

5000–5200 Westminster Place Underground Street Light Wiring

Contacts with knowledge of the underground street light wiring in the 5000-5100 blocks of Westminster Place (63108) include anyone on the Board of Trustees.

The 5200 block has its own Board but the wiring is the same. We appreciate your efforts to avoid damaging this wiring, especially since various excavators have not heeded the digging instructions posted with the Missouri One Call locate tickets.

Thank you!

This is what our street light wiring looks like. The wires are protected from water by the gray plastic conduit that can be seen running diagonally from the brick monument at the west end of the 5100 block to the control station on the monument on the SW corner of Westminster and Lake.

NORTH



SOUTH

Two types of buried electrical cables may be found under the “tree lawns” between the sidewalks and curbs in these blocks. Hand digging is required everywhere in the tree lawns.

1) The active system is enclosed in 1” gray plastic conduit. Hand digging is required at all points between the sidewalk and curb. Any damage to this conduit must be repaired by a licensed electrician at the excavator’s expense. We prefer Gilmore Electric, 314-644-2489, because they installed the system and are most familiar with it. Patchwork repairs not made by licensed electricians shall not be attempted.



2) Single-conductor wiring, not in conduit and usually with black insulation, may also be found. This circuit was disconnected from all power sources and abandoned in 1997. It is not an operating utility, is not separately marked, and may be disregarded.



In case of questions please call directly to 314-825-1831 for further information. Thank you.

5000–5200 Westminster Place Street Lights

1) General

- 1.1) The street light wiring is broken into five segments (branch circuits), NE (north of 5000 – 5100), SE (south of 5000 – 5100), NW (north of 5200), SW (south of 5200), and the photo sensor control.
- 1.2) The control center is on a brick monument at the SW corner of Westminster and Lake.
- 1.3) The power feed is 240 V (volts) and arrives overhead from the north and drops below ground near the SW corner of Lake and Westminster.
- 1.4) Branch circuit wiring is in sealed 1” plastic conduit. Each run from the top of one lamp post to the top of the next is continuous lengths of wire—no splices are made underground.

2) Power specifications

- 2.1) The main service has a 100 A (ampere) meter and 100 A circuit breaker. The five branch circuits each have 20 A circuit breakers.
- 2.2) The two west segments use the 240 V supply directly, suggesting that the lamps have ballasts connected at their 240 V taps.
- 2.3) The two east segments have the 240 V stepped up to 480 V by transformers located at the control center, suggesting that the lamps have ballasts connected at their 480 V taps. The voltage was stepped up to compensate for line losses on such a long run (>1800 feet).

3) Control

- 3.1) Photo sensor control is installed at the control center on the fifth branch circuit. The photo sensor controls four contactors (relays) which in turn energize the lighting branches.
- 3.2) No separate means of turning the lights on for testing is implemented. The sensor may be covered to darken it, and the lights will turn on after several seconds.
- 3.3) Beware of children playing with the sensor—they like to cover it, and have in the past damaged it by rough handling.

4) Accessories

- 4.1) Auxiliary 120 V duplex receptacles have been installed in the 5000 – 5100 block monuments.
- 4.2) The receptacles in the east monument are also controlled by the photo sensor, so it must be darkened to energize them. The receptacles in the west monument are on whenever the circuit breakers are on.

4.3) At the east end of the long wiring run (NE segment) a transformer steps the 480 V down to 120 V for this duplex receptacle (nominal voltage, actually measured as 106 V). At the west end the receptacle is powered from one leg of the 240 V circuit.

4.4) Due to the limited capacity of the transformers it is recommended that current in excess of 7 A not be drawn from each receptacle pair. This is 840 VA (or about 840 watts), or just about the load of a 1/3 horsepower motor. A 1/2 horsepower motor (about 9 A) could probably be used for a limited time period.

5) Lamps

5.1) The lamps used in the 5000 – 5100 block street lights are 74 watt LEDs (nominal 75 watts) having a color temperature of 2200K. The east and west monument flood lights are 41 watt LEDs.

5.2) The lamps used in the 5200 block are 150 watt high pressure sodium.

6) Block diagram

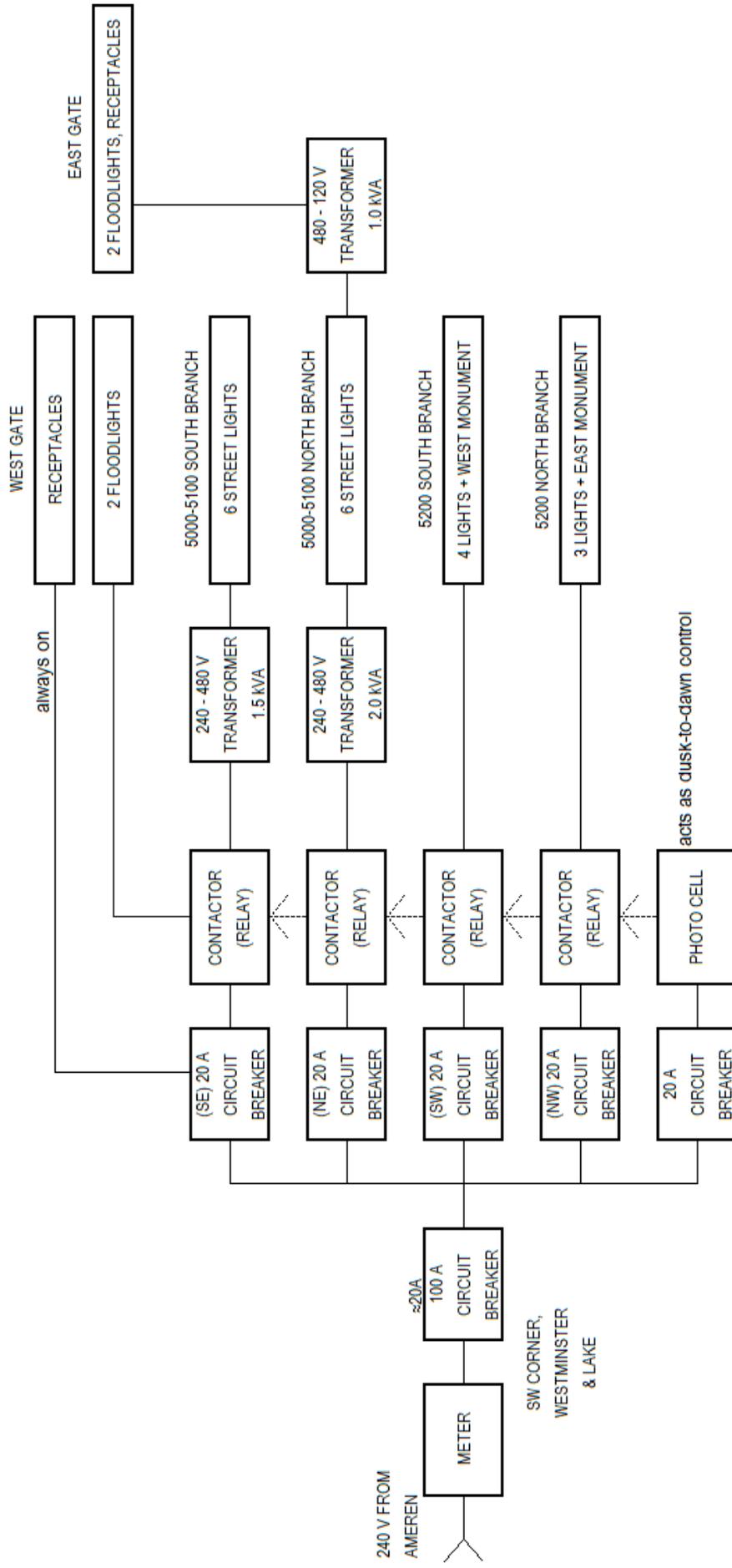
6.1) A block diagram of the wiring system is attached.

7) Original Gilmore Electric documents

7.1) The original product description, product information, and wiring sketch are attached.

Updated 26 June 2019
Daniel Landiss

5000-5200 WESTMINSTER PLACE
STREET LIGHT & MONUMENT WIRING



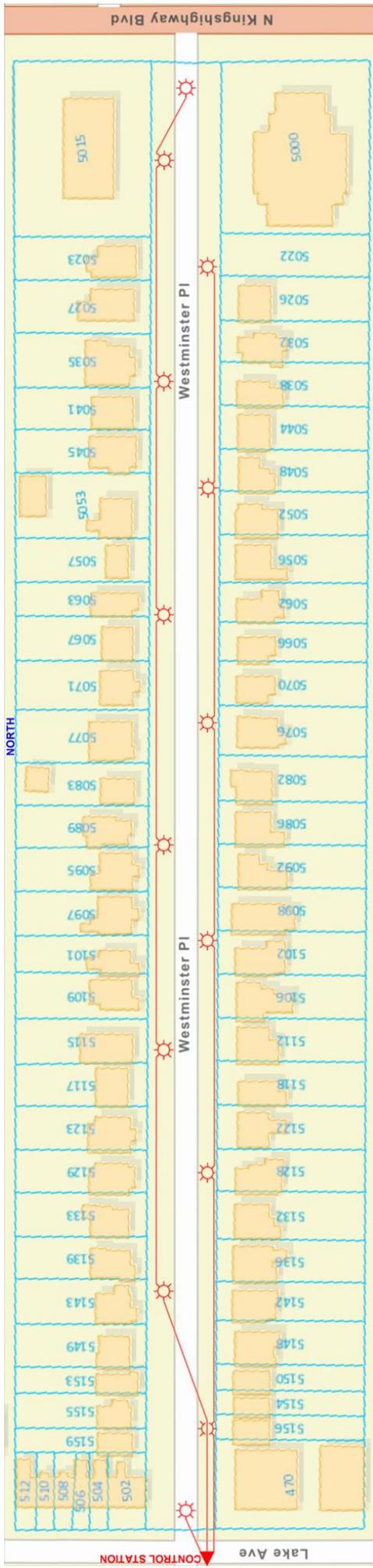
System map

On this map the ☼ icons represent 12 street lights and 2 brick monuments, each having one or more lights controlled by this system. A larger version of this map can be found at:

<http://westminsterplace.info/documents/WestminsterStreetLightWiring_2.png>

The red lines between the control panel at the southwest corner of Lake and Westminster and the system lights represent buried wiring. In the tree lawns between the curbs and sidewalks it is usually closer to the sidewalk. The depth varies because horizontal boring in 1997 was not an exact science. **Hand-digging is strongly recommended.**

Note that at three places the wiring crosses underneath the street surface.



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SAINT LOUIS, MISSOURI 63109-2536
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MAY 30, 1997

WESTMINSTER STREET LIGHTING PROJECT
5000-5100 AND 5200 BLOCKS OF WESTMINSTER

PROJECT DESCRIPTION AND PRODUCT INFORMATION

ELECTRICAL POWER IS SUPPLIED BY A 100 AMP UNDERGROUND SERVICE ENTRANCE WITH UNDERGROUND METER AND EXTERIOR 100 AMP MAIN BREAKER PANEL LOCATED ON MONUMENT AT SOUTHWEST CORNER OF LAKE AVE. AND WESTMINSTER AVE. ALL LIGHT FIXTURES FOR ENTIRE PROJECT ARE POWERED FROM THIS SOURCE.

UNDERGROUND SERVICE ENTRANCE CONDUIT AND FEEDERS RUN FROM METER BASE AT SOUTHWEST MONUMENT TO OVERHEAD ELECTRICAL POLE AT SOUTHWEST CORNER OF LAKE AVE. AND WESTMINSTER AVE. (APPROXIMATELY 30 FT. FROM METER LOCATION)

EACH SIDE OF BOTH 5000-5100 BLOCK AND 5200 BLOCK ARE POWERED BY INDIVIDUAL BRANCH CIRCUITS AND CIRCUIT BREAKERS.

5000-5100 NORTH, 6 (SIX) FIXTURES, ONE CIRCUIT.

5000-5100 SOUTH, 6 (SIX) FIXTURES, ONE CIRCUIT.

5200 NORTH, 3 (THREE) FIXTURES, AND INCLUDING

5200 EAST ISLAND CENTER FIXTURE, ONE CIRCUIT.

5200 SOUTH, 4 (FOUR) FIXTURES, AND INCLUDING

5200 WEST ISLAND CENTER FIXTURE, ONE CIRCUIT.

ALL OF THE ABOVE MENTIONED CIRCUITS ARE CONTROLLED BY A ELECTRICAL PHOTO-CELL LOCATED BELOW THE MAIN PANEL. THIS PHOTO-CELL OPERATES 4 (FOUR) LIGHTING CONTACTORS, ONE FOR EACH CIRCUIT, THAT ARE LOCATED IN THE CONTROL PANEL BELOW THE MAIN PANEL. THE PHOTO-CELL AND LIGHTING CONTACTOR CONTROL CIRCUIT IS OPERATED BY A INDEPENDENT CIRCUIT BREAKER IN THE MAIN PANEL.

5000-5100 BLOCK FIXTURES ARE POWERED BY 480 VOLT SINGLE PHASE, WITH 2 (TWO) 1.5 KVA TRANSFORMERS LOCATED NEXT TO THE CONTROL PANEL, ONE TRANSFORMER FOR EACH SEPARATE CIRCUIT. ALL EXISTING FIXTURE HEADS WERE REUSED, THE OLD SOCKETS WERE REMOVED, AND THE NEW BALLAST KITS WERE INSTALLED.

5200 BLOCK FIXTURES ARE POWERED BY 240 VOLT SINGLE PHASE POWER AS SUPPLIED. THE EXISTING FIXTURE HEADS WERE REMOVED, AND NEW HEADS COMPLETE WITH BALLAST ASSEMBLY WERE INSTALLED.

ALL NEW UNDERGROUND CIRCUITRY WAS DIRECTIONALLY BORED, USING 1 INCH PVC CONDUIT AND ALL NEW COPPER WIRE. ALL CIRCUITS ARE RAN COMPLETE, WITH NO UNDERGROUND SPLICES OR JUNCTION BOXES ANYWHERE. THERE ARE NO SPLICES IN THE BASES OF ANY OF THE LIGHT POLES.

ALL ORIGINAL SERIES LIGHTING WIRING HAS BEEN ABANDON.

PRODUCT INFORMATION

5000-5100 WESTMINSTER

THE BALLAST ASSEMBLY UNITS ARE A 480 VOLT, 150 WATT HIGH PRESSURE SODIUM KIT COMPLETE WITH BALLAST, IGNITOR, AND CAPACITOR. CATALOG NUMBER- ADVANCE TRANSFORMER 71A8142-001D.

THE LAMP IS A GENERAL ELECTRIC STYLE 150 WATT LUCALOX LAMP, CATALOG NUMBER- LU150/55/DX.

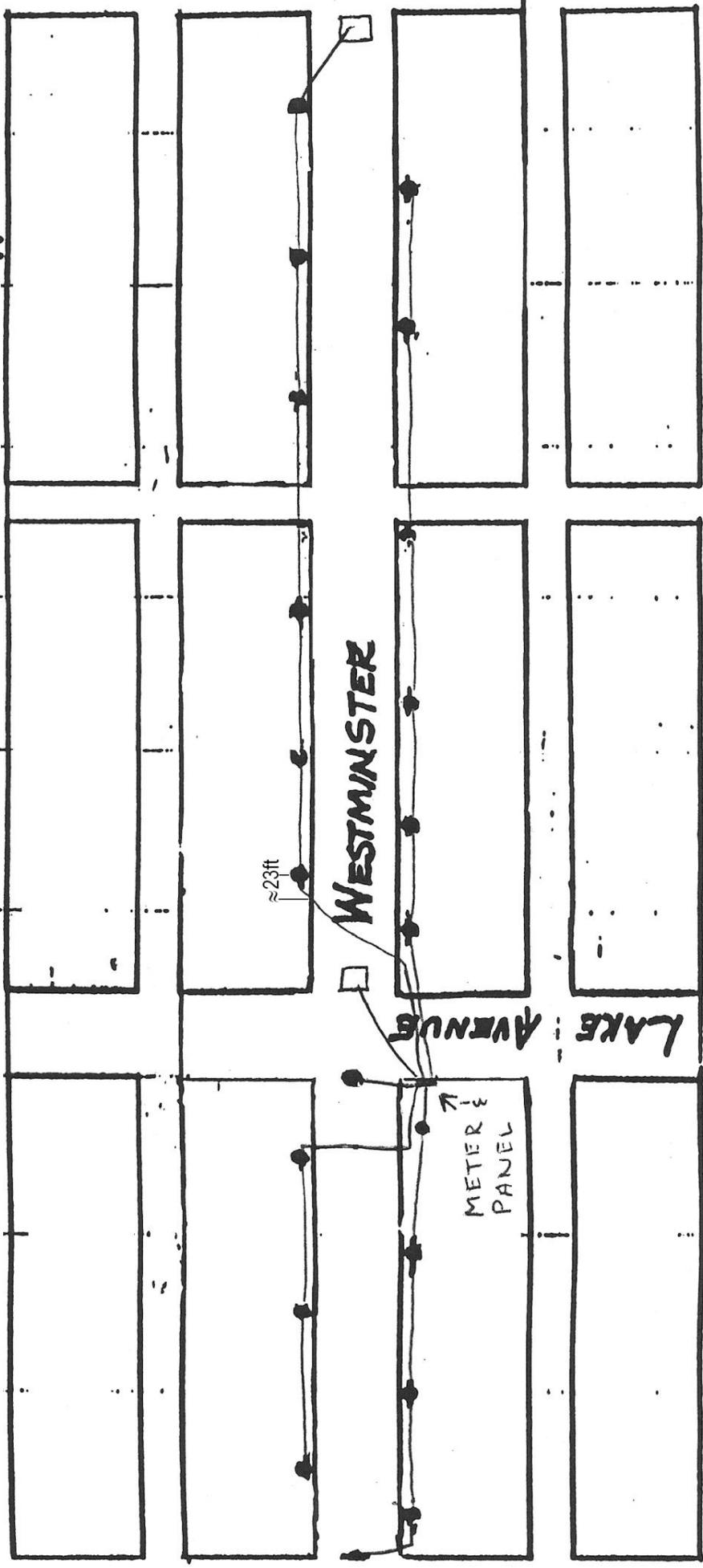
5200 WESTMINSTER

THE POLE MOUNT FIXTURES ARE A HOLOPHANE STYLE, CATALOG NUMBER- DHSR15AHPMTBA, WITH A FACTORY SUPPLIED 150 WATT HIGH PRESSURE SODIUM LAMP.

THE ISLAND MOUNT FIXTURES ARE A HOLOPHANE STYLE, CATALOG NUMBER- AR15AHPMTBG3-GV1A73B, WITH A FACTORY SUPPLIED 150 WATT HIGH PRESSURE SODIUM LAMP.

NORTH ↑

WASHINGTON



KINGS HIGHWAY

≈23ft

WESTMINSTER

LAKE AVENUE

METER PANEL

WATERMAN

UNION

WESTMINSTER

LIGHTING

NO SCALE