ELECTRICAL LEGEND

ALL SYMBOLS DO NOT NECESSARILY APPLY

SYMBOL	MBOLS DO NOT NECESSARILY APPLY M DESCRIPTION	OUNTING HGT. TO CENTERLINE UNLESS OTHERWISE NOTED
-0	WIRED JUNCTION BOX	SEE DRAWINGS
⊗	CEILING MOUNTED EXIT LIGHT	
\otimes	CEILING MOUNTED EXIT LIGHT OUTLET	
3	WALL MTD. EXIT LIGHT W/ DIRECTIONAL ARROWS	SEE DRAWINGS
	DUPLEX RECEPTACLE, 3 WIRE GRD. TYPE	18"
	FLOOR BOX WITH DUPLEX RECEPTACLE, CABLE, AND DATE OUTLETS. SEE E1 FOR MORE INFORMATION.	ATA FLOOR
	FLOOR MOUNTED "DOGHOUSE" GFI RECEPT.	FLOOR
₩P	DUPLEX RECEPTACLE, WEATHERPROOF	18"
	DUPLEX RECEPTACLE, GROUND FAULT PROTECTED	18"
	DUPLEX RECEPTACLE, QUADRAPLEX RECEPTACLE, ISOLA	ATED GROUND 18"
₩	QUADRAPLEX RECEPTACLE	18"
\$ \$ ² \$ ³ \$ ⁴	TOGGLE SWITCH, SINGLE POLE	48"
\$ ²	TOGGLE SWITCH, DOUBLE POLE	48"
\$3\$4	TOGGLE SWITCH, 3-WAY, 4-WAY	48"
\$	OCCUPANCY SENSOR	CEILING MTD.
<u></u>	SAFETY SWITCH	AS REQUIRED
	ELECTRIC PANEL	6'-0" TO TOP
Ø •	MOTOR OUTLET	
	1 PHONE JACK	
◀	2 DATA OUTLETS, 1 PHONE JACK	
	COAXIAL KEYSTONE 'F'—CONNECTOR COAX MODULE TO SIGNAL VIA COAXIAL CABLE	
	DATA RJ45 CONNECTOR FOR CONNECTION TO ETHERNE VIA CAT5 CABLE	ĪT
-F	FIRE ALARM BREAK STATION	48"
- F<	FIRE ALARM AUDIO/VISUAL SIGNAL DEVICE	96"
F	DUCT MTD. SYSTEM SMOKE DETECTOR W/ REMOTE INDICATORS	AS REQUIRED
F FS	FIRE ALARM WATER FLOW SWITCH	AS REQUIRED
F TS	FIRE ALARM TAMPER SWITCH	AS REQUIRED
F P	SYSTEM SMOKE DETECTOR, PHOTOELECTRIC	CEILING MTD.
F H	SYSTEM HEAT DETECTOR	CEILING MTD.
F 135	SYSTEM HEAT DETECTOR (FIXED TEMP.)	CEILING MTD.
FACP	FIRE ALARM PANEL	AS REQUIRED
	JUNCTION BOX	AS REQUIRED
i	DUPLEX RECEPTACLE AT STOREFRONT	CEILING MTD.
	MULTI-OUTLET RACEWAY W/SEPARATION FOR POWER AND DATA	SEE SHEET E1
TC	TIME CLOCK	AS REQUIRED

ELECTRICAL LOAD SUMMARY PANEL P

LOAD TYPE	CONNECT. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)		
LIGHTING	5	1.25	7		
RECEPTACLES	11	1.00	11		
MOTORS & HVAC	9	1.00+	12		
ELEC. HEAT	0.0	1.00	0.0		
TOTAL	26		30		

* 125% OF LARGEST MOTOR

SERVICE SIZING LOAD =

30.0 KVA

TOTAL DEMAND LOAD: 30 / 208V 1PH = 144 AMPS 200 AMP SERVICE IS ADEQUATE

ELECTRICAL LOAD SUMMARY PANEL P1

LOAD TYPE	CONNECT. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)
LIGHTING	0	1.25	0
RECEPTACLES	18	1.00	18
MOTORS & HVAC	7	1.00+	8
ELEC. HEAT	0.0	1.00	0.0
TOTAL	25		26

* 125% OF LARGEST MOTOR

SERVICE SIZING LOAD =

TOTAL DEMAND LOAD: 26 / 208V 1PH = 125 AMPS

200 AMP SERVICE IS ADEQUATE

ELECTRICAL LOAD SUMMARY PANEL P2

LOAD TYPE	CONNECT. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)		
LIGHTING	0	1.25	0		
RECEPTACLES	14	1.00	14		
MOTORS & HVAC	9	1.00+	11		
ELEC. HEAT	0.0	1.00	0.0		
TOTAL	22		25		

* 125% OF LARGEST MOTOR

SERVICE SIZING LOAD =

TOTAL DEMAND LOAD: 25 / 208V 1PH = 118 AMPS 200 AMP SERVICE IS ADEQUATE

-EXISTING. VERIFY A PROVIDE 2"C 3#3/0 — MINIMUM OF 2"C & 1#6 GND. 3#3/0 & 1#6 GND. EXISTING FEEDER. INTERCEPT AND INTERCEPT AND __EXISTING LAND LORD EXTEND TO NEW EXTEND TO NEW SPLITTER. PANEL LOCATION. PANEL LOCATION. VERIFY A MINIMUM OF 2"C 3#3/0 & EXISTING LAND LORD 1#6 GND. SWITCH GEAR EXISTING 200A NEW PANEL EXISTING EXISTING DISC. PANEL PANEL 'P' 'P1' 'P2' 200A MLO 200A 200A MLO MLO FEXISTING GROUND TO REMAIN. AFC=11,378A EXISTING. VERIFY A_ EXISTING. VERIFY A -> MINIMUM OF 2"C MINIMUM OF 2"C EXISTING 200A-DISC. 3#3/0 & 1#6 GND. 3#3/0 & 1#6 GND. EXISTING 1600A -MAIN DISC. SW. ELECTRICAL CONTRACTOR SHALL VISIT SITE AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO BID. EXISTING EQUIPMENT TO BE REUSED WILL 1 ELECTRICAL RISER BE REQUIRED TO SATISFY THE REQUIREMENTS OF THE CURRENT NEC WITH REGARDS TO RATING, E3 NTS TO UTILITY -IDENTIFICATION, USE, WIRE BENDING SPACE, ETC. TRANSFORMER. AS IF THEY WERE NEW. PROVIDE NEW CIRCUIT BREAKERS IN PANELS AS REQUIRED. MATCH EXISTING EQUIPMENT WITH RESPECT TO MANUFACTURER AND RATING.

65,000 Short Circuit Amps Available at Service Entrance								
4 Set 4"C Metal, 4#600	Conduit and Wire	50'	Distance From	XFMR	То	LL DIST		
1 Set 2"C Metal, 4#3/0	Conduit and Wire	3'	Distance From	LL Dist	То	METER		
1 Set 2"C Metal, 4#3/0	Conduit and Wire	3'	Distance From	METER	То	DISC SWITCH		
1 Set 2"C Metal, 4#3/0	Conduit and Wire	40'	Distance From	DISC SWITCH	То	Pnl P1		

NOTES TO ELECTRICAL CONTRACTOR

- Electrical Contractor upon being awarded contract, shall contact the utility to obtain the actual available fault current and verify all above information upon arrival on site, prior to ordering or approving release of equipment and report updated information to contact below. Engineer will recalculate available fault currents and relay results to the Electrical Contractor for compliance with 2011 NEC 110.24(A), (B) field marking requirements. This proceedure shall be done for all new and/or relocated switchgear and/or panels regardless of current code adoption. - Electrical Contractor to provide arc-flash hazard warning field marking per NEC 110.16. |Electrical Contractor to provide series rated labeling per NEC 110-22(B) where there is an applied series

rating as shown on the drawings. costs for failure to comply with the above requirements will be strictly at contractors expense.

> Adjusted KVA (Demand + Spare KVA) 124 Adjusted Amps (Demand + Spare KVA)

126 High Phase Amps (Demand + Spare KVA) 3/9/2016

File Name: Project Number: Project Name:

PANEL "P1" 0416740-036 ANYTIME FITNESS

Engineering Contact Cullen Murtaugh Dunham Associates <u>cullen.murtaugh@dunhameng.com</u>

612-465-7681

	Par	nel:	P1		Vol	ltage:	120/2	208v,	1ph, 3	3w	
Nο	Amp/p	Note	Description	Ph	Code L	Code C	Code R	Code M	Code E	Code A	Code D
			·		VA	VA	VA	VA	VA	VA	VA
1	20/1	2	TOILET ROOM RECEPTALCE	- A -		180					
3	20/1	2	TOILET ROOM RECEPTALCE	- B -		180					
5	20/1	2	TOILET ROOM RECEPTALCE	- A -		180					
7	20/1	1,2	VENDING MACHINE	- B -			840				
9	20/1	2	TROPOSAIR FAN	- A -				33			
11	20/1	2	TVS	- B -			600				
13	20/1	2	GENERAL RECEPTACLES	- A -		1260					
15	20/1	2	SPARE	- B -							
17	20/1	2	RTU RECEPTACLE (E)	- A -			400				
19	20/1	2	SHOW WINDOW RECEPTACLE	- B -		900					
21	-		SPACE	- A -							
23	-		SPACE	- B -							
25	-		SPACE	- A -							
27	-		SPACE	- B -							
29	-		SPACE	- A -							
31	-		SPACE	- B -							
33	-		SPACE	- A -							
35	-		SPACE	- B -							
37	-		SPACE	- A -							
39	-		SPACE	- B -							
2	70/	3	WH-1	- A -			6000				
4	2	3	"	- B -			6000				
6	20/1	1,2	VENDING MACHINE	- A -			840				
8	20/1	2	SPARE	- B -			0.10				
10	20/1	2	SPARE	- A -							
12	20/1	2	SPARE	^\ - B -							
14	60/	2	RTU-2 (E)	- A -				3360			
16	2	2	1(10-2 (L)	- B -				3360			
18	20/1	2	SPARE	- A -				3300			
20	20/1	2	SPARE	- A -							
22	20/1		SPACE	- A -							
	-			- A - - B -			-				
24 26	-		SPACE SPACE								
	-		SPACE	- A - - B -							
28	-										
30	-		SPACE	- A -							
32	-		SPACE	- B -							
34	-		SPACE	- A -							
36	-		SPACE	- B -		-					
38	-		SPACE	- A -		-					
40			SPACE	- B -							
	ugh - `		None	- A -							
	d Lug		None	- B -							
	ain		200/	- A -	0	1620	7240	3393	0	0	0
3RE/	AKER		2	- B -	0	1080	7440	3360	0	0	0
			Overcurrent Device Notes:		Dmd	Conn			- Bus K\	/A loads	
1 -			GFCI CIRCUIT BREAKER		0	0	Code L -	Lighting			
2 -	EXIS	TING B	REAKER TO REMAIN		3	3				eptacles (
3 -	PRO	/IDE N	IEW BREAKER AS INDICATED		15	15	Code R	Recepta	cles (Non	Convenie	nce)
4 -					8	7				Mtr VA =	4056
			Panelboard Notes:		0	0		Electric I			
1 -	PR∩\	/IDE S	SERIES RATED PANEL		0	0		Kitchen I		Dmd =	100%
2 -	100	VIDE C	JEINEO I MILLO I MINEL		0	0	Code N	Dwelling	Linite /브c	otel/Motel	Poome)
									OTILS (FIC	Yen Morei	1.001118)
3 -					26	24	Total KV	Α		0	601
4 -					0	Spare K	VA			Spare =	0%

GENERAL NOTES

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS UNDER WHICH HE IS TO PERFORM HIS WORK. NO ALLOWANCE WILL BE MADE FOR FAILURE TO COMPLY.

ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED NATIONAL ELECTRICAL CODE AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.

VERIFY EXACT LOCATION, MOUNTING HEIGHT AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT PROVIDED BY OTHERS (INCLUDING HVAC EQUIPMENT) PRIOR TO ROUGH-IN AND PROVIDE ALL REQUIRED FUSIBLE SWITCHES, TRANSFORMERS, STARTERS NECESSARY FOR PROPER OPERATION OF EQUIPMENT.

DUPLEX RECEPTACLES MOUNTED WITHIN 6 FT. OF SINK TO BE A GFI RECEPTACLE.

ALL WIRING SHALL BE COPPER, THHN/THWN OR XHHW INSULATED IN CONDUIT. MINIMUM CONDUIT SIZE TO BE 1/2". PROVIDE INSULATED COPPER BOND WIRE ON ALL

REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LIGHTING FIXTURES. VERIFY CEILING TYPES AND PROVIDE NECESSARY MOUNTING HARDWARE TO ACCOMMODATE LIGHT FIXTURES USED. PROVIDE SLOPE CEILING ADAPTERS WHERE

ADDITIONAL EXIT SIGNS AND EMERGENCY LIGHTING MAY BE REQUIRED. ADDITIONAL FIXTURES SHALL BE LOCATED AS DIRECTED BY THE LOCAL BUILDING AUTHORITY.

ACCESSIBLE NOTES

LIGHT SWITCHES, ELECTRICAL OUTLETS, THERMOSTATS AND OTHER ENVIRONMENTAL CONTROLS SHALL HAVE OPERABLE PARTS OF THE CONTROLS LOCATED NO HIGHER THAN 48" AND NO LOWER THAN 15" ABOVE THE FLOOR. IF THE REACH IS OVER AN OBSTRUCTION BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH OR 46" FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH A CONTROL.

	Par	rel:	Р				120/2				
No.	Amp/p	Note	Description	Ph	Code L VA	Code C VA	Code R VA	Code M VA	Code E VA	Code A VA	Code I VA
1	20/1	1	SIGN	- A -	1200	***	1	***	*,*	*/	• • • •
3	20/1	1	LIGHTING-(STORE FRONT)	- B -	1510						
5	20/1	1	FREE WEIGHTS/STRENGTH LIGHTING	- A -	1456						
7	20/1	1	TRAINER/MANAGER/EXERSICE RM	- B -	600						
9	20/1	1	SPARE	- A -							
11	20/1	1	REST ROOM LTS & EF-1	- B -	551			320			
13	20/1	1	GENERAL RECPT. ELECTRICAL AREA	- A -		180					
15	20/1	1	TANNING ROOM RECPTACLES	- B -		540					
17	20/1	1	TRAINERS ROOM	- A -		360					
19	20/1		TRAINING ROOM DEDICATED QUAD	- B -		360					
21	20/1		WATER COOLER	- A -			480				
23	20/1		PHONE BOARD	- B -		360	1.00				
25	20/1		MANAGERS OFFICE	- A -		360					
27	20/		TANNING BED	- B -			1000				
29	2		"	- A -			1000				
2	60/	1	RTU-1 (E)	- B -			1000	4576		<u> </u>	
4	2	1		- A -				4576			
6	20/1	1	SECURITY	- A -			200	4570			
8	20/1	1	HAND DRYER	- A -			1500				
10	20/1	1	HAND DRYER	- A -			1500				
12	20/1	1		- A -			1500				
			HAND DRYER				1000				
14	20/1	1	NERVE CENTER	- B -							
16	20/1	1	RTU RECEPTACLE (E)	- A - - B -			400				
18 20			SPACE								
22	-		SPACE	- A -							
	-		SPACE	- B -							
24	-		SPACE	- A -							
26	-		SPACE	- B -							
28	-		SPACE	- A -							
30	-		SPACE	- B -							
	ugh -		None	- B -							
	d Lug		None	- A -							
	ain		200/	- B -	2656	900	4180	4576	0	0	0
BRE	AKER		2	- A -	2661	1260	4400	4896	0	0	0
			Overcurrent Device Notes:		Dmd	Conn			- Bus K\	/A loads	
1 -	EXIST	ING E	BREAKER TO REMAIN		7	5	Code L -				
2 -					2	2				eptacles (
3 -					9	9				Convenie	
4 -					12	9	Code M	Motors	Largest	Mtr VA =	6032
	•		Panelboard Notes:		0	0	Code E	Electric	Heat		
1 -	PRO\	/IDE S	SERIES RATED PANEL		0	0	I	Kitchen		Dmd =	100%
2 -					0	0	Code D -	Dwelling	Units (Ho	otel/Motel	
3 -					29	26	Total KV				
4 -					0	Spare K	I	, ,		Spare =	0%
5 -					29		I KVA (De	mand ± G	Snare VV		U /0
	00	· 1 m=	Bus Rating		140		d Amps (I				
			os AIC Rating		140					re KVA)	2/0/20
			-			⊺ Hign Pr Name:		S (Demai Number :		re KVA) roject Nar	
EXIS	TINC										

													1	+	
	Par	nel:	P2		Vol	tage:	120/2	208v,	1ph. 3	3w		13			GENERAL REC
					Code L	Code C		Code M			Code D	15			SPAF RTU RECEPT
Ο.	Amp/p	Note	Description	Ph	VA	VA	VA	VA	VA	VA	VA	19			SHOW WINDOW
	20/1	3	DEDICATED CARDIO	- A -		· · · ·	180	+ ***	***	***	***	21			SPA(
	20/1	3	DEDICATED CARDIO	- B -			180					23			SPAC
_	20/1	3	DEDICATED CARDIO	- A -			180					25			SPAC
	20/1	3	DEDICATED CARDIO	- B -			180					27			SPAC
	20/1	3	VIEWING SCREEN	- A -			400					29			SPAC
1	20/1	3	RTU RECEPTACLE (E)	- B -			400					31			SPAG
<u>'</u> 3	20/1	3	FANS	- A -			400					33			SPAC
5	60/	3	SPARE	- B -			100					35			SPAC
7	2	3	SPARE	- A -								37			SPAC
<u>.</u>	-		SPACE	- B -								39	_		SPAC
1	_		SPACE	- A -										1	
<u>'</u>	_		SPACE	- B -								2	_	3	WH-
5	-		SPACE	- A -								4		3	\/ENDING A
7	_		SPACE	- B -								6		1,2	VENDING N
<u>'</u>	-		SPACE	- A -								8		2	SPAI
_		2		- B -		1		4576				10		2	SPAI
	60/	3	RTU-3 (E)	- A -				4576				12	_	2	SPAI
_	20/1	3	DEDICATED CARDIO	- A - - B -			180	4576				14		2	RTU-2
		3	DEDICATED CARDIO DEDICATED TREADMILL				1800					16		2	
_	20/1	3	DEDICATED TREADMILL DEDICATED TREADMILL	- A - - B -			1800					18		2	SPAF
<u>, </u>	20/1	3										20		2	SPAF
_	20/1		DEDICATED TREADMILL	- A -			1800 1800					22	_		SPAC
+	20/1	3	DEDICATED TREADMILL	- B -								24			SPAC
<u>></u>	20/1	3	DEDICATED TREADMILL	- A -			1800					26	_		SPAC
<u>5</u>	20/1	3	DEDICATED TREADMILL	- B -			1800					28	_		SPAC
<u>, </u>	20/1	3	VIEWING SCREEN	- A - - B -			700					30			SPAC
_	-		SPACE									32			SPAC
+	-		SPACE	- A -								34			SPAC
<u>~</u>	-		SPACE SPACE	- B -								36	_		SPAC
<u> </u>	-			- A -								38			SPAC
)	-		SPACE	- B -								40			SPAC
	ugh - `		None	- A -									rough -		Non
	d Lug		None	- B -		_			_	_			ed Lug		Non
	ain		200/	- A -	0	0	6740	4576	0	0	0		Main		200
E/	AKER		2	- B -	0	0	6860	4576	0	0	0	BR	EAKER	l l	2
			Overcurrent Device Notes:		Dmd	Conn			- Bus KV	/A loads					Overcurrent Device
-	EXIS	TING E	BREAKER TO REMAIN		0	0		Lighting							GFCI CIRCUIT BREAKE
					0	0		- Convenie				2			BREAKER TO REMAIN
-					14	14		Recepta			nce)	3 -	- PRC	VIDE	NEW BREAKER AS IN
-					11	9		- Motors		Mtr VA =	6032	4	-		
			Panelboard Notes:		0	0		Electric							Panelboard Not
-	PRO\	/IDE S	SERIES RATED PANEL		0	0	Code K	Kitchen	Equip	Dmd =	100%	1 -	- PRC	VIDE	SERIES RATED PANE
-					0	0	Code D	- Dwelling	Units (Ho	tel/Motel	Rooms)	2	-		
-					25	23	Total KV	/A				3	-		
_					0	Spare K\				Spare =	0%	4			
_					25	Adiusted	KVA (De	emand + S	Spare KV	A)		5			
	00	: Amr	Bus Rating		120			Demand					200	: Am	p Bus Rating
			os AIC Rating		121						3/9/2016		2,000		ps AIC Rating
	TING		inting			lame:		Number :		roject Nar			STING		
_	08		se to Phase Voltage	•		L "P2"		740-036		TIME FIT			208		ase to Phase Voltage
														1	

DUNHAM

Dunham Associates, Inc.

50 South Sixth Street / Suite 1100 Minneapolis, Minnesota 55402-1540 PHONE 612.465.7550 FAX 612.465.7551 WEB dunhameng.com

mechanical + electrical consulting engineering

"COA # CA 2352 PE" EXPIRATION - 6/30/16

ANYTIMEFITNESS

ANYTIME FITNESS, LLC

12181 MARGO AVE SOUTH HASTINGS, MN 55033 PHONE: (651) 438-5000

PROJECT INFORMATION:



PROJECT NO.:	0416740-037	
DRAWN BY:	VB/CM	
CHECKED BY:	RM	
SSUE:		DATE:
PERMIT SET		03-09-16
REVISION:		DATE:
^		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u></u>		
<u> </u>		
<u>*</u>		
<u> </u>		
<u>10\</u>		

PROJECT LOCATION: DURANT, OK

SHEET NUMBER / TITLE: