	3/4"
45-50	8 (6)	10	3/4"	3/4"	3/4"	3/4"
60	6 (4)	10	3/4" (1")	3/4" (1")	3/4" (1")	3/4" (1")
70	4	8	1"	1 1/4"	1 1/4"	1 1/4"
80	4 (3)	8	1"	1 1/4"	1 1/4"	1 1/4"
90-100	3 (2)	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"
110	2 (1)	6	-	1 1/4"	1 1/4"	1 1/4" (1 1/2")
125	1 (1/0)	6	-	1 1/4" (1 1/2")	1 1/4" (1 1/2")	1 1/2"
150	1/0	6	-	1 1/2"	1 1/2"	1 1/2"
175	2/0	6	-	2"	2*	2"
200	3/0	6	_	2"	2"	2 1/2"
225	4/0	4	-	2"	2"	2 1/2"
250	250	4	-	2 1/2"	2 1/2"	2 1/2"
300	350	4	-	2 1/2"	2 1/2"	3"
350	500	3	-	3"	3"	3"
400	500	3	-	3"	3"	3"
450	2-4/0	2-2	-	2-2"	2-2"	2-2 1/2"
500	2-250	2-2	-	2-2 1/2"	2-2 1/2"	2-2 1/2"
600	2-350	2–1	-	2-2 1/2"	2-2 1/2"	2-3"
700	2-500	2-1/0	-	2-3"	2-3"	2-3"
800	2-500	2–1/0	-	2-3"	2-3"	2-3 1/2"
1000	3-400	3-2/0	-	3–3"	3–3"	3–3"
1200	3-600	3-3/0	-	3-3 1/2"	3-3 1/2"	3-3 1/2"
1600	4-600	4-4/0	-	4-3 1/2"	4-3 1/2"	4-3 1/2"
2000	5-600	5-250	-	5-3 1/2°	5-3 1/2"	5-3 1/2"

- 1. CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS
- 2. CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION.
- 3. CONDUCTORS ARE BASED ON THHN/THWN UP TO AND INCLUDING #4/0. LARGER THAN #4/0 ARE BASED ON TYPE XHHW.
 4. CONDUCTORS ARE BASED ON 90°C, 600V. INSULATED COPPER WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.

 5. CONDUIT SIZES ARE VALID FOR EMT OR RGS. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF
- 6. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE REQUIRED WIRE SIZES TO
- ACCOMMODATE MECHANICAL EQUIPMENT LUG SIZES. 7. SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT

PRIOR	APPROVAL	FROM	ENGINEER	SHALL	OCCUR	IF A	A DIFFERENT	SIZE/NUMBER	0F	CONDUCTORS	IS	TO BE	USED.	AMPACITY
SHALL	BE EQUAL	OR G	REATER.					·						

	OCCUPANCY SENSOR LEGEND
TYPE	DESCRIPTION
OS A	360° CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 11° CEILING HEIGHT
os _B	180' WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR COORDINATE MOUNTING HEIGHT WITH MANUFACTURER'S REQUIREMENTS
os _c	360° CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 25' CEILING HEIGHT "HIGH BAY STYLE"
os _D	360° CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR
So	WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR
SoSo	WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR — DUAL LEVEL SWITCHING

- MANUFACTURER SHALL BE SENSOR SWITCH.
- 2. PLACE CEILING MOUNTED OCCUPANCY SENSORS IN A FULL CEILING TILE, WHERE APPLICABLE. FOR WALL MOUNTED SENSORS, MANUFACTURER SHALL DETERMINE MOUNTING HEIGHT.
- 3. ALL OCCUPANCY SENSOR LOCATIONS ARE SHOWN IN APPROXIMATE LOCATIONS. THE OCCUPANCY SENSOR MANUFACTURER SHALL SHOW ALL DEVICES IN EXACT LOCATIONS ON SHOP DRAWINGS. THE OCCUPANCY SENSOR MANUFACTURER SHALL PROVIDE/RELOCATE/ADD DEVICES AS REQUIRED TO DETECT "SMALL HAND MOVEMENT" FOR ENTIRE SPACE BEING SERVED. ANY ADDITIONAL SENSORS ADDED SHALL BE DONE WITH NO ADDITIONAL EXPENSE TO OWNER.
- 4. MANUFACTURER SHALL PROVIDE SPECIFIC WRING DIAGRAMS FOR EACH DESIGNATED AREA OF USE OF OCCUPANCY SENSORS. WRING DIAGRAMS INDICATED ON THE DRAWINGS INDICATE INTENT ONLY. ELECTRICAL CONTRACTOR SHALL FOLLOW SPECIFIC WRING DIAGRAMS FROM THE MANUFACTURER.
- 5. COORDINATE AND PROVIDE ALL REQUIRED COMPONENTS FOR A COMPLETE SYSTEM.
- ADJUST SENSOR SENSITIVITY LEVELS AND TIME DURATION PER OWNER REQUIREMENTS. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS. ADJUSTMENT FOR DUAL TECHNOLOGY SENSORS: BEFORE MAKING ADJUSTMENTS, MAKE SURE ROOM FURNITURE IS INSTALLED, LIGHTING CIRCUITS ARE TURNED ON, AND THE HVAC SYSTEMS ARE IN THE ON POSITION. VAV SYSTEMS SHOULD BE SET TO THEIR HIGHEST AIRFLOW. SET THE LOGIC CONFIGURATION DIP SWITCHES TO "EITHER". EITHER REQUIRES MOTION DETECTION BY ONLY ONE TECHNOLOGY. SET THE TIME DELAY PER OWNERS
- 7. MAXIMUM OF (3) SENSORS PER MP POWER PACK.
- 8. PROVIDE AUXILIARY CONTACTS FOR MECHANICAL EQUIPMENT CONTROL.
- 9. UPON LOSS OF POWER TO OCCUPANCY SENSOR OR POWER PACK, LOAD TURNS ON REGARDLESS OF OCCUPANCY.
- 10. A MANUFACTURER REPRESENTATIVE SHALL TEST <u>ALL</u> SENSORS PRIOR TO COMPLETION OF WORK.
- 11. PROVIDE APPROPRIATE OCCUPANCY SENSORS FOR EACH APPLICATION, PER MANUFACTURERS

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KACEWAY		AC/MC CABLE	ALUMINUM RIGID CONDUIT	ELECTRICAL METALLIC TUBING (EMT)	SURFACE RACEWAY	ELECTRICAL NONMETALLIC TUBING (ENT)	FLEXIBLE METAL CONDUIT (FMC)	GENERAL-USE OPTICAL FIBER/COMMUNICATION CABLE RACEWAY	INTERMEDIATE METAL CONDUIT (IM	LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)	LIQUIDTIGHT FLEXIBLE NONMETAL CONDUIT (LFNC)	PLENUM-TYPE OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY	RIGID STEEL CONDUIT	RISER-TYPE OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY	RIGID NONMETALLIC CONDUIT (RNC) TYPE EPC-40	RIGID NONMETALLIC CONDUIT (RNC) TYPE EPC-80	HIGH DENSITY POLYTHYLENE (HDPE) SCHEDULE 40	HIGH DENSITY POLYTHYLENE (HDPE) SCHEDULE	
¥	EXPOSED		Н			┢	┝	0 &	Х	_			Х		H				
¥000100	CONCEALED (ABOVE GROUND)		Н				H		Х		H		Х		Н				
3	UNDERGROUND		П				T						х		х	Х	Х	Х	
	CONNECTED TO VIBRATING EQUIPMENT		Н						H	Х					H				EQUIPMENT INCLUDING: TRANSFORMERS, HYDRAULIC PNEUMATIC, ELECTRIC SOLENOID, MOTOR DRIVEN EQUIPMEN
X0000	EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE — UNFINISHED SPACES			X															
_	EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE — FINISHED SPACES				X														
	EXPOSED SUBJECT TO SEVERE PHYSICAL DAMAGE								Х				Х						[RIGID STEEL CONDUIT UP TO 10'-0"AFF.] LOCATIONS INCLUDE: LOADING LOCKS, CORRIDORS USED FOR TRAFFIC OF MECHANIZED CARTS AND PALLET HANDLING UNITS, MECHANICAL ROOMS
	CONCEALED IN CEILINGS, INTERIOR WALL AND PARTITIONS	Х		Χ															NOT TO EXCEED 6'-0" IN CEILING SPACE
	CONNECTED TO VIBRATING EQUIPMENT						х			Х									EQUIPMENT INCLUDING: TRANSFORMERS, HYDRAULIC PNEUMATIC, ELECTRIC SOLENOID, MOTOR DRIVEN EQUIPMEN USE LFMC IN DAMP/WET LOCATIONS
	DAMP AND WET LOCATIONS								Х				Х						
	BELOW SLAB IN GRADE														Х				PROVIDE RIGID STEEL ELBOWS WHERE CONDUIT PENETRATE SLAB. CONDUIT INSTALLED 6" BELOW BOTTOM OF SLAB
	EMBEDDED IN CONCRETE ABOVE GRADE		Ш			_	┖						Х		Х	Х			
	OPTICAL FIBER OR COMMUNICATIONS CABLE IN SPACES USED FOR ENVIRONMENTAL AIR		Ц	Х								Х							
	CONCEALED GENERAL PURPOSE DISTRIBUTION OF OPTICAL FIBER OR COMMUNICATION CABLE			X				Х				Х		Х					
SNC	MRI		Х																
APPLICATIONS	NATATORIUMS/FOUNTAINS			Х															USE COMPRESSION FITTINGS
ΞĘ																			

1. 'X' INDICATES ACCEPTABLE SELECTION. 2. REFER TO "CONDUCTORS AND CABLES" SPECIFICATION FOR APPLICATION LIMITATIONS OF AC/MC CABLE.

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR SINGLE PHASE CIRCUITS															
BRANCH	WIRE SIZE	MAXIMUM BRANCH CIRCUIT LENGTH (IN FEET)													
CKT RATING (A)	(AWG)	120V	208V	240V	277V	480V									
20A	12	83	143	165	191	331									
	10	128	222	256	295	511									
	8	201	348	402	464	804									
	6	313	542	625	721	1250									
30A	10	85	148	170	197	341									
	8	134	232	268	309	536									
	6	208	361	417	481	833									
	4	313	542	625	721	1250									

1. THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR

OF 0.85 PER NEC CHAPTER 9, TABLE 9. 2. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.

3. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.

4. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE/IES 90.1 -1999 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

> NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

> > Bidding: 12 January 2016

ELECTRICAL STANDARD SCHEDULES

Ehresman Associates, Inc.

Grosse Pointe Public School System

Mason Elementary School Restroom Remodeling - Phase 2

Project No. 9013

Peter Basso Associates Inc CONSULTING ENGINEERS 5145 Livernois, Suite 100 Troy, Michigan 48098-3276

> Tel: 248-879-5666 Fax: 248-879-0007

www.peterbassoassociates.com PBA Project No. 2013-0359

ELECTRICAL COMPOSITE PLAN
SCALE: 1/8' - 1' - 0'

Bidding: 12 January 2016



Ehresman Associates, Inc. architects • engineers

ngineers

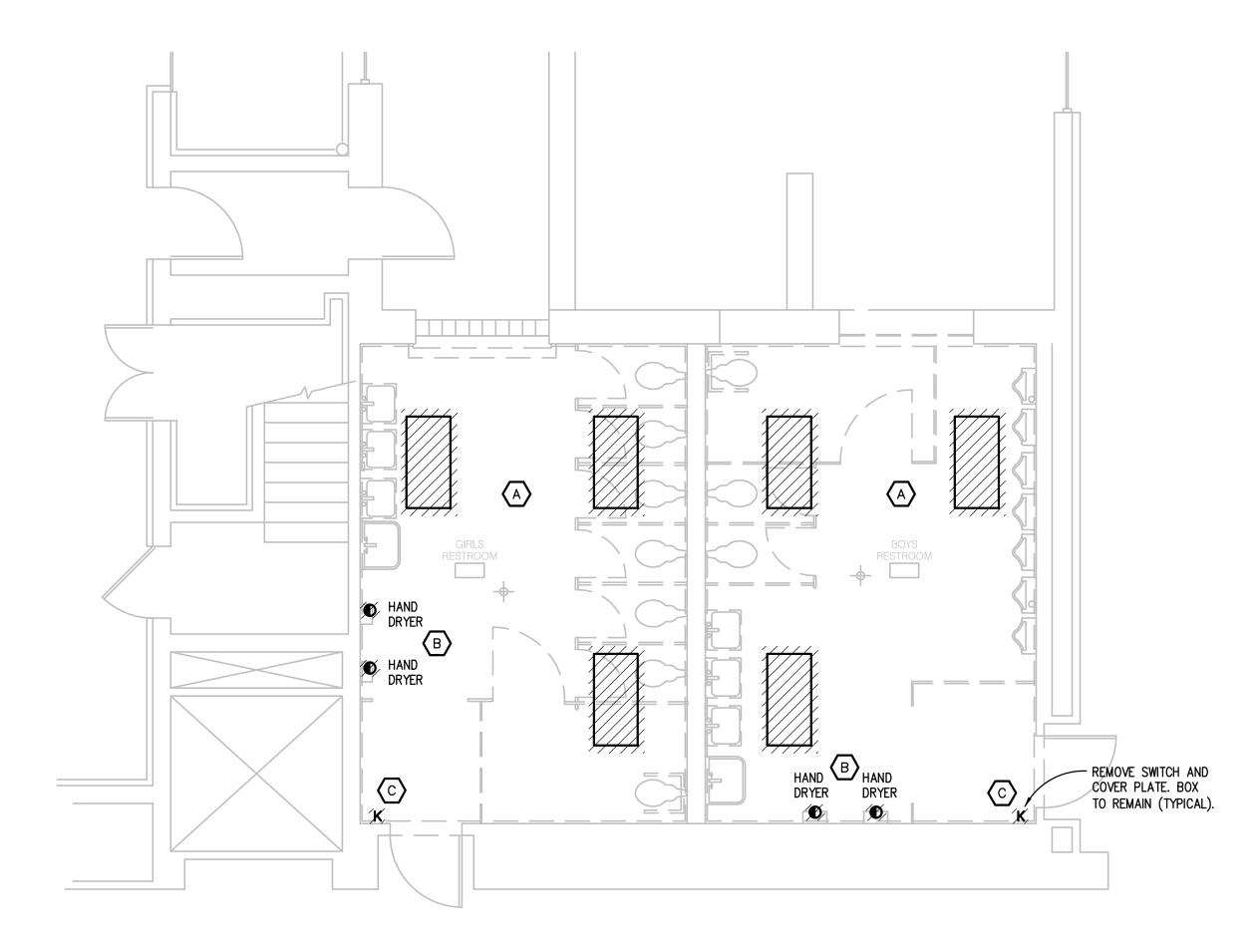
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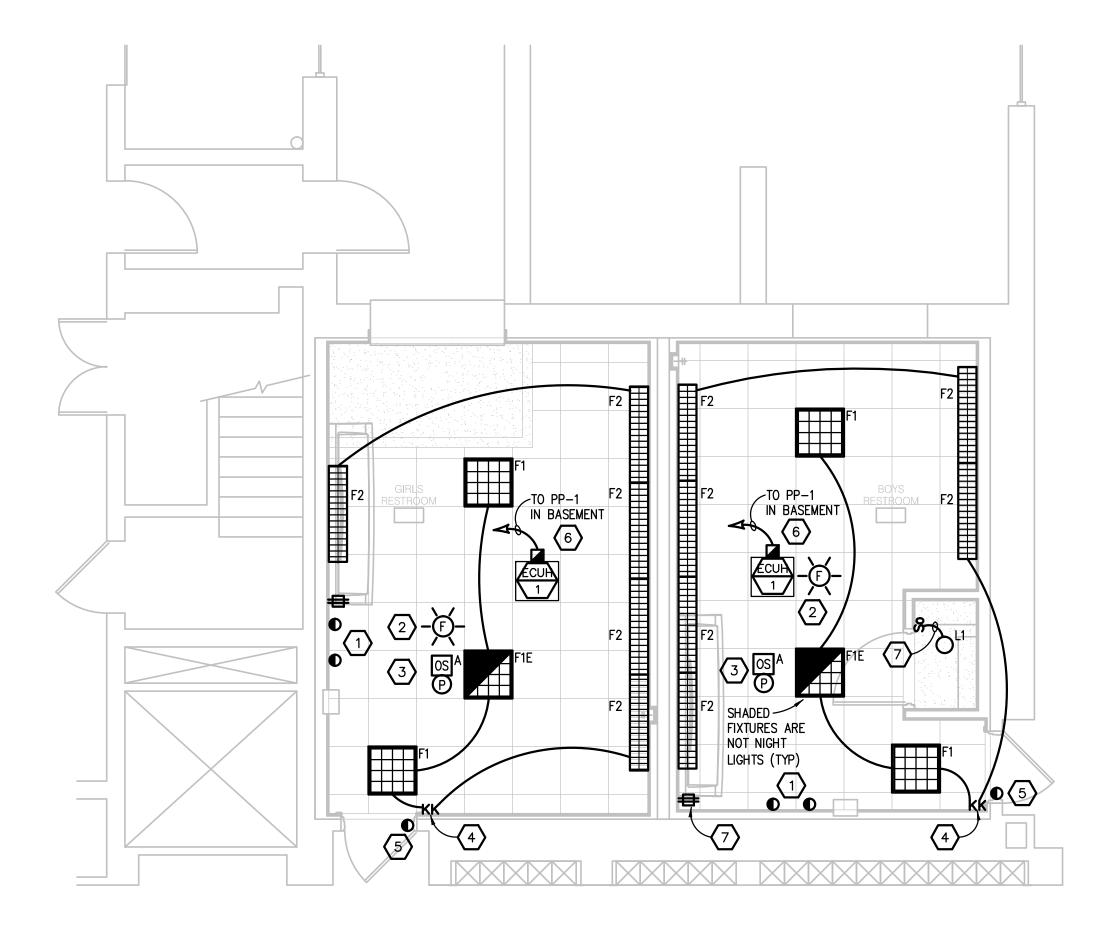
PARTIAL FIRST FLOOR ELECTRICAL DEMOLITION PLAN SCALE: 1/4" - 1' - 0"

GENERAL DEMOLITION NOTES:

- 1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
- 2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
- 3. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE DEVICES SHOWN.
- 4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
- 5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
- 6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
- 7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
- 8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
- 9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
- 10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
- 11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
- 12. VERIFY ALL UNDERGROUND AND IN SLAB UTILITY LOCATIONS PRIOR TO SAW-CUTTING OR PENETRATING ANY FLOOR SLAB.
- 13. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COSTS TO PERFORM THIS WORK DURING WEEKENDS AND EVENINGS INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 72 HOURS PRIOR TO SHUT DOWN.

DEMOLITION NOTES:

- A. DISCONNECT AND REMOVE LIGHTING. EXISTING LIGHTING CIRCUIT SHALL REMAIN FOR
- B. DISCONNECT AND REMOVE ELECTRIC HAND DRYERS. EXISTING CIRCUITING SHALL REMAIN FOR REUSE.
- C. REMOVE LIGHT SWITCH. CIRCUITING SHALL REMAIN FOR REUSE.





PARTIAL FIRST FLOOR ELECTRICAL NEW WORK PLAN SCALE: 1/4" - 1' - 0"

GENERAL NOTES:

- 1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
- 2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- 3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- 5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- 6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- 7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS. STARTERS. DISCONNECTS. ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- 8. RE-SUPPORT ALL EXPOSED EXISTING CONDUIT AND DATA CABLING AS REQUIRED PER NEC.

(#) CONSTRUCTION NOTES:

- ELECTRIC HAND DRYER. ONE IN EACH RESTROOM SHALL BE BARRIER FREE MOUNTED AT AT 37" AFF. THE OTHERS SHALL BE AT 43" AFF TO THE BOTTOM OF DRYER. ALL RACEWAY SHALL BE CONCEALED IN WALLS. COORDINATE WITH ARCHITECTURAL ELEVATION PLANS PRIOR TO ROUGH-IN. CONNECT TO EXISTING CIRCUITING AND EXTEND CIRCUITING AS REQUIRED.
- 2. NEW CEILING MOUNTED FIRE ALARM DEVICE. NEW CIRCUIT FROM NATIONAL TIME 902 FIRE ALARM CONTROL PANEL LOCATED IN OFFICE. ALL RACEWAY SHALL BE CONCEALED IN WALLS.
- 3. OCCUPANCY SENSOR SHALL BE PROVIDED WITH PHOTO CELL CONTROL FOR DAYLIGHT HARVESTING AND SET AT 10 FOOTCANDLES. DAYLIGHT CONTROL SHALL ONLY BE FOR LIGHT FIXTURE TYPES F1 AND F1E.
- 4. NEW KEYED LIGHT SWITCHING, PROVIDE NEW 2 GANG BOX, CONNECT TO EXISTING LIGHTING CIRCUIT. PROVIDE GROUND WIRE PER NEC. NO EXPOSED CONDUIT IS ACCEPTABLE. PROVIDE STAINLESS STEEL COVER PLATE. SWITCH BOX SHALL BE RECESSED BEHIND TILE WALL FINISH. COORDINATE WITH ARCHITECTURAL TRADES PRIOR TO ROUGH-IN.
- 5. AUTODOOR OPERATOR. INSTALLED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FOR A COMPLETE INSTALLATION AND OPERATION. CIRCUIT TO NEAREST AVAILABLE 120V CIRCUIT AND EXTEND CIRCUITING AS REQUIRED. PUSHBUTTON IS WIRELESS. NO SURFACE MOUNTED RACEWAY IS ACCEPTABLE.
- 6. PROVIDE NEW 20A-3P BREAKER IN EXISTING PP-1 LOCATED IN BASEMENT. SEE COMPOSITE PLAN FOR EXACT LOCATION. PP-1 100A, 208/120V-3ø-3W PANELBOARD WITH (2)40A-3P BREAKERS SERVING AC UNITS. NEW LOAD IS HEATING ONLY AND WILL NOT INCREASE DEMAND LOAD.

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CONNECT TO 120V LIGHTING CIRCUIT IN RESTROOM. EXTEND EXISTING CIRCUIT AS REQUIRED.

Bidding: 12 January 2016

Scale: As Noted

architects • engineers

PARTIAL FIRST FLOOR ELECTRICAL PLAN Ehresman Associates, Inc.

Grosse Pointe Public School System Mason Elementary School Restroom Remodeling - Phase 2

Troy, Michigan 48098-3276

Project No. 9013