

MEP SPECIFIED BACK OF HOUSE AND SOME COMMON AREA LIGHT FIXTURE SCHEDULE

| TYPE | SYMBOL | MANUFACTURER AND CATALOG NO. | DESCRIPTION | LAMPS | VOLTAGE | WATTS | MOUNTING | REMARKS |
|------|--------|---|---|-------------|----------|---------|----------------------------|----------------------------------|
| U1 | | TEKDEK LUMINAIRES; TD17H0-PM-5S-TA-GW-72L-40K7-DCC-DV-TL50 | LED LIGHT | 72W LED | 120-277V | 72W LED | SURFACE OR PENDANT | PARKING GARAGE NOTE 10 & 14 |
| | | TEKDEK LUMINAIRES; TD17H0-PM-5S-TA-GW-72L-40K7-DCC-DV-LE-TL50 | LED LIGHT WITH EMERGENCY BATTERY PACK | | | | | |
| U2 | | LITHONIA ZL1N L48 5000LM L/LENS MVOLT 35K 80CRI WH | STRIP LIGHT | (1) 34W LED | MVOLT | 34W | SURFACE, PENDANT OR STEM | UTILITY ROOMS |
| | | LITHONIA ZL1N L48 5000LM L/LENS MVOLT 35K 80CRI E10W1CP WH | STRIP LIGHT WITH EMERGENCY BATTERY PACK | | | | | |
| U3 | | LITHONIA WL4 40L EZB LP835 EL14 | LINEAR LIGHT W/ BATTERY PACK | (1) 40W LED | MVOLT | 40W | WALL OR SURFACE | STAIRS MAIN LANDING |
| U4 | | LITHONIA WL4 40L EZB LP835NES7 | LINEAR LIGHT | (1) 40W LED | MVOLT | 40W | WALL OR SURFACE | STAIRS ALTERNATE LANDING NOTE 16 |
| U5 | | LITHONIA DMW2 L24 4000LM ACL MD MVOLT GZ1 35K 80CRI | LINEAR LIGHT LOW PROFILE | (1) 40W LED | MVOLT | 40W | CEILING, WALL OR SUSPENDED | ELEVATOR PITS |
| U6 | | LITHONIA WL4 30L EZ1 | LINEAR LIGHT | (1) 29W LED | MVOLT | 29W | WALL OR SURFACE | ABOVE ELEVATOR DOOR SILL NOTE 12 |
| U7 | | LITHONIA WSR LED 2 MVOLT ELCW PE | EMERGENCY WALL SCONCE | (20) LED | MVOLT | 47W | WALL | EMERGENCY BATTERY BACKUP NOTE 13 |
| X1 | | LITHONIA LQN S W 3 R 120/277 EL N | INTERIOR EXIT SIGN | (1) 3W LED | 120/277V | 3W | WALL OR CEILING | NOTE 11 & 17 |

- NOTES:**
- SOME FIXTURES IN THIS SCHEDULE MAY NOT BE USED. REFER TO THE PLANS FOR THE SCOPE.
 - CONTRACTOR TO PROVIDE EXIT SIGNS WITH THE INDICATED NUMBER OF FACES, CHEVRONS, AND EMERGENCY LIGHTS AS SHOWN ON THE PLANS.
 - CONTRACTOR TO PROVIDE CORNER SUPPORTS TO STRUCTURAL CEILING ABOVE FOR ALL RECESSED FIXTURES AND/OR AS REQUIRED BY THE MANUFACTURER, THE NEC AND THE AHJ.
 - REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER REFLECTED CEILING PLAN AND FINISH SCHEDULE FOR EXACT LOCATIONS OF ALL FIXTURES AND VERIFY COMPATIBILITY WITH CEILING TYPES.
 - ALL FIXTURES PROVIDED SHALL HAVE ALL PROVISIONS FOR MOUNTING HARDWARE IN ORDER TO PROVIDE A PROPER INSTALLATION.
 - ALL FIXTURES SHALL BE ENERGY STAR RATED.
 - PROVIDE LOW TEMPERATURE BALLASTS FOR ALL GARAGE FIXTURES AND OTHER FIXTURES EXPOSED TO THE EXTERIOR CONDITIONS OR LOW TEMPERATURES.
 - ALL EXTERIOR FIXTURES SHALL BE UL LISTED FOR THE ENVIRONMENT THEY SERVE.
 - PROVIDE FIRE RATED AND IC RATED LIGHT FIXTURES AS REQUIRED BY THE AHJ.
 - FOR PROPER LIGHTING DISTRIBUTION, INSTALL BELOW BEAMS, CEILING EQUIPMENT, AND CEILING MOUNTED OBJECTS (BOTTOM OF LIGHT FIXTURE SHALL BE ABOVE MINIMUM HEIGHT REQUIRED BY THE AHJ).
 - FOR PROPER LINE OF SIGHT, INSTALL BELOW BEAMS, CEILING EQUIPMENT, AND CEILING MOUNTED OBJECTS (BOTTOM OF EXIT SIGN SHALL BE AT ABOVE MINIMUM HEIGHT REQUIRED BY THE AHJ).
 - COORDINATE MOUNTING WITH ARCHITECT AND/OR INTERIOR DESIGNER. ANY ALTERNATE FIXTURES SUBMITTED AS A SUBSTITUTE TO TYPE "U6" MUST ATTACH DEMONSTRATION THAT THEY CAN ACHIEVE THE CODE REQUIRED FOOT CANDLE LEVELS AT THE FLOOR OF THE ELEVATOR DOOR SILL (TYPICALLY 10 FC OR AS REQUIRED BY THE AHJ).
 - ANY ALTERNATE FIXTURES SUBMITTED AS A SUBSTITUTE TO TYPE "U7" MUST OFFER DUAL LIGHT ENGINES WIRED IN PARALLEL SO THAT BOTH ENGINES OPERATE IN EMERGENCY MODE AND PROVIDE ADDITIONAL COMPONENT REDUNDANCY TO ACHIEVE NEC 700.16 OR AS REQUIRED BY THE AHJ.
 - ALL LIGHT FIXTURES RECESSED OR PENETRATING A FIRE RATED CEILING OR ASSEMBLY SHALL BE RATED TO HAVE THE SAME FIRE RATING OF THAT CEILING OR ASSEMBLY IT PENETRATES PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. WHERE A FIXTURE THAT IS RECESSED OR PENETRATES A FIRE CEILING OR ASSEMBLY IS NOT SPECIFIED TO HAVE THE SAME FIRE RATING OF THAT CEILING OR ASSEMBLY IT PENETRATES, THE CONTRACTOR SHALL INCLUDE IN THEIR BID PROVISIONS FOR ENCLOSURES OR OTHER MEANS AND METHODS THAT ARE APPROVED PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ WHEN PENETRATING FIRE RATED CEILINGS AND ASSEMBLIES.
 - ALL LIGHT FIXTURES SHOWN WITH AN "EM" DESIGNATION NEXT TO THEM SHALL HAVE AN INTEGRAL EMERGENCY BATTERY BACKUP PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. WHERE A FIXTURE THAT IS SHOWN WITH AN "EM" DESIGNATION NEXT TO THEM IS NOT AVAILABLE WITH AN INTEGRAL EMERGENCY BATTERY BACKUP, THE CONTRACTOR SHALL INCLUDE IN THEIR BID PROVISIONS FOR REMOTE EMERGENCY BATTERY BACKUP AND ANY REQUIRED ACCESS OR ANY OTHER MEANS AND METHODS THAT ARE APPROVED PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. SUCH PROVISIONS AND MEANS AND METHODS SHALL ALSO BE SUITABLE FOR THE ENVIRONMENT THEY SERVE (COLD, DAMP, ETC.).
 - PROVIDE INTEGRAL MOTION SENSOR NEST.
 - THE CONTRACTOR SHALL CONFIRM WHICH EXIT SIGN COLOR (I.E.: RED, GREEN, ETC.) IS ALLOWED BY THE AHJ PRIOR TO PROCUREMENTS/INSTALLATION.

MEP SPECIFIED DWELLING UNIT LIGHT FIXTURE SCHEDULE

| TYPE | SYMBOL | MANUFACTURER AND CATALOG NO. | DESCRIPTION | LAMPS | VOLTAGE | WATTS | MOUNTING | REMARKS |
|------|--------|--|--|---------------|----------|-------|--------------------------|-----------------|
| A | | EATON SLD612827WHUNVJB SLD6TRMWH | ULTRA-LOW PROFILE SURFACE MOUNTING LUMINAIRE | (1) 14.8W LED | 120/277V | 14.8W | SURFACE | COMMON AREAS |
| B | | LITHONIA MVB2 BZ | (2) LED FITTERS BULLET | (2) 9W LED | 120V | 18W | WALL | BATH VANITY |
| | | LITHONIA MVB3 BZ | (3) LED FITTERS BULLET | (3) 8W LED | | 24.2W | | |
| C | | LITHONIA OLWP 11 PE BZ | OUTDOOR GENERAL PURPOSE | (1) 20W LED | 120V | 20W | WALL | BALCONY/OUTDOOR |
| D | | LITHONIA ZL1N L24 2500LM L/LENS 120 30K 80CRI WH | STRIP LIGHT | (1) 19W LED | MVOLT | 19W | SURFACE, PENDANT OR STEM | UTILITY ROOMS |

- NOTES:**
- SOME FIXTURES IN THIS SCHEDULE MAY NOT BE USED. REFER TO OTHER DISCIPLINE PLANS FOR THE SCOPE.
 - CONTRACTOR TO PROVIDE CORNER SUPPORTS TO STRUCTURAL CEILING ABOVE FOR ALL RECESSED FIXTURES AND/OR AS REQUIRED BY THE MANUFACTURER, THE NEC AND THE AHJ.
 - ALL FIXTURES PROVIDED SHALL HAVE ALL PROVISIONS FOR MOUNTING HARDWARE IN ORDER TO PROVIDE A PROPER INSTALLATION.
 - ALL FIXTURES SHALL BE ENERGY STAR RATED.
 - PROVIDE LOW TEMPERATURE BALLASTS FOR ALL GARAGE FIXTURES AND OTHER FIXTURES EXPOSED TO THE EXTERIOR CONDITIONS OR LOW TEMPERATURES.
 - ALL EXTERIOR FIXTURES SHALL BE UL LISTED FOR THE ENVIRONMENT THEY SERVE.
 - PROVIDE FIRE RATED AND IC RATED LIGHT FIXTURES AS REQUIRED BY THE AHJ.
 - FOR PROPER LIGHTING DISTRIBUTION, INSTALL BELOW BEAMS, CEILING EQUIPMENT, AND CEILING MOUNTED OBJECTS (BOTTOM OF LIGHT FIXTURE SHALL BE ABOVE MINIMUM HEIGHT REQUIRED BY THE AHJ).
 - NOT LESS THAN 75% OF ALL LIGHT FIXTURES INSIDE THE DWELLING UNITS SHALL BE HIGH EFFICIENCY TYPE, AS REQUIRED PER THE LOCAL AHJ.
 - ALL LIGHT FIXTURES RECESSED OR PENETRATING A FIRE RATED CEILING OR ASSEMBLY SHALL BE RATED TO HAVE THE SAME FIRE RATING OF THAT CEILING OR ASSEMBLY IT PENETRATES PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. WHERE A FIXTURE THAT IS RECESSED OR PENETRATES A FIRE CEILING OR ASSEMBLY IS NOT SPECIFIED TO HAVE THE SAME FIRE RATING OF THAT CEILING OR ASSEMBLY IT PENETRATES, THE CONTRACTOR SHALL INCLUDE IN THEIR BID PROVISIONS FOR ENCLOSURES OR OTHER MEANS AND METHODS THAT ARE APPROVED PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ WHEN PENETRATING FIRE RATED CEILINGS AND ASSEMBLIES.



ELECTRICAL ENERGY CERTIFICATION FORM

Project Name: Vienna Market - Townhomes Over Retail
 Street Address: 245 Maple Avenue Vienna, VA 22180
 Building type or space activity: Mixed Use

Complete Section A or Section B based on the standard and applicability. To determine applicability, see the scoping provisions of Section 2 of ASHRAE standards or Section C401 of VECC (VECC is IECC with Virginia amendments). All provisions are mandatory unless noted as prescriptive.

SECTION A
Based on ANSI/ASHRAE/IESNA Standard 90.1 2010

- LIGHTING**
- (Prescriptive) New and replaced lighting systems comply with the lighting power density of Section 9, except as exempted in 9.1.2.
 - (Prescriptive) New control devices as a direct replacement of existing control devices comply with the requirements of 9.4.1.2(b), (9.1.2).
 - (Prescriptive) Installed interior lighting power includes all power used by the luminaires, including lamps, ballasts, transformers, and control devices, except as exempted in 9.2.2.3, (9.1.3). Such power does not exceed allowance provided in 9.5 or 9.6, (9.2.2.3).
 - (Prescriptive) Luminaire wattage incorporated into the installed interior lighting power is determined in accordance with 9.1.4 (a) through (e).
 - Exterior lighting power allowances for all exterior building applications comply with 9.4.3.
- INTERIOR LIGHTING CONTROL**
- Each area enclosed by ceiling-height partitions has at least one manual control for lighting serving that area. Control devices are readily accessible and located so the occupants can see the controlled lighting. Control devices comply with 9.4.1.2 (a) (b) and (c).
 - Interior lighting in buildings are equipped with an automatic control device to shut off building lighting in all spaces, except as exempted in 9.4.1.1. The automatic control device functions as:
 - A scheduled basis per 9.4.1.1 (a);
 - An occupancy sensor per 9.4.1.1 (b); or
 - A signal from another control or alarm system per 9.4.1.1 (c).
- POWER/VOLTAGE DROP**
- Feeder and branch circuit conductors are sized for a maximum voltage drop of 2% and 3% respectively at design load, (8.4.1.1) and (8.4.1.2).
 - Equipment installed in new and existing building and, during alteration complies with (8.1.3), (8.1.4) and (8.1.5).
- EXTERIOR LIGHTING CONTROL (except as exempted in 9.1)**
- Lighting, all facade and landscape lightings are controlled by automatic device, (9.4.1.7).
 - All lighting (including signage), other than facade and landscape, are controlled by automatic devices that reduce lighting power by at least 30%, (9.4.1.7).
 - All time switches retain programming and time settings during loss of power for a period of at least 10 hours, (9.4.1.7).
- ADDITIONAL CONTROL**
- Control for display/accent lighting, case lighting, hotel and motel guest room lighting, task lighting, nonvisual lighting, demonstration lighting and stairwell lighting are provided in accordance with 9.4.1.6.
- PARKING GARAGE LIGHTING CONTROL**
- Lighting for parking garage is controlled in accordance with 9.4.1.3.
 - Lamps for general lighting in primary sidelighted area, in combined primary sidelighted area in an enclosed space 250 sq-ft or more, are separately controlled by multilevel photocontrol in accordance with 9.4.1.4.
 - When the total daylight area under skylights plus rooftop monitors in an enclosed space exceeds 900 sq-ft, the lamps for general lighting in the daylight area is controlled by a multilevel photocontrol in accordance with 9.4.1.5.

LIGHTING FIXTURES IN OPEN PARKING GARAGE

All lighting fixtures within portions of above ground, open-side structures shall be full cut-off as defined by Article 20, Part 3 and required by Article 14, Part 9 of the Fairfax County Zoning Ordinance.

CERTIFICATION

I further hereby certify that the project referenced herein complies with all the applicable requirements of ANSI/ASHRAE/IESNA Standard 90.1, 2010 - or - 2012 VECC, and Article 20, Part 3 and Article 14, Part 9 of the Fairfax County Zoning Ordinance.

Name: _____
 Address: _____
 Occupation: _____ Date: _____



Attachment 07

- EXIT SIGNS**
- Internally illuminated exit signs do not exceed 5-watts per face, (9.4.2).
- TRANSFORMER**
- Low voltage dry-type distribution transformers comply with 8.1.2.
- RECEPTACLES**
- At least 50% of all 125v, 15A and 20A receptacles including those installed in modular partition in private

offices, open offices and computer classrooms are controlled by an automatic control device in accordance with 8.4.2.

COMPLIANCE PATH (Prescriptive)

- Building Area Method of calculating interior lighting power allowance is in accordance with 9.5. Space-by-Space Method of calculating interior lighting power allowance is in accordance with 9.6.

SECTION B
Based on Virginia Energy Conservation Code 2012

- INTERIOR LIGHTING CONTROL**
- Lighting within dwelling units contain 75% or more of high-efficiency lamps in the permanently installed luminaires, other than low voltage lighting, C405.1 Exception.
 - Each area enclosed by ceiling-height partitions has at least one manual control for lighting serving that area. Control location complies with C405.2.1.1.
 - Light reduction to at least 50% is accomplished per C405.2.1.2, except as exempted, by means of:
 - Controlling of all luminaires or lamps;
 - Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps;
 - Switching of middle lamp of luminaires independently of the outer lamps; or
 - Switching each luminaire or each lamp.
 - Each area that is required to have a manual control has also additional control. The additional control functions on:
 - An automatic time switch control device, (C405.2.2.1).
 - An occupancy sensor, (C405.2.2.2).
 - A daylight zone control, (C405.2.2.3).
 - Specific application controls are per C405.2.3.
- ENERGY CONSUMPTION**
- Buildings having individual dwelling units are provided with provisions to determine the electrical energy consumed by each tenant by separately metering individual dwelling units, (C405.7).
 - Lighting (Prescriptive)
 - Total connected lighting power calculated under C405.5.1 is not greater than the interior power calculated under C405.5.2, (C405.5).
 - Total connected interior lighting power is the sum of all interior lighting equipment (in watts) per C405.5.1.1 through C405.5.1.4, (C405.5.1).
- EXTERIOR LIGHTING CONTROL**
- The line-voltage lighting track and plug-in busway are per C405.5.1.4.
 - The interior lighting power is calculated utilizing C405.5.2 and Table C405.5.2(1) or Table C405.5.2(2).
 - All exterior lighting other than low-voltage landscape lighting complies with section C405.6.1 and C405.6.2.
 - Lighting designated for dusk-to-down operation is controlled by an astronomical time switch or a photosensor, (C405.2.4).
 - Lighting not designated for dusk-to-dawn operation is controlled by a combination of a photosensor and a time switch, or an astronomical time switch, (C405.2.4).
 - All time switches retain programming and time settings during loss of power for a period of at least 10 hours, (C405.2.4).
- TANDEM WIRING**
- Fluorescent luminaires equipped with one, three or odd-numbered lamp configurations, that are recess-mounted within 10-feet center-to-center of each other are tandem wired, (C405.3-1).
 - Fluorescent luminaires equipped with one, three or any other odd-numbered lamp configuration, that are pendant or surface-mounted within 1-foot edge-to-edge of each other are tandem wired, (C405.3 - 2).
 - Internally illuminated exit signs do not exceed 5-watts per face, (C405.4).

ARCHITECT:

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MARKET - TOWNHOMES OVER RETAIL VIENNA, VA

TURE SCHEDULE & COMPLIANCE CERTIFICATE