

**CITY OF BURBANK  
PUBLIC WORKS DEPARTMENT  
MEMORANDUM**

**DATE:** May 30, 2006

**TO:** Mary J. Alvord, City Manager

**FROM:** Bonnie Teaford, Public Works Director

**SUBJECT: REPORT BY THE PUBLIC WORKS DIRECTOR FOR OLIVE AVENUE UNDERGROUND UTILITY DISTRICT NO. 1**

The following constitutes the Report by the Public Works Director for the Olive Avenue Underground Utility District No. 1 (Report):

**BURBANK CITY COUNCIL AUTHORIZATION**

On September 13, 2005, the Burbank City Council passed Resolution No. 27,063 (Exhibit "A") ordering the Public Works Director to prepare certain documents for the proposed Underground Utility District No. 1 (UUD#1), in accordance with Burbank Municipal Code Section 7-1004 (BMC 7-1004).

**REQUIREMENTS OF BURBANK MUNICIPAL CODE SECTION 7-1004**

Under BMC 7-1004, the Public Works Director must submit:

- A map or plat of UUD#1
- A report that:
  - Identifies the public ways included in UUD#1
  - Provides a general description of the affected utilities
  - Estimates the undergrounding costs, including pole removal and street restoration

BMC Article 10, Sections 7-1001 through 7-1032 (Exhibit "B"), specifies the complete procedures and regulations for forming UUDs within Burbank.

**MAP OF UNDERGROUND UTILITY DISTRICT NO. 1 (UUD#1)**

Exhibit "C" is the Map showing the exact boundaries for UUD#1. Generally speaking, UUD#1 extends west along Olive Avenue from the Western Control Channel to the other side of Victory Boulevard; and north along Lake Street from Olive Avenue to Magnolia Boulevard.

**IDENTIFICATION OF PUBLIC WAYS INCLUDED IN UUD#1**

As shown in Exhibit "C", UUD#1 consists of an Olive Avenue segment and a Lake Avenue segment:

- The Olive Avenue segment is 1990 feet long and, except at street intersections, is just wide enough to include curbs and sidewalks on both sides of Olive Avenue.
  - The Olive Avenue segment begins 30 feet west of the west edge of the Western Flood Control Channel.
  - The Olive Avenue segment ends 30 feet west of the west curb line of Victory Boulevard.
  - At the intersection with Lake Street, the width of the Olive Avenue segment extends 20 feet north of the north curb line of Olive Avenue, and 20 feet south of the south curb line of Olive Avenue.
  - At the intersection with Victory Boulevard, the width of the Olive Avenue segment extends 20 feet north of the north curb line of Olive Avenue, and 20 feet south of the south curb line of Olive Avenue.
  
- Excluding the crossing at Olive Avenue, the Lake Street segment is 1140 feet long and is just wide enough to include the curbs and sidewalks on both sides of Lake Street.
  - The Lake Avenue segment begins 20 feet north of the north curb line of Olive Avenue.
  - The Lake Street segment ends at the south curb line of Magnolia Boulevard.

As delineated, UUD#1 would eliminate overhead utilities along sidewalks and curbs, and would eliminate overhead street crossings at Lake Street and Victory Boulevard.

**GENERAL DESCRIPTION OF THE AFFECTED UTILITIES**

Within UUD#1, the affected utilities are:

- The City's Burbank Water and Power (BWP) utility, which has both power and fiber optic lines
  
- The City's street lighting utility, which BWP manages
  
- The telephone company, AT&T (formerly SBC)
  
- The cable TV company, Charter Communications (Charter)
  
- A telephone service provider, Verizon

**Description of BWP overhead lines.**

BWP has several overhead lines with voltages that vary between 120 volts and 69,000 volts (69kV):

- The 69kV Olive-Western-Capon No. 2 line runs along the south side of Olive Avenue from 460 feet west of the Western Flood Control Channel to the east side of Victory Boulevard; and proceeds south along Victory Boulevard, passing the southern boundary of UUD#1.
- The 69kV Olive-Valley No. 1 line runs along the north side of Olive Avenue from 790 feet west of the Western Flood Control Channel to the west side of Victory Boulevard; and proceeds north along Victory Boulevard, passing the northern boundary of UUD#1.
- The 34.5kV Flower-Victory line runs along the south side of Olive Avenue from the west side of the Western Flood Control Channel to directly across Pep Boys; crosses to the north side of Olive Avenue; proceeds along the north side of Olive Avenue to the west side of Victory Boulevard; proceeds north along Victory Boulevard, passing the northern boundary of UUD#1.
- The 12kV San Jose Station Feeder SJ-2 enters the eastern boundary of UUD#1 at the south side of Olive Avenue and goes underground at the foot of the Olive Avenue Bridge.
- The 4kV Burbank Station Feeder B-1 runs along the east side of Lake Street between Olive Avenue and Palm Avenue, passing the western boundary of UUD#1.
- The 4kV Burbank Station Feeders B-6 and B-7 cross the east side of Victory Boulevard at its intersection with Olive Avenue.
- The 4kV Flower Station Feeder F-14 enters the southern boundary of UUD#1 from the east side of Lake Street; crosses Olive Avenue to the north side; runs along the north side of Olive Avenue from the east side of Lake Street to the east side of Victory Boulevard; crosses Olive Avenue back to the south side; and runs along the east property line of Pep Boys, passing the southern boundary of UUD#1. As part of undergrounding the overhead crossing, BWP would need to do work along the east property line of Pep Boys, which would include installing a padmount switch.
- Overhead low-voltage service drops serve several private customers within UUD#1:
  - Bormann Steel (110 W. Olive Avenue)
  - Community Chevrolet Shed (230 W. Olive Avenue)
  - Bus Shelter Media Service bus stop kiosk on the south side of Olive Avenue near Lake Street
  - Bus Shelter Media Service bus stop kiosk on the south side of Olive Avenue near Victory Boulevard

Also, BWP would need to relocate United Rental's underground service drop from the Olive Avenue side to the Orange Grove Avenue side.

- Overhead low voltage service drops serve several City facilities within UUD#1:
  - Traffic signals at the intersection of Olive Avenue and Lake Street
  - Traffic signals at the intersection of Olive Avenue and Victory Boulevard
  - BWP facilities at several points along the east side of Lake Street

Also, BWP has fiber optic lines that run along the south side of Olive Avenue from the Western Flood Control channel to Lake Street.

**Description of street lighting overhead lines.**

The overhead lines serving the street lighting system come from local secondary power lines energized at 120 volts:

- Overhead conductors run along the south side of Olive Avenue from the Western Flood Control Channel to Victory Boulevard, and along both sides of Victory Boulevard. (There are also two spans of overhead conductor along the north side of Olive Avenue.)
- Overhead conductors run along the east side of Lake Street from Olive Avenue to Magnolia Boulevard.

Should the power poles be removed along Lake Street, the street lights would be supported by ornamental standards.

**Description of AT&T's overhead lines**

Within UUD#1, SBC/AT&T has several overhead telephone services:

- Low-voltage telephone lines run along the west side of Lake Street from Olive Avenue to the alley south of Magnolia Boulevard.
- Overhead service drops serve Bormann Steel (110 W. Olive Avenue), Landscape Warehouse (201/203 N. Lake Street), Valley Screen Company (211 N. Lake Street), Edge FX Inc. (217 N. Lake Street) and ACSCO Products Inc. (201 W. Palm Avenue)

**Description of Charter's overhead lines**

Within UUD#1, Charter has several overhead communications services:

- Low-voltage cable TV lines run along the south side of Olive Avenue from the Western Flood Control Channel to Victory Boulevard, with crossings to the north side of Olive Avenue near Pep Boys and at Victory Boulevard.
- Low-voltage cable TV lines run along the east side of Lake Street from Olive Avenue to Orange Grove Avenue.

- Overhead service drops serve the Community Chevrolet Shed (230 W. Olive Avenue), Landscape Warehouse (203 N. Lake Street), Valley Screen Co. (211 N. Lake Street), Edge FX Inc. (217 N. Lake Street) and BWP (from both Olive Avenue and Lake Street).

**Description of Verizon's overhead lines**

Within UUD#1, Verizon has several overhead communication lines:

- A low-voltage phone line runs along the east side of Lake Street from the south side of Olive Avenue to the north side of Orange Grove Avenue
- A low-voltage phone line runs along the south side of Olive Avenue from north of the Western Flood Control Channel (Sprint Building at Olive Avenue and Flower Street) to the east side of Lake Street

**ESTIMATE OF UNDERGROUNDING COSTS TO UTILITIES**

The estimated undergrounding costs within UUD#1 include the following activities:

- Design in detail the underground structures, circuits and service drops.
- Dig one or more trenches in the street and if necessary, on customers' property.
- Construct duct banks, pull boxes, maintenance holes and related substructures.
- Fill in trenches and restore street surfaces to existing or better condition.
  - The Public Works Department intends to restore portions of Olive Ave and Lake Street to their final resurfacing state after completion of all the substructure work. (The Olive Avenue segment between the Olive Avenue Bridge and Lake Street would cost more to restore because the City resurfaced it within the past three years.)
  - Public Works would put a moratorium of five years for any excavation in these street segments unless it is absolutely necessary.
  - Public Works would *not* bear any of the costs of street restoration because the UUD#1 street segments were not scheduled for resurfacing
- Pull and splice cable, and make customer connections.
- Remove poles, wires and other overhead facilities.

Based upon a preliminary design of the proposed undergrounding (Exhibit "D"), the affected utilities reached a consensus on key cost issues:

- The utilities would use joint trenching to reduce construction costs, although the extent of joint trenching is yet to be determined. In this report, the cost estimates do *not* reflect joint trenching.
  - Competitive bidding for the substructure installation (duct banks, pull boxes, maintenance holes) and street restoration would proceed under the City's purchasing rules and procedures.
    - The contractor chosen for the substructure installation and street restoration would receive specified progress payments from the City.
    - In turn, the City would receive reimbursements from the other utilities within 30 days of each progress payment date.
  - Each utility would do its own cable and customer connection work at its own expense.
  - Each utility would remove its own overhead conductors and related facilities, except that BWP would remove any jointly-owned poles.
  - BWP will be making several electric system capital improvements that involve undergrounding within the proposed UUD#1 over the next several years:
    - Constructing the underground substructures along Olive Avenue from 390 feet east of Lake Street to Victory Boulevard, and along Victory Boulevard from Olive Avenue to a riser pole 325 feet north of Olive Avenue, as part of the route for the new 69kV Olive-Valley No. 2 line
    - Building underground substructures along Lake Street from Olive Avenue to Magnolia Boulevard to allow reconfiguration of the 34.5kV network that is to interconnect with the new Burbank Station
    - Building underground substructures along Lake Street from Orange Grove Avenue to Magnolia Boulevard to interconnect 12kV circuits with the new Burbank Station, and to reroute several 4kV circuits
- BWP's cost estimates for these capital improvements do not reflect joint trenching but do reflect a joint sharing of street restoration costs.

The affected utilities also agreed to divide the undergrounding work into two phases that span a total of three years (June 20, 2006 to May 30, 2009):

- Phase 1 would include all street segments except Lake Street north of Orange Grove Avenue.
  - Phase 1 would begin immediately after the City forms UUD#1 and authorizes BWP staff to proceed with soliciting bids for the underground substructure work, Council may hold a public hearing on UUD#1 on June 20, 2006, and have the opportunity to grant authorization at that time.
  - City Council awards contract for underground substructure work on September 12, 2006.
  - Complete the substructure work by February 14, 2007.

- Complete cable work and customer connections by September 30, 2007.
- Remove all poles and wires by October 31, 2007.
  
- Phase 2 would be along Lake Street from Orange Grove Avenue to Magnolia Boulevard, and would include any underground work in Magnolia Boulevard itself.
  - Phase 2 would begin November 1, 2007.
  - Complete the substructure work by October 17, 2008.
  - Complete cable work and customer connections by April 22, 2009.
  - Remove all poles and wires by May 30, 2009.

This phased approach would spread the cost over the next three fiscal years (2006/07, 2007/08 and 2008/09) and would allow BWP to better coordinate UUD#1 undergrounding activities with its station construction activities.

The estimated costs for Phase 1 and Phase 2, from detail design through street restoration and removal of overhead facilities, break down by utility as follows and are based upon the judgment of the various utility staffs:

<b>Utility</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>TOTAL</b>
BWP (Fund 496)	\$2,451,000	\$570,000	\$3,021,000
Street Lighting (Fund 129)	\$ 240,000	\$100,000	\$ 340,000
AT&T	\$ 107,380	\$125,000	\$ 232,380
Charter	\$ 371,750	\$120,000	\$ 491,750
Verizon	\$ <u>99,180</u>	\$ <u>0</u>	\$ <u>99,180</u>
<b>TOTAL</b>	<b>\$3,269,310</b>	<b>\$915,000</b>	<b>\$4,184,310</b>

**Basis of BWP cost estimate**

Cost estimates came from BWP engineering staff, and break down further as follows (*italicized* costs occurring during Phase 2):

<b>Description</b>	<b>BWP Budget Item</b>	<b>FY 06/07</b>	<b>FY 07/08</b>	<b>FY 08/09</b>	<b>TOTAL</b>
<b>Underground existing 69kV lines for aesthetics</b>	C-16	\$620,000	\$360,000		<u>\$980,000</u> \$980,000
<b>69 kV capital improvements</b> Construct Olive-Valley No.2	C-23A	\$100,000	\$116,000		\$216,000
Reconductor Olive-Capon- Western No. 2	C-23B	<u>\$100,000</u> \$200,000	<u>-0-</u> \$116,000		<u>\$100,000</u> \$316,000
<b>34.5 kV capital improvements</b> Construct new Burbank Station	C-22	\$150,000	\$150,000	\$100,000	\$400,000
Construct Burbank-Flower No. 2	C-25A	<u>\$200,000</u> \$350,000	<u>-0-</u> \$150,000	<u>-0-</u> \$100,000	<u>\$200,000</u> \$600,000
<b>12kV capital improvements</b> Rebuild 4kV feeders to 12kV standards for energization from the new Burbank Station	C-18B	\$40,000	\$40,000	\$200,000	\$280,000
Construct new Burbank Station	C-22	<u>\$200,000</u> \$240,000	<u>\$200,000</u> \$240,000	<u>\$200,000</u> \$400,000	<u>\$600,000</u> \$880,000
<b>Convert customers' overhead electric service to underground</b> Rebuild 4kV feeders to 12kV standards for energization from the new Burbank Station	C-18B	\$40,000	\$35,000	\$50,000	\$125,000
<b>Underground fiber optic service</b>	O&M	\$25,000	\$25,000		\$50,000
<b>Remove poles and wires</b>	O&M		\$50,000	\$20,000	<u>\$70,000</u>
<b>TOTAL</b>		<b>\$1,475,000</b>	<b>\$976,000</b>	<b>\$570,000</b>	<b>\$3,021,000</b>

**Basis of BWP cost estimate for street lighting**

*Phase 1* Undergrounding the street light system along Olive Avenue requires about 3200 feet of street light conduit, 40 pull boxes, 40 street light standard bases, and low-voltage cable work. All but a few street light standards on Olive Avenue can be reused after repainting; at the intersection with Lake Street, BWP would install three new street light standards.

*Phase 2* Undergrounding the street lighting system along both sides of Lake Street, from Olive Avenue to Magnolia Boulevard, requires about 1140 feet of conduit on each side of the street, and 12 to 15 new street light standards. (The existing street lighting along Lake Street attaches to poles that would be removed.)

**Basis of AT&T cost estimate**

*Phase 1* Based on preliminary designs, AT&T staff estimates that undergrounding would require 1082 lineal feet of conduit and cable at a cost of \$97,380. Service drop work and pole removal, if any, would be modest and cost less \$10,000 or less.

*Phase 2* For some customers, it may be possible to reroute overhead service away from UUD#1 rather than go underground; AT&T has not made a determination at this preliminary design stage, though the cost is likely to be \$100,000 or less. Most of the service drop work would occur during Phase 2 and would cost \$20,000 or less. AT&T would remove four solely-owned utility poles at a cost of \$5,000 or less.

**Basis of Charter cost estimate**

*Phase 1* Based on preliminary designs, Charter staff estimates that undergrounding would require 4,075 lineal feet of conduit and cable at a cost of \$366,750. Service drop work and pole removal, if any, would be modest and cost less \$5,000 or less.

*Phase 2* For some customers, it may be possible to reroute overhead service away from UUD#1 rather than go underground; Charter has not made a determination at this preliminary design stage, though the cost is likely to be \$100,000 or less. Most of the service drop work would occur during Phase 2 and would cost \$15,000 or less. Any pole removal costs would be \$5,000 or less.

**Basis of Verizon cost estimate**

*Phase 1* Based on preliminary designs, Verizon staff estimates that undergrounding would require 1,102 lineal feet of conduit and cable work at a cost of \$99,180. Verizon would have no customer conversion work.

*Phase 2* Verizon would have no conversion work during Phase 2.

**ESTIMATE OF UNDERGROUNDING COSTS TO CUSTOMERS**

For all utilities, the underground line extensions needed to convert customers from overhead to underground service are less than 100 feet; and so the utilities, and not their customers, would bear the costs of conversion. There are, however, some indirect costs:

- Bormann Steel would need to provide an 8-foot by 14-foot area for two pad mount transformers
- Pep Boys would need to provide an easement for a padmount switch to accommodate the undergrounding of Flower Station Feeder F-14, but staff has identified an area that wouldn't reduce the available parking

BWP has contacted these customers and identified acceptable undergrounding routes within their property. There may also be costs to the customer associated with the inconvenience of a four-months-long undergrounding project on nearby streets.

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Exhibit "A"-Council Resolution No. 27,063

Exhibit "B"-Burbank Municipal Code, Sections 7-1001 through 7-1032

Exhibit "C"-Map showing boundaries for UUD#1

Exhibit "D"-Preliminary underground design on which cost estimates were based

c: Ronald E. Davis-General Manager-BWP  
Richard J. Morillo-City Attorney's Office  
Paul Hermann-Purchasing