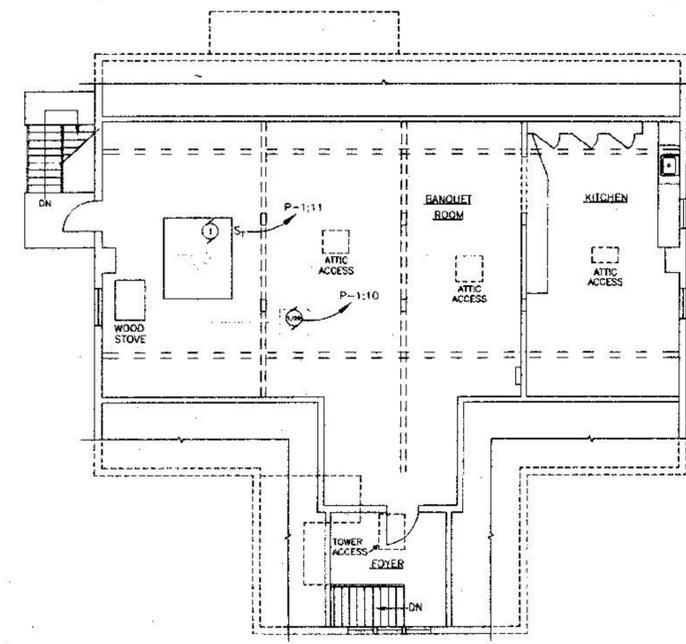


LIGHTING FIXTURE SCHEDULE				
TYPE	MANUFACTURER / CAT. NO.	LAMPS	MOUNTING	REMARKS
A	VISA #CM1002-IN150	1-150W A21	SURFACE	120V
B	REJUVINATION LAMP & FIXTURE CO. #W444 WITH 2-#104CE SHADES	2-60W A19	SURFACE	120V
C	PRESCOLITE #H4T47	1-50W R20	RECESSED	120V
D	VISA #CB4050-2N60	2-60W A19	SURFACE	120V
E	PRESCOLITE #EDC1RENW		SURFACE	120V
F	PRESCOLITE #ELB-4		RECESSED	120V
G	PRESCOLITE #EWP0606	1-7.2W 1-5 INCANDESCENT	SURFACE	6V D.C.
H	PRESCOLITE #ELH-N0607W	1-7.2W 1-5 INCANDESCENT	SURFACE	6V D.C.
I	COLUMBIA #CS8259EB8	2-F9678/SPX35	SURFACE	120V
J	COLUMBIA #CS4232EB8	2-F3278/SPX35	SURFACE	120V
K	PRESCOLITE #488/1015HS-3	1-150W A23	RECESSED	120V
L	REJUVINATION LAMP & FIXTURE CO. #W707 WITH #104CE SHADE	1-60W A19	SURFACE	120V
M	NOT USED			
N	COLE #2302-G-R	1-40W A19	SURFACE	120V

ELECTRIC HEATER SCHEDULE	
A	BASEBOARD HEATER - QMARK #QMKC-2543 RATED 1000W, 240V, 1P WITH INTEGRAL DOUBLE POLE THERMOSTAT #QMK-TA2A
B	WALL HEATER - QMARK #AWH-4407-02 RATED 3KW, 240V, 1P WITH #AWH-S-2 WALL SLEEVE
C	BASEBOARD HEATER - QMARK #QMKC-2543 RATED 750W, 240V, 1P WITH INTEGRAL DOUBLE POLE THERMOSTAT #QMK-TA2A



THIRD FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

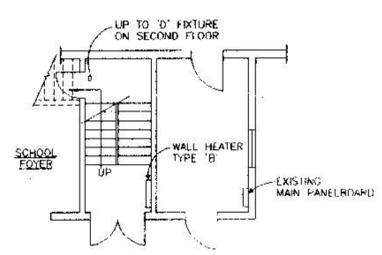
PANELBOARD SCHEDULE							
PANEL	VOLTS PHASE WIRES	MAINS	QUANTITY OF BREAKERS				REMARKS
			1-POLE	2-POLES	3-POLES	SPACERS	
P-1	120/240 1Ø 3W	100A LUCS	12-20A	5-20A 1 30A		AS REC'D	CKTS 1-7 & 13 1Ø CKTS 9, 11 & 12 CKT 8 20A, 1Ø 20A, 2Ø 30A, 2Ø

ONLY NEW BREAKERS ARE INDICATED ABOVE
TRANSFER EXISTING BREAKERS TO NEW PANEL
SURFACE MOUNT

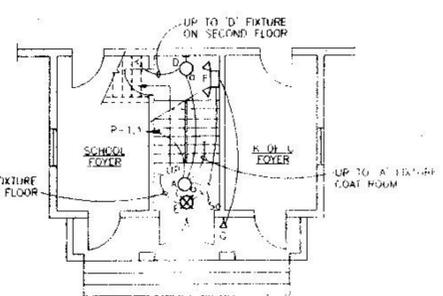
- PANELBOARD SHALL BE SQUARE D TYPE NDDO, SURFACE MOUNTED, 36 POLE
- THE PANELBOARD SHALL BE PROVIDED WITH AN EQUIPMENT GROUND BUS
- CIRCUIT BREAKERS MOUNTED IN THE PANELBOARD SHALL BE THE PLUG-ON TYPE WITH AN INTERRUPTING RATING OF 10,000AIC SYM
- CIRCUIT BREAKERS SUPPLYING HVAC EQUIPMENT SHALL HAVE HACR RATING

NOTES:
REPLACE EXISTING PANELBOARD WITH NEW PANEL P-1. TRANSFER EXISTING BREAKERS AND RECONNECT EXISTING CIRCUITS. CONTRACTOR SHALL REWIRE EXISTING CIRCUITS USING TYPE "MC" CABLE. PROVIDE NEW 100A FEEDER TO MAIN PANEL AND NEW 100A 2Ø BREAKER IN MAIN PANEL (3Ø3 & 1Ø8 ED GND IN 1 1/4" EMT)

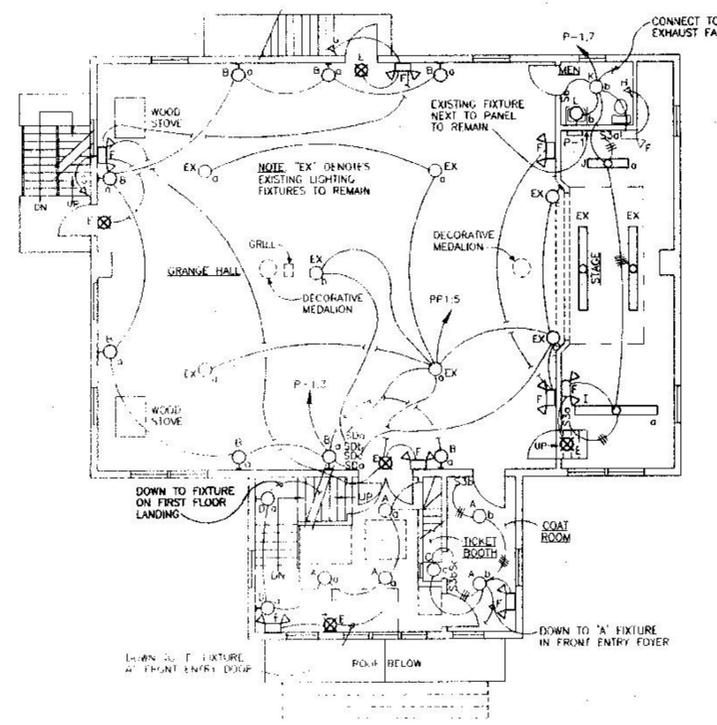
WIRING DEVICE SCHEDULE			
SWITCHES		RECEPTACLES	
SINGLE POLE 20A, 120/277V	PASS & SEYMOUR #20AC1-1	DUPLEX 20A, 125V	PASS & SEYMOUR #5362-1
THREE WAY 20A, 120/277V	PASS & SEYMOUR #20AC3-1	DUPLEX GFI 20A, 125V	PASS & SEYMOUR #2091-S-1
SINGLE POLE DIMMER 1500W, 120V	PASS & SEYMOUR #91581-1		
MOTOR SWITCH 30A, 240V	PASS & SEYMOUR #7812		



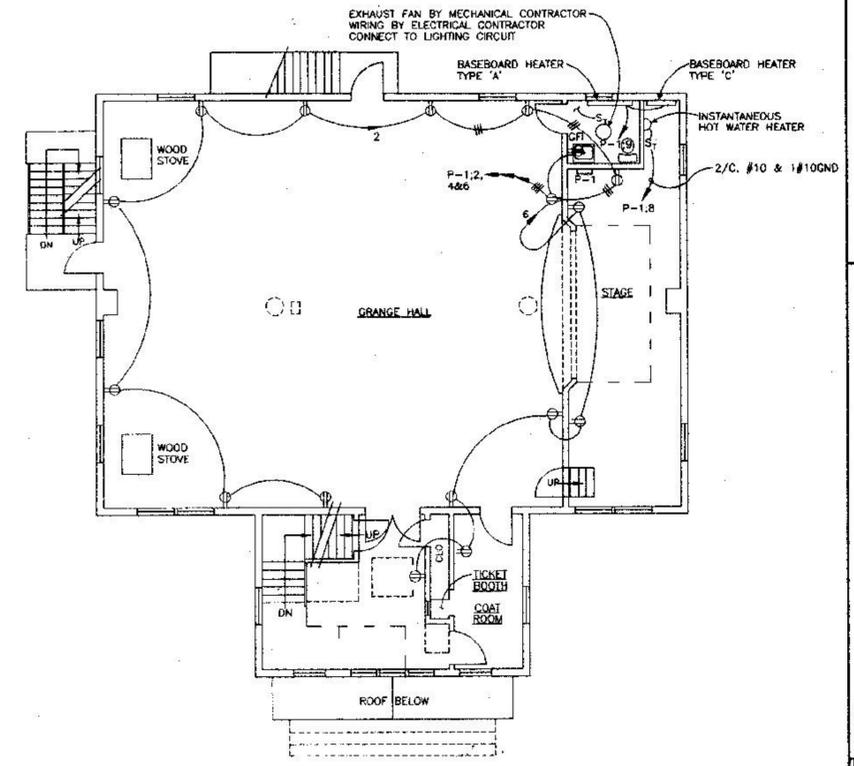
FIRST FLOOR POWER PART PLAN
SCALE: 1/8" = 1'-0"



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

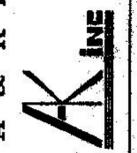


SECOND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



SECOND FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

A & K ENGINEERING, INC.
66 PRINCEVILLE LANE
AUBURN, NH 03002
Tel: (603) 845-0875
Fax: (603) 841-8875



G S D ASSOCIATES
ARCHITECT
105 JUDSON STREET
AUBURN, NH 03002
Tel: (603) 896-5428
Fax: (603) 972-1003

PROJECT: GRASMERE TOWN HALL
GROFFSTOWN NEW HAMPSHIRE 03045

DRAWING TITLE: SECOND FLOOR LIGHTING, POWER & PLUMBING PLANS
THIRD FLOOR HEATING PLAN
DES BY: CWA
SCALE: AS NOTED
PROJECT NO: J484
DATE: 3/16/99
DWG NO: 01

SPECIFICATIONS

GENERAL

1. THESE DOCUMENTS HAVE BEEN PREPARED WITH THE INTENTION THAT THEY CALL FOR FINISHED, TESTED WORK, IN FULL OPERATING CONDITION COMPLETE WITH ALL NECESSARY ACCESSORIES.
2. THIS CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, LICENSES OR CERTIFICATES OF APPROVAL. HE SHALL PAY ALL FEES REQUIRED BY AND CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS GOVERNING HIS WORK, AND AT THE CONCLUSION OF HIS WORK, HE SHALL FURNISH THE OWNER WITH CERTIFICATES OF INSPECTION AND APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION.
3. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER BY EXPERIENCED ELECTRICIANS LICENSED BY THE STATE OF NEW HAMPSHIRE, IN ACCORDANCE WITH THE MOST MODERN ENGINEERING PRACTICE AND SHALL PRESENT A NEAT APPEARANCE WHEN COMPLETE.
4. THE ELECTRICAL CONTRACTOR'S WORK SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF THE PUBLICATIONS OF THE FOLLOWING ORGANIZATIONS AND LAWS:
 - A. NATIONAL ELECTRICAL CODE (N.E.C.).
 - B. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
 - C. LIFE SAFETY CODE (NFPA 101).
 - D. THE AMERICANS WITH DISABILITIES ACT (ADA).
 - E. NATIONAL ELECTRICAL SAFETY CODE (NESC).
 - F. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
 - G. UNDERWRITER'S LABORATORIES, INC. (UL).
 - H. LOCAL AND STATE BUILDING CODES AND ALL AUTHORITIES HAVING JURISDICTION.
 - I. BUILDING OFFICIALS & CODE ADMINISTRATORS INTERNATIONAL (BOCA).
 - J. NATIONAL FIRE ALARM CODE (NFPA).
 - K. TOWN OF GOFFSTOWN FIRE ALARM REGULATIONS.
5. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND THE EXTENT OF THE WORK AND MAY NOT NECESSARILY BE TO SCALE.
6. SYMBOLS SHOWN ON THE DRAWINGS SHOW APPROXIMATE LOCATION OF FIXTURES, OUTLET BOXES AND OTHER EQUIPMENT. UNLESS OTHERWISE DETAILED, THE EXACT LOCATION SHALL BE GOVERNED BY STRUCTURAL CONDITIONS AND OBSTRUCTIONS. THIS IS NOT TO BE CONSTRUED TO PERMIT REDESIGNING SYSTEMS. LOCATE AND INSTALL ALL BOXES AND EQUIPMENT WHERE THEY WILL BE READILY ACCESSIBLE.
7. THIS CONTRACTOR SHALL GUARANTEE THAT ALL WORK EXECUTED BY HIM WILL BE FREE FROM ALL DEFECTS OF MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE. ANY ITEM FURNISHED BY THE CONTRACTOR THAT REQUIRES EXCESSIVE SERVICING DURING THE GUARANTEE PERIOD, AS DETERMINED BY THE ENGINEER, SHALL BE CONSIDERED DEFECTIVE AND SHALL BE REPLACED BY THIS CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. ALL MATERIALS SHALL BE NEW AND DELIVERED TO THE SITE IN THE ORIGINAL SEALED CONTAINERS OR PACKAGES BEARING THE MANUFACTURER'S NAME, BRAND DESIGNATION AND CATALOG NUMBER. ALL MATERIALS SHALL BE STORED IN A WARM, DRY, CLEAN AND VENTILATED AREA. CARE SHALL BE EXERCISED IN HANDLING ALL MATERIALS DURING DELIVERY, STORAGE AND INSTALLATION. ALL MATERIALS DAMAGED IN THE OPINION OF THE ENGINEER SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
9. AT THE COMPLETION OF THE PROJECT THIS CONTRACTOR SHALL PROVIDE THE OWNER WITH TWO COPIES OF AN O & M MANUAL IN LOOSE LEAF BINDER FORM CONTAINING RECORD AS-BUILT BLUEPRINTS, EQUIPMENT CUTS AND WARRANTY CARDS.
10. GENERALLY, ALL WIRING SHALL BE RUN CONCEALED IN FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS.

MATERIALS

1. RACEWAYS: INTERIOR RACEWAYS RUN CONCEALED OR EXPOSED SHALL BE GALVANIZED ELECTRICAL METALLIC TUBING (EMT) WITH SET SCREW CONNECTORS. WIREMOLD SHALL BE PROVIDED AS INDICATED. FLEXIBLE STEEL CONDUIT SHALL BE USED FOR THE CONNECTIONS TO RECESSED FLUORESCENT FIXTURES. LIQUID-TIGHT FLEXIBLE STEEL CONDUIT SHALL BE INSTALLED WHERE FLEXIBLE CONNECTIONS ARE REQUIRED AT OUTDOOR LOCATIONS OR AT CONNECTIONS TO VIBRATING EQUIPMENT. WHERE RACEWAYS ARE EXPOSED TO THE WEATHER PROVIDE GALVANIZED RIGID STEEL CONDUIT. WHERE RACEWAYS ARE RUN UNDERGROUND PROVIDE SCHEDULE 40 PVC CONDUIT.
2. CONDUCTORS & CABLES: ONLY COPPER CONDUCTORS ARE PERMITTED. THE USE OF ALUMINUM OR ALUMINUM CLAD CONDUCTORS IS NOT PERMITTED. CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG FOR BRANCH CIRCUIT CONDUCTORS, WIRES #8 AWG AND LARGER SHALL BE STRANDED AND SMALLER CONDUCTORS SHALL BE SOLID. THE INSULATION ON ALL CONDUCTORS SHALL BE RATED 600 VOLTS, 75 DEGREES C, UNLESS HIGHER TEMPERATURE INSULATION IS REQUIRED BY MANUFACTURERS OF EQUIPMENT BEING INSTALLED. ALL CONDUCTORS THROUGHOUT THE PROJECT SHALL BE COLOR CODED. BEFORE CONDUCTORS ARE PULLED INTO METALLIC RACEWAYS INSULATING TYPE BUSHINGS SHALL BE INSTALLED. BRANCH CIRCUIT WIRING RUN CONCEALED IN WALLS OR ABOVE HUNG CEILING SHALL BE TYPE "NM" (NON-METALLIC) SHEATHED CABLE.
3. OUTLET BOXES: EACH OUTLET BOX SHALL BE PROVIDED WITH A SUITABLE COVER TO SUIT THE CONDITIONS ENCOUNTERED AND ANY DEVICES INSTALLED. GENERALLY, INTERIOR BOXES SHALL BE GALVANIZED STEEL WITH GALVANIZED STEEL COVERS AND EXTERIOR BOXES SHALL BE CAST IRON WITH CAST ALUMINUM WEATHERPROOF COVERS SUITABLE FOR THE DEVICES. EACH BOX WILL HAVE SUFFICIENT VOLUME TO ACCOMMODATE THE NUMBER OF CONDUCTORS ENTERING THE BOX PER THE N.E.C.
4. PULL AND JUNCTION BOXES: PROVIDE A BOX WITH SCREW COVER AT EACH JUNCTION POINT AND WHEREVER REQUIRED TO FACILITATE THE PULLING IN OF CONDUCTORS. EACH BOX SHALL BE ACCESSIBLE AT THE COMPLETION OF THE PROJECT. EACH BOX SHALL BE SIZED TO HAVE SUFFICIENT VOLUME TO ACCOMMODATE THE NUMBER OF CONDUCTORS ENTERING THE BOX PER THE NATIONAL ELECTRICAL CODE.
5. DISCONNECT SWITCHES: SHALL BE THE HEAVY DUTY TYPE, MOTOR RATED, QUICK-MAKE AND QUICK-BREAK, WITH THE NUMBER OF POLES INDICATED ON THE DRAWINGS. SWITCHES SHALL BE RATED FOR CIRCUIT VOLTAGE AND AMPERAGE, WITH OR WITHOUT FUSES AND NEMA 1 OR 3R ENCLOSURE AS INDICATED ON THE DRAWINGS. DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, SQ-D OR WESTINGHOUSE. SWITCHES SHALL LOCATED WHERE THEY ARE FULLY ACCESSIBLE.
6. IDENTIFICATION: PROVIDE LAMINATED PLASTIC ENGRAVED NAMEPLATES ON ALL ELECTRICAL PANELBOARDS AND DISC. SWITCHES, TO IDENTIFY ALL EQUIPMENT. NAMEPLATES SHALL BE BLACK ENGRAVED PLATES TO WHITE CORE EXCEPT FIRE ALARM PLATES SHALL BE RED WITH MINIMUM 3/8" LETTERS AND SECURED IN PLACE WITH SCREWS.
7. EQUIPMENT GROUNDING:

ALL EXPOSED NON-CURRENT CARRYING CONDUCTIVE MATERIAL ENCLOSING ELECTRICAL EQUIPMENT OR FORMING PART OF SUCH EQUIPMENT SHALL BE BONDED TOGETHER IN A POSITIVE CONTINUOUS RACEWAY AND EQUIPMENT GROUNDING SYSTEM.

SIZES OF GROUNDING CONDUCTORS SHALL BE IN ACCORDANCE WITH TABLE 250-122 OF THE NATIONAL ELECTRICAL CODE.

GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN EVERY LIGHTING, POWER AND RECEPTACLE CIRCUIT RACEWAY BONDED TO THE DEVICE OR EQUIPMENT AND CONNECTED TO THE EQUIPMENT GROUND BUS WITHIN THE PANELBOARD. GROUNDING CONDUCTOR SHALL BE #12 AWG. MINIMUM. THERE SHALL BE ONE GROUNDING CONDUCTOR FOR EACH CIRCUIT. RACEWAYS SHALL BE SIZED TO INCLUDE THE REQUIRED EQUIPMENT GROUNDING CONDUCTOR.

WRAPPING OR LOOPING EQUIPMENT GROUNDING CONDUCTORS AROUND CONNECTORS WILL NOT BE ACCEPTED. FOR MULTIPLE BOND WIRES AT PULL OR JUNCTION BOXES, THEY MUST BE TWISTED TOGETHER, TAPED WHERE EXPOSED TO LIVE PARTS, AND INSTALLED UNDER A SOLDERLESS LUG BOLTED TO THE BOX. BOND WIRES AT PANELBOARDS SHALL BE CONNECTED TO THE EQUIPMENT GROUND BUS. FOR BONDS IN OUTLET OR DEVICE BOXES, A SINGLE WIRE FROM THE DEVICE EQUIPMENT GROUND TERMINAL ON THE DEVICE MAY BE SECURED TO THE BOX USING A "C" CLIP OR "STA-KON" TYPE LUG. FOR SEVERAL WIRES, A PIGTAIL SPICE MUST BE MADE AND A SINGLE WIRE MAY BE USED AS DESCRIBED ABOVE TO SECURE THE BOX BOND. AT THE PIGTAIL SPICE A "GREENIE", GROUNDING WIRE CONNECTOR SHALL BE USED.

MATERIALS

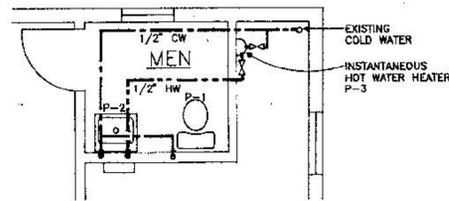
8. PANELBOARDS: PANELBOARDS SHALL BE THE CIRCUIT BREAKER TYPE WITH VOLTAGE, PHASE, AMPERE RATINGS, AND EQUIPPED WITH AN EQUIPMENT GROUND BUS, MAIN LUGS OR BREAKER AS INDICATED ON THE DRAWINGS. MAIN BUS BARS SHALL BE TIN PLATED COPPER RATED 1000 AMPERES PER SQUARE INCH. THE NEUTRAL BUS SHALL BE FULL CAPACITY AND THE EQUIPMENT GROUND BUS SHALL BE RATED 50 PERCENT OF THE NEUTRAL AMPACITY. PANELBOARD CABINETS SHALL BE DEAD FRONT TYPE AND SHALL BE MOUNTED SO THAT THE TOP CIRCUIT BREAKER IS NOT MORE THAN SIX FEET ABOVE THE FINISHED FLOOR. PANELBOARD TRIM SHALL BE SECURED TO ONE SIDE OF THE BACK BOX WITH A CONTINUOUS PIANO HINGE WITH ADJUSTABLE TRIM CLAMPS ON THE OTHER SIDE.

TRIMS SHALL BE PROVIDED WITH HINGED DOORS HAVING COMBINATION LOCK AND LATCH WITH ALL LOCKS KEYS ALIKE. A NEATLY TYPED DIRECTORY IDENTIFYING EACH CIRCUIT SHALL BE PROVIDED INSIDE EACH TRIM DOOR. PANELBOARD CIRCUIT NUMBERS SHOWN ON THE DRAWINGS ARE FOR GUIDANCE ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE ASSIGNED IN THE FIELD BY THE CONTRACTOR AFTER ALL LOADS ARE CONNECTED TO THE PANEL AND THE PANEL HAS BEEN LOAD BALANCED. PANELBOARDS SHALL BE MANUFACTURED BY SQ-D, TO MATCH EXISTING.
9. OVERCURRENT PROTECTIVE DEVICES: CIRCUIT BREAKERS INSTALLED IN PANELBOARDS SHALL BE PLUG-ON TYPE AND BE OF THE SAME MANUFACTURER AS THE PANELBOARD. CIRCUIT BREAKERS SHALL BE THE MOLDED CASE TYPE WHICH WILL OPERATE BOTH MANUALLY FOR NORMAL SWITCHING AND AUTOMATICALLY UNDER OVERLOAD OR SHORT CIRCUIT CONDITIONS. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT THE CONTACTS CANNOT BE HELD CLOSED AGAINST ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITIONS. ALL MULTIPOLE BREAKERS SHALL HAVE A COMMON OPERATING HANDLE WHICH WILL OPEN ALL POLES SIMULTANEOUSLY. CIRCUIT BREAKER INTERRUPTING RATINGS SHALL BE AS NOTED ON THE DRAWINGS. CIRCUIT BREAKERS SERVING HVAC EQUIPMENT SHALL HAVE "HACR" RATING.
10. WIRING DEVICES: GENERALLY SWITCHES AND RECEPTACLES SHALL BE SPECIFICATION GRADE HEAVY DUTY TYPE RATED 20 AMPERES. SWITCHES SHALL BE RATED 120V AND RECEPTACLES 125V. DEVICES SHALL BE IVORY WITH MATCHING SMOOTH PLASTIC PLATES. APPROVED MANUFACTURERS ARE PASS & SEYMOUR, HUBBELL, GENERAL ELECTRIC AND ARROW HART.
11. LIGHTING FIXTURES: NEW LIGHTING FIXTURES SHALL BE FURNISHED COMPLETE WITH A FULL COMPLIMENT OF THE LAMPS SPECIFIED. FIXTURES SHALL BE MOUNTED INDEPENDENTLY OF THE SUSPENDED OR FURRED CEILING AND SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE. FURNISH COMPLETE WITH TRIMS, PLASTER FRAMES, SUSPENSION CHAINS, ETC. FOR A COMPLETE INSTALLATION. WHERE EXISTING LIGHTING FIXTURES ARE TO BE REUSED THEY SHALL BE CLEANED, RELAMPED, REPAIRED IF NECESSARY OR IF BROKEN, REPLACE WITH MATCHING FIXTURE.
12. THE EXISTING FIRE ALARM SYSTEM SHALL BE REMOVED AND A COMPLETE NEW SYSTEM INSTALLED. ALL NEW SYSTEM WIRING SHALL BE RUN CONCEALED. WHERE EXISTING FINISHES ARE DAMAGED BY THE REMOVAL OF THE EXISTING SYSTEM OR INSTALLATION OF THE NEW SYSTEM THIS CONTRACTOR SHALL REPAIR ALL DAMAGED AREAS AT NO ADDITIONAL COST TO THE OWNER.

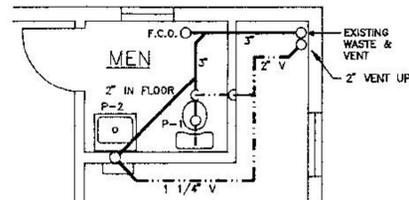
EXECUTION

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, DEVICES AND WIRING INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE TO THE COMPLETE SATISFACTION OF THE ENGINEER.
2. THIS CONTRACTOR SHALL REFER TO ARCHITECTURAL, REFLECTED CEILING, MECHANICAL, FURNITURE, EQUIPMENT, AND PLUMBING DRAWINGS FOR EXACT LOCATION OF EQUIPMENT AND TO ADJUST MOUNTING HEIGHT OF WIRING DEVICES SHOWN ON THE ELECTRICAL DRAWINGS ACCORDINGLY. FIELD VERIFY ALL LOCATIONS PRIOR TO ROUGH-IN.
3. THIS CONTRACTOR SHALL FULLY COORDINATE HIS WORK WITH ALL OTHER TRADES.
4. AFTER INSTALLATION, ALL ELECTRICAL EQUIPMENT SHALL BE PROTECTED TO PREVENT DAMAGE DURING THE CONSTRUCTION PERIOD.

SYMBOL	DESCRIPTION	ABBREVIATION
SD	STORM SUB-SOIL	SD
S	SANITARY SUB-SOIL	S
---	SOIL, WASTE OR SANITARY	S, W, SAN
V	VENT	V
---	COLD WATER PIPING	CW
---	HOT WATER PIPING (110°)	HW
G	GAS PIPING	G
VTR	VENT THRU ROOF	
CO	CLEANOUT	
WCO	WALL CLEANOUT	
●	BALL VALVE	
⊗	GATE VALVE	
⊕	TEMPERATURE GAUGE	
⊖	PRESSURE GAUGE	
⊙	UNION	



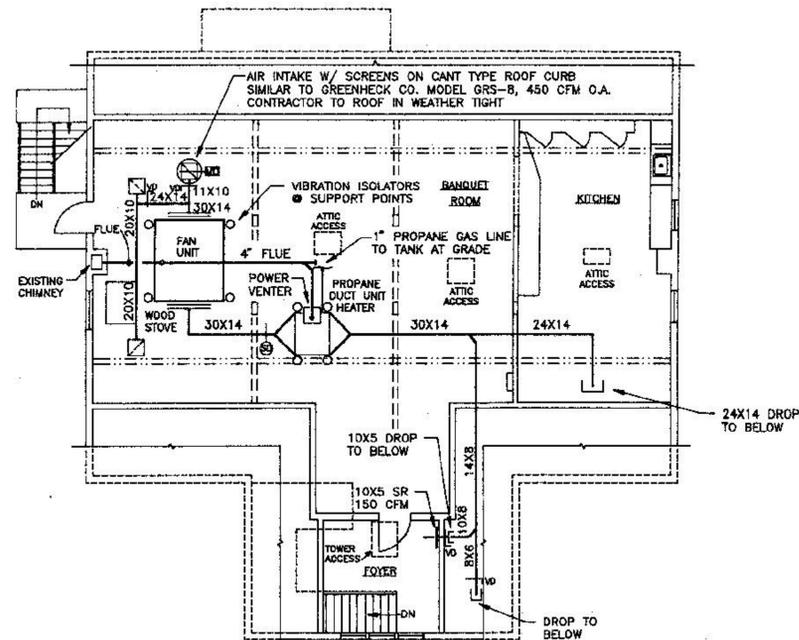
PROPOSED MEN'S TOILET (WATER) PLUMBING PLAN
SCALE: 1/4" = 1'-0"



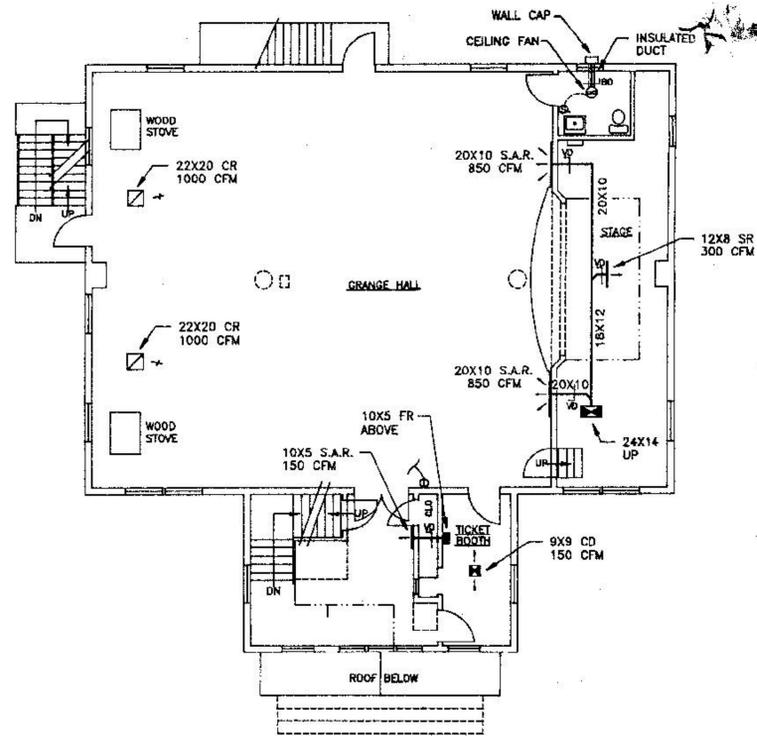
PROPOSED MEN'S TOILET (WASTE & VENT) PLUMBING PLAN
SCALE: 1/4" = 1'-0"

PLUMBING FIXTURE SCHEDULE									
FIXTURE	PIPE SIZE				FURNISHED BY			REMARKS	
	W	V	C	HW	I.W.	PLBR.	G.C.		
P-1 1/8" AFF HANICAPPED WATER CLOSET	4"	2"	3/4"	-	-	X	-	AMERICAN STANDARD CADET II HANICAP TANK TYPE W.C. ELONGATED RIM, PRESSURE ASSIST, CHROME FLUSH LEVER, SEAT AND WATER STOP	
P-2 LAVATORY HANICAPPED	1-1/2"	1-1/4"	1/2"	1/2"	-	X	-	AMERICAN STANDARD DECLYN WALL HUNG LAVATORY, WALL HANGER WITH 2000.101 CERAMIC FAUCET SINGLE LEVER HANDLE	
P-3 WATER HEATER	-	-	-	-	-	X	-		

* PROVIDE OFF-SET DRAIN FOR HANICAP LAV WITH INSULATION COVERS.

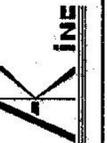


THIRD FLOOR HEATING PLAN
SCALE: 1/8" = 1'-0"



SECOND FLOOR HEATING PLAN
SCALE: 1/8" = 1'-0"

A & K ENGINEERING, INC.



56 PRISCILLA LANE
AUBURN, NE 68002
Tel: (603)-845-9876
Fax: (603)-841-9876
E-MAIL: AKENG@WORLDNET.ATT.NET

G.S.D. ASSOCIATES
ARCHITECT

100 W. 40th St. #100
New York, NY 10018
Tel: (212) 695-5422
Fax: (212) 695-1833

PROJECT: GRASMERE TOWN HALL
GOTTSTOWN NEW HAMPSHIRE 03045

DRAWING TITLE: PLUMBING FLOOR PLANS
HVAC FLOOR PLANS
DES BY: JK
DRAWN BY: CB
SCALE: AS NOTED
PROJECT NO: J484
DATE: 3-16-1999
DWG NO.

M/P-1

MECHANICAL SPECIFICATIONS

PART 1 - GENERAL

These documents have been prepared with the intention that they call for finished, tested work, in full operating condition complete with all necessary accessories.

Work included - Provide mechanical systems where shown on the Drawings, as specified herein, and as needed for a complete and proper installation including, but not necessarily limited to:

Furnish and install new H&V system as depicted on the drawings and described in these specifications including toilet room exhaust systems.

Test and balance all air systems.

GENERAL CONDITIONS

All work of this Section is specifically subject to the General Conditions for the entire project.

Provide all items, articles, materials, operations, or methods listed, mentioned, scheduled on the Drawings and/or specified herein, including all labor, materials, equipment and incidentals necessary and/or required for their completion.

The intent of the Specifications and Drawings is to provide a complete mechanical system, tested and ready for operation.

Any apparatus, appliance, materials or service not specified or indicated but necessary to make the work complete and perfect in all respects and ready for operation shall be provided.

The Drawings are generally diagrammatic, intended to convey the scope of the work and indicate the general arrangement of equipment and piping and approximate sizes and locations of equipment.

All work shall be executed in the best and most thorough manner under the direction of and to the satisfaction of the Owner/Engineer.

The Mechanical Contractor shall, at all times, keep a competent foreman in charge of the work and shall facilitate its inspection by the Owner/Engineer.

RULES AND REGULATIONS

All work shall comply with applicable portions of all state or local laws, ordinance, rules and regulations of local utility companies and fire department, BOCA, recommendations of the National Board of Fire Underwriters, National Electrical Code and all other Authorities having jurisdiction.

Nothing contained in these Specifications or indicated on the Drawings shall be construed to conflict with applicable portions of any laws, ordinances, rules and regulations.

GUARANTEE

Guarantee all work performed and materials and equipment installed to the full extent required by the Drawings and Specifications to be free from inherent defects for a period of one year after system acceptance.

The date of acceptance shall be that which appears on the Engineer's certificate of final payment.

SEQUENCE OF WORK

Schedule the work accordingly and coordinate schedule with other Contractors to prevent delays.

QUALITY ASSURANCE

Use adequate numbers of skilled workman who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

SHOP DRAWINGS

Submit detailed shop drawings for all major equipment, field assembled equipment, for all ductwork, piping, and other distribution services where same is located in Mechanical Equipment Rooms and in areas where space conditions are tight or complete in nature, or which requires close coordination with the work of this trade and/or work of other trades on the job.

Manufacturer's data, shop drawings and/or samples giving full information as to dimensions, materials, performance data and all other information pertinent to the adequacy of the equipment shall be submitted for all apparatus.

If the submittals differ from the requirements of the Contract Documents, the Mechanical Contractor shall make specific mention of such difference in the letter of transmittal with as request for substitution.

All submittals shall be complete and contain all required detailed information:

The work described in any shop drawing submittal shall be carefully checked by the Mechanical Contractor for all clearances, field conditions and proper coordination with all trades on the job.

Each submitted shop drawing shall be certified by the Mechanical Contractor that all conditions on the job have been checked and no conflict exists. No shop drawings will be reviewed without such certification.

OPERATING AND MAINTENANCE MANUALS

Furnish manufacturer's printed operating and maintenance instructions for each piece of equipment furnished under this Division bound in loose leaf binder with table of contents. Two sets of O+M's shall be furnished.

RECORD DRAWINGS

During the progress of the work, keep a set of drawings marked up to record all deviations and change orders, amendments, revisions, addenda and other reasons to represent an accurate record of all work as actually installed.

At the completion of the work, furnish to the Engineer two complete sets of marked prints of the original Contract Drawings corrected in a neat manner to reflect all changes and represent an accurate record of all work as actually installed.

TAGS AND CHARTS

Provide nameplates for all equipment, motor starters, push button stations, pilot light stations or control points, and other critical points in the building deemed necessary by the Engineer.

CUTTING AND PATCHING

The General Contractor will provide openings in walls, floors, roof, ceilings and partitions to receive pipe lines, ductwork, fixtures and other apparatus.

TESTING AND BALANCING

Perform all tests in accordance with standard procedures outlined by the Association Air Balance Council (AABC) and/or Sheet Metal and Air Conditioning Contractors National Association, Inc., (SMACNA).

PART 2 - PRODUCTS

DUCTWORK & ACCESSORIES

All ductwork shall be galvanized installed to SMACNA standards and shall be sealed with air leakage not to exceed 5% of total supply.

Connections to equipment shall be made with flexible canvas connections.

Furnish ductwork air extractors, splitters, volume dampers, turning vanes in elbows for proper air delivery and for air balancing purposes.

Ceiling diffusers shall be similar to Titus Co. model TDCA adjustable vane, white, aluminum construction with square to round neck adapters and internal volume dampers.

Sidewall supply air register shall be similar to TITUS CO. model 272RL w/ opposed blade dampers of white aluminum construction

Return air and transfer grilles shall be similar to Titus, Core 3, aluminum, white with 45 deg. louvers spaced at 3/4" with opposed blade dampers.

INSULATION

All galvanized supply, return and outside air, intake air, ductwork above ceilings shall be insulated with 1 1/2" reinforced foil faced fiberglass (vapor sealed).

For the first 10 ft. on discharge and air return to HVAC units install 2" thick, 6 lb. density, fiberglass ductboard insulation for acoustic attenuation purposes.

Flexible ductwork shall be provided with integral insulation with vapor barrier.

Hot and cold water piping shall be insulated with 1" thick fiberglass insulation with factory applied jacket.

MOTOR STARTERS

Mechanical Contractor shall furnish combination motor starters for all HVAC equipment and any interlock wiring for control functions. Electrical Contractor shall provide power wiring to starters and motors.

ELECTRICAL WORK

All electrical work shall be performed as per applicable state and local electrical code requirements.

All power wiring shall be by the Electrical Contractor. HVAC Contractor shall provide and install all necessary starters with built-in thermal overload protection and auxiliary contacts for control functions desired, and motors for all mechanical equipment including low voltage control and interlock wiring.

PIPING AND FITTINGS

Cast iron soil/vent piping shall be cast iron no-hub joined with S.S. strap clamps.

Hot/cold water piping shall be copper type "L" with solder fittings joined with 95/5 tin/antimony solder.

Hot and cold water piping shall be labeled indicating service and direction of flow.

Propane piping shall be black steel joined with malleable iron fittings.

FAN UNIT

Furnish and install factory built fan units similar to Magic Aire Co., Model 90 BHX-4, 2450 CFM @ 1.25 iwg, with 1 HP, 1/60/220 motor.

Fan cabinet to be furnished with Std. washable filters.

Contractor to install duct smoke detector in air discharge of unit.

Unit shall be controlled by remote thermostat with fan on-off-auto sub base.

Units shall be suspended from structure with steel rods and vibration isolators.

EXHAUST FAN

Furnish and install exhaust fan similar to Notone Co., Model QT110.

Fan shall be suspended from structure above with steel rods and vibration isolators.

Exhaust fan shall be operated by wall switch.

DUCT HEATER

Furnish and install duct unit heater similar to Reznor Co., Model HEEDU, 125,000 Btu/hr input 100,000 Btu/hr output, equipped for propane gas. Provide with standard features including two-stage control, burner air shutters.

Unit heaters shall be operated by two stage T'stat.

FLUE

Flue for duct furnace shall be double wall s.s. construction.

A & K ENGINEERING, INC.

56 PRISCILLA LANE
ABRUEN, NE 03032
Tel: (603)-440-8878
Fax: (603)-441-8878

E-MAIL: AENR@FORUM.NET

AK
LINE

G.S.D.
ASSOCIATES

ARCHITECT

155 N. MAIN ST., SUITE 1015
TEL: (603) 440-1425
FAX: (603) 440-1425

PROJECT: GRASMERE TOWN HALL
GOFFSTOWN NEW HAMPSHIRE 03045

DES. BY: JK
SCALE: AS NOTED

DRAWN BY: CB

PROJECT NO: J484

DATE: 3-16-1999

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