

SITE LIGHTING LAYOUT PLAN

- NOTES:
- DRAWINGS ARE DIAGRAMMATIC ONLY FOR THE PURPOSE OF SHOWING LIGHTING FIXTURES LOCATIONS. COORDINATE WITH DRAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NEC CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM.
 - REFER TO SHEET NO. E600 FOR PHOTOMETRIC PLAN.
 - ALL WORKS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 2017 AND LOCAL CODES HAVING JURISDICTION.

SYMBOL LEGEND		
W2		MOTION SENSOR SECURITY WALL LIGHT FIXTURE, TBD BY OWNER
W3		MOTION SENSOR SECURITY WALL LIGHT FIXTURE, TBD BY OWNER
PL1		24 FT LIGHT POLE (FULLY SHIELDED), TBD BY OWNER FIXTURE: PHILIPS BGP501 T25 DM111 LED20/- NO

PROFESSIONAL ENGINEERING:

ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 | info@AmperEngineering.com

SEAL & SIGNATURE:
Durak Evrim Ercan

NO ALTERATION PERMITTED
EXCEPT AS PROVIDED UNDER
DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER.

0	10/22/2021	ISSUED FOR APPROVAL
REV	DATE	DESCRIPTION

CLIENT:
M & M HOLDINGS LLC
DEVELOPMENT

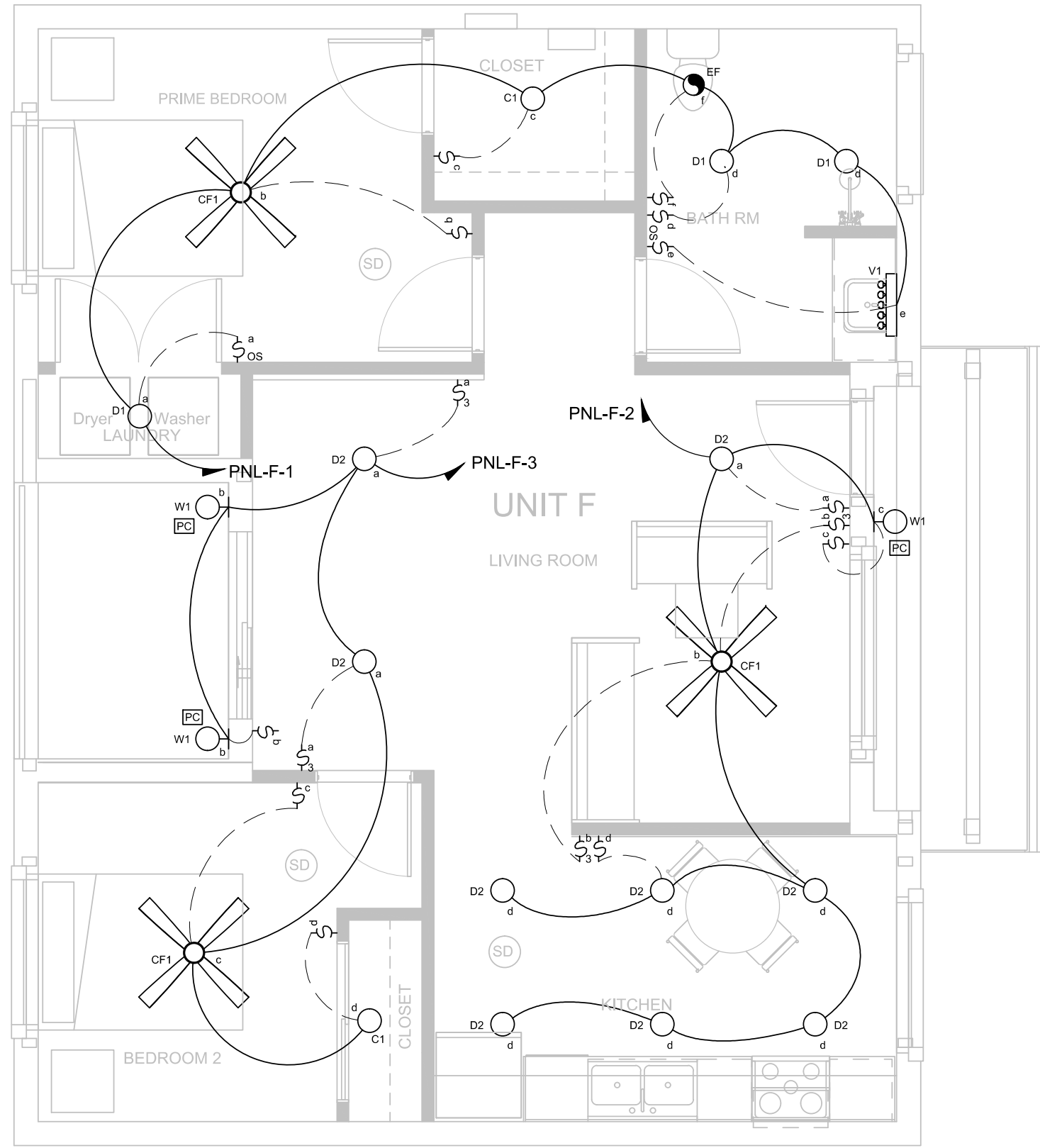
PROJECT:
MULTI-FAMILY
RESIDENTIAL
UNITS

ADDRESS:
1st & 2th AVE
PHOENIX, AZ
85007

PROJECT NUMBER: AE# 1480	
SHEET SIZE: 24X36	DRAWN BY: IB
DESIGNED BY: AC	CHECKED BY: DEE

DRAWING TITLE:
SITE LIGHTING LAYOUT
PLAN

SHEET NO:
E200

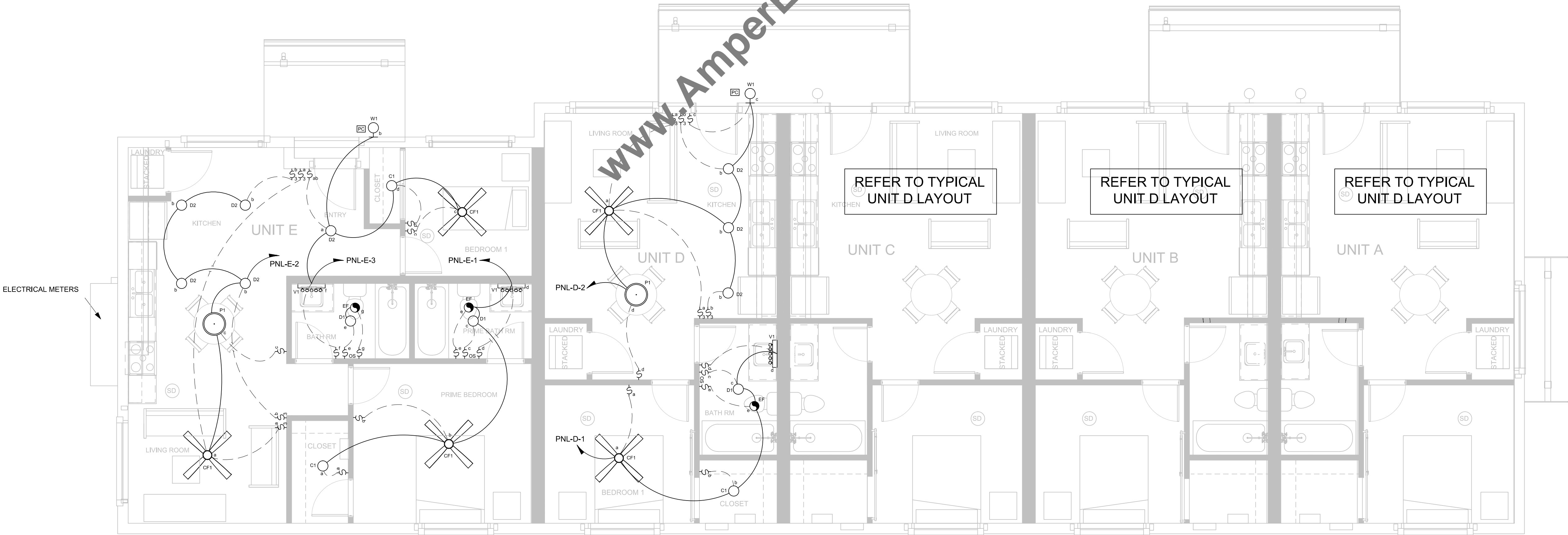


WATER METER LOCATIONS

SYMBOL LEGEND		
D1		LED CAN LIGHT FIXTURE, TBD BY OWNER
D2		LED CAN LIGHT FIXTURE, TBD BY OWNER
C1		LED CLOSET LIGHT FIXTURE, TBD BY OWNER
P1		PENDANT LIGHT FIXTURE, TBD BY OWNER
V1		VANITY LIGHT FIXTURE, TBD BY OWNER
W1		WP WALL LIGHT FIXTURE, TBD BY OWNER
CF1		FAN LIGHT FIXTURE, TBD BY OWNER

LIGHTING LAYOUT

- NOTES:
- DRAWINGS ARE DIAGRAMMATIC ONLY FOR THE PURPOSE OF SHOWING LIGHTING FIXTURES LOCATIONS. COORDINATE WITH DRAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS, HEADROOM AND SPACE CONDITION TO BE MAINTAINED.
 - THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NEC CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM.
 - ALL WORKS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 2017 AND LOCAL CODES HAVING JURISDICTION.



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PROFESSIONAL ENGINEER.

CLIENT:
M&M HOLDINGS
LLC
DEVELOPMENT

PROJECT:
**MULTI-FAMILY
RESIDENTIAL
UNITS**

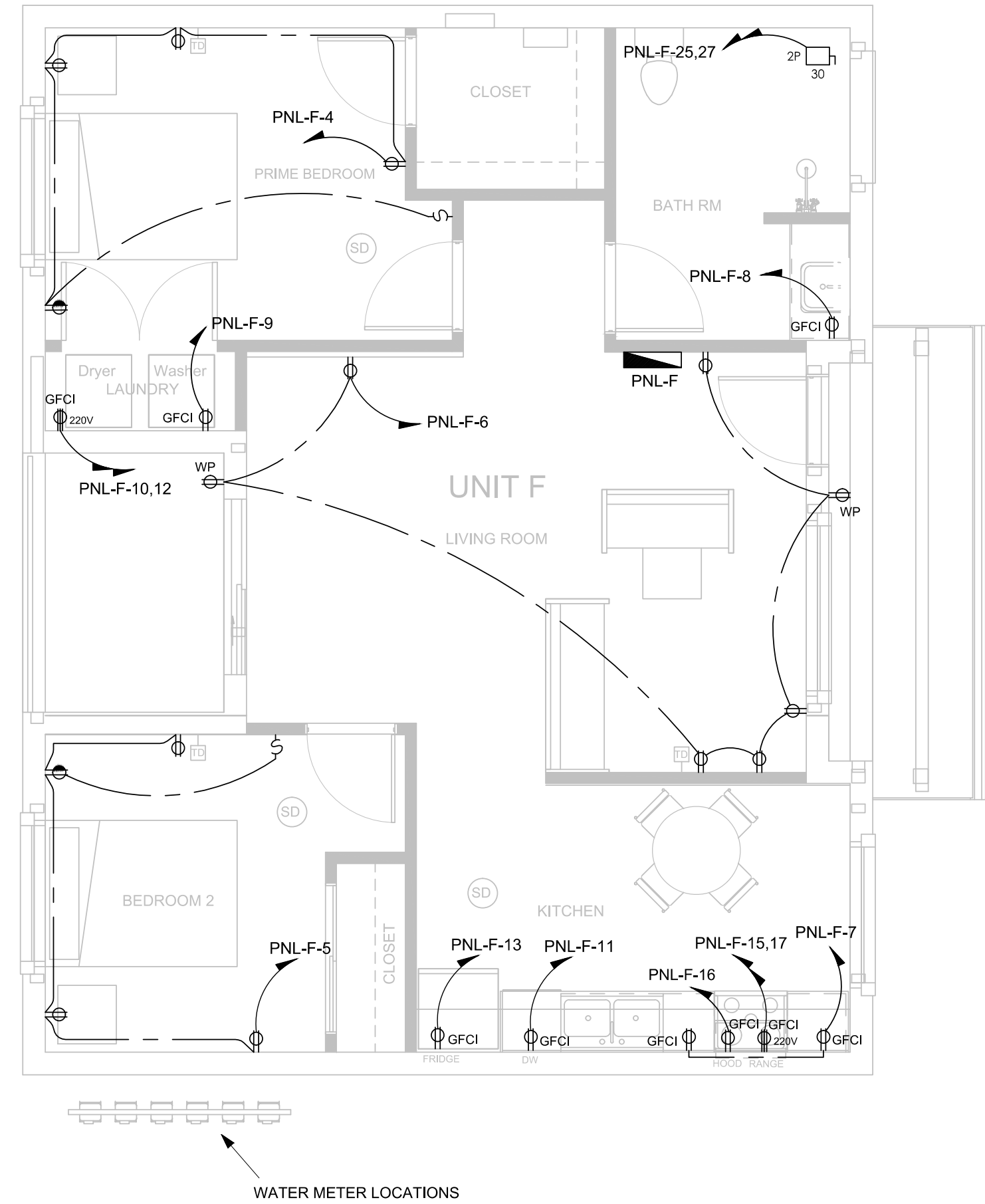
ADDRESS:
1st 2th AVE
PHOENIX, AZ
85007

PROJECT NUMBER:
AE# 1480

SHEET SIZE: 24X36	DRAWN BY: IB
DESIGNED BY: AC	CHECKED BY: DEE

DRAWING TITLE:
LIGHTING LAYOUT

SHEET NO:
E201

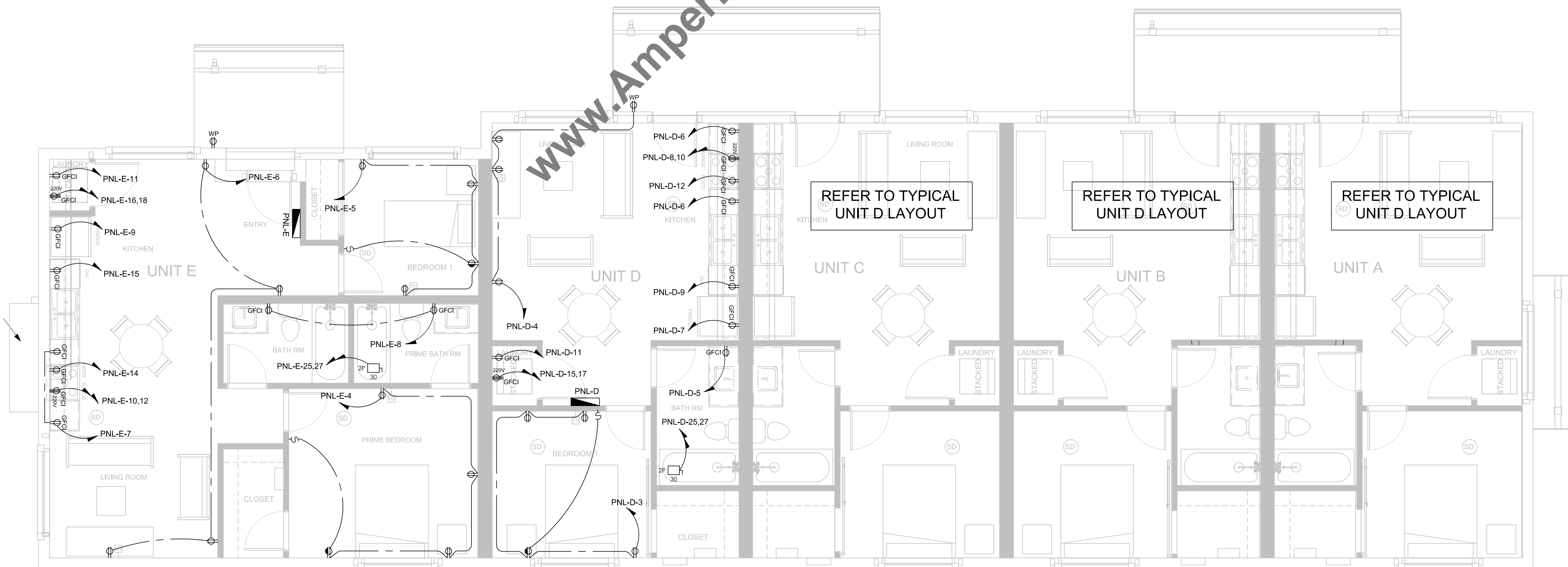


POWER LAYOUT

NOTES:

1. DRAWINGS ARE DIAGRAMMATIC ONLY FOR THE PURPOSE OF SHOWING OUTLET LOCATIONS. COORDINATE WITH DRAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS, HEADROOM AND SPACE CONDITION TO BE MAINTAINED.
2. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NEC CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM.
3. ELECTRICAL PANEL LOCATIONS TO BE DETERMINED BY ARCHITECT PRIOR TO CONSTRUCTION.
4. ALL WORKS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 2017 AND LOCAL CODES HAVING JURISDICTION.

ELECTRICAL METERS
(SEE SHEET NO. E500 FOR
ELEVATION LAYOUT)



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PROFESSIONAL ENGINEER.

REV.	DATE	DESCRIPTION
0	10/22/2021	ISSUED FOR APPROVAL

CLIENT:
M&M HOLDINGS LLC
DEVELOPMENT

PROJECT:
MULTI-FAMILY RESIDENTIAL UNITS
ADDRESS:
1 2th AVE
PHOENIX, AZ
85007

PROJECT NUMBER:
AE# 1480
SHEET SIZE:
24X36
DESIGNED BY:
AC
DRAWN BY:
IB
CHECKED BY:
DEE

DRAWING TITLE:
POWER LAYOUT

SHEET NO:
E202



NOTES:

1. DRAWINGS ARE DIAGRAMMATIC ONLY FOR THE PURPOSE OF SHOWING OUTLET LOCATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NEC CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM.
3. PROVIDE A CONVENIENCE RECEPTACLE OUTLET FOR THE SERVICING OF HVAC UNITS WITHIN 25 FT OF THE UNIT.
4. ALL WORKS SHALL BE INSTALLED IN ACCORDANCE WITH NEC 2017 AND LOCAL CODES HAVING JURISDICTION.

SEAL & SIGNATURE:

Durak Evrim Ercan



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PROFESSIONAL ENGINEER.

0	10/22/2021	ISSUED FOR APPROVAL
REV.	DATE	DESCRIPTION

CLIENT:
M & M HOLDINGS
LLC
DEVELOPMENT

PROJECT:
MULTI-FAMILY
RESIDENTIAL
UNITS

ADDRESS:
1 2th AVE
PHOENIX, AZ
85007

PROJECT NUMBER:

AE# 1480

SHEET SIZE:
24X36

DESIGNED BY:
AC

DRAWN BY:
IB

CHECKED BY:
DEE

DRAWING TITLE:

ROOFTOP POWER PLAN

SHEET NO:

E203

MAIN SERVICE & ELECTRICAL APARTMENT METERS - Multi Family Dwelling Feeder Calculation					
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120	208
Unit/Apt:	UNIT B		Phase:	3	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.84(C)(1)	3	3776	11,328
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.84(C)(2)	1,500	12	18,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.84(C)(2)	1,500	12	18,000
STEP 2	Fixed Appliance Load:	NEC 220.84(C)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or name plate)		6	1000	6,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		6	1500	9,000
	Microwave (1750VA or name plate)				0
	Range Hood		6	1200	7,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.84(C)(3)(b)			
	Electric Range		6	5200	31,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.84(C)(3)(c)			
	Dryer name plate value		6	5000	30,000
STEP 5	Water Heater Load:	NEC 220.84(C)(3)(d)			
	Water Heater		6	4500	27,000
STEP 6	Permanent Motor Name Plates Load:	NEC 220.84(C)(4)			
	Motor#1				0
	Motor#2				0
STEP 7	Largest of Heating or HVAC Load:	NEC 220.84(C)(5)			
	Air-conditioning unit @100%		6	4007	24,040
	Heating System @100%				0
	TOTAL STEP 7:				24,040
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5 & 6,7):	NEC 220.82(B)			181,768
	Total Number of Dwelling Unit and demand factor:	NEC 220.84	5	0.44	
	Total Service Load Volt-Amps (VA)				79,978
	Service Load Amperes (A)				222
	HOUSE PANEL (A)				21
	Service Load Amperes (A)				243
	+25% Future(A)				76
	Total Service Load Amperes (A)				319
	Service OCPD (A)				400

Single Family Dwelling Feeder Calculation					
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120	208
Unit/Apt:	UNIT A		Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,548
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or name plate)		1	1000	1,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				25,948
	First 10,000 VA of General Loads		10,000	1.00	10,000
	Remaining General Load @ 40%		15,948	0.40	6,379
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,379
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,760
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				3,760
	Total Service Load Volt-Amps (VA)				20,139
	Total Service Load Amperes (A)				97
	Service OCPD (A)				125

Single Family Dwelling Feeder Calculation					
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120	208
Unit/Apt:	UNIT D		Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,548
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or name plate)		1	1000	1,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				25,948
	First 10,000 VA of General Loads		10,000	1.00	10,000
	Remaining General Load @ 40%		15,948	0.40	6,379
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,379
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,760
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				3,760
	Total Service Load Volt-Amps (VA)				20,139
	Total Service Load Amperes (A)				97
	Service OCPD (A)				125

Single Family Dwelling Feeder Calculation					
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120	208
Unit/Apt:	UNIT B		Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,548
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or name plate)		1	1000	1,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				25,948
	First 10,000 VA of General Loads		10,000	1.00	10,000
	Remaining General Load @ 40%		15,948	0.40	6,379
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,379
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,760
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				3,760
	Total Service Load Volt-Amps (VA)				20,139
	Total Service Load Amperes (A)				97
	Service OCPD (A)				125

Single Family Dwelling Feeder Calculation					
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120	208
Unit/Apt:	UNIT E		Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	841	2,523
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or name plate)		1	1000	1,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				26,923
	First 10,000 VA of General Loads		10,000	1.00	10,000
	Remaining General Load @ 40%		16,923	0.40	6,769
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6):	NEC 220.82(B)			16,769
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	4500	4,500
	Heating System @100%, %65, %40	NEC 220.82(C)(3)			0
	TOTAL STEP 7:				4,500
	Total Service Load Volt-Amps (VA)				21,269
	Total Service Load Amperes (A)				102
	Service OCPD (A)				150

Single Family Dwelling Feeder Calculation					
NEC Optional Method					
Project Name:	1434 S. 12th AVE DEVELOPMENT		Voltage:	120	208
Unit/Apt:	UNIT C		Phase:	1	
	Description:		Quantity	VA	VA
STEP 1	General Lighting And Receptacle Load:				
	General Lighting (3VA per sq-ft)	Table 220.82(B)(1)	3	516	1,548
	Small Appliance Circuits (1500 VA per circuit) (minimum qty= 2)	NEC 220.82(B)(2)	1,500	2	3,000
	Laundry Circuit (1500 VA per circuit)	NEC 220.52(B)(2)	1,500	2	3,000
STEP 2	Fixed Appliance Load:	NEC 220.82(B)(3)(a)			
	Water Pump				0
	Refrigerator (1000VA or name plate)		1	1000	1,000
	Disposal (600VA or name plate)				0
	Compactor (1000VA or name plate)				0
	Dishwasher (1500VA or name plate)		1	1500	1,500
	Microwave (1750VA or name plate)				0
	Range Hood		1	1200	1,200
	Freezer (1500VA or more)				0
	Appliance #1				0
	Appliance #2				0
	Appliance #3				0
	Appliance #4				0
STEP 3	Cooking Equipment Load:	NEC 220.82(B)(3)(b)			
	Electric Range		1	5200	5,200
	Cooking Equipment #1				0
	Cooking Equipment #2				0
	Cooking Equipment #3				0
	Cooking Equipment #4				0
STEP 4	Electric Clothes Dryers Load:	NEC 220.82(B)(3)(c)			
	Dryer name plate value		1	5000	5,000
STEP 5	Water Heater Load:	NEC 220.82(B)(3)(d)			
	Water Heater		1	4500	4,500
STEP 6	Permanent Motor Name Plates Load:	NEC 220.82(B)(4)			
	Motor#1				0
	Motor#2				0
	Sub-Total General Loads				25,948
	First 30,000 VA of General Loads		10,000	1.00	10,000
	Remaining General Load @ 40%		15,948	0.40	6,379
	TOTAL GENERAL LOADS (STEP 1,2,3,4,5&6)	NEC 220.82(B)			16,379
STEP 7	Largest of Heating or HVAC Load:				
	Air-conditioning unit @100%	NEC 220.82(C)(1)	1.00	3760	3,760
	Heating System @100%, %65, %40	NEC 220.82(C)(2)			0
	TOTAL STEP 7:				3,760
	Total Service Load Volt-Amps (VA)				20,139
	Total Service Load Amps (A)				97
	Service OCPD (A)				125

PANEL D																										
VOLTAGE: 120/ 208 1 PHASE, 3 WIRE										AMPS: 125 MLO TOTAL LOAD: 25.4 KVA																
MOUNTING: SURFACE FEEDER SIZE #1 AWG CU																										
No.	CIRCUIT DESCRIPTION	CONT	RCPT	MTR	A/C	KITCH	MISC	BREAKER TRIP	POLE	PHASE A	B	BREAKER TRIP	POLE	LOAD (KVA)	MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No.				
1	BEDROOM 1/BATH LIGHTING	0.50						20	1	1.10		1	20							0.60	KITCHEN/LIVING LIGHTING	2				
3	BEDROOM 1 RECEPTACLES		0.72					20	1		1.44	1	20							0.72	LIVING ROOM RECEPTACLES	4				
5	BATHROOM OUTLET		0.18					20	1	0.54		1	20		0.36						KITCHEN OUTLET	6				
7	FRIDGE	1.00						20	1		3.60	2	30		2.60						RANGE	8				
9	DISWASHER					1.50		20	1	4.10		X	X		2.60						X	10				
11	WASHER		1.15					20	1		2.35	1	20		1.20						RANGE HOOD	12				
13	DRYER		2.50					30	2	2.50		1	20								SPARE	14				
15	X		2.50					X	X		2.50	1	20								SPARE	16				
17	ROOF WP OUTLET	0.18						20	1	0.18		1	20								SPARE	18				
19	SPARE							20	1	0.00		1	20								SPARE	20				
21	SPARE							20	1	1.88		2	30			1.88					RTU-2	22				
23	SPARE							20	1	1.88		X	X		1.88						X	24				
25	WATER HEATER	2.25						30	2	2.25		1	20								SPARE	26				
27	X	2.25						X	X		2.25	1	20								SPARE	28				
29	SPACE									0.00											SPACE	30				
31	SPACE									0.00											SPACE	32				
33	SPACE									0.00											SPACE	34				
35	SPACE									0.00											SPACE	36				
37	SPACE									0.00											SPACE	38				
39	SPACE									0.00											SPACE	40				
41	SPACE									0.00											SPACE	42				
		LOADS W/ NEC 220 DEMAND FACTORS (KVA)						TOTAL		12.55	14.02							0.00	8.26	3.76	0.00	7.77	6.78	CONNECTED KVA	26.57	
		CONT	RCPT	MTR	A/C	KITCH	MISC							0.00	8.26	3.76	0.00	7.77	6.78					CONNECTED KVA	26.57	
		A PHASE	4.41	2.68	0.00	1.88	2.90	0.00							11.87											
		B PHASE	4.06	5.09	0.00	1.88	2.47	0.00							13.50											
		C PHASE													0.00											
		DEMAND PER LOAD TYPE (KVA)	8.48	7.77	0.00	3.76	5.37	0.00							25.37											
		CONNECTED LOAD LARGEST PHASE (KVA)						TOTAL		13.50																
		CONNECTED LOAD LARGEST PHASE (AMP)						TOTAL		37																
		TOTAL DEMAND LOAD FOR PANEL (KVA)						TOTAL		25.37																
		TOTAL DEMAND LOAD FOR PANEL (AMP)						TOTAL		122																
		MIN FEEDER AMPACITY SELECTION (AMP)						TOTAL		122																
		MIN FEEDER AMPACITY SELECTION (AMP)						TOTAL		122																
		MIN FEEDER AMPACITY SELECTION (AMP)						TOTAL		122																
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		MIN FEEDER AMPACITY SELECTION (AMP)						TOTAL		122																



1. ELECTRICAL CONTRACTOR TO TAG AND LABEL EACH PANEL APARTMENT AS PER APARTMENT CORRESPONDING LETTER. COORDINATE WITH THE ARCHITECT OF RECORD.
2. LABEL ALL APARTMENT DISCONNECTS AND THEIR RESPECTIVE PANELS WITH CORRESPONDING LETTERS.





COMcheck Software Version 4.1.5.3 Envelope Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title: 1434 S. 12th Ave Development
Location: Phoenix, Arizona
Climate Zone: 2b
Project Type: New Construction

Construction Site: 1434 S. 12th Ave
Phoenix, AZ 85007
Owner/Agent:
Designer/Contractor: Durak Evrim Ercan, PE
PO Box 35
Livingston, NJ 07039

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Building Area	Floor Area
1-UNIT A (Multifamily) : Residential	516
2-UNIT B (Multifamily) : Residential	516
3-UNIT C (Multifamily) : Residential	516
4-UNIT D (Multifamily) : Residential	516
5-UNIT E (Multifamily) : Residential	841
6-UNIT F (Multifamily) : Residential	871

Envelope Assemblies

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Envelope TBD: Efficiency packages must be specified (see Project screen)

Project Title: 1434 S. 12th Ave Development
Data filename: C:\Users\lanb\Documents\COMcheck\1480.cck
Report date: 10/03/21
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COMcheck Software Version 4.1.5.3 Inspection Checklist

Energy Code: 2012 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [F84] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: 1434 S. 12th Ave Development
Data filename: C:\Users\lanb\Documents\COMcheck\1480.cck
Report date: 10/03/21
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COMcheck Software Version 4.1.5.3 Interior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title: 1434 S. 12th Ave Development
Project Type: New Construction

Construction Site: 1434 S. 12th Ave
Phoenix, AZ 85007
Owner/Agent:
Designer/Contractor: Durak Evrim Ercan, PE
PO Box 35
Livingston, NJ 07039

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B X C)
1-UNIT A (Multifamily)	516	0.70	361
2-UNIT B (Multifamily)	516	0.70	361
3-UNIT C (Multifamily)	516	0.70	361
4-UNIT D (Multifamily)	516	0.70	361
5-UNIT E (Multifamily)	841	0.70	589
6-UNIT F (Multifamily)	871	0.70	610
Total Allowed Watts = 2843			

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-UNIT A (Multifamily)				
LED 1: D1: Downlight: LED MR 10W:	1	1	10	10
LED 2: D2: Downlight: LED MR 10W:	1	3	10	30
LED 3: V1: Exterior Wall Lamp: LED Other Fixture Unit 25W:	1	1	25	25
LED 4: V1: Vanity Light: LED A Lamp 12W:	5	1	12	12
LED 5: C1: Closet Light: LED MR 10W:	1	1	10	10
LED 6: P1: Pendant Light: LED Other Fixture Unit 25W:	3	1	20	20
2-UNIT B (Multifamily)				
LED 1: D1: Downlight: LED MR 10W:	1	1	10	10
LED 2: D2: Downlight: LED MR 10W:	1	3	10	30
LED 3: V1: Exterior Wall Lamp: LED Other Fixture Unit 25W:	1	1	25	25
LED 4: V1: Vanity Light: LED A Lamp 12W:	5	1	12	12
LED 5: C1: Closet Light: LED MR 10W:	1	1	10	10
LED 6: P1: Pendant Light: LED Other Fixture Unit 25W:	3	1	20	20
3-UNIT C (Multifamily)				
LED 1: D1: Downlight: LED MR 10W:	1	1	10	10
LED 2: D2: Downlight: LED MR 10W:	1	3	10	30

Project Title: 1434 S. 12th Ave Development
Data filename: C:\Users\lanb\Documents\COMcheck\1480.cck
Report date: 10/03/21
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A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
LED 3: V1: Exterior Wall Lamp: LED Other Fixture Unit 25W:	1	1	25	25
LED 4: V1: Vanity Light: LED A Lamp 12W:	5	1	12	12
LED 5: C1: Closet Light: LED MR 10W:	1	1	10	10
LED 6: P1: Pendant Light: LED Other Fixture Unit 25W:	3	1	20	20
4-UNIT D (Multifamily)				
LED 1: D1: Downlight: LED MR 10W:	1	1	10	10
LED 2: D2: Downlight: LED MR 10W:	1	3	10	30
LED 3: V1: Exterior Wall Lamp: LED Other Fixture Unit 25W:	1	1	25	25
LED 4: V1: Vanity Light: LED A Lamp 12W:	5	1	12	12
LED 5: C1: Closet Light: LED MR 10W:	1	1	10	10
LED 6: P1: Pendant Light: LED Other Fixture Unit 25W:	3	1	20	20
5-UNIT E (Multifamily)				
LED 1: D1: Downlight: LED MR 10W:	1	2	10	20
LED 2: D2: Downlight: LED MR 10W:	1	6	10	50
LED 3: V1: Exterior Wall Lamp: LED Other Fixture Unit 25W:	1	1	25	25
LED 4: V1: Vanity Light: LED A Lamp 12W:	5	2	12	24
LED 5: C1: Closet Light: LED MR 10W:	1	2	10	20
LED 6: P1: Pendant Light: LED Other Fixture Unit 25W:	3	1	20	20
6-UNIT F (Multifamily)				
LED 1: D1: Downlight: LED MR 10W:	1	2	10	20
LED 2: D2: Downlight: LED MR 10W:	1	9	10	90
LED 3: V1: Exterior Wall Lamp: LED Other Fixture Unit 25W:	1	3	25	75
LED 4: V1: Vanity Light: LED A Lamp 12W:	5	1	12	12
LED 5: C1: Closet Light: LED MR 10W:	1	2	10	20
Total Proposed Watts = 804				

Interior Lighting PASSES: Design 70% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2012 IECC requirements in COMcheck Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: 1434 S. 12th Ave Development
Data filename: C:\Users\lanb\Documents\COMcheck\1480.cck
Report date: 10/03/21
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.5.1 [F116] ³	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C303.3, C408.2.5.2 [F117] ³	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.5.2 [F118] ¹	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
C408.3 [F133] ¹	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
Project Title: 1434 S. 12th Ave Development
Data filename: C:\Users\lanb\Documents\COMcheck\1480.cck
Report date: 10/03/21
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PROFESSIONAL ENGINEERING:

DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 info@AmperEngineering.com

SEAL & SIGNATURE:

Durak Evrim Ercan



NO ALTERATION PERMITTED
EXCEPT AS PROVIDED UNDER
DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER.

CLIENT:
M&M HOLDINGS LLC
DEVELOPMENT

PROJECT:
**MULTI-FAMILY
RESIDENTIAL
UNITS**

ADDRESS:
1 2th AVE
PHOENIX, AZ
85007

PROJECT NUMBER:

AE# 1480

SHEET SIZE:

24X36

DESIGNED BY:

AC

DRAWN BY:

IB

CHECKED BY:

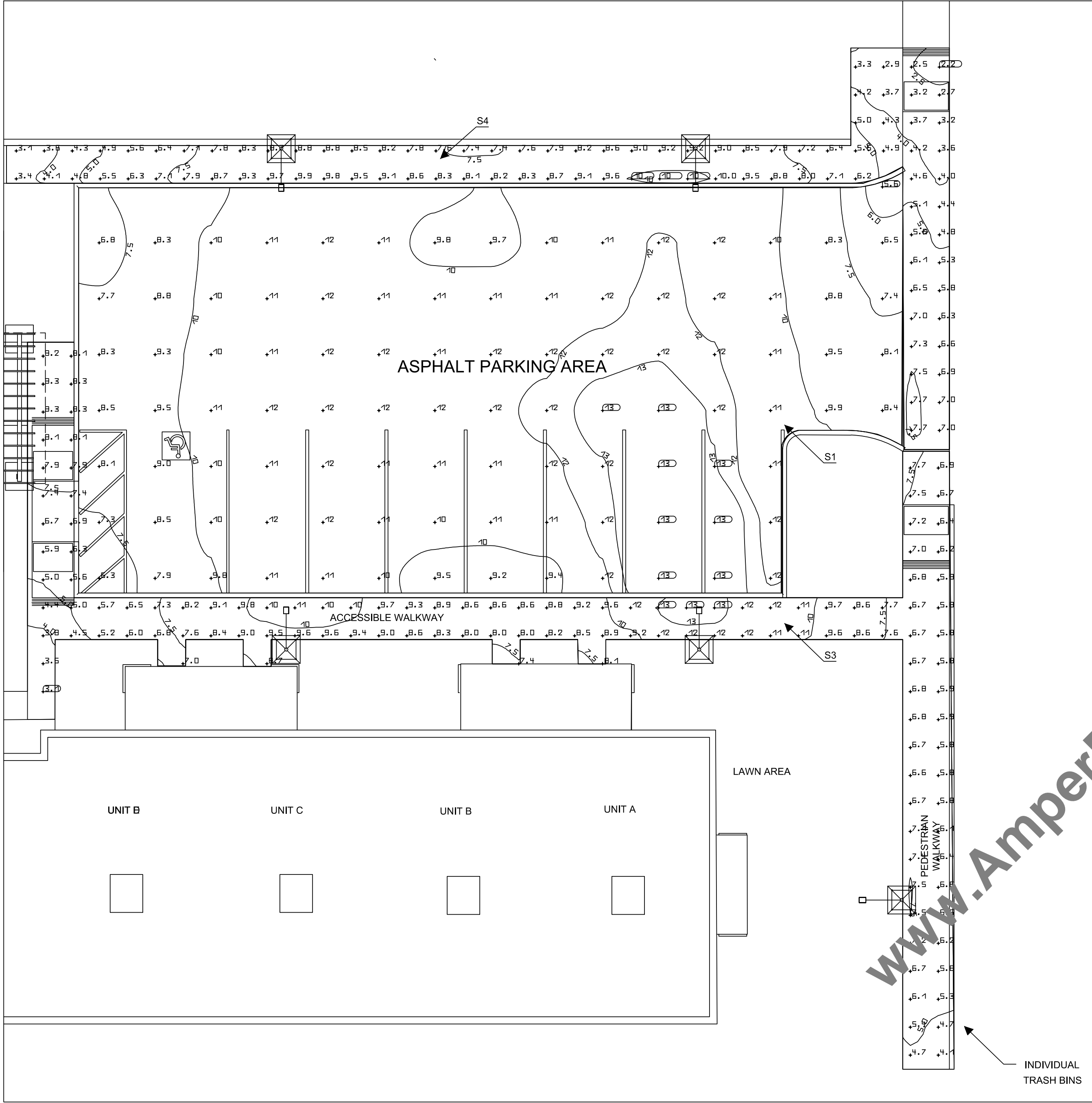
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DRAWING TITLE:

LIGHTING COMPLIANCE

SHEET NO:

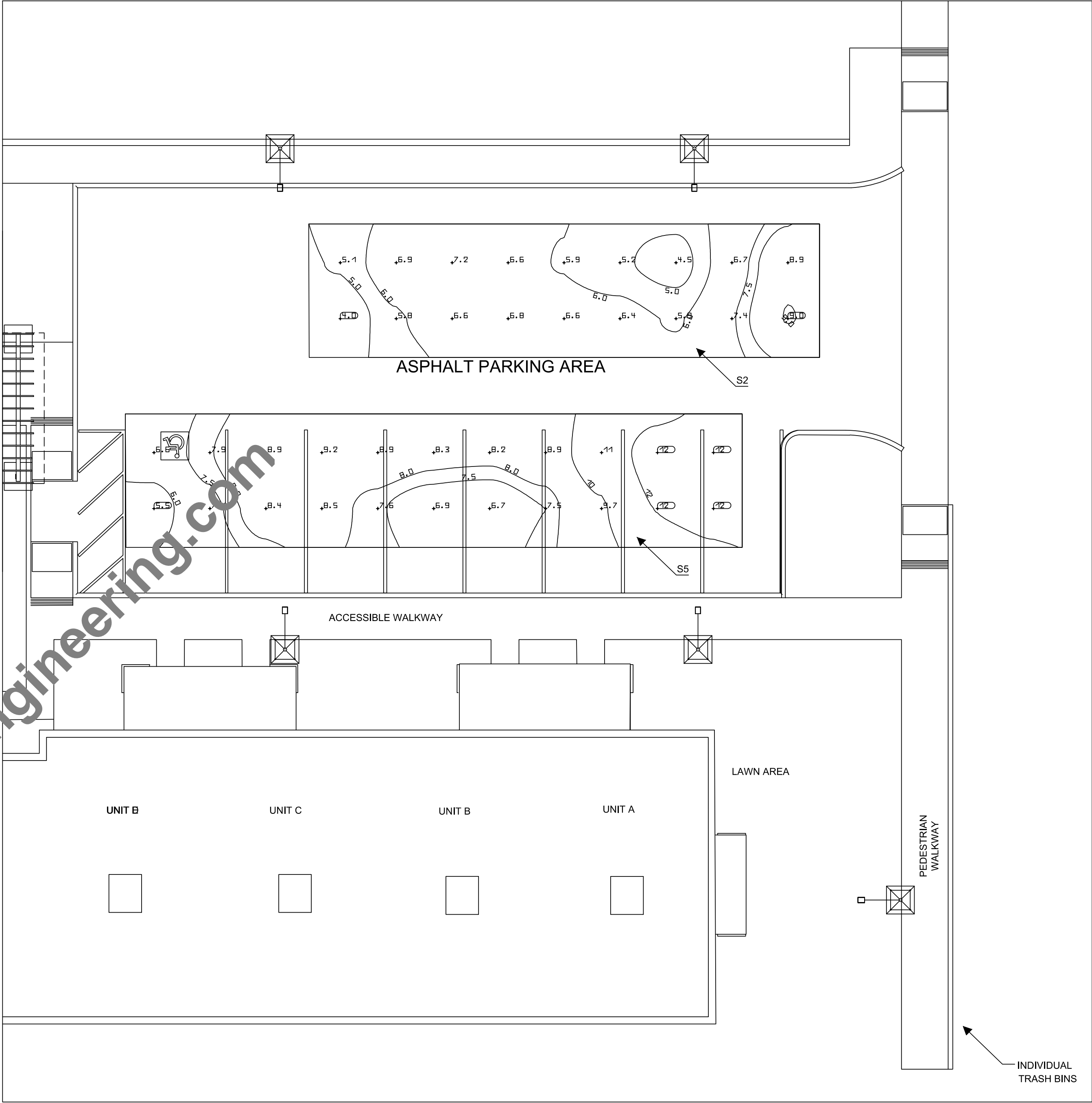
E500



PHOTOMETRIC PLAN - HORIZONTAL LIGHTING

NOTES:
1. AN LLF OF 0.9 WAS CONSIDERED.

Calculation surfaces						
Properties	E	E _{min}	E _{max}	E/E _{ref}	E _{ref} /E _{min}	Index
PARKING AREA Perpendicular Illuminance Height: 0.000 ft	10.6 lx	5.56 lx	13.3 lx	1.91	2.39	S1
Vertical 2 Vertical Illuminance Rotation: 180.0°, Height: 5.000 ft	6.43 lx	4.04 lx	9.03 lx	1.59	2.24	S2
WALKWAY 1 Perpendicular Illuminance Height: 0.000 ft	7.77 lx	3.09 lx	12.8 lx	2.51	4.14	S3
WALKWAY 2 Perpendicular Illuminance Height: 0.000 ft	6.80 lx	2.18 lx	10.2 lx	3.12	4.68	S4
Vertical 1 Vertical Illuminance Rotation: -90.0°, Height: 5.000 ft	8.87 lx	5.93 lx	12.4 lx	1.60	2.24	S5



PHOTOMETRIC PLAN - VERTICAL LIGHTING

SYMBOL LEGEND

PL1

24 FT LIGHT POLE (FULLY SHIELDED), TBD BY OWNER
FIXTURE: PHILIPS BGP501
T25 DM11 LED20/- NO

PROFESSIONAL ENGINEERING

SEAL & SIGNATURE:
Durak Evrim Ercan

DURAK EVRIM ERCAN, P.E.
CO#A22262-0

NO ALTERATION PERMITTED
EXCEPT AS PROVIDED UNDER
DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER.

REV	DATE	DESCRIPTION
0	10/22/2021	ISSUED FOR APPROVAL

CLIENT:
M.B. HOLDINGS LLC
DEVELOPMENT

PROJECT:
MULTI-FAMILY
RESIDENTIAL
UNITS

ADDRESS:
1 2th AVE
PHOENIX, AZ
85007

PROJECT NUMBER: AE# 1480	
SHEET SIZE: 24X36	DRAWN BY: IB
DESIGNED BY: AC	CHECKED BY: DEE

DRAWING TITLE:
PHOTOMETRIC PLAN

SHEET NO:
E600