Allied Engineering

Structural Mechanical Electrical Commissioning

SHOP DRAWING REVIEW COVER SHEET

Project Name, Project #: **Acadia Gateway #07-010**

Date Received: 10/28/11 | Date Due: 11/11/11

AEI Shop Drawing #: **293 REVISED** | Contractor Shop Drawing #:

AEI Project Manager: William P. Faucher, P.E.

Contractor: Nickerson & O'Day, Inc.

Item Description: Electrical As-Builts

Spec. Section Number(s): 017700 | ☒ Mailed ☒ emailed Date Returned:01/05/12

Christian, Steve, Ed, Jeff

N:\Projects\2007\07010 – MDOT Acadia Gateway Facility\40 Construction\Shops\SHOP-DRAWING REVIEW COVER SHEET 293.doc

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CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR QUANTITIES; DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOB SITE; INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESS FOR TECHNIQUES OF CONSTRUCTION; COORDINATION OF THE WORK OF ALL TRADES; AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER. THIS REVIEW DOES NOT MODIFY CONTRACTOR'S DUTY TO COMPLY WITH THE CONTRACT DOCUMENTS.

___REVIEWED
_X__REVIEWED W/NOTES, ***No Resubmission*** Required
___REVIEWED W/NOTES, ***Resubmission*** *Required*
___NOT ACCEPTABLE

NOTES:
THE FOLLOWING CHANGES ARE NOT REFLECTED ON THE AS-BUILTS AS SUBMITTED

Sheet ES-100

1. Amendment 4 "ON PLAN SHEETS" item O not reflected on drawing (sheet reissued in its entirety)
2. Amendment 6, "ON PLAN SHEETS" items L and M not reflected on drawing

ES-500

1. Amendment 6, "ON PLAN SHEETS" item N not reflected on drawing

EL-100

1. Amendment 4, "ON PLAN SHEETS" item P not reflected on drawing
2. Change Order Request 02, no indication that emergency lighting in rooms 101, 112 and 121 are controlled by inverters
3. Supplemental Instruction 15, not reflected on drawing

EL-101

1. Amendment 4, items Q, R and S not reflected on drawing

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160 Veranda Street
Portland, ME 04103

T 207.221.2260
F 207.221.2266
www.allied-eng.com

2. Change Order Request 02, emergency ballast are missing from rooms 202, 213, 216 and 218
3. Supplemental Instruction 15, not reflected on drawing

EP-100
1. Supplemental Instruction 02, not reflected on drawing
2. Supplemental Instruction 10, not reflected on drawing

EP-101
1. Amendment 4, "ON PLAN SHEETS" item T not reflected on drawing
2. Supplemental Instruction 18 not reflected on drawing

EP-103
1. Amendment 4, "ON PLAN SHEETS" item U not reflected on drawing
2. Supplemental Instruction 02 not reflected on drawing
3. Supplemental Instruction 14 not reflected on drawing

EP-400
1. Amendment 4, "ON PLAN SHEETS" item V not reflected on drawing
2. Amendment 6, "ON PLAN SHEETS" item O not reflected on drawing

Cover sheet only plans will be delivered to Jeff Coffin MDOT

Reviewed by: Allied Engineering, Inc.

Reviewer: DLL

ELECTRICAL AS BUILTS

G1 LOCAL SOUND SYSTEM & SPEAKERS

NO SCALE

- LOCAL SOUND SYSTEM LARGE SPEAKER
- LOCAL SOUND SYSTEM SPEAKER
- SPEAKER – CEILING MOUNTED

NOTE: LOW VOLTAGE AND SYSTEM WIRING BY DIVISION 17.

E3 LUMINAIRES

NO SCALE

- LIGHT FIXTURE – RECESSED TROFFER – TYPICAL
  - F1 – INDICATES LIGHT FIXTURE TYPE ON LUMINAIRE SCHEDULE
  - a – LOWER CASE LETTER INDICATES SWITCHING – TYPICAL
  - 2 – NUMBER INDICATES CIRCUITING – TYPICAL
- HATCHING INDICATES FIXTURE WITH ONE LAMP ON EMERGENCY BATTERY/BALLAST – TYPICAL ALL FIXTURE TYPES
- RECESSED DOWNLIGHT
- WALL MOUNTED LIGHT FIXTURE – TYPICAL
- CEILING SURFACE LIGHT FIXTURE – TYPICAL
- PENDANT MOUNTED TROFFER
- PENDANT MOUNTED LIGHT FIXTURE
- UNDERCABINET LIGHT FIXTURE
- EXIT SIGN, CEILING MOUNTED, SHADING INDICATES FACE(S) ARROWHEAD INDICATES CHEVRON(S) REQUIRED
  - 2 – NUMBER INDICATES CIRCUIT NUMBER, CONNECT TO THE UNSWITCHED LEG OF THE CIRCUIT
- EXIT SIGN, WALL MOUNTED, SHADING INDICATES FACE(S) MOUNT AT 7'-6"AFF OR OVER DOOR
  - 2 – NUMBER INDICATES CIRCUIT NUMBER, CONNECT TO THE UNSWITCHED LEG OF THE CIRCUIT.
- RB – REMOTE BALLAST – ALLOW 9" IN ALL DIRECTIONS BETWEEN BALLASTS

F5 FLOOR AND CEILING DEVICES

NO SCALE

- F – DUPLEX 20A, 125V, 2P, 3W, NEMA 5-20R RECEPTACLE – MOUNTED IN FLUSH FLOOR BOX
- F – DOUBLE DUPLEX 20A, 125V, 2P, 3W, NEMA 5-20R RECEPTACLE – MOUNTED IN FLUSH FLOOR BOX
- C – DUPLEX 20A, 125V, 2P, 3W, NEMA 5-20R RECEPTACLE – FLUSH MOUNTED IN CEILING
- C – DOUBLE DUPLEX RECEPTACLE – FLUSH MOUNTED IN CEILING

F7 RECEPTACLES

NO SCALE

- DUPLEX RECEPTACLE – 20A, 125V
- SWITCHED DUPLEX RECEPTACLE – 20A, 125V
- GFCI TYPE DUPLEX RECEPTACLE – MOUNT 44"AFF UNO
- WP – GFCI RECEPTACLE WITH WEATHERPROOF COVER
- WP – GFCI RECEPTACLE IN WP ENCLOSURE ON ROOF
- DOUBLE DUPLEX RECEPTACLE
- SWITCHED DOUBLE DUPLEX RECEPTACLE.
- GFCI DOUBLE DUPLEX RECEPTACLE – MOUNT 44"AFF UNO
- EX – SINGLE RECEPTACLE – EXPLOSION PROOF

NOTES:

1. MOUNT RECEPTACLES WITH CENTERLINE 18"AFF UNO
2. MOUNT EXTERIOR RECEPTACLES WITH CENTERLINE 24"AFG UNO

D9 POWER DISTRIBUTION

NO SCALE

- PANELBOARD – SURFACE MOUNTED
- PANELBOARD – FLUSH MOUNTED
- FUSED DISCONNECT SWITCH
- NON-FUSED DISCONNECT SWITCH
- COMBINATION MOTOR STARTER
- MOTOR – NUMBER INDICATES HORSEPOWER
- METER AND CABINET
- JUNCTION BOX – CEILING MOUNTED
- T# – TRANSFORMER – NUMBER INDICATES DESIGNATION SEE TRANSFORMER SCHEDULE
- VFD – VARIABLE FREQUENCY DRIVE
- TVSS – TRANSIENT VOLTAGE SURGE SUPPRESSOR
- EMERGENCY SHUTOFF SWITCH – WALL MOUNTED 48" TO CENTERLINE – PROVIDE TAMPER-PROOF COVER
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- WIRING UNDERGROUND OR UNDERSLAB
- HOMERUN – (2)#12+(1)#12G UNO (EXCEPT COMPUTER AND LIGHTING CIRCUITS: (1)#12+(1)#10N+(1)#12G UNO)
- SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT
- 3-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT
- L–20A,1P – INDICATES 20A,1P LOCKING CIRCUIT BREAKER
- CONNECTION TO EQUIPMENT
- GROUNDING SYSTEM

D1 TEL/DATA

NO SCALE

- C – TELE/DATA OUTLET – FLUSH MOUNTED IN CEILING
- TELEPHONE OUTLET, MOUNT 18" AFF UNO
- W – WALL TELEPHONE OUTLET, MOUNT 44" AFF UNO
- E – TELEPHONE OUTLET FOR ELEVATOR CONNECTION
- TEL/DATA OUTLET, MOUNT 18" AFF UNO
- R – TEL/DATA RACK
- WR – TEL/DATA RACK, WALL MOUNTED

C3 LIGHT SWITCHES

NO SCALE

- $a – LIGHT SWITCH – 20A,125/277V LETTER INDICATES SWITCHING
- $3 – THREE-WAY LIGHT SWITCH
- $4 – FOUR-WAY LIGHT SWITCH
- $LVa – LOW VOLTAGE MOMENTARY LIGHT SWITCH – LETTER INDICATES SWITCHING
- $P – SINGLE POLE SWITCH WITH RED PILOT LIGHT – RED LIGHT SHALL GLOW WHEN CIRCUIT IS ENERGIZED
- MULTI-GANGED SWITCHES – GANG UNDER ONE PLATE – LETTER INDICATES SWITCHING
- $OS – OCCUPANCY SENSOR SWITCH, WALL MOUNTED
- $OSab – 2-BUTTON OCCUPANCY SENSOR SWITCH
- OS – OCCUPANCY SENSOR SWITCH, CEILING MOUNTED
- $D – INCANDESCENT DIMMER SWITCH
- $FD – FLUORESCENT DIMMER SWITCH
- LTC – LIGHTING TIME CLOCK
- LC – LIGHTING CONTACTOR

NOTE:

MOUNT LIGHT SWITCHES WITH CENTERLINE 48" AFF UNO

C5 SECURITY SYSTEM/MISCELLANEOUS

NO SCALE

- SEC – SECURITY PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- SAP – ANNUNCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- SMP – MOTION SENSOR, PASSIVE INFRARED (PIR), CEILING MOUNTED
- SMM – MOTION SENSOR, MICROWAVE, CEILING MOUNTED
- SMD – MOTION SENSOR, DUAL TECHNOLOGY, PIR/MICROWAVE, CEILING MOUNTED
- SSC – CAMERA
- SCA – CARD ACCESS, MOUNT
- SDC – DOOR CONTACT, MAGNETIC LOCK
- SDR – DOOR RELEASE BUTTON
- SDS – DOOR SWITCH
- SST – STROBE
- SHN – HORN
- SDL – MAGNETIC DOOR LOCK
- T – TRANSFORMER
- SV – SOLENOID VALVE
- PC – PHOTOCELL
- LS – LIMIT SWITCH

C7 FIRE ALARM SYSTEM

NO SCALE

- FACP – FIRE ALARM CONTROL PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- FAA – FIRE ALARM ANNUNCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF
- SMOKE DETECTOR
- SS – SINGLE STATION SMOKE DETECTOR WITH AUDIBLE INDICATING APPLIANCE, MOUNT 80"AFF TO BOTTOM OR 6" BELOW CEILING WHICHEVER IS LOWER
- HEAT DETECTOR
- DUCT SMOKE DETECTOR
- RTS – REMOTE TEST/INDICATOR FOR DUCT SMOKES, MOUNT ON CEILING BENEATH UNIT, OR WALL MOUNT WHERE INDICATED ON PLANS
- MANUAL PULL STATION, MOUNT 48"AFF
- 30 – AUDIO/VISUAL INDICATING APPLIANCE, CANDELA AS NOTED ON PLANS, MOUNT 80"AFF TO BOTTOM OR 6" BELOW CEILING WHICHEVER IS LOWER
- 30 – VISUAL INDICATING APPLICANCE, CANDELA AS NOTED ON PLANS, MOUNT 80"AFF TO BOTTOM OR 6" BELOW CEILING WHICHEVER IS LOWER
- SPRINKLER SYSTEM WATER FLOW SWITCH – PROVIDED UNDER DIVISION 21 – WIRED UNDER DIVISION 26
- SPRINKLER SYSTEM TAMPER SWITCH – PROVIDED UNDER DIVISION 21 – WIRED UNDER DIVISION 26
- SPRINKLER SYSTEM ALARM CHECK VALVE PRESSURE SWITCH – PROVIDED UNDER DIVISION 21 – WIRED UNDER DIVISION 26
- SPRINKLER SYSTEM EXCESS PRESSURE PUMP – PROVIDED UNDER DIVISION 21 – WIRED UNDER DIVISION 26

B1 SINGLE RECEPTACLES

NO SCALE

- 50A RECEPTACLE FOR WELDER – 250V, 2P, 3W, NEMA 14-50R, (3) #8 + (1) #10 TO 40A, 2P CIRCUIT BREAKER.
- 30A RECEPTACLE FOR PRESSURE WASHER – 230V, 2P, 3W, NEMA 14-20R, (3) #12 + (1) #12 GND TO 20A, 2P CIRCUIT BREAKER.
- SINGLE RECEPTACLE, 20A, 125V, NEMA 5-20R MOUNT 18"AFF IN ELEVATOR SHAFT FOR ELEVATOR SUMP PUMP.

NOTE:

PROVIDE MATCHING CORD AND PLUG FOR SINGLE RECEPTACLES

A1 TECHNOLOGY GENERAL NOTES

NO SCALE

1. PROVIDE BOXES, RACKS, ETC. WHERE INDICATED OR NEEDED
2. BOXES AND CONDUIT WITH PULL STRING TO 6" ABOVE NEAREST ACCESSIBLE CEILING (UNLESS NOTED OTHERWISE) BY DIVISION 26.
3. IN AREAS WITHOUT CEILINGS, CONDUIT PROVIDED TO NEAREST ACCESSIBLE CORRIDOR CEILING – 1" CONDUIT TO SINGLE GANG BOXES, 1 1/4" CONDUIT TO DOUBLE GANG BOXES.
4. WIRING OUTLETS, PLATES, AND CONNECTIONS BY DIVISION 26 (UNLESS NOTED OTHERWISE)
5. PROVIDE BLANK INSERTS FOR ALL OUTLET OPENINGS IN PLATES THAT ARE UNUSED

A3 TECHNOLOGY MATRIX

NO SCALE

SYMBOL	MTG HT AFF UNO	DESCRIPTION	KEY NOTE	CONDUIT SIZE	BOX TYPE: SINGLE GANG DEVICE RING IN 4x4SQ.	BOX TYPE: DOUBLE GANG DEVICE	BOX TYPE: -	OUTLET TYPE: 8-WIRE, 8 POSITION CAT 6 VOICE OUTLET	OUTLET TYPE: S VIDEO	OUTLET TYPE: 8-WIRE, 8 POSITION CAT 6 DATA OUTLET	OUTLET TYPE: RJ-45 WITH SS WALL PHONE PLATE	OUTLET TYPE: F TYPE OUTLET	OUTLET TYPE: RCA BULKHEAD	OUTLET TYPE: BLANK	OUTLET TYPE: -	CABLING: 1 PAIR SHIELDED 20 AWG	CABLING: CATEGORY 6 4-PAIR UTP	CABLING: RG-59 OHM COAX	CABLING: -
▼	18"	DATA/TELEPHONE OUTLET		1"	X			1		3				2			4		
AC (W)	ABOVE CEILING	WIRELESS ACCESS OUTLET		1"	X					1				5			1		
(P)	18"	PROJECTOR INTERFACE OUTLET		(2) 1"		X			1	2		1	3	5		3	3	1	
AC (P)	ABOVE CEILING	PROJECTOR OUTLET		(2) 1"		X			1	1		1	3	3		3	2	1	
(V)	45"	VIDEO/CATV OUTLET		3/4"	X							1		5				1	
▼ W	45"	WALL PHONE OUTLET		3/4"	X						1			0			2		

NOTE

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN

A7 ABBREVIATIONS

NO SCALE

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF
BRKRS	CIRCUIT BREAKERS
P/O	PART OF
WG	WIREGUARD
CB	CIRCUIT BREAKER
MT	MOUNT

A9 GENERAL NOTES

1. BRANCH CIRCUIT WIRING NOT SHOWN. WIRE AND CONNECT ELECTRICAL ITEMS TO CIRCUITS INDICATED.
2. DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE WORK OF DIVISION 26 AND OTHER DIVISIONS. WHERE ELECTRICAL ITEMS ARE REMOVED, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
3. DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
4. THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS, IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET PROJECT REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.
5. ALL ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.
6. COORDINATE ALL WORK WITH OTHER DIVISIONS. VERIFY EXACT POWER REQUIREMENTS OF MECHANICAL EQUIPMENT WITH DIVISION 23. POWER WIRING FOR EQUIPMENT & CONTROL IS TO BE PERFORMED BY DIVISION 26. CONTROL WIRING BY DIVISION 23.
7. A BUILDING LIGHTING CONTROL SYSTEM IS TO BE PROVIDED. REFER TO SPECIFICATIONS AND LIGHTING PLANS.

Allied Engineering
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE	
FED PIN NO:	
PIN NO:	16123.50

CATHERINE A. FAUCHER No. 7575 – STATE OF MAINE – PROFESSIONAL ENGINEER

PROJECT	INFORMATION	
PROGRAM	-	SIGNATURE
PROJECT MANAGER	WPF	
DESIGNER	-	P.E. NUMBER
CONSULTANT	ALLIED ENGINEERING	01 MAY, 2009
PROJECT RESIDENT	-	DATE
CONTRACTOR	-	
PROJECT COMPLETION DATE	-	

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

ELECTRICAL LEGENDS AND ABBREVIATIONS

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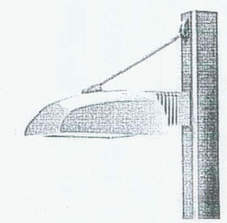
SHEET NUMBER
E-000
OF

AEI 293

A1	SITE ELECTRICAL PART PLAN
1" = 40'-0"	



F9	TYPE S1, S1A, S2 & S2A
NO SCALE	

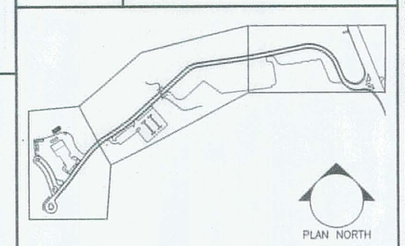
Fiberglass	H	17" x 30" x 18" d Fiberglass
Cement	H	4'10" x 5' Cement / 24" Cover Telephone
Cement	P	P.H. #1 5'8" x 7'2" / Cover Electric
Cement	P	B.H.E. # 6244 8'x8'x5'd / Split Cover
Cement	T	Transformer Pad 7'2" dia. x 5'8" / Cover #2203
"	T	Exterior Panel + Small Transformer Pad 2'x4'x8" Thick Pad

S	20" x 20" x 24" H Cement / Cover
H	TELCOM/CATV HANDHOLE, MINIMUM 18" x 36" x 24", SIZE PER NEC FOR NUMBER OF CONDUITS INSTALLED
P	4' x 6' PULL BOX WITH 32" COVER PLATE IN ACCORDANCE WITH UTILITY STANDARDS
T	TRANSFORMER
	POLE MOUNTED LIGHT

C9	LEGEND
NO SCALE	

1. UNDERGROUND PRIMARY ELECTRICAL WIRING. PROVIDED BY BANGOR HYDRO ELECTRIC. CONDUITS PROVIDED BY DIV 26.
2. PAD MOUNT TRANSFORMER, CT'S AND METER PROVIDED BY BANGOR HYDRO ELECTRIC COMPANY. VAULT PROVIDED BY DIVISION 26.
3. SECONDARY ELECTRIC SERVICE. SEE ONE-LINE DIAGRAM FOR REQUIREMENTS.
4. UNDERGROUND TELEPHONE SERVICE. PROVIDE (3) 4" CONDUIT WITH PULL ROPE, PER TELEPHONE/CATV PROVIDERS REQUIREMENTS.
5. TERMINATE AT TELEPHONE BOARD IN MECH/ELECT ROOM 121
6. PROVIDE ONE TYPE H2A LUMINAIRE AT FIRE PUMP HOUSE ENTRANCE - CONNECT TO FIRE PUMP HOUSE PANELBOARD FURNISHED BY DIVISION 21 - COORDINATE WITH DIVISION 21.
7. WIRE AND CONNECT FLOAT SWITCH FOR HOLDING TANK ALARM. SEE SHEET EP-101 FOR ALARM UNIT LOCATION.

B9	KEY NOTES



A9	KEY PLAN
NOT TO SCALE	

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE CATHERINE A. FAUCHER No. 7873 PROFESSIONAL ENGINEER

INFORMATION		SIGNATURE
PROJECT MANAGER	WPF	P.E. NUMBER
DESIGNER	-	01 MAY, 2009
CONSULTANT	ALLIED ENGINEERING	DATE
PROJECT RESIDENT	-	
CONTRACTOR	-	
PROJECT COMPLETION DATE	-	

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL PART PLAN

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SHEET NUMBER
ES-100
OF

Filename: - Division: - Date: - Username: -
N:\Projects\2007\07010 - MDOT Acadia Gateway Facility\05 Drawing Files_Bus Building\07010_Es.dwg Aug 03, 2009 - 10:08am

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBERS - SEE NOTE 1	MOUNTING	VOLTS	LAMP QTY	LAMP TOTAL WATTS	LAMP TYPE	KEY NOTES
S1	AERIS POLE LIGHT, TYPE III DISTRIBUTION ON 25FT POLE	LITHONIA	AST2-250M-SR3-480-SPA-SCWA-HS-DBL	CONCRETE BASE BY DIV 26	480	1	312	250W MH	
S1A	AERIS POLE LIGHT, TYPE III DISTRIBUTION ON 25FT POLE	LITHONIA	AST2-250M-SR3-480-SPA-SCWA-HS-DBL	CONCRETE BASE BY DIV 26	480	1	312	250W MH	2
S2	AERIS POLE LIGHT, TYPE IV DISTRIBUTION, ON 25FT POLE	LITHONIA	AST2-250M-SR45C-480-SPA-SCWA-DBL	CONCRETE BASE BY DIV 26	480	1	312	250W MH	3
S2A	DOUBLE HEAD POLE LIGHT, TYPE IV DISTRIBUTION SHARP CUTOFF ON 25FT POLE	LITHONIA	AST2-250M-SR45C-480-SPA-SCWA-DBL	CONCRETE BASE BY DIV 26	480	2	624	250W MH	

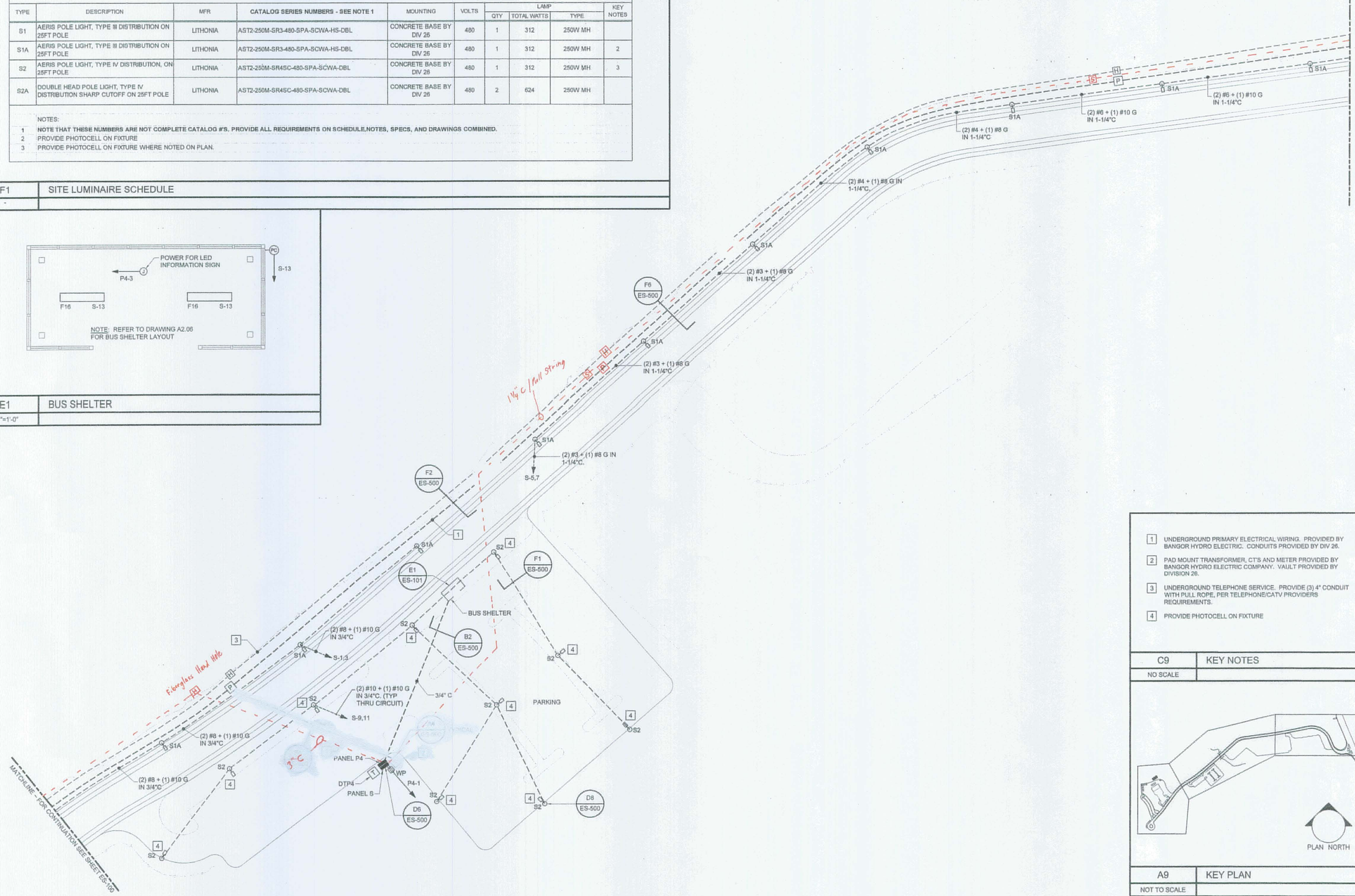
NOTES:

1. NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG #'S. PROVIDE ALL REQUIREMENTS ON SCHEDULE,NOTES, SPECS, AND DRAWINGS COMBINED.
2. PROVIDE PHOTOCELL ON FIXTURE
3. PROVIDE PHOTOCELL ON FIXTURE WHERE NOTED ON PLAN.

F1 SITE LUMINAIRE SCHEDULE

E1 BUS SHELTER

1/4"=1'-0"



A1 SITE ELECTRICAL PART PLAN

1" = 40'-0"

1. UNDERGROUND PRIMARY ELECTRICAL WIRING. PROVIDED BY BANGOR HYDRO ELECTRIC. CONDUITS PROVIDED BY DIV 26.
2. PAD MOUNT TRANSFORMER, CT'S AND METER PROVIDED BY BANGOR HYDRO ELECTRIC COMPANY. VAULT PROVIDED BY DIVISION 26.
3. UNDERGROUND TELEPHONE SERVICE. PROVIDE (3) 4" CONDUIT WITH PULL ROPE, PER TELEPHONE/CATV PROVIDERS REQUIREMENTS.
4. PROVIDE PHOTOCELL ON FIXTURE

C9 KEY NOTES

NO SCALE

A9 KEY PLAN

NOT TO SCALE

Allied Engineering
Structural Mechanical Electrical Construction
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE CATHERINE A. FAUCHER No. 7851 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

01 MAY, 2009

DATE

PROJECT INFORMATION

PROGRAM	–
PROJECT MANAGER	WFF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL PART PLAN, DETAILS AND SCHEDULE

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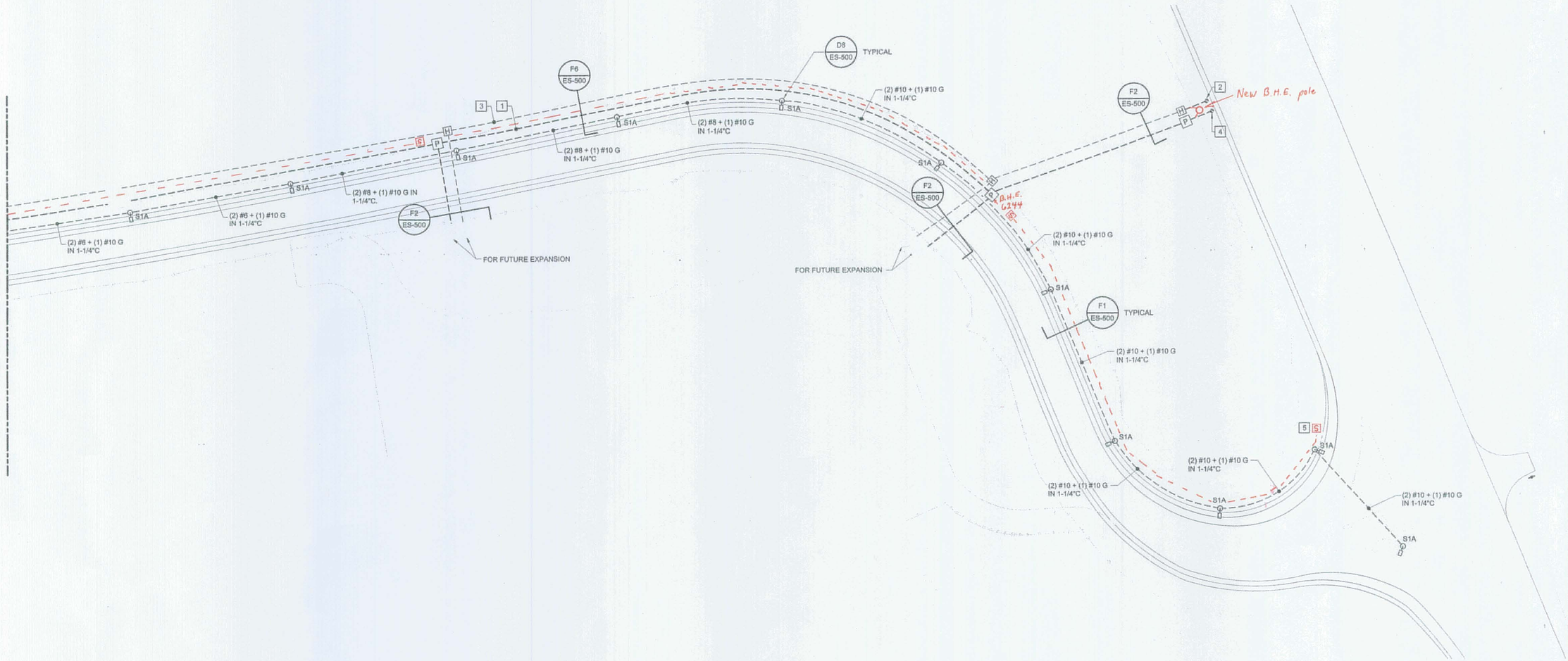
SHEET NUMBER

ES-101

OF

Filename: – Date: – Division: – Username: –

N:\Projects\2007\07010 – MDOT Acadia Gateway Facility\00 Drawing Files_Bus Building\07010_Es.dwg Aug 03, 2009 – 10:07am



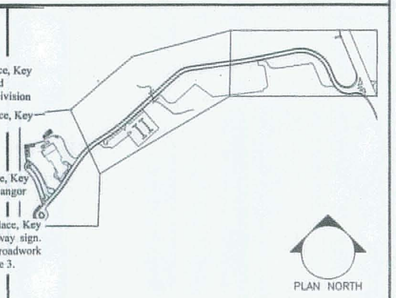
DRAWING ES-102: **DELETE** Key Note #1 in its entirety. **ADD** its place, Key Note #1 as follows: "Underground primary electrical wiring furnished and installed by Bangor Hydro Electric. Conduits furnished and installed by Division 26."

DRAWING ES-102: **DELETE** Key Note #2 in its entirety. **ADD** its place, Key Note #2 as follows: "Coordinate termination location and schedule with Telephone/CATV company and the Route 3 roadwork Contractor."

UNDERGROUND TELEPHONE SERVICE. PROVIDE (3) 4" CONDUIT WITH PULL ROPE, PER TELEPHONE PROVIDERS REQUIREMENTS.

DRAWING ES-102: **DELETE** Key Note #4 in its entirety. **ADD** its place, Key Note #4 as follows: "Coordinate termination location and schedule with Bangor Hydro Electric Company and the Route 3 roadwork Contractor."

DRAWING ES-102: **DELETE** Key Note #5 in its entirety. **ADD** its place, Key Note #5 as follows: "Provide 1" conduit to handhole for future roadway sign. Coordinate Electrical work impact by Route 3 project with Route 3 roadwork Contractor. Refer to Drawing C-10 for matchline indicating limit of Route 3.



A9	KEY PLAN
NO SCALE	

A1	SITE ELECTRICAL PART PLAN
1" = 40'-0"	

A7	KEY NOTES

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: 207.774.7260
F: 207.774.7266
Web: www.alliedeng.com

Allied Project No: 07010 | Cad File: 07010ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE · CATHERINE L. FAUCHER · No. 7575 · PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL PART PLAN

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SHEET NUMBER
ES-102
OF

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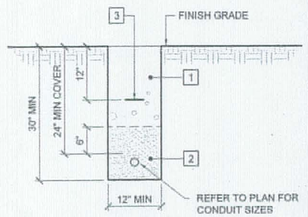
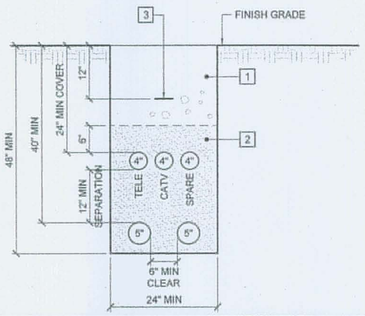


F1 TRENCH DETAIL
NO SCALE



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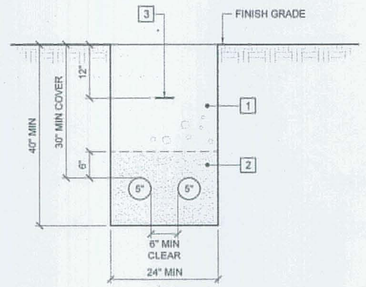

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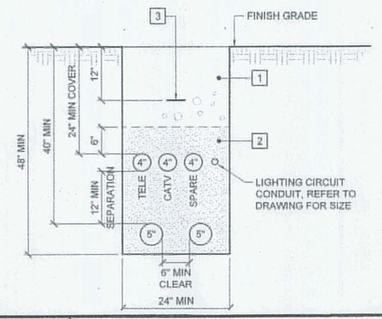

F6 TRENCH DETAIL
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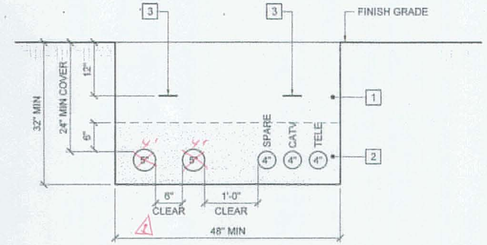


F8 TRENCH DETAIL
NO SCALE

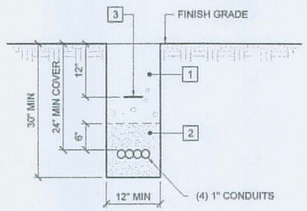
1 CLEAN BACKFILL CONTAINING NO ROCKS LARGER THAN 4" DIA. AND NO ROOTS, STUMPS OR OTHER DEBRIS

2 BEDDING OF SOIL CONTAINING NO ROCKS, ROOTS, STUMPS OR OTHER DEBRIS

3 PLASTIC "ELECTRIC" MARKER TAPE

NOTE: PROVIDE PULL STRING/ROPE IN ALL SPARE/EMPTY CONDUITS

D1 TRENCH DETAIL KEY NOTES
NO SCALE



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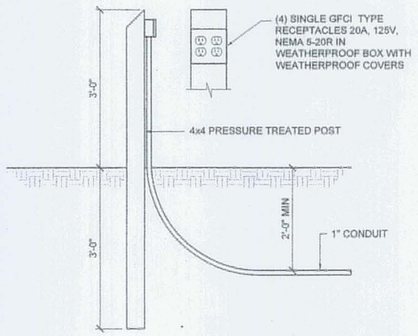
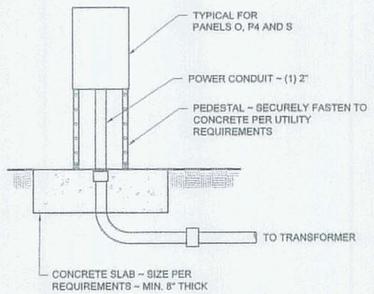
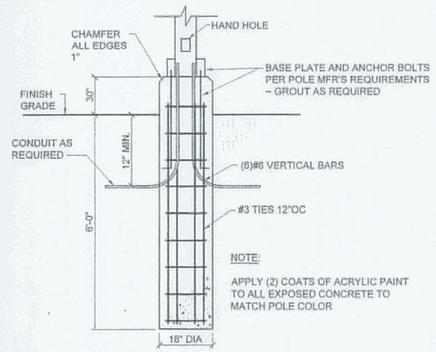


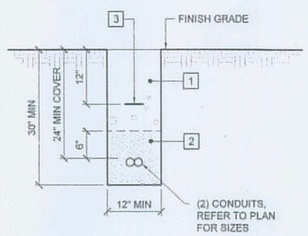
D4 BUS HEATER PEDESTAL
NO SCALE



D6 EXTERIOR PANEL DETAIL
NO SCALE



D8 POLE BASE DETAIL
NO SCALE



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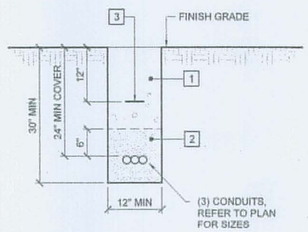
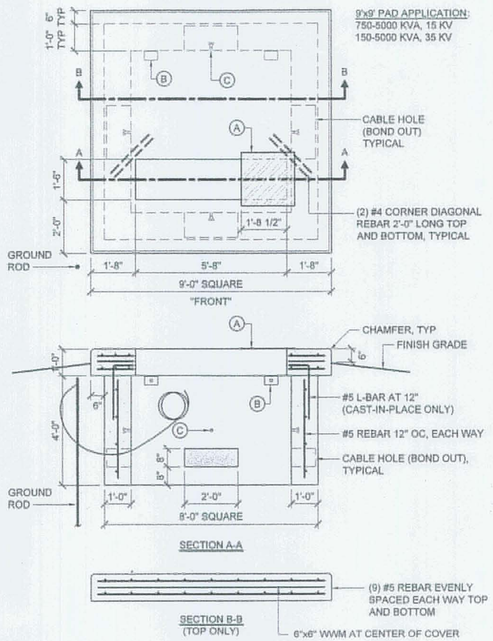


A2 TRENCH DETAIL
NO SCALE



(A) 16"x24"x1/4" GALVANIZED STEEL PLATE. MID#6000621790

(B) 4"x4"x1/2"x6" LONG ANGLE WITH (2) 3/4" DIAMETER EXPANSION ANCHORS, TYPICAL 4 PLACES (2-PIECE PRECAST ONLY)

(C) PULLING EYE INSERT, FOR USE WITH 3/4" NATIONAL COARSE THREAD EYE BOLT (RICHMOND LCB-1 OR EQUAL). LOCATE OPPOSITE EACH CABLE HOLE AND 24" FROM THE BOTTOM.

1. "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED. THE CONCRETE BASE SHALL BE SET ON A SUITABLE GRAVEL BASE AND LOCATED SO THAT THE "FRONT" IS ACCESSIBLE BY TRUCK AND SUITABLY PROTECTED FROM PLOW AND TRAFFIC DAMAGE.
2. GRADE SHALL BE FINISHED IN SUCH A MANNER TO ALLOW SURFACE WATER TO FLOW AWAY FROM THE PAD.
3. PROVIDE 8"x24" CABLE HOLES (BOND OUTS) 8" UP THE WALL FROM THE BASE. LOCATE ONE CABLE HOLE PER WALL, MORE IF NECESSARY. LINE UP CABLE HOLES WITH TRENCH.
4. CONDUITS ENTERING THE CONCRETE STRUCTURE SHALL BE SET BACK FROM THE INSIDE WALL 1 TO 2 INCHES AND THE SPACE WITHIN THE KNOCKOUT SURROUNDING THE CONDUITS COMPLETELY FILLED WITH MORTAR TO PREVENT SOIL FROM ENTERING STRUCTURE. INSIDE THE STRUCTURE THE MOTOR SHALL BE FINISHED AND BEVELED FROM THE CONDUIT ENDS TO THE INSIDE WALL FACE TO COVER AND SMOOTH THE EDGES OF THE KNOCKOUTS.
5. A 3/4" x 8' GALVANIZED GROUND ROD SHALL BE INSTALLED 6" IN FRONT OF THE LEFT "FRONT" CORNER OF THE FOUNDATION. THE TOP OF THE GROUND ROD SHALL BE 6" BELOW FINISH GRADE.
6. A GROUND WIRE SHALL BE INSTALLED FROM THE GROUND ROD THROUGH THE CABLE HOLE AT THE BOTTOM OF THE PAD. PROVIDE 20' OF GROUND WIRE.
7. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS. FOR CAST-IN-PLACE EARLY HIGH STRENGTH MAY BE USED WITH A MINIMUM OF 7 DAY CURE TIME.
8. REINFORCING STEEL SHALL HAVE: FY = 60 KSI
9. FOR PRECAST UNITS: THE PRECAST SUPPLIER SHALL PROVIDE LIFTING LUGS IN THE SLAB (FOUNDATION) AND THE BASE. THE PRECAST SUPPLIER SHALL ASSEMBLE THE SLAB TO THE BASE PRIOR TO SHIPPING TO THE SITE TO ENSURE THAT THE SLAB AND BASE FIT PROPERLY WITH NO ROCKING OF THE SLAB EVIDENT.
10. CONCRETE COVER:
    2" MIN OVER TOP REBAR
    3" MIN OVER BOTTOM REBAR
    1" MIN ALL REBAR ENDS

A4 - Additional

Provide a pedestal mounted kWh/demand meter, E-Mon D-Mon Class 5000 or approved equal in outdoor enclosure and complete with current transformers sized for 100 amps to monitor Panel S. Provide a stainless steel unistrut rack located adjacent to the utility meter pedestal to support the meter. Install the current transformers in a weatherproof junction box sized per NEC and mounted to the unistrut rack below the meter.

A4 TRANSFORMER PAD DETAIL
NO SCALE

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: 207.771.2260
F: 207.771.7266
Web: www.allied-eng.com

Allied Project No: 07010 | Cad File: 07010ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:
PIN NO: 16123.50

MAINE CATHERINE A. FAUCHER No. 7971 PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER
01 MAY, 2009
DATE

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MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL DETAILS

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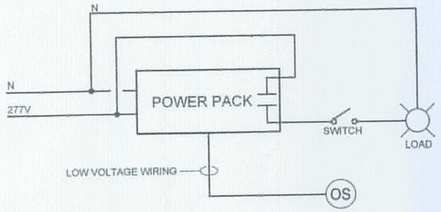
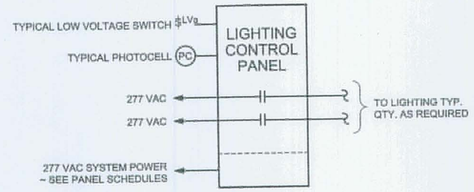


F1	TYPICAL OCCUPANCY SENSOR WIRING DIAGRAM
NO SCALE	



LIGHTING CONTROL SYSTEM NOTES

1. RISER DIAGRAM SHOWS TYPICAL CONNECTIONS ONLY. REFER TO FLOOR PLANS FOR QUANTITY OF SWITCHES, CONTROL PANELS, RELAYS, ETC.
2. EXCEPT AS OTHERWISE INDICATED OR NOTED, LIGHTING SHALL BE TURNED ON MANUALLY BY INDICATED SWITCHING. THE LIGHTING CONTROL SYSTEM SHALL PERFORM AN OFF SWEEP AT A TIME DETERMINED BY THE OWNER. SYSTEM SHALL INCLUDE A BLINK WARNING FEATURE TO ALERT BUILDING OCCUPANTS OF IMPENDING OFF SWEEP AND ALLOW OVERRIDE USING INDIVIDUAL SWITCHES.
3. EXTERIOR LIGHTING SHALL BE CONTROLLED BY AN ASTRONOMICAL TIME CLOCK THAT IS AN INTEGRAL PART OF THE LIGHTING CONTROL PANEL.

E3	LIGHTING CONTROL WIRING DIAGRAM
NO SCALE	

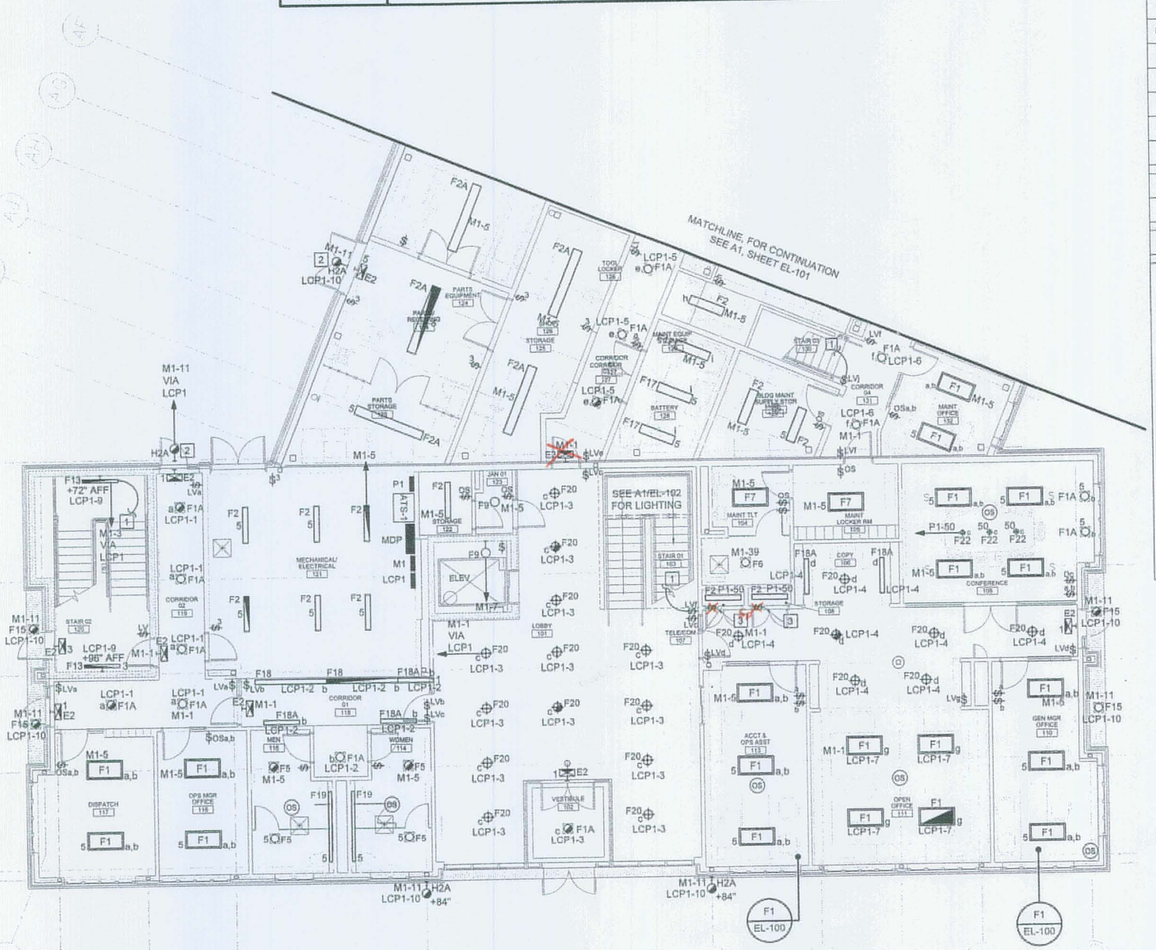
See Owners Manual for actual fixtures supplied

LUMINAIRE SCHEDULE

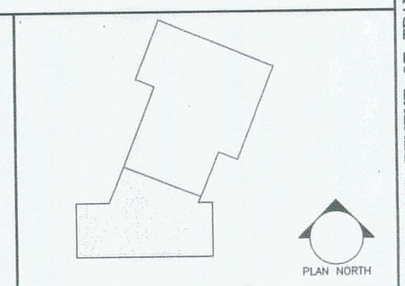
TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBERS - SEE NOTE 1	MOUNTING	VOLTS	LAMP QTY	LAMP TOTAL WATTS	LAMP TYPE	KEY NOTES
F1	2x4 VOLUMETRIC	LITHONIA	2RT5-28T5-GEB995-MVOLT-LPM835P	RECESSED	277	2	66	F28T5 35K	
F1A	VOLUMETRIC DOWNLIGHT	LITHONIA	RTSD-1/32TRT	RECESSED	277	1	36	CF32W TRT 35K	
F2	4' STANDARD INDUSTRIAL	LITHONIA	LA-2-32-MVOLT-GEB10IS-WGL-HC36	SURFACE	277	2	62	F32W T8 35K	2, 4
F2A	8' STANDARD INDUSTRIAL	LITHONIA	TLA-2-32-MVOLT-GEB10IS-WGL-HC36	SURFACE	277	4	114	F32W T8 35K	2, 4
F4	FLUORESCENT HIGH BAY	SPEC LIGHT	FH94-3-54TSHO-N1-X12U-BAF1-MVOLT-GEB10PS-AL-WRP-MHTB310	CABLE	277	3	183	F54W TSHO 35K	5, 19
F5	6" DOWNLIGHT, IC-RATED	LITON	HOUSING #LFH-132IC-E27 TRIM #LR661-W	RECESSED	277	1	36	CF32W TRT 35K	
F6	6" SHOWER LIGHT, IC RATED WET LOCATION	INTENSE LIGHTING	HOUSING #F-32-1IC-E TRIM #IC612C	RECESSED	277	1	36	CF32W TRT 35K	
F7	2x4' ACRYLIC TROFFER	LITHONIA	2GT8-3-32-A12-MVOLT-1/3GEB10PS	RECESSED	277	3	95	F32W T8 35K	2, 4, 21
F7A	1'x4' ACRYLIC TROFFER	LITHONIA	GT8-2-32-A12-MVOLT-1/2GEB10PS	RECESSED	277	2	62	F32W T8 35K	2, 4, 21
F9	4 HEAD LARGE DECO PENDANT W/DIMMING BALLAST VAS STYLE ~ WOOD FINISH	INSIGHT	CUSTOM VASFIXTURE ~ VAS-T44-1-277V-CC-CL	PENDANT	277	4	188	CF42W TRT 35K	6, 7, 11
F9	ELEVATOR PIT LIGHT WITH GLASS GLOBE	CANLET	68-01-FCF-FWF-22-OG-01	WALL/CEILING	277	1	26	CF26W TRT	
F10	LED UNDERCABINET LIGHT	AMERICAN FLUOR	DDU28LED	UNDERCABINET	120	28	5	LED	
F13	COMMERCIAL WALL BRACKET	LITHONIA	WC-2-32-MVOLT-GEB10IS	WALL	277	2	62	F32W T8 35K	4
F14	COMPACT FLUORESCENT UPLIGHT	INSIGHT	VCMS74-WCB-2-CC-PP	WALL 72" AFF	277	1	48	CF42W TRT 35K	5, 6
F15	8" FLUORESCENT WET LOCATION CAN	GOTHAM	LGF-2-42TRT-8RW-T73-MVOLT	RECESSED	277	2	94	CF42W TRT 35K	
F16	4' LINEAR WET LOCATION HIGH ABUSE	KENALL	MLHA12-48-R-LG-PP-4-28-PB5-1-UNV-NAT	PENDANT	277	4	132	F28T8 35K	
F16A	8' LINEAR WET LOCATION HIGH ABUSE	KENALL	MLHA12-96-R-LG-PP-3-28-PB5-1-UNV-NAT	PENDANT	277	6	168	F28T5 35K	
F17	LINEAR FLUORESCENT LISTED FOR DIVISION 1, CLASS 1	RIG-A-LITE	XP265-4-2L-U	SURFACE/PENDANT	277	2	62	F32W T8 35K	4
F18	8' RECESSED LINEAR WALLWASHER	PINNACLE	EW-1T5-8XX-NF-UNV-CC	RECESSED	277	2	66	F28T5 35K	6, 17, 20
F18A	4' RECESSED LINEAR WALLWASHER	PINNACLE	EW-1T5-4XX-NF-UNV-CC	RECESSED	277	1	33	F28T5 35K	6, 17, 20
F19	LINEAR FLUORESCENT COVE LIGHT	PRIMUS LIGHTING	ALX8-T5T-28W-277-A53-W-XX	COVE	277	2	68	F28T5 35K	20
F20	12" DIAMETER PENDANT W/ACRYLLIC LENS	FOCAL POINT	FGR-G-W-1-42TT-S-277-C144-L835-NA	PENDANT	277	1	48	CF42W TRT 35K	18
F21	6" DOWNLIGHT WITH SLOPED CEILING ADAPTER W/DIMMING BALLAST	GOTHAM	AF-1/42TRT-6AR-277-DMNL-SCA5-XX	RECESSED	277	1	48	CF42W TRT 35K	8,12
F22	DUAL GLASS LOW VOLTAGE PENDANT	MP LIGHTING	P32-C1-RG-7-M-BN	PENDANT 72" AFF UNO	120	1	50	50W MR-16	13,14, 15
TL	TABLE LAMP	FINELITE	6W DESK LAMP/WB-4-S/PS-9W	TABLE LAMP	120	1	6	LEDS	3, 18
H2	HID WALL PACK	LITHONIA	WSQ-150M-FT-277-SCWA	TBD	277	1	187	150W MH	9
H2A	CF WALL PACK	LITHONIA	WSQ-42TRT-MD-277-2ELED	TBD	277	1	48	CF42W TRT 35K	9
E2	LED SELF POWERED EXIT SIGN	LITHONIA	LQM S W 3 R 120/277 EL N	SEE DRAWINGS	277	–	–	LED	

NOTES:

1 NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG #'S. PROVIDE ALL REQUIREMENTS ON SCHEDULE,NOTES, SPECS, AND DRAWINGS COMBINED.
2 PROVIDE PROGRAMMED START BALLAST FOR ROOMS WITH OCCUPANCY SENSORS.
3 SCHEDULED DATA REPRESENTS BASIS OF DESIGN LUMINAIRE. LUMINAIRE SHALL BE FURNISHED BY THE OWNER.
4 PROVIDE "SUPER T8" LAMPS AND MATCHING BALLASTS; BASIS OF DESIGN BASED ON SYLVANIA PROSTART PSX PROGRAMMED RAPID START BALLAST (.71 BALLAST FACTOR) AND MATCHING OCTRON XPS LAMPS.
5 VERIFY MOUTING HEIGHT AND STRUCTURE WITH ARCHITECT PRIOR TO ORDERING ANY LIGHTING FIXTURES.
6 VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING LIGHT FIXTURE.
7 PROVIDE A SLOPED CEILING ADAPTER
8 PROVIDE DIMMING BALLAST WITH FIXTURE WHERE REQUIRED.
9 VERIFY MOUTING HEIGHT PRIOR TO FINAL ROUGH-IN.
10 PROVIDE PHOTOCELL ON FIXTURE
11 PROVIDE INTEGRAL EMERGENCY BATTERY BACK UP FOR 2 LAMPS.
12 PRIOR TO ORDERING SLOPED CEILING ADAPTER VERIFY SLOPE WITH ARCHITECT;
13 PROVIDE 8' OF FIELD ADJUSTABLE CORD; VERIFY MOUNTING HEIGHT W/ARCHITECT PRIOR TO FINAL ROUGH-IN.
14 PROVIDE LOW VOLTAGE TRANSFORMER.
15 PROVIDE AN USHIO 18,000 HOUR ULTRA TITAN 36 DEGREE FLOOD LAMP.
16 MOUNT LIGHT FIXTURE 2" ABOVE THE METAL GRID UNLESS NOTED OTHERWISE.
17 MOUNT FIXTURE FLUSH WITH BOTTOM OF METAL GRID
18 WIRE FIXTURE THRU UNDERCOUNTER OCCUPANCY SENSOR WATTSTOPPER ISOLE #CP-3050
19 MOUNT FIXTURE SO BOTTOM OF FIXTURE IS EVEN WITH BOTTOM OF TRUSS.
20 REFER TO DRAWINGS FOR TOTAL LENGTHS OF LIGHT FIXTURES PRIOR TO ORDERING FIXTURES.
21 PROVIDE PLASTER FRAME FOR GYP CEILINGS WHERE REQUIRED.
22 ALL MOUNTING HEIGHTS ARE TO BOTTOM OF FIXTURE.



1 UP TO SECOND FLOOR LIGHTS; SEE A1/EL-102.
2 MOUNT LIGHT FIXTURE 6" ABOVE THE DOOR.
3 DOOR SWITCH; LEVITON #1865 OR APPROVED EQUAL.



A9	KEY PLAN
NOT TO SCALE	

A7	SHEET WORK NOTES
NO SCALE	

A1	LIGHTING PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"	

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: 207.774.3260
F: 207.774.3266
Web: www.allied-eng.com

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:
PIN NO: 16123.50

STATE OF MAINE · CATHERINE A. FAUCHER · No. 7873 · PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER
01 MAY, 2009

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MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTING PART PLAN ~ FIRST FLOOR

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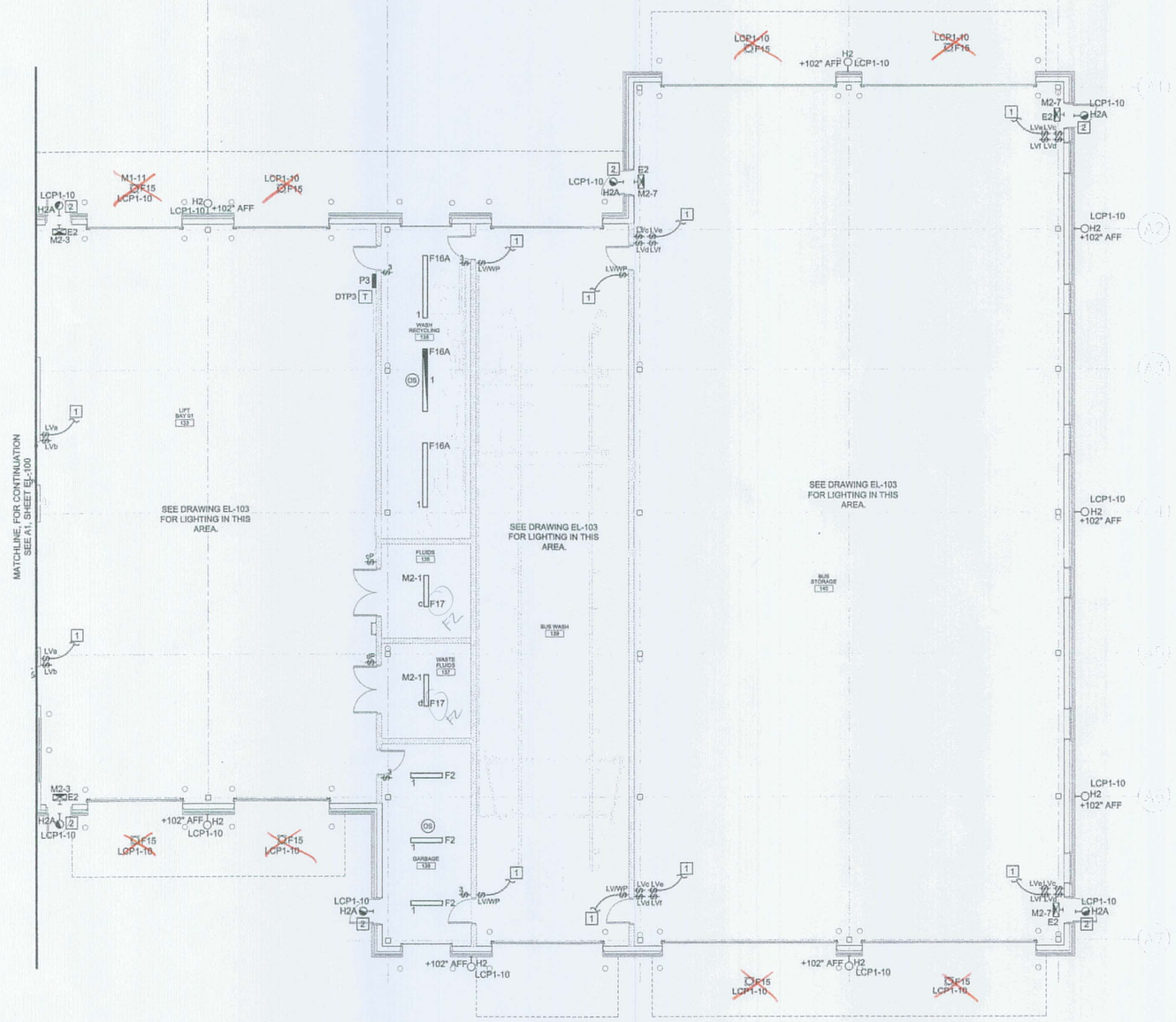


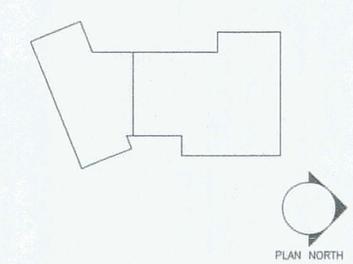
LIGHTING CONTROL PANEL SCHEDULE ~ LCP1			
PROVIDE NETWORK CLOCK/PROGRAMMER WITHIN THIS PANEL			
DESIGNATION: M1-25		MOUNTING: SURFACE	
CONTROL VOLTAGE: 277/480		LOCATION: MECH ROOM 118	
		PROJECT: ACADIA BUS FACILITY	
RELAY NO	CIRCUIT	NOTE	DESCRIPTION
1	M1-1	2	HALLWAY LIGHTING 119
2	M1-1	2	CORRIDOR LIGHTS 118
3	M1-1	2	LOBBY LIGHTING
4	M1-1	2	HALLWAY LIGHTING Copy Room +
5	M1-1	2	CORRIDOR LIGHTS 127
6	M1-1	2	CORRIDOR LIGHTS 131
7	M1-1	2	OPEN OFFICE
8	M1-9	1	FUEL ISLAND LIGHTING
9	M1-3	2	STAIRWELL 120
10	M1-11	1	EXTERIOR LIGHTING
11	M1-13,15	1,4	SITE LIGHTING
12	M1-13,15	1,4	SITE LIGHTING
13	M1-17,19	1,4	SITE LIGHTING
14	M1-17,19	1,4	SITE LIGHTING
15	M1-21,23	1,4	SITE LIGHTING
16	M1-21,23	1,4	SITE LIGHTING
17			SPARE
18			SPARE
19			SPARE
20			SPARE
21			SPARE
22			SPARE
23			SPARE
24			SPARE

NOTES:
1 PROGRAM FOR AUTO ON/AUTO OFF CONTROL VIA ASTRONOMICAL CLOCK
2 PROGRAM FOR MANUAL-ON/TIME-OFF.
3 PROVIDE PHOTOCELL FOR AUTOMATIC ON/OFF OPERATION
4 PROVIDE A 2 POLE CONTACTOR

LIGHTING CONTROL PANEL SCHEDULE ~ LCP2			
NETWORK PANEL TO LCP1			
DESIGNATION: M2-39		MOUNTING: SURFACE	
CONTROL VOLTAGE: 277/480		LOCATION: STORAGE ROOM 212	
		PROJECT: ACADIA BUS FACILITY	
RELAY NO	CIRCUIT	NOTE	DESCRIPTION
1	M2-3	2, 3	LIFT BAY LIGHTING
2	M2-3	2, 3	LIFT BAY LIGHTING
3	M2-5	2, 3	BUS STORAGE LIGHTING
4	M2-5	2, 3	BUS STORAGE LIGHTING
5	M2-7	2, 3	BUS STORAGE LIGHTING
6	M2-7	2, 3	BUS STORAGE LIGHTING
7	M2-9	2	SECOND STORY LIGHTING
8	M2-9	2	SECOND STORY LIGHTING
9	M2-13	2	BUS WASH LIGHTING
10	M2-11	2	MEZZANINE STORAGE (STORAGE)
11	M2-23	2	COMPRESSOR AND STORAGE 212,212A
12			SPARE
13			SPARE
14			SPARE
15			SPARE
16			SPARE
17	P2-9	2	BREAK ROOM 120V LIGHTING
18			SPARE
19			SPARE
20			SPARE
21			SPARE
22			SPARE
23			SPARE
24			SPARE

NOTES:
1 PROGRAM FOR AUTO ON/AUTO OFF CONTROL VIA ASTRONOMICAL CLOCK.
2 PROGRAM FOR MANUAL-ON/TIME-OFF.
3 PROGRAM FOR AUTO OFF VIA PHOTOCELL FORCING LIGHT FIXTURES TO TURN 1/2 LAMPS OFF WHEN THERE IS ADEQUATE DAYLIGHT.

1 UP TO SECOND FLOOR LIGHTS; SEE DRAWING A1/EL-103.
2 MOUNT LIGHT FIXTURE 6" ABOVE THE DOOR.



A9 KEY PLAN
NOT TO SCALE

A1 LIGHTING PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"

A7 SHEET WORK NOTES
NO SCALE

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: 207 774 2460
F: 207 774 2465
Web: www.alliedeng.com

Allied Project No: 07010
Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:
PIN NO: 16123.50

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7871
LICENSED
PROFESSIONAL ENGINEER

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WPF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

SIGNATURE
P.E. NUMBER
01 MAY, 2009
DATE

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTING PART PLAN ~ FIRST FLOOR

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SHEET NUMBER
EL-101
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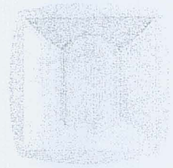
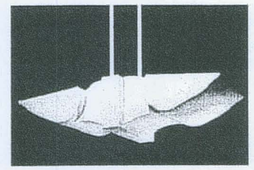
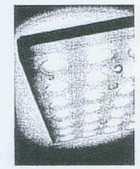
G1	TYPE F1
NO SCALE	



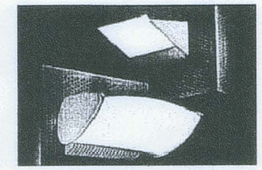
G2	TYPE F1A
NO SCALE	



G4	TYPE F8
NO SCALE	



G5	TYPE F10
NO SCALE	

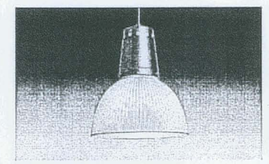


G6	TYPE F14
NO SCALE	

G8	TYPE F16 & F16A
NO SCALE	

G10	TYPE F17
NO SCALE	

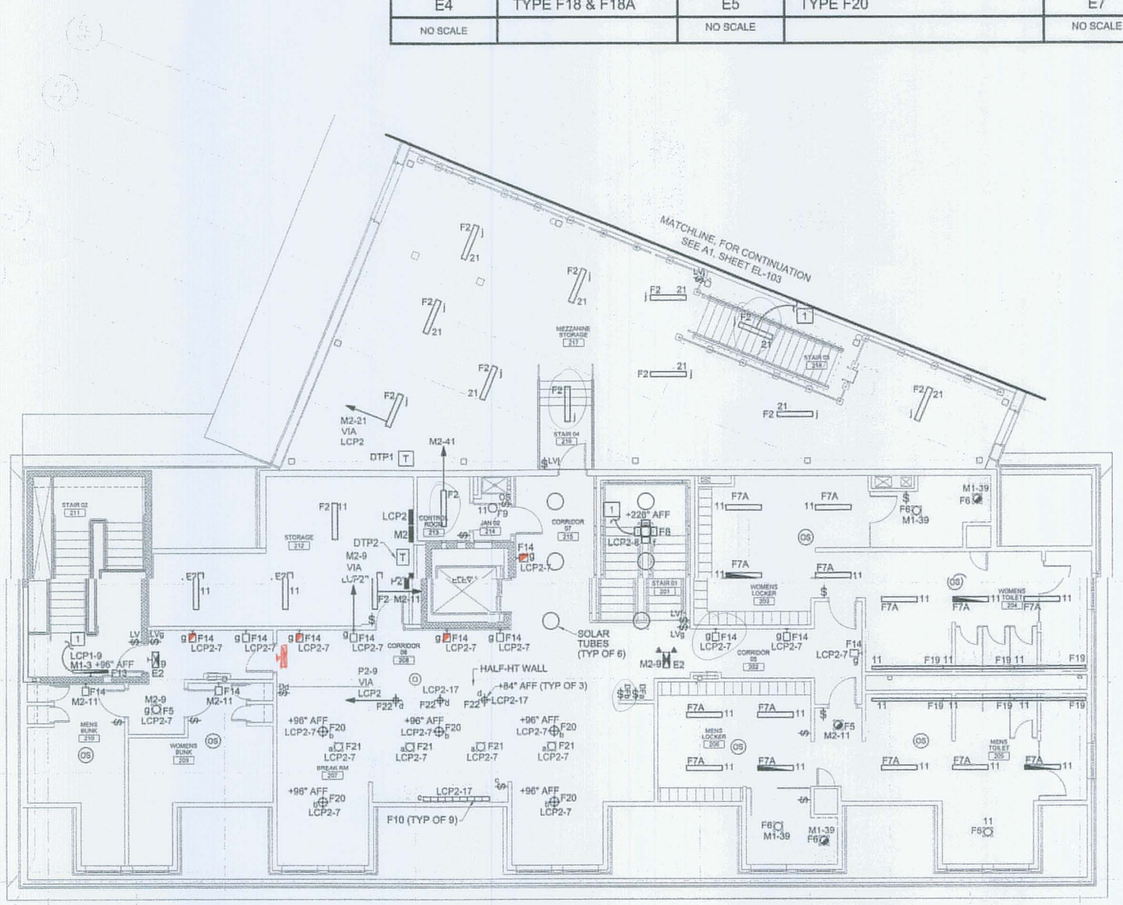
E4	TYPE F18 & F18A
NO SCALE	



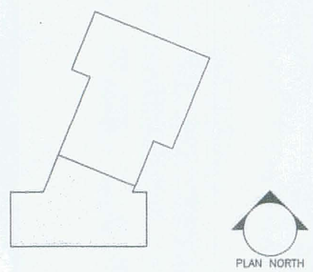
E5	TYPE F20
NO SCALE	

E7	TYPE F22
NO SCALE	

E8	TYPE H2 & H2A
NO SCALE	



1 DOWN TO FIRST FLOOR LIGHT SWITCH; SEE DRAWING A1/EL-100.



A9	KEY PLAN
NOT TO SCALE	

A1	LIGHTING PART PLAN ~ SECOND FLOOR
1/8" = 1'-0"	

A7	SHEET WORK NOTES
NO SCALE	

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible] allied eng.com

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7901
LICENSED
PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTING PART PLAN
SECOND FLOOR

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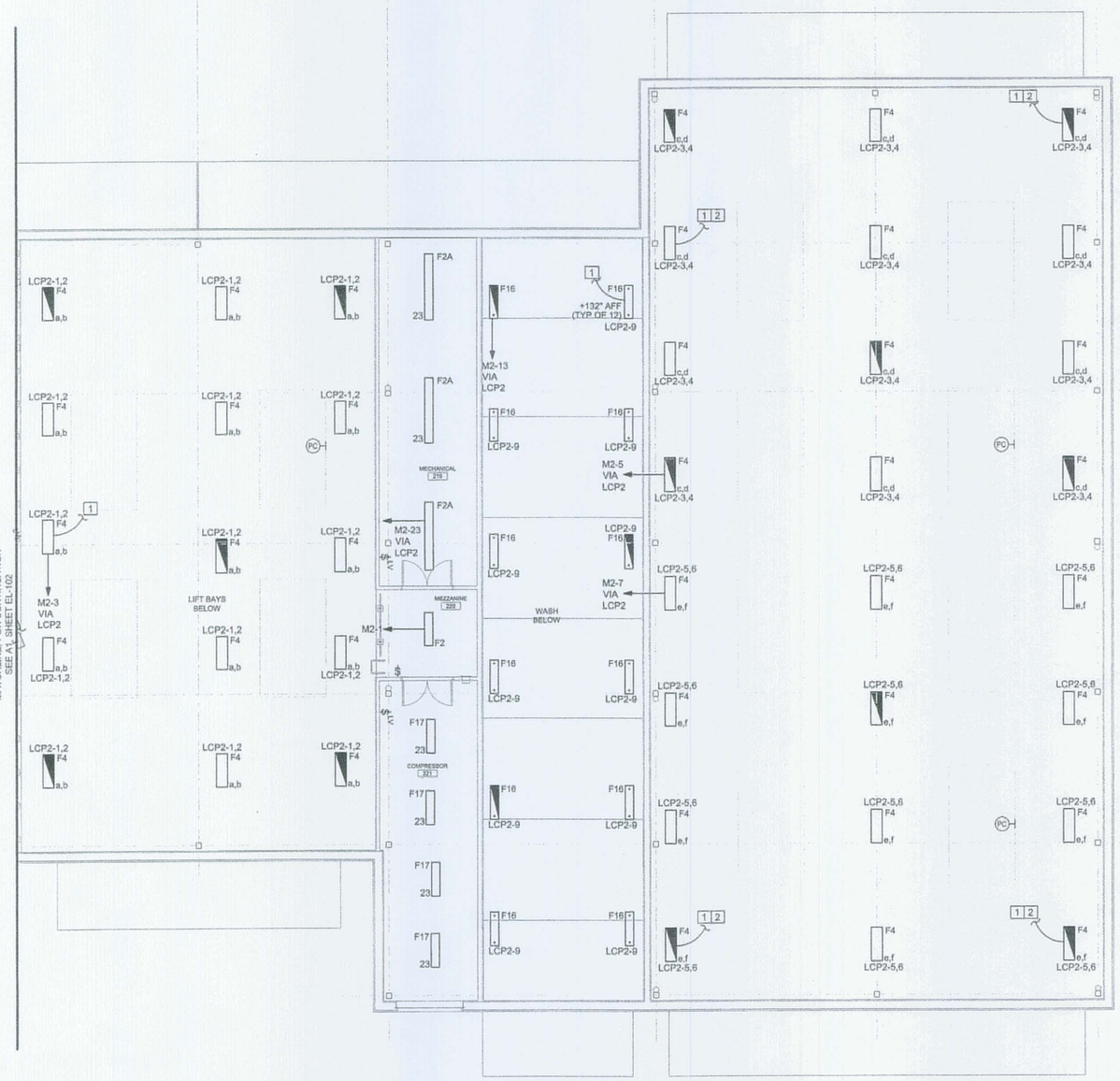
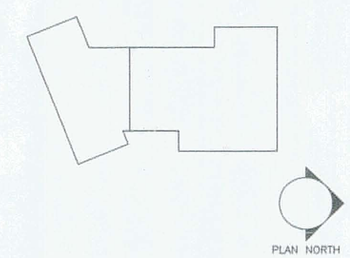


1 DOWN TO FIRST FLOOR LIGHT SWITCH; SEE DRAWING A1/EL-101.
2 DOWN TO FIRST FLOOR EXIT SIGN; SEE DRAWING A1/EL-101.
3 DOWN TO FIRST FLOOR LIGHTS; SEE DRAWING A1/EL-101.



A9	KEY PLAN
NOT TO SCALE	

A1	LIGHTING PART PLAN ~ SECOND FLOOR
1/8" = 1'-0"	

A7	SHEET WORK NOTES
NO SCALE	

Allied Engineering
Structural Mechanical Electrical Civil Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
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PIN NO: 16123.50	

STATE OF MAINE — CATHERINE A. FAUCHER No. 7873 — PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WPF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTING PART PLAN
SECOND FLOOR

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PANEL SCHEDULE ~ O PROVIDE WITH NEMA 3R ENCLOSURE

VOLTAGE: 120/208V | MLO: 100A | MOUNTING: PEDESTAL
3 PHASE, 4 WIRE | LOCATION: BUS LOT
AIC: 10K | PROJECT: ACADIA BUS BLDG

CIRCUIT BREAKER CKT NO	BRKR SIZE	NO OF POLE	PH	CIRCUIT LOAD (KVA) A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A				SPARE
3	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
5	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
7	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
9	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
11	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
13	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
15	20	1	B				SPARE
17	20	1	C				SPARE
SUBTOTAL:				0.72	0.72	0.72	
2	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
4	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
6	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
8	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
10	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
12	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
14	20	1	A				SPARE
16	20	1	B				SPARE
18	20	1	C				SPARE
SUBTOTAL:				0.72	0.72	0.72	

PANEL SCHEDULE ~ P4 PROVIDE WITH NEMA 3R ENCLOSURE

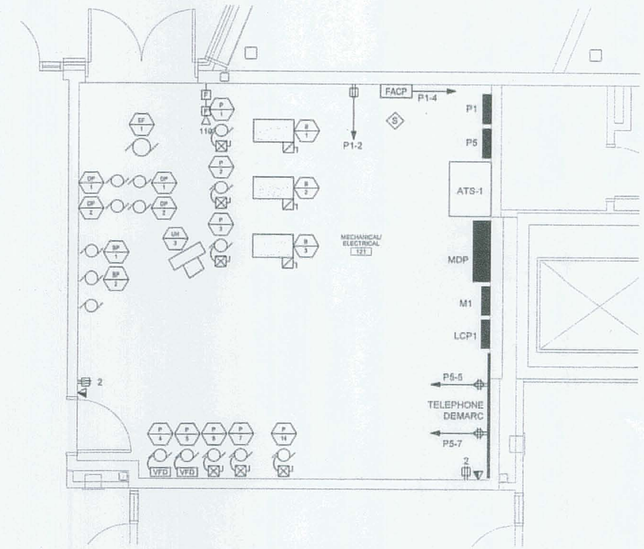
VOLTAGE: 120/208V | MLO: | MOUNTING: PEDESTAL
3 PHASE, 4 WIRE | MCB: 60A | LOCATION: COMMUTER PARKING LOT
AIC: 10K | PROJECT: ACADIA BUS BLDG

CIRCUIT BREAKER CKT NO	BRKR SIZE	NO OF POLE	PH	CIRCUIT LOAD (KVA) A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	0.18			COMMUTER LOT RECEPTACLE
3	20	1	B		0.10		BUS SHELTER INFORMATION SIGN
5	20	1	C				
7	20	1	A				
9	20	1	B				
11	20	1	C				
13	20	1	A				
15	20	1	B				
17	20	1	C				
SUBTOTAL:				0.18	0.10	0.00	
2	20	1	A				
4	20	1	B				
6	20	1	C				
8	20	1	A				
10	20	1	B				
12	20	1	C				
14	20	1	A				
16	20	1	B				
18	20	1	C				
54	20	1	C				SPARE
SUBTOTAL:				0.00	0.00	0.00	

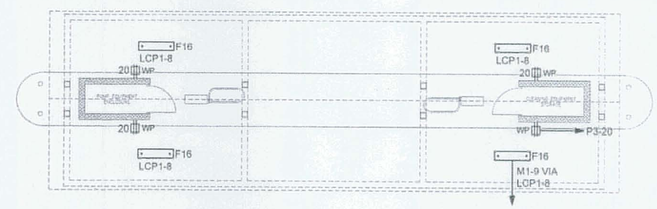
PANEL SCHEDULE ~ S PROVIDE WITH NEMA 3R ENCLOSURE

VOLTAGE: 277/480V | MLO: | MOUNTING: PEDESTAL
3 PHASE, 4 WIRE | MCB: 100A | LOCATION: COMMUTER PARKING LOT
AIC: 10K | PROJECT: ACADIA BUS BLDG

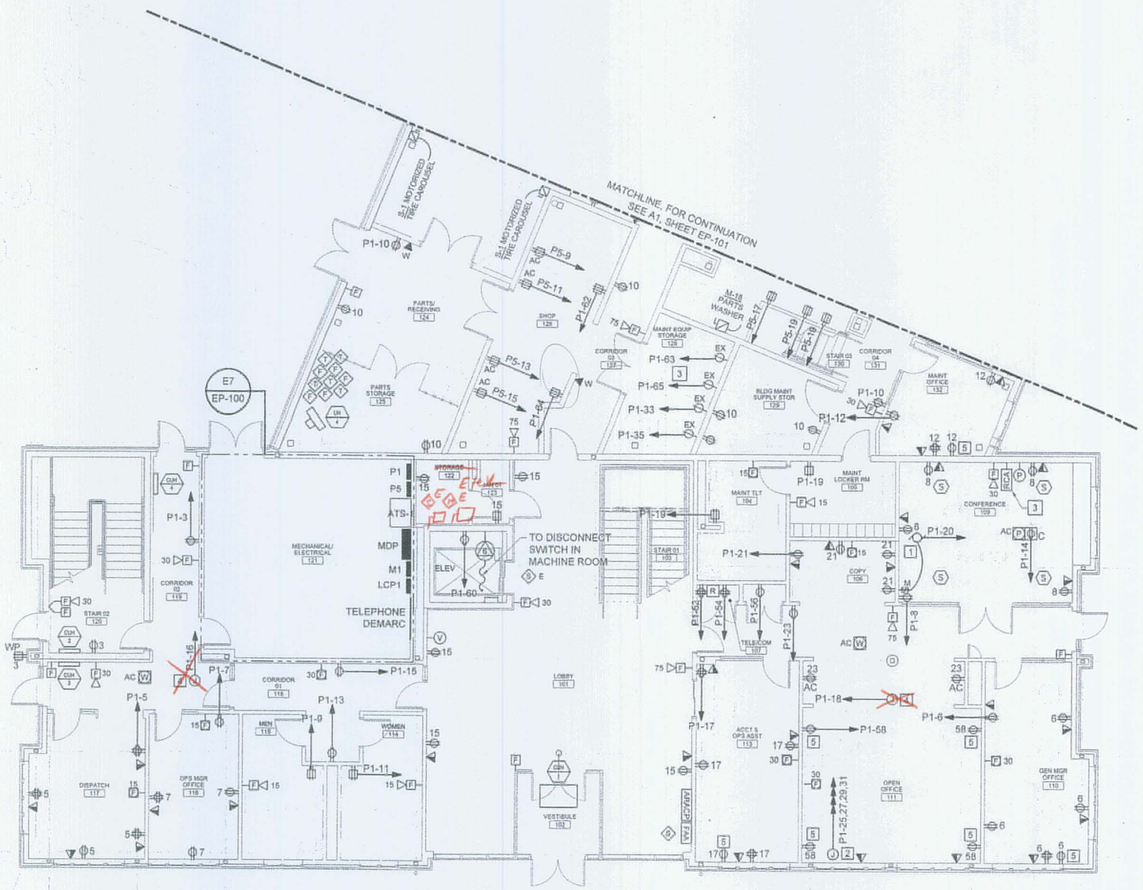
CIRCUIT BREAKER CKT NO	BRKR SIZE	NO OF POLE	PH	CIRCUIT LOAD (KVA) A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	2	A	1.09			ROADWAY LIGHTING
3			B		1.09		
5	20	2	C			2.80	ROADWAY LIGHTING
7			A	2.80			
9	20	2	B		2.34		PARKING LOT LIGHTING
11			C			2.34	
13	20	1	A	0.32			BUS SHELTER LIGHTING
15	20	1	B				SPARE
17	20	1	C				SPARE
SUBTOTAL:				4.21	3.43	5.14	
2	30	3	A	0.18			PANEL P4 VIA XFMR DTP4
4			B		0.10		
6			C			0.00	
8	20	1	A				SPARE
10	20	1	B				SPARE
12	20	1	C				SPARE
14	20	1	A				SPARE
16	20	1	B				SPARE
18	20	1	C				SPARE
SUBTOTAL:				0.18	0.10	0.00	



E7 | ENLARGED MECHANICAL/ELECTRICAL 118 PLAN
1/4" = 1'-0"

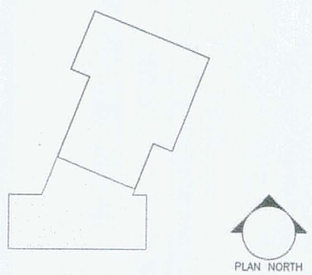


F1 | PROPANE FUEL CENTER ~ POWER AND LIGHTING
1/8" = 1'-0"



1. PROVIDE A 120V CONNECTION TO ROLL-UP SCREEN. VERIFY LOCATION PRIOR TO FINAL ROUGH-IN. PROVIDE A UP/DOWN MOTOR RATED SWITCH
2. JUNCTION BOX FOR SYSTEMS FURNITURE; VERIFY TYPE AND LOCATION PRIOR TO FINAL ROUGH-IN.
3. WIRE SPEAKERS TO RCA JACK, MOUNT JACK 18" AFF
4. PROVIDE A JUNCTION BOX ABOVE THE CEILING FOR MECHANICAL CONNECTIONS FOR VAV BOXES.
5. RECEPTACLE FOR TABLE LAMP.
6. WIRING IN THIS ROOM SHALL BE SUITABLE FOR CLASS I, DIVISION 2 HAZARDOUS LOCATIONS

A7 | SHEET WORK NOTES
NO SCALE



A9 | KEY PLAN
NOT TO SCALE

A1 | POWER AND SYSTEMS PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"

Allied Engineering
Division of Mechanical Electrical Consultants, Inc.
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:
PIN NO: 16123.50

STATE OF MAINE
CATHERINE L. FAUCHER
No. 7751
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER
01 MAY, 2009
DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN ~ FIRST FLOOR

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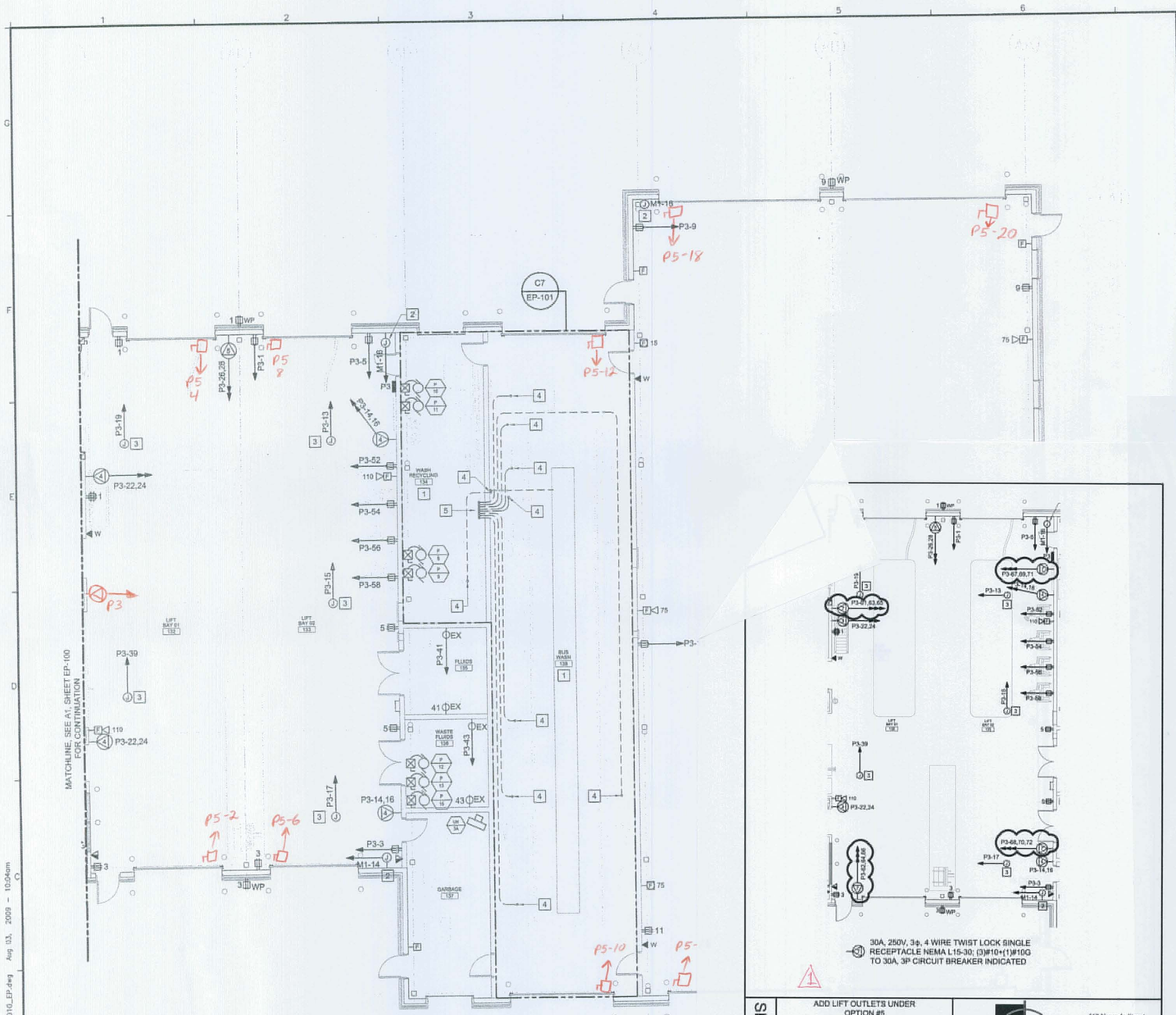
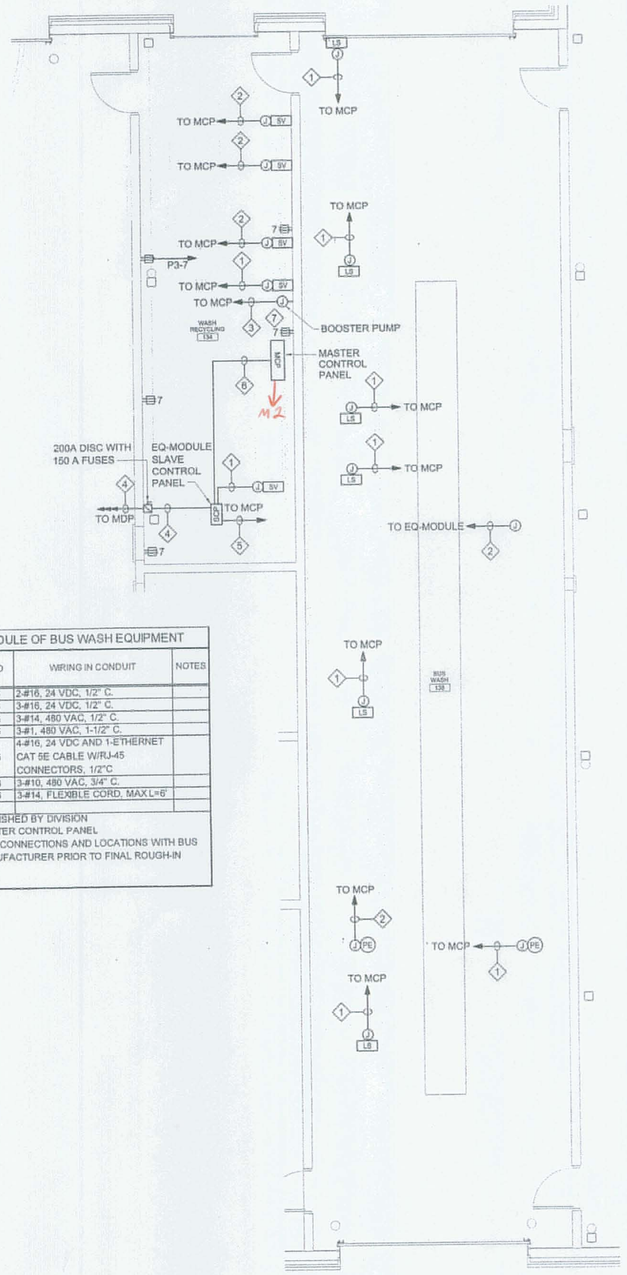


(31) 30A, 250V, 3ϕ, 4 WIRE TWIST LOCK SINGLE RECEPTACLE NEMA L15-30; (3)#10+(1)#10G TO 30A, 3P CIRCUIT BREAKER INDICATED

1

SKE-01	ADD LIFT OUTLETS UNDER OPTION #5	
	MDOT ACADIA GATEWAY FACILITY BUS MAINTENANCE FACILITY	
	Scale: 3/32"=1'-0"	Project No: 07010
	Date: 10-07-2009	CAD File: 07010_EP.DWG

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com



SCHEDULE OF BUS WASH EQUIPMENT			
TAG	FBD	WIRING IN CONDUIT	NOTES
1	26	2-#16, 24 VDC, 1/2" C.	
2	26	3-#16, 24 VDC, 1/2" C.	
3	26	3-#14, 480 VAC, 1/2" C.	
4	26	3-#1, 480 VAC, 1-1/2" C.	
5	26	4-#16, 24 VDC AND 1-ETHERNET CAT 5E CABLE W/RJ-45 CONNECTORS, 1/2"C	
6	26	3-#10, 480 VAC, 3/4" C.	
7	26	3-#14, FLEXIBLE CORD, MAX L=6'	

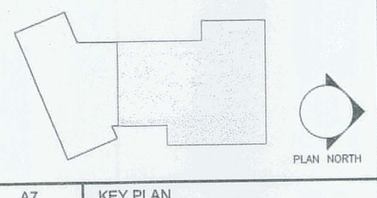
FBD = FURNISHED BY DIVISION
MCP = MASTER CONTROL PANEL
VERIFY ALL CONNECTIONS AND LOCATIONS WITH BUS WASH MANUFACTURER PRIOR TO FINAL ROUGH-IN

B1 POWER AND SYSTEMS PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"

B7 ENLARGED BUS WASH AND WASH RECYCLING ROOM PLAN
3/16" = 1'-0"

1. ELECTRICAL EQUIPMENT IN THIS ROOM SHALL BE NEMA 4X
2. PROVIDE A 277V CONNECTION FOR HEAT TRACE. COORDINATE JUNCTION BOX LOCATION WITH DIVISION 23.
3. PROVIDE A JUNCTION BOX FOR OWNER PROVIDED COMBO REEL AIR HOSE/DROP LIGHT
4. 1/2" CONDUIT, STUB 6" ABOVE FLOOR – VERIFY LOCATIONS WITH BUS WASH SUPPLIER BEFORE ROUGHING IN
5. CONDUITS STUB UP 6" AFF, DIRECTLY UNDER MASTER CONTROL PANEL – VERIFY LOCATIONS WITH BUS WASH SUPPLIER BEFORE ROUGHING IN

A1 KEY NOTES
NO SCALE



A7 KEY PLAN
NOT TO SCALE

Allied Engineering
Structural Mechanical Electrical Commissioning
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

MAINE STATE SEAL — CATHERINE A. FAUCHER No. 7011 — LICENSED PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	01 MAY, 2009
DATE	

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WPP
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN FIRST FLOOR

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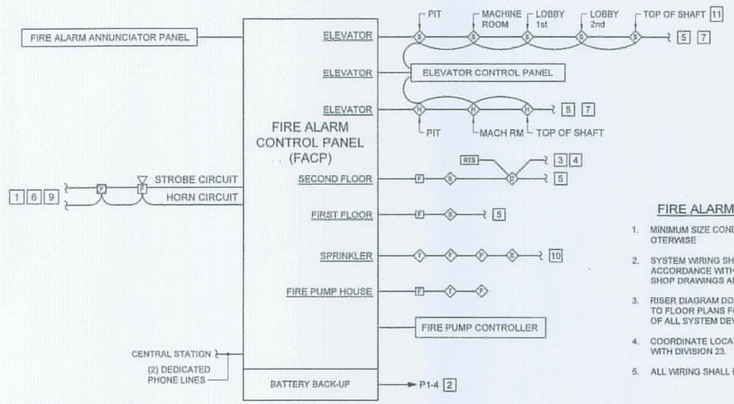
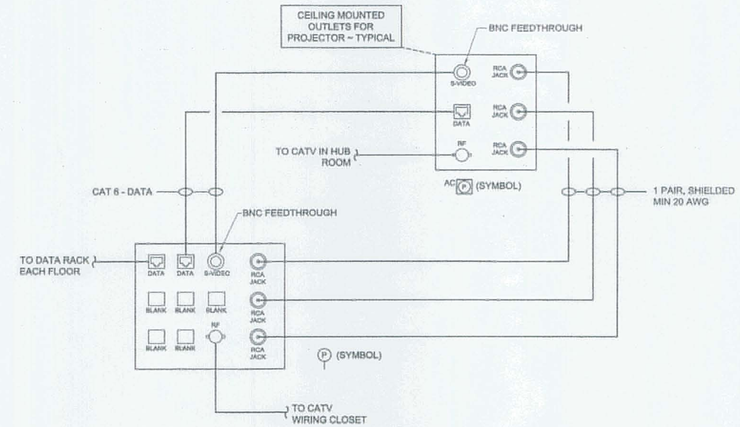


FIRE ALARM GENERAL NOTES

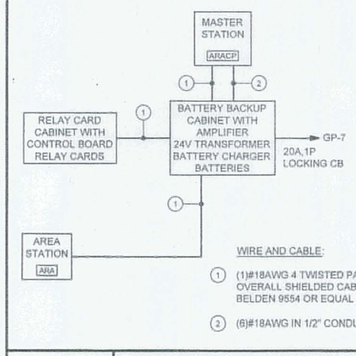
1. MINIMUM SIZE CONDUIT SHALL BE 1/2" UNLESS NOTED OTERWISE
2. SYSTEM WIRING SHALL BE INSTALLED IN CONDUIT AND IN ACCORDANCE WITH EQUIPMENT SUPPLIER'S APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.
3. RISER DIAGRAM DOES NOT SHOW ENTIRE SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL SYSTEM DEVICES.
4. COORDINATE LOCATIONS OF DUCT SMOKE DETECTORS WITH DIVISION 23.
5. ALL WIRING SHALL BE CONCEALED.

1. PROVIDE CIRCUITS AS REQUIRED FOR AUDIBLE/VISUAL SIGNALS.
2. PROVIDE CIRCUIT BREAKER HANDLE LOCK ON POWER CIRCUIT. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
3. TO AUXILIARY CONTACTS IN RESPECTIVE AIR-HANDLING UNIT STARTER FOR UNIT SHUTDOWN ON ALARM. LABEL DUCT SMOKE DETECTOR AND CORRESPONDING REMOTE TEST STATION UNIQUELY. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF MECHANICAL EQUIPMENT.
4. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR HVAC CONTROLS.
5. CONNECT TO REMAINING INITIATING DEVICES. SEE FLOOR PLANS.
6. CONNECT TO REMAINING NOTIFICATION DEVICES. SEE FLOOR PLANS PROVIDE NUMBER OF CIRCUITS AS REQUIRED.
7. PROVIDE CONTACTS FOR ALL DETECTORS AND CONNECT TO ELEVATOR CONTROLLER FOR ELEVATOR RECALL. OPERATION OF SMOKES CAUSES ELEVATOR TO GO TO FLOOR OF EGRESS AND LOCK OUT WITH DOOR OPEN. OPERATION OF SMOKES SHALL ALSO CAUSE VENTILATION LOUVER AT TOP OF SHAFT TO OPEN. 135° HEAT DETECTOR OPERATION CAUSES SHUNT TRIP CIRCUIT BREAKER TO DISCONNECT ALL POWER TO THE ELEVATOR. MOUNT ALL DETECTORS WITHIN 2' OF THEIR RESPECTIVE SPRINKLER HEAD.
8. NOT USED.
9. STROBES SHALL BE SYNCHRONIZED IN AREAS CONTAINING MULTIPLE UNITS.
10. VERIFY AND WIRE ACTUAL QUANTITY OF SPRINKLER SYSTEM DEVICES.
11. PROVIDE ONLY IF SPRINKLER HEAD IS LOCATED AT TOP OF SHAFT ~ COORDINATE WITH DIVISION 21.

F1 | FIRE ALARM RISER
NO SCALE



F7 | PROJECTOR OUTLET DETAIL
NO SCALE | DETAIL SHOWS WIRING BETWEEN P & AC



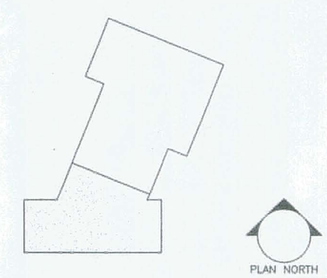
WIRE AND CABLE:

1. (1)#18AWG 4 TWISTED PAIR OVERALL SHIELDED CABLE, BELDEN 9554 OR EQUAL
2. (6)#18AWG IN 1/2" CONDUIT

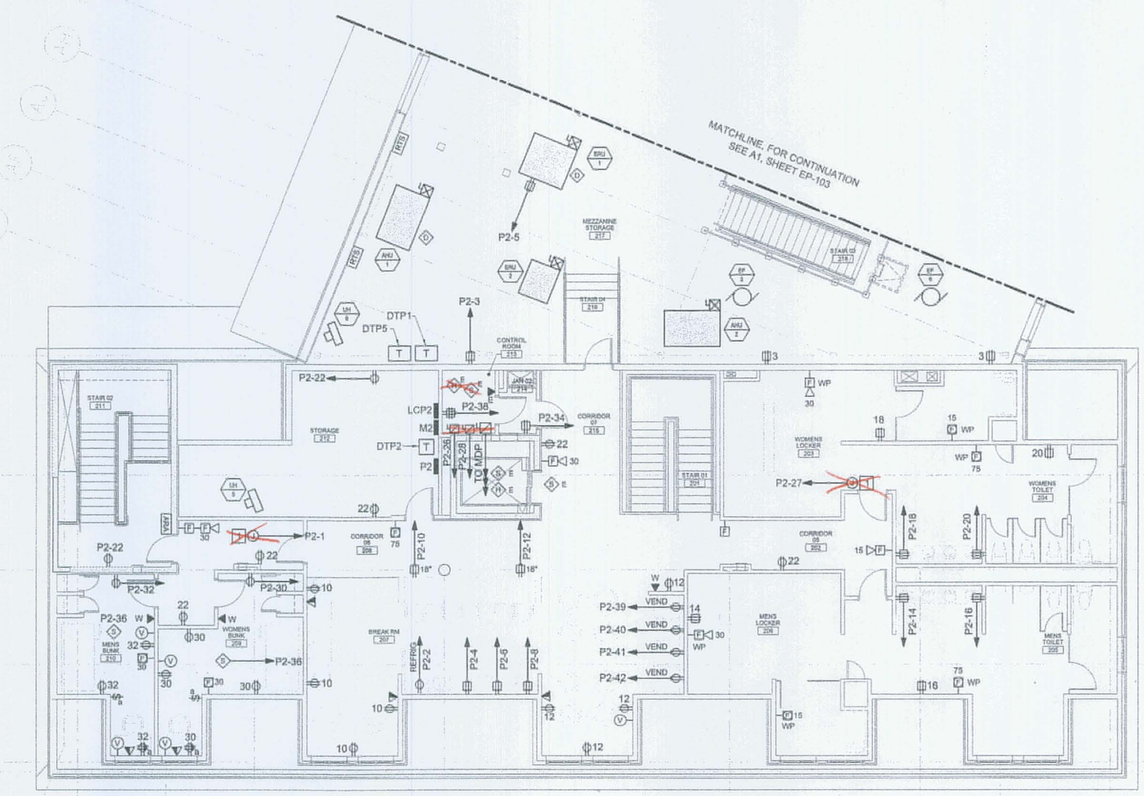
D8 | AREA OF RESCUE ASST RISER
NO SCALE

1. PROVIDE A JUNCTION BOX FOR MECHANICAL CONTROLS.

C9 | KEY NOTES



A9 | KEY PLAN
NOT TO SCALE



A1 | POWER AND SYSTEMS PART PLAN ~ SECOND FLOOR
1/8" = 1'-0"

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]allied-eng.com

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE	
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE — CATHERINE A. FAUCHER — No. 7873 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE	
P.E. NUMBER	
01 MAY, 2009	
DATE	

PROJECT INFORMATION

PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN ~ SECOND FLOOR

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SHEET NUMBER
EP-102
OF

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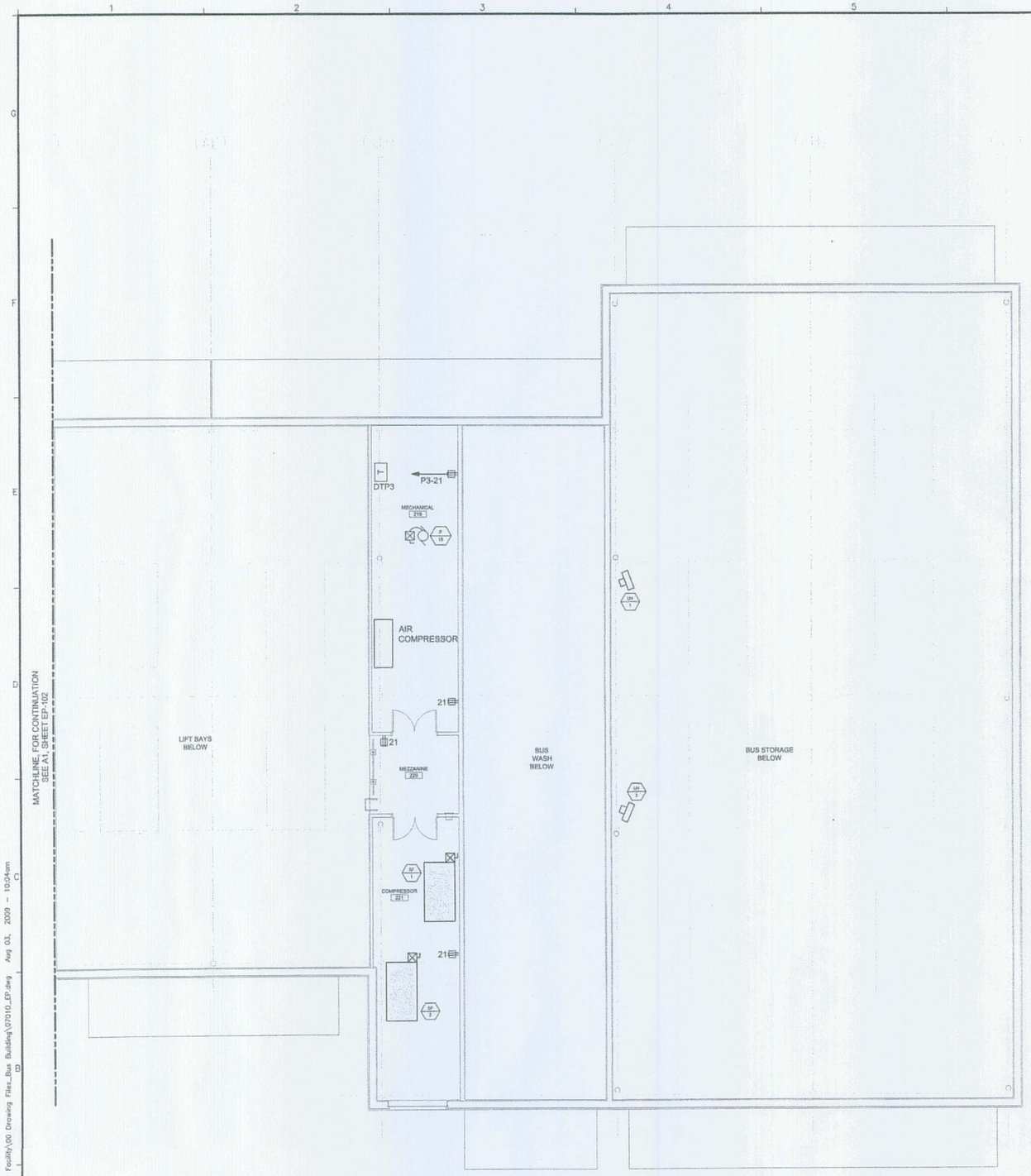


ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT

TAG	DESCRIPTION	VOLTS	PH	LOAD	MCA	MOPD	DISCONNECT SWITCH FRAME	POLES	FUSE	NEMA ENCL	FBD	STARTER (NEMA) SIZE/VFD	FBD	CBD	PANEL	WIRING IN CONDUIT	NOTES
	ELEVATOR	480	3	40 HP	--	--	100	3	80	NEMA 1	26	FWE	14	14	MDP	(3)#2+(1)#6G	6
	ELEVATOR LIGHTS AND FAN	120	1	--	--	--	30	1	20	NEMA 1	26	--	--	--	P2	(2) #12 + (1) #12G	
	ELEVATOR SUMP PUMP	120	1	--	--	--	30	1	20	NEMA 1	26	--	--	--	P2	(2) #12 + (1) #12G	7
	AIR COMPRESSOR	480	3	(2) 7.5HP	--	--			FWE		22	FWE	--	22	M2	(3)#8+(1)#10G	
ERU-1	ENERGY RECOVERY UNIT	208	3	--	2.1	15	30	3	15	NEMA 1	26	00	26	23	P2	(3) #12+ (1) #12 G	
ERU-2	ENERGY RECOVERY UNIT	208	3	--	7.0	20	30	3	20	NEMA 1	26	00	26	23	P2	(3) #12+ (1) #12 G	
CU-1	CONDENSING UNIT	480	3	--	12	20	30	3	20	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
CU-2	CONDENSING UNIT	480	3	--	12	20	30	3	20	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
CU-3	CONDENSING UNIT	480	3	--	5	15	30	3	15	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
CU-4	CONDENSING UNIT	480	3	--	5	15	30	3	15	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
B-1	BOILER	120	1	--	15	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
B-2	BOILER	120	1	--	15	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
B-3	BOILER	120	1	--	15	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
AHU-1	AIR HANDLING UNIT	480	3	5 HP	--	--			FWE		23	VFD	23	23	M2	(3) #12+ (1) #12 G	
AHU-2	AIR HANDLING UNIT	480	3	2 HP	--	--			FWE		23	VFD	23	23	M2	(3) #12+ (1) #12 G	
CUH-1	CABINET UNIT HEATER	120	1	85W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
CUH-2	CABINET UNIT HEATER	120	1	70W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
CUH-3	CABINET UNIT HEATER	120	1	70W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
CUH-4	CABINET UNIT HEATER	120	1	70W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
UH-1	UNIT HEATER	120	1	1/3 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
UH-2	UNIT HEATER	120	1	1/3 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
UH-3	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
UH-3A	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
UH-4	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P2	(2) #12+ (1) #12 G	
UH-5	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P2	(2) #12+ (1) #12 G	
UH-6	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P2	(2) #12+ (1) #12 G	
P-1	BOILER B-1	208	3	1 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	
P-2	BOILER B-2	208	3	1 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	
P-3	BOILER B-3	208	3	1 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	
P-4	AHUs, UHs, VAVs, & RADIANT	208	3	2HP	--	--	30	3	15	NEMA 1	26	VFD	23	23	P1	(3) #12+ (1) #12 G	1
P-5	AHUs, UHs, VAVs, & RADIANT	208	3	2HP	--	--	30	3	15	NEMA 1	26	VFD	23	23	P1	(3) #12+ (1) #12 G	1
P-6	DHW-1, 2, 3	208	3	0.5 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	1
P-7	DHW-1, 2, 3	208	3	0.5 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	1
P-8	RADIANT FLOOR LIFT BAYS	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-9	RADIANT FLOOR LIFT BAYS	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-10	RADIANT FLOOR BUS WASH	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-11	RADIANT FLOOR BUS WASH	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-12	SNOW MELT (HX-1)	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
P-13	SNOW MELT SLAB	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
P-14	SOLAR HEATING	120	1	0.1HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
P-15	SOLAR DUMP ZONE (HX-2)	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
EF-1	EXHAUST FAN ~ MECHANICAL ROOM	120	1	1/25 HP	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
EF-2	EXHAUST FAN ~ T/C ROOM	120	1	1/8 HP	--	--			FWE		23	--	--	23	P2	(2) #12+ (1) #12 G	
EF-3	EXHAUST FAN ~ LIFT BAY	208	3	1.5 HP	--	--	30	3	15	NEMA 1	26	0	26	23	P3	(3) #12+ (1) #12 G	
EF-4	EXHAUST FAN ~ BUS WASH	208	3	3/4 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P3	(3) #12+ (1) #12 G	
EF-5	EXHAUST FAN ~ BUS STORAGE	120	1	1/4HP	--	--			FWE		23	--	--	23	P3	(2) #12+ (1) #12 G	
EF-6	EXHAUST FAN ~ MAINT STOR RM	120	1	1/8HP	--	--			FWE		23	--	--	23	P2	(2) #12+ (1) #12 G	3
EF-7	EXHAUST FAN ~ GARBAGE ROOM	120	1	1/8HP	--	--			FWE		23	--	--	23	P7	(2) #12+ (1) #12 G	
SF-1	SUPPLY FAN ~ LIFT BAY	208	3	1.5 HP	--	--	30	3	15	NEMA 1	26	0	26	23	P3	(3) #12+ (1) #12 G	
SF-2	SUPPLY FAN ~ BUS WASH	208	3	3/4 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P3	(3) #12+ (1) #12 G	
DP-1	DHW RECIRC	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	1, 5
DP-2	DHW MIXING	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	1, 2, 5
BP-1	BOOSTER PUMP	480	3	(2) 3HP	--	--	30	3	15	NEMA 1	26	FWE	22	22	M1	(3)#12+(1)#12G	1
BP-2	BOOSTER PUMP	480	3	(2) 3HP	--	--	30	3	15	NEMA 1	26	FWE	22	22	M1	(3)#12+(1)#12G	1
	WELL PUMP	208	1	2HP	--	--	30	2	20	NEMA 1	26	1	26	33	P5	(2) #12+ (1) #12 G	
M-18	AUTOMATIC PARTS WASHER	480	3	--	11	--	30	3	20	NEMA 1	26	--	--	--	M1	(3)#12+(1)#12G	
S-1	MOTORIZED TIRE CAROUSEL	208	3	--	20	--	30	3	20	NEMA 1	26	--	--	--	P3	(3)#12+(1)#12G	5

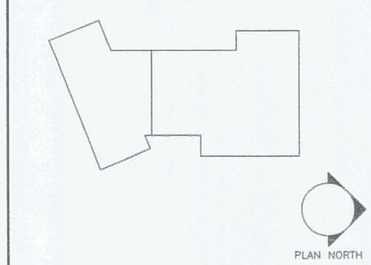
NOTES:

1. LEAD/LAG
2. PROVIDE 4" SQUARE J-BOX AND 3/4" CONDUIT FOR WIRING TO AQUASTAT.
3. WIRING AND CONNECTIONS SHALL BE SUITABLE FOR CLASS 1 DIVISION 1 HAZARDOUS LOCATIONS.
4. PROVIDE RECEPTACLE AS INDICATED ON DRAWINGS.
5. CONNECTION AND EQUIPMENT SCHEDULED FOR THIS ITEM ARE TYPICAL FOR TWO UNITS.
6. PROVIDE AUXILIARY CONTACTS IN DISCONNECT SWITCH TO SHUT OFF POWER TO BATTERY LOWERING WHEN DISCONNECT SWITCH IS TURNED OFF.
7. CONNECT DISCONNECT SWITCH TO CONTROL RECEPTACLE IN ELEVATOR PIT.

ABBREVIATIONS:

FWE	FURNISHED WITH EQUIPMENT
NF	NOT FUSED
SWBD	SWITCHBOARD
FBD	FURNISHED BY DIVISION
CBD	CONTROL WIRING BY DIVISION
FLA	FULL LOAD AMPS
MCA	MINIMUM CURRENT AMPACITY
COMBFV	COMBINATION FULL VOLTAGE NON-REVERSING

C7 | ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT



A9 | KEY PLAN

NOT TO SCALE

A1 | POWER AND SYSTEMS PART PLAN ~ SECOND FLOOR

1/8" = 1'-0"

Allied Engineering
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE CATHERINE A. FAUCHER No. 7575 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

01 MAY, 2009

DATE

PROJECT INFORMATION

PROGRAM	-
PROJECT MANAGER	WPF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN ~ SECOND FLOOR

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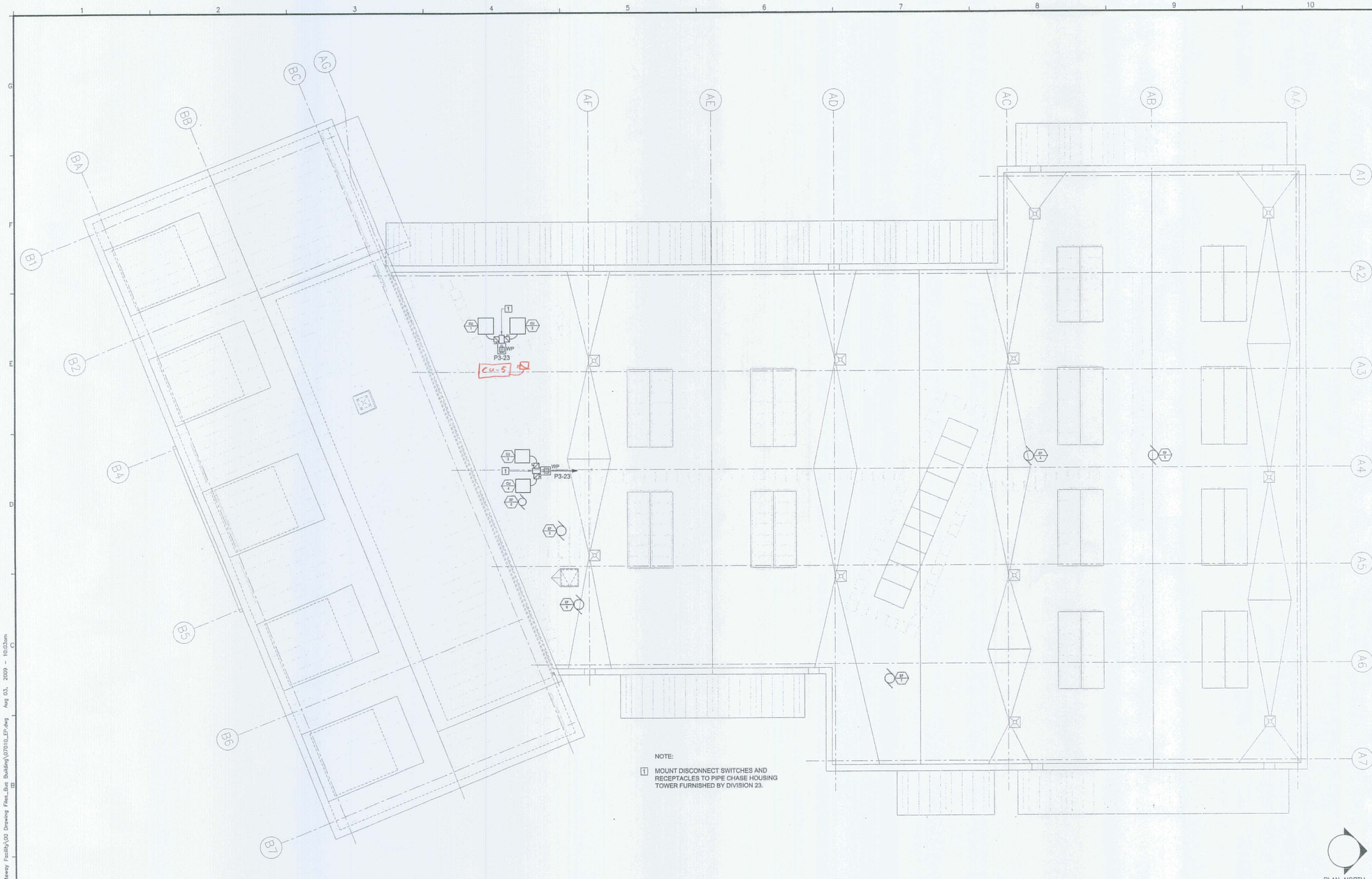

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7875
LICENSED
PROFESSIONAL ENGINEER

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WPF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

SIGNATURE

P.E. NUMBER
01 MAY, 2009
DATE

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

ELECTRICAL PLAN
ROOF

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SHEET NUMBER
EP-104
OF

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T:
F:
Web: allied-eng.com

Allied Project No: 07010
Cad File: 07010E.DWG

A1	ELECTRICAL PLAN ~ ROOF
1/8" = 1'-0"	

Filename: –
Date: –
Division: –
Username: –
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PANEL SCHEDULE ~ MDP PROVIDE INTEGRAL TVSS							
VOLTAGE: 480/277V				MLO 800A ~ 22KAIC			PROJECT: ACADIA BUS FACILITY
CIRCUIT BREAKER				CIRCUIT LOAD (KVA) NON-CONTINUOUS			
CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1			A	16.49			
3	225	3	B		16.93		PANEL M1
5			C			22.05	
7			A	33.00			
9	225	3	B		33.04		PANEL M2
11			C			32.02	
13			A	18.00			
15	100	3	B		18.00		ELEVATOR (SHUNT TRIP)
17			C			18.00	
19			A	31.30			
21	125	3	B		31.30		BUS WASH
23			C			31.30	
25			A	22.21			
27	175	3	B		20.17		PANEL P3 VIA XFMR DTP3
29			C			14.58	
	SUBTOTAL:			123.00	119.44	117.95	
2			A	16.78			
4	125	3	B		20.11		PANEL P1 VIA XFMR DTP1
6			C			17.28	
8			A	2.16			
10	125	3	B		1.80		PANEL P5 VIA XFMR DTP5
12			C			0.72	
14			A				
16			B				SPACE
18			C				
20			A				
22			B				SPACE
24			C				
26			A				
28			B				
30			C				
	SUBTOTAL:			18.94	21.91	18.00	

PANEL SCHEDULE ~ P1 PROVIDE INTEGRAL TVSS							
VOLTAGE: 208/120V				MLO:			MOUNTING: SURFACE
3 PHASE, 4 WIRE				MCB: 225A			LOCATION: MECHANICAL ROOM 121
AIC: 10K							PROJECT: ACADIA BUS BLDG
CIRCUIT BREAKER				CIRCUIT LOAD (KVA)			
CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A				SPARE
3	20	1	B		0.54		COORIDOR AND STAIR RECEPTACLES
5	20	1	C			1.26	RECEPTACLES DISPATCH 116
7	20	1	A	0.90			RECEPTACLES OPS MANAGER 115
9	20	1	B		0.18		RECEPTACLES TOILET 114
11	20	1	C			0.18	RECEPTACLES TOILET 113
13	20	1	A	1.20			WATER COOLER
15	20	1	B		1.26		RECEPTACLES LOBBY 101, COOR 117
17	20	1	C			1.26	RECEPTACLES CPT ASST 112
19	20	1	A	0.36			RECEPTACLES LAV AND MAINT LCKR RM
21	20	1	B		0.72		RECEPTACLES COPY 105
23	20	1	C			0.54	GENERAL RECEPTACLES
25	20	1	A	1.00			SYSTEMS FURNITURE
27	20	1	B		1.00		SYSTEMS FURNITURE
29	20	1	C			1.00	SYSTEMS FURNITURE
31	20	1	A	1.00			SYSTEMS FURNITURE
33	20	1	B		1.80		BATTERY CHARGER
35	20	1	C			1.80	RECHARGE SYSTEM
37			A	0.55			
39	20	3	B		0.55		PUMP P-1
41			C			0.55	
43			A	0.55			
45	20	3	B		0.55		PUMP P-2
47			C			0.55	
49			A	0.55			
51	20	3	B		0.55		PUMP P-3
53			C			0.55	
55	20	1	A	0.17			EF-1
57	15	1	B		1.50		BOILER B-1
59	15	1	C			1.50	BOILER B-2
61	15	1	A	1.50			BOILER B-3
63	30	1	B		3.00		BATTERY CHARGER
65	20	1	C			1.80	BATTERY CHARGER
67	20	1	A	1.80			BATTERY CHARGER
69	20	1	B		0.36		PUMP P-14
71	20	1	C				SPARE
			SUBTOTAL:	9.58	12.01	10.99	
2	20	1	A	0.54			RECEPTACLES MECH/ELEC 118
4	20	1	B		1.00		FIRE ALARM CONTROL PANEL
6	20	1	C			1.08	RECEPTACLES MANAGER'S OFFICE 110
8	20	1	A	0.72			RECEPTACLES CONF RM 109
10	20	1	B		1.26		GENERAL RECEPTACLES/UNIT HEATER
12	20	1	C			0.72	RECEPTACLES MAINT. OFFICE
14	20	1	A	1.20			CONFERENCE ROOM PROJECTOR
16	20	1	B		0.54		VAV'S JUNCTION BOX
18	20	1	C			0.90	VAV'S JUNCTION BOX
20	20	1	A	0.49			MOTORIZED SCREEN
22	20	1	B		0.45		CUH-1, CUH-2, CUH-3, CUH-4, UH-3
24	20	1	C				PUMPS DP-1, DP-2 (LEAD)
26			A	1.44			
28	100	3	B		1.44		PANEL "O"
30			C			1.44	
32			A	0.55			
34	20	3	B		0.55		PUMP P-4
36			C			0.55	
38			A				
40	20	3	B				PUMP P-5
42			C				
44			A	0.34			
46	20	3	B		0.34		PUMP P-6
48			C			0.34	
50	20	1	A	0.15			CONFERENCE ROOM PENDANTS
52	20	1	B		0.36		SERVER RECEPTACLES
54	20	1	C			0.36	SERVER RECEPTACLES
56	20	1	A	1.00			SECURITY PANEL
58	20	1	B		0.72		OPEN OFFICE RECEPTACLES
60	20	1	C			0.18	ELEV. PIT RECEPTACLE
62	20	1	A	0.77			DRILL PRESS
64	20	1	B		1.44		BUFFER/GRINDER
66			C				
68	20	3	A				PUMP P-7
70			B				
72	20	1	C			0.72	PUMPS DP-1, DP-2 (LAG)
			SUBTOTAL:	7.20	8.10	6.29	

PANEL SCHEDULE ~ M1							
VOLTAGE: 277/480V				MLO: 225A			MOUNTING: SURFACE
3 PHASE, 4 WIRE				MCB:			LOCATION: MECHANICAL ROOM 121
AIC: 22K							PROJECT: ACADIA BUS BLDG
CIRCUIT BREAKER				CIRCUIT LOAD (KVA)			
CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	1.92			LIGHTING
3	20	1	B		0.19		STAIR LIGHTING
5	20	1	C			3.16	GENERAL LIGHTING
7	20	1	A	0.03			ELEVATOR PIT LIGHTING
9	20	1	B		0.56		FUEL ISLAND LIGHTING
11	20	1	C			3.08	EXTERIOR LIGHTING
13	20	2	A	0.63			SITE LIGHTING
15			B		0.63		
17	20	2	C			0.78	SITE LIGHTING
19			A	0.78			
21	20	2	B		1.24		SITE LIGHTING
23			C			1.24	
25	20	1	A	1.00			LIGHTING CONTROL PANEL
27			B		3.33		
29	20	3	C			3.33	PARTS WASHER
31			A	3.33			
33			B		0.84		
35	20	3	C			0.84	DRILL
37			A	0.84			
39	20 GFI	1	B		0.18		BATHROOM LIGHTING
41	20	1	C				SPARE
			SUBTOTAL:	8.53	6.97	12.41	
2			A	3.88			
4	20	3	B		3.88		TRUCK LIFT
6			C			3.88	
8			A	3.88			
10	20	3	B		3.88		TRUCK LIFT
12			C			3.88	
14	20	1	A	0.32			HEAT TRACE
16	20	1	B		0.32		HEAT TRACE
18	20	1	C				SPARE
20	20	1	A				SPARE
22	20	1	B				SPARE
24	20	1	C				SPARE
26	20	1	A				SPARE
28	20	1	B				SPARE
30	20	1	C				SPARE
32			A	0.94			
34	20	3	B		0.94		BP-1 BOOSTER PUMP SET
36			C			0.94	
38			A	0.94			
40	20	3	B		0.94		BP-2 BOOSTER PUMP SET
42			C			0.94	
			SUBTOTAL:	9.96	9.96	9.64	

PANEL SCHEDULE ~ P5							
VOLTAGE: 208/120V				MLO:			MOUNTING: SURFACE
3 PHASE, 4 WIRE				MCB: 225			LOCATION: MECHANICAL ROOM 121
AIC: 10K							PROJECT: ACADIA BUS BLDG
CIRCUIT BREAKER				CIRCUIT LOAD (KVA)			
CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	2	A	1.44			WELL PUMP
3			B		1.44		
5	20	1	C			0.36	TELEPHONE BACKBOARD RECEPT
7	20	1	A	0.36			TELEPHONE BACKBOARD RECEPT
9	20	1	B		0.18		SHOP BENCH RECEPT
11	20	1	C			0.18	SHOP BENCH RECEPT
13	20	1	A	0.18			SHOP BENCH RECEPT
15	20	1	B		0.18		SHOP BENCH RECEPT
17	20	1	C			0.18	MAINT BAY BENCH RECEPT
19	20	1	A	0.18			MAINT BAY BENCH RECEPT
21	20	1	B				
23	20	1	C				
25	20	1	A				
27	20	1	B				
29	20	1	C				SPARE
31	20	1	A				SPARE
33	20	1	B				SPARE
35	20	1	C				SPARE
37	20	1	A				SPARE
39	20	1	B				SPARE
41	20	1	C				SPARE
			SUBTOTAL:	2.16	1.80	0.72	
2	20	1	A				
4	20	1	B				
6	20	1	C				
8	20	1	A				
10	20	1	B				
12	20	1	C				
14	20	1	A				
16	20	1	B				
18	20	1	C				
20	20	1	A				
22	20	1	B				
24	20	1	C				
26	20	1	A				
28	20	1	B				
30	20	1	C				
32	20	1	A				
34	20	1	B				
36	20	1	C				
38	20	1	A				
40	20	1	B				
42	20	1	C				
			SUBTOTAL:	0.00	0.00	0.00	

PANEL SCHEDULE ~ M2							
VOLTAGE: 277/480V				MLO: 225A			MOUNTING: SURFACE
3 PHASE, 4 WIRE				MCB:			LOCATION: STORAGE ROOM 212
AIC: 22K							PROJECT: ACADIA BUS BLDG
CIRCUIT BREAKER				CIRCUIT LOAD (KVA)			
CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	3.17			GENERAL LIGHTING
3	20	1	B		2.74		LIFT BAY LIGHTING
5	20	1	C			2.20	BUS STORAGE LIGHTING
7	20	1	A	2.20			BUS STORAGE LIGHTING
9	20	1	B		1.14		SECOND FLOOR GENERAL LIGHTING
11	20	1	C			2.83	SECOND FLOOR GENERAL LIGHTING
13	20	1	A	1.58			MEZZANINE LIGHTING
15			B		6.66		
17	40	3	C			6.66	AIR COMPRESSOR
19			A	6.66			
21	20	1	B		0.68		STORAGE ROOM/MEZZANINE LTG
23	20	1	C			0.87	MECHANICAL AND COMPESSOR
25	20	1	A				SPARE
27			B		2.10		
29	15	3	C			2.10	AHU-1
31			A	2.10			
33			B		0.95		
35	15	3	C			0.95	AHU-2
37			A	0.95			
39	20	1	B		1.00		LIGHTING CONTROL PANEL
41	20	1	C			0.10	ELEVATOR MACHINE ROOM LIGHTING
			SUBTOTAL:	16.86	15.47	15.41	
2			A	3.33			
4	20	3	B		3.33		CU-1
6			C			3.33	
8			A	3.33			
10	20	3	B		3.33		CU-2
12			C			3.33	
14			A	2.80			
16	20	3	B		2.80		CU-3, CU-4
18			C			2.80	
20			A				
22	20	3	B				SPARE
24			C				
26	20	3	A	0.20			HEAT TRACE
28	20	1	B				SPARE
30	20	1	C				SPARE
32	20	1	A				SPARE
34	20	1	B				SPARE
36	20	1	C				SPARE
38			A	6.48			
40	70	3	B		8.11		PANEL P2 VIA XFMR DTP2
42			C			7.15	
			SUBTOTAL:	16.14	17.57	16.61	

PANEL SCHEDULE ~ P2 PROVIDE INTEGRAL TVSS							
VOLTAGE: 208/120V				MLO:			MOUNTING: SURFACE
3 PHASE, 4 WIRE				MCB: 160A			LOCATION: MEZZANINE 219
AIC: 10K							PROJECT: ACADIA BUS BLDG
CIRCUIT BREAKER				CIRCUIT LOAD (KVA)			
CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	0.90			VAV CONNECTIONS
3	20	1	B		0.72		MEZZANINE RECEPTACLES
5	20	1	C			0.18	EQUIPMENT RECEPTACLES
7	20	1	A	0.30			UH-4, UH-5, UH-6
9	20	1	B		0.20		BREAK ROOM ~ LIGHTING
11	20	1	C			0.50	EF-2
13	20	1	A	0.65			EF-6
15			B		0.25		
17	20	3	C			0.25	ERU-1
19			A	0.25			
21			B		0.64		
23	20	3	C			0.64	ERU-2
25			A	0.64			
27	20	1	B		0.54		VAV CONNECTIONS
29	20	1	C				SPARE
31	20	1	A				SPARE
33	20	1	B				SPARE
35	20	1	C				SPARE
37	20	1	A				SPARE
39	20	1	B		1.00		VENDING RECEPT
41	20	1	C			1.00	VENDING RECEPT
			SUBTOTAL:	2.94	3.55	2.77	
2	20	1	A	1.20			BREAK RM REFRIG RECEPT
4	20	1	B		0.18		BREAK RM COUNTER RECEPT
6	20	1	C			0.18	BREAK RM COUNTER RECEPT
8	20	1	A	0.18			BREAK RM COUNTER RECEPT
10	20	1	B		0.90		BREAK RM RECEPT ~ 207
12	20	1	C			0.90	BREAK RM RECEPT ~ 207
14	20	1	A	0.36			MENS LAV/LKR RM RECEPT ~ 206
16	20	1	B		0.36		MENS LAV/LKR RM RECEPT ~ 206
18	20	1	C			0.36	WOMENS LAV/LKR RM RECEPT ~ 203
20	20	1	A	0.36			WOMENS LAV/LKR RM RECEPT ~ 203
22	20	1	B		1.26		CORRIDOR, STAIR, JAN, STOR RECEPT
24	20	1	C			0.50	EMR LT & RECEPT
26	20	1	A	0.18			ELEV SUMP PUMP RECEPT DISC
28	20	1	B		0.50		ELEV CAR LTS & FAN
30	20AFCI	1	C			1.08	WOMENS BUNK RM ~ 209
32	20AFCI	1	A	0.90			MENS BUNK RM ~ 210
34	20	1	B		0.36		CLOSET RECEPT
36	20	1	C			0.36	SMOKE DETECTORS
38	20	1	A	0.36			ELEVATOR ROOM RECEPTACLE
40	20	1	B		1.00		VENDING RECEPT
42	20	1	C			1.00	VENDING RECEPT
			SUBTOTAL:	3.54	4.56	4.38	

PANEL SCHEDULE ~ P3							
VOLTAGE: 120/208V				MLO:			MOUNTING: SURFACE
3 PHASE, 4 WIRE				MCB: 400A			LOCATION: LIFT BAY 135
AIC: 10K							PROJECT: ACADIA BUS BLDG
CIRCUIT BREAKER				CIRCUIT LOAD (KVA)			
CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	1.26			RECEPTACLES LIFT BAY
3	20	1	B		0.72		RECEPTACLES LIFT BAY
5	20	1	C			0.54	RECEPTACLES LIFT BAY
7	20	1	A	0.90			WASH RECYCLING RECEPTACLES
9	20	1	B		0.72		RECEPTACLES BUS STORAGE 139
11	20	1	C			0.72	RECEPTACLES BUS STORAGE 139
13	20	1	A	1.50			DROP RECEPTACLES
15	20	1	B		1.50		DROP RECEPTACLES
17	20	1	C			1.50	DROP RECEPTACLES
19	20	1	A	1.50			DROP RECEPTACLES
21	20	1	B		0.72		RECEPTACLES MEZZANINE
23	20	1	C			0.72	ROOF RECEPTACLES
25	20	1	A	0.80			
27	20	1	B		0.80		EF-3
29	20	1	C			0.80	
31	20	1	A	0.42			
33	20	1	B		0.42		EF-4
35	20	1	C			0.42	
37	20	1	A	1.00			EF-5, EF-7
39	20	1	B		1.50		DROP RECEPTACLES
41	20	1	C			0.36	RECEPTACLES ~ FLUIDS
43	20	1	A	0.36			RECEPTACLES ~ WASTE FLUIDS
45	20	1	B		0.87		UNIT HEATER
47	20	1	C			0.87	UNIT HEATER
49	20	1	A	1.08			PUMPS P-8, P-10, P-12
51	20	1	B		0.36		PUMPS P-9, P-11, P-13
53	20	1	C			0.36	PUMP P-15
55	20	1	A				SPARE
57	20	1	B				SPARE
59	20	1	C				SPARE
61	20	1	A				SPARE
63	20	1	B				SPARE
65	20	1	C				SPARE
67	20	1	A				SPARE
69	20	1	B				SPARE
71	20	1	C				SPARE
			SUBTOTAL:	8.82	7.61	6.29	
2			A	0.80			
4	20	3	B		0.80		SF-1
6			C			0.80	
8			A	0.42			
10	20	3	B		0.42		SF-2
12			C			0.42	
14	50	2	A	4.80			WELDER
16			B		4.80		
18	20	1	C			0.53	PROPANE FUEL CENTER LIGHTING
20	20	1	A	0.72			PROPANE FUEL CENTER RECEPTACLES
22	30	2	B		1.74		PRESSURE WASHER
24			C			1.74	
26	20	2	A				SPARE
28			B				
30	20	1	C				SPARE
32			A	2.40			
34	20	3	B		2.40		TIRE CAROSEL
36			C			2.40	
38			A	2.40			
40	20	3	B		2.40		TIRE CAROSEL
42			C			2.40	
44			A				
46	20	3	B				SPARE
48			C				
50	20	1	A	1.85			UH-1, UH-2, UH-3A
52	20	1	B				M-1 POST LIFT CHARGER
54	20	1	C				M-1 POST LIFT CHARGER
56	20	1	A				M-1 POST LIFT CHARGER
58	20	1	B				M-1 POST LIFT CHARGER
60	20	1	C				SPARE
62	20	1	A				SPARE
64	20	1	B				SPARE
66	20	1	C				SPARE
68	20	1	A				SPARE
70	20	1	B				SPARE
72	20	1	C				SPARE
			SUBTOTAL:	13.39	12.56	8.29	

FEEDER SCHEDULE

TAG	DESCRIPTION	CONDUCTORS (NOTE 1)	CONDUIT
A	30 AMP PRIMARY/FEEDER	(3) #10, (1) #10 G	3/4"
B	50 AMP SECONDARY/FEEDER	(4) #6, (1) #10 G	1"
C	70 AMP PRIMARY/FEEDER	(3) #4, (1) #8 G	1-1/2"
1A	100 AMP SECONDARY/FEEDER	(4) #1, (1) #8 G	1-1/2"
1B	125 AMP PRIMARY/FEEDER	(3) #1, (1) #6 G	1-1/2"
1C	175 AMP PRIMARY/FEEDER	(3) #2/0, (1) #6 G	2"
1D	150 AMP SECONDARY/FEEDER	(4) #1/0, (1) #6 G	2"
2D	225 AMP SECONDARY/FEEDER	(4) #4/0, (1) #4 G	2-1/2"
3	300 AMP SECONDARY/FEEDER	(4) 300 KCMIL, (1) #4G	3"
4	400 AMP SECONDARY/FEEDER	(4) 500 KCMIL, (1) #3G	4"
9	800 AMP SERVICE/FEEDER	(4) 500 KCMIL, (1) #1/0 G	IN EACH OF (2) 5" 2-4"

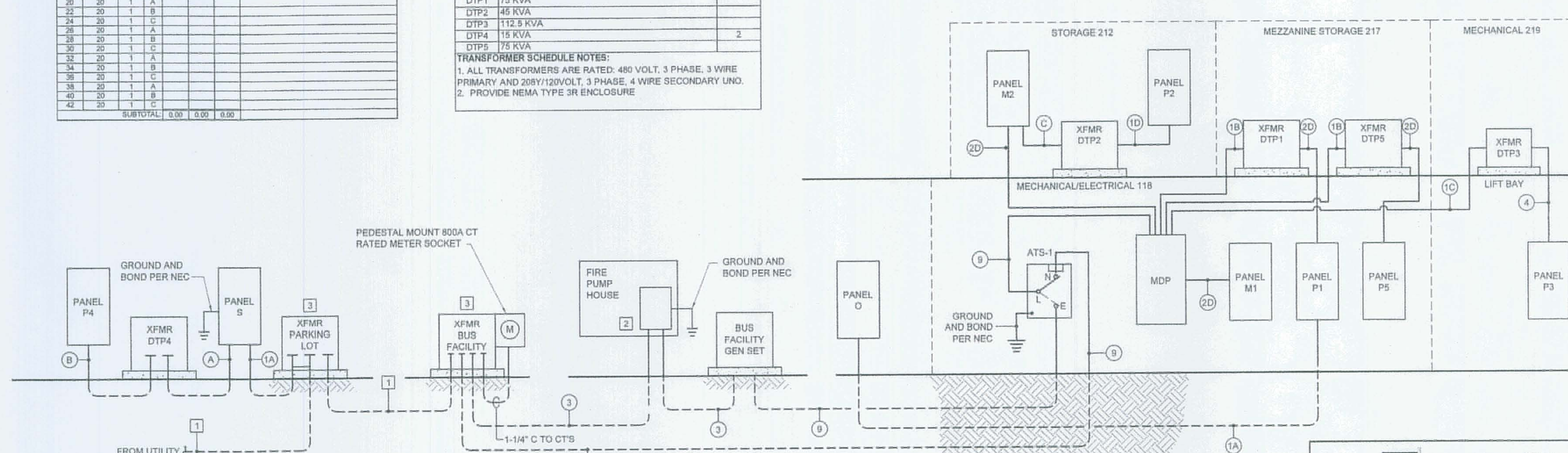
FEEDER SCHEDULE NOTES:
1. WIRING BASED ON COPPER THWN/THHN
2. CONDUIT SIZE BASED ON EMT

NOTE:
ADDITIONAL PANEL SCHEDULES LOCATED ON SHEET EP-100

TRANSFORMER SCHEDULE

TAG	DESCRIPTION	NOTES
DTP1	75 KVA	
DTP2	45 KVA	
DTP3	112.5 KVA	
DTP4	15 KVA	2
DTP5	75 KVA	

TRANSFORMER SCHEDULE NOTES:
1. ALL TRANSFORMERS ARE RATED: 480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120VOLT, 3 PHASE, 4 WIRE SECONDARY UNO.
2. PROVIDE NEMA TYPE 3R ENCLOSURE



A1	KEY NOTES
NO SCALE	

1. REFER TO SITE PLAN ON DRAWING ES-101 FOR TRENCH DETAILS.
2. FIRE PUMP HOUSE FURNISHED BY DIVISION 21 AND FACTORY WIRED FOR SINGLE-POINT POWER CONNECTION
3. PADMOUNT TRANSFORMER FURNISHED BY UTILITY

A2	POWER RISER DIAGRAM
NO SCALE	

Filename: H:\Projects\2007\07010 – MDOT Acadia Gateway Facility\00 Drawing Files_Bus Building\07010_EP.dwg Date: Aug 03, 2009 – 10:03am Division: – Username: –

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

SIGNATURE

P.E. NUMBER

01 MAY, 2009

DATE

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	WPF
DESIGNER	
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY
POWER RISER DIAGRAM AND SCHEDULES

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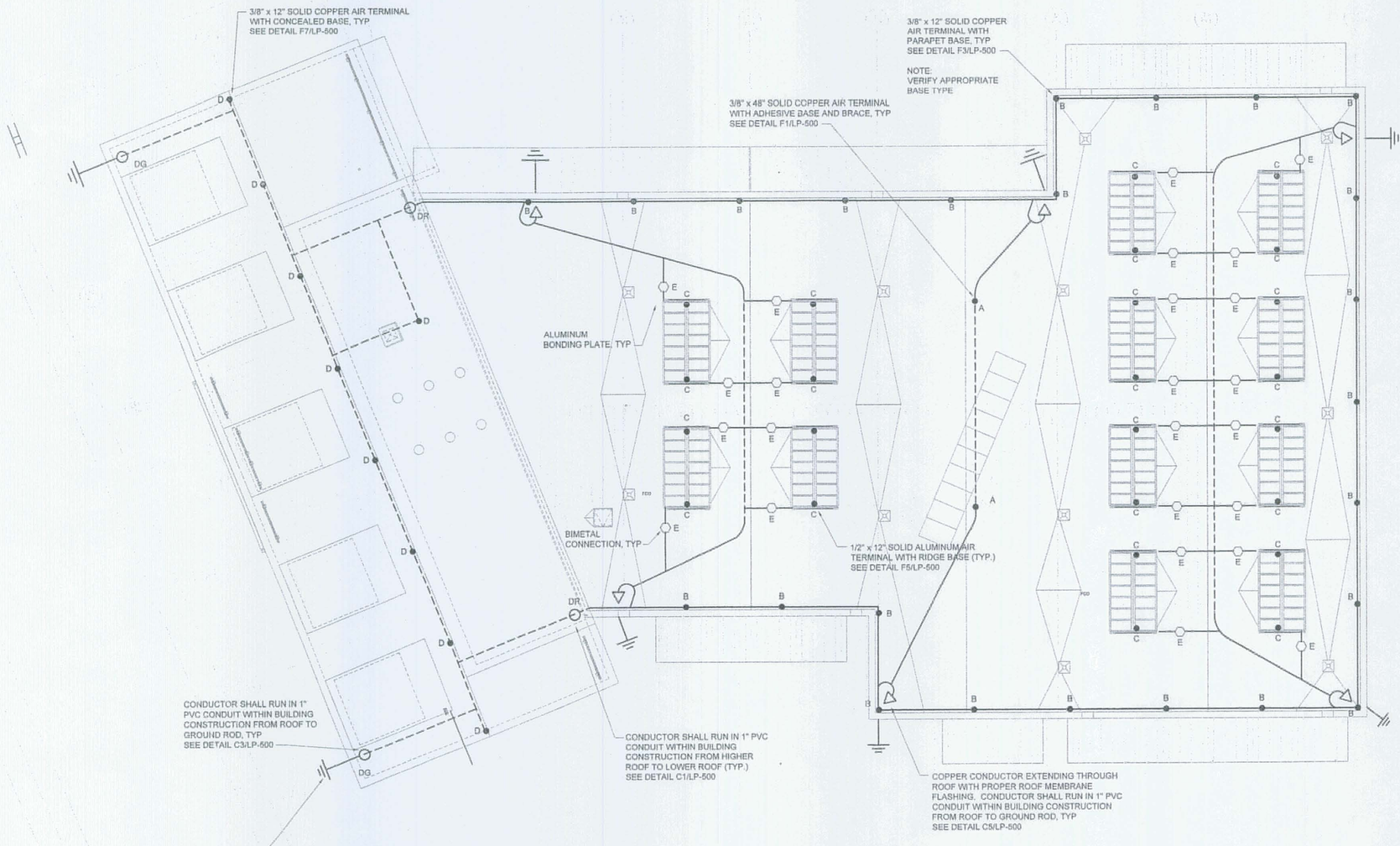
Allied Engineering
160 Veranda Street
Portland, Maine 04103

Allied Project No: 07010
Cad File: 07010E.DWG

SHEET NUMBER
EP-400
OF

1. BASIS OF DESIGN MANUFACTURER IS HEARY BROS. LIGHTNING PROTECTION CO., INC.
2. THE LIGHTNING PROTECTION SYSTEM AS SHOWN ON DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH UL-96 AND NFPA-780 LIGHTNING PROTECTION STANDARDS.
3. CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD COURSE, FREE FROM "U" OR "V" (DOWN AND UP) POCKETS.
4. NO BEND OF A CONDUCTOR SHALL FORM AN ANGLE OF LESS THAN 90° NOR SHALL HAVE A RADIUS OF BEND LESS THAN 8 INCHES.
5. AIR TERMINALS SHALL BE PLACED 20'-0" MAXIMUM SPACING AROUND THE ROOF PERIMETER OR ALONG ROOF RIDGES AND WITHIN 2'-0" OF OUTSIDE CORNERS.
6. AIR TERMINALS SHALL BE SPACED EVERY 50'-0" MAXIMUM IN CENTER ROOF AREAS.
7. ACTUAL JOBSITE CONDITIONS MAY REQUIRE SLIGHT ALTERATIONS IN AIR TERMINAL, DOWN CONDUCTOR AND GROUND ROD LOCATIONS.
8. BARE COPPER MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM OR GALVALUM SURFACES AND ALUMINUM MATERIALS SHALL NOT BE INSTALLED ON COPPER SURFACES.
9. ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE FASTENED HORIZONTALLY AND VERTICALLY NOT MORE THAN 3'-0" O.C. MAXIMUM SPACING.
10. ALL BOLTS ON BOLT PRESSURE CONNECTORS REQUIRE BEING TORQUED AT 150 POUND-INCHES (17N M).
11. ALL CONNECTIONS MUST BE USED WITH UL LISTED CLASS I OR CLASS II CABLE OF THE SAME METAL TYPE.
12. METALLIC BODIES OF INDUCTANCE SITUATED WITHIN 6'-0" OF A LIGHTNING CONDUCTOR OR ANOTHER BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM, UNLESS INHERENTLY GROUNDED.
13. BOND TO ALL BODIES OF CONDUCTANCE WITHIN 6'-0" OF THE MAIN LIGHTNING CONDUCTOR SUCH AS: EXHAUST FANS, ROOF VENTS, MTAL COOLING TOWERS, H.V.A.C. UNITS, LADDERS, RAILINGS, ANTENNAS, SKYLIGHTS, METAK STACKS AND ANY OTHER LARGE BODIES WHOSE HEIGHT EXCEEDS THAT OF THE AIR TERMINAL IN USE, UNLESS PROTECTED BY HIGHER ROOF ELEVATIONS.
14. CONNECTIONS TO GROUND RODS SHALL BE MADE AT A POINT NOT LESS THAN 1'-0" BELOW FINISHED GRADE AND 2'-0" AWAY FROM FOUNDATION WALL.
15. BOND TO WATERLINES (DOMESTIC & FIRE).
16. A LIGHTNING ARRESTOR, PROTECTOR OR ANTENNA DISCHARGE UNIT SHALL BE INSTALLED ON EACH ELECTRIC AND TELEPHONE SERVICE AND RADIO AND TELEVISION ANTENNA LEAD-IN BY DIVISION 26, PER NFPA-70.

F1 GENERAL NOTES



A1 LIGHTNING PROTECTION PLAN
3/32"=1'-0"

	7 STRANDS 14 GAUGE COPPER CONDUCTOR (SECONDARY CABLE) #CCHB-6
	29 STRANDS OF 17 GAUGE COPPER CONDUCTOR (EXPOSED ON ROOF) #CCHB-29-17
	29 STRANDS OF 17 GAUGE COPPER CONDUCTOR (CONCEALED WITHIN BLDG. CONSTRUCTION) #CCHB-29-17
	24 STRANDS OF 19 GAUGE ALUMINUM CONDUCTOR (AT SKYLIGHTS & RTUs) #ACHB-24-14
● A	3/8" x 48" SOLID COPPER MID ROOF AIR TERMINAL WITH ADHESIVE BASE AND BRACE #CAHB-312, 23D, OSHB2/HB-39
● B	3/8" x 12" SOLID COPPER AIR TERMINAL WITH PARAPET BASE #CAHB-368, 32D
● C	1/2" x 12" SOLID ALUMINUM AIR TERMINAL WITH RIDGE BASE #AAHB-302, 172D
● D	3/8" x 12" SOLID COPPER AIR TERMINAL WITH CONCEALED BASE #CAHB-368, 9
NOTE:	ALL ADHESIVE SHALL BE PROVIDED BY THE ROOFING CONTRACTOR.
▷	COPPER CONDUCTOR EXTENDING THROUGH ROOF WITH PROPER ROOF MEMBRANE FLASHING. CONDUCTOR SHALL RUN IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION FROM ROOF TO GROUND ROD.
DR	DOWN CONDUCTOR SHALL RUN IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION FROM HIGHER ROOF TO LOWER ROOF.
DG	DOWN CONDUCTOR SHALL RUN IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION FROM ROOF TO GROUND ROD.
	ALL PVC CONDUIT AND CONDUIT SLEEVES FURNISHED, INSTALLED, WEATHERPROOFED AND MAINTAINED FREE FROM OBSTRUCTIONS BY DIVISION 26. ALL PVC CONDUIT AND SLEEVE INSTALLATION SHALL BE COORDINATED BETWEEN DIVISION 26 AND THE ROOFING CONTRACTOR. ALL PITCH PANS OR PROPER ROOF MEMBRANE FLASHING FURNISHED, INSTALLED AND WEATHERPROOFED BY THE ROOFING CONTRACTOR.
*NOTE:	*METAL FLASHING CONNECTION #CNHB-44D *METAL VENT PIPE CONNECTION #AAHB-42FD *METAL ROOF DRAIN CONNECTION #CNHB-160D SECONDARY BONDING IS REQUIRED WHEN METAL BODIES OF INDUCTANCE ARE LOCATED WITHIN 6FT. OF THE LIGHTNING PROTECTION SYSTEM OR OTHER GROUNDED BODIES.
	ALUMINUM CABLE CONNECTION #ANHB-44D
	COPPER CABLE CONNECTION #CNHB-44D
	HEAVY DUTY STRAIGHT SPLICER #CRHB-26
	CORROSION RESISTANT COPPER PERFECTION PIPE CLAMP (ANTENNAS, RAILINGS, ETC.) #PMHB-103RD
	COPPER PRESSED CROSSOVER CONNECTION #CHHB-57XXX
	CORROSION RESISTANT BONDING PLATE (AT DOWNLEAD LOCATIONS) #PPHB-54D
E	ALUMINUM BONDING PLATE (AT SKYLIGHTS) #APHB-54D
○	BIMETAL CONNECTION #MHHB-83
	FASTENERS: (FASTEN CABLE EVERY 3'-0" (914mm) O.C. MAX.) #AFHB-72, #AFHB-84A/805S, #CFHB-84C/805S, 72
	WATERLINE CONNECTION (FIRE AND DOMESTIC WATER) #CMHB-87D
—▷	5/8" x 10'-0" COPPERBOND GROUND ROD WITH GROUND ROD CONNECTION #CGHB-106GR, 57D
	COPPER FENCE POST GROUNDING CONDUCTOR, #CCHB-29-17
	CORROSION RESISTANT BONDING PLATE (AT BASE OF FENCE POST), #PPHB-58D
	5/8"x10'-0" COPPERWELD GROUND ROD AND GROUND ROD CONNECTOR, #CGHB-106/GR, #HB-57
	COPPER SECONDARY BONDING CONDUCTOR , #CCHB-86C
	CORROSION RESISTANT BONDING LUG (AT RAZOR RIBBON, SENSOR UNIT, ETC.) #CFHB-160D
	CABLE CONNECTOR / BONDING CONNECTOR AT WIRE MESH #CNHB-44D
	CORROSION RESISTANT COPPER FLEXIBLE BONDING STRAP (AT GATES) #CTHB-88XCR

NOTES:

1. ALL SURGE ARRESTORS, SURGE SUPP./TRANSIENT SUPPRESSORS SHALL BE PROVIDED BY DIVISION 26.

D9 LIGHTNING PROTECTION PLAN

Allied Engineering
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010LProt.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE CATHERINE A. FAUCHER No. 7875 PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

01 MAY, 2009

DATE

INFORMATION	
PROJECT PROGRAM	-
PROJECT MANAGER	WPF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTNING PROTECTION PLAN

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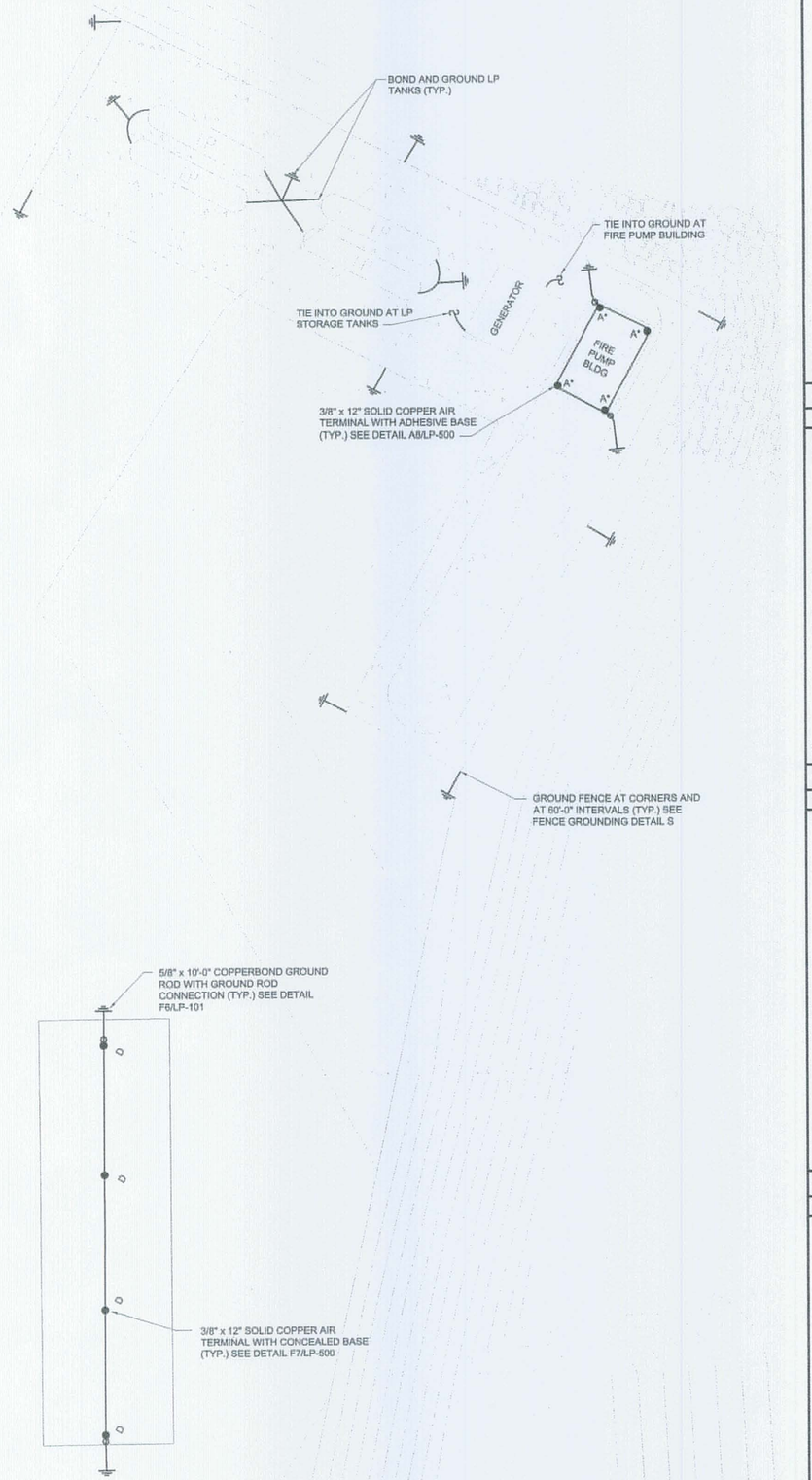
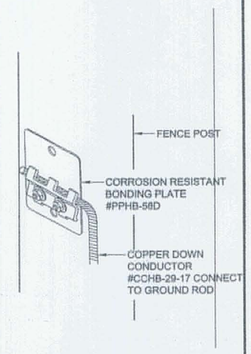
SHEET NUMBER
LP-100
OF

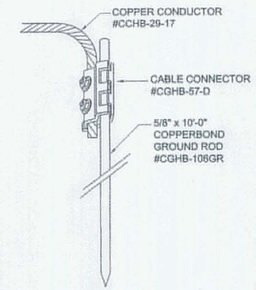
Filename: - Division: - Date: - Username: -
K:\Projects\2007\07010 - MDOT Acadia Gateway Facility\00 Drawing Files_Bus Building\07010_LProt.dwg Aug 03, 2009 - 10:14am



A1 | LIGHTNING PROTECTION PLAN
3/32"=1'-0"

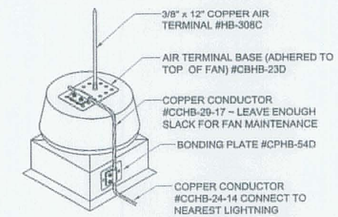


F5 | BONDING PLATE
NO SCALE | AT FENCE POST

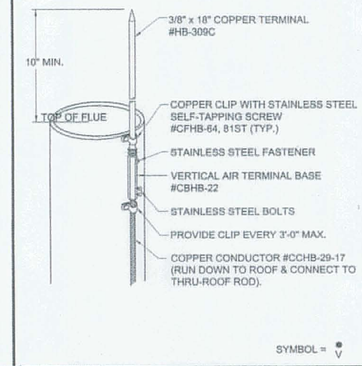


F6 | GROUND ROD
NO SCALE | AND CONNECTION

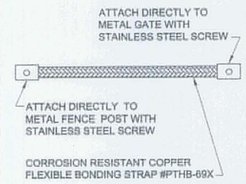
NOTE:
AIR TERMINALS ARE REQUIRED ON ROOF VENTILATORS/EXHAUST FANS THAT ARE NOT WITHIN A ZONE OF PROTECTION OR WHEN HIGHER THAN ADJACENT AIR TERMINALS.



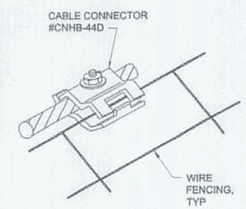
F7 | AIR TERMINAL @ EXHAUST FAN
NO SCALE



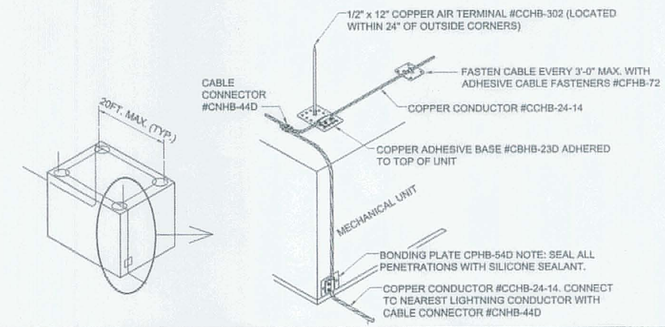
F9 | AIR TERMINAL @ FLUE
NO SCALE



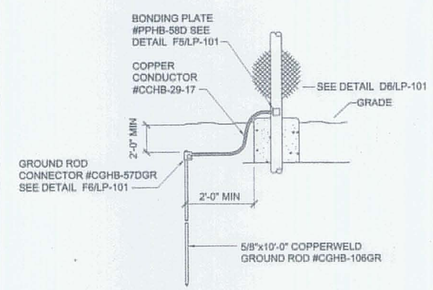
D5 | FLEXIBLE STRAP
NO SCALE | AT GATE



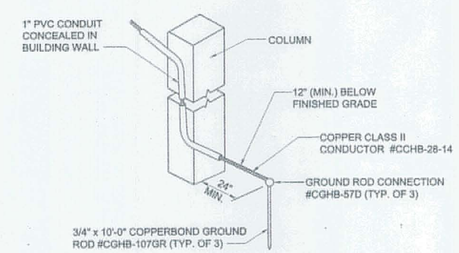
D5 | CABLE CONNECTOR
NO SCALE | AT FENCING



D7 | LIGHTNING PROTECTION @ RTU
NO SCALE



B5 | FENCE POST GROUNDING DETAIL
NO SCALE

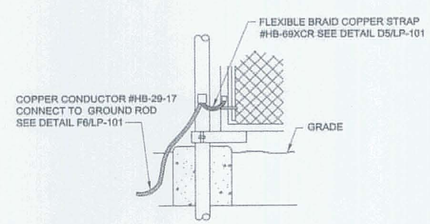


NOTES:

1. PROVIDE BONDING CONNECTION #CMHB-97 TO WATERLINE (FIRE & DOMESTIC) AND CONNECT COPPER CABLE #CCHB-28-14 TO NEAREST DOWN CONDUCTOR, GROUND ROD OR STRUCTURAL STEEL FRAMEWORK.
2. PROVIDE BONDING CONNECTION #PPHB-54D TO STRUCTURAL STEEL OR REBAR AT EACH DOWN CONDUCTOR, AND CONNECT COPPER CABLE #CCHB-28-14 TO NEAREST DOWN CONDUCTOR OR GROUND ROD.
3. ALL CONDUIT SHALL BE FURNISHED, INSTALLED, WEATHERPROOFED AND MAINTAINED FREE FROM OBSTRUCTIONS BY THE ELECTRICAL CONTACTOR.

SYMBOL = DN

B7 | LP GROUNDING
NO SCALE



A5 | GATE POST AND FRAME GROUNDING
NO SCALE

Allied Engineering
Structural Mechanical Electrical Consultants Inc.
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010LProt.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7975
LICENSED
PROFESSIONAL ENGINEER

	SIGNATURE	P.E. NUMBER	DATE
		01 MAY, 2009	

INFORMATION		
PROJECT PROGRAM	-	
PROJECT MANAGER	WFP	
DESIGNER	-	
CONSULTANT	ALLIED ENGINEERING	
PROJECT RESIDENT	-	
CONTRACTOR	-	
PROJECT COMPLETION DATE	-	

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTNING PROTECTION PLAN AND DETAILS

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SHEET NUMBER
LP-101
OF

Filename: - Division: - Date: - Username: -
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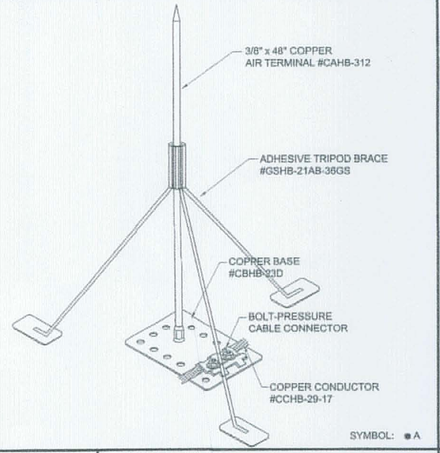
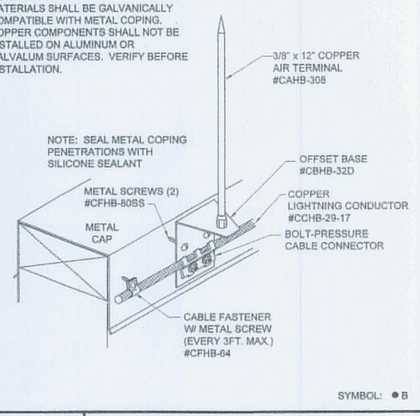
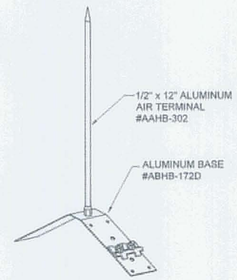


F1 | AIR TEMINAL AT MID-ROOF
NO SCALE

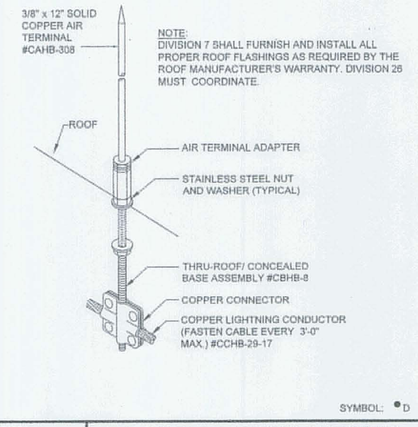
NOTE:
LIGHTNING PROTECTION COMPONENT MATERIALS SHALL BE GALVANICALLY COMPATIBLE WITH METAL COPING. COPPER COMPONENTS SHALL NOT BE INSTALLED ON ALUMINUM OR GALVALUM SURFACES. VERIFY BEFORE INSTALLATION.



F3 | OFFSET AIR TEMINAL BASE
NO SCALE

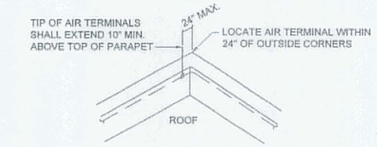


F5 | SADDLE AIR TERMINAL BASE AT SKYLIGHT
NO SCALE



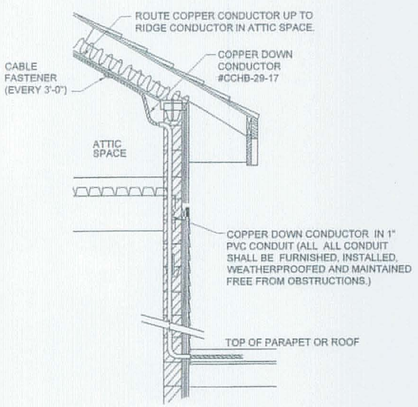
NOTE:
DIVISION 7 SHALL FURNISH AND INSTALL ALL PROPER ROOF FLASHINGS AS REQUIRED BY THE ROOF MANUFACTURER'S WARRANTY. DIVISION 26 MUST COORDINATE.

F7 | CONCEALED AIR TERMINAL BASE DETAIL
NO SCALE

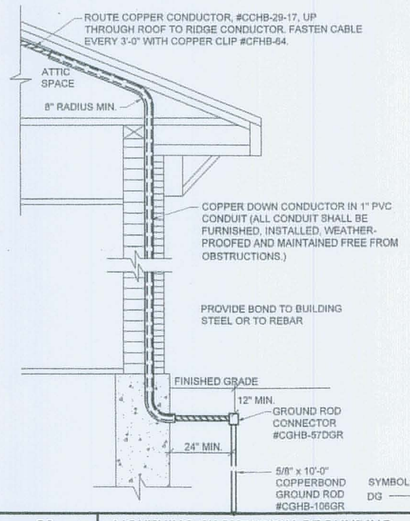


NOTE:
AIR TERMINALS SHALL BE LOCATED WITHIN 24" OF OUTSIDE CORNERS

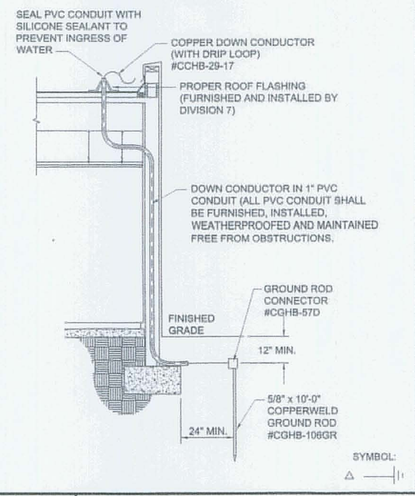
F9 | DETAIL
NO SCALE



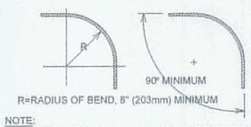
C1 | DOWNLEAD TO LOWER ROOF DETAIL
NO SCALE



C3 | LIGHTNING PROTECTION GROUNDING
NO SCALE

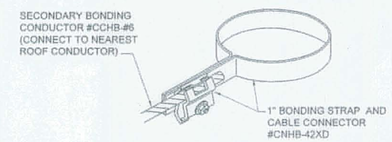


C5 | LIGHTNING PROTECTION GROUNDING
NO SCALE

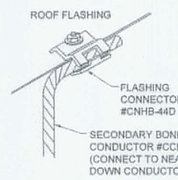


NOTE:
-LP CONDUCTOR SHALL REMAIN IN A HORIZONTAL OR DOWN-WARD PATH AVOIDING "U" & "V" POCKETS (DOWN & UP).
-NO BEND OF A CONDUCTOR SHALL FORM AN INCLUDED ANGLE OF LESS THAN 90° OR HAVE A RADIUS OF BEND LESS THAN 8".

D7 | DETAIL
NO SCALE

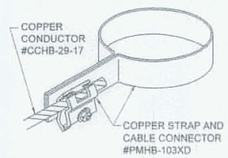


D9 | BONDING STRAP (AT VENT PIPES)
NO SCALE

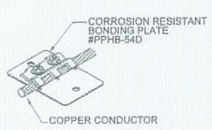


NOTE:
PROVIDE BONDING CONNECTION TO METAL FLASHING AT EACH DOWNLEAD LOCATION.

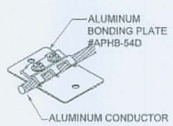
C7 | FLASHING CONNECTOR
NO SCALE



C9 | PIPE CLAMP (AT RAILINGS, ANTENNAS, ETC.)
NO SCALE

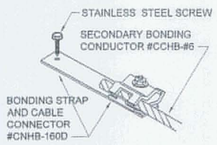


B1 | BONDING PLATE
NO SCALE

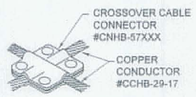


B2 | BONDING PLATE
NO SCALE

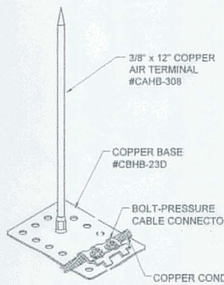
B4 | STRAIGHT SPLICER
NO SCALE



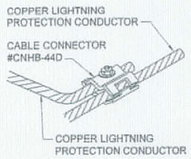
B5 | BONDING LUG (ROOF DRAINS)
NO SCALE



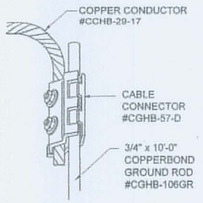
B7 | BONDING LUG (ROOF DRAINS)
NO SCALE



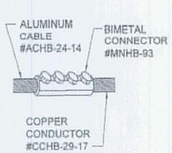
A8 | ADHESIVE AIR TERMINAL BASE
NO SCALE



A1 | CABLE CONNECTOR
NO SCALE



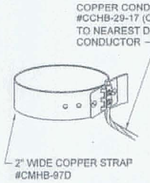
A2 | GROUND ROD CONNECTOR
NO SCALE



A4 | BIMETAL CONNECTOR
NO SCALE

SYMBOL: O

A5 | CABLE CONNECTOR
NO SCALE



A7 | CABLE CONNECTOR
NO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE — CATHERINE E. FAUCHER No. 7351 — LICENSED PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTNING PROTECTION DETAILS

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Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010LProt.DWG

SHEET NUMBER
LP-500
OF

Filename: - Date: - Division: - Username: -
N:\Projects\2007\07010 - MDOT Acadia Gateway Facility\00 Drawing Files_Bus Building\07010_LProt.dwg Aug 03, 2009 - 10:12am

LS — LOCAL SOUND SYSTEM LARGE SPEAKER

LS — LOCAL SOUND SYSTEM SPEAKER

S — SPEAKER ~ CEILING MOUNTED

NOTE: LOW VOLTAGE AND SYSTEM WIRING BY DIVISION 17.

G1 LOCAL SOUND SYSTEM & SPEAKERS

NO SCALE

F1 — LIGHT FIXTURE ~ RECESSED TROFFER ~ TYPICAL
INDICATES LIGHT FIXTURE TYPE ON LUMINAIRE SCHEDULE
a — LOWER CASE LETTER INDICATES SWITCHING ~ TYPICAL
2 — NUMBER INDICATES CIRCUITING ~ TYPICAL

HATCHING INDICATES FIXTURE WITH ONE LAMP ON EMERGENCY BATTERY/BALLAST ~ TYPICAL ALL FIXTURE TYPES

RECESSED DOWNLIGHT

WALL MOUNTED LIGHT FIXTURE ~ TYPICAL

CEILING SURFACE LIGHT FIXTURE ~ TYPICAL

PENDANT MOUNTED TROFFER

PENDANT MOUNTED LIGHT FIXTURE

UNDERCABINET LIGHT FIXTURE

EXIT SIGN, CEILING MOUNTED, SHADING INDICATES FACE(S)
ARROWHEAD INDICATES CHEVRON(S) REQUIRED
NUMBER INDICATES CIRCUIT NUMBER, CONNECT TO THE
2 — UNSWITCHED LEG OF THE CIRCUIT

EXIT SIGN, WALL MOUNTED, SHADING INDICATES FACE(S)
MOUNT AT 7'-6"AFF OR OVER DOOR
2 — NUMBER INDICATES CIRCUIT NUMBER, CONNECT TO THE UNSWITCHED LEG OF THE CIRCUIT.

RB — REMOTE BALLAST ~ ALLOW 9" IN ALL DIRECTIONS BETWEEN BALLASTS

E3 LUMINAIRES

NO SCALE

$a — LIGHT SWITCH ~ 20A,125/277V
LETTER INDICATES SWITCHING

$3 — THREE-WAY LIGHT SWITCH

$4 — FOUR-WAY LIGHT SWITCH

$LVa — LOW VOLTAGE MOMENTARY LIGHT SWITCH ~ LETTER INDICATES SWITCHING

$P — SINGLE POLE SWITCH WITH RED PILOT LIGHT ~ RED LIGHT SHALL GLOW WHEN CIRCUIT IS ENERGIZED

$a $b $a — MULTI-GANGED SWITCHES ~ GANG UNDER ONE PLATE ~ LETTER INDICATES SWITCHING

$OS — OCCUPANCY SENSOR SWITCH, WALL MOUNTED

$OSab — 2-BUTTON OCCUPANCY SENSOR SWITCH

OS — OCCUPANCY SENSOR SWITCH, CEILING MOUNTED

$D — INCANDESCENT DIMMER SWITCH

$FD — FLUORESCENT DIMMER SWITCH

LTC — LIGHTING TIME CLOCK

LC — LIGHTING CONTACTOR

NOTE:

MOUNT LIGHT SWITCHES WITH CENTERLINE 48" AFF UNO

C3 LIGHT SWITCHES

NO SCALE

F — DUPLEX 20A, 125V, 2P, 3W, NEMA 5-20R RECEPTACLE ~ MOUNTED IN FLUSH FLOOR BOX

F — DOUBLE DUPLEX 20A, 125V, 2P, 3W, NEMA 5-20R RECEPTACLE ~ MOUNTED IN FLUSH FLOOR BOX

C — DUPLEX 20A, 125V, 2P, 3W, NEMA 5-20R RECEPTACLE ~ FLUSH MOUNTED IN CEILING

C — DOUBLE DUPLEX RECEPTACLE ~ FLUSH MOUNTED IN CEILING

F5 FLOOR AND CEILING DEVICES

NO SCALE

SEC — SECURITY PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF

SAP — ANNUNCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF

SMP — MOTION SENSOR, PASSIVE INFRARED (PIR), CEILING MOUNTED

SMM — MOTION SENSOR, MICROWAVE, CEILING MOUNTED

SMD — MOTION SENSOR, DUAL TECHNOLOGY, PIR/MICROWAVE, CEILING MOUNTED

SSC — CAMERA

SCA — CARD ACCESS, MOUNT

SDC — DOOR CONTACT, MAGNETIC LOCK

SDR — DOOR RELEASE BUTTON

SDS — DOOR SWITCH

SST — STROBE

SHN — HORN

SDL — MAGNETIC DOOR LOCK

T — TRANSFORMER

SV — SOLENOID VALVE

PC — PHOTOCELL

LS — LIMIT SWITCH

C5 SECURITY SYSTEM/MISCELLANEOUS

NO SCALE

DUPLEX RECEPTACLE ~ 20A, 125V

SWITCHED DUPLEX RECEPTACLE ~ 20A, 125V

GFCI TYPE DUPLEX RECEPTACLE ~ MOUNT 44"AFF UNO

WP — GFCI RECEPTACLE WITH WEATHERPROOF COVER

WP — GFCI RECEPTACLE IN WP ENCLOSURE ON ROOF

DOUBLE DUPLEX RECEPTACLE

SWITCHED DOUBLE DUPLEX RECEPTACLE.

GFCI DOUBLE DUPLEX RECEPTACLE ~ MOUNT 44"AFF UNO

EX — SINGLE RECEPTACLE ~ EXPLOSION PROOF

NOTES:

1. MOUNT RECEPTACLES WITH CENTERLINE 18"AFF UNO
2. MOUNT EXTERIOR RECEPTACLES WITH CENTERLINE 24"AFG UNO

F7 RECEPTACLES

NO SCALE

FACP — FIRE ALARM CONTROL PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF

FAA — FIRE ALARM ANNUNCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72"AFF

S — SMOKE DETECTOR

S SS — SINGLE STATION SMOKE DETECTOR WITH AUDIBLE INDICATING APPLIANCE, MOUNT 80"AFF TO BOTTOM OR 6" BELOW CEILING WHICHEVER IS LOWER

H — HEAT DETECTOR

D — DUCT SMOKE DETECTOR

RTS — REMOTE TEST/INDICATOR FOR DUCT SMOKES, MOUNT ON CEILING BENEATH UNIT, OR WALL MOUNT WHERE INDICATED ON PLANS

F — MANUAL PULL STATION, MOUNT 48"AFF

30 F — AUDIO/VISUAL INDICATING APPLIANCE, CANDELA AS NOTED ON PLANS, MOUNT 80"AFF TO BOTTOM OR 6" BELOW CEILING WHICHEVER IS LOWER

30 F — VISUAL INDICATING APPLICANCE, CANDELA AS NOTED ON PLANS, MOUNT 80"AFF TO BOTTOM OR 6" BELOW CEILING WHICHEVER IS LOWER

F — SPRINKLER SYSTEM WATER FLOW SWITCH ~ PROVIDED UNDER DIVISION 21 ~ WIRED UNDER DIVISION 26

T — SPRINKLER SYSTEM TAMPER SWITCH ~ PROVIDED UNDER DIVISION 21 ~ WIRED UNDER DIVISION 26

C — SPRINKLER SYSTEM ALARM CHECK VALVE PRESSURE SWITCH ~ PROVIDED UNDER DIVISION 21 ~ WIRED UNDER DIVISION 26

P — SPRINKLER SYSTEM EXCESS PRESSURE PUMP ~ PROVIDED UNDER DIVISION 21 ~ WIRED UNDER DIVISION 26

C7 FIRE ALARM SYSTEM

NO SCALE

PANELBOARD ~ SURFACE MOUNTED

PANELBOARD ~ FLUSH MOUNTED

FUSED DISCONNECT SWITCH

NON-FUSED DISCONNECT SWITCH

COMBINATION MOTOR STARTER

— MOTOR ~ NUMBER INDICATES HORSEPOWER

M — METER AND CABINET

J — JUNCTION BOX ~ CEILING MOUNTED

T# — TRANSFORMER ~ NUMBER INDICATES DESIGNATION SEE TRANSFORMER SCHEDULE

VFD — VARIABLE FREQUENCY DRIVE

TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR

E — EMERGENCY SHUTOFF SWITCH ~ WALL MOUNTED 48" TO CENTERLINE ~ PROVIDE TAMPER-PROOF COVER

CONDUIT TURNING UP

CONDUIT TURNING DOWN

WIRING UNDERGROUND OR UNDERSLAB

HOMERUN ~ (2)#12+(1)#12G UNO (EXCEPT COMPUTER AND LIGHTING CIRCUITS: (1)#12+(1)#10N+(1)#12G UNO)

SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT

3-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT

L~20A,1P — INDICATES 20A,1P LOCKING CIRCUIT BREAKER

CONNECTION TO EQUIPMENT

GROUNDING SYSTEM

D9 POWER DISTRIBUTION

NO SCALE

1. BRANCH CIRCUIT WIRING NOT SHOWN. WIRE AND CONNECT ELECTRICAL ITEMS TO CIRCUITS INDICATED.
2. DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE WORK OF DIVISION 26 AND OTHER DIVISIONS. WHERE ELECTRICAL ITEMS ARE REMOVED, REMOVE CONDUIT AND WIRING BACK TO SOURCE.
3. DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
4. THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS, IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET PROJECT REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.
5. ALL ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.
6. COORDINATE ALL WORK WITH OTHER DIVISIONS. VERIFY EXACT POWER REQUIREMENTS OF MECHANICAL EQUIPMENT WITH DIVISION 23. POWER WIRING FOR EQUIPMENT & CONTROL IS TO BE PERFORMED BY DIVISION 26. CONTROL WIRING BY DIVISION 23.
7. A BUILDING LIGHTING CONTROL SYSTEM IS TO BE PROVIDED. REFER TO SPECIFICATIONS AND LIGHTING PLANS.

C TV — TELE/DATA OUTLET ~ FLUSH MOUNTED IN CEILING

TV — TELEPHONE OUTLET, MOUNT 18" AFF UNO

W TV — WALL TELEPHONE OUTLET, MOUNT 44" AFF UNO

E TV — TELEPHONE OUTLET FOR ELEVATOR CONNECTION

TV — TEL/DATA OUTLET, MOUNT 18" AFF UNO

R — TEL/DATA RACK

WR — TEL/DATA RACK, WALL MOUNTED

D1 TEL/DATA

NO SCALE

12 — 50A RECEPTACLE FOR WELDER ~ 250V, 2P, 3W, NEMA 14-50R, (3) #8 + (1) #10 TO 40A, 2P CIRCUIT BREAKER.

13 — 30A RECEPTACLE FOR PRESSURE WASHER ~ 230V, 2P, 3W, NEMA 14-20R, (3) #12 + (1) #12 GND TO 20A, 2P CIRCUIT BREAKER.

16 — SINGLE RECEPTACLE, 20A, 125V, NEMA 5-20R MOUNT 18"AFF IN ELEVATOR SHAFT FOR ELEVATOR SUMP PUMP.

NOTE:

PROVIDE MATCHING CORD AND PLUG FOR SINGLE RECEPTACLES

B1 SINGLE RECEPTACLES

NO SCALE

1. PROVIDE BOXES, RACKS, ETC. WHERE INDICATED OR NEEDED
2. BOXES AND CONDUIT WITH PULL STRING TO 6" ABOVE NEAREST ACCESSIBLE CEILING (UNLESS NOTED OTHERWISE) BY DIVISION 26.
3. IN AREAS WITHOUT CEILINGS, CONDUIT PROVIDED TO NEAREST ACCESSIBLE CORRIDOR CEILING ~ 1" CONDUIT TO SINGLE GANG BOXES, 1 1/4" CONDUIT TO DOUBLE GANG BOXES.
4. WIRING OUTLETS, PLATES, AND CONNECTIONS BY DIVISION 26 (UNLESS NOTED OTHERWISE)
5. PROVIDE BLANK INSERTS FOR ALL OUTLET OPENINGS IN PLATES THAT ARE UNUSED

A1 TECHNOLOGY GENERAL NOTES

NO SCALE

SYMBOL	MTG HT AFF UNO	DESCRIPTION	KEY NOTE	CONDUIT SIZE	BOX TYPE: SINGLE GANG DEVICE RING IN 4x4SQ.	BOX TYPE: DOUBLE GANG DEVICE	BOX TYPE: .	OUTLET TYPE: 8-WIRE, 8 POSITION CAT 6 VOICE OUTLET	OUTLET TYPE: S VIDEO	OUTLET TYPE: 8-WIRE, 8 POSITION CAT 6 DATA OUTLET	OUTLET TYPE: RJ-45 WITH SS WALL PHONE PLATE	OUTLET TYPE: F TYPE OUTLET	OUTLET TYPE: RCA BULKHEAD	OUTLET TYPE: BLANK	OUTLET TYPE: .	CABLING: 1 PAIR SHIELDED 20 AWG	CABLING: CATEGORY 6 4-PAIR UTP	CABLING: RG-59 OHM COAX.	CABLING: .
TV	18"	DATA/TELEPHONE OUTLET		1"	X			1		3				2			4		
AC W	ABOVE CEILING	WIRELESS ACCESS OUTLET		1"	X					1				5			1		
P	18"	PROJECTOR INTERFACE OUTLET		(2) 1"		X			1	2		1	3	5		3	3	1	
AC P	ABOVE CEILING	PROJECTOR OUTLET		(2) 1"		X			1	1		1	3	3		3	2	1	
V	45"	VIDEO/CATV OUTLET		3/4"	X							1		5				1	
TV W	45"	WALL PHONE OUTLET		3/4"	X						1			0			2		

A3 TECHNOLOGY MATRIX

NO SCALE

NOTE

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION INTO THE DESIGN

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF
BRKRS	CIRCUIT BREAKERS
P/O	PART OF
WG	WIREGUARD
CB	CIRCUIT BREAKER
MT	MOUNT

A7 ABBREVIATIONS

NO SCALE

A9 GENERAL NOTES

-

Allied Engineering
Structural · Mechanical · Electrical · Consultants
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE — CATHERINE A. FAUCHER — No. 7371 — PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFP
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

ELECTRICAL LEGENDS AND ABBREVIATIONS

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SHEET NUMBER
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OF

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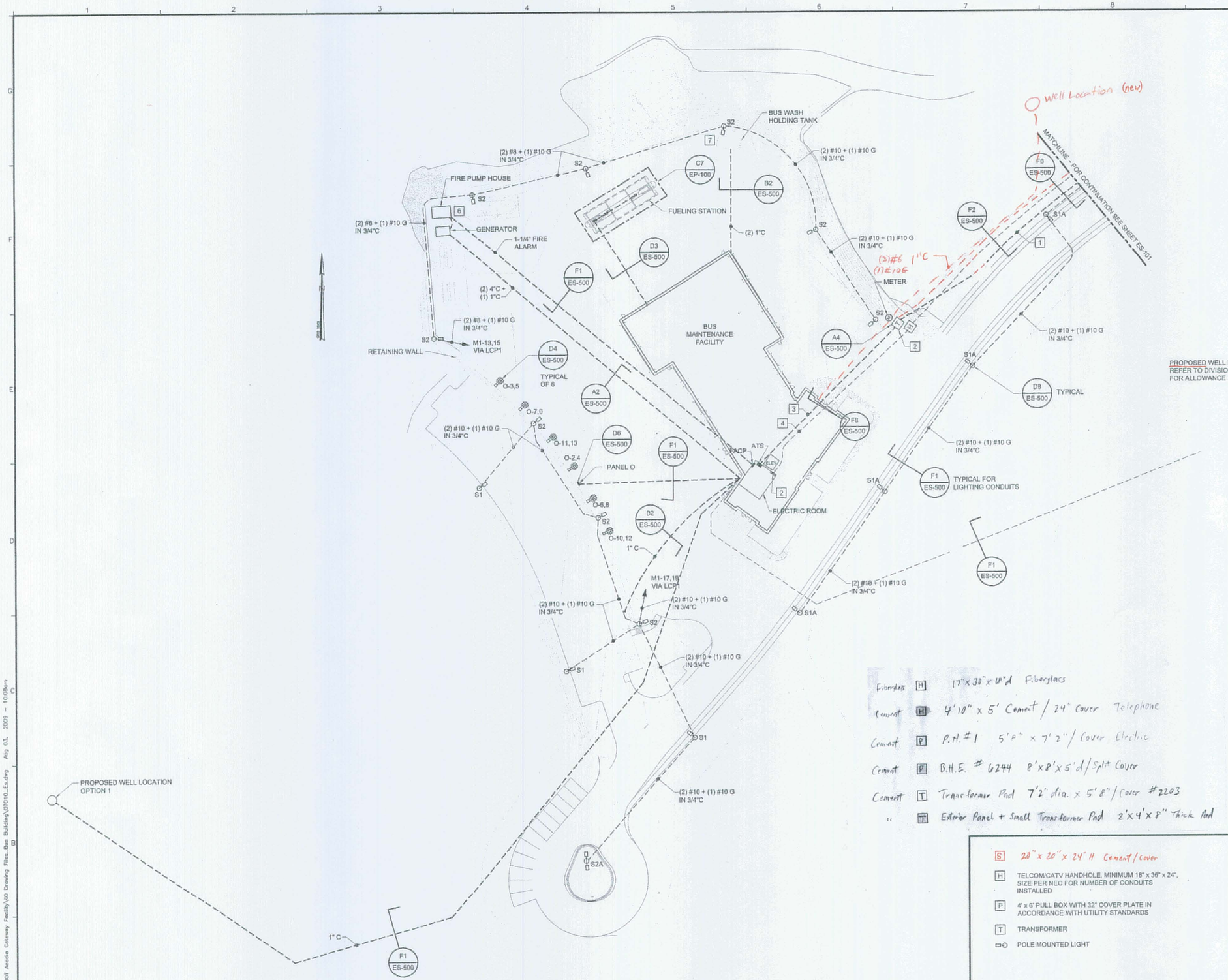
N:\Projects\2007\07010 ~ MDOT Acadia Gateway Facility\00 Drawing Files_Bus Building\07010_EP.dwg Aug 03, 2009 - 10:05am



PROPOSED WELL LOCATION OPTION 2 – REFER TO DIVISION 01 FOR SPECIFICATIONS FOR ALLOWANCE INFORMATION

Fiberglass [H] 17"x 30"x 18"d Fiberglass

Cement [H] 4'10" x 5' Cement / 24" Cover Telephone

Cement [P] P.H. #1 5'8" x 7'2" / Cover Electric

Cement [P] B.H.E. # 6244 8'x8'x5'd / Split Cover

Cement [T] Transformer Pad 7'2" dia. x 5'8" / Cover #2203

" [T] Exterior Panel + Small Transformer Pad 2'x4'x8" Thick Pad

[S] 20" x 20" x 24" H Cement / Cover

[H] TELCOM/CATV HANDHOLE, MINIMUM 18" x 36" x 24", SIZE PER NEC FOR NUMBER OF CONDUITS INSTALLED

[P] 4' x 6' PULL BOX WITH 32" COVER PLATE IN ACCORDANCE WITH UTILITY STANDARDS

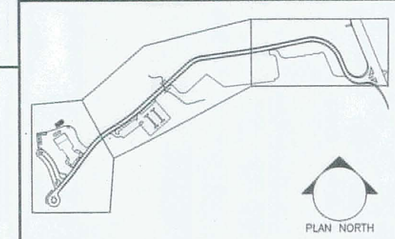
[T] TRANSFORMER

POLE MOUNTED LIGHT

C9	LEGEND
NO SCALE	

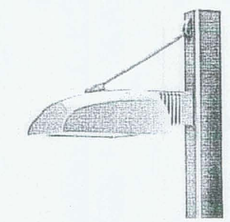
1. UNDERGROUND PRIMARY ELECTRICAL WIRING. PROVIDED BY BANGOR HYDRO ELECTRIC. CONDUITS PROVIDED BY DIV 26.
2. PAD MOUNT TRANSFORMER, CT'S AND METER PROVIDED BY BANGOR HYDRO ELECTRIC COMPANY. VAULT PROVIDED BY DIVISION 26.
3. SECONDARY ELECTRIC SERVICE. SEE ONE-LINE DIAGRAM FOR REQUIREMENTS.
4. UNDERGROUND TELEPHONE SERVICE. PROVIDE (3) 4" CONDUIT WITH PULL ROPE, PER TELEPHONE/CATV PROVIDERS REQUIREMENTS.
5. TERMINATE AT TELEPHONE BOARD IN MECH/ELECT ROOM 121
6. PROVIDE ONE TYPE H2A LUMINAIRE AT FIRE PUMP HOUSE ENTRANCE – CONNECT TO FIRE PUMP HOUSE PANELBOARD FURNISHED BY DIVISION 21 – COORDINATE WITH DIVISION 21.
7. WIRE AND CONNECT FLOAT SWITCH FOR HOLDING TANK ALARM. SEE SHEET EP-101 FOR ALARM UNIT LOCATION.

B9	KEY NOTES



A9	KEY PLAN
NOT TO SCALE	

A1	SITE ELECTRICAL PART PLAN
1" = 40'-0"	



F9	TYPE S1, S1A, S2 & S2A
NO SCALE	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE CATHERINE A. FALCHER No. 7011 PROFESSIONAL ENGINEER

PROJECT INFORMATION		
PROGRAM	–	
PROJECT MANAGER	WPF	SIGNATURE
DESIGNER	–	P.E. NUMBER
CONSULTANT	ALLIED ENGINEERING	01 MAY, 2009
PROJECT RESIDENT	–	DATE
CONTRACTOR	–	
PROJECT COMPLETION DATE	–	

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL PART PLAN

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Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T:
F:
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SHEET NUMBER
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OF

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Username: –

LUMINAIRE SCHEDULE

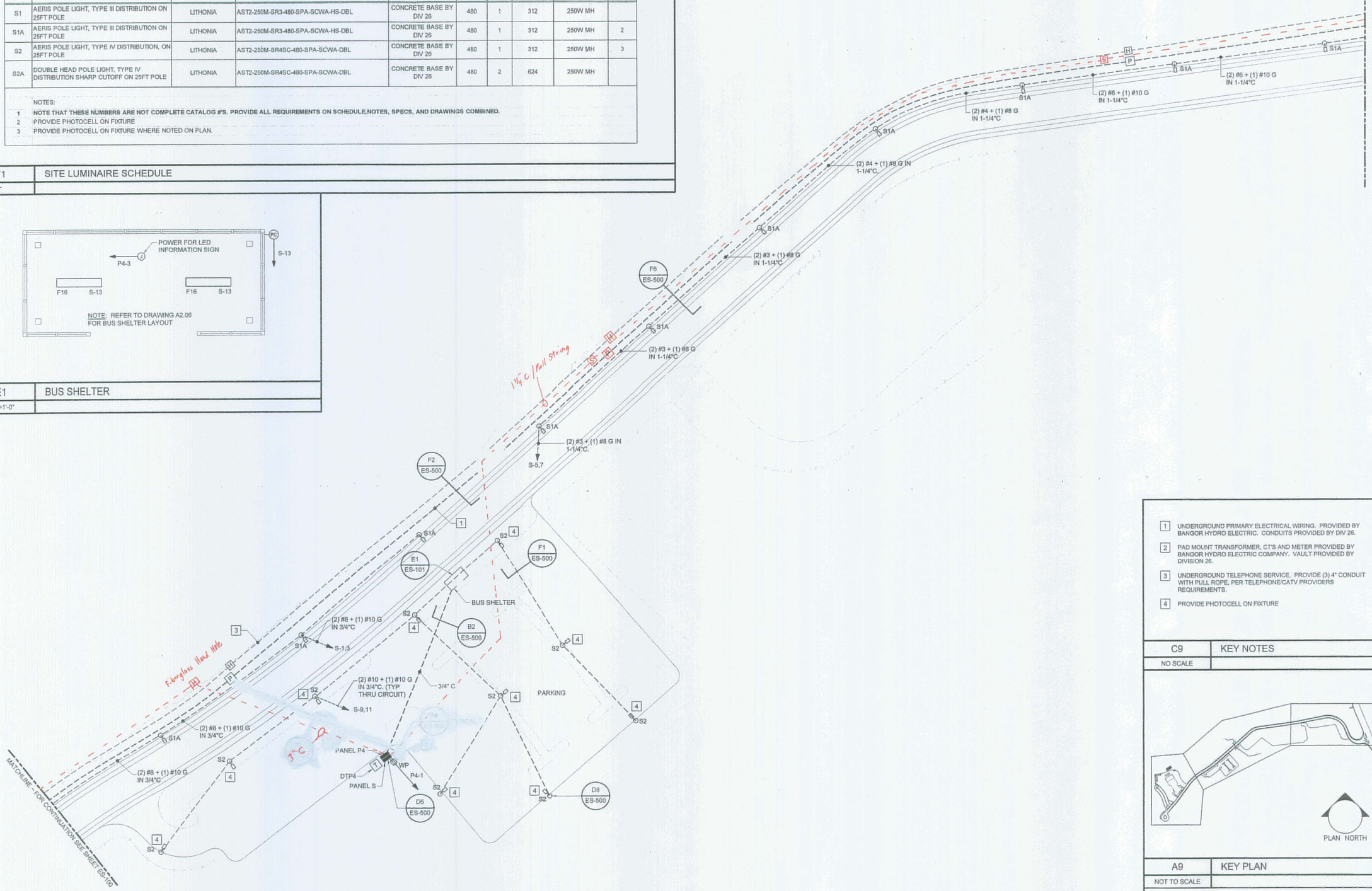
TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBERS - SEE NOTE 1	MOUNTING	VOLTS	LAMP QTY	LAMP TOTAL WATTS	LAMP TYPE	KEY NOTES
S1	AERIS POLE LIGHT, TYPE III DISTRIBUTION ON 25FT POLE	LITHONIA	AST2-250M-SR3-480-SPA-SCWA-HS-DBL	CONCRETE BASE BY DIV 26	480	1	312	250W MH	
S1A	AERIS POLE LIGHT, TYPE III DISTRIBUTION ON 25FT POLE	LITHONIA	AST2-250M-SR3-480-SPA-SCWA-HS-DBL	CONCRETE BASE BY DIV 26	480	1	312	250W MH	2
S2	AERIS POLE LIGHT, TYPE IV DISTRIBUTION, ON 25FT POLE	LITHONIA	AST2-250M-SR4SC-480-SPA-SCWA-DBL	CONCRETE BASE BY DIV 26	480	1	312	250W MH	3
S2A	DOUBLE HEAD POLE LIGHT, TYPE IV DISTRIBUTION SHARP CUTOFF ON 25FT POLE	LITHONIA	AST2-250M-SR4SC-480-SPA-SCWA-DBL	CONCRETE BASE BY DIV 26	480	2	624	250W MH	

NOTES:

1. NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG #'S. PROVIDE ALL REQUIREMENTS ON SCHEDULE,NOTES, SPECS, AND DRAWINGS COMBINED.
2. PROVIDE PHOTOCELL ON FIXTURE
3. PROVIDE PHOTOCELL ON FIXTURE WHERE NOTED ON PLAN.

F1 SITE LUMINAIRE SCHEDULE

E1 BUS SHELTER
1/4"=1'-0"



A1 SITE ELECTRICAL PART PLAN
1" = 40'-0"

1. UNDERGROUND PRIMARY ELECTRICAL WIRING. PROVIDED BY BANGOR HYDRO ELECTRIC. CONDUITS PROVIDED BY DIV 26.
2. PAD MOUNT TRANSFORMER, CT'S AND METER PROVIDED BY BANGOR HYDRO ELECTRIC COMPANY. VAULT PROVIDED BY DIVISION 26.
3. UNDERGROUND TELEPHONE SERVICE. PROVIDE (3) 4" CONDUIT WITH PULL ROPE, PER TELEPHONE/CATV PROVIDERS REQUIREMENTS.
4. PROVIDE PHOTOCELL ON FIXTURE

C9 KEY NOTES
NO SCALE

A9 KEY PLAN
NOT TO SCALE

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: (207) 797-1760
F: (207) 797-1766
Web: www.allied-eng.com

Allied Project No: 07010 | Cad File: 07010ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE — CATHERINE A. FAUCHER No. 7873 — LICENSED PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WFF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
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SITE ELECTRICAL PART PLAN, DETAILS AND SCHEDULE

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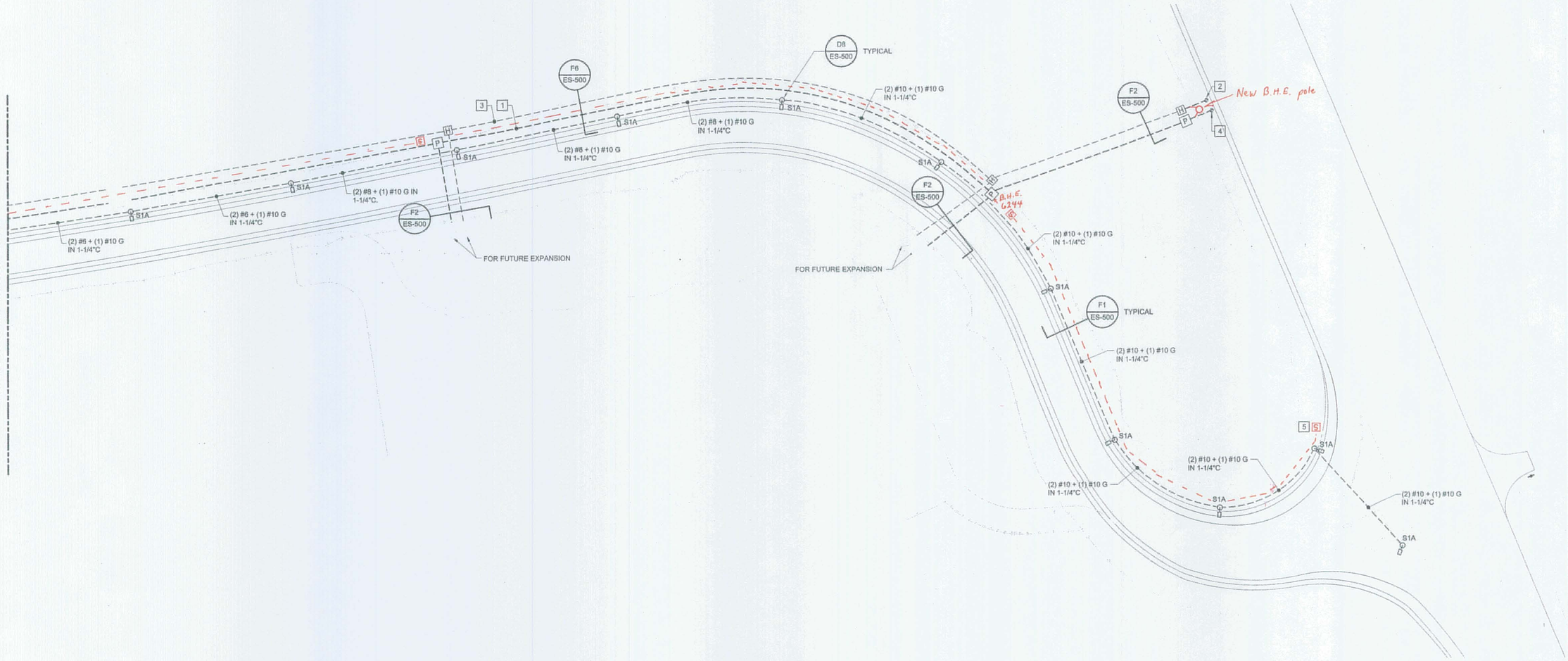


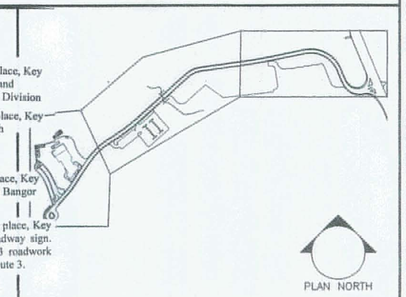
1 **DRAWING ES-102: DELETE** Key Note #1 in its entirety. **ADD** its place, Key Note #1 as follows: "Underground primary electrical wiring furnished and installed by Bangor Hydro Electric. Conduits furnished and installed by Division 26."

2 **DRAWING ES-102: DELETE** Key Note #2 in its entirety. **ADD** its place, Key Note #2 as follows: "Coordinate termination location and schedule with Telephone/CATV company and the Route 3 roadwork Contractor."

3 UNDERGROUND TELEPHONE SERVICE. PROVIDE (3) 4" CONDUIT WITH PULL ROPE, PER TELEPHONE PROVIDERS REQUIREMENTS.

4 **DRAWING ES-102: DELETE** Key Note #4 in its entirety. **ADD** its place, Key Note #4 as follows: "Coordinate termination location and schedule with Bangor Hydro Electric Company and the Route 3 roadwork Contractor."

5 **DRAWING ES-102: DELETE** Key Note #5 in its entirety. **ADD** its place, Key Note #5 as follows: "Provide 1" conduit to handhole for future roadway sign. Coordinate Electrical work impact by Route 3 project with Route 3 roadwork Contractor. Refer to Drawing C-10 for matchline indicating limit of Route 3.



A9 | KEY PLAN
NO SCALE

A7 | KEY NOTES

A1 | SITE ELECTRICAL PART PLAN
1" = 40'-0"

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: 207.774.7260
F: 207.774.7266
Web: www.allied-eng.com

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE · CATHERINE A. FAUCHER · No. 7575 · PROFESSIONAL ENGINEER · U.S.A.

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WFF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

SIGNATURE
P.E. NUMBER
01 MAY, 2009
DATE

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL PART PLAN

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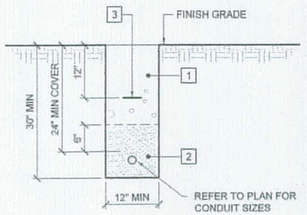
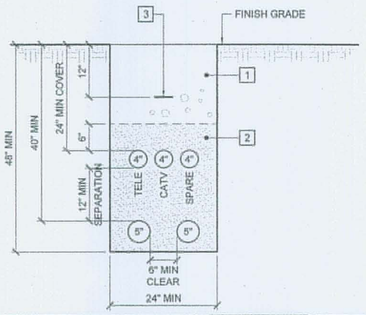


F1 TRENCH DETAIL
NO SCALE



F2 TRENCH DETAIL
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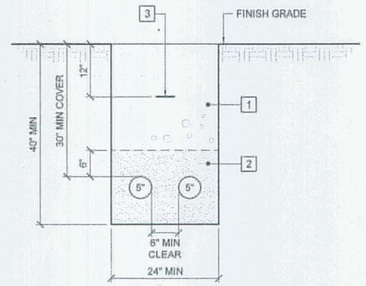
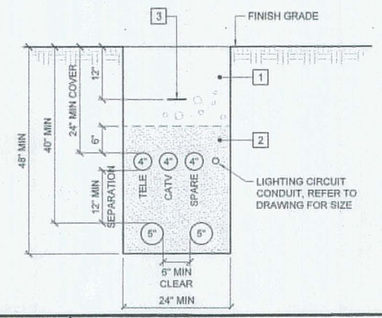


F4 TRENCH DETAIL
NO SCALE



F6 TRENCH DETAIL
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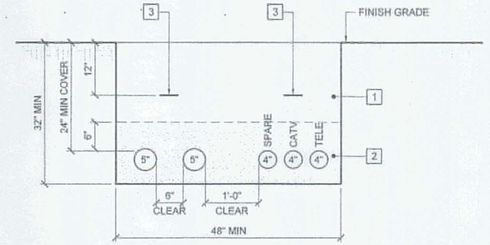


F8 TRENCH DETAIL
NO SCALE

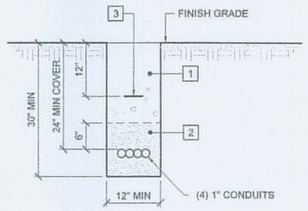
1 CLEAN BACKFILL CONTAINING NO ROCKS LARGER THAN 4" DIA, AND NO ROOTS, STUMPS OR OTHER DEBRIS

2 BEDDING OF SOIL CONTAINING NO ROCKS, ROOTS, STUMPS OR OTHER DEBRIS

3 PLASTIC "ELECTRIC" MARKER TAPE

NOTE: PROVIDE PULL STRING/ROPE IN ALL SPARE/EMPTY CONDUITS

D1 TRENCH DETAIL KEY NOTES
NO SCALE



D2 TRENCH DETAIL
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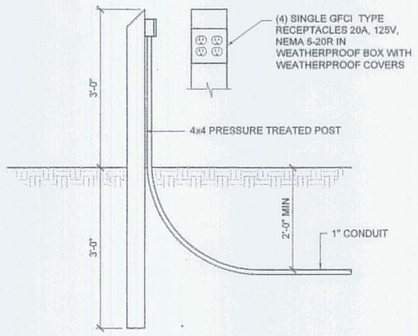
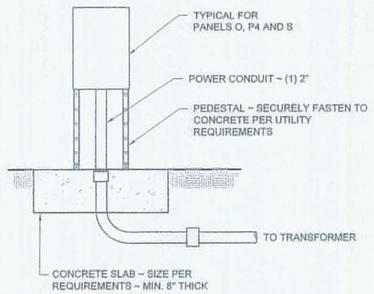
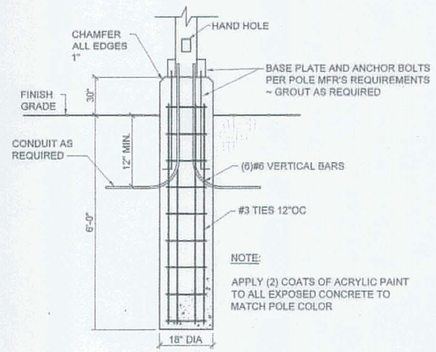


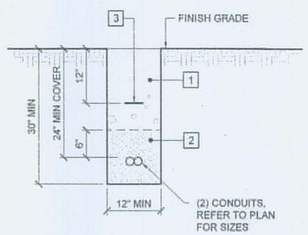
D4 BUS HEATER PEDESTAL
NO SCALE



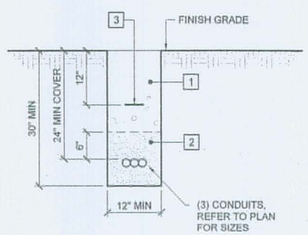
D6 EXTERIOR PANEL DETAIL
NO SCALE



D8 POLE BASE DETAIL
NO SCALE



B2 TRENCH DETAIL
NO SCALE



A2 TRENCH DETAIL
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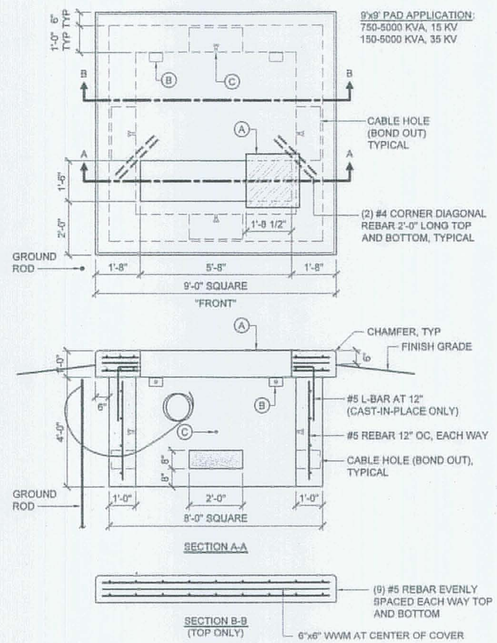

A4 TRANSFORMER PAD DETAIL
NO SCALE

(A) 16"x24"x1/4" GALVANIZED STEEL PLATE. MID#6000621790

(B) 4"x4"x1/2"x6" LONG ANGLE WITH (2) 3/4" DIAMETER EXPANSION ANCHORS, TYPICAL 4 PLACES (2-PIECE PRECAST ONLY)

(C) PULLING EYE INSERT, FOR USE WITH 3/4" NATIONAL COARSE THREAD EYE BOLT (RICHMOND LCB-1 OR EQUAL). LOCATE OPPOSITE EACH CABLE HOLE AND 24" FROM THE BOTTOM.

1. "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED. THE CONCRETE BASE SHALL BE SET ON A SUITABLE GRAVEL BASE AND LOCATED SO THAT THE "FRONT" IS ACCESSIBLE BY TRUCK AND SUITABLY PROTECTED FROM PLOW AND TRAFFIC DAMAGE.
2. GRADE SHALL BE FINISHED IN SUCH A MANNER TO ALLOW SURFACE WATER TO FLOW AWAY FROM THE PAD.
3. PROVIDE 8"x24" CABLE HOLES (BOND OUTS) 8" UP THE WALL FROM THE BASE. LOCATE ONE CABLE HOLE PER WALL, MORE IF NECESSARY. LINE UP CABLE HOLES WITH TRENCH.
4. CONDUITS ENTERING THE CONCRETE STRUCTURE SHALL BE SET BACK FROM THE INSIDE WALL 1 TO 2 INCHES AND THE SPACE WITHIN THE KNOCKOUT SURROUNDING THE CONDUITS COMPLETELY FILLED WITH MORTAR TO PREVENT SOIL FROM ENTERING STRUCTURE. INSIDE THE STRUCTURE THE MOTOR SHALL BE FINISHED AND BEVELED FROM THE CONDUIT ENDS TO THE INSIDE WALL FACE TO COVER AND SMOOTH THE EDGES OF THE KNOCKOUTS.
5. A 3/4" x 8' GALVANIZED GROUND ROD SHALL BE INSTALLED 6" IN FRONT OF THE LEFT "FRONT" CORNER OF THE FOUNDATION. THE TOP OF THE GROUND ROD SHALL BE 6" BELOW FINISH GRADE.
6. A GROUND WIRE SHALL BE INSTALLED FROM THE GROUND ROD THROUGH THE CABLE HOLE AT THE BOTTOM OF THE PAD. PROVIDE 20' OF GROUND WIRE.
7. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS. FOR CAST-IN-PLACE EARLY HIGH STRENGTH MAY BE USED WITH A MINIMUM OF 7 DAY CURE TIME.
8. REINFORCING STEEL SHALL HAVE: FY = 60 KSI
9. FOR PRECAST UNITS: THE PRECAST SUPPLIER SHALL PROVIDE LIFTING LUGS IN THE SLAB (FOUNDATION) AND THE BASE. THE PRECAST SUPPLIER SHALL ASSEMBLE THE SLAB TO THE BASE PRIOR TO SHIPPING TO THE SITE TO ENSURE THAT THE SLAB AND BASE FIT PROPERLY WITH NO ROCKING OF THE SLAB EVIDENT.
10. CONCRETE COVER:
    2" MIN OVER TOP REBAR
    3" MIN OVER BOTTOM REBAR
    1" MIN ALL REBAR ENDS

A4 - Additional

Provide a pedestal mounted kWh/demand meter, E-Mon D-Mon Class 5000 or approved equal in outdoor enclosure and complete with current transformers sized for 100 amps to monitor Panel S. Provide a stainless steel unistrut rack located adjacent to the utility meter pedestal to support the meter. Install the current transformers in a weatherproof junction box sized per NEC and mounted to the unistrut rack below the meter.

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: 207.771.2260
F: 207.771.7266
Web: www.alliedeng.com

Allied Project No: 07010
Cad File: 07010ES.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE
FED PIN NO:
PIN NO: 16123.50

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7879
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE
P.E. NUMBER
01 MAY, 2009
DATE

PROJECT INFORMATION

PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

SITE ELECTRICAL DETAILS

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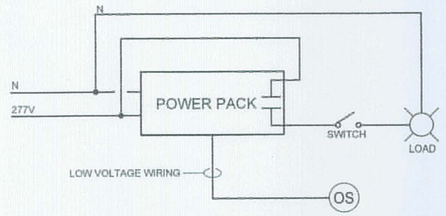
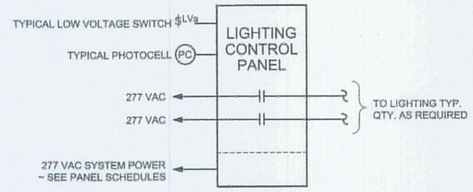


F1	TYPICAL OCCUPANCY SENSOR WIRING DIAGRAM
NO SCALE	



LIGHTING CONTROL SYSTEM NOTES

1. RISER DIAGRAM SHOWS TYPICAL CONNECTIONS ONLY. REFER TO FLOOR PLANS FOR QUANTITY OF SWITCHES, CONTROL PANELS, RELAYS, ETC.
2. EXCEPT AS OTHERWISE INDICATED OR NOTED, LIGHTING SHALL BE TURNED ON MANUALLY BY INDICATED SWITCHING. THE LIGHTING CONTROL SYSTEM SHALL PERFORM AN OFF SWEEP AT A TIME DETERMINED BY THE OWNER. SYSTEM SHALL INCLUDE A BLINK WARNING FEATURE TO ALERT BUILDING OCCUPANTS OF IMPENDING OFF SWEEP AND ALLOW OVERRIDE USING INDIVIDUAL SWITCHES.
3. EXTERIOR LIGHTING SHALL BE CONTROLLED BY AN ASTRONOMICAL TIME CLOCK THAT IS AN INTEGRAL PART OF THE LIGHTING CONTROL PANEL.

E3	LIGHTING CONTROL WIRING DIAGRAM
NO SCALE	

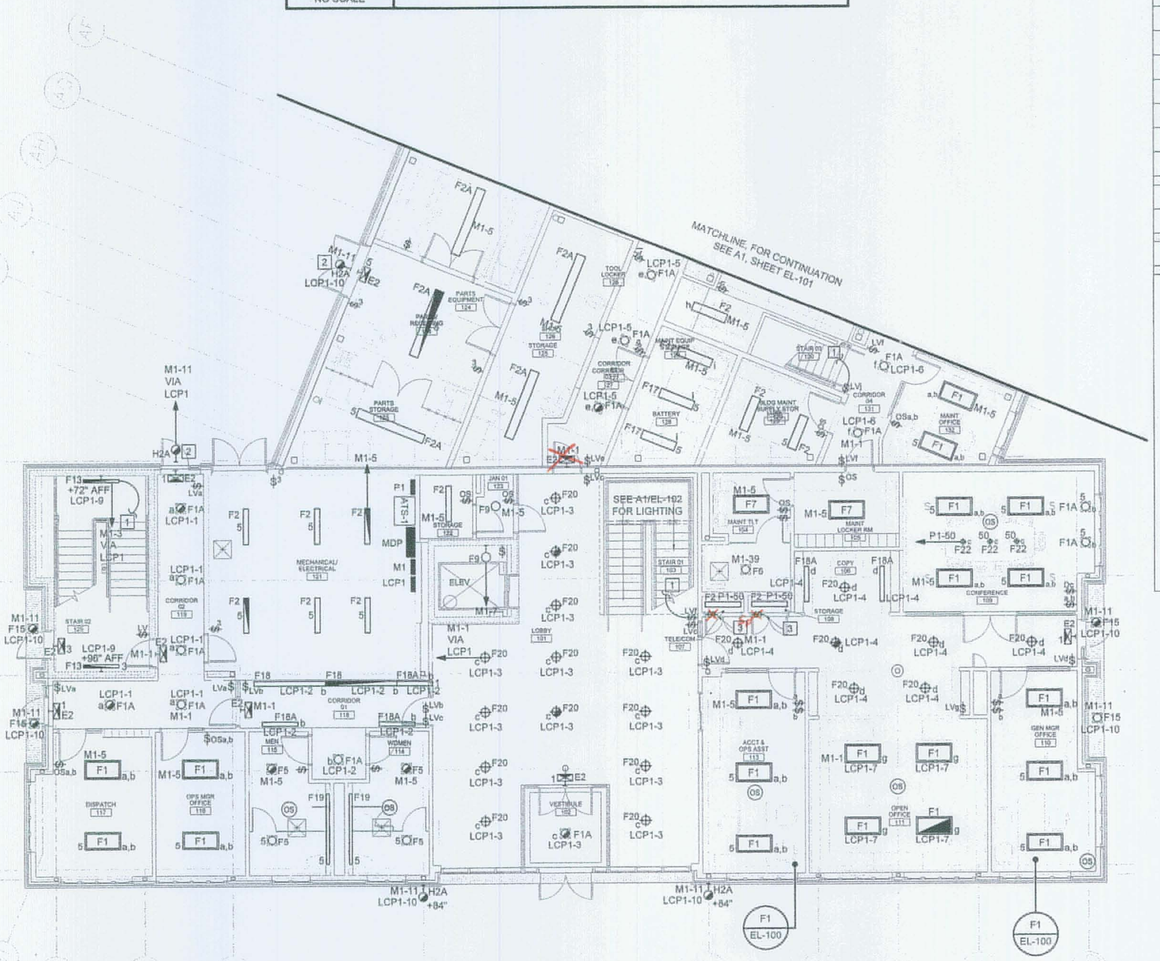
See Owners Manual for actual fixtures supplied

LUMINAIRE SCHEDULE

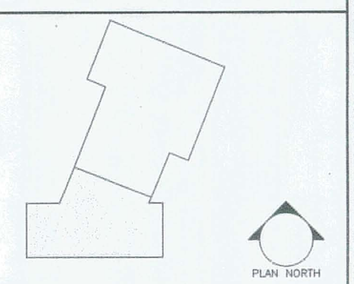
TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBERS - SEE NOTE 1	MOUNTING	VOLTS	LAMP QTY	LAMP TOTAL WATTS	LAMP TYPE	KEY NOTES
F1	2x4 VOLUMETRIC	LITHONIA	2RT5-28T5-GEB995-MVOLT-LPM835P	RECESSED	277	2	66	F28T5 35K	
F1A	VOLUMETRIC DOWNLIGHT	LITHONIA	RT5D-1/32TRT	RECESSED	277	1	36	CF32W TRT 35K	
F2	4' STANDARD INDUSTRIAL	LITHONIA	LA-2-32-MVOLT-GEB10IS-WGL-HC36	SURFACE	277	2	62	F32W T8 35K	2, 4
F2A	8' STANDARD INDUSTRIAL	LITHONIA	TLA-2-32-MVOLT-GEB10IS-WGL-HC36	SURFACE	277	4	114	F32W T8 35K	2, 4
F4	FLUORESCENT HIGH BAY	SPEC LIGHT	FH94-3-54T5HO-N1-X12U-BAF1-MVOLT-GEB10PS-AL-WRP-MHTBG10	CABLE	277	3	183	F54W T5HO 35K	5, 19
F5	6" DOWNLIGHT, IC-RATED	LITON	HOUSING #LFH-132IC-E27 TRIM #LR661-W	RECESSED	277	1	36	CF32W TRT 35K	
F6	6" SHOWER LIGHT, IC RATED WET LOCATION	INTENSE LIGHTING	HOUSING #IF-32-1IC-E TRIM #IC612C	RECESSED	277	1	36	CF32W TRT 35K	
F7	2'x4' ACRYLIC TROFFER	LITHONIA	2GT8-3-32-A12-MVOLT-1/3GEB10PS	RECESSED	277	3	95	F32W T8 35K	2, 4, 21
F7A	1'x4' ACRYLIC TROFFER	LITHONIA	GT8-2-32-A12-MVOLT-1/2GEB10PS	RECESSED	277	2	62	F32W T8 35K	2, 4, 21
F8	4 HEAD LARGE DECO PENDANT W/DIMMING BALLAST VAS STYLE ~ WOOD FINISH	INSIGHT	CUSTOM VASFIXTURE ~ VAS-T44-1-277V-CC-CL	PENDANT	277	4	188	CF42W TRT 35K	6, 7, 11
F9	ELEVATOR PIT LIGHT WITH GLASS GLOBE	CANLET	68-01-FCF-FWF-22-OG-01	WALL/CEILING	277	1	26	CF26W TRT	
F10	LED UNDERCABINET LIGHT	AMERICAN FLUOR	DDU26LED	UNDERCABINET	120	28	5	LED	
F13	COMMERCIAL WALL BRACKET	LITHONIA	WC-2-32-MVOLT-GEB10IS	WALL	277	2	62	F32W T8 35K	4
F14	COMPACT FLUORESCENT UPLIGHT	INSIGHT	VCMS74-WCB-2-CC-PP	WALL 72" AFF	277	1	48	CF42W TRT 35K	5, 6
F15	8" FLUORESCENT WET LOCATION CAN	GOTHAM	LGF-2-42TRT-8RW-T73-MVOLT	RECESSED	277	2	94	CF42W TRT 35K	
F16	4' LINEAR WET LOCATION HIGH ABUSE	KENALL	MLHA12-48-R-LG-PP-4-28-PB5-1-UNV-NAT	PENDANT	277	4	132	F28T5 35K	
F16A	8' LINEAR WET LOCATION HIGH ABUSE	KENALL	MLHA12-96-R-LG-PP-3-28-PB5-1-UNV-NAT	PENDANT	277	6	168	F28T5 35K	
F17	LINEAR FLUORESCENT LISTED FOR DIVISION 1, CLASS 1	RIG-A-LITE	XP265-4-2L-U	SURFACE/PENDANT	277	2	62	F32W T8 35K	4
F18	8' RECESSED LINEAR WALLWASHER	PINNACLE	EW-1T5-8XX-NF-UNV-CC	RECESSED	277	2	66	F28T5 35K	6, 17, 20
F18A	4' RECESSED LINEAR WALLWASHER	PINNACLE	EW-1T5-4XX-NF-UNV-CC	RECESSED	277	1	33	F28T5 35K	6, 17, 20
F19	LINEAR FLUORESCENT COVE LIGHT	PRIMUS LIGHTING	ALX8-T5T-28W-277-A53-W-XX	COVE	277	2	66	F28T5 35K	20
F20	12" DIAMETER PENDANT W/ACRYLLIC LENS	FOCAL POINT	FGR-G-W-1-42TT-S-277-C144-L835-NA	PENDANT	277	1	48	CF42W TRT 35K	16
F21	6" DOWNLIGHT WITH SLOPED CEILING ADAPTER W/DIMMING BALLAST	GOTHAM	AF-1/42TRT-6AR-277-DMHL-SCA6-XX	RECESSED	277	1	48	CF42W TRT 35K	8, 12
F22	DUAL GLASS LOW VOLTAGE PENDANT	MP LIGHTING	P32-C1-RG-7-M-BN	PENDANT 72" AFF UNO	120	1	50	50W MR-16	13, 14, 15
TL	TABLE LAMP	FINELITE	6W DESK LAMP/WB-4-S/PS-9W	TABLE LAMP	120	1	6	LEDS	3, 18
H2	HID WALL PACK	LITHONIA	WSQ-150M-FT-277-SCWA	TBD	277	1	187	150W MH	9
H2A	CF WALL PACK	LITHONIA	WSQ-42TRT-MD-277-2ELED	TBD	277	1	48	CF42W TRT 35K	9
E2	LED SELF POWERED EXIT SIGN	LITHONIA	LQM S W 3 R 120/277 EL N	SEE DRAWINGS	277	–	–	LED	

NOTES:

1. NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG #'S. PROVIDE ALL REQUIREMENTS ON SCHEDULE,NOTES, SPECS, AND DRAWINGS COMBINED.
2. PROVIDE PROGRAMMED START BALLAST FOR ROOMS WITH OCCUPANCY SENSORS.
3. SCHEDULED DATA REPRESENTS BASIS OF DESIGN LUMINAIRE. LUMINAIRE SHALL BE FURNISHED BY THE OWNER.
4. PROVIDE "SUPER T8" LAMPS AND MATCHING BALLASTS; BASIS OF DESIGN BASED ON SYLVANIA PROSTART PSX PROGRAMMED RAPID START BALLAST (.71 BALLAST FACTOR) AND MATCHING OCTRON XPS LAMPS.
5. VERIFY MOUNTING HEIGHT AND STRUCTURE WITH ARCHITECT PRIOR TO ORDERING ANY LIGHTING FIXTURES.
6. VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING LIGHT FIXTURE.
7. PROVIDE A SLOPED CEILING ADAPTER
8. PROVIDE DIMMING BALLAST WITH FIXTURE WHERE REQUIRED.
9. VERIFY MOUNTING HEIGHT PRIOR TO FINAL ROUGH-IN.
10. PROVIDE PHOTOCELL ON FIXTURE
11. PROVIDE INTEGRAL EMERGENCY BATTERY BACK UP FOR 2 LAMPS.
12. PRIOR TO ORDERING SLOPED CEILING ADAPTER VERIFY SLOPE WITH ARCHITECT.
13. PROVIDE 6' OF FIELD ADJUSTABLE CORD. VERIFY MOUNTING HEIGHT W/ARCHITECT PRIOR TO FINAL ROUGH-IN.
14. PROVIDE LOW VOLTAGE TRANSFORMER.
15. PROVIDE AN USHIO 18,000 HOUR ULTRA TITAN 36 DEGREE FLOOD LAMP.
16. MOUNT LIGHT FIXTURE 2" ABOVE THE METAL GRID UNLESS NOTED OTHERWISE.
17. MOUNT FIXTURE FLUSH WITH BOTTOM OF METAL GRID
18. WIRE FIXTURE THRU UNDERCOUNTER OCCUPANCY SENSOR WATTSTOPPER ISOLE #IDP-3050
19. MOUNT FIXTURE SO BOTTOM OF FIXTURE IS EVEN WITH BOTTOM OF TRUSS.
20. REFER TO DRAWINGS FOR TOTAL LENGTHS OF LIGHT FIXTURES PRIOR TO ORDERING FIXTURES.
21. PROVIDE PLASTER FRAME FOR GYP CEILINGS WHERE REQUIRED.
22. ALL MOUNTING HEIGHTS ARE TO BOTTOM OF FIXTURE.



1. UP TO SECOND FLOOR LIGHTS; SEE A1/EL-102.
2. MOUNT LIGHT FIXTURE 6" ABOVE THE DOOR.
3. DOOR SWITCH; LEVITON #1865 OR APPROVED EQUAL.



A9	KEY PLAN
NOT TO SCALE	

A1	LIGHTING PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"	

A7	SHEET WORK NOTES
NO SCALE	

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE — CATHERINE A. FAUCHER — No. 7673 — PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

01 MAY, 2009

DATE

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WFF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTING PART PLAN ~ FIRST FLOOR

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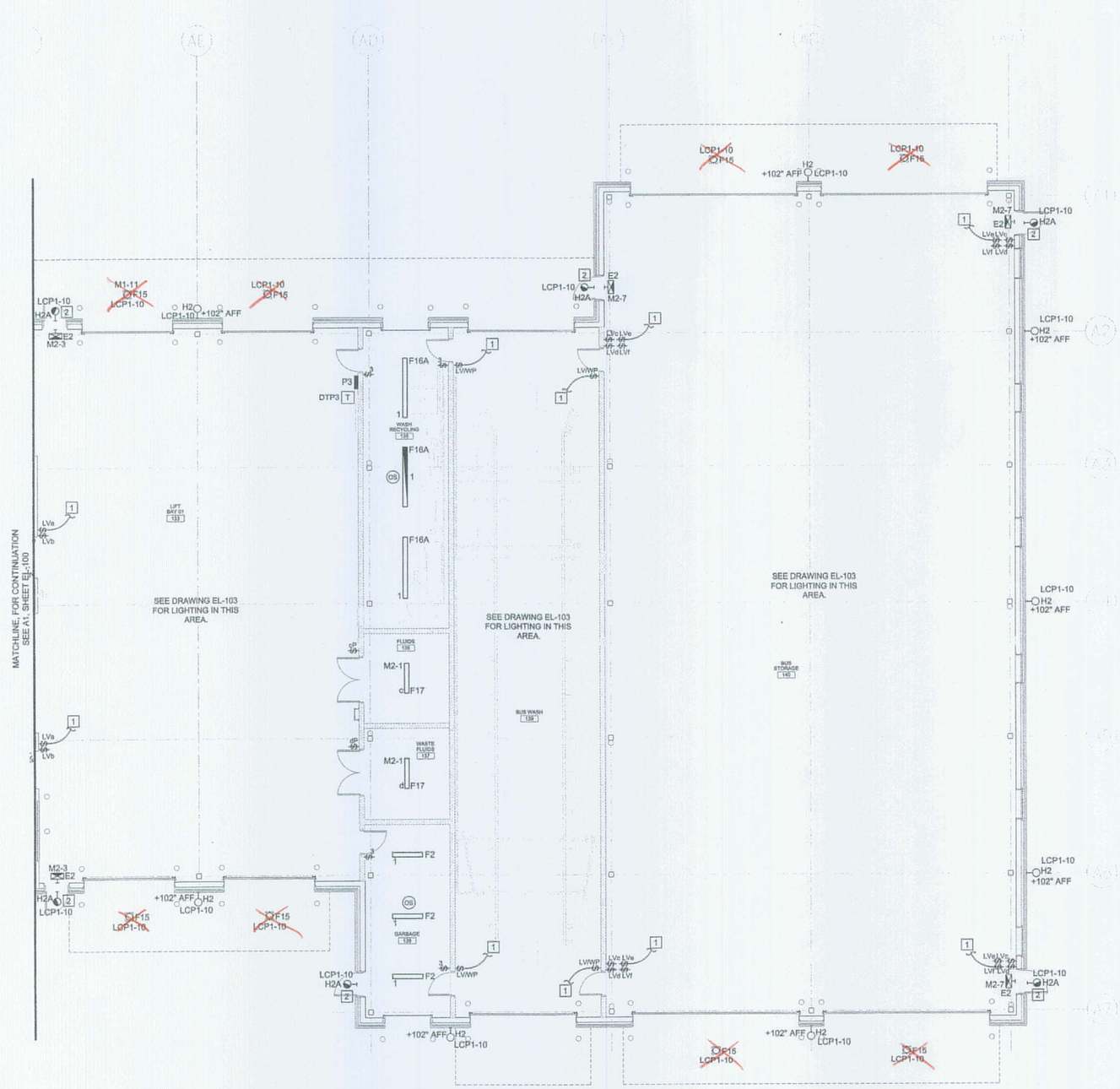


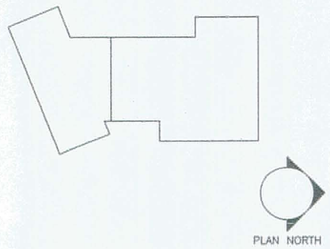
LIGHTING CONTROL PANEL SCHEDULE ~ LCP1			
PROVIDE NETWORK CLOCK/PROGRAMMER WITHIN THIS PANEL			
DESIGNATION: M1-25		MOUNTING: SURFACE	
CONTROL VOLTAGE: 277/480		LOCATION: MECH ROOM 118	
		PROJECT: ACADIA BUS FACILITY	
RELAY NO	CIRCUIT	NOTE	DESCRIPTION
1	M1-1	2	HALLWAY LIGHTING
2	M1-1	2	CORRIDOR LIGHTS 118
3	M1-1	2	LOBBY LIGHTING
4	M1-1	2	HALLWAY LIGHTING
5	M1-1	2	CORRIDOR LIGHTS 127
6	M1-1	2	CORRIDOR LIGHTS 131
7	M1-1	2	OPEN OFFICE
8	M1-9	1	FUEL ISLAND LIGHTING
9	M1-3	2	STAIRWELL 120
10	M1-11	1	EXTERIOR LIGHTING
11	M1-13,15	1,4	SITE LIGHTING
12	M1-13,15	1,4	SITE LIGHTING
13	M1-17,19	1,4	SITE LIGHTING
14	M1-17,19	1,4	SITE LIGHTING
15	M1-21,23	1,4	SITE LIGHTING
16	M1-21,23	1,4	SITE LIGHTING
17			SPARE
18			SPARE
19			SPARE
20			SPARE
21			SPARE
22			SPARE
23			SPARE
24			SPARE

NOTES:
1 PROGRAM FOR AUTO ON/AUTO OFF CONTROL VIA ASTRONOMICAL CLOCK
2 PROGRAM FOR MANUAL-ON/TIME-OFF.
3 PROVIDE PHOTOCELL FOR AUTOMATIC ON/OFF OPERATION
4 PROVIDE A 2 POLE CONTACTOR

LIGHTING CONTROL PANEL SCHEDULE ~ LCP2			
NETWORK PANEL TO LCP1			
DESIGNATION: M2-39		MOUNTING: SURFACE	
CONTROL VOLTAGE: 277/480		LOCATION: STORAGE ROOM 212	
		PROJECT: ACADIA BUS FACILITY	
RELAY NO	CIRCUIT	NOTE	DESCRIPTION
1	M2-3	2, 3	LIFT BAY LIGHTING
2	M2-3	2, 3	LIFT BAY LIGHTING
3	M2-5	2, 3	BUS STORAGE LIGHTING
4	M2-5	2, 3	BUS STORAGE LIGHTING
5	M2-7	2, 3	BUS STORAGE LIGHTING
6	M2-7	2, 3	BUS STORAGE LIGHTING
7	M2-9	2	SECOND STORY LIGHTING
8	M2-9	2	SECOND STORY LIGHTING
9	M2-13	2	BUS WASH LIGHTING
10	M2-11	2	MEZZANINE STORAGE/STORAGE
11	M2-23	2	COMPRESSOR AND STORAGE
12			SPARE
13			SPARE
14			SPARE
15			SPARE
16			SPARE
17	P2-9	2	BREAK ROOM 120V LIGHTING
18			SPARE
19			SPARE
20			SPARE
21			SPARE
22			SPARE
23			SPARE
24			SPARE

NOTES:
1 PROGRAM FOR AUTO ON/AUTO OFF CONTROL VIA ASTRONOMICAL CLOCK
2 PROGRAM FOR MANUAL-ON/TIME-OFF.
3 PROGRAM FOR AUTO OFF VIA PHOTOCELL FORCING LIGHT FIXTURES TO TURN 1/2 LAMPS OFF WHEN THERE IS ADEQUATE DAYLIGHT.

1 UP TO SECOND FLOOR LIGHTS; SEE DRAWING A1/EL-103.
2 MOUNT LIGHT FIXTURE 6" ABOVE THE DOOR.



A9 | KEY PLAN
NOT TO SCALE

A1 | LIGHTING PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"

A7 | SHEET WORK NOTES
NO SCALE

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]allied-eng.com

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE
FED PIN NO:
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CATHERINE A. FAUCHER No. 7031 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE
P.E. NUMBER
01 MAY, 2009
DATE

PROJECT INFORMATION
PROGRAM –
PROJECT MANAGER WFF
DESIGNER –
CONSULTANT ALLIED ENGINEERING
PROJECT RESIDENT –
CONTRACTOR –
PROJECT COMPLETION DATE –

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
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LIGHTING PART PLAN ~ FIRST FLOOR

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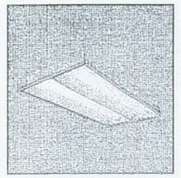

G1	TYPE F1
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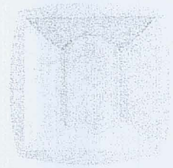
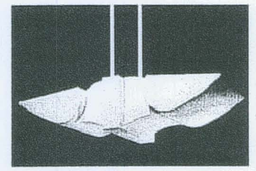


G2	TYPE F1A
NO SCALE	



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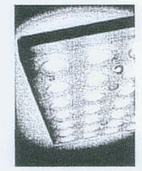

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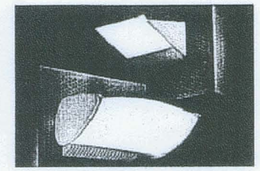
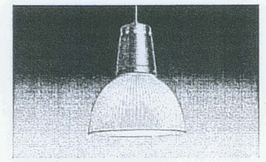


G6	TYPE F14
NO SCALE	

G8	TYPE F16 & F16A
NO SCALE	

G10	TYPE F17
NO SCALE	

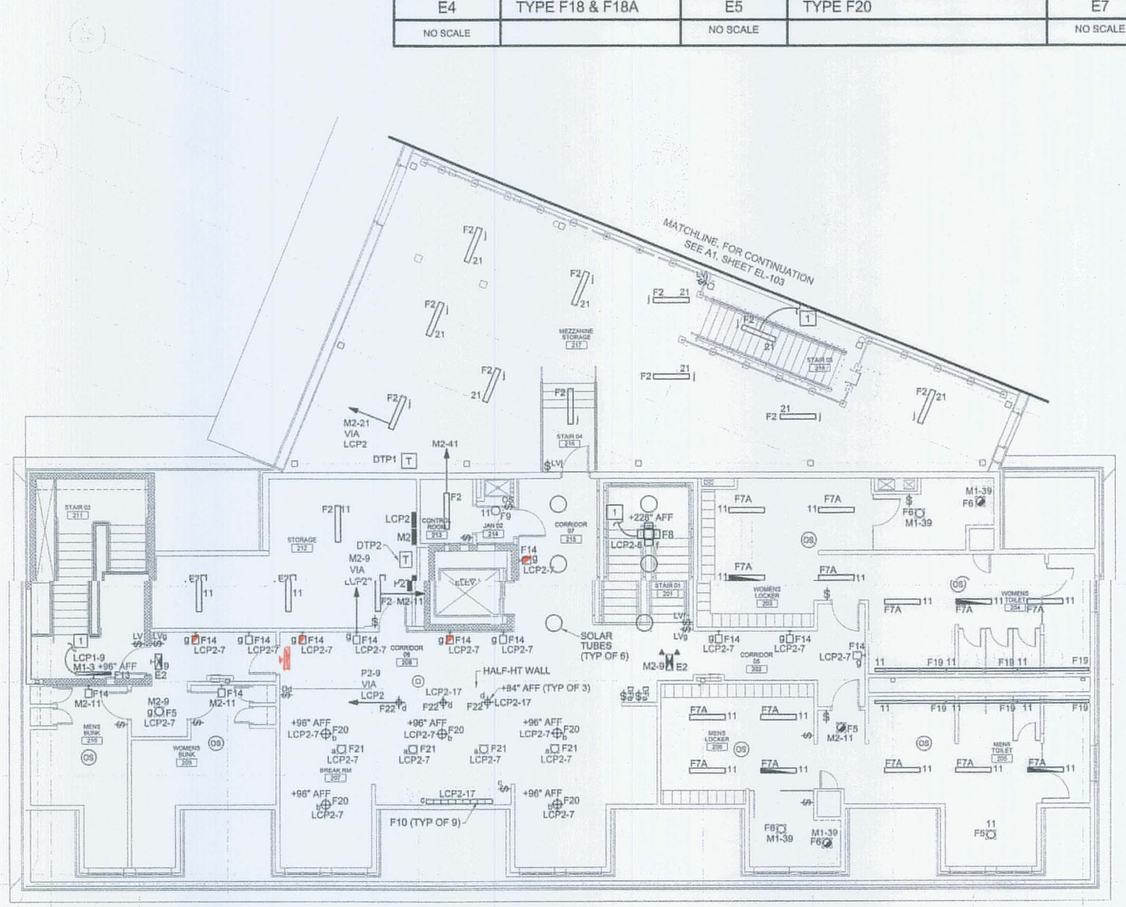
E4	TYPE F18 & F18A
NO SCALE	



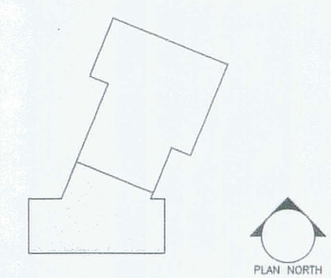
E5	TYPE F20
NO SCALE	

E7	TYPE F22
NO SCALE	

E8	TYPE H2 & H2A
NO SCALE	



1 DOWN TO FIRST FLOOR LIGHT SWITCH; SEE DRAWING A1/EL-100.



A9	KEY PLAN
NOT TO SCALE	

A1	LIGHTING PART PLAN ~ SECOND FLOOR
1/8" = 1'-0"	

A7	SHEET WORK NOTES
NO SCALE	

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010E.DWG

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STATE OF MAINE
CATHERINE A. FAUCHER
No. 7873
LICENSED
PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
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PROJECT RESIDENT	-
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MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
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LIGHTING PART PLAN
SECOND FLOOR

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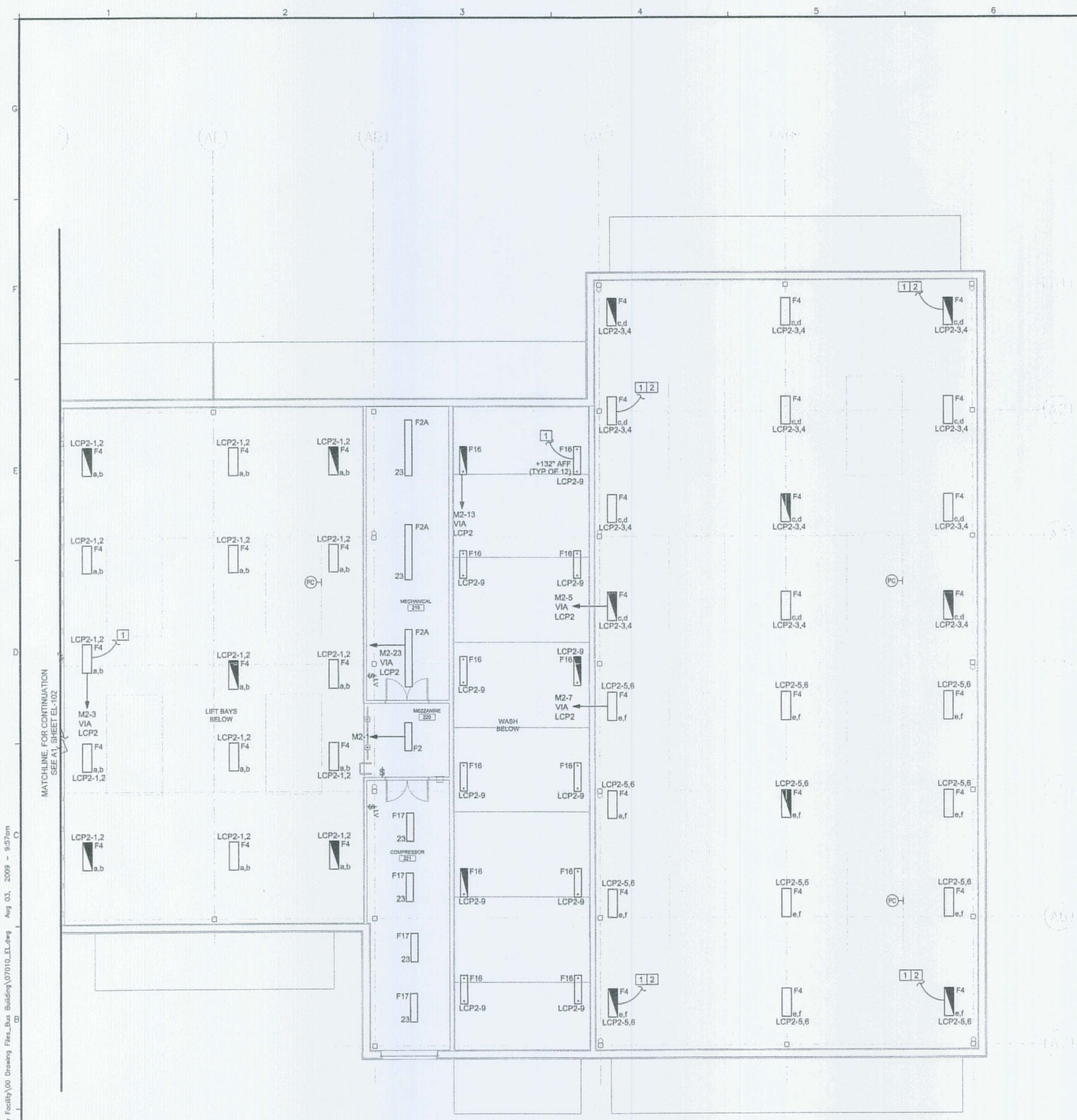
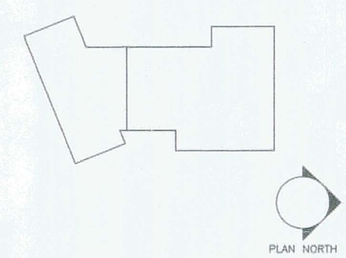


1 DOWN TO FIRST FLOOR LIGHT SWITCH; SEE DRAWING A1/EL-101.
2 DOWN TO FIRST FLOOR EXIT SIGN; SEE DRAWING A1/EL-101.
3 DOWN TO FIRST FLOOR LIGHTS; SEE DRAWING A1/EL-101.



A9	KEY PLAN
NOT TO SCALE	

A1	LIGHTING PART PLAN ~ SECOND FLOOR
1/8" = 1'-0"	

A7	SHEET WORK NOTES
NO SCALE	

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]allied-eng.com

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE — CATHERINE A. FAUCHER No. 7673 — LICENSED PROFESSIONAL ENGINEER — U.S.A.

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WPF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	
DATE	

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTING PART PLAN
SECOND FLOOR

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SHEET NUMBER
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PANEL SCHEDULE ~ O PROVIDE WITH NEMA 3R ENCLOSURE

VOLTAGE: 120/208V | MLO: 100A | MOUNTING: PEDESTAL
3 PHASE, 4 WIRE | LOCATION: BUS LOT
AIC: 10K | PROJECT: ACADIA BUS BLDG

CIRCUIT BREAKER CKT NO	BRKR SIZE	NO OF POLE	PH	CIRCUIT LOAD (KVA) A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A				SPARE
3	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
5	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
7	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
9	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
11	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
13	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
15	20	1	B				SPARE
17	20	1	C				SPARE
		SUBTOTAL:		0.72	0.72	0.72	
2	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
4	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
6	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
8	20	1	A	0.36			RECEPTACLE ~ BUS HEATERS
10	20	1	B		0.36		RECEPTACLE ~ BUS HEATERS
12	20	1	C			0.36	RECEPTACLE ~ BUS HEATERS
14	20	1	A				SPARE
16	20	1	B				SPARE
18	20	1	C				SPARE
		SUBTOTAL:		0.72	0.72	0.72	

PANEL SCHEDULE ~ P4 PROVIDE WITH NEMA 3R ENCLOSURE

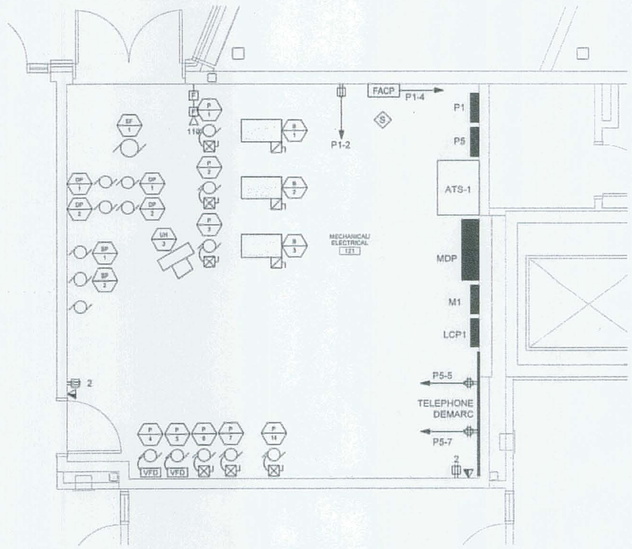
VOLTAGE: 120/208V | MLO: | MOUNTING: PEDESTAL
3 PHASE, 4 WIRE | MCB: 60A | LOCATION: COMMUTER PARKING LOT
AIC: 10K | PROJECT: ACADIA BUS BLDG

CIRCUIT BREAKER CKT NO	BRKR SIZE	NO OF POLE	PH	CIRCUIT LOAD (KVA) A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	0.18			COMMUTER LOT RECEPTACLE
3	20	1	B		0.10		BUS SHELTER INFORMATION SIGN
5	20	1	C				
7	20	1	A				
9	20	1	B				
11	20	1	C				
13	20	1	A				
15	20	1	B				
17	20	1	C				
		SUBTOTAL:		0.18	0.10	0.00	
2	20	1	A				
4	20	1	B				
6	20	1	C				
8	20	1	A				
10	20	1	B				
12	20	1	C				
14	20	1	A				
16	20	1	B				
18	20	1	C				
54	20	1	C				SPARE
		SUBTOTAL:		0.00	0.00	0.00	

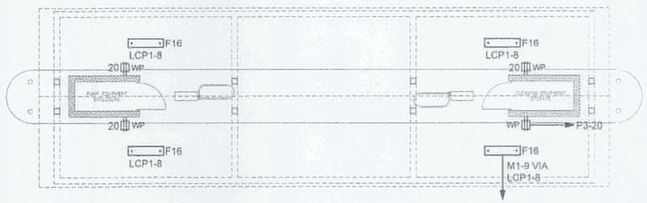
PANEL SCHEDULE ~ S PROVIDE WITH NEMA 3R ENCLOSURE

VOLTAGE: 277/480V | MLO: | MOUNTING: PEDESTAL
3 PHASE, 4 WIRE | MCB: 100A | LOCATION: COMMUTER PARKING LOT
AIC: 10K | PROJECT: ACADIA BUS BLDG

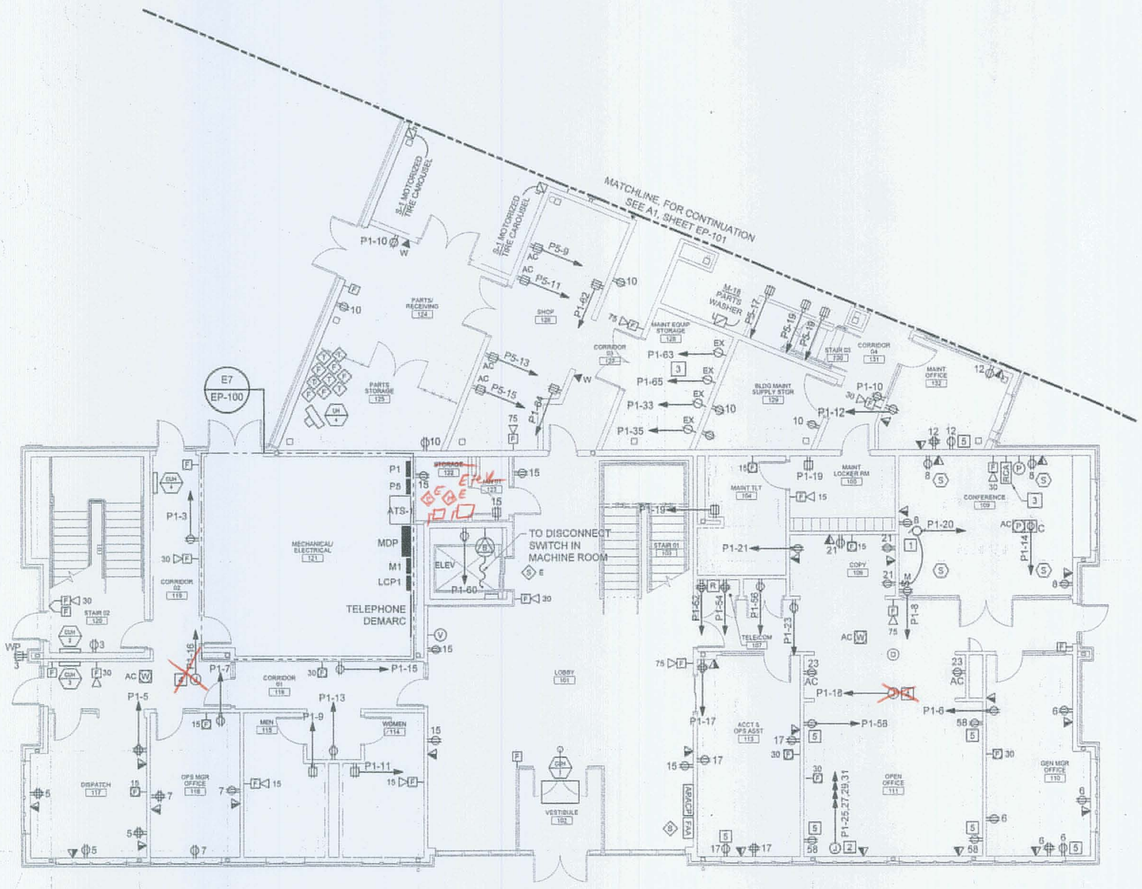
CIRCUIT BREAKER CKT NO	BRKR SIZE	NO OF POLE	PH	CIRCUIT LOAD (KVA) A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	2	A	1.09			ROADWAY LIGHTING
3			B		1.09		
5	20	2	C			2.80	ROADWAY LIGHTING
7			A	2.80			
9	20	2	B		2.34		PARKING LOT LIGHTING
11			C			2.34	
13	20	1	A	0.32			BUS SHELTER LIGHTING
15	20	1	B				SPARE
17	20	1	C				SPARE
		SUBTOTAL:		4.21	3.43	5.14	
2	30	3	A	0.18			PANEL P4 VIA XFMR DTP4
4			B		0.10		
6			C			0.00	
8	20	1	A				SPARE
10	20	1	B				SPARE
12	20	1	C				SPARE
14	20	1	A				SPARE
16	20	1	B				SPARE
18	20	1	C				SPARE
		SUBTOTAL:		0.18	0.10	0.00	



E7 | ENLARGED MECHANICAL/ELECTRICAL 118 PLAN
1/4" = 1'-0"



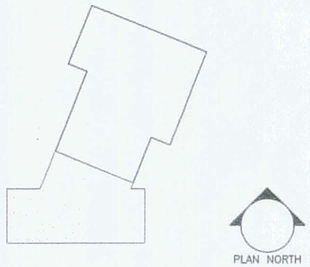
F1 | PROPANE FUEL CENTER ~ POWER AND LIGHTING
1/8" = 1'-0"



A1 | POWER AND SYSTEMS PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"

1. PROVIDE A 120V CONNECTION TO ROLL-UP SCREEN. VERIFY LOCATION PRIOR TO FINAL ROUGH-IN. PROVIDE A UP/DOWN MOTOR RATED SWITCH
2. JUNCTION BOX FOR SYSTEMS FURNITURE; VERIFY TYPE AND LOCATION PRIOR TO FINAL ROUGH-IN.
3. WIRE SPEAKERS TO RCA JACK, MOUNT JACK 18" AFF
4. PROVIDE A JUNCTION BOX ABOVE THE CEILING FOR MECHANICAL CONNECTIONS FOR VAV BOXES.
5. RECEPTACLE FOR TABLE LAMP.
6. WIRING IN THIS ROOM SHALL BE SUITABLE FOR CLASS I, DIVISION 2 HAZARDOUS LOCATIONS

A7 | SHEET WORK NOTES
NO SCALE



A9 | KEY PLAN
NOT TO SCALE

Allied Engineering
Structural · Mechanical · Electrical · Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE · CATHERINE A. FAUCHER No. 7873 · PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WPP
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN ~ FIRST FLOOR

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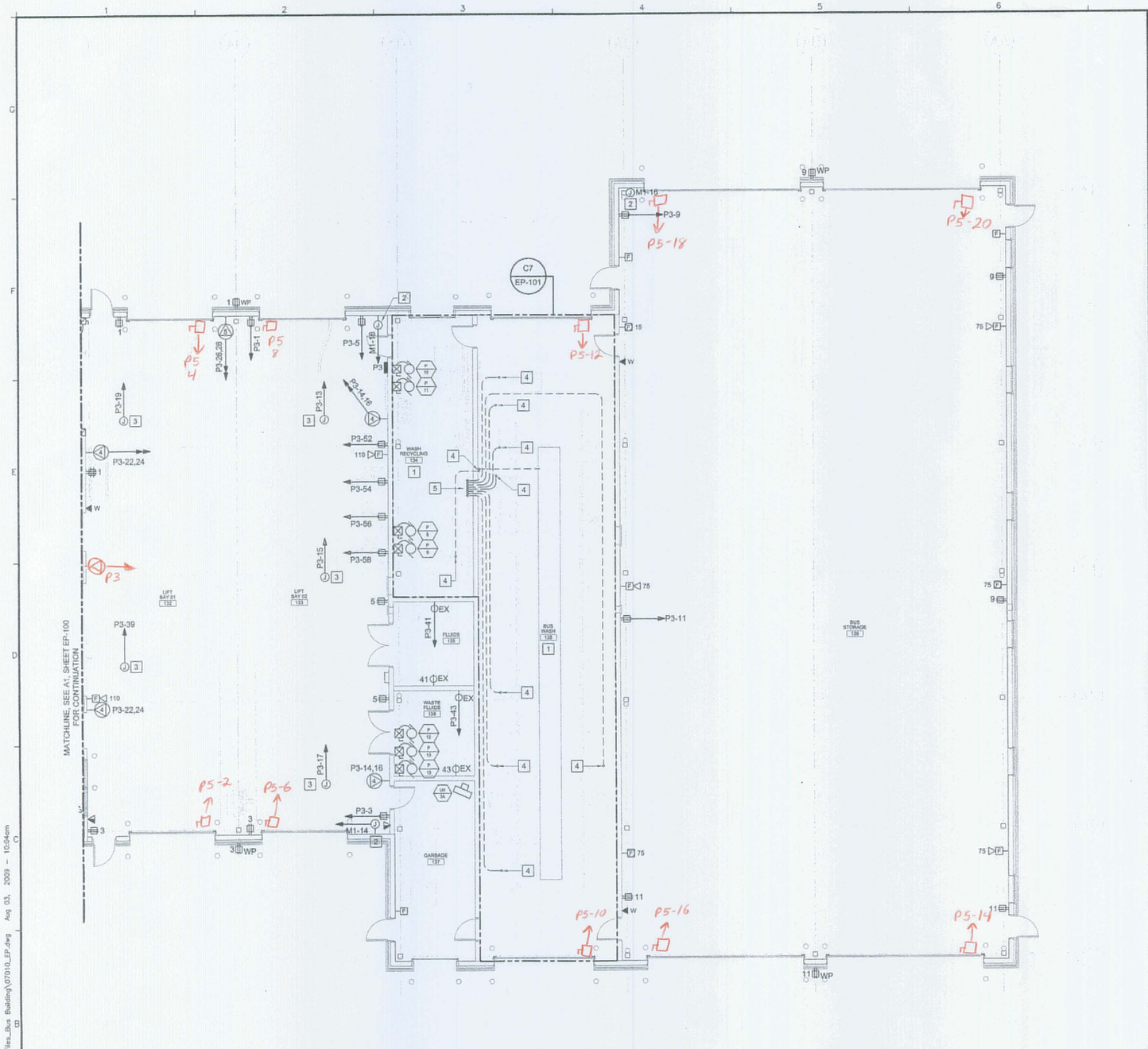
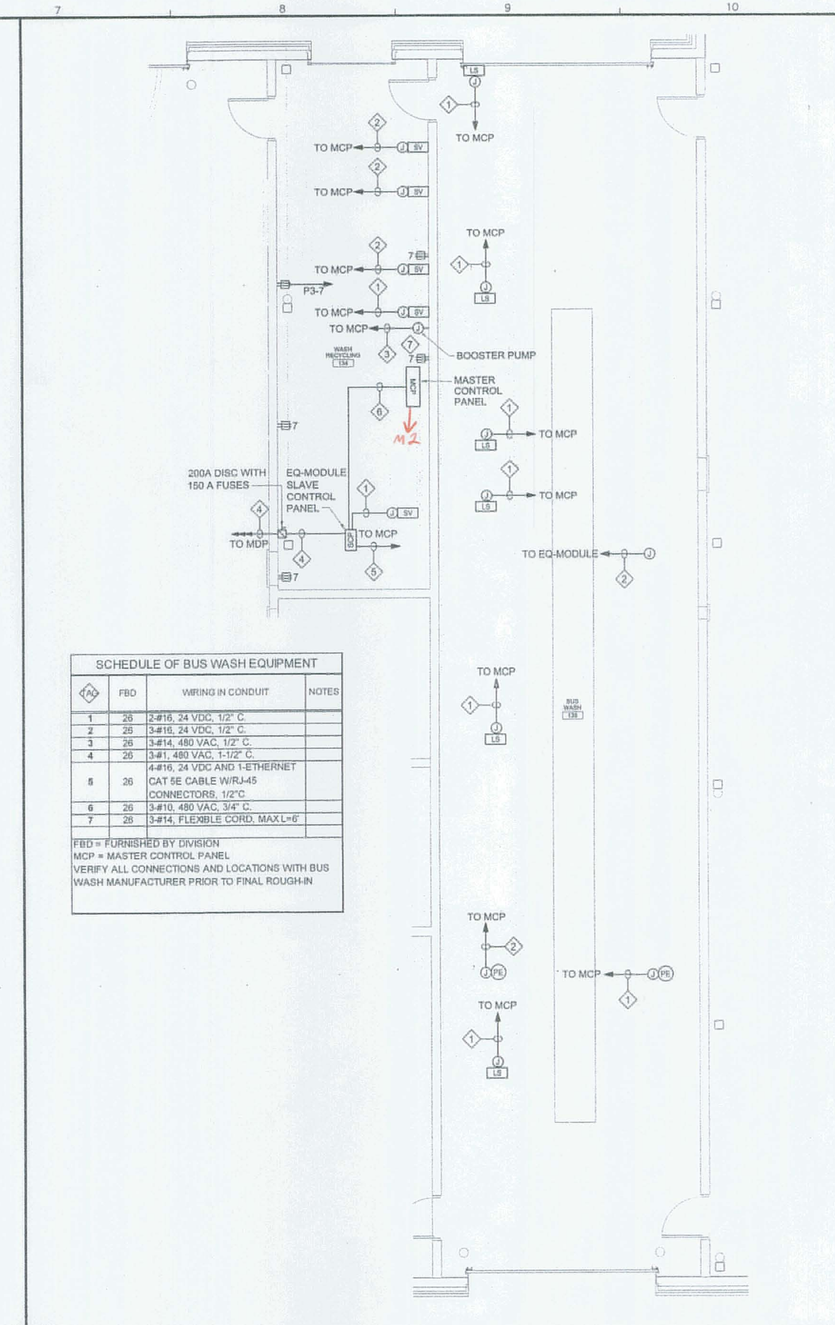




SCHEDULE OF BUS WASH EQUIPMENT			
TAG	FBD	WIRING IN CONDUIT	NOTES
1	26	2-#16, 24 VDC, 1/2" C.	
2	26	3-#16, 24 VDC, 1/2" C.	
3	26	3-#14, 480 VAC, 1/2" C.	
4	26	3-#1, 480 VAC, 1-1/2" C.	
5	26	4-#16, 24 VDC AND 1-ETHERNET CAT 5E CABLE W/RJ-45 CONNECTORS, 1/2"C.	
6	26	3-#10, 480 VAC, 3/4" C.	
7	26	3-#14, FLEXIBLE CORD, MAX L=6'	

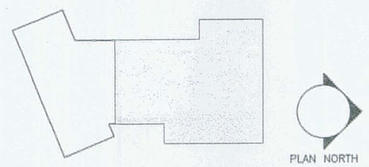
FBD = FURNISHED BY DIVISION
MCP = MASTER CONTROL PANEL
VERIFY ALL CONNECTIONS AND LOCATIONS WITH BUS WASH MANUFACTURER PRIOR TO FINAL ROUGH-IN

B1 POWER AND SYSTEMS PART PLAN ~ FIRST FLOOR
1/8" = 1'-0"

B7 ENLARGED BUS WASH AND WASH RECYCLING ROOM PLAN
3/16" = 1'-0"

1. ELECTRICAL EQUIPMENT IN THIS ROOM SHALL BE NEMA 4X
2. PROVIDE A 277V CONNECTION FOR HEAT TRACE. COORDINATE JUNCTION BOX LOCATION WITH DIVISION 23.
3. PROVIDE A JUNCTION BOX FOR OWNER PROVIDED COMBO REEL AIR HOSE/DROP LIGHT
4. 1/2" CONDUIT, STUB 6" ABOVE FLOOR – VERIFY LOCATIONS WITH BUS WASH SUPPLIER BEFORE ROUGHING IN
5. CONDUITS STUB UP 6" AFF, DIRECTLY UNDER MASTER CONTROL PANEL – VERIFY LOCATIONS WITH BUS WASH SUPPLIER BEFORE ROUGHING IN

A1 KEY NOTES
NO SCALE



A7 KEY PLAN
NOT TO SCALE

Allied Engineering
Structural Mechanical Electrical Civil
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010
Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7875
PROFESSIONAL ENGINEER

	SIGNATURE	P.E. NUMBER	DATE
		01 MAY, 2009	

PROJECT INFORMATION	
PROGRAM	–
PROJECT MANAGER	WFF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN FIRST FLOOR

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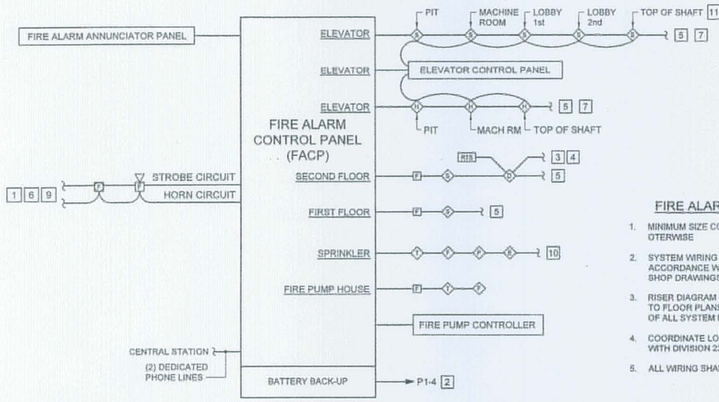
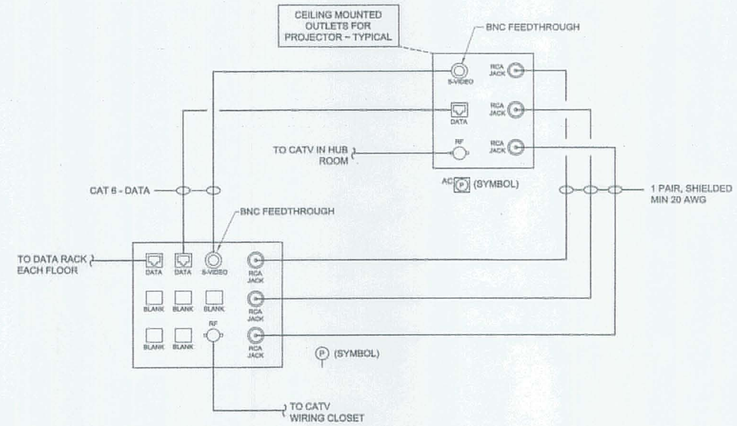


FIRE ALARM GENERAL NOTES

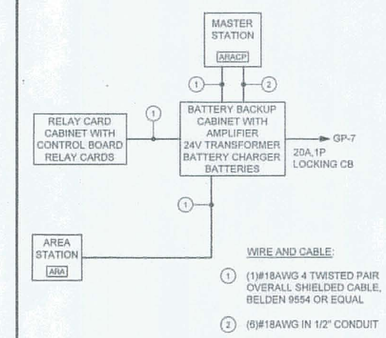
1. MINIMUM SIZE CONDUIT SHALL BE 1/2" UNLESS NOTED OTERWISE
2. SYSTEM WIRING SHALL BE INSTALLED IN CONDUIT AND IN ACCORDANCE WITH EQUIPMENT SUPPLIER'S APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.
3. RISER DIAGRAM DOES NOT SHOW ENTIRE SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL SYSTEM DEVICES.
4. COORDINATE LOCATIONS OF DUCT SMOKE DETECTORS WITH DIVISION 23.
5. ALL WIRING SHALL BE CONCEALED.

1. PROVIDE CIRCUITS AS REQUIRED FOR AUDIBLE/VISUAL SIGNALS.
2. PROVIDE CIRCUIT BREAKER HANDLE LOCK ON POWER CIRCUIT. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
3. TO AUXILIARY CONTACTS IN RESPECTIVE AIR-HANDLING UNIT STARTER FOR UNIT SHUTDOWN ON ALARM. LABEL DUCT SMOKE DETECTOR AND CORRESPONDING REMOTE TEST STATION UNIQUELY. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF MECHANICAL EQUIPMENT.
4. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR HVAC CONTROLS.
5. CONNECT TO REMAINING INITIATING DEVICES. SEE FLOOR PLANS.
6. CONNECT TO REMAINING NOTIFICATION DEVICES. SEE FLOOR PLANS PROVIDE NUMBER OF CIRCUITS AS REQUIRED.
7. PROVIDE CONTACTS FOR ALL DETECTORS AND CONNECT TO ELEVATOR CONTROLLER FOR ELEVATOR RECALL. OPERATION OF SMOKES CAUSES ELEVATOR TO GO TO FLOOR OF EGRESS AND LOCK OUT WITH DOOR OPEN. OPERATION OF SMOKES SHALL ALSO CAUSE VENTILATION LOUVER AT TOP OF SHAFT TO OPEN. 135° HEAT DETECTOR OPERATION CAUSES SHUNT TRIP CIRCUIT BREAKER TO DISCONNECT ALL POWER TO THE ELEVATOR. MOUNT ALL DETECTORS WITHIN 2' OF THEIR RESPECTIVE SPRINKLER HEAD.
8. NOT USED.
9. STROBES SHALL BE SYNCHRONIZED IN AREAS CONTAINING MULTIPLE UNITS.
10. VERIFY AND WIRE ACTUAL QUANTITY OF SPRINKLER SYSTEM DEVICES.
11. PROVIDE ONLY IF SPRINKLER HEAD IS LOCATED AT TOP OF SHAFT ~ COORDINATE WITH DIVISION 21.

F1 | FIRE ALARM RISER
NO SCALE



F7 | PROJECTOR OUTLET DETAIL
NO SCALE | DETAIL SHOWS WIRING BETWEEN (P)– & AC(P)



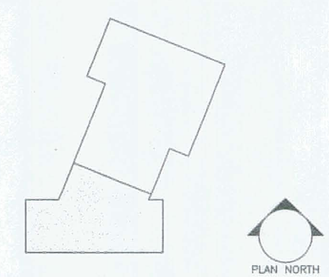
WIRE AND CABLE:

1. (1)#18AWG 4 TWISTED PAIR OVERALL SHIELDED CABLE, BELDEN 9554 OR EQUAL
2. (6)#18AWG IN 1/2" CONDUIT

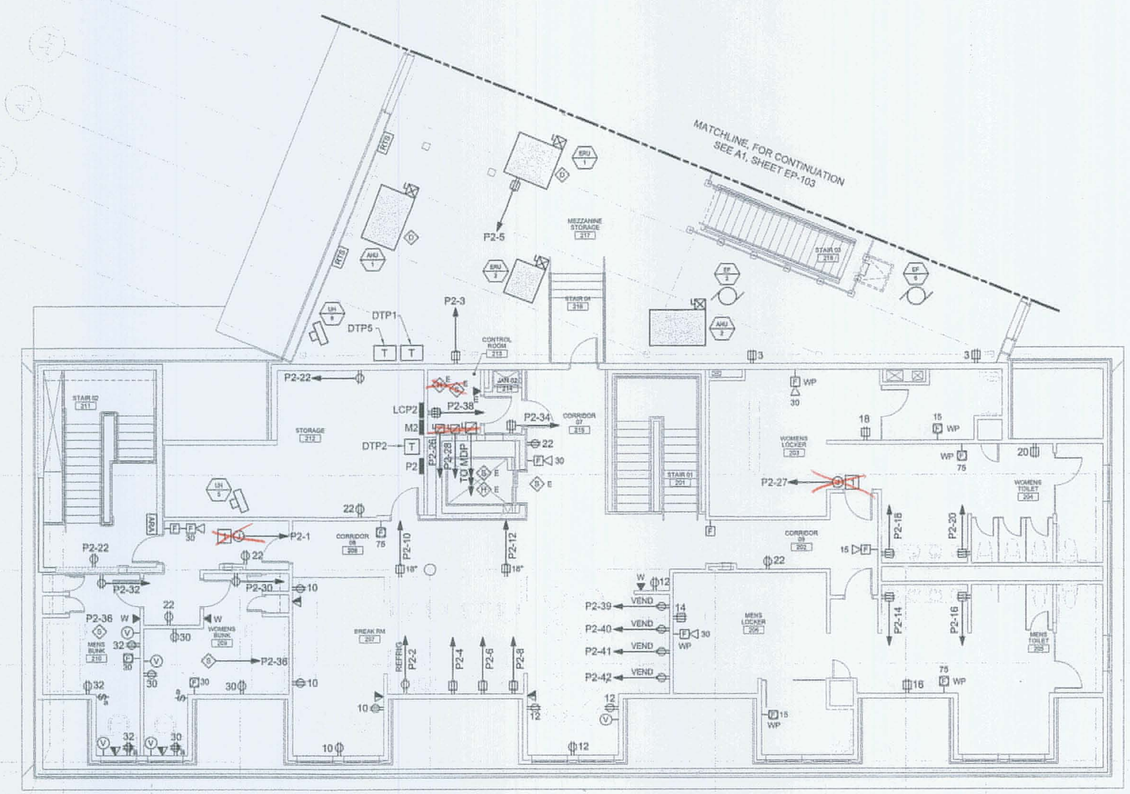
D8 | AREA OF RESCUE ASST RISER
NO SCALE

1. PROVIDE A JUNCTION BOX FOR MECHANICAL CONTROLS.

C9 | KEY NOTES



A9 | KEY PLAN
NOT TO SCALE



A1 | POWER AND SYSTEMS PART PLAN ~ SECOND FLOOR
1/8" = 1'-0"

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE
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CATHERINE A. FAUCHER No. 7031 PROFESSIONAL ENGINEER STATE OF MAINE

SIGNATURE
P.E. NUMBER
01 MAY, 2009
DATE

PROJECT INFORMATION

PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN ~ SECOND FLOOR

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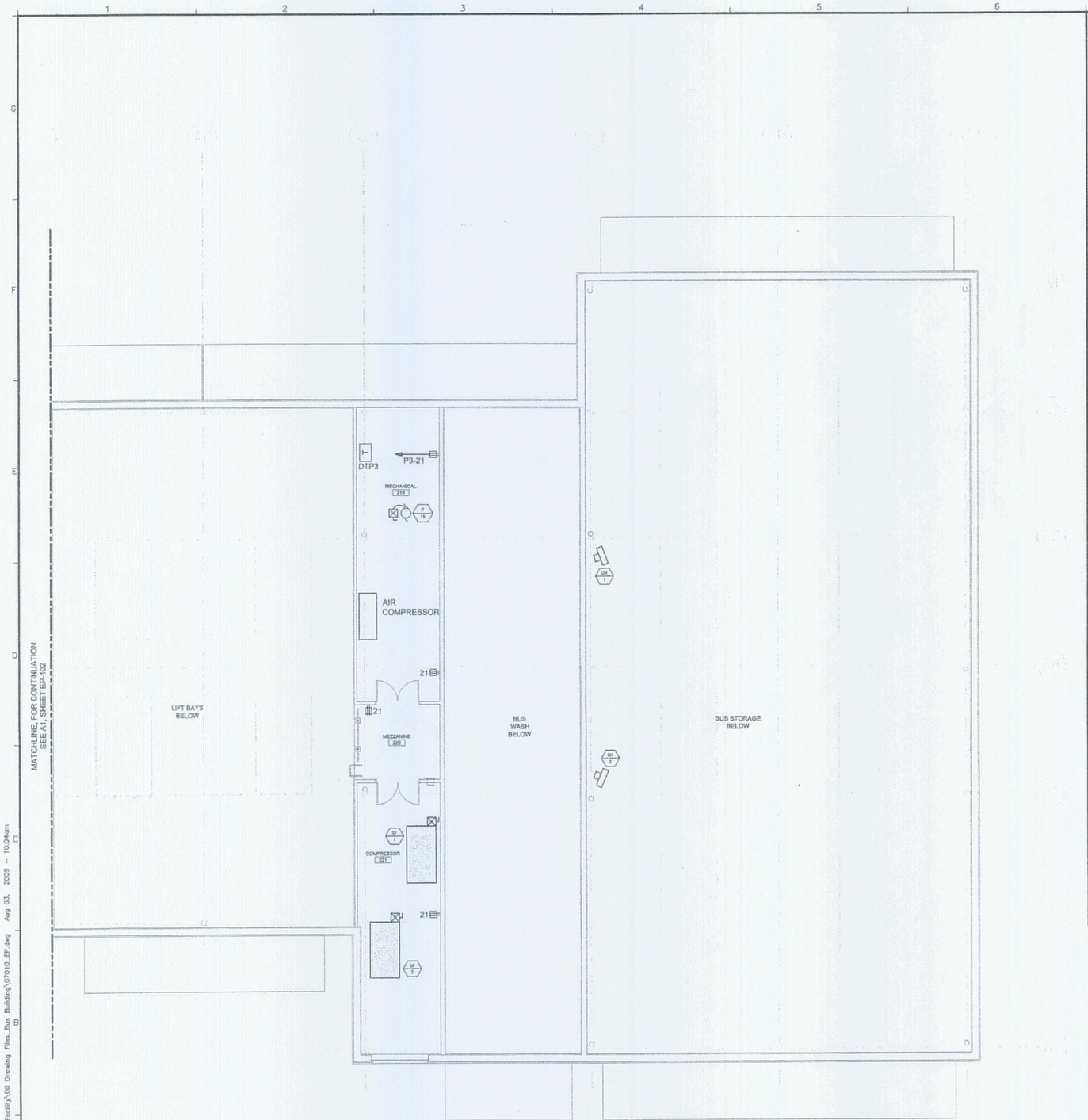


ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT

TAG	DESCRIPTION	VOLTS	PH	LOAD	MCA	MOPD	DISCONNECT SWITCH FRAME	DISCONNECT SWITCH POLES	DISCONNECT SWITCH FUSE	DISCONNECT SWITCH NEMA ENCL	FBD	STARTER (NEMA) SIZE/VFD	STARTER (NEMA) FBD	STARTER (NEMA) CBD	PANEL	WIRING IN CONDUIT	NOTES
	ELEVATOR	480	3	40 HP	--	--	100	3	80	NEMA 1	26	FWE	14	14	MDP	(3)#2+(1)#6G	6
	ELEVATOR LIGHTS AND FAN	120	1	--	--	--	30	1	20	NEMA 1	26	--	--	--	P2	(2) #12 + (1) #12G	
	ELEVATOR SUMP PUMP	120	1	--	--	--	30	1	20	NEMA 1	26	--	--	--	P2	(2) #12 + (1) #12G	7
	AIR COMPRESSOR	480	3	(2) 7.5HP	--	--			FWE		22	FWE	--	22	M2	(3)#8+(1)#10G	
ERU-1	ENERGY RECOVERY UNIT	208	3	--	2.1	15	30	3	15	NEMA 1	26	00	26	23	P2	(3) #12+ (1) #12 G	
ERU-2	ENERGY RECOVERY UNIT	208	3	--	7.0	20	30	3	20	NEMA 1	26	00	26	23	P2	(3) #12+ (1) #12 G	
CU-1	CONDENSING UNIT	480	3	--	12	20	30	3	20	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
CU-2	CONDENSING UNIT	480	3	--	12	20	30	3	20	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
CU-3	CONDENSING UNIT	480	3	--	5	15	30	3	15	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
CU-4	CONDENSING UNIT	480	3	--	5	15	30	3	15	NEMA 3R	26	--	--	23	M2	(3) #12+ (1) #12 G	
B-1	BOILER	120	1	--	15	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
B-2	BOILER	120	1	--	15	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
B-3	BOILER	120	1	--	15	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
AHU-1	AIR HANDLING UNIT	480	3	5 HP	--	--			FWE		23	VFD	23	23	M2	(3) #12+ (1) #12 G	
AHU-2	AIR HANDLING UNIT	480	3	2 HP	--	--			FWE		23	VFD	23	23	M2	(3) #12+ (1) #12 G	
CUH-1	CABINET UNIT HEATER	120	1	85W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
CUH-2	CABINET UNIT HEATER	120	1	70W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
CUH-3	CABINET UNIT HEATER	120	1	70W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
CUH-4	CABINET UNIT HEATER	120	1	70W	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
UH-1	UNIT HEATER	120	1	1/3 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
UH-2	UNIT HEATER	120	1	1/3 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
UH-3	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
UH-3A	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
UH-4	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P2	(2) #12+ (1) #12 G	
UH-5	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P2	(2) #12+ (1) #12 G	
UH-6	UNIT HEATER	120	1	1/20HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P2	(2) #12+ (1) #12 G	
P-1	BOILER B-1	208	3	1 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	
P-2	BOILER B-2	208	3	1 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	
P-3	BOILER B-3	208	3	1 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	
P-4	AHU's, UH's, VAVs, & RADIANT	208	3	2HP	--	--	30	3	15	NEMA 1	26	VFD	23	23	P1	(3) #12+ (1) #12 G	1
P-5	AHU's, UH's, VAVs, & RADIANT	208	3	2HP	--	--	30	3	15	NEMA 1	26	VFD	23	23	P1	(3) #12+ (1) #12 G	1
P-6	DHW-1, 2, 3	208	3	0.5 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	1
P-7	DHW-1, 2, 3	208	3	0.5 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P1	(3) #12+ (1) #12 G	1
P-8	RADIANT FLOOR LIFT BAYS	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-9	RADIANT FLOOR LIFT BAYS	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-10	RADIANT FLOOR BUS WASH	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-11	RADIANT FLOOR BUS WASH	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	1
P-12	SNOW MELT (HX-1)	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
P-13	SNOW MELT SLAB	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
P-14	SOLAR HEATING	120	1	0.1HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	
P-15	SOLAR DUMP ZONE (HX-2)	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P3	(2) #12+ (1) #12 G	
EF-1	EXHAUST FAN ~ MECHANICAL ROOM	120	1	1/25 HP	--	--			FWE		23	--	--	23	P1	(2) #12+ (1) #12 G	
EF-2	EXHAUST FAN ~ T/C ROOM	120	1	1/8 HP	--	--			FWE		23	--	--	23	P2	(2) #12+ (1) #12 G	
EF-3	EXHAUST FAN ~ LIFT BAY	208	3	1.5 HP	--	--	30	3	15	NEMA 1	26	0	26	23	P3	(3) #12+ (1) #12 G	
EF-4	EXHAUST FAN ~ BUS WASH	208	3	3/4 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P3	(3) #12+ (1) #12 G	
EF-5	EXHAUST FAN ~ BUS STORAGE	120	1	1/4HP	--	--			FWE		23	--	--	23	P3	(2) #12+ (1) #12 G	
EF-6	EXHAUST FAN ~ MAINT STOR RM	120	1	1/8HP	--	--			FWE		23	--	--	23	P2	(2) #12+ (1) #12 G	3
EF-7	EXHAUST FAN ~ GARBAGE ROOM	120	1	1/8HP	--	--			FWE		23	--	--	23	P7	(2) #12+ (1) #12 G	
SF-1	SUPPLY FAN ~ LIFT BAY	208	3	1.5 HP	--	--	30	3	15	NEMA 1	26	0	26	23	P3	(3) #12+ (1) #12 G	
SF-2	SUPPLY FAN ~ BUS WASH	208	3	3/4 HP	--	--	30	3	15	NEMA 1	26	00	26	23	P3	(3) #12+ (1) #12 G	
DP-1	DHW RECIRC	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	1, 5
DP-2	DHW MIXING	120	1	1/8 HP	--	--	20	1	NF	NEMA 1	26	--	--	23	P1	(2) #12+ (1) #12 G	1, 2, 5
BP-1	BOOSTER PUMP	480	3	(2) 3HP	--	--	30	3	15	NEMA 1	26	FWE	22	22	M1	(3)#12+(1)#12G	1
BP-2	BOOSTER PUMP	480	3	(2) 3HP	--	--	30	3	15	NEMA 1	26	FWE	22	22	M1	(3)#12+(1)#12G	1
	WELL PUMP	208	1	2HP	--	--	30	2	20	NEMA 1	26	1	26	33	P5	(2) #12+ (1) #12 G	
M-18	AUTOMATIC PARTS WASHER	480	3	--	11	--	30	3	20	NEMA 1	26	--	--	--	M1	(3)#12+(1)#12G	
S-1	MOTORIZED TIRE CAROUSEL	208	3	--	20	--	30	3	20	NEMA 1	26	--	--	--	P3	(3)#12+(1)#12G	5

NOTES:

1. LEAD/LAG
2. PROVIDE 4" SQUARE J-BOX AND 3/4" CONDUIT FOR WIRING TO AQUASTAT.
3. WIRING AND CONNECTIONS SHALL BE SUITABLE FOR CLASS 1 DIVISION 1 HAZARDOUS LOCATIONS.
4. PROVIDE RECEPTACLE AS INDICATED ON DRAWINGS.
5. CONNECTION AND EQUIPMENT SCHEDULED FOR THIS ITEM ARE TYPICAL FOR TWO UNITS.
6. PROVIDE AUXILIARY CONTACTS IN DISCONNECT SWITCH TO SHUT OFF POWER TO BATTERY LOWERING WHEN DISCONNECT SWITCH IS TURNED OFF.
7. CONNECT DISCONNECT SWITCH TO CONTROL RECEPTACLE IN ELEVATOR PIT.

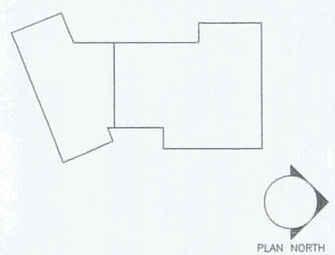
ABBREVIATIONS:

FWE	FURNISHED WITH EQUIPMENT
NF	NOT FUSED
SWBD	SWITCHBOARD
FBD	FURNISHED BY DIVISION
CBD	CONTROL WIRING BY DIVISION
FLA	FULL LOAD AMPS
MCA	MINIMUM CURRENT AMPACITY
COMBFV	COMBINATION FULL VOLTAGE NON-REVERSING

C7 | ELECTRICAL SCHEDULE OF MECHANICAL EQUIPMENT

A1 | POWER AND SYSTEMS PART PLAN ~ SECOND FLOOR

1/8" = 1'-0"



A9 | KEY PLAN

NOT TO SCALE

Allied Engineering
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010E.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE CATHERINE A. FAUCHER No. 7875 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

P.E. NUMBER

01 MAY, 2009

DATE

PROJECT INFORMATION

PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

POWER AND SYSTEMS
PART PLAN ~ SECOND FLOOR

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SHEET NUMBER

EP-103

OF

Filename: - Division: - Date: - Aug 03, 2009 - 10:04am Username: -

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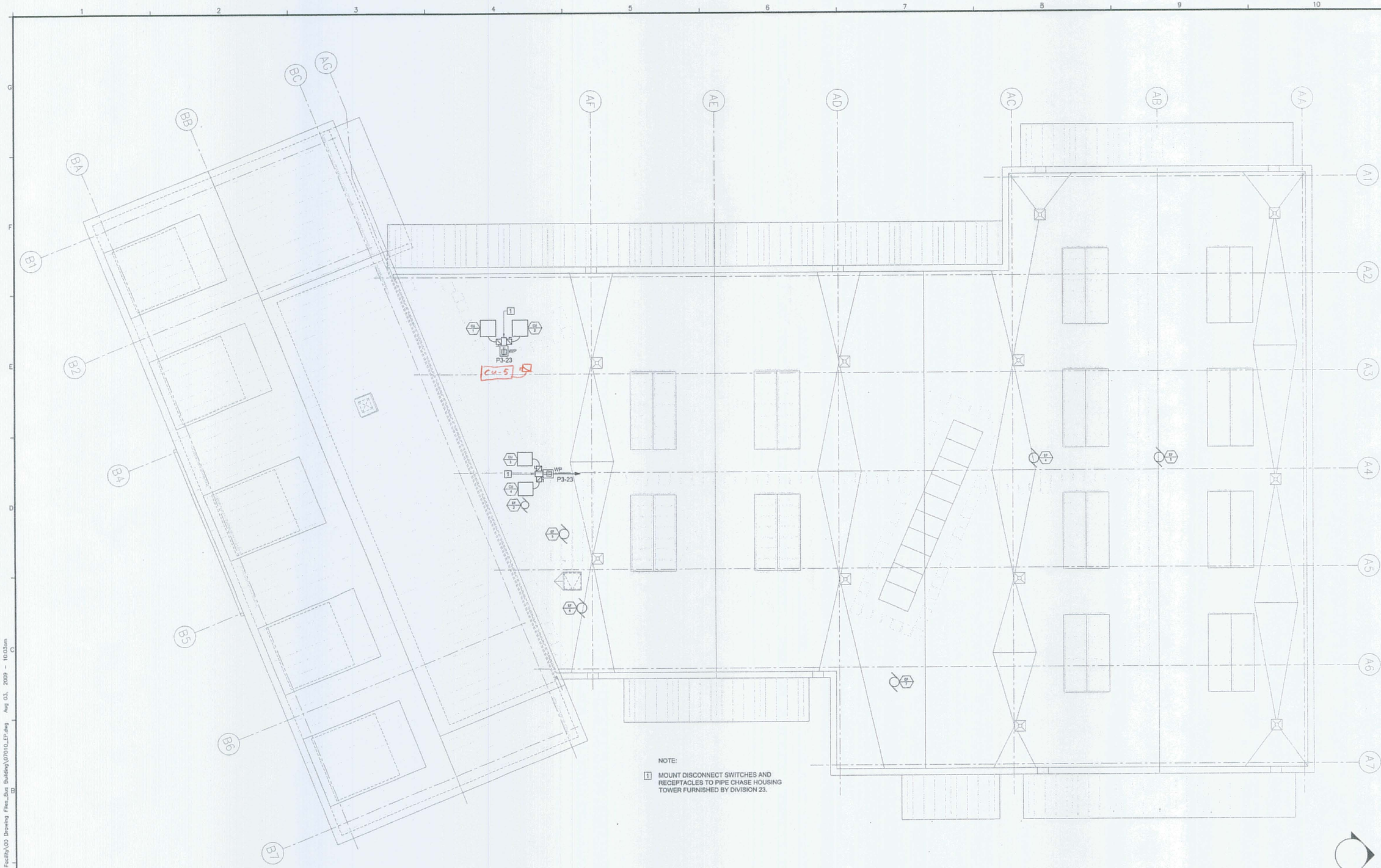

NOTE:

1 MOUNT DISCONNECT SWITCHES AND RECEPTACLES TO PIPE CHASE HOUSING TOWER FURNISHED BY DIVISION 23.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7871
PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	
DATE	

PROJECT	INFORMATION
PROGRAM	–
PROJECT MANAGER	WPF
DESIGNER	–
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	–
CONTRACTOR	–
PROJECT COMPLETION DATE	–

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

ELECTRICAL PLAN
ROOF

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SHEET NUMBER
EP-104
OF

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T: [illegible]
F: [illegible]
Web: [illegible]

Allied Project No: 07010 | Cad File: 07010E.DWG

A1	ELECTRICAL PLAN ~ ROOF
1/8" = 1'-0"	

Filename: – Date: – Division: – Username: –

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PANEL SCHEDULE ~ MDP PROVIDE INTEGRAL TVSS

VOLTAGE: 480/277V | MLO 800A – 22KAIC | PROJECT: ACADIA BUS FACILITY

CKT NO	BRKR SIZE	NO OF POLES	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1			A	18.49			
3	225	3	B		16.93		PANEL M1
5			C			22.05	
7			A	33.00			
9	225	3	B		33.04		PANEL M2
11			C			32.02	
13			A	18.00			
15	100	3	B		18.00		ELEVATOR (SHUNT TRIP)
17			C			18.00	
19			A	31.30			
21	125	3	B		31.30		BUS WASH
23			C			31.30	
25			A	22.21			
27	175	3	B		20.17		PANEL P3 VIA XFMR DTP3
29			C			14.58	
SUBTOTAL:				123.00	119.44	117.95	
2			A	16.78			
4	125	3	B		20.11		PANEL P1 VIA XFMR DTP1
6			C			17.28	
8			A	2.16			
10	125	3	B		1.80		PANEL P5 VIA XFMR DTP5
12			C			0.72	
14			A				
16			B				SPACE
18			C				
20			A				
22			B				SPACE
24			C				
26			A				
28			B				
30			C				
SUBTOTAL:				18.94	21.91	18.00	

PANEL SCHEDULE ~ P1 PROVIDE INTEGRAL TVSS

VOLTAGE: 208/120V | MLO: | MOUNTING: SURFACE
3 PHASE, 4 WIRE | MCB: 225A | LOCATION: MECHANICAL ROOM 121
AIC: 10K | | PROJECT: ACADIA BUS BLDG

CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A				SPARE
3	20	1	B		0.54		COORIDOR AND STAIR RECEPTACLES
5	20	1	C			1.26	RECEPTACLES DISPATCH 116
7	20	1	A	0.90			RECEPTACLES OPS MANAGER 115
9	20	1	B		0.18		RECEPTACLES TOILET 114
11	20	1	C			0.18	RECEPTACLES TOILET 113
13	20	1	A	1.20			WATER COOLER
15	20	1	B		1.26		RECEPTACLES LOBBY 101, COOR 117
17	20	1	C			1.26	RECEPTACLES CPT ASST 112
19	20	1	A	0.36			RECEPTACLES LAV AND MAINT LCKR RM
21	20	1	B		0.72		RECEPTACLES COPY 106
23	20	1	C			0.54	GENERAL RECEPTACLES
25	20	1	A	1.00			SYSTEMS FURNITURE
27	20	1	B		1.00		SYSTEMS FURNITURE
29	20	1	C			1.00	SYSTEMS FURNITURE
31	20	1	A	1.00			SYSTEMS FURNITURE
33	20	1	B		1.80		BATTERY CHARGER
35	20	1	C			1.80	RECHARGE SYSTEM
37			A	0.55			
39	20	3	B		0.55		PUMP P-1
41			C			0.55	
43			A	0.55			
45	20	3	B		0.55		PUMP P-2
47			C			0.55	
49			A	0.55			
51	20	3	B		0.55		PUMP P-3
53			C			0.55	
55	20	1	A	0.17			EF-1
57	15	1	B		1.50		BOILER B-1
59	15	1	C			1.50	BOILER B-2
61	15	1	A	1.50			BOILER B-3
63	30	1	B		3.00		BATTERY CHARGER
65	20	1	C			1.80	BATTERY CHARGER
67	20	1	A	1.80			BATTERY CHARGER
69	20	1	B		0.36		PUMP P-14
71	20	1	C				SPARE
SUBTOTAL:				9.58	12.01	10.99	
2	20	1	A	0.54			RECEPTACLES MECH/ELEC 118
4	20	1	B		1.00		FIRE ALARM CONTROL PANEL
6	20	1	C			1.08	RECEPTACLES MANAGER'S OFFICE 110
8	20	1	A	0.72			RECEPTACLES CONF RM 109
10	20	1	B		1.26		GENERAL RECEPTACLES/UNIT HEATER
12	20	1	C			0.72	RECEPTACLES MAINT. OFFICE
14	20	1	A	1.20			CONFERENCE ROOM PROJECTOR
16	20	1	B		0.54		VAV'S JUNCTION BOX
18	20	1	C			0.90	VAV'S JUNCTION BOX
20	20	1	A	0.49			MOTORIZED SCREEN
22	20	1	B		0.45		CUH-1, CUH-2, CUH-3, CUH-4, UH-3
24	20	1	C				PUMPS DP-1, DP-2 (LEAD)
26			A	1.44			
28	100	3	B		1.44		PANEL "O"
30			C			1.44	
32			A	0.55			
34	20	3	B		0.55		PUMP P-4
36			C			0.55	
38			A				
40	20	3	B				PUMP P-5
42			C				
44			A	0.34			
46	20	3	B		0.34		PUMP P-6
48			C			0.34	
50	20	1	A	0.15			CONFERENCE ROOM PENDANTS
52	20	1	B		0.36		SERVER RECEPTACLES
54	20	1	C			0.36	SERVER RECEPTACLES
56	20	1	A	1.00			SECURITY PANEL
58	20	1	B		0.72		OPEN OFFICE RECEPTACLES
60	20	1	C			0.18	ELEV. PIT RECEPTACLE
62	20	1	A	0.77			DRILL PRESS
64	20	1	B		1.44		BUFFER/GRINDER
66			C				
68	20	3	A				PUMP P-7
70			B				
72	20	1	C			0.72	PUMPS DP-1, DP-2 (LAG)
SUBTOTAL:				7.20	8.10	6.29	

PANEL SCHEDULE ~ M1

VOLTAGE: 277/480V | MLO: 225A | MOUNTING: SURFACE
3 PHASE, 4 WIRE | MCB: | LOCATION: MECHANICAL ROOM 121
AIC: 22K | | PROJECT: ACADIA BUS BLDG

CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	1.92			LIGHTING
3	20	1	B		0.19		STAIR LIGHTING
5	20	1	C			3.16	GENERAL LIGHTING
7	20	1	A	0.03			ELEVATOR PIT LIGHTING
9	20	1	B		0.56		FUEL ISLAND LIGHTING
11	20	1	C			3.06	EXTERIOR LIGHTING
13	20	2	A	0.63			SITE LIGHTING
15			B		0.63		
17	20	2	C			0.78	SITE LIGHTING
19			A	0.78			
21	20	2	B		1.24		SITE LIGHTING
23			C			1.24	
25	20	1	A	1.00			LIGHTING CONTROL PANEL
27			B		3.33		
29	20	3	C			3.33	PARTS WASHER
31			A	3.33			
33			B		0.84		
35	20	3	C			0.84	DRILL
37			A	0.84			
39	20 GFI	1	B		0.18		BATHROOM LIGHTING
41	20	1	C				SPARE
SUBTOTAL:				8.53	6.97	12.41	
2			A	3.88			
4	20	3	B		3.88		TRUCK LIFT
6			C			3.88	
8			A	3.88			
10	20	3	B		3.88		TRUCK LIFT
12			C			3.88	
14	20	1	A	0.32			HEAT TRACE
16	20	1	B		0.32		HEAT TRACE
18	20	1	C				SPARE
20	20	1	A				SPARE
22	20	1	B				SPARE
24	20	1	C				SPARE
26	20	1	A				SPARE
28	20	1	B				SPARE
30	20	1	C				SPARE
32			A	0.94			
34	20	3	B		0.94		BP-1 BOOSTER PUMP SET
36			C			0.94	
38			A	0.94			
40	20	3	B		0.94		BP-2 BOOSTER PUMP SET
42			C			0.94	
SUBTOTAL:				9.96	9.96	9.64	

PANEL SCHEDULE ~ P5

VOLTAGE: 208/120V | MLO: | MOUNTING: SURFACE
3 PHASE, 4 WIRE | MCB: 225 | LOCATION: MECHANICAL ROOM 121
AIC: 10K | | PROJECT: ACADIA BUS BLDG

CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	2	A	1.44			WELL PUMP
3			B		1.44		
5	20	1	C			0.36	TELEPHONE BACKBOARD RECEPT
7	20	1	A	0.36			TELEPHONE BACKBOARD RECEPT
9	20	1	B		0.18		SHOP BENCH RECEPT
11	20	1	C			0.18	SHOP BENCH RECEPT
13	20	1	A	0.18			SHOP BENCH RECEPT
15	20	1	B		0.18		SHOP BENCH RECEPT
17	20	1	C			0.18	MAINT BAY BENCH RECEPT
19	20	1	A	0.18			MAINT BAY BENCH RECEPT
21	20	1	B				
23	20	1	C				
25	20	1	A				
27	20	1	B				
29	20	1	C				SPARE
31	20	1	A				SPARE
33	20	1	B				SPARE
35	20	1	C				SPARE
37	20	1	A				SPARE
39	20	1	B				SPARE
41	20	1	C				SPARE
SUBTOTAL:				2.16	1.80	0.72	
2	20	1	A				
4	20	1	B				
6	20	1	C				
8	20	1	A				
10	20	1	B				
12	20	1	C				
14	20	1	A				
16	20	1	B				
18	20	1	C				
20	20	1	A				
22	20	1	B				
24	20	1	C				
26	20	1	A				
28	20	1	B				
30	20	1	C				
32	20	1	A				
34	20	1	B				
36	20	1	C				
38	20	1	A				
40	20	1	B				
42	20	1	C				
SUBTOTAL:				0.00	0.00	0.00	

PANEL SCHEDULE ~ M2

VOLTAGE: 277/480V | MLO: 225A | MOUNTING: SURFACE
3 PHASE, 4 WIRE | MCB: | LOCATION: STORAGE ROOM 212
AIC: 22K | | PROJECT: ACADIA BUS BLDG

CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	3.17			GENERAL LIGHTING
3	20	1	B		2.74		LIFT BAY LIGHTING
5	20	1	C			2.20	BUS STORAGE LIGHTING
7	20	1	A	2.20			BUS STORAGE LIGHTING
9	20	1	B		1.14		SECOND FLOOR GENERAL LIGHTING
11	20	1	C			2.83	SECOND FLOOR GENERAL LIGHTING
13	20	1	A	1.58			MEZZANINE LIGHTING
15			B		6.86		
17	40	3	C			6.86	AIR COMPRESSOR
19			A	6.86			
21	20	1	B		0.68		STORAGE ROOM/MEZZANINE LTG
23	20	1	C			0.67	MECHANICAL AND COMPESSOR
25	20	1	A				SPARE
27			B		2.10		
29	15	3	C			2.10	AHU-1
31			A	2.10			
33			B		0.95		
35	15	3	C			0.95	AHU-2
37			A	0.95			
39	20	1	B		1.00		LIGHTING CONTROL PANEL
41	20	1	C			0.10	ELEVATOR MACHINE ROOM LIGHTING
SUBTOTAL:				16.86	15.47	15.41	
2			A	3.33			
4	20	3	B		3.33		CU-1
6			C			3.33	
8			A	3.33			
10	20	3	B		3.33		CU-2
12			C			3.33	
14			A	2.80			
16	20	3	B		2.80		CU-3, CU-4
18			C			2.80	
20			A				
22	20	3	B				SPARE
24			C				
26	20	3	A	0.20			HEAT TRACE
28	20	1	B				SPARE
30	20	1	C				SPARE
32	20	1	A				SPARE
34	20	1	B				SPARE
36	20	1	C				SPARE
38			A	6.48			
40	70	3	B		8.11		PANEL P2 VIA XFMR DTP2
42			C			7.15	
SUBTOTAL:				16.14	17.57	16.61	

PANEL SCHEDULE ~ P2 PROVIDE INTEGRAL TVSS

VOLTAGE: 208/120V | MLO: | MOUNTING: SURFACE
3 PHASE, 4 WIRE | MCB: 150A | LOCATION: MEZZANINE 219
AIC: 10K | | PROJECT: ACADIA BUS BLDG

CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	0.90			VAV CONNECTIONS
3	20	1	B		0.72		MEZZANINE RECEPTACLES
5	20	1	C			0.18	EQUIPMENT RECEPTACLES
7	20	1	A	0.30			UH-4, UH-5, UH-6
9	20	1	B		0.20		BREAK ROOM – LIGHTING
11	20	1	C			0.50	EF-2
13	20	1	A	0.65			EF-6
15			B		0.25		
17	20	3	C			0.25	ERU-1
19			A	0.25			
21			B		0.84		
23	20	3	C			0.84	ERU-2
25			A	0.84			
27	20	1	B		0.54		VAV CONNECTIONS
29	20	1	C				SPARE
31	20	1	A				SPARE
33	20	1	B				SPARE
35	20	1	C				SPARE
37	20	1	A				SPARE
39	20	1	B		1.00		VENDING RECEPT
41	20	1	C			1.00	VENDING RECEPT
SUBTOTAL:				2.94	3.55	2.77	
2	20	1	A	1.20			BREAK RM REFRIG RECEPT
4	20	1	B		0.18		BREAK RM COUNTER RECEPT
6	20	1	C			0.18	BREAK RM COUNTER RECEPT
8	20	1	A	0.18			BREAK RM COUNTER RECEPT
10	20	1	B		0.90		BREAK RM RECEPT – 207
12	20	1	C			0.90	BREAK RM RECEPT – 207
14	20	1	A	0.36			MENS LAV/LKR RM RECEPT – 206
16	20	1	B		0.36		MENS LAV/LKR RM RECEPT – 206
18	20	1	C			0.36	WOMENS LAV/LKR RM RECEPT – 203
20	20	1	A	0.36			WOMENS LAV/LKR RM RECEPT – 203
22	20	1	B		1.26		CORRIDOR, STAIR, JAN, STOR RECEPT
24	20	1	C			0.50	EMR LT & RECEPT
26	20	1	A	0.18			ELEV SUMP PUMP RECEPT DISC
28	20	1	B		0.50		ELEV CAR LTS & FAN
30	20AFCI	1	C			1.08	WOMENS BUNK RM – 209
32	20AFCI	1	A	0.90			MENS BUNK RM – 210
34	20	1	B		0.36		CLOSET RECEPT
36	20	1	C			0.36	SMOKE DETECTORS
38	20	1	A	0.36			ELEVATOR ROOM RECEPTACLE
40	20	1	B		1.00		VENDING RECEPT
42	20	1	C			1.00	VENDING RECEPT
SUBTOTAL:				3.54	4.56	4.38	

PANEL SCHEDULE ~ P3

VOLTAGE: 120/208V | MLO: | MOUNTING: SURFACE
3 PHASE, 4 WIRE | MCB: 400A | LOCATION: LIFT BAY 135
AIC: 10K | | PROJECT: ACADIA BUS BLDG

CKT NO	BRKR SIZE	NO OF POLE	PH	A	B	C	BRANCH CIRCUIT DESCRIPTION
1	20	1	A	1.26			RECEPTACLES LIFT BAY
3	20	1	B		0.72		RECEPTACLES LIFT BAY
5	20	1	C			0.54	RECEPTACLES LIFT BAY
7	20	1	A	0.90			WASH RECYCLING RECEPTACLES
9	20	1	B		0.72		RECEPTACLES BUS STORAGE 139
11	20	1	C			0.72	RECEPTACLES BUS STORAGE 139
13	20	1	A	1.50			DROP RECEPTACLES
15	20	1	B		1.50		DROP RECEPTACLES
17	20	1	C			1.50	DROP RECEPTACLES
19	20	1	A	1.50			DROP RECEPTACLES
21	20	1	B		0.72		RECEPTACLES MEZZANINE
23	20	1	C			0.72	ROOF RECEPTACLES
25	20	1	A	0.80			
27	20	1	B		0.80		EF-3
29	20	1	C			0.80	
31	20	1	A	0.42			
33	20	1	B		0.42		EF-4
35	20	1	C			0.42	
37	20	1	A	1.00			EF-5, EF-7
39	20	1	B		1.50		DROP RECEPTACLES
41	20	1	C			0.36	RECEPTACLES – FLUIDS
43	20	1	A	0.36			RECEPTACLES – WASTE FLUIDS
45	20	1	B		0.87		UNIT HEATER
47	20	1	C			0.87	UNIT HEATER
49	20	1	A	1.08			PUMPS P-8, P-10, P-12
51	20	1	B		0.36		PUMPS P-9, P-11, P-13
53	20	1	C			0.36	PUMP P-15
55	20	1	A				SPARE
57	20	1	B				SPARE
59	20	1	C				SPARE
61	20	1	A				SPARE
63	20	1	B				SPARE
65	20	1	C				SPARE
67	20	1	A				SPARE
69	20	1	B				SPARE
71	20	1	C				SPARE
SUBTOTAL:				8.82	7.61	6.29	
2			A	0.80			
4	20	3	B		0.80		SF-1
6			C			0.80	
8			A	0.42			
10	20	3	B		0.42		SF-2
12			C			0.42	
14	50	2	A	4.80			WELDER
16			B		4.80		
18	20	1	C			0.53	PROPANE FUEL CENTER LIGHTING
20	20	1	A	0.72			PROPANE FUEL CENTER RECEPTACLES
22	30	2	B		1.74		PRESSURE WASHER
24			C			1.74	
26	20	2	A				SPARE
28			B				
30	20	1	C				SPARE
32			A	2.40			
34	20	3	B		2.40		TIRE CAROSEL
36			C			2.40	
38			A	2.40			
40	20	3	B		2.40		TIRE CAROSEL
42			C			2.40	
44			A				
46	20	3	B				SPARE
48			C				
50	20	1	A	1.65			UH-1, UH-2, UH-3A
52	20	1	B				M-1 POST LIFT CHARGER
54	20	1	C				M-1 POST LIFT CHARGER
56	20	1	A				M-1 POST LIFT CHARGER
58	20	1	B				M-1 POST LIFT CHARGER
60	20	1	C				SPARE
62	20	1	A				SPARE
64	20	1	B				SPARE
66	20	1	C				SPARE
68	20	1	A				SPARE
70	20	1	B				SPARE
72	20	1	C				SPARE
SUBTOTAL:				13.39	12.56	8.29	

FEEDER SCHEDULE

TAG	DESCRIPTION	CONDUCTORS (NOTE 1)	CONDUIT
A	30 AMP PRIMARY/FEEDER	(3) #10, (1) #10 G	3/4"
B	50 AMP SECONDARY/FEEDER	(4) #6, (1) #10 G	1"
C	70 AMP PRIMARY/FEEDER	(3) #4, (1) #8 G	1-1/2"
1A	100 AMP SECONDARY/FEEDER	(4) #1, (1) #8 G	1-1/2"
1B	125 AMP PRIMARY/FEEDER	(3) #1, (1) #6 G	1-1/2"
1C	175 AMP PRIMARY/FEEDER	(3) #2/0, (1) #6 G	2"
1D	150 AMP SECONDARY/FEEDER	(4) #1/0, (1) #6 G	2"
2D	225 AMP SECONDARY/FEEDER	(4) #4/0, (1) #4 G	2-1/2"
3	300 AMP SECONDARY/FEEDER	(4) 300 KCMIL, (1) #4G	3"
4	400 AMP SECONDARY/FEEDER	(4) 500 KCMIL, (1) #3G	4"
9	800 AMP SERVICE/FEEDER	(4) 500 KCMIL, (1) #1/0 G	IN EACH OF (2) 5"

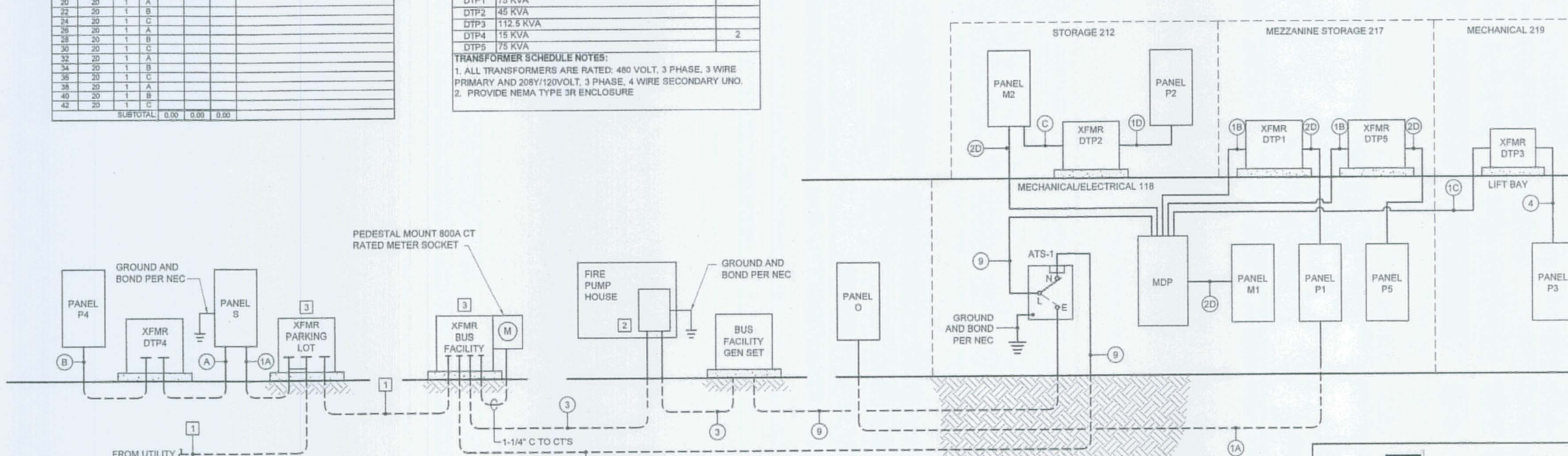
FEEDER SCHEDULE NOTES:
1. WIRING BASED ON COPPER THWN/THHN
2. CONDUIT SIZE BASED ON EMT

NOTE:
ADDITIONAL PANEL SCHEDULES LOCATED ON SHEET EP-100

TRANSFORMER SCHEDULE

TAG	DESCRIPTION	NOTES
DTP1	75 KVA	
DTP2	45 KVA	
DTP3	112.5 KVA	
DTP4	15 KVA	2
DTP5	75 KVA	

TRANSFORMER SCHEDULE NOTES:
1. ALL TRANSFORMERS ARE RATED: 480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120VOLT, 3 PHASE, 4 WIRE SECONDARY UNO.
2. PROVIDE NEMA TYPE 3R ENCLOSURE



1 REFER TO SITE PLAN ON DRAWING ES-101 FOR TRENCH DETAILS.
2 FIRE PUMP HOUSE FURNISHED BY DIVISION 21 AND FACTORY WIRED FOR SINGLE-POINT POWER CONNECTION
3 PADMOUNT TRANSFORMER FURNISHED BY UTILITY

A1 KEY NOTES — NO SCALE
A2 POWER RISER DIAGRAM — NO SCALE

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
DATE
FED PIN NO:
PIN NO: 16123.50

SIGNATURE | P.E. NUMBER | 01 MAY, 2009 | DATE

PROJECT INFORMATION
PROGRAM -
PROJECT MANAGER WPF
DESIGNER -
CONSULTANT ALLIED ENGINEERING
PROJECT RESIDENT -
CONTRACTOR -
PROJECT COMPLETION DATE -

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY
POWER RISER DIAGRAM AND SCHEDULES

SHEET NUMBER
EP-400
OF

Allied Engineering
160 Veranda Street
Portland, Maine 04103

Allied Project No: 07010 | Cad File: 07010E.DWG

Filename: - Date: - Division: - Username: -
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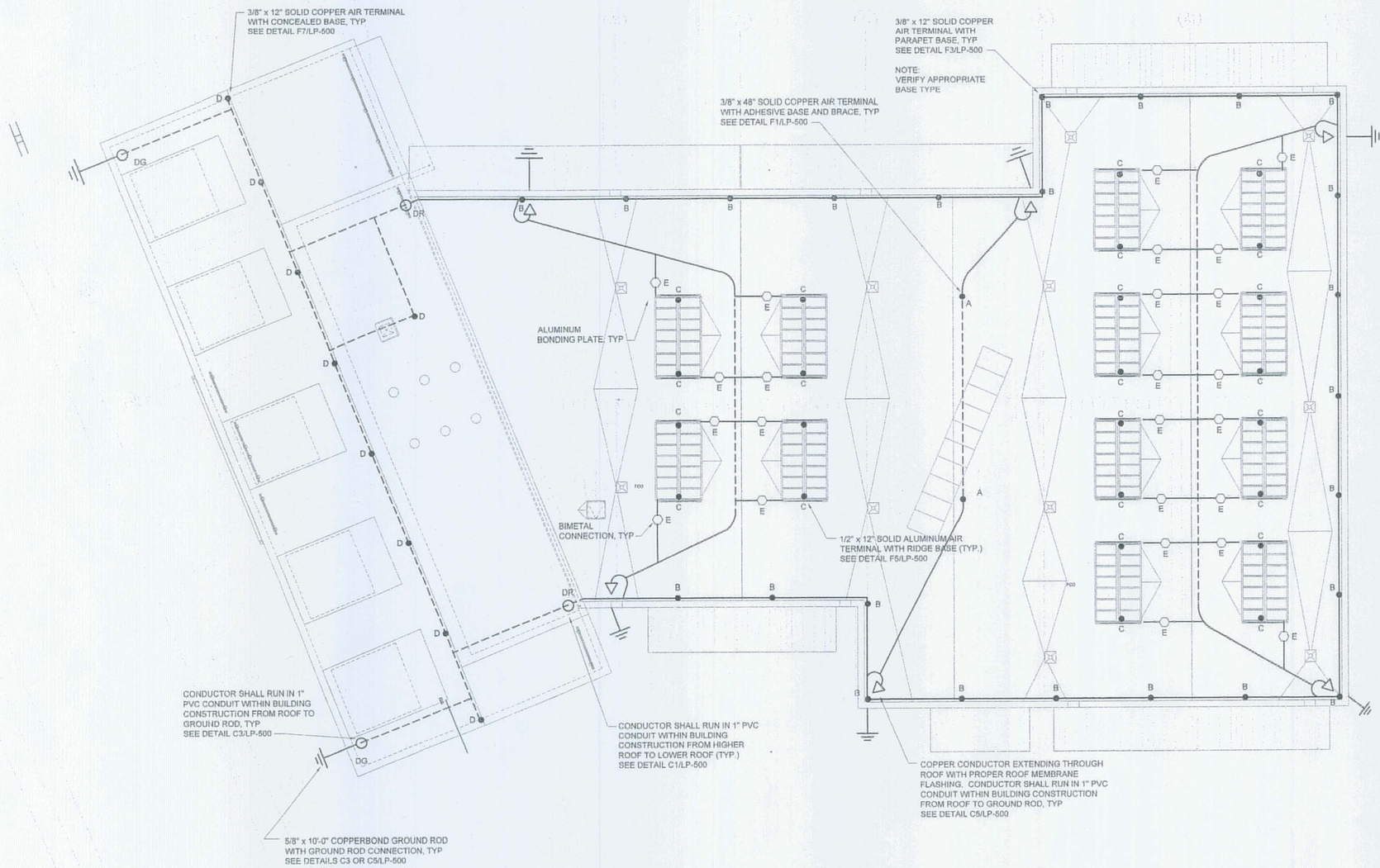
1. BASIS OF DESIGN MANUFACTURER IS HEARY BROS. LIGHTNING PROTECTION CO., INC.
2. THE LIGHTNING PROTECTION SYSTEM AS SHOWN ON DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH UL-96 AND NFPA-780 LIGHTNING PROTECTION STANDARDS.
3. CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD COURSE, FREE FROM "U" OR "V" (DOWN AND UP) POCKETS.
4. NO BEND OF A CONDUCTOR SHALL FORM AN ANGLE OF LESS THAN 90° NOR SHALL HAVE A RADIUS OF BEND LESS THAN 8 INCHES.
5. AIR TERMINALS SHALL BE PLACED 20'-0" MAXIMUM SPACING AROUND THE ROOF PERIMETER OR ALONG ROOF RIDGES AND WITHIN 2'-0" OF OUTSIDE CORNERS.
6. AIR TERMINALS SHALL BE SPACED EVERY 50'-0" MAXIMUM IN CENTER ROOF AREAS.
7. ACTUAL JOBSITE CONDITIONS MAY REQUIRE SLIGHT ALTERATIONS IN AIR TERMINAL, DOWN CONDUCTOR AND GROUND ROD LOCATIONS.
8. BARE COPPER MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM OR GALVALUM SURFACES AND ALUMINUM MATERIALS SHALL NOT BE INSTALLED ON COPPER SURFACES.
9. ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE FASTENED HORIZONTALLY AND VERTICALLY NOT MORE THAN 3'-0" O.C. MAXIMUM SPACING.
10. ALL BOLTS ON BOLT PRESSURE CONNECTORS REQUIRE BEING TORQUED AT 150 POUND-INCHES (17N M).
11. ALL CONNECTIONS MUST BE USED WITH UL LISTED CLASS I OR CLASS II CABLE OF THE SAME METAL TYPE.
12. METALLIC BODIES OF INDUCTANCE SITUATED WITHIN 6'-0" OF A LIGHTNING CONDUCTOR OR ANOTHER BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM, UNLESS INHERENTLY GROUNDED.
13. BOND TO ALL BODIES OF CONDUCTANCE WITHIN 6'-0" OF THE MAIN LIGHTNING CONDUCTOR SUCH AS: EXHAUST FANS, ROOF VENTS, MTAL COOLING TOWERS, H.V.A.C. UNITS, LADDERS, RAILINGS, ANTENNAS, SKYLIGHTS, METAL STACKS AND ANY OTHER LARGE BODIES WHOSE HEIGHT EXCEEDS THAT OF THE AIR TERMINAL IN USE, UNLESS PROTECTED BY HIGHER ROOF ELEVATIONS.
14. CONNECTIONS TO GROUND RODS SHALL BE MADE AT A POINT NOT LESS THAN 1'-0" BELOW FINISHED GRADE AND 2'-0" AWAY FROM FOUNDATION WALL.
15. BOND TO WATERLINES (DOMESTIC & FIRE).
16. A LIGHTNING ARRESTOR, PROTECTOR OR ANTENNA DISCHARGE UNIT SHALL BE INSTALLED ON EACH ELECTRIC AND TELEPHONE SERVICE AND RADIO AND TELEVISION ANTENNA LEAD-IN BY DIVISION 26, PER NFPA-70.

F1	GENERAL NOTES



A1	LIGHTNING PROTECTION PLAN
3/32"=1'-0"	

	7 STRANDS 14 GAUGE COPPER CONDUCTOR (SECONDARY CABLE) #CCHB-9
	29 STRANDS OF 17 GAUGE COPPER CONDUCTOR (EXPOSED ON ROOF) #CCHB-29-17
	29 STRANDS OF 17 GAUGE COPPER CONDUCTOR (CONCEALED WITHIN BLDG. CONSTRUCTION) #CCHB-29-17
	24 STRANDS OF 18 GAUGE ALUMINUM CONDUCTOR (AT SKYLIGHTS & RTUs) #ACHB-24-14
• A	3/8" x 48" SOLID COPPER MID ROOF AIR TERMINAL WITH ADHESIVE BASE AND BRACE #CAHB-312, 23D, 05/B21AB-36
• B	3/8" x 12" SOLID COPPER AIR TERMINAL WITH PARAPET BASE #CAHB-308, 32D
• C	1/2" x 12" SOLID ALUMINUM AIR TERMINAL WITH RIDGE BASE #AAHB-302, 172D
• D	3/8" x 12" SOLID COPPER AIR TERMINAL WITH CONCEALED BASE #CAHB-308, 8
NOTE:	ALL ADHESIVE SHALL BE PROVIDED BY THE ROOFING CONTRACTOR.
▷	COPPER CONDUCTOR EXTENDING THROUGH ROOF WITH PROPER ROOF MEMBRANE FLASHING. CONDUCTOR SHALL RUN IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION FROM ROOF TO GROUND ROD.
DR	DOWN CONDUCTOR SHALL RUN IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION FROM HIGHER ROOF TO LOWER ROOF.
DG	DOWN CONDUCTOR SHALL RUN IN 1" PVC CONDUIT WITHIN BUILDING CONSTRUCTION FROM ROOF TO GROUND ROD.
	ALL PVC CONDUIT AND CONDUIT SLEEVES FURNISHED, INSTALLED, WEATHERPROOFED AND MAINTAINED FREE FROM OBSTRUCTIONS BY DIVISION 26. ALL PVC CONDUIT AND SLEEVE INSTALLATION SHALL BE COORDINATED BETWEEN DIVISION 26 AND THE ROOFING CONTRACTOR. ALL PITCH PANS OR PROPER ROOF MEMBRANE FLASHING FURNISHED, INSTALLED AND WEATHERPROOFED BY THE ROOFING CONTRACTOR.
*NOTE:	*METAL FLASHING CONNECTION #CMHB-44D *METAL VENT PIPE CONNECTION #AMHB-42FD *METAL ROOF DRAIN CONNECTION #CMHB-160D SECONDARY BONDING IS REQUIRED WHEN METAL BODIES OF INDUCTANCE ARE LOCATED WITHIN 6FT. OF THE LIGHTNING PROTECTION SYSTEM OR OTHER GROUNDED BODIES.
	ALUMINUM CABLE CONNECTION #AMHB-44D
	COPPER CABLE CONNECTION #CMHB-44D
	HEAVY DUTY STRAIGHT SPLICER #CRHB-26
	CORROSION RESISTANT COPPER PERFECTION PIPE CLAMP (ANTENNAS, RAILINGS, ETC.) #PMHB-103XD
	COPPER PRESSED CROSSOVER CONNECTION #CMHB-57XXX
	CORROSION RESISTANT BONDING PLATE (AT DOWNLEAD LOCATIONS) #PPHB-34D
E	ALUMINUM BONDING PLATE (AT SKYLIGHTS) #APHB-34D
○	BIMETAL CONNECTION #MBHB-93
	FASTENERS (FASTEN CABLE EVERY 3'-0" (93mm) O.C. MAX.) #AFHB-72 ,#AFHB-64A/SSS, #CFHB-64C/SSS, 72
	WATERLINE CONNECTION (FIRE AND DOMESTIC WATER) #CMHB-97D
—⊳	5/8" x 10'-0" COPPERBOND GROUND ROD WITH GROUND ROD CONNECTION #CGHB-106GR, 67D
	COPPER FENCE POST GROUNDING CONDUCTOR. #CCHB-29-17
	CORROSION RESISTANT BONDING PLATE (AT BASE OF FENCE POST). #PPHB-99D
	5/8"x10'-0" COPPERWELD GROUND ROD AND GROUND ROD CONNECTOR. #CGHB-106GR, #HB-57
	COPPER SECONDARY BONDING CONDUCTOR . #CCHB-9EC
	CORROSION RESISTANT BONDING LUG (AT RAZOR RIBBON, SENSOR UNIT, ETC.) #CMHB-162D
	CABLE CONNECTOR / BONDING CONNECTOR AT WIRE MESH #CMHB-44D
	CORROSION RESISTANT COPPER FLEXIBLE BONDING STRAP (AT GATES) #CTHB-MXICR

NOTES:

1. ALL SURGE ARRESTORS, SURGE SUPP./TRANSIENT SUPPRESSORS SHALL BE PROVIDED BY DIVISION 26.

D9	LIGHTNING PROTECTION PLAN

Allied Engineering
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010LProt.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE

FED PIN NO:

PIN NO: 16123.50

STATE OF MAINE — CATHERINE A. FALCHER — LICENSED PROFESSIONAL ENGINEER

INFORMATION			
PROJECT PROGRAM	–	SIGNATURE	
PROJECT MANAGER	WFF		
DESIGNER	–	P.E. NUMBER	
CONSULTANT	–	ALLIED ENGINEERING	
PROJECT RESIDENT	–	01 MAY, 2009	
CONTRACTOR	–	DATE	
PROJECT COMPLETION DATE	–		

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTNING PROTECTION PLAN

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SHEET NUMBER
LP-100
OF

Filename: – Division: – Date: – Username: –

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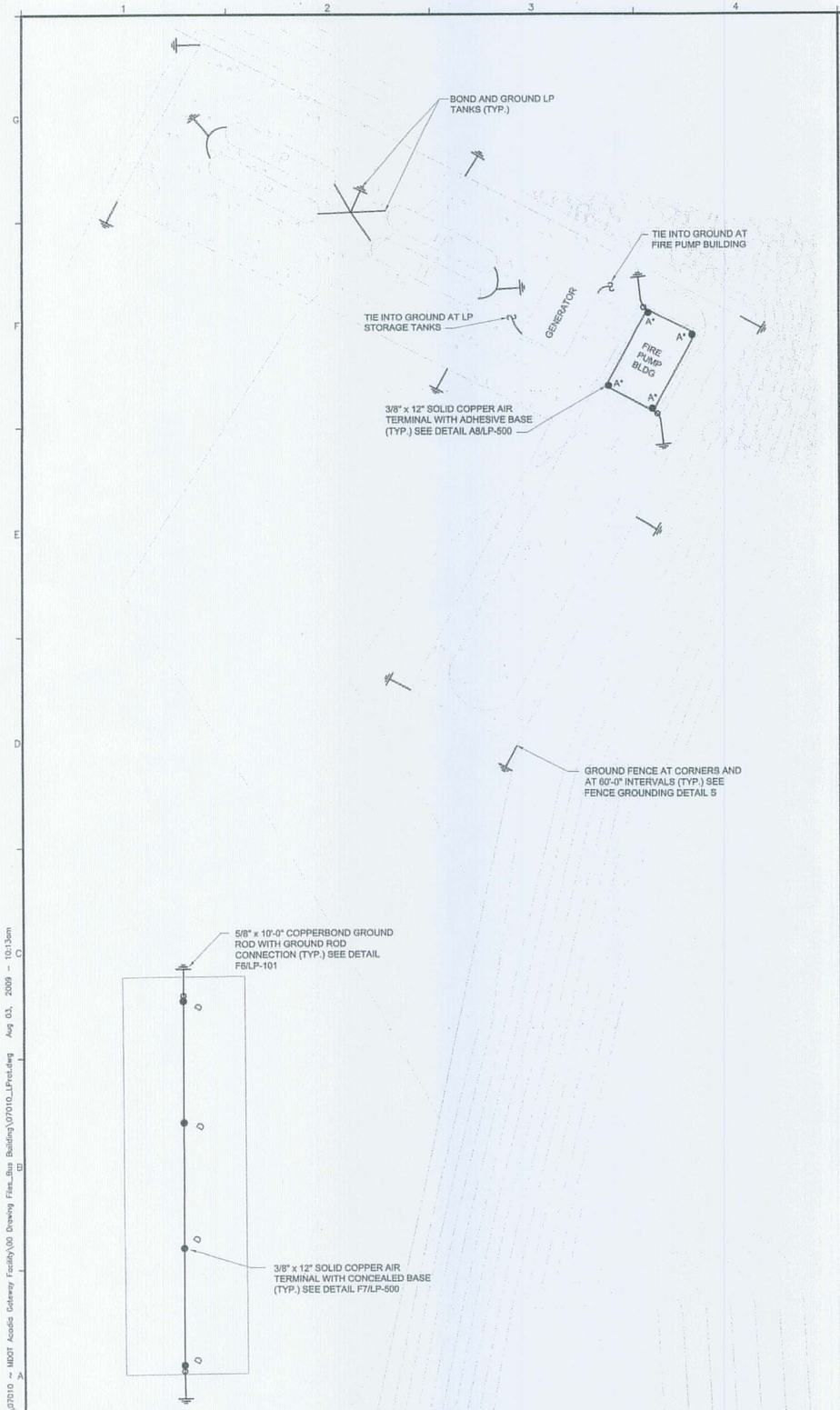
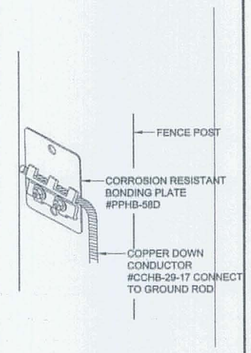
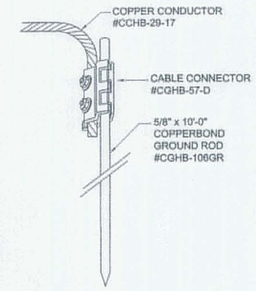


A1 | LIGHTNING PROTECTION PLAN
3/32"=1'-0"

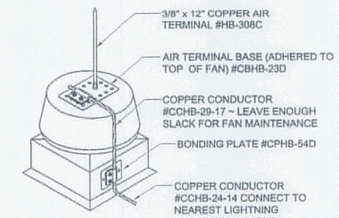


F5 | BONDING PLATE
NO SCALE | AT FENCE POST

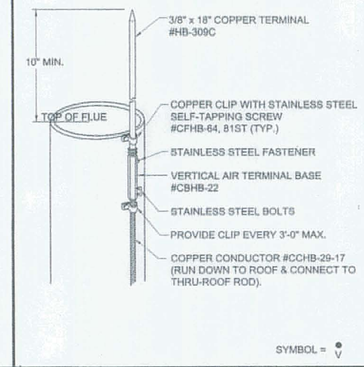


F6 | GROUND ROD
NO SCALE | AND CONNECTION

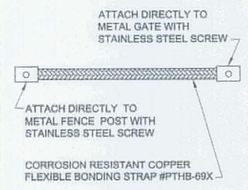
NOTE:
AIR TERMINALS ARE REQUIRED ON ROOF VENTILATORS/EXHAUST FANS THAT ARE NOT WITHIN A ZONE OF PROTECTION OR WHEN HIGHER THAN ADJACENT AIR TERMINALS.



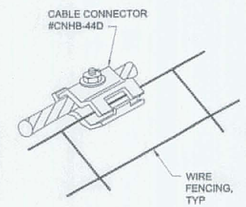
F7 | AIR TERMINAL @ EXHAUST FAN
NO SCALE



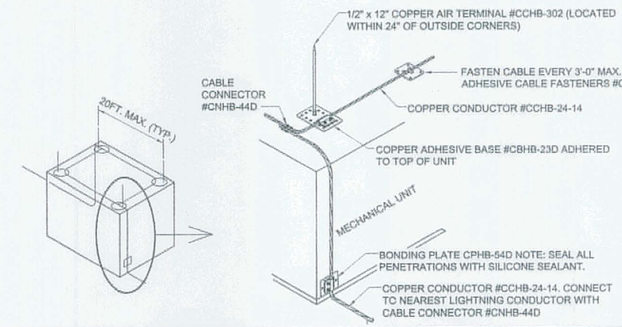
F9 | AIR TERMINAL @ FLUE
NO SCALE



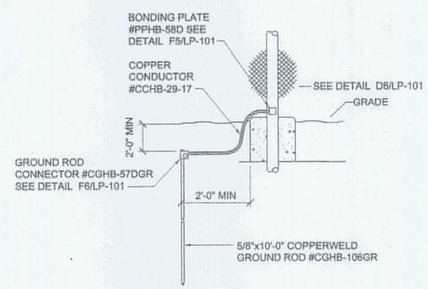
D5 | FLEXIBLE STRAP
NO SCALE | AT GATE



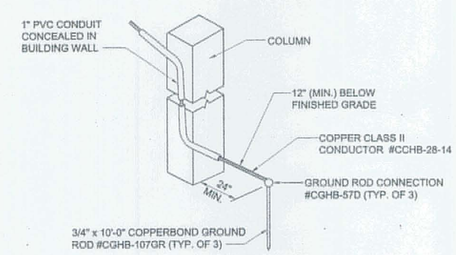
D5 | CABLE CONNECTOR
NO SCALE | AT FENCING



D7 | LIGHTNING PROTECTION @ RTU
NO SCALE



B5 | FENCE POST GROUNDING DETAIL
NO SCALE

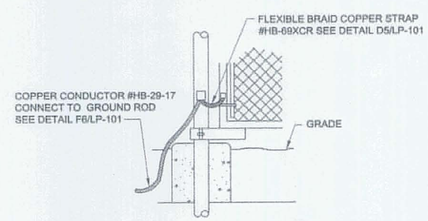


NOTES:

1. PROVIDE BONDING CONNECTION #CMHB-97 TO WATERLINE (FIRE & DOMESTIC) AND CONNECT COPPER CABLE #CCHB-28-14 TO NEAREST DOWN CONDUCTOR, GROUND ROD OR STRUCTURAL STEEL FRAMEWORK.
2. PROVIDE BONDING CONNECTION #PPHB-54D TO STRUCTURAL STEEL OR REBAR AT EACH DOWN CONDUCTOR, AND CONNECT COPPER CABLE #CCHB-28-14 TO NEAREST DOWN CONDUCTOR OR GROUND ROD.
3. ALL CONDUIT SHALL BE FURNISHED, INSTALLED, WEATHERPROOFED AND MAINTAINED FREE FROM OBSTRUCTIONS BY THE ELECTRICAL CONTACTOR.

SYMBOL = DN

B7 | LP GROUNDING
NO SCALE



A5 | GATE POST AND FRAME GROUNDING
NO SCALE

Allied Engineering
Structural Mechanical Electrical Consultants
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010 | Cad File: 07010LProt.DWG

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE

FED PIN NO:
PIN NO: 16123.50

STATE OF MAINE — CATHERINE A. FALCHER — No. 7575 — PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION		
PROGRAM	-	
PROJECT MANAGER	WFP	
DESIGNER	-	ALLIED ENGINEERING
CONSULTANT		-
PROJECT RESIDENT	-	-
CONTRACTOR	-	-
PROJECT COMPLETION DATE	-	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTNING PROTECTION PLAN AND DETAILS

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SHEET NUMBER
LP-101
OF

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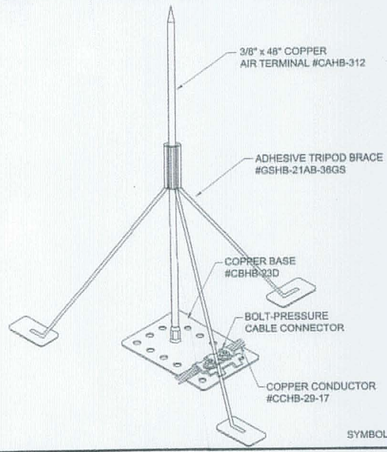
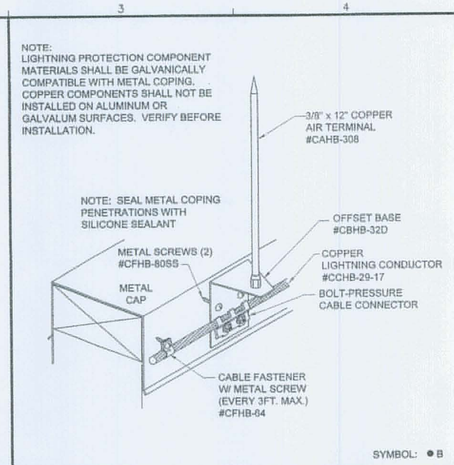
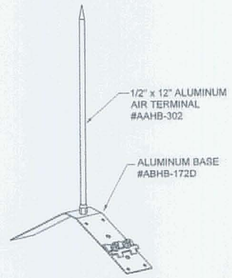


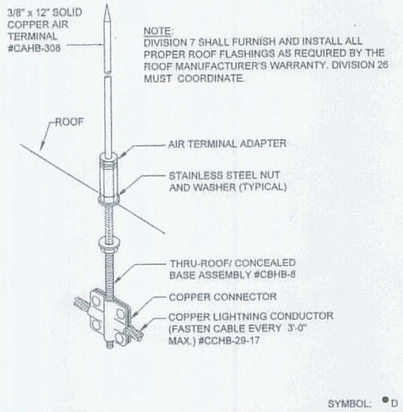
F1 AIR TEMINAL AT MID-ROOF
NO SCALE



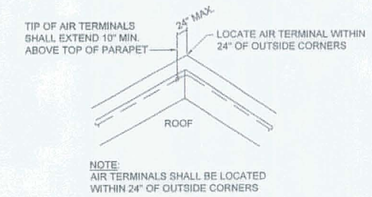
F3 OFFSET AIR TEMINAL BASE
NO SCALE



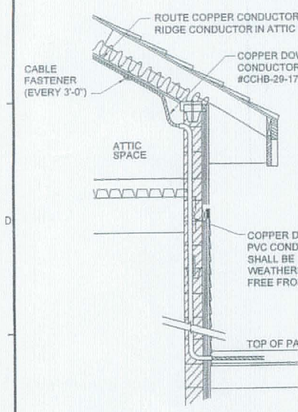
F5 SADDLE AIR TERMINAL BASE AT SKYLIGHT
NO SCALE



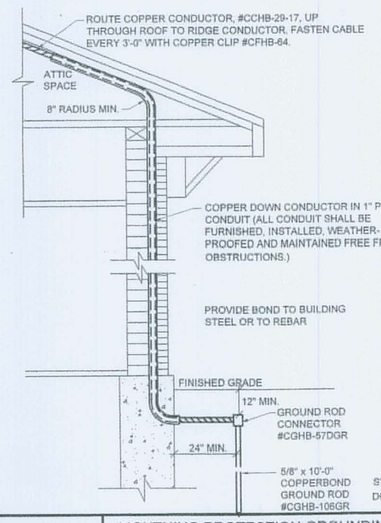
F7 CONCEALED AIR TERMINAL BASE DETAIL
NO SCALE



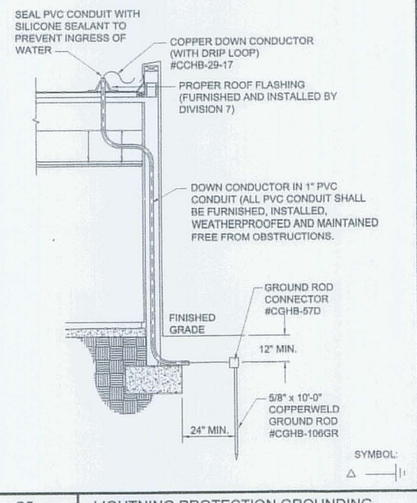
F9 DETAIL
NO SCALE



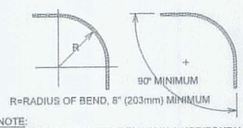
C1 DOWNLEAD TO LOWER ROOF DETAIL
NO SCALE



C3 LIGHTNING PROTECTION GROUNDING
NO SCALE

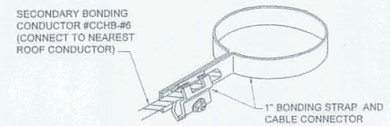


C5 LIGHTNING PROTECTION GROUNDING
NO SCALE

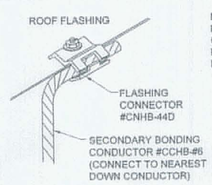


NOTE:
-LP CONDUCTOR SHALL REMAIN IN A HORIZONTAL OR DOWNWARD PATH AVOIDING "U" & "V" POCKETS (DOWN & UP).
-NO BEND OF A CONDUCTOR SHALL FORM AN INCLUDED ANGLE OF LESS THAN 90° OR HAVE A RADIUS OF BEND LESS THAN 8".

D7 DETAIL
NO SCALE

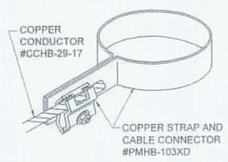


D9 BONDING STRAP (AT VENT PIPES)
NO SCALE

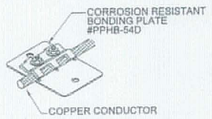


NOTE:
PROVIDE BONDING CONNECTION TO METAL FLASHING AT EACH DOWNLEAD LOCATION.

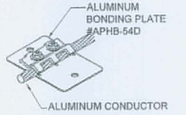
C7 FLASHING CONNECTOR
NO SCALE



C9 PIPE CLAMP (AT RAILINGS, ANTENNAS, ETC.)
NO SCALE

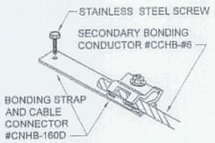


B1 BONDING PLATE
NO SCALE

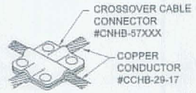


B2 BONDING PLATE
NO SCALE

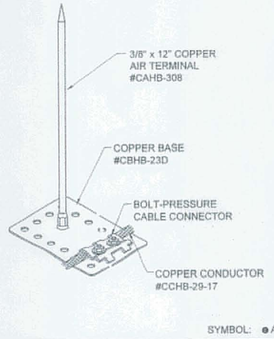
B4 STRAIGHT SPLICER
NO SCALE



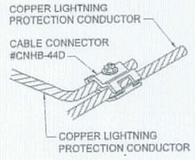
B5 BONDING LUG (ROOF DRAINS)
NO SCALE



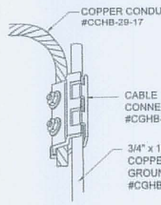
B7 BONDING LUG (ROOF DRAINS)
NO SCALE



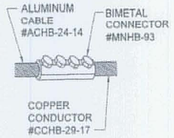
A8 ADHESIVE AIR TERMINAL BASE
NO SCALE



A1 CABLE CONNECTOR
NO SCALE

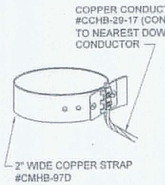


A2 GROUND ROD CONNECTOR
NO SCALE



A4 BIMETAL CONNECTOR
NO SCALE

A5 CABLE CONNECTOR
NO SCALE



A7 CABLE CONNECTOR
NO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
FED PIN NO:	
PIN NO: 16123.50	

STATE OF MAINE
CATHERINE A. FAUCHER
No. 7071
PROFESSIONAL ENGINEER

	SIGNATURE
P.E. NUMBER	
01 MAY, 2009	DATE

PROJECT INFORMATION	
PROGRAM	-
PROJECT MANAGER	WFF
DESIGNER	-
CONSULTANT	ALLIED ENGINEERING
PROJECT RESIDENT	-
CONTRACTOR	-
PROJECT COMPLETION DATE	-

MAINE DEPARTMENT OF TRANSPORTATION
ACADIA GATEWAY FACILITY
BUS MAINTENANCE FACILITY

LIGHTNING PROTECTION DETAILS

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LP-500
OF

Allied Engineering
Structural Mechanical Electrical Civil
160 Veranda Street
Portland, Maine 04103
T:
F:
Web:

Allied Project No: 07010
Cad File: 07010LProf.DWG

Filename:- Date:- Division:- Username:-
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