MOUNTLAKE TERRACE

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Electrical Fault Current Calculation Form

Permit No_____ Date_____

Project Name_____ Contractor Name_____

Project Address_____ Contractor Address_____

Prepared by_____ _____

The following fault calculation form must be completed and submitted prior to service approval. See instructions and impedance table on reverse side.

		Value	Total Impedance	Fault Current
A.	**UTILITY TRANSFORMER**			
	1. Rated Capacity	_____KVA		
	2. Secondary Voltage	_____ V	_____ Ohms	
	3. Nameplate % Impedance	_____%		
	or			
	4. Trans Short Ckt Amps	_____ A		
	5. Ohmic Impedance		_____Ohms ***(Step #1)***	
B.	**SERVICE CONDUCTORS**			
	1. Conductor Size	_____	Type_____	
	2. Length of Conduit	_____ ft.		
	3. Type of Conduit	_____		
	4. Impedance/1000'	_____ Ohms/1000'		
	5. Number of Parallel Runs	_____		
	6. Conductor Impedance		_____Ohms ***(Step #2)***	
	7. Total Impedance to Source		_____Ohms	
	8. Fault Current at Load Terminals		***(Step #3)***	_____ Amps
C.	**SERVICE ENTRANCE EQUIPMENT**			
	1. Equipment Rating	_____A		
	2. Interrupting Rating			_____A.I.C.
D.	**FEEDER CONDUCTOR**			
	1. Conductor Size	_____		
	2. Length	_____		
	3. Type of Conduit	_____		
	4. Impedance/1000'	_____ Ohms/1000'		
	5. Number of Parallel Runs	_____		
	6. Conductor Impedance		_____ Ohms	
	7. Total Impedance to Source		_____ Ohms	
	8. Fault Current at Load Terminals			_____A

	Value	Total Impedance	Fault Current
E. FEEDER PANEL			
1. Equipment Rating	_____A		
2. Interrupting Rating			_____A.I.C.

TRANSFORMER REPLACEMENTS: replacements that result in a higher possible fault current than that of the existing equipment shall be addressed to this department prior to reconnection of existing service equipment.

FAULT CURRENT CALCULATION INSTRUCTIONS

(Step #1) Secondary Transformer (I.C. rating) at its rated voltage, calculate Z-ohms as follows:

$$\text{Tran Z-ohms} = \frac{\text{"V"}}{\text{Short circuit curre..t}}$$ ("V" as defined below)

120/240V	1 ohm 3-wire.....	120
208Y/120V	3 ohm 4-wire.....	120
240V Delta	3 ohm-4wire.....	140
480Y/277V	3 ohm 4-wire.....	277
480V Delta	3 ohm 3-wire.....	277

(Step #2) (Using "Cable Impedance Data" table below)

$$\text{Conductor Impedance} = \frac{\text{(Impedance per 1000') X Length}}{\text{1000 X Number of parallel runs}}$$

(Step #3)

$$\text{Service I.C.} = \frac{\text{"V"}}{\text{l Z}}$$ (Total Z- "Tran Z + Cable Z")

CABLE IMPEDANCE DATA (ohms per 1,000 feet)

Awg. or MCM	Copper In Mag. Duct	Copper In Non-Mag. Duct	Aluminum In Mag. Duct	Aluminum In Non-Mag. Duct
#1/0	0.139	0.134	0.214	0.213
#2/0	0.115	0.110	0.172	0.170
#3/0	0.096	0.087	0.139	0.137
#4/0	0.081	0.075	0.113	0.109
250 MCM	0.074	0.067	0.098	0.095
350 MCM	0.062	0.054	0.074	0.071
500 MCM	0.055	0.045	0.058	0.054
750 MCM	0.049	0.040	0.047	