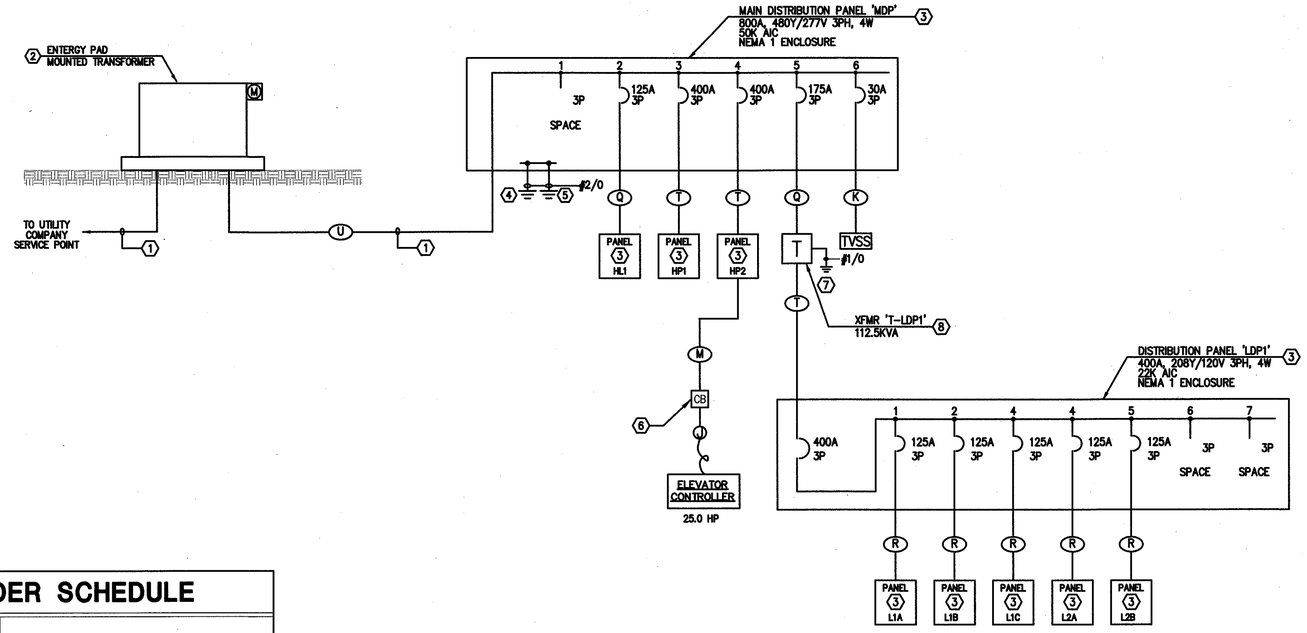

1 SINGLE LINE DIAGRAM
NOT TO SCALE

2 BRANCH CIRCUIT AND FEEDER SCHEDULE

CIRCUIT LABEL	BREAKER RATING	BREAKER QUANTITY	CONDUCTOR QUANTITY	PHASE AWG SIZE	NEUTRAL AWG SIZE	GROUND AWG SIZE	ISOLATED GROUND AWG SIZE	CONDUIT SIZE	NOTE REFERENCE
A	1P–20A	1	3	12	12	12	–	0.75"	1
B	1P–20A	2	4	12	12	12	–	0.75"	1
C	1P–20A	3	5	12	12	12	–	0.75"	2
D	1P–20A	1	3	10	10	12	–	0.75"	2
E	1P–20A	2	4	10	10	12	–	0.75"	2
F	1P–20A	3	5	10	10	12	–	0.75"	
G	2P–20A	1	3	12	–	12	–	0.75"	3
H	3P–15A	1	4	12	–	12	–	0.75"	3
J	3P–20A	1	4	12	–	12	–	0.75"	3
K	3P–30A	1	4	10	–	10	–	0.75"	3
L	3P–40A	1	4	8	–	10	–	0.75"	3
M	3P–75A	1	4	4	–	8	–	1.00"	3
N	3P–110A	1	4	1	–	6	–	1.50"	3
P	3P–150A	1	4	1/0	–	6	–	1.50"	3
Q	3P–175A	1	4	2/0	–	6	–	2.00"	
R	3P–125A	1	5	1	1	6	–	1.50"	
S	3P–225A	1	5	4/0	4/0	2	–	2.50"	
T	3P–400A	1	5	3/0	3/0	2	–	2.00"	4
U	3P–800A	1	5	300	300		–	3.00"	5 6

NOTES:

1. USE COMMON NEUTRAL FOR CIRCUITS THIS HOMERUN.
2. FEEDER UPSIZED FOR DERATING OF CONDUCTORS.
3. PROVIDE FLEXIBLE CONDUIT FOR FINAL CONNECTION TO LOAD(S).
4. PROVIDE TWO (2) SETS OF THIS FEEDER INSTALLED AND CONNECTED TO FORM PARALLEL FEEDERS.
5. PROVIDE THREE (3) SETS OF THIS FEEDER INSTALLED AND CONNECTED TO FORM PARALLEL FEEDERS.
6. PROVIDE ADDITIONAL SPARE 3" CONDUIT.

3 LOAD TABULATION

LOAD DESCRIPTION	CONNECTED kVA	DEMAND FACTOR %	DEMAND kVA
LIGHTING	42	1.25	52.5
ELEVATOR	28	0.25	7.0
LARGEST MOTOR (CHILLER #1)	87.5	1.25	109.4
LARGEST MOTOR (CHILLER #2)	87.5	1.00	87.5
MOTORS (BALANCE OF REMAINING)	125	1.00	125.0
RECEPTACLES (FIRST 10 KVA)	10	1.00	10.0
RECEPTACLES (REMAINING)	69	0.50	34.5
ELECTRIC HEATING	23	0.50	11.5
WATER HEATING (ELECTRIC)	75	0.65	48.8
MISCELLANEOUS	16	0.75	12.0
TOTALS	563		498.1

LOAD SUMMARY

LOAD	CONNECTED kVA	DEMAND kVA
	563.0	498.1

TOTAL CONNECTED kVA =
563.0 kVA AT 480V, 3P = 677.5 AMPERES

TOTAL DEMAND kVA =
498.1 kVA AT 480V, 3P = 599.4 AMPERES

4 SERVICE VOLTAGE DROP

AC Calculation for Voltage Percent
Voltage: 480
Load: 676 Amperes
Load Circuit: 3-PH, 4-W, Wye
Power Factor: 0.8
Insulation Temp: 75°C/167°F
Conductor: Copper
Conductors per Phase: 3
Conduit: PVC/ABS
Cable Length: 25 Feet
Conductor Gauge: 300

Results:
0.12%
0.58 Volts Line-to-Line
0.34 Volts Line-to-Neutral

File Name: P:\10.0123 Harry Hurst MS Classroom Building\Drawings\JBA\E\Calcs\Fault Calc\MDP VD.edr

Date Created: 5/17/2010 11:13:44 AM
Date Modified: 5/17/2010 11:20:18 AM

Source: EDR, Electrical Designer's Reference
Software Version: 8.0 (Build 8). Based on the 2008 NEC®.

5 FAULT CURRENT ANALYSIS

Calculation of Fault Current
Fault SCA Source = TA Primary Infinite
SCA Available = Infinite
Length Units = Feet
Motor Load = None
Motor SCA = None
Motor SCA Treatment = Motor SCA Not Included
System Voltage = 480
System Phase = 3 Phase

Transformers

Name	PH	Size	Pri.V	Sec.V	%Z	SCA,3PH
TA ENTERGY	3–PH	500	22860	480	1.3	46,264

Name	Cond	Cable	Size	Qty	Feet	SCA,3PH
S/F MDP	PVC, ABS	1/c,CU	300	3	25	43,373

Main–Feeders

Name	Cond	Cable	Size	Qty	Feet	SCA,3PH
F1 PANEL HL1	EMT	1/c,CU	1	1	8	37,018
F2 PANEL HP1	EMT	1/c,CU	3/0	2	60	31,763
F3 PANEL HP2	EMT	1/c,CU	3/0	2	85	28,576
F4 XFMR T–LDP1	EMT	1/c,CU	2/0	1	10	37,864

Transformers

Name	PH	Size	Pri.V	Sec.V	%Z	SCA,3PH
TA T–LDP1	3–PH	112.5	480	208	3	9,302

Name	Cond	Cable	Size	Qty	Feet	SCA,3PH
S/F PANEL LDP1	EMT	1/c,CU	3/0	2	5	9,164

Main–Feeders

Name	Cond	Cable	Size	Qty	Feet	SCA,3PH
F1 PANEL L1A	PVC	1/c,CU	1	1	5	8,720
F2 PANEL L1B	PVC	1/c,CU	1	1	8	8,474
F3 PANEL L1C	PVC	1/c,CU	1	1	11	8,241
F4 PANEL L2A	EMT	1/c,CU	1	1	83	4,905
F5 PANEL L2B	EMT	1/c,CU	1	1	80	4,989

SPECIFIC NOTES:

1. CONTRACTOR SHALL TRENCH AND EXCAVATE FOR UNDERGROUND CONDUIT ROUTES WITH EXTREME CAUTION AND SHALL CONTACT ALL PERTINENT UTILITY COMPANIES AS REQUIRED TO PROTECT EXISTING SYSTEM AND CIRCUMVENT INTERRUPTIONS IN EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL PERFORM TEST EXCAVATIONS AS REQUIRED TO VERIFY EXACT DEPTHS AND POSITIONS OF UNDERGROUND UTILITIES BEFORE FULL COMMENCEMENT OF UNDERGROUND TRENCHING AND EXCAVATION WORK. ALL EXISTING GRADES, SIDEWALKS AND ROADWAYS SHALL BE REPAIRED AND RETURNED TO THE ORIGINAL CONDITION(S) PER THE STRUCTURAL/CIVIL SPECIFICATIONS AND ARCHITECTURAL SPECIFICATIONS.
2. PAD MOUNTED ELECTRIC SERVICE TRANSFORMER BY ENTERGY. COORDINATE REQUIREMENTS FOR CONCRETE PAD, INCOMING PRIMARY AND SECONDARY CONDUITS, GROUNDING, ETC. WITH ENTERGY PRIOR TO COMMENCING WORK.
3. FURNISH AND INSTALL AN "ELECTRIC ARC FLASH HAZARD" WARNING LABEL CLEARLY VISIBLE ON EACH PANELBOARD COVER AS REQUIRED BY NATIONAL ELECTRIC CODE.
4. GROUND PER NEC ARTICLE 250-52(A)(1).
5. GROUND PER NEC ARTICLE 250-52(A)(2).
6. 75A 3 POLE 600V SHUNT TRIP CIRCUIT BREAKER IN NEMA 1 ENCLOSURE MOUNTED IN ELEVATOR MACHINE ROOM.
7. GROUND PER NEC ARTICLE 250-30.
8. PROVIDE DRY-TYPE TRANSFORMER 480V, 3PH DELTA TO 208Y/120V, 3PH, 4W WYE, 80° RISE, 200° CLASS INSULATION, NEMA TP-1 COMPLIANT. KVA SIZE AS SHOWN.

MURRAY ARCHITECTS
131 ormond center court
destrehan, la 70047
(985) 764-7175
fax (985) 725-1352

jba consulting engineers
JBA Consulting Engineers, Inc
JBA New Orleans
3525 N Causeway Blvd
Suite 500
Metairie, LA 70002
p 504.830.0139

no.	revisions	date
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HARRY HURST MIDDLE SCHOOL
WING ADDITION

1 Roadrunner Lane, Destrehan, Louisiana 70047

SINGLE LINE DIAGRAM AND SCHEDULES

seal: STATE OF LOUISIANA — ALVIN L. PHELPS, JR. — License No. 30703 — PROFESSIONAL ENGINEER IN ELECTRICAL ENGINEERING

MURRAY ARCHITECTS
project number 10.0123
06.14.2010
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