Team Number:	302
Project Name:	**NA**
Team Member Names:	**Enyinnaya Onyenso, Elton Salt, Kalin Comins, Marla Hawthorne**
Version:	**1**

A. List ALL major components (active devices, integrated circuits, etc.) except for power sources, voltage regulators, resistors,

All Major Components	Component Name	Part Number	Supply	#	Absolute	Total	Unit
Pressure sensor			0-3.3V	1		0	mA
Motor driver	IC HALF BRIDGE DRIVER 6A 12DS	IFX9201SGAUMA1	-0.3V - 40V	1	13	13	mA
PIC microcontroller	IC MCU 8BIT 128KB FLASH 44TQ	PIC18F47Q10-I/PT	1.8V - 5.5V	1	5.8	5.8	mA
Rain gauge	SENSOR LEVEL RESISTIVE	1528-2561-ND	0-10V	1		0	mA
ADC	IC ADC 16BIT SIGMA-DELTA SOT2	MCP3425A0T-E/	2.7V - 5.5V	2	0.19	0.38	mA
						0	mA

B. Assign each major component above to ONE power rail below. Try to minimize the number of different power rails in the design.

+5V Power Rail	Component Name	Part Number	Supply	#	Absolute	Total	Unit
Motor driver	IC HALF BRIDGE DRIVER 6A 12DS	IFX9201SGAUMA1	-0.3V - 40V	1	13	13	mA
						0	mA
						0	mA
						0	mA
						0	mA
					Subtotal	13	mA
					Safety Margin	25%	
					Total Current Required on +5V Rail	16.25	mA
c2. Regulator or Source Choice		LT3645	3.3V	1	300	300	mA
					Total Remaining Current Available on +5V Rail	283.75	mA
+3.3V Power Rail	Component Name	Part Number	Supply	#	Absolute	Total	Unit
Motor driver	IC HALF BRIDGE DRIVER 6A 12DS	IFX9201SGAUMA1	-0.3V - 40V	1	13	13	mA
Pressure sensor			1	1		0	mA
PIC microcontroller	IC MCU 8BIT 128KB FLASH 44TQ	PIC18F47Q10-I/PT	1.8V - 5.5V	1	5.8	5.8	mA
Rain gauge	SENSOR LEVEL RESISTIVE	1528-2561-ND	1	1		0	mA
ADC	IC ADC 16BIT SIGMA-DELTA SOT2	MCP3425A0T-E/	2.7V - 5.5V	2	0.19	18.8	mA
					Safety Margin	25%	
					Total Current Required on +3.3V Rail	23.5	mA
c4. Regulator or Source Choice		LT3645	5V	1	200	200	mA
					Total Remaining Current Available on 3.3V Rail	176.5	mA

D. Select a specific external power source (wall supply or battery) for your system, and confirm that it can supply all of the regulators for

External Power Source 1	Component Name	Part Number	Supply	Output	Absolute	Total	Unit
Power Source 1 Selection						0	mA
Power Rails Connected to External Power Source 1	+3.3V	LT3645	3.3V	1	300	300	mA
	+5V	LT3645	5V	1	200	200	mA
						0	mA
					Total Remaining Current Available on External Power Source 1	-500	mA

E. Calculate Battery Life (if applicable). For each battery, also check the worst-case lifetime of the battery by

	Component Name	Part Number	Supply	Capacity	Required	
					500	
				Battery Life	0	hours

Notes

External Supply Voltage should be determined by the dropout voltage for highest-voltage regulator (e.g., +14V for a +12V regulator).

If you have multiple units in your design (e.g., a base unit and remote unit) then you need a separate power budget for each unit