













West Unit																	
Tag	Image	Layer	Room	Manufacturer	Luminaire Name	Quantity	Luminaire Size	Lamp Type	Quantity of Lamps	Total Lumens	Desired footcandles	Actual footcandles	Cost per Luminaire	Notes	Justification	Calculations	
A1		Ambient	Living Room	USAI Lighting	the LittleOnes™ Micro	4	1.25" diameter	LED	1 per luminaire	525	15 to 30	24	\$60	Trimmed with dim to warm capabilities 7W	Long lasting LED are energy efficient with this one having 7W and CRI of 90.	525 x 4 = 2100   800 x 2 = 1600   2100 + 1600 = 3700 / 156 = 23.72	
A5		Ambient	Living Room	Savoy Home	Gavin Semi-flush Mount	2	20" diameter	LED A19	1 per luminaire	800			\$338	Lamp not included needs A19	Dimmable and cozy, this light is timeless with the semi-flush round luminaire. This fixture also adds depth and a focal point for the space.		
C2		Accent	Living Room	Visual Comfort	Neva LED Wall/Bath Bar	1	11.5" diameter	Intergrated LED	1 per luminaire	1000			\$94	Lamp included, base intergrated not dimmable	This 1000 lumen lamp will give ample light to the accent wall.		
A1		Ambient	Kitchen	USAI Lighting	the LittleOnes™ Micro	12	1.25" diameter	LED	1 per luminaire	525	36 to 71	53	\$60	Trimmed with dim to warm capabilities 7W	Long lasting LED are energy efficient with this one having 7W and CRI of 90.	525 x 12 = 6200 / 119 = 52.94	
T1		Task	Kitchen	Diode LED	Streamlite (tape light kit)	1	16.5 feet	LED	150 per luminaire	2100			\$200	Under counter lighting - diffused switchex	This is dimmable, which is great for late night snacks or an early morning coffee. Perfect for kitchen tasks such as cooking and cleaning.		
A6		Ambient	Bedroom	Kichler	Trentino Semi Flush Mount	1	28" diameter	LED A19	4 per luminaire	3200	14 to 28	24	\$335	Lamp not included needs four A19	Modern fixture is timeless and with the four lamps it gives ample ambient lighting for the bedroom.	3200 x 1 = 3200 / 136 = 23.53	
A7		Ambient	Bathroom	Capital Lighting Fixture Company	Reece Three Light Vanity	1	26" width	LED G16	3 per luminaire	2400	38 to 75	38	\$158	Lamp not included needs three G16, not dimmable	With giving light it adds an organic shape into the space. The white gives a clean look perfect for renters.	2400 x 1 = 2400/ 63 = 38.10	
A1		Task	Bathroom	USAI Lighting	the LittleOnes™ Micro	1	1.25" diameter	LED	1 per luminaire	525			\$60	Has wet location rating, this one will be placed in the shower	This long lasting LED is wet rated which is perfect for showers. This is somewhere that is often overlook but good lighting her is essential.		
A1		Ambient	Hallway	USAI Lighting	the LittleOnes™ Micro	1	1.25" diameter	LED	1 per luminaire	525	15 to 31	18	\$60	Trimmed with dim to warm capabilities 7W	Long lasting LED are energy efficient with this one having 7W and CRI of 90.	525 x 1 = 525 / 30 = 17.5	
T3		Task	Hallway	Diode LED	MATTORE® 2 Direct Wire LED Step Light	1	4.72" x 2.95"	LED	1 per luminaire	141			\$50	CASAMBI PWM4 control system, has timer capabilities	This hard-wired luminaire has a 95+ CRI. It is dimmable and is a discrete way for a timer nightlight.		
West Unit Costs = \$2,593																	
Summary																	
The total cost for luminaires in the East Unit is \$4,224, while the West Unit totals \$2,473. Design fees are set at \$50 per hour, with a 5% deposit required for items purchased through the designer. The majority of luminaires are dimmable, with the East Unit featuring smart home controls for enhanced convenience. The schedule above is divided into two sections, each dedicated to a specific unit. By focusing on white and brass finishes, we aim to attract suitable tennats with a clean, high-end aesthetic. While both units share a similar style, the East Unit leans more towards a transitional design, whereas the West Unit emphasizes a timeless modern approach. Ambient lighting in each room meets the desired footcandle levels, ensuring a cohesive and functional space that promotes a comfortable living environment. Additionally, calculating the lighting to achieve a target of 50 watts per square foot on average, optimizing energy efficiency while maintaining the desired ambiance. This careful selection of lighting will enhance the overall atmosphere, contributing to the units’ appeal and marketability.																	

# STANGER DUPLEX

Emma Jackson

ID 3000

October 29, 2024

Weber State University

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# PROGRAMING PHASE

# CLIENT PROFILE

PROVIDED PER PROJECT REQUIREMENTS

Mark and Katie Stanger are a newlywed couple in their early 30's who are building a duplex apartment near Baylor University in Waco, Texas. The couple have decided on a duplex so that they can live in a new home while earning some additional income through rents in the adjacent apartment. The duplex will have a one-bedroom apartment on the west-side while the Stangers will reside in the two-bedroom unit on the east. Although the rental will have transient residents, the couple wants the apartment to have quality finishes and lighting in an effort to attract more desirable renters. For their side of the unit, the couple wishes to incorporate high end finishes and lighting as they plan to reside there for at least the next 3 years while he finishes his biochemistry degree. The couple values sustainability and energy efficiency and wishes to incorporate materials, finishes, lighting and appliances that maximize both. The couple favors a more transitional style but wants to make sure the selections will remain timeless. Design a layered lighting plan for both units that utilizes energy efficient lamps and luminaires, highlighting architectural features and safety. The couple have requested for both units, that there be under-counter lighting in the kitchen and hard-wired nightlights with a timer in the hall area. The kitchen/living area will have at least one accent wall with a dark-toned paint. The owner's apartment to the east, will have one accent wall in bedroom 2 as well.

## BREAKDOWN:

West Side (one-bedroom): Quality finishes & lighting to attract desirable renters

East Side (two-bedroom): High end finishes & lighting

## Both Units:

- Under-counter lighting (kitchen)
- Hard-wired nightlights with timers (hallway)
- Accent wall with dark-toned paint (kitchen/living area)

## Values:

- Sustainability
- Energy Efficiency
- Transitional Style
- Timeless

# LOCATION

Located near Baylor University in Waco, Texas, Duplex sits in an area rich with community spirit. The neighborhood comes alive with events throughout the year, including the Waco Cultural Arts Fest, Heart O' Texas Fair & Rodeo, and various downtown food and music festivals. The area's strong Baptist presence, centered around Baylor, drives active faith-based community service. Art flourishes here with downtown installations, galleries, and studios dotting the streets, while live music venues showcase Texas country and folk artists. Nature lovers enjoy easy access to Lake Waco and the Brazos River, along with Cameron Park's extensive hiking and biking trails.





# INSPIRATION





# RESEARCH

Transitional style is a contemporary style that combines modern and traditional. Transitional starts with a more neutral palette that evokes clean, serene atmosphere. Main colors include tans, taupes, vanillas and paired with a little bit of organic contrast. It is a very grey on grey palette that focuses more on texture and pattern. Transitional style favors minimal accessories and brings the resort look into the home. The key is comfort in upholstered furniture with modern lighting. This style isn't the most popular right now but some say it will never go out of style. The timeless aspects of transitional are the traditional aspects of it.

Some current lighting advancements have all sorts of photosensors and other controls. For this space the timered hallway lighting is a great control system. These are programmable hardwired lights that come on at night that makes a gentle glow for sense of security and good for the task of going to and from places without tripping at night. For the East unit lighting control systems utilizing smart system that can connect to devices like phones and also be used with switches. For the West unit a more simpler controls system is in order with basic switches that is dimmable.

# SCHEMATICS

# CONCEPT STATEMENT

Our lighting plan aims to create a transitional style with timeless elements, featuring diode LED under-cabinet lighting, hardwired night lights with timer capabilities, and accent wall lighting to ensure adequate lumens for each space. The East Unit will incorporate advanced lighting controls compatible with smart devices, while the West Unit will emphasize high-quality, durable lighting to attract discerning renters. In the East Unit, we'll showcase high-end, extravagant fixtures to create a cozy atmosphere, with all lighting being dimmable. Recessed can ambient lighting will be installed throughout the kitchen and living areas, as well as in the shower for task lighting. Both units will highlight classic brass and white finishes, promoting a warm and inviting environment. With a focus on sustainability and energy efficiency through use of LEDs.



# GENERAL SCHEMATICS





# DESIGN DEVELOPMENT

# EAST UNIT

LIGHTING SELECTION



# WEST UNIT

LIGHTING SELECTION



# ENERGY EFFICIENCY & SUSTAINABILITY

Having a functional environment is the most important but having sustainable longevity and energy efficiency is also very important. Low energy consumption with LEDs using significantly less electricity than traditional incandescent or fluorescent bulbs. They can use up to 80% less energy while providing the same amount of light. Longevity of LEDs have a much longer lifespan, lasting up to 25,000 hours or more. This reduces the frequency of replacements and the associated energy and materials needed for production and disposal. Reduced heat emission LEDs emit very little heat compared to incandescent bulbs, which waste a lot of energy in the form of heat. This efficiency means less energy is consumed for cooling in indoor environments.

It has lower carbon footprint by consuming less energy, LEDs contribute to lower greenhouse gas emissions when used in place of conventional lighting. This is particularly impactful when the energy source is fossil fuels. Less waste, the longer lifespan of LEDs means fewer bulbs end up in landfills, contributing to reduced waste. Additionally, many LED manufacturers are increasingly focusing on eco-friendly production methods. Many components of LED lighting can be recycled. While the entire unit may not be recyclable, materials like aluminum and certain plastics can be processed, reducing the overall environmental impact. Reduced toxic materials unlike fluorescent bulbs, which contain harmful substances like mercury, LEDs are generally free from toxic materials, making them safer for both consumers and the environment.



# CONSTRUCTION DOCUMENTS

PROJECT  
DUPLEX

CLIENT  
MARK & KATIE  
STANGER

CLASS  
ID 3000

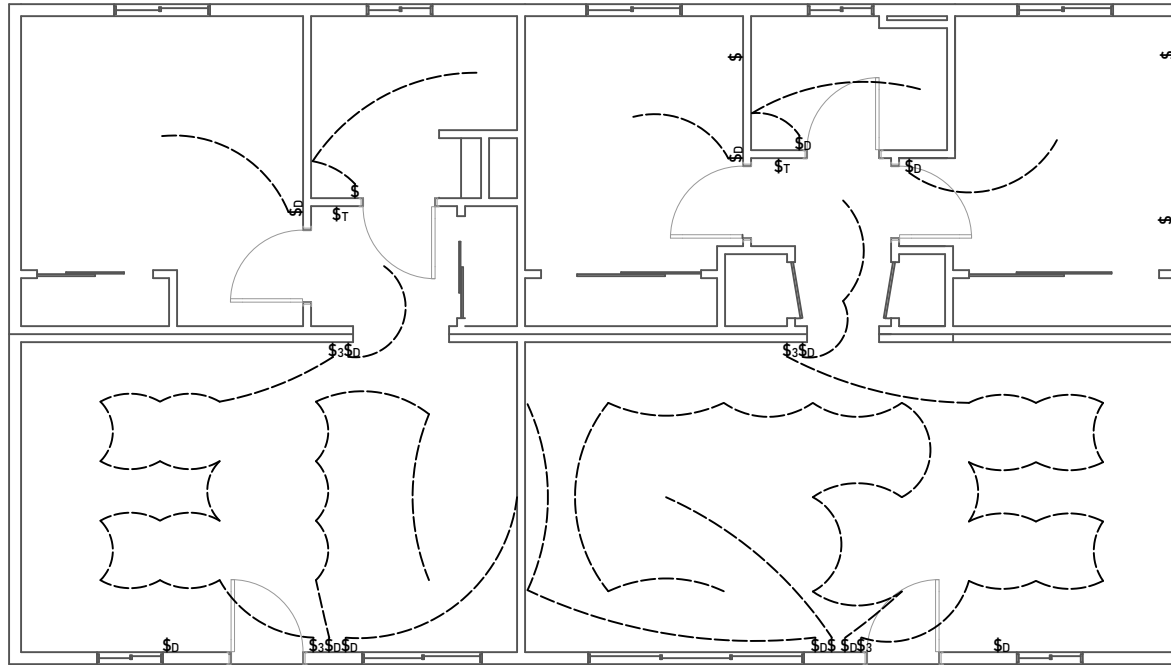
DATE  
11/11/2024

NORTH  


SHEET NAME  
SWITCHING PLAN

SHEET NUMBER  
3 OF 3

SCALE 1/8"



SWITCHING LEGEND

\$ SINGLE POLE SWITCH

\$3 THREE WAY DIMMABLE SWITCH

\$T TIMER SWITCH

\$D SINGLE POLE DIMMABLE SWITCH

NOTE: ALL SWITCHES ARE TO BE MOUNTED AT 48"  
AFF EXCEPT FOR T1 SWITCH WHICH WILL BE  
MOUNTED 40" AFF AND T2 WHICH WILL BE  
MOUNTED AT 40" AFF

PROJECT  
DUPLEX

CLIENT  
MARK & KATIE  
STANGER

CLASS  
ID 3000

DATE  
11/11/2024

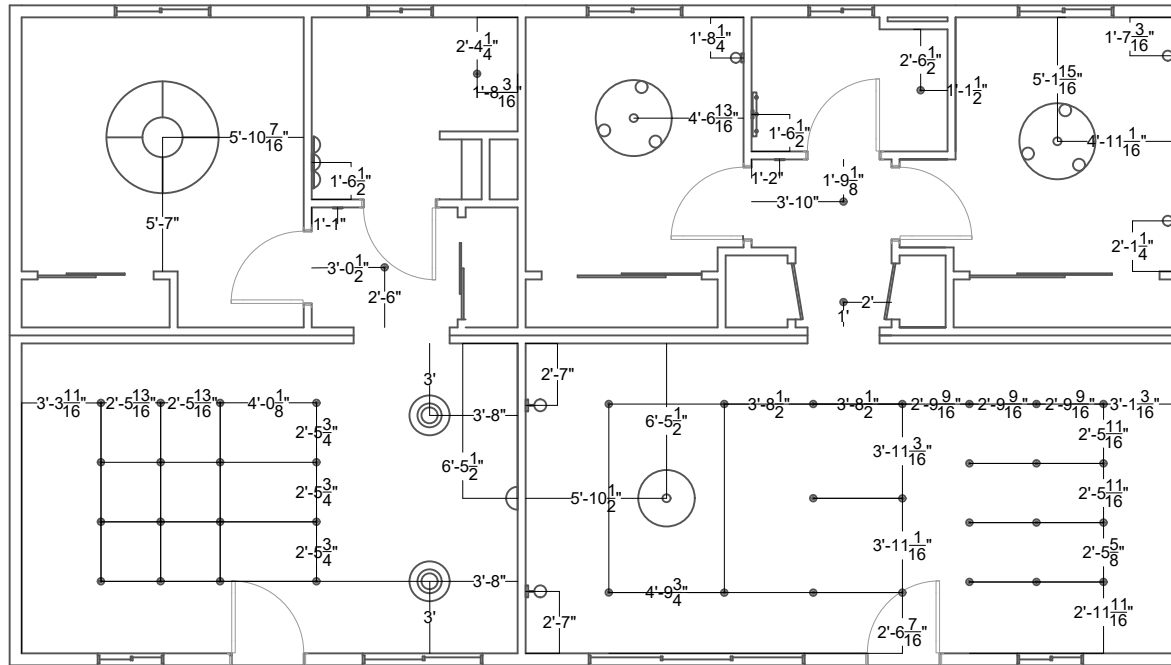
NORTH



SHEET NAME  
LIGHTING PLAN

SHEET NUMBER  
2 OF 3

SCALE 1/8"



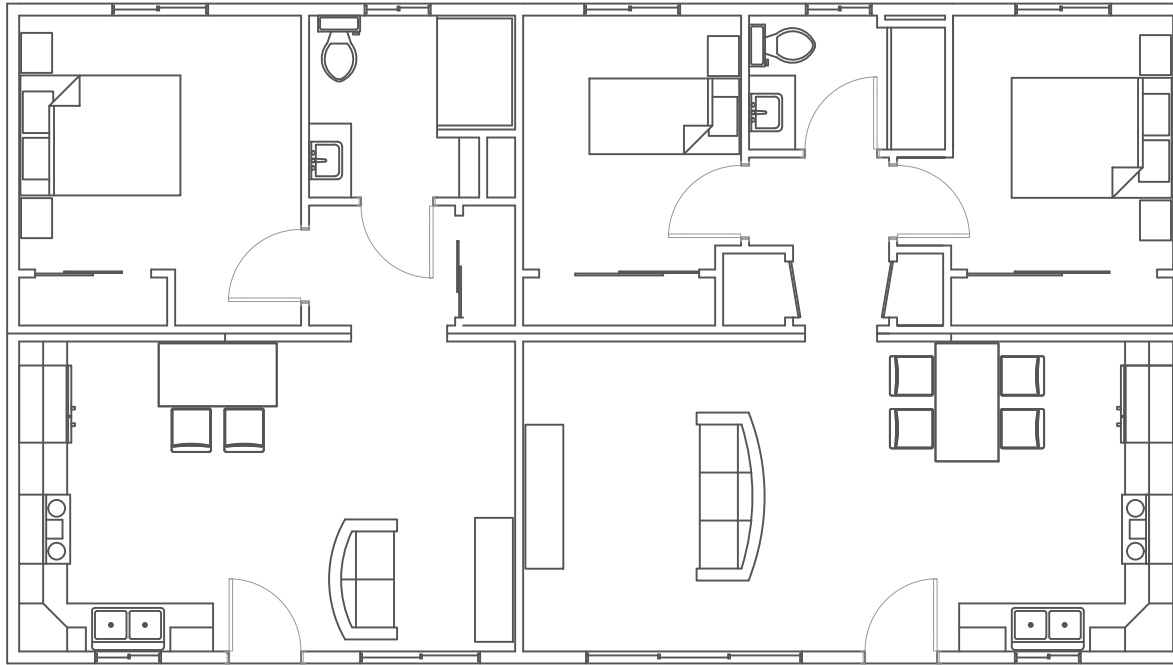
#### LIGHTING LEGEND

- A1: 1.25" DIAMETER THE LITTLEONES MICRO RECESSED
- A2: 28.25" DIAMETER TOPIARY CHANDELIER
- A3: 48" DIAMETER THREE LIGHT PENDANT
- A4: 22" WIDE CEIL VANITY LIGHT
- A5: 20" DIAMETER GAVIN SEMI-FLUSH MOUNT
- A6: 28" DIAMETER TRENTINO SEMI FLUSH MOUNT

NOTE: SOME OF THE LEGEND IMAGES ARE NOT TO SCALE

- A7: 26" WIDE REECE THREE LIGHT VANITY
- C1: 6" DIAMETER MORLAND WALL SCONCE
- C2: 11.5" DIAMETER NEVA LED WALL/BATH BAR
- T1: STREAMLITE DIODE LED
- T2: 5" DIAMETER BLINK WALL SCONCE
- T3: 4.72" WIDE MATTONE DIRECT WIRE LED STEP LIGHT

NOTE: UNDER  
CABINET LIGHTING - T1  
- WILL BE MOUNTED  
APPROXIMATELY  
MIDWAY UNDER  
CABINETS.  
ADDITIONALLY, C1  
AND C2 WILL BE  
MOUNTED HALF OF  
WALL HEIGHT AFF. T2  
WILL BE MOUNTED  
40" AFF. T3 WILL BE  
MOUNTED 15" AFF.



PROJECT  
DUPLEX

CLIENT  
MARK & KATIE  
STANGER

CLASS  
ID 3000

DATE  
11/11/2024

NORTH  


SHEET NAME  
FLOOR PLAN

SHEET NUMBER  
1 OF 3

SCALE 1/8"