DEMOLITION NOTES.

DRAWING SYMBOL ON PLANS & SECTIONS

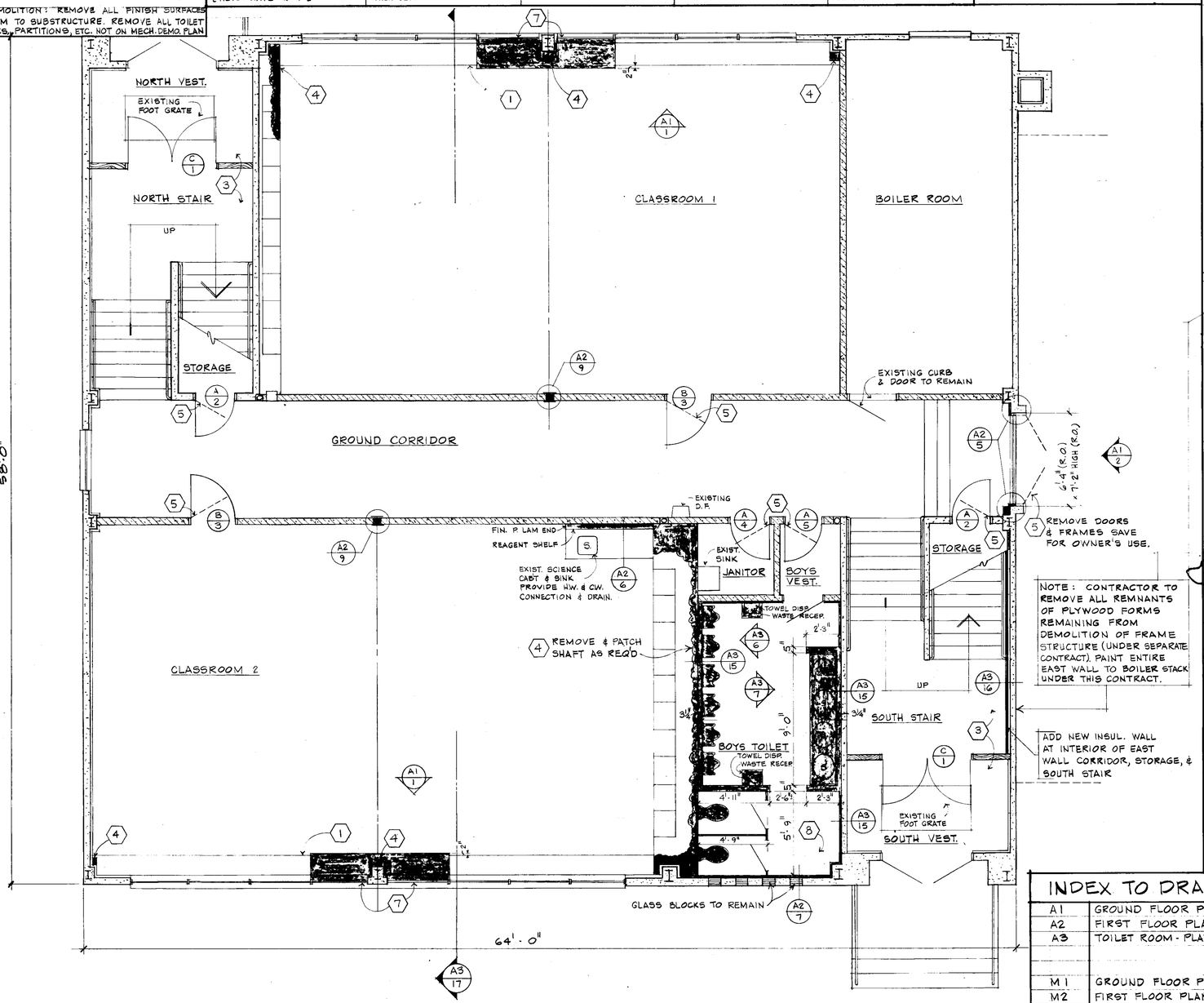
1. REMOVE ALL SHELVES UNDER WINDOWS. STORE FOR FUTURE REINSTALLATION.
2. REMOVE CEILING TILES AND BACKER BOARD TO FURRING STRIPS.
3. REMOVE EXISTING CARPET ON FLOOR.
4. REMOVE MINIMUM SURFACE TO ACCOMODATE MECH CNTR. PATCH TO MATCH EXISTING. SEE GENERAL NOTE 2.
5. REMOVE DOOR. RELOCATE DOOR IF INDICATED. FRAME TO REMAIN UNLESS INDICATED OTHERWISE.
6. REMOVE ENTIRE WALL INCLUDING STUDS AND PLATES.
7. REMOVE OPERABLE WINDOW SASH. FRAME TO REMAIN.
8. TOILET DEMOLITION: REMOVE ALL FINISH SURFACES WITHIN ROOM TO SUBSTRUCTURE. REMOVE ALL TOILET ACCESSORIES, PARTITIONS, ETC. NOT ON MECH. DEMO. PLAN

ROOM PREPARATION & FINISH SCHEDULE

ROOM(S)	FLOOR	BASE	WALL	CEILING
CLASSROOMS 1, 2, 3, 4	EXISTING V.A.T. TO REMAIN. CARPET NO. 1.	REMOVE VINYL BASE AT WINDOW WALL. 6" COVELESS VINYL BASE TO MATCH EXISTING.	PAINT ALL WALLS AND WINDOWS.	REMOVE EXISTING CEILING. 2'x4' AC. TILE IN EXPOSED SUSPENSION SYSTEM. (1-HR. RATED)
GROUND & FIRST CORRIDORS	EXISTING V.A.T. TO REMAIN. CARPET NO. 1.	PATCH EXISTING 6" VINYL BASE AS REQUIRED.	PAINT ALL WALLS AND WINDOWS.	2'x4' AC. TILE IN EXPOSED SUSPENSION SYSTEM (1-HR. RATED)
NORTH & SOUTH STAIRS, NORTH & SOUTH VESTIBULES	REMOVE EXISTING CARPET. CARPET NO. 1 AT TREADS, RISERS, AND LANDINGS.	PATCH EXISTING 6" VINYL BASE AS REQUIRED.	PAINT ALL WALLS AND STORE-FRONTS.	PAINT EXISTING EXPOSED CEILING.
BOYS TOILET AND VESTIBULE GIRLS TOILET AND VESTIBULE	REMOVE ALL V.A.T. TO CONCRETE. CERAMIC TILE - THIN SET	REMOVE EXISTING VINYL BASE. 4" CERAMIC TILE BASE.	REMOVE ALL MARLITE. ENAMELED ASBESTOS CEMENT BOARD.	PAINTED MOISTURE RESISTANT GYPSUM BOARD ON FURR. STRIPS. (1-HOUR RATED) SEE DET. A2/7
BOYS TOILET (1956 BLDG) GIRLS TOILET (1956 BLDG) [ALTERNATE № 1]	REMOVE V.A.T. & FLOOR SHEATHING. CERAMIC TILE - THIN SET.	REMOVE EXISTING VINYL BASE. 4" CERAMIC TILE BASE.	REMOVE ALL MARLITE. ENAMELED ASBESTOS CEMENT BOARD.	PAINTED MOISTURE RESISTANT GYPSUM BOARD ON EXISTING FURRING STRIPS.

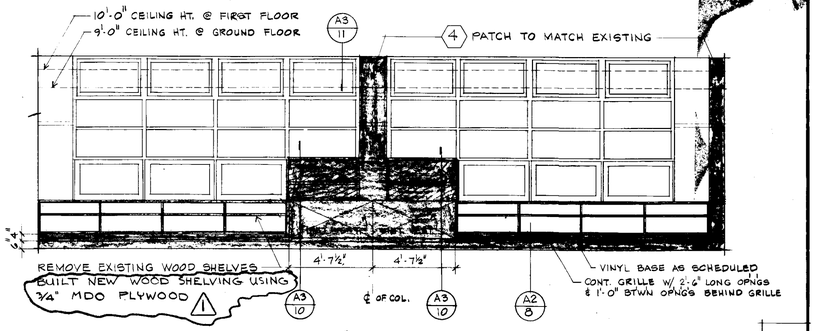
GENERAL NOTE

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO BEGINNING WORK AND ORDERING MATERIALS. REPORT ANY DISCREPANCIES THAT AFFECT DESIGN TO ARCHITECT.
2. WHEN REMOVING SURFACES OR ITEMS TO BE RELOCATED IN THE WORK, SUCH AS WOOD MOLDING, TRIM, SHELVES, ETC., DO NOT DAMAGE THEM DURING REMOVAL OR STORAGE.
3. DIMENSIONS TO FINISH SURFACES, UNLESS OTHERWISE NOTED.

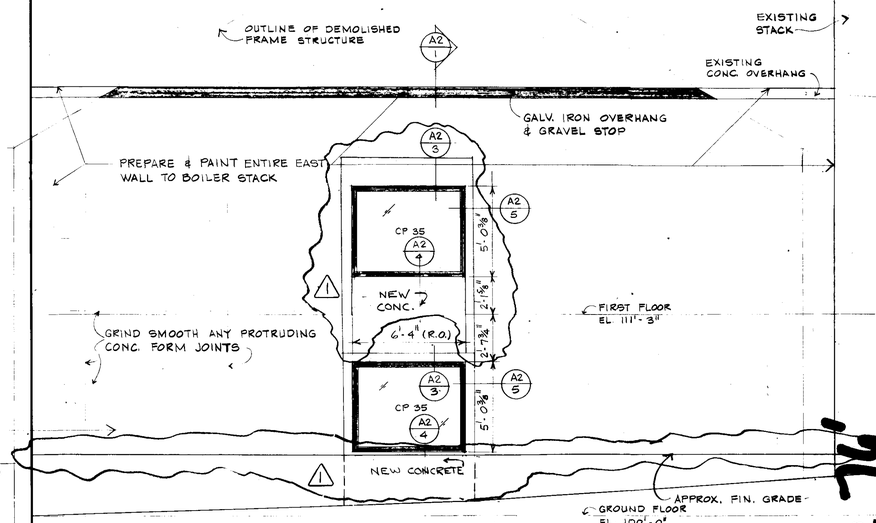


GROUND FLOOR PLAN
SCALE: 1/4" = 1'-0"

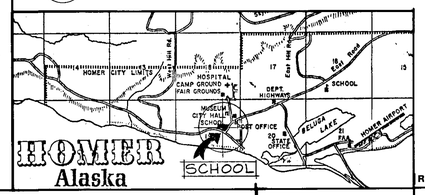
= NEW CONSTRUCTION OR ITEM (SHADED)



A1/1 CLASSROOM WINDOW WALL ELEVATION
SCALE: 1/4" = 1'-0"



A1/2 PARTIAL EAST ELEVATION
SCALE: 1/4" = 1'-0"



INDEX TO DRAWINGS

STATE OF ALASKA 49TH — Gordon H. Edberg NO 3240A — REGISTERED PROFESSIONAL ARCHITECT

2942

5-19-77 1

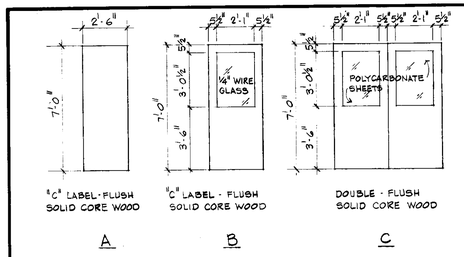
REVISION	DATE	NO.
GROUND FLOOR PLAN; ELEVATIONS; FINISH SCHE.	DATE: APRIL 21, 1976	
	IN CHARGE: R.O.	
	DRAWN BY: T.J., R.O.	
	CHECKED BY: E.T.	
	COMM. NO.: 7307-742A	

ALTERATIONS TO
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

SHEET NO.: A1

ELLERBE · ALASKA
3201 "C" STREET
ANCHORAGE, ALASKA 99503
TELEX 090-25299
PHONE 907-276 4035

Ellerbe



"C" LABEL-FLUSH SOLID CORE WOOD — A

"C" LABEL - FLUSH SOLID CORE WOOD — B

DOUBLE - FLUSH SOLID CORE WOOD — C

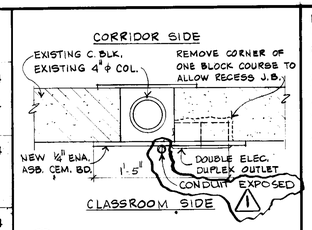
DOOR LEGEND & NOTES:

B — DOOR TYPE AT LEFT
2 — HARDWARE GROUP AT RIGHT

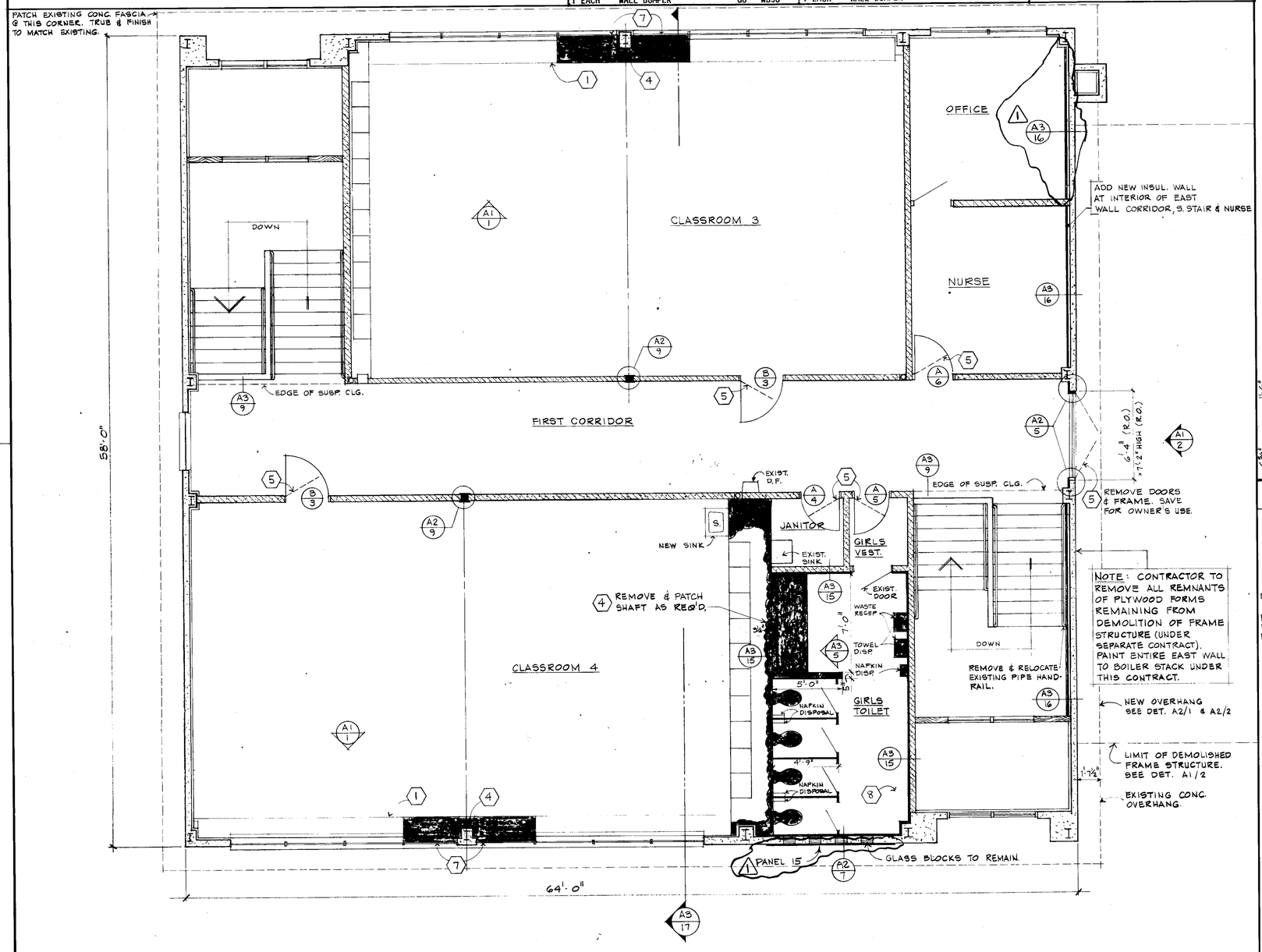
1. ALL FRAMES TO REMAIN. REPAINT TO MATCH WALLS.
2. CONTRACTOR SHALL VERIFY EXISTING DOOR SIZES BEFORE ORDERING NEW DOORS.
3. LABEL DOORS SHALL HAVE LABEL AS REQUIRED.

HARDWARE GROUPS (SEE SPECIFICATIONS FOR ABBREVIATIONS)

HW-1			
2 EACH	BUTTS	MC	T4A3786
2 EACH	PUSH BARS	CI	2445S
2 EACH	PULL PLATE	VO	8800T
2 EACH	DOOR CLOSER	RU	P2810
2 EACH	KICK PLATE	CI	5024
2 EACH	FLOOR STOP & HOLDER	GJ	F40
HW-2			
1 EACH	BUTTS	MC	TA2714
1 EACH	LOCKSET	SC	D51PD
1 EACH	DOOR CLOSER	RU	P2810
1 EACH	KICK PLATE	CI	5024
1 EACH	WALL BUMPER	GJ	WB50
HW-3			
1 EACH	BUTTS	MC	TA2714
1 EACH	LOCKSET	SC	D70PD
1 EACH	DOOR CLOSER	RU	P2810
1 EACH	KICK PLATE	CI	5024
1 EACH	WALL BUMPER	GJ	WB50
HW-4			
1 EACH	BUTTS	MC	TA2714
1 EACH	LOCKSET	SC	D51PD
1 EACH	DOOR CLOSER	RU	2810FL
1 EACH	KICK PLATE	CI	5024
1 EACH	WALL BUMPER	GJ	WB60
HW-5			
1 EACH	BUTTS	MC	TA2714
1 EACH	LOCKSET	SC	D70PD
1 EACH	DOOR CLOSER	RU	2810
1 EACH	KICK PLATE	CI	5024
1 EACH	WALL BUMPER	GJ	WB50
HW-6			
1 EACH	BUTTS	MC	TA2714
1 EACH	LOCKSET	SC	D51PD
1 EACH	DOOR CLOSER	RU	2810
1 EACH	KICK PLATE	CI	5024
1 EACH	WALL BUMPER	GJ	WB60

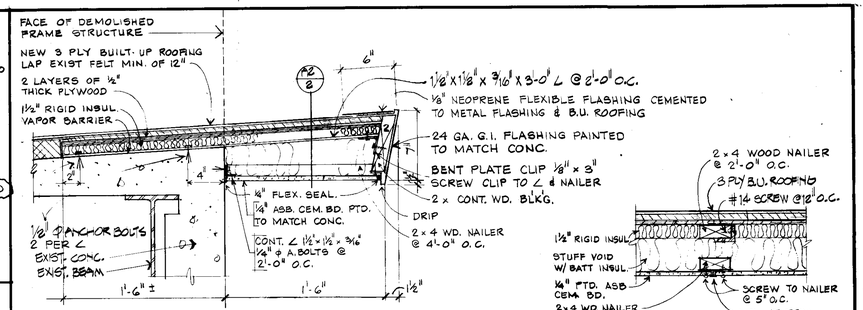


A2/9 CONDUIT @ COLUMN 1½" = 1'-0"



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

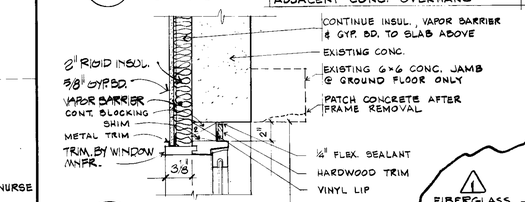
= NEW CONSTRUCTION OR ITEM (SHADED)



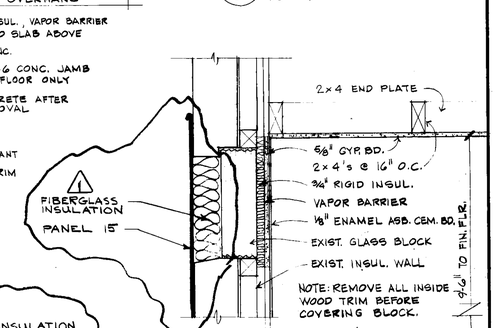
A2/1 OVERHANG 1½" = 1'-0"

DIMENSION NOTE: ALL OVERHANG DIMENSIONS TO MATCH EXISTING ADJACENT CONC. OVERHANG

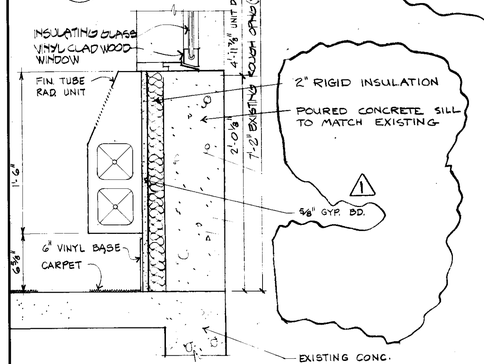
A2/2 OVERHANG 1½" = 1'-0"



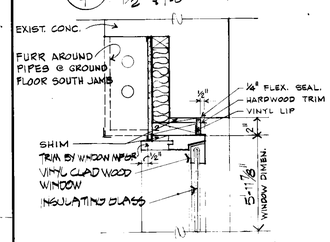
A2/3 HEAD 1½" = 1'-0"



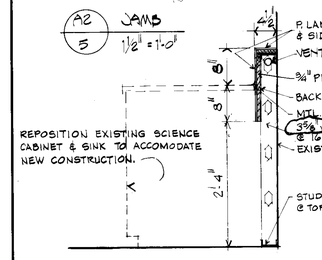
A2/7 TOILET WALL @ GLASS BLOCK 1½" = 1'-0"



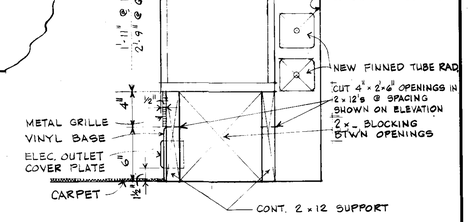
A2/4 SILL 1½" = 1'-0"



A2/5 JAMB 1½" = 1'-0"



A2/6 REASENT SHELF ¾" = 1'-0"



A2/8 RELOCATED SHELVES 1½" = 1'-0"

2943

AS-BUILT DRAWING 5 - 19 - 77 ⚠

REVISION	DATE	NO.
FIRST FLOOR PLAN; EXTERIOR DETAILS; DOORS	DATE: APRIL 21, 1976	
	IN CHARGE: R.O.	
	DRAWN BY: T.J., J.E.	
	CHECKED BY: E.T.	
	COMM. NO.: 7307-742A	

ALTERATIONS TO
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

SHEET NO.: **A2**

ELLERBE · ALASKA
3201 "C" STREET
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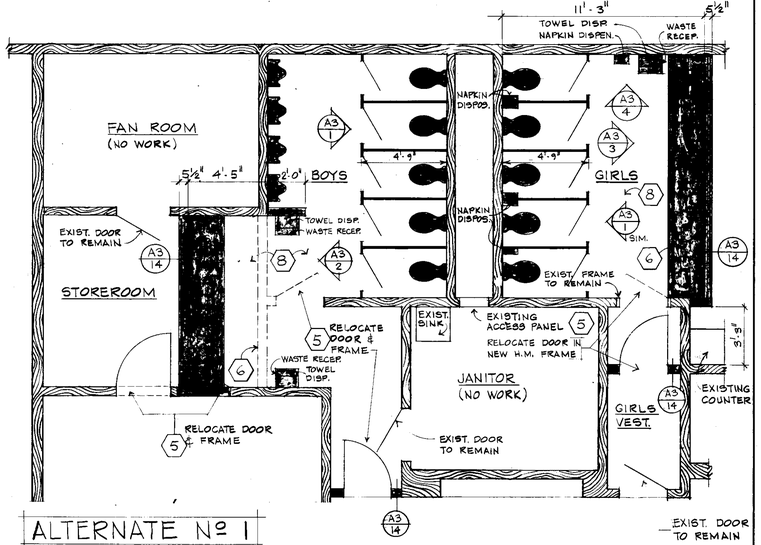
PHONE 907-276 4035

STATE OF ALASKA 49TH — Gordon H. Edberg NO. 3740-A — REGISTERED PROFESSIONAL ARCHITECT

Ellerbe



ALTERNATE Nº 1

(1956 BUILDING) PLAN - TOILET ROOMS

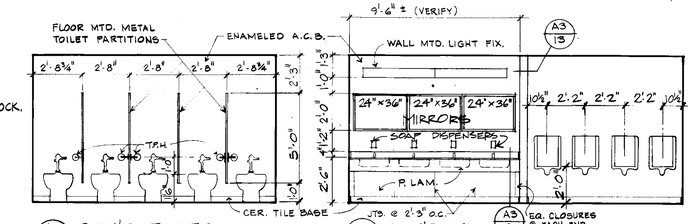
SCALE: 1/4" = 1'-0"

WALL LEGEND

= EXISTING TO REMAIN
= NEW CONSTRUCTION OR ITEM
= EXISTING TO BE REMOVED

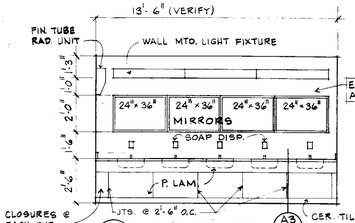
TOILET NOTE:
1. CONTRACTOR SHALL PROVIDE THREE (3) EXTRA MIRRORS (24" × 36") FOR REPLACEMENT STOCK.

NOTE: HEIGHTS FOR TOILET ACCESSORIES TYP. FOR ALL SHOWN ON PLANS.

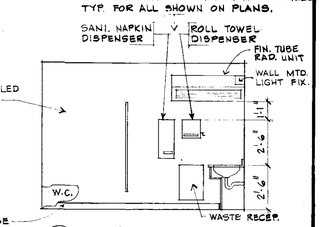


A3/1 BOY'S TOILET
1/4" = 1'-0"

A3/2 BOY'S TOI.
1/4"=1'-0"

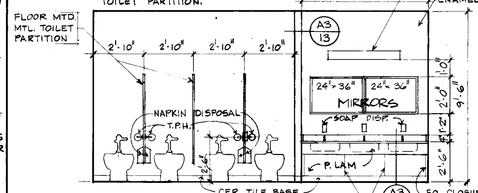


A3/3 GIRL'S TOILET
1/4" = 1'-0"

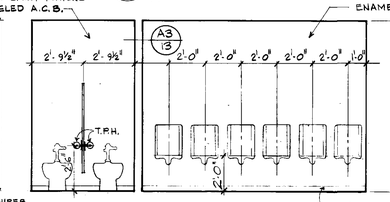


A3/4 GIRL'S TOILET
1/4" = 1'-0"

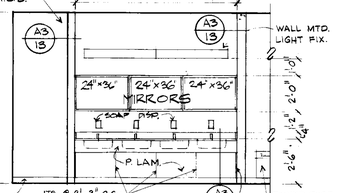
NOTE: GIRL'S TOILET W.C. ELEVATION SIMILAR & OPPOSITE. ADD NAPKIN DISPOSALS TO METAL TOILET PARTITION.



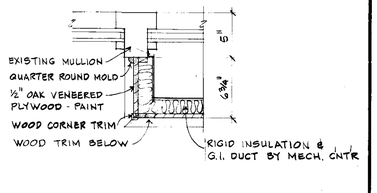
A3/5 GIRL'S TOILET
1/4"=1'-0"



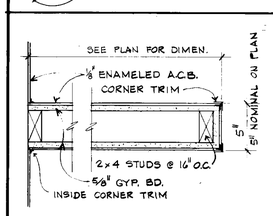
A3/6 BOY'S TOILET
1/4"=1'-0"



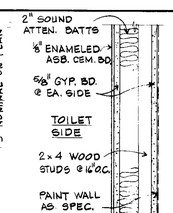
A3/7 BOY'S TOILET
1/4"=1'-0"



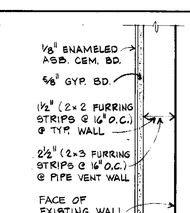
A3/7A UNIT VENT. DUCT
1½" = 1'-0"



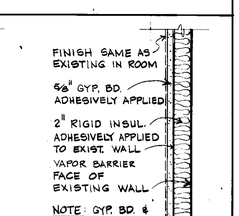
A3/13 PLAN - TOI. DIVIDER WALL
1½" = 1'-0"



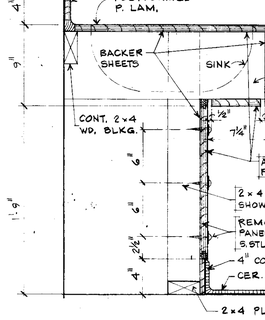
A3/14 TOILET WALL
1½" = 1'-0"



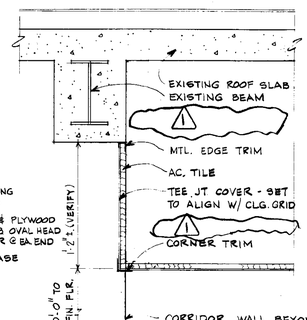
A3/15 TOI. FURRED WALL
1½" = 1'-0"



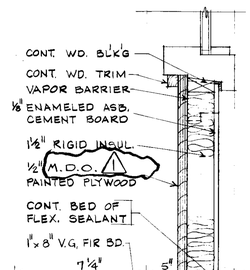
A3/16 INSUL. EXT. WALL
1½" = 1'-0"



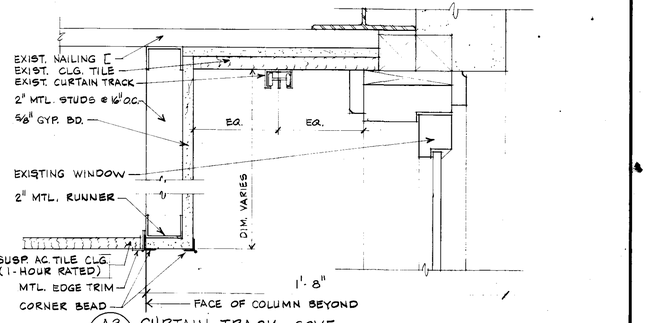
A3/8 VANITY COUNTER
1½" = 1'-0"



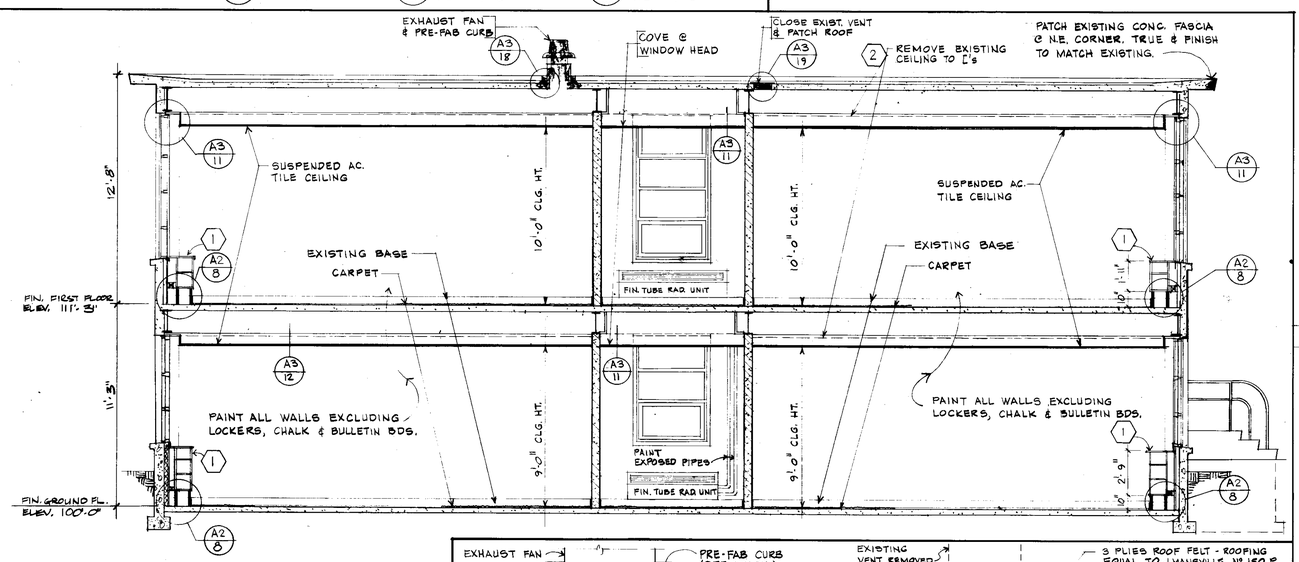
A3/9 CORR. CLG. @ STAIR
1½" = 1'-0"



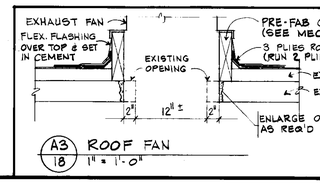
A3/10 WINDOW @ CAB'T HEATER
SCALE: 3" = 1'-0"



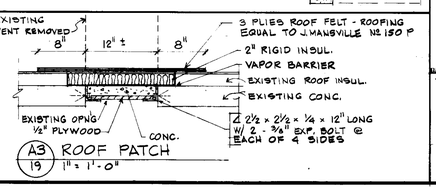
A3/11 CURTAIN TRACK COVE
3" = 1'-0"



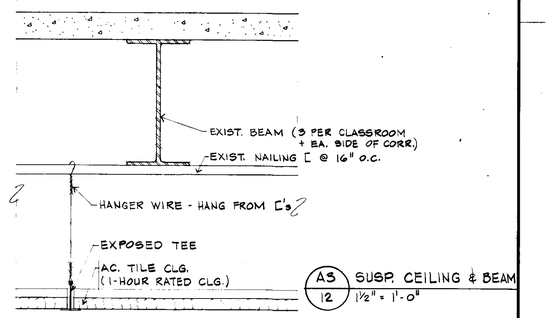
A3/17 1950 BUILDING BUILDING SECTION
SCALE: 1/4" = 1'-0"



A3/18 ROOF FAN
1" = 1'-0"



A3/19 ROOF PATCH
1" = 1'-0"



A3/12 SUSP. CEILING & BEAM
1½" = 1'-0"

2944

AS-BUILT DRAWING 5-19-77 1

REVISION	DATE	NO.

TOILET ROOMS - PLAN & ELEVATIONS; BLDG. SECTION

ALTERATIONS TO
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

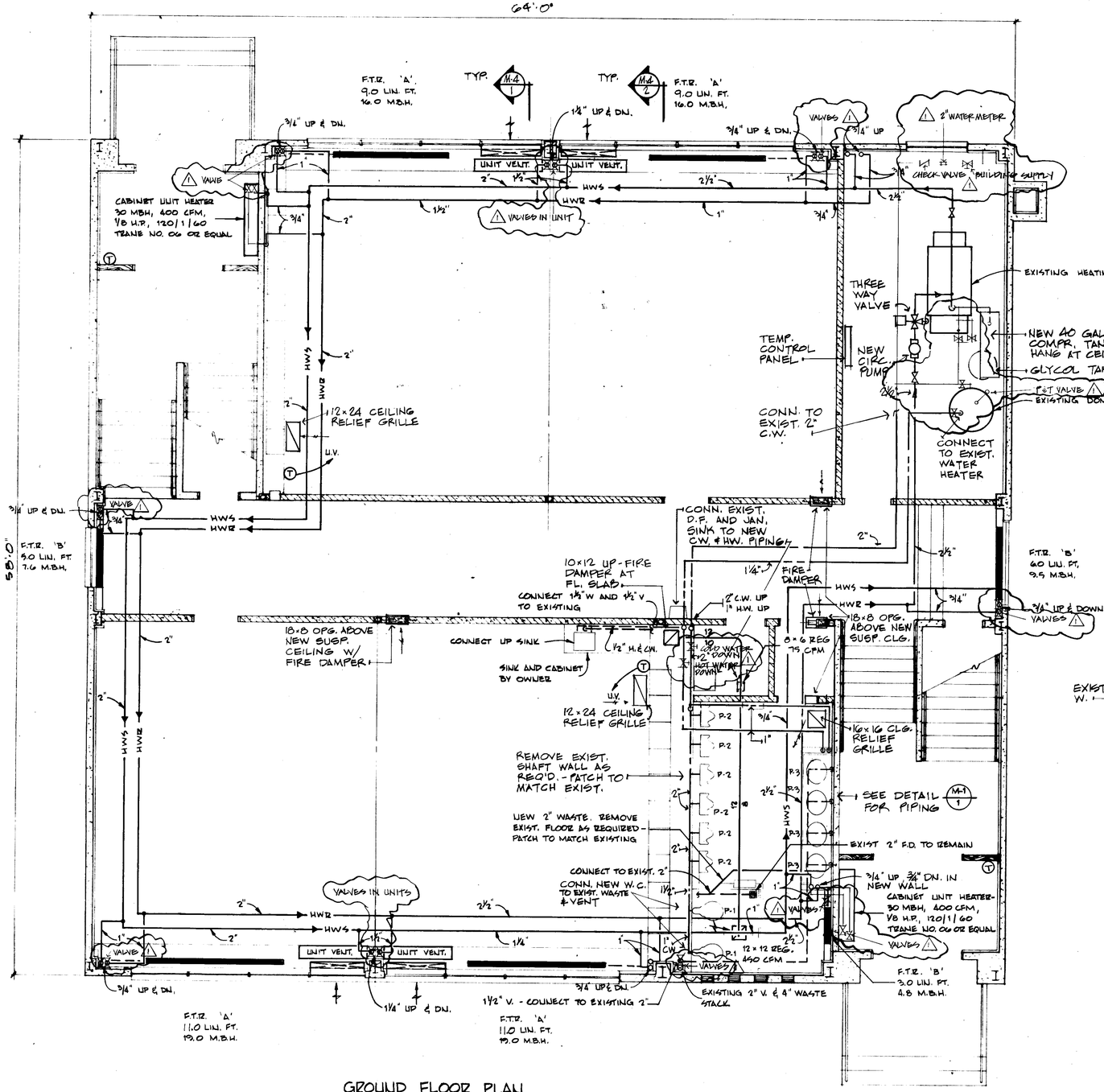
DATE: APRIL 21, 1976
IN CHARGE: R.O.
DRAWN BY: T.J., R.O.
CHECKED BY: E.T.
COMM. NO.: 1307-742 A

SHEET NO.: A3

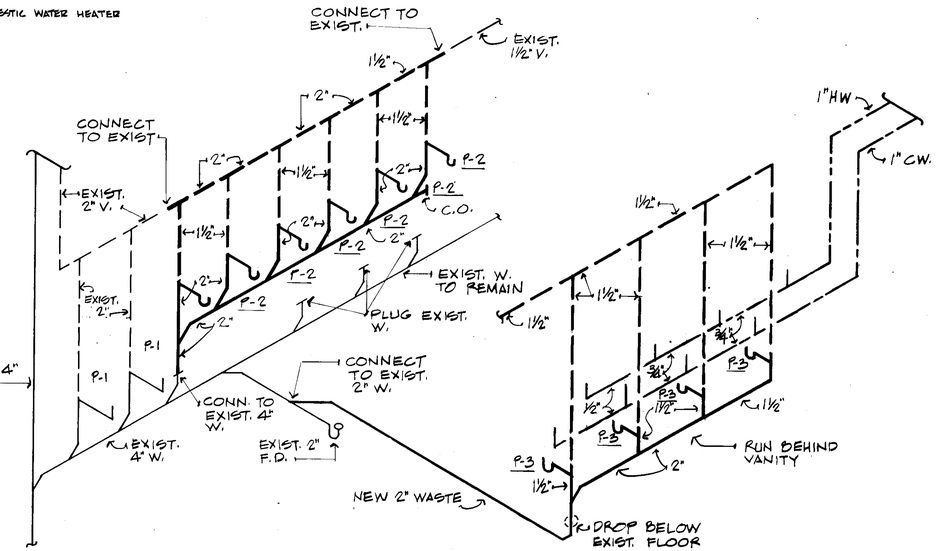
ELLERBE · ALASKA
3201 "C" STREET
ANCHORAGE, ALASKA 99503
TELEX 090-25299
PHONE 907-276 4035

STATE OF ALASKA 49TH
Gordon H. Edberg
REGISTERED PROFESSIONAL ARCHITECT

Ellerbe



GROUND FLOOR PLAN
SCALE: 1/4" = 1'-0"



PLUMBING SCHEMATIC (M-1/1)
NO SCALE

MECHANICAL SYMBOLS

SYMBOL	ABBR.	DESCRIPTION
———	C.W.	COLD WATER
———	H.W.	HOT WATER
- - - -	V.	VENT
——HWS——	H.W.S.	HEATING WATER SUPPLY
——HWR——	H.W.R.	HEATING WATER RETURN
———	W.	WASTE

LIST OF MECHANICAL DRAWINGS

M-1	GROUND FLOOR PLAN & DETAILS
M-2	FIRST FLOOR PLAN, DETAILS, & SCHEDULES
M-3	DEMOLITION PLANS & DETAILS
M-4	TOILET RM. PLANS (1956 BLDG.) & DETAILS
M-5	MECHANICAL SPECIFICATION

WASTE, VENT, AND SUPPLY CONNECTIONS AT PLUMBING FIXTURES

ROUGHING-IN FOR WASTE, VENT, AND SUPPLY CONNECTIONS AT THE VARIOUS FIXTURES SHALL BE AS FOLLOWS:

FIXTURE	WASTE	VENT	H.W.	C.W.
WATER CLOSET (F.V.)	4"	2"	–	1"
URINAL	2"	1½"	–	¾"
LAVATORY	1½"	1½"	½"	½"
SINK	1½"	1½"	½"	½"

2945

AS BUILT 6-30-77

REVISION	DATE	NO.
GROUND FLOOR PLAN & DETAILS		

ALTERATIONS TO:
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

DATE: 4/21/76
IN CHARGE: WP
DRAWN BY: SW
CHECKED BY: LS
COMM. NO.: 7307.74.2A

SHEET NO.: M-1

STATE OF ALASKA 49TH — William A. Pike No. 1722-E — REGISTERED PROFESSIONAL ENGINEER

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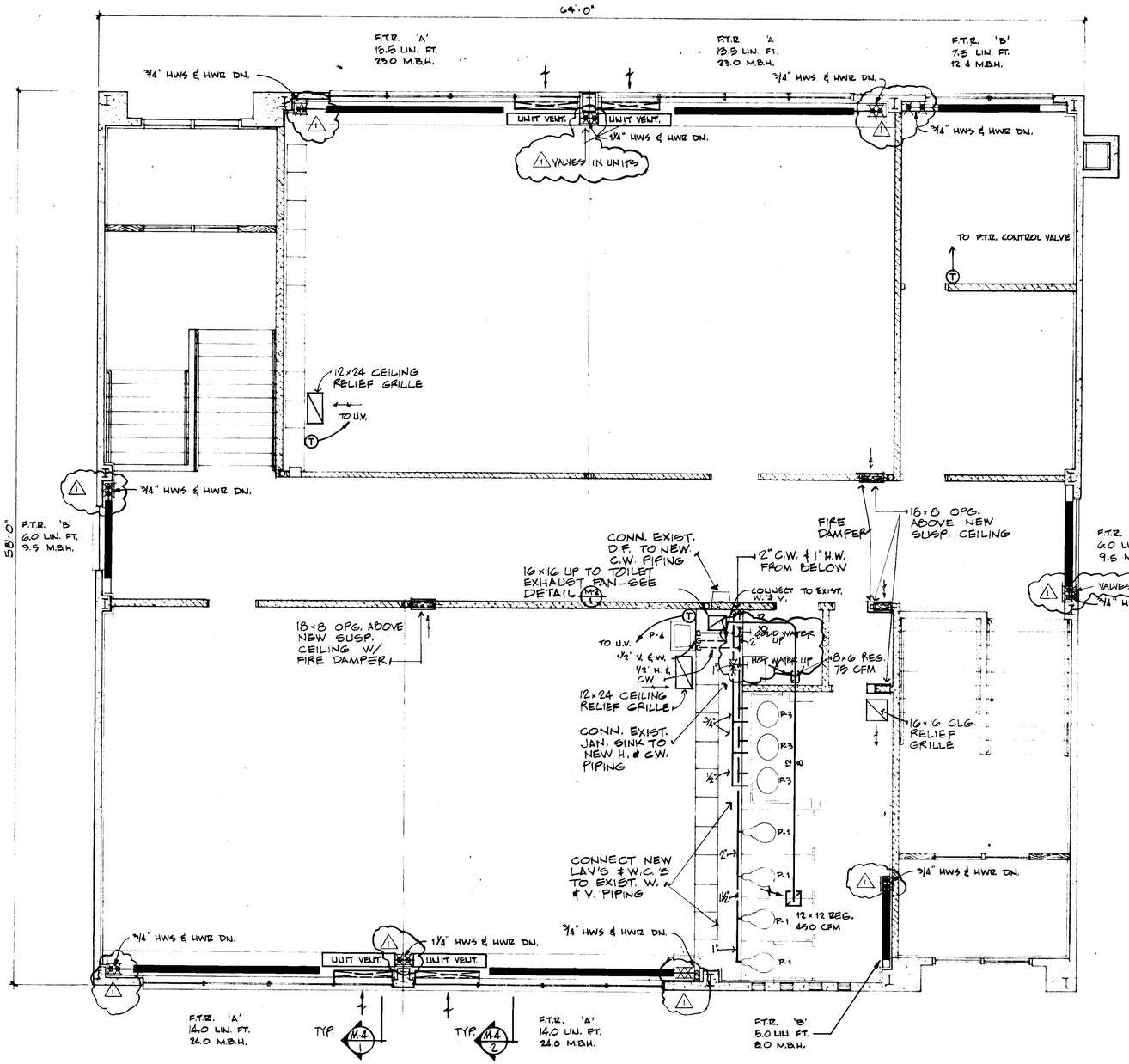
ANCHORAGE, ALASKA 99503
TELEX 090-25299
PHONE 907-278-4035

Ellerbe



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

CLASSROOM UNIT VENTILATORS	
AIR VOLUME	600 CFM @ 1300 RPM
HEATING CAPACITY	30,000 BTUH
ENTERING WATER	180 °F
LEAVING WATER	160°F
MOTOR	1/8 HP 120/1/60
ACCESSORIES	PERMANENT WASHABLE FILTERS, BASE WITH FRESH AIR & RETURN AIR DAMPER AND FRESH AIR INTAKE LOUVER.
REMARKS	TRANE CABINET UNIT HEATER MODEL 06 OR EQUAL. PROVIDE RETURN INLET GRILLE.

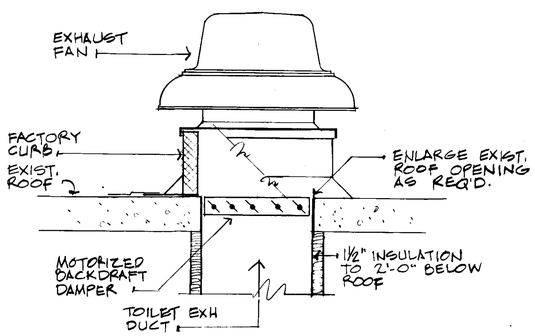
TOILET EXHAUST FAN	
AIR VOLUME	1050 CFM @ .25" S.P.
MOTOR	1/4 HP 120/1/60
ACCESSORIES	WITH 12" HIGH FACTORY FABRICATED INSULATED CURB AND MOTORIZED BACKDRAFT DAMPER.
REMARKS	PENN DOMEX MODEL BB 45 OR EQUAL BELT DRIVE.

HEATING WATER CIRCULATING PUMP	
DESIGN FLOW	65 GPM
DESIGN HEAD	20 FT.
PUMP TYPE	IN-LINE
PUMP SIZE	2" SUCTION, 2" DISCH.
MOTOR	3/4 HP 120/1/60
REMARKS	BELL & GOSSETT SERIES 60, SIZE 2"AA OR EQUAL

FIN TUBE RADIATION

PLAN TYPE	ELEMENT	FINS/IN.	ROWS HIGH	ENCLOSURE	ENCLOS. HEIGHT	OUTPUT BTUH/L.F.	ENTERING WATER	LEAVING WATER	REMARKS
A	1 1/8" COPPER TUBE 4 1/2" ALUM. FINS	AS REQ'D.	2	BY GEN. CONTR. *	-	1750 * (MINIMUM)	180°F	160°F	
B	1 1/4" COPPER TUBE 4 1/4" ALUM. FINS	40	2	SLOPE TOP	18"	1620 (MINIMUM)	180°F	160°F	VULCAN STYLE DS OR EQUAL.

* MINIMUM RATING (TYPE A) BASED ON BARE ELEMENT INSTALLED BEHIND BOOKCASE. SEE DETAIL M-2/2 AND ARCHITECTURAL DRAWINGS.



DETAIL M-2/1
NO SCALE

2946

AS BUILT 6-30-77

REVISION	DATE	NO.

FIRST FLOOR PLAN, DETAILS, & SCHEDULES

ALTERATIONS TO:
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

DATE: 4/21/76
IN CHARGE: WP
DRAWN BY: SW
CHECKED BY: LS
COMM. NO.: 7307.742A

SHEET NO.: M-2

STATE OF ALASKA 4928 William A. Pike No. 1722-E REGISTERED PROFESSIONAL ENGINEER

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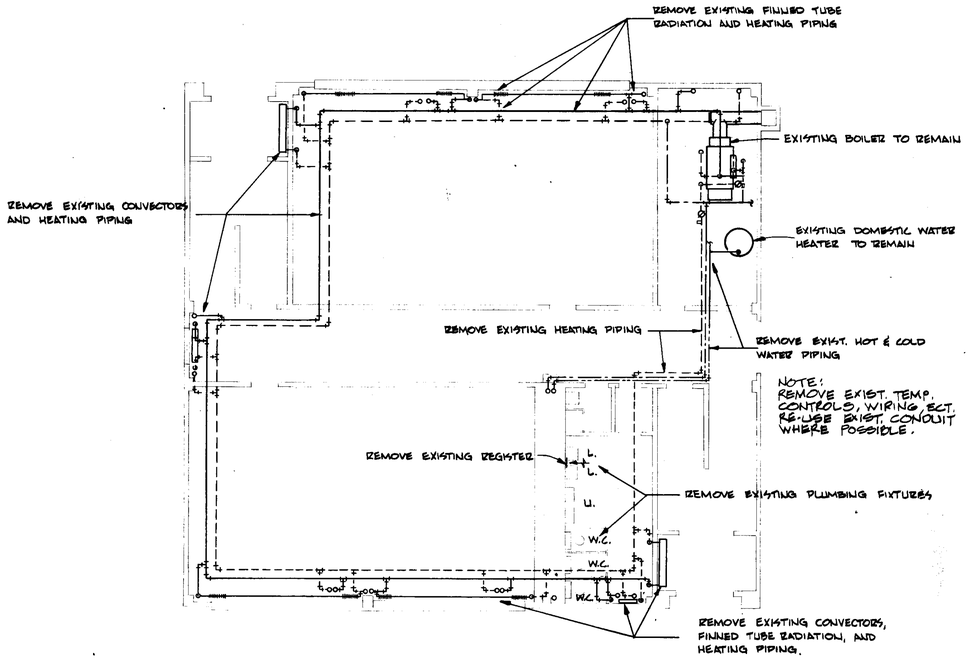
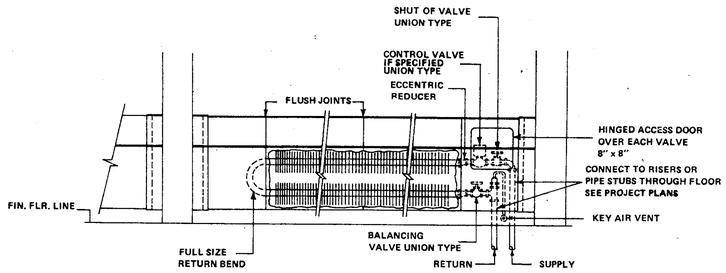
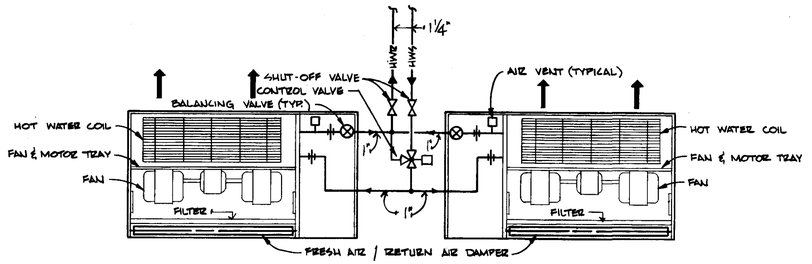


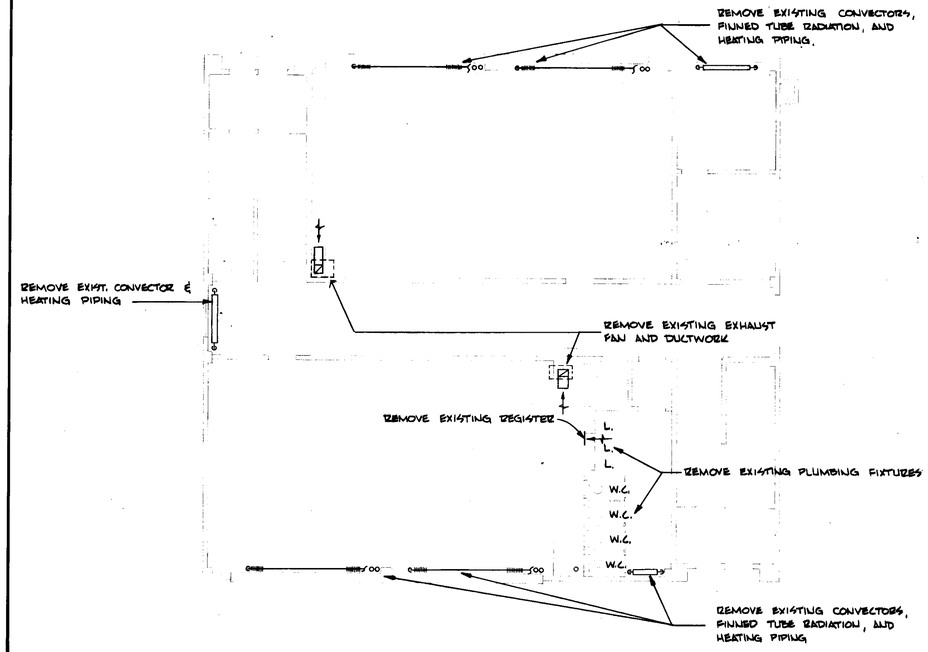
GROUND FLOOR PLAN - EXISTING
SCALE : 1/8" = 1'-0"



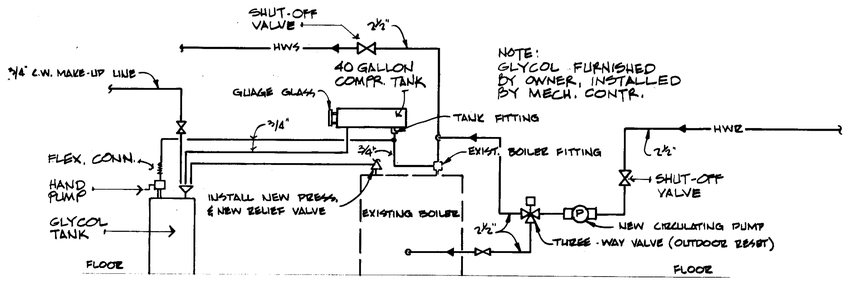
TYPICAL TWO ROW ELEMENT FIN TUBE HOT WATER RADIATION
NO SCALE
M-3 / 1



TYPICAL UNIT VENTILATOR PIPING DETAIL
NO SCALE
M-3 / 2



FIRST FLOOR PLAN - EXISTING
SCALE : 1/8" = 1'-0"



BOILER PIPING SCHEMATIC
NO SCALE

2947

AS BUILT 6-30-77

REVISION	DATE	NO.
DEMOLITION PLANS & DETAILS	DATE: 4/21/76	
ALTERATIONS TO: . HOMER JR. HIGH SCHOOL	IN CHARGE: WP	
HOMER, ALASKA	DRAWN BY: SW	
	CHECKED BY: LS	
	COMM. NO.: 1907-742 A	
	SHEET NO.: M-3	

STATE OF ALASKA 49TH William A. Pike No. 1722-E REGISTERED PROFESSIONAL ENGINEER

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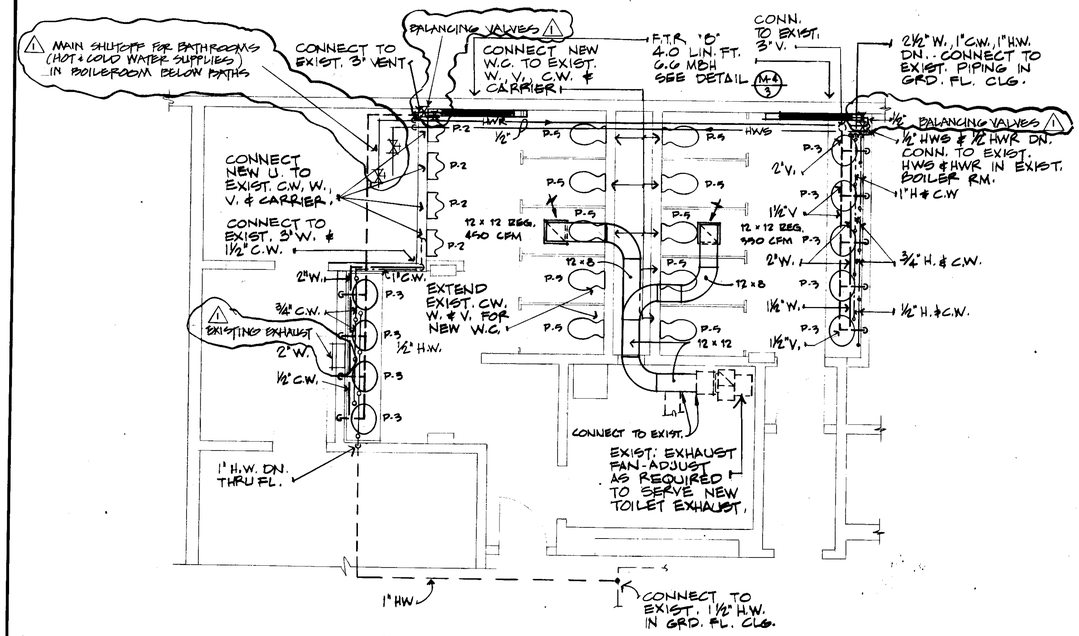
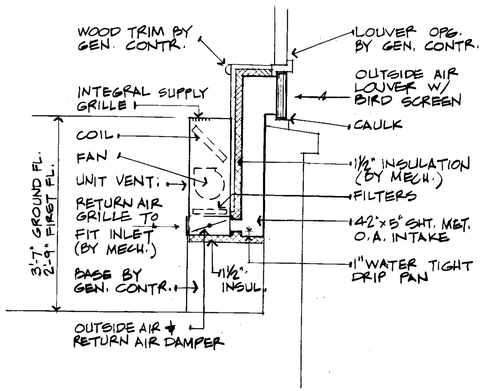
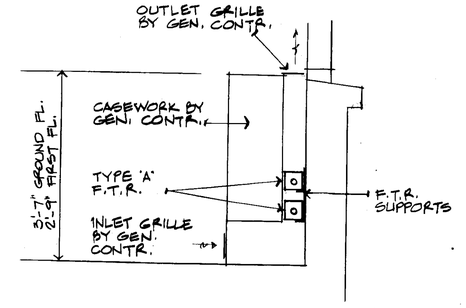


TOILET ROOM PLAN (1956 BUILDING)
SCALE: ¼" = 1'-0"



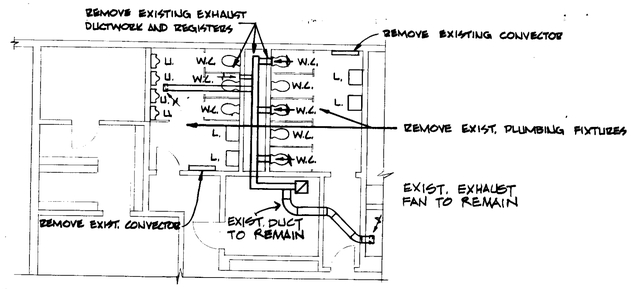
TYPICAL UNIT VENTILATOR MOUNTING DETAIL
SCALE: ¾" = 1'-0"

M-4 / 1

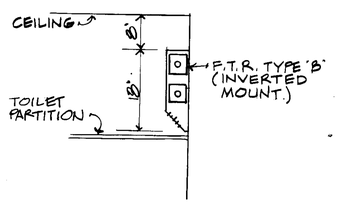


TYPICAL F.T.R. TYPE "A" MOUNTING DETAIL
SCALE: ¾" = 1'-0"

M-4 / 2



EXISTING TOILET ROOM PLAN (1956 BUILDING)
SCALE: ⅛" = 1'-0"



DETAIL
NO SCALE

M-4 / 3

2948

AS BUILT 6-30-77 ⚠1

REVISION	DATE	NO.
TOILET RM. PLANS (1956 BLDG.) & DETAILS		

ALTERATIONS TO:
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

DATE: 4/21/76
IN CHARGE: WP
DRAWN BY: SW
CHECKED BY: LS
COMM. NO.: 7507-742 A

SHEET NO.: M-4

STATE OF ALASKA — William A. Pike No. 1738-E — REGISTERED PROFESSIONAL ENGINEER

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MECHANICAL SPECIFICATIONS

MECHANICAL SPECIFICATION

A. GENERAL.

1. IT IS THE INTENT OF THIS SPECIFICATION THAT THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND LABOR, WHETHER OR NOT SPECIFICALLY INDICATED IN THE PLANS AND/OR SPECIFICATIONS, ESSENTIAL TO THE COMPLETE AND SATISFACTORY INSTALLATION AND OPERATION OF ALL SYSTEMS.

2. ALL EQUIPMENT, ITEMS AND SITUATIONS DAMAGED BY THIS CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE EXPENSE OF THIS CONTRACTOR.

3. IN ALL CASES IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAKE THE CONNECTIONS AND TO FURNISH AND INSTALL ALL MATERIALS AND ITEMS FOR SAME AT THE TERMINAL POINTS OF THE WORK.

4. BIDDERS SHALL FAMILIARIZE THEMSELVES WITH SPECIFICATIONS AND CONDITIONS WHICH AFFECT CONSTRUCTION. IT WILL BE ASSUMED THAT A PERSONAL EXAMINATION OF THE JOB SITE AND PHYSICAL CONDITIONS AFFECTING THE WORK HAS BEEN MADE. FAILURE TO VISIT THE SITE WILL IN NO WAY RELIEVE THE SUCCESSFUL BIDDER FROM THE NECESSITY OF FURNISHING ANY MATERIALS OR PERFORMING ANY WORK THAT MAY BE REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER.

5. THE CONTRACTOR SHALL FURNISH AND INSTALL NEW MATERIALS AND EQUIPMENT IN FIRST CLASS CONDITION, AND PERFORM ALL WORK AND SERVICES DESCRIBED IN CONTRACT DOCUMENTS UNLESS SPECIFICALLY INDICATED OTHERWISE.

6. WHERE THE SELECTION OF MATERIALS OR METHODS IS LEFT TO THE DISCRETION OF THE CONTRACTOR, HE SHALL FAITHFULLY PURSUE THE USE OF THE BEST AVAILABLE MATERAILS OR METHODS SUITABLE FOR THE PURPOSE INTENDED. WHERE MORE THAN ONE TYPE OF MATERIAL IS SPECIFIED FOR A PARTICULAR SYSTEM, THE CONTRACTOR MAY CHOOSE EITHER ONE AND MUST INDICATE HIS CHOICE IN THE MATERIAL LIST. ONLY ONE TYPE OF MATERIAL MAY BE USED IN A PARTICULAR SYSTEM AND DIELECTRIC UNIONS MUST BE USED WHERE THE JOINING OF DISSIMILAR MATERIALS CANNOT BE AVOIDED.

7. IT IS THE PRIMARY RESPONSIBILITY OF THE CONTRACTOR TO TURN OVER TO THE OWNER COMPLETE SYSTEMS THAT HAVE BEEN BALANCED, TESTED AND ADJUSTED WITH THE BEST AVAILABLE INSTRUMENTS TO THE SATISFACTION OF THE ADMINISTRATIVE AUTHORITY. SUCH BALANCING, TESTING ANG ADJUSTING SHALL BE DONE BY THE CONTRACTOR UNDER ACTUAL MAXIMUM DESIGN CONDITIONS AND FINAL PAYMENT SHALL BE WITHHELD UNTIL THIS WORK IS COMPLETED.

8. CODES, ORDINANCES AND STANDARDS.

8.1. OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED.

8.2. FOLLOW UNIFORM PLUMBING CODE, UNIFORM BUILDING CODE, NFPA, USA, ASME, NEMA, ASHRAE, SMACNA, ETC., AS APPLICABLE.

8.3. COMPLY WITH ALL APPLICABLE LAWS, BUILDING AND CONSTRUCTION CODES, OSHA SAFETY AND HEALTH REGULATIONS, AND APPLICABLE REQUIREMENTS OF ANY GOVERNMENTAL AGENCY UNDER WHOSE JURISDICTION THIS WORK IS BEING PERFORMED. CODES AND ORDINANCES TAKE PRECEDENCE OVER THESE DRAWINGS AND SPECIFICATIONS.

9. SHOP DRAWINGS.

9.1. THE CONTRACTOR SHALL SUBMIT SIX (6) INDEXED, TABBED AND BOUND COPIES OF CATALOG DATA, DRAWINGS, AND MATERIALS LIST WITHIN SEVEN (7) DAYS AFTER CONTRACT IS LET TO DETERMINE CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT.

9.2. SUBMITTAL TO BE COMPLETE. PARTIAL OR IMPROPERLY INDEXED OR TABBED SUBMITTALS WILL NOT BE CONSIDERED.

9.3. SUBMITTALS MUST BE APPROVED BEFORE CONTRACTOR RELEASES MATERIAL FOR FABRICATION OR SHIPMENT. DISAPPROVED MATERIALS WILL BE REPLACED BY THE CONTRACTOR WITH APPROVED MATERIALS AT NO COST TO THE OWNER.

10. TESTING AND BALANCING.

10.1. PROVIDE THE NECESSARY LABOR AND EQUIPMENT TO BALANCE THE MECHANICAL SYSTEMS TO OBTAIN THE DESIGN FLOWS AND PROPER OPERATION OF THE SYSTEMS.

11. FINAL INSPECTION AND ACCEPTANCE.

11.1. OWNER WILL NOT ACCEPT WORK NOR MAKE FINAL PAYMENT TO CONTRACTOR UNTIL THE WORK OF THE CONTRACTOR IS COMPLETE AND IN CONFORMANCE WITH SPECIFICATIONS AND GUARANTEES.

11.2. CLEAN ALL FIXTURES AND EQUIPMENT. REMOVE MANUFACTURERS' STICKERS AND LEAVE FREE OF DUST AND DIRT. REMOVE ALL BOXES, SCRAP, AND OTHER DEBRIS. TOUCH UP ALL PAINTED SURFACES.

12. GUARANTEE.

12.1. NEITHER THE FINAL PAYMENT NOR ANY PROVISION IN THE CONTRACT DOCUMENTS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR NEGLIGENCE OR FAULTY MATERIALS OR WORKMANSHIP WITHIN THE EXTENT AND PERIOD PROVIDED BY LAW AND UPON WRITTEN NOTICE, HE SHALL REMOVE ANY DEFECTS DUE THERETO AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THEREFROM, WHICH SHALL APPEAR WITHIN ONE (1) YEAR AFTER THE DATE OF FINAL ACCEPTANCE.

B. BASIC MATERIALS AND METHODS.

1. PIPING INSTALLATION.

1.1. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND GOOD PRACTICE, AND SHALL BE RUN WITH PROPER GRADE TO PROVIDE FOR EASY DRAINAGE. ALL PIPING SHALL BE PROPERLY ENCLOSED, SUPPORTED, GUIDED, ANCHORED, SWAY BRACED, CONNECTED, TESTED, CLEANED AND FLUSHED OUT.

1.2. PROVIDE VALVES ON BOTH SIDES OF ALL EQUIPMENT, PUMPS, CONTROL VALVES, HEATING DEVICES, AND ON PLUMBING FIXTURE SUPPLIES.

1.3. INSTALL PIPING WITH AMPLE PROVISIONS FOR EXPANSION AND CONTRACTION TO PREVENT INJURY TO THE SAME AND TO THE BUILDING CONSTRUCTION. MAKE SUCH PROVISION BY MEANS OF PIPING OFFSETS, CHANGES IN DIRECTION, EXPANSION LOOPS AND/OR SUITABLE EXPANSION JOINTS.

1.4. PROVIDE ACCESS TO ALL CONCEALED VALVES, TRAPS AND EQUIPMENT.

1.5. PROVIDE CHROME PLATED FLOOR AND CEILING PLATES FOR ALL PIPES PASSING THROUGH FINISHED WALLS. PLATES TO GO AROUND INSTALLATION.

1.6. TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE CODES OR NOT LESS THAN 1-1/2 TIMES THE MAXIMUM OPERATING PRESSURE. 24-HOUR NOTICE IS REQUIRED PRIOR TO TESTING. LOCAL AUTHORITIES TO INSPECT WHEN AVAILABLE. ALL TESTS TO BE WITNESSED BY LOCAL AUTHORITY. SUBMIT CERTIFICATE OF COMPLIANCE FOR ALL TESTS REQUIRED AND PERFORMED.

1.7. PROVIDE DRAIN VALVES, OR CAPPED TEES AS NOTED OR REQUIRED AT LOW POINTS FOR COMPLETE DRAINAGE OF ALL SYSTEMS.

1.8. ALL LINES SHALL BE FLUSHED CLEAR PRIOR TO STARTUP. CLEAN OUT ALL STRAINERS AND DRIP POCKETS AFTER FLUSHING. PROVIDE TEMPORARY STRAINERS IN PUMP SUCTION LINES.

1.9. DIELECTRIC UNIONS SHALL BE USED WHENEVER COPPER TUBING OR BRASS PIPE IS JOINED WITH ANY NON-CUPREOUS PIPE OR EQUIPMENT. INSULATING GASKETS SHALL BE SUITABLE FOR THE SYSTEM TEMPERATURE RANGES ENCOUNTERED.

2. PIPE AND PIPE FITTINGS.

2.1. LINES HWS, HWR.

2.1.1. SCHEDULE 40 BLACK STEEL PIPE WITH 125# CAST IRON OR WELDED FITTINGS AND/OR TYPE L HARD DRAWN COPPER TUBING WITH WROUGHT COPPER FITTINGS. MAKE JOINTS WITH 60-40 SOLDER.

2.1.2. RUN LINES LEVEL. PROVIDE AIRVENTS AT HIGH POINTS AND DRAIN VALVES AT LOW POINTS.

2.2. LINES: WASTE AND VENT.

2.2.1. UNDERGROUND: SERVICE WEIGHT CAST IRON SOIL PIPE AND FITTINGS WITH LEAD AND OAKUM OR TYSEAL GASKETS.

2.2.2. ABOVEGROUND: SOIL PIPE AS FOR UNDERGROUND OR GALVANIZED STEEL PIPE WITH CAST IRON DRAINAGE FITTINGS FOR WASTE LINES AND STANDARD CAST IRON 125# FITTINGS FOR VENTS, OR DWV COPPER TUBE AND FITTINGS WITH 50-50 SOLDER JOINTS.

2.2.3. TEST WASTE AND VENT SYSTEM BY PLUGGING ALL OPENINGS AND FILLING SYSTEM WITH WATER. MINIMUM OF 10' OF WATER HEAD ON ALL JOINTS WITH NO APPRECIABLE LEVEL DROP IN ONE HALF HOUR PERIOD OR TO SATISFACTION OF PLUMBING INSPECTOR. NO WORK TO BE CONCEALED BEFORE TESTING.

2.2.4. ALL DRAINAGE PIPING SHALL BE PITCHED 1/4" PER FOOT WHERE POSSIBLE. 1/8" PER FOOT IS MINIMUM.

2.2.5. DO ALL EXCAVATION AND BACKFILL REQUIRED FOR THE INSTALLATION OF THE SYSTEM.

2.2.6. VENTS THROUGH ROOF (VTR) MINIMUM OF 3" SIZE AND EXTENDING 12" ABOVE FINISHED ROOF WITH FOUR POUND LEAD FLASHING, 1" TURNDOWN INTO TOP OF VENT PIPE. FLASHING INSIDE DIAMETER SHALL BE 1-1/2" LARGER THAN PIPE O.D. TO ALLOW INSULATION INSTALLATION.

3. LINES: DOMESTIC CW, HW.

3.1. UNDERGROUND: TYPE K SOFT COPPER WITH SOLDER FITTINGS. SILVER SOLDER OF SILFOS JOINTS.

3.2. ABOVEGROUND: TYPE L HARD COPPER OR GALVANIZED STEEL PIPE. 50-50 SOLDER FITTINGS OR GALVANIZED MALLEABLE IRON.

3.3. THE ENTIRE WATER SUPPLY SYSTEM SHALL BE THOROUGHLY STERILIZED WITH A SOLUTION OF NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE. THE CHLORINATING MATERIALS SHALL BE HTH BRAND OF SODIUM HYPOCHLORITE WHICH SHALL BE INTRODUCED INTO THE SYSTEM IN A MANNER WHICH WILL CAUSE ALL PARTS OF THE SYSTEM TO COME INTO CONTACT WITH THE SOLUTION. ALL VALVES SHALL BE OPERATED AT LEAST TWICE DURING THE CONTACT PERIOD WHICH SHALL NOT BE LESS THAN 24 HOURS DURATION. AFTER STERILIZATION, THE SOLUTION SHALL BE FLUSHED FROM THE SYSTEM WITH CLEAN WATER UNTIL THE RESIDUAL CHLORINE CONTENT IS LESS THAN 0.2 PPM. DURING THE FLUSHING PERIOD, ALL VALVES SHALL BE OPENED AND CLOSED SEVERAL TIMES.

4. INSULATION.

4.1. LINES: HWS, HWR, DOMESTIC HW.

4.1.1. PIPE: 1/2" THICK FIBERGLASS WITH ALL PURPOSE JACKET.

4.1.2. FITTINGS AND VALVES: MITERED INSULATION SEGMENTS OR INSULATING CEMENT. GLASS FABRIC JACKET CEMENTED ON WITH LAGGING ADHESIVE.

4.2. LINES: DOMESTIC CW.

4.2.1. PIPE: 1/2" FIBERGLASS WITH ALL PURPOSE FIRE RESISTANT VAPOR BARRIER JACKET. SEAL LAPS WITH ADHESIVE.

4.2.2. FITTINGS AND VALVES: MITERED INSULATION SEGMENTS OR INSULATING CEMENT. JACKET AS FOR PIPE.

4.2.3. INSULATE ALL PLUMBING VENTS THROUGH ROOF (VTR) WITH 1/2" THICK FIBERGLASS PIPE INSULATION WITH FRJ FIRE RESISTANT VAPOR BARRIER JACKET. SEAL LAPS WITH ADHESIVE. INSULATION SHALL EXTEND 3' MINIMUM BELOW ROOF.

4.3. FIBERGLASS INSULATION SHALL BE OWENS-CORNING CORP., OR EQUAL.

4.3.1. ALL INSULATION SHALL HAVE A COMPOSITE FIRE AND SMOKE HAZARD RATING NOT EXCEEDING: FLAME SPREAD 25. SMOKE DEVELOPED 50. ACCESSORIES SUCH AS ADHESIVES, MASTICS, CEMENT, TAPES AND FITTING CLOTH SHALL HAVE THE SAME COMPONENT RATING AS LISTED ABOVE.

5. VALVES AND SPECIALTIES.

5.1. VALVES.

5.1.1. STOCKHAM VALVE NUMBERS ARE GIVEN TO ESTABLISH QUALITY AND SERVICE REQUIRED. COMPARABLE VALVES BY CRANE, POWELL, WALWORTH, OR EQUAL AS LISTED IN INDEX CREATION BLUE BOOK ARE ACCEPTABLE.

5.1.2. THE CONTRACTOR IS TO STANDARDIZE ON ONE MAKE AS MUCH AS POSSIBLE, BUT NOT TO THE EXTENT OF SACRIFICING QUALITY LISTED.

5.1.3. VALVE SCHEDULE:

VALVE TYPE	2" AND SMALLER	2-1/2" AND LARGER
GATE	B-101 OR B-102	G-623
GLOBE	B- 9 OR B- 10	G-512
CHECK	B-305 OR B-306	G-931
VAC BRKR	WATTS 36A	---

5.2. SPECIALTIES.

5.2.1. THERMOMETERS: 7" RED READING MERCURY TUBE WITH ADJUSTABLE POSITION FACE. SELECT RANGE SO NORMAL OPERATING TEMPERATURE FALLS NEAR MID-RANGE. TRERICE OR EQUAL.

5.2.2. PRESSURE GAUGES: 4-1/2" DIAL TYPE GAUGES WHERE SHOWN AND AS SPECIFIED. TRERICE NO. 500X OR EQUAL.

5.2.3. AIR VENTS: MANUAL TYPE B & G #4V.

5.2.4. BALANCING COCKS: SARCO BALANCE-MASTER ON TERMINAL UNITS. SELECT STYLE TO SUIT INSTALLATION.

5.2.5. PRESSURE AND TEMPERATURE RELIEF VALVES: ASME RATED AUTOMATIC RESEATING P & T RELIEF VALVES WITH CAPACITY TO MATCH EQUIPMENT. PIPE DISCHARGE TO FLOOR DRAIN. WATTS OR B & G.

6. PIPE HANGERS, SUPPORTS AND ANCHORS.

6.1. ALL HANGERS SHALL BE HEAVY WROUGHT IRON OR MALLEABLE IRON RING TYPE, OF AMPLE CAPACITY TO SUPPORT PIPE. THE HANGERS SHALL BE SIMILAR TO GRINNELL FIGURE 104. WHERE GROUPS OF THREE OR MORE PIPES OCCUR THEY SHALL BE SUPPORTED WITH TRAPEZE HANGERS CONSISTING OF TWO HANGERS WITH A CAPPED PIPE CROSS MEMBER. HANGERS FOR COPPER PIPE SHALL BE COPPER PLATED.

6.2. PROVIDE ADDITIONAL SUPPORT AT VALVES, ELBOWS, BENDS, AND OTHER LOCATIONS WHERE CONCENTRATED LOADS OCCUR. SUPPORTS SHALL PROVIDE VERTICAL ADJUSTMENT TO MAINTAIN PROPER PITCH OF PIPING SYSTEM, AND SHALL ALLOW FOR EXPANSION AND CONTRACTION OF PIPING. SOIL PIPE SHALL BE SUPPORTED AT EACH HUB.

6.3. FIBERGLASS INSULATED LINES WITH VAPOR BARRIER JACKET SHALL BE SUPPORTED BY GALVANIZED IRON SHEILDS AT ALL HANGER LOCATIONS. HANGERS SHALL ENCOMPASS PIPE AND INSULATION.

C. SHEET METAL WORK.

1. ALL DUCTWORK SHALL BE CONSTRUCTED FROM ZINC COATED IRON OR STEEL SHEETS. DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE LATEST EDITION OF SMACNA "LOW VELOCITY DUCT CONSTRUCTION STANDARDS". GAUGES OF METAL AND REINFORCING SHALL BE IN ACCORDANCE WITH THEIR TABLES.

2. RECTANGULAR DUCT ELBOWS SHALL BE EITHER RADIUS ELBOWS WITH THE RADIUS OF THE THROAT EQUAL TO THE WIDTH OF THE ELBOW OR SQUARE ELBOWS WITH DOUBLE VANES IN RUNNERS AS SHOWN ON THE DRAWINGS.

3. DUCT INSULATION, WHERE INDICATED ON THE DRAWINGS, SHALL BE 1-1/2" THICK, 3 POUND DENSITY, RIGID FIBERGLASS INSULATION WITH REINFORCED VAPOR BARRIER FACING.

4. CEILING RETURN REGISTERS SHALL BE TUTTLE AND BAILEY CRE500, OR EQUAL, TO FIT A LAY-IN T-BAR OR GYPSUM BOARD CEILING AS REQUIRED, WITH KEY OPERATED OPPOSED BLADE DAMPER.

4.1. GRILLES SHALL BE THE SAME AS ABOVE, EXCEPT WITHOUT DAMPERS.

5. POWER ROOF VENTILATORS SHALL BE ACME, GREENHECK, JEEN-AIR, PENN OR EQUAL. EACH UNIT SHALL BE EQUIPPED WITH MOTOR, MOUNTING BASE, DETACHABLE HOOD, DISCHARGE BAFFLES, BIRD SCREENS, VIBRATION ELIMINATORS, SAFETY DISCONNECT SWITCH AND MOTORIZED BACKDRAFT DAMPERS AS SHOWN ON THE DRAWINGS.

D. HOT WATER HEATING EQUIPMENT.

1. GLYCOL MAKE-UP SYSTEM.

1.1. FILL THE ENTIRE HOT WATER HEATING SYSTEM WITH A 50% GLYCOL SOLUTION. GLYCOL SHALL BE FURNISHED BY THE OWNER, INSTALLED BY THIS CONTRACTOR.

1.2. PROVIDE DOWTHERM SR-1 HAND PUMP, 30 GALLON BLACK STEEL TANK WITH HINGED COVER, ENAMELED INSIDE AND OUT. REFER TO DRAWINGS FOR PIPING ARRANGEMENTS.

2. HEATING PUMP SHALL BE IN-LINE CIRCULATING PUMP COMPLETE WITH MOTOR, COUPLING, SEALS, ETC. CAPACITY AS SHOWN ON THE DRAWINGS. THE PUMP SHALL BE DESIGNED FOR QUIET OPERATION, AND NON-OVERLOADING AT ANY POINT ON THE PUMP CURVE. BELL AND GOSSETT OR EQUAL.

3. COMPRESSION TANK SHALL BE ASME CONSTRUCTION, 125 PSI WORKING PRESSURE WITH GAUGE GLASS, GLASS GUARDS AND VALVE SET. AIRTROL TANK FITTING AND TANK DRAIN.

4. HOT WATER TERMINAL UNITS.

4.1. FIN TUBE RADIATION: ENCLOSURES SHALL RUN WALL-TO-WALL UNLESS NOTED OTHERWISE. ENCLOSURES SHALL BE FABRICATED FROM 16 GAUGE RUST RESISTANT BONDERIZED STEEL WITH BAKED ENAMEL FINISH, COLOR AS SELECTED BY THE ADMINISTRATIVE AUTHORITY. HEATING ELEMENTS SHALL BE COPPER WITH ALUMINUM FINS. WALL TRIM AND END CAPS SHALL BE FURNISHED AS REQUIRED. ENCLOSURE JOINTS SHALL BE SECURELY FASTENED WITH VANDALPROOF SCREWS. ENCLOSURE BRACKETS AND SLIDECRADLE ELEMENT HANGERS SHALL BE INSTALLED NOT MORE THAN FOUR (4) FEET APART. ACCESS DOORS WITH VANDALPROOF OPERATOR SHALL BE FURNISHED AT EACH VALVE LOCATION. VANCAN, TRANE, SCHEMENAUER, AAF.

4.2. CABINET UNIT HEATER AND UNIT VENTILATORS: SIZE, CAPACITY, AND ARRANGEMENT AS SHOWN ON THE DRAWINGS. PERMANENT, WASHABLE FILTERS. UNITS SHALL HAVE UNIT MOUNTED MULTI-SPEED SWITCHES ACCESSIBLE THROUGH A TAMPERPROOF ACCESS DOOR. UNIT VENTILATORS SHALL INCLUDE FACTORY DAMPER SECTION AND OUTSIDE AIR LOUVER. CABINETS SHALL BE FABRICATED FROM 16 GAUGE BONDERIZED STEEL WITH BAKED ENAMEL FINISH, COLOR AS SELECTED BY THE ADMINISTRATIVE AUTHORITY. TRANE OR EQUAL.

E. PLUMBING FIXTURES AND TRIM.

1. CONNECT WATER AND WASTE TO ALL ITEMS REQUIRING SAME.

2. ALL FIXTURES AND EQUIPMENT TO BE NEW AND OF THE BEST QUALITY FOR THE SERVICE UNLESS SPECIFICALLY NOTED OTHERWISE.

3. REFER TO THE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS.

4. FIXTURES ARE FROM AMERICAN STANDARD CATALOG. CRANE, KOHLER, OR ELJER ARE APPROVED EQUALS. FIXTURES ARE WHITE UNLESS SPECIFIED OTHERWISE.

5. DRAINS, CLEANOUTS AND FIXTURE SUPPORTS ARE FROM ZURN CATALOG. WADE, J.R. SMITH, BLAKE AND JOSAN ARE APPROVED EQUALS.

6. THE EXPOSED FLUSH, WASTE AND SUPPLY PIPES AT THE FIXTURES SHALL BE CHROMIUM PLATED BRASS PIPE, IRON PIPE SIZE, FITTINGS AND TRAPS FOR BRASS PIPE SHALL BE CAST BRASS, CHROMIUM PLATED.

7. INSTALL CHROMIUM PLATED BRASS WALL OR FLOOR PLATES WITH SET SCREW WHERE PIPING PASSES THROUGH WALLS OR FLOORS.

8. PROVIDE SPEEDWAY, OR EQUAL, FLEXIBLE SUPPLIES WITH STOPS. SELECT STYLE AND LENGTH AS REQUIRED.

9. FIXTURE TRAPS ARE 17 GAUGE CHROME PLATED TUBULAR TYPE WITH BRASS CLEANOUT PLUGS AND GROUND JOINT UNIONS. TRAP SHALL BE CONNECTED TO THE TRAP ARM BY MEANS OF A GROUND JOINT.

10. FIXTURE SCHEDULE.

P-1 WATER CLOSET: AMERICAN STANDARD MADERA 2222.016, SIPHON-JET ACTION, ELONGATED BOWL, FLOOR MOUNTED, 1-1/2" TOP SPUD, VITREOUS CHINA.

SEAT: WHITE SOLID PLASTIC OPEN FRONT, WITH SELF-SUSTAINING HINGE FOR ELONGATED BOWL. AMERICAN STANDARD 5320.114.

FLUSH VALVE: SLOAN 'ROYAL' 110 (3010100).

P-2 URINAL: AMERICAN STANDARD LYNBROOK 6530.18, BLOWOUT ACTION, WALL HUNG, VITREOUS CHINA, 1-1/4" TOP SPUD, 2" BACK OUTLET.

FLUSH VALVE: SLOAN 180 (3012400).

CARRIER: ZURN 1222.

P-3 COUNTERTOP LAVATORY: AMERICAN STANDARD RONDALYN 0491.019, 19" DIAMETER SELF-RIMMING, VITREOUS CHINA, FAUCET HOLES 4" CENTERS.

FAUCET: AMERICAN STANDARD HERITAGE 2103.208 WITH 1-1/4" GRID DRAIN, AERATOR AND CROWN HANDLES.

MOUNTING: CABINET SUBCONTRACTOR WILL CUT REQUIRED HOLE, THIS CONTRACTOR SHALL MOUNT LAV AND MAKE ALL REQUIRED CONNECTIONS.

P-4 LAVATORY: LUCERNE 0351.072, 20 X 18" FOR CONCEALED ARMS, VITREOUS CHINA, FAUCET HOLES 4" CENTERS.

FAUCET: AMERICAN STANDARD HERITAGE 2103.208 WITH GRID DRAIN, AERATOR AND CROWN HANDLES.

CARRIER: ZURN 1231 FOR CONCEALED ARMS.

P-5 WATER CLOSET: AMERICAN STANDARD ~~FLOWISE~~ BLOWOUT ACTION, ELONGATED BOWL, WALL HUNG, 1-1/2" TOP SPUD, VITREOUS CHINA.

SEAT: WHITE SOLID PLASTIC, OPEN FRONT, WITH SELF-SUSTAINING HINGE FOR ELONGATED BOWL. AMERICAN STANDARD 5334.016.

FLUSH VALVE: SLOAN 'ROYAL' 110 (3010100).

CARRIER: ZURN 1203 OR 1204 SERIES AS APPLICABLE.

F. AUTOMATIC TEMPERATURE CONTROL.

1. PROVIDE A COMPLETE ELECTRIC CONTROL SYSTEM. MANUFACTURER SHALL PROVIDE WIRING DIAGRAMS AND INSTALLATION INSTRUCTIONS FOR THE INSTALLING CONTRACTOR. HONEYWELL OR JOHNSON SERVICE.

2. INSTALLATION.

2.1. ALL WORK IS TO BE PERFORMED BY TRAINED MECHANICS AND SHALL BE INSTALLED IN A FIRST CLASS MANNER.

2.2. ALL COMPONENTS NOT SPECIFICALLY INDICATED OR SPECIFIED, BUT NECESSARY TO MAKE THE SYSTEM FUNCTION WITHIN THE INTENT OF THE SPECIFICATION, ARE TO BE INCLUDED.

2.3. PROVIDE ALL WIRING, CONTROLS AND EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION. ALL WIRING SHALL BE RUN WITHIN CONDUIT.

2.4. PROVIDE CONTROL DIAGRAM AND OPERATING SEQUENCE AND INSTRUCTIONS FRAMED UNDER GLASS OR LAMINATED IN PLASTIC, AND HUNG IN THE BOILER ROOM.

2.5. THERMOSTATS SHALL BE PROPORTIONAL TYPE WITH ADJUSTABLE THROTTLING RANGE AND SHALL HAVE COVERS LOCKED IN PLACE WITH SCREWS REQUIRING SPECIAL WRENCH FOR REMOVAL. THERMOSTATS SHALL HAVE THERMOMETERS AND SET POINT INDICATOR.

2.6. CONTROL VALVES SHALL BE PROVIDED WITH MODULATING PLUGS TO PROVIDE ACCURATE CONTROL OF THE MEDIUM UNDER ALL LOAD CONDITIONS. ALL VALVES SHALL BE EQUIPPED WITH SELF-ADJUSTING TEFLON PACKING AND POLISHED STAINLESS STEEL STEMS.

2.7. UPON COMPLETION OF THE INSTALLATION THE CONTROL CONTRACTOR SHALL REGULATE AND ADJUST ALL CONTROLS PROVIDED UNDER THIS CONTRACT AND PLACE THEM IN COMPLETE OPERATING CONDITION SUBJECT TO THE APPROVAL OF THE ADMINISTRATIVE AUTHORITY.

3. SEQUENCE OF OPERATION.

3.1. PROVIDE A 7-DAY TIME CLOCK WITH A 10 HOUR SPRING RESERVE WHICH SHALL INDEX THE TOILET EXHAUST FAN AND THE CLASSROOM UNIT VENTILATORS FROM THE DAY TO THE NIGHT CYCLE. PROVIDE A ZERO TO SIX HOUR BY-PASS TIMER TO OVERRIDE THE TIME CLOCK AND INDEX THE UNITS TO THE DAY CYCLE OF OPERATION. THE ABOVE EQUIPMENT SHALL BE MOUNTED IN A CONTROL PANEL IN THE BOILER ROOM. PROVIDE THE FOLLOWING INDICATION ON THE FACE OF THE PANEL:

OUTSIDE AIR TEMPERATURE INDICATION
HEATING WATER SUPPLY TEMPERATURE
HEATING WATER RETURN TEMPERATURE
HEATING PUMP GREEN RUN LIGHT
HEATING PUMP FAILURE ALARM
TOILET EXHAUST FAN GREEN RUN LIGHT
BOILER BURNER FAILURE ALARM
0-6 HOUR DAY CYCLE TIMER.

3.2. CLASSROOM UNIT VENTILATOR CONTROL.

3.2.1. DAY CYCLE. THE UNIT VENTILATORS SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPERS SHALL OPEN TO ITS SET POSITION (25% O.A.), THE ROOM THERMOSTAT SHALL MODULATE A THREE-WAY VALVE ON THE COIL SUPPLY TO MAINTAIN SET POINT (70 DEGREES F.).

3.2.2. NIGHT CYCLE. THE OUTSIDE AIR DAMPER SHALL CLOSE, THE RETURN DAMPER SHALL OPEN AND THE THREE-WAY VALVE SHALL GO TO FULL FLOW THROUGH THE COIL. THE ROOM THERMOSTAT SHALL CYCLE THE UNIT VENTILATORS TO MAINTAIN SET POINT.

3.2.3. PROVIDE A FREEZE STAT ON THE DISCHARGE OF EACH UNIT VENTILATOR (SET AT 38 DEGREES F.) WHICH SHALL STOP THE FAN AND POSITION THE THREE-WAY VALVE TO FULL FLOW THROUGH THE COIL.

3.3. TOILET EXHAUST FAN CONTROL.

3.3.1. THE TOILET EXHAUST FAN SHALL RUN CONTINUOUSLY DURING THE DAY CYCLE AND SHALL BE SHUT DOWN DURING THE NIGHT CYCLE. THE MOTORIZED EXHAUST DAMPER SHALL OPEN AND CLOSE WITH FAN OPERATION.

3.4. BUILDING HEATING SYSTEM.

3.4.1. EXISTING BOILER CONTROL SHALL REMAIN AS IS.

3.4.2. PROVIDE AN OUTDOOR AIR TRANSMITTER THAT SHALL RESET THE HEATING WATER SUPPLY WATER TEMPERATURE. THE CONTROLLER SHALL MAINTAIN THE SET POINT BY MODULATING THE THREE-WAY VALVE ON THE HEATING WATER RETURN. WITH THE OUTDOOR TEMPERATURE AT 65 DEGREES F., THE HOT WATER SUPPLY SHALL BE 100 DEGREES F. AND WITH OUTDOOR AIR TEMPERATURE AT MINUS 20 DEGREES F., THE HOT WATER SUPPLY SHALL BE 180 DEGREES F. THE HOT WATER HEATING PUMP SHALL BE OFF WHEN THE OUTDOOR TEMPERATURE RISES ABOVE 65 DEGREES F.

3.5. INDIVIDUAL ROOM CONTROL (SET AT 70 DEGREES F.).

3.5.1. PROVIDE A ROOM THERMOSTAT THAT SHALL MAINTAIN SPACE TEMPERATURE BY MODULATING A TWO-WAY VALVE ON THE RADIATION SUPPLY TO MAINTAIN SET POINT.

3.6. UNIT HEATER CONTROL.

3.6.1. CONTINUOUS FLOW THROUGH COILS. PROVIDE A ROOM THERMOSTAT THAT SHALL MAINTAIN SPACE TEMPERATURE BY CYCLING THE UNIT FAN.

2949

AS BUILT 6-30-77 △

REVISION	DATE	NO.

MECHANICAL SPECIFICATIONS

ALTERATIONS TO:
HOMER JR. HIGH SCHOOL
HOMER, ALASKA

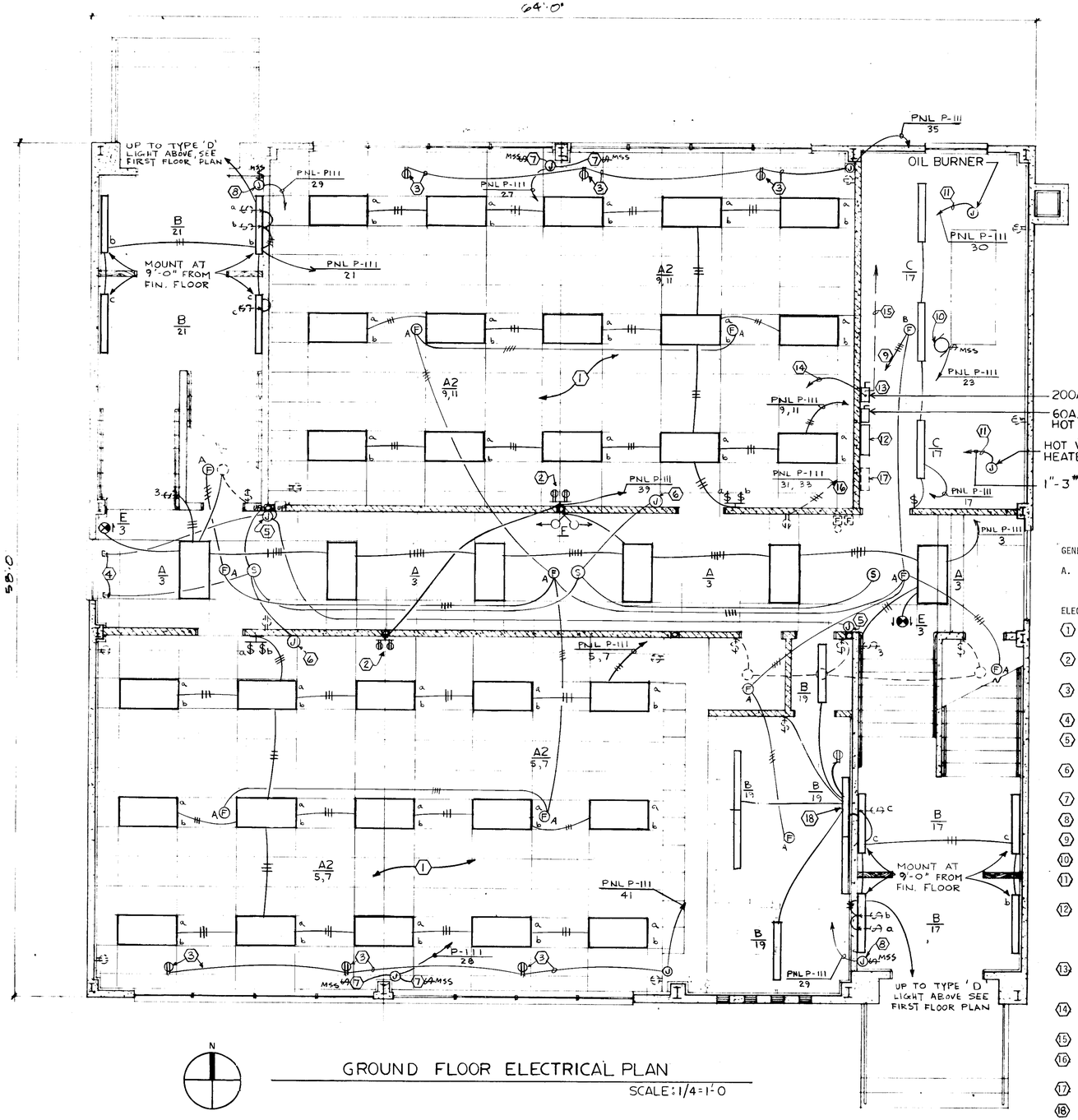
DATE: 4/21/76
IN CHARGE: WP
DRAWN BY: SW
CHECKED BY: LS
COMM. NO.: 7307-742 A

SHEET NO.: M-5

STATE OF ALASKA 49TH William A. Pate No. 1732-E REGISTERED PROFESSIONAL ENGINEER

ELLERBE · ALASKA
3201 "C" STREET
ANCHORAGE, ALASKA 99503
TELEX 090-25299
PHONE 907-276-4035

Ellerbe



GROUND FLOOR ELECTRICAL PLAN

SCALE: 1/4=1'-0

PANELBOARD NO. P-111
120/208 VOLTS 3 PH 4 WIRE
MOUNTING - SURFACE

CCT. NO. PHASE	SIZE NO. OF POLES	TYPE OF LOAD	WATTS	CCT. NO. PHASE	SIZE NO. OF POLES	TYPE OF LOAD	WATTS
1A	20-1	SPR		2A	20-1	SPR	
3B		LTG	600	4B		SPR	
5C			1500	6C		LTG	1500
7A			1500	8A			1500
9B			1500	10B			1500
11C			1500	12C			1500
13A		SPR		14A		SPR	
15B		UNIT HTRS	600	16B		UNIT HTRS	600
17C		LTG	1100	18C		LTG	700
19A		LTG	700	20A		LTG	1200
21B		LTG	800	22B		LTG	600
23C		PUMP	800	24C		EXH FAN	700
25A		SPR		26A		SPR	
27B		UNIT HTRS	600	28B		UNIT HTRS	600
29C		UNIT HTRS	600	30C		OIL BURNER	400
31A		REC	800	32A		REC	900
33B			800	34B		REC	600
35C			600	36C		REC	800
37A			800	38A		SPR	
39B			800	40B		FIRE ALARM	100
41C			600	42C		REC	600

(3 PHASE PANEL TO BE CONNECTED UP FOR SINGLE PHASE) PHASES A & B SHALL BE CONNECTED TOGETHER.

GENERAL NOTES:

A. EXISTING LIGHTING, RECEPTACLE, SWITCH OUTLETS AND CONDUIT RUNS MAY BE REUSED WHERE APPLICABLE. NEW RECEPTACLES AND SWITCHES SHALL BE INSTALLED AND NEW WIRE PULLED THROUGHOUT.

ELECTRICAL NOTES:

1. SWITCH TWO INBOARD LAMPS OF EACH LIGHTING FIXTURE ON ONE SWITCH AND TWO OUTBOARD LAMPS OF EACH FIXTURE ON ANOTHER SWITCH.
2. DOUBLE DUPLEX RECEPTACLE TO BE FLUSH MOUNTED IN WALL, CONDUIT TO BE RUN CONCEALED UP WALL NEXT TO STEEL TUBULAR COLUMN.
3. DUPLEX RECEPTACLE TO BE INSTALLED IN BASEBOARD AREA OF CABINETS, RUN CONDUIT CONCEALED IN BASEBOARD SPACE.
4. CAP CONDUITS ABOVE SUSPENDED CEILING FOR FUTURE EXTENSION.
5. FLUSH JUNCTION BOX FOR FUTURE FIRE ALARM STATION MOUNTED 5'-0" ABOVE FLOOR. CONCEAL CONDUIT.
6. JUNCTION BOX ABOVE SUSPENDED CEILING FOR FUTURE CONNECTION TO CLOCK AND PROGRAM SPEAKER.
7. CONNECT UP 1/8 HP, 120 VOLT, 1 PHASE UNIT VENT.
8. CONNECT UP 1/8 HP, 120 VOLT UNIT HEATER.
9. TO FIRE ALARM CONTROL PANEL.
10. 3/4 HP, 120 VOLT CIRCULATING PUMP.
11. REMOVE EXISTING WIRE AND INSTALL NEW WIRE, CONNECT TO NEW CIRCUIT.
12. REMOVE EXISTING PANEL AND INSTALL NEW PANEL P-111. CONNECT PHASE A AND B TOGETHER AND CIRCUIT PER SCHEDULE. PROVIDE PULL BOX OR WIREWAY TO GATHER EXISTING HOME RUN CONDUITS AND EXTEND TO NEW PANEL. FUTURE SERVICE TO PANEL WILL BE 120/208 VOLT, 3 PHASE, 4 WIRE.
13. REMOVE EXISTING 100 A. SWITCHES AND INSTALL NEW 200 A., 3 POLE SWITCH, CONNECT TWO LEGS TO EXISTING SERVICE AND FEED NEW PANEL.
14. EXTEND 2" MT CONDUIT TO WEST WALL AND CAP ABOVE CORRIDOR CEILING FOR FUTURE FEEDER.
15. EXISTING SERVICE TO REMAIN.
16. REWIRE EXISTING DEVICES COMPLETE TO NEW PANEL P-111. SEE ALSO GENERAL NOTE A.
17. EXISTING FIRE ALARM PANEL.
18. WALL MOUNT LIGHT FIXTURE OVER MIRROR MOUNTING HEIGHT AS DIRECTED BY ARCHITECTURAL

ELECTRICAL SYMBOLS

- EXIT LIGHT-WITH DIRECTIONAL ARROW(S) AS INDICATED
- NIGHT LIGHT
- LIGHTING FIXTURES (1 x 4, 2 x 4)
- TYPE DESIGNATION
- CIRCUIT NUMBER
- SWITCH REFERENCE
- (NOTE: OUTLET BOXES SHALL BE INCLUDED WITH, OR ADJACENT TO, ALL FIXTURES WHERE REQUIRED BY CODE OR NECESSARY FOR APPROVED WIRING METHODS.)
- RECEPTACLE (SINGLE) . . . . . 12"
- RECEPTACLE (DUPLEX) . . . . . 12"
- RECEPTACLE (DOUBLE DUPLEX) . . . . . 12"
- RECEPTACLE(COMB. 120/208 VOLT) . . . . 12"
- SPECIAL PURPOSE (AS SPECIFIED) . . . . 12"
- MOBILE X-RAY OUTLET . . . . . 24"
- PEDESTAL MOUNTED OUTLET
- GROUND OUTLET (JACK)
- FLOOR OUTLET (TYPE AS SPECIFIED)
- SINGLE POLE SWITCH . . . . . 48"
- TWO POLE SWITCH . . . . . 48"
- THREE WAY SWITCH . . . . . 48"
- FOUR WAY SWITCH . . . . . 48"
- KEY OPERATED SWITCH . . . . . 48"
- MOMENTARY CONTACT SWITCH . . . . . 48"
- DOOR SWITCH . . . . . 72"
- DIMMER . . . . . 48"
- DICTATION OUTLET
- BELL
- BUZZER
- CHIME
- CLOCK
- FLOW ALARM
- FIRE ALARM MANUAL STATION . . . . . 60"
- FIRE ALARM AUTOMATIC NOTE 6
- FIRE ALARM BELL . . . . . 88"
- FIRE ALARM HORN . . . . . 88"
- FIRE ALARM CHIME . . . . . 88"
- SMOKE OR IONIZATION DETECTOR
- MAGNETIC DOOR HOLDER
- DAMPER OPERATOR (BY OTHERS)
- GROUND INDICATOR STATION . . . . . 66"
- INTERCOM OUTLET
- MICROPHONE OUTLET . . . . . 24"
- NURSES CALL SYSTEM OUTLETS
- PHYSIOLOGICAL MONITORING OUTLET
- PROJECTOR OUTLET . . . . . 24"
- SELECTOR SWITCH . . . . . 60"
- SPEAKER OUTLET
- VOLUME CONTROL UNIT . . . . . 60"
- TELEPHONE OUTLET (W INDICATES WALL MTD. AT 54")
- TV ANTENNA SYSTEM OUTLET
- CCTV CLOSED CIRCUIT TV OUTLET
- CARDIAC ARREST ALARM
- JUNCTION BOX - CLG./WALL MTD.
- BLANKED OUTLET - FLUSH MTD. - CLG./WALL MTD.
- THERMOSTAT . . . . . 60"
- PUSHBUTTON
- TRANSFORMER
- RELAY
- PILOT LIGHT
- BRACKET SYMBOL INDICATES ALL DEVICES UNDER ONE COVER PLATE

SELF CONTAINED BATTERY LIGHT. HEADS AND DIRECTION AIMED AS INDICATED ON DRAWING

- $MSS MOTOR STARTER SWITCH . . . . . 80"
- SAFETY SWITCH
- MS MOTOR STARTER
- CMS COMBINATION MOTOR STARTER
- POWER OR DISTRIBUTION CABINET
- 120 VOLT LIGHTING AND RECEPTACLE PANELBOARD
- 277 277 VOLT LIGHTING PANELBOARD
- TERMINAL CABINET
- ANNUNCIATOR
- 60 MOTOR - NO. REFERS TO SCHEDULE
- 3 ELECTRICAL NOTE SYMBOL - SEE NOTE SCHEDULE ON SAME DRAWING.
- PS-A PLUGSTRIP TYPE
- CONDUIT INSTALLED EXPOSED OR CONCEALED AS SPECIFIED
- CONDUIT INSTALLED IN SLAB OR BELOW FLOOR SLAB
- CONDUIT SEAL
- B T C CONDUIT (C) - CAPPED (B) - BUSHED
- CONDUIT DOWN
- CONDUIT UP
- HOME RUN (INDICATES GROUND WIRE.)
- L3N PANELBOARD NO. SIZE SAME AS CCT WIRES
- 1,3 CIRCUIT NUMBERS
- ANY CIRCUIT WITHOUT DESIGNATION IS A TWO WIRE CIRCUIT. ANY GREATER NUMBER OF WIRES IS INDICATED BY CROSS MARKS.
- EXISTING CONDUIT RUN

ELECTRICAL SYMBOL NOTES

1. EQUIPMENT SHALL BE INSTALLED AT THE MOUNTING HEIGHTS INDICATED, UNLESS SHOWN OTHERWISE ON THE ARCHITECTURAL ELEVATIONS, NOTED ON THE DRAWINGS, OR IN THE SPECIFICATIONS.
2. ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE FROM FINISHED FLOOR, MOUNTING HEIGHTS INDICATED ON ARCHITECTS WALL ELEVATIONS TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED ABOVE.
3. LETTERS ADJACENT TO SYMBOLS INDICATE UNIT TYPE - SEE SPECS.
4. SHADED LIGHTS INDICATE CONNECTION TO THE EMERGENCY LIGHTING BRANCH.
5. DOTTED SYMBOLS INDICATE EXISTING DEVICES.
6. TYPE "A" IS RATE-OF-RISE, TYPE "B" IS FIXED TEMPERATURE

2950

AS BUILT 8-9-77

REVISION	DATE	NO.

ELECTRICAL
GROUND FLOOR LIGHTING, POWER & SIGNAL, SYMBOLS & MISC.

ALTERATIONS TO
HOMER JUNIOR HIGH SCHOOL

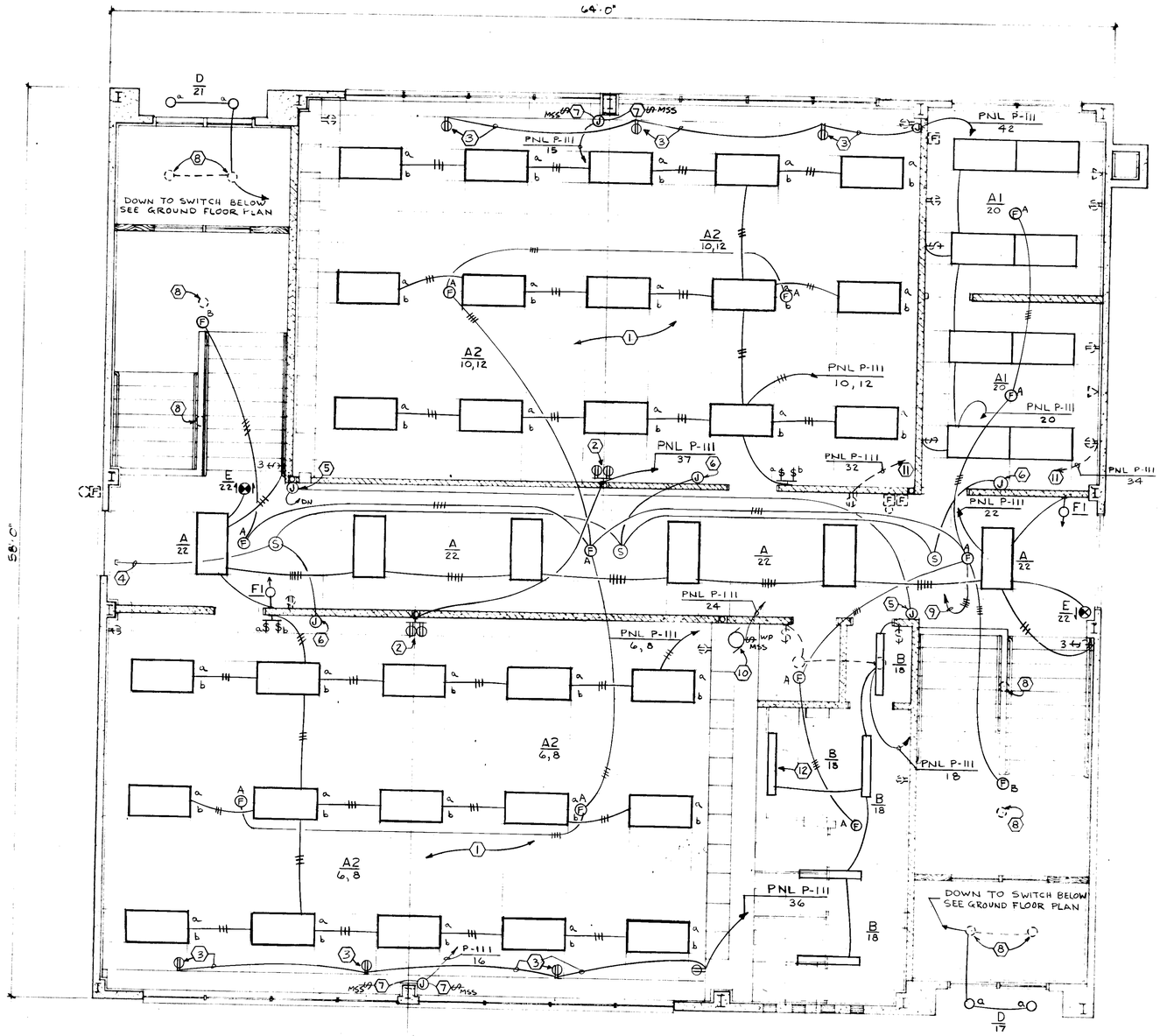
DATE: 4-21-76
IN CHARGE: REL
DRAWN BY: ME
CHECKED BY:
COMM. NO.: 7307.74-2A

SHEET NO.: E1

ELLERBE - ALASKA
3201 "C" STREET
ANCHORAGE, ALASKA 99503
TELEX 090-25299
PHONE 907-276-4035

STATE OF ALASKA 49TH
Robert E. Lovdahl NO. 3560-E
REGISTERED PROFESSIONAL ENGINEER

Ellerbe



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FIRST FLOOR ELECTRICAL PLAN

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

GENERAL NOTES:

A. EXISTING LIGHTING, RECEPTACLE, SWITCH OUTLETS AND CONDUIT RUNS MAY BE REUSED WHERE APPLICABLE. NEW RECEPTACLES AND SWITCHES SHALL BE INSTALLED AND NEW WIRE PULLED THROUGHOUT.

ELECTRICAL NOTES:

1. SWITCH TWO INBOARD LAMPS OF EACH LIGHTING FIXTURE ON ONE SWITCH AND THE TWO OUTBOARD LAMPS OF EACH FIXTURE ON ANOTHER SWITCH.
2. DOUBLE DUPLEX RECEPTACLE TO BE FLUSH MOUNTED IN WALL, CONDUIT TO BE RUN EXPOSED UP WALL NEXT TO STEEL TUBULAR COLUMN.
3. DUPLEX RECEPTACLE TO BE INSTALLED IN BASEBOARD AREA OF CABINETS, RUN CONDUIT CONCEALED IN BASEBOARD SPACE.
4. CAP CONDUITS ABOVE SUSPENDED CEILING FOR FUTURE EXTENSION.
5. FLUSH JUNCTION BOX FOR FUTURE FIRE ALARM STATION MOUNTED 5'-0" ABOVE FLOOR. CONCEAL CONDUIT
6. JUNCTION BOX ABOVE SUSPENDED CEILING FOR FUTURE CONNECTION TO CLOCK AND PROGRAM SPEAKER.
7. CONNECT UP 1/8 HP, 120 VOLT, 1 PHASE UNIT VENT.
8. REMOVE EXISTING FIXTURE AND BLANK OUTLET.
9. DOWN TO FIRE ALARM CONTROL PANEL.
10. 1/6 HP, 120 VOLT EXHAUST FAN ON ROOF.
11. REWIRE EXISTING DEVICES COMPLETE TO NEW PANEL P-111. SEE ALSO GENERAL NOTE A.
12. WALL MOUNT LIGHT FIXTURE OVER MIRROR MOUNTING HEIGHT AS DIRECTED BY ARCHITECTURAL

2951

Rev. As Built 8-4-77

REVISION	DATE	NO.

ELECTRICAL
FIRST FLOOR LIGHTING, POWER & SIGNAL AND MISCELLANEOUS

ALTERATIONS TO
HOMER JUNIOR HIGH SCHOOL

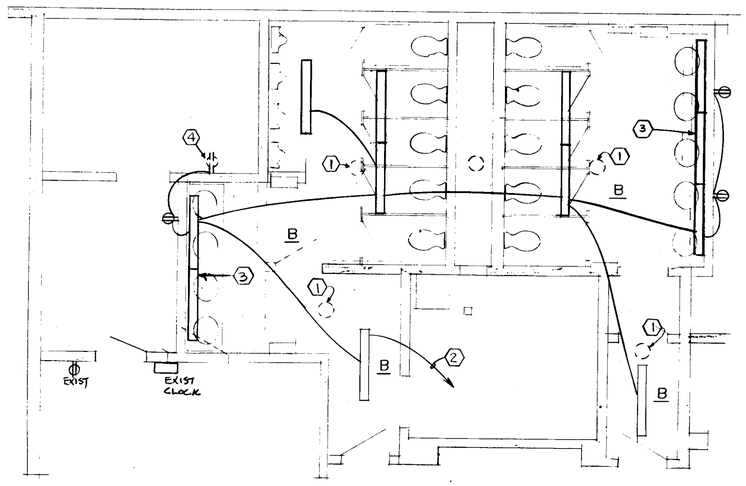
DATE: 4-21-76
IN CHARGE: R.E.L
DRAWN BY: M.E
CHECKED BY:
COMM. NO.: 7307.742A

SHEET NO.: E2

ELLERBE · ALASKA
3201 "C" STREET
ANCHORAGE, ALASKA 99503
TELEX 090-25299
PHONE 907-276-4035

STATE OF ALASKA 49TH
Robert E. Lovdahl NO. 3560-E
REGISTERED PROFESSIONAL ENGINEER

Ellerbe



TOILET ROOMS (1956 BUILDING) ELECTRICAL PLAN

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

GENERAL NOTES:

A. EXISTING LIGHTING, RECEPTACLE, SWITCH OUTLETS, AND CONDUIT RUNS MAY BE REUSED WHERE APPLICABLE. NEW RECEPTACLES AND SWITCHES SHALL BE INSTALLED AND NEW WIRE PULLED THROUGHOUT.

ELECTRICAL NOTES:

1. REMOVE EXISTING FIXTURE AND BLANK OUTLET.
2. TO SPARE CIRCUIT IN NEAREST EXISTING 120 VOLT ELECTRICAL PANEL, VERIFY IN FIELD.
3. WALL MOUNT LIGHT FIXTURE OVER MIRROR, MOUNTING HEIGHT AS DIRECTED BY ARCHITECTURAL.
4. RECONNECT EXISTING RECEPTACLE TO NEW CIRCUIT

ELECTRICAL SPECIFICATIONS

16010 - GENERAL
1. CONDITIONS OF THE CONTRACT AND DIVISION 1, GENERAL REQUIREMENTS OF THE GENERAL CONSTRUCTION SPECIFICATIONS SHALL BE A PART OF THESE SPECIFICATIONS.
2. ALL WORK SHALL BE COMPLETE WITH ALL WIRING, RACEWAYS, FITTINGS, EQUIPMENT AND MISCELLANEOUS MATERIAL AS REQUIRED AND/OR AS SPECIFIED.
3. ALL WORK AND MATERIALS SHALL MEET OR EXCEED ALL APPLICABLE STANDARDS OF MANUFACTURE, TESTING, PERFORMANCE, CAPABILITIES, PROCEDURES AND INSTALLATION ACCORDING TO THE REQUIREMENTS OF ANSI, NEMA, IEEE, OSHA, NATIONAL ELECTRICAL CODE, AND THE MANUFACTURER'S RECOMMENDED PRACTICES.
4. ALL MATERIALS AND EQUIPMENT SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES WHERE SUCH A STANDARD HAS BEEN ESTABLISHED.
5. CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS, ETC., LEAVING THE JOB AND EQUIPMENT FURNISHED IN A CLEAN AND FIRST CLASS CONDITION.
6. ALL EXISTING FIXTURES SHALL BE REMOVED AND TURNED OVER TO THE OWNER ON THE SITE AS DIRECTED. ALL EXISTING WIRING DEVICES SHALL BE REMOVED AND REPLACED WITH NEW UNITS. EXISTING CONDUIT AND OUTLETS MAY BE REUSED, HOWEVER, NEW WIRE SHALL BE INSTALLED THROUGHOUT. BLANK UNUSED SWITCHES.

16120 - RACEWAYS
1. ALL RACEWAYS SHALL UTILIZE RIGID METALLIC CONDUIT OR EMT UNLESS OTHERWISE INDICATED.
2. RACEWAYS ABOVE LAY-IN TYPE CEILINGS SHALL NOT INTERFERE WITH THE 'LIFT-OUT' FEATURE OF THE CEILING SYSTEM.
3. CONCEAL ALL RACEWAY IN FINISHED AREAS UNLESS OTHERWISE INDICATED.
4. ALL EMT FITTINGS SHALL BE STEEL AND EITHER SET SCREW OR COMPRESSION TYPE.
5. FINAL CONNECTION TO ALL MOTORS SHALL BE MADE WITH FLEXIBLE METAL CONDUIT, LIQUIDTIGHT TYPE IN DAMP LOCATIONS.

16122 - OUTLET BOXES
1. WHERE OUTLET BOXES ARE TO BE INSTALLED IN WALLS OF GYPSUM WALLBOARD, PROVIDE DEEP SECTIONAL SWITCH BOXES OR STANDARD FOUR INCH OUTLET BOXES WITH SQUARE CORNERED TILE WALL EXTENSION RINGS OF PROPER DEPTH. STANDARD DRYWALL EXTENSION RINGS WILL NOT BE ACCEPTABLE.
2. WHERE OUTLET BOXES ARE INSTALLED IN MASONRY THEY SHALL BE DEEP SECTIONAL SWITCH BOXES OR STANDARD MASONRY BOXES.

16130 - CONDUCTORS
1. ALL CONDUCTORS SHALL BE COPPER, NO. 12, NO. 10, OR NO. 8 AWG TYPE TW, THHN OR THW UNLESS OTHERWISE INDICATED. WIRE LARGER THAN NO. 8 AWG SHALL BE TYPE THW OR THWN.
2. ALL BRANCH CIRCUIT WIRING INSTALLED IN PROXIMITY OF BOILERS OR OTHER HEAT PRODUCING EQUIPMENT, AND ALL WIRING INSTALLED IN CHANNELS OF FLUORESCENT FIXTURES SHALL BE APPROVED FOR TEMPERATURES NOT LOWER THAN 90 DEGREES C.

16132 - SAFETY SWITCHES
1. ALL SAFETY SWITCHES SHALL MEET NEMA STANDARDS FOR HEAVY DUTY SAFETY SWITCHES.
2. SAFETY SWITCHES SHALL HAVE FULL COVER INTERLOCKS AND QUICK-MAKE, QUICK-BREAK MECHANISMS.

16140 - FUSES
1. FUSES SHALL BE DUAL ELEMENT, CURRENT LIMITING (U.L. CLASS K5) AND SHALL CARRY 500 PERCENT OF RATED CURRENT FOR 10 SECONDS. BUSSMAN, FUSETRON OR EQUAL.

16142 - WIRING DEVICES AND COVER PLATES
1. GENERAL PURPOSE SWITCHES SHALL BE IVORY 'SPECIFICATION GRADE', TOGGLE TYPE, RATED FOR 20 AMPERES AC AT 120-277 VOLTS.
2. GENERAL PURPOSE RECEPTACLES SHALL BE IVORY AND RATED FOR 15 AMPERES AT 125 VOLTS. THEY SHALL MEET THE STANDARDS ESTABLISHED BY NEMA STANDARD #WD1-1965, PART 3.
3. DEVICE COVER PLATES SHALL BE SIERRA SATIN FINISHED STAINLESS STEEL OR EQUAL.

16252 - GROUNDING
1. THE ELECTRICAL SYSTEM AND RACEWAYS SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC.

16340 - PANELBOARDS AND CABINETS
1. CABINETS SHALL BE CONSTRUCTED OF CODE GAGE STEEL. THEY SHALL BE EQUIPPED WITH STEEL TRIM, WITH HINGED DOORS, HAVING LATCHES AND LOCKS.
2. CIRCUIT BREAKERS SHALL HAVE QUICK-MAKE, QUICK-BREAK MECHANISMS AND THERMAL AND MAGNETIC TRIPS. TWO POLE BREAKERS SHALL HAVE COMMON TRIPS.
3. PANELBOARDS SHALL BE SQUARE D NQOB WITH QOB BREAKERS OR APPROVED EQUAL.
4. WHERE GFI BREAKERS ARE INDICATED THEY SHALL OPEN WITH A GROUND FAULT OF 5 MILLIAMPERES OR MORE.

16420 - LIGHTING EQUIPMENT AND FIXTURES
1. PROVIDE ADEQUATE SUPPORTS FOR ALL FIXTURES. SUPPORTS MAY BE ANCHORED TO CEILING CHANNELS OR STRUCTURAL MEMBERS ABOVE THE CEILING. 'T' BARS FOR LAY-IN TYPE CEILINGS SHALL NOT BE RELIED ON FOR THE SOLE SUPPORT OF LAY-IN FIXTURES, TWO TIE WIRES SHALL BE EXTENDED TO STRUCTURAL MEMBERS.
2. FLUORESCENT LAMPS SHALL BE RAPID START, STANDARD WARM WHITE UNLESS INDICATED OTHERWISE.
3. BALLASTS SHALL BE HIGH POWER FACTOR AND 2 LAMP TYPE WHEREVER POSSIBLE. BALLASTS SHALL BE NEMA CLASS P AND SO CERTIFIED BY U.L.

16510 - TELEPHONE SYSTEM
1. PROVIDE CONDUIT AND OUTLETS AS INDICATED ON THE DRAWINGS.
2. OUTLETS SHALL BE TWO GANG WITH FLUSH PLATES CONTAINING 1-3/8 INCH DIAMETER OPENING AND GRAY VINYL GROMMET FOR 1/2 INCH TELEPHONE CORD.
3. INSTALL A PULLING WIRE IN EACH RACEWAY FOR USE BY UTILITY.

16514 - CLOCK, INTERCOM AND PROGRAM SYSTEM
1. FURNISH AND INSTALL CONDUIT AND OUTLETS FOR A FUTURE CLOCK, INTERCOM AND PROGRAM SYSTEM.
2. OUTLETS SHALL BE CONCEALED ABOVE THE SUSPENDED CEILING TO PERMIT FUTURE CONNECTION TO SURFACE MOUNTED BAFFLES WITH CLOCKS AND SPEAKERS.
3. THE EXISTING CLOCKS AND SPEAKERS SHALL REMAIN UNCHANGED. IF NEW CEILING INTERFERES WITH UNITS, CONTACTOR SHALL RELOCATE AS NECESSARY.

16572 - FIRE ALARM SYSTEM
1. THE EXISTING FIRE ALARM SYSTEM SHALL BE TESTED, REPAIRED IF NECESSARY, AND LEFT IN OPERATING CONDITION.
2. AUTOMATIC FIRE DETECTORS SHALL BE ADDED TO THE SYSTEM. THEY SHALL BE COMBINATION RATE-OF-RISE AND FIXED TEMPERATURE - 136 DEGREES F., EDWARDS #281 OR EQUAL. WHERE INDICATED FIXED TEMPERATURE ONLY UNITS SHALL BE INSTALLED, EDWARDS #284 - 197 DEGREES F., OR EQUAL.
3. EMPTY CONDUIT AND OUTLETS SHALL BE PROVIDED FOR FIRE ALARM EXPANSION AND REVISIONS WITH CONTEMPLATED FUTURE CONSTRUCTION. OUTLETS SHALL BE TWO GANG WITH BLANK STAINLESS STEEL PLATES.

16620 - MOTOR STARTING EQUIPMENT
1. FURNISH STARTERS AND MAKE CONNECTIONS TO ALL MOTORS SHOWN ON THE DRAWINGS.
2. VERIFY EACH MOTOR RATING AND PROVIDE STARTER OVERLOAD ELEMENTS PROPERLY SIZED PER N.E.C.
3. MOTOR STARTING SWITCHES (MSS) SHALL BE SNAP ACTION, TOGGLE TYPE WHICH CLEARLY INDICATE THE 'ON', 'OFF', AND 'TRIP' POSITION. SQUARE D CLASS 2510 OR EQUAL.

LIGHTING FIXTURE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	MANUFACTURER	NOTES
A	RECESSED	2' X 4' LAY-IN FIXTURE WITH EXTRUDED ALUMINUM REGRESSED DOOR FRAME; POSITIVE HINGE & LATCH; K-12 ACRYLIC LENS AND TWO 40 WATT FLUORESCENT LAMPS.	GLOBE RYE-6252-4R-05	3
A1	RECESSED	SAME AS 'A' EXCEPT THREE 40 WATT FLUORESCENT LAMPS.	GLOBE RYE-6253-4R-05	3
A2	RECESSED	SAME AS 'A' EXCEPT FOUR 40 WATT FLUORESCENT LAMPS.	GLOBE RYE-6254-4R-05	3
B	SURFACE	FLUORESCENT FIXTURE FOR TWO 40 WATT LAMPS. VAPOR PROOF AND TAMPER PROOF WITH POLY-CARBONATE OPAL DIFFUSER.	MARCO #N43-N53 PEERLESS P-7184-240	
C	SURFACE OR SUSPENDED	BARE LAMP STRIP FIXTURE FOR TWO 40 WATT FLUORESCENT LAMPS.	GLOBE 1502	
D	SURFACE	10" CYLINDER DOWNLIGHT WITH CONCAVE HOLOPHANE LENS, MERCURY VAPOR 100 WATT DELUXE WHITE LAMP.	MARCO MSPI-T443 BRZL	
E	AS INDICATED	EXIT LIGHT FIXTURE WITH MULTIPLE LONG LIFE LAMPS, METAL STENCIL FACE, 6" GREEN LETTERS, ARROWS WHERE INDICATED AND DOWN-LIGHT. UNIT SHALL HAVE SELF-CHARGING BATTERY PACK FOR EMERGENCY LIGHTING.	PERFECTLITE EM-100 SERIES	1, 2
F	SURFACE	SELF-CONTAINED BATTERY LIGHT WITH CHARGER, BATTERY CHARGE INDICATOR AND SEALED BEAM LAMP. PROVIDE TWIN UNITS ON SINGLE PLATE.	DUAL-LITE 120-CNC-208-5-VC	2
F1		SAME AS 'F' EXCEPT SINGLE UNIT.	DUAL-LITE 120-CNC-108-5-VC	2

NOTES:
1. THE NUMBER OF FACES, LOCATION OF FACES, AND DIRECTIONAL ARROWS ARE AS INDICATED ON THE DRAWINGS. VERIFY CATALOG NUMBER BEFORE ORDERING.
2. BATTERY SHALL BE SEALED TYPE REQUIRING NO MAINTENANCE AND SHALL HAVE A 10 YEAR WARRANTY. BATTERY SHALL PROVIDE 1-1/2 HOURS OF ILLUMINATION.
3. VERIFY CEILING TYPE WITH GENERAL CONTRACTOR BEFORE ORDERING FIXTURE.

2952

REV. As Built 8-9-77

REVISION	DATE	NO.

ELECTRICAL:
TOILET ROOMS (1956 BUILDING)
SPECIFICATIONS & LTG FIXTURE SCHED

ALTERATIONS TO
HOMER JUNIOR HIGH SCHOOL

DATE: 4-21-76
IN CHARGE: REL
DRAWN BY: ME
CHECKED BY: ____
COMM. NO.: 7307-742A

SHEET NO.: E3

STATE OF ALASKA * 49TH * Robert E. Lovdahl NO. 3560-E REGISTERED PROFESSIONAL ENGINEER

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Ellerbe