

Figure 1

Name

Date

Address

City Prov Postal Code

Contact number / email

RE: Landscape Lighting Design Layout – 24 Fixtures

1. Front – 16 fixtures

a. House Number

- i. Two (2) spot lights, one on each pillar at the front entrance to light up the pillars and the house number

b. Front Bed

- i. Two (2) mini wash lights under the Japanese maple to silhouette the plant from inside the canopy
- ii. Three (3) spot lights around the clump of maples for 360 degree viewing from inside the house and the street
- iii. Three (3) spot lights on the cherry tree for 360 degree lighting
- iv. Three (3) above ground well lights to light up the two evergreen trees on the right side of the property
- v. Three (3) path lights to light up the path from the driveway to the right side gate

2. Back Bed – 8 Fixtures

- a. Two (2) spot lights, one on each side of the Japanese maple in the centre
- b. Two (2) spot lights on the magnolia on the left
- c. Two (2) above ground well lights under the spruce tree on the right
- d. Two (2) 60 inch tall area lights, one between the magnolia and Japanese maple and one between the Japanese maple and the spruce tree to provide transitional light between the three features and to highlight the variety of landscape plants in the beds



Customer Name: _____
 Address: _____
 Day Phone: _____

Figure 4

Date: _____
 Page _____ of _____

12 Volt Transformer Load Calculation Sheet

Is the run longer than 100 feet
 yes - use #10/2

Are there more than 100 watts lamp
 load on the run?
 yes - use #10/2

Wiring Information			Amp Load Formula					Voltage Drop Formula						Total Watts					
Run	Wiring Method	Wire Size	# of Lamps	(X) Lamp Size	(=) Watt Load	÷ 12	(=) * Amp Load	* Amp Load	(X) Home Run (ft)	(=) Total	(X) 2	(=) Total	(X) Resistance per foot	(=) Voltage Drop	+ 12	** Tap Needed	* Amp Load	(X) ** Tap Needed	(=) Total Watts
1	T	12	2	36	172	÷ 12	14.33	14.33	40	573.2	(X) 2	1146.4	0.00162	1.857	+ 12	14	14.33	14	200.62
1	T	12	2	50											+ 12				

Wiring Information			Amp Load Formula					Voltage Drop Formula						Total Watts			Description				
Run	Wiring Method	Wire Size	# of Lamps	(X) Lamp Size	(=) Watt Load	÷ 12	(=) * Amp Load	* Amp Load	(X) Home Run (ft)	(=) Total	(X) 2	(=) Total	(X) Resistance per foot	(=) Voltage Drop	+ 12	** Tap Needed	* Amp Load	(X) ** Tap Needed	(=) Total Watts	Cumm Watts	Fixture Description / Location of Runs
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			
	H					÷ 12					(X) 2				+ 12	12.00		12			

Tap	1120w	840w	600w	500w	360w	300w
12	X	X	X	X	X	X
13	X	X	X	X	X	X
14	X	X	X	X	X	
15	X	X	X	X	X	
16	X	X	X	X		
17			X	X		
18	X	X				
20	X	X				
22	X					

Transformer # 1 Min Transformer Size _____ (at 80%)
 *** Total Watts => Transformer size

Location: _____

Voltage Drop Resistance per Foot
18/2 Wire = .00651
16/2 Wire = .00409
14/2 Wire = .00258
12/2 Wire = .00162
10/2 Wire = .00108
8/2 Wire = .00064

Wiring Methods	
L = Loop Method	D = Daisy Chain
T = T Method	H = Homerun Fixture
H = Hub Method	

NEC Maximum watts on wire
16/2 Wire = 76 Watts
14/2 Wire = 96 Watts
12/2 Wire = 192 Watts
10/2 Wire = 288 Watts

Cost	
Watts	-
Hrs per Day	5
Utility Rate per kw Hr	0.09
Mult	0.001
Days in Yr	365
Cost per Day	\$ -
Cost per Year	\$ -

Voltage Drop = Amp Load x Length of Run x 2 x Resistance per Foot

12 Volt Transformer Load Calculation Sheet

Is the run longer than 100 feet
 yes - use #10/2
 Are there more than 100 watts lamp
 load on the run?
 yes - use #10/2

Wiring Information			Amp Load Formula					Voltage Drop Formula						Total Watts					
Run	Wiring Method	Wire Size	# of Lamps	(X) Lamp Size	(=) Watt Load	÷ 12	(=) * Amp Load	* Amp Load	(X) Home Run (ft)	(=) Total	(X) 2	(=) Total	(X) Resistance per foot	(=) Voltage Drop	+ 12	** Tap Needed	* Amp Load	(X) ** Tap Needed	(=) Total Watts
1	T	12	2	36	172	÷ 12	14.33	14.33	40	573.2	(X) 2	1146.4	0.00162	1.857	+ 12	14	14.33	14	200.62
1	T	12	2	50											+ 12				

Wiring Information			Amp Load Formula					Voltage Drop Formula						Total Watts				Description			
Run	Wiring Method	Wire Size	# of Lamps	(X) Lamp Size	(=) Watt Load	÷ 12	(=) * Amp Load	* Amp Load	(X) Home Run (ft)	(=) Total	(X) 2	(=) Total	(X) Resistance per foot	(=) Voltage Drop	+ 12	** Tap Needed	* Amp Load		(X) ** Tap Needed	(=) Total Watts	Cumm Watts
1	H	12	2	5	10	÷ 12	0.83	0.83	25	20.83	(X) 2	41.7	0.00162	0.07	+ 12	12.07	0.83	12	10.1	10.1	wash on grass / rock / spruce + aw on Japanese maple
2	H	12	2	4	8	÷ 12	0.67	0.67	50	33.33	(X) 2	66.7	0.00162	0.11	+ 12	12.11	0.67	12	8.1	18.1	2 mw on upper eaves
3	H	12	5	4	20	÷ 12	1.67	1.67	25	41.67	(X) 2	83.3	0.00162	0.14	+ 12	12.14	1.67	12	20.2	38.4	5 area lights on lhs walkway
4	H	12	5	5	25	÷ 12	2.08	2.08	60	125.00	(X) 2	250.0	0.00162	0.41	+ 12	12.41	2.08	12	25.8	64.2	2 iw on 2 maples + shrub on rhs plus 2 area lights for transition
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	
	H					÷ 12					(X) 2				+ 12	12.00		12		64.2	

Tap	1120w	840w	600w	500w	360w	300w
12	X	X	X	X	X	X
13	X	X	X	X	X	X
14	X	X	X	X	X	
15	X	X	X	X	X	
16	X	X	X	X		
17			X	X		
18	X	X				
20	X	X				
22	X					

Transformer # 1 Min Transformer Size 150 (at 80%)
 *** Total Watts => Transformer size
 Location: _____

Voltage Drop Resistance per Foot
18/2 Wire = .00651
16/2 Wire = .00409
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12/2 Wire = .00162
10/2 Wire = .00108
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Wiring Methods	
L = Loop Method	D = Daisy Chain
T = T Method	H = Homerun Fixture
H = Hub Method	

NEC Maximum watts on wire
16/2 Wire = 76 Watts
14/2 Wire = 96 Watts
12/2 Wire = 192 Watts
10/2 Wire = 288 Watts

*** Total Watts **64.20**

Cost	
Watts	64
Hrs per Day	5
Utility Rate per kw Hr	0.09
Mult	0.001
Days in Yr	365
Cost per Day	\$ 0.03
Cost per Year	\$ 10.54

Voltage Drop = Amp Load x Length of Run x 2 x Resistance per Foot

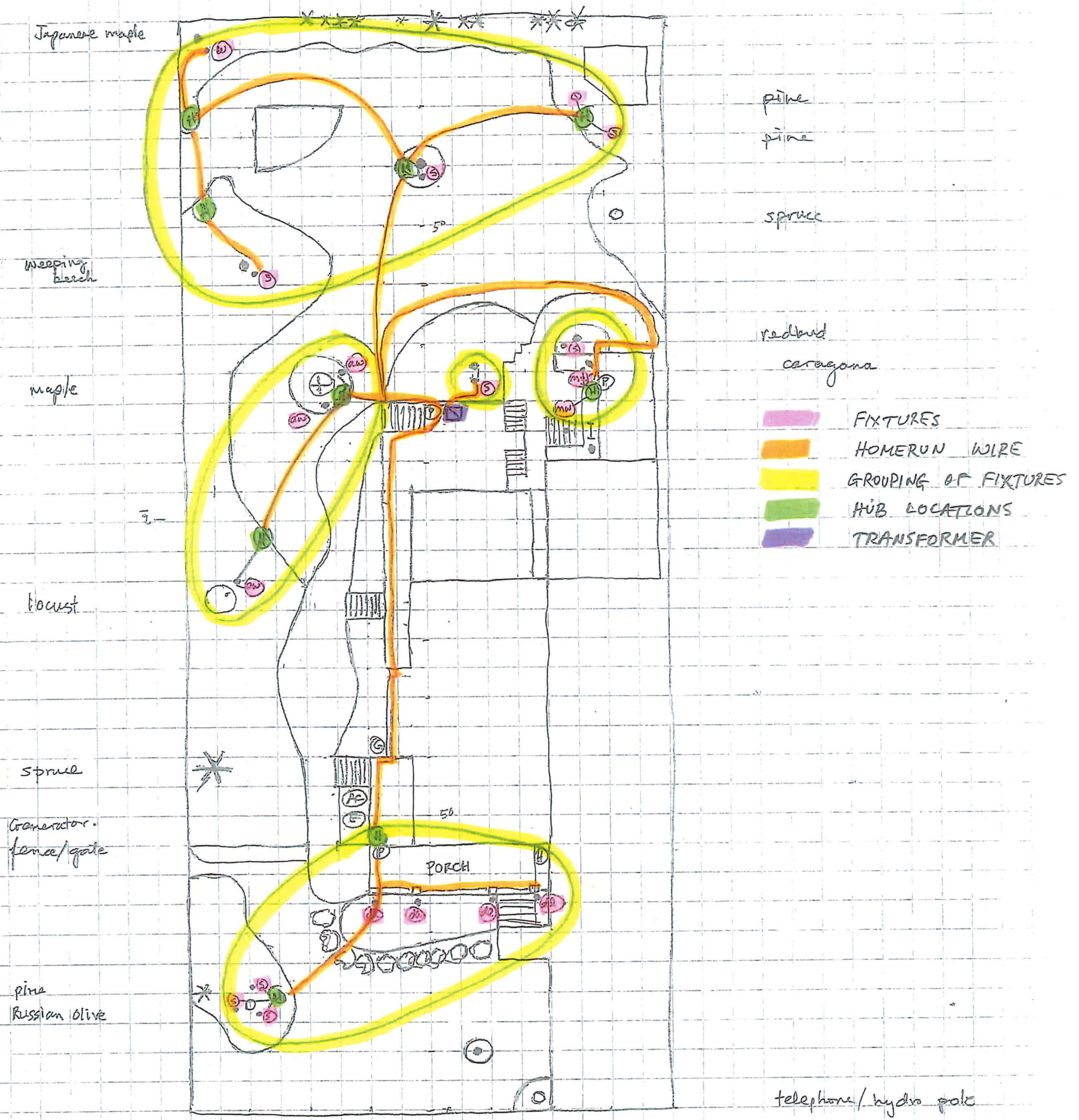
				Figure 7	
Existing				#REF!	Existing
Location	Quantity	Fixture Type	Description		
Front	3	spot	under magnolia and at base of wall	Front	21
	1	down light	in magnolia	Front - Left Side	3
	2	spot	to up light the magnolia	Front - Right Side of Garage & Driveway	15
	3	lip lights	on house side of knee wall around fountain	Back Left Side - House Side of Pathway	1
	4	lip lights	on 2 pillars at ends of knee wall	Back Left Side - Over Bench on Right Side of I	2
	2	mini spot	on fountain	Back	20
	1	area	bed at entrance on garage side	Patio	6
	1	spot	on Japanese maple in bed left of entrance	Below Sun Room Window	1
	1	spot	by small blue spruce	Back - Right Side of House	7
	2	spot	one each side of window		
	1	area	in bed in front of window		
Total	21				
Location	Quantity	Fixture	Description		
Front - Left Side	1	spot	on house side of path	Total All Fixtures	76
	1	area	on house side of path		
	1	wash	on house side of path		
Total	3				
Location	Quantity	Fixture	Description	Fixture Type	Total
Front - Right Side of Garage & Driveway	3	lip lights	on 2 pillars	spot	32
	3	lip lights	on knee wall	down light	1
	1	spot	on wall	lip lights	17
	2	wash	on hedge on side	mini spot	2
	1	spot	on hedge on side	area	6
	1	wash	to light up decorative screen behind the stone wall	wash	6
	1	wash	to light up climbing plant on side of garage	mini wash	4
	1	spot	on stone	pendant	3
	1	area	in bed by stone	Ace dark	2
	1	spot	on tree		
Total	15			post	3
				Total	76
Location	Quantity	Fixture	Description		
Back Left Side - House Side of Pathway	1	wash	on house side of path		
Total	1				
Location	Quantity	Fixture	Description		
Back Left Side - Over Bench on Right Side of Pathway	2	pendant	two hanging pendant lights over urns		
Total	2				
Location	Quantity	Fixture	Description		
Back	3	spot	by pineapple light on post, on cedars, on fish statue		
	1	spot	on 3 light post to light olive oil basin		
	1	spot	in back left corner for silhouetting		
	1	mini wash	on tall statue		
	1	spot	behind canna lilies to silhouette them		
	2	spot	on crab tree		
	1	pendant	on limb over sun dial		
	1	mini wash	on little angel statue		
	2	mini wash	on 3 children on log		
	2	spot	on 2 trellis on back fence		
	4	spot	1 on piper / 1 on waterfall cranes / 2 in back behind lilacs		
	1	spot	on 3 lamp post to light cedars and plants		
Total	20				
Location	Quantity	Fixture	Description		
Patio	4	lip lights	on each side of firepit		
	2	Ace Dark	to light steps		
Total	6				
Location	Quantity	Fixture	Description		
Below Sun Room Window	1	area	in parsley		
Total	1				
Location	Quantity	Fixture	Description		
Back - Right Side of House	1	spot	on cedar		
	1	area			
	2	spot	beside cactii		
	3	post	on fence posts		
Total	7				

LOT SIZE = 80' x 185'

10'
335' x 205'
5'
167' x 102'

18/06/25 revision
17/06/15

FIGURE 8



- Ⓟ Power
- Ⓜ Hydro
- Ⓞ Gas Meter
- Ⓨ Generator
- Ⓛ Transformer

- aw above ground well
- s spot
- mw mini wash
- dl down light
- w wash

	FR	LS	RS	BK	PORCH				TOTAL
					FR	LS	RS	BK	
aw									3
s									9
mw									2
w									1
dl									4
TOTAL	3	3	-	9	4	-	-	-	19