





# 7 INFRASTRUCTURE & UTILITIES

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## 7. INFRASTRUCTURE AND UTILITIES

### 7.1 PURPOSE

This chapter describes existing conditions, proposed design strategies and improvements related to the infrastructure needed to support the proposed land use within the Plan Area. Within the Plan Area, the City of Oakland and regional utility providers directly control infrastructure systems including: sanitary sewer, potable water, storm drain, dry utilities, such as electricity, natural gas, and telecommunications, and solid waste management.

Implementation of the Broadway Valdez District Specific Plan presents an opportunity to model the latest sustainable development practices. Compliance with the latest green building standards and design principles will enhance the environmental, economic, and ecological health of the Plan Area. Integrating improved water conservation and low impact storm water treatment measures will enable the area to be developed in a sustainable manner while minimizing environmental and ecological impacts.

### 7.2 SANITARY SEWER

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**GOAL I-1: Sustainable sewage design that accommodates projected growth and limits wastewater entering the sewer collection system within the Plan Area.**

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#### Policy I-1.1

All sewer system improvements shall be designed in conformance with applicable City of Oakland Sanitary Sewer Design Standards.

#### Policy I-1.2

The City shall coordinate with EBMUD to ensure that the proposed developments and development projections within the Plan Area are incorporated into EBMUD's long-range plans for sewage transport and treatment.

#### Policy I-1.3

New development within the Plan Area will be assessed a Sewer Mitigation Fee that contributes to Inflow and Infiltration (I&I) rehabilitation and replacing pipes to increase system capacity.

#### Policy I-1.4

The existing 24-inch sewer pipe will be upgraded to a 36-inch pipe along Harrison Street to support sewage capacity within the Plan Area.

#### Policy I-1.5

Improvements will be consistent with EBMUD's standards.

### 7.2.1 EXISTING SEWER INFRASTRUCTURE

The City of Oakland is responsible for operation and maintenance of the local sanitary sewer collection system within the Plan Area, while East Bay Municipal Utility District (EBMUD) is responsible for operation and maintenance of interceptor lines and the treatment of sewage. The nearest interceptor line to the Plan Area is approximately 2 miles west of the Plan Area along Wood Street by Interstate 880. The City's sewer collection system is separated into basins and sub-basins with over 1,000 miles of pipes ranging in size from 6-inches to 72-inches, 31,000 structures and seven pump stations. The majority of the City's sewer infrastructure is over 60 years old. Thus, these systems are susceptible to Inflow & Infiltration (I&I). I&I is primarily the result of storm water and/or groundwater entering the sanitary sewer system through fractured sewer pipes, defective pipe joints, manholes, and unpermitted storm drain connections, and contributes to sewer pipes exceeding capacity.

Sanitary sewer treatment is provided by the EBMUD Main Wastewater Treatment Plant (MWWTP) located at the eastern end of the San Francisco-Oakland Bay Bridge. Treatment capacity for the Plan Area is not likely to be an issue as EBMUD's 2010 Urban Water Management Plan states that the MWWTP is currently operating at 39 percent of its 168 million gallons per day (mgd) capacity.

### 7.2.2 COLLECTION SYSTEM CAPACITY

The Plan Area is located in Basin 52 of the City collection system, and includes sub-basins 5205, 5206, 5209, 5210, and 5211. Based on discussion with the City, Basin 52 is currently operating over its allocated capacity and Inflow and Infiltration (I&I) rehabilitation projects that could help reduce capacity within Basin 52 have already been completed. Thus, future development in the Plan Area that would increase sewage generation beyond existing levels will generate a need to implement I&I rehabilitation projects in other impacted basins. Since projected Plan Area development will increase the average daily waste water flow by approximately 3 times the existing flow, sewer I&I rehabilitation will be required in other basins to reallocate basin capacity to Basin 52. Such projects will be funded through Sewer Mitigation Fees.

Due to the age of the sewer infrastructure within the Plan Area, there will continue to be some Inflow & Infiltration (I&I). However, the City of Oakland Public Works Agency has reported that the only major existing capacity deficiency near the Plan Area is an existing 24-inch sewer main located on Harrison Street south of the Plan Area. This sewer main has a history of backing up due to an accumulation of sediment and grease in the line; however, the City has recently conducted cleaning repairs along those lines to remove the accumulated sediments to address sewer backup issues. There have been no other reports of deficiencies for existing sewer lines in or downstream of the Plan Area. To accommodate proposed Plan Area development, the existing 24-inch sewer main within Harrison Street from 20th Street to 23rd Street may need to be upgraded with a new 36-inch pipe and connect to the existing 66-inch interceptor in 20th Street to prevent future accumulation of sediment and grease in the long term.

Local collection lines in the Plan Area range in size from 8-inches to 12-inches and generally service the Plan Area. Collection sewer lines are projected to have sufficient conveyance capacity to accommodate projected development; however, developers will be responsible

for verifying adequate capacity for each development by assuming pipes flowing at 1/3 full as directed by the City. Because the Plan Area is located in the upper limits of Basin 52, there is minimal contributing flow from existing upstream developments.

### 7.2.3 PLAN AREA IMPROVEMENTS

Given the age of the Plan Area infrastructure, it is likely that the existing sanitary sewer building service connections are old and susceptible to I&I. Redevelopment will allow for installation of new service connections that will help reduce the volume of I&I and update services to comply with the City of Oakland Sanitary Sewer Design Guidelines. Figure 7.1 shows the existing sewer lines in the Plan Area, and the location of the proposed pipe upgrades required by new development within the Plan Area. As discussed in the previous section, upgrading the existing 24-inch sewer pipe along Harrison Street to a 36-inch pipe will remove capacity deficiencies identified in the Plan Area; however, developers will still be responsible for verifying adequate capacity for each development.

Maintenance and upgrades to the City's aging and deteriorating sewer system is being addressed by the City's capital improvement program (CIP). However, funding is limited and the City addresses only the highest priority projects that have ongoing overflows, backups and/or collapsed pipes. There are currently no CIP projects identified in the Plan Area.

The City of Oakland Master Fee Schedule authorizes the assessment of the Sewer Mitigation Fee to all new developments or redevelopments that have a growth rate greater than 20 percent of existing capacity. This fee represents a development's buy-in for the cost of City improvements identified in the City's 25-year development plan. The Fee is site-specific to each development and based on the flow rate increase to existing land use changes. Developers in the Plan Area will need to discuss with the City at what point in the

# 7. INFRASTRUCTURE AND UTILITIES



FIGURE 7.1: SANITARY SEWER SYSTEM

development process the Fee will be paid. The Sewer Mitigation Fee typically contributes to goes towards replacing pipes that will increase capacity to the local collection system. However, because Basin 52 is over its allocated capacity, the Sewer Mitigation Fee can also be used to perform I&I rehabilitation projects outside the Plan Area.

## 7.3 WATER

**GOAL I-2: Reduced per capita water demand for new development as a result of incorporating conservation measures into all public and private improvements as required by California building code, CalGreen and City of Oakland Green Building Ordinance for Private Development Projects.**

### Policy I-2.1

Design water system improvements in conformance with applicable standards of the Oakland Fire Department and EBMUD.

### Policy I-2.2

The City shall coordinate with EBMUD to ensure that the proposed developments and development projections in the Plan Area are incorporated into EBMUD's long-range plans for water supply and delivery.

### Policy I-2.3

Ensure that water conservation is a key design consideration for all new development in the Plan Area.

### Policy I-2.4

Encourage developers to incorporate the re-use of greywater to help conserve potable water resources within the Plan Area.

### Policy I-2.5

Improvements will be consistent with EBMUD's standards.

### 7.3.1 EXISTING WATER SERVICE

The East Bay Municipal Utility District (EBMUD) owns and operates water supply and distribution infrastructure within the Plan Area. EBMUD provides water service to approximately 1.3 million people in a 331 square-mile area to portions of Contra Costa and Alameda Counties including the City of Oakland. EBMUD's 2010-2011 Biennial Report states that in 2010, the average daily water production for EBMUD's service area was approximately 174 million gallons per day (mgd). EBMUD's 2010 Urban Water Management Plan had projected customer demand to be 251 mgd in 2010, 266 mgd in 2015, 280 mgd in 2020 and 291 mgd in 2025. With these increases, EBMUD may not always be able to meet customer demand during multiple year droughts. In response, EBMUD is active in identifying supplemental water supplies, recycled water programs, and continued implementation of water conservation.

The existing water system within the Plan Area is divided into two water pressure zones: the Aqueduct Pressure Zone and the Central Pressure Zone. The Aqueduct Pressure Zone is located to the north of 29th Street, and the Central Pressure Zone located south of 29th Street. One transmission main within the Plan Area consists of a 36-inch running along portions of 26th Street and 27th Street. There is also a 12-inch transmission line running along BF and Webster Street. The local water distribution system is composed of existing 4-inch, 6-inch, and 8-inch service lines that branch off from the main transmission lines that provide service to existing development within the Plan Area and lateral connections to existing fire hydrants.

### 7.3.2 WATER SUPPLY AND CAPACITY

Projected development in the Plan Area will increase the average daily water flow by approximately 3 times existing levels. However, with the new California State Green Building Code, CalGreen effective January 1, 2011 and adopted by the City of Oakland October 2010, it is expected that the new development will decrease projected water demands by adopting these sustainable conservation efforts.

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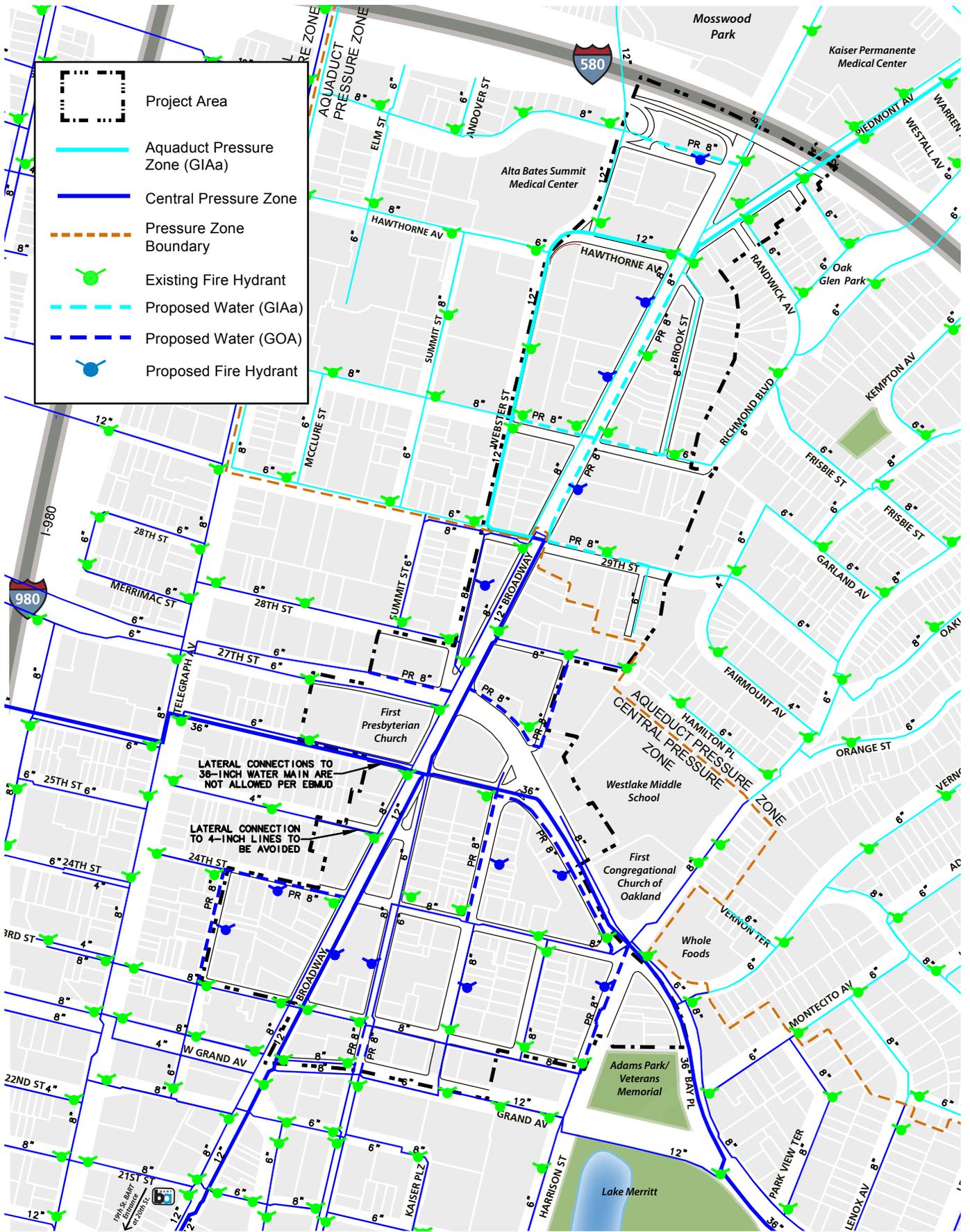
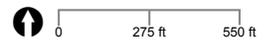


FIGURE 7.2: WATER SYSTEM



Projected development in the Plan Area is included in EBMUD’s long-range water supply planning for future growth in Oakland. EBMUD has confirmed, in response to the City’s water supply assessment request, that projected water demands for the Plan Area are accounted for in EBMUD’s Urban Water Management Plan. It is anticipated that development of the Plan Area will not require expansion of existing water facilities beyond those already identified and planned for future implementation by EBMUD.

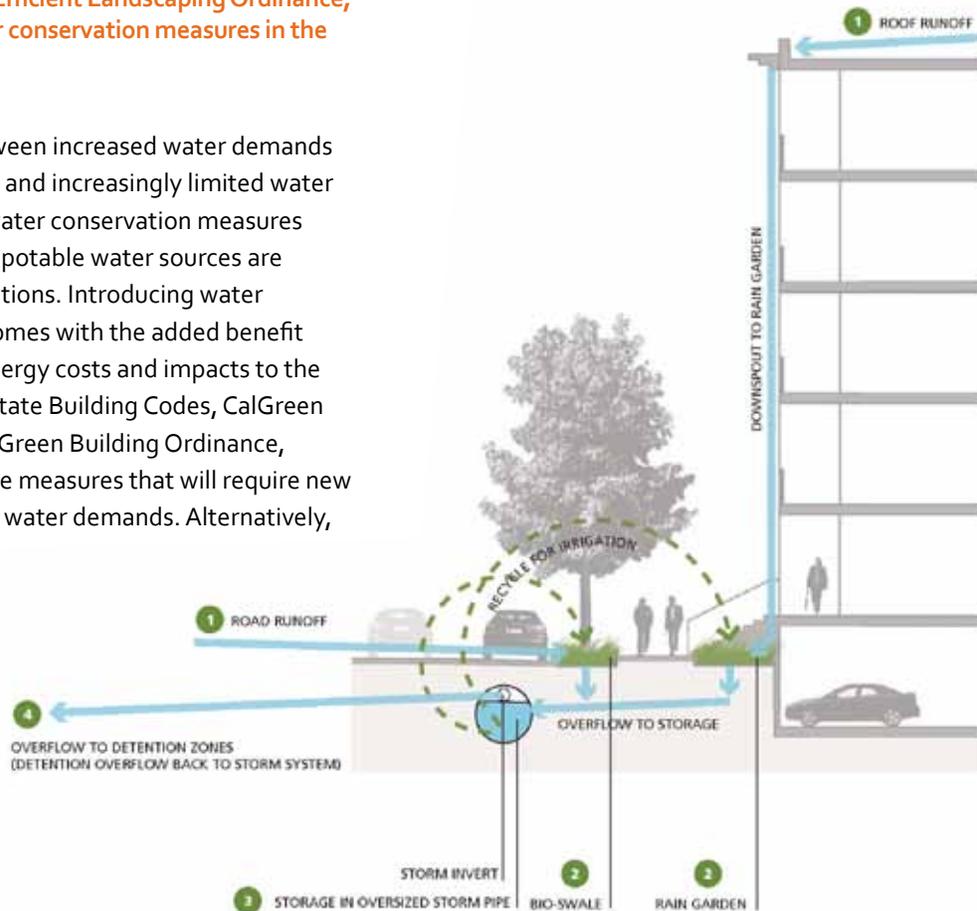
### 7.3.3 WATER CONSERVATION

#### Policy I-2.6

**Project sponsors must strive to achieve compliance with water conservation regulations including the City of Oakland’s Green Building Ordinance, the state’s Model Water Efficient Landscaping Ordinance, CALGreen, and water conservation measures in the state building code.**

To achieve a balance between increased water demands due to population growth and increasingly limited water supplies, implementing water conservation measures is critical to ensuring that potable water sources are available to future generations. Introducing water conservation measures comes with the added benefit of potentially reducing energy costs and impacts to the environment. California State Building Codes, CalGreen and the City of Oakland’s Green Building Ordinance, adopted October 2010, are measures that will require new development to decrease water demands. Alternatively, the EBMUD Watersmart Guidebook and Alameda County Bay-Friendly Landscape Guidelines also help identify water conservation measures for specific building uses, building systems, and landscape area to be considered.

Additionally, the City of Oakland’s Green Building Ordinance, allows for the use of greywater in building plumbing systems. Greywater is wastewater that has not been contaminated by any toilet discharge, such as bathroom sink and shower outflows, that has been treated to the extent required by the California Code of Regulations using the required disinfected tertiary treatment criteria for indoor plumbing use. For irrigation, a greywater system must be permitted and comply with the California Plumbing Code. A greywater system will decrease wastewater entering the sewer collection system and reduce the Plan Area’s reliance on potable water supply. However, a greywater system may be considered cost prohibitive because individual developments will need to install dual plumbing systems internal to the proposed buildings.



*Measures to collect and treat stormwater should be designed into both the public and private realm.*

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### 7.3.4 INFRASTRUCTURE UPGRADES

Given the age of the water infrastructure in the Plan Area, it is likely that water service laterals for new buildings will need to be upgraded to comply with current EBMUD design standards and the California Fire Code. The City of Oakland Fire Department has commented that existing 4-inch and 6-inch distribution lines within the Plan Area experience fire pressure and flow deficiencies.

Where new building service connections are anticipated for new development, existing 4- and 6-inch distribution lines will need to be upgraded to 8-inch lines to achieve the minimum fire flow needed to comply with the California Fire Code and address fire flow issues identified by the City of Oakland Fire Department. Additional fire hydrants also may be needed to comply with City of Oakland Fire Department's typical maximum hydrant space requirement of 300-feet for redevelopment within the Plan Area. Figure 7.2 shows the Plan Area's existing system of water lines to be upgraded and fire hydrants to be added to accommodate projected development.

## 7.4 RECYCLED WATER

**GOAL I-3: The potential use of recycled water from the EBMUD treatment facility to supplement and reduce demand for potable water supplies.**

### Policy I-3.1

**Coordinate with EBMUD to secure a future supply of recycled water use for use within Plan Area as a means of reducing demand for potable water.**

### Policy I-3.2

**Encourage developers to incorporate dual plumbing within buildings and irrigation systems constructed for recycled water standards for future connections.**

System improvements for recycled water are not proposed in the Plan Area at this time, given that the closest available recycled water infrastructure is approximately 0.6 miles away (City Hall Plaza, 14th Street and San Pablo Avenue). However, given water conservation incentives from East Bay Municipal Utility District (EBMUD) and the long period of projected build out of the Specific Plan Area, planning for future use of recycled water in new development will be encouraged to accommodate recycled water use, if and when it might be extended to the Plan Area. Design considerations for new development may include dual plumbing in buildings and irrigation systems constructed to recycled water standards that can be temporarily served by a potable source and connected to the recycled water system if it is extended to the Plan Area in the future. Additionally, the City can consider extending recycled water infrastructure to the Plan Area if there are future Capital Improvement Projects or street improvements.

If recycled water is extended to the Plan Area in the future, approximately 1.3 mile of transmission main would need to be extended up Broadway from City Hall Plaza to I-580. Additional distribution lines would be required in cross streets to Broadway to service areas that do not front onto Broadway, and to provide a looped system to equalize pressure flows. The alignment and location of an expanded recycled water system would need to be coordinated with EBMUD, particularly since Broadway and other Plan Area streets are already constrained with an extensive utility network.

In the near term, independent of receiving recycled water service from EBMUD, rainwater harvesting (the collection and re-use of rainwater for irrigation and toilet flushing purposes) or a greywater system can be incorporated into the design of new buildings as means of reducing demand for potable water. Rainwater harvesting facilities, such as the use of cisterns for individual buildings, will allow for the conservation of limited and potable water resources. The re-use of greywater is another consideration as well as discussed in Section 7.3.3 "Water Conservation".



*Creative use of bioswales, permeable paving, silva cells and various other stormwater management elements can create a pleasant environment for the community while improving the quality of stormwater runoff that drains into Lake Merritt.*

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### 7.5 STORMWATER

**GOAL I-4:** A storm drainage system that complies with City standards to reduce peak runoff by 25 percent as identified in the City of Oakland Storm Drainage Design Standards, and incorporates Low Impact Development (LID) elements to meet state and regional goals of post-construction stormwater management.

#### Policy I-4.1

Storm drain system improvements shall be designed in conformance with applicable City of Oakland Storm Drainage Design Standards.

#### Policy I-4.2

Developers shall design projects to optimize runoff capture and treatment by incorporating features such as bioswales, infiltration areas, vegetated filter strips, porous paving, and rain gardens that enhance stormwater infiltration and reduce peak runoff.

#### Policy I-4.3

Developers shall coordinate with the City to determine an acceptable goal for reducing peak runoff.

#### Policy I-4.4

The City shall explore the potential to implement a 'green' streets program in the Plan Area that incorporates stormwater management features in the design of the public streetscape in order to improve the quality of stormwater runoff that enters Lake Merritt.

#### Policy I-4.5

Encourage developers to incorporate rainwater harvesting in new buildings and landscapes as a means supplementing their water supply and reducing demand for potable water.

#### 7.5.1 EXISTING INFRASTRUCTURE

The City of Oakland is responsible for the operation and maintenance of the local storm drainage system in the Plan Area. The City of Oakland's 2006 Storm Drainage Master Plan (SDMP) indicated that the City's existing storm drainage infrastructure is nearing the end of its life cycle and is generally in poor condition, primarily due to inadequate resources to keep up with maintenance. The SDMP identifies a Capital Improvement Project (CIP) within the Plan Area to replace an existing 30-inch storm drain on 26th Street (between Broadway and 27th Street) with a new 48-inch storm drain to alleviate flooding issues. However, the City currently does not have the funding necessary to begin the required improvements for this CIP.

#### 7.5.2 PROJECT FLOOD CONDITIONS

The Alameda County Flood Control and Water Conservation District (ACFCWCD) is responsible for the section of Glen Echo Creek within the Plan Area. In 2002, ACFCWCD completed Phase 1 improvements to Glen Echo Creek between 28th and 29th streets, which included rehabilitation of a seven- by nine-foot culvert and the replacement of old piping along Glen Echo Creek. These improvements removed flow restrictions to the creek that caused occasional winter flooding at 30th Street and Richmond Boulevard. ACFCWCD also has plans for Phase 2 improvements to Glen Echo Creek that include increasing channel capacity and restoration of the linear greenway and natural landscape from 29th Street upstream (north) to Frisbie Street. However, Phase 2 is on hold since, to date, the Phase 1 improvements have resolved flooding issues.

The Federal Emergency Management Agency (FEMA) identifies areas in the easternmost portions of the Plan Area as being within the 100-year flood zone. New development in these areas will be required to purchase flood insurance or raise the grade to elevate new structures above the 100-year base flood elevation. Figure 7.3 shows those areas designated as within the 100-year flood zone.

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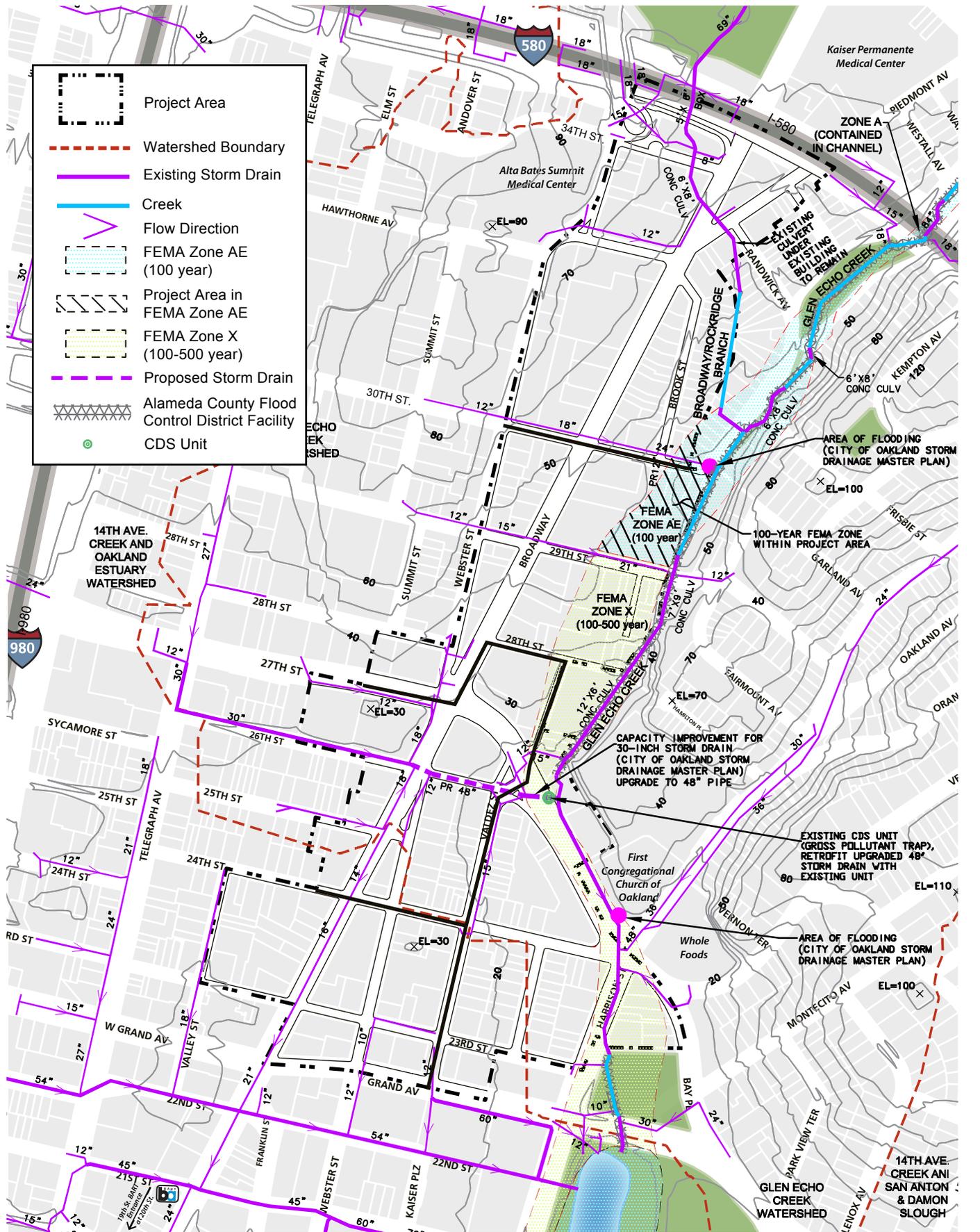


FIGURE 7.3: STORM DRAIN SYSTEM

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### 7.5.3 PROPOSED STORM DRAIN INFRASTRUCTURE & PEAK RUN-OFF

Current CIP plans to upgrade the existing 30-inch pipe to a 48-inch pipe will address the current storm drain capacity issues within the Plan Area. Given the developed condition of the Plan Area, future development is not expected to increase either the amount of impervious surface area or the volume of stormwater runoff. However, if the Plan Area is to achieve the City's goal of reducing peak runoff by 25-percent, new development will need to incorporate design strategies to increase pervious areas and/or add stormwater detention facilities.

New development within the Plan Area should seek to add pervious area in both the public and private realm through the introduction of additional landscaping, open space, or permeable paving, where feasible. The use of underground detention may also be considered in-lieu of or in combination with increased landscaping and pervious surfaces. Since new development in the Plan Area will occur incrementally and the availability of park and open space areas is limited, private development will need to consider peak runoff management as an individual site-by-site requirement. The feasibility of reducing peak runoff by 25 percent on a site by site basis may be constrained by factors such as aesthetic design issues, space constraints, construction budget implications, environmental and geotechnical constraints, and on-going maintenance commitments, and will require coordination with the City to determine an acceptable goal for reducing peak run-off.

Given the age of the Plan Area, future development scenarios are likely to require localized improvements to drainage inlets as part of upgrades needed for streetscape improvements. Figure 7.3 shows existing storm drain lines and the CIP 48-inch pipe upgrade along 26th Street in the Plan Area.

The figure also shows the location of an existing 6- by 8-foot box culvert at the north end of the Plan Area that passes through two private parcels. If these parcels were to redevelop, the existing culvert would most likely need to be relocated to Broadway to accommodate new development. Developing over the existing culvert may also still be considered, however the feasibility of this option would need to be further reviewed with consideration of maintenance, access, and structural capacity.

### 7.5.4 STORM WATER QUALITY

Redevelopment of the Plan Area will need to implement storm water treatment (as required by Provision C.3 of the Alameda Countywide Clean Water Program). The Regional Water Quality Control Board (RWQCB) has adopted C.3 storm water quality regulations as part of the "California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP) Order R2-2009-0074 NPDES Permit No. CAS612008 November 28, 2011". The MRP integrates Low Impact Development (LID) regulations to illustrate concepts that serve as potential solutions and design guidance for incorporating storm water quality measures into the redevelopment blocks.

By applying LID techniques, the MRP encourages infiltration, evapotranspiration, and storm water runoff reuse, but recognizes that site constraints may dictate the use of landscaped-based treatment measures, as an alternative means of compliance. Landscape-based treatment measures both improve storm water runoff quality and limit the impact of runoff on the receiving bodies of water. Treatment options vary from "site-by-site" improvements at individual building sites to "communal" concepts such as storm water treatment wetlands within large park areas or taking advantage of street landscaping. Since development in the Plan Area will occur incrementally and the availability of park areas is limited, new development is more suited for site-by-

site treatment measures. Development will need to consider stormwater treatment design options early in the design process to ensure building and public realm designs can accommodate treatment measures required to meeting the MRP.

The design of public right-of-ways provides opportunities to implement larger communal treatment options that also contribute positively to the character of the public streetscape. The design of Plan Area streets should seek to reduce stormwater runoff, improve the quality of stormwater runoff entering existing storm drain infrastructure and downstream receiving water bodies. There are a number of stormwater management practices that can promote this: permeable paving in on-street parking area; rain gardens or bioretention areas in sidewalks, bulb-outs, landscape strips, and street tree wells as detention basins. Storage and re-use of stormwater for irrigation purposes within the public right-of-way may also be considered; however, this is not a common practice in public streets.

Generally, stormwater quality should be treated separately between the private and public realms. For example, if public and private improvements were to merge stormwater quality treatment, the responsibilities will not be as clearly defined in terms of maintenance and costs. However, the Plan Area could present an opportunity for private developers and the City to collaborate on pilot programs that implement stormwater quality control measures that serve private development within the public right-of-way.

### 7.6 DRY UTILITIES

**GOAL I-5: Dry utilities conveyed throughout the Plan Area should be undergrounded so as not to detract from the public realm.**

#### Policy I-5.1

**The City will coordinate with developers and the appropriate utility agencies to develop a strategy for undergrounding the remaining overhead utilities in the Plan Area.**

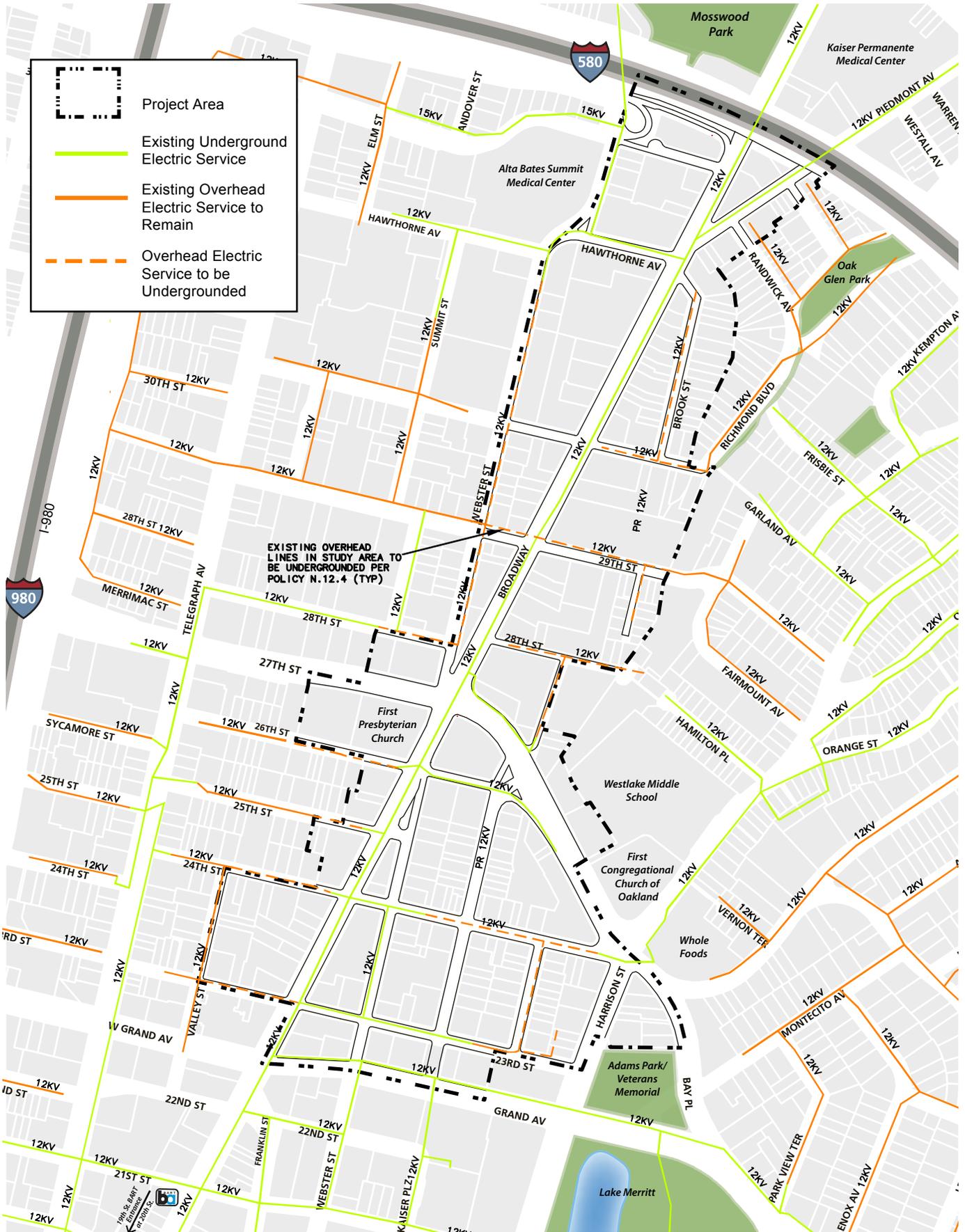
#### 7.6.1 ELECTRIC AND GAS SYSTEM INFRASTRUCTURE

Pacific Gas and Electric Company (PG&E) owns and operates gas and electric service within the City of Oakland, including the Plan Area. PG&E has stated that there are no known capacity limitations within the electrical and gas system within the Plan Area. However, given the age of the Plan Area infrastructure, it is likely that electrical and gas service laterals for new development will need to be upgraded to comply with current PG&E design standards. Figure 7.4 shows electrical lines in the Plan Area, and Figure 7.5 shows gas lines in the Plan Area.

#### 7.6.2 COMMUNICATIONS INFRASTRUCTURE

AT&T and Comcast own and operate communication facilities within the Plan Area. AT&T and Comcast provide communication services including telephone, television, and high speed internet. AT&T also provides wireless phone services. AT&T and Comcast are required by the California Public Utilities Commission to anticipate and serve new growth. AT&T and Comcast continuously add new facilities and infrastructure to conform to regulations and tariffs as needed to meet customer demand in the City. Figure 7.6 shows existing communication lines, including fiber-optics infrastructure in the Plan Area.

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EXISTING OVERHEAD LINES IN STUDY AREA TO BE UNDERGROUNDED PER POLICY N.12.4 (TYP)

FIGURE 7.4: ELECTRIC SYSTEM



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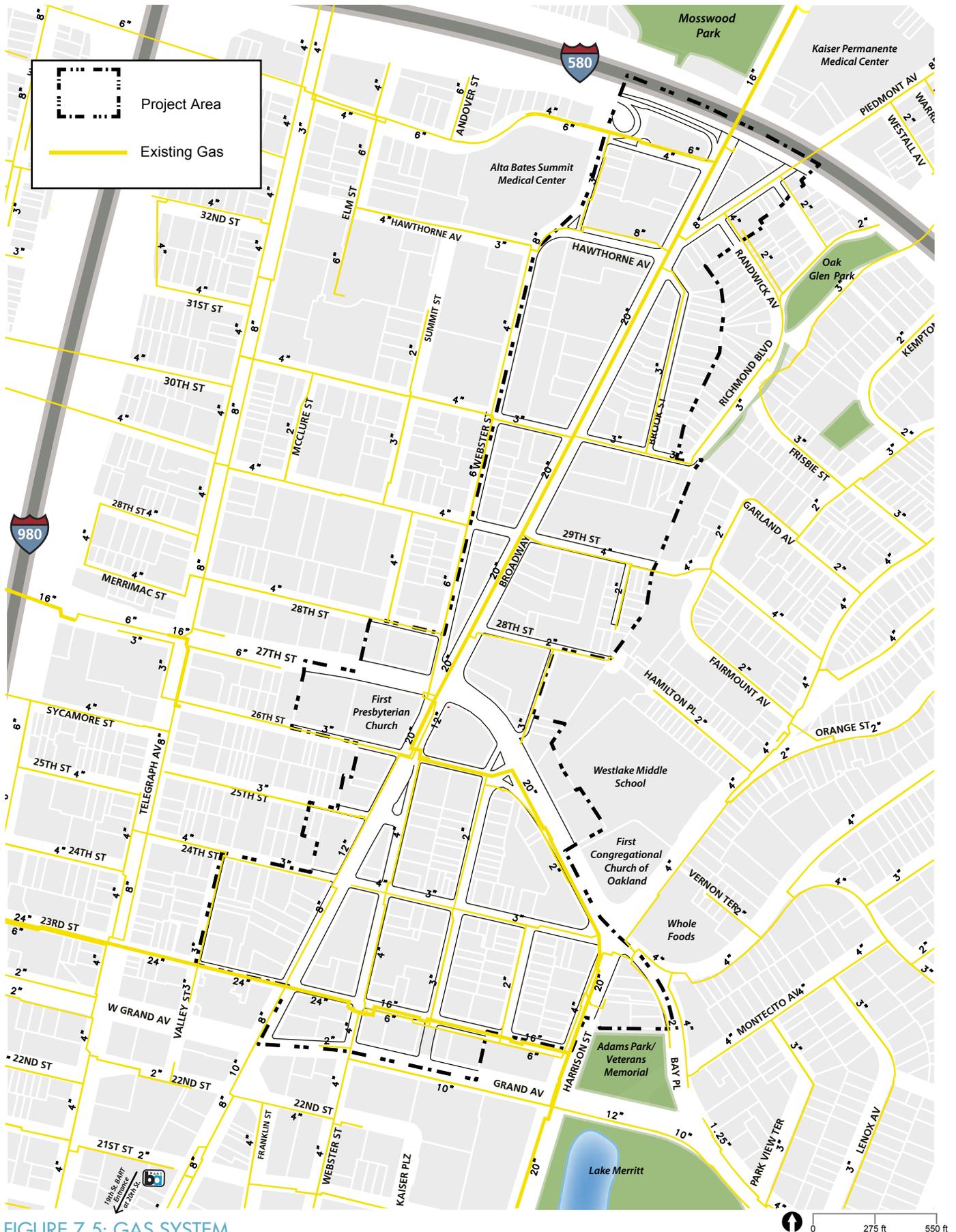


FIGURE 7.5: GAS SYSTEM

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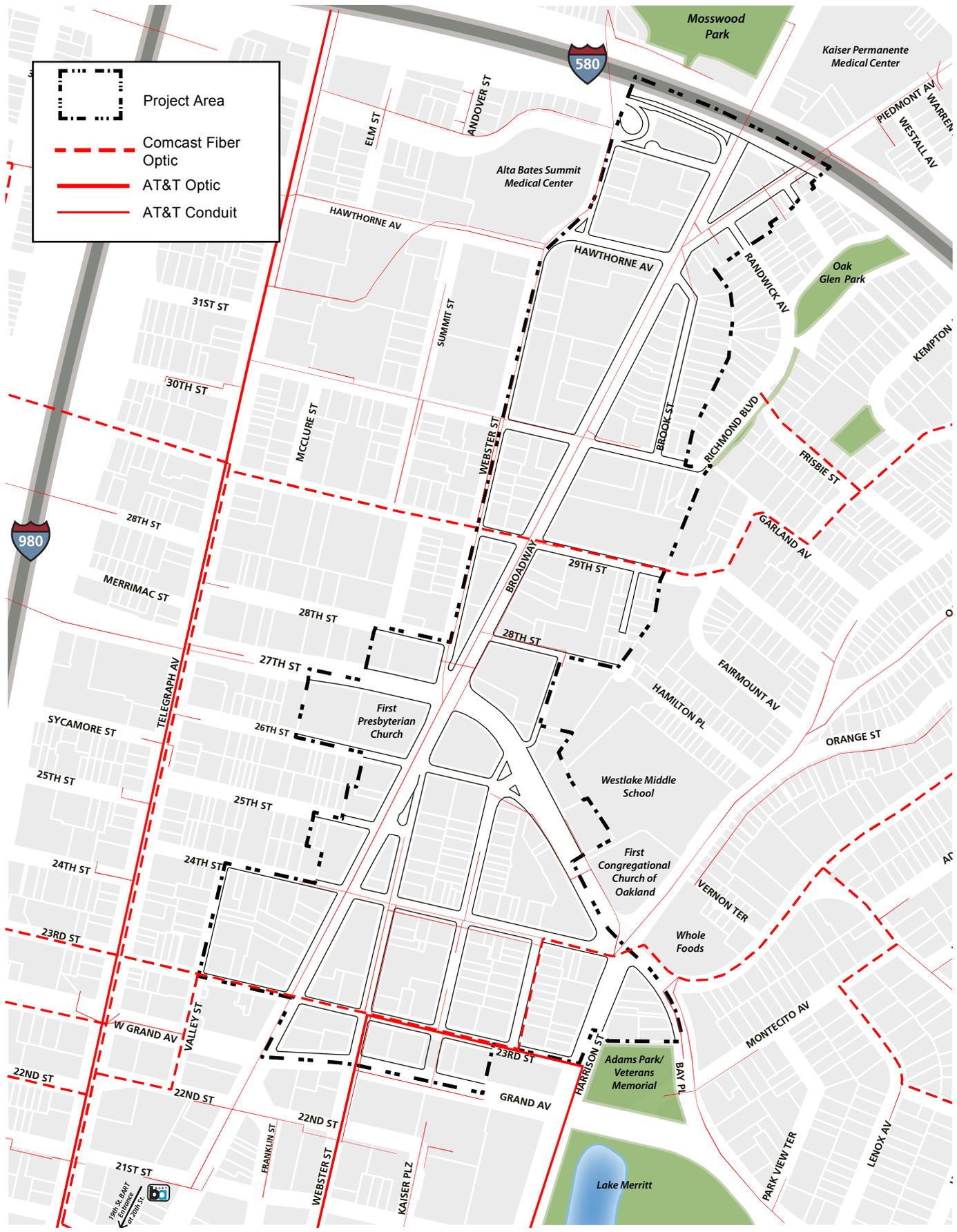
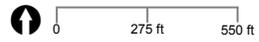


FIGURE 7.6: COMMUNICATION SYSTEM



### 7.6.3 UNDERGROUNDING OF EXISTING OVERHEAD DISTRIBUTION INFRASTRUCTURE

More than half of the electrical service within the Plan Area and bordering streets (10,300 linear feet) is currently undergrounded. Policy N.12.4 of the Oakland General Plan requires overhead lines to be undergrounded in commercial and residential areas. Approximately 7,600 linear-feet of existing overhead electrical lines within the Plan Area will need to be undergrounded. In general, developers are required to pay for the cost to underground existing overhead lines running along the street of the development frontage only. This may result in streets with both overhead and underground lines. To fully underground all existing overhead utility lines within the Plan Area, the City may need to coordinate with developers and utility agencies to make sure that remnant segments of overhead lines do not remain after most new development has been completed.

## 7.7 SOLID WASTE MANAGEMENT

**GOAL I-6: In order to adhere to the principles of sustainability and environmental protection, future development shall further the City's Zero Waste goals.**

### Policy I-6.1

**Construction operations, businesses, and residents within the Plan Area shall participate in the City's recycling programs in order to minimize the amount of solid waste that is sent to landfills. Specifically, projects within the Plan Area must comply with Oakland's Construction and Demolition Debris Recycling Ordinance, Oakland's Recycling Space Allocation Ordinance, Alameda County Mandatory Recycling Ordinance, as well as the State of California's mandatory recycling statutes, which support the City's adopted Zero Waste goal.**

Waste Management of Alameda County (WMAC) collects non-hazardous waste in Oakland. The City of Oakland's Franchise Agreement for Solid Waste and Yard Waste Collection and Disposal Services (Franchise Agreement)

with WMAC will expire on June 30, 2015, and will be replaced with new service agreements that begin July 1, 2015. It is not known if this Franchise Agreement will be renewed. Services include collection of non-hazardous waste from residential, commercial, and industrial properties. The non-hazardous wastes are transported via truck to WMAC's Davis Street Transfer Station in San Leandro. From there, long-haul trucks transport the waste to the Altamont Landfill & Resource Facility, located approximately 35 miles east of Oakland near Livermore. The Altamont Landfill & Resource Facility is permitted a daily maximum disposal of 11,500 tons/day. The remaining estimated capacity is approximately 45.7 million cubic yards and the estimated landfill closure date is January 1st, 2040.

In 2012, Oakland residents, businesses and development projects sent a total of 284,149 tons of non-hazardous waste to landfills. The Integrated Waste Management Act adopted in 1989, requires cities to meet 50% waste diversion by 2000. In 2007, the California Department of Resources Recycling and Recovery (CalRecycle) changed the methodology for measurement of the goal from 50% diversion to a disposal per person per day (PPD) "diversion equivalency" metric. Diversion equivalency for Oakland was determined to be 5.8 PPD. In 2012, Oakland exceeded this requirement achieving 3.9 PPD, which is equivalent to a 66% waste diversion rate.

The City of Oakland demonstrated its leadership in waste reduction by adopting a goal a Zero Waste goal to reduce the annual tons of waste directed towards landfills from the then-current 400,000 tons to 40,000 annually by 2020. In 2012 the City of Oakland initiated a process to procure a new generation of zero waste services for residents and businesses to replace the franchise services that expire in 2015.

Adhering to the principles of sustainability and resource conservation, future development shall further the goals of the City to reduce solid waste.