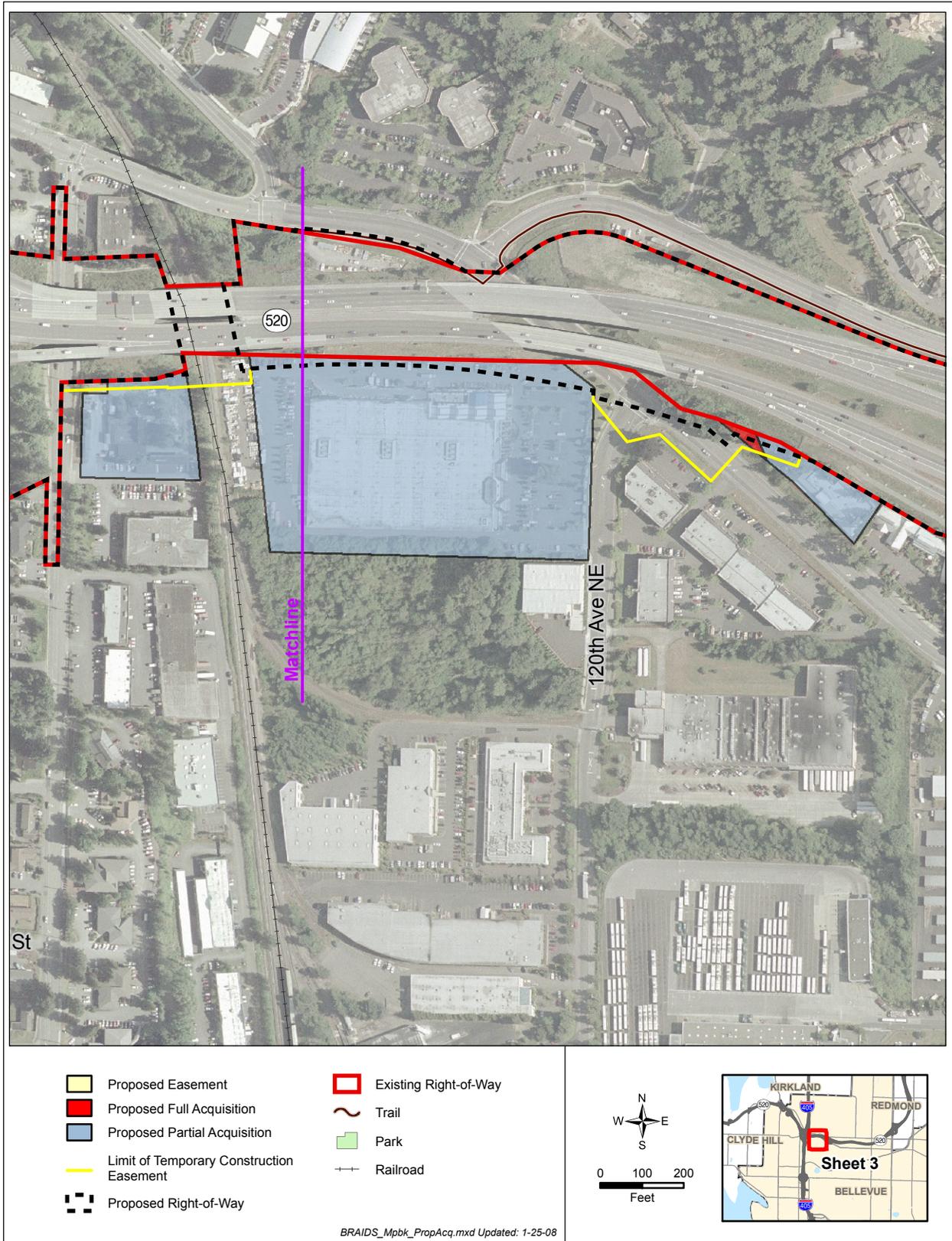


I-405, NE 8TH STREET TO SR 520 IMPROVEMENT PROJECT
 SOCIAL, PUBLIC SERVICES, UTILITIES, AND ENVIRONMENTAL JUSTICE DISCIPLINE REPORT

Exhibit 5-3: Private Property WSDOT Will Need to Acquire to Construct the Project – Sheet 3



In the Dogwood Park neighborhood, WSDOT is relocating a range of businesses, including a cosmetic dentistry practice, a human service agency, and a pre-school. (We examine the potential effects of relocating the human service agency later in this section, under *How will project operation affect populations protected under environmental justice?* We examine the potential effects of relocating the pre-school later in this section under *How will project operation affect public services?*) All of the businesses have fewer than 10 employees.

The businesses that occupy the complexes north of Overlake Hospital Medical Center are primarily medical, dental, and mental health practices. They are small businesses with fewer than 10 employees.

The only relocated business that appears to serve the local neighborhood is Sundance Pre-school. Relocating this business may affect some residents of the Dogwood Park neighborhood by requiring them to travel farther to reach child care. If parents currently walk their children to school, they may have to use a car instead.

Because WSDOT is relocating only three households, we do not anticipate any substantial changes in population size or composition as a result of the proposed project and relocations.

Noise

WSDOT used a computer model to predict changes in noise for residences and outdoor uses (such as parks) as a result of this project. The Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC) set maximum decibel levels for noise. If the computer models find that predicted noise levels approach or exceed NAC, WSDOT concludes that there is a noise effect and considers measures to minimize these effects, such as installing a noise barrier if doing so is reasonable and feasible.

Eighty-four residences, one pre-school, and two parks will experience noise effects that are higher with the project than with the No Build Alternative. For most, the increase will be barely perceptible (one to two dBA). However, the 35 residences (and small businesses) in the Dogwood Park

How do we measure noise?

Noise is measured in decibels (dB). Environmental noise is typically measured in dBA, which is most similar to how humans perceive sound of low to moderate magnitude. A quiet whisper is about 30 dBA, a typical conversation is 60 to 70 dBA, and a jet taking off is about 120 dBA.

The human ear can barely perceive a 3-dBA increase, but a 5- or 6-dBA increase is readily noticeable.

neighborhood will experience increases of up to 13 dBA with the Build Alternative.¹²

WSDOT is proposing a replacement noise barrier in the Dogwood Park neighborhood, which will mitigate for the increases in noise. This noise barrier will replace an existing noise barrier that WSDOT will tear down to construct the I-405, NE 8th Street to SR 520 Improvement Project. The replacement barrier will reduce noise levels below the NAC at all 35 residences in the vicinity. For the remaining residences (located primarily along SR 520 and on the west side of I-405 at the NE 8th Street interchange), noise barriers were not found to be reasonable and feasible. As mentioned earlier, however, noise increases for these residences will be barely perceptible. For WSDOT's noise analysis, refer to the I-405, NE 8th Street to SR 520 Improvement Project Noise and Vibration Discipline Report.

How does WSDOT determine when to propose a noise barrier?

The federal government provides us with a formula based on cost-effectiveness that we use to determine whether a neighborhood qualifies for a noise barrier. The formula takes into account several factors, including the level of noise reduction a barrier would provide and whether topography allows for construction of an effective noise barrier.

Traffic

Traffic and safety on local streets and access to neighborhoods (including the Dogwood Park neighborhood) and recreational facilities should improve after the project is constructed. The project will shift traffic from some of the most congested streets, such as NE 8th Street, to streets with more capacity, such as NE 10th Street. Because the Build Alternative will improve operations of I-405 and SR 520 in the study area, it will also reduce cut-through traffic on local streets within the study area. This will improve safety, cohesion, and livability for the Dogwood Park neighborhood. For more information about traffic effects, refer to the I-405, NE 8th Street to SR 520 Improvement Project Transportation Discipline Report.

Air Quality

Changes in air quality as a result of project operations should not affect neighborhoods. Proposed roadway improvements will have the overall effect of improving traffic flow and reducing idling time, when motor vehicle emissions are highest. WSDOT's analysis reveals a decreasing trend in carbon monoxide concentrations for the Build Alternative. The analysis also finds that although toxic emissions such as butadiene, acetaldehyde, and formaldehyde will increase

¹² WSDOT, 2008a

slightly with the Build Alternative, 2030 projected emission rates for the Build and No Build Alternatives are 70 percent lower than conditions in 2005.¹³ For information about air quality, refer to the I-405, NE 8th Street to SR 520 Improvement Project Air Quality Discipline Report.

Community Cohesion

As mentioned earlier, community cohesion refers to linkages that neighbors have to each other and social resources within their neighborhood. Examples of potential effects on community cohesion include:

- The relocation of a substantial proportion of residents in a neighborhood.
- Permanent changes to noise or air quality that affect the likelihood residents will spend time outside and interacting with their neighbors.
- Increases to traffic or disruptions to sidewalks and other pedestrian facilities that make it less desirable or safe to walk to parks and other social resources.

The Dogwood Park neighborhood will experience some adverse effects of relocation, traffic, and noise. However, we do not anticipate adverse effects on community cohesion as a result of project operation, for the following reasons:

- The project is relocating only three households in the Dogwood Park neighborhood. According to the 2000 Census, there are 31 residential households in that neighborhood (Census Tract 237, block 3014).
- The project is not permanently affecting sidewalks.
- Even before project construction, this neighborhood has been experiencing increases in noise and traffic from cars using local streets to avoid congestion at the I-405/SR 520 interchange. Because the project will eventually reduce cut-through traffic traveling through neighborhoods, bicycle/pedestrian safety, access, and livability will improve in the Dogwood Park neighborhood.
- WSDOT is mitigating for increases to noise in the Dogwood Park neighborhood (see *Section 6: Measures to Avoid or Minimize Effects*).

¹³ WSDOT, 2008b

Recreational Facilities

The project will not limit access to parks, trails, or other recreational facilities.

We anticipate no adverse effects on bicycle and pedestrian trails and facilities as a result of the project. The project will improve bicycle and pedestrian facilities by constructing bicycle lanes and 12-foot wide sidewalks along NE 12th Street between 112th Avenue NE and 116th Avenue NE. See the *I-405, NE 8th Street to SR 520 Improvement Project Section 4(f) Discipline Report* for more information.

Viewpoint Park users will see minor but permanent changes in the quality of the visual environment as a result of the project.¹⁴ See the I-405, NE 8th Street to SR 520 Improvement Visual Quality Technical Memorandum for more information.

Religious Institutions

We do not anticipate any effects on religious institutions as a result of operation of the project. There will be no change to access to churches and none will need to be relocated.

Human Service Agencies

WSDOT will need to relocate one human service agency that serves low-income women. Washington Women in Need (WWIN) is a nonprofit organization that operates in a converted residential home in the Dogwood Park neighborhood. WWIN provides funding for education; mental health counseling; medical, dental, and vision care; and health insurance premiums to low-income women in Washington State.

Because some clients travel long distances to reach the office, the current location is ideal because of its proximity to major highways. It is also within easy walking distance to transit and is wheelchair accessible.

WWIN has located a replacement property in the same neighborhood, so there should be minimal effect on clients. WSDOT has made an offer of fair market value (based on appraisal by a neutral third party) to purchase this property. In addition, WSDOT is providing compensation for moving expenses.



**Washington Women in Need
Offices**

¹⁴WSDOT, 2008e

Exhibit 5-4: Overlake Hospital Medical Center Campus



How do we measure vibration?

Like noise, vibration is measured in decibels, or VdB. The threshold for human perception of vibration is around 65 VdB, although human response to vibration is not substantial unless the vibration exceeds 70 VdB. Minor damage to fragile (such as historic) buildings can occur at vibration levels over 100 VdB.

How will project construction affect public services?

Government Offices

We do not anticipate any construction-related effects on government offices.

Libraries and Cultural Attractions

We do not anticipate any construction-related effects on the Bellevue Regional Library or Meydenbauer Center.

Hospitals and Medical/Dental Facilities

Because Overlake Hospital Medical Center is adjacent to where construction activities will take place (Exhibit 5-4), the campus will experience some construction-related noise and vibration. Noise levels from construction equipment range from 69 to 106 dBA. Heavy construction equipment, such as large bulldozers and loaded trucks generate vibrations between 85 and 87 VdB at 25 feet.

In addition, the Overlake Hospital Medical Center campus includes an access road that loops around the western (I-405) side of the hospital to reach the emergency room. This access road is adjacent to the construction staging area for the project. Construction-related vehicles could affect ambulance access to the emergency room.

Potential increases in traffic along arterials and increases in construction-related noise and vibrations could also affect the medical and dental offices adjacent to the construction areas just north of Overlake Hospital Medical Center.

Public Safety

There will be some short-term weekday lane closures and temporary night and weekend lane closures on I-405, SR 520, and arterials during construction. Full freeway closures will be required at limited times to shift traffic between phases of construction or during replacement of the overhead bridge on I-405 at NE 12th Street. Construction-related traffic disruptions could affect response times for emergency vehicles.

In addition, WSDOT may need to coordinate with the City of Bellevue and the Bellevue Police Department to protect pedestrians and direct traffic around the project area.

Transportation Routes and Facilities

Increased traffic congestion as a result of the construction-related traffic disruptions could temporarily affect transit reliability on the freeway and local arterials. There may be some service disruptions during relocation, but they will be brief and temporary.

Schools

Construction-related traffic disruptions could affect school transportation and cause delays for school buses.

How will project operation affect public services?

Government Offices

We do not anticipate effects on government offices as a result of the project.

Library and Cultural Attractions

We do not anticipate effects on the Bellevue Regional Library or Meydenbauer Center as a result of the project.

Hospitals and Medical/Dental Facilities

The City of Bellevue and WSDOT are building a new bridge over I-405 at NE 10th Street that will cross through the Overlake Hospital Medical Center campus. As part of the I-405, NE 8th Street to SR 520 Improvement Project, WSDOT will construct a ramp from NE 10th Street to SR 520. WSDOT will modify the NE 8th Street on-ramp to northbound I-405 to access northbound I-405 only, not SR 520.

The combined projects will increase traffic volumes on NE 10th Street. Because Overlake Hospital Medical Center emergency vehicles will also use NE 10th Street to enter and exit the hospital campus, an increase in traffic congestion could delay emergency vehicles.

In addition, the new NE 10th Street ramp to SR 520 will bring freeway traffic closer to hospital buildings. Traffic from the new ramp could increase noise experienced in patient rooms and surgical units on the west side of the hospital. WSDOT conducted a vibration analysis to determine whether vibrations from traffic on the new ramp would affect the Overlake Hospital Medical Center campus. Results from the analysis indicated that vibration levels will be similar to existing levels and would not affect the campus.

Lastly, WSDOT will have to relocate some private medical and dental practices north of Overlake Hospital Medical Center to construct the project.

Public Safety

Congestion and safety on northbound I-405, SR 520, and arterials is expected to improve as a result of the project, which should decrease response times for police and fire.

Transportation Routes and Facilities

The braided ramps will improve travel time for transit that use the new ramps, including Metro bus routes 167, 232, 233, and 272 and Sound Transit routes 555, 556, and 565.

We anticipate no adverse effects to the SR 520 Trail.

Schools

WSDOT will need to relocate Sundance Pre-school, a private child care and pre-kindergarten program, to construct the project. The pre-school serves some families in the Dogwood Park neighborhood. If the pre-school cannot be relocated within the neighborhood, some families may have to travel a longer distance to bring their children to school.

We do not anticipate any effects on other schools as a result of project operation.

How will project construction affect utilities?

WSDOT has identified 109 potential utility conflicts as a result of project construction. Of the 109 potential conflicts, 51 have probable conflict and will need to be relocated. There may be some service disruptions during relocation, but they will be brief and temporary.

Exhibit 5-5 maps the utilities that WSDOT anticipates will have probable conflict. Appendix C lists utilities that cross the WSDOT right-of-way in the study area.

I-405, NE 8TH STREET TO SR 520 IMPROVEMENT PROJECT
 SOCIAL, PUBLIC SERVICES, UTILITIES, AND ENVIRONMENTAL JUSTICE DISCIPLINE REPORT

Exhibit 5-5: Utilities with Probable Conflict – Sheet 1

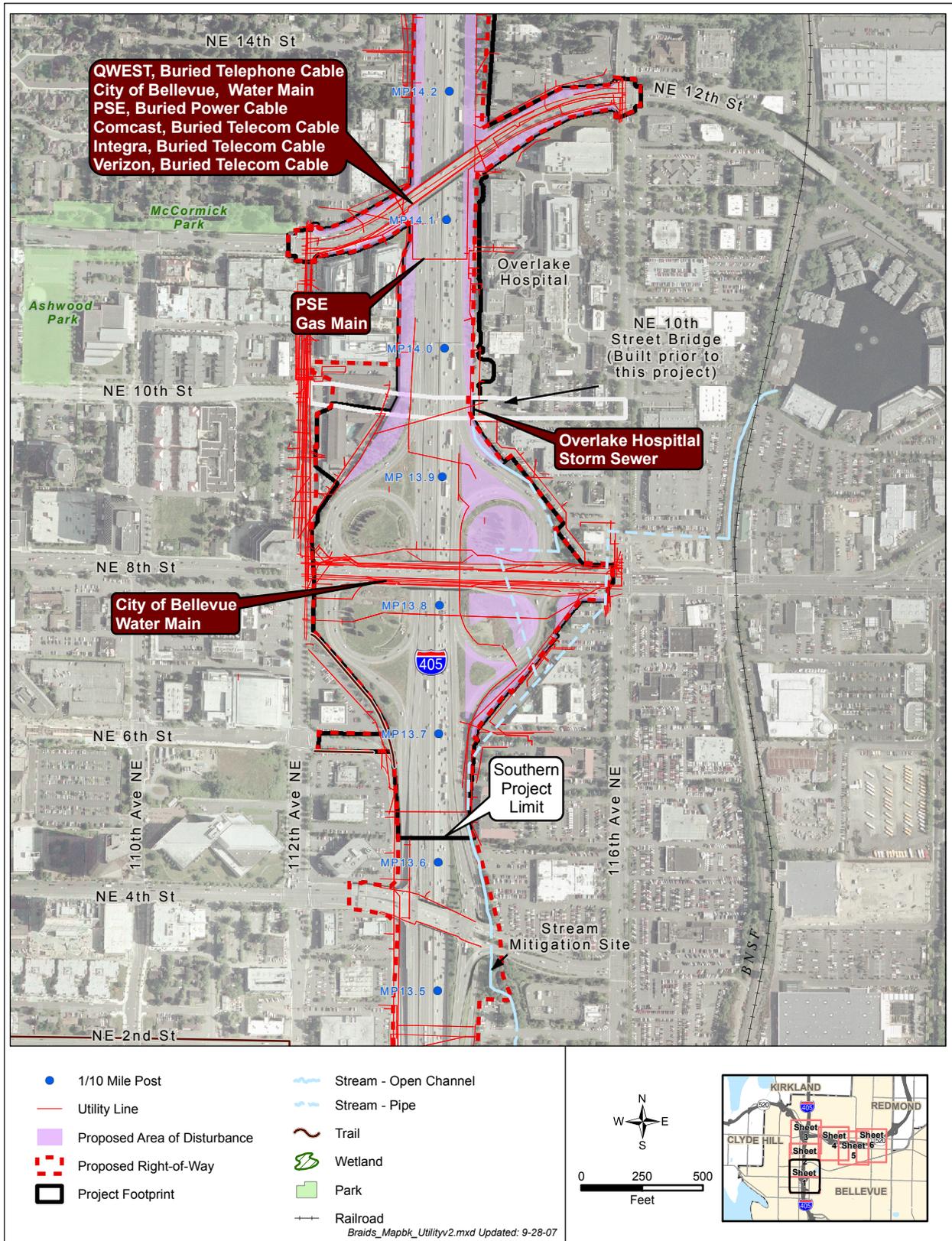


Exhibit 5-5: Utilities with Probable Conflict – Sheet 2

