

# Traffic Council

Thursday, November 5, 2009

ALD. SCHNIPPER requesting the installation of a full traffic signal at the intersection of Walnut Street and Trowbridge Avenue before the opening of the new Newton North High School.

# TC 43-09

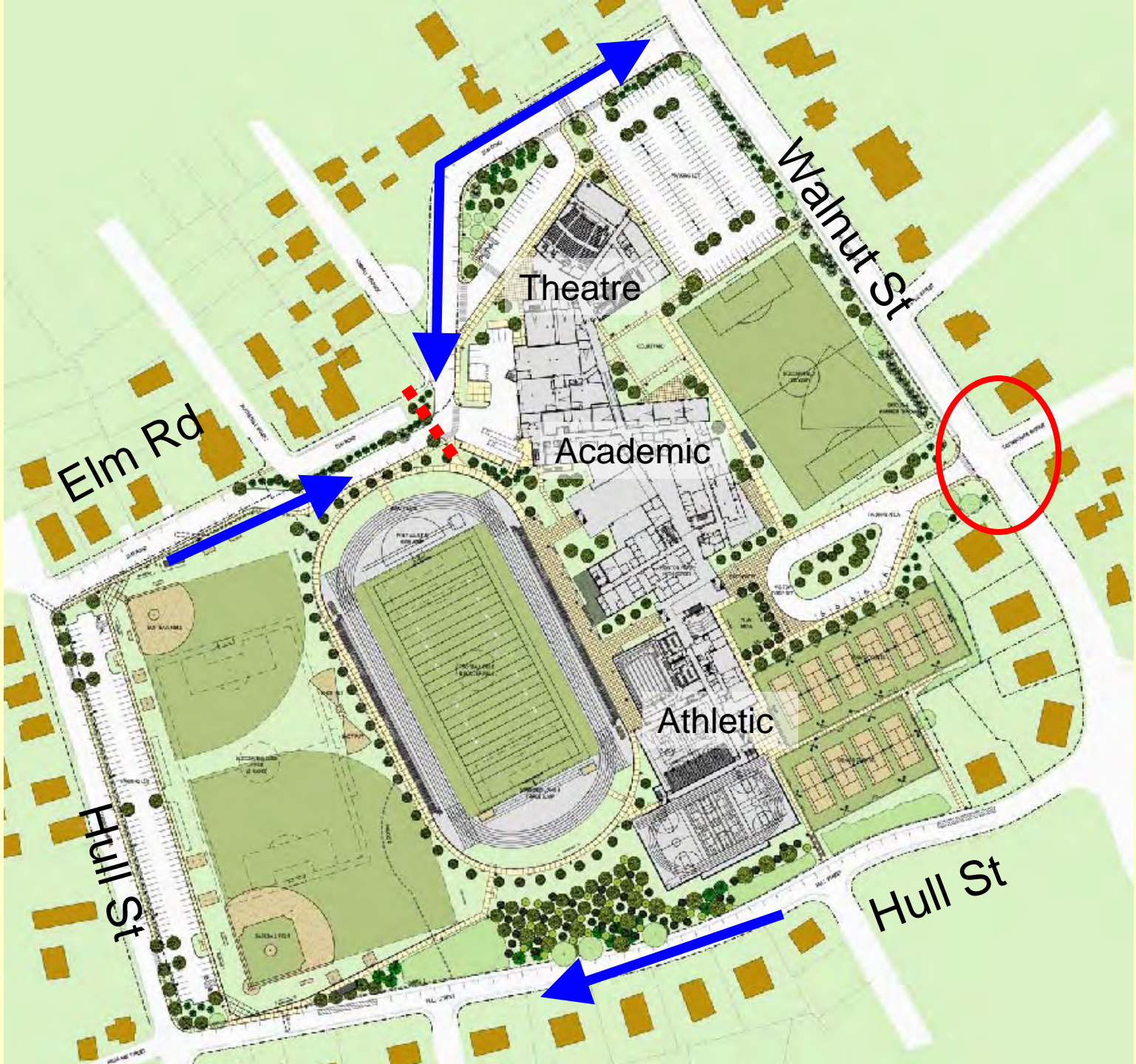
# Outline

- Very brief history
- Walnut Street near NNHS
- Review NNHS site access
- Walnut St/Trowbridge Ave/NNHS Driveway (10!) alternatives
- Recommendations

# Site Plan Board Order # 224-06

There are 7 traffic/parking-related conditions for a “comparative design”:

- ✓ 3d: Elm Road:  $\leq 30$  feet wide for max. buffers (2/6/08)
- ✓ 3e: Lowell Ave: drop-off area or alt. vehicle entrance, Elm Rd: alt. traffic patterns (2/6/08)
- ✓ 3f: Hull St: create drop-off areas (2007)
- ✓ 3j: Walnut St: create alt. bus drop-off area (2007)
- ✓ 4: Walnut St: safety improvements Mill to Cabot
- 😊 **5: Walnut St/School Driveway signalization**
- ✓ 7: School Driveway: No added parking spaces (2007)



Elm Rd

Walnut St

Hull St

Hull St

Theatre

Academic

Athletic

# Walnut St near NNHS

- Approximately 15,000 cars per day
  - (vs. ~7,000 per day on Lowell Ave)
- 34' wide +/-
- Speed limit is 25 mph
- Design speed is 40 mph

Walnut  
St.  
looking  
south  
from  
NNHS



Walnut  
St.  
looking  
north  
from  
NNHS





# 503

18,227 S.F. EXISTING LOT AREA  
850 S.F. +/- PROPOSED "GREEN AREA"

HAY BALES REQ'D

ONE WAY HULL ST.

WALNUT ST.

# 508

# 515

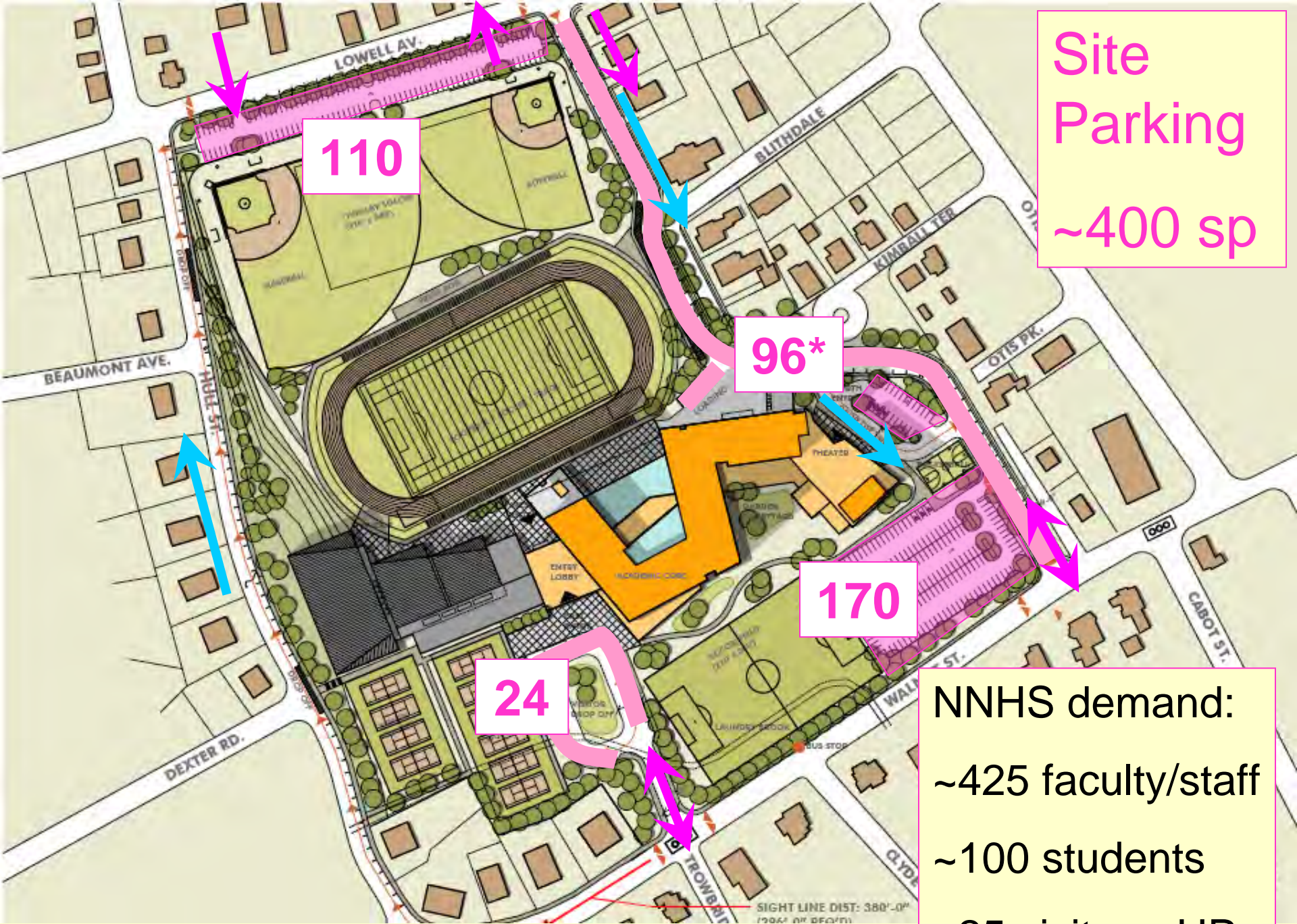


Project cost  
estimate=  
\$35,000

HULL ST. - WALNUT ST. INT  
SCALE: 1" = 16'  
DECEMBER

# NNHS Traffic/Circulation Goals

- Provide safe, convenient and preferred access for pedestrians, bicycles, and buses
  - Walnut St crossing for points south & east
  - Facilitate bus egress onto Walnut St
- Disperse vehicle access points and parking around the site
  - Over time, drivers will use the fastest route (they are smarter than traffic engineers)



Site  
Parking  
~400 sp

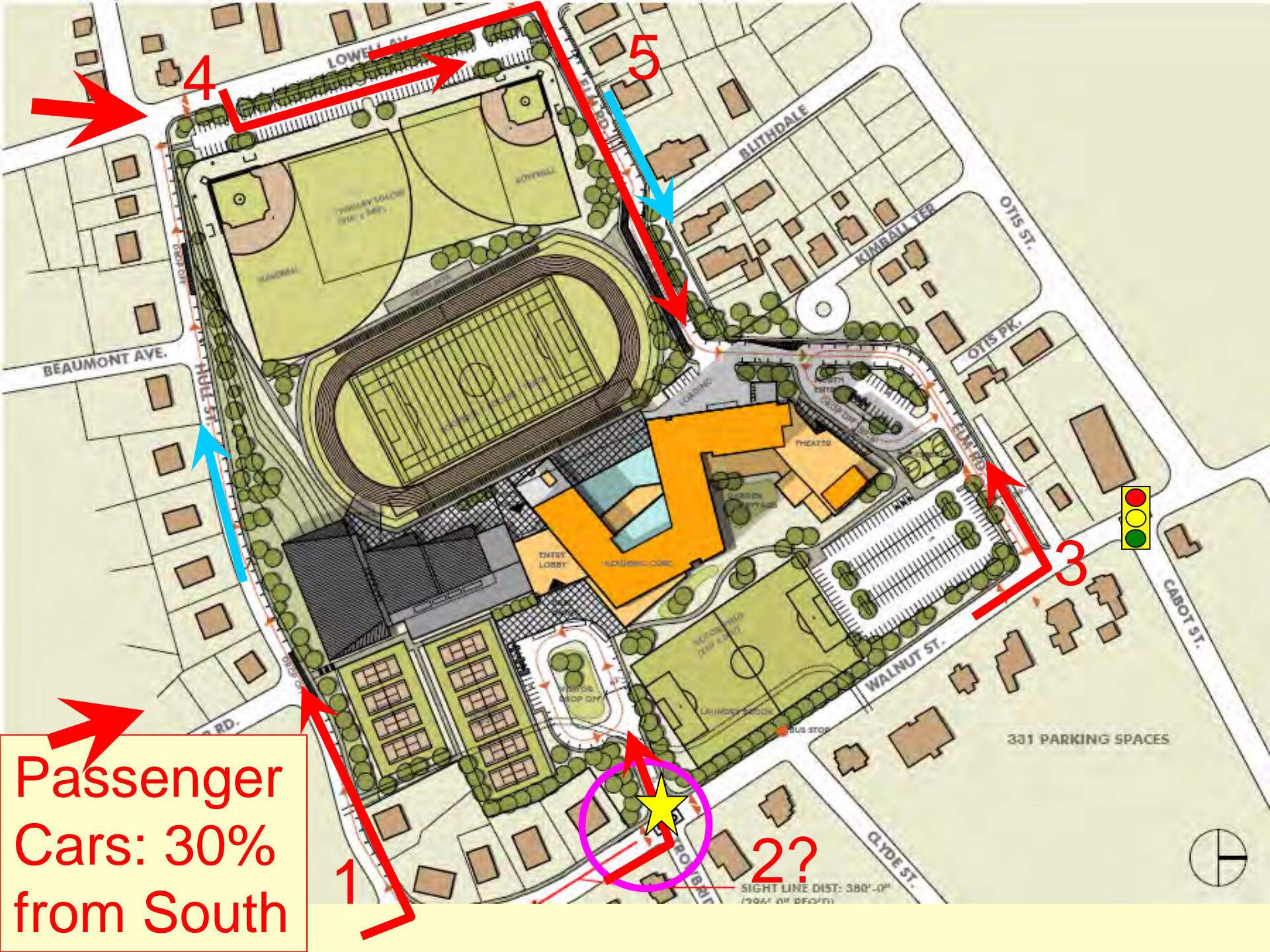
110

96\*

170

24

NNHS demand:  
~425 faculty/staff  
~100 students  
~25 visitors, HP



Passenger  
Cars: 30%  
from South

1

2?

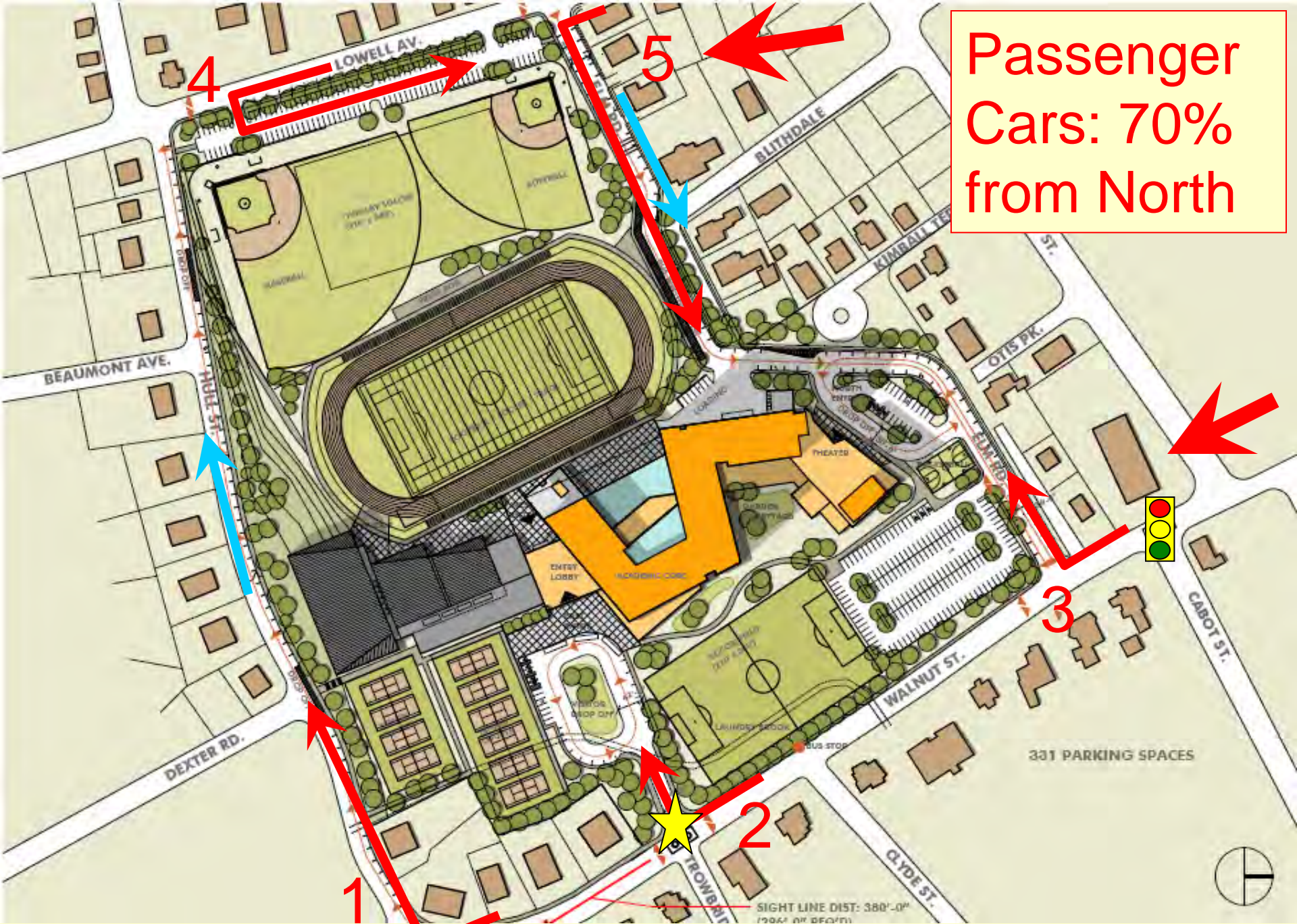
3

4

5

SIGHT LINE DIST: 380'-0"  
(294' @ 25%)

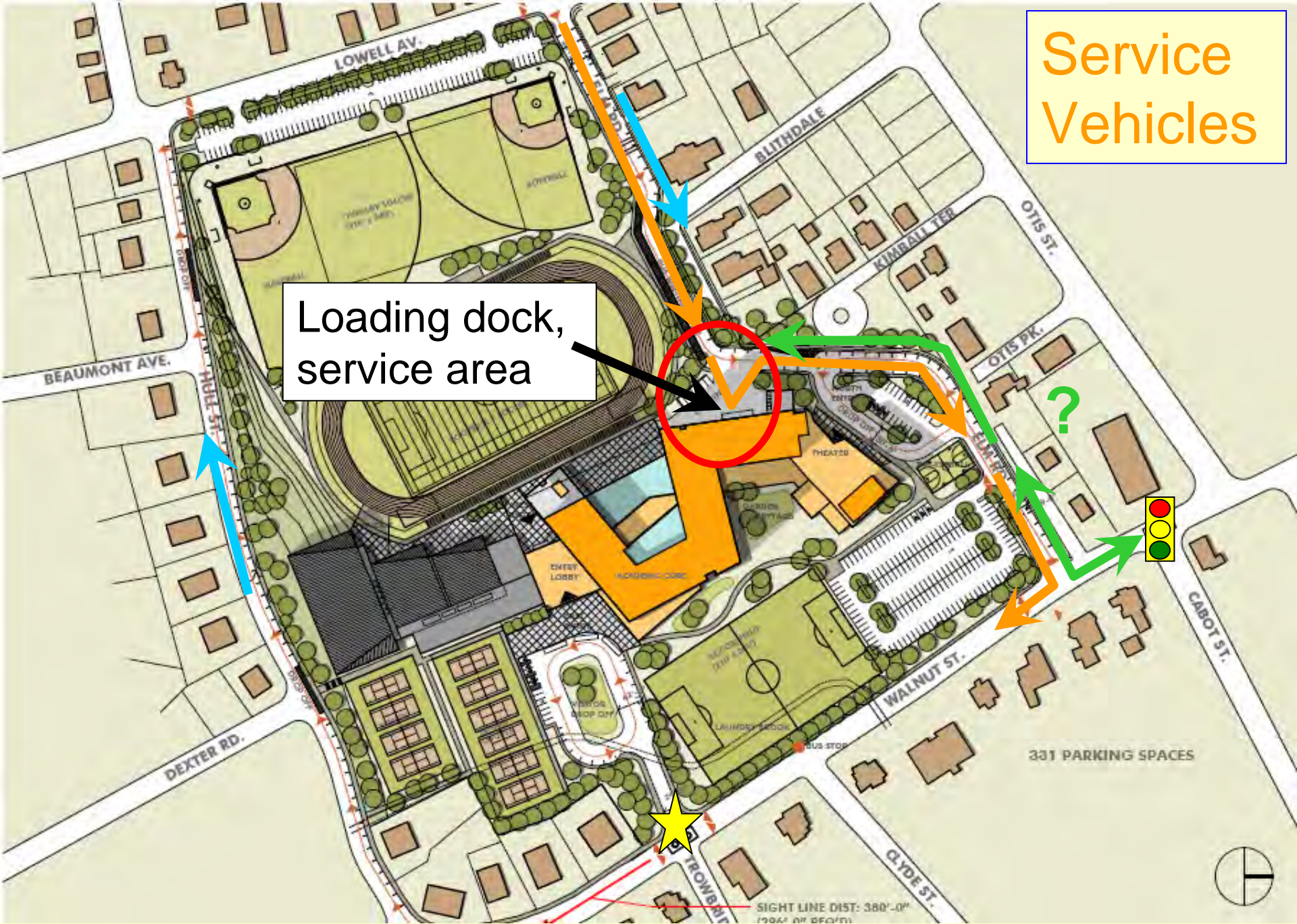
Passenger  
Cars: 70%  
from North



SIGHT LINE DIST: 380'-0"  
(120m)

# Service Vehicles

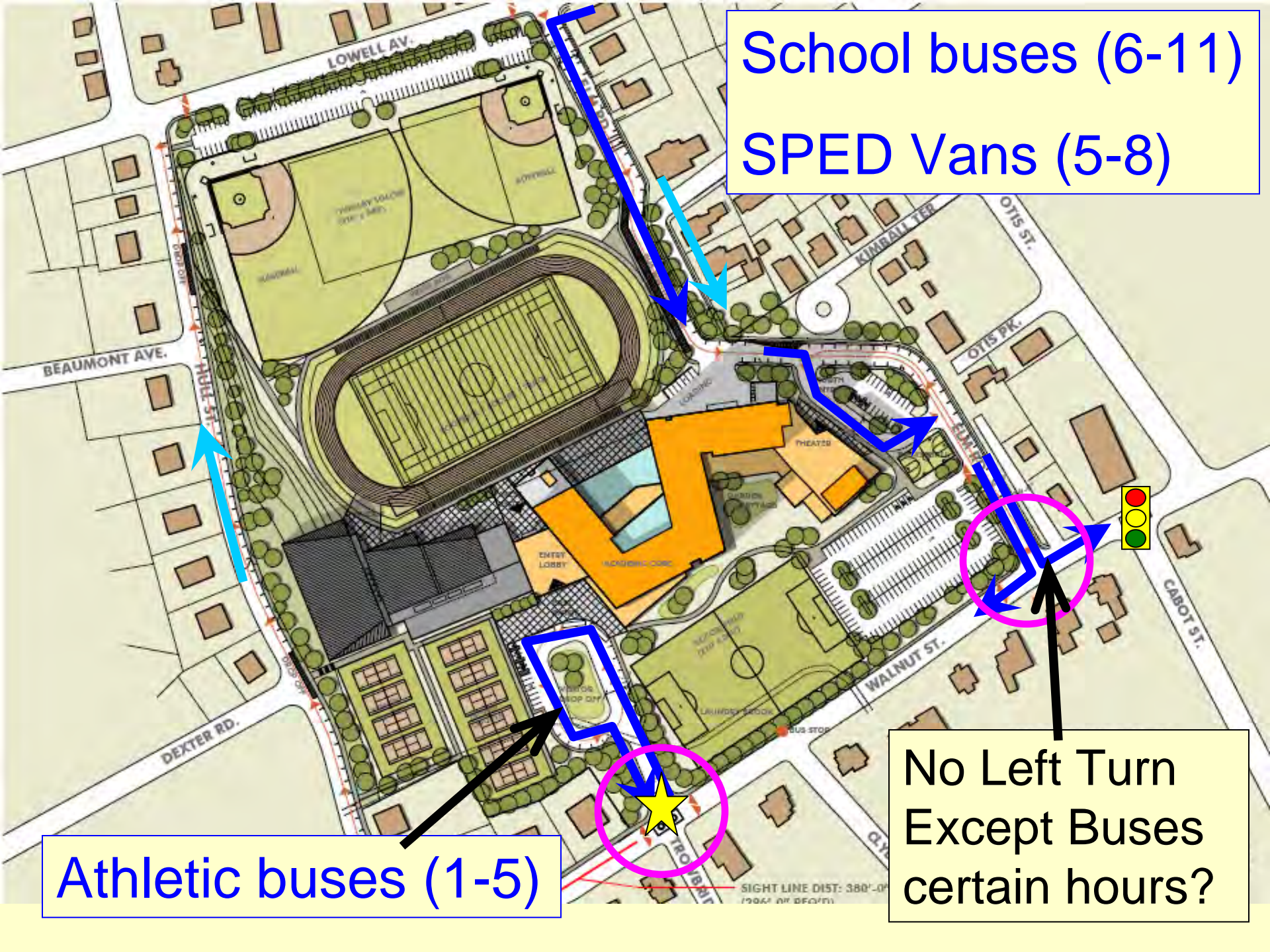
Loading dock, service area



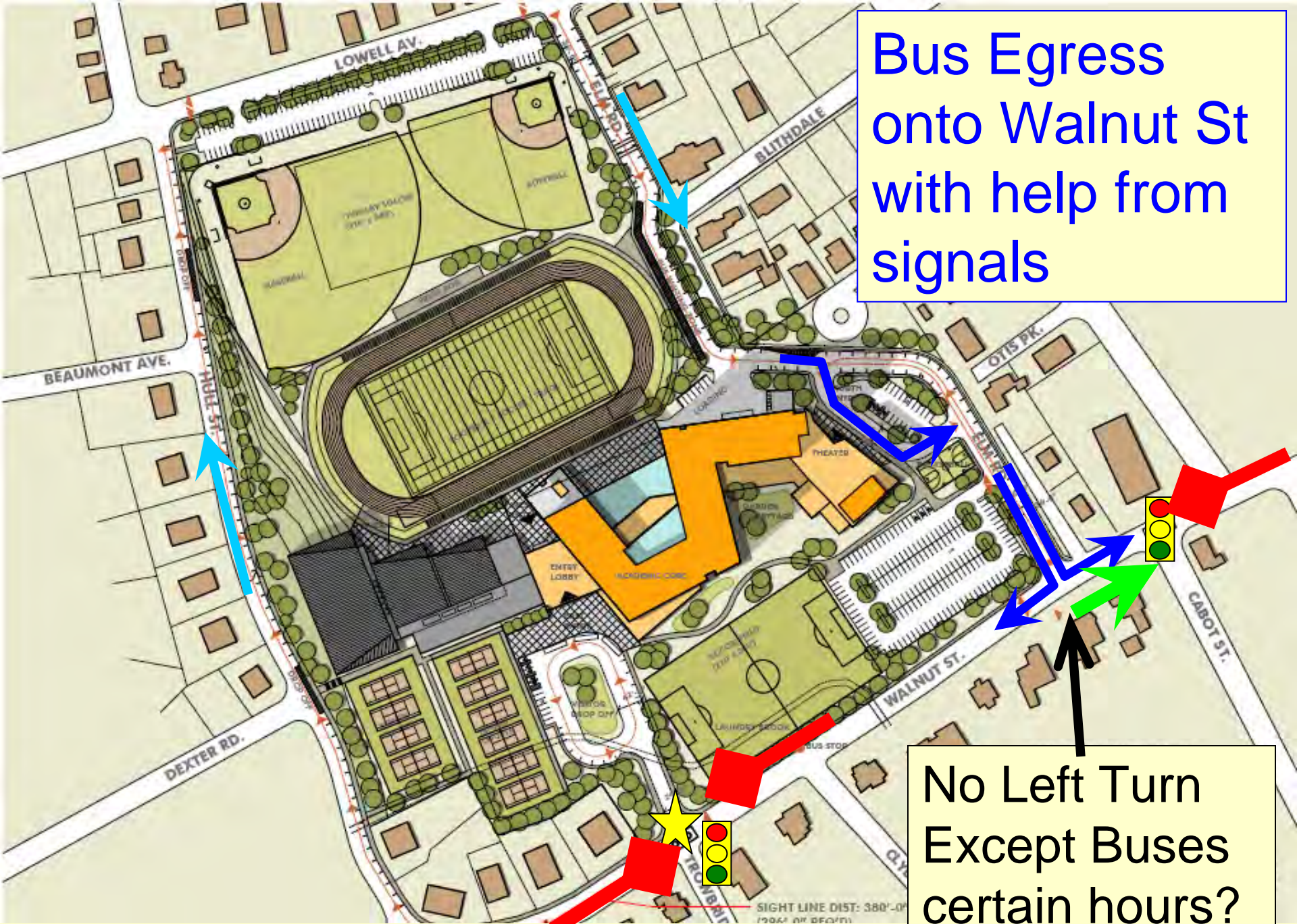
School buses (6-11)  
SPED Vans (5-8)

Athletic buses (1-5)

No Left Turn  
Except Buses  
certain hours?

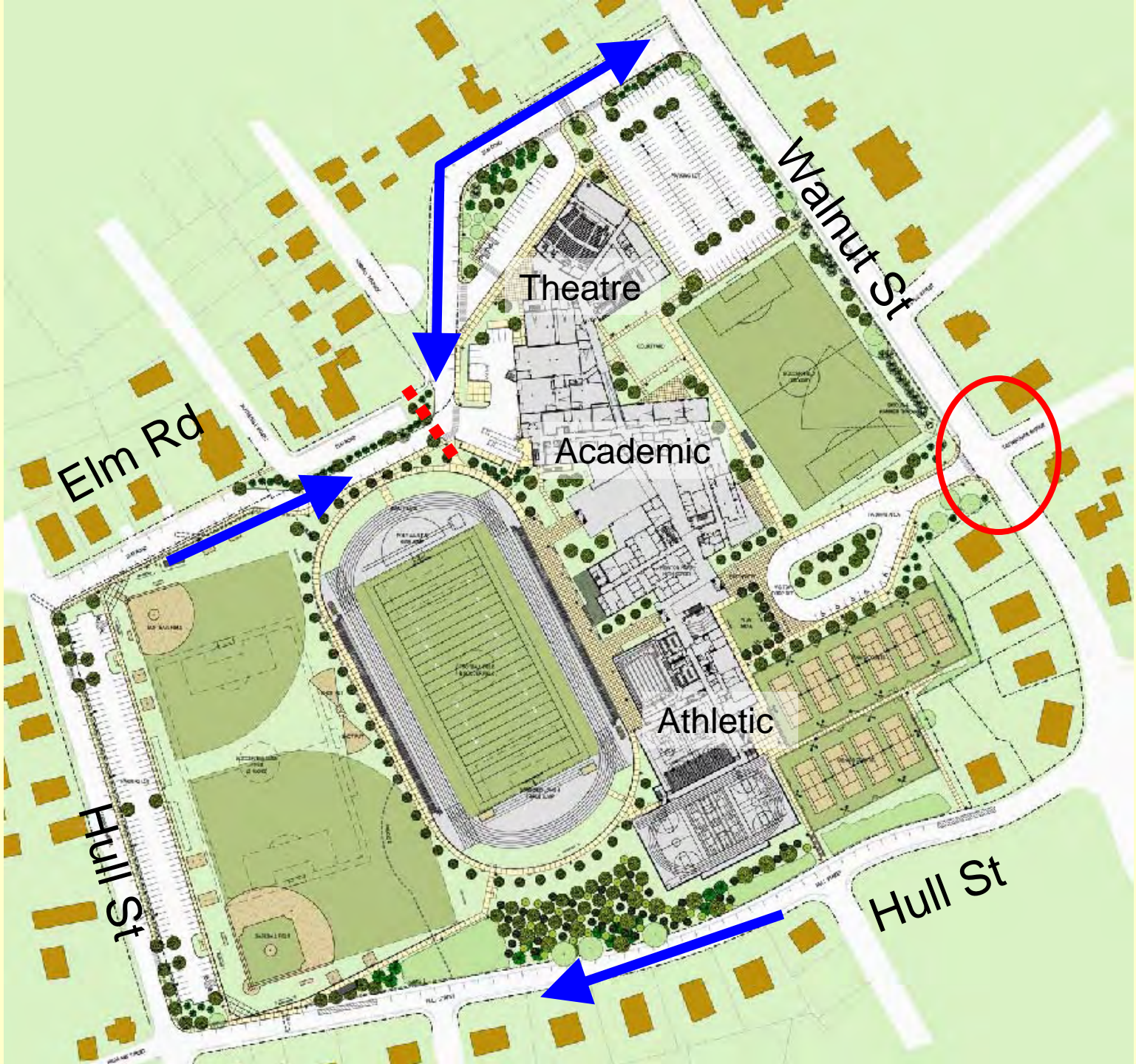


Bus Egress  
onto Walnut St  
with help from  
signals



No Left Turn  
Except Buses  
certain hours?





Elm Rd

Walnut St

Hull St

Hull St

Theatre

Academic

Athletic

# School Driveway Users

- Plowshares pick-up & drop-off
- Visitors
- Student pick-up & drop-off (among others)
- Athletic buses from other schools (home games)
- Athletic buses leaving NNHS (away games)
- Athlete pick-up & drop-off
- Community Ed (night & weekend classes)
- Newton residents using indoor athletic facilities & tennis courts

# Newton North High School Students

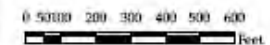
City of Newton, Massachusetts

**Legend**

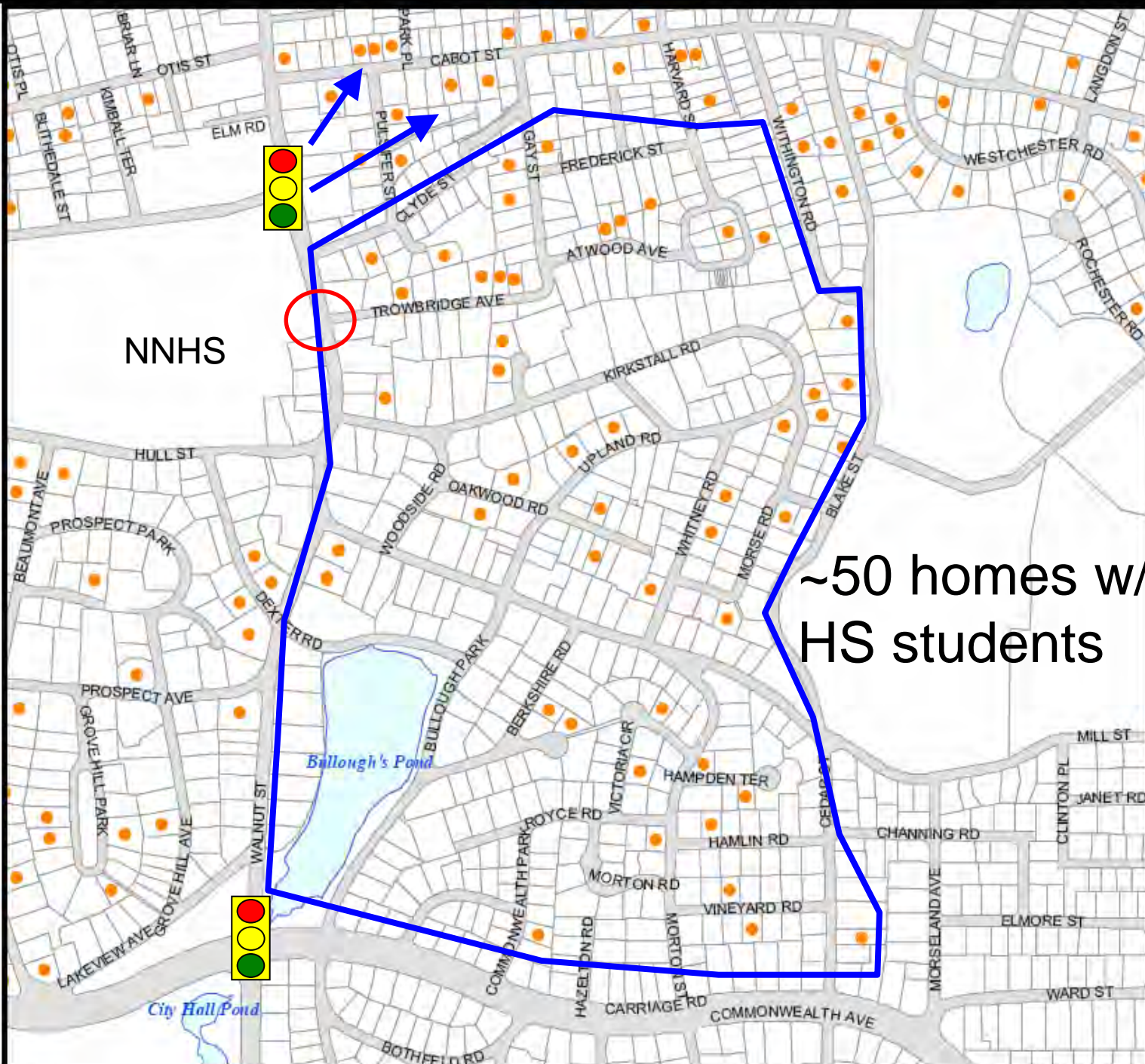
- Newton North Students
- Surface Water
- Property Boundaries



The information on this map is from the Newton Geographic Information System (GIS). The City of Newton cannot guarantee the accuracy of this information. Each user of this map is responsible for determining its suitability for his or her intended purpose. City departments will not necessarily approve applications based solely on GIS data.



MAP DATE: February 20, 2009



NNHS

~50 homes w/  
HS students

Bullough's Pond

City Hall Pond

# Walnut St/Trowbridge Ave/School Driveway Alternatives

Crosswalk only



Alt 1

# Warning signals

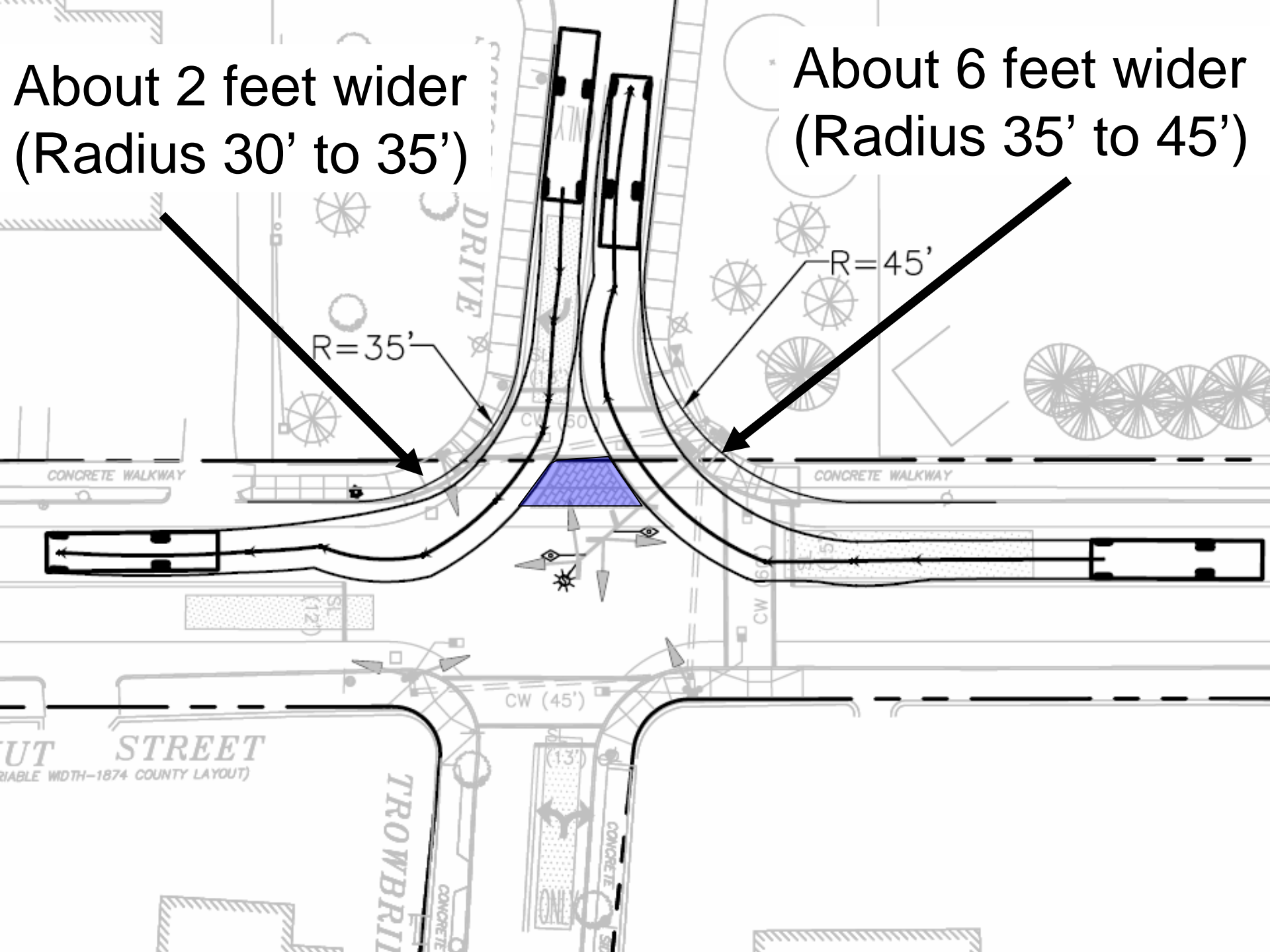


Alt 1A



About 2 feet wider  
(Radius 30' to 35')

About 6 feet wider  
(Radius 35' to 45')

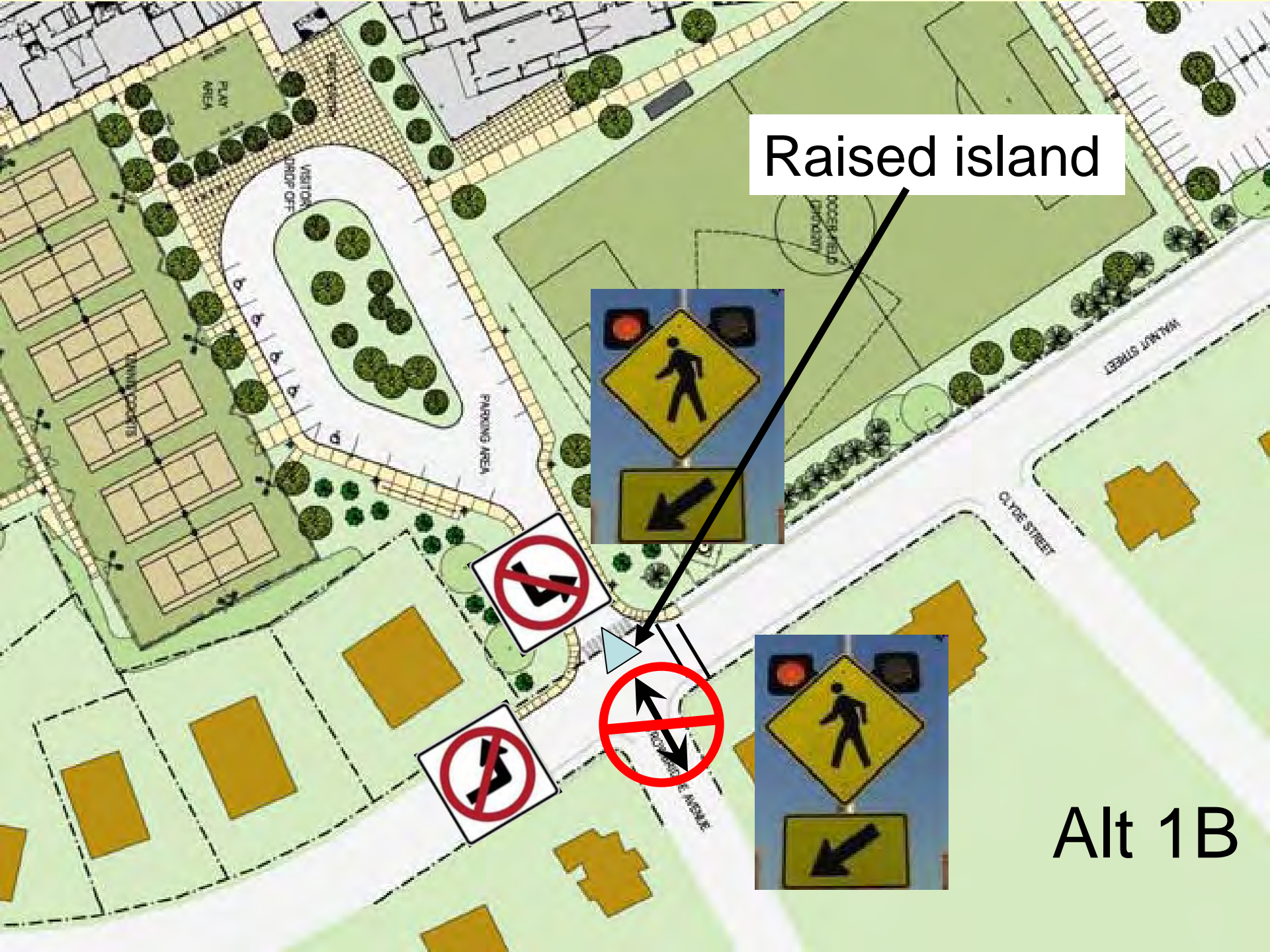




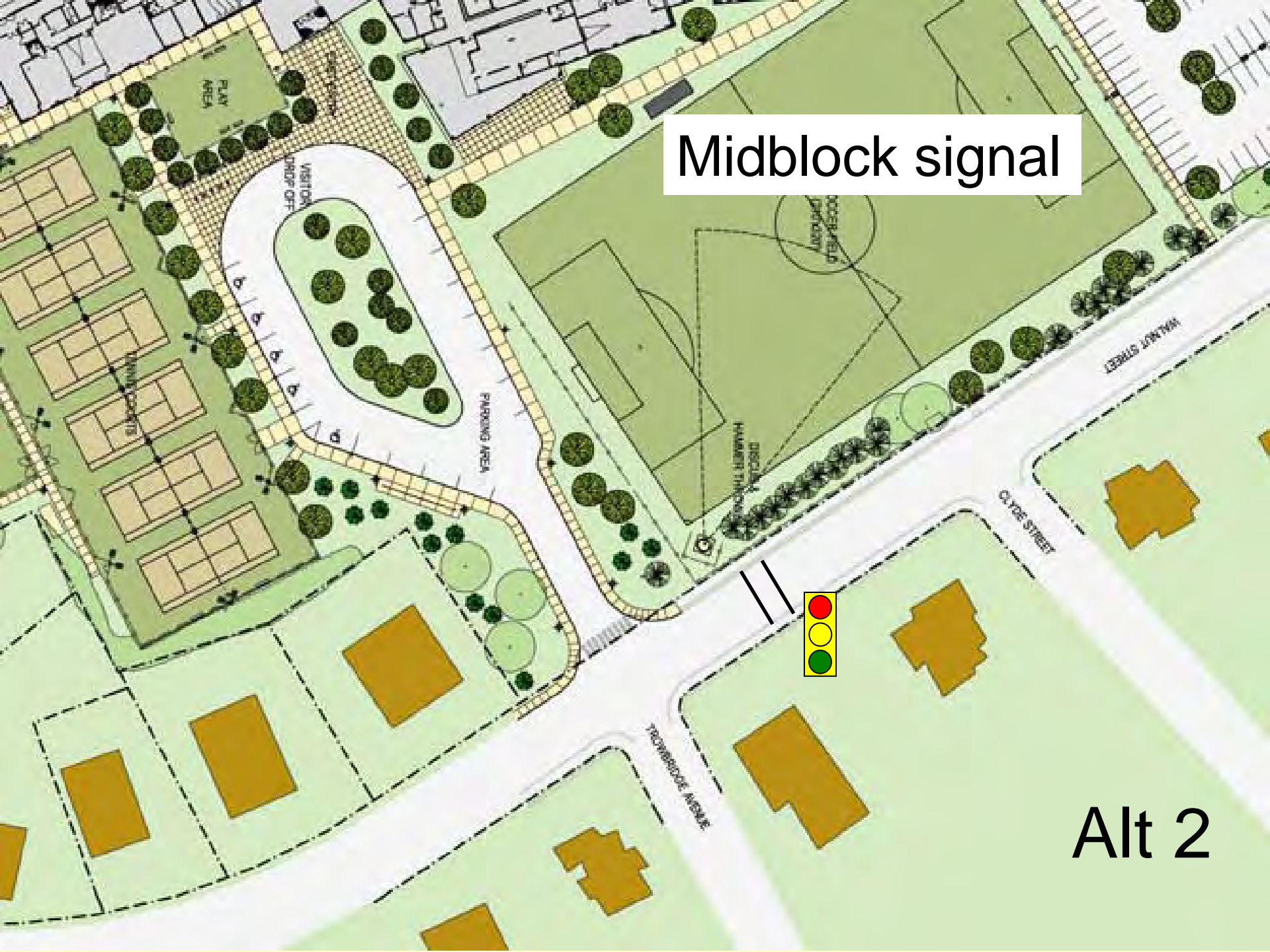
Raised island



Alt 1B

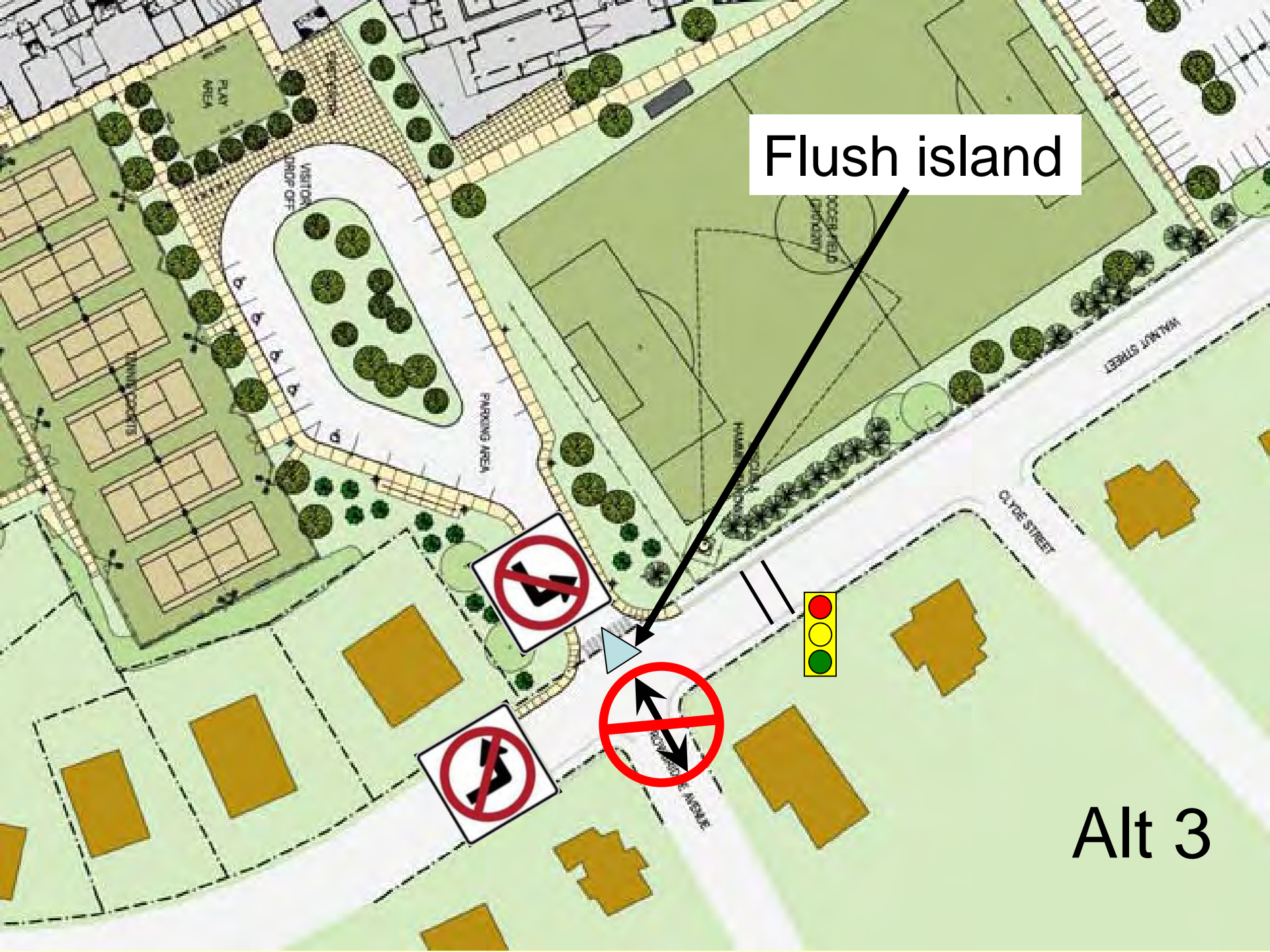


Midblock signal



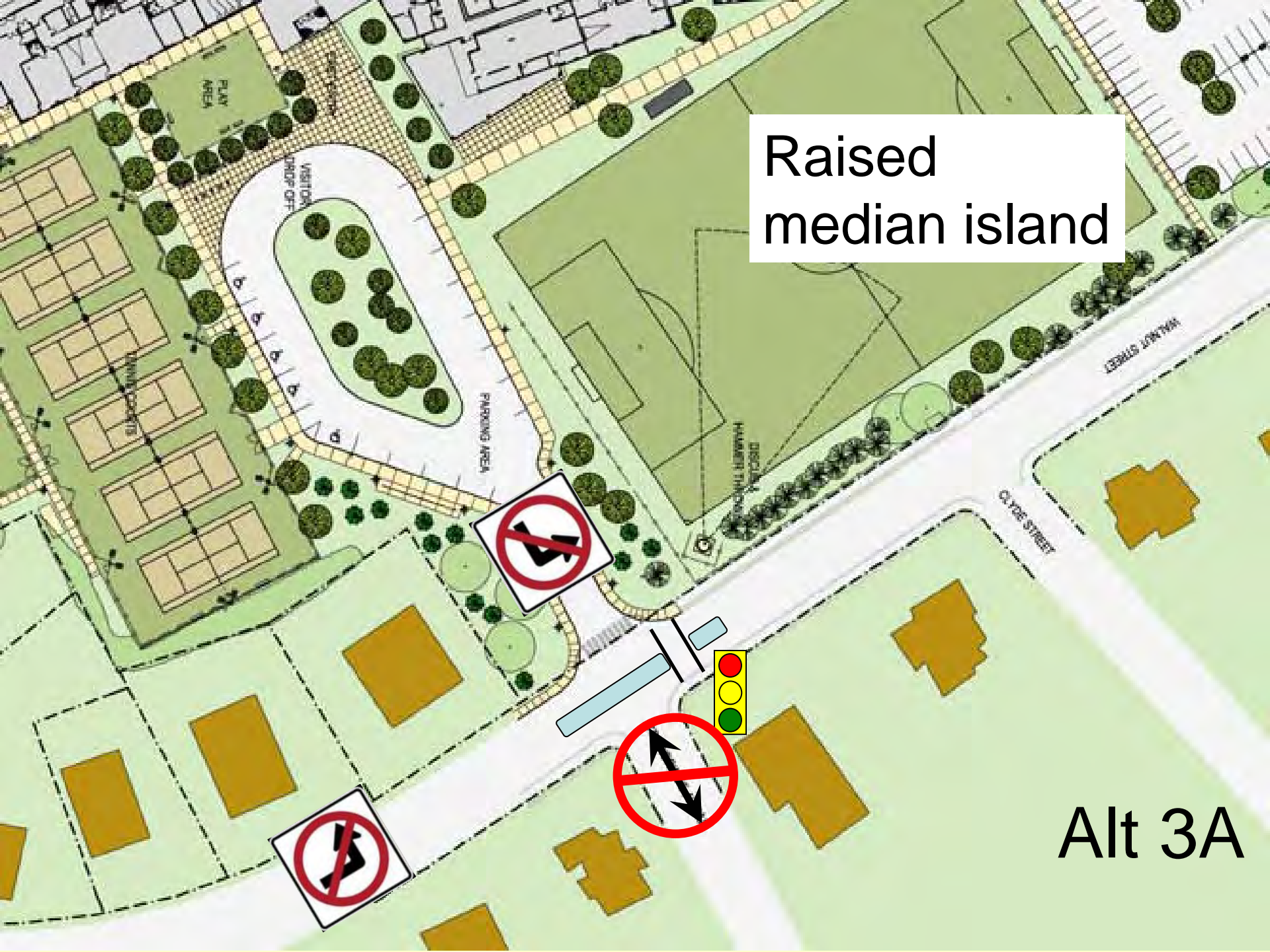
Alt 2

Flush island



Alt 3

Raised  
median island



Alt 3A

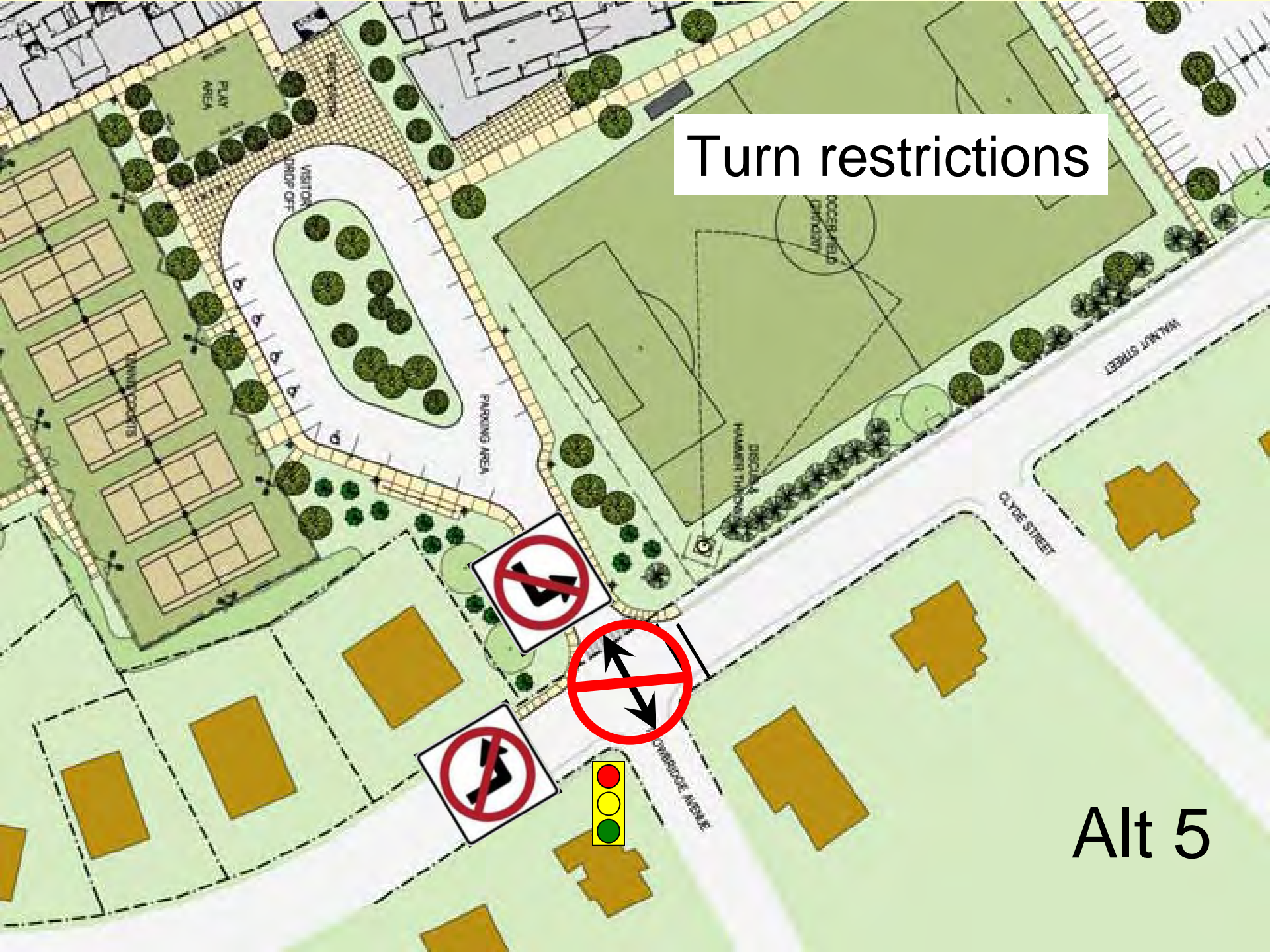
No turn restrictions



Alt 4

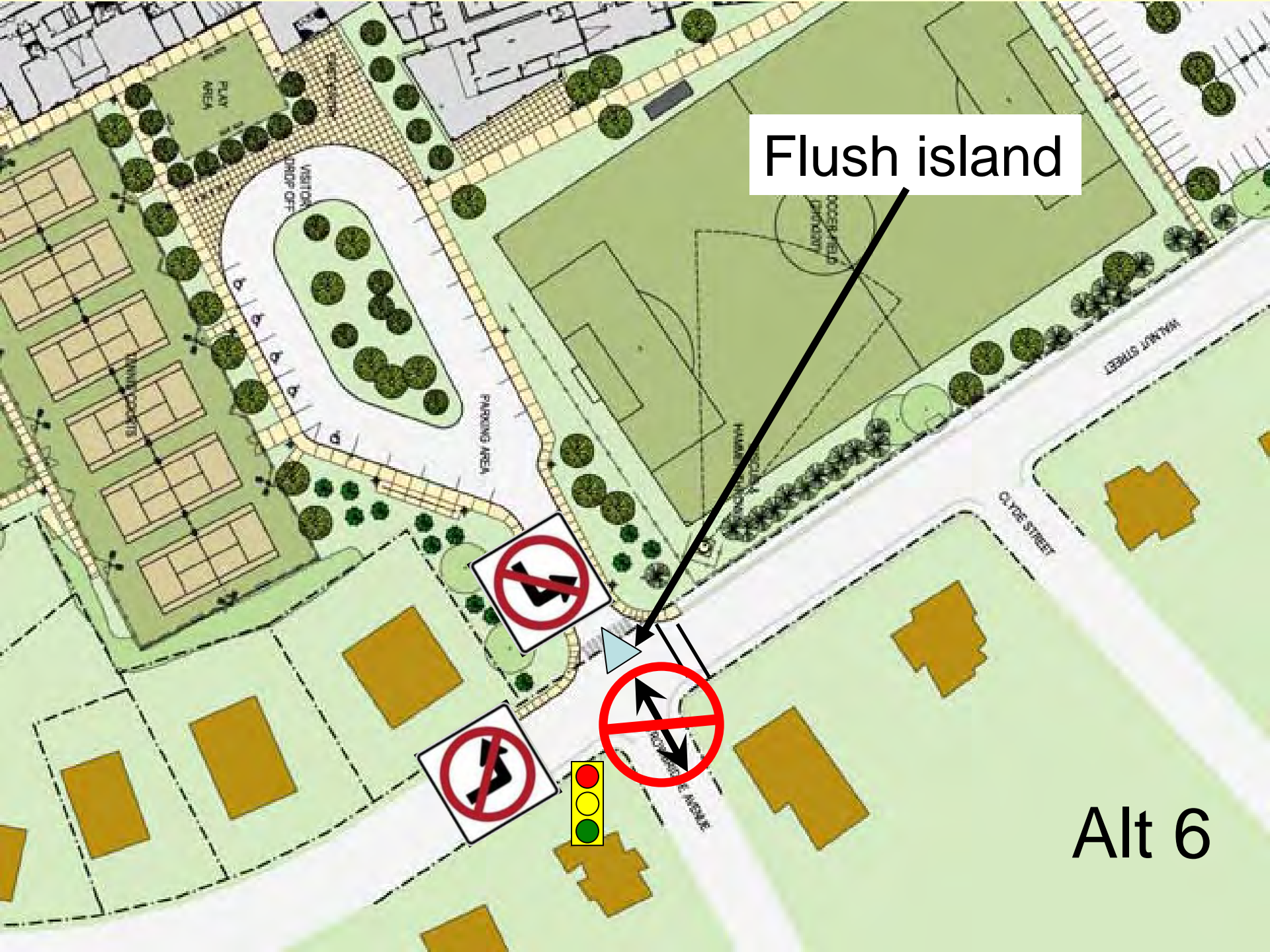


# Turn restrictions



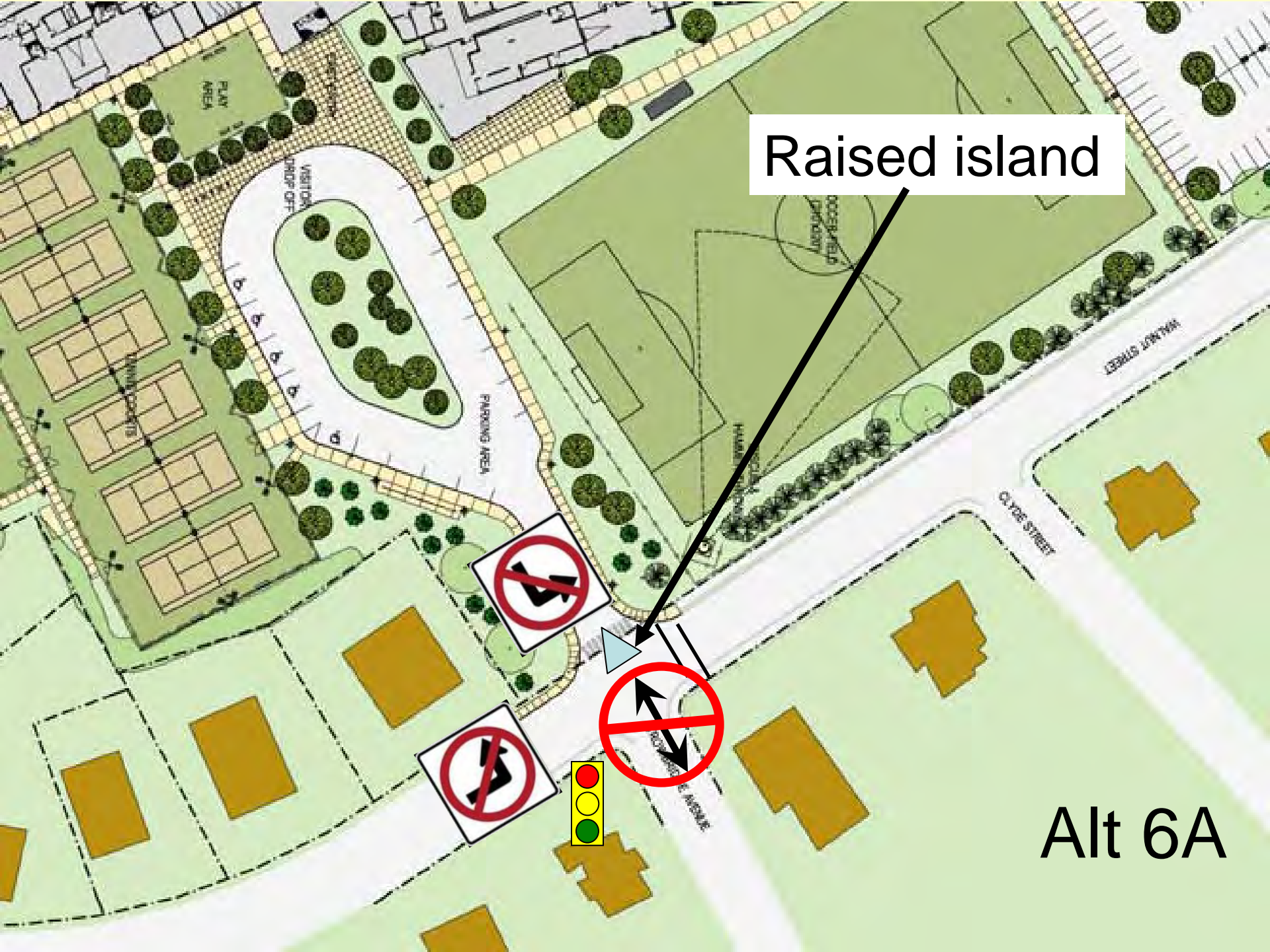
Alt 5

Flush island



Alt 6

Raised island



Alt 6A



# Note on Fire Response

- Primary response from Station 4, Crafts/Watertown
  - Southbound Walnut
- Other stations may also respond, and could arrive before Station 4, so emergency vehicle access from ALL directions is critical (via Asst. Chief Proia)

# Recommendation

- Construct Alternative 4: Full Traffic Signal
- Monitor conditions post-school opening
  - Before/after traffic volume to/from Trowbridge Ave
  - Volume of traffic in/out school driveway
- If above conditions met:
  - Construct Alternative 5 (signs only) or
  - Construct Alternative 6 (delta island)

# Rationale for Alternative 4

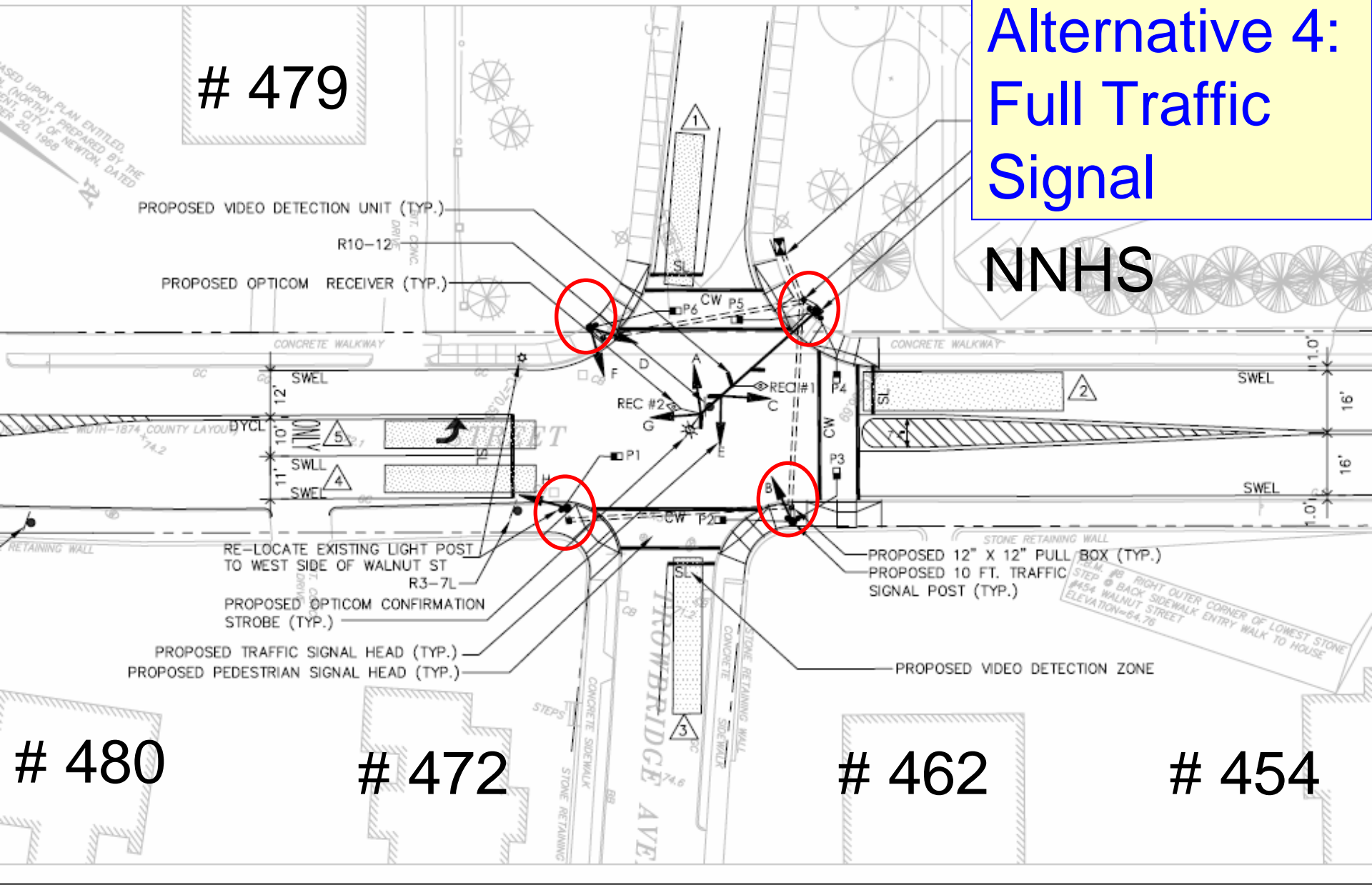
- Provides controlled pedestrian crossing at most desirable location
- Provides controlled vehicle access to Walnut Street from Trowbridge Ave and NNHS driveway
- Helps discourage use of NNHS driveway by imposing delays on cars exiting the school driveway during certain hours
- Helps buses & general traffic enter Walnut @ Elm Rd by stopping northbound Walnut St traffic

Alternative 4:  
Full Traffic  
Signal

NNHS

# 479

BASED UPON PLAN ENTITLED, 'SCHOOL DRIVE (NORTH)' PREPARED BY THE CITY OF NEWTON, DATED SEPTEMBER 20, 1988



# 480

# 472

# 462

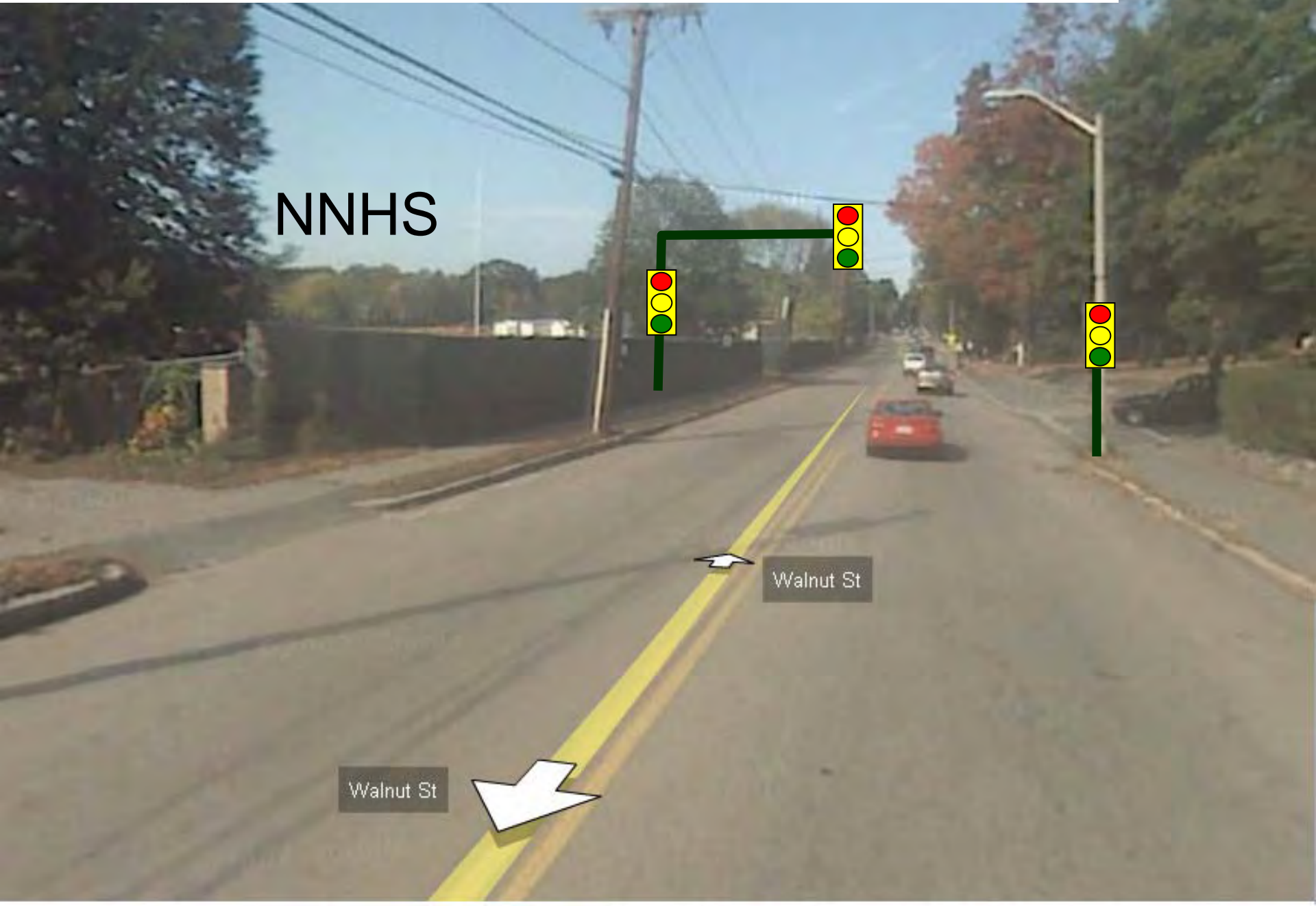
# 454

TRAFFIC SIGNAL PLAN  
AT SCHOOL DRIVE/TROWBRIDGE AVENUE  
NEWTON, MASSACHUSETTS 02459

PREPARED FOR:  
CITY OF NEWTON  
1000 COMMONWEALTH AVENUE  
NEWTON, MASSACHUSETTS 02459

# Walnut St northbound at Trowbridge Ave

NNHS



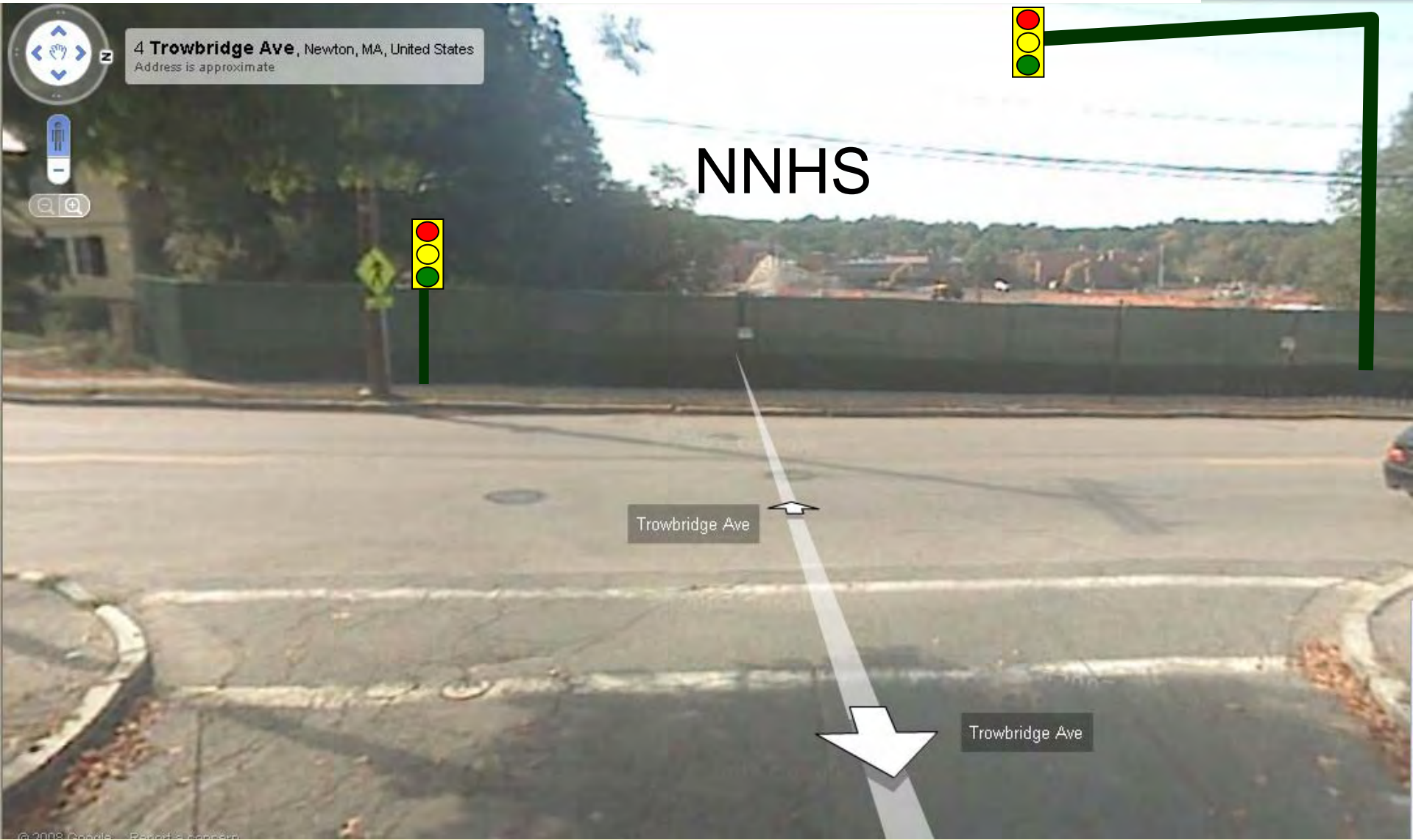
Walnut St

Walnut St

# Walnut St southbound at Trowbridge Ave



# Trowbridge Ave westbound at Walnut St



4 Trowbridge Ave, Newton, MA, United States  
Address is approximate

NNHS

Trowbridge Ave

Trowbridge Ave