UCHealth – University of Colorado Hospital Parking Garage 2 Project

University of Colorado Design Review Board
Pre-Design
January 14, 2020

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Contents

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A. Introductions

A/E Team

Pact Studios, LLC – Architectural Design

Martin & Martin – Civil and Structural Engineering

Specialized Engineering Solutions – MEP Design; Low Voltage; Lighting Design

Kimley>Horn – Landscape Architecture

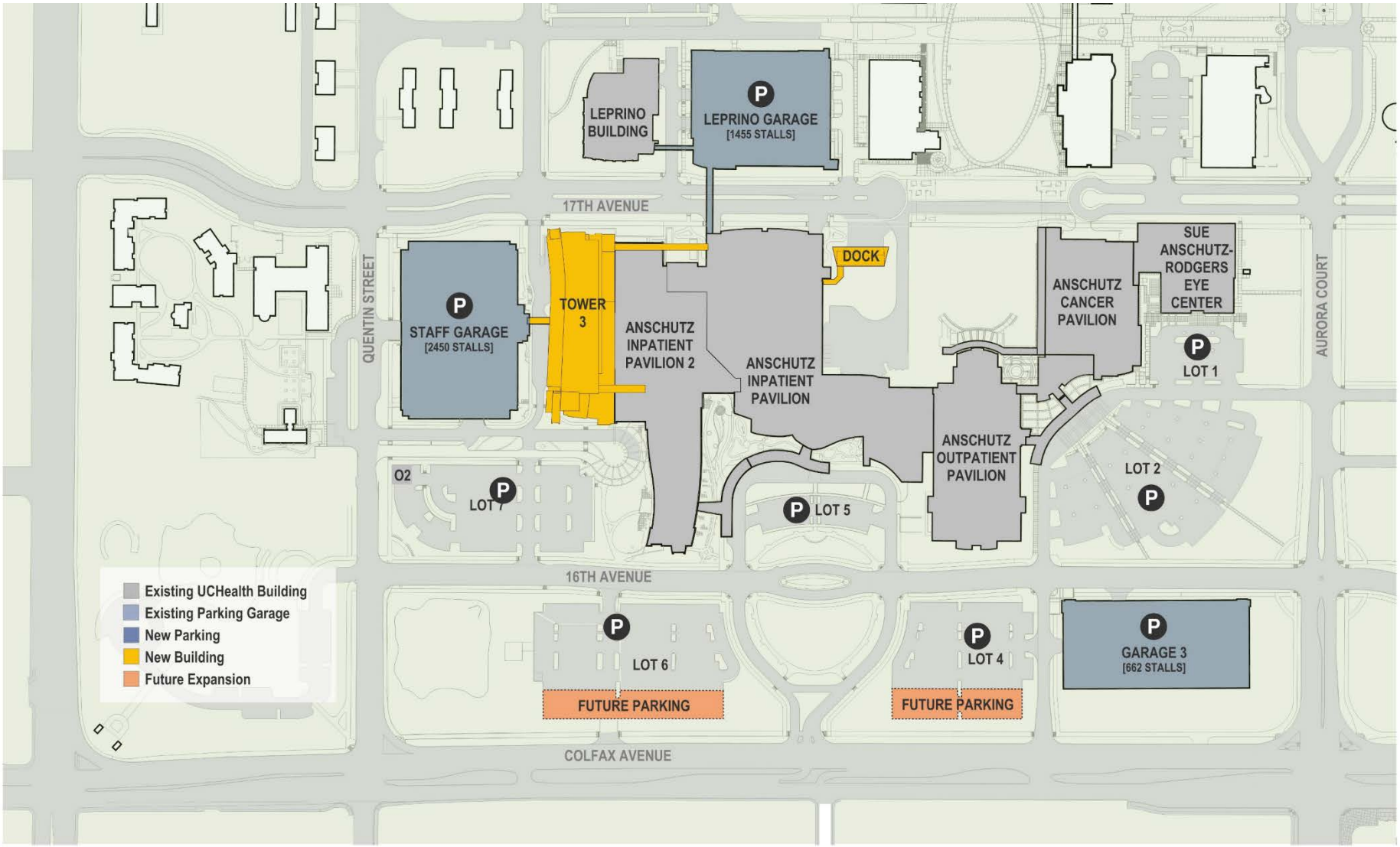
Felsburg Holt & Ullevig – Traffic, Transportation, and Parking Study

Lerch Bates – Vertical Transportation

Fd2s – Graphic and Signage Design

B. Project Description

Campus Plan


LEPRINO BUILDING
LEPRINO GARAGE
[1455 STALLS]
17TH AVENUE
QUENTIN STREET
STAFF GARAGE
[2450 STALLS]
TOWER 3
ANSCHUTZ INPATIENT PAVILION 2
ANSCHUTZ INPATIENT PAVILION
DOCK
ANSCHUTZ CANCER PAVILION
SUE ANSCHUTZ-RODGERS EYE CENTER
AURORA COURT
LOT 1
ANSCHUTZ OUTPATIENT PAVILION
LOT 2
O2
LOT 7
LOT 5
16TH AVENUE
LOT 6
FUTURE PARKING
LOT 4
FUTURE PARKING
GARAGE 3
[662 STALLS]
COLFAX AVENUE
Existing UCHealth Building
Existing Parking Garage
New Parking
New Building
Future Expansion

Patient Experience - Parking

Self parking is overwhelmingly the main dissatisfier of campus visits for UCHealth patients.

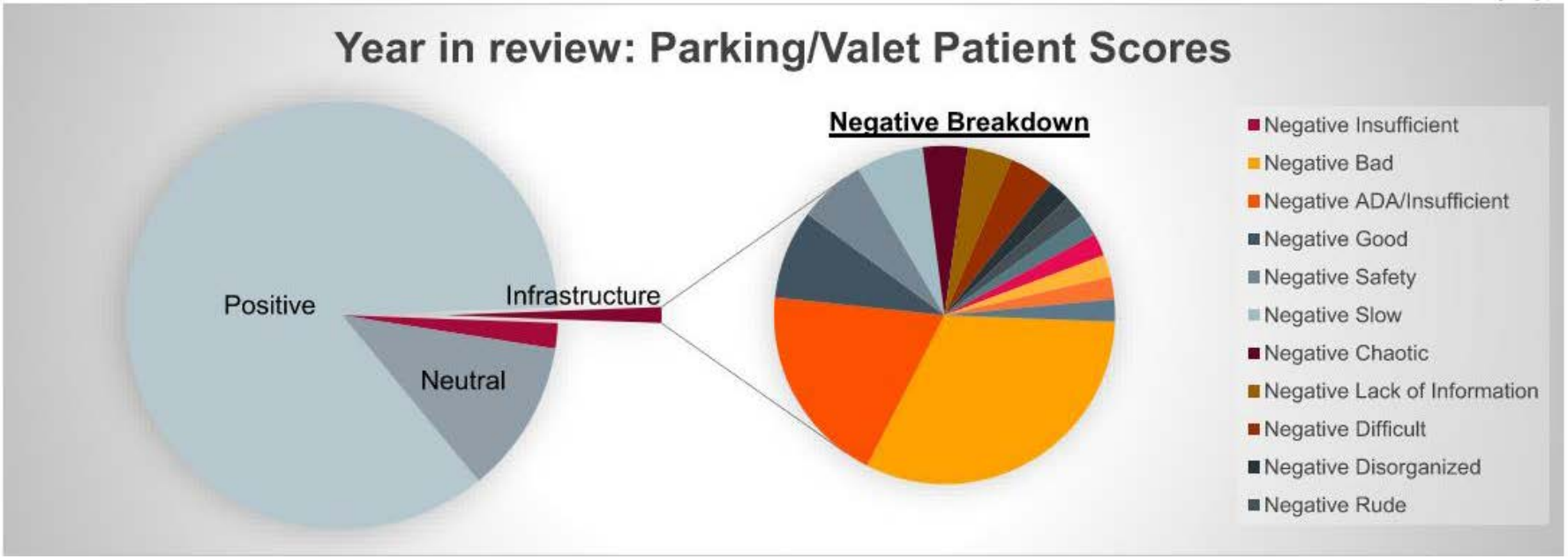
Parking Sentiment

Self parking is almost universally a challenge for patients and their families, causing many to be late for appointments and even feel unsafe on the trek to the building.

Valet parking received mixed feedback, with some patients loving the service and others leaving upset.

> The reason I rated the hospital a 4 out of 10 is because parking and traffic in this area is just [awful].

> Everything would be rated a 10 except parking. It is horrible....even at 7pm. Extremely frustrating!!



Parking Projections

	2017/2018	2019 [2]	2020	2021	2022	2023 [3]	2024	2025	2026 [4]	2027	2028	2029
Population Growth												
Inpatient	620	684	684	684	684	787	787	787	859	859	859	859
Outpatient	4,639	5,396	5,666	5,949	6,247	6,559	6,887	7,231	7,593	7,972	8,371	8,790
Employee	6,350	6,383	6,442	6,501	6,560	7,197	7,263	7,330	7,801	7,874	7,948	8,022
Vendors		100	200	1,000	150	100						
Total	**11,609**	**12,563**	**12,991**	**14,134**	**13,641**	**14,642**	**14,937**	**15,349**	**16,253**	**16,705**	**17,178**	**17,670**
Parking Demand												
Inpatient	542	598	598	598	598	687	687	687	750	750	750	750
Outpatient	1,021	1,188	1,248	1,310	1,375	1,444	1,516	1,592	1,672	1,755	1,843	1,935
Employee	4,321	4,343	4,383	4,423	4,464	4,897	4,942	4,988	5,308	5,358	5,408	5,458
Vendors		100	100	800	-850	-50	-100					
Total	**5,884**	**6,229**	**6,328**	**7,131**	**5,587**	**6,978**	**7,146**	**7,267**	**7,730**	**7,863**	**8,001**	**8,144**
Effective Supply[1]												
Inpatient	402	402	402	402	402	402	402	402	402	402	402	402
Outpatient	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040	1,040
Employee	3,608	4,653	4,558	3,798	4,606	3,513	3,608	3,608	3,608	3,608	3,608	3,608
Total	**5,050**	**6,095**	**6,000**	**5,240**	**6,048**	**4,955**	**5,050**	**5,050**	**5,050**	**5,050**	**5,050**	**5,050**
Adequacy/Deficiency												
Inpatient	(140)	(196)	(196)	(196)	(196)	(286)	(286)	(286)	(349)	(349)	(349)	(349)
Outpatient	19	(148)	(207)	(270)	(335)	(404)	(476)	(552)	(632)	(715)	(803)	(895)
Employee	(713)	310	175	(625)	142	(1,383)	(1,334)	(1,380)	(1,700)	(1,750)	(1,799)	(1,850)
Total	**(833)**	**(34)**	**(228)**	**(1,090)**	**(389)**	**(2,073)**	**(2,096)**	**(2,217)**	**(2,680)**	**(2,813)**	**(2,951)**	**(3,094)**

[1]Effective Supply: the maximum number of parking spaces that can realistically be used within a given system. The number of spaces supplied to each user group is estimated based on peak efficiency usage remaining at 95% of total inventory

[2]Opening of Capri Lot (Net 1,200 spaces)

[3] Tower III completion (Net 103 beds, 576 Employees)
Sunset of Capri Lot (Net loss -1,200 spaces)

[4] Tower III opens more floors(Net gain 72 beds, 403 Employees)

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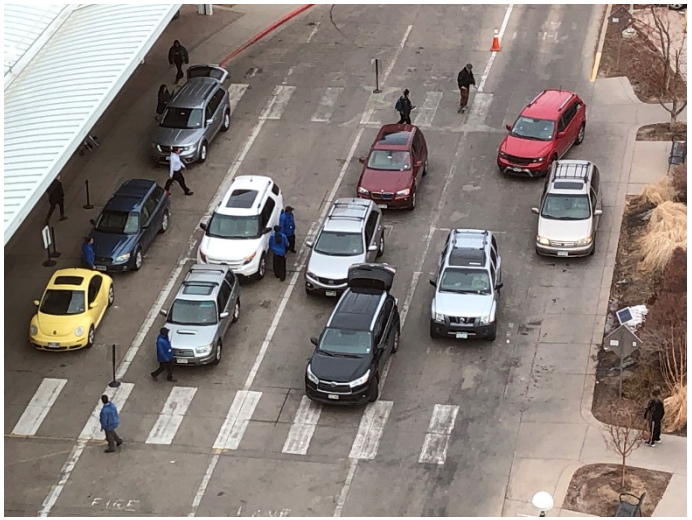
Pedestrian Safety

1. Improve intersection at 16th Ave and “Troy.”
2. Relieve congestion at valet operations.
3. Provide designated crosswalk from new Lot 2 Garage to main entrance.
4. Design to accommodate future pedestrian bridge from level 3 - Lot 2 Garage to level 2 - AOP/ACP.



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Project Goals & Objectives

1. Expand visitor parking proximal to the Anschutz Outpatient Pavilion entrance to support projected outpatient volume growth.

2. Promote greater overall pedestrian safety, including crossing 16th Avenue and accessing parking and bus stop areas, through improved site circulation for both vehicles and pedestrians

3. Create flexibility in the design of the parking structure to accommodate future changes in technology, transportation, and user demographics (patient, visitor, valet, employee)

4. Design to accept a future above grade pedestrian crossing into Anschutz Outpatient Pavilion/Anschutz Cancer Pavilion.

5. Enhance the Patient Experience: what they see and feel including access, cleanliness, and sense of arrival

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Guiding Principles

1. Maintain the attractiveness of the east entrance to the campus. Building should be complimentary to surroundings.

2. Develop a solution that enhances pedestrian and vehicular flow for the Anschutz Medical Campus and the sense of arrival for outpatient visitors.

3. Be mindful of system and component performance and durability. Reduce maintenance demands.

4. Respect the future. Consider sustainable alternatives and capacity for future expansion.

5. Employ lessons learned from existing parking structures on campus.

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Proposed Program of Improvements

UCHealth University of Colorado Hospital is seeking to expand parking services on the Anschutz Medical Campus to handle current and future demands for its outpatient population.

Physical expansion is envisioned as:

- A multi-story parking garage located in the existing Lot 2 parking lot serving the need for approximately 1,300 outpatient and visitor parking spaces.
- Dedicate existing Garage 3 to valet parking in basement and visitors on levels 1 and 2.
- Providing additional ADA parking which is in high demand.
- Allowance for a potential future pedestrian bridge connecting garage to AOP/ACP.
- Improved site circulation to increase pedestrian safety.

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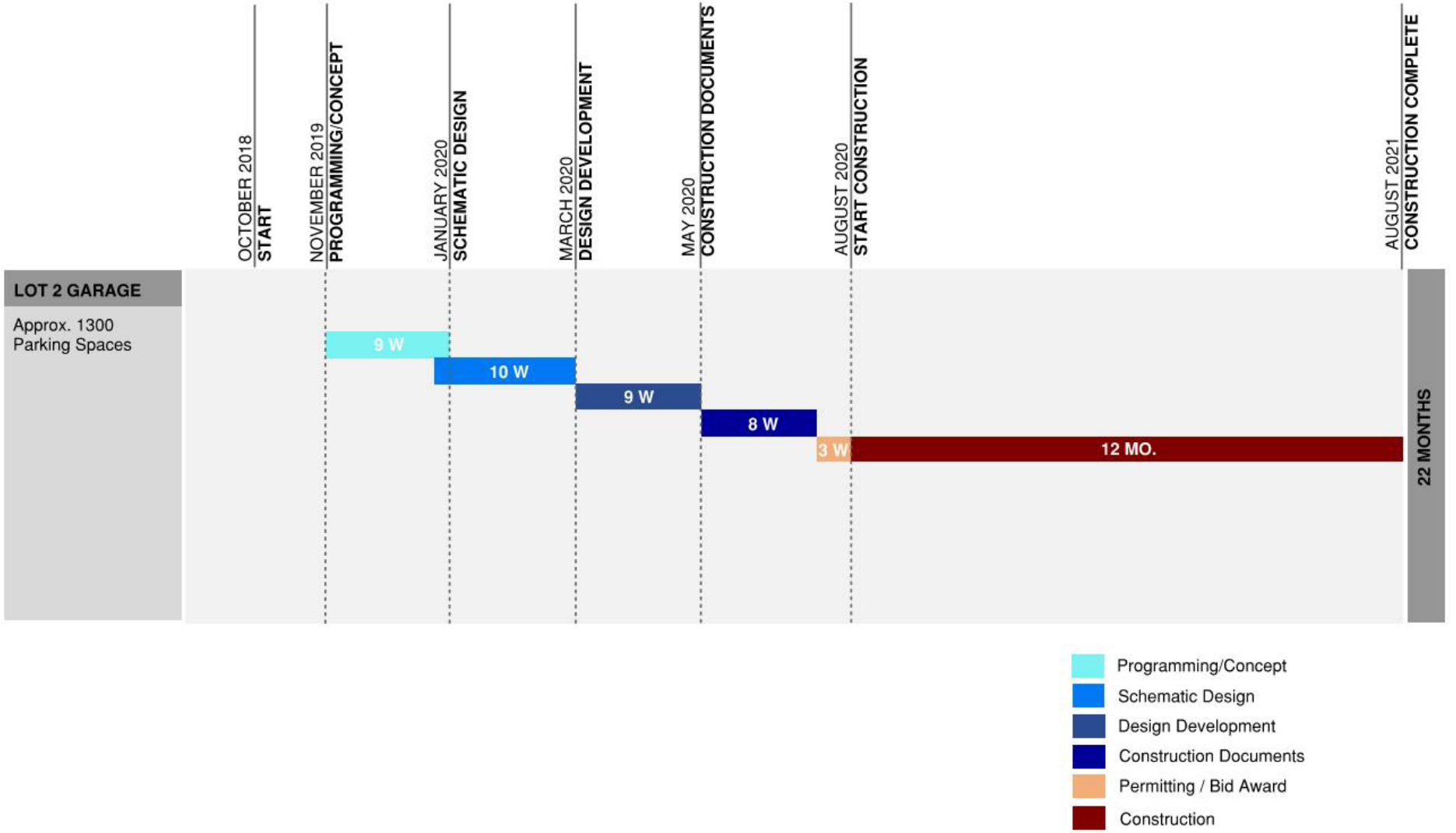
Proposed Schedule of Completion



Preliminary Construction Budget

The preliminary construction budget for the UCHA Lot 2 Parking Garage Project is $35 Million.

Affected Jurisdictions

- Anschutz Medical Campus - UCD
- City of Aurora (Wet Utilities)

C. Project-related Opportunities and Constraints

Site & Programming Conditions & Assumptions

- Project may require changes to existing vehicular site access and circulation.
- Project will tie into existing site infrastructure.
- Garage and associated site and landscape scope will be completed in one phase.

Project Issues and Concerns

- Pedestrian circulation is of prime importance, including opportunity to improve safety of intersection at 16th Avenue and southbound drop-off drive.
- Vehicular circulation needs to be mindful of queuing and existing traffic patterns around the site.
- Existing site is not "flat" and will require attention to place the building at proper height to avoid significant regrading.
- Tree lawn on east portion of site is protected.
- Design needs to have ability to implement extra enhancements in phases.
- Must maintain operation of drive lane and drop-off while project is under construction.

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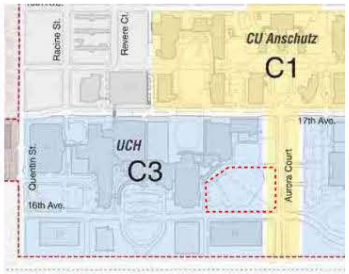
Context of Project

Site Conditions

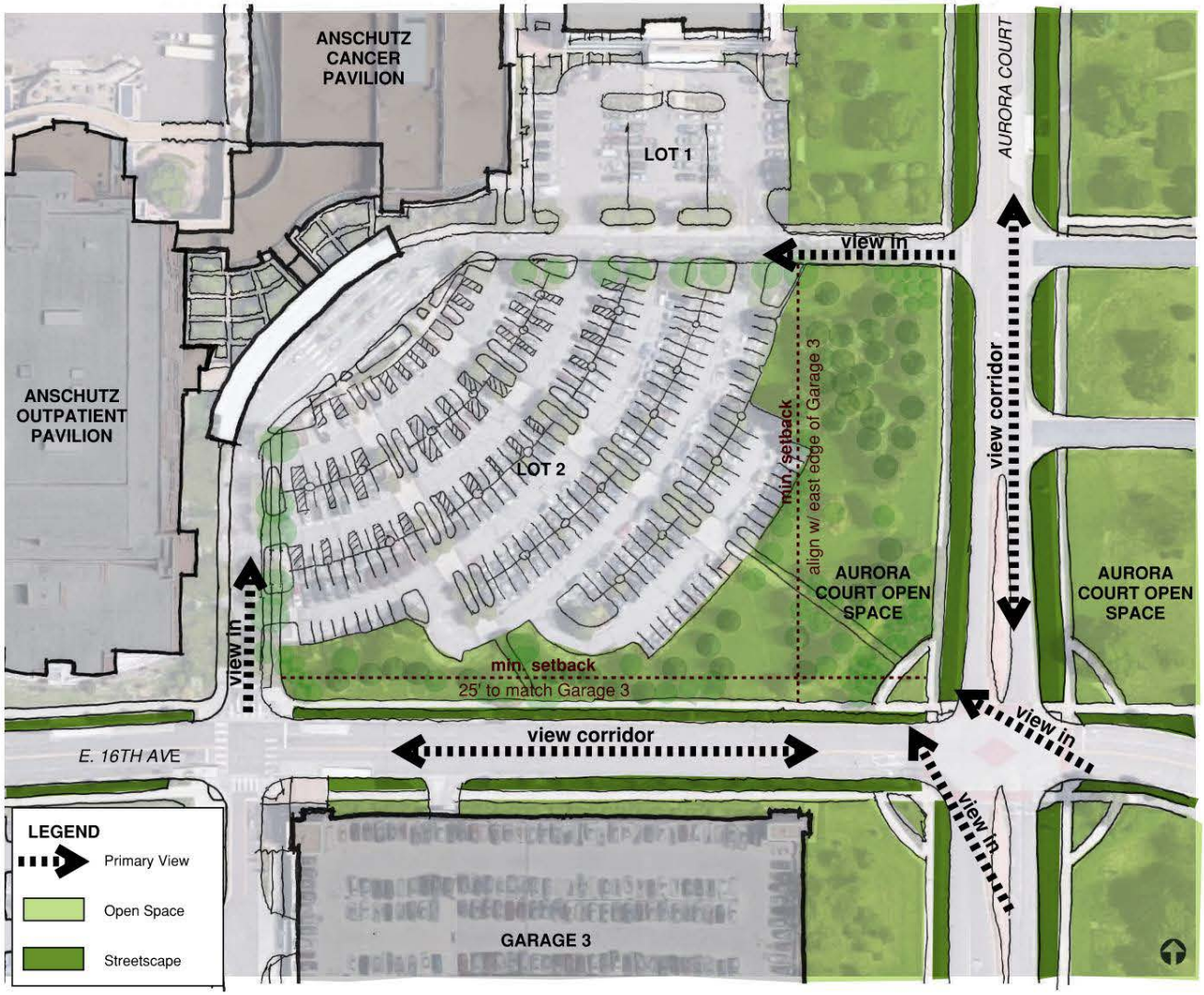
C3 Hospital District Guidelines

Building Placement:	Greatest density located at center of superblock with lower density development toward the perimeter.
Frontage Types:	Porte Cochere, Healing Gardens, Canopies
Civic Space Typology:	Internal Atria, Commons, & Gardens
Wayfinding Methodology:	Towers | Canopies | Signage
Building Heights:	4 story min., 6 story max. (up to 14 stories w/DRB approval)
Setbacks:	Front: N/A Rear: N/A Side: N/A



2012 Facilities Master Plan - Character Districts

2012 Facilities Master Plan - Open Space



Site Views

Photo 1 – Looking West along 16th Ave

Photo 2 – Looking North along Aurora Ct

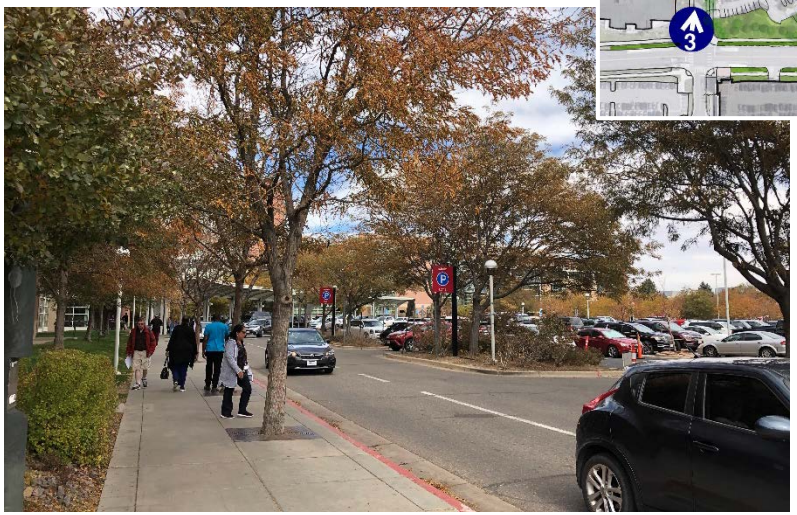


Photo 3 – Looking North towards AOP entrance

Photo 4 - Looking West towards AOP entrance

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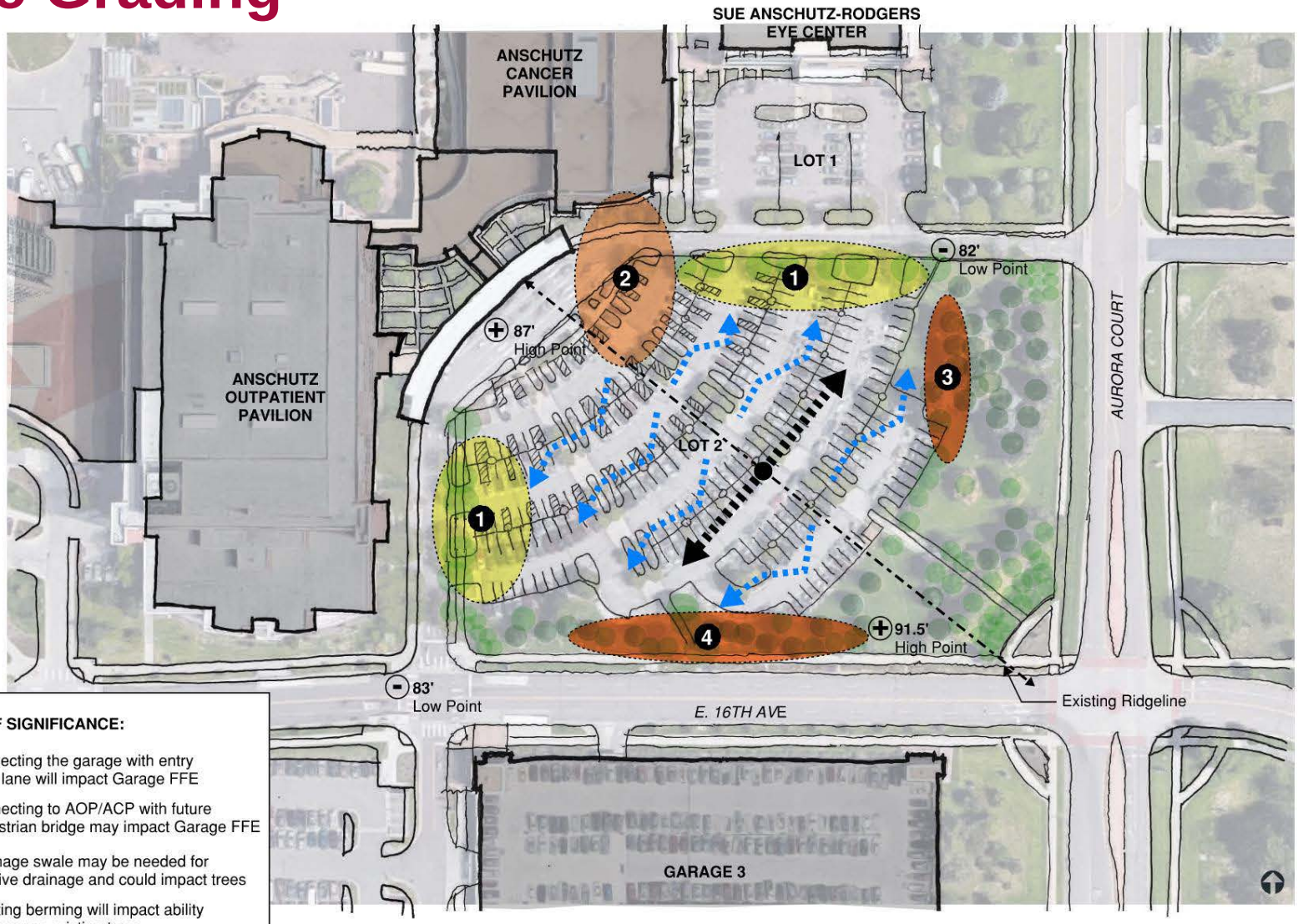
Site Grading



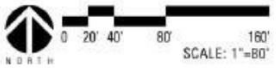
Site Landscape - Existing

LANDSCAPE BERMS

EXISTING TREES

SIGNIFICANT TREE GROVE

DROP-OFF AREA



PERIMETER SIDEWALK

BUILDING ENTRANCES

VALET PARKING AREA

ADA PARKING AREA

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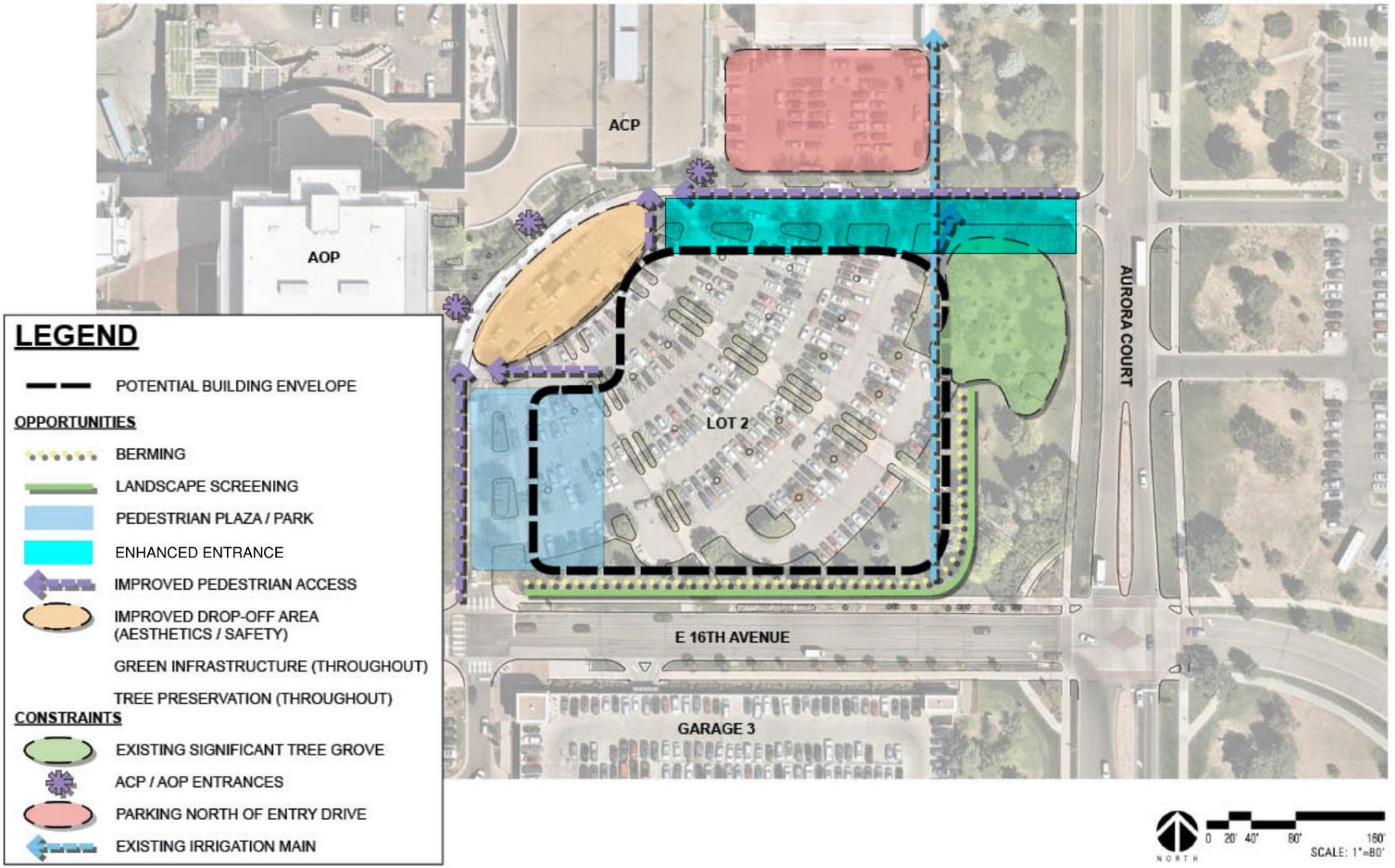
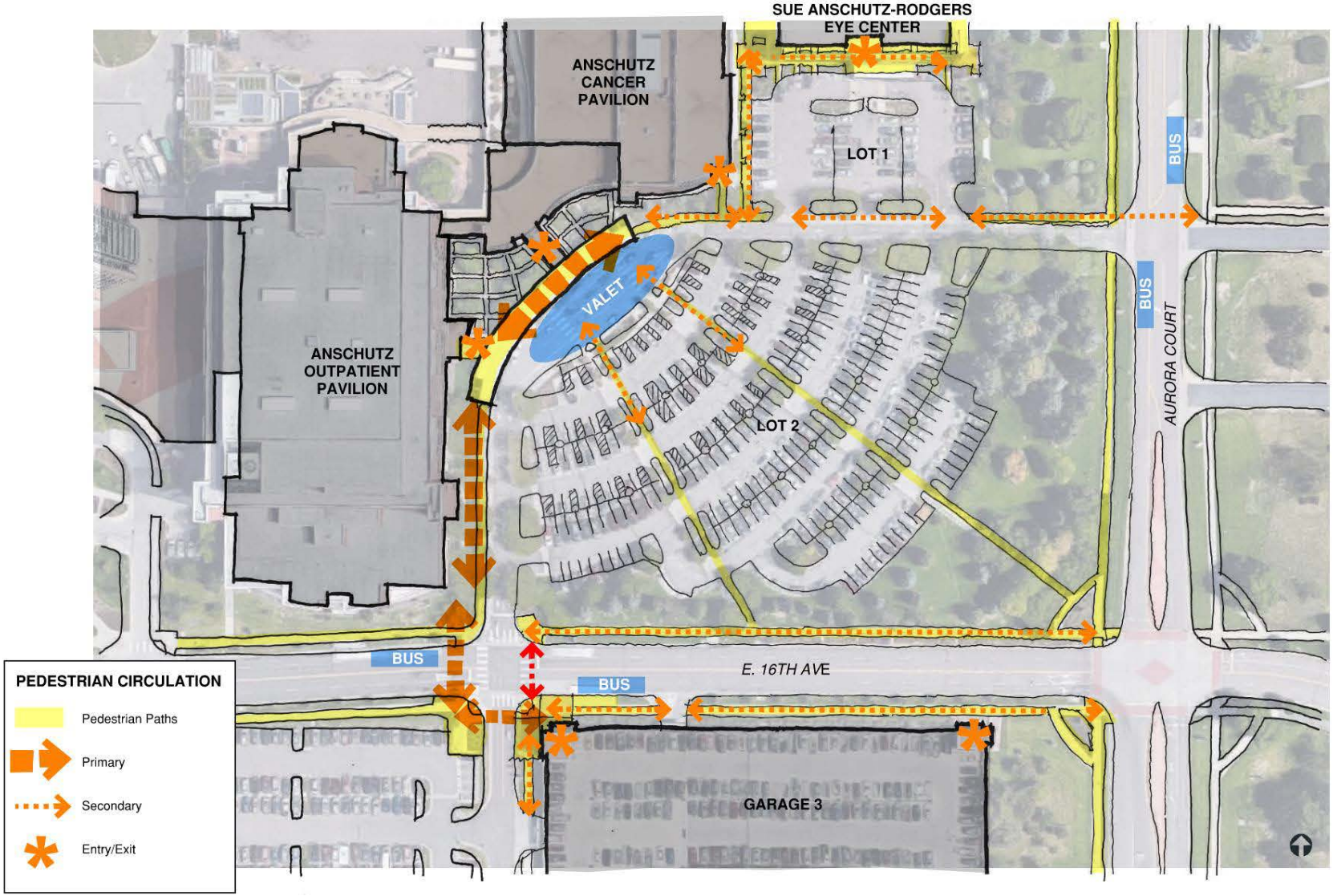
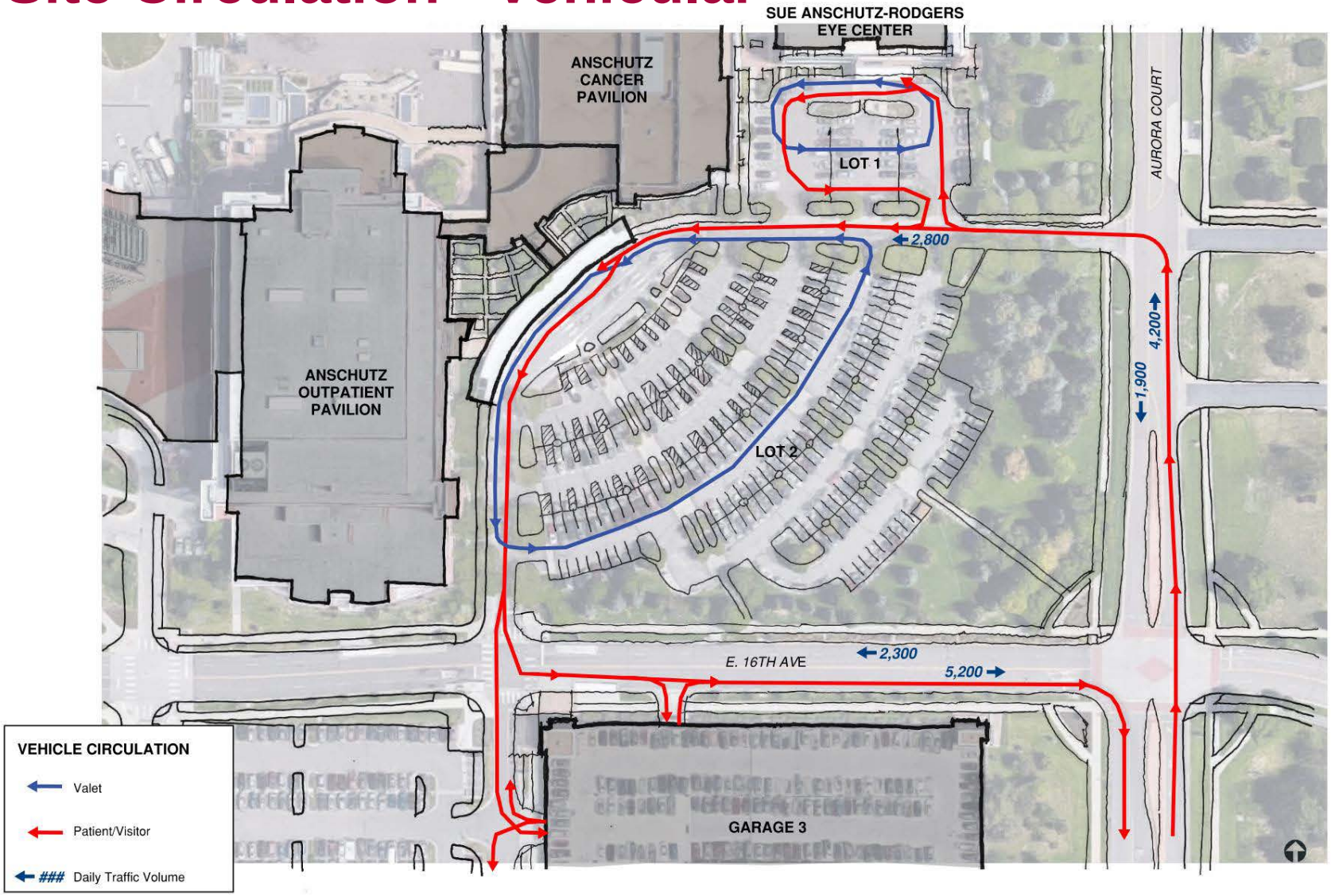
Site Landscape - Opportunities



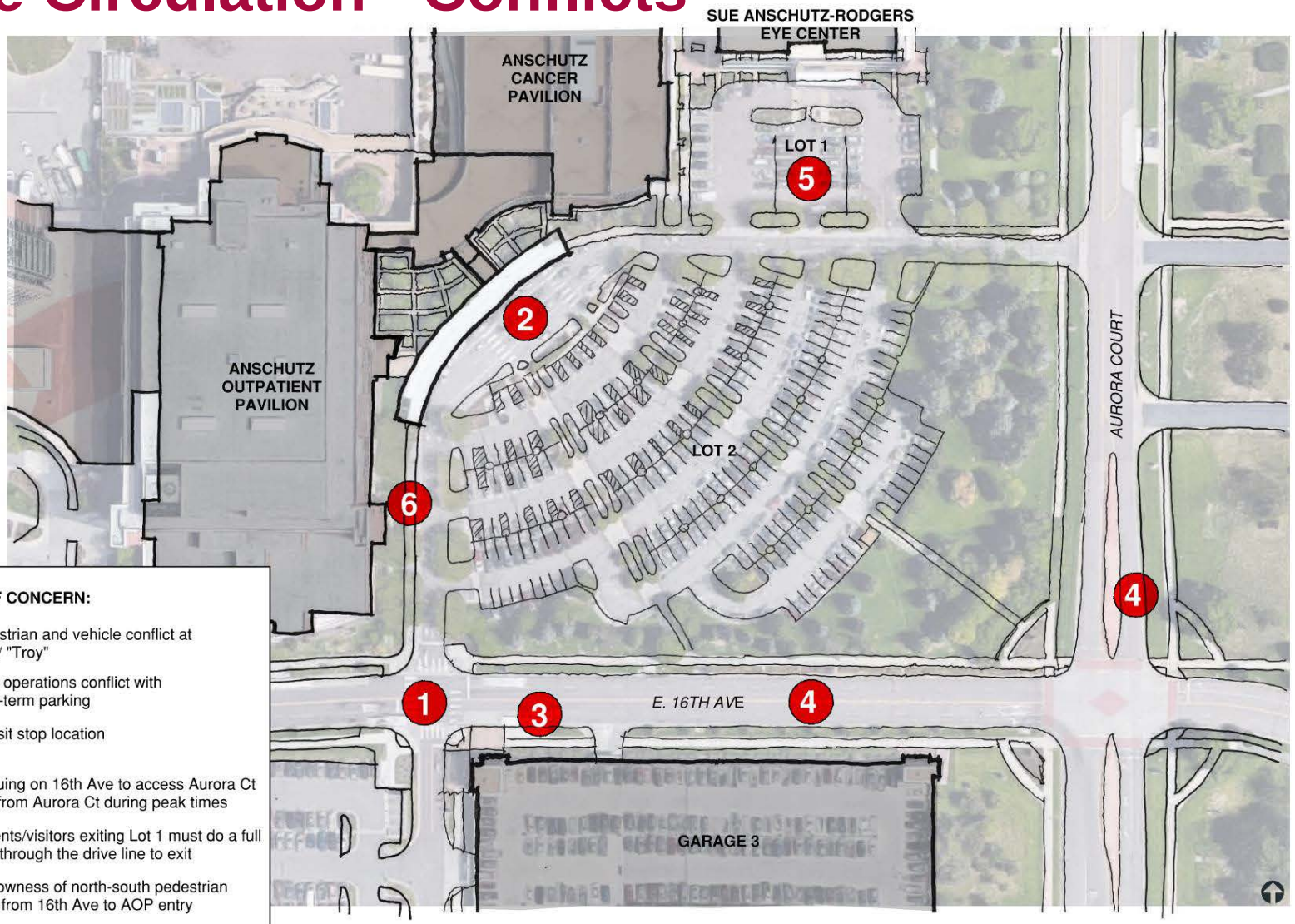
Site Circulation - Pedestrian



Site Circulation - Vehicular



Site Circulation - Conflicts



AREAS OF CONCERN:

1. Pedestrian and vehicle conflict at 16th / "Troy"
2. Valet operations conflict with short-term parking
3. Transit stop location
4. Queuing on 16th Ave to access Aurora Ct and from Aurora Ct during peak times
5. Patients/visitors exiting Lot 1 must do a full loop through the drive line to exit
6. Narrowness of north-south pedestrian walk from 16th Ave to AOP entry

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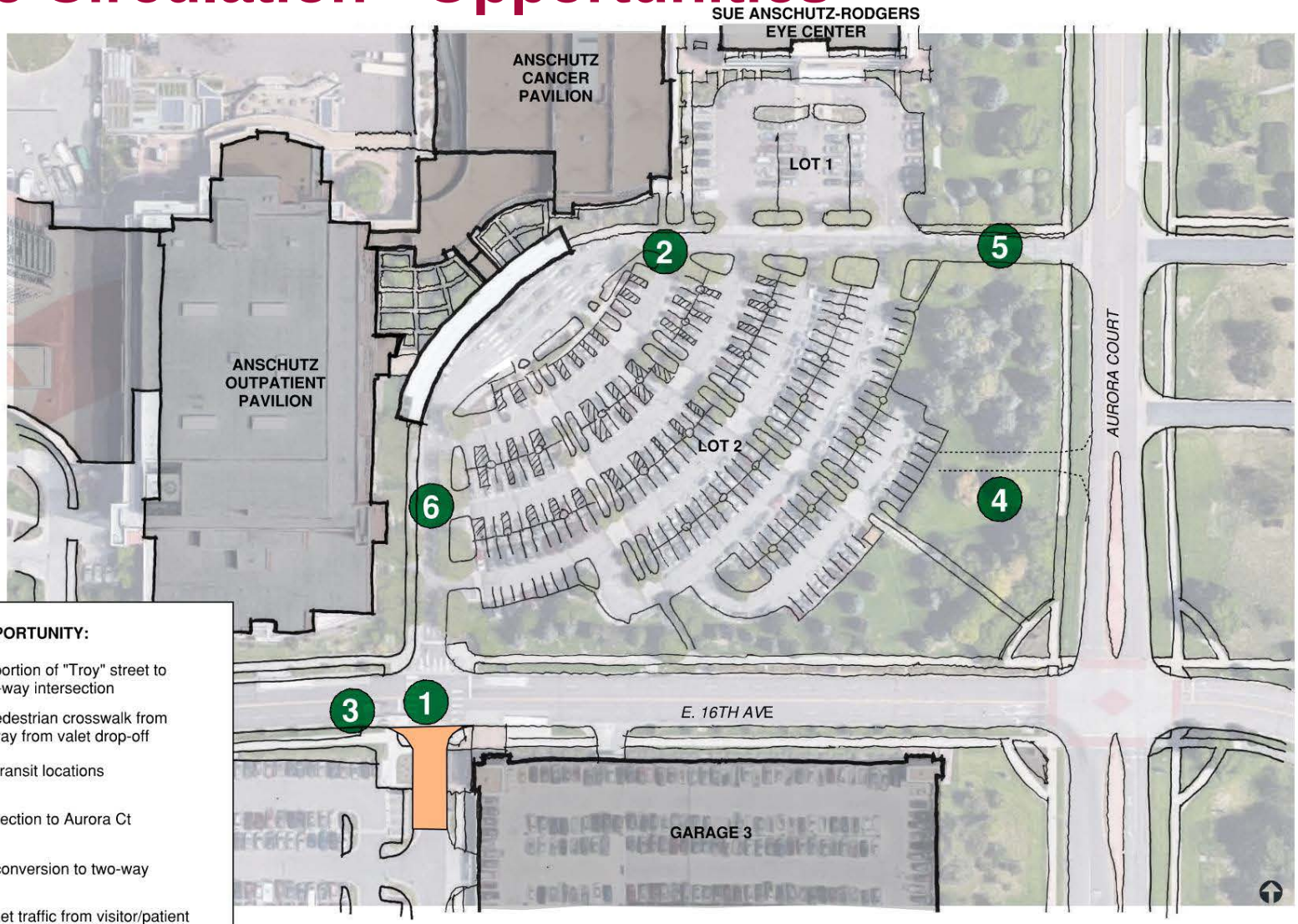
Site Circulation - Opportunities

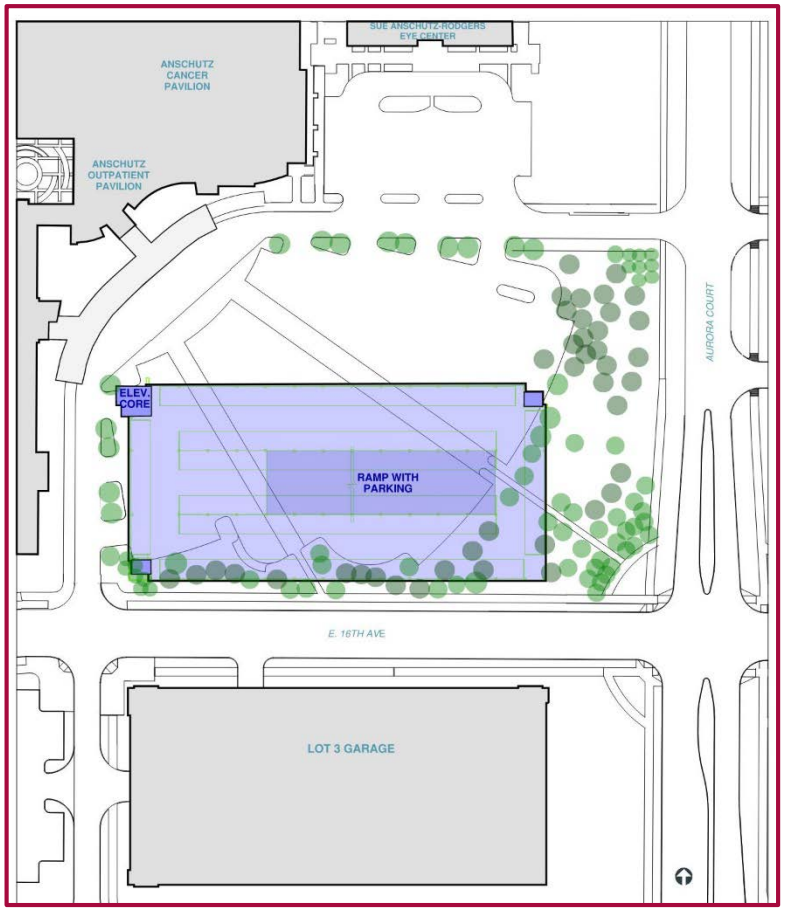


AREAS OF OPPORTUNITY:

1. Close off portion of "Troy" street to create a 3-way intersection
2. Provide pedestrian crosswalk from garage away from valet drop-off
3. Relocate transit locations
4. New connection to Aurora Ct
5. Possible conversion to two-way
6. Isolate valet traffic from visitor/patient

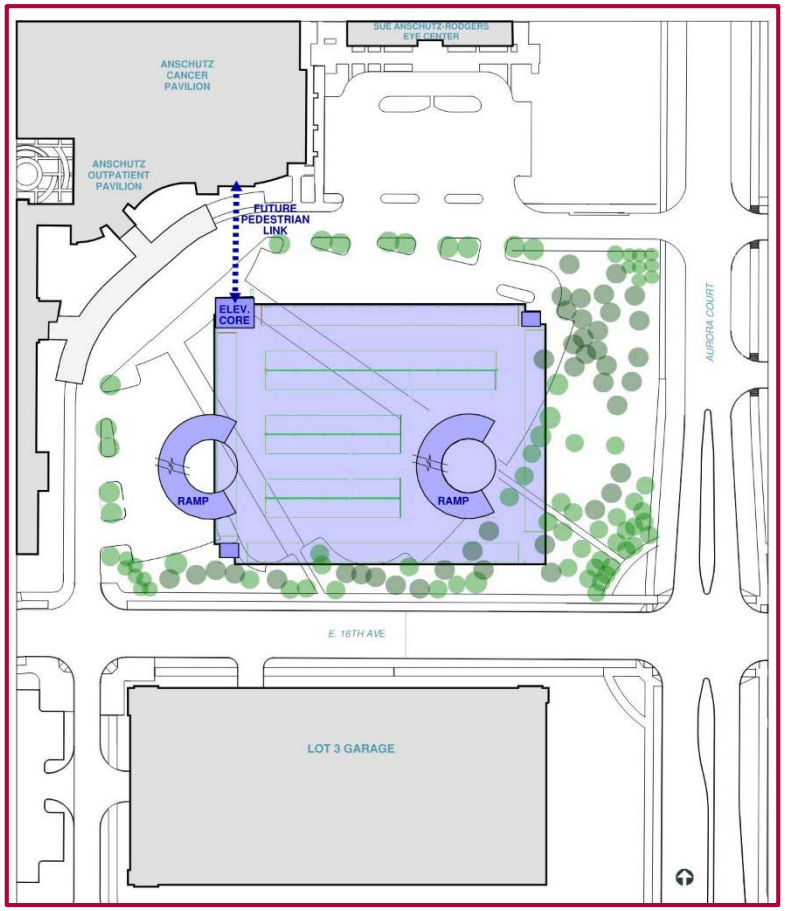
D. Implications of Program & Site Analysis

Massing Studies



3-bay Option

6 levels = Approx. 1,300 spaces
10% to be ADA
235 space per typical level (no ADA)



Helix Option

6 levels = Approx. 1,110 spaces
10% to be ADA
191 space per typical level (no ADA)

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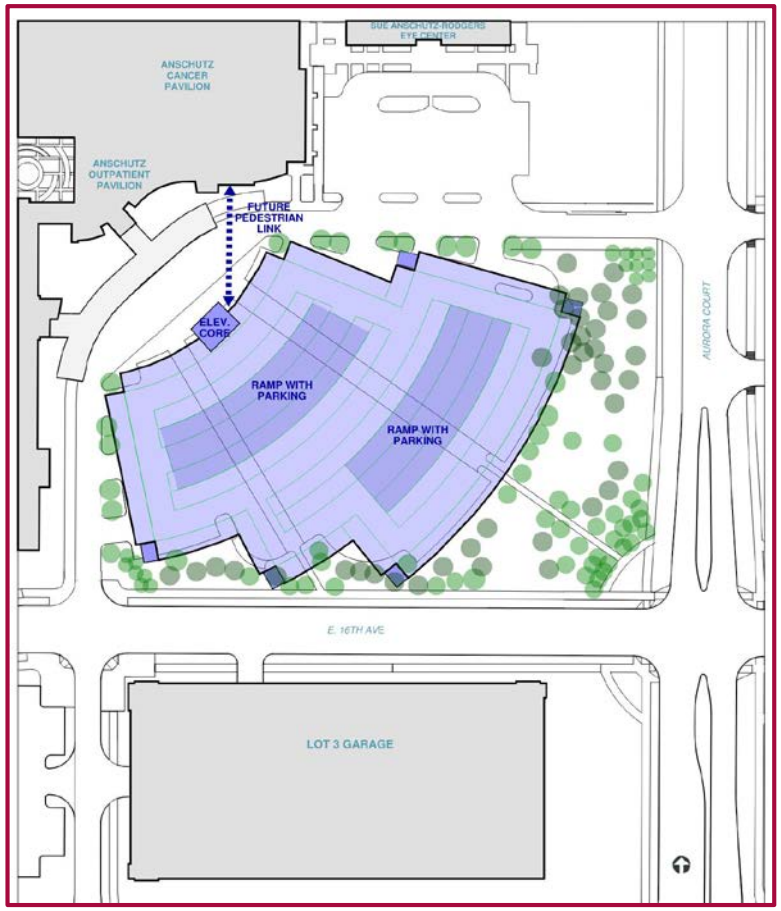
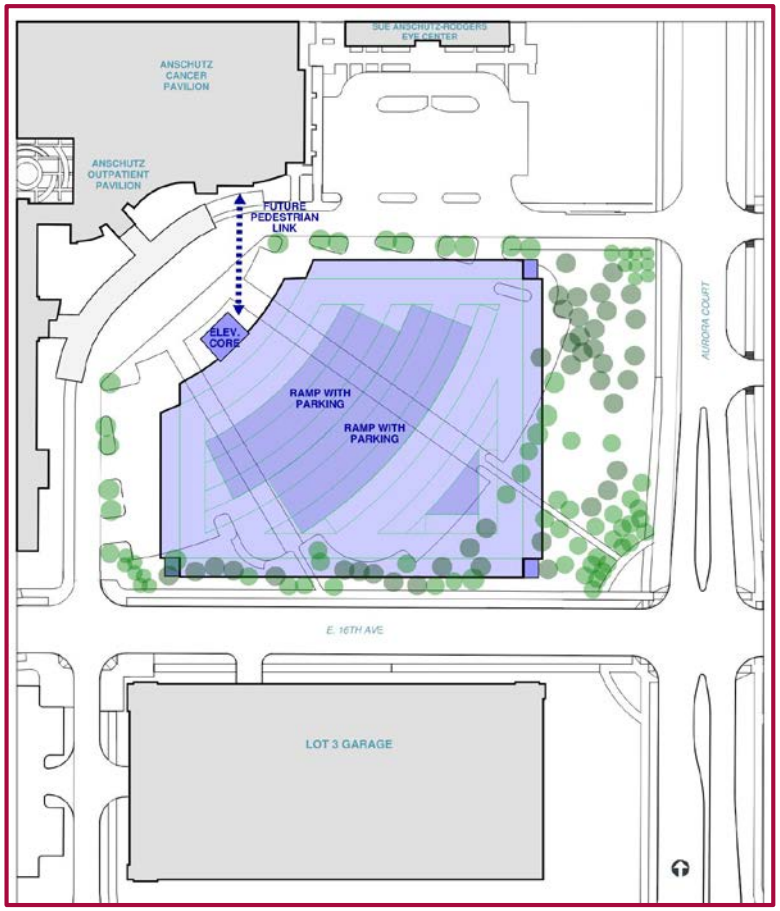
Massing Studies



Fan Option

5 levels = Approx. 1,500 spaces
10% to be ADA
324 space per typical level (no ADA)



Max. Footprint Option

5 levels = Approx. 1,300 spaces
10% to be ADA
295 space per typical level (no ADA)

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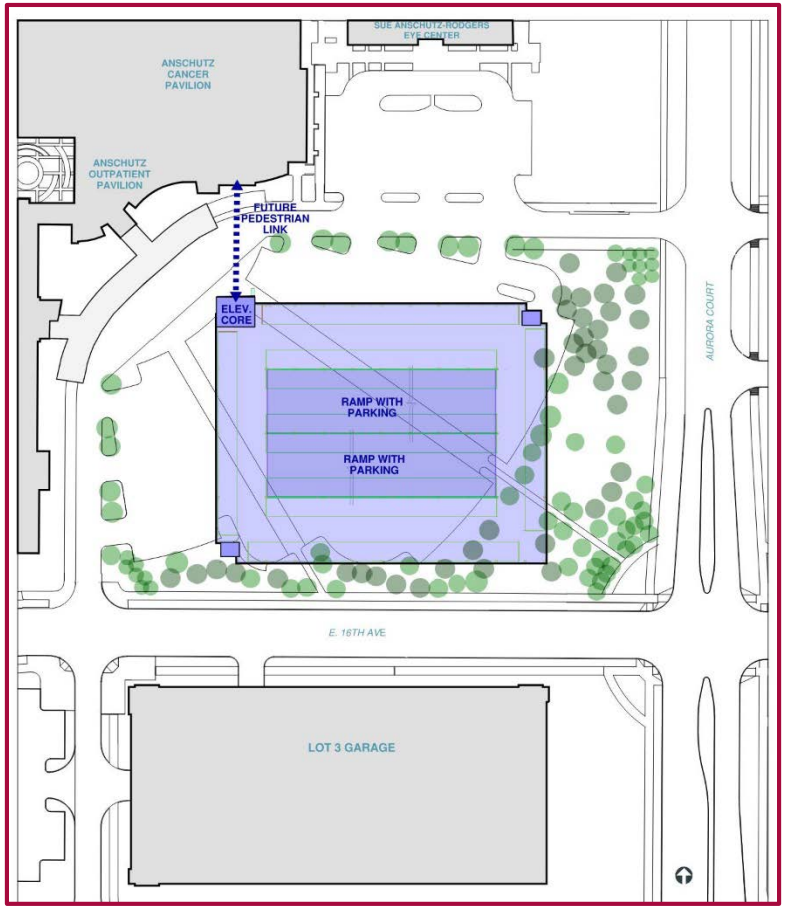
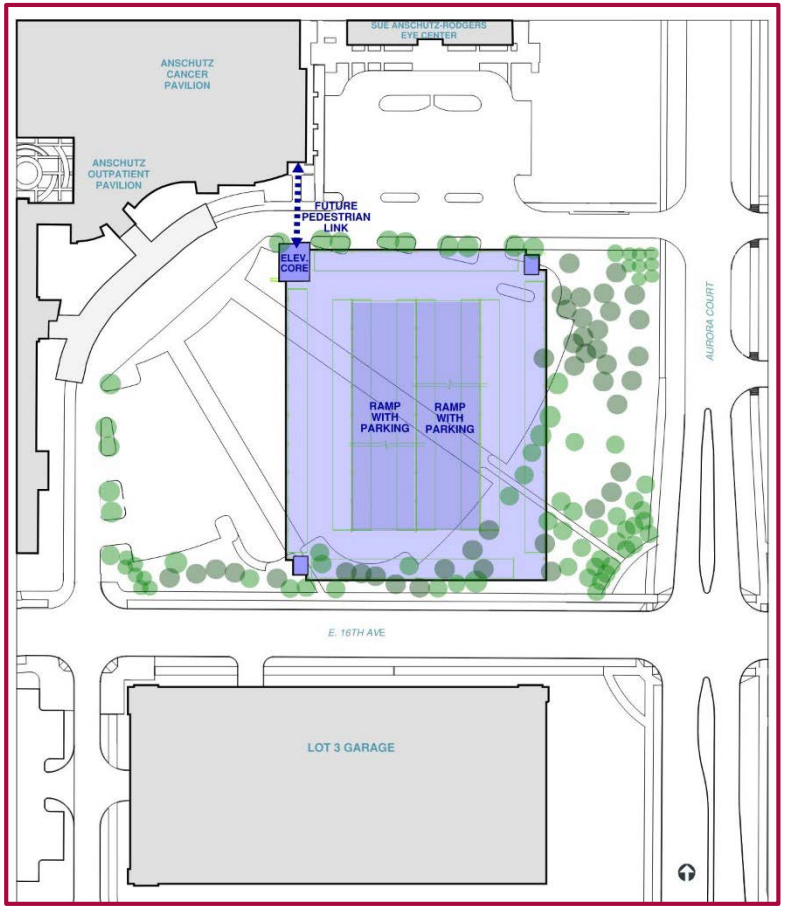
Massing Studies



4-bay E/W Option

6 levels = Approx. 1,300 spaces
10% to be ADA
243 space per typical level (no ADA)



4-bay N/S Option

6 levels = Approx. 1,300 spaces
10% to be ADA
243 space per typical level (no ADA)

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Street Level View - Existing

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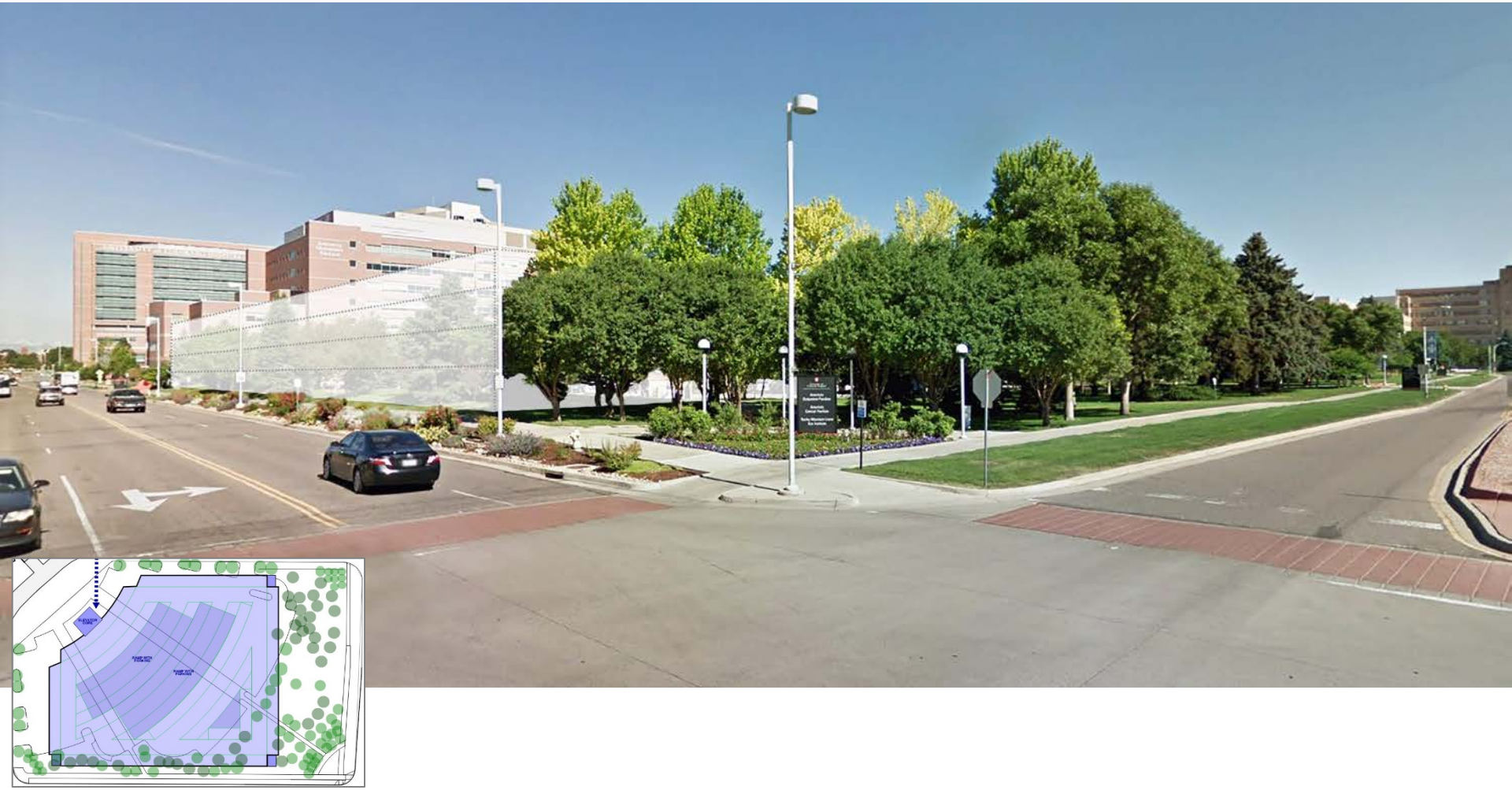
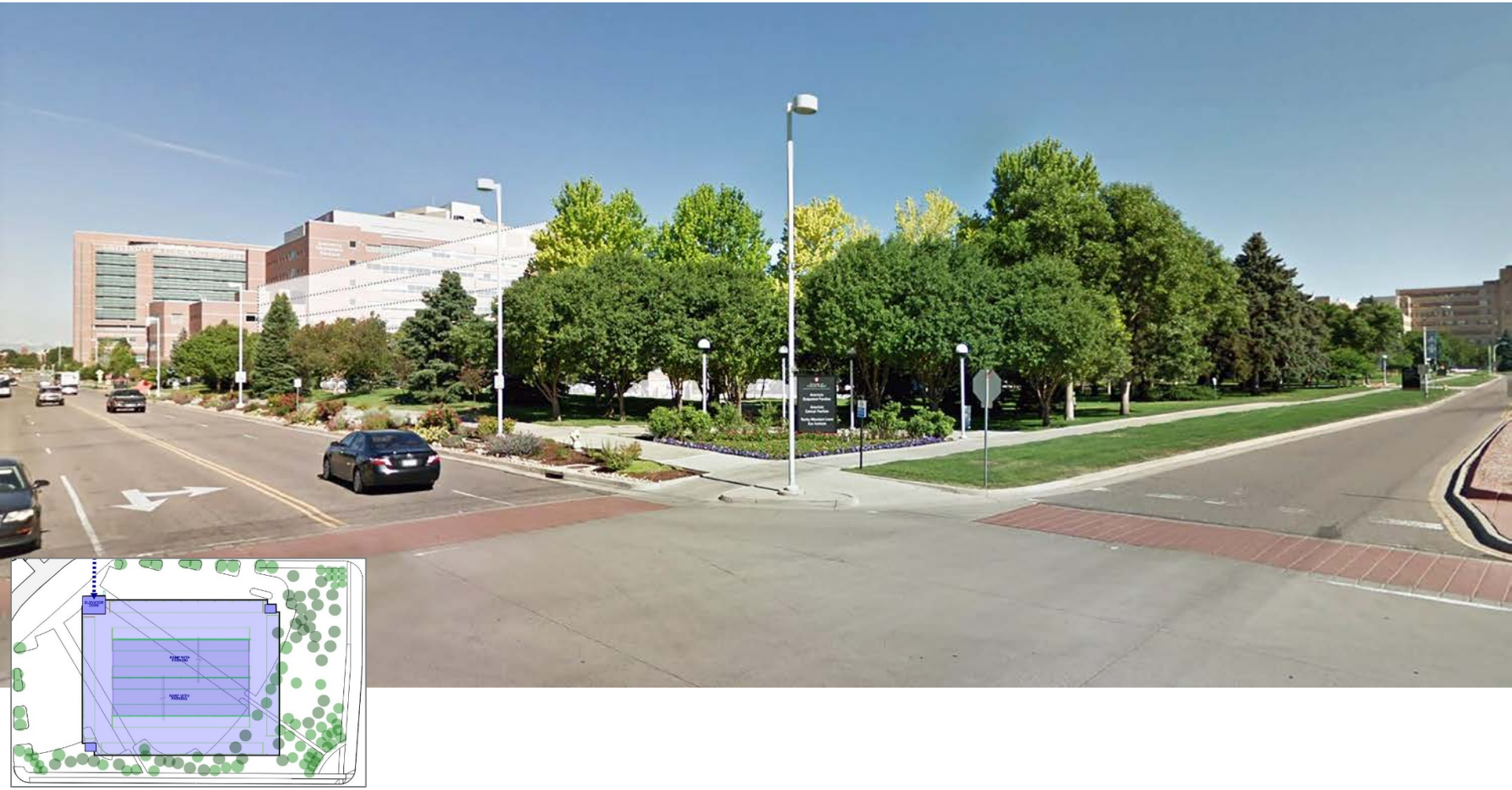
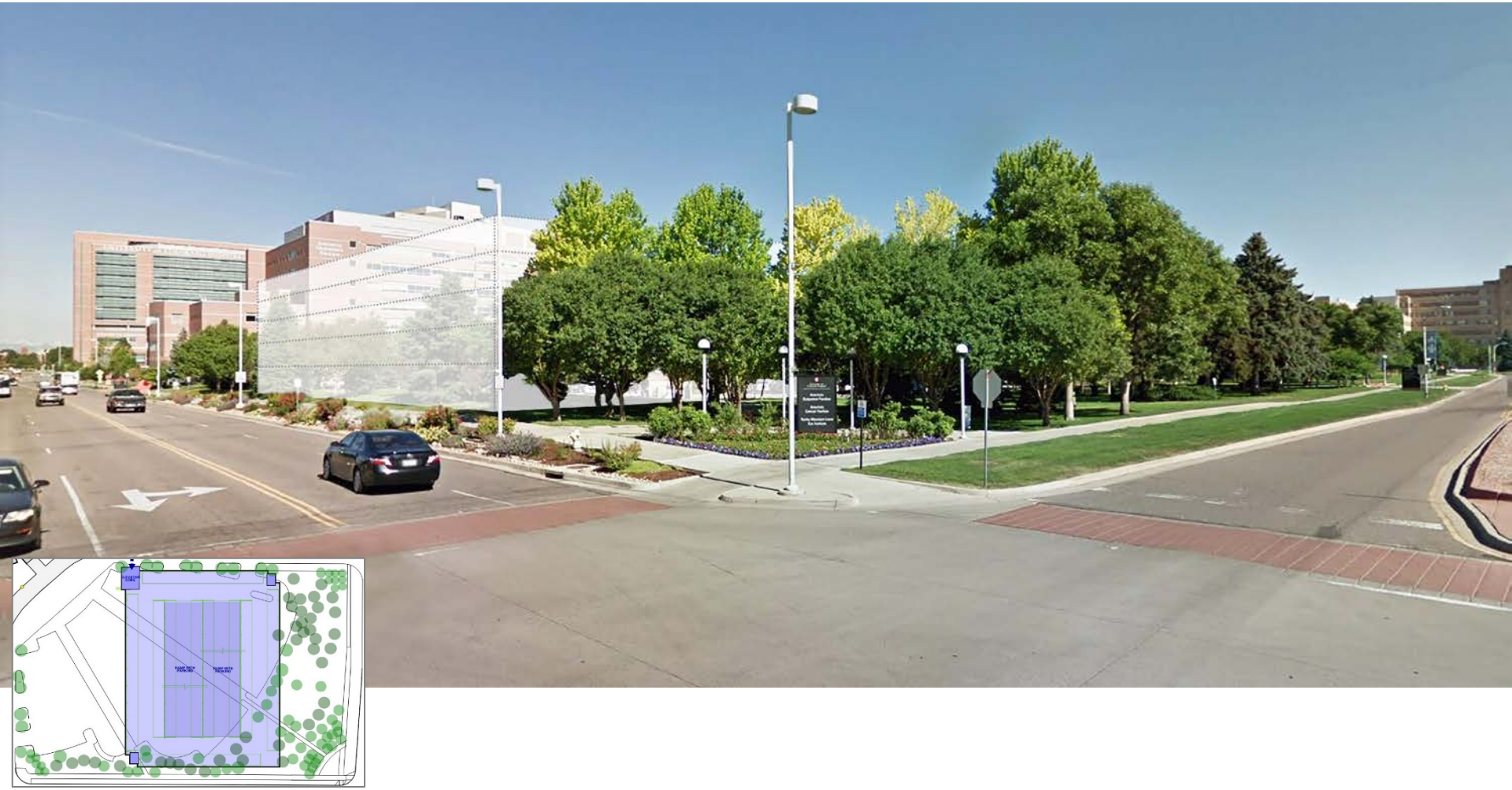
Street Level View – Max. Footprint



Street Level View – 4-Bay E/W



Street Level View – 4-Bay N/S



Aerial View

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Aerial View – Max. Footprint

Aerial View – 4-Bay E/W

Aerial View – 4-Bay N/S

Thank you

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Appendix

Ride-hailing Overview

Ride-hailing is a vehicular based service that arranges one-time, immediate-notice rides through a mobile application that relies on GPS navigation, smart technology, and social networking

- According to a 2018 survey, roughly 30% (98.2M) of Americans use ride-hailing programs
- Across the healthcare industry, national no-show rates vary between 10 and 30 percent
  - A 2017 Colorado Health Access Survey (CHAS) interviewed over 10,000 households in the state, discovering that nearly 5% of people lacked proper transportation to attend appointments
- In 2019, a team from the University of Colorado, Denver, determined that of 311 ride-hailers surveyed, 1 in 3 agree to using these programs because parking can be difficult to find
- As recent as this year, Uber and Lyft have begun introducing Medical Transportation across the U.S.
  - Lyft is now an enrolled Medicaid Provider in Arizona, following non-emergency medical transportation (NEMT) regulations to provide Medicaid beneficiaries a ride to medical appointments
  - Uber recently launched Uber Health; a booking and coordination initiative that pulls patient appointment information through the Cerner EHR, and arranges rides on behalf of the patient

(Reinhart, 2018)
(Murray, 2019)
(Uber, 2020)
(Lyft, 2019)
(Schmitt, 2019)
(Ingold, 2018)
(Colorado Health Access Survey, 2017)
(Wicklund, 2019)

UCHealth Ride-hail Partnering

In February 2017, the University of Colorado Hospital partnered with Uber, who offered a 30% discount to any passenger travelling to and from the Anschutz campus

- Increased user volumes, but also increased number of extended-use parkers
  - Locals would park vehicles on campus and use Uber to travel elsewhere
- Program ran for one year, and was terminated by Uber in February 2018 during Corporate restructure
  - Within that year, Uber estimated over 10,300 trips completed, providing roughly $40,000 in discounts
  - On average, the continued use of a similar program would only yield a 3% decrease in demand, equating to only 55 daily users by year 2025, and 67 daily users by year 2029
  - This accounts for a 5% annual growth rate in the Outpatient population, but has no significant impact on overall parking deficiencies

The Hospital discharge lounge is launching a program that will pilot the Lyft Concierge platform

- Will reduce wait time for discharged patients who do not have access to a ride
- Potential reduced cost compared to current Taxi voucher service
- Increased experience for patients using the service

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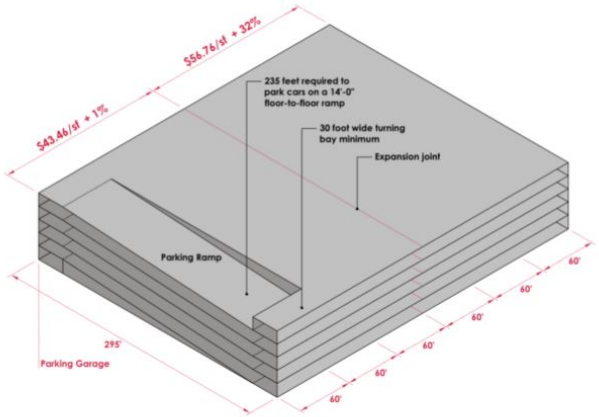
Calculations assume Single Occupancy Vehicle (SOV) for each ride-hail trip

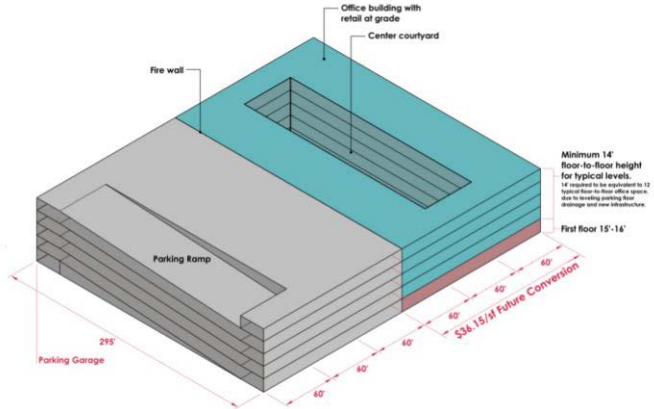
Adaptive Reuse – Design Strategies

Design ground floor for future liner buildings

(Up to 10% Premium)



Initial Construction



Future Adaptive Reuse

Design for portion of garage to be converted

(11-25% Premium)

Design to accommodate modular infill units

(>25% Premium)

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Adaptive Reuse – Cost Premium

Recommended Adaptive Reuse Designs at Relative Percent Premium Above New Structure Cost

Up to 10% Premium	11-25% Premium	>25% Premium
• Design for taller floor-to-floor heights, especially at grade • Design for increased floor loads • Design for less drift (lateral deflection) for future occupied space • Design for less vertical differential settlement and deflection for future occupied space • Design for ramps on the edge of floor plan for partial conversion • Design façade for future building conversion • Design for future shafts and floor penetrations • Plan for additional empty utility infrastructure (duct banks, blank panels, sleeves, etc.) • Plan for oversized or additional MEP rooms • Design for wider stairs for more occupants in future or provide areas for future stairs and elevators	• Review if medium span construction is required for future alternate use (30x45 ft. grid) • Increased setback to property line for future buildings, stairs/elevators, etc. on or more sides • Design top level of parking for assembly or other “heavy” use like a garden or park, or events	• Review if short span construction is required for future alternate use (30x30 ft. grid) • Provide all express ramps, all flat parking areas for future removal of express ramps • Design all floors (or many floors) for 80 psf (or more) live load for future occupant flexibility • Provide one level of the parking below grade for future support space (MEP, storage, etc.

Information provided by Walker Consultants

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