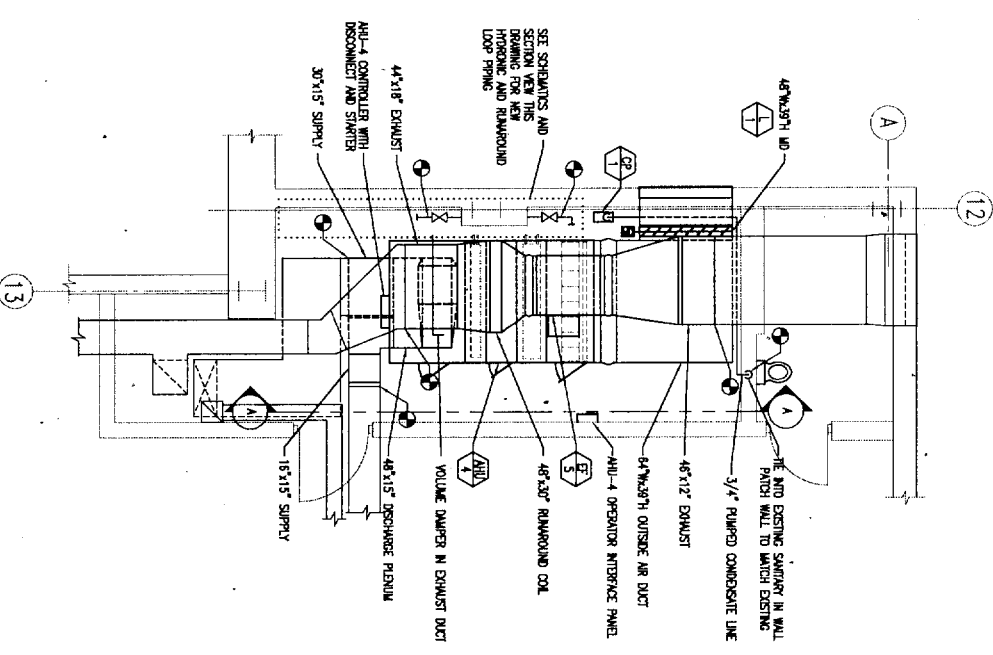


SCALE: 1/4"=1'-0"

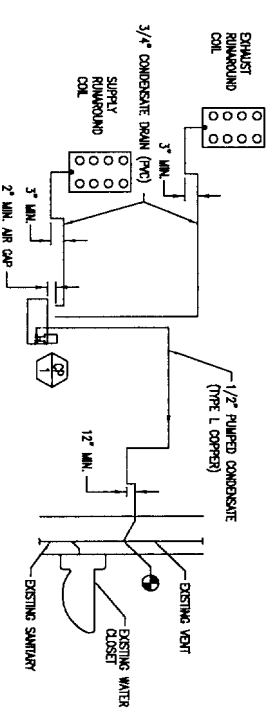
**HVAC DEMOLITION/REMOVAL NOTES:**

- R1** REMOVE EXISTING RUNAROUND PIPING AND EQUIPMENT. LEAVE EXISTING SOLUTION VALVES FOR REUSE.
- R2** REMOVE EXISTING INTAKE LOUVERS.
- R3** REMOVE EXISTING EXHAUST DUCT.
- R4** REMOVE EXISTING EXHAUST FAN AND RUNAROUND COIL.
- R5** REMOVE EXISTING AHU-4 AND SUPPLY DUCT.
- R6** REMOVE EXISTING HYDRONIC PIPING AND EQUIPMENT. LEAVE EXISTING SOLUTION VALVES FOR REUSE.



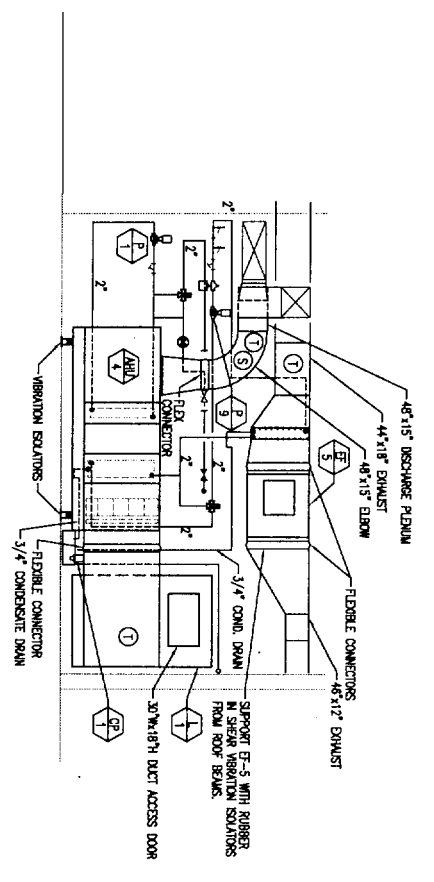
**AHU-4 MECHANICAL ROOM - NEW WORK**

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



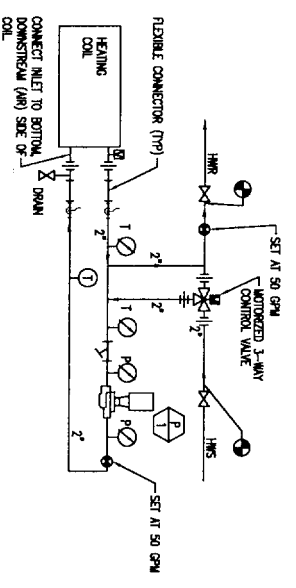
**CONDENSATE PUMP SCHEMATIC**

SCALE: NONE



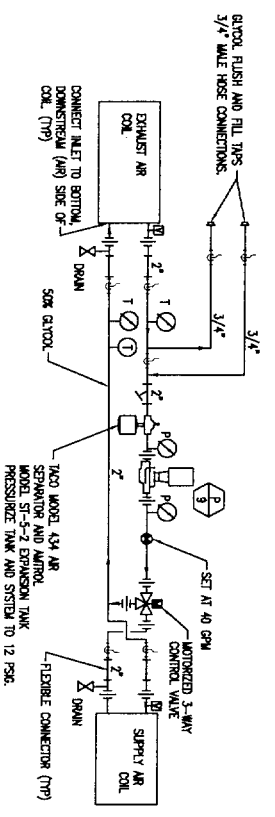
**SECTION A-A**

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



**AHU-4 HEATING COIL SCHEMATIC**

SCALE: NONE



**AHU-4 RUNAROUND COIL SCHEMATIC**

SCALE: NONE

PRELIMINARY - NOT FOR CONSTRUCTION  
 APPROVED FOR CONSTRUCTION  
 SUPERSEDES ALL PREVIOUS ISSUES  
 BY: RAM DATE: 3-22-06

REFERENCE DRAWINGS

DMG. NO.	TITLE	BY
E-1	ELECTRICAL PLAN & SPECS	NGI

Released for Construction  
 Date: Mar 22, 2006

REV	ISSUED TO	ISSUED FOR
0	OWNER	CONSTRUCTION

THIS DRAWING IS THE PROPERTY OF NEILL AND GUNTER. IT IS TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SHALL BE RETURNED TO THE COMPANY UPON COMPLETION OF THE PROJECT AND SHALL BE DESTROYED.

NO.	DATE	BY	REVISIONS	CKD.

DESIGNED	CHECKED	DATE	SCALE
AMH	AMH	03-22-06	AS NOTED

**Neill and Gunter**

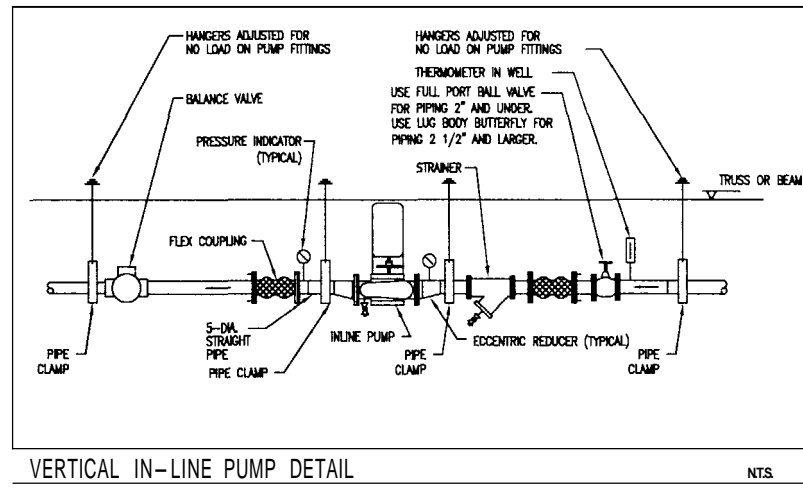
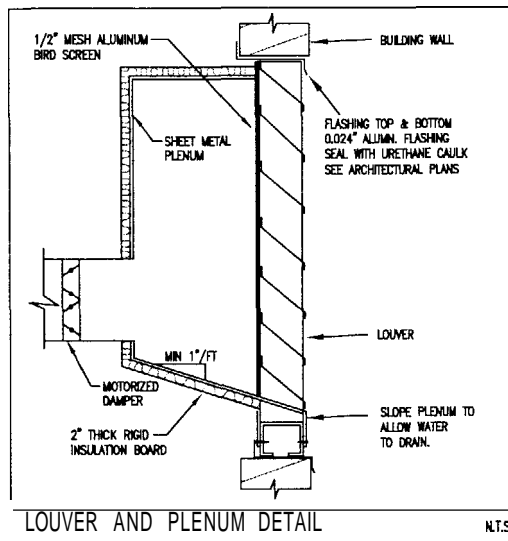
BARRON CENTER  
 PORTLAND, MAINE 04092

SEBAGO TECHNICS, INC

MECHANICAL  
 3RD FLOOR MECHANICAL ROOM  
 AHU-4 REPLACEMENT

JOB NO. 25894  
 DWS. NO. M-1

CAD 25894H001



LEGEND	
SYMBOL	DESCRIPTION
HWS	HOT WATER SUPPLY PIPING
MW	HOT WATER RETURN PIPING
---	COLD WATER PIPING
---	FENT PIPING
ADJ	DUCT ACCESS DOOR
AF	ADJUSTABLE
AP	ABOVE FINISHED FLOOR
---	ACCESS PANEL
BOO	BOTTOM OF DUCT
(E)	EXISTING
FC	FLOOR CONNECTION
IR	INDIRECT WASTE
LWCO	LOW WATER CUT-OFF (PROBE-TYPE)
MO	MOTORIZED DAMPER
N.C.	NORMALLY-CLOSED
N.O.	NORMALLY-OPENED
O.A.	OUTSIDE AIR
TCP	TEMPERATURE CONTROL PANEL
TOD	TOP OF DUCT
TYP.	TYPICAL
VB	VACUUM BREAKER
TS	ELECTRONIC TEMPERATURE SENSOR
Ⓢ	DUCT MOUNTED SMOKE DETECTOR, MOUNTED BY HVAC CONTRACTOR SUPPLIED AND WIRED BY ELECTRICAL CONTRACTOR
Ⓢ	TEMPERATURE SENSOR
PS	PRESSURE SWITCH
T	THERMOMETER W/IMMERSION WELL
P	PRESSURE GAUGE W/PETCOCK
⊕	AUTOMATIC FLOW CONTROL VALVE
⊕	BALL VALVE
⊕	BUTTERFLY VALVE
⊕	CIRCUIT BALANCE VALVE
Z	CHECK VALVE
⊕	GATE VALVE
⊕	MANUAL AIR VENT
⊕	AUTOMATIC AIR VENT
⊕	STRAINER W/BLOWDOWN, BRASS CAP AND CHAIN
⊕	UNION
⊕	PRESSURE REGULATING VALVE
⊕	PIPE WITH CAP
⊕	3-WAY CONTROL VALVE
⊕	PIPE RISE TO ABOVE
⊕	PIPE DROP TO BELOW
⊕	POINT OF CONNECTION TO EXISTING
⊕	MANUAL VOLUME DAMPER
⊕	ACOUSTICALLY-LINED DUCTWORK W/THICKNESS AS INDICATED

- GENERAL NOTES:**
- ALL GENERAL NOTES, SYMBOL LISTS & DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL HVAC DRAWINGS FOR THIS PROJECT.
  - THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND EXACT LOCATIONS AND ARRANGEMENTS OF EXIST./NEW EQUIPMENT, DUCTWORK, PIPING AND OTHER COMPONENTS SHALL BE DETERMINED IN THE FIELD WITH DUE CONSIDERATION OF STRUCTURAL, ELECTRICAL AND ARCHITECTURAL SYSTEMS. EXISTING STRUCTURAL SYSTEMS SHALL NOT BE MODIFIED WITHOUT THE EXPRESS PERMISSION OF THE ARCHITECT. EQUIPMENT, DUCTS OR PIPES INTERFERING WITH OTHER INSTALLATIONS SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
  - THE PROJECT SHALL BE PHASED IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED PHASING PLAN. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE BUILDING OWNER/ARCHITECT FOR THE SEQUENCING AND TIMING OF OPERATIONS PRIOR TO COMMENCING WORK. SEE SPECIFICATIONS.
  - CONTRACTOR IS TO MAINTAIN HVAC AND PLUMBING SERVICE TO ROOMS OUTSIDE THE PROJECT SCOPE OF WORK AND PHASING SCHEDULE. IF INTERRUPTION OF SERVICE IS REQUIRED COORDINATE SHUTDOWN WITH THE BUILDING OWNER. NOTIFY THE BUILDING OWNER A MINIMUM OF 5 DAYS PRIOR TO SHUT-DOWN.
  - CARE SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SYSTEMS AND SURFACES TO REMAIN. RESTORE DAMAGED AREAS THAT ARE BEYOND THE SCOPE OF THIS CONTRACT TO THEIR ORIGINAL CONDITION.
  - WHERE INDICATED ON THE DRAWINGS, REMOVE OR RELOCATE EXISTING COMPONENTS AS REQUIRED TO ACCOMMODATE THE NEW WORK. REMOVALS SHALL INCLUDE ALL ASSOCIATED OFF-SITE DISPOSAL COSTS.
  - COORDINATE REMOVALS AND RELOCATIONS INCLUDING SELECTIVE CUTTING AND PENETRATIONS WITH ARCHITECTURAL, MECHANICAL, STRUCTURAL AND ELECTRICAL.
  - COORDINATE ALL PENETRATIONS WITH GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS FOR PENETRATION DETAILS.
  - COORDINATE THE LOCATIONS OF ALL WALL MOUNTED TEMPERATURE SENSORS WITH OWNERS FINAL EQUIPMENT/FURNITURE LAYOUT.
  - PROVIDE SEISMIC RESTRAINTS PER SPECIFICATION.
  - SEE DETAILS AND PIPING DIAGRAMS FOR ADDITIONAL VALVES AND FITTINGS NECESSARY FOR COMPLETE PIPING SYSTEM.
  - PROVIDE CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT UNDUE STRAIN ON PIPING.
  - PERFORM ALL TESTS BEFORE INSULATING.
  - INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND GOOD PRACTICE NORMAL TO THE TRADE. INSTALLATION SHALL INCLUDE ACCESS TO NORMAL MAINTENANCE ITEMS SUCH AS BELTS, BEARINGS, FILTERS AND MOTORS. PROVIDE ACCESS PANELS WHILE NECESSARY. PROVIDE ADEQUATE STRUCTURAL SUPPORTS AND SECURE MOUNTING METHODS WITH PROVISIONS FOR VIBRATION ISOLATION AND EXPANSION WHERE REQUIRED.
  - PROVIDE VOLUME DAMPERS AT EACH BRANCH FROM MAIN DUCT AND DUCT RUNOUTS.
  - PROVIDE DUCTWORK WITH OFFSETS AND TRANSITIONS AS REQUIRED TO FIT UNDER STRUCTURAL STEEL OR OTHER OBSTRUCTIONS. FLAT OVAL OR ROUND SIZES MAY BE USED INTERCHANGEABLY BY THE CONTRACTOR. MAINTAIN DUCT CROSS SECTIONAL AREA.
  - INSTALL TURNING VANES IN ALL MITERED ELBOWS WHETHER INDICATED ON DRAWING OR NOT.
  - MANUFACTURER'S NAME AND MODEL NUMBER ARE USED FOR DESCRIPTIVE PURPOSES ONLY AND ARE INTENDED TO INDICATE THE STANDARD OF MATERIAL OR ARTICLE REQUIRED.
  - SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.

- SEQUENCE OF OPERATION:**
- AHU-4 AND EF-5 SHALL RUN CONTINUOUSLY.
  - AHU-4 HEATING COIL FREEZE/STAT SHALL STOP AHU-4 SUPPLY FAN AND CLOSE OUTSIDE AIR DAMPER UPON 35F SUPPLY AIR TEMPERATURE.
  - P-1 SHALL OPERATE CONTINUOUSLY THROUGH THE HEATING SEASON. P-1 SHALL BE MANUALLY SECURED DURING SUMMER.
  - P-1 CONTROL VALVE SHALL MODULATE TO MAINTAIN 75F (ADJ.) SUPPLY AIR TEMPERATURE UPON EXHAUST AIR THERMOSTAT CALL FOR HEAT AND 55F UPON THERMOSTAT CALL FOR COOLING.
  - EXHAUST AIR THERMOSTAT CALLS FOR COOLING AND OUTSIDE AIR TEMPERATURE IS 10F BELOW EXHAUST AIR TEMPERATURE. P-9 ON AND P-9 CONTROL VALVE MODULATES TO MAINTAIN 55F SUPPLY AIR.
  - EXHAUST AIR THERMOSTAT CALLS FOR HEATING. P-9 ON AND P-9 CONTROL VALVE MODULATES TO MAINTAIN 78F SUPPLY AIR.
  - P-9 CONTROL VALVE SHALL NOT ALLOW LIQUID TEMPERATURE TO EXHAUST AIR COIL TO FALL BELOW 30F.

EXHAUST FAN SCHEDULE											
TAG	SERVES	TYPE	CFM	S.P.(IN.W.G.)	FAN RPM	BHP	MOTOR HP	VOLTS/#	SONES	TYP. MANUF. & MODEL NO.	NOTES
EF-5	NORTHWING EXHAUST	IN-LINE CENTRIFUGAL	4000	2.5	1517	2.9	3.0	208/3	23.0	COOK, 1855QB	1, 2

NOTE: 1. PROVIDE WITH DISCONNECT SWITCH  
2. PROVIDE WITH BELT GUARD

LOUVER SCHEDULE								
ITEM	QTY	SERVICE	FREE AREA (SQ FT.)	SIZE (WxH)	CFM	PD (IN-W.G.)	MANUFACTURER/MODEL	NOTES
L1	1	AHU-4	12.0	48 x 72	6000	.045	RUSKIN, ELF6375DXX	1, 2, 3

NOTES: 1. PROVIDE STATIONARY EXTRUDED ALUMINUM CONSTRUCTION 3. PROVIDE KYMAR FINISH  
2. PROVIDE BIRD SCREEN

PUMP SCHEDULE											
TAG	TYPE	GPM	HEAD (FT)	FLUID	MOTOR H.P.	VOLTS-PH	IMPELLER	RPM	SIZE	MFR/MODEL	NOTES
P-1	IN-LINE	50	20	WATER	0.75	208/3	5.5	1750	1 1/2x1 1/2	TACO 1915	-
P-9	IN-LINE	40	20	50% PROPYLENE GLYCOL	0.50	208/3	5.2	1750	1 1/2x1 1/2	TACO 1915	-
CP-1	CONDENSATE PUMP	.75	10	WATER	1/20	115/1	-	-	(2)1"x1/2"	HARTELL KTP 15	-

NOTES:

AIR HANDLING UNIT SCHEDULE																									
UNIT NO.	LOCATION	NOM. CFM	MIN. Q.A. CFM	FAN DATA				ELECTRICAL				RUN AROUND COIL DATA				HEATING				TYPICAL UNIT MANUF. & MODEL NO.	NOTES				
				NOM. RPM	EXT. S.P.	H.P.	V.	#	HZ	SENS. MBH	O.A. TEMP °F	L.V.G. TEMP °F	P.D. (IN.)	FLUID	GPM	TOTAL MBH	TEMP °F	P.D. (IN.)	GPM			EMT(°F)	LWT(°F)	WT (lb)	
AHU-4	3rd FLOOR	6000	6000	1284	1.5	7.5	208	3	60	166.75	-20	13.5	0.3	50% PROPYLENE GLYCOL	40	715.8	-20	90	0.20	50	180	150	2025	TRANE MCCB	1, 2, 3

NOTES: 1. LARGEST MODULE MUST FIT THROUGH 40" DOOR.  
2. PROVIDE EXHAUST AIR RUN AROUND COIL 48"x30" COIL, AIR TEMP IN 75F, 4000 CFM, 166.75 MBH, 40GPM.  
3. AIR BALANCER TO ADJUST FAN SPEED TO DELIVERY 5100 CFM

- DEMOLITION GENERAL NOTES:**
- FIELD VERIFY EXISTING EQUIPMENT, DUCTWORK AND PIPING PRIOR TO REMOVAL OR REUSE. CONFIRM WITH OWNER THAT ALL EQUIPMENT, DUCTWORK AND PIPING DESIGNATED TO BE REMOVED IS NO LONGER IN SERVICE PRIOR TO ITS REMOVAL.
  - ALL EXISTING PIPING, DUCTWORK AND EQUIPMENT NOT SHOWN ON DWGS. SHALL REMAIN WITH NO CHANGE UNLESS NOTED OTHERWISE.
  - TIE-IN POINT LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL DETERMINE EXACT LOCATIONS IN THE FIELD BASED ON EXISTING CONDITIONS.
  - THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND EXACT LOCATIONS AND ARRANGEMENTS OF EXIST./NEW EQUIPMENT, DUCTWORK, PIPING AND OTHER COMPONENTS SHALL BE DETERMINED IN THE FIELD WITH DUE CONSIDERATION OF STRUCTURAL, ELECTRICAL AND ARCHITECTURAL SYSTEMS. EXISTING STRUCTURAL SYSTEMS SHALL NOT BE MODIFIED WITHOUT THE EXPRESS PERMISSION OF THE ARCHITECT.
  - THE PROJECT SHALL BE PHASED IN ACCORDANCE WITH THE CONTRACTOR'S PHASING PLAN. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER FOR THE SEQUENCING AND TIMING OF OPERATIONS PRIOR TO COMMENCING WORK.
  - CONTRACTOR IS TO MAINTAIN HVAC AND PLUMBING SERVICE TO ROOMS OUTSIDE THE PROJECT SCOPE OF WORK AND PHASING SCHEDULE. IF INTERRUPTION OF SERVICE IS REQUIRED COORDINATE SHUTDOWN WITH OWNER. NOTIFY THE OWNER A MINIMUM OF 72 HOURS PRIOR TO SHUT-DOWN.
  - WHERE INDICATED ON THE DRAWINGS, REMOVE OR RELOCATE EXISTING COMPONENTS AS REQUIRED TO ACCOMMODATE THE NEW WORK. REMOVALS SHALL INCLUDE ALL ASSOCIATED OFF-SITE DISPOSAL COSTS.
  - CARE SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SYSTEMS AND SURFACES TO REMAIN. RESTORE DAMAGED AREAS THAT ARE BEYOND THE SCOPE OF THIS CONTRACT TO THEIR ORIGINAL CONDITION.
  - AT THE END OF EACH WORKING DAY, THE CONSTRUCTION SITE SHALL BE LEFT IN A CLEAN AND NEAT CONDITION.

PRELIMINARY - NOT FOR CONSTRUCTION  
 APPROVED FOR CONSTRUCTION  
 SUPERSEDES ALL PREVIOUS ISSUES

BY     RAN     DATE     3-22-06

REFERENCE DRAWINGS		
#/G. NO.	TITLE	BY
E-1	ELECTRICAL PLAN & SPECS	NGI

Released For Construction  
Date: Mar 22, 2006

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0	OWNER	CONSTRUCTION
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REV.	ISSUED TO	ISSUED FOR
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NO.	DATE	BY	REVISIONS	CKD.
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DESIGNED	AHM	DRAWN	DAL
CHECKED		DATE	03-22-06
DESIGN	OPTL	SCALE	AS NOTED
APP. BY	RAN	SPEC.	
PROJ. ENGR.	AHM		

Neill and Gunter

BARRON CENTER  
PORTLAND, MAINE 04092

SEBAGO TECHNICS, INC  
MECHANICAL  
3RD FLOOR MECHANICAL ROOM  
AHU-4 REPLACEMENT

25894 DWG. NO. M-2