Chapter 2

Description of Alternatives

Introduction

This chapter provides information on the proposals under consideration for redevelopment of the Overlake Hospital campus and extension of NE 10th Street. Because the two actions are related but separate, they are discussed in separate subsections below. Each action has independent utility (that is, each can be developed separately from and/or without the other and still provide all of its functions and benefits), and the proposed land use changes for the hospital could be implemented regardless of the configuration chosen for NE 10th Street.

As noted in Chapter 1, the analysis for this EIS covers alternatives for two future years: 2007 and 2030. The 2007 alternatives represent a "year of opening" scenario for the hospital expansion, the Ambulatory Care Center, the medical office building, and the NE 10th Street extension on the Overlake campus, as this is when the initial campus redevelopment and the first phase of the NE 10th extension are proposed for completion. These alternatives are described and evaluated at the project level, and this EIS is intended to provide the SEPA documentation necessary for the City to issue master plan approval.

The 2030 alternatives were developed primarily to test potential future connections of NE 10th to the regional transportation system via I-405 and SR 520. These alternatives explore the performance of various freeway ramp configurations on and near NE 10th, with the objective of determining which configuration(s) would best serve the anticipated levels of traffic on the City's street system in 2030. This analysis is at a programmatic level, which allows decision-makers to compare the relative benefits and drawbacks of alternatives but does not assess impacts in sufficient depth for development permits to be granted. Future project-level analysis would be required for the 2030 alternatives to be carried into final design and construction. Since FHWA and WSDOT are responsible for approving and evaluating new connections to I-405 and SR 520, it is assumed that this additional analysis would take place under their auspices when one or more freeway access projects are funded to proceed to design.

In addition to the transportation scenarios, this EIS also considers land use changes through 2030. In order for the 2007 Overlake Hospital proposal to proceed, the City of Bellevue must adopt an amendment to its Comprehensive Plan and Land Use Code, as some of the proposed improvements do not comply with current City development standards. (The consistency of proposed hospital redevelopment with the existing Land Use Code was discussed in Chapter 8 of the DEIS.) The resulting Comprehensive Plan Amendment (CPA) and Land Use Code amendment (LUCA) would change the existing Institutional District standards to allow a level of development more urban in character than that which now exists on the Overlake Hospital campus. This EIS supports development of the CPA and LUCA by evaluating the capacity of the 2030 transportation system to support the proposed levels of development and by identifying urban design principles that will mitigate the effects of increased density and building mass on the campus.

Based upon the DEIS analysis, City staff have worked with the Bellevue Planning Commission to reach a recommendation on the specific provisions of the CPA and LUCA. The text of the

recommended CPA and LUCA is included as Appendix B to this FEIS. Because the CPA and LUCA evaluation is programmatic, any development beyond the scope of the 2007 Overlake Hospital Master Plan reviewed in this EIS would require full project-level SEPA review.

Project Area Description

The Overlake Hospital campus (Figure 2-1) is located along the east side of I-405, across the freeway from downtown Bellevue (see Figure 1-1). Its general boundaries are I-405 on the west, NE 12th Street on the north, 116th Avenue NE on the east, and NE 8th Street and the freeway ramps from NE 8th Street to I-405 on the south. One parcel within the campus boundaries is currently owned by the City of Bellevue, one parcel is owned by the Griffith Family Trust, and the remainder is owned by Overlake Hospital or the Overlake Hospital Association. The City of Bellevue property would have to be sold to Overlake Hospital in order to accommodate the campus's expansion.

Overlake Hospital opened on October 16, 1960, with 56 beds to serve the surrounding community. Today it is a regional medical center with 257 beds. Known for its cardiac, surgical, cancer, and women's and children's services, Overlake treats more than 52,000 emergency patients, 158,889 outpatients, and 17,000 inpatients each year, as well as delivering more than 3,000 babies. Employment at Overlake includes approximately 1,651 staff, 750 physicians, and 500 volunteers. The hospital currently contains 257 licensed inpatient beds, and also provides a wide variety of outpatient services both in the hospital and in physician offices located on the campus. Some statistics regarding the hospital's existing and planned future services to patients are shown in Table 2-1.

Access to the hospital campus currently is provided at two locations. A signalized intersection, located on 116th Avenue NE approximately midway between NE 8th and NE 12th. This intersection allows access to and from the hospital both northbound and southbound on 116th. Another access point lies just south of the hospital's north parking garage. It is not signalized, and therefore does not allow for left turns from the hospital onto northbound 116th Ave NE.

NE 10th Street is an east-west arterial that extends through downtown Bellevue between 100th and 112th Avenues NE. Its eastern end at 112th Avenue NE is just west of I-405 (Figure 2-1). In this area, NE 10th includes five lanes—two through-travel lanes and a center turn lane—and has a right-of-way width of approximately 84 feet. Each side of the road includes a 12-foot pedestrian space (8-foot sidewalks and 4-foot landscape strip). A Ramada hotel is located immediately east of the street's eastern terminus. This hotel would be displaced by a NE 10th Street extension across I-405.

TABLE 2-1
Current and Proposed Overlake Hospital Services

Feature/Service	2004	2007	2030
Inpatient beds	257	337	400
Patient days	61,143	88,494	116,662
Outpatient visits	158,889	213,459	307,920
Average daily census	168	242	320
Percent occupancy	67%	72%	80%
Full-time employees	1,651	2,234	2,896
Floor area (gross square feet)	711,300	1,238,800	1,554,800

Source: Overlake Hospital 2004.

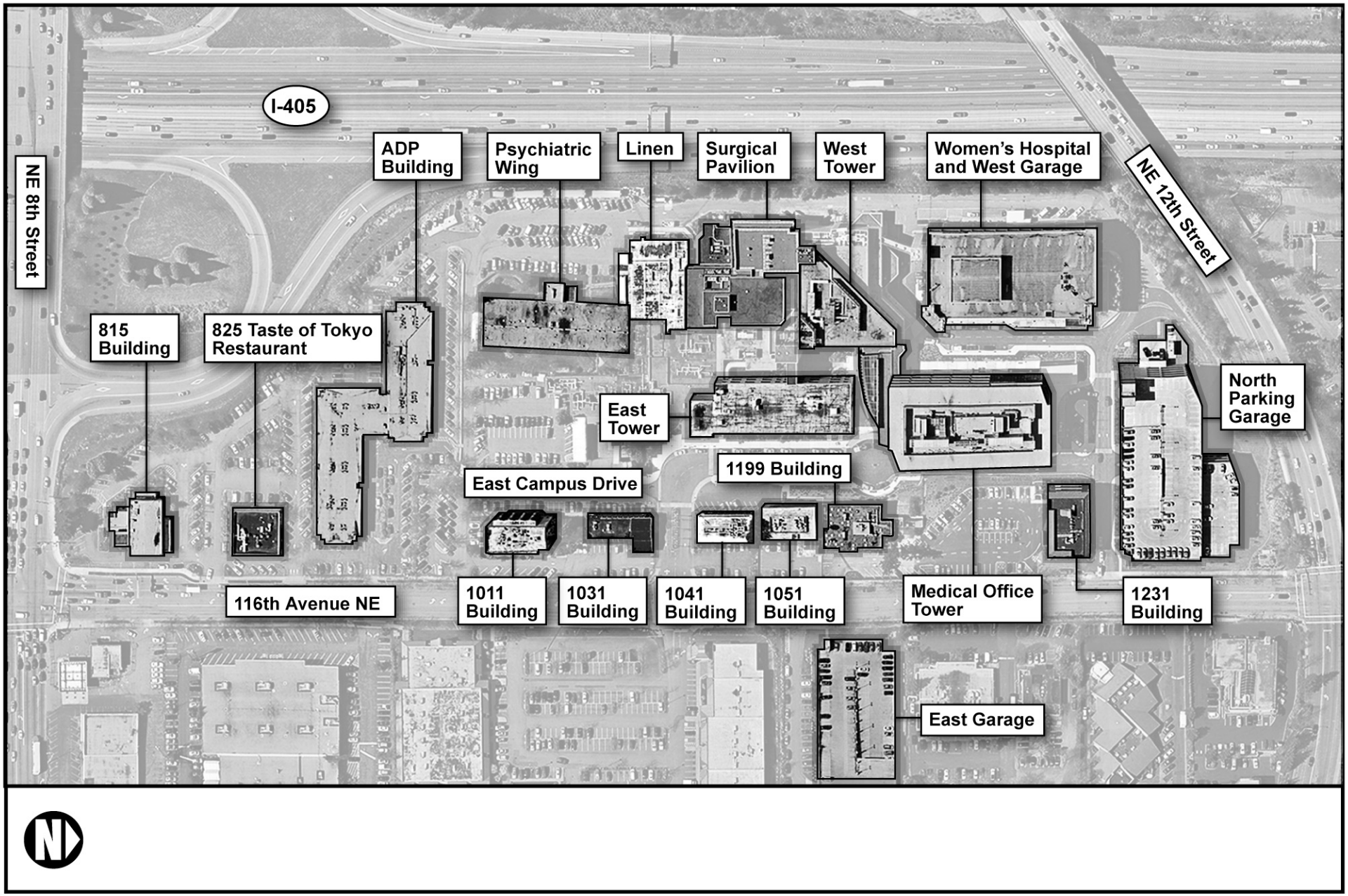

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Figure 2-1
Existing Conditions, Overlake Hospital Campus

As noted above, the proposed action includes two components: redevelopment of the Overlake Hospital campus and extension of NE 10th Street eastward from its current terminus at 112th Avenue NE. Each component is evaluated for two future years: 2007 and 2030. The alternatives included in the 2007 alternative set are evaluated at a project level of analysis, while the alternatives included in the 2030 alternative set are evaluated at a programmatic level of analysis. Both the 2007 and 2030 "build" alternatives are compared to a No Action Alternative, which establishes a baseline condition against which the impacts of the alternatives can be assessed.

Proposal and Alternatives: 2007

This section describes the alternatives under consideration for 2007. The proposed Overlake Hospital campus development, which would be the same under all of the transportation alternatives, is described first. This is followed by a discussion of the transportation alternatives:

- A 500-foot-long, dead-end segment of NE 10th Street west of 116th Avenue NE to provide access to Overlake Hospital and Group Health (Alternative A)
- The Preferred Alternative, completion of NE 10th Street on an overpass across I-405 from 116th Avenue NE to 112th Avenue NE (Alternative B)
- The No Action Alternative, which assumes that no Overlake campus redevelopment and no extension of NE 10th Street would take place by 2007

Alternative A's short segment on the campus is the first phase of the proposed overpass, while Alternative B represents full buildout of the City's portion of the NE 10th extension.

In order for the new hospital facilities and the initial NE 10th Street segment to be constructed, some existing buildings would need to be demolished. These include existing hospital and medical office space, as well as a restaurant shell space currently occupying a parcel in the southern portion of the campus at 825 116th Avenue NE. Table 2-2 shows the square footage of facilities proposed for demolition by type, along with resulting net building areas on the Overlake Hospital campus.

TABLE 2-2
Summary of Proposed Facilities for Overlake Hospital Campus Redevelopment, 2007

Facility	New Floor Area (gsf)[a]	Floor Area to be Demolished (gsf)[a]	Net New Floor Area (gsf)[a]	Height[b] (feet/stories)	Proposed Setbacks	Footprint (sq ft)	Parking
Overlake 80-Bed Expansion	200,000	63,900	136,100	100'/5 stories	50' front, 30' side, 50' rear (see Fig. 2-2)	35,000	372 stalls
Group Health ACC	300,000	68,100	231,900	100'/6 stories	50' front, 30' side, 50' rear (see Fig. 2-2)	74,000 (first floor)	1,500 stalls
Medical Office Building	200,000	29,000	171,000	140'/7 stories	Zero lot line	28,500	800-1,000 stalls
NE 10th Street Extension		14,500	-14,500				
Total	700,000	175,500	524,500				2,672-2,872 stalls

[a] Gross square feet
[b] Height is measured from average finished grade to top of mechanical rooftop.

Source: Overlake Hospital and City of Bellevue, 2004

Construction of all new buildings on the campus is expected to take approximately two and a half years, beginning in July 2005 and ending in December 2007. At their peak, construction activities would employ approximately 400 trade workers. Demolition and utility relocations are proceeding under a separate environmental review process that started in September 2004.

Overlake Campus Development

Three new facilities would be developed at the Overlake Hospital campus by 2007, including a hospital expansion in a new tower that will result in a net total of 80 new hospital beds; a 300,000-square-foot Group Health Cooperative Ambulatory Care Center (ACC); and a new 200,000-square-foot medical office building. The new hospital tower and the ACC would be in the southwestern portion of the campus, while the new medical office building would be in the northeastern campus area just south of the north parking garage (Figure 2-2).

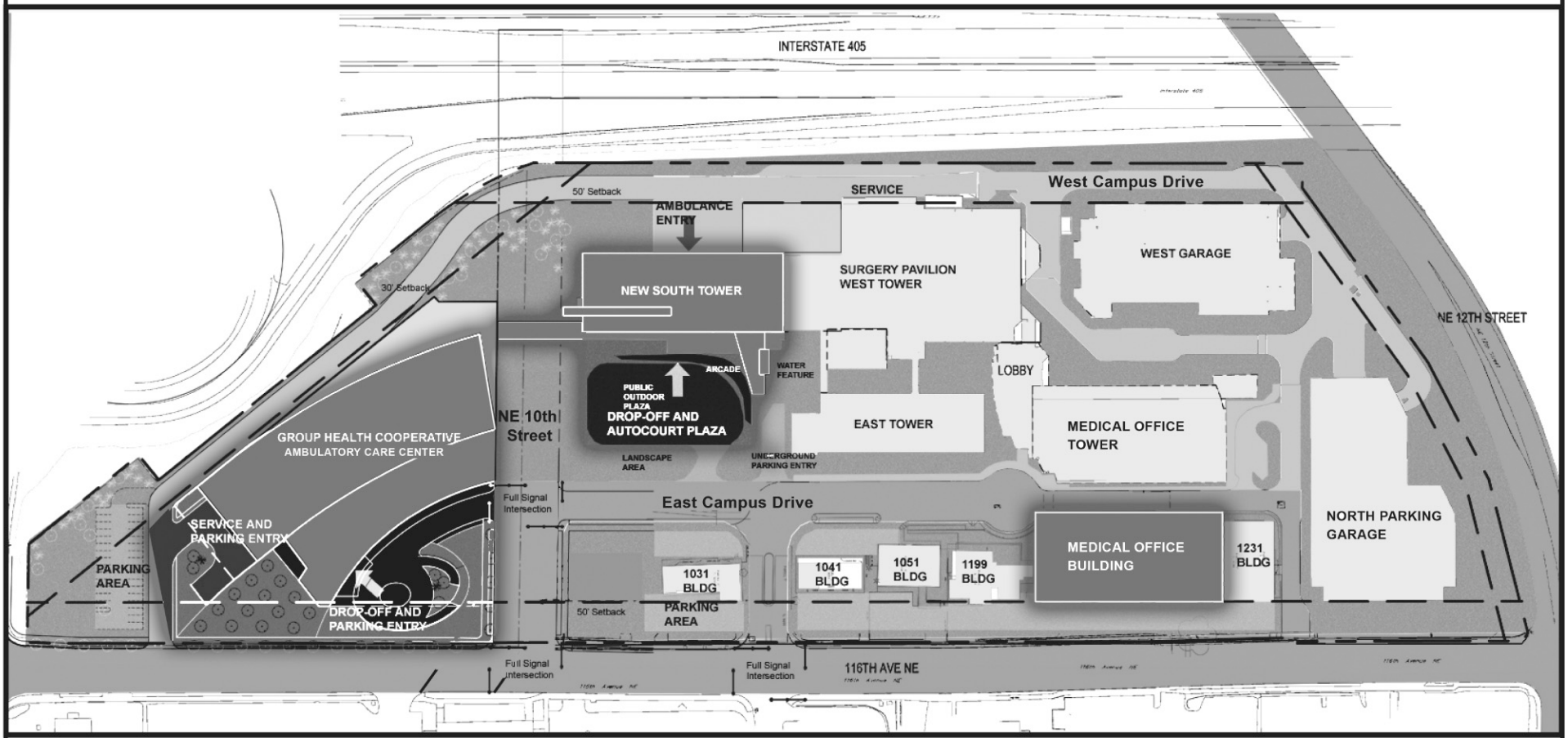
Development of these facilities would result in a total floor area on the Overlake campus of 1,238,800 square feet. While this represents an increase of approximately 74 percent over existing conditions, the net new floor area proposed (524,500 square feet) is approximately the same as that provided for in the 1999 Master Plan proposed by Overlake Hospital and approved by the City of Bellevue.

Each proposed facility is described below, followed by a discussion of vehicle and pedestrian access for the redeveloped campus. Note that these descriptions are conceptual and further design development may modify some elements, such as location of mechanical systems and building urban design and materials.

Hospital South Tower

The new Overlake Hospital South Tower would be a 200,000-square-foot, five-story, above-grade building (with mechanical on top of the building) that would be built on the footprint of the existing south wing of the hospital (Figure 2-2). The tower would allow the hospital to expand by an additional 80 beds within the campus to meet the healthcare needs of the Eastside and the Certificate of Need granted by the Washington State Department of Health in September of 2000. A glazed connecting corridor would link the tower to the existing Overlake Hospital East Wing and Surgery Pavilion and a tunnel would connect to the new Group Health ACC.

The tower would be approximately 90 feet wide, 230 feet long, and 100 feet high, with a footprint of approximately 35,000 square feet. The current design concept includes building façade materials of aluminum and glass curtain wall, precast concrete, and metal panel. The materials would be more solid near the base and more open in the tower portion. The two lower floors of the building would house the emergency room, the operating room, and surgical support services, while the upper three floors would be dedicated to critical and acute care. Approximately 130,000 gross square feet (gsf) of parking would be accommodated in a new below-ground parking garage providing for 372 stalls. Figure 2-3 shows a conceptual rendering of the building, and Figure 2-4 is a profile of the floor levels.



SOURCE: NBBJ

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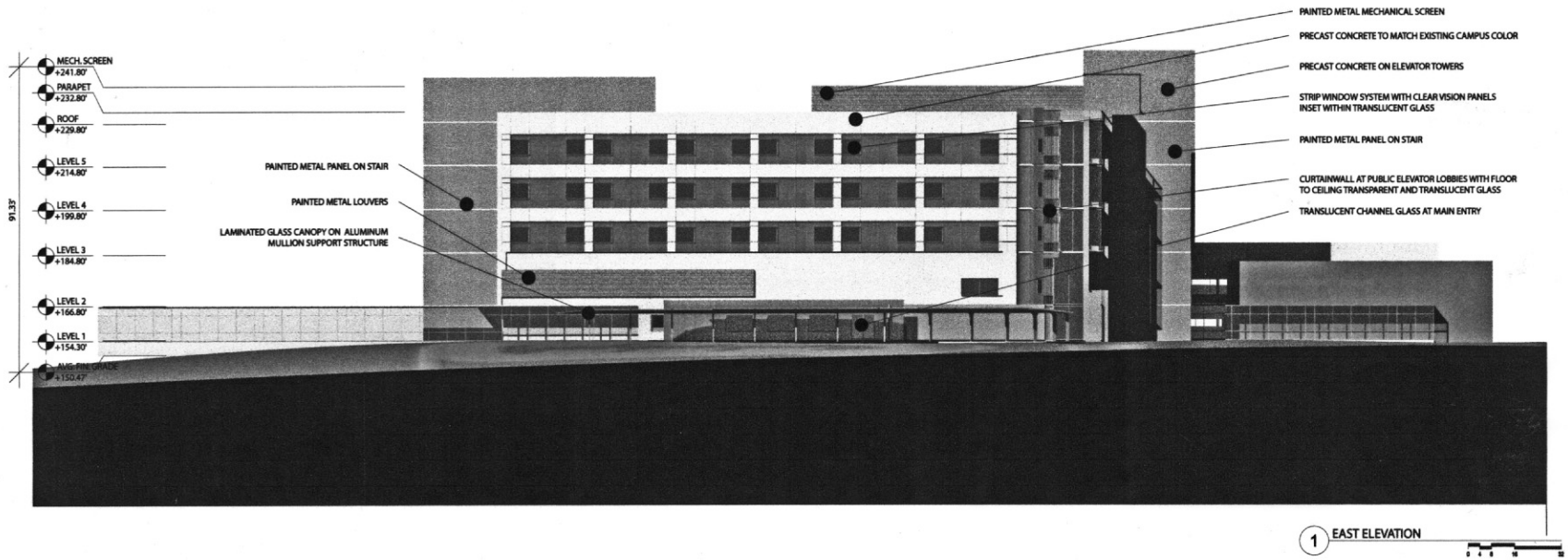
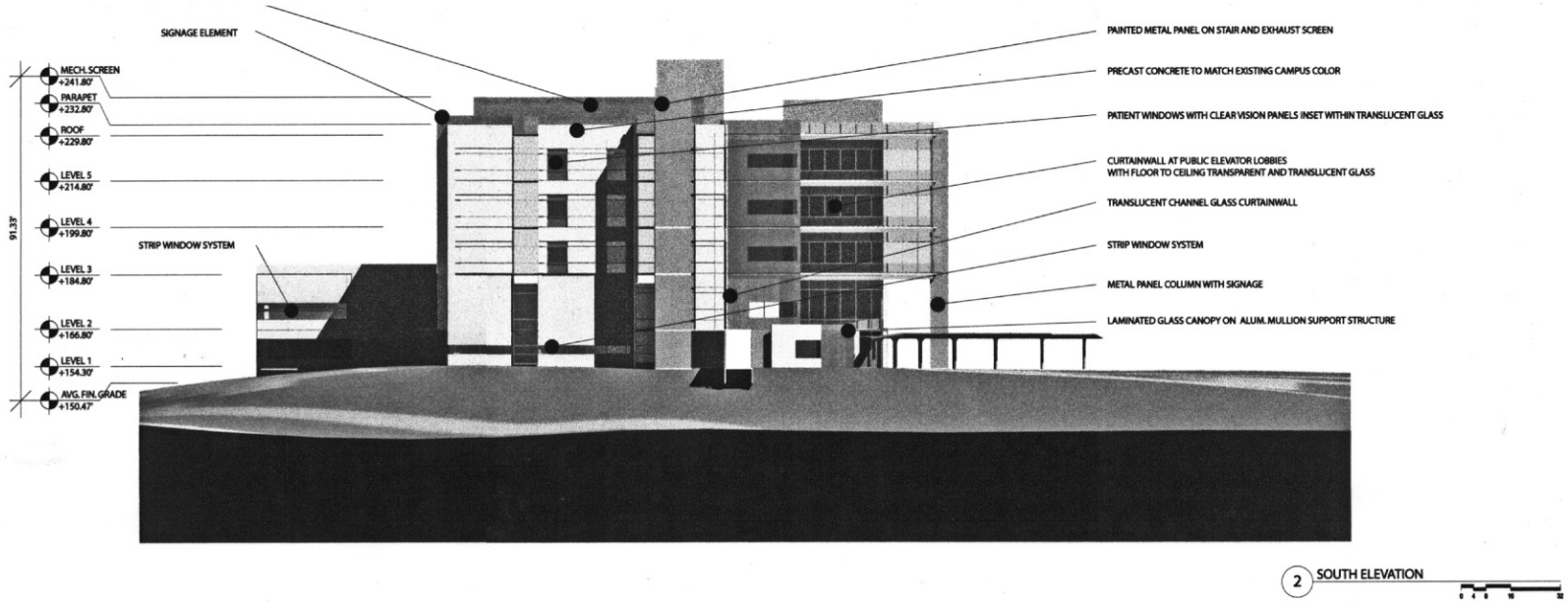
Figure 2-2
Overview of 2007 Campus Development





SOURCE: NBBJ

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Figure 2-3
Concept for Overlake Hospital South Tower

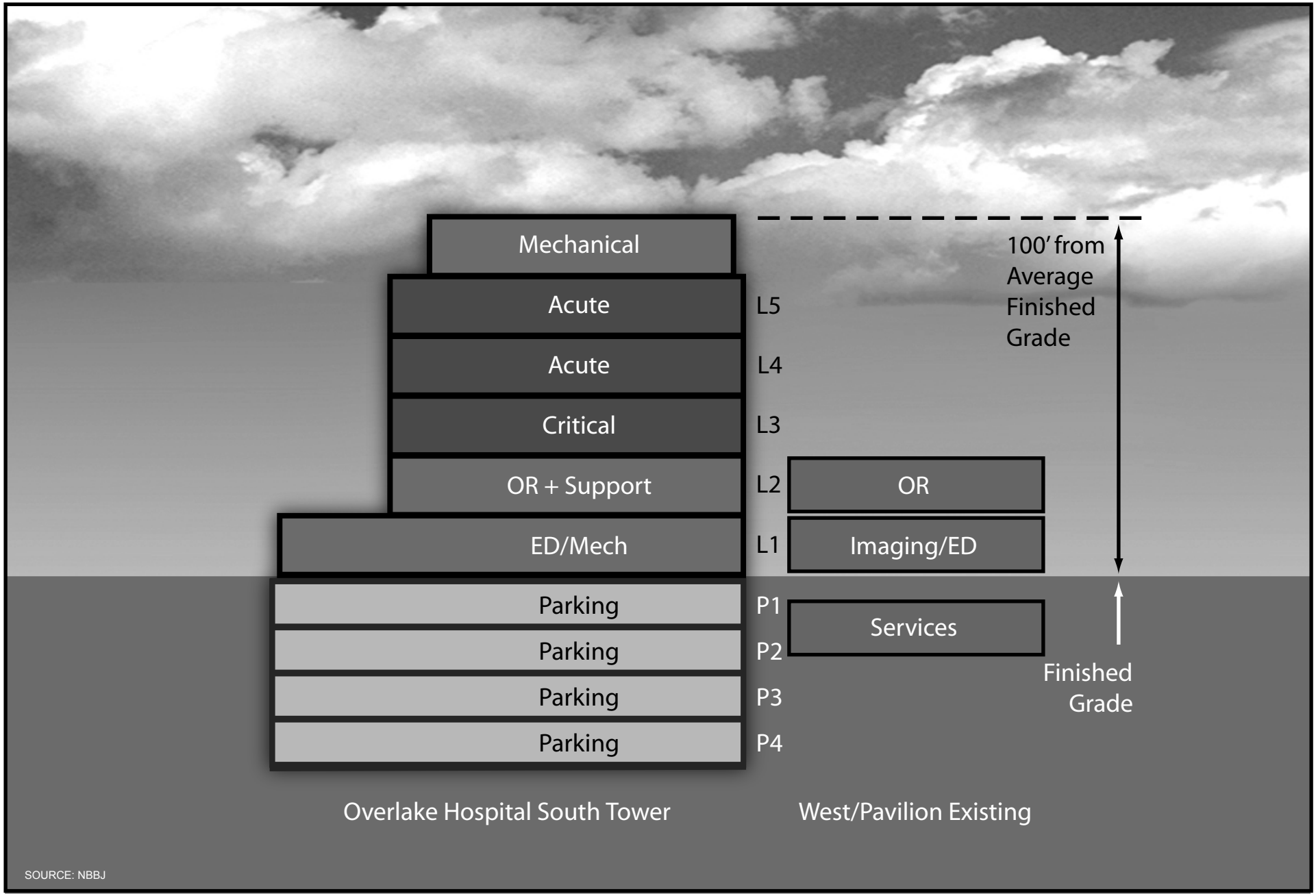

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Figure 2-4
Profile View of South Tower

Group Health Cooperative Ambulatory Care Center (ACC)

The Group Health ACC would be a 6-story, 100-foot-high outpatient facility located south of the proposed South Tower (Figure 2-2). The first floor of the building would house diagnostic and treatment functions, while the upper floors would house clinical and medical offices. The ACC would have a 74,000-square-foot footprint and would provide a total of 300,000 square feet of floor area. Five parking levels below the building would provide 525,000 square feet of parking for 1,500 stalls. Although planning for the facility is at a very preliminary stage, the current design concept calls for the building façade to include aluminum and glass curtain wall, precast concrete, metal panel, and stone. The materials would be more solid near the base and more open on the three upper levels of the ACC. Figure 2-5 shows a conceptual rendering of the ACC, and Figure 2-6 is a profile of the floor levels.

Medical Office Building

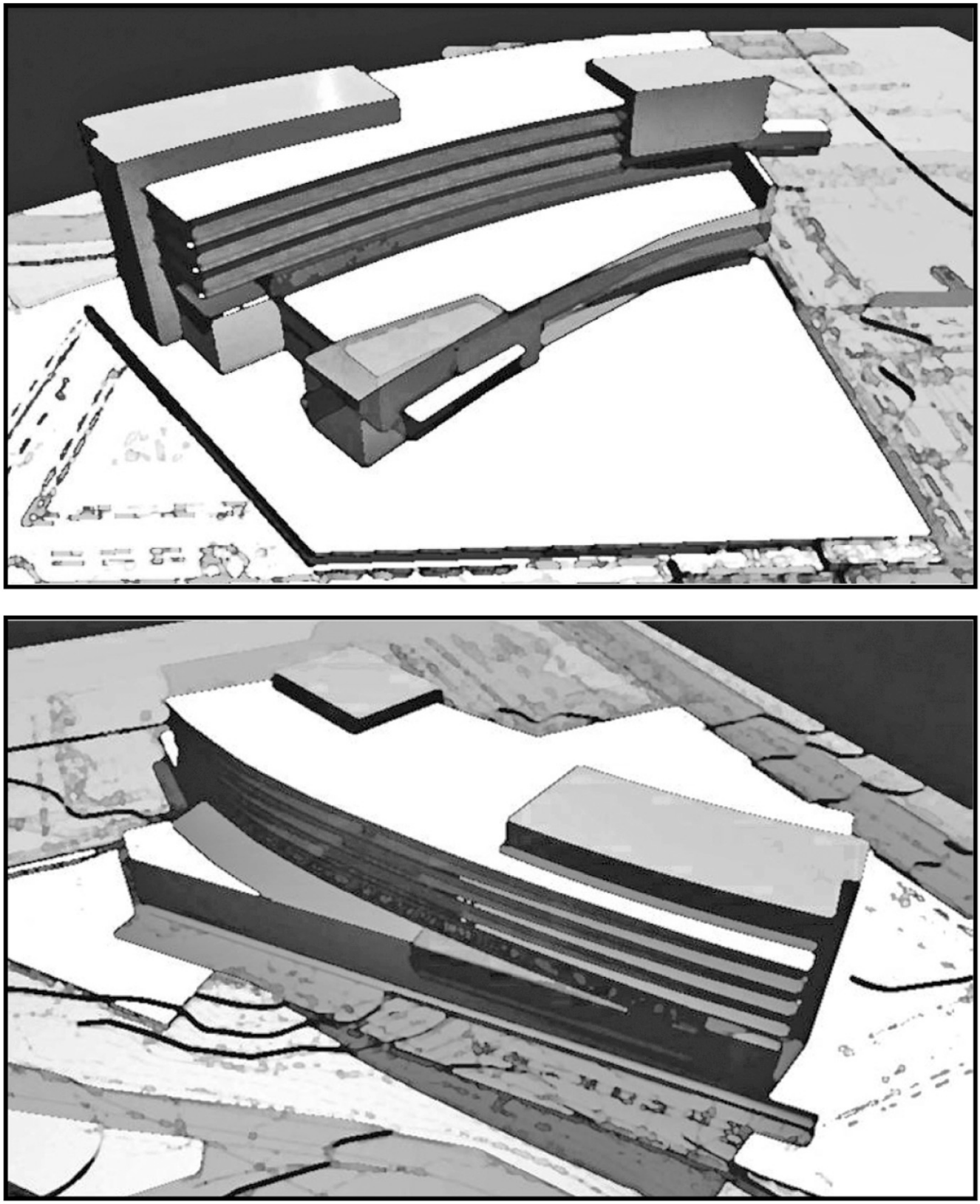
The new Overlake Hospital medical office building is currently planned to include seven stories plus rooftop mechanical and would be located east of the hospital buildings, adjacent to 116th Avenue NE. The building would provide approximately 200,000 square feet of floor area and 210,000 to 280,000 square feet of parking (for 800 to 1,000 stalls) in a below-ground parking garage. The building is yet to be designed, but is likely to be approximately 100 feet wide, 285 feet long, and 140 feet tall. The building façade would likely be composed of aluminum and glass curtain wall, precast concrete, and metal panel. Renderings and a profile of the medical office building are not available at this stage of design. A new driveway is proposed south of the building to provide right-in, right-out access to 116th Ave NE. Additional environmental review will be necessary at the Design Review application stage.

Campus Vehicle and Pedestrian Access

Construction of the new NE 10th Street would provide an additional signalized access point to the Overlake Hospital campus. The new intersection of NE 10th with 116th Avenue NE would become the primary access to the campus for vehicles coming from the south, with two left-turn lanes into the campus from northbound 116th Avenue NE and two left-turn lanes out of the campus to northbound 116th. The two existing entry points would also remain in use. The northernmost entry would continue to be used for service and emergency vehicle access, as well as an entry point for medical office building employees to the north garage. The existing signalized entrance would be used by visitors arriving from and departing to the north. A reconfigured East Campus Drive would provide north-south circulation through the campus and access to individual buildings; east-west lanes at the north and south ends of the campus would provide additional access, primarily for service vehicles.

Under the hospital's current operations for emergency access, ambulances use the existing service road east of the I-405 right-of-way to access the emergency entrance on the west side of the campus. This service road also functions as a fire lane. Construction of the full NE 10th Street overpass as currently proposed (see description of Alternative B below) would require relocation of the service road and an oxygen tank to maintain the current emergency access pattern.

Pedestrians would access the new facilities via sidewalks along 116th Avenue NE, the hospital's internal sidewalk network, and the sidewalks provided along the new NE 10th Street extension. Within the buildings, Overlake Hospital's existing main ground floor corridor would be extended south into the new South Tower, and a ground-floor link to the new Group Health ACC also would be constructed underneath the approach to the new NE 10th overpass. This link would be wide enough to accommodate separate but parallel pedestrian traffic paths for public and patient circulation.



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NOTE: Concept under development only. Final configuration will be determined in a later design phase.

SOURCE: NBBJ

Figure 2-5
Concept for Group Health Ambulatory Care Center

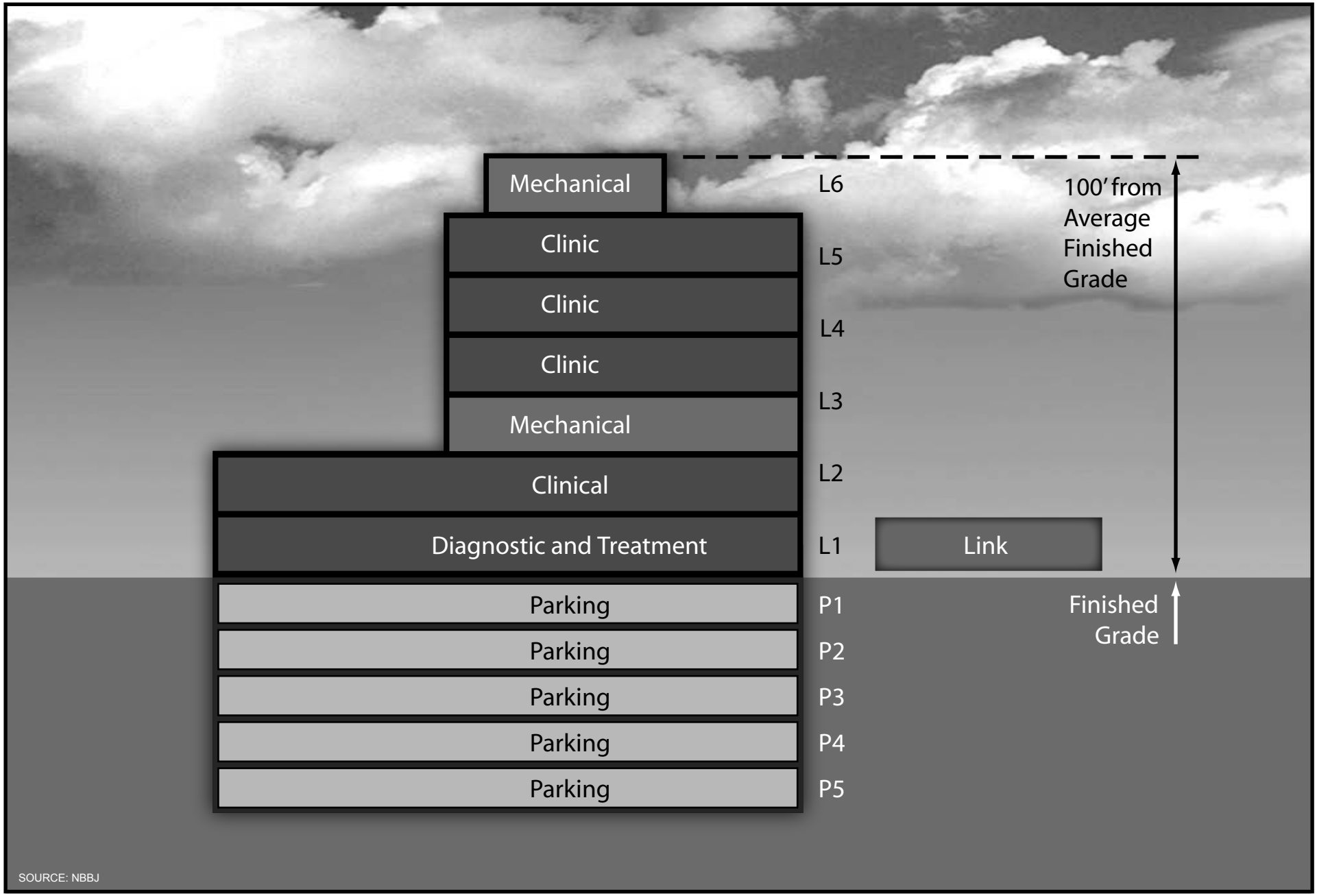

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Figure 2-6
Profile View of Group Health ACC

A future pedestrian skybridge from the new medical office building across 116th Avenue NE to the existing east parking garage is anticipated in the future. (This skybridge was reviewed programmatically as part of the 1999 Overlake Hospital Medical Center Master Plan EIS.) A skybridge is also contemplated over NE 10th Street, connecting the new South Tower with the ACC. A construction date for the skybridge has not yet been determined, and it is therefore not included in this review, although it would likely be constructed in conjunction with the vertical expansion of the South Tower. In addition, an at-grade pedestrian crossing of NE 10th Street at the East Campus Drive is anticipated.

NE 10th Street (2007)

Alternative A: NE 10th Segment to Provide Campus Access

Under this alternative, the first phase of the NE 10th Street extension would be developed and constructed concurrently with construction of the Overlake Hospital South Tower and the Group Health ACC. As shown in Figure 2-7, the new roadway would connect at 116th Avenue NE, but would not extend across I-405. Concurrent construction of this portion of NE 10th Street with the South Tower and ACC is desirable to avoid future impacts that would require mitigation.

This new entry to the Overlake Hospital campus would be located just south of the existing southern entrance to the campus from 116th Avenue NE. The intersection at NE 10th Street and 116th Avenue NE would be signalized with full access turns as would the intersection of 10th and Campus Drive. 116th Avenue NE would need to be super-elevated at its intersection with NE 10th Street so as to accommodate the slope needed for NE 10th to cross over a pedestrian tunnel that would connect the new South Tower and the ACC. Both this alternative and Alternative B would require demolition of the existing 1011 Building on the hospital campus.

NE 10th Street would extend from 116th Avenue NE west into the hospital campus as a six-lane street with sidewalks, narrowing to five lanes west of East Campus Drive. In addition, a right-turn lane from westbound NE 10th to northbound East Campus Drive is assumed. The wide cross section between 116th Avenue NE and East Campus Drive is required to allow for two future through lanes in each direction, and the required turning movements to East Campus Drive. The road would be at-grade at its intersection with 116th Avenue NE and East Campus Drive, then would begin to rise as it passes between the ACC and the new South Tower. The roadway segment would extend approximately 500 feet into the Overlake campus. A three-way stop or signal also would be included within the campus at the intersection of NE 10th Street with East Campus Drive. It would require a right-of-way width of between 75 feet at its narrowest point between the two buildings, and 106 feet between 116th Avenue NE and East Campus Drive.

A plan view of the proposed facility is shown in Figure 2-8; a cross-sectional view of the roadway between the Group Health ACC and the Overlake Hospital South Tower is shown in Figure 2-9.

Alternative B (Preferred Alternative): Completion of NE 10th Across I-405

Alternative B, the Preferred Alternative, would extend NE 10th Street from 112th Avenue NE across I-405 on a bridge structure to 116th Avenue NE, as shown in Figure 2-10. The new roadway would tie into 116th Avenue NE just south of the existing signalized driveway into the Overlake Hospital campus. The new intersection at NE 10th Street and 116th Avenue NE would be signalized to allow full access turning movements, as would a new intersection at NE 10th Street and East Campus Drive. This alternative would require demolition of the Ramada Hotel located just east of the NE 10th and 112th Avenue NE intersection, and also the 1011 Building on the southern portion of the Overlake Hospital campus.

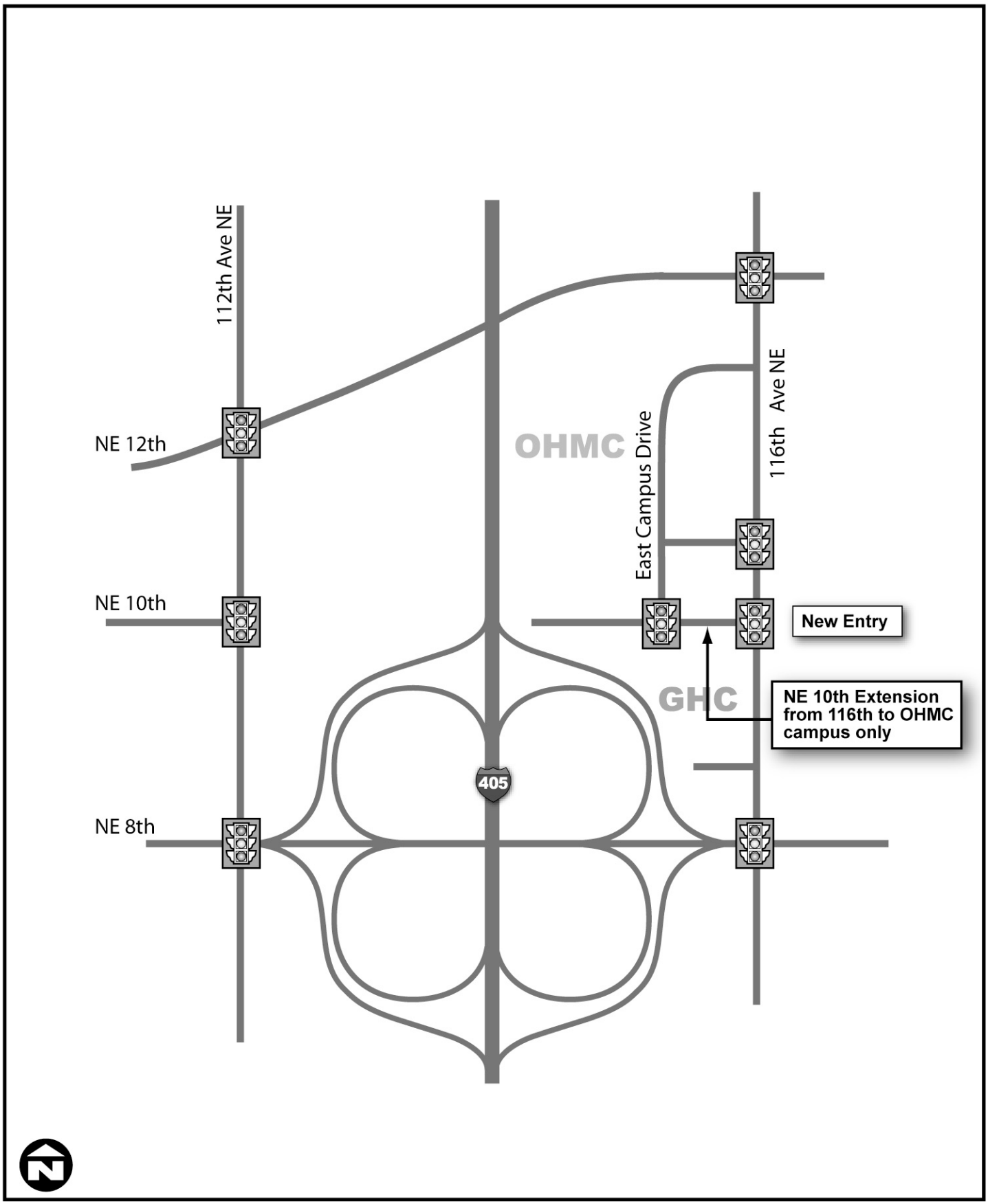

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Figure 2-7
Alternative A: 2007
NE 10th Street Stub

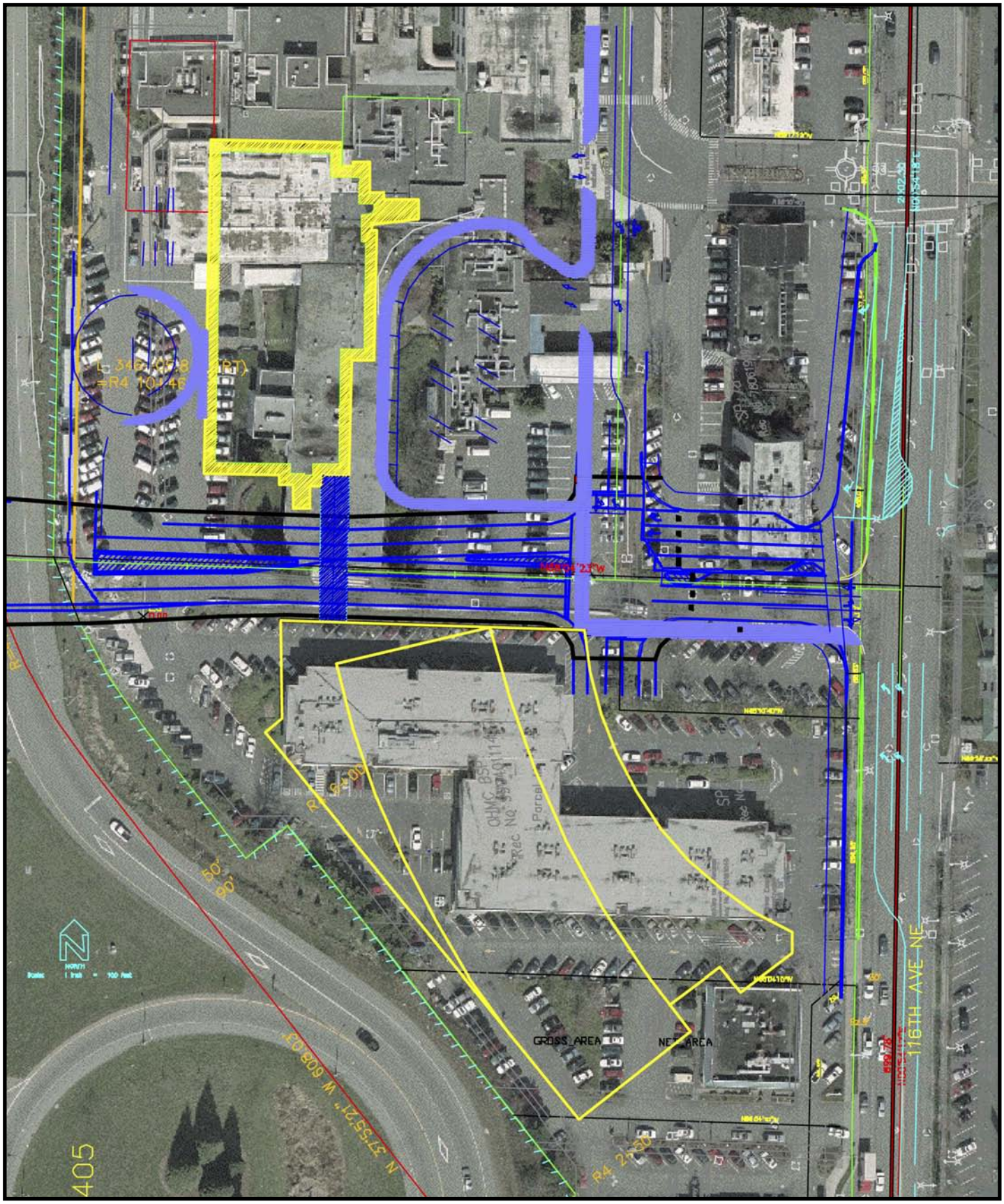

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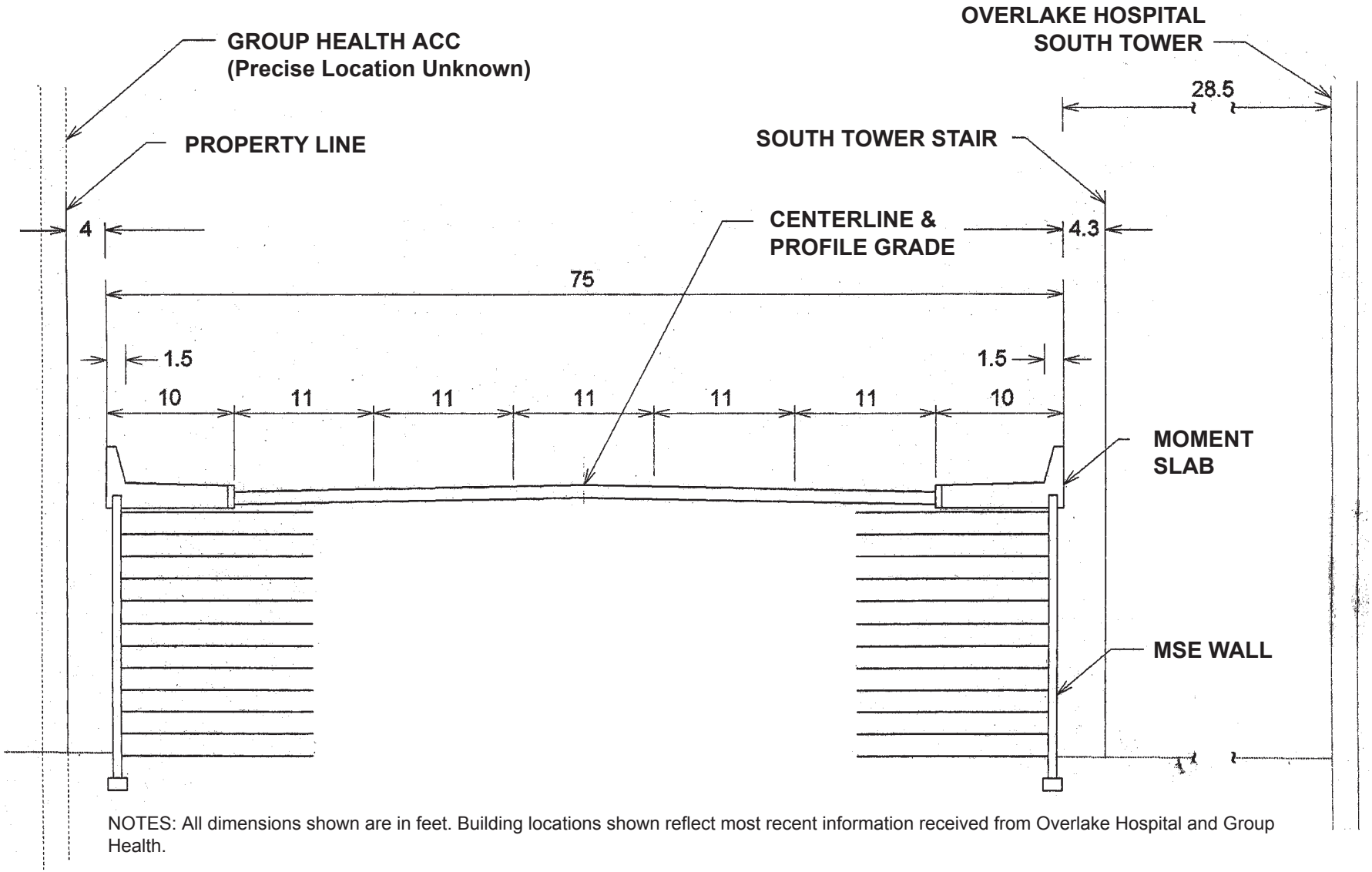
Figure 2-8
Plan View of NE 10th Extension



NOTES: All dimensions shown are in feet. Building locations shown reflect most recent information received from Overlake Hospital and Group Health.

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Figure 2-9
Cross-Section View of NE 10th Street between ACC and South Tower 2007 Alt A and B

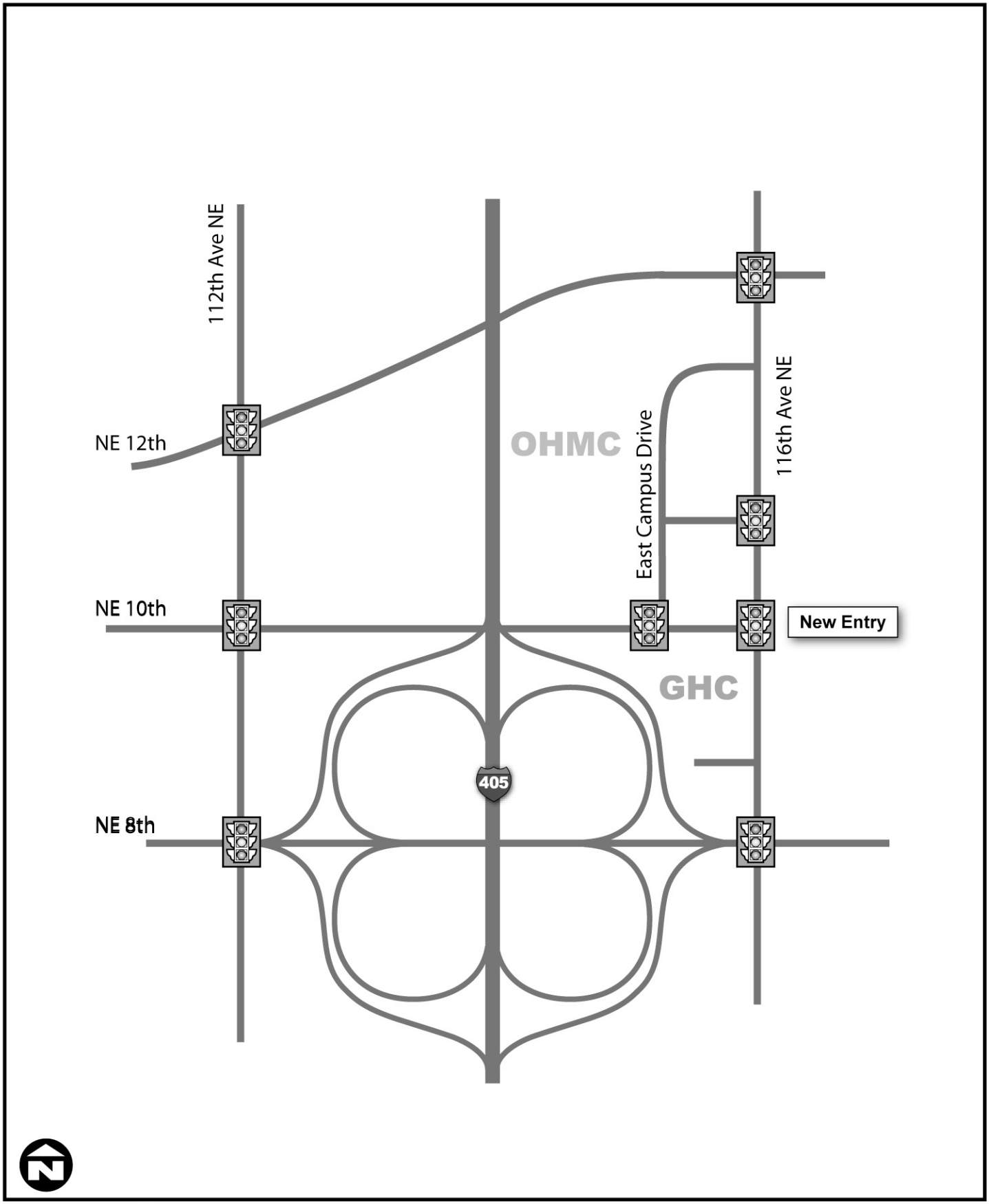

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Figure 2-10
Alternative B: 2007 NE 10th Completion across I-405

The portion of NE 10th Street between 116th Avenue NE and East Campus Drive would be six lanes wide, with an additional right-turn lane to East Campus Drive, to provide for through lanes plus all the necessary turning movements. The right-of-way required for this portion of the roadway would be approximately 106 feet wide (including sidewalks).

The new NE 10th roadway would have a rising grade from 116th Avenue westward to an at-grade intersection with East Campus Drive, then would rise higher as it passed between the South Tower and the Group Health ACC. An at-grade pedestrian connection between the South Tower and the ACC would be located beneath the rise of NE 10th Street.

West of East Campus Drive, NE 10th would continue over I-405, linking with existing NE 10th Street at 112th Avenue NE. This portion of the roadway would be five lanes wide, including four through lanes and a left turn lane. The existing signal at NE 10th and 112th Avenue NE would be modified for full movements.

If WSDOT recommends that ramps to SR 520 be located at NE 10th Street (2030 Alternative 2), two eastbound left-turn lanes to the northbound on-ramp would be required, increasing the cross section from five lanes to six on the portion of the roadway above I-405. New traffic signals would be located on NE 10th Street for each of the ramps to and from the north. The total right-of-way would range from approximately 75 feet at its narrowest point between the two buildings, and 106 feet between 116th Avenue NE and East Campus Drive.

Additional intersection modifications would be necessary to mitigate the traffic congestion impacts of Alternatives A and B. These mitigation needs include:

- Dual northbound left turn lanes from 116th Avenue to NE 10th Street
- A southbound right-turn lane on 116th from NE 10th extending to NE 8th Street
- Southbound dual left-turn lanes on 116th to eastbound NE 8th Street (needed for Alternative B only)
- A northbound right-turn lane from 116th to eastbound NE 12th Street
- A northbound left-turn lane from 112th to westbound NE 10th Street

After the DEIS was issued, the City conducted additional analyses that showed that dual northbound to westbound left-turn lanes on 116th at NE 10th would be needed for both Alternatives A and B.

The NE 10th Extension project could be built in phases, depending on available funding. Phase 1 would extend the initial segment from 116th Avenue NE to East Campus Drive, providing access for the hospital expansion and Group Health facility. Phase 2 would extend NE 10th Street from East Campus Drive to the east side of I-405. Phase 3 would extend NE 10th on a bridge over I-405 to its existing terminus at 112th Avenue NE, completing the cross-freeway linkage.

2007 No Action Alternative

Under the 2007 No Action Alternative, the new facilities proposed for the Overlake Hospital campus would not be built, and the extension of NE 10th Street as described would not be constructed within this time frame.

Proposal and Alternatives: 2030

The DEIS 2030 programmatic analysis included one land use scenario for Overlake Hospital campus development and four alternatives (all using this land use scenario) for connections from NE 10th Street and/or NE 12th Street to provide connections to the regional transportation system. Subsequent to the DEIS, two of the 2030 transportation alternatives were dropped from consideration, as explained below. The No Action Alternative assumes the existing (2004) levels of development at the Overlake campus as a baseline, and also assumes that NE 10th Street would not be extended. All 2030 alternatives assume PSRC forecasted 2030 land uses within the study area, as well as regional and local transportation improvements adopted within the PSRC network and the City's 12-year Transportation Facilities Plan.

Overlake Campus Development

Two major developments are assumed to occur at Overlake Hospital between 2007 and 2030: vertical expansion of the South Tower to accommodate 63 new beds (in addition to the 80 new beds assumed for 2007) and associated diagnostic and treatment services, and construction of a new medical office tower. The combination of these activities would add approximately 147,200 gsf of hospital floor area and 200,000 gsf of additional medical office floor area (see Table 2-3). Total floor area on the Overlake campus with the addition of these facilities would be approximately 1,554,800 square feet, an increase of 119 percent over existing conditions and 26 percent over 2007.

TABLE 2-3
Summary of Proposed Facilities for Overlake Hospital Campus Redevelopment, 2030 (Over 2007 improvements)

Facility	Total Height/Stories	New Floor Area (gsf)	Floor Area to be Demolished (gsf)	Net New Floor Area (gsf)
Vertical expansion of south tower	200'/10[a]	147,200	0	147,200
New medical office tower	140'/7	200,000	31,200	168,800
Total		347,200	31,200	316,000

[a] The mechanical equipment on top of the proposed 2007 South Tower would be enclosed at the time of the vertical expansion to create a full mechanical sixth floor to which the four new stories would be added.

The Overlake Hospital South Tower would be expanded to add four additional floors and a mechanical rooftop. With the additional beds provided on the new floors, the total number of beds on the hospital campus in 2030 would increase to 400. A new medical office tower with mechanical rooftop would be built on the east side of the campus along 116th Avenue NE, just south of the new medical office building proposed for construction in 2007 (see Figure 2-2). Specific details on design, dimensions, setbacks, and other features of these facilities have not yet been developed, but would be governed by the CPA and LUCA (Appendix B) that the Planning Commission has recommended for adoption by the Bellevue City Council after issuance of the FEIS.

WSDOT, as described elsewhere in this report, is currently planning to widen I-405 through downtown Bellevue, which will require the acquisition of additional right-of-way in the project area. In the future, when WSDOT implements its plans for I-405 widening, the I-405 right-of-way would be expanded onto the hospital property, limiting the space available for emergency vehicle access and turnaround. The restricted space could also increase the potential for conflicts between emergency

vehicles and delivery trucks at the hospital loading dock. Overlake Hospital, the City of Bellevue, and WSDOT are currently working together to develop solutions that allow effective and safe emergency operations at the hospital while providing sufficient room for planned I-405 expansion to serve regional mobility needs. Options being evaluated include both structural solutions (i.e., changes in internal hospital access and/or freeway ramp design) and operational solutions (e.g., signalization, loading, and staging area changes).

Freeway Ramp Options

Four alternatives were considered to add freeway ramp connections in the vicinity of the Overlake Hospital campus prior to 2030, consistent with recommendations of the DIP. These four action alternatives were described and evaluated in the DEIS. Subsequent engineering feasibility analysis, conducted by WSDOT, identified fatal flaws in Alternative 1 (Partial NE 10th Extension to I-405) and Alternative 4 (NE 10th Extension with Ramps at NE 10th and NE 12th Streets). Further description of Alternatives 1 and 4, and the reasons they were dropped from further consideration, is provided below in the section entitled "Alternatives Considered But Not Carried Forward." The two 2030 alternatives that remain under consideration are described below. A summary of the findings of WSDOT's feasibility analysis for each of the 2030 ramp alternatives is provided in Appendix C.

Action Alternatives

Alternative 2: NE 10th Extension with Ramps at NE 10th Street

NE 10th Street would be extended completely across I-405 in Alternative 2, connecting 112th Avenue NE to 116th Avenue NE (Figure 2-11). Ramps extending from the new NE 10th Street overpass would connect to and from SR 520. No connection from NE 10th Street to I-405 would be available. Access to I-405 would be provided at NE 8th Street. NE 10th Street intersections with 112th Avenue NE, 116th Avenue NE, East Campus Drive, and at each on- and off-ramp to SR 520 would be signalized. NE 12th Street would need to be reconstructed to accommodate the horizontal and vertical clearance needed for the ramps from NE 10th Street. WSDOT's evaluation indicated that Alternative 2 would satisfy applicable criteria and standards for geometric feasibility and traffic operations. It should be carried forward for more detailed project level consideration by the State in determining the ultimate ramp location.

Alternative 3: NE 10th Extension with Ramps at NE 12th Street

With this alternative, NE 10th Street would be extended completely across I-405, connecting 112th Avenue NE to 116th Avenue NE (Figure 2-12). No connection to the regional freeway system would be provided from NE 10th itself; however, new ramps would be built from a new NE 12th Street overpass that would connect to and from SR 520. Access to I-405 would not be possible from NE 12th, but would be provided at NE 8th Street. NE 10th Street intersections with 112th Avenue NE, 116th Avenue NE, and East Campus Drive would be signalized, as would the ramps at NE 12th Street to and from SR 520.

WSDOT's evaluation indicated that Alternative 3 would result in a limited weaving distance for vehicles on the northbound NE 12th ramp wishing to go to westbound SR 520, and for the exiting vehicles on northbound I-405 wishing to go to eastbound SR 520. While the weave distance would meet the WSDOT minimum standard, it would not be long enough for the large volume of vehicles that would be expected to use it. Otherwise, the alternative generally meets WSDOT's geometric and operational conditions. This alternative may be considered for further environmental review by WSDOT in determining the ultimate ramp location.

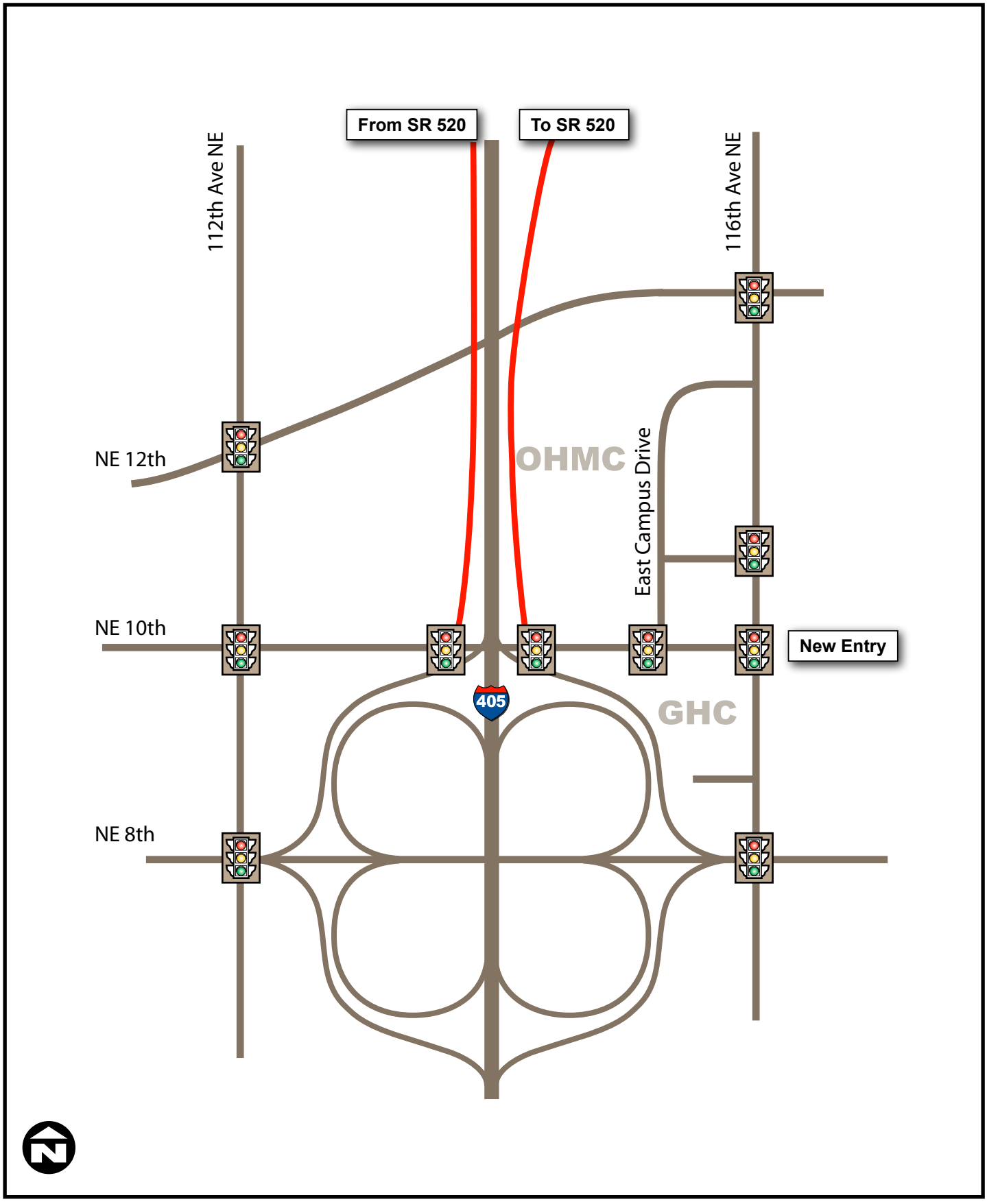

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Figure 2-11
Alternative 2: 2030 NE 10th Extension with Ramps at NE 10th

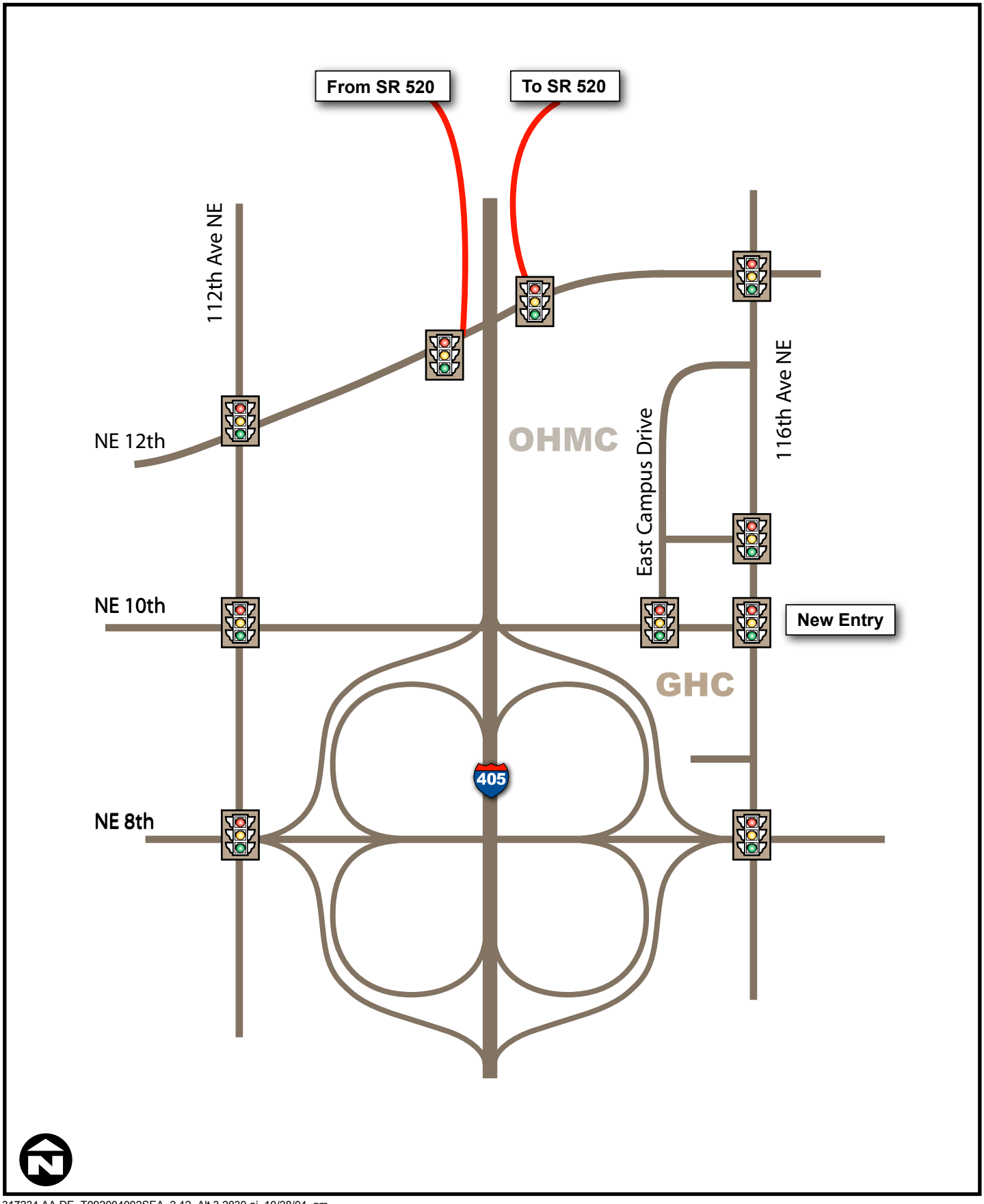

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Figure 2-12
Alternative 3: 2030 NE 10th Extension with Ramps at NE 12th

Alternatives Evaluated for Air Quality Analysis Only

Two alternatives (referred to as 5A and 5B) were evaluated solely for purposes of determining the project's conformity with provisions of the State Implementation Plan (SIP) for maintaining air quality standards. Neither is considered a viable option for 2030 development. Alternative 5A is the same roadway configuration as 2007 Alternative A, and Alternative 5B is the same as 2007 Alternative B. Please refer to Chapter 4 of the DEIS for additional information on air quality conformity analysis.

No Action Alternative

Under the No Action Alternative (Figure 2-13), the Overlake Hospital campus would not be expanded beyond existing conditions, no improvements to NE 10th Street would be built, and no new regional connections would be provided beyond those planned and programmed as part of other projects (e.g., the planned expansion of I-405 through downtown Bellevue).

Alternatives Considered But Not Carried Forward

Early evaluations of potential alignments of NE 10th Street through the Overlake Hospital campus considered several options in addition to those described above. These included:

- A southern alignment of NE 10th that would angle through the Overlake campus to connect with 116th Avenue NE near its intersection with NE 8th Street. This option was dropped from further consideration because it had sub-standard curves, grades, and sight distances, and because it would significantly increase congestion at the NE 8th Street/116th Avenue NE intersection.
- A grade-separated crossing of 116th Avenue NE, with NE 10th Street passing either under or over 116th Avenue NE to provide connections to properties east of the Overlake campus. This option was dropped because it would require significant right-of-way acquisition from properties east of 116th Avenue NE in order for the new intersection to function effectively. In addition, the construction time-frame would be too great to coincide with the hospital's planned near-term improvements. The further extension of NE 10th Street east of 116th Avenue NE could be reconsidered in the future because of potential benefits of arterial traffic relief and improved access.

Subsequent to the DEIS, WSDOT's feasibility analysis of the 2030 alternatives indicated that Alternatives 1 (Partial NE 10th Extension to I-405) and 4 (NE 10th Extension with Ramps at NE 10th and NE 12th Streets) would not satisfy applicable criteria and standards for geometric feasibility and traffic operations. This is a fatal flaw for these alternatives, since the failure to meet standards means that WSDOT and FHWA would not consider them if others that met the standards were available. The two alternatives, and the reasons they failed to meet the standards, are described briefly below.

Alternative 1: Partial NE 10th Extension to I-405

Under this alternative (shown in Figure 2-14), ramps would begin at 112th/NE 10th, leading to SR 520, using the I-405 right-of-way. No access to SR 520 would be available at NE 10th Street from the east side of I-405. The northbound ramp would require a bridge over I-405 from the existing NE 10th Street. A NE 10th Street "segment" would extend from 116th Avenue NE west into the Overlake Hospital campus to provide hospital access. Access to I-405 would remain available at the existing NE 8th Street ramps. NE 12th Street would need to be reconstructed to accommodate the horizontal and vertical clearance needed for the ramps from NE 10th Street.

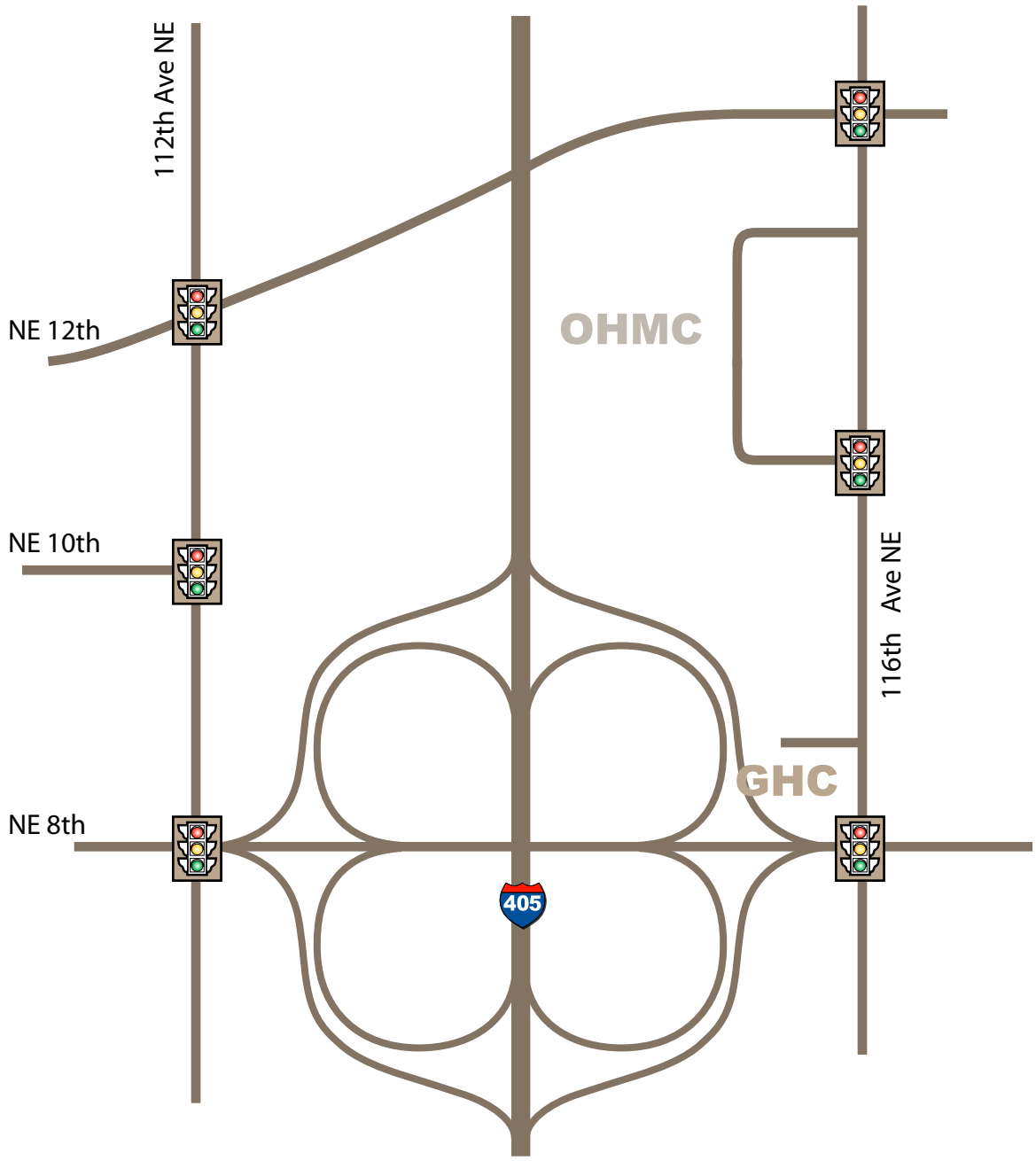

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Figure 2-13
2007 and 2030
No Action Alternative

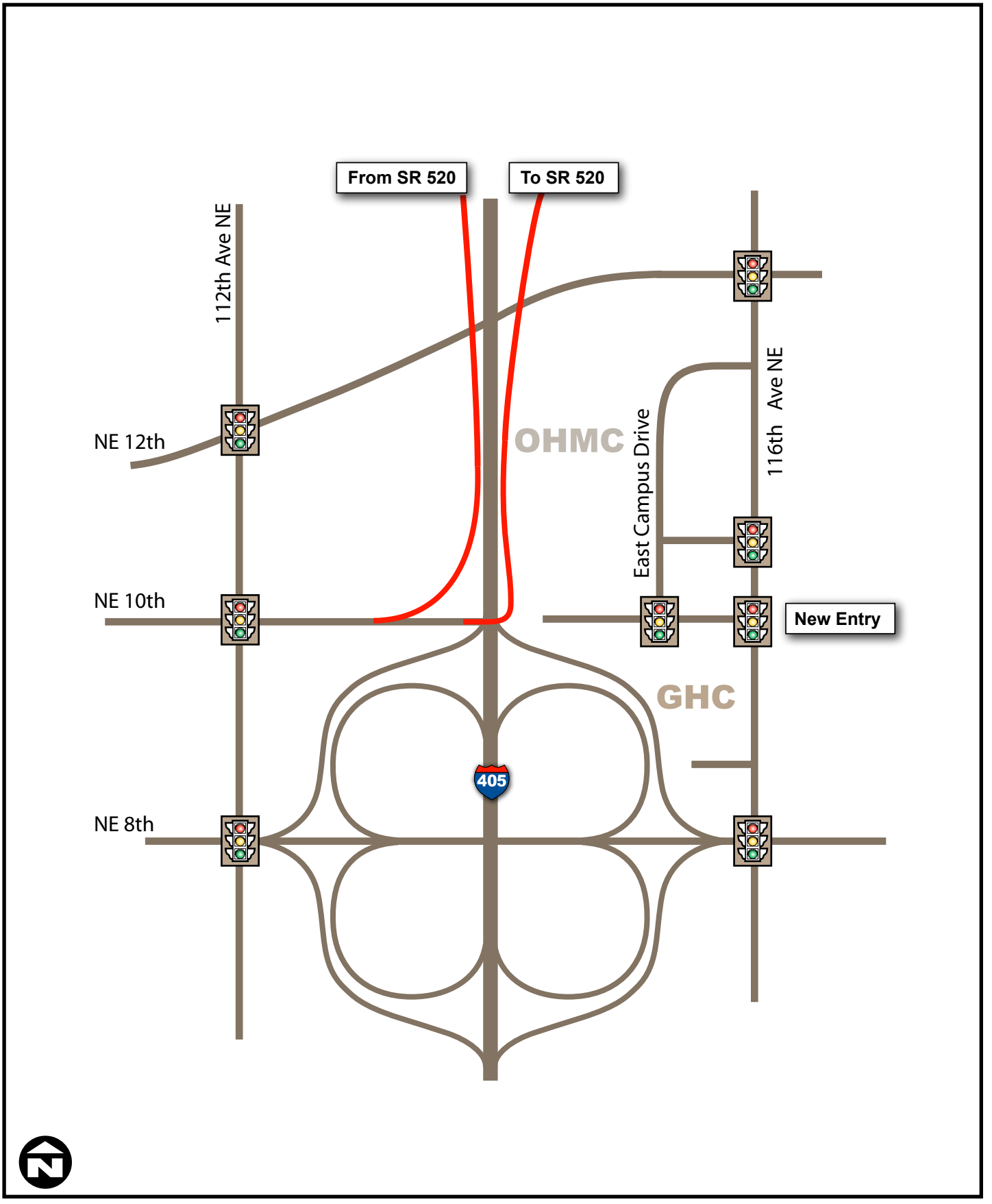

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Figure 2-14
Alternative 1: 2030
NE 10th Extension to I-405

Alternative 1 would not meet WSDOT's geometric requirements because the sharp horizontal curve of the ramp over I-405 would cause unsafe conditions. Motorists expect to accelerate in freeway merging situations, so the low design speed (possibly as low as 25 mph) would likely be problematic. In addition, traffic analysis conducted by WSDOT and the City showed that this alternative worsened congestion on both city streets and the freeway. As a result, the design of this alternative would likely be rejected by FHWA.

Alternative 4: NE 10th Extension with Ramps at NE 10th and NE 12th Streets

This alternative would include ramps at both the NE 10th Street overpass and NE 12th Street (Figure 2-15). NE 10th Street would be extended completely across I-405, connecting 112th Avenue NE to 116th Avenue NE. Ramps extending from the new NE 10th Street overpass would connect to and from I-405, while ramps extending from a new NE 12th Street overpass would connect to and from SR 520. The intersections of NE 10th Street with 112th Avenue NE, 116th Avenue NE, and East Campus Drive would be signalized, as would each on- and off-ramp on NE 10th and NE 12th Streets.

Alternative 4 would result in a limited weaving distance for vehicles on the northbound NE 12th ramp wishing to go to westbound SR 520, and the exiting vehicles on northbound I-405 wishing to go to eastbound SR 520. While the weave distance meets the WSDOT minimum standard, the weave distance is not enough for the large volume of vehicles that would be expected to use it.

A larger issue with Alternative 4 is the significant amount of right-of-way that would be needed for the NE 10th ramps. Because the NE 10th ramp and the NE 8th collector-distributor need to merge together quickly, there is not enough room to stack them on top of each other. They would need to be built side by side, requiring the acquisition and demolition of a majority of the Overlake Hospital campus. Considering both the weave issue and right-of-way needs, this alternative would be unacceptable to FHWA and is therefore removed from further consideration.

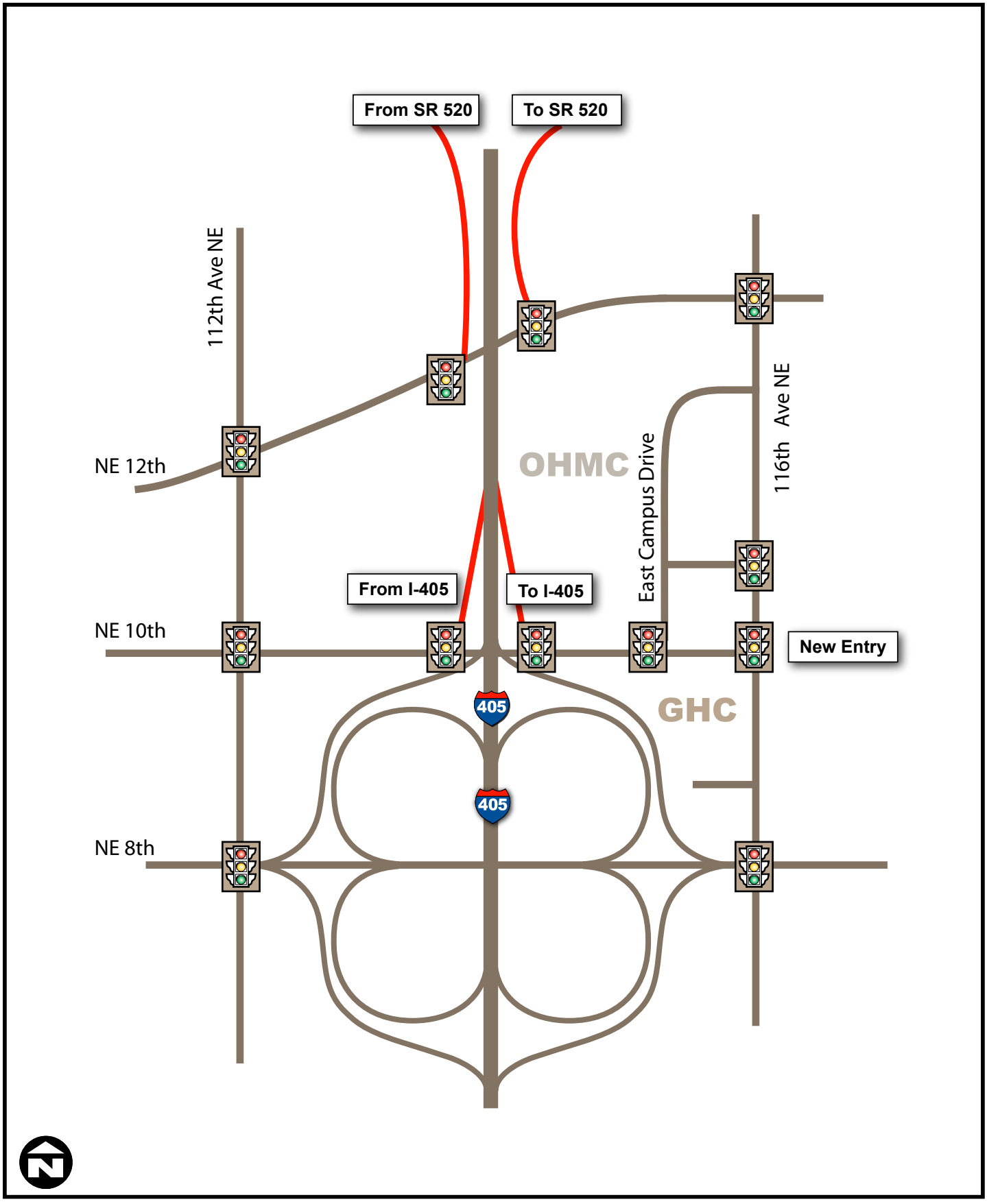

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Figure 2-15
2030 Alternative 4: NE 10th Extension with Ramps at NE 10th and NE 12th